# Subs/Domain Awareness Aff – BFHR

## Notes

### General Aff Stuff

#### 1AC Construction

Note --- the 1AC should probably have a deterrence advantage. There are several options for that. The second advantage could be mines/cables/accidents. It’s up to you how you want to construct the 1AC. Could also just be one long deterrence advantage.

#### Things the plan might include:

Under the banner of “anti-submarine warfare”

Training/War Games over/with AI acquired data

Harmonization of data acquired and organized via AI

Data pooling for AI organization and deciphering

Harmonizing (creating common standards) for AI for submarines --- including safety, weaponization, etc.

#### Plan options:

The United States federal government should substantially increase its anti-submarine security cooperation with the North Atlantic Treaty Organization in one or more of the following areas: artificial intelligence, biotechnology, cybersecurity.

The United States federal government should substantially increase its maritime domain awareness security cooperation with the North Atlantic Treaty Organization in one or more of the following areas: artificial intelligence, biotechnology, cybersecurity.

The United States federal government should substantially increase its security cooperation with the North Atlantic Treaty Organization, specifically artificial intelligence enabled maritime domain awareness.

#### Notes for answering cps

Think we have a tricky arg that is essentially a uniformity/data sharing argument ---

1. the plan is a “formalized agreement” --- that is critical to get everyone to agree to say yes.
2. Standardization of data is key --- labels/organization that is uniform makes the data more reliable --- that gets it into and out of the AI process quickly.

NATO key ----

1. Data pooling
2. Interoperability
3. Redundancy
4. Cohesion (if necessary)

#### Some Things to know

UUVs=Unmanned Underwater vessels

AUVs=Autonomous Underwater vessels

#### To Do:

#### Shout outs

Molly, Will, Joseph, Brandon, Hank, Sam, Adam and Owen did the vast majority of work on this file. They were awesome! We didn’t have much direction at the start of the research period, and they really helped me and each other to figure out directions to go with the aff. There is a LOT of potential with this file, and these students deserve the credit for being creative and working hard.

### Here is the plan/What it does

#### What does the aff do?

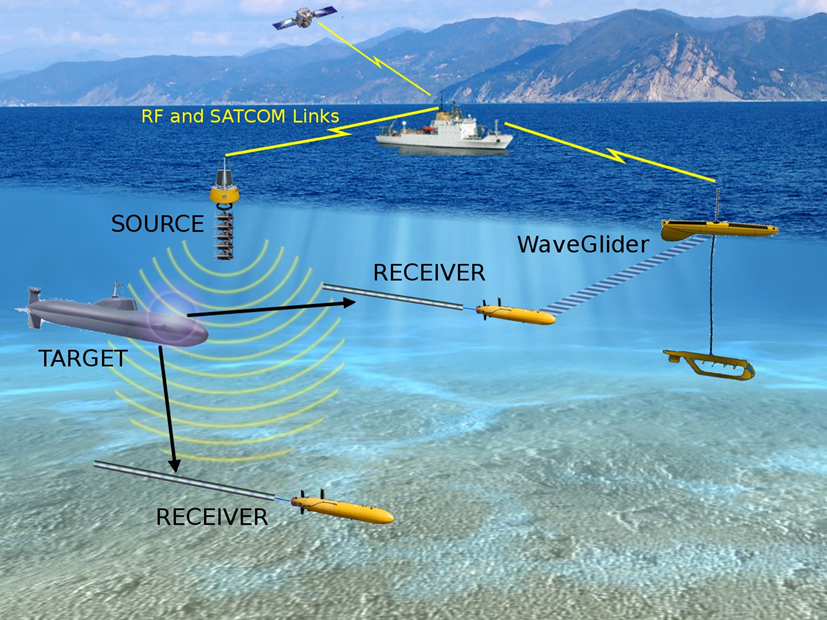
Pfau ‘21

(Lieutenant Andrew Pfau, USN, is a submariner serving as an instructor at the U.S. Naval Academy. He is a graduate of the Naval Postgraduate School and a recipient of the Rear Admiral Grace Murray Hopper Computer Science Award, “A ROADMAP TO SUCCESSFUL SONAR AI,” pg online @ <https://cimsec.org/tag/asw/> //um-ef)

Dataset CurationArtificial Intelligence and Machine Learning are often conflated and used interchangeably. Artificial Intelligence refers a field of computer science interested in creating machines that can behave with human-like abilities and can make decisions based on input data. In contrast, Machine Learning, a subset of the AI filed, refers to computer programs and algorithms that learn from repeated exposure to many examples, often millions, instead of operating based on explicit rules programmed by humans.4 The focus in this article is on topics specific to ML models and systems, which will be included as parts in a larger AI or autonomous system. For example, an ML model could classify ships from passive sonar data, this model would then feed information about those ships into an AI system that operates an Unmanned Underwater Vehicle (UUV). The AI would make decisions about how to steer the UUV based on data from the sonar ML model in addition to information about mission objectives, navigation, and other data. Machine learning models must train on large volumes of data to produce accurate predictions. This data must be collected, labeled, and prepared for processing by the model. Data curation is a labor- and time-intensive task that is often viewed as an extra cost on ML projects since it must occur before any model can be trained, but this process should be seen as an integral part of ML model success. Researchers recently found that one of the most commonly used datasets in computer vision research, ImageNet, has approximately 6 percent of their images mislabeled 5. Another dataset, QuickDraw, had 10 percent of images mislabeled. Once the errors were corrected, model performance on the ImageNet dataset improved by 6 percent over a model trained on the original, uncorrected, dataset.5 For academic researchers, where the stakes of an error in a model are relatively low, this could be called a nuisance. However, ML models deployed on warships face greater consequences than those in research labs. A similar error, of 6 percent, in an ML model to classify warships would be far more consequential. The time and labor costs needed to correctly label data for use in ML model training needs to be factored into ML projects early. In order to make the creation of these datasets cost effective, automatic methods will be required to label data, and methods of expert human verification must ensure quality. Once a large enough dataset has been built up, costs will decrease. However, new data will still have to be continuously added to training datasets to ensure up to date examples are present in the training of models. A passive acoustic dataset is much more than an audio recording: Where and when the data is collected, along with many other discrete factors, are also important and should be integrated into the dataset. Sonar data collected in one part of the ocean, or during a particular time of year, could be very different than other parts of the ocean or the same point in the ocean at a different time of year. Both the types of vessels encountered and the ocean environment will vary. Researchers at Brigham Young University demonstrated how variations in sound speed profiles can affect machine learning systems that operate on underwater acoustic data. They showed the effects of changing environmental conditions when attempting to classify seabed bottom type from a moving sound source, with variations in the ability of their ML model to provide correct classifications by up to 20 percent.6 Collecting data from all possible operating environments, at various times of the year, and labeling them appropriately will be critical to building robust datasets from which accurate ML models can be trained. Metadata, in the form of environmental conditions, sensor performance, sound propagation, and more must be incorporated during the data collection process. Engineers and researchers will be able to analyze metadata to understand where the data came from and what sensor or environmental conditions could be underrepresented or completely missing. These challenges must be overcome in a cost-effective way to build datasets representative of real world operating environments and conditions.

### Pics for your understanding

#### How do countries find subs….



A picture containing text, water, boat, ocean

Description automatically generated

Aerial surveillance cp



### What subs do Russia have?

#### FYI on Russian sub capabilities

Alleslev 19 — Leona Alleslev-Krofchak is a Canadian politician and former military officer. Alleslev, Leona. "NATO Anti-submarine warfare: rebuilding capability, preparing for the future." Science and Technology Committee (STC) (2019). https://www.nato-pa.int/download-file?filename=sites/default/files/2019-10/REPORT%20150%20STC%2019%20E%20rev.%201%20fin%20-%20ANTI-SUBMARINE%20WARFARE.pdf WMK

27. As a sign of its strategic importance, the submarine modernisation programme is, to a large degree, protected in the Russian defence budget. This has begun to pay dividends for its fleet of 62 submarines (active and reserve; excluding special-mission submarines and submarines in the development and test phase) (IISS, 2019; see Table 1). The newest submarines are not the most modern in the world by any means. Their designs are about 10 to 15 years old. However, they represent a step change in quality. They are highly capable, approaching near parity with some Allied submarines. Overall, submarine modernisation is an efficient investment, as Russian submarines achieve effects disproportionate to the resources committed (Hicks et al., 2016)

28. The Delta III and Delta IV class submarines still represent the backbone of Russia’s nuclear at-sea deterrent. The Russian navy is slowly replacing them with new Borei class submarines, which have much improved acoustic silencing and propulsion. Three are in service today out of a planned eight to be fielded by the early 2020s (Connolly and Boulègue, 2018). However, Russia has faced substantial delays in the construction of the first three Borei submarines, due to problems related to the development of the diesel generators and especially the new Bulava 150-kilotonne nuclear ballistic missile (Connolly and Boulègue, 2018; Warsaw Institute, 2017).

29. The stealthy and fast Oscar II class nuclear-powered cruise-missile submarines are some of the largest submarines ever built. Some of the Oscar II submarines are being modernised to remain in service for another 15 to 20 years and will be refitted to carry up to 96 Kalibr missiles. Russia’s nuclear-powered general-purpose submarine fleet has three different classes in its arsenal: the Victor III, Sierra II, and Akula classes. Some of the Akula submarines are undergoing modernisation efforts (Gady, 2015).

30. The successor for all of Russia’s tactical nuclear-powered submarines is the multi-role Yasen class. Experts judge Yasen submarines to be extremely quiet, although not as quiet as the US Seawolf or Virginia classes. They are designed to hold between 32 and 40 Kalibr missiles. Russia also appears to be seeking to place the hypersonic Zircon cruise missiles, which are under development, on these submarines (O’Dwyer, 2019). One Yasen submarine is already in service. A second one is in the testing phase (known as the Yasen-M or Husky, due to certain modifications). By 2024, Russia plans to commission five more Yasen submarines. A key challenge for Russia will be to bring down costs. The Yasen-M has already cost an estimated USD 1.6 billion (Episkopos, 2019).

31. The Kilo and Improved Kilo class submarines are Russia’s diesel-electric submarines for anti-submarine duties. The Improved Kilo class submarines are very stealthy and cheap for the level of capabilities they deliver. The Lada class submarines were supposed to replace these two classes. However the programme has run into significant problems and delays. One big problem appears to be that Russia faces severe difficulties in designing and manufacturing air-independent propulsion, a key technology for modern diesel-electric submarines. A few years ago, it appeared that that the Lada design could be scrapped in favour of a new Kalina class design, (about which little is known publicly), but Russia has recently restarted work on two Lada class submarines and wants to ramp up production (Majumdar, 2016; Majumdar, 2018b).

32. Russia has perhaps the most developed seabed-warfare capabilities worldwide (Allport, 2018). In particular, military leaders in the Alliance have sounded warnings that Russia could tap or sever commercial or NATO undersea communication cables. Russia currently possesses special mission submarines of the Delta III, Delta IV, and Oscar II classes, although many may be at low readiness levels. These submarines could, however, serve as motherships for the manned mini-submarines and submersibles such as the Losharik submarine or the Paltus or Konsul-class submersibles which can manipulate objects on the seabed, or for unmanned systems. It is unclear how many of these are actually in service (Ripley, 2019). Russia’s Main Directorate of Deep-Sea Research aims to increase the number of such mini-submarines able to operate on the seabed. In July 2019, 14 sailors lost their lives after a fire broke out on the Losharik. The Russian government has released very few details about the incident, except that the fire started in the battery system. Russia is committed to restoring the Losharik (Staalesen, 2019).

33. Much secrecy surrounds another underwater threat: the Poseidon unmanned underwater vehicle or torpedo (formerly known as Status 6 or Kanyon). The Poseidon was ‘accidentally’ revealed during a television show a few years ago and now features prominently in President Putin’s speeches (Gao, 2019). Russia claims that Poseidons could carry 100- to 2000-megatonne nuclear warheads for coastal destruction and contamination. The nuclear warheads would be ‘salted’ with cobalt for maximum nuclear contamination. While information is too sparse to properly judge the accuracy of these claims, it is essential to closely watch the project.

# 1AC

## 1AC V1

### 1AC – Russia ADV

#### Contention one is RUSSIA.

#### Russia is gaining the edge in maritime military capabilities – focusing on underwater capabilities is key to continued deterrence.

Bendett 21 – Adviser, Russia Studies Program, CNA Strategy, Policy, Plans and Programs Center, and Adjuct Senior Fellow, Center for a New American Security. (Samuel, “Military robotics development,” Chatham House, September 2021, <https://www.chathamhouse.org/sites/default/files/2021-09/2021-09-23-advanced-military-technology-in-russia-bendett-et-al.pdf>, Accessed 6-30-2022, LASA-SC)

In the immediate future, the Russian military will continue to build out its UAV fleet capabilities, incorporating and increasing swarm and ‘loyal wingman’ abilities that tie together piloted and uncrewed systems for greater striking range and better situational awareness. Russia’s reconnaissance-fire and reconnaissance-strike contours pose the greatest challenge to adversary forces, given Russia’s continuing efforts to refine UAV use in practically all major units and formations. As the Russian long-range UCAV capabilities will grow, so will Russia’s ability to deliver strikes against ground and aerial targets at greater distances, increasing the defence ministry’s combat reach. Just as important is the impending proliferation of Russian combat and ISR drones, giving the Russian industry access to new markets and new data on their potential use against US assets and allies.229 The Russian defence ministry will also continue to experiment with UAV–UGV teaming for more effective battlefield management. In the near term, the UGV testing space will help define how Russian ground forces could fight future wars, and whether such systems can function effectively with manned formations. This trend is exemplified by the use of UGVs and UAVs in September 2021 during the Zapad-2021 military exercises, with the Russian military using Uran-9 UGVs for combat reconnaissance and fire support, Uran-6s for demining operations, Nerehta UGVs for reconnaissance and fire support, and Platforma-M for urban combat missions and passing through minefields.230 Specifically, Uran-9 and Nerehta UGVs were used in the combat formations of combined arms units. Additionally, the Russian military used Orlan-10 and Forpost UAVs for ISR and target acquisition missions, while Forpost and Orlan-10 combat versions, together with an Orion UCAV, were used for the first time in support of ground attacks.231 Russia’s ability to manufacture and test deep-diving UUVs presents one of the growing challenges to Western and NATO forces, as the defence ministry will seek to gain better situational awareness below the waves, while crafting an unmanned systems doctrine that could challenge Western surface and sub-surface assets. At the same time, the Russian navy is far from the mass use of such systems, in contrast to the nearly-ubiquitous aerial drone use. If the Russian military succeeds in designing a multi-domain robotic swarm, it could potentially challenge current Western military superiority by forcing NATO to expend its assets on low-cost Russian robotic systems. At the same time, unmanned and autonomous technologies were not used in a true peer conflict until the Nagorny Karabakh war of 2020. Today, the US, NATO and Russian forces are testing and using their autonomous technologies against mostly militarily inferior and low-tech adversaries. In the future, the Russian military will continue to refine its robotics technologies and will upgrade its proposed plans for integrating these systems with manned formations to train for a conflict against a peer adversary. On 21 May 2021 Russian defence minister Sergey Shoigu announced that his country had commenced mass production of military robots with AI that can fight autonomously.232 He did not specify which vehicles he was referring to, and the military expert community debated which of the systems described in this chapter may have been implied in Shoigu’s statement.233 Regardless of which vehicles may eventually fit Shoigu’s definition, this chapter has discussed multiple projects undertaken by the defence ministry in order to develop technologies that could give Russian forces a battlefield advantage. Should such efforts prove successful, the defence ministry’s investments may result in a force structure that would be better positioned to engage its adversary via a range of unmanned and autonomous systems that are first to the fight, do not carry a human cost in case of a failed mission, and can provide a better situational awareness of the adversary’s forces and intentions. These developments are not a foregone conclusion, given the Russian military industry’s ongoing struggles with key manufacturing components for autonomous systems, such as microelectronics and engines.234 Nonetheless, Russia’s mass manufacturing of, and experimentation with, different types of military autonomous systems signals a readiness to change how it conducts military operations, with speed, effectiveness, precision and massed use as the ultimate goals. To address these impending changes to military CONOPS, the US and its European allies should continue to experiment with, and conduct an ongoing analysis of, robotic technologies for gaining a key edge in this emerging technological race. Just as important in the future will be the ability to develop training against adversarial capabilities that is part of an objective evaluation of Russian military robotics CONOPS and TTPs.

#### Ukraine is the brink not a thumper – Russia is escalating and only sub capabilities can deter

Eckstein 22 – Megan Eckstein is the naval warfare reporter at Defense News. She has covered military news since 2009, with a focus on U.S. Navy and Marine Corps operations, acquisition programs, and budgets. She has reported from four geographic fleets and is happiest when she’s filing stories from a ship. Megan is a University of Maryland alumna. (Megan Eckstein, "Lawmakers: US submarine force can help check Russian ambitions in Ukraine," Defense News, 1-24-2022, https://www.defensenews.com/naval/2022/01/24/lawmakers-us-submarine-force-can-help-check-russian-ambitions-in-ukraine/, Accessed 7-1-2022, LASA-SC)

The U.S. Navy must dedicate forces to pushing back against Russian activity throughout the European theater in the coming weeks, two lawmakers said, even as the world’s focus is on Ukraine’s land borders with Russia and Belarus.

Sen. Richard Blumenthal and Rep. Joe Courtney agreed that a strong show of force from the Navy — particularly in the undersea domain, where Russia has focused its modernization efforts — could help deter Russia from its overall effort to assert itself in the region or to stop a small conflict from growing into something larger.

The two Connecticut Democrats spoke Jan. 24 at a virtual event hosted by submarine builder General Dynamics Electric Boat.

Russian President Vladimir Putin “will test us in every single place that he can. He’s doing it right now in Ukraine: he wants to restore the hegemony over countries that formerly were part of the Soviet Union; bring back Ukraine into Mother Russia; conduct a hybrid war of military actions, cyber-attack and misinformation. And part of his overall strategy is to bolster undersea warfare and thereby push the United States, try to divide allies, and create instability,” Blumenthal said in response to a question regarding how naval forces could help get Putin to back down in Ukraine.

“Undersea warfare — because we’re talking about the Mediterranean, about the Black Sea as potential areas of tension and conflict — is very much in play even though it isn’t directly involved in the confrontation in the Eastern Ukraine area or Crimea or in the northern borders of Ukraine, which represent perhaps the greatest immediate threat in Belarus, where Putin is amassing forces right now,” he added.

The senator said he agreed with President Joe Biden’s statement that U.S. troops should not be sent into Ukraine to fight, but he said strengthening and bolstering NATO capabilities in the region would be important, as well as finding other ways to show strength “around the world in other areas where we go head-to-head with the Russians.”

He added that the U.S. should also focus on economic sanctions against Russia, including export controls on semiconductors and other technologies Russia needs to keep its economy going; disconnecting Russia from the international financial system; supplying more arms to Ukraine so the country can defend itself; and getting NATO allies, especially Germany, united in their efforts to respond to Russia.

Though the world’s focus has been on Ukraine’s border with Russia to the east and Belarus to the north, Russia announced last week that it would hold a series of large naval drills in all its geographically dispersed fleets, upping the ante in its standoff against the West.

“The drills are intended to practice navy and air force action to protect Russian national interests in the world’s oceans and to counter military threats to the Russian Federation,” the defense ministry said, adding that they will start this month and run through February in the Mediterranean, North Atlantic and Pacific.

Just the day before that announcement, the U.S. Navy announced its guided-missile submarine Georgia was in Cyprus for a port call — an unusual move, announcing the location of this large submarine loaded to the gills with conventional missiles, that in recent history has only been done to send a message to Russia or North Korea.

Courtney, in following up to the same question at the event, said the Harry S. Truman Carrier Strike Group exercising with NATO forces in the Mediterranean represented “the most visible sign of presence that the Navy is exercising out there.” But, he said, the submarine fleet would have an important, if less visible, role in checking Russian aggression.

Saying that Russia’s string of exercises would “flood the zone” with submarines in the North Atlantic, where Russia’s submarine-heavy Northern Fleet operates, Courtney said: “There’s no question that our undersea fleet is going to be very busy at this very tense moment and is definitely going to play a big role in terms of making sure that whatever possible conflict may emerge, that it does not escalate into something more serious.”

#### Maintaining the technological edge through cohesive NATO ASW policy ensures Russian deterrence --- Russia is revisionist and will attack NATO if they have the edge

Foggo and Fritz 16 — Vice Admiral James Foggo III, U.S. Navy, and Alarik Fritz The Fourth Battle of the Atlantic," U.S. Naval Institute, June 2016, Vol. 142/6/1,360 https://www.usni.org/magazines/proceedings/2016/june/fourth-battle-atlantic, accessed 7-1-2022, WMK

One hundred and one years ago, a great power released a new weapon on the world. They allowed it to sidestep its adversaries’ military advantages and deal them a near-~~crippling~~ blow. Those weapons, the U-boats of the German Empire, used new technologies to blockade the British Isles and sink millions of tons of Allied shipping. Eventually, the Royal Navy prevailed, but the outcome of that battle was never a foregone conclusion. It took the development of an array of new antisubmarine technologies and tactics, as well as a massive mobilization of resources, that enabled the Allies to win this “First Battle of the Atlantic.”

Seventy-six years ago, the Second Battle of the Atlantic began. Again, German U-boats threatened the Allies, this time with new tactics and technologies based on experiences in the previous war. The Germans had learned how to overcome the antisubmarine warfare (ASW) advantages of the Allies, and only by again bringing new technologies, tactics, and resources to bear did the Allies prevail.

During the Cold War, our ASW forces engaged in a constant cat-and-mouse game with the Soviet Union’s submarines. Nuclear power, ballistic and cruise missiles, and quieter systems empowered Soviet submarines in troubling ways. To respond, the United States and its allies were forced to build greater and more effective ASW forces and continually refine their own ASW technologies and doctrine to counter the Soviets. In the shadow of nuclear deterrence, the stakes of this competition were as high as could be imagined. This was the Third Battle of the Atlantic, and, although it was not a shooting war, it showed once again that a responsive, adaptive, and forward-deployed ASW force is necessary to deter aggression against our nation and its allies.1

In the early 1990s, the end of the Cold War, the collapse of the Soviet Union, and commentary such as Francis Fukuyama’s landmark essay “The End of History?” led us to believe that our strategic rivalry with Russia and our need to stay one step ahead of Russian capabilities had faded. It has not. Once again, an effective, skilled, and technologically advanced Russian submarine force is challenging us. Russian submarines are prowling the Atlantic, testing our defenses, confronting our command of the seas, and preparing the complex underwater battlespace to give them an edge in any future conflict. Vice Admiral Clive Johnstone, Royal Navy, the head of NATO’s maritime forces, noted recently that his forces report “more activity from Russian submarines than we’ve seen since the days of the Cold War.”2 Some analysts believe that even our underwater infrastructure—such as oil rigs and telecommunications cables—may be under threat by these new and advanced forces. Russian focus, investment, and activity in the undersea domain are now so unmistakable that even the head of the Russian Navy, Viktor Chirkov, has admitted that Russian submarine patrols have grown 50 percent since 2013.3

Despite the economic crisis in Russia, rubles continue to flow into the development of Russian submarine technology and the growth of that force. The father of the modern Russian submarine force, the brilliant and highly decorated design engineer Igor Spassky, admits Russian submarine forces are expanding and advancing, and that they will be a key part of the country’s arsenal for the foreseeable future.4

By 2020, the Russian Black Sea Fleet alone will receive the equivalent of $2.4 billion of investment.5 And these are not the submarines we faced during the Cold War. There may be fewer of them, but they are much stealthier, carry more devastating weaponry, and go on more frequent and longer deployments than before. The submarines of the Russian Federation are one of the most difficult threats the United States has faced. This threat is significant, and it is only growing in complexity and capacity.

Russia’s New Approach

Not only have Russia’s actions and capabilities increased in alarming and confrontational ways, its national-security policy is aimed at challenging the United States and its NATO allies and partners. For example, the new Russian national security-strategy depicts the United States and NATO as threats to Russian security and accuses us of applying “political, economic, military, and information-related pressure” on Russia.6 Thus, not only is Russia pursuing advanced military capabilities (especially in the underwater domain) that enable it to be a credible threat to us, it is now boldly saying that it intends to act as one.

An enduring objective of Russian foreign policy today is to challenge NATO and elevate Russia on the European stage once again.7 Building on the national strategy, the new Russian maritime doctrine reorients its naval forces in a calculated and determined way. By confronting NATO at will, Russia confirms its status as a great power in the 21st century. The new maritime doctrine tells us that Russia will counter our existing ASW technologies; challenge U.S. and NATO’s maritime presence in the Atlantic as well as the Baltic, Black, and Mediterranean seas; and expand Russian permanent presence in the Arctic and Mediterranean.8

Furthermore, Russia is rapidly closing the technological gap with the United States. It has created an advanced military designed to overcome our advantages and exploit our weaknesses—this is the epitome of asymmetric warfare. Nowhere is this more evident than in the maritime (and especially underwater) domain. Russia rapidly is building and deploying more advanced and significantly quieter attack submarines and frigates armed with the long-range Kalibr cruise missile (including six new Kilo-class diesel-electric attack submarines destined for the Black Sea).9 Not coincidentally, these are the platforms that are the most challenging for us to deal with because of their inherent stealth. As demonstrated last December by Kalibr launches into Syria from the Eastern Mediterranean, Russian leaders will use such weapons at will, without the same qualms we have about collateral damage. The clear advantage that we enjoyed in antisubmarine warfare during the Cold War is waning.10 Russian submarines are more capable than before, and so we are again in a technological arms race with Russia.11

Russia is claiming maritime battlespace across Europe and deploying forces outside Russian borders. An interlocking system of Russian coastal missiles, interceptor aircraft, air-defense systems, surface ships, and submarines now threatens all maritime forces in the Baltic, as well as our NATO allies in Lithuania, Estonia, and Latvia—who no longer control even their own coastlines unless Russian leaders allow them to do so. A similar anti-access/area-denial (A2/AD) “fortress” was constructed in the Black Sea after Russian forces invaded Ukraine and seized Crimea. Russian forces deployed to Syria are growing steadily, and Russia has constructed military bases in the Arctic, militarizing and claiming large swaths of it, in contravention of customary international law.12 In this way, Russia has blunted our power-projection capabilities through A2/AD and extended its influence far beyond its borders.

Russia now employs an “arc of steel” from the Arctic through the Baltic and down to the Black Sea.13 Combined with extensive and frequent submarine patrols throughout the North Atlantic and Norwegian Sea, and forward-deployed forces in Syria, Russia has the capability to hold nearly all NATO maritime forces at risk. No longer is the maritime space uncontested. For the first time in almost 30 years, Russia is a significant and aggressive maritime power.

In his extensive academic research on naval innovation, Owen R. Cote, Jr., of the Massachusetts Institute of Technology’s Strategic Studies Program has long warned of a potential “fourth battle” for control of the undersea domain.14 It is now clear that a fourth battle is not looming, but is being waged now, across and underneath the oceans and seas that border Europe. This is not a kinetic fight. It is a struggle between Russian forces that probe for weakness, and U.S. and NATO ASW forces that protect and deter. Just like in the Cold War, the stakes are high.

Winning the Fourth Battle Today

With our allies and partners in NATO and across the globe, we present a broad and united front against any potential Russian threats. Our maritime partnerships yield a global network of navies that together form the greatest maritime force for peace ever known. NATO exercises demonstrate our unity superbly. For example, on 7 June 2015, 17 nations, with 49 ships, more than 60 aircraft, and a vast array of ground forces, demonstrated their abilities to operate together to defend the Baltic region in BALTOPS. This exercise, in its 43rd year, made it clear that the United States, NATO, and partner nations have an unwavering commitment to protect themselves by acting in concert. Similarly, Sea Breeze 2015 sent a clear signal to Russia that the United States and its allies will not back down in the Black Sea region. Eighteen ships from 11 nations (Bulgaria, Germany, Greece, Italy, Moldova, Romania, Sweden, Turkey, Ukraine, the United Kingdom, and the United States) demonstrated the will and ability to operate together to achieve maritime security and conduct air defense and antisubmarine warfare in the Black Sea.

A variety of policy and resource shifts have been enacted that signal our resolve to Russia. For example, the U.S. Navy’s revised Cooperative Strategy for 21st Century Seapower notes the critical importance of all-domain access and deterrence. The Chief of Naval Operations’ recent Design for Maintaining Maritime Superiority puts the Navy on a clear path to adapt to the new global security environment.15 But we must act now to implement such guidance before Russia provokes again. To do so, we must engage and conduct operations forward more deliberately, more strategically, and with more forethought—and in ways that encourage responsible behavior by Russia while still deterring Russian belligerence.

From a diplomatic perspective, we can find areas of common interest. One of the most obvious examples is maintaining safety at sea. Despite the recent aggressive “buzzing” of the USS Donald Cook (DDG-75) in the Baltic by a Russian Su-24, the incidents-at-sea (INCSEA) agreements with Russia remain a heartening example of how we can still cooperate with Russia despite its leadership’s adventurism. We also share a desire to defeat violent extremist organizations such as ISIS. We must be prepared to work with Russian leaders if they want to collaborate responsibly on these or other issues of mutual interest. To do so, we can and should meet with our Russian counterparts when possible and prudent. Track-two diplomatic efforts, international symposiums, and other forums that provide such opportunities should also be encouraged.

Of course, diplomacy alone is unlikely to be sufficient. To encourage responsible behavior by Russia we must engage from a position of strength, not weakness. Improving our current force posture in Europe will demonstrate our strength and thereby deter Russia from further adventurism. The first step in improving our force posture is to leverage allied navies to enhance our maritime security. We must work directly with our NATO partners to help them develop the capabilities and capacity to operate seamlessly together and with the United States, respond to contingencies, and protect key maritime infrastructure. Through combined exercises and maritime presence, a network of navies in Europe and across the globe can face Russia from a position of strength and ensure continued peace. Our part in supporting these efforts has been clearly outlined by CNO Admiral John Richardson: We must “prioritize key international partnerships through information sharing, interoperability initiatives, and combined operations [and] explore new opportunities for combined forward operations.”16 The old saying “a house divided cannot stand” is more true now than it has been in many years. To preserve peace, we must unite to deter Russian aggression.

We also should reassess our own global force deployments and exercises. Additional submarines, ASW forces, carrier strike groups, and other assets should be rotated through Europe and used to show Russia that we can bring overwhelming force to bear if need be. We should increase our ASW exercises with our NATO allies, in both the Atlantic, Mediterranean, and elsewhere, to demonstrate that NATO can track Russian submarines at will, no matter where they are.

Finally, we must not lose our technological edge. More than perhaps any other warfare area, ASW requires us to stay one step ahead of Russian technologies. In the world wars, the Allies prevailed over German U-boats not by force alone, but by innovation. In the Cold War, the rise of nuclear-powered Soviet submarines required us to develop new acoustic and other technologies. Today, we are once again in a technological arms race with Russia. We must maintain an innovative edge and rapidly field new technologies if we are to prevail.17

At this time in history we would do well to remind ourselves it is better to prevent wars than to fight them. The U.S. Navy, through forward presence, power projection, and technological advantage, is the epitome of demonstrating resolve and capability in the service of war prevention. In today’s world, wars can only be truly prevented in partnership and cooperation with other nations. The stronger and more resolute we and our allies and partners are together, the less likely that war will occur. And therein lies the true strength of the U.S. Navy—it is not simply by maintaining our technological edge and our readiness to impose unacceptable costs on Russia should the need arise. What makes ours the world’s greatest and most effective navy is the fact that we act in concert with our NATO allies and partners. It is only in this way that we, and all like-minded allies and partners, maintain peace—by unmistakably and constantly deterring Russian aggression.

#### Detection is the lynchpin of effective nuclear deterrence

Perkins et al. 16. Captain William A. Perkins is currently serving as the Director of Fleet Operations (N3) for the Pacific based US Seventh Fleet. Perkins is designated as P-3 Orion Weapons & Tactics Instructor in the US Navy and on his seven deployments he has flown combat missions in every operational theatre in which the P-3C operates. In 2012, he completed a successful aviation squadron command tour as Commanding Officer of Tactical Air Control Squadron 11. A prolific author and strategist, his work has been published in Jane’s Defence Weekly, Jane’s Navy International, US Naval Institute’s Proceedings, Joint Warfare Centre’s Three Swords and in the Journal of the JAPCC. In addition, while assigned to the JAPCC, he wrote three strategic level studies on NATO maritime and air integration challenges; “Alliance Airborne Anti-Submarine Warfare”; June 2016; Joint Air Power Competence Center; <https://www.japcc.org/white-papers/alliance-airborne-anti-submarine-warfare/> //BY

“Many assessments of what the Russian military can and cannot do have been inaccurate. This isn’t just problematic for the facts’ sake – more troubling, it risks skewing our assessment of how far Moscow will go… When Western analysts – and in turn, Western leaders – seek to discredit Russian military capabilities, Moscow will likely continue to take the opportunity to prove them wrong.”

Since non-NATO submarine deployments nearly ceased in the mid-1990s, NATO now has a generation of officers and civilian leaders who did not grow up experiencing the “cat and mouse” environment of submarine warfare which existed during the Cold War. NATO has conducted three major joint operations during since the end of the Cold War. None of these operations were conducted in an area challenged by the presence of an adversary submarine. Just as air chiefs fight the perception NATO will always have air superiority in any campaign, maritime leaders must also engage to challenge the perception that NATO’s maritime forces will always have maritime superiority. This perception, coupled with inaccurate beliefs regarding the capability of the Russian Federation’s maritime capability, has coloured maritime defence spending for decades. As a result, NATO has ceded much of the advantage it earned at the conclusion of the Cold War. Therefore, to dispute this prevailing theory, this study is intended to be read by a much broader audience than purely the maritime component.

Unlocated submarines present numerous problems for both the Maritime component and for NATO writ large. An adversary submarine which is not tracked from a theatre level will have freedom of movement to pose numerous threats to NATO forces and territories. A single submarine can effectively close a maritime choke point, such as the Strait of Gibraltar, preventing merchant traffic or naval forces from transiting.  An unlocated submarine can lie in wait for a naval task force and effectively pick off the high value capital ships, removing in a single blow a significant part of the joint capability to project power (aircraft carrier, amphibious assault ship) or resupply naval forces at sea Adversary attack submarines (SSN) are charged with detecting and potentially engaging not only NATO surface ships, but NATO’s ballistic missile submarines serving as the seaborne aspect of the nuclear deterrent. If those submarines are not tracked at a theatre level, it puts the nuclear deterrent force at risk. Furthermore, an unlocated submarine could establish a covert operating area close to a NATO nation’s coastline. From there, it can project striking power deep into NATO, exploiting recent advancements in modern cruise missile capability (some with ranges in excess of 1500km) and ballistic missile capability. All of these situations become significantly mitigated by tracking submarines throughout their deployment at a theatre level. NATO excelled at tracking submarines in the Cold War, but the skills have atrophied and the resources have dwindled.

#### ASW is key to deter Russia---otherwise Russia can do targeted attacks on the US and EU mainland. We are falling behind

Woody 22 — Christopher Woody edits and reports on defense and security issues. Christopher Woody, "As Russia’s ground forces struggle in Ukraine, NATO navies are staying focused on Moscow’s submarines," Business Insider, 3-15-2022, https://www.businessinsider.com/nato-trains-for-anti-submarine-warfare-amid-russia-ukraine-attack-2022-3, accessed 6-30-2022 WMK

After Russia’s 2014 attack on Ukraine, the US "saw an uptick of Russian navy submarine out-of-area deployers, which culminated in Russian general-purpose submarines" operating off of the US East Coast, Vice Adm. Daniel Dwyer, commander of the US Navy’s 2nd Fleet, said at the WEST Conference in San Diego in February.

"It was determined at that point that the Atlantic no longer provided that geography that enabled our protection and that standoff [distance] that we’ve enjoyed for so many decades," added Dwyer, whose command was reactivated in 2018 in response to that undersea activity.

Russian submarines have also added the ability to attack land targets with cruise missiles, which they demonstrated for the first time with strikes on ISIS targets in Syria in 2015, surprising US military leaders in Europe.

NATO commanders fear those missiles could be used against ports and other infrastructure in Europe, potentially interfering with resupply and reinforcement efforts. Recent US and NATO drills have focused on getting convoys across the Atlantic and to disembarkation points in Europe.

US military leaders also see those missiles as a growing threat to the US mainland. US Air Force Gen. Glen VanHerck, who is responsible for North America as head of Northern Command and NORAD, has repeatedly warned about air- and sea-launched cruise missiles.

VanHerck has pointed specifically to Russia’s Severodvinsk-class guided-missile submarines, calling them "on par with ours" and telling lawmakers this month that those subs, also called the Yasen class, "are designed to deploy undetected within cruise-missile range of our coastlines to threaten critical infrastructure during an escalating crisis."

"This challenge will be compounded in the next few years as the Russian Navy adds the Tsirkon hypersonic cruise missile to the Severodvinsk’s arsenal," VanHerck told the House Armed Services Committee.

VanHerck has advocated new and modernized detection systems to spot activity in the sea and the air around the US, including updates to the Navy’s Integrated Undersea Surveillance System, which is important "as Russia and China continue to field highly advanced guided-missile submarines," VanHerck told lawmakers.

Russia’s struggles on the ground in Ukraine have raised questions about the quality of its military and its leadership after years of investment and upgrades. Russia’s navy has had a limited role in the conflict so far, and the US Navy’s top civilian official has cautioned against drawing conclusions about its capabilities.

"One should never underestimate one’s adversary," Navy Secretary Carlos del Toro said this month at the McAleese defense conference. "Perhaps the shortcomings that we’ve seen with regards to the Russian army as it invades Ukraine, the same disadvantage doesn’t necessarily translate over to the navy and their submarine force."

Moscow is investing "very strategically and wisely" in its submarines, "and their technology approaches ours," del Toro said, "so one should never underestimate that capability and the threat that that capability presents to us."

#### Extinction

Higgins 18 — Abigail, covers international development, global health, poverty, and gender. Before Vox she was a foreign correspondent and researcher in East Africa writing for The Washington Post, The Guardian, and Foreign Policy, among others.10-18-2018, "10 ways the world is most likely to end, explained by scientists," Vox, https://www.vox.com/future-perfect/2018/10/18/17957162/nuclear-war-asteroid-volcano-science-climate-change/, accessed 7-1-2022 //THS—OLW

The good news for us is that scientists think the world will be habitable for at least a few hundred million more years. The bad news is there’s a lot that could change that. The risk of the threats highlighted in the report actually causing mass casualties are still small, but that doesn’t mean they’re not important to pay attention to — especially when the worst-case scenario means human extinction. Here’s what should be keeping you up at night and what, realistically, might cause humans to go the way of dinosaurs. 1) Nuclear war A nuclear detonation from one of today’s more powerful weapons would cause a fatality rate of 80 to 95 percent in the blast zone stretching out to a radius of 4 kilometers — although “severe damage” could reach six times as far. But it isn’t just the immediate deaths we need to worry about — it’s the nuclear winter. This is when the clouds of dust and smoke released shroud the planet and block out the sun, causing temperatures to drop, possibly for years. If 4,000 nuclear weapons were detonated — a possibility in the event of all-out nuclear war between the US and Russia, which hold the vast majority of the world’s stockpile — an untold number of people would be killed, and temperatures could drop by 8 degrees Celsius over four to five years. Humans wouldn’t be able to grow food; chaos and violence would ensue. A big worry here is the arsenal of nukes. While numbers have fallen over several decades, the United States and Russia have just under 7,000 warheads each, the largest collections in the world. The UK, France, China, India, Pakistan, North Korea, and Israel all have nuclear weapons. Hundreds of nuclear weapons are ready to be released within minutes, a troubling fact considering that the biggest threat of nuclear war may be an accident or miscommunication. A few times since the 1960s, Russian officers (and, in 1995, the president) narrowly decided not to launch a nuclear weapon in response to what they’d later find out were false alarms.

#### Cohesive ASW in the Black Sea is key to deter Russian aggression in the region

Vișan 18 — George Vișan is an associate researcher at the Romania Energy Center (ROEC). George Vișan (2018) Eurasia Daily Monitor Volume: 15 Issue: 8 <https://jamestown.org/program/growing-submarine-threat-black-sea/> WMK

In the four years that have passed since Russia annexed Crimea, the number of Russian submarines active in the Black Sea has grown from one to seven. These submarines pose a grave threat to the security of the North Atlantic Treaty Organization’s (NATO) eastern flank. And together with the Kremlin’s military buildup on the occupied peninsula, they have shifted the balance of forces in the region in Russia’s favor.

Immediately after the annexation of Crimea, Russia embarked on an ambitious program of modernizing its Black Sea Fleet, based out of Sevastopol. Originally, six Admiral Grigorovich–class (Project 11356P/M) guided-missile frigates and six Kilo-class submarines were to be constructed and deployed in the Black Sea (Interfax, May 13, 2014). Both frigates and submarines are capable of launching Kalibr land-attack cruise missiles with a range of over 2,000 kilometers. However, the ongoing war in eastern Ukraine has delayed the building of the Admiral Grigorovich frigates as Kyiv stopped supplying Russian defense contractors with the gas turbines necessary to power them (see EDM, January 25, 2017; The Moscow Times, June 8, 2015). Presently, only three ships have been commissioned.

Nevertheless, all six of the Kilo-class submarines have been delivered and commissioned. Furthermore, four of these submarines have fired their cruise missiles in anger in support of the Russian intervention in Syria (the Rostov-na-Donu, Krasnodar, Veliky Novgorod and Kolpino). In operational terms, this means that their crews are battle-tested and have a high degree of confidence in their boats and weapons systems.

A veteran of the Cold War, the Kilo diesel-electric attack submarine remains a potent weapons system to this day. It is one of the quietest conventional submarines in service and one of the safest. In the confines of the Black Sea and of the Eastern Mediterranean, these submarines can strike targets with torpedoes and cruise missiles with relative ease, while being protected by Russia’s burgeoning anti-access and area denial (A2/AD) “bubbles” (ROEC, July 14, 2015). Their capability to launch Kalibr cruise missiles makes them extremely dangerous, being able to hit targets well inside the Black Sea region, as well as in Europe, Central Asia and the Middle East. As such, the Kilo submarine is an A2/AD asset as well as an offensive power projection platform, capable of hitting NATO facilities in Central and Eastern Europe or to threaten the Deveselu missile defense base in Romania (see EDM, February 16, 2017; September 19, 2017).

Among NATO members in the Black Sea, region only Turkey has fully developed anti-submarine warfare (ASW) capabilities and can meet the challenge posed by Russian undersea vessels. Furthermore, Turkey’s control over the Bosporus and Dardanelles Straits allows for easy monitoring of transiting Russian submarines. However, Ankara’s ASW capabilities are divided between the Black Sea and the Mediterranean Sea and its readiness is being put to the test by Russia’s assertiveness. Romania and Bulgaria, the other two NATO members in the region that possess navies, are struggling to offer up any kind of effective response.

For NATO, the writing is on the wall—it needs to increase its ASW capabilities fast in order to deter the Russian submarine threat. As part of the European Reassurance Initiative (ERI) US P-8 Poseidon aircraft have begun patrolling over the Black Sea in order to track these submarines and gather intelligence. Nevertheless, the presence of Russian fighter aircraft as well as sophisticated air defense systems in and around Crimea makes the P-8s vulnerable to interception and/or interference (România Liberă, September 9, 2017). Clearly, besides a stronger Alliance presence in the region, there needs to be an overall increase in regional ASW capabilities.

An obvious response to the Russian submarine threat in the Black Sea is increasing Romania’s and Bulgaria’s naval capabilities. Romanian and Bulgarian navies operate old ships equipped mostly with outdated Russian sensors and weapons systems. Both countries have not acquired military vessels since joining the North Atlantic Alliance, mostly due to economic reasons. Nevertheless, the Russian military buildup in Crimea has created a sense of urgency concerning naval capabilities for Bucharest and Sofia.

In 2017, Bulgaria announced plans to acquire two multi-role corvettes (Defense News, August 29, 2017), in effect reviving a program dating back to 2007 (Novinite, October 2007). Romania is also preparing to acquire multi-role corvettes, which it views as the single most effective type of surface combatant for littoral areas (MApN.ro, December 8, 2017). Bucharest is likely to purchase four such vessels in a program that will span seven years and is estimated to be worth $1.9 billion. Furthermore, the Romanian Navy plans to modernize its vintage Type 22 frigates, acquired from the United Kingdom in 2003, using the offset agreement from the corvette purchase (MApN.ro, December 8, 2017). A decision concerning the corvette program is expected in 2018. Plans have also been drawn up to buy submarines; but such an acquisition process may not begin until sometime between 2020 and 2026 (Agerpres, January 26, 2017).

Besides looking to obtain new ships for their aging fleets, Romania and Bulgaria have been involved, since 2014, in numerous US- and NATO-led naval exercises in the Black Sea and the Mediterranean. Exercises like Sea Breeze 2017 (C6f.navy.mil, July 25, 2017) have included not only a large number of NATO allies, but also Ukraine and Georgia, targets of Russian aggression. Increasing the number of NATO joint exercises in the Black Sea sends a clear deterrence signal to Moscow, while also increasing capabilities and readiness at a fraction of the cost of new military acquisitions.

In the short term, it seems that Russia has the upper hand in the Black Sea region due to its fast-paced rearmament drive and sophisticated A2/AD assets. However, NATO can overcome this threat by developing regional capabilities designed to thwart apparent Russian advantages. Smart defense investments in critical capabilities, such as ASW, combined with complex joint exercises can restore the regional military balance in favor of the Alliance.

#### Deterrence breakdown ensures escalating conflicts there and in Syria

**Hamilton 20** [Robert E. Hamilton, Ph.D., is a Middle East Institute Non-Resident Scholar for Frontier Europe Initiative, is also an Associate Professor of Eurasian Studies at the U.S. Army War College, during a 30-year career in the U.S. Army, he served overseas in Saudi Arabia, Iraq, Germany, Belarus, Qatar, Afghanistan, the Republic of Georgia, Pakistan and Kuwait, is a graduate of the German Armed Forces Staff College and the U.S. Army War College, “NATO Needs to Focus on the Black Sea,” DefenseOne, Aug 4, 2020, <https://www.defenseone.com/ideas/2020/08/nato-needs-focus-black-sea/167431/>]

Next, NATO’s presence in the Baltics and Poland is the right size: large enough to present a credible deterrent to Russia, but not large enough to present an offensive military threat. NATO was right to beef up its presence in the Baltics after 2014. After all, the three tiny Alliance members are simply incapable of defending themselves alone in the unlikely event of war with Russia. But deploying seven full brigades totaling 40,000 to 50,000 troops, as some analysts suggest, would be destabilizing. Russia would doubtless perceive this deployment as an offensive threat and increase its forces in response. The four NATO battle groups currently deployed – one each to the three Baltic republics and Poland – are important for their composition as much as their size. These 5,000-plus troops could do no more than delay a Russian incursion while NATO deployed reinforcements. But the fact that 24 of the 30 NATO members contribute forces to the Alliance’s “Enhanced Forward Presence” mission makes it clear to Russia that NATO is united in its determination to defend the Baltics, and that war there means war with nearly all of NATO.

Lastly, there is no indication that Moscow has any intention of invading the Baltics. Russia has always seen the Baltics as different from the rest of the former Soviet Union. In short, when the Kremlin looks at Estonia, Latvia, and Lithuania it sees Europe, and it had always played by different rules in Europe than in its self-designated “near abroad”. Anatol Lieven remarked on this Russian tendency in his book The Baltic Revolution: “A large proportion of Baltic Russians have been prepared to acknowledge that the Balts have a superior civic culture, are cleaner, more orderly and harder working. They may qualify this by saying that Russian life is ‘friendlier’, or ‘more humane’, but this is the exact reverse of the usual colonizer: colonized self-images.”

Russia’s behavior toward the Baltic States immediately after the collapse of the Soviet Union made clear the extent to which it treats them differently. As it was intervening on behalf of separatist movements in Georgia and Moldova, it scrupulously avoided escalating the situation with the Russian-speaking minorities in Latvia and Estonia. Despite the fact that Moscow was exceptionally unhappy with the treatment of Russians speakers there, and had military forces deployed to both countries until 1994, it always expressed its grievances through official, institutional channels instead of trying to rally the Russian-speaking minorities to violence or intervening directly as it did elsewhere.

Rather than fixate on the Baltics, where the threat is low and a deterrent force is in place, NATO should pay more attention to the Black Sea region. It is here that Russia has already intervened militarily, and is attempting to fracture the Alliance and erode confidence in its commitments. The Black Sea region also serves as the hub for Russia’s recent expansion into the Eastern Mediterranean and is critical to its efforts to support its intervention in Syria.

There are four main reasons the Black Sea region demands more attention.

First, three of the six littoral states – Romania, Bulgaria, and Turkey – are NATO members and two – Ukraine and Georgia – were promised membership in 2008. Whether the Alliance should have committed to membership for Ukraine and Georgia is no longer relevant; it made the commitment and routinely reiterates it at NATO summits. Every year that the fear of Russia’s reaction delays progress on bringing Kyiv and Tbilisi into NATO erodes confidence in NATO’s other commitments.

Next, an examination of Russian military activities in the last decade-plus leads to the conclusion that the Black Sea and Eastern Mediterranean is the area of greatest geopolitical importance for Russia. All of its military interventions in this period – Georgia, Ukraine and Syria – have occurred in this region, and Moscow clearly intends to challenge the West in this part of the world. NATO provides the best vehicle to meet this challenge and protect the important national interests Western states have in this region.

#### Black Sea conflict causes great power war

**Joja 20** [Iulia-Sabina Joja is a DAAD Post-Doctoral Fellow at the Foreign Policy Institute of the Johns Hopkins School of Advanced International Studies in Washington, DC, where she researches Black Sea security, “Three Conflict Scenarios for The Black Sea in 2020,” Jan 7, 2020, Black Sea Strategy Papers, https://www.fpri.org/article/2020/01/three-conflict-scenarios-for-the-black-sea-in-2020/]

Conclusion

These three conflict scenarios are plausible risks for the Black Sea in 2020. Looking at “the wider Black Sea area” over a medium-term perspective, a more complex array of challenges is visible. In the Western Balkans, proposed land swaps and France’s veto against the European Union expansion add tension to a vulnerable region at the heart of Europe. To the south, Turkey’s divergence from other NATO members and the development of Russia’s offensive military capability development and projection into the Mediterranean add fuel to the fire. Along Turkey’s southern border, Iraq and Syria will be consumed by humanitarian tragedies. Finally, looking east, China’s Belt and Road Initiative is expanding Beijing’s influence in the Black Sea and into Europe more broadly. Increased security and stability in the Black Sea will be essential.

To prevent further conflict, American and European policymakers should prioritize the Black Sea as a security region. At a minimum, sanctions against Russia should be maintained. The West should support Ukraine’s and Georgia’s sovereignty and territorial integrity, as well as their Western path. To prevent China’s buying up of the region, Western powers should consider offering infrastructure investment opportunities as alternatives to a poor and underdeveloped region while ensuring visibility with regard to regional public opinion. Lastly, in the NATO framework, pressure should be exerted to prevent Turkey from acting against collective interests.

#### Goes nuclear

**Amineh 3** [Mehdi Parvizi Amineh, Ph. D in Poli Sci @ University of Amsterdam & Senior research fellow and Programme director of the Energy Programme Asia @ International Institute for Asian Studies) “Globalisation, Geopolitics and Energy Security in Central Eurasia and the Caspian Region,” Hand-out of lecture held on June 19 2003, Clingendael International Energy Programme, pg. <http://www.clingendael.nl/ciep/events/20030619/20030619_amineh.pdf>] \*CEA = post-Soviet Central Eurasia ]

The increasing involvement of the US, the EU, Russia, China, Iran, and Turkey, and also TNCs in the region underscores the significance of the oil and gas resources in CEA and the potential competition for the control of these resources. What we are witnessing now is, a re-composition of the geo-strategic map not only for CEA and the Caspian region, but also of the whole world.

Tensions could be further aggravated by disparities in military power, if conflicts were to escalate. The Eurasian region includes states with a number of the largest armed forces in Europe and Asia: Russia, Turkey, Ukraine, Iran, Pakistan, China, India and Uzbekistan. The region also has four nuclear-armed countries – Russia, China, Pakistan and India – making it a dangerous potential flash point of global significance. Further, security risks concern the US / NATO involvement in numerous political and economic crises in post-Soviet CEA, the war on terrorism in Afghanistan, and the war and crisis in Iraq.

#### NATO Black Sea deterrence is crucial to regional stability --- only NATO’s presence prevents reckless Russian intervention into Syria

**Coffey 20** [Luke Coffey, had served at the UK Ministry of Defence since 2010 as senior special adviser to then-British Defence Secretary Liam, is the director of the Douglas and Sarah Allison Center for Foreign Policy at the Heritage Foundation, where he oversees research on nations stretching from South America to the Middle East, “While the U.S. is not a Black Sea country, it needs to be a Black Sea power,” July 21, 2020, MEI, https://www.mei.edu/publications/while-us-not-black-sea-country-it-needs-be-black-sea-power]

While the Baltic region is incredibly important for NATO, this lack of focus on the Black Sea was unfortunate. The region matters to the U.S. and its NATO allies. The Black Sea is home to three NATO members (Romania, Turkey and Bulgaria) and two aspirant NATO countries that face partial Russian occupation (Ukraine and Georgia). Important oil and gas transit links crisscross the region. So do many important fiber optic cables and shipping lanes.

On the tactical level, Moscow’s action in the region and its militarization of Crimea furthers its goal of making the Black Sea a Russian lake. Russia has deployed 28,000 troops to Crimea and has embarked on a major program to build housing, restore airfields, and install new radars there. In addition, Russia has deployed advanced air defense and anti-ship missiles that give it a leg up above the rest in terms of controlling the surface and the skies above the Black Sea.

On the strategic level, Russia uses the Black Sea as a springboard to challenge U.S. interests elsewhere in the world. For example, Russia has used its Black Sea presence on occupied Crimea to launch and support naval operations in support of Syrian President Bashar al-Assad. In the early days of Moscow’s intervention in Syria, the Moskva, a Russian navy guided missile cruiser, played a vital role in providing air defense for Russian forces. Hundreds of thousands of tons of grain and wheat have been shipped from Crimea to Syria to help the Assad Regime’s food shortage problems. Hundreds of trips have been made between Crimea’s port city of Sevastopol and the Russian naval base in Tartus, Syria to transport military hardware and resupplies.

Thankfully policymakers are now waking up. For the U.S. three Black Sea countries can play an important role in America’s presence in the region: Romania, Georgia and Ukraine.

#### The plan solves deterrence –

#### 1---COHESION – integrated management and development boosts allied synergy

Alleslev 19 — Leona Alleslev-Krofchak is a Canadian politician and former military officer. Alleslev, Leona. "NATO Anti-submarine warfare: rebuilding capability, preparing for the future." Science and Technology Committee (STC) (2019). https://www.nato-pa.int/download-file?filename=sites/default/files/2019-10/REPORT%20150%20STC%2019%20E%20rev.%201%20fin%20-%20ANTI-SUBMARINE%20WARFARE.pdf WMK

45. The principal purpose of ASW is to find a potential adversary’s submarines in a game of ‘cat and mouse’ (Perkins, 2016). Given the difficulty of the task, ASW depends on high-end military capabilities, but as former US Chief of Naval Operations Admiral Gary Roughead aptly notes, it is also “a mix of art and science” (Roughead, 2018). Modern ASW mainly relies on a variety of manned platforms utilising passive and active sonar systems (see Box 3 and Table 3): - tactical submarines; - fixed-wing maritime patrol aircraft (MPA); - surface vessels equipped with sonar systems; - maritime ASW helicopters based on land or on surface vessels; and - acoustic detection systems on the seabed or installed on shore.

46. NATO’s overall ability to conduct high-end ASW operations has atrophied substantially. A 2017 tabletop exercise, led by a renowned think tank, found that “neither the individual member states, nor the Alliance as a whole, presently possess the ability to conduct a comprehensive and coordinated anti-submarine warfare campaign under either peacetime or wartime conditions” (Smith and Hendrix, 2017). One of the participants argued that it would take 50 days or more to assemble an effective ASW force. While NATO still retains the capability to prosecute individual submarines atv the current level of Russian patrols, it will soon lose this ability if current trends continue (Perkins, 2016). In short, the Alliance has “ceded much of the advantage it earned at the conclusion of the Cold War” (Perkins, 2016).

47. NATO faces a twin problem. For one, its own ASW capabilities have withered, as the number of ASW-capable platforms has fallen, in some areas radically. Moreover, the capabilities the Alliance still possesses are rapidly ageing and encounter interoperability problems (Hicks et al., 2016). At the same time, the submarine capabilities of near-peer competitors have increased significantly, even if they cannot best the most modern Allied submarines.

48. Several reasons explain but do not excuse this state of affairs. As the immediate threat of the Soviet Union waned in the early 1990s, defence budgets began to shrink substantially. They took another big hit after the financial crisis of 2007/2008. More importantly perhaps, a strategic reorientation towards expeditionary warfare took place after the Cold War ended. While based on sound reasons, this reorientation came at a high price for other capability areas, including ASW (Perkins, 2016; Allport, 2018; Hudson and Roberts, 2018): - naval vessels conducted more and more generic maritime security or were repurposed for land attack missions; - MPAs increasingly focused on wider intelligence, surveillance, and reconnaissance; - ASW-capable vessels almost ceased operating in the North Atlantic and Arctic Oceans; and - some Allies chose not to replace certain capabilities at the end of their lifetime.

49. One area where Allies have retained robust capabilities, including through timely replacement programmes, is maritime ASW helicopters. Acoustic detection systems installed on the seabed or on shore are highly classified systems, thus little information is available. Some experts have stated that the United States has likely placed its large underwater Sound Surveillance System near the GIUK gap in standby (Smith and Hendrix, 2017). Experts also question its ability to detect the quietest Russian submarines. The US Navy is pursuing upgrades and new systems, but little is publicly known. Allied inventories of tactical submarines, MPAs, and frigates either continue to face significant shortfalls today or will in the near future. It is thus worth highlighting the ongoing modernisation efforts in this regard.

B. TACTICAL SUBMARINES: HIGH QUALITY, MIXED PICTURE OVERALL

50. The 124 tactical submarines currently available in Europe and North America still possess superior qualities compared to non-NATO submarines, with the US submarines remaining at the top of the class. Nevertheless, quantity counts in ASW, and it is therefore regrettable that the total number of submarines in the Alliance has fallen drastically. A few examples illustrate this (Hicks et al., 2016): - Denmark did not replace its last submarines when they reached the end of their lifetime in 2004. - Germany’s submarine numbers fell from 14 to 6 between 2000 and 2019 (-57%). - Norway went from 10 to 7 between 2000 and 2019 (-30%). - The United Kingdom dropped from 12 to 6 between 2000 and 2019 (-50%). - Even the United States possesses almost 10% fewer submarines than at the end of the Cold War.

51. The positive news is that all Allies with submarine fleets are committed to maintaining this capability. The most important submarine modernisation programmes include the following: - Canada’s new 2017 Defence Policy committed to modernising its Victoria class submarines in the mid-2020s to ensure their continued effectiveness into the mid-2030s (Government of Canada, 2017). So far, the option analysis has been completed (Government of Canada, 2019). The country purchased these submarines in 1998 from the United Kingdom, where they had entered service in the early 1990s. - The four Walrus class submarines of the Netherlands need to be replaced in the second half of the 2020s. The country is set to decide on a follow-on procurement programme by the second half of 2019 (Sprenger, 2019a). To replace its Rubis class submarines, France is in the process of building Barracuda class nuclear-powered general-purpose submarines (Sprenger, 2019b). Six are planned (Sprenger, 2019b). The first of these submarines, the Suffren, was launched in July 2019 and is expected to be delivered in 2020 (Sprenger, 2019b). - Germany’s diesel-electric Type 212 submarines boast some of the most advanced air-independent propulsion technology in the world. The German navy will add another two to its fleet in the coming years under a joint programme with Norway (NavalToday.com, 2019). - Italy plans to procure another four German-designed Type 212 submarines to remain at eight submarines once its four Pelosi class submarines retire (Kington, 2019). - Norway’s six Ula class submarines will reach the end of their lifespan in the mid- to late-2020s. They will be replaced by submarines based on the German Type 212 class under a joint programme with Germany (NavalToday.com, 2019). - Poland’s submarines are deemed not combat-relevant by experts (Hicks et. Al, 2016). However, the country has committed to procuring new ones and initiated a competition for the programme (Lesiecki, 2018). - Spain’s S-80 Plus class programme has run into severe problems, forcing the country to maintain its S-70 Agosta class submarines, which entered service in the early 1980s, in service longer than expected (Roblin, 2018). - Turkey has launched a mid-life upgrade for its four Preveze class submarines (Vavasseur, 2019b). - The UK Royal Navy is in the process of replacing the Trafalgar class submarines with the highly capable Astute class submarines. Three Astute submarines are already in service (UK Royal Navy, n.d.). The Ministry of Defence has already launched a Maritime Underwater Future Capability project for the time when the Astute class will leave service (Bliddal, 2019). - While the United States is accelerating its submarine procurement, it will still face a tactical-submarine shortfall in the mid-2020s, when their number will bottom out at about 42 (McLeary, 2019). This prospect is likely a driving factor in the accelerated acquisition of maritime unmanned systems (see next section).

C. MARITIME PATROL AIRCRAFT: A KEY SHORTFALL AREA

52. The capability shortfall in Maritime Patrol Aircraft (MPAs) for ASW missions has been especially dramatic. Compared to the end of the Cold War, the Alliance now possesses 120 fewer MPAs (Perkins, 2016). One data point illustrates what this really means: while the ratio of available Allied MPAs to Soviet submarines was about 1.8 to 1 at the end of the 1980s, the ratio has more than inversed at 1 Allied MPA for 2 Russian submarines (Perkins, 2016). While MPAs are certainly expensive assets, they cannot be replaced solely by a layered federated system of sensors (Perkins, 2016). Indeed, to maintain 24-hour coverage of a single submarine, a country needs about seven to eight MPAs (Perkins, 2016).

53. The majority of the Allies’ MPAs will reach the end of their operational lives in the 2025-2035 timeframe. As one industry interlocutor put it during the recent STCTTS visit to the United Kingdom, the Alliance is facing a “15-year crunch time”. They have realised the urgency of this challenge. Indeed, eight Allies have pursued a Multinational Maritime Multi Mission Aircraft Capabilities Cooperation under NATO’s aegis since 2017 (see Figure 1). They have begun to define common requirements for such future aircraft capabilities, with ASW very much at the centre.

54. Individual Allies are already in the process of procuring new MPAs: - France and Germany have declared their intent to work together in replacing their MPA fleets in a broader European project (Shalal, 2018). - Norway is replacing its P-3C Orion fleet with five P-8 Poseidon MPAs (Reim, 2019). I taly’s new ATR-72 MPAs are not configured for ASW, but the airframe could, in principle, be upgraded with this capability in the future (Kington, 2016). - Turkey intends to procure six ATR-72 MPAs with ASW capabilities (Aviation News, 2016). - The United Kingdom currently finds itself in a severe situation. In 2011, its Nimrod MPAs were not replaced. This has left the United Kingdom without an MPA capability and dependent on Allied support in the face of increased submarine activity along its shores. The government is therefore acquiring nine P-8 Poseidon MPAs. The first of these is set to move to the United Kingdom in early 2020, and the last aircraft is expected to be delivered by March 2022 (US DOD, 2019b).

55. Another MPA-related shortfall is the very low level of sonobuoys, which MPAs (and ASW helicopters) drop into the sea to hunt submarines (Perkins, 2016). While these depleted inventories alone should be a cause for alarm, the situation is made worse by the fact that significantly more sonobuoys are now needed to achieve Cold War-levels of detection because submarines have become much quieter (Perkins, 2016). Their utility has certainly been falling. However, in the short to medium term, they are still very much needed to locate submarines in a dynamic hunt, as newer technologies are not yet capable of fully compensating – and will not be within the next decade or two (see next section). Allies must therefore urgently build up stockpiles. Perhaps a NATO Smart Defence project similar to the joint procurement of precision-guided munitions could be explored. Indeed, Allies can already place sonobuoy orders through the NATO Support and Procurement Agency.

D. ONGOING FRIGATE MODERNISATION ACROSS THE ALLIANCE

56. The ASW capabilities on surface vessels have not fallen quite as drastically, but certain Allies have seen significant reductions. For example, the Atlantic-facing NATO member states, who carry the brunt of the ASW burden on NATO’s northern flank, lost about half of their frigate inventory between 1995 and 2017 (Smith and Hendrix, 2017). Even the United States faces difficulties. The US Navy is cutting the number of vessels equipped with the Surveillance Towed Array Sensor System from nine to five, possesses no frigate class specially dedicated to ASW, and lost ASW capabilities when the S-3 Viking fixed-wing aircraft retired from carriers in 2009 (Smith and Hendrix, 2017).

57. Allies are well aware of the need for high-end ASW surface vessels and are reacting accordingly. Importantly, 12 Allies are in the process of procuring new frigates, with many of these being designed for improved ASW capabilities. Some of the modernisation programmes most relevant to ASW include the following: - Belgium and the Netherlands are developing a new Future Surface Combatant to replace the M-Frigates in their inventory (Fiorenza, 2018). The first new frigate should be delivered to the Netherlands by the mid-2020s (Naval Recognition, 2018). - In a sign that Canada takes the ASW threat seriously, its government has selected the Type 26 frigate, designed in the United Kingdom and optimised for ASW, to replace its Halifax class frigates (Allison, 2018). - Six of France’s new FREMM frigates have been ASW optimised, with the last frigate delivered in July 2019 (OCCAR, 2019). Moreover, a number of older frigates will be retrofitted with towed array sensors (Hicks et al., 2016). - Germany’s MKS-180 frigates, which are under development, will have an advanced ASW module option (Vavasseur, 2019a). - The United Kingdom will replace its Type 23 frigates, which are highly capable of ASW operations, with the new Type 26 class optimised for ASW (Willett, 2018). However, it has cut its planned orders from 13 to 8 (Willett, 2018). - The United States will design its new FFG(X) frigate with excellent ASW capabilities in mind. The US Navy wants to procure 20 FFG(X) by 2030, with the first frigate of this type procured in 2020 (Congressional Research Service, 2019).

VI. TOWARDS A NEW VISION FOR ASW

58. The previous section laid out some of the short- and medium-term challenges to the Alliance’s ASW capabilities as well as some ways Allies plan to rebuild them. However, in the longer term, much more complex challenges abound. On the one hand, the seas are becoming louder and warmer, making it harder to detect submarines (Perkins, 2016). Maritime background noise has more or less doubled every decade, and radio-frequency interference has also risen markedly (Perkins, 2016). On the other hand, submarines are getting quieter and increasingly hard to detect as they employ better hull designs, air-independent propulsion, noise-cancelling, and acoustic jamming systems (Clark, 2015b). As a consequence of this twin movement, it is entirely possible that ‘sound parity’ might soon occur – i.e. submarines could become quieter than the sea’s ambient noise (Perkins, 2016).

A. SENSOR TECHNOLOGIES

59. Progress in traditional sonar detection technologies continues to be slow and evolutionary (O’Hanlon, 2018). As submarines become quieter, the detection ranges for passive sonars – the dominant ASW sensor for the last five decades – have fallen from multiple miles to hundreds of yards (Perkins, 2016). Active sonar system ranges are still in the range of single-digit kilometres, but they face problems in the classification of submarine signals (Perkins, 2016). All this leads one expert to argue that traditional sensors “are rapidly approaching a point of obsolescence” (Perkins, 2016). However, artificial intelligence, big data, and the miniaturisation of computing power could help sustain traditional sensor technologies for some time. For example, artificial intelligence applications are enabling oceanographic modelling in (near) real time, boosting ASW sensor capabilities significantly, and giving the means to sift through the enormous amount of gathered data to find an actual target (Clark, 2015a).

60. Faced with the plateauing of traditional sensor capabilities, scientists and engineers are working on making new technologies viable. Non-acoustic detection methods are an increasing area of focus. Researchers hope to develop technologies that could, for example, detect the chemical and radiological emissions of submarines, bounce laser light off submarines to make them visible, or sense the tiny changes in ocean surface levels, wave patterns, or ocean temperatures when a submarine passes underneath (Clark, 2015a; Perkins, 2016; Hicks et al., 2016). Quantum technologies are crucial components for non-acoustic sensors. Scientists and researchers in Allied member states, but notably also in China, are investing in this area.

61. Navies are also developing new detection systems which can be installed on the seabed or on land, or float in water. The US Navy, for example, has programmes for a portable sensor to be installed at key chokepoints in the Shallow Water Surveillance System and the Persistent Littoral Undersea Surveillance (Clark, 2015a).

B. MARITIME UNMANNED SYSTEMS

62. In addition to new sensors, a new vision for the future of ASW is taking shape based on maritime unmanned systems (see also Figure 2). MARCOM Deputy Commander Vice Admiral Bléjean told Committee members that he saw maritime unmanned systems as future “game changers”. Allies needed to understand the technology today to prepare for this future, especially since non-NATO navies were investing heavily in them, members heard.

63. Maritime unmanned systems comprise two classes of autonomous unmanned vehicles (AUV): unmanned surface vessels as well as unmanned underwater vessels. Unmanned surface vessels can range from the big Sea Hunter to small Aqua Quads or Wave Gliders. Unmanned underwater vessels come in all sizes too – from buoyancy gliders to the extra-large Boeing Echo Voyager and Lockheed Martin Orca.

64. AUVs offer many potential advantages for naval forces, as they can be designed to be: - smaller and thus less detectable than manned platforms; - much more focused on the payload, as no human operators need to be accommodated; - highly modular and scalable; and - at sea for long durations of time if power generation and storage challenges can be overcome (see below).

65. Moreover, AUVs could reduce personnel and unit costs and compress research and development cycles, as certain complex systems would be cut out. Perhaps most importantly, they could operate in degraded or denied environments without putting lives at risk.

66. A naval future based on AUVs, integrated with traditional platforms, could still be a decade or two away. Nevertheless, Allies see great potential for a number of naval missions, including ASW. As a result, 14 Allies signed a declaration of intent in October 2018 to cooperate on the introduction of maritime unmanned systems (see Figure 4). The initiative aims to pool resources, talent, and ingenuity to create better, more flexible, and more interoperable AUVs. The initiative seeks economies of scale to enable cost saving in what is set to become an area of increased investment.

67. The concept of distributed networks is the key to understanding how many Allies see the future of ASW based on AUVs. Networks of manned and unmanned sensors from the sea floor to space would combine into a single system of systems. Navies would move away from platforms packed to the brim with ASW sensors. Instead, they would employ smaller platforms with fewer capabilities. While they would individually perform far fewer tasks than today’s ASW platforms, the scale of the overall system would give it an edge. The US Navy, which in 2019 asked for USD 3.7 billion for future AUV programmes, envisages potentially thousands of such AUVs working together. An adversary would thus be overwhelmed with a multitude of small targets instead of a naval group consisting of a few surface vessels. Opponents would need to place expensive weapons on targets that are much less costly than the frigates of today. The distributed network would also have sufficient redundancy built-in, so that an adversary would be unable to neutralise all systems simultaneously. Swarming technology could also lead to maritime unmanned systems where AUVs could be placed in a ‘net’ which moves with a target once detected. Such a swarm of AUVs would form a ‘roaming net of sonobuoys’, replacing today’s ‘one-time use’ sonobuoys in the long run. Concepts of launching unmanned aerial vehicles from MPAs or underwater platforms to release sonobuoys are also being explored. The UK government will soon begin researching and testing extra-large unmanned underwater vehicles for the purpose of creating ASW ‘barriers’. Greece has also tested unmanned surface vessels in combination with dipping sonars originally designed for helicopters. AUVs could, of course, also play a key role in monitoring undersea cable networks.

68. Manned systems – frigates, MPAs, and submarines – would still play very important roles in such distributed networks. However, they could move away from the front line by acting as a host for unmanned systems or a coordinator of sensors and weapon systems. They could gather intelligence, conduct surveillance, mine strategic chokepoints, and engage in electronic warfare in areas of high risk for manned platforms (Clark, 2015a).

69. Unsurprisingly, many challenges exist before such a future becomes possible. Secure communication is a long-standing challenge for the underwater domain and for the link with surface, air, or space assets. However, progress is being made in acoustic communications over operationally relevant distances, albeit at low bandwidth; in short-range communications based on LED or laser systems approaching, at short distances, the quality of wired communication; and in networking floating or towed radio transceivers to communicate with surface vessels without them risking detection (Clark, 2015a).

70. Collision avoidance will also likely remain a key challenge (Clark, 2015a). Compared to unmanned aerial systems, AUVs face dense traffic on the world’s seas, especially in strategic areas. However, until navigation systems become more powerful, navies can concentrate their maritime unmanned systems efforts on those missions where mistakes do not matter as much. For example, autonomous mine-counter systems are currently more advanced than ASW systems, as mine countering is a less dynamic task.

71. Power generation and storage on AUVs remains yet another problem and thus a focus of research, with researchers developing new battery and fuel-cell technologies. Indeed, a recent RAND study pointed out that the limitations of power generation and storage are currently the major obstacles holding back high-end AUVs (Martin et al., 2019).

72. Many other questions surround the future of maritime unmanned systems, for example: - How can the intelligence collected be disseminated in a relevant time frame? - How do systems adapt and filter out clutter and ambient noise to find objects of interest? - Can systems readily scale up – a key precondition to make them as capable as manned ASW assets? - Can advanced sensors be miniaturised to fit on low-power, long-endurance AUVs? - How can AUVs be launched, recovered, and refuelled in an efficient manner to be militarily relevant? - How will AUVs be able to operate with legacy systems? - What would command and control, operational concepts, and doctrines look like?

73. Kevin LePage, Cooperative ASW Program Manager at the NATO Centre for Maritime Research and Experimentation (CMRE), told Committee members in Northwood in June 2019 that ASW is very challenging. Moving into a future with maritime unmanned systems in the loop will be even more challenging. Still, despite the obstacles, the possibilities AUVs offer and the challenges the Alliance faces make it imperative to continue investing into research and development programmes and, simultaneously, demonstrate the value of these systems to today’s operators and build operators’ trust in these systems, which may perhaps be the most important element in integrating AUVs into ASW.

VII. CONCLUSIONS

74. This report has made it clear that the Alliance is facing an increased and concrete submarine threat from Russia. The Alliance must continue to monitor this threat and react accordingly. This threat is not limited to traditional ‘hard security’ threats. It also presents a clear, immediate danger when seen in the light of Russia’s asymmetric and hybrid strategy, which seeks to increase its power, influence, and economic strength and to isolate, undermine, and split the Alliance over time. Moreover, NATO and the Allies must also pay close attention to submarine developments in China, North Korea, and beyond.

75. Allies have let their ASW capabilities atrophy to dangerous levels. This report has laid out a path towards: - rebuilding capabilities across the full spectrum in the short and medium terms through investments in and modernisation of ASW assets; and - a future of ASW based on new sensor technologies and the integration of AUVs into ASW missions.

76. The Alliance must also increase its focus on threats against undersea cable networks. Non-technical ways to increase the security of these cables are available, for example by increasing resilience or improving international law. Technical solutions include monitoring systems at key sites, and maritime unmanned systems could play an important role in this respect. Also, the frequency of training and exercising such maritime hybrid threat scenarios, including at the NATO level, must be increased.

77. As with other capability shortfall areas, it must be stressed that it is essential that Allies live up to the Wales Defence Investment Pledge and move towards spending a minimum of 2% of GDP on defence and more than 20% of defence budgets on major equipment, including related research and development. If NATO wants to remain in a position where it can fulfil its core tasks, Allies must increase investment in ASW capabilities at the national level and, when appropriate, at the multinational level. They must continue to maintain robust fleets of tactical submarines, MPAs, ASW-capable surface vessels, maritime ASW helicopters, and acoustic detection systems.

78. As this Committee has made abundantly clear over the last few years, NATO’s science and technology (S&T) edge is eroding. This trend appears to be particularly stark in ASW. Thus, ASW should be a test of the Alliance’s willingness to heed the Committee’s recommendations put forward in NATO PA Resolution 453, which was adopted in November 2018. Indeed, ASW is an area where NATO can make great strides jointly, in particular by leveraging its 2018 NATO S&T Strategy.

79. The NATO Multinational Maritime Multi Mission Aircraft Capabilities Cooperation and the Maritime Unmanned Systems initiative are positive steps in the right direction. It is also encouraging that the NATO Industrial Advisory Group (NIAG) is conducting a study on the Utility of Unmanned Vehicles in NATO ASW.

80. Most importantly perhaps, NATO already has a world-class S&T institution at its disposal to further an ASW future based on maritime unmanned systems: the Centre for Maritime Research and Experimentation in La Spezia, Italy. The CMRE is leading the way for advances in AUV applications and operations, in particular demonstrating the potential of AUVs and remote operation and management of a fleet of undersea gliders and promoting the use of underwater digital communications using a NATO-developed standard. Allies should make good use of the Centre and, vitally important, improve the funding mechanisms for the CMRE to make it fit for the future. With the current and future submarine threat, the Centre is needed more than ever. In turn, the CMRE should continue to help NATO improve agility and demonstrate the value of S&T to the military community. This includes continued engagement in NATO exercises to showcase what today’s S&T can offer Allied naval forces. The Committee will pay close attention to the adaptation of the CMRE. The Rapporteur is pleased that the CMRE Director will lay out her vision at the 2019 Annual Session.

81. NATO can no longer be in a situation where its ASW capabilities could potentially be overwhelmed. Too much is at stake. The Rapporteur therefore calls on all Committee members to ensure national ASW capabilities meet the task at hand and invites them to explore multinational efforts to further strengthen synergies between Allies. Through the Committee’s available instruments, the Committee remains committed to closely following progress on rebuilding the Alliance’s ASW capabilities and preparing for the future.

#### NATO cohesion checks extinction.

Gallagher ’19 [Mike and Colin Dueck; January 2019; Representative for Wisconsin’s Eighth District in the U.S. House of Representatives; Professor in the Schar School of Policy and Government at George Mason University; National Review, “The Conservative Case for NATO,” <https://www.nationalreview.com/2019/01/nato-western-military-alliance-bolsters-american-interests/>]

The conservative case for NATO is not that it strengthens liberal world order. Rather, the conservative case for NATO is that it bolsters American national interests. In an age of great-power competition, as identified by the Trump administration, America’s Western alliance provides the U.S. with some dramatic comparative advantages. The United States, Canada, and their European allies have a number of common interests and common challenges with regard to Beijing, Moscow, terrorism, cyberattacks, migration, nuclear weapons, and military readiness. NATO is the one formal alliance that allows for cooperation on these matters. It is also the only alliance that embodies America’s civilizational ties with Europe — a point forcefully made by President Trump when he visited Poland in 2017. Properly understood, NATO helps keeps America’s strategic competitors at bay, pushing back on Russian and Chinese influence. In all of these ways, the U.S. alliance system in Europe is a bit like oxygen. You may take it for granted, but you’ll miss it when it’s gone.

#### 2---INTEROPERABILITY – boosting defense capabilities throughout the alliance creates better deterrence as allies acquire equalized capabilities.

Imbrie et al ‘20

(Andrew Imbrie, Ph.D. in International Relations from Georgetown University, Senior Fellow at Georgetown’s Center for Security and Emerging Technology (CSET). He previously worked as a fellow at the Carnegie Endowment for International Peace and as a senior advisor to Visiting Distinguished Statesman Secretary John F. Kerry, Ryan Fedasiuk Catherine Aiken Tarun Chhabra Husanjot Chaha, “Agile Alliances,” pg online @ <https://cset.georgetown.edu/wp-content/uploads/CSET-Agile-Alliances.pdf> //um-ef)

NETWORK TO SEIZE OPPORTUNITIES Initiative 4: Share, pool, and store non-sensitive data sets. The United States should work with allied and partner governments to develop common standards for sharing, pooling, and storing non-sensitive, government-owned data sets. U.S. allies and partners are broadly open to non-sensitive data-sharing arrangements: Nearly 90 percent of officials indicated interest in sharing more data with the United States, and 75 percent cited specific non-sensitive data their country would be willing to share. More than half of responding countries indicated a willingness to share weather pattern data, epidemiological data for disease control, medical images for precision medicine, and video and navigation data from self-driving cars. This initiative may be among the most important for America’s European partners. An EU official noted that the EU would likely be willing to share quite a lot of data, provided rules are in place and enforced. Another official from the UK expressed enthusiasm around the idea of a transnational data sharing framework allowing partners to aggregate more diverse data and create more reliable models that could operate between markets. Non-sensitive data-sharing projects could start small. The United States, the United Kingdom, and France already cooperate on predictive maintenance for the C-130J military transport aircraft. They could extend this initiative to other aircraft or broaden to include other countries by sharing relevant data collected during the planning process for maintenance, repair, and overhaul. The United States could partner with Singapore, Spain, Italy, and other NATO allies on a data-sharing initiative related to maritime domain awareness in the way that Indonesia, Malaysia, and Singapore, for example, share hydrographic data and cooperate to improve their anti-submarine warfare capabilities.52 NATO states that the maritime domain “is of strategic importance.” Its members could share militarily relevant datasets to improve maritime domain awareness in the Black Sea and other strategic locales.53 U.S. policymakers could also work with counterparts in allied and partner countries to develop common standards for data archival procedures, including standards for ensuring the data is labeled, stored, interoperable, and accessible.54 The U.S. Open Government Initiative began to lay the groundwork for common data standards as early as 2013, and the United States should promote similar practices among allies and partners.55 Such a collaborative approach would enable data flows and promote healthy data management among allies that could further propel the growth of AI. Optimal Partners: United Kingdom, Germany, Japan, France, the Netherlands, and New Zealand Multilateral Fora: NATO, the European Commission, Five Eyes, OECD, Association of Southeast Asian Nations (ASEAN) Criteria for Partnership: Optimal data-sharing partners would be countries that widely collect and publish data for public use, and countries where that data is stored and accessible by third parties. To assess capability and compatibility, we selected metrics reflecting the amount of data that allied and partner governments generate and capture. We included data from the Open Knowledge Foundation’s Global Open Data Index, which measures the volume and types of publicly available government data, such as national statistics, procurement practices, air quality and weather information, and company registry information.56 We also included the number of data processing centers in each country and the gross value of imported data storage units.57 While it is difficult to determine what kind of data they store or how much storage capacity they have, the dollar value of data processing and storage centers is a reasonable proxy for national data capacity and reflects the amount of data generated by entities in each country. Moreover, we featured three indicators from the CSET survey: expressed interest in data sharing with the United States, whether the country has taken actions to enhance data archival procedures, and whether it has established data use standards. 20 Center for Security and Emerging Technology Finally, we compared legal environments in each country as they pertain to data sharing.58 Although all the countries listed in Table 5 fall under the jurisdiction of the EU’s General Data Protection Regulation (GDPR), they have no apparent localization requirements, nor do they prevent the transfer of certain classes of data across borders.59 Moreover, shared data standards under the GDPR may make it easier for the United States to collect the same kind of data from multiple countries in the future. Other considerations and caveats: Other high-scoring countries include South Korea, Finland, Denmark, Lithuania, Latvia, and the Czech Republic. The United States would do well to diversify its sources of data, including from countries beyond the jurisdiction of the GDPR. India, for example, boasts a large population, vibrant technology market, and high concentration of data processing facilities Initiative 5: Invest in privacy-preserving machine learning. To protect individual privacy, the United States and its allies and partners should explore techniques in data analysis that would allow them to perform operations on non-sensitive data sets without sharing or storing personally identifiable information. These techniques are known as privacy-preserving machine learning. Researchers Roxanne Heston and Helen Toner observe that privacy-preserving machine learning could make “new uses of AI possible without triggering privacy concerns, give U.S. companies a competitive edge over their foreign counterparts, and/or reduce cybersecurity risks by protecting individual data while preserving its usefulness.”60 Applications of privacy-preserving machine learning could include performing object and facial recognition locally on an individual’s phone instead of processing that data in the cloud, thereby improving security and privacy; employing differential privacy models to obscure the identities of individuals in census research; and using secure multi-party computation to combat tax fraud.61 Coordinated investment initiatives in homomorphic encryption, secure multi-party computation, and federated learning would enable democratic, market-based economies to benefit from larger and more diverse pools of data without compromising the privacy of individual users and organizations whose data are in the pools. U.S. allies and partners are especially willing to collaborate on this front. Nearly all surveyed officials indicated interest in collaborating on an international certification scheme for the protection of personal data, with two-thirds of surveyed officials indicating high interest. As Australia’s AI Ethics Framework notes, “Throughout their lifecycle, AI systems should respect and uphold privacy rights and data protection, and ensure the security of data.”62 The United States and its allies should discuss potential use cases where privacy-preserving machine learning could be developed and deployed, coordinate research and development priorities that further applications suitable to these technologies, and create guidelines and technical standards to promote safe and reliable applications in realistic scenarios.63 More broadly, the United States and its allies should co-fund research and coordinate investments into new techniques, such as synthetic data, advanced simulations, and improvements in transfer learning, for making personal data less relevant to AI systems. Optimal Partners: Canada, India, Germany, Australia, Japan, and the United Kingdom Multilateral Fora: EU, OECD, the Quadrilateral Security Dialogue (India, Japan, Australia, and the United States), National Institute of Standards and Technologyand National Science Foundation (NSF)-led bilateral and multilateral partnerships 22 Center for Security and Emerging Technology Criteria for Partnership: The United States should coordinate with countries whose scientists produce most of the world’s cutting-edge AI research focused on privacy and anonymity, such as homomorphic encryption and federated learning techniques. Ideal partners would also respect online privacy and share U.S. concerns about digital illiberalism. To measure countries’ relative strengths in privacy-preserving machine learning, we counted the number of patents and scientific publications from scientists affiliated with local research institutions. We only assessed patents and publications labeled as relevant to artificial intelligence and computer vision applications that explicitly mention “privacy” or “anonymity.”64 We included Freedom House’s scores of internet freedom in each country as a proxy for governments’ commitments to democratic values and civil liberties.65 We also aggregated four measures from the CSET survey to capture countries’ focus on privacy: expressed interest in an international scheme for the protection of personal data, government action taken to enhance privacy protections, perceptions of the need for international management of facial recognition, and the country’s likelihood of regulating surveillance technology. Other considerations and caveats: France and South Korea produce a large number of AI patents related to privacy and score highly on Freedom on the Net. U.S. policymakers could also consider partnering with individual tech companies abroad to further privacy-preserving research projects. The frequency of the phrase “privacy” in national AI strategies is a crude measure: India and the United Kingdom score “0,” for example, but both countries are likely deeply concerned about privacy issues Initiative 6: Promote interoperability and agile software development. Interoperability is a critical lubricant for U.S. alliances. To operate effectively, allies need to plan, train, and exercise together. Joint operational concepts, common doctrine, and compatible military capabilities and systems are required to communicate effectively and achieve shared objectives.66 As countries integrate AI into military systems, the United States and its allies must ensure that hardware and digital systems are interoperable and secure. The United States and its allies could start with common standards for interopretability, safety, and security of AI systems, including AI-enabled, safety-critical systems.67 For AI-enabled military systems expected to perform a given function, the United States and its allies should agree on common benchmarks for accuracy and performance based on the same training and testing data. The CSET survey suggests that allies and partners desire such benchmarks, with a majority of surveyed officials expressing the need for international coordination and management of AI military applications, specifically autonomous weapons systems and unmanned vehicles for submarine detection. A German representative stated that collaboration with the United States would be enhanced by an AI strategy that includes a focus on AI-related defense and security threats. Optimal partners for coordinating investment in privacy-preserving machine learning The United States and its allies should also consider wargaming and table-top exercises to explore how sharing selected government data sets could shore up defenses against counter-AI techniques and other efforts to exploit the vulnerabilities of AI systems. Specifically, they should explore how sharing militarily relevant data sets and certain AI algorithms could help allied countries better test system robustness, expose mutual vulnerabilities, accelerate development of countermeasures, and establish common standards for testing, verification, and validation.68 The United States and its allies should define common standards for the level of robustness required for a given operation. Common defense planning and capability development in NATO and the EU should give priority to investments in AI safety and security, as well as common verification procedures for AI-enabled, safety-critical systems. To ensure allies store and process data homogeneously, the United States and its allies should launch an accelerator fund for cloud computing. The United States and its allies could use this fund to more efficiently procure commercial cloud computing technology. The United States, United Kingdom, and Canada, for example, could agree to bid out a bulk purchase of cloud compute from major technology companies and distribute access to compute in the form of credits and publicly funded research. This initiative would ensure that democratic nations benefit from techniques in machine learning that require fewer inputs of real-world data but greater computational power to run simulations and self-play methods. Representatives from Japan, South Korea, the Czech Republic, Lithuania, and the EU each cited increased computing as an AI R&D priority, suggesting an area for aligning focus among allies.

#### US is key – it’s the leader of intelligence ops

Ballast 17 – Jan Ballast MA is a senior staff member, involved with foreign intelligence, mission support and national security, working for the Ministry of Defence of The Netherlands. He has held numerous analytical and operational positions in both Th e Hague and missions abroad. ("Trust (in) NATO The future of intelligence sharing within the Alliance," NATO Defense College, Rome, September 2017, https://www.researchgate.net/publication/342492011\_Trust\_in\_NATO\_The\_Future\_of\_Intelligence\_Sharing\_Within\_the\_Alliance, Accessed 7-1-2022, LASA-SC)

To be successful, the ASG-I&S should not try to convince Member States to start sharing sensitive, classifi ed intelligence. Being himself a former Deputy of the BND, he will know that Member States and their national intelligence and security services are by nature reluctant to share secrets within NATO. Jennifer Sims already predicted the outcome of such pressure; “If “jointness” [in intelligence] is driven more by political necessity than collection requirements, liaison will tend to be heavily defensive in posture, implicitly adversarial, and therefore hollow, despite political and military leaders’ contrary expectations.”70 For instance, although France is likely to cooperate on intelligence if strategic interest is shared and if mutual boots are on the ground,71 it remains unsympathetic to integration and cooperation within any multilateral environment. A senior official of the French Ministry of Foreign Affairs explained that France would always want to preserve its strategic autonomy.72 In sum, the second priority for the ASG-I&S should be accepting the continuation of bilateral arrangements between NATO and its Member States. Notwithstanding the prominent position of major European nations, the ASG-I&S as his third priority should acknowledge a dominant role for the United States. The United States is not only the Member with the most (operational) intelligence to share, but it will also be crucial in facilitating (future) technological infrastructure to enable the exchange process. If the United States does not bridge the technological gap within the Alliance, NATO’s interconnectivity and interoperability will be at risk.73 Air operations and Joint Special Operations (JSO) especially require the right infrastructure to achieve effective sharing and dissemination of actionable and time-sensitive intelligence to maintain information dominance.74 Meanwhile, the ASG-I&S should invest in and expand existing enablers such as the underused BICES,75 in close cooperation with SHAPE/NIFC, embracing best practices from missions like joint databases and the Afghan Mission Network (AMN).76 In the process, he should safeguard reciprocity and intervene if information is one-way, as is the case with CT – namely to and not from the United States.77 Should Freytag von Loringhoven want to address other constraints of multilateral intelligence sharing such as over-classification, disclosure and oversight as his fourth priority, he needs to get the United States on board to solve. In 2011, the Inspector General of the US Department of Defense recommended an update of the US disclosure policy and procedures concerning sharing of intelligence in a coalition environment.78 At the same time, the ASG-I&S should insist, regardless of CIC/NOS, that SC tackles over-classification as per NATO’s security policy and strives for the widest dissemination possible. As Adriana Seagle observed, “Though a necessary security capability in the 21st century networked world, the shift from “need to know” to “need to share” has not been smooth.”79 Besides consensus on internal sharing, the United States and other Member States will also need to consider the usefulness of increased intelligence cooperation with the EU. Finally, NATO’s role in the growing international intelligence exchange raises the question of democratic accountability and calls for multinational (administrative) oversight.80 It would appear that the ASG-I&S, on behalf of the Member States, is the best alternative for addressing this liability within the Alliance

#### 3---INFO-SHARING– it’s key to effective ASW and detection

Eckstein ‘20

(Megan, naval warfare reporter at Defense News. She has covered military news since 2009, with a focus on U.S. Navy and Marine Corps operations, acquisition programs, and budgets, “Sonar Equipped Drone Fleets Could be Key to Future Submarine Warfare,” pg online @ <https://news.usni.org/2020/03/09/sonar-equipped-drone-fleets-could-be-key-to-future-submarine-warfare> //um-ef)

The future of anti-submarine warfare for countries who can’t afford to invest in top-of-the-line submarines and maritime patrol aircraft could be a netted fleet of unmanned platforms that can create “passive acoustic barriers” at chokepoints or drag towed arrays through a country’s territorial waters. NATO’s Centre for Maritime Research and Experimentation is showcasing these ideas at NATO exercises such as the ongoing Dynamic Manta annual ASW exercise, showing off novel operations that could one day be commonplace if navies and their industrial bases decide to invest. CMRE Director Catherine Warner said the organization has been working with autonomous vehicles in the undersea warfare area for the past 20 years to understand how they can contribute to perhaps the most complex type of naval warfare. “The big idea in this whole realm of unmanned systems is figuring out the right systems with the right sensors and the right scenario that’s going to be cost and operationally effective,” she told USNI News after the kickoff of Dynamic Manta. She said ASW is “high-end asset-intensive” and that, while unmanned vessels can’t do everything a manned sub or plane can, they can perform some specific missions that would be cost-prohibitive to do with manned vehicles. One prime example is the passive acoustic barrier. Noting that CMRE puts passive sensors on all the autonomous vehicles, buoys and seabed devices the organization puts in the water, Warner said CMRE used all its sensors to demonstrate a passive acoustic barrier off the coast of Sicily in the days leading up to the start of Dynamic Manta. While in this demonstration they tracked the flow of commercial ships across the “barrier,” the ultimate idea would be to track the movement of submarines at chokepoints such as the Greenland-Iceland-United Kingdom (GIUK) Gap. The specifics of the unmanned vehicle wouldn’t matter as much as the quality of the sensor and the ability to differentiate the clutter from the sounds of submarines. NATO Centre for Maritime Research and Experimentation (CMRE) graphic. On the more active side of sub-hunting, CMRE has been particularly focused on the idea of multi-nation multistatic ASW, where an active sonar source would create pings for dozens or hundreds of passive sensors listening for those sound waves to bounce off of enemy submarines. The more sensors that are in the water, the better they can detect pings and recognize what kind of submarine is moving through the water and in what direction. During Dynamic Manta, CMRE operated alongside manned warships to join in the hunt for submarines, using its “network”: NATO research vessel NRV Alliance, two Ocean Explorer 21-inch diameter autonomous underwater vehicles named Harpo and Groucho, and a fleet of Liquid Robotics’ Wave Gliders that serve as communication nodes between the ship and the AUVs. Harpo and Groucho have a towed array to listen for pings, and more recently CMRE developed a towed array for the Wave Gliders as well to put more ears in the water. “Having that extra set of sensors makes a huge difference” in multistatic ASW, Warner said, because when an active sonar source like the variable depth sonar on Alliance or a warship like Italian frigate ITS Carabiniere (F 581) sends out energy, they want as many passive sensors in the water as possible to listen for pings. “When you do multistatic, there’s so many more advantages because of the geometry and the extra chances for reflections. So we can do it with ourselves, but if we could do it with all the nations – and that is something that we strive to do with our interaction with the nations … – then everybody, wherever they are, that has a sensor, being able to know the sound source and sync to it and coordinate on the reflections – it is very power to be able to do that.” The key to multi-nation multistatic ASW is information-sharing: they’d all have to know where exactly the active sonar source is, so they could correctly calculate what the pings they pick up mean, and then they’d have to share what they’re hearing with all the other nations involved, too, so they could all adjust their positions as needed to get the best chance at hearing the target submarine and help track it through the water. Information-sharing can be a hurdle with something as sensitive as ASW, with nations often not wanting others to know the exact nature of their capabilities, but Warner said the scale to which NATO could track submarines under the water would be powerful if everyone could find a way to come together. Today, Harpo and Groucho talk to each other while looking for subs, and if one picks up a sound they will coordinate amongst themselves to get into the best positions for the best geometries to hear sonar pings. The more AUVS in the water collaborating, the better.

#### 4---HARMONIZATION --- only way to effective map the ocean and deter Russia --- cooperative training on new systems is key

Hicks et al ‘16

(Kathleen H. Hicks, Current Undersecretary of defense, Ph.D. in political science from the Massachusetts Institute of Technology, an M.P.A. from the University of Maryland, she was the vice president, Henry A. Kissinger Chair, and director of the International Security Program at CSIS, Andrew Metrick, Lisa Sawyer Samp and Kathleen Weinberger, “Undersea Warfare in Northern Europe,” CSIS, July 21, 2016, [https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/160721\_Hicks\_UnderseaWarfare\_Web.pdf //mcu](https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/160721_Hicks_UnderseaWarfare_Web.pdf%20//mcu))

Recommendation: Improve Information Sharing to Develop a Common Undersea Operating Picture One of the most potent attributes of Russia’s undersea capabilities is the strategic ambiguity created by the submarine force. Many of the NATO and partner nations in Northern Europe already possess relevant ASW capabilities, but they are not integrated to produce a common undersea operating picture. Developing allied and partner information-sharing capabilities will help lift the veil on Russia’s undersea activities and decrease its coercive power. To achieve greater integration, NATO should develop a transmission-agnostic, encrypted data standard for undersea sensing data. Data streams from static and mobile sensors could not only feed local assets but be relayed to a shore-based NATO fusion center, potentially colocated with the ASW COE and aligned with the ASW-focused SNMG, to provide analytic capability. For submarine operations, this capability should include maintaining synchronized charts of allied and partner submarine areas of operation. Desired Effect: Decreases the strategic ambiguity created by Russian undersea capabilities. A common undersea operating picture can also help ensure the resiliency of undersea infrastructure to minimize underwater incidents and deconflict ASW operations.

### Plan

**The United States federal government should substantially increase its maritime domain awareness security cooperation with the North Atlantic Treaty Organization in one or more of the following areas: artificial intelligence, biotechnology, cybersecurity.**

### 1AC – Cables ADV

#### Contention two is CABLES.

#### Underwater cables undergird global stability facilitating financial transactions and military communication – disruptions cascade globally.

Sunak 17 – Rishi Sunak is the Member of Parliament for Richmond (Yorkshire). He was elected in 2015 and has the privilege of representing both the Army’s largest garrison, Catterick Garrison, and also RAF Leeming. ("Undersea Cables Indispensable, insecure," Policy Exchange, 2017, https://policyexchange.org.uk/wp-content/uploads/2017/11/Undersea-Cables.pdf, Accessed 7-1-2022, LASA-SC)

As Rishi Sunak’s powerful report highlights, we have allowed this vital infrastructure of undersea cables to grow increasingly vulnerable. This should worry us all. Cables are isolated in the midst of the oceans, their locations are known, and they are often subject to only minimal security at on-shore landing sites. Furthermore, the technical capabilities required to damage cables are relatively low and unsophisticated. The risk posed to these garden hose-thin connections that carry everything from military intelligence to global financial data is real and growing. In the most severe scenario of an all-out attack upon undersea cable infrastructure by a hostile actor the impact of connectivity loss is potentially catastrophic, but even relatively limited sabotage has the potential to cause significant economic disruption and damage military communications. The waters of the Atlantic have long symbolised the spirit of openness and exploration and, today, the course once charted by the Mayflower is the world’s busiest digital sea-lane. But if that openness is to be preserved, we must be prepared to act with both creativity and strength. This Policy Exchange report accurately highlights the Russian dimension to this risk. Over my own career, I have seen the Atlantic transition from being a theatre characterised by near complete NATO supremacy following the collapse of the Soviet Union to a space that Russia is actively contesting through a resurgent and revanchist naval doctrine. This rise in Russia’s maritime assertiveness has been well-documented and in many respects this bellicosity is a symptom of weakness, attempting to deflect from domestic economic failures that once led Senator John McCain to describe the Putin regime as “a gas station masquerading as a country”. But if the relative weakness of the Russian position makes a conventional conflict with NATO unlikely, it also raises the appeal of asymmetric targets like fibre-optic cables. Recent reports make clear that Russian submarine forces have undertaken detailed monitoring and targeting activities in the vicinity of North Atlantic deep-sea cable infrastructure. And as another example of Russian interest in asymmetric targets, it is worth remembering that in Crimea, Russia successfully took control of land based communications infrastructure early in its annexation of the peninsula. Russia’s relative weakness also attracts it to conducting hybrid warfare. The fundamental idea of hybrid warfare is hostile activity that stops short of full, overt, offensive action and is sufficiently ambiguous that it allows the aggressor plausible deniability and makes international response more difficult. Hybrid warfare has traditionally been land-based, but as I have argued previously, this is about to change and we should prepare for increased maritime hybrid activity. Chinese activities in the South China Sea and Iranian actions in the Arabian Gulf already show characteristics of a hybrid approach, using civilian vessels rather than easily identifiable ‘gray hull’ naval platforms to obfuscate the involvement of state actors. Underwater cables are an obvious target for such hostile action: they are a vital infrastructure asset with ambiguous protection in international law that can be damaged with relatively unsophisticated, non-military hardware. The question that this provokes is what we should do about it? The recommendations Mr Sunak sets out in this report are a serious contribution to the field and a welcome recognition of the precautions that nations like the UK and the US must take in confronting risks posed to communications infrastructure. As well as the actions each government must take unilaterally to improve their security, there is much that can be achieved through partnership. Firstly, governments working with private companies can build more redundancy into their cable systems by creating more “dark cables” which are kept in reserve. Secondly, NATO partners must collectively ready themselves to face this new mix of naval tactics. Where necessary, NATO must be prepared to defend global submarine cables, exactly as we defend our electrical grid, industrial base and transportation networks. This will require highly technical and capable undersea navies from allied countries, better used to working together through regular joint exercises and operations. The need for sea power is greater than ever.

#### Lacking ASW capabilities risk cable clipping and Russian aggression

Vandiver 20 – John Vandiver covers U.S. military activities across Europe and Africa. Based in Stuttgart, Germany, he previously worked for newspapers in New Jersey, North Carolina and Maryland. He is a graduate of the University of Delaware. (John Vandiver, "Allied subs, warships launch large underwater warfare drills off Iceland," Stars and Stripes, 6-29-2020, https://www.stripes.com/theaters/europe/allied-subs-warships-launch-large-underwater-warfare-drills-off-iceland-1.635562, Accessed 7-1-2022, LASA-SC)

U.S. and allied submarine hunters launched a major drill Monday off the coast of Iceland, a region where allies warn that Russia is getting more aggressive.

Six allied states are testing underwater warfare skills and the ability of crews to evade detection in NATO’s Dynamic Mongoose exercise, the alliance said.

“Each surface ship will have the opportunity to conduct a variety of submarine warfare operations. The submarines will take turns hunting and being hunted, closely coordinating their efforts with the air and surface participants,” NATO Maritime Command said in a statement. Maritime patrol aircraft will also take part.

The drill comes as NATO gives increased attention to the Arctic and North Atlantic, where Russia has been building up a presence, and where melting sea ice will make it easier for commercial and military vessels to operate in the future, allies have said.

Moscow has “taken an aggressive approach to the Arctic,” reoccupying old Soviet bases and deploying air defense systems, the commander of U.S. Naval Forces Europe-Africa, Adm. James Foggo said last week.

“We’re seeing a new area of maritime competition in the Arctic. Strong navies are needed to protect common interests and ensure the timely flow of trade,” Foggo said during a virtual speech Thursday for the International Institute for Strategic Studies.

The U.S. is also concerned that Russian forces could damage undersea cables that transmit most of the electronic data between the U.S. and Europe.

While commanders involved in Dynamic Mongoose did not address such concerns Monday, officials said the exercises are about preparing for a “high-end” fight.

“Exercises today seize opportunities for NATO and Allied nations to sharpen warfighting skills by focusing on high-end capabilities including Anti-Submarine Warfare,” said Vice Adm. Keith Blount, head of NATO’s Allied Maritime Command, in a statement. “Dynamic Mongoose will ensure we remain prepared for operations in peace, crisis and conflict.”

#### BUT effective detection and intel sharing deter cuts

Alleslev 19. Leona Alleslev-Krofchak is a Canadian politician and former military officer who served as the [member of Parliament](https://en.wikipedia.org/wiki/Member_of_Parliament_(Canada)) (MP) for [Aurora—Oak Ridges—Richmond Hill](https://en.wikipedia.org/wiki/Aurora%E2%80%94Oak_Ridges%E2%80%94Richmond_Hill); “NATO ANTI-SUBMARINE WARFARE: REBUILDING CAPABILITY, PREPARING FOR THE FUTURE”; October 13, 2019; SCIENCE AND TECHNOLOGY COMMITTEE (STC) Special report; <https://www.nato-pa.int/download-file?filename=sites/default/files/2019-10/REPORT%20150%20STC%2019%20E%20rev.%201%20fin%20-%20ANTI-SUBMARINE%20WARFARE.pdf> //BY

III. THE RUSSIAN SUBMARINE THREAT TO NATO A. SUBMARINES IN RUSSIA’S STRATEGY 15. Russia’s submarines must be placed in the context of the larger strategic picture, as submarines play a vital role in this respect. Russia’s grand strategy remains to reclaim its status as a great power on the global stage. A key pillar of this effort is a substantial military modernisation premised on high levels of defence spending. Russia does not publish reliable, transparent figures on this spending. According to one of the most reliable estimates, the level of defence spending has fallen slightly since its high point in 2015, when Russia spent 4.83% of its GDP on defence. Still, in 2018, it remained high at 4% (IISS, 2019). Regardless, Russian military spending, including on submarines, does not need to be high to achieve effective asymmetric effects, as should become clear below. 16. Alongside military modernisation, Russia continues to seek political and military buffer zones in what it calls its ‘near abroad’. For one, Russia pursues hybrid and asymmetric tactics to create strategic uncertainty and localised surprises (Metrick and Hicks, 2018). Additionally, its leadership pursues targeted tactical overmatch by creating anti-access/area-denial (A2/AD) ‘bubbles’ (Metrick and Hicks, 2018). Russia’s northern shores and the Baltic and Black Seas are critical links in this A2/AD approach. 17. Russia’s maritime strategy seeks to fulfil several fundamental goals, most prominently the provision and protection of its submarine-based nuclear deterrent, the defence of its homeland, and increasing Russia’s power, influence, and economic strength (Allport, 2018). As an important consequence, the Russian navy continues to prioritise a) the replacement of its submarines equipped with nuclear warheads, b) strengthening its naval forces for conventional anti-surface 150 STC 19 E rev. 1 fin 4 warfare and land attack (Allport, 2018), and c) improving its capabilities for asymmetric and maritime hybrid operations. 18. Overall, Russia’s naval capabilities still remain “vastly inferior to the collective power of the Alliance” (Allport, 2018). As in other domains, Moscow seeks to compensate by maximising its asymmetric strengths – often to great effect. That is one reason Russia also turns to maritime hybrid tactics, “to turn its weak hand into a strong one”, notes Admiral James G. Stavridis, former NATO Supreme Allied Commander Europe (SACEUR) (Stavridis, 2018). In hybrid scenarios, Russia could employ the full range of military and civilian capabilities and operate as ambiguously as possible (Stavridis, 2018). Submarines are well suited for hybrid tactics, as they can create deniable effects and conduct seabed operations. 19. In particular, Allied defence leaders have sounded warnings that Russia could tap or sever undersea communication cables (see Box 1 and Map 2). Its vessels have been spotted near these cables, perhaps to map the network. Although designed with redundancy in mind, the tapping or severing of undersea communication cables could be extremely consequential for transatlantic and intra-European communications. If Russia or any other state could tap into this network, it could covertly gain intelligence of strategic importance, for example on financial streams, trading data, and classified military or government information. The international trading and financial systems are critically dependent on this network. A disruption would have massive and immediate effects on economic markets (BBC, 2017; Stavridis, 2018). As Keir Giles, a senior consulting fellow at Chatham House has argued, Russia has learnt from its Crimea campaign: “physical access to the communications infrastructure and telecommunications” was the key to information dominance (BBC, 2017). 20. Currently, no truly effective systems for monitoring undersea cable networks exist (Analytic Exchange Progam, 2017). Hence, a key advantage of disrupting undersea cables lies in deniability. A 2008 incident illustrates this. No bad actor was behind the near-simultaneous cutting of undersea cables from the Middle East to Europe and Asia. A ship dragging an anchor and an undersea landslide were responsible. However, if this happened to cables crucial for the Allies, how could they be sure a state was behind this (Smith and Hendrix, 2017)? Even if one Ally had good intelligence, would it be able to share enough to convince others? And what would happen if this took place at critical points in time? One senior interlocutor during the recent STCTTS visit to the United Kingdom said that Russia could lay mines near these cables. If they were detonated at the right time, the Alliance could lose a war before it would even start. It is time for NATO to come up with a good answer. 21. With Moscow’s revived focus on submarines, two classic Cold War concepts of operations have made a return when it comes to the North Atlantic: ‘bastions’ and ‘bastion defence’ (Olsen, 2018). Bastions are those maritime zones where Russia concentrates its at-sea nuclear deterrent. Naturally, Russia wants to keep these strategic submarines safe and thus heavily protects these bastions. Russia’s European bastion is centred on its northern shores (see Map 3). Beyond the bastion, a defensive perimeter of bastion defence stretches all the way to the so-called Greenland-Iceland-UK gap (GIUK gap). One reason the GIUK gap is important to Russia is the fact that, from this line onwards, US assets equipped with Tomahawk cruise missiles can hit vital targets in Russia (Allport, 2018). Russia cannot challenge the Alliance for control of the North Atlantic (Olsen, 2018). Thus, Russian naval assets, most importantly tactical submarines, would seek to deny access to Allied vessels venturing beyond the gap in times of crisis or war (Olsen, 2018). 22. Not every element of Russian maritime strategy, naval modernisation, and operational activities should be seen as inherently threatening. After all, the Russian military was at a particularly low point when it initiated modernisation efforts. Reasonable experts differ on whether Russia’s evolving maritime posture is defensively or offensively oriented. Some argue that Russia’s maritime strategy and posture is defensive at its core (Allport, 2018). Others read Moscow’s actions as geared towards the offensive (Olsen, 2018). 150 STC 19 E rev. 1 fin 5 23. The Rapporteur would agree with the latter. One basic problem of Russia’s strategy is that actions Russia would (want to) perceive as defensive – denying access beyond the GIUK gap to protect its nuclear arsenal – should be seen as a strategic challenge to the Alliance – threatening the transatlantic link. Box 1: Notable quotes on the threat against undersea cables 24. Another element in Russia’s naval modernisation also points towards an offensively oriented posture: the new Kalibr-3M14 long-range precision-guided missiles which can target both surface vessels and land targets from as far as 1,500 to 2,500 kilometres. As a result, Russian submarines not only present a threat to the transatlantic link; they can now also deny access to Alliance littorals in support of the much broader A2/AD threat (Tamnes, 2018). Kalibr missiles could hold critical nodes deep in Alliance territory at risk, even when on station in the Barents and White Seas. Indeed, Russia has tested launching these missiles from their home base, significantly reducing the time to launch (O’Dwyer, 2019). If the upper estimate holds true, a submarine in the White Sea could place a Kalibr on NATO Headquarters in Brussels and at least 13 Allied capitals (see also Map 4). In a crisis or war, Russian submarines could target critical disembarkation ports for troop reinforcements and potentially even North Admiral (Ret.) James Stavridis, former NATO Supreme Allied Commander Europe (Sunak, 2017): “Recent reports make clear that Russian submarine forces have undertaken detailed monitoring and targeting activities in the vicinity of North Atlantic deep-sea cable infrastructure.” Air Chief Marshal Sir Stuart Peach, Chief of the Defence Staff, UK Ministry of Defence (Peach, 2017): “There is a new risk to our way of life that is the vulnerability of the cables that crisscross the seabed.” Arnor Sigursjonsson, Director General of the Defence Directorate in Iceland’s Ministry of Foreign Affairs, December 2018 (Willet, 2018): “[Undersea cables] are not only linking Iceland to Europe and to North America, but they are the linkages between North America and Europe directly, south of Iceland […]. If you manage to disrupt those, that will have major consequences globally

#### It's a threat multiplier – every impact is worsened by lacking communication

Chapman 21 – Professor Bert Chapman, Purdue University Libraries. (Bert Chapman, "Undersea Cables: The Ultimate Geopolitical Chokepoint," Purdue, 12-13-2021, https://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=1000&context=forces, Accessed 7-5-2022, LASA-SC)

The past year has seen the world become familiar with the disastrous economic, national security and public health implications of infectious disease has demonstrated by the Coronavirus pandemic. It is now time for world opinion to become aware of the economic and national security implications of losing access to the information transmitted by undersea cables. Cable information and data transmission have gone from the initial 17 hours and 40 minutes it took to transmit messages between President Buchanan and Queen Victoria to the fastest cables transferring data at speed of nearly 25 terabytes per second, which is twice the amount of the annual data generated by the Hubble Space Telescope. 61 Losing such access for even a short amount of time would have asphyxiating consequences, which would cascade across the globe and take a long time to work around and overcome. Undersea cables and their geoeconomic and geopolitical criticality involve Mahan’s emphasis on command of the sea, Corbett’s on seapower’s critical communication requirements, Mackinder’s on the importance of the Eurasian heartland, and Spykman’s emphasis on the rimland’s strategic importance. 62 Numerous works of varying quality and perspectives and numerous international strategic trends, exacerbated by the Coronavirus pandemic, are placing increasing emphasis on the vulnerability of the U.S. and its maritime allies to supply chain disruptions and hostility from countries as varied as China, Iran, North Korea, and Russia. Some of these works are beginning to recognize the vitally important role undersea cables play in our emerging geoeconomic, geopolitical, and strategic environment and urge the U.S. and its maritime allies to take a more assertive stance against the powers threatening the international geopolitical order. 63

#### Cable attacks cause first-strikes

Clark 16 – Brian Clark worked for the American international brokerage firm Euro Brokers Inc. (Brian, "Undersea cables and the future of submarine competition," Bulletin of the Atomic Scientists, 2016, https://www.tandfonline.com/doi/pdf/10.1080/00963402.2016.1195636, Accessed 7-3-2022, LASA-SC)

Given the likely economic and military impacts of cable breaks, the ability to threaten or protect submarine cables and their shore landings will be increasingly important in future conflicts. In a crisis, an aggressor could use multiple coordinated attacks on cables to compel an opponent to back down or employ them as part of an opening offensive to cut off the defender’s military forces from national commanders, intelligence data, and sensor information. Cable attacks could also be highly destabilizing, since they could prevent a nuclear-armed opponent from controlling and monitoring its strategic weapons and early-warning systems. In response, the country targeted could choose to place its nuclear weapons in a higher alert condition – or initiate a preemptive attack.

#### It decimates strategic stability

Clark 16 – Brian Clark worked for the American international brokerage firm Euro Brokers Inc. (Brian, "Undersea cables and the future of submarine competition," Bulletin of the Atomic Scientists, 2016, https://www.tandfonline.com/doi/pdf/10.1080/00963402.2016.1195636, Accessed 7-3-2022, LASA-SC)

Stability in international relations depends in part on predictability, and the ability of targets to detect attacks and respond appropriately. Emerging changes in undersea warfare threaten to undermine today’s relative stability – including essential underwater infrastructure like submarine cables – through the loss of surveillance information and command-andcontrol capabilities, or risks to “second strike” nuclear capabilities of ballistic-missile submarines. To sustain their national security and preserve stability, large economies and nuclear powers will need to improve their ability to monitor and control the waters off their shores, just as they do the skies above their lands.

#### Collapses the internet – they have the resources

Hinck 18 – Garrett Hinck is a PhD student in political science at Columbia University, studying international relations and the political economy of security. He was previously a research assistant with the Technology and International Affairs and Nuclear Policy programs at the Carnegie Endowment for International Peace. (Garrett Hinck, "Evaluating the Russian Threat to Undersea Cables," Lawfare, 7-1-2018, https://www.lawfareblog.com/evaluating-russian-threat-undersea-cables, Accessed 7-1-2022, LASA-SC)

Is vital internet infrastructure at risk from new Russian naval capabilities? NATO’s military leadership has warned in recent months that the Russian navy is aggressively probing undersea communications cable networks. These cables form a global infrastructure system that transmits 99 percent of the international data sent over the internet. Should we be concerned? Despite the ominous warnings, defense officials have not provided much specific information about the actual substance of the Russian threat.

In the worst scenario, an attack that cut submarine cables coming into the United States could significantly harm its access to the global internet. Ordinary users would probably experience massive losses in bandwidth, particularly for services such as Google and Facebook that host much of their data overseas. Since most government also relies on commercial internet infrastructure, the outages would also interrupt official communications. Any data hosted outside the U.S. would become nearly inaccessible to U.S. parties and vice versa. For people who depend on the internet in daily life, such an attack would be a national disaster. But it is not clear whether NATO believes Russia has the capability or the intention of attacking cable networks in that fashion.

What is known about this problem can be broken down into four categories: Russia’s cable warfare capabilities, the Russian navy’s potential underwater targets, potential effects from damage to submarine cables, and NATO’s publicly acknowledged efforts to respond to Russia. In this post, I summarize existing information on each of these and then pose outstanding questions about the potential Russian threat. My earlier piece on Lawfare provides more background on submarine cables as well as the international law protecting them.

Russia’s cable warfare capabilities

Moscow threatens undersea cables primarily with submarines and spy ships that deploy deep-sea submersibles. At DefenseOne, a national security news site from Atlantic Media, Magnus Nordenman detailed how Russia has converted ballistic missile subs to deploy the highly secretive AS-12 Losharik deep-sea submarine. The Losharik can dive down thousands of meters, enabling it to target cables at depths that would be very difficult to repair.

The most prominent Russian spy ship is the Yantar. Classified as an "oceanographic research vessel," the Yantar on its 2015 voyage probing a cable route to Cuba provoked some of the first reporting that Russia was targeting cables. That trip drew attention to the Yantar’s capabilities for intelligence operations. It carries advanced surveillance equipment, including a remotely operated underwater vehicle and two manned submersibles that the BBC reported can dive about 6,000 meters. For context, the average depth of the ocean floor is about 3,700 meters.

With all its advanced gear, the Yantar has been busy since it came into service in 2015. The ship deployed off a U.S. submarine base in Georgia in 2015, located the wrecks of crashed Russian fighter jets in the eastern Mediterranean in 2016 and assisted in the search for a missing Argentine submarine in 2017. The Russian navy is scheduled to complete construction on a second Yantar-class ship in 2019 and to begin building a third in 2020.

#### Extinction

Eagleman ’10 [Dr. David; 11/9/2010; PhD in Neuroscience @ Baylor University, Adjunct Professor of Neoroscience @ Stanford University, Former Guggenheim Fellow, Director of the Center for Science and Law, BA @ Rice University; “Six Ways The Internet Will Save Civilization”; https://www.wired.co.uk/article/apocalypse-no]

Many great civilisations have fallen, leaving nothing but cracked ruins and scattered genetics. Usually this results from: natural disasters, resource depletion, economic meltdown, disease, poor information flow and corruption. But we’re luckier than our predecessors because we command a technology that no one else possessed: a rapid communication network that finds its highest expression in the internet. I propose that there are six ways in which the net has vastly reduced the threat of societal collapse.

Epidemics can be deflected by telepresence

One of our more dire prospects for collapse is an infectious-disease epidemic. Viral and bacterial epidemics precipitated the fall of the Golden Age of Athens, the Roman Empire and most of the empires of the Native Americans. The internet can be our key to survival because the ability to work telepresently can inhibit microbial transmission by reducing human-to-human contact. In the face of an otherwise devastating epidemic, businesses can keep supply chains running with the maximum number of employees working from home. This can reduce host density below the tipping point required for an epidemic. If we are well prepared when an epidemic arrives, we can fluidly shift into a self-quarantined society in which microbes fail due to host scarcity. Whatever the social ills of isolation, they are worse for the microbes than for us.

The internet will predict natural disasters

We are witnessing the downfall of slow central control in the media: news stories are increasingly becoming user-generated nets of up-to-the-minute information. During the recent California wildfires, locals went to the TV stations to learn whether their neighbourhoods were in danger. But the news stations appeared most concerned with the fate of celebrity mansions, so Californians changed their tack: they uploaded geotagged mobile-phone pictures, updated Facebook statuses and tweeted. The balance tipped: the internet carried news about the fire more quickly and accurately than any news station could. In this grass-roots, decentralised scheme, there were embedded reporters on every block, and the news shockwave kept ahead of the fire. This head start could provide the extra hours that save us. If the Pompeiians had had the internet in 79AD, they could have easily marched 10km to safety, well ahead of the pyroclastic flow from Mount Vesuvius. If the Indian Ocean had the Pacific’s networked tsunami-warning system, South-East Asia would look quite different today.

Discoveries are retained and shared

Historically, critical information has required constant rediscovery. Collections of learning -- from the library at Alexandria to the entire Minoan civilisation -- have fallen to the bonfires of invaders or the wrecking ball of natural disaster. Knowledge is hard won but easily lost. And information that survives often does not spread. Consider smallpox inoculation: this was under way in India, China and Africa centuries before it made its way to Europe. By the time the idea reached North America, native civilisations who needed it had already collapsed. The net solved the problem. New discoveries catch on immediately; information spreads widely. In this way, societies can optimally ratchet up, using the latest bricks of knowledge in their fortification against risk.

Tyranny is mitigated

Censorship of ideas was a familiar spectre in the last century, with state-approved news outlets ruling the press, airwaves and copying machines in the USSR, Romania, Cuba, China, Iraq and elsewhere. In many cases, such as Lysenko’s agricultural despotism in the USSR, it directly contributed to the collapse of the nation. Historically, a more successful strategy has been to confront free speech with free speech -- and the internet allows this in a natural way. It democratises the flow of information by offering access to the newspapers of the world, the photographers of every nation, the bloggers of every political stripe. Some posts are full of doctoring and dishonesty whereas others strive for independence and impartiality -- but all are available to us to sift through. Given the attempts by some governments to build firewalls, it’s clear that this benefit of the net requires constant vigilance.

Human capital is vastly increased

Crowdsourcing brings people together to solve problems. Yet far fewer than one per cent of the world’s population is involved. We need expand human capital. Most of the world not have access to the education afforded a small minority. For every Albert Einstein, Yo-Yo Ma or Barack Obama who has educational opportunities, uncountable others do not. This squandering of talent translates into reduced economic output and a smaller pool of problem solvers. The net opens the gates education to anyone with a computer. A motivated teen anywhere on the planet can walk through the world’s knowledge -- from the webs of Wikipedia to the curriculum of MIT’s OpenCourseWare. The new human capital will serve us well when we confront existential threats we’ve never imagined before.

Energy expenditure is reduced

Societal collapse can often be understood in terms of an energy budget: when energy spend outweighs energy return, collapse ensues. This has taken the form of deforestation or soil erosion; currently, the worry involves fossil-fuel depletion. The internet addresses the energy problem with a natural ease. Consider the massive energy savings inherent in the shift from paper to electrons -- as seen in the transition from the post to email. Ecommerce reduces the need to drive long distances to purchase products. Delivery trucks are more eco-friendly than individuals driving around, not least because of tight packaging and optimisation algorithms for driving routes. Of course, there are energy costs to the banks of computers that underpin the internet -- but these costs are less than the wood, coal and oil that would be expended for the same quantity of information flow.

The tangle of events that triggers societal collapse can be complex, and there are several threats the net does not address. But vast, networked communication can be an antidote to several of the most deadly diseases threatening civilisation. The next time your coworker laments internet addiction, the banality of tweeting or the decline of face-to-face conversation, you may want to suggest that the net may just be the technology that saves us.

#### Automated submarines are inevitable.

Wilson 19 – J.R. Wilson has been a full-time freelance writer, focusing primarily on aerospace, defense and high technology, since 1992, when he finished a four-year assignment as North American Group Editor for the UK-based Jane’s Information Group. A 1971 graduate of the University of Missouri School of Journalism, he spent eight years with United Press International before joining McDonnell Douglas Astronautics Co. as head of public relations for the space sector. ("Unmanned submarines seen as key to dominating the world’s oceans," Military Aerospace, 10-15-2019, https://www.militaryaerospace.com/unmanned/article/14068665/unmanned-underwater-vehicles-uuv-artificial-intelligence, Accessed 7-1-2022, LASA-SC)

The Spanish and British empires dominated the world in large part by dominating the oceans. Nazi Germany and Imperial Japan were major sea powers during World War II by adding submarines to their surface fleets.

That combination remains the key to sea power today, dominated by the U.S. Navy, with 68 nuclear-powered submarines, 11 aircraft carriers, and more than 450 other ships like destroyers, cruisers, and support ships.

In recent years, China has overtaken the U.S. in numbers, with more than 500 ships, including 75 submarines and three aircraft carriers, of which about half has been built since 2010. Still, China’s open-ocean naval capability lags far behind the U.S. No other navy in the world comes close to the U.S. or China. Now a new era in naval power is emerging — unmanned vehicles.

Nearly two decades into the 21st Century, both nations are putting significant effort into adding autonomous and semi-autonomous platforms to their surface and subsurface naval forces. The underwater realm is the most difficult because of the limitations of underwater communications, which makes some form of artificial intelligence (AI) mandatory.

China has been uncharacteristically open about its intentions for AI, from an announced underwater city inhabited and operated entirely by robots to official government goals of capitalizing on AI to transform their military into the strongest in the world.

While Chinese government spending on AI research is far greater than that of the U.S., however, a large percentage of global effort is coming from the U.S. commercial sector, on which the Pentagon relies heavily for technology advances. Still, Chinese companies also are increasing their AI investments.

The influence of massive spending on developing AI for undersea systems portends the greatest change in military sea power since the introduction of nuclear-powered vessels.

“Equipping our military vessels with a higher-level of artificial intelligence is the answer to the increasing size and complexity of data to be processed as well as the need to reduce staff,” says Dominique Giannoni, an executive at Thales Underwater Systems in Valbonne, France.

China autonomous undersea efforts

In a rare July 2018 interview with the South China Morning Post, Lin Yang, director of a classified program at the Shenyang Institute of Automation in Shenyang, China, says her country has plans to develop new-generation military underwater robots by 2021. His 912 Project’s goal is to develop AI-driven unmanned submarines to handle surveillance, mine laying, and attack missions.

Western China-watchers say the Chinese navy has several AI-enabled vessels in development — with a focus on autonomous submarines — as part of a major push to overtake U.S. dominance in the Indo-Pacific region and beyond. That includes 100-foot long extra-large unmanned underwater vehicles (XLUUVs) intended for deployment early in the next decade.

Another civilian project is China’s most ambitious undersea AI effort to date, with significant military potential. In 2018, China announced it was working on an AI-run underwater base, equipped with autonomous submarines to extend its reach.

According to published reports, the submarines would deploy for investigation and scientific surveillance missions, then return to the unmanned base to download data and recharge. The base itself, located on the ocean floor as deep as 36,000 feet, also would conduct research on the immediate area, process and fuse all collected data, and transmit the results to a surface ship or land station.

No location for the base or a timetable for its deployment have been released, but, given the speed with which China is developing AI across the board, and especially for undersea applications, the first elements are expected in the near future.

While being promoted as a major advance in research on undersea life and topography, the military potential of such long-endurance unmanned cooperative systems cannot be ignored.

China must “grasp the changes of national security circumstances, speed up preparations for military struggle, including battle planning, capacity building and command system building,” Chinese President Xi Jinping said in a speech during a naval inspection in Qingdao, China, according to China Daily.

Russia also is putting considerable effort into AI, but is not believed to be anywhere near the level of the U.S. or China.

U.S. autonomous undersea programs

The 2020 Pentagon budget request cites advances of potential adversaries in asking for major funding increases for autonomous weapons programs. Requests include a ten-fold increase in spending on large unmanned surface vessels by the Navy and more than 50 percent more for Army robotics development. The requests total $3.7 billion on unmanned systems across the services, plus another $900 million on AI.

The Embracing Artificial Intelligence in Undersea Warfare session at the Navy Submarine League’s Submarine Technology Symposium in May summarized the U.S. Navy’s increasing focus on AI — especially undersea:

“As the current submarine force trusts mechanical and electrical technology to execute the mission, the future force will need to trust AI to extract and exploit actionable patterns among an ocean of data,” the session says. “The advent of big data and deep learning technology has rendered signal detection and classification an increasingly automated process. Furthermore, advances in autonomous navigation have enabled unmanned platforms to operate alone or in swarms.

“It will be critical for the 21st century that the undersea fleet advance in its AI capabilities, develop algorithms that are intuitive and explainable, cultivate users’ trust in AI, and design future systems around the use of AI. Meanwhile, we must also recognize our adversaries’ disruptive AI capabilities and develop appropriate countermeasures against them.”

Despite technological strides in AI, unmanned maritime vessels face a host of new and potentially disabling challenges — especially in underwater applications. A 2014 Rand Corp. research paper on Designing Unmanned Systems with Greater Autonomy looked at how AI is being implemented — and researched for future application — across the board for unmanned systems. The report also noted the unique challenges facing UUV autonomy.

“Achieving and maintaining communication with underwater vehicles and even with surface vehicles is technically challenging, especially at longer ranges. Water attenuates radio waves and other wireless signals that can easily be used at long range in air-to-ground or air-to-air communications,” the report stated. “This means that high-bandwidth communications underwater are largely impractical using traditional communication technologies.”

“Although there has been some experimentation with laser communications for underwater applications, laser communications systems are expensive and consume considerable amounts of power. Because of these communications limitations, UUVs that do not require continuous communications links are essential. For example, autonomous path planning is needed to avoid underwater obstacles and unanticipated terrain features.”

# Solvency

## 1AC Solvency

### 1AC Solvency Advocate --- Pooling/War Games/Standards/Cloud

#### U.S. should lead on NATO AI data cooperation for MDA --- pooling resources, establishing regulatory standards, and safety means allies say yes

Imbrie et al ‘20

(Andrew Imbrie, Ph.D. in International Relations from Georgetown University, Senior Fellow at Georgetown’s Center for Security and Emerging Technology (CSET). He previously worked as a fellow at the Carnegie Endowment for International Peace and as a senior advisor to Visiting Distinguished Statesman Secretary John F. Kerry, Ryan Fedasiuk Catherine Aiken Tarun Chhabra Husanjot Chaha, “Agile Alliances,” pg online @ <https://cset.georgetown.edu/wp-content/uploads/CSET-Agile-Alliances.pdf> //um-ef)

NETWORK TO SEIZE OPPORTUNITIES Initiative 4: Share, pool, and store non-sensitive data sets. The United States should work with allied and partner governments to develop common standards for sharing, pooling, and storing non-sensitive, government-owned data sets. U.S. allies and partners are broadly open to non-sensitive data-sharing arrangements: Nearly 90 percent of officials indicated interest in sharing more data with the United States, and 75 percent cited specific non-sensitive data their country would be willing to share. More than half of responding countries indicated a willingness to share weather pattern data, epidemiological data for disease control, medical images for precision medicine, and video and navigation data from self-driving cars. This initiative may be among the most important for America’s European partners. An EU official noted that the EU would likely be willing to share quite a lot of data, provided rules are in place and enforced. Another official from the UK expressed enthusiasm around the idea of a transnational data sharing framework allowing partners to aggregate more diverse data and create more reliable models that could operate between markets. Non-sensitive data-sharing projects could start small. The United States, the United Kingdom, and France already cooperate on predictive maintenance for the C-130J military transport aircraft. They could extend this initiative to other aircraft or broaden to include other countries by sharing relevant data collected during the planning process for maintenance, repair, and overhaul. The United States could partner with Singapore, Spain, Italy, and other NATO allies on a data-sharing initiative related to maritime domain awareness in the way that Indonesia, Malaysia, and Singapore, for example, share hydrographic data and cooperate to improve their anti-submarine warfare capabilities.52 NATO states that the maritime domain “is of strategic importance.” Its members could share militarily relevant datasets to improve maritime domain awareness in the Black Sea and other strategic locales.53 U.S. policymakers could also work with counterparts in allied and partner countries to develop common standards for data archival procedures, including standards for ensuring the data is labeled, stored, interoperable, and accessible.54 The U.S. Open Government Initiative began to lay the groundwork for common data standards as early as 2013, and the United States should promote similar practices among allies and partners.55 Such a collaborative approach would enable data flows and promote healthy data management among allies that could further propel the growth of AI. Optimal Partners: United Kingdom, Germany, Japan, France, the Netherlands, and New Zealand Multilateral Fora: NATO, the European Commission, Five Eyes, OECD, Association of Southeast Asian Nations (ASEAN) Criteria for Partnership: Optimal data-sharing partners would be countries that widely collect and publish data for public use, and countries where that data is stored and accessible by third parties. To assess capability and compatibility, we selected metrics reflecting the amount of data that allied and partner governments generate and capture. We included data from the Open Knowledge Foundation’s Global Open Data Index, which measures the volume and types of publicly available government data, such as national statistics, procurement practices, air quality and weather information, and company registry information.56 We also included the number of data processing centers in each country and the gross value of imported data storage units.57 While it is difficult to determine what kind of data they store or how much storage capacity they have, the dollar value of data processing and storage centers is a reasonable proxy for national data capacity and reflects the amount of data generated by entities in each country. Moreover, we featured three indicators from the CSET survey: expressed interest in data sharing with the United States, whether the country has taken actions to enhance data archival procedures, and whether it has established data use standards. 20 Center for Security and Emerging Technology Finally, we compared legal environments in each country as they pertain to data sharing.58 Although all the countries listed in Table 5 fall under the jurisdiction of the EU’s General Data Protection Regulation (GDPR), they have no apparent localization requirements, nor do they prevent the transfer of certain classes of data across borders.59 Moreover, shared data standards under the GDPR may make it easier for the United States to collect the same kind of data from multiple countries in the future. Other considerations and caveats: Other high-scoring countries include South Korea, Finland, Denmark, Lithuania, Latvia, and the Czech Republic. The United States would do well to diversify its sources of data, including from countries beyond the jurisdiction of the GDPR. India, for example, boasts a large population, vibrant technology market, and high concentration of data processing facilities Initiative 5: Invest in privacy-preserving machine learning. To protect individual privacy, the United States and its allies and partners should explore techniques in data analysis that would allow them to perform operations on non-sensitive data sets without sharing or storing personally identifiable information. These techniques are known as privacy-preserving machine learning. Researchers Roxanne Heston and Helen Toner observe that privacy-preserving machine learning could make “new uses of AI possible without triggering privacy concerns, give U.S. companies a competitive edge over their foreign counterparts, and/or reduce cybersecurity risks by protecting individual data while preserving its usefulness.”60 Applications of privacy-preserving machine learning could include performing object and facial recognition locally on an individual’s phone instead of processing that data in the cloud, thereby improving security and privacy; employing differential privacy models to obscure the identities of individuals in census research; and using secure multi-party computation to combat tax fraud.61 Coordinated investment initiatives in homomorphic encryption, secure multi-party computation, and federated learning would enable democratic, market-based economies to benefit from larger and more diverse pools of data without compromising the privacy of individual users and organizations whose data are in the pools. U.S. allies and partners are especially willing to collaborate on this front. Nearly all surveyed officials indicated interest in collaborating on an international certification scheme for the protection of personal data, with two-thirds of surveyed officials indicating high interest. As Australia’s AI Ethics Framework notes, “Throughout their lifecycle, AI systems should respect and uphold privacy rights and data protection, and ensure the security of data.”62 The United States and its allies should discuss potential use cases where privacy-preserving machine learning could be developed and deployed, coordinate research and development priorities that further applications suitable to these technologies, and create guidelines and technical standards to promote safe and reliable applications in realistic scenarios.63 More broadly, the United States and its allies should co-fund research and coordinate investments into new techniques, such as synthetic data, advanced simulations, and improvements in transfer learning, for making personal data less relevant to AI systems. Optimal Partners: Canada, India, Germany, Australia, Japan, and the United Kingdom Multilateral Fora: EU, OECD, the Quadrilateral Security Dialogue (India, Japan, Australia, and the United States), National Institute of Standards and Technologyand National Science Foundation (NSF)-led bilateral and multilateral partnerships 22 Center for Security and Emerging Technology Criteria for Partnership: The United States should coordinate with countries whose scientists produce most of the world’s cutting-edge AI research focused on privacy and anonymity, such as homomorphic encryption and federated learning techniques. Ideal partners would also respect online privacy and share U.S. concerns about digital illiberalism. To measure countries’ relative strengths in privacy-preserving machine learning, we counted the number of patents and scientific publications from scientists affiliated with local research institutions. We only assessed patents and publications labeled as relevant to artificial intelligence and computer vision applications that explicitly mention “privacy” or “anonymity.”64 We included Freedom House’s scores of internet freedom in each country as a proxy for governments’ commitments to democratic values and civil liberties.65 We also aggregated four measures from the CSET survey to capture countries’ focus on privacy: expressed interest in an international scheme for the protection of personal data, government action taken to enhance privacy protections, perceptions of the need for international management of facial recognition, and the country’s likelihood of regulating surveillance technology. Other considerations and caveats: France and South Korea produce a large number of AI patents related to privacy and score highly on Freedom on the Net. U.S. policymakers could also consider partnering with individual tech companies abroad to further privacy-preserving research projects. The frequency of the phrase “privacy” in national AI strategies is a crude measure: India and the United Kingdom score “0,” for example, but both countries are likely deeply concerned about privacy issues Initiative 6: Promote interoperability and agile software development. Interoperability is a critical lubricant for U.S. alliances. To operate effectively, allies need to plan, train, and exercise together. Joint operational concepts, common doctrine, and compatible military capabilities and systems are required to communicate effectively and achieve shared objectives.66 As countries integrate AI into military systems, the United States and its allies must ensure that hardware and digital systems are interoperable and secure. The United States and its allies could start with common standards for interopretability, safety, and security of AI systems, including AI-enabled, safety-critical systems.67 For AI-enabled military systems expected to perform a given function, the United States and its allies should agree on common benchmarks for accuracy and performance based on the same training and testing data. The CSET survey suggests that allies and partners desire such benchmarks, with a majority of surveyed officials expressing the need for international coordination and management of AI military applications, specifically autonomous weapons systems and unmanned vehicles for submarine detection. A German representative stated that collaboration with the United States would be enhanced by an AI strategy that includes a focus on AI-related defense and security threats. Optimal partners for coordinating investment in privacy-preserving machine learning The United States and its allies should also consider wargaming and table-top exercises to explore how sharing selected government data sets could shore up defenses against counter-AI techniques and other efforts to exploit the vulnerabilities of AI systems. Specifically, they should explore how sharing militarily relevant data sets and certain AI algorithms could help allied countries better test system robustness, expose mutual vulnerabilities, accelerate development of countermeasures, and establish common standards for testing, verification, and validation.68 The United States and its allies should define common standards for the level of robustness required for a given operation. Common defense planning and capability development in NATO and the EU should give priority to investments in AI safety and security, as well as common verification procedures for AI-enabled, safety-critical systems. To ensure allies store and process data homogeneously, the United States and its allies should launch an accelerator fund for cloud computing. The United States and its allies could use this fund to more efficiently procure commercial cloud computing technology. The United States, United Kingdom, and Canada, for example, could agree to bid out a bulk purchase of cloud compute from major technology companies and distribute access to compute in the form of credits and publicly funded research. This initiative would ensure that democratic nations benefit from techniques in machine learning that require fewer inputs of real-world data but greater computational power to run simulations and self-play methods. Representatives from Japan, South Korea, the Czech Republic, Lithuania, and the EU each cited increased computing as an AI R&D priority, suggesting an area for aligning focus among allies.

### 2AC --- info k ASW

#### Info-Sharing key to effective ASW --- NATO must lead to make the system effective

Eckstein ‘20

(Megan, naval warfare reporter at Defense News. She has covered military news since 2009, with a focus on U.S. Navy and Marine Corps operations, acquisition programs, and budgets, “Sonar Equipped Drone Fleets Could be Key to Future Submarine Warfare,” pg online @ <https://news.usni.org/2020/03/09/sonar-equipped-drone-fleets-could-be-key-to-future-submarine-warfare> //um-ef)

The future of anti-submarine warfare for countries who can’t afford to invest in top-of-the-line submarines and maritime patrol aircraft could be a netted fleet of unmanned platforms that can create “passive acoustic barriers” at chokepoints or drag towed arrays through a country’s territorial waters. NATO’s Centre for Maritime Research and Experimentation is showcasing these ideas at NATO exercises such as the ongoing Dynamic Manta annual ASW exercise, showing off novel operations that could one day be commonplace if navies and their industrial bases decide to invest. CMRE Director Catherine Warner said the organization has been working with autonomous vehicles in the undersea warfare area for the past 20 years to understand how they can contribute to perhaps the most complex type of naval warfare. “The big idea in this whole realm of unmanned systems is figuring out the right systems with the right sensors and the right scenario that’s going to be cost and operationally effective,” she told USNI News after the kickoff of Dynamic Manta. She said ASW is “high-end asset-intensive” and that, while unmanned vessels can’t do everything a manned sub or plane can, they can perform some specific missions that would be cost-prohibitive to do with manned vehicles. One prime example is the passive acoustic barrier. Noting that CMRE puts passive sensors on all the autonomous vehicles, buoys and seabed devices the organization puts in the water, Warner said CMRE used all its sensors to demonstrate a passive acoustic barrier off the coast of Sicily in the days leading up to the start of Dynamic Manta. While in this demonstration they tracked the flow of commercial ships across the “barrier,” the ultimate idea would be to track the movement of submarines at chokepoints such as the Greenland-Iceland-United Kingdom (GIUK) Gap. The specifics of the unmanned vehicle wouldn’t matter as much as the quality of the sensor and the ability to differentiate the clutter from the sounds of submarines. NATO Centre for Maritime Research and Experimentation (CMRE) graphic. On the more active side of sub-hunting, CMRE has been particularly focused on the idea of multi-nation multistatic ASW, where an active sonar source would create pings for dozens or hundreds of passive sensors listening for those sound waves to bounce off of enemy submarines. The more sensors that are in the water, the better they can detect pings and recognize what kind of submarine is moving through the water and in what direction. During Dynamic Manta, CMRE operated alongside manned warships to join in the hunt for submarines, using its “network”: NATO research vessel NRV Alliance, two Ocean Explorer 21-inch diameter autonomous underwater vehicles named Harpo and Groucho, and a fleet of Liquid Robotics’ Wave Gliders that serve as communication nodes between the ship and the AUVs. Harpo and Groucho have a towed array to listen for pings, and more recently CMRE developed a towed array for the Wave Gliders as well to put more ears in the water. “Having that extra set of sensors makes a huge difference” in multistatic ASW, Warner said, because when an active sonar source like the variable depth sonar on Alliance or a warship like Italian frigate ITS Carabiniere (F 581) sends out energy, they want as many passive sensors in the water as possible to listen for pings. “When you do multistatic, there’s so many more advantages because of the geometry and the extra chances for reflections. So we can do it with ourselves, but if we could do it with all the nations – and that is something that we strive to do with our interaction with the nations … – then everybody, wherever they are, that has a sensor, being able to know the sound source and sync to it and coordinate on the reflections – it is very power to be able to do that.” The key to multi-nation multistatic ASW is information-sharing: they’d all have to know where exactly the active sonar source is, so they could correctly calculate what the pings they pick up mean, and then they’d have to share what they’re hearing with all the other nations involved, too, so they could all adjust their positions as needed to get the best chance at hearing the target submarine and help track it through the water. Information-sharing can be a hurdle with something as sensitive as ASW, with nations often not wanting others to know the exact nature of their capabilities, but Warner said the scale to which NATO could track submarines under the water would be powerful if everyone could find a way to come together. Today, Harpo and Groucho talk to each other while looking for subs, and if one picks up a sound they will coordinate amongst themselves to get into the best positions for the best geometries to hear sonar pings. The more AUVS in the water collaborating, the better.

## 1AC/2AC --- Solvency

### 1AC/2AC --- Solvency + Inherency---NATO

#### ASW is failing now and are the key vulnerability---integrating modernizes NATO’s ASW capabilities and successfully deters a wide range of threats. Allies say yes and NATO has the unique resources to fully develop the technology but ensuring allied synergy is key

---AUVs

---Sonar Detection

Alleslev 19 — Leona Alleslev-Krofchak is a Canadian politician and former military officer. Alleslev, Leona. "NATO Anti-submarine warfare: rebuilding capability, preparing for the future." Science and Technology Committee (STC) (2019). https://www.nato-pa.int/download-file?filename=sites/default/files/2019-10/REPORT%20150%20STC%2019%20E%20rev.%201%20fin%20-%20ANTI-SUBMARINE%20WARFARE.pdf WMK

45. The principal purpose of ASW is to find a potential adversary’s submarines in a game of ‘cat and mouse’ (Perkins, 2016). Given the difficulty of the task, ASW depends on high-end military capabilities, but as former US Chief of Naval Operations Admiral Gary Roughead aptly notes, it is also “a mix of art and science” (Roughead, 2018). Modern ASW mainly relies on a variety of manned platforms utilising passive and active sonar systems (see Box 3 and Table 3): - tactical submarines; - fixed-wing maritime patrol aircraft (MPA); - surface vessels equipped with sonar systems; - maritime ASW helicopters based on land or on surface vessels; and - acoustic detection systems on the seabed or installed on shore.

46. NATO’s overall ability to conduct high-end ASW operations has atrophied substantially. A 2017 tabletop exercise, led by a renowned think tank, found that “neither the individual member states, nor the Alliance as a whole, presently possess the ability to conduct a comprehensive and coordinated anti-submarine warfare campaign under either peacetime or wartime conditions” (Smith and Hendrix, 2017). One of the participants argued that it would take 50 days or more to assemble an effective ASW force. While NATO still retains the capability to prosecute individual submarines atv the current level of Russian patrols, it will soon lose this ability if current trends continue (Perkins, 2016). In short, the Alliance has “ceded much of the advantage it earned at the conclusion of the Cold War” (Perkins, 2016).

47. NATO faces a twin problem. For one, its own ASW capabilities have withered, as the number of ASW-capable platforms has fallen, in some areas radically. Moreover, the capabilities the Alliance still possesses are rapidly ageing and encounter interoperability problems (Hicks et al., 2016). At the same time, the submarine capabilities of near-peer competitors have increased significantly, even if they cannot best the most modern Allied submarines.

48. Several reasons explain but do not excuse this state of affairs. As the immediate threat of the Soviet Union waned in the early 1990s, defence budgets began to shrink substantially. They took another big hit after the financial crisis of 2007/2008. More importantly perhaps, a strategic reorientation towards expeditionary warfare took place after the Cold War ended. While based on sound reasons, this reorientation came at a high price for other capability areas, including ASW (Perkins, 2016; Allport, 2018; Hudson and Roberts, 2018): - naval vessels conducted more and more generic maritime security or were repurposed for land attack missions; - MPAs increasingly focused on wider intelligence, surveillance, and reconnaissance; - ASW-capable vessels almost ceased operating in the North Atlantic and Arctic Oceans; and - some Allies chose not to replace certain capabilities at the end of their lifetime.

49. One area where Allies have retained robust capabilities, including through timely replacement programmes, is maritime ASW helicopters. Acoustic detection systems installed on the seabed or on shore are highly classified systems, thus little information is available. Some experts have stated that the United States has likely placed its large underwater Sound Surveillance System near the GIUK gap in standby (Smith and Hendrix, 2017). Experts also question its ability to detect the quietest Russian submarines. The US Navy is pursuing upgrades and new systems, but little is publicly known. Allied inventories of tactical submarines, MPAs, and frigates either continue to face significant shortfalls today or will in the near future. It is thus worth highlighting the ongoing modernisation efforts in this regard.

B. TACTICAL SUBMARINES: HIGH QUALITY, MIXED PICTURE OVERALL

50. The 124 tactical submarines currently available in Europe and North America still possess superior qualities compared to non-NATO submarines, with the US submarines remaining at the top of the class. Nevertheless, quantity counts in ASW, and it is therefore regrettable that the total number of submarines in the Alliance has fallen drastically. A few examples illustrate this (Hicks et al., 2016): - Denmark did not replace its last submarines when they reached the end of their lifetime in 2004. - Germany’s submarine numbers fell from 14 to 6 between 2000 and 2019 (-57%). - Norway went from 10 to 7 between 2000 and 2019 (-30%). - The United Kingdom dropped from 12 to 6 between 2000 and 2019 (-50%). - Even the United States possesses almost 10% fewer submarines than at the end of the Cold War.

51. The positive news is that all Allies with submarine fleets are committed to maintaining this capability. The most important submarine modernisation programmes include the following: - Canada’s new 2017 Defence Policy committed to modernising its Victoria class submarines in the mid-2020s to ensure their continued effectiveness into the mid-2030s (Government of Canada, 2017). So far, the option analysis has been completed (Government of Canada, 2019). The country purchased these submarines in 1998 from the United Kingdom, where they had entered service in the early 1990s. - The four Walrus class submarines of the Netherlands need to be replaced in the second half of the 2020s. The country is set to decide on a follow-on procurement programme by the second half of 2019 (Sprenger, 2019a). To replace its Rubis class submarines, France is in the process of building Barracuda class nuclear-powered general-purpose submarines (Sprenger, 2019b). Six are planned (Sprenger, 2019b). The first of these submarines, the Suffren, was launched in July 2019 and is expected to be delivered in 2020 (Sprenger, 2019b). - Germany’s diesel-electric Type 212 submarines boast some of the most advanced air-independent propulsion technology in the world. The German navy will add another two to its fleet in the coming years under a joint programme with Norway (NavalToday.com, 2019). - Italy plans to procure another four German-designed Type 212 submarines to remain at eight submarines once its four Pelosi class submarines retire (Kington, 2019). - Norway’s six Ula class submarines will reach the end of their lifespan in the mid- to late-2020s. They will be replaced by submarines based on the German Type 212 class under a joint programme with Germany (NavalToday.com, 2019). - Poland’s submarines are deemed not combat-relevant by experts (Hicks et. Al, 2016). However, the country has committed to procuring new ones and initiated a competition for the programme (Lesiecki, 2018). - Spain’s S-80 Plus class programme has run into severe problems, forcing the country to maintain its S-70 Agosta class submarines, which entered service in the early 1980s, in service longer than expected (Roblin, 2018). - Turkey has launched a mid-life upgrade for its four Preveze class submarines (Vavasseur, 2019b). - The UK Royal Navy is in the process of replacing the Trafalgar class submarines with the highly capable Astute class submarines. Three Astute submarines are already in service (UK Royal Navy, n.d.). The Ministry of Defence has already launched a Maritime Underwater Future Capability project for the time when the Astute class will leave service (Bliddal, 2019). - While the United States is accelerating its submarine procurement, it will still face a tactical-submarine shortfall in the mid-2020s, when their number will bottom out at about 42 (McLeary, 2019). This prospect is likely a driving factor in the accelerated acquisition of maritime unmanned systems (see next section).

C. MARITIME PATROL AIRCRAFT: A KEY SHORTFALL AREA

52. The capability shortfall in Maritime Patrol Aircraft (MPAs) for ASW missions has been especially dramatic. Compared to the end of the Cold War, the Alliance now possesses 120 fewer MPAs (Perkins, 2016). One data point illustrates what this really means: while the ratio of available Allied MPAs to Soviet submarines was about 1.8 to 1 at the end of the 1980s, the ratio has more than inversed at 1 Allied MPA for 2 Russian submarines (Perkins, 2016). While MPAs are certainly expensive assets, they cannot be replaced solely by a layered federated system of sensors (Perkins, 2016). Indeed, to maintain 24-hour coverage of a single submarine, a country needs about seven to eight MPAs (Perkins, 2016).

53. The majority of the Allies’ MPAs will reach the end of their operational lives in the 2025-2035 timeframe. As one industry interlocutor put it during the recent STCTTS visit to the United Kingdom, the Alliance is facing a “15-year crunch time”. They have realised the urgency of this challenge. Indeed, eight Allies have pursued a Multinational Maritime Multi Mission Aircraft Capabilities Cooperation under NATO’s aegis since 2017 (see Figure 1). They have begun to define common requirements for such future aircraft capabilities, with ASW very much at the centre.

54. Individual Allies are already in the process of procuring new MPAs: - France and Germany have declared their intent to work together in replacing their MPA fleets in a broader European project (Shalal, 2018). - Norway is replacing its P-3C Orion fleet with five P-8 Poseidon MPAs (Reim, 2019). I taly’s new ATR-72 MPAs are not configured for ASW, but the airframe could, in principle, be upgraded with this capability in the future (Kington, 2016). - Turkey intends to procure six ATR-72 MPAs with ASW capabilities (Aviation News, 2016). - The United Kingdom currently finds itself in a severe situation. In 2011, its Nimrod MPAs were not replaced. This has left the United Kingdom without an MPA capability and dependent on Allied support in the face of increased submarine activity along its shores. The government is therefore acquiring nine P-8 Poseidon MPAs. The first of these is set to move to the United Kingdom in early 2020, and the last aircraft is expected to be delivered by March 2022 (US DOD, 2019b).

55. Another MPA-related shortfall is the very low level of sonobuoys, which MPAs (and ASW helicopters) drop into the sea to hunt submarines (Perkins, 2016). While these depleted inventories alone should be a cause for alarm, the situation is made worse by the fact that significantly more sonobuoys are now needed to achieve Cold War-levels of detection because submarines have become much quieter (Perkins, 2016). Their utility has certainly been falling. However, in the short to medium term, they are still very much needed to locate submarines in a dynamic hunt, as newer technologies are not yet capable of fully compensating – and will not be within the next decade or two (see next section). Allies must therefore urgently build up stockpiles. Perhaps a NATO Smart Defence project similar to the joint procurement of precision-guided munitions could be explored. Indeed, Allies can already place sonobuoy orders through the NATO Support and Procurement Agency.

D. ONGOING FRIGATE MODERNISATION ACROSS THE ALLIANCE

56. The ASW capabilities on surface vessels have not fallen quite as drastically, but certain Allies have seen significant reductions. For example, the Atlantic-facing NATO member states, who carry the brunt of the ASW burden on NATO’s northern flank, lost about half of their frigate inventory between 1995 and 2017 (Smith and Hendrix, 2017). Even the United States faces difficulties. The US Navy is cutting the number of vessels equipped with the Surveillance Towed Array Sensor System from nine to five, possesses no frigate class specially dedicated to ASW, and lost ASW capabilities when the S-3 Viking fixed-wing aircraft retired from carriers in 2009 (Smith and Hendrix, 2017).

57. Allies are well aware of the need for high-end ASW surface vessels and are reacting accordingly. Importantly, 12 Allies are in the process of procuring new frigates, with many of these being designed for improved ASW capabilities. Some of the modernisation programmes most relevant to ASW include the following: - Belgium and the Netherlands are developing a new Future Surface Combatant to replace the M-Frigates in their inventory (Fiorenza, 2018). The first new frigate should be delivered to the Netherlands by the mid-2020s (Naval Recognition, 2018). - In a sign that Canada takes the ASW threat seriously, its government has selected the Type 26 frigate, designed in the United Kingdom and optimised for ASW, to replace its Halifax class frigates (Allison, 2018). - Six of France’s new FREMM frigates have been ASW optimised, with the last frigate delivered in July 2019 (OCCAR, 2019). Moreover, a number of older frigates will be retrofitted with towed array sensors (Hicks et al., 2016). - Germany’s MKS-180 frigates, which are under development, will have an advanced ASW module option (Vavasseur, 2019a). - The United Kingdom will replace its Type 23 frigates, which are highly capable of ASW operations, with the new Type 26 class optimised for ASW (Willett, 2018). However, it has cut its planned orders from 13 to 8 (Willett, 2018). - The United States will design its new FFG(X) frigate with excellent ASW capabilities in mind. The US Navy wants to procure 20 FFG(X) by 2030, with the first frigate of this type procured in 2020 (Congressional Research Service, 2019).

VI. TOWARDS A NEW VISION FOR ASW

58. The previous section laid out some of the short- and medium-term challenges to the Alliance’s ASW capabilities as well as some ways Allies plan to rebuild them. However, in the longer term, much more complex challenges abound. On the one hand, the seas are becoming louder and warmer, making it harder to detect submarines (Perkins, 2016). Maritime background noise has more or less doubled every decade, and radio-frequency interference has also risen markedly (Perkins, 2016). On the other hand, submarines are getting quieter and increasingly hard to detect as they employ better hull designs, air-independent propulsion, noise-cancelling, and acoustic jamming systems (Clark, 2015b). As a consequence of this twin movement, it is entirely possible that ‘sound parity’ might soon occur – i.e. submarines could become quieter than the sea’s ambient noise (Perkins, 2016).

A. SENSOR TECHNOLOGIES

59. Progress in traditional sonar detection technologies continues to be slow and evolutionary (O’Hanlon, 2018). As submarines become quieter, the detection ranges for passive sonars – the dominant ASW sensor for the last five decades – have fallen from multiple miles to hundreds of yards (Perkins, 2016). Active sonar system ranges are still in the range of single-digit kilometres, but they face problems in the classification of submarine signals (Perkins, 2016). All this leads one expert to argue that traditional sensors “are rapidly approaching a point of obsolescence” (Perkins, 2016). However, artificial intelligence, big data, and the miniaturisation of computing power could help sustain traditional sensor technologies for some time. For example, artificial intelligence applications are enabling oceanographic modelling in (near) real time, boosting ASW sensor capabilities significantly, and giving the means to sift through the enormous amount of gathered data to find an actual target (Clark, 2015a).

60. Faced with the plateauing of traditional sensor capabilities, scientists and engineers are working on making new technologies viable. Non-acoustic detection methods are an increasing area of focus. Researchers hope to develop technologies that could, for example, detect the chemical and radiological emissions of submarines, bounce laser light off submarines to make them visible, or sense the tiny changes in ocean surface levels, wave patterns, or ocean temperatures when a submarine passes underneath (Clark, 2015a; Perkins, 2016; Hicks et al., 2016). Quantum technologies are crucial components for non-acoustic sensors. Scientists and researchers in Allied member states, but notably also in China, are investing in this area.

61. Navies are also developing new detection systems which can be installed on the seabed or on land, or float in water. The US Navy, for example, has programmes for a portable sensor to be installed at key chokepoints in the Shallow Water Surveillance System and the Persistent Littoral Undersea Surveillance (Clark, 2015a).

B. MARITIME UNMANNED SYSTEMS

62. In addition to new sensors, a new vision for the future of ASW is taking shape based on maritime unmanned systems (see also Figure 2). MARCOM Deputy Commander Vice Admiral Bléjean told Committee members that he saw maritime unmanned systems as future “game changers”. Allies needed to understand the technology today to prepare for this future, especially since non-NATO navies were investing heavily in them, members heard.

63. Maritime unmanned systems comprise two classes of autonomous unmanned vehicles (AUV): unmanned surface vessels as well as unmanned underwater vessels. Unmanned surface vessels can range from the big Sea Hunter to small Aqua Quads or Wave Gliders. Unmanned underwater vessels come in all sizes too – from buoyancy gliders to the extra-large Boeing Echo Voyager and Lockheed Martin Orca.

64. AUVs offer many potential advantages for naval forces, as they can be designed to be: - smaller and thus less detectable than manned platforms; - much more focused on the payload, as no human operators need to be accommodated; - highly modular and scalable; and - at sea for long durations of time if power generation and storage challenges can be overcome (see below).

65. Moreover, AUVs could reduce personnel and unit costs and compress research and development cycles, as certain complex systems would be cut out. Perhaps most importantly, they could operate in degraded or denied environments without putting lives at risk.

66. A naval future based on AUVs, integrated with traditional platforms, could still be a decade or two away. Nevertheless, Allies see great potential for a number of naval missions, including ASW. As a result, 14 Allies signed a declaration of intent in October 2018 to cooperate on the introduction of maritime unmanned systems (see Figure 4). The initiative aims to pool resources, talent, and ingenuity to create better, more flexible, and more interoperable AUVs. The initiative seeks economies of scale to enable cost saving in what is set to become an area of increased investment.

67. The concept of distributed networks is the key to understanding how many Allies see the future of ASW based on AUVs. Networks of manned and unmanned sensors from the sea floor to space would combine into a single system of systems. Navies would move away from platforms packed to the brim with ASW sensors. Instead, they would employ smaller platforms with fewer capabilities. While they would individually perform far fewer tasks than today’s ASW platforms, the scale of the overall system would give it an edge. The US Navy, which in 2019 asked for USD 3.7 billion for future AUV programmes, envisages potentially thousands of such AUVs working together. An adversary would thus be overwhelmed with a multitude of small targets instead of a naval group consisting of a few surface vessels. Opponents would need to place expensive weapons on targets that are much less costly than the frigates of today. The distributed network would also have sufficient redundancy built-in, so that an adversary would be unable to neutralise all systems simultaneously. Swarming technology could also lead to maritime unmanned systems where AUVs could be placed in a ‘net’ which moves with a target once detected. Such a swarm of AUVs would form a ‘roaming net of sonobuoys’, replacing today’s ‘one-time use’ sonobuoys in the long run. Concepts of launching unmanned aerial vehicles from MPAs or underwater platforms to release sonobuoys are also being explored. The UK government will soon begin researching and testing extra-large unmanned underwater vehicles for the purpose of creating ASW ‘barriers’. Greece has also tested unmanned surface vessels in combination with dipping sonars originally designed for helicopters. AUVs could, of course, also play a key role in monitoring undersea cable networks.

68. Manned systems – frigates, MPAs, and submarines – would still play very important roles in such distributed networks. However, they could move away from the front line by acting as a host for unmanned systems or a coordinator of sensors and weapon systems. They could gather intelligence, conduct surveillance, mine strategic chokepoints, and engage in electronic warfare in areas of high risk for manned platforms (Clark, 2015a).

69. Unsurprisingly, many challenges exist before such a future becomes possible. Secure communication is a long-standing challenge for the underwater domain and for the link with surface, air, or space assets. However, progress is being made in acoustic communications over operationally relevant distances, albeit at low bandwidth; in short-range communications based on LED or laser systems approaching, at short distances, the quality of wired communication; and in networking floating or towed radio transceivers to communicate with surface vessels without them risking detection (Clark, 2015a).

70. Collision avoidance will also likely remain a key challenge (Clark, 2015a). Compared to unmanned aerial systems, AUVs face dense traffic on the world’s seas, especially in strategic areas. However, until navigation systems become more powerful, navies can concentrate their maritime unmanned systems efforts on those missions where mistakes do not matter as much. For example, autonomous mine-counter systems are currently more advanced than ASW systems, as mine countering is a less dynamic task.

71. Power generation and storage on AUVs remains yet another problem and thus a focus of research, with researchers developing new battery and fuel-cell technologies. Indeed, a recent RAND study pointed out that the limitations of power generation and storage are currently the major obstacles holding back high-end AUVs (Martin et al., 2019).

72. Many other questions surround the future of maritime unmanned systems, for example: - How can the intelligence collected be disseminated in a relevant time frame? - How do systems adapt and filter out clutter and ambient noise to find objects of interest? - Can systems readily scale up – a key precondition to make them as capable as manned ASW assets? - Can advanced sensors be miniaturised to fit on low-power, long-endurance AUVs? - How can AUVs be launched, recovered, and refuelled in an efficient manner to be militarily relevant? - How will AUVs be able to operate with legacy systems? - What would command and control, operational concepts, and doctrines look like?

73. Kevin LePage, Cooperative ASW Program Manager at the NATO Centre for Maritime Research and Experimentation (CMRE), told Committee members in Northwood in June 2019 that ASW is very challenging. Moving into a future with maritime unmanned systems in the loop will be even more challenging. Still, despite the obstacles, the possibilities AUVs offer and the challenges the Alliance faces make it imperative to continue investing into research and development programmes and, simultaneously, demonstrate the value of these systems to today’s operators and build operators’ trust in these systems, which may perhaps be the most important element in integrating AUVs into ASW.

VII. CONCLUSIONS

74. This report has made it clear that the Alliance is facing an increased and concrete submarine threat from Russia. The Alliance must continue to monitor this threat and react accordingly. This threat is not limited to traditional ‘hard security’ threats. It also presents a clear, immediate danger when seen in the light of Russia’s asymmetric and hybrid strategy, which seeks to increase its power, influence, and economic strength and to isolate, undermine, and split the Alliance over time. Moreover, NATO and the Allies must also pay close attention to submarine developments in China, North Korea, and beyond.

75. Allies have let their ASW capabilities atrophy to dangerous levels. This report has laid out a path towards: - rebuilding capabilities across the full spectrum in the short and medium terms through investments in and modernisation of ASW assets; and - a future of ASW based on new sensor technologies and the integration of AUVs into ASW missions.

76. The Alliance must also increase its focus on threats against undersea cable networks. Non-technical ways to increase the security of these cables are available, for example by increasing resilience or improving international law. Technical solutions include monitoring systems at key sites, and maritime unmanned systems could play an important role in this respect. Also, the frequency of training and exercising such maritime hybrid threat scenarios, including at the NATO level, must be increased.

77. As with other capability shortfall areas, it must be stressed that it is essential that Allies live up to the Wales Defence Investment Pledge and move towards spending a minimum of 2% of GDP on defence and more than 20% of defence budgets on major equipment, including related research and development. If NATO wants to remain in a position where it can fulfil its core tasks, Allies must increase investment in ASW capabilities at the national level and, when appropriate, at the multinational level. They must continue to maintain robust fleets of tactical submarines, MPAs, ASW-capable surface vessels, maritime ASW helicopters, and acoustic detection systems.

78. As this Committee has made abundantly clear over the last few years, NATO’s science and technology (S&T) edge is eroding. This trend appears to be particularly stark in ASW. Thus, ASW should be a test of the Alliance’s willingness to heed the Committee’s recommendations put forward in NATO PA Resolution 453, which was adopted in November 2018. Indeed, ASW is an area where NATO can make great strides jointly, in particular by leveraging its 2018 NATO S&T Strategy.

79. The NATO Multinational Maritime Multi Mission Aircraft Capabilities Cooperation and the Maritime Unmanned Systems initiative are positive steps in the right direction. It is also encouraging that the NATO Industrial Advisory Group (NIAG) is conducting a study on the Utility of Unmanned Vehicles in NATO ASW.

80. Most importantly perhaps, NATO already has a world-class S&T institution at its disposal to further an ASW future based on maritime unmanned systems: the Centre for Maritime Research and Experimentation in La Spezia, Italy. The CMRE is leading the way for advances in AUV applications and operations, in particular demonstrating the potential of AUVs and remote operation and management of a fleet of undersea gliders and promoting the use of underwater digital communications using a NATO-developed standard. Allies should make good use of the Centre and, vitally important, improve the funding mechanisms for the CMRE to make it fit for the future. With the current and future submarine threat, the Centre is needed more than ever. In turn, the CMRE should continue to help NATO improve agility and demonstrate the value of S&T to the military community. This includes continued engagement in NATO exercises to showcase what today’s S&T can offer Allied naval forces. The Committee will pay close attention to the adaptation of the CMRE. The Rapporteur is pleased that the CMRE Director will lay out her vision at the 2019 Annual Session.

81. NATO can no longer be in a situation where its ASW capabilities could potentially be overwhelmed. Too much is at stake. The Rapporteur therefore calls on all Committee members to ensure national ASW capabilities meet the task at hand and invites them to explore multinational efforts to further strengthen synergies between Allies. Through the Committee’s available instruments, the Committee remains committed to closely following progress on rebuilding the Alliance’s ASW capabilities and preparing for the future.

### 2AC/1AR --- Pooling Data Key

#### Pooling AI data is key to NATO interoperability and warfighting

Taylor 20. Corey Taylor is a Major in the Canadian Armed Forces and a candidate attending the Canadian Forces College; “Appetite for Creative Destruction – Machine Learning for Acoustic Sensor Operation in Anti-Submarine Warfare”; May 6, 2020; Canadian Forces College; <https://www.cfc.forces.gc.ca/259/290/22/286/taylor.pdf> //BY

When nations incorporate ML and AI in to their ASW assets, they will also need to ensure that sharing of information is considered in the development of mission data files and algorithms. In the example of a 'black box' ML system that carries out calculations and advises the crew onboard that it has found a submarine, an aircraft tracking that submarine would need a method to pass the pertinent information to a relieving aircraft, including the frequencies and parameters it is using to carry out the tracking. A parallel to this has been identified with the adoption by several countries of the F-35. On that platform, mission data files need to "be updated before each sortie to ensure optimum combat effectiveness and aircraft survivability," with each nation preparing its own files, due to their inherent sensitive intelligence data.22°

In discussing the variation of acoustic processors on the variety of ASW airborne and naval platforms, Perkins points out that "target classification capability by each detection sensor also remains within national channels." 221 For this to change, common systems, and data, for mission planning, including oceanographic prediction, would need to be established.

Additionally, in discussing fifth-generation fighters, Layton points out that in a conflict, platforms will try to change their emission signatures "to gain some tactical advantage."222 This could be extrapolated to the case of ASW, where submarines would certainly attempt to change their operating parameters to avoid being detected and classified. Layton argues that in this case, until the adversary's signature is determined, the algorithms will be searching for the wrong parameters and that "incorrect information entered into the network" by users or algorithms will be disseminated to all other users on the network, potentially creating an "inaccurate common picture."223 Furthermore, as nations update their data files and algorithms, the odds that shared detection and tracking algorithms will begin to deviate between nations as software blocks are updated increases, potentially negatively impacting interoperability.224

NATO's M3A SOR tackles this challenge somewhat by establishing the importance of establishing appropriate STANAGs to enable interoperability to "support exchange and collaborative use of surveillance data and information," but it remains to be seen exactly what information will be shared and what will be guarded at the national leve1. Ultimately, nations have their own restrictions on what acoustic intelligence (ACINT) can be shared with which nations, but in order to adopt shared ML databases and systems that can truly fuse data and collaborate across platforms, the sharing of common software, data and algorithms will be extremely important

### 1AC/2AC --- Training Key/NATO Key

#### And, upgraded strategies and training must be made *TOGETHER* --- coordinated efforts are critical for signaling resolve and ensure

Hicks et al ‘16

(Kathleen H. Hicks, Current Undersecretary of defense, Ph.D. in political science from the Massachusetts Institute of Technology, an M.P.A. from the University of Maryland, she was the vice president, Henry A. Kissinger Chair, and director of the International Security Program at CSIS, Andrew Metrick, Lisa Sawyer Samp and Kathleen Weinberger, “Undersea Warfare in Northern Europe,” CSIS, July 21, 2016, [https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/160721\_Hicks\_UnderseaWarfare\_Web.pdf //mcu](https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/160721_Hicks_UnderseaWarfare_Web.pdf%20//mcu))

Recommendation: Increase NATO ASW Training for Allies and Partners and Integration of ASW Activities into NATO Exercises NATO and partner nations will have to demonstrate prowess in the undersea domain to achieve their collective security goals and deter Russia. Simply developing and maintaining disparate capabilities will not be sufficient. Instead, capabilities will have to be regularly exercised and employed in a combined fashion as an unequivocal signal of intent, resolve, and commitment. When looking at training and NATO exercises in particular, there are some that are specifically focused on rebuilding ASW competencies or incorporating ASW elements. In 2015, NATO conducted a major ASW exercise named Dynamic Mongoose that included contributions of submarines and surface vessels from many NATO nations as well as Swedish submarines. This exercise allowed the Commander of Submarine Forces NATO to gain experience in integrated ASW activities. Exercises of this scale and scope need to be conducted on a regular basis with the focus of restoring deep water ASW capabilities and providing training for SSN-operating nations in littoral combat. BALTOPS is a U.S.-sponsored annual exercise in the Baltic Sea that focuses on a wide range of maritime missions to include ASW. This exercise is generally viewed as a forum to drive systems and operational interoperability between a wide range of NATO and partner nations in this vital region. Due to the changing threat environment, recent BALTOPS have more heavily focused on developing ASW and amphibious warfare competencies. This exercise and the U.S. role therein will be vital for creating a theater ASW capability for the Baltic Sea. Desired Effect: Increased readiness, interoperability, and deterrent value. Creates venues for building and maintaining staff and command expertise. UPGRADING CAPABILITIES NATO investment in ASW capabilities has fallen across the board as the capability seemed less compelling post–Cold War. Accordingly, past excellence in ASW platforms, payloads, and personnel has atrophied in NATO and partner navies. NATO nations must recapitalize their ASW capabilities to achieve the needed proficiency with integrated theater ASW. These investments will have to be made in coordination with NATO’s Nordic partners and ideally take a broader federated approach that seeks to maximize cost-savings, effectiveness, and efficiency across participating nations. Groups of nations with similar requirements would map out clear procurement priorities and divisions of labor; establish a unified maintenance and training pipeline for specialized skills; engage in joint research and development; develop common standards; and emphasize interoperability. This method would seek to leverage common platforms or mission systems to achieve greater information sharing and enhanced ASW sensor coverage of key areas. A new ASW COE, as recommended, could ostensibly be a driver and facilitator for a federated approach. The CSIS study team acknowledges, however, that a federated approach to shipbuilding, in particular, is likely not feasible for many nations. Nations are highly protective of their national shipbuilding industries, viewing them as key national security and economic assets. The track record of past multinational shipbuilding efforts is relatively poor, though there are some exceptions. Regardless, other areas of ASW procurement and maintenance, especially MPAs and sensors, are ideal for a federated approach.

### 1AC/2AC --- NATO Key --- Must Share info

#### Must have an integrated and harmonized policy --- only way to effective map the ocean and deter Russia --- cooperative training on new systems is key

Hicks et al ‘16

(Kathleen H. Hicks, Current Undersecretary of defense, Ph.D. in political science from the Massachusetts Institute of Technology, an M.P.A. from the University of Maryland, she was the vice president, Henry A. Kissinger Chair, and director of the International Security Program at CSIS, Andrew Metrick, Lisa Sawyer Samp and Kathleen Weinberger, “Undersea Warfare in Northern Europe,” CSIS, July 21, 2016, [https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/160721\_Hicks\_UnderseaWarfare\_Web.pdf //mcu](https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/160721_Hicks_UnderseaWarfare_Web.pdf%20//mcu))

Recommendation: Improve Information Sharing to Develop a Common Undersea Operating Picture One of the most potent attributes of Russia’s undersea capabilities is the strategic ambiguity created by the submarine force. Many of the NATO and partner nations in Northern Europe already possess relevant ASW capabilities, but they are not integrated to produce a common undersea operating picture. Developing allied and partner information-sharing capabilities will help lift the veil on Russia’s undersea activities and decrease its coercive power. To achieve greater integration, NATO should develop a transmission-agnostic, encrypted data standard for undersea sensing data. Data streams from static and mobile sensors could not only feed local assets but be relayed to a shore-based NATO fusion center, potentially colocated with the ASW COE and aligned with the ASW-focused SNMG, to provide analytic capability. For submarine operations, this capability should include maintaining synchronized charts of allied and partner submarine areas of operation. Desired Effect: Decreases the strategic ambiguity created by Russian undersea capabilities. A common undersea operating picture can also help ensure the resiliency of undersea infrastructure to minimize underwater incidents and deconflict ASW operations.

### 2AC --- NATO intel network k

#### A NATO intelligence network is key to leveraging AI in ASW

Tas 21. Rear Admiral René Tas is the Assistant Chief of Staff for Capabilities at NATO Allied Command Transformation and the Vice Admiral and appointed Commander of the Royal Netherlands Navy; “AI in ASW”; NITECH: NATO Innovation and Technology – Issue 5, June 2021; <https://issuu.com/globalmediapartners/docs/nitech_issue_05_jun_2021/s/12587352> //BY

A Within the maritime domain, one of the most challenging types of warfare is anti-submarine warfare (ASW). The underwater environment has its own challenges, but also offers its own opportunities. We see opportunities in the development of unmanned systems for ASW, for mine countermeasures (MCM) activities and for maritime ISR (intelligence, surveillance and reconnaissance) in general. Not only will these systems collect data, they will require data, and they will process and communicate data.

With this, comes the requirement for machine learning (ML) and artificial intelligence (AI) features in what will become semi-autonomous or fully autonomous systems. Autonomous systems will offer the opportunity to develop and deploy intelligent networks achieving high performance for a wide range of applications in the maritime domain, including ASW. At the same time, we should be aware that such systems will also have operational and technological constraints.

Q How is ACT supporting the use of AI in ASW?

A Effective autonomy-enabled ASW will require intelligent platforms with state-of-the-art sensors and algorithms that allow optimized detection and tracking capabilities, with reduced human intervention. To this end, ACT is investing in developing advanced assets and algorithms, including AI-based solutions, and testing them at sea. Future capabilities will increasingly use cognitive sonar systems, data fusion, deep convolutional neural networks to self-learn and improve performance as surrounding parameters (such as the environmental ones) evolve. Challenges and opportunities in this field are among the drivers for NATO Allied Command Transformation‘s (ACT’s) Warfare Development Agenda.

Q How important is data to future ASW capabilities?

A I believe, across NATO, we value the strategic importance of data and we understand that data science is a key enabler to improve our warfighting capability. However, data and data science transcend AI. It starts with data itself. What is the problem to be solved? What data is needed to better understand the problem? How do we obtain it, and how do we share it? We need to answer these questions before we can start with concepts such as machine learning, AI and even algorithmic warfare. It is not just about technology; people, culture, including organizational behaviour, infrastructure and processes, are equally important. And, of course, we need the right policies to make this work.

There is no need to explain the importance, and even the growing importance, of the maritime domain. NATO’s supremacy in the maritime domain is a key and enduring strategic objective. Accomplishing this has become more challenging as, on the one hand, our competitors have improved their capabilities, while on the other hand we have not kept pace with our investments in the maritime domain. Hence, we need to strengthen this investment and, where possible, leverage data, including AI, to enable us to – among other things – outthink, overmatch and outfight our adversaries. It will be no surprise that we need a strong Science and Technology (S&T) foundation to achieve this.

Q How can AI algorithms help with ASW?

A The operational advantages of employing systems with increased levels of autonomy is that these systems will allow us to act more effectively and efficiently through machine-to-machine and human-tomachine coordination. The AI within systems and platforms with autonomous functions allows an increase of real-time data that can be acquired and that is processed unsupervised at the sensor edge. If we then communicate the result in a secure operational network, the operators – who will be assisted by data fusion features, visualization technologies and automated analysis support – will be faster and smarter than ever before. It will lead to a faster decision cycle, delivering effects more rapidly and effectively. The technology will enable all of this. At the same time, it is important that we understand what AI does and can provide in our decision-making. At all times, we must maintain knowledge at all relevant (operational) levels of what tasks are performed by systems, so we build the trust that is required to rely on such systems.

Q To what types of ASW activities are AI or autonomous algorithms being applied?

A Traditionally, ASW has been performed by surface and undersea manned vessels equipped with advanced sensor systems. Autonomous intelligent systems offer the opportunity to develop and deploy an intelligent network that achieves a high-performance capability for a wide range of applications in the maritime domain (airborne, shipborne submarine and sonobuoys), while having less manned systems in harm’s way. Those technologies introduce new possibilities, but also new challenges, in particular for navigation, signal processing, data fusion, underwater communications and networking. These challenges are what ACT and the Centre for Maritime Research and Experimentation (CMRE) are tackling.

Q How important is teamwork in this realm?

A We require teamwork. That is why it is important that ACT, through its maritime programme of work and its relationship with CMRE, closely cooperates with the multinational NATO ASW Barrier SDI 1.1271 activity and other maritime unmanned system (MUS) initiatives. Equally important is to ensure that we develop capabilities together with the operational community and test new capabilities and concepts together. That is why it is important that all stakeholders are invited to participate in Exercise Dynamic Messenger 2022 where we will test unmanned systems in an operational scenario. War-fighters will be the ones that will use the systems and we, as NATO’s warfare development command, should provide them with the best equipment and processes we can develop.

### 2AC --- NATO Key --- Intel Network

#### A NATO intelligence network is key to leveraging AI in ASW

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A Effective autonomy-enabled ASW will require intelligent platforms with state-of-the-art sensors and algorithms that allow optimized detection and tracking capabilities, with reduced human intervention. To this end, ACT is investing in developing advanced assets and algorithms, including AI-based solutions, and testing them at sea. Future capabilities will increasingly use cognitive sonar systems, data fusion, deep convolutional neural networks to self-learn and improve performance as surrounding parameters (such as the environmental ones) evolve. Challenges and opportunities in this field are among the drivers for NATO Allied Command Transformation‘s (ACT’s) Warfare Development Agenda.

Q How important is data to future ASW capabilities?

A I believe, across NATO, we value the strategic importance of data and we understand that data science is a key enabler to improve our warfighting capability. However, data and data science transcend AI. It starts with data itself. What is the problem to be solved? What data is needed to better understand the problem? How do we obtain it, and how do we share it? We need to answer these questions before we can start with concepts such as machine learning, AI and even algorithmic warfare. It is not just about technology; people, culture, including organizational behaviour, infrastructure and processes, are equally important. And, of course, we need the right policies to make this work.

There is no need to explain the importance, and even the growing importance, of the maritime domain. NATO’s supremacy in the maritime domain is a key and enduring strategic objective. Accomplishing this has become more challenging as, on the one hand, our competitors have improved their capabilities, while on the other hand we have not kept pace with our investments in the maritime domain. Hence, we need to strengthen this investment and, where possible, leverage data, including AI, to enable us to – among other things – outthink, overmatch and outfight our adversaries. It will be no surprise that we need a strong Science and Technology (S&T) foundation to achieve this.

Q How can AI algorithms help with ASW?

A The operational advantages of employing systems with increased levels of autonomy is that these systems will allow us to act more effectively and efficiently through machine-to-machine and human-tomachine coordination. The AI within systems and platforms with autonomous functions allows an increase of real-time data that can be acquired and that is processed unsupervised at the sensor edge. If we then communicate the result in a secure operational network, the operators – who will be assisted by data fusion features, visualization technologies and automated analysis support – will be faster and smarter than ever before. It will lead to a faster decision cycle, delivering effects more rapidly and effectively. The technology will enable all of this. At the same time, it is important that we understand what AI does and can provide in our decision-making. At all times, we must maintain knowledge at all relevant (operational) levels of what tasks are performed by systems, so we build the trust that is required to rely on such systems.

Q To what types of ASW activities are AI or autonomous algorithms being applied?

A Traditionally, ASW has been performed by surface and undersea manned vessels equipped with advanced sensor systems. Autonomous intelligent systems offer the opportunity to develop and deploy an intelligent network that achieves a high-performance capability for a wide range of applications in the maritime domain (airborne, shipborne submarine and sonobuoys), while having less manned systems in harm’s way. Those technologies introduce new possibilities, but also new challenges, in particular for navigation, signal processing, data fusion, underwater communications and networking. These challenges are what ACT and the Centre for Maritime Research and Experimentation (CMRE) are tackling.

Q How important is teamwork in this realm?

A We require teamwork. That is why it is important that ACT, through its maritime programme of work and its relationship with CMRE, closely cooperates with the multinational NATO ASW Barrier SDI 1.1271 activity and other maritime unmanned system (MUS) initiatives. Equally important is to ensure that we develop capabilities together with the operational community and test new capabilities and concepts together. That is why it is important that all stakeholders are invited to participate in Exercise Dynamic Messenger 2022 where we will test unmanned systems in an operational scenario. War-fighters will be the ones that will use the systems and we, as NATO’s warfare development command, should provide them with the best equipment and processes we can develop.

### 2AC --- U.S. Lead key

#### US leadership is key to first mover advantage---geography, R&D, military culture, and operational competence

Clark 15. Bryan Clark is a Senior Fellow at the Center for Strategic and Budgetary Assessments (CSBA). Prior to joining CSBA in 2013, Mr. Clark was Special Assistant to the Chief of Naval Operations and director of his Commander’s Action Group, where he led development of Navy strategy and implemented new initiatives in electromagnetic spectrum operations, undersea warfare, expeditionary operations, and personnel and readiness management. Mr. Clark served in the Navy headquarters staff from 2004 to 2011, leading studies in the Assessment Division and participating in the 2006 and 2010 Quadrennial Defense Reviews; THE EMERGING ERA IN UNDERSEA WARFARE; 2015; Center for Strategic and Budgetary Assessments; <https://csbaonline.org/uploads/documents/CSBA6292_(Undersea_Warfare_Reprint)_web.pdf> //BY

The U.S. Navy has an unrivalled track record leading and exploiting the evolution in undersea systems and operational techniques over the last one hundred years. American defense leaders and analysts rightly believe that the Navy’s dominant position in undersea warfare will remain a key element of U.S. military planning for decades to come. America’s potential adversaries recognize this as well and are aggressively working to undermine the U.S. Navy’s undersea superiority. Emerging technologies present a serious challenge in that they may empower development of potent rival undersea forces and erode the stealth of U.S. submarines. But they also provide the United States an opportunity to again be the “first mover” (e.g., as with passive sonar) and establish a dominant position in the next chapter of the undersea competition. America could leverage enduring advantages such as its geography, R&D base, military culture, and operational competence to exploit new ways and means of conducting undersea warfare more rapidly than its competitors. The emerging era in undersea competition will require a significant rethinking of how military forces conduct undersea warfare. Dramatic changes are occurring in the technological realm that should inform new operational concepts, which will have significant implications for the kinds of undersea capabilities that should be developed and the ways in which larger naval and joint force should evolve to complement them. In particular, a new family of undersea vehicles and systems will be essential to maintain America’s undersea edge by reducing the growing vulnerability of today’s principal undersea platform, the manned submarine. Failing to aggressively exploit the latent potential of these emerging technologies and the advanced capabilities they make possible could create an opening for rivals to “steal a march” on the United States in this new era of the undersea competition and, in so doing, pose a major threat to U.S. security.

### 2AC --- U.S. = Key --- Intel Sharing

#### US is key – it’s the leader of intelligence ops

Ballast 17 – Jan Ballast MA is a senior staff member, involved with foreign intelligence, mission support and national security, working for the Ministry of Defence of The Netherlands. He has held numerous analytical and operational positions in both Th e Hague and missions abroad. ("Trust (in) NATO The future of intelligence sharing within the Alliance," NATO Defense College, Rome, September 2017, https://www.researchgate.net/publication/342492011\_Trust\_in\_NATO\_The\_Future\_of\_Intelligence\_Sharing\_Within\_the\_Alliance, Accessed 7-1-2022, LASA-SC)

To be successful, the ASG-I&S should not try to convince Member States to start sharing sensitive, classifi ed intelligence. Being himself a former Deputy of the BND, he will know that Member States and their national intelligence and security services are by nature reluctant to share secrets within NATO. Jennifer Sims already predicted the outcome of such pressure; “If “jointness” [in intelligence] is driven more by political necessity than collection requirements, liaison will tend to be heavily defensive in posture, implicitly adversarial, and therefore hollow, despite political and military leaders’ contrary expectations.”70 For instance, although France is likely to cooperate on intelligence if strategic interest is shared and if mutual boots are on the ground,71 it remains unsympathetic to integration and cooperation within any multilateral environment. A senior official of the French Ministry of Foreign Affairs explained that France would always want to preserve its strategic autonomy.72 In sum, the second priority for the ASG-I&S should be accepting the continuation of bilateral arrangements between NATO and its Member States. Notwithstanding the prominent position of major European nations, the ASG-I&S as his third priority should acknowledge a dominant role for the United States. The United States is not only the Member with the most (operational) intelligence to share, but it will also be crucial in facilitating (future) technological infrastructure to enable the exchange process. If the United States does not bridge the technological gap within the Alliance, NATO’s interconnectivity and interoperability will be at risk.73 Air operations and Joint Special Operations (JSO) especially require the right infrastructure to achieve effective sharing and dissemination of actionable and time-sensitive intelligence to maintain information dominance.74 Meanwhile, the ASG-I&S should invest in and expand existing enablers such as the underused BICES,75 in close cooperation with SHAPE/NIFC, embracing best practices from missions like joint databases and the Afghan Mission Network (AMN).76 In the process, he should safeguard reciprocity and intervene if information is one-way, as is the case with CT – namely to and not from the United States.77 Should Freytag von Loringhoven want to address other constraints of multilateral intelligence sharing such as over-classification, disclosure and oversight as his fourth priority, he needs to get the United States on board to solve. In 2011, the Inspector General of the US Department of Defense recommended an update of the US disclosure policy and procedures concerning sharing of intelligence in a coalition environment.78 At the same time, the ASG-I&S should insist, regardless of CIC/NOS, that SC tackles over-classification as per NATO’s security policy and strives for the widest dissemination possible. As Adriana Seagle observed, “Though a necessary security capability in the 21st century networked world, the shift from “need to know” to “need to share” has not been smooth.”79 Besides consensus on internal sharing, the United States and other Member States will also need to consider the usefulness of increased intelligence cooperation with the EU. Finally, NATO’s role in the growing international intelligence exchange raises the question of democratic accountability and calls for multinational (administrative) oversight.80 It would appear that the ASG-I&S, on behalf of the Member States, is the best alternative for addressing this liability within the Alliance

### 2AC --- U.S. Lead Key – 1st Mover

#### US leadership is key to first mover advantage---geography, R&D, military culture, and operational competence

Clark 15. Bryan Clark is a Senior Fellow at the Center for Strategic and Budgetary Assessments (CSBA). Prior to joining CSBA in 2013, Mr. Clark was Special Assistant to the Chief of Naval Operations and director of his Commander’s Action Group, where he led development of Navy strategy and implemented new initiatives in electromagnetic spectrum operations, undersea warfare, expeditionary operations, and personnel and readiness management. Mr. Clark served in the Navy headquarters staff from 2004 to 2011, leading studies in the Assessment Division and participating in the 2006 and 2010 Quadrennial Defense Reviews; THE EMERGING ERA IN UNDERSEA WARFARE; 2015; Center for Strategic and Budgetary Assessments; <https://csbaonline.org/uploads/documents/CSBA6292_(Undersea_Warfare_Reprint)_web.pdf> //BY

The U.S. Navy has an unrivalled track record leading and exploiting the evolution in undersea systems and operational techniques over the last one hundred years. American defense leaders and analysts rightly believe that the Navy’s dominant position in undersea warfare will remain a key element of U.S. military planning for decades to come. America’s potential adversaries recognize this as well and are aggressively working to undermine the U.S. Navy’s undersea superiority. Emerging technologies present a serious challenge in that they may empower development of potent rival undersea forces and erode the stealth of U.S. submarines. But they also provide the United States an opportunity to again be the “first mover” (e.g., as with passive sonar) and establish a dominant position in the next chapter of the undersea competition. America could leverage enduring advantages such as its geography, R&D base, military culture, and operational competence to exploit new ways and means of conducting undersea warfare more rapidly than its competitors. The emerging era in undersea competition will require a significant rethinking of how military forces conduct undersea warfare. Dramatic changes are occurring in the technological realm that should inform new operational concepts, which will have significant implications for the kinds of undersea capabilities that should be developed and the ways in which larger naval and joint force should evolve to complement them. In particular, a new family of undersea vehicles and systems will be essential to maintain America’s undersea edge by reducing the growing vulnerability of today’s principal undersea platform, the manned submarine. Failing to aggressively exploit the latent potential of these emerging technologies and the advanced capabilities they make possible could create an opening for rivals to “steal a march” on the United States in this new era of the undersea competition and, in so doing, pose a major threat to U.S. security.

### 2AC --- Tech/Info-Sharing Key

#### Updating NATO tech is key – the plan enables information sharing which sidesteps shortfalls in the status quo

Birkeland 21 – PhD thesis, University of Glasgow. (John, “Maritime airborne intelligence, surveillance and reconnaissance in the High North - The role of anti-submarine warfare - 1945 to the present,” University of Glasgow, 2-10-2021, <https://theses.gla.ac.uk/81995/7/2020BirkelandPhD.pdf>, Accessed 6-30-2022, LASA-SC)

* Makes the argument that countries are safeguarding their acoustic intelligence
  + Passive sonar
* Sharing and data exchanging

Artificial intelligence and Big Data processing should be incorporated into airborne ASW platforms as soon as feasible, in order to handle the complexities of modern acoustic analysis. Allies should investigate the possibility for collaborative analysis of acoustic data, based on instant or near-real time dissemination of own acoustic data. Processing capacity and the ability to exchange large amounts of data more or less instantly, should be fully exploited in order to mitigate the acoustic challenge. Layered persistent sensor framework A layered approach to ASW must be adopted. MPAs by themselves are not nearly enough to meet the emerging Russian submarine threat. Six layers for ISR and targeting of submarines should be sought: space-based asset for sensors, communications and targeting; high-altitude long-endurance unmanned aircraft for near-constant presence; MPAs for ISR and weapons employment; surface assets (manned and unmanned) for long-range, near-persistent presence with underwater sensors; underwater platforms (manned and unmanned) for near-persistent underwater presence, ISR and carrying weapons; and finally sea-bed sensors for persistent ISR and cueing for other ASW platforms. International cooperation and intelligence exchange Historically, airborne ASW operations were coordinated by NATO alliance members, but all coordination was done under a national, bilateral or multilateral framework. NATO procedures were used, as well as NATO funded infrastructure. However, stating that the operations were conducted “by NATO” undermines an important element in describing the operations: There are key nations that were, and to a degree still are, able to handle ASW coordination of this sort. For the North Atlantic, this has been the US, the UK and Norway. Whether the infrastructure, procedures and competency to coordinate and lead such operation is present in today’s NATO Command Structure per se is quite a different matter. The close hold that is inherent in acoustic intelligence as discussed in the historical chapters is likely still a prominent factor, leading to a tension between intelligence collection and intelligence sharing. Close cooperation between selected partners thus stands out as crucial for releasing the potential inherent in international cooperation. As a continuation of this, NATO should integrate national headquarters closely with the NATO Command Structure writ large, in order to exploit the capability and situational awareness that is built on a daily basis outside the formal NATO networks.

#### Info sharing between allies is critical.

Eckstein 20 – Megan Eckstein is the naval warfare reporter at Defense News. She has covered military news since 2009, with a focus on U.S. Navy and Marine Corps operations, acquisition programs, and budgets. She has reported from four geographic fleets and is happiest when she’s filing stories from a ship. Megan is a University of Maryland alumna. ("Sonar Equipped Drone Fleets Could be Key to Future Submarine Warfare," USNI News, 3-9-2020, https://news.usni.org/2020/03/09/sonar-equipped-drone-fleets-could-be-key-to-future-submarine-warfare, Accessed 7-1-2022, LASA-SC)

On the more active side of sub-hunting, CMRE has been particularly focused on the idea of multi-nation multistatic ASW, where an active sonar source would create pings for dozens or hundreds of passive sensors listening for those sound waves to bounce off of enemy submarines. The more sensors that are in the water, the better they can detect pings and recognize what kind of submarine is moving through the water and in what direction.

During Dynamic Manta, CMRE operated alongside manned warships to join in the hunt for submarines, using its “network”: NATO research vessel NRV Alliance, two Ocean Explorer 21-inch diameter autonomous underwater vehicles named Harpo and Groucho, and a fleet of Liquid Robotics’ Wave Gliders that serve as communication nodes between the ship and the AUVs. Harpo and Groucho have a towed array to listen for pings, and more recently CMRE developed a towed array for the Wave Gliders as well to put more ears in the water.

“Having that extra set of sensors makes a huge difference” in multistatic ASW, Warner said, because when an active sonar source like the variable depth sonar on Alliance or a warship like Italian frigate ITS Carabiniere (F 581) sends out energy, they want as many passive sensors in the water as possible to listen for pings.

“When you do multistatic, there’s so many more advantages because of the geometry and the extra chances for reflections. So we can do it with ourselves, but if we could do it with all the nations – and that is something that we strive to do with our interaction with the nations … – then everybody, wherever they are, that has a sensor, being able to know the sound source and sync to it and coordinate on the reflections – it is very power to be able to do that.”

The key to multi-nation multistatic ASW is information-sharing: they’d all have to know where exactly the active sonar source is, so they could correctly calculate what the pings they pick up mean, and then they’d have to share what they’re hearing with all the other nations involved, too, so they could all adjust their positions as needed to get the best chance at hearing the target submarine and help track it through the water.

Information-sharing can be a hurdle with something as sensitive as ASW, with nations often not wanting others to know the exact nature of their capabilities, but Warner said the scale to which NATO could track submarines under the water would be powerful if everyone could find a way to come together.

Today, Harpo and Groucho talk to each other while looking for subs, and if one picks up a sound they will coordinate amongst themselves to get into the best positions for the best geometries to hear sonar pings. The more AUVS in the water collaborating, the better.

“We’ve done it. We’ve already shown that multistatic ASW works. That’s our system: we’ve been doing it since 2012 in Dynamic Manta, we’ve demonstrated it operationally, and we just keep adding things onto it. So it can be done. So, whether other nations want to do it with us, that’s up to them,” Warner said.

Warner said Harpo and Groucho are 21-inch diameter AUVs that were built by Florida Atlantic University. The vehicles themselves are 18 years old, but the batteries and sensors are constantly being upgraded, meaning the vehicle that originally had four hours of battery life can now operate for 72 hours without intervention.

CMRE’s Dan Hutt told USNI News that the next step would be to scale up these operations. To conduct multistatic ASW in the GIUK Gap, for example, would require hundreds of AUVs from participating NATO nations. The idea, though, would be to “flood the ocean with lots of cheap assets – they all have sensors, potentially different kinds of sensors, they can all talk to each other over a vast network – that’s a really powerful concept for ASW. We only have a handful of these, so we want to scale up and work with the nations to do a bigger demonstration.”

While several NATO countries are upgrading their fleets of “high-end submarines and frigates,” many cannot afford such exquisite systems, Warner said.

“But they certainly can afford a fleet of unmanned vehicles with towed arrays. And if they were all using the same standard, they could all buy from their own countries’ industry – that’s what we’re about, we’re not competing with industry, we’re developing standards,” she continued.

“Every nation’s industry would benefit from building these vehicles and the towed arrays, and then they could all operate together.”

CMRE has already done a machine learning effort to support the back end of this effort – researchers collected 52 days worth of sonar echoes from diesel-electric submarines (SSKs) and created algorithms to help the unmanned vehicles recognize SSK sounds and ignore the clutter. This could be shared with the NATO members who want to join in this effort. Warner said Norway, Belgium and the Netherlands are taking steps to incorporate AUVs into their ASW efforts, but she’s hoping to see more.

### 2AC --- Info-Sharing Deter Russia Hybrid War

#### Info sharing deters Russia hybrid warfare---it obviates strategic ambiguity and ensures resilience

Hicks et al. 16. Kathleen Holland Hicks was a former United States deputy secretary of defense. She was the first Senate-confirmed woman in this role. Hicks previously served as the principal deputy under secretary of defense for policy during the Obama administration; “Undersea Warfare in Northern Europe”; July 2016; CSIS; <https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/160721_Hicks_UnderseaWarfare_Web.pdf> //BY

Recommendation: Improve Information Sharing to Develop a Common Undersea Operating Picture

One of the most potent attributes of Russia's undersea capabilities is the strategic ambiguity created by the submarine force. Many of the NATO and partner nations in Northern Europe already possess relevant ASW capabilities, but they are not integrated to produce a common undersea operating picture. Developing allied and partner information-sharing capabilities will help lift the veil on Russia's undersea activities and decrease its coercive power. To achieve greater integration, NATO should develop a transmission-agnostic, encrypted data standard for undersea sensing data. Data streams from static and mobile sensors could not only feed local assets but be relayed to a shore-based NATO fusion center, potentially colocated with the ASW COE and aligned with the ASW-focused SNMG, to provide analytic capability. For submarine operations, this capability should include maintaining synchronized charts of allied and partner submarine areas of operation.

Desired Effect: Decreases the strategic ambiguity created by Russian undersea capabilities. A common undersea operating picture can also help ensure the resiliency of undersea infrastructure to minimize underwater incidents and deconflict ASW operations.

### 2AC --- AT: Intel Sharing Fails

#### Reforms solve infrastructure shortfalls

Ludwigson and Wright 22. Jon Ludwigson is a Director in GAO’s (US Government Accountability Office) Contracting and National Security Acquisitions (CNSA) team. Candice Wright is a Director in GAO’s Science, Technology Assessment, and Analytics team. She oversees GAO’s work on federally funded research, intellectual property protection and management, and federal efforts to help commercialize innovative technologies and enhance U.S. economic competitiveness; “ARTIFICIAL INTELLIGENCE Status of Developing and Acquiring Capabilities for Weapon Systems”; Feburary 2022; United States Government Accountability Office Report to the Committee on Armed Services, U.S. Senate; <https://www.gao.gov/assets/gao-22-104765.pdf> //BY

AI digital development platform. To address several challenges (the lack of cross-service digital infrastructure, AI vulnerability to cyberattacks, the availability of usable data to develop and train AI, integrating AI into existing weapon platforms, and hesitancy to trust AI capabilities), the Joint AI Center is establishing an AI digital development platform known as the Joint Common Foundation. The Joint Common Foundation is intended to be the department’s digital platform to design, develop, and test AI capabilities, and to provide project developers and individual users with access to the cloud, open-source, and commercially available AI development tools (such as open source algorithms), and shared data sets. According to a DOD official, the infrastructure contains various tools and is available to a variety of users, as shown in figure 9. 54In general, a basic ordering agreement contains the terms and clauses applying to future orders, describes the types of supplies and services to be provided, and contains the methods for pricing, issuing, and delivering future orders. A basic ordering agreement is not a contract. Federal Acquisition Regulation § 16.703. Page 33 GAO-22-104765 Artificial Intelligence Figure 9: Notional Depiction of DOD’s Joint Common Foundation for Artificial Intelligence (AI) According to Joint AI Center documentation, the Joint Common Foundation is being developed in line with DOD’s zero trust cybersecurity Page 34 GAO-22-104765 Artificial Intelligence architecture.55 The platform is expected to contain shared elements for its users to develop AI, which includes the data catalog, various open-source tools, and project directories and support services. Additionally, a Joint AI Center official told us that the platform also supports projects that have been approved for initiation by providing the project team with cloud access and the additional tools needed to package, secure, and deploy an AI capability. This official said that final capabilities to be offered in the Joint Common Foundation are evolving. The official added that, for fiscal year 2022, the Joint AI Center is focused on making key AI development tools available while also identifying additional open source and commercially-provided tools that could be useful in the future. According to Joint AI Center officials, this capability became initially operational in March 2021, and as of July 2021, there were 100 unique users and seven projects being developed in the Joint Common Foundation. Even though the final capabilities to be offered in the platform are in flux, the Joint Common Foundation is expected to incorporate classified capabilities by fiscal year 2023. In our related AI report, we recommended that DOD issue a roadmap or a high-level plan that captures all requirements and milestones for developing and onboarding users to the Joint Common Foundation.56 Integrated network infrastructure for AI. To address the lack of crossservice digital infrastructure and to integrate AI into existing weapon platforms department-wide, the Joint AI Center is working to establish an integrated network infrastructure and an AI-enabled operating system. Known as Project AI Data Accelerator, the infrastructure is intended to allow the use of AI capabilities across the combatant commands to link weapon platforms and support complex decision-making in battle.57 According to an official from the Office of the Under Secretary of Defense for Acquisition and Sustainment, this project is intended to ultimately enable the integration of AI capabilities into all service weapon platforms. Additionally, the Joint AI Center is developing an AI needs form that 55The National Institute of Standards and Technology defines zero trust as an evolving set of cybersecurity paradigms that move defenses from static, network-based perimeters to focus on users, assets, and resources. Zero trust assumes there is no implicit trust granted to assets or user accounts based solely on their physical or network location (i.e., local area networks versus the internet) or based on asset ownership (enterprise or personally owned). 56GAO-22-104516SU. 57According to DOD officials, Project AI Data Accelerator is the operational portion of DOD’s broader AI Data Accelerator initiative that was announced by the Deputy Secretary of Defense in June 2021. Page 35 GAO-22-104765 Artificial Intelligence prompts DOD components to consider the technical specifications of the weapon platform the AI will be employed on, among other considerations, before pursuing an AI capability through Tradewind. As of November 2021, DOD was in the process of evaluating vendor proposals with the expectation of a December 2021 award, according to an official from the Office of the Under Secretary of Defense for Acquisition and Sustainment. AI test and evaluation. To address the lack of cross-service digital infrastructure, vulnerability to traditional and new cyberattacks, and hesitancy to trust AI capabilities, the Joint AI Center has taken several steps to address testing and evaluation of AI. For example, the center drafted a Test and Evaluation framework specific to AI in July 2020. This framework is intended to provide a sequential process for verifying and validating an AI capability in line with DOD’s ethical principles and focuses on ensuring security, resilience, and robustness, among other things. According to a Joint AI Center official, the center recently began an initiative to translate DOD’s ethical principles into testable requirements, but does not have an estimated time frame for completion. Additionally, in February 2021, the Joint AI Center released a request for proposals for test and evaluation services blanket purchase agreements that are expected to provide department-wide access to test technology and tools for a variety of AI, automation, and autonomy applications. Specifically, the agreements are intended to streamline the procurement process and increase safety and security of AI capabilities by standardizing the testing and evaluation process while ensuring an independent and unbiased assessment of the quality and readiness of AIenabled systems to increase confidence by end users, according to Joint AI Center documentation. Eventually, the Joint AI Center anticipates integrating AI-specific test and evaluation processes into the Joint Common Foundation and synchronizing testing and evaluation for AI across the department. Services include analysis of decisions or recommendation made by the AI capability, testing services, and identifying new technologies and development efforts. The AI Test and Evaluation blanket purchase agreements are expected to be awarded and made available to DOD components in March 2022, according to Joint AI Center officials. According to officials from the Joint AI Center and Office of the Under Secretary of Defense for Acquisition and Sustainment, DOD is not planning to mandate use of these tools. Instead, Joint AI Center officials told us, they are striving to develop tools that are simple and widely available to entice broad use across DOD components. Center officials Page 36 GAO-22-104765 Artificial Intelligence noted that they do not want to stifle the efforts and expertise that may already exist throughout the department, particularly within the military services. Instead, DOD wants these tools to complement ongoing efforts and be a valuable resource to DOD components that may not have the expertise or tools developed internally. The National Security Commission on Artificial Intelligence shared similar views, reporting that the Joint AI Center cannot develop and proliferate AI capabilities for every user group or mission area within DOD. The commission recommended that DOD create an organizational structure that pairs top-down strategy with bottom-up development. According to Joint AI Center documentation, the center is developing internal key performance indicators that will assess how effectively it is achieving its mission to transform the department through AI and expects to report quantitative measures on its metrics in the first quarter of fiscal year 2022. According to various DOD officials, in addition to the initiatives listed above, other DOD entities, including the Chief Data Office and Office of the Under Secretary of Defense for Acquisition and Sustainment—in conjunction with the Joint AI Center—are working on other AI departmentwide efforts. Specifically, officials from DOD’s Chief Data Office told us they are establishing data teams to deploy to each of the combatant commands as part of the Deputy Secretary of Defense’s AI Data Accelerator initiative.58 These data teams will help the combatant commands to catalog, manage, and automate the collection of data. Building on the work of these data teams, DOD plans to deploy teams of technical experts to help the combatant commands integrate AI into their workflows. According to officials from DOD’s Chief Data Office, these data teams will be deployed to each of the combatant commands by the beginning of calendar year 2022. Additionally, the Office of the Under Secretary of Defense for Acquisition and Sustainment is working to adjust the software acquisition pathway for AI and issue updated guidance to DOD components as it becomes available, according to officials from that office.59 These officials also told us that these adjustments include adding in automated testing and requiring a data strategy for AI projects.

### 2AC --- Plan = AI subs

#### Advanced sensing platforms key to Autonomous Sub Deployment

**Brixey-Williams et al 20** [Sebastian Brixey-Williams, Sebastian Brixey-Williams is the Co-Director of the British American Security Information Council (BASIC). He is an expert on multilateral nuclear weapons issues. February 2020, "The Future of the Undersea Deterrent: A Global Survey," ANU National Security College, accessed 7/3/22 <https://nsc.crawford.anu.edu.au/publication/16145/future-undersea-deterrent-global-survey> mimou]

A prime example is the US Navy’s Medium Displacement Unmanned Surface Vessel (MDUSV), formerly designated the ASW Continuous Trail Unmanned Vessel (ACTUV).9 The prototype launched in April 2016, Sea Hunter, was reported to have demonstrated autonomous SSK detection and tracking from the ocean surface from two miles away, requiring only sparse remote supervisory control for patrols of three months, using a combination of “advanced hydro-acoustics, pattern recognition and algorithms.”10 Since the range and resolution of acoustic sensors are highly variable according to oceanic conditions (such as depth, temperature, and salinity), the range may well go further in favourable conditions; a Chinese estimate puts it at eighteen kilometres.11 Since SSKs using air-independent propulsion or running on batteries are virtually silent, MDUSVs should theoretically be capable of pursuing SSNs and SSBNs (whose nuclear reactors continuously emit noise) at greater distances, and there are reports that they will be armed.12 Whereas the new US FFG(X) frigate costs a sizeable US$1 billion per ship, MDUSV platforms are reported to cost only US$20 million each and so could conceivably be produced at scale to autonomously or semi-autonomously seek and trail submarines.13 Former US Deputy Secretary of Defense Robert Work has suggested as much: “these will be everywhere.”14

### 1AC/2AC --- AI Key

#### AI is key to sub effectiveness.

Seffers 22 — George, SIGNAL Magazine Editor in Chief, writer, reporter, former Signal Corps soldier, Lyon College. 02-xx-2022, "Undersea Combat Includes Way More Than Submarines," No Publication, https://www.proquest.com/docview/2634875455?parentSessionId=u%2B5W4WluliUjbAmCjuVeYogVpPAmksheOKzmHlrQefM%3D&pq-origsite=primo&accountid=14667, accessed 6-30-2022 //THS—OLW

AI and unmanned systems aid underwater stealth missions.

While submarines are vital to undersea warfare, success in the domain requires the integration of a much broader array of systems and technologies, including artificial intelligence and unmanned systems.

Undersea warfare is a lot more than just submarine versus submarine. My job is to make sure our undersea forces-and that includes our ballistic missile submarines, our attack submarines, our carrier strike group ASW [anti-submarine warfare] forces, maritime patrol aircraft, fixed systems, unmanned and autonomous systems, all of that-are able to integrate as part of an undersea battle force, explains Rear Adm. Richard Seif, USN, commander, Undersea Warfighting Development Center (UWDC), Groton, Connecticut.

The UWDC mission is to support undersea superiority, in part by integrating a wide array of technologies and developing doctrine for multidomain undersea warfare. Priorities include cross-domain tactical development and capability development; wargaming; in-depth analysis of real-world operations; rapid integration of new weapons, sensors and new technologies such as artificial intelligence (AI) and machine learning (ML); and direct support of deployed undersea forces. Based in Groton, the UWDC also has detachments in Norfolk, Virginia, and San Diego and includes an Arctic Submarine Lab and a Tactical Analysis Group.

We have to integrate across domains. When I say across domains, I mean space and cyber all the way to the seafloor and then integrate all of that combat power as part of a broader joint force

Communications and a common operating picture are integral to the joint-domain operations, but both are a particular challenge undersea. When were talking about integrating with the joint force and integrating across domains, what we're really talking about is the ability to share a common operating picture and communicate without giving up our stealth, communicate using a variety of systems. My command, UWDC, is working really hard integrating and developing new technology and experimenting with it and making sure we're ready to communicate across domains with both manned and unmanned platforms," Adm. Seif notes.

Having served aboard five nuclear fast attack submarines, including as a commanding officer on the USS Buffalo (SSN 715) and USS Jacksonville (SSN 699), Adm. Seif does not discount the critical role of submarines. "Within the submarine force, as part of the undersea domain, our nuclear attack submarine force does take up a fair amount of my priorities. I think of our attack submarines as our country's apex predators ready to appear at the time of our choosing and deliver just overwhelming combat power," he says.

Submarines remain vital in part because of their stealth and versatility. "We expect our submarine force, as a stealth force and endurance capability, to operate inside an adversary's defensive perimeters and deliver all kinds of effects-precision strike, anti-surface weapons, anti-submarine weapons, seabed warfare, mining, delivery of SEAL [sea, air and land] teams and really every kind of effect you can think of" he adds. "But what really makes us most effective is when our undersea forces are able to integrate with other stealth forces and share targeting, communicate and ultimately provide access as part of the broader joint force"

The Navy currently is building Columbia-class submarines to replace Ohio-class ballistic missile subs. They are considered the Navy's number one acquisition priority and will be the "largest, most capable and most advanced submarines" according to a Navy fact sheet.

The service also is building the Block V Virginia-class submarine, a nuclear-powered fast attack vessel that incorporates stealth technologies and intelligence gathering capabilities and will carry more Tomahawk cruise missiles than its predecessors. "The ability to put a variety of weapon systems and payloads into the Block V Virginia class is just really gamechanging for the undersea enterprise. As new weapon systems and new long-range weapons and different capabilities come online, my team's job is to make sure the crews are ready to work with and optimize those," he declares.

Adm. Seif also touts the growing importance of unmanned or autonomous systems to the undersea warfare mission. The Navy's Unmanned Undersea Vehicle Master Plan document published in 2000 points out that unmanned underwater vehicles can support a wide range of missions, including tactical oceanography, communications, navigation, anti-submarine warfare [ASW] and intelligence, surveillance and reconnaissance.

### 2AC --- AI/ML k Detection

#### AI/ML k2 detection + interop

Taylor 20. Corey Taylor is a Major in the Canadian Armed Forces and a candidate attending the Canadian Forces College; “Appetite for Creative Destruction – Machine Learning for Acoustic Sensor Operation in Anti-Submarine Warfare”; May 6, 2020; Canadian Forces College; <https://www.cfc.forces.gc.ca/259/290/22/286/taylor.pdf> //BY

In games, we saw that "thinking machines are capable of original thought," sometimes coming up with novel strategies to solve problems or complete their tasks.' In some approaches, this consists of the system being trained to select moves and at the end of the game evaluating the contribution of each intermediate move to winning or losing the game.148 With the predicted transition away from 'blue water' ASW and toward littoral regions, the "global trend towards smaller, but more lethal fleets" and the significant advancement of capabilities like ASW helicopter dipping SONARs, tactics for cooperative ASW have not been updated in doctrine to reflect these new capabilities.149 While not directly related to the tasks of sensor operators, having ML systems learn how to "play the game" of ASW could allow for optimization of co-ordinated ASW between platforms and the development of novel experimental tactics that humans may never consider.

According to Perkins, the quieting of submarines has resulted in targets that "may be so quiet that the background ocean noise is louder than the source the ASW force is attempting to detect."I5° This could drive changes in tactical development, with ML systems tuned to identify these "holes" in sounds in the ocean, where they may be able to exploit the quietness of a submarine by how it causes a drop in ambient noise along a certain bearing. This discrepancy could be missed by a human operator whose system may not be optimized to search for this characteristic, or who is not actively scrutinizing his sensors for this phenomenon. While a human operator cannot physically monitor several hydrophones at once, and must instead cycle between them, an ML system could examine all sensors simultaneously to look for clues to the presence of a target and could be trained to advise on optimum positioning of sensors based on the oceanographic profile to carry out a task like finding quieter-than-the-ocean targets. These tactics could either consist of identifying scenarios and applying pre-determined tactics, as was done with early computerized versions of chess, or could be in the form of a simulations carried out on station to assesses alternate options in real time to determine which tactics to employ before beginning a live search.

An area where new tactics are under development, and which will no doubt be heavily influenced by ML is Low Frequency Multi-Static Active (MSA) search, which is carried out through a network of transmitters and receivers which interact to achieve significantly longer detection ranges, as compared to older traditional passive or high frequency active sonobuoys. Since "receiver buoys are not collated with the source buoys," the submarine "cannot know which direction to turn to avoid the pattem."151 MSA also gives platforms the ability to cover larger areas, enhancing acoustic search as well as tracking and attack capability. While ML/AI could manage the timing and correlating of information across multiple receivers, as well as optimize the positioning of sensors based on oceanography and sound return characteristics of the submarine (aspect), much of the Canadian research into tactical development of MSA seems to involve experimentation using mathematical models heavily influenced by inputs from human experts' experience and intuition.152

As has been well established in other fields of study, there have been numerous instances of bias being unintentionally input into AI systems by programmers. Whether seen in voice recognition software being more likely to accurately recognise male speech, and ultimately threatening safety if adopted in a car with a female driver, or algorithms landing innocent people in jail, or influencing their sentences, bias in training AI systems is a serious concem.I53 As seen in the use of deep learning in games, sometimes allowing the system to learn without supervision "may actually be better since there will not be any teacher bias."I54 Likewise, the development of tactics can benefit the more the ML system is free to generate its own solutions.

The impacts of fatigue and other physiological factors was discussed in the Problem Framing chapter. Another aspect of this factor is that the design of platforms like aircraft, ships and submarines are restricted by the need for a "degree of comfort, to lessen the crew's fatigue, and thus enhance their efficiency" in the conduct of their duties."' The addition of "adequate rest arrangements for off-watch crew-members," "efficient soundproofing," and any number of other amenities such as more comfortable ship accommodations, means that platforms need to be larger and heavier and may thus be restricted in their maneuverability.I56 ASW platforms also sometimes determine their operating parameters, such as altitude for an aircraft or how many stations are manned on a ship in a certain sea state, based on impacts on crew ability to carry out their tasks, which generates a kind of human bias in developing tactics. Without restrictions due to either crew comfort, design of the platform, or number of people onboard, ML systems would likely generate tactics unfathomable to human operators. While AI systems do not have to consider impacts of stress and other physiological factors when problem solving, human factors must still be taken into account and the balance between their needs and tactics generated by an ML system could result in more creativity and wider operating envelopes.

Another limitation to the use of ML generation of ASW tactics is the hesitation to trust `black boxes' that calculate outputs but give no indication of how they came to their conclusions.I57 In discussing medicine, but equally applicable to the subject of this DRP, Topol describes a "legitimate worry about adoption of new technologies before they have been adequately vetted and validated, or proven to be cost-effective and ideally cost saving."159 High-profile incidents of problems with AI related to safety, including self-driving cars running red lights, surely have not alleviated these worries.I59

Layton argues that next-generation aircraft "need electronic order of battle data that includes the characteristics and electronic signatures of systems likely to be encountered while on operations...to allow aircraft systems to be able to identify friendly, neutral, and adversary systems when airbome."169 This could be achieved by storing large amounts of data on board with advanced search tools or database look-up functions. For operators who are now used to carrying smart devices in their pockets, which can carry out complex tasks using AI (such as speech recognition), however, it does not seem unreasonable to have a system that can "access the cloud from anywhere to exchange data or request computation that is too large or complex to do locally."16I Using the speech recognition example, a smart phone does not do the process on the device; instead it "captures the acoustic data, extracts the basic features, and sends them to the cloud," and the "actual recognition is done in the cloud and the result is sent back to the phone."I62

Having data transmitted over a network for a ground-based AI to conduct the analysis and sending it back may be necessary given the small size of some platforms and the physical space that would be required for computers to carry out advanced ASW calculations. Also beneficial would be redundancy and ability to share data among platforms in real-time, which may be required for tasks like multi-static active processing and tactical co-ordination in shared operating areas. On the other hand, theatre ASW is often carried out in remote operating areas and real-time processing would require significant bandwidth and would be subject to potential jamming or interception of data transmissions.I63 Given the need for the systems to work in contested environment where data flow may not be reliable, a self-contained solution to the real-time processing may be required. This could be complemented by real-time updates to and from a central database being broadcast as the networks allow, for example to provide updates on previously unseen operating regimes for a sub, particularly useful tracking sources, or sounds indicating serviceability issues which could be exploitable during the mission. Whether housed onboard and powered by significantly more processing power being housed in much smaller spaces, or facilitated by the use of a “combat cloud,” platforms will be able to collect and leverage massive amounts of data, which will ultimately impact their tactical deployment.

#### UUVs development and AI data integration key to tracking --- limits bandwidth requirements and ensures actionable intelligence

CSIS 16- a bipartisan, nonprofit policy research organization dedicated to advancing practical ideas to address the world’s greatest challenges. (Center for Strategic and International Studies, “Undersea Warfare in Northern Europe,” CSIS, July 21, 2016, https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/160721\_Hicks\_UnderseaWarfare\_Web.pdf)//mcu

As with the previous two categories, subsurface systems include both manned and unmanned platforms. Also similar is the time component to these developments, with manned platforms representing the current capabilities and advanced UUVs representing a future development goal. With regard to traditional submarines, NATO and partner nations should look to cooperate wherever possible on the development and construction of a new generation of air independent propulsion (AIP) submarines. This collaboration should also include subsystems such as propulsion, sensors, and battle management equipment. Joint acquisition efforts would allow nations to gain savings from economies of scale and shipyard proficiency. However, differing design requirements that result from major differences in operating environments are a potential issue for any collaborative effort. For example, nations that opt for small submarines operating for short durations in coastal areas will not be able to support long-duration missions in distant waters. In addition, all future submarines should use a modular design with regards to both sensors and combat weapon systems. This will be vital if submarines are to keep pace with rapidly evolving technologies, especially UUVs. Future submarines may serve as the mothership for a wide range of other systems operating above, on, or below the surface at various ranges. As a first step in acquiring operational proficiency with these systems, NATO should develop an unmanned underwater vehicle capable of being launched from ship or submarine, based on a commercially available system. This UUV should be compliant with a NATO 533-millimeter torpedo tube and have a modular payload. A common NATO UUV would also have the ability for tele-operated or autonomous operations. Such a craft could be used as an additional ASW sensor to monitor vital undersea infrastructure. As a longer-term R&D goal, NATO should consider how future large UUVs will be integrated into any theater-level ASW system. These R&D efforts will have to tackle difficult questions such as undersea networking and power generation. The development and fielding of these systems will permit greater ASW coverage without large capital investments in manned systems. When teamed with other platforms, they can be used in concert to offset individual platform shortcomings. In the Baltic Sea, unmanned platforms can be key partners to advanced submarines as they can improve the ability to operate and sense in shallow, crowded littoral waters. Subsurface capabilities also include distributed undersea sensors of both the disposable and permanent varieties. The most pressing need in this area is the development of a new family of systems to monitor key choke points in the North Atlantic and Baltic Sea. Oceanographic and topological conditions can either help or impair the coverage of distributed sensor networks. Due to the sensitivity surrounding these systems and the intelligence they produce, the development and fielding of any such system is likely limited to the United States, United Kingdom, Norway, and possibly a Nordic partner. Desired Effect: These investments will replace aging and outdated platforms in the near- to midterm and lay the foundation for a new generation of systems in the mid- to long term. **The effective integration of UUVs will create a manned-unmanned teaming paradigm in the undersea domain and pave the way for a dramatic increase in the tracking capability and lethality of the entire system**. Data Processing and Intelligence Fusion Sonar has remained the chief tool for tracking submarines since its inception. While the capability of automated systems has increased dramatically, they still fall short of a well-trained human sonar operator. This gap may prove difficult to completely overcome. Despite this, NATO and partner nations should direct investments that can automate portions of the acoustic intelligence exploitation process. These technologies can help limit bandwidth requirements for remote sensors and provide unmanned platforms the intelligence required to identify and track potential targets and, if necessary, cue additional platforms. These investments will be necessary to leverage many of the systems previously described in this section. The amount of data that will be generated by increasing the number of unmanned sys¬tems will be more than can be currently processed. Onboard preprocessing will be a requirement for **data transmission** in bandwidth-limited environments, such as underwater, and may prove to be required for all systems given the explosive growth of data and the finite nature of the wireless spectrum. Desired Effect: These investments will reduce manpower requirements for undersea monitoring and improve the efficacy of remote, autonomous sensing platforms.

### 2AC --- AI ASW k Detection

#### Integrating AI in ASW is key to underwater detection

Taylor 20. Corey Taylor is a Major in the Canadian Armed Forces and a candidate attending the Canadian Forces College; “Appetite for Creative Destruction – Machine Learning for Acoustic Sensor Operation in Anti-Submarine Warfare”; May 6, 2020; Canadian Forces College; <https://www.cfc.forces.gc.ca/259/290/22/286/taylor.pdf> //BY

In games, we saw that "thinking machines are capable of original thought," sometimes coming up with novel strategies to solve problems or complete their tasks.' In some approaches, this consists of the system being trained to select moves and at the end of the game evaluating the contribution of each intermediate move to winning or losing the game.148 With the predicted transition away from 'blue water' ASW and toward littoral regions, the "global trend towards smaller, but more lethal fleets" and the significant advancement of capabilities like ASW helicopter dipping SONARs, tactics for cooperative ASW have not been updated in doctrine to reflect these new capabilities.149 While not directly related to the tasks of sensor operators, having ML systems learn how to "play the game" of ASW could allow for optimization of co-ordinated ASW between platforms and the development of novel experimental tactics that humans may never consider.

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### 2AC --- Plan Key (No private devp)

#### No private sector development --- means the plan is key

Pfau ‘21

(Lieutenant Andrew Pfau, USN, is a submariner serving as an instructor at the U.S. Naval Academy. He is a graduate of the Naval Postgraduate School and a recipient of the Rear Admiral Grace Murray Hopper Computer Science Award, “A ROADMAP TO SUCCESSFUL SONAR AI,” pg online @ <https://cimsec.org/tag/asw/> //um-ef)

Passive sonar, unlike technologies such as radar or LIDAR, lacks the dual use appeal that would spur high levels of private sector investment. While radar systems are used across the military and private sector for ground, naval, air, and space platforms, and active sonar has lucrative applications in the oil and gas industry, passive sonar is used almost exclusively by naval assets. This lack of incentive to invest in ML technologies related to sonar systems epitomizes the gap referred to by the NSC AI report. Recently, NORTHCOM has tested AI/ML systems to search through radar data for targets, a project that has received interest and participation from all 11 combatant commands and the DoD as a whole.3 Due to its niche uses, however, passive sonar ML systems cannot match this level of department wide investment and so demands strong advocacy within the Navy.

### 2AC/1AR --- Bad Data kills AI

#### Bad data makes AI ineffective --- must have effective data for effective ML

Hao ‘21

(Karen, “Error-riddled data sets are warping our sense of how good AI really is,” pg online @ <https://www.technologyreview.com/2021/04/01/1021619/ai-data-errors-warp-machine-learning-progress/> //um-ef)

The 10 most cited AI data sets are riddled with label errors, according to a new study out of MIT, and it’s distorting our understanding of the field’s progress. Data backbone: Data sets are the backbone of AI research, but some are more critical than others. There are a core set of them that researchers use to evaluate machine-learning models as a way to track how AI capabilities are advancing over time. One of the best-known is the canonical image-recognition data set ImageNet, which kicked off the modern AI revolution. There’s also MNIST, which compiles images of handwritten numbers between 0 and 9. Other data sets test models trained to recognize audio, text, and hand drawings. Yes, but: In recent years, studies have found that these data sets can contain serious flaws. ImageNet, for example, contains racist and sexist labels as well as photos of people’s faces obtained without consent. The latest study now looks at another problem: many of the labels are just flat-out wrong. A mushroom is labeled a spoon, a frog is labeled a cat, and a high note from Ariana Grande is labeled a whistle. The ImageNet test set has an estimated label error rate of 5.8%. Meanwhile, the test set for QuickDraw, a compilation of hand drawings, has an estimated error rate of 10.1%. How was it measured? Each of the 10 data sets used for evaluating models has a corresponding data set used for training them. The researchers, MIT graduate students Curtis G. Northcutt and Anish Athalye and alum Jonas Mueller, used the training data sets to develop a machine-learning model and then used it to predict the labels in the testing data. If the model disagreed with the original label, the data point was flagged up for manual review. Five human reviewers on Amazon Mechanical Turk were asked to vote on which label—the model’s or the original—they thought was correct. If the majority of the human reviewers agreed with the model, the original label was tallied as an error and then corrected. Does this matter? Yes. The researchers looked at 34 models whose performance had previously been measured against the ImageNet test set. Then they remeasured each model against the roughly 1,500 examples where the data labels were found to be wrong. They found that the models that didn’t perform so well on the original incorrect labels were some of the best performers after the labels were corrected. In particular, the simpler models seemed to fare better on the corrected data than the more complicated models that are used by tech giants like Google for image recognition and assumed to be the best in the field. In other words, we may have an inflated sense of how great these complicated models are because of flawed testing data. Now what? Northcutt encourages the AI field to create cleaner data sets for evaluating models and tracking the field’s progress. He also recommends that researchers improve their data hygiene when working with their own data. Otherwise, he says, “if you have a noisy data set and a bunch of models you’re trying out, and you’re going to deploy them in the real world,” you could end up selecting the wrong model. To this end, he open-sourced the code he used in his study for correcting label errors, which he says is already in use at a few major tech companies.

### 2AC --- Continuous ups/data key

#### And, continuous updates to the dataset to build and expand the model are key

Pfau ‘21

(Lieutenant Andrew Pfau, USN, is a submariner serving as an instructor at the U.S. Naval Academy. He is a graduate of the Naval Postgraduate School and a recipient of the Rear Admiral Grace Murray Hopper Computer Science Award, “A ROADMAP TO SUCCESSFUL SONAR AI,” pg online @ <https://cimsec.org/tag/asw/> //um-ef)

To build a great ML system, the models will have to be updated. New data will be collected and added to the training dataset to re-train the model so that it stays relevant. In these models, only certain model parameters are updated, not the design or structure of the model. These updates, like any other digital file can be measured in bytes. An important question for system designers to consider is how these updates will be distributed to fleet units and how often. One established model for this is the Acoustic- Rapid COTS Insertion (ARCI) program used in the US Navy’s Submarine Force. In the ARCI program, new hardware and software for sonar and fire control is built, tested, and deployed on a regular, two-year cycle.7 But two years may be too infrequent for ML systems that are capable of incorporating new data and models rapidly. The software industry employs a system of continuous deployment, in which engineers can push the latest model updates to their cloud-based systems instantly. This may work for some fleet units that have the network bandwidth to support over the air updates or that can return to base for physical transfer. Recognizing this gap, the Navy is currently seeking a system that can simultaneously refuel and transfer data, up to 2 terabytes, from a USV.8 This research proposal highlights the large volume of data will need to be moved, both on and off unmanned vessels. Other units, particularly submarines and UUVs, have far less communications bandwidth. If over-the-air updates to submarines or UUVs are desired, then more restrictions will be placed on model sizes to accommodate limited bandwidth. If models cannot be made small enough, updates will have to be brought to a unit in port and updated from a hard drive or other physical device. Creating a good system for when and how to update these models will drive other system requirements. Engineers will need these requirements, such as size limitations on the model, ingestible data type, frequency of updates needed by the fleet, and how new data will be incorporated into model training before they start designing ML systems.

### 2AC --- Data k Warighting/Naval Dom

#### Data key to warfighting and NATO naval supremacy

Tas ‘21

(Rear Admiral Rene Tas, Assistant Chief of Staff for Capabilities at NATO Allied Command Transformation (ACT), interviewed by Simon Mitchell, “Anti-Submarine Warfare,” pg online @ <https://issuu.com/globalmediapartners/docs/nitech_issue_05_jun_2021/s/12587352> //um-ef)

How important is data to future ASW capabilities? A I believe, across NATO, we value the strategic importance of data and we understand that data science is a key enabler to improve our warfighting capability. However, data and data science transcend AI. It starts with data itself. What is the problem to be solved? What data is needed to better understand the problem? How do we obtain it, and how do we share it? We need to answer these questions before we can start with concepts such as machine learning, AI and even algorithmic warfare. It is not just about technology; people, culture, including organizational behaviour, infrastructure and processes, are equally important. And, of course, we need the right policies to make this work. There is no need to explain the importance, and even the growing importance, of the maritime domain. NATO’s supremacy in the maritime domain is a key and enduring strategic objective. Accomplishing this has become more challenging as, on the one hand, our competitors have improved their capabilities, while on the other hand we have not kept pace with our investments in the maritime domain. Hence, we need to strengthen this investment and, where possible, leverage data, including AI, to enable us to – among other things – outthink, overmatch and outfight our adversaries. It will be no surprise that we need a strong Science and Technology (S&T) foundation to achieve this.

## Say Yes

### 2AC --- Say Yes (Narrow Scope)

#### Narrow-scope plan causes allied draw-in and coop --- a NATO agreement is key

Lin-Greenberg ‘20

(Erik Lin-Greenberg is a postdoctoral fellow at the University of Pennsylvania’s Perry World House, “Allies And Artificial Intelligence: Obstacles To Operations And Decision-Making,” pg online @ https://tnsr.org/wp-content/uploads/2020/03/TNSR-Vol-3-Issue-2-Lin-Greenberg.pdf //um-ef)

AT: CP outside of NATO/Bilat CP

To integrate AI into alliance operations, policymakers will need to first establish how they will jointly develop and employ AI capabilities. This entails identifying the types of operations in which allies are willing to use AI-enabled technologies. Some states may only be willing to employ AI military systems in limited areas and eschew using AI for certain tasks. The U.S.-Singapore agreement, for example, stipulates that the two states will focus their AI efforts on humanitarian assistance and disaster relief operations.110 More narrowly scoped agreements that focus on noncombat operations may prove more palatable to policymakers and their domestic publics. These narrow agreements could serve as useful first steps to collaboration, but still yield lessons and best practices applicable across the full range of military operations. Developing data-sharing policies and technical standards may be difficult given the sensitive nature of national security information and the variation in technical standards across alliance member states. Allies, however, have found ways to coordinate cooperation, even in sensitive areas. The United States and its Five Eyes partners — the United Kingdom, Canada, Australia, and New Zealand — have long maintained agreements that govern intelligence collaboration. The 1946 United Kingdom-United States Agreement, for example, established formal rules for sharing signals intelligence — intercepted electronic emissions and communications.111 The agreement spelled out how the states would cooperate on the collection, analysis, and dissemination of signals intelligence, while a technical appendix provided detailed technical and procedural guidance on communications intercept equipment and decryption and translation processes.112 Specifically, the agreement called on states to “make available to the other [states] continuously, currently, and without request, all raw traffic, [communications intelligence] end-product and technical material acquired or produced.”113 Some existing intelligence sharing agreements might allow for the exchange of the sensitive data needed to train and operate AI systems. When existing agreements are not in place or do not cover the types of data required for AI-enabled warfare, policymakers will need to develop new bilateral or multilateral agreements that enable interoperability and data sharing. These agreements and the procedures used to implement them will likely vary depending on the states involved and the degree and purpose of cooperation. In some cases, cooperation may be narrowly scoped to limited data sharing in support of a specific operation. In other cases, agreements may be far broader and cover issues related to research and development, interoperability, and extensive data sharing. Even when formalized agreements establish the processes and institutions that enable AI cooperation between states, many leaders may remain hesitant to share the sensitive data that underpins AI development and operations. Information-sharing arrangements are plagued by commitment problems as states can back out of their agreements to exchange data if they fear that data will be leaked or their capabilities and shortcomings will be revealed.114 This might be particularly true in ad hoc coalitions or larger alliances, where relationships between member states may be weaker. Recent technological advances, however, may help overcome these commitment problems by convincing member states that their data will remain secure even when shared. In particular, developments in the field of cryptology allow states to share data with partners for use in AI systems, while hiding the exact content of input data. Secure multiparty computation, for example, is a privacy-preserving technique in which AI algorithms perform their computations using an input that remains secret, but provide an output that is public to all authorized users.115 Secure multiparty computation has been increasingly used in the medical and financial sectors where analysts seek to assess trends but need to protect individual-level health and fiscal data to avoid violating privacy regulations.116 This and other privacy preserving approaches could be applied to a range of AI-enabled alliance military tasks, such as the classification of objects in satellite and reconnaissance imagery. Member states might feed sensitive intelligence data into a secure multiparty computation-based system managed by an alliance’s intelligence fusion center, which would then return information about potential targets, without revealing attributes about each state’s intelligence inputs.

### AT: Say No/Allies Backlash

#### And, the plan requires a *FORMAL AGREEMENT* for data sharing and technical standards within NATO --- it’s the only way to harmonize and generate usable data and get allies to agree

Lin-Greenberg ‘20

(Erik Lin-Greenberg is a postdoctoral fellow at the University of Pennsylvania’s Perry World House, “Allies And Artificial Intelligence: Obstacles To Operations And Decision-Making,” pg online @ https://tnsr.org/wp-content/uploads/2020/03/TNSR-Vol-3-Issue-2-Lin-Greenberg.pdf //um-ef)

To ensure alliances and coalitions are able to leverage AI technologies during their operations, states will need to remove barriers to data sharing and access. One initial step to enabling this type of interoperability is to establish formal agreements that govern the development and use of AI-enabled technologies and associated data. These formal agreements will not only prescribe procedures for collaboration, but help assuage fears that allies will renege on commitments.108 Agreements that explicitly define the responsibilities and expectations of member states help eliminate vagaries that otherwise allow a state to back out of commitments with partners.109 To integrate AI into alliance operations, policymakers will need to first establish how they will jointly develop and employ AI capabilities. This entails identifying the types of operations in which allies are willing to use AI-enabled technologies. Some states may only be willing to employ AI military systems in limited areas and eschew using AI for certain tasks. The U.S.-Singapore agreement, for example, stipulates that the two states will focus their AI efforts on humanitarian assistance and disaster relief operations.110 More narrowly scoped agreements that focus on noncombat operations may prove more palatable to policymakers and their domestic publics. These narrow agreements could serve as useful first steps to collaboration, but still yield lessons and best practices applicable across the full range of military operations. Developing data-sharing policies and technical standards may be difficult given the sensitive nature of national security information and the variation in technical standards across alliance member states. Allies, however, have found ways to coordinate cooperation, even in sensitive areas. 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To successfully integrate AI and share data, however, partners will also need to establish technical standards to ensure data is stored and formatted in ways that make it easily accessible to and usable by various alliance members. In designing these agreements, alliance policymakers might draw insights from existing state-level AI guidelines and alliance standardization protocols. The U.S. National Institute for Standards and Technology, for example, released its AI standards in February 2019. The guidance calls for defining data specifications that ensure AI technologies meet “critical objectives for functionality, interoperability, and trustworthiness.”117 In the alliance military context, this might mean ensuring that data associated with geospatial or signals intelligence are formatted and labeled in a common manner and stored on shared alliance networks. Or, it could mean establishing alliance-wide protocols for data security and integrity to minimize the risks of data poisoning. These specifications could be codified in formal arrangements like NATO’s standardization agreements, which provide standards for thousands of systems and processes ranging from aerial refueling equipment to satellite imagery products.118 These standards ensure “doctrine, tactics, and techniques are developed in harmony” to help allies “operate effectively together while optimizing the use of resources.”119 To successfully integrate AI and share data, however, partners will also need to establish technical standards to ensure data is stored and formatted in ways that make it easily accessible to and usable by various alliance members. In designing these agreements, alliance policymakers might draw insights from existing state-level AI guidelines and alliance standardization protocols. 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## UUVs Version

### 1AC/2AC --- USV Solves

#### USV solves – key to second-strike capabilities and other methods are non-starters.

Economist 22 — The Economist, 01-27-2022, "Finding submarines is likely to get easier," Economist, https://www.economist.com/technology-quarterly/2022/01/27/finding-submarines-is-likely-to-get-easier, accessed 7-4-2022 //THS—OLW

Maritime mysteries are not unknown on the ragged western flank of the British Isles, buffeted by cruel seas and bitter winds. But the tiny stranded vessel reported to the coastguard on Tiree, the most westerly island of the Inner Hebrides, in October 2020 was particularly mysterious. It bore no markings, broadcast no identifying signal and carried no running lights.

Once pictures showing its distinctive surfboard shape and solar panelling were put online, though, it was quickly identified as a “Wave Glider”—an uncrewed surface vessel (usv) built by Liquid Robotics, a California company owned by the aerospace giant Boeing. First developed to listen to humpback whales, the vessels’ ability to carry sensors slowly through the seas (they have an ingenious way of turning the rise and fall of waves into forward motion) has seen them put to all sorts of uses by researchers and navies alike; over 500 have been sold to date.

Whales are not the only things they listen to. When contacted about the Wave Glider found in Tiree, and others that have washed up on the coasts of Lewis in the Outer Hebrides, Unst in Shetland and Donegal, Liquid Robotics simply said it would let the owners know. But it is a matter of record that in 2016 Wave Gliders were used to detect and track a Royal Navy submarine in an exercise; and it is past those north-western coasts that Britain’s nuclear armed submarines (ssbns) make their way from their base at Faslane, near Glasgow, to the open ocean.

The idea that submarines loitering in the depths are undetectable is fundamental to modern nuclear deterrence. America, Britain, China, France, India, Israel and Russia act on the basis that though a nuclear-armed adversary could conceivably destroy their land-based forces in a first strike, it could not wipe out their submarines. A submarine at depth cannot be seen from afar—daylight is all but undetectable at depths of more than a couple of hundred metres. Radio waves fare even worse, making underwater radar a non-starter. Sound carries, but the boats can be remarkably silent; the noise made by a modern ssbn is less than a millionth of the racket produced by the first such boats.

That leaves active sonar, which rather than listening for noises made by its quarry emits sounds designed to bounce off them. This lets an adversary locate a submerged submarine precisely enough to attack it. But it is limited in its range, and by the ways sounds are distorted and dissipated by changes in pressure, temperature and salinity.

This is all taken to mean that weapons on ssbns can be relied on for retaliation if a first strike devastates everything else. That guaranteed capability to respond is held to keep deterrence stable.

From surfboards to Red October

America’s most recent review of nuclear policy concluded that “There are no known, near-term credible threats to the survivability of the ssbn force.” But what is near-term, and for that matter credible, is a matter of opinion. In 2020 a panel of experts assembled by the National Security College of the Australian National University concluded that, “The oceans are, in most circumstances, at least likely…to become transparent by the 2050s.” Trends making it harder to hide above the waves—more numerous and more capable sensors and more powerful ways of sifting through their output—are at play underwater, too.

To put a submarine at risk you must first detect it, then track it. Since the 1980s America and its allies have relied on the hydrophone arrays of the Fixed Distributed System (fds) for such detection. The sensors, tethered to the sea floor, float at a “critical depth” where acoustical geometry shields them from extraneous noise and makes the faint sounds of a submarine passing overhead stand out. America now has fds systems in both the Atlantic and the Pacific, with ships, submarines and aircraft available to set about tracking anything they detect.

Owen Cote, a submarine expert at mit, says that such listening arrays remain, for now, the only truly effective method of detecting a very quiet submarine. Their drawback is that, being quite short range, they cannot cover whole ocean basins. They just cover choke points, such as the gaps between Greenland and Iceland and Iceland and Britain, or the entrances to the Philippine Sea.

### 1AC/2AC --- UUVs Solvency Advocate

#### General AI Coop

Boyd ‘21

(Rylee, THO Contributor, “Nato’s Drones, Unmanned Systems, And Artificial Intelligence,”, Turkish Heritage Organization, pg online @ <https://www.turkheritage.org/en/publications/analysis-by-tho-contributors-and-liaisons/natos-drones-unmanned-systems-and-artificial-intelligence-10487> //um-ef)

Unmanned Systems Current NATO policy on drones has improved in recent years, but it is still lacking to keep up with swift technological and military advances. NATO is also working to further develop unmanned vehicles and systems through its maritime unmanned systems initiative, adjacent unmanned underwater vehicle efforts, and the NATO Allied Ground Surveillance System. Unmanned systems will continue to increase in importance, as more countries pursue such efforts. Turkey recently tested an unmanned anti-submarine warfare vessel, highlighting the push towards unmanned systems across domains. Estonia has also been testing an autonomous counter unmanned aerial system. While these developments from NATO alliance members can provide helpful expertise and experience for NATO, Russia has been testing unmanned ground vehicles (UGV) making clear the need to always be adapting in response to new developments in tech and unmanned systems. The recent NATO summit and the NATO 2030 Agenda highlighted the need to continue to preserve its technological edge. Artificial Intelligence For NATO to preserve its technological edge in this field, the rapid evolution of technology and especially autonomous technologies will have an impact on the use of drones and drone proliferation that needs to be addressed. Future drones have the potential to be fully automated, be programmed to execute auto-auction, as well as enhanced intelligent piloting models. Yet full and even partial automation through artificial intelligence poses many risks. AI drones use facial-recognition technology, which can easily go wrong. Further, AI technology can harbor biases or behave unpredictably. It is also likely that drones will be adopted much more for use outside of military and security reasons, as they have the potential to be used in emergency preparedness and response. While integrating AI into drone systems does pose many benefits such as real-time data, improving human operation, and more, it poses much more problematic risks. Yet as countries have already begun to incorporate AI into their drones, NATO needs to be prepared to incorporate AI into military preparedness, particularly drones, while also doing so responsibly and fully aware of the risks. Counter-unmanned aerial systems efforts are also important because they can have the ability to detect and/or intercept drones. This is essential, because while NATO has been pursuing a dedicated C-UAS effort since 2019\*, which is led by a specific new working group, this effort still lacks the funding and dedication needed to keep up with the ever changing and challenging drone market. NATO should prioritize C-UAS developments, which currently lag far behind UAS developments. Future C-UAS solutions will also need to account for further autonomous decision-making approaches, which will require stronger cooperation at every level of NATO to counter the threat of drones. Stronger technical cooperation between NATO member states is especially important given the risk many of its Eastern European members are to face the most immediate threats from gray zone or conventional conflicts. NATO should configure a special working group on how AI will affect drone development and C-UAS systems. It should then serve as the leader in pushing for C-UAS systems for all its members, encouraging technical cooperation and sharing especially from countries like the U.S. that have poured money into C-UAS developments.

#### NATO needs to ramp-up its AI investment and tech development

Boyd ‘21

(Rylee, THO Contributor, “Nato’s Drones, Unmanned Systems, And Artificial Intelligence,”, Turkish Heritage Organization, pg online @ <https://www.turkheritage.org/en/publications/analysis-by-tho-contributors-and-liaisons/natos-drones-unmanned-systems-and-artificial-intelligence-10487> //um-ef)

In order to keep up with AI and drone developments, NATO needs to continue identifying the risks of armed drones programmed with artificial intelligence. Especially as states like China work to weaponize artificial intelligence, NATO needs to preserve its technological edge through a greater focus on AI. While certain member states like the U.S. and France, both of whom have published military AI strategies, are working to advance innovations in artificial intelligence, NATO as a whole still lags far behind China. NATO should continue to prioritize utilizing its tech center to facilitate research and funding on military AI, especially how greater AI developments will affect drone developments. The 21st century has set the stage for rapid technological developments that have the power to impact conflict and security around the world, therefore; NATO will need to make preserving its technological edge when it comes to AI and drones a top priority.

### 1AC/2AC --- UUVs Solvency

#### NATO needs to prioritize UUVs and AI for subs

Boyd ‘21

(Rylee, THO Contributor, “Nato’s Drones, Unmanned Systems, And Artificial Intelligence,”, Turkish Heritage Organization, pg online @ <https://www.turkheritage.org/en/publications/analysis-by-tho-contributors-and-liaisons/natos-drones-unmanned-systems-and-artificial-intelligence-10487> //um-ef)

Looking to the Future

Drones, unmanned systems, and artificial intelligence have all been at the forefront of discussions on technology and security around the world. Yet all of these developments require large levels of funding and strong industrial and defense bases in order to continue their production and advancements. And keeping up with the development of adversaries on unmanned submarines, aircrafts and ships is simply not economically viable. NATO already struggles with financing issues, with discussions about individual nation-state spending commitments frequently rehashed with no solid conclusion in sight. Prioritization will have to be the key going forward. NATO will need to decide which technological developments to prioritize over the others when it comes to funding, and it should also work to convince alliance members to increase their funding of such important operations like drones, unmanned systems, and artificial intelligence.

The future of robotic warfare, unmanned systems, and drones will be characterized by increasing technological advancements across the board, most presently including the incorporation of developments in AI. The new NATO AI strategy that has just been released makes clear that NATO knows that AI has the ability to significantly escalate and change threats and threat perception. Debates over weapons and systems characterized by increasing autonomy will continue to be at the forefront of thinking. NATO should continue to work across the board to continue its recent focus on preserving its technological edge through greater cooperation between allies, and a stronger look at newer technologies that have the possibility to significantly affect security and defense. This will also require NATO to prioritize the funding of such developments and investments. A strong funding base is needed to keep up with the technological developments of the 21st century, both within NATO and across all the alliance members.

### 2AC --- Now Key (UUVs)

#### Now is key --- NATO cant afford to fall behind

Cropsey et al ‘20

(Bryan Clark, Senior Fellow and Director, Center for Defense Concepts and Technology, Seth Cropsey, Former Senior Fellow & Director, Center for American Seapower & Timothy A. Walton, Senior Fellow, Center for Defense Concepts and Technology, “Sustaining the Undersea Advantage: Transforming Anti-Submarine Warfare Using Autonomous Systems,” pg online @ <https://www.hudson.org/research/16347-sustaining-the-undersea-advantage-transforming-anti-submarine-warfare-using-autonomous-systems> //um-ef)

A Closing Window for Transition US and allied militaries should begin the shift now to unmanned-centric ASW concepts and increase their investment in unmanned ASW sensors and platforms. These and other technologies described in this report are mature and are being used by US or allied navies, or they are rapidly reaching maturity and can help create a force that is much more affordable, scalable, and effective. However, the United States and its allies face a short window of opportunity. There is a risk that rising procurement and O&S costs for the current manned ASW portfolio and flat or declining budgets will prevent the adoption of new ASW concepts or investment in new unmanned systems. If US and allied navies fail to act during the next several years, they could lose their undersea advantage to surging fleets of adversary submarines.

## ASW Warfare Mechanics

### 1AC/2AC --- Uniq Subs = Cold War Now

#### Subtech is ushering in the next cold war – tech upgrades are key to continued deterrence, otherwise cable cutting and miscalculation

Schmitt 16 – Eric Schmitt is a senior correspondent covering national security for The New York Times. Since 2007, he has reported on national security and terrorism issues with assignments to West Africa, the Middle East, Pakistan, Afghanistan and Southeast Asia. He is the co-author, with Thom Shanker, of “Counterstrike: The Untold Story of America’s Secret Campaign Against Al Qaeda,” published in 2011.. (Eric Schmitt, "Russia Bolsters Its Submarine Fleet, and Tensions With U.S. Rise (Published 2016)," New York Times, 4-20-2016, https://www.nytimes.com/2016/04/21/world/europe/russia-bolsters-submarine-fleet-and-tensions-with-us-rise.html, Accessed 7-1-2022, LASA-SC)

Russian attack submarines, the most in two decades, are prowling the coastlines of Scandinavia and Scotland, the Mediterranean Sea and the North Atlantic in what Western military officials say is a significantly increased presence aimed at contesting American and NATO undersea dominance.

Adm. Mark Ferguson, the United States Navy’s top commander in Europe, said last fall that the intensity of Russian submarine patrols had risen by almost 50 percent over the past year, citing public remarks by the Russian Navy chief, Adm. Viktor Chirkov. Analysts say that tempo has not changed since then.

The patrols are the most visible sign of a renewed interest in submarine warfare by President Vladimir V. Putin, whose government has spent billions of dollars for new classes of diesel and nuclear-powered attack submarines that are quieter, better armed and operated by more proficient crews than in the past.

The tensions are part of an expanding rivalry and military buildup, with echoes of the Cold War, between the United States and Russia. Moscow is projecting force not only in the North Atlantic but also in Syria and Ukraine and building up its nuclear arsenal and cyberwarfare capacities in what American military officials say is an attempt to prove its relevance after years of economic decline and retrenchment.

Independent American military analysts see the increased Russian submarine patrols as a legitimate challenge to the United States and NATO. Even short of tensions, there is the possibility of accidents and miscalculations. But whatever the threat, the Pentagon is also using the stepped-up Russian patrols as another argument for bigger budgets for submarines and anti-submarine warfare.

American naval officials say that in the short term, the growing number of Russian submarines, with their ability to shadow Western vessels and European coastlines, will require more ships, planes and subs to monitor them. In the long term, the Defense Department has proposed $8.1 billion over the next five years for “undersea capabilities,” including nine new Virginia-class attack submarines that can carry up to 40 Tomahawk cruise missiles, more than triple the capacity now.

“We’re back to the great powers competition,” Adm. John M. Richardson, the chief of naval operations, said in an interview.

Last week, unarmed Russian warplanes repeatedly buzzed a Navy destroyer in the Baltic Sea and at one point came within 30 feet of the warship, American officials said. Last year some of Russia’s new diesel submarines launched four cruise missiles at targets in Syria.

Mr. Putin’s military modernization program also includes new intercontinental ballistic missiles as well as aircraft, tanks and air defense systems.

To be sure, there is hardly parity between the Russian and American submarine fleets. Russia has about 45 attack submarines — about two dozen are nuclear-powered and 20 are diesel — which are designed to sink other submarines or ships, collect intelligence and conduct patrols. But Western naval analysts say that only about half of those are able to deploy at any given time. Most stay closer to home and maintain an operational tempo far below a Cold War peak.

The United States has 53 attack submarines, all nuclear-powered, as well as four other nuclear-powered submarines that carry cruise missiles and Special Operations forces. At any given time, roughly a third of America’s attack submarines are at sea, either on patrols or training, with the others undergoing maintenance. American Navy officials and Western analysts say that American attack submarines, which are made for speed, endurance and stealth to deploy far from American shores, remain superior to their Russian counterparts.

The Pentagon is also developing sophisticated technology to monitor encrypted communications from Russian submarines and new kinds of remotely controlled or autonomous vessels. Members of the NATO alliance, including Britain, Germany and Norway, are at the same time buying or considering buying new submarines in response to the Kremlin’s projection of force in the Baltic and Arctic.

But Moscow’s recently revised national security and maritime strategies emphasize the need for Russian maritime forces to project power and to have access to the broader Atlantic Ocean as well as the Arctic.

Russian submarines and spy ships now operate near the vital undersea cables that carry almost all global Internet communications, raising concerns among some American military and intelligence officials that the Russians could attack those lines in times of tension or conflict. Russia is also building an undersea unmanned drone capable of carrying a small, tactical nuclear weapon to use against harbors or coastal areas, American military and intelligence analysts said.

And, like the United States, Russia operates larger nuclear-powered submarines that carry long-range nuclear missiles and spend months at a time hiding in the depths of the ocean. Those submarines, although lethal, do not patrol like the attack submarines do, and do not pose the same degree of concern to American Naval officials.

Analysts say that Moscow’s continued investment in attack submarines is in contrast to the quality of many of Russia’s land and air forces that frayed in the post-Cold War era.

“In the Russian naval structure, submarines are the crown jewels for naval combat power,” said Magnus Nordenman, director of the Atlantic Council’s trans-Atlantic security initiative in Washington. “The U.S. and NATO haven’t focused on anti-submarine operations lately, and they’ve let that skill deteriorate.”

That has allowed for a rapid Russian resurgence, Western and American officials say, partly in response to what they say is Russia’s fear of being hemmed in.

“I don’t think many people understand the visceral way Russia views NATO and the European Union as an existential threat,” Admiral Ferguson said in an interview.

In Naples, at the headquarters of the United States Navy’s European operations, including the Sixth Fleet, commanders for the first time in decades are having to closely monitor Russian submarine movements through the maritime choke points separating Greenland, Iceland and the United Kingdom, the G.I.U.K. Gap, which during the Cold War were crucial to the defense of Europe.

That stretch of ocean, hundreds of miles wide, represented the line that Soviet naval forces would have had to cross to reach the Atlantic and to stop United States forces heading across the sea to reinforce America’s European allies in time of conflict.

American anti-submarine aircraft were stationed for decades at the Naval Air Station Keflavik in Iceland — in the middle of the gap — but they withdrew in 2006, years after the Cold War. The Navy after that relied on P-3 sub-hunter planes rotating periodically through the base.

Now, the Navy is poised to spend about $20 million to upgrade hangars and support sites at Keflavik to handle its new, more advanced P-8A Poseidon maritime patrol aircraft. That money is part of the Pentagon’s new $3.4 billion European Reassurance Initiative, a quadrupling of funds from last year to deploy heavy weapons, armored vehicles and other equipment to NATO countries in Central and Eastern Europe, to deter Russian aggression.

Navy officials express concern that more Russian submarine patrols will push out beyond the Atlantic into the Mediterranean and the Black Sea. Russia has one Mediterranean port now, in Tartus, Syria, but Navy officials here say Moscow wants to establish others, perhaps in Cyprus, Egypt or even Libya.

“If you have a Russian nuclear attack submarine wandering around the Med, you want to track it,” said Dmitry Gorenburg, a Russian military specialist at the Center for Naval Analyses in Washington.

This month, the Defense Advanced Research Projects Agency christened a 132-foot prototype drone sea craft packed with sensors, the Sea Hunter, which is made with the intention of hunting autonomously for submarines and mines for up to three months at a time.

The allies are also holding half a dozen anti-submarine exercises this year, including a large drill scheduled later this spring called Dynamic Mongoose in the North Sea. The exercise is to include warships and submarines from Britain, France, Germany, the Netherlands, Norway, Poland and the United States.

“We are not quite back in a Cold War,” said James G. Stavridis, a retired admiral and the former supreme allied commander of NATO, who is now dean of the Fletcher School of Law and Diplomacy at Tufts University. “But I sure can see one from where we are standing.”

### 1AC --- Tech Edge/NATO ASW Key

#### We are in the underwater war now---maintaining the technological edge through cohesive NATO ASW policy ensures Russian deterrence --- Russia is revisionist and will attack NATO if they have the edge---US cooperation is key for interoperability and info-sharing

---Atlantic

---Arctic

---Black Sea

---Mediterranean

Foggo and Fritz 16 — Vice Admiral James Foggo III, U.S. Navy, and Alarik Fritz The Fourth Battle of the Atlantic," U.S. Naval Institute, June 2016, Vol. 142/6/1,360 https://www.usni.org/magazines/proceedings/2016/june/fourth-battle-atlantic, accessed 7-1-2022, WMK

One hundred and one years ago, a great power released a new weapon on the world. They allowed it to sidestep its adversaries’ military advantages and deal them a near-~~crippling~~ blow. Those weapons, the U-boats of the German Empire, used new technologies to blockade the British Isles and sink millions of tons of Allied shipping. Eventually, the Royal Navy prevailed, but the outcome of that battle was never a foregone conclusion. It took the development of an array of new antisubmarine technologies and tactics, as well as a massive mobilization of resources, that enabled the Allies to win this “First Battle of the Atlantic.”

Seventy-six years ago, the Second Battle of the Atlantic began. Again, German U-boats threatened the Allies, this time with new tactics and technologies based on experiences in the previous war. The Germans had learned how to overcome the antisubmarine warfare (ASW) advantages of the Allies, and only by again bringing new technologies, tactics, and resources to bear did the Allies prevail.

During the Cold War, our ASW forces engaged in a constant cat-and-mouse game with the Soviet Union’s submarines. Nuclear power, ballistic and cruise missiles, and quieter systems empowered Soviet submarines in troubling ways. To respond, the United States and its allies were forced to build greater and more effective ASW forces and continually refine their own ASW technologies and doctrine to counter the Soviets. In the shadow of nuclear deterrence, the stakes of this competition were as high as could be imagined. This was the Third Battle of the Atlantic, and, although it was not a shooting war, it showed once again that a responsive, adaptive, and forward-deployed ASW force is necessary to deter aggression against our nation and its allies.1

In the early 1990s, the end of the Cold War, the collapse of the Soviet Union, and commentary such as Francis Fukuyama’s landmark essay “The End of History?” led us to believe that our strategic rivalry with Russia and our need to stay one step ahead of Russian capabilities had faded. It has not. Once again, an effective, skilled, and technologically advanced Russian submarine force is challenging us. Russian submarines are prowling the Atlantic, testing our defenses, confronting our command of the seas, and preparing the complex underwater battlespace to give them an edge in any future conflict. Vice Admiral Clive Johnstone, Royal Navy, the head of NATO’s maritime forces, noted recently that his forces report “more activity from Russian submarines than we’ve seen since the days of the Cold War.”2 Some analysts believe that even our underwater infrastructure—such as oil rigs and telecommunications cables—may be under threat by these new and advanced forces. Russian focus, investment, and activity in the undersea domain are now so unmistakable that even the head of the Russian Navy, Viktor Chirkov, has admitted that Russian submarine patrols have grown 50 percent since 2013.3

Despite the economic crisis in Russia, rubles continue to flow into the development of Russian submarine technology and the growth of that force. The father of the modern Russian submarine force, the brilliant and highly decorated design engineer Igor Spassky, admits Russian submarine forces are expanding and advancing, and that they will be a key part of the country’s arsenal for the foreseeable future.4

By 2020, the Russian Black Sea Fleet alone will receive the equivalent of $2.4 billion of investment.5 And these are not the submarines we faced during the Cold War. There may be fewer of them, but they are much stealthier, carry more devastating weaponry, and go on more frequent and longer deployments than before. The submarines of the Russian Federation are one of the most difficult threats the United States has faced. This threat is significant, and it is only growing in complexity and capacity.

Russia’s New Approach

Not only have Russia’s actions and capabilities increased in alarming and confrontational ways, its national-security policy is aimed at challenging the United States and its NATO allies and partners. For example, the new Russian national security-strategy depicts the United States and NATO as threats to Russian security and accuses us of applying “political, economic, military, and information-related pressure” on Russia.6 Thus, not only is Russia pursuing advanced military capabilities (especially in the underwater domain) that enable it to be a credible threat to us, it is now boldly saying that it intends to act as one.

An enduring objective of Russian foreign policy today is to challenge NATO and elevate Russia on the European stage once again.7 Building on the national strategy, the new Russian maritime doctrine reorients its naval forces in a calculated and determined way. By confronting NATO at will, Russia confirms its status as a great power in the 21st century. The new maritime doctrine tells us that Russia will counter our existing ASW technologies; challenge U.S. and NATO’s maritime presence in the Atlantic as well as the Baltic, Black, and Mediterranean seas; and expand Russian permanent presence in the Arctic and Mediterranean.8

Furthermore, Russia is rapidly closing the technological gap with the United States. It has created an advanced military designed to overcome our advantages and exploit our weaknesses—this is the epitome of asymmetric warfare. Nowhere is this more evident than in the maritime (and especially underwater) domain. Russia rapidly is building and deploying more advanced and significantly quieter attack submarines and frigates armed with the long-range Kalibr cruise missile (including six new Kilo-class diesel-electric attack submarines destined for the Black Sea).9 Not coincidentally, these are the platforms that are the most challenging for us to deal with because of their inherent stealth. As demonstrated last December by Kalibr launches into Syria from the Eastern Mediterranean, Russian leaders will use such weapons at will, without the same qualms we have about collateral damage. The clear advantage that we enjoyed in antisubmarine warfare during the Cold War is waning.10 Russian submarines are more capable than before, and so we are again in a technological arms race with Russia.11

Russia is claiming maritime battlespace across Europe and deploying forces outside Russian borders. An interlocking system of Russian coastal missiles, interceptor aircraft, air-defense systems, surface ships, and submarines now threatens all maritime forces in the Baltic, as well as our NATO allies in Lithuania, Estonia, and Latvia—who no longer control even their own coastlines unless Russian leaders allow them to do so. A similar anti-access/area-denial (A2/AD) “fortress” was constructed in the Black Sea after Russian forces invaded Ukraine and seized Crimea. Russian forces deployed to Syria are growing steadily, and Russia has constructed military bases in the Arctic, militarizing and claiming large swaths of it, in contravention of customary international law.12 In this way, Russia has blunted our power-projection capabilities through A2/AD and extended its influence far beyond its borders.

Russia now employs an “arc of steel” from the Arctic through the Baltic and down to the Black Sea.13 Combined with extensive and frequent submarine patrols throughout the North Atlantic and Norwegian Sea, and forward-deployed forces in Syria, Russia has the capability to hold nearly all NATO maritime forces at risk. No longer is the maritime space uncontested. For the first time in almost 30 years, Russia is a significant and aggressive maritime power.

In his extensive academic research on naval innovation, Owen R. Cote, Jr., of the Massachusetts Institute of Technology’s Strategic Studies Program has long warned of a potential “fourth battle” for control of the undersea domain.14 It is now clear that a fourth battle is not looming, but is being waged now, across and underneath the oceans and seas that border Europe. This is not a kinetic fight. It is a struggle between Russian forces that probe for weakness, and U.S. and NATO ASW forces that protect and deter. Just like in the Cold War, the stakes are high.

Winning the Fourth Battle Today

With our allies and partners in NATO and across the globe, we present a broad and united front against any potential Russian threats. Our maritime partnerships yield a global network of navies that together form the greatest maritime force for peace ever known. NATO exercises demonstrate our unity superbly. For example, on 7 June 2015, 17 nations, with 49 ships, more than 60 aircraft, and a vast array of ground forces, demonstrated their abilities to operate together to defend the Baltic region in BALTOPS. This exercise, in its 43rd year, made it clear that the United States, NATO, and partner nations have an unwavering commitment to protect themselves by acting in concert. Similarly, Sea Breeze 2015 sent a clear signal to Russia that the United States and its allies will not back down in the Black Sea region. Eighteen ships from 11 nations (Bulgaria, Germany, Greece, Italy, Moldova, Romania, Sweden, Turkey, Ukraine, the United Kingdom, and the United States) demonstrated the will and ability to operate together to achieve maritime security and conduct air defense and antisubmarine warfare in the Black Sea.

A variety of policy and resource shifts have been enacted that signal our resolve to Russia. For example, the U.S. Navy’s revised Cooperative Strategy for 21st Century Seapower notes the critical importance of all-domain access and deterrence. The Chief of Naval Operations’ recent Design for Maintaining Maritime Superiority puts the Navy on a clear path to adapt to the new global security environment.15 But we must act now to implement such guidance before Russia provokes again. To do so, we must engage and conduct operations forward more deliberately, more strategically, and with more forethought—and in ways that encourage responsible behavior by Russia while still deterring Russian belligerence.

From a diplomatic perspective, we can find areas of common interest. One of the most obvious examples is maintaining safety at sea. Despite the recent aggressive “buzzing” of the USS Donald Cook (DDG-75) in the Baltic by a Russian Su-24, the incidents-at-sea (INCSEA) agreements with Russia remain a heartening example of how we can still cooperate with Russia despite its leadership’s adventurism. We also share a desire to defeat violent extremist organizations such as ISIS. We must be prepared to work with Russian leaders if they want to collaborate responsibly on these or other issues of mutual interest. To do so, we can and should meet with our Russian counterparts when possible and prudent. Track-two diplomatic efforts, international symposiums, and other forums that provide such opportunities should also be encouraged.

Of course, diplomacy alone is unlikely to be sufficient. To encourage responsible behavior by Russia we must engage from a position of strength, not weakness. Improving our current force posture in Europe will demonstrate our strength and thereby deter Russia from further adventurism. The first step in improving our force posture is to leverage allied navies to enhance our maritime security. We must work directly with our NATO partners to help them develop the capabilities and capacity to operate seamlessly together and with the United States, respond to contingencies, and protect key maritime infrastructure. Through combined exercises and maritime presence, a network of navies in Europe and across the globe can face Russia from a position of strength and ensure continued peace. Our part in supporting these efforts has been clearly outlined by CNO Admiral John Richardson: We must “prioritize key international partnerships through information sharing, interoperability initiatives, and combined operations [and] explore new opportunities for combined forward operations.”16 The old saying “a house divided cannot stand” is more true now than it has been in many years. To preserve peace, we must unite to deter Russian aggression.

We also should reassess our own global force deployments and exercises. Additional submarines, ASW forces, carrier strike groups, and other assets should be rotated through Europe and used to show Russia that we can bring overwhelming force to bear if need be. We should increase our ASW exercises with our NATO allies, in both the Atlantic, Mediterranean, and elsewhere, to demonstrate that NATO can track Russian submarines at will, no matter where they are.

Finally, we must not lose our technological edge. More than perhaps any other warfare area, ASW requires us to stay one step ahead of Russian technologies. In the world wars, the Allies prevailed over German U-boats not by force alone, but by innovation. In the Cold War, the rise of nuclear-powered Soviet submarines required us to develop new acoustic and other technologies. Today, we are once again in a technological arms race with Russia. We must maintain an innovative edge and rapidly field new technologies if we are to prevail.17

At this time in history we would do well to remind ourselves it is better to prevent wars than to fight them. The U.S. Navy, through forward presence, power projection, and technological advantage, is the epitome of demonstrating resolve and capability in the service of war prevention. In today’s world, wars can only be truly prevented in partnership and cooperation with other nations. The stronger and more resolute we and our allies and partners are together, the less likely that war will occur. And therein lies the true strength of the U.S. Navy—it is not simply by maintaining our technological edge and our readiness to impose unacceptable costs on Russia should the need arise. What makes ours the world’s greatest and most effective navy is the fact that we act in concert with our NATO allies and partners. It is only in this way that we, and all like-minded allies and partners, maintain peace—by unmistakably and constantly deterring Russian aggression.

### Uniq --- Sub Ops Now

#### Submarine operations are expanding now, but NATO is incapable of responding – increasing artificial intelligence security under the sea is necessary to prevent cataclysmic destruction.

Hilton 20 – Roger Hilton works as a Defence and Security Fellow and the host of the GLOBSEC Wire, a bi-weekly show examining global affairs and its impact on Central and Eastern Europe. His research focus is concentrated on transatlantic and European defence with an emphasis on climate security as well as the nexus between new technologies and conflict. (Roger Hilton., "Engaging Silent Enemies: NATO’s Anti-submarine Warfare Challenge," GLOBSEC, 7-7-2020, https://www.globsec.org/2020/07/07/engaging-silent-enemies-natos-anti-submarine-warfare-challenge/, Accessed 6-21-2022, LASA-SC)

In the classic film The Hunt for Red October, Soviet Admiral Ramius addresses his crew prior to diving and declares, “They (the West) will tremble again at the sound of our silence”. The essence of the quote could not be more timely with NATO kicking off Exercise DYNAMIC MONGOOSE, its advanced anti-submarine warfare (ASW) and anti-surface exercise in the High North. While exercises do not receive the glory that political summits do, the need for NATO to test its ASW competency is imperative given the current great power competition landscape and integration of advanced technological weapons systems into current military doctrine.

ASW is without a doubt one of the most difficult missions for any national navy or NATO Maritime Command (MARCOM). The scope of an ASW mission is enormous and unforgiving. Enemy submarines are permanently lurking threats that can stealthily travel prolonged distances and carry both conventional and non-conventional missiles capable of hitting targets hundreds of miles away. Consequently, ASW units must always remain elite. The playbook for hunting a submarine in the 21st century calls for a combination of, sonar, lasers, surface ships, and aircraft that is known as “Full Spectrum ASW”.

Sonars using sound waves try to locate and identify objects underwater based on their background signals through calculating a signal-to-noise ratio. This tactic remains the dominant detection method within ASW. When looking for a submarine from a land-based position, lasers act like as rangefinders as well as target designators. The use of lasers in ASW is growing in prominence where powerful LEDS hold much potential to increase detection chances. To engage in sub-killing, a diverse set of surface ships can patrol potential enemy areas, ready to deliver a lethal torpedo to enemy submarines. Like laser detection, torpedoes are also becoming smarter weapons with an expectation that they will be able to hunt submarines on their own through a “fire and forget” approach. To round it all off, eyes in the sky are provided by sub-hunting aeroplanes that can expose adversaries at great altitude through image intensifiers, infrared sensors, and sonobuoys which are dropped into the water to generate sonar pulses to provide a better image of what lies below.

Given the complexity of ASW, the active deployment of robot submarines is no longer science fiction either. Recently, an internal study from the Office of Secretary of Defense in Washington examined the role robot submarines could play. Specifically, the study is looking to free up larger manned submarines for more complex and sensitive missions as well as amplify the Navy’s reconnaissance resources under the sea. It is worth noting in a time of upcoming austere defence budgets due to COVID19, these robot submarines are significantly cheaper than traditional attack submarines.

With the hazards lining this domain, maintaining operational readiness and support for NATO’s multinational submarine safety is a crucial task that cannot be taken lightly. According to Dr Sebastian Bruns, Head of the Center for Maritime Strategy and Security at the Institute for Security Policy at Kiel University, “ASW has been a much-neglected mission in many NATO navies in the era of counter-piracy and anti-terrorism maritime security operations. It is timely that the Alliance exercises this more often than ever. Submarines of third-party states are perhaps the most threatening challenge to the Alliance at sea in the time of great-power competition. Given that the undersea domain is opaque and rather poorly understood, and even more complicated to explore and explain, defence-policy wise, the exercises such as Dynamic Mongoose are vital to training for alliance and national defence. It also serves as a useful reminder that NATO is indeed a maritime, an Atlantic alliance.”

That is why NATO’s MARCOM decision to simulate a multi-threat environment in the northern Atlantic Ocean with naval forces from Canada, France, Germany, Iceland, NATO, Norway, the United Kingdom, and the United States is paramount for the safety of all members. In line with the modern ASW playbook, this year’s exercise will deploy for 5 surface ships, 5 submarines, 5 maritime patrol aircraft that will enable the Alliance to test its response to threats posed by sub-surface forces and demonstrate that the Alliance stands ready to defend all Allies. It builds on NATO’s recently held BALTOPS. Furthermore, joint exercises such as Dynamic Mongoose, enhance NATO’s collective capability to respond swiftly to a variety of operational contingencies in the European theatre as well as globally

Canada’s contribution to Dynamic Mongoose has derived in the form of the HMCS Fredericton a Halifax-class frigate. When not participating in MARCOM exercises, the Fredericton is deployed within NATO’s Standing NATO Maritime Group One, as part of OPERATION REASSURANCE, in support of NATO assurance and deterrence measures in Europe. These exercise efforts continue a proud tradition of Canadian excellency in the ASW domain that dates back to Cold War. Throughout the Cold War, submarine warfare constituted a major strategic priority for the Alliance to defend. The most contested battlespace between the Soviets and NATO was the Greenland-Iceland-United Kingdom (GIUK) Gap. Securing this space for NATO was critical due to the fear of Soviet submarines targeting American convoys reinforcing Europe in the event the conflict escalated.

Today, the threat has remerged and is more comprehensive due to new technologies on next-generation delivery and detection evasion systems. Sweden’s 2014 hunt for a Russian submarine off the coast of Stockholm was one of the earliest indications of this resurgent threat. In August of 2019, Russia held its largest naval exercise in 30 years. Exercise OCEAN SHIELD consisted of vessels from the Northern Fleet, Baltic Fleet and the Black Sea Fleet in the Baltic Sea. More recently and concerning was the failure of the U.S. Navy to track the Severodvinsk, a Project 885 Yasen class Russian guided missile submarine that was stalking the American East Coast during the fall of 2019. When debriefing this failure, it must be noted that the Severodvinsk can carry up to 40 Kalibr land-attack cruise missiles with a range of 2,575km (1600) miles that can be repurposed to be nuclear-tipped. This troubling development led Commander of the U.S. Navy’s 2nd Fleet Vice Admiral Andrew Lewis, to assess that his service no longer considers the East Coast as an “uncontested” area or automatic “safe haven” for American ships and submarines.

The dwindling monopoly in this operational space by Russia against the United States and NATO should not come as a surprise. After a brief period of atrophy during the post-Cold War environment, Russia has ramped up investment as well as research and development in its capabilities. The fictional Admiral Ramius would be supremely envious of the quality of Russia’s Borei-A class submarine. Currently, the Russian Navy has three Project 955 Borei class submarines in active service that represents some of the most advanced submarines in its fleet. Not only are the Project 955 submarines deadly silent and better equipped to avoid radar traps, but they also uniquely able to deliver the new RSM-56 Bulava nuclear-armed submarine-launched ballistic missile.

Consequently, the danger these submarines pose for the Alliance cannot be overestimated. They offer a wide geographical coverage dilemma for NATO and can be sent across strategic locations in the Arctic, Atlantic, and Mediterranean. In addition to their first strike capabilities, they also complement existing Russian Anti-Access and Area Denial (A2AD) capabilities situated in the Baltic through Kaliningrad and Crimea in the Black Sea.

If Russia’s growing technological clout in the submarine warfare domain was not troublesome, their recent “creative” interpretation of the 1936 Montreux Convention confirms their intention to maximize the threat multiplication effect of its submarines. Last April, a Kilo-class Russian submarine transitioned through the Bosporus Strait in direct violation of the Convention according to the Turkish Ministry of Foreign Affairs.

Although the Russian Black Sea Fleet has submarines, it has never received the level of investment compared to the flagship Northern or Pacific Fleets. Despite not possessing any nuclear submarines, the Black Sea Fleet Recently received upgraded Project 636.3 Kilo Class submarines like the Rostov-on-Don. These are armed with Kalibr land-attack cruise missiles akin to the U.S. Navy’s Tomahawk which should be respected from a NATO defence planning standpoint.

Should Russian begin to disregard the longstanding principles of the Montreux Convention, they could conceivably deploy more powerful nuclear submarines to the Black Sea with little fear of having them enclosed there. It would allow them to deploy Black Sea Submarines more frequently to the Mediterranean doubling their strength in both bodies of water and by extension creating a more dynamic situation for NATO MARCOM to address.

Finally, the need for NATO test its ASW capabilities would be incomplete without mentioning China’s growing submarine prowess. In late-April, two newly upgraded nuclear-powered strategic submarines went into service in China to coincide with the 71st anniversary of the navy. The vessels are revamped versions of the Type 094, or Jin-class, nuclear-powered ballistic missile submarines (SSBN). Typically, the Type 094 can deploy 16 JL-2 ballistic missiles, which carry a range of about 7,000km (4,350 miles). While Beijing continues to reply on the Type 094 as well as the Typo 095, they are already hard at work on its successor. The Type 096 will carry 25 JL-3s, which are purported to possess an estimated range of more than 10,000km (6,200 miles), pushing the United States, Europe, India and Russia within targeting range. China’s appetite for the newest technology also knows no diplomatic alliance, as the recent arrest of scientist Valery Mitko on charges of selling classified information regarding Russian submarines to Chinese intelligence is telling of Beijing’s desire to further their expertise.

As awesome components of technology continue to be incorporated into the domain of submarine warfare and its growth as front tier conflict zone grow globally, it is clear the Alliance will be preoccupied with this threat for some time. In addition to calling for silence, Admiral Ramius pronounces, “Comrades, our own fleet doesn’t know our full potential. They will do everything possible to test us, but they will only test their own embarrassment”. In a time of heightened tensions, the last thing the Alliance wants to do is fall prey to Admiral Ramius’ words. Looking to the future, NATO Allies, coastal or landlocked, should pay this theatre the attention it deserves and remain circumspect of Exercise Dynamic Mongoose results. Evidence suggests we have only just started this dive.

### Uniq --- ASW/Subs Risk Now

#### NATO needs critical ASW upgrades---ensures naval dominance, sea cable integrity, and prevents a host of threats from Russia, China, and Noko

Alleslev 19 — Leona Alleslev-Krofchak is a Canadian politician and former military officer. Alleslev, Leona. "NATO Anti-submarine warfare: rebuilding capability, preparing for the future." Science and Technology Committee (STC) (2019). https://www.nato-pa.int/download-file?filename=sites/default/files/2019-10/REPORT%20150%20STC%2019%20E%20rev.%201%20fin%20-%20ANTI-SUBMARINE%20WARFARE.pdf WMK

1. In recent years, Allies have seen a sizeable increase in Russian submarine patrols in Allied areas of operation. In 2018, then UK Minister of Defence Gavin Williamson estimated that Russian patrols had increased by a factor of ten between 2011 and 2017 (Cecil and Collins, 2018). Worryingly, navies spotted Russian submarines in some very sensitive spots: a mere 350 kilometres from the US eastern seaboard, close to the UK nuclear deterrent’s home base, and near critical undersea communication cables (Perkins, 2018; McLaughlin, 2017; and Birnbaum, 2017). All of this led Admiral James G. Foggo III, current Commander of US Naval Forces Europe and NATO Joint Force Command Naples, to argue that “Russian submarines are prowling the Atlantic, testing our defences, confronting our command of the seas, and preparing the complex underwater battlespace to give them an edge in any future conflict” (Foggo and Fritz, 2016).

2. Russia may be the most immediate submarine threat to the Alliance, but there are other submarine fleets which should concern Allies. First, China’s expanding global forays – such as the One Belt, One Road initiative or its increasing Arctic presence – go hand-in-hand with increasing naval defence investments, including submarine modernisation. Second, as North Korea seeks to create an operational nuclear deterrent directed against one NATO Ally in particular, its navy is seeking to develop submarines armed with sea-launched ballistic missiles.

3. The increase in Russian submarine patrols should concern the political and military leadership of the Alliance. Since World War I, submarines have been a critical threat to civilian and naval vessels because of their stealth, silence, and speed (Perkins, 2016). A single submarine could shut down a strategic maritime chokepoint, threatening everything from merchant vessels to carrier strike groups. Submarines can thus deny naval power projection and disrupt critical sea lines of communication. When equipped with land-attack cruise missiles, they can also hold critical points on land at risk. In short, “every submarine is a strategic asset”, as Germany’s Submarine Force Commander, Captain Timo Cordes, has noted (Bliddal, 2019).

4. Unlike other ‘hard’ military capabilities like tanks or even missiles, submarines are also very well suited for asymmetric and hybrid tactics because they lend themselves to deceit and deniability. In particular, the threat to undersea communication cables has risen substantially. Such cables carry about 80% of data between North America and Europe, Vice Admiral Hervé Bléjean, Deputy Commander of Allied Maritime Command (MARCOM), told a NATO PA Sub-Committee on Technology Trends and Security (STCTTS) delegation in June 2019. Satellites could only make up for 10% of the total transatlantic data transfers, he said. Special purpose submarines play a key role in the threat to undersea cables, as they can covertly tap or cut these cables to gain valuable intelligence or disrupt vital services.

5. Another fact should worry NATO even more: a severe shortfall of anti-submarine warfare (ASW) capabilities across the Alliance. In the words of then MARCOM Commander Vice Admiral Sir Clive Johnstone, NATO faces a situation where “we are very short of high-end submarine warfare hunters” (Fabey, 2018). Allies have belatedly woken up to this capability shortfall and have committed to remedying the situation. NATO has conducted strategic assessments, reinforced its maritime posture, initiated reforms of command and control mechanisms, and intensified its ASW exercise regime.

### Internals --- AI Key/Russia Leads

#### Ramping up investment in artificial intelligence in subs is crucial in continuing deterrence of Russia – they’re gaining the edge.

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In the immediate future, the Russian military will continue to build out its UAV fleet capabilities, incorporating and increasing swarm and ‘loyal wingman’ abilities that tie together piloted and uncrewed systems for greater striking range and better situational awareness. Russia’s reconnaissance-fire and reconnaissance-strike contours pose the greatest challenge to adversary forces, given Russia’s continuing efforts to refine UAV use in practically all major units and formations. As the Russian long-range UCAV capabilities will grow, so will Russia’s ability to deliver strikes against ground and aerial targets at greater distances, increasing the defence ministry’s combat reach. Just as important is the impending proliferation of Russian combat and ISR drones, giving the Russian industry access to new markets and new data on their potential use against US assets and allies.229 The Russian defence ministry will also continue to experiment with UAV–UGV teaming for more effective battlefield management. In the near term, the UGV testing space will help define how Russian ground forces could fight future wars, and whether such systems can function effectively with manned formations. This trend is exemplified by the use of UGVs and UAVs in September 2021 during the Zapad-2021 military exercises, with the Russian military using Uran-9 UGVs for combat reconnaissance and fire support, Uran-6s for demining operations, Nerehta UGVs for reconnaissance and fire support, and Platforma-M for urban combat missions and passing through minefields.230 Specifically, Uran-9 and Nerehta UGVs were used in the combat formations of combined arms units. Additionally, the Russian military used Orlan-10 and Forpost UAVs for ISR and target acquisition missions, while Forpost and Orlan-10 combat versions, together with an Orion UCAV, were used for the first time in support of ground attacks.231 Russia’s ability to manufacture and test deep-diving UUVs presents one of the growing challenges to Western and NATO forces, as the defence ministry will seek to gain better situational awareness below the waves, while crafting an unmanned systems doctrine that could challenge Western surface and sub-surface assets. At the same time, the Russian navy is far from the mass use of such systems, in contrast to the nearly-ubiquitous aerial drone use. If the Russian military succeeds in designing a multi-domain robotic swarm, it could potentially challenge current Western military superiority by forcing NATO to expend its assets on low-cost Russian robotic systems. At the same time, unmanned and autonomous technologies were not used in a true peer conflict until the Nagorny Karabakh war of 2020. Today, the US, NATO and Russian forces are testing and using their autonomous technologies against mostly militarily inferior and low-tech adversaries. In the future, the Russian military will continue to refine its robotics technologies and will upgrade its proposed plans for integrating these systems with manned formations to train for a conflict against a peer adversary. On 21 May 2021 Russian defence minister Sergey Shoigu announced that his country had commenced mass production of military robots with AI that can fight autonomously.232 He did not specify which vehicles he was referring to, and the military expert community debated which of the systems described in this chapter may have been implied in Shoigu’s statement.233 Regardless of which vehicles may eventually fit Shoigu’s definition, this chapter has discussed multiple projects undertaken by the defence ministry in order to develop technologies that could give Russian forces a battlefield advantage. Should such efforts prove successful, the defence ministry’s investments may result in a force structure that would be better positioned to engage its adversary via a range of unmanned and autonomous systems that are first to the fight, do not carry a human cost in case of a failed mission, and can provide a better situational awareness of the adversary’s forces and intentions. These developments are not a foregone conclusion, given the Russian military industry’s ongoing struggles with key manufacturing components for autonomous systems, such as microelectronics and engines.234 Nonetheless, Russia’s mass manufacturing of, and experimentation with, different types of military autonomous systems signals a readiness to change how it conducts military operations, with speed, effectiveness, precision and massed use as the ultimate goals. To address these impending changes to military CONOPS, the US and its European allies should continue to experiment with, and conduct an ongoing analysis of, robotic technologies for gaining a key edge in this emerging technological race. Just as important in the future will be the ability to develop training against adversarial capabilities that is part of an objective evaluation of Russian military robotics CONOPS and TTPs.

### AT: Ukraine Thumps---2AC

#### Ukraine is our uniqueness – without the plan, any conflict spills over.

Cepinskyte 22 — Agne, Lithuanian international relations researcher specialized in Arctic security, 3-16-2022, "Russia and the Arctic: the irony of an aggressor in charge of a ‘zone of peace’ ," No Publication, https://genevasolutions.news/peace-humanitarian/russia-and-the-arctic-the-irony-of-an-aggressor-in-charge-of-a-zone-of-peace, accessed 7-5-2022 //THS—OLW

While trying to grasp Russia's ruthlessness and brutality in Ukraine, it is essential to not lose sight of regions beyond the present conflict zone. The Arctic, where Russia’s coastline amounts to over 24,000 kilometres, is one such region. Even though Moscow’s chairing of the Arctic Council was effectively suspended on 3 March, the North remains a key strategic priority for the Kremlin. Aside from developing the infrastructure aimed at taking the best advantage of expected economic benefits of the Northern Sea Route and of vast resources made available as the ice melts, Russia, for over a decade now, has been militarizing the area that Mikhail Gorbachev once called a ‘zone of peace’ and scholars later labelled as ‘exceptional’ and immune to a conflict.

Moscow’s Arctic policy, envisioning the country’s role as a ‘leading Arctic power’, explicitly refers to the maintenance of military formations in the region as one of the main policy objectives. This should not be mistaken as just empty political rhetoric: the Northern Fleet on the Kola Peninsula, which hosts submarines equipped with ballistic missiles, comprises two-thirds of Russia’s maritime nuclear strike capacity — only one example of many. An escalation of the war in Ukraine, particularly in the event of NATO involvement, could easily trigger Russia’s further aggression, resulting in military repercussions beyond the polar circle.

The absence of a dialogue, or rather Moscow’s seeming incapacity to engage in a meaningful one [dialogue], exacerbates the risk for military spillover. Numerous scholars, myself included, have argued for restoring a military-security dialogue between Russia and the other seven Arctic countries after communication froze following the occupation of Crimea in 2014. Such an argument was driven by our naivety that a dialogue could mitigate strategic competition, increase policy transparency and lower the risk of a conflict. We have been proven wrong. As clearly manifested by Russia’s murderous encroachment of Ukraine and the mockery, displayed by the Kremlin’s officials, of any attempts to negotiate, rogue states do not perceive dialogues the way Western democracies do, and talks will not lead to agreements ensuring peace.

With Russia in the picture, let alone in charge as the largest Arctic state and one that still officially chairs the Arctic Council, the circumpolar North as ‘immune to a conflict’ has become a meaningless expression. In the foreseeable future, the Arctic will no longer carry the idyllic title of a “zone of peace”, and, unless Russia’s expansionist policies are hindered by Western sanctions and consequent budgetary constraints, its great-power ambitions and merciless politics of intimidation and callousness will likely have detrimental effects on a highly fragile region.

### 2AC --- AT: SQUO Solves Russia

#### NATO is not ready for sub-warfare BUT Russia is. Status quo testing is irrelevant and the battleground is Russia’s back yard.

Kaushal et. al. 22 — Sidharth Kaushal is a Research Fellow, Sea Power at RUSI. He holds a doctorate in International Relations from the London School of Economics, where his research examined the ways in which strategic culture shapes the contours of a nation's grand strategy. James Byrne is a Senior Research Fellow in the Proliferation and Nuclear Policy program at RUSI. Joe Byrne is a Research Analyst in the Proliferation and Nuclear Policy program at RUSI. Giangiuseppe Pili is a Research Fellow for RUSI’s Project Sandstone. Gary Somerville is a Research Analyst in the Proliferation and Nuclear Policy program at RUSI , 4-1-2022, "Chapter II: The Balance of Capabilities in the Subsurface Domain," https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966, accessed 6-30-2022 //THS—OLW

NATO

In many ways, NATO’s deficiencies in this area match Russia’s. While on paper NATO fields a formidable array of both subsurface and ASW assets, the whole is likely to be less than the sum of its parts. NATO’s mobilization for a high-intensity conflict would be in three phases under the aegis of a gradual response plan. The first, occurring within a week, entails the deployment of the assets committed to NATO’s Very High Readiness Joint Task Force, including those of NATO’s Standing Maritime Groups.45 The second phase of a Graduated Response Plan (GRP) entails a month to build up to the ‘four 30s’ – 30 combat vessels, 30 battalions, and 30 aircraft squadrons in 30 days.46 Finally, follow-on forces under the aegis of the NATO Response Force would mobilize over a longer time period.47 We assume that unless NATO can either prevail or at least contain Russian assets, follow-on forces are irrelevant. And, by extension, the balance of power in the earlier stages of a conflict is the most vital, with exercises such as Dynamic Mongoose being used as the basis for determining the proportion of ASW assets that could be mobilized within a relatively short time.48 Longer-term exercises, such as Trident Juncture would suggest a larger force of NATO vessels being deployed to the High North – Trident Juncture involved 65 vessels, including 24 surface combatants. However, two factors lead to a limit the authors' study of such a force ratio. First, Trident Juncture took several months to prepare. And, given that the median duration of a militarized crisis is 70 days (including the kinetic conflict period), it is likely irrelevant in an ASW battle. Even assuming offensive intent on NATO’s part, one would need to assume Russian passivity in this build-up, which is unlikely. It is therefore the forces available at the outset of a conflict that are most important. The forces of NATO’s standing maritime groups (SNMGs) and the assets at high readiness and very high readiness under the NATO Readiness Initiative are assessed to be of greatest salience. This paper treats NATO assets as being at 50% readiness at the outset of a conflict, reaching 70% within a month. It assesses Russian assets as being at 80% readiness due to the fact that the Northern Fleet is operating in its own backyard. These numbers are broadly reflective of the assumptions underpinning previous studies.49

### 2AC --- Data Key/SQ Fails

#### Increased Data is key --- effective datasets and technology isn’t ready for effective DNS use

Pfau ‘21

(Lieutenant Andrew Pfau, USN, is a submariner serving as an instructor at the U.S. Naval Academy. He is a graduate of the Naval Postgraduate School and a recipient of the Rear Admiral Grace Murray Hopper Computer Science Award, “A ROADMAP TO SUCCESSFUL SONAR AI,” pg online @ <https://cimsec.org/tag/asw/> //um-ef)

Data Scarcity Another challenge in the field of ML that has salience for sonar data are the challenges associated with very small, but important datasets. For an academic researcher, data scarcity may come about due to the prohibitive cost of experiments or rarity of events to collect data on, such as astronomical observations. For the DoN, these same challenges will occur in addition to DoN specific challenges. Unlike academia or the private sectors, stringent restrictions on classified data will limit who can use this data to train and develop models. How will an ML model be trained to recognize an adversary’s newest ship when there are only a few minutes of acoustic recording? Since machine learning models require large quantities of data, traditional training methods will not work or result in less effective models. Data augmentation, replicating and modifying original data may be one answer to this problem. In computer vision research, data is augmented by rotating, flipping, or changing the color balance of an image. Since a car is still a car, even if the image of the car is rotated or inverted, a model will learn to recognize a car from many angles and in many environments. In acoustics research, data is augmented by adding in other sounds or changing the time scale or pitch of the original audio. From a few initial examples, a much larger dataset to train on can be created. However, these methods have not been extensively researched on passive sonar data. It is still unknown which methods of data augmentation will produce the best results for sonar models, and which could produce worse models. Further research into the best methods for data augmentation for underwater acoustics is required.

### AT: SQ AI Solves

#### Investment and development key

Pfau ‘21

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Conclusion As recommended in the NSC AI report, the DoN must be ready to invest in technologies that are critical to future AI systems, but that are currently lacking in private sector interest. ML models for passive sonar, lacking both dual use appeal and broad uses across the DoD, clearly fits into this need. Specific investment is required to address several problems facing sonar ML systems, including dataset curation, data scarcity, model updates, and building trust between operators and systems. These challenges will require a combination of technical and policy solutions to solve them, and they must be solved in order to create successful ML systems. Addressing these challenges now, while projects are in a nascent stage, will lead to the development of more robust systems. These sonar ML systems will be a critical tool across a manned and unmanned fleet in anti-submarine warfare and the hunt for near-peer adversary submarines.

## Add-ons

### 2AC --- Add on---Naval Dominance

#### UUV’s key to U.S Naval dominance

**Carr 20** [Nevin Carr, Retired U.S. Navy Rear Adm. Nevin Carr currently serves as the Navy strategic account executive and vice president at Leidos. He previously held the position of chief of naval research in the service. , 5-15-2020, accessed on 7-4-2022, Defense News, "A fleeting advantage: No time to lose for US Navy’s unmanned ambitions", <https://www.defensenews.com/opinion/commentary/2020/05/15/a-fleeting-advantage-no-time-to-lose-for-us-navys-unmanned-ambitions/> mimou]

There has been no shortage of debate lately about the future size and shape of the U.S. Navy in an era of great power competition. Through the fog of competing priorities, fiscal constraints and a growing list of force architecture studies, one thing seems certain: The future Navy **will include autonomous ships** in some form. These vessels (it’s not even clear they’ll be called “ships”) will not replace the Navy’s highly capable combatants, but they will extend their **fighting horizons** and deepen their magazines to increase combat power. There is an urgent need to build trust before the Navy can safely and effectively integrate this emerging technology. While the debate rages in Washington, the Navy’s autonomous workhorse, **Sea Hunter**, is quietly approaching four years and 30,000 miles of underway experimentation and risk reduction. More than half of those miles have been sailed under autonomous self-control. As with any new technology, lessons are learned along the way. Navy Assistant Secretary James Geurts put it best: To embrace innovation, we must “learn fast and act fast,” to “press the boundaries” and “expect failure” with appropriate judgement and measured risk. Interestingly, many of the lessons with Sea Hunter have involved issues related to basic components like filters, switches and sensors that were not originally designed for autonomous operation. Meanwhile, the underlying autonomy has proven to be remarkably **resilient and mature**. The good news is that these lessons present solvable challenges. No magic is required. Last year, the Navy sent Sea Hunter from San Diego, California, to Hawaii and back as part of a major fleet exercise. There were lessons learned along the way, but by the return transit, Sea Hunter made the entire 2,000-mile voyage untouched over nine days. This was a major success, and prompted the Navy to plan for a similar event in 2020. That exercise, unfortunately, had to be scaled back due to the impacts of COVID-19. With $200 million and four years invested, the Navy is well down a learning curve that is building the trust necessary to underpin fleet integration of unmanned surface vessels, or USV. **This head start is precious and must not be wasted**. While USVs are not yet ready for complex roles in close proximity with maneuvering ships, they will soon be ready to fulfill independent missions. By taking a “crawl-walk-run” approach, the Navy can realize operational benefits in the near term while continuing to mature the technology and spiral in increasingly complex behaviors. USV technology **is maturing rapidly**. Ironically, the main obstacles are not technological. Despite some in the Navy leaning forward, they’re largely cultural and programmatic. “Optional manning,” for example, might provide a level of comfort for developers, but the real effect is to increase cost, consume precious space and soften the imperative for pursuing fully autonomous capability. Consider what the Global Hawk or Triton UAVs would look like today, and how many would exist, if the services had insisted they be “optionally manned.” Minimal or optional manning makes sense if weapons are involved, for security and maintenance, but surveillance and reconnaissance USVs will need to optimize every inch and every dollar so they can be fielded in sufficient numbers as the eyes and ears of the fleet. The late Navy captain, Wayne Hughes, wrote that victory at sea often **goes to the one who can “fire effectively first.”** Unmanned surface vessels can help the fleet do just that. The U.S. Navy has a precious head start, and we should press that advantage **by putting near-term capability to sea**, while steadily maturing and incorporating more complex behaviors in stride. **There’s no time to lose**.

#### XLUUV’S are key to U.S Naval Dominance over China – current capabilities cannot overcome China’s manpower.

**Larter 20** [David B. Larter, David B. Larter is the naval warfare reporter for Defense News. 6-1-2020, Defense News, "To compete with China, an internal Pentagon study looks to pour money into robot submarines", <https://www.defensenews.com/naval/2020/06/01/to-compete-with-china-an-internal-pentagon-study-looks-to-pour-money-into-robot-submarines/> mimou]

* This is so shit

The idea behind XLUUV is to take over missions that larger submarines, such as Virginia- and Los Angeles-class attack submarines, perform now but that shouldn’t require a $3 billion hull to perform.

This is a problem that is exacerbated by an adversary that has proven itself more than willing to dump money into capacity that the U.S. Navy struggles to compete with, said Eric Wertheim, a naval analyst and author of “Combat Fleets of the World.”

“The whole project is one of those key areas, like directed energy, where the U.S. can play to its advantage of leveraging technology to offset its disadvantages when dealing with an adversary like China,” he said. “They just have the ability to throw large numbers out there, large numbers of people to man equipment with, and people are among the most expensive assets for armed forces — especially in Western countries.”

The missions that XLUUV would be most well-suited to perform are those that may be too dangerous for a larger manned boat, he said.

“You might be going into dangerous waters that otherwise you might not want to send manned personnel into,” he said. “But also, more importantly, is the kind of mission that Orca [XLUUV] would be doing, has the potential to help you deal with the kind of mentally and physically exhausting missions like anti-submarine warfare, mine warfare and intelligence collection where human senses get dulled over time.”

The Navy is also developing a family of unmanned surface vessels that are intended to increase the offensive punch for less money, while increasing the number of targets the Chinese military would have to locate in a fight.

That’s a push that earned the endorsement of Chief of Naval Operations Adm. Michael Gilday in comments late last year.

“I know that the future fleet has to include a mix of unmanned,” Gilday said. “We can’t continue to wrap $2 billion ships around 96 missile tubes in the numbers we need to fight in a distributed way, against a potential adversary that is producing capability and platforms at a very high rate of speed. We have to change the way we are thinking.”

#### US Naval Power stops Great Power Conflicts

Cropsey and McGrath 18 Seth Cropsey and Bryan McGrath January 2018 “Maritime Strategy in a New Era of Great Power Competition” <https://s3.amazonaws.com/media.hudson.org/files/publications/HudsonMaritimeStrategy.pdf> (senior fellow and director of the Center for American Seapower at Hudson Institute, founding Managing Director of The FerryBridge Group LLC (FBG), a niche consultancy specializing in Naval and national security issues)//Elmer

Introduction As a maritime nation, naval power is the U.S.’s most useful means of responding to distant crises, preventing them from harming our security or that of our allies and partners, and keeping geographically remote **threats from metastasizing into conflicts** that could approach our borders. A maritime defense demands a maritime strategy. As national resources are increasingly strained the need exists for a strategy that makes deliberate choices to connect ends (security) with means (money and the fleet it builds). This paper examines the need for a maritime strategy, discusses options, and offers recommendations for policy makers. After several decades of unchallenged world leadership, the United States once again faces great power **competition**, this time featuring two other world powers. China and Russia increasingly bristle under the constraints of the post-World War II systems of global trade, finance, and governance largely created by the United States and its allies, systems that the United States has protected and sustained to the economic and security benefit of its citizens and the citizens of other nations. Both China and Russia are demonstrably improving the quality of their armed forces while simultaneously acting aggressively toward neighboring countries, some of which are US treaty allies. Additionally, **both nations are turning their attention to naval operations** far from their own coasts, operations **designed to advance national interests that are often in tension with those of the United States**.1 For the past several decades, US national security strategy has not had to contend with great powers. Instead, it has concerned itself primarily with building alliances designed to manage regional security more efficiently by proxy, while devoting increasingly more resources to homeland defense and intelligence aimed at stemming acts of terror by Islamic radical organizations and their followers. To the extent that the US position of leadership in the world was not threatened, this strategy was reasonable, if imperfectly pursued. Such a strategy will no longer suffice in a world of great power competition, especially one in which powers of considerable—but unequal—strength are opposed. Unbalanced multi-polarity is an especially unstable condition, and the United States is not effectively postured to manage that instability. Henry Kissinger divides the concept of world order into two parts: a normative system that defines acceptable action, and a ‘balance of power’ arrangement that punishes the breach of such conventions2. As the underlying balance of forces shifts, states with different ideas of international order gain the power to reshape the system. Thucydides’ ancient insight holds true – the rise in power of one actor threatens all others. Where such threat exists and if the balance of power between states or coalitions approaches equilibrium, a “Cold War” between competing ideological camps occurs. In an unbalanced system, the stronger side is tempted to strike its weaker opponent while the balance of forces is favorable. Unbridled competition for supremacy defined Europe during its bloodiest periods. Europe’s 16th and 17th century religious wars between Catholics and Protestants and the global 20th century struggles between totalitarian ideologies and democracy both represent the natural end-state of unbalanced multipolar systems. Without norms to restrain states and force to uphold these norms, violence is very likely. Today’s international system is moving toward unbalanced multi-polarity. Unfortunately, the United States is not currently prepared to manage such an international environment. If Americans want to preserve their nation’s secure and prosperous position as the world’s great power, the United States must begin now to prepare strategically for what it will inevitably face. Otherwise, it will ultimately be forced into an increasingly limited number of unattractive options to sustain its position of leadership. There is little evidence that the people of the United States wish to see our position in the world diminished. The 2016 Presidential Election raised important questions about the degree to which globalization has served the interests of everyday Americans (and their perceptions thereof), while the two dominant US political parties have moved toward more protectionist policies, at least as articulated by their nominees. Opinion polling indicates the divided nature of the American public on issues like free trade and sustained foreign commitments.3 However, Americans remain cognizant of threats to the United States, and favor maintaining America’s position as a great power by sustaining a strong military.4 Moreover, it would be difficult to identify meaningful numbers of Americans who would sacrifice national security in favor of increased social spending, despite the continuing rise in non-discretionary spending in the federal budget. Americans understand that the US position of world leadership benefits the nation’s economy, its security, its allies, and the international order that has been the object of US foreign and defense policy for over a century. They know that their lives would be diminished if this position of global leadership were surrendered to an adversary or group of them. The paradox of the American experience is that the US is not simply a great power – it is an exceptional power, for which ideals count as much as strength. The American public, despite its aversion to foreign commitments, can rise to the occasion and respond to clear threats, as it has in both World Wars, the Cold War, and after September 11th. The job of the policymaker, therefore, is to ensure America remains a great power, so that when the occasion arises, it can act as an exceptional power. It is critical then, for US political leaders to begin thinking more strategically about protecting and advancing America's position in the face of growing great power competition. This monograph asserts that a strategy to support such a goal would necessarily be maritime in nature, leveraging this nation’s great **geographical advantages** in the service of its national power. Sharing land borders with only two nations—both of whom are friendly to the United States—and separated **from other great powers by vast oceans**, the United States enjoys a security position quite unlike that of any other nation. For over a century, it has been the unspoken (but doggedly pursued) national security aim of the United States to ensure that no power rise to prominence in Asia or Europe so as to occupy a position there as dominant as the United States’ position in the Western Hemisphere. Were this to occur, not only could that nation then lock the United States out of the resources and activity of that region, but it could also then eventually turn its attention to challenging our position in the Western Hemisphere.5 Underlying this approach is the reality that most the world’s activity does not occur in our own hemisphere, but in Asia and Europe. American interests in these regions— political, diplomatic, economic, and military—are considerable and growing. Protecting and sustaining those interests must remain a priority of American policy, and maritime strategy is an effective tool in doing so. Maritime strategy is a subset of grand strategy, and the relationship between the two is ably defined by Professor John B. Hattendorf of the Naval War College: “In its broadest sense, grand strategy is the comprehensive direction of power to achieve particular national goals. Within those terms, maritime strategy is the direction of all aspects of national power that relate to a nation’s interests at sea. The navy serves this purpose, but maritime strategy is not purely a naval preserve. Maritime strategy involves the other functions of state power that include diplomacy; the safety and defence of merchant trade at sea; fishing; the exploitation, conservation, regulation and defence of the exclusive economic zone at sea; coastal defence; security of national borders; the protection of offshore islands; as well as participation in regional and world-wide concerns relating to the use of oceans, the skies over the oceans and the land under the seas.6 It is wholly appropriate for the world’s dominant naval power—separated from its widely-flung interests by thousands of miles of open ocean—**to develop and execute coherent maritime strategy**. In a time of re-emerging great power competition, it is essential. The nation’s current maritime strategy 7 is, unfortunately, not up to the task. It focuses insufficiently on great power competition; it does not recognize the rise in importance of conventional forces in deterring great power war; it does not provide a theory of conventional deterrence appropriate to great powers and their likely objectives; it does not suggest **a posture for naval forces that acts as an effective deterrent**; its derived force structure is too small and short on effective logistic support; it does not place sufficient value on naval partnerships with geographically important nations which may not be traditional partners; and it is silent on the need for the nation to invest in a maritime industrial base that can enable an appropriate strategy. This monograph urges new thinking about maritime strategy, a strategy compatible with the United States’ responsibilities as the leader of the free world, as well as the world’s premier political, military, economic, and diplomatic power. Such a strategy would seek to protect and sustain those leadership positions in the face of renewed great power competition, competition that largely subsumes other, lesser security concerns. There will be those who view this approach as a return to “Cold War” strategic thinking, and we do not shy from this comparison. The United States acted for decades as a coherent strategic actor when faced with expansionist Soviet totalitarianism, and it must act with equal coherence and resolve to contest China and Russia’s brands of aggressive mercantilism, regional expansion, and contempt for established global order. There will be those who evaluate our suggestions in this paper and conclude that the nation cannot afford it, that the expense associated with moving to a maritime grand strategy would imbalance the traditional “ends, ways, means” approach to the making of strategy. And while the ends, ways, means approach is generally relevant to military and operational strategy, it is unsuited to the making of grand strategy for one very important reason. Unlike subordinate levels of strategy, grand strategy re-allocates, realigns, and re-orients a nation’s “means” to serve strategic “ends”. Military strategy starts with the proposition that there is a certain resource level available to pursue its ends. Grand strategy starts with the sum of the nation’s output capacity, and then determines how it can most effectively be allocated to the achievement of strategic goals. Short of war itself, there is nothing in American history that causes strategic realignment more reliably than a change in Administration, and we wish to be part of that dialogue. We argue here for a new theory of deterrence, one that revises the Cold War approach in which the Soviet Union was deterred from large-scale conventional attack by the threat of nuclear escalation. Under that rubric, one could justifiably say that America’s conventional deterrent was dependent on its strategic deterrent. Today, the decapitating “bolt from the blue” strike is even more remote than it was in the Cold War, and to the extent that nuclear exchange between great powers is conceivable, it is far more likely to flow from conventional conflict that has gone awry. Therefore, to deter nuclear war, we must deter conventional war. No aspect of American military power will be more critical to deterring either **nuclear** or conventional super-power **war than seapower.**

### 2AC --- U.S. Naval Power Good

#### Naval power is key to deter war and doesn’t provoke adversaries.

Michael Gerson and Daniel Whiteneck, 3-2009, [analysts at CNA Strategic Studies, a national security and military analysis firm, "Deterrence and Influence: The Navy’s Role in Preventing War", CNA Strategic Studies, https://www.cna.org/CNA\_files/PDF/D0019315.A4.pdf //Weese]

Compared to air and land forces, maritime power has two inter-related characteristics that make it particularly useful to the modern conventional (as well as nuclear) deterrence mission: • Maritime forces can project and sustain forward-deployed, combat-credible power in peacetime, crises, and war • Maritime power is minimally intrusive; in other words, it does not require a footprint on land The fact that naval forces can “loiter” and be minimally intrusive is an important and unique contribution to deterrence. The Army can loiter, but it cannot be minimally intrusive; the Air Force can be minimally intrusive (although, because it still needs some land-based infrastructure, it is more intrusive than maritime forces), but it cannot loiter. Only naval forces can do both simultaneously. These unique characteristics are likely to be especially useful for conventional deterrence. Given that an adversary is likely to pay close attention to the local balance of power, naval forces are important because they can rapidly respond to an emerging crisis by bringing U.S. combat power to places where none existed before, or by augmenting existing forces already in theater to further swing the local power balance in the United States’ favor. The ability to quickly deploy, and indefinitely sustain, power in a region helps ensure that an opponent cannot hope to wait out U.S. forces in the belief that at some point there will be a favorable “window of opportunity” for aggression. The ability to sustain minimally intrusive power can be a valuable asset in both general and immediate deterrence (Phases 0 and 1). In Phase 0, continual yet mobile forward presence can give friends and allies the assurances they desire without requiring an expensive and politically sensitive permanent presence on land. Repeated peacetime engagements with regional partners, combined with the knowledge that combat-credible U.S. military power is always relatively nearby if trouble arises, can both assure allies and deter adversaries. Naval power’s unobtrusiveness is also useful for crisis management in Phase 1 and for compellence and escalation control in Phase 2. In an acute crisis, the Navy can be the optimal mechanism to signal credible deterrence without also unnecessarily provoking the adversary. Naval forces can get close enough to the possible combat area to communicate credible threats of prompt denial and/or punishment, while at the same time not getting so close that the leadership fears an impending U.S. attack and decides to strike first. This is also useful in Phase 2, as efforts to employ compellence and signal escalation dominance (which, as discussed earlier, is an important mechanism of escalation control) run the risk of inadvertently triggering the actions that we hoped to prevent. Although this risk cannot be completely avoided in Phase 2, naval forces can, at least, sustain a visible presence in the theater to signal the threat of additional costs without having to be stationed too close to the immediate battlespace.

#### Naval power solves extinction---deters nuclear war with Russia and China

Cropsey and McGrath 18 [Seth, Director of the Center for American Seapower, and Bryan, Deputy Director, “Maritime Strategy in a New Era of Great Power Competition,” 2018, [s3.amazonaws.com/media.hudson.org/files/publications/HudsonMaritimeStrategy.pdf](https://s3.amazonaws.com/media.hudson.org/files/publications/HudsonMaritimeStrategy.pdf)]

As a maritime nation, naval power is the U.S.’s most useful means of responding to distant crises, preventing them from harming our security or that of our allies and partners, and keeping geographically remote threats from metastasizing into conflicts that could approach our borders. A maritime defense demands a maritime strategy. As national resources are increasingly strained the need exists for a strategy that makes deliberate choices to connect ends (security) with means (money and the fleet it builds). This paper examines the need for a maritime strategy, discusses options, and offers recommendations for policy makers. After several decades of unchallenged world leadership, the United States once again faces great power competition, this time featuring two other world powers. 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Unfortunately, the United States is not currently prepared to manage such an international environment. If Americans want to preserve their nation’s secure and prosperous position as the world’s great power, the United States must begin now to prepare strategically for what it will inevitably face. Otherwise, it will ultimately be forced into an increasingly limited number of unattractive options to sustain its position of leadership. There is little evidence that the people of the United States wish to see our position in the world diminished. The 2016 Presidential Election raised important questions about the degree to which globalization has served the interests of everyday Americans (and their perceptions thereof), while the two dominant US political parties have moved toward more protectionist policies, at least as articulated by their nominees. 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Protecting and sustaining those interests must remain a priority of American policy, and maritime strategy is an effective tool in doing so. Maritime strategy is a subset of grand strategy, and the relationship between the two is ably defined by Professor John B. Hattendorf of the Naval War College: “In its broadest sense, grand strategy is the comprehensive direction of power to achieve particular national goals. Within those terms, maritime strategy is the direction of all aspects of national power that relate to a nation’s interests at sea. The navy serves this purpose, but maritime strategy is not purely a naval preserve. Maritime strategy involves the other functions of state power that include diplomacy; the safety and defence of merchant trade at sea; fishing; the exploitation, conservation, regulation and defence of the exclusive economic zone at sea; coastal defence; security of national borders; the protection of offshore islands; as well as participation in regional and world-wide concerns relating to the use of oceans, the skies over the oceans and the land under the seas.6 It is wholly appropriate for the world’s dominant naval power—separated from its widely-flung interests by thousands of miles of open ocean—to develop and execute coherent maritime strategy. In a time of re-emerging great power competition, it is essential. The nation’s current maritime strategy7 is, unfortunately, not up to the task. It focuses insufficiently on great power competition; it does not recognize the rise in importance of conventional forces in deterring great power war; it does not provide a theory of conventional deterrence appropriate to great powers and their likely objectives; it does not suggest a posture for naval forces that acts as an effective deterrent; its derived force structure is too small and short on effective logistic support; it does not place sufficient value on naval partnerships with geographically important nations which may not be traditional partners; and it is silent on the need for the nation to invest in a maritime industrial base that can enable an appropriate strategy. This monograph urges new thinking about maritime strategy, a strategy compatible with the United States’ responsibilities as the leader of the free world, as well as the world’s premier political, military, economic, and diplomatic power. Such a strategy would seek to protect and sustain those leadership positions in the face of renewed great power competition, competition that largely subsumes other, lesser security concerns. There will be those who view this approach as a return to “Cold War” strategic thinking, and we do not shy from this comparison. The United States acted for decades as a coherent strategic actor when faced with expansionist Soviet totalitarianism, and it must act with equal coherence and resolve to contest China and Russia’s brands of aggressive mercantilism, regional expansion, and contempt for established global order. There will be those who evaluate our suggestions in this paper and conclude that the nation cannot afford it, that the expense associated with moving to a maritime grand strategy would imbalance the traditional “ends, ways, means” approach to the making of strategy. And while the ends, ways, means approach is generally relevant to military and operational strategy, it is unsuited to the making of grand strategy for one very important reason. Unlike subordinate levels of strategy, grand strategy re-allocates, realigns, and re-orients a nation’s “means” to serve strategic “ends”. Military strategy starts with the proposition that there is a certain resource level available to pursue its ends. Grand strategy starts with the sum of the nation’s output capacity, and then determines how it can most effectively be allocated to the achievement of strategic goals. Short of war itself, there is nothing in American history that causes strategic realignment more reliably than a change in Administration, and we wish to be part of that dialogue. We argue here for a new theory of deterrence, one that revises the Cold War approach in which the Soviet Union was deterred from large-scale conventional attack by the threat of nuclear escalation. Under that rubric, one could justifiably say that America’s conventional deterrent was dependent on its strategic deterrent. Today, the decapitating “bolt from the blue” strike is even more remote than it was in the Cold War, and to the extent that nuclear exchange between great powers is conceivable, it is far more likely to flow from conventional conflict that has gone awry. Therefore, to deter nuclear war, we must deter conventional war. No aspect of American military power will be more critical to deterring either nuclear or conventional super-power war than seapower.

#### Weakening naval primacy escalates hotspots globally.

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Military and economic strength are mutually reinforcing. The overwhelming majority of world commerce moves virtually unmolested across the great expanse of the maritime commons. Protection of the global commons is a vital national interest of the United States.

The U.S. Navy’s global presence has added immeasurably to U.S. economic vitality and to the economies of America’s friends and allies, not to mention those of its enemies. World wars, which destroyed Europe and much of East Asia, have become almost incomprehensible thanks to the "nuclear taboo" and preponderant American sea power. If these conditions are removed, all bets are off.

A preponderant naval power occupies a unique position in the global order, a special seat at the table, which when unoccupied creates conditions for instability.

#### Naval dominance is key to US hegemony

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The Trump administration’s actions on the question of the U.S. Navy’s future will be the single most consequential policy decision of the next four years, if not the next decade. Its decisions will affect our national security, if not our national survival — and with those, the fate of the world as well. Human inconsistency frustrates the study of politics. Each civilization has created distinct forms of political order based on different concepts of legitimacy and justice. This fact makes universal criteria for morality or legitimacy difficult. As Germany’s “Iron Chancellor” Otto von Bismarck noted in an 1863 example of gross understatement, “politics is not an exact science.” However, international relations are governed by a handful of laws that manifest themselves consistently throughout history. The most important of these is that power balances power, and rising actors will resent the hierarchy imposed by a more powerful hegemon. These laws apply best to great powers — those states that determine the stability or instability of a system through their application of coercive economic, military and political power. Not only are these powers the only major threats to one another, they are the only actors in the system with the capability to impose their political and moral framework on others. When great powers compete, they clash over both material interests and competing value systems. Structural hierarchy can mitigate great-power competition. The overwhelming strength of one actor wards off challenges, while the stability this power provides encourages systemic economic prosperity. This explains the economic prosperity and international stability that followed America’s emergence as the single most powerful state in the international system after 1991. Yet, power shifts with time. The American economic advantage that translated into political dominance has dissipated, leaving the U.S. as a global leader, but not absent rivals. China has used integration into the American-created international economic system to supercharge its own economic growth. Moreover, economic growth is not the only factor in current structural shifts — military power is the highest-value currency in great-power competition. Despite its economic instability, Russia has emerged as a formidable military adversary, with a collection of capabilities designed to control conflict escalation, and a select few high-end systems designed to match their American counterparts and increase the cost of full-scale warfare. Smaller actors also use specific military capabilities to give them outsized relevance; Iran’s irregular forces and North Korea’s nuclear weapons afford them leverage over an increasingly overstretched U.S. military. Iran, Russia and North Korea cause significant strategic problems for the U.S. However, China is America’s greatest rival. The Moscow-Tehran axis can pressure the NATO alliance’s eastern flank and attack America’s Middle Eastern allies and partners, and the nuclear-armed Kim family regime can engage in apocalyptic Russian roulette, but only China has the structural economic power to eliminate and replace the present global order. China’s first step in this project is dominating the Asia-Pacific. America’s international system requires unimpeded freedom of trade and navigation. Not only does the West’s economic structure require significant material imports and exports, but America’s international alliance and base network is untenable absent communication and transport over vast distances. A Chinese-dominated Pacific would give Beijing a stranglehold over trade flows to, and communication with, critical American regional allies like Japan, South Korea and Australia. With the South and East China Seas functioning as China’s private lakes, Chinese President Xi Jinping could force his American counterpart to choose between fighting a major war to regain control of the Pacific or allowing the elimination of today’s international system, and accepting significant Chinese revision. Naval forces are therefore the most important military variable in this Sino-American rivalry. A strong U.S. Navy and Marine Corps is essential to maintaining freedom of navigation, ensuring effective security relations with allies, deterring enemy escalation and, in the event of a confrontation, neutralizing any threat with overwhelming firepower. To put it more broadly, the prerequisite for an international order, especially a liberal one that depends on free trade and unmolested global commerce, is naval dominance. Ours is at risk. U.S. naval forces have been in decline since the end of the Cold War. The current 275-ship, 10 capital-ship fleet is a far cry from the 594-ship, 17 capital-ship fleet of the 1980s. To fulfill America’s defense commitments and deter its adversaries, a 350-ship fleet is critical. Fleet diversity is necessary – submarines are needed for long-term war-fighting punch, aircraft carriers for operational flexibility, surface combatants for deterrence patrols and forward presence, and amphibious ships for operations against critical maritime strong-points — as is a robust Marine Corps that is 190,000-200,000 strong. During the 2016 campaign, Trump promised to rebuild U.S. naval capacity, particularly by expanding the Navy to 350 ships. Notwithstanding, the president’s National Security Strategy (NSS) is silent on the goal and how to reach it. The NSS’s focus on high-end great-power competition is an important step in the right direction, but without explicit recognition of the force structure needed to win such a contest, this shift in policy is meaningless. In his State of the Union address, the president justifiably asked Congress to end the defense sequester and fully fund the U.S. military. This is necessary, but does not answer the question: Will President Trump ask Congress for the money to build a 350-ship Navy, and will he fight for it? Playing catch-up with a Chinese navy projected to break 400 ships by 2030 after another decade and a half of U.S. military stagnation is not an option. No lapsed great power has ever recovered its position. A substantive imbalance in forces could tempt China (or China together with other adversaries) to strike first against a U.S. that belatedly seeks to regain hard power, leading to, at best, a multi-year war or, at worst, the destruction of the U.S. Pacific Fleet or a nuclear exchange. Structure helps dictate the general shape and direction of international politics. However, China’s rise — and America’s decline — are not inevitable. Economic conditions can fluctuate for good or ill, and the rise of Artificial Intelligence and economic automation can reshape the international economic landscape in the next decade. Military power is the best instrument to ensure the U.S. national position, safeguard the international order it has created, and preserve the Western values on which its political structure rests. The U.S. has the capacity to rebuild its military forces, deter its adversaries, and defend its interests. But without political will for such measures, the prospects for America’s continued pre-eminence are dim. The challenge that faces both this administration and its successors is how to harness the nation’s will.

### --- Passive Sonar k Naval Ops

#### Passive Sonar key to effective Naval operations and info --- U.S. under-development and lack of data undercut info necessary

Pfau ‘21

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Even as the private sector and academia have made rapid progress in the field of Artificial Intelligence (AI) and Machine Learning (ML), the Department of Defense (DoD) remains hamstrung by significant technical and policy challenges. Only a fraction of this civilian-driven progress can be applied to the AI and ML models and systems needed by the DoD; the uniquely military operational environments and modes of employment create unique development challenges for these potentially dominant systems. In order for ML systems to be successful once fielded, these issues must be considered now. The problems of dataset curation, data scarcity, updating models, and trust between humans and machines will challenge engineers in their efforts to create accurate, reliable, and relevant AI/ML systems. Recent studies recognize these structural challenges. A GAO report found that only 38 percent of private sector research and development projects were aligned with DoD needs, while only 12 percent of projects could be categorized as AI or autonomy research.1 The National Security Commission on Artificial Intelligence’s Final Report also recognizes this gap, recommending more federal R&D funding for areas critical to advance technology, especially those that may not receive private sector investment.2 The sea services face particular challenges in adopting AI/ML technologies to their domains because private sector interest and investment in AI and autonomy at sea has been especially limited. One particular area that needs Navy-specific investment is that of ML systems for passive sonar systems, though the approach certainly has application to other ML systems. Why Sonar is in Particular Need of Investment Passive sonar systems are a critical component on many naval platforms today. Passive sonar listens for sounds emitted by ships or submarines and is the preferred tool of anti-submarine warfare, particularly for localizing and tracking targets. In contrast to active sonar, no signal is emitted, making it more covert and the method of choice for submarines to locate other vessels at sea. Passive sonar systems are used across the Navy in submarine, surface, and naval air assets, and in constant use during peace and war to locate and track adversary submarines. Because of this widespread use, any ML model for passive sonar systems would have a significant impact across the fleet and use on both manned and unmanned platforms. These models could easily integrate into traditional manned platforms to ease the cognitive load on human operators. They could also increase the autonomy of unmanned platforms, either surfaced or submerged, by giving these platforms the same abilities that manned platforms have to detect, track, and classify targets in passive sonar data.

### ---Undersea Dom k Heg

#### Continued undersea dominance is critical to deterrence and power projection – plus, it’s key to maintain nuclear submarine leadership

Jason Ellis 16, PhD Candidate, American University's School of International Service, “Game On Strengthening the U.S. Undersea Posture to Enhance Deterrence and Warfighting Options “, https://cgsr.llnl.gov/content/assets/docs/Ellis\_Game\_On.pdf

The American way of war centers on its ability to project power at great distances, across the spectrum of warfighting domains and in the face of growing adversary capabilities. In this context, it is difficult to overstate the importance of the maritime component of the U.S. defense posture. Since the earliest days of the republic, the United States has been a seafaring nation, championing freedom of navigation, protecting sea lines of communication, and fielding an effective expeditionary naval capability. For several decades, the Navy has proven adept and resilient in the undersea domain. And undersea dominance—the ability of the silent service to successfully undertake any mission, anytime, anywhere—is integral to the U.S. ability to counter adversary anti-access and area-denial (A2/AD) strategies in the modern era.† The Department of Defense (DoD) depends heavily on submarines for both deterrence and power projection.1 Yet, a combination of growing foreign capabilities and emerging U.S. force structure gaps highlights a rising set of risks to what Deputy Secretary of Defense Robert Work calls the “away game” operations that are central to conventional deterrence.2 “There is an awful lot of competition,” Chief of Naval Operations Admiral John Richardson observed in August 2016, “so we can’t get complacent, we can’t rest on our laurels for one minute, otherwise that window will close and we’ll find that they’ve achieved parity undersea.”3 While emerging security competitors do not boast the roughly 250-submarine fleet of the Soviet Union, their undersea warfighting prowess is arguably greater.4 Contemporary nuclear (SSN) and diesel-electric (SSK) attack submarines in the Russian and Chinese inventories are much quieter than their Soviet-era predecessors, as are the nuclear ballistic missile (SSBN) submarines fielded by each. (A lower acoustic profile reduces a defender’s antisubmarine warfare options and therefore enhances platform survivability.) They are also comparatively more lethal: modern SSNs and SSKs, together with guided-missile (SSGN) submarines, offer long-range antiship and/or land-attack cruise missile capabilities, even as classic naval offensive weapons including torpedoes and sea mines remain in play. In practice, adversary deployment of such lethal armaments broadens the threat envelope for deployed forces and complicates their ability to conduct effective operations in “denied” settings. At the same time, the U.S. undersea presence is notably smaller than the roughly 100- submarine attack fleet fielded at the height of the Reagan-era buildup.5 The Navy’s existing requirement for 48 attack submarines was set in 2006, “before the reemergence of the Russian fleet and before China became a factor beneath the waves,”6 considerations influencing the revised—but not yet released—force-structure assessment of October 2016.7 And the trend line is unfavorable, with anticipated reductions in the quantity of the current U.S. force complement of attack, ballistic and guided-missile submarines slated for the next several years. And while the United States appears to maintain a qualitative edge, the growing inventory of modern Russian and Chinese submarines are highly capable and appear to have closed much of the legacy performance gap. Thus, even as DoD senior leaders emphasize a “return to . . . great power competition”8 driven largely by aggressive and revisionist Russian and Chinese actions, the United States risks ceding a critical and long-standing competitive warfighting advantage in the undersea domain.

### 2AC --- LIO A/O

#### We’re not prepared for a European war – it would collapse transatlantic partnerships, erode the EU, undo the pivot to Asia, cause fast prolif and shred the LIO.

* Link turns DoD DA
* Straight turns NATO/HEG bad
* Decks EU CP solvency

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Implications for the United States

A wider European conflict would pose the stiffest challenge to the global standing of the United States [US] since the end of the Cold War and to the international system it has built and underwritten for decades longer. It would test the durability of its global system of alliances and the efficacy of international regimes and institutions that have guarded world peace, security, and prosperity. The challenge would come at a time when the United States [US] itself is in immense disarray, as a deeply polarized polity confronts massive domestic problems—the pandemic, inflation, racial justice, and cultural wars—that leave less time and fewer resources for foreign matters. The United States will be tested to see whether it can muster the will, energy, and creativity to execute an effective policy toward the unfolding crisis in Europe.

At home, public attention has been focused on developments in and around Ukraine, but the Joe Biden administration cannot ignore the home front. In response to U.S.-levied sanctions, Russia can be expected to step up its cyber operations against the United States. It will more actively sow disinformation, seek to exacerbate domestic tensions, and ~~paralyze~~ [inhibit] critical infrastructure. The severity of the attacks will likely rise in proportion to the harshness of the sanctions Washington levies on Moscow.

Abroad, the fate of the transatlantic community, a central pillar of U.S. security and prosperity, would be a stake. One of the Biden administration’s priorities, as laid out in the Interim National Security Strategy Guidance released in March 2021, is repairing U.S. alliances—especially with Europe—after four disruptive years under President Donald Trump. Although relations are more cordial, significant substantive differences remain and the willingness of allies to align behind a common purpose for the long haul remains questionable.

The United States’ allies have rallied behind a harsh set of sanctions in response to Russia’s invasion of Ukraine, but preserving unity as the conflict drags on remains a challenge, especially if sacrifice is spread unevenly across NATO, as will likely be the case. Putin will seek to exploit divisions through differentiated levels of pressure on NATO members, targeted energy cutoffs, offers of negotiation, and the like to most advance two long-standing Russian goals: the end of NATO as a collective defense organization and the erosion of the foundations of the EU. Should he succeed, the new order that would emerge in Europe is far from certain. But Russia would undoubtedly play a central role in its formulation, and almost any conceivable new order would diminish the power and role of the United States [US] on the continent.

A similar situation obtains in the Indo-Pacific region. The Biden administration spent 2021 bolstering relations with its allies and partners—energizing the Quad (the United States, Australia, India, and Japan), and cutting a submarine deal with the United Kingdom and Australia—to meet the growing strategic challenge posed by China. A major, prolonged European distraction could undo further efforts to pivot to Asia, raise doubts among allies and partners about the credibility of the U.S. commitment, and free China to pursue its objectives with greater vigor. The United States [US] could avoid this outcome by pursuing lesser goals in Europe—leading to the quicker development of a new order less favorable to American interests—or by a massive buildup of its military capabilities that would enable it to play a major, perhaps decisive, role in both regions. The latter would have to come at the cost of the Biden administration’s domestic priorities. Whether the Biden administration could muster sufficient domestic political support, if it decided to move in this direction, is far from certain.

In addition to regional challenges, a major European conflict would also stress critical international regimes and institutions. One of the first victims would likely be the arms control regime that has served as the foundation of strategic nuclear stability for the past fifty-plus years. The United States withdrew from some central elements—including the Anti-Ballistic Missiles (ABM) and the Intermediate-Range Nuclear Forces (INF) treaties—but two critical elements have remained in place: the New START treaty and the Nonproliferation Treaty (NPT). A wider conflict in Europe would all but guarantee that the United States and Russia could not agree to a follow-on treaty to the New START treaty before it expires in 2026, and the NPT review conference tentatively scheduled for August 2022 would fall by the wayside. As a consequence, the incipient arms race now underway, fueled by new technologies—hypersonics, cyber tools, and artificial intelligence—would accelerate. A new wave of nuclear proliferation could ensue, especially if U.S. allies and partners lose faith in America’s commitment to extended deterrence. Mutually assured destruction, which for better or worse has anchored strategic stability since the early 1970s, would be severely stressed in a multipolar nuclear landscape with Russia and the United States fighting at least a proxy war.

Likewise, a broader conflict in Europe would stress, perhaps to the breaking point, the United Nations [UN] and many of its auxiliary organizations. Already stymied by a growing rift between the Western permanent members and Russia and China, the Security Council would have failed in its primary reason for being—to prevent the outbreak of a major conflict in Europe. It could continue to exist as a forum for the airing of grievances and acrimonious debate, but it would serve little purpose as a platform for addressing major global issues.

Finally, the humanitarian costs of a wider conflict in Europe would be staggering, particularly given the destructiveness of modern weapons. Beyond the physical destruction and loss of life, untold numbers of refugees would flow across borders not only into Central East Europe but perhaps further West depending on the scale of the fighting. The strain on the socioeconomic systems—coming on top of the stress of the two-year-old pandemic, economic dislocation, and mounting inflation—could bring some close to collapse.

#### Extinction---rogue tech, bio arms-racing, and climate change.

Harari ’18 [Yuval; September 26; Professor of History at Hebrew University of Jerusalem; "We need a post-liberal order now," https://www.economist.com/open-future/2018/09/26/we-need-a-post-liberal-order-now]

If the liberal order is collapsing, what new kind of global order might replace it? So far, those who challenge the liberal order do so mainly on a national level. They have many ideas about how to advance the interests of their particular country, but they don’t have a viable vision for how the world as a whole should function. For example, Russian nationalism can be a reasonable guide for running the affairs of Russia, but Russian nationalism has no plan for the rest of humanity. Unless, of course, nationalism morphs into imperialism, and calls for one nation to conquer and rule the entire world. A century ago, several nationalist movements indeed harboured such imperialist fantasies. Today’s nationalists, whether in Russia, Turkey, Italy or China, so far refrain from advocating global conquest.

In place of violently establishing a global empire, some nationalists such as Steve Bannon, Viktor Orban, the Northern League in Italy and the British Brexiteers dream about a peaceful “Nationalist International”. They argue that all nations today face the same enemies. The bogeymen of globalism, multiculturalism and immigration are threatening to destroy the traditions and identities of all nations. Therefore nationalists across the world should make common cause in opposing these global forces. Hungarians, Italians, Turks and Israelis should build walls, erect fences and slow down the movement of people, goods, money and ideas.

The world will then be divided into distinct nation-states, each with its own sacred identity and traditions. Based on mutual respect for these differing identities, all nation-states could cooperate and trade peacefully with one another. Hungary will be Hungarian, Turkey will be Turkish, Israel will be Israeli, and everyone will know who they are and what is their proper place in the world. It will be a world without immigration, without universal values, without multiculturalism, and without a global elite—but with peaceful international relations and some trade. In a word, the “Nationalist International” envisions the world as a network of walled-but-friendly fortresses.

Many people would think this is quite a reasonable vision. Why isn’t it a viable alternative to the liberal order? Two things should be noted about it. First, it is still a comparatively liberal vision. It assumes that no human group is superior to all others, that no nation should dominate its peers, and that international cooperation is better than conflict. In fact, liberalism and nationalism were originally closely aligned with one another. The 19th century liberal nationalists, such as Giuseppe Garibaldi and Giuseppe Mazzini in Italy, and Adam Mickiewicz in Poland, dreamt about precisely such an international liberal order of peacefully-coexisting nations.

The second thing to note about this vision of friendly fortresses is that it has been tried—and it failed spectacularly. All attempts to divide the world into clear-cut nations have so far resulted in war and genocide. When the heirs of Garibaldi, Mazzini and Mickiewicz managed to overthrow the multi-ethnic Habsburg Empire, it proved impossible to find a clear line dividing Italians from Slovenes or Poles from Ukrainians.

This had set the stage for the second world war. The key problem with the network of fortresses is that each national fortress wants a bit more land, security and prosperity for itself at the expense of the neighbors, and without the help of universal values and global organisations, rival fortresses cannot agree on any common rules. Walled fortresses are seldom friendly.

But if you happen to live inside a particularly strong fortress, such as America or Russia, why should you care? Some nationalists indeed adopt a more extreme isolationist position. They don’t believe in either a global empire or in a global network of fortresses. Instead, they deny the necessity of any global order whatsoever. “Our fortress should just raise the drawbridges,” they say, “and the rest of the world can go to hell. We should refuse entry to foreign people, foreign ideas and foreign goods, and as long as our walls are stout and the guards are loyal, who cares what happens to the foreigners?”

Such extreme isolationism, however, is completely divorced from economic realities. Without a global trade network, all existing national economies will collapse—including that of North Korea. Many countries will not be able even to feed themselves without imports, and prices of almost all products will skyrocket. The made-in-China shirt I am wearing cost me about $5. If it had been produced by Israeli workers from Israeli-grown cotton using Israeli-made machines powered by non-existing Israeli oil, it may well have cost ten times as much. Nationalist leaders from Donald Trump to Vladimir Putin may therefore heap abuse on the global trade network, but none thinks seriously of taking their country completely out of that network. And we cannot have a global trade network without some global order that sets the rules of the game.

Even more importantly, whether people like it or not, humankind today faces three common problems that make a mockery of all national borders, and that can only be solved through global cooperation. These are nuclear war, climate change and technological disruption. You cannot build a wall against nuclear winter or against global warming, and no nation can regulate artificial intelligence (AI) or bioengineering single-handedly. It won’t be enough if only the European Union forbids producing killer robots or only America bans genetically-engineering human babies. Due to the immense potential of such disruptive technologies, if even one country decides to pursue these high-risk high-gain paths, other countries will be forced to follow its dangerous lead for fear of being left behind.

An AI arms race or a biotechnological arms race almost guarantees the worst outcome. Whoever wins the arms race, the loser will likely be humanity itself. For in an arms race, all regulations will collapse. Consider, for example, conducting genetic-engineering experiments on human babies. Every country will say: “We don’t want to conduct such experiments—we are the good guys. But how do we know our rivals are not doing it? We cannot afford to remain behind. So we must do it before them.”

Similarly, consider developing autonomous-weapon systems, that can decide for themselves whether to shoot and kill people. Again, every country will say: “This is a very dangerous technology, and it should be regulated carefully. But we don’t trust our rivals to regulate it, so we must develop it first”.

The only thing that can prevent such destructive arms races is greater trust between countries. This is not an impossible mission. If today the Germans promise the French: “Trust us, we aren’t developing killer robots in a secret laboratory under the Bavarian Alps,” the French are likely to believe the Germans, despite the terrible history of these two countries. We need to build such trust globally. We need to reach a point when Americans and Chinese can trust one another like the French and Germans.

Similarly, we need to create a global safety-net to protect humans against the economic shocks that AI is likely to cause. Automation will create immense new wealth in high-tech hubs such as Silicon Valley, while the worst effects will be felt in developing countries whose economies depend on cheap manual labor. There will be more jobs to software engineers in California, but fewer jobs to Mexican factory workers and truck drivers. We now have a global economy, but politics is still very national. Unless we find solutions on a global level to the disruptions caused by AI, entire countries might collapse, and the resulting chaos, violence and waves of immigration will destabilise the entire world.

This is the proper perspective to look at recent developments such as Brexit. In itself, Brexit isn’t necessarily a bad idea. But is this what Britain and the EU should be dealing with right now? How does Brexit help prevent nuclear war? How does Brexit help prevent climate change? How does Brexit help regulate artificial intelligence and bioengineering? Instead of helping, Brexit makes it harder to solve all of these problems. Every minute that Britain and the EU spend on Brexit is one less minute they spend on preventing climate change and on regulating AI.

In order to survive and flourish in the 21st century, humankind needs effective global cooperation, and so far the only viable blueprint for such cooperation is offered by liberalism. Nevertheless, governments all over the world are undermining the foundations of the liberal order, and the world is turning into a network of fortresses. The first to feel the impact are the weakest members of humanity, who find themselves without any fortress willing to protect them: refugees, illegal migrants, persecuted minorities. But if the walls keep rising, eventually the whole of humankind will feel the squeeze.

### 2AC --- GIUK Gap A/O

#### NATO is falling behind---lack of info, training, and tactics all wreck ASW capabilities---only a cohesive NATO ASW strategy and US intel sharing solves

Smith and Hendrix 17 — Julianne Smith and Jerry Hendrix. Julianne Smith, former Adjunct Senior Fellow, Transatlantic Security Program. Jerry Hendriz, Former Senior Fellow and Director, Defense Program. "Forgotten Waters," CNAS, 5-2-2017, https://www.cnas.org/publications/reports/forgotten-waters, accessed 6-30-2022, WMK

The “Forgotten Waters” exercise revealed a lack of familiarity with the GIUK Gap: geographically, strategically, and tactically. It provided CNAS analysts and participants with several important insights about hybrid threats, the critical role of Iceland, intelligence sharing, disparities among NATO states, and NATO decision-making. Particularly in its third move, which involved a more conventional set of military threats, the exercise exposed numerous gaps in military capability and capacity as well as technical shortfalls. Here, we focus first on strategic issues, and then on alliance issues, that the exercise highlighted.

Strategic and Planning Challenges

CNAS decided to host a tabletop exercise on the GIUK Gap because, as the name of the exercise suggests, allies have forgotten why it is necessary, as well as how to operate there. At the end of the Cold War, NATO understandably turned away from the North Atlantic to focus on expeditionary operations of growing importance in places like the Balkans, Afghanistan, and Iraq. “Forgotten Waters” held true to its name even before the exercise got underway: CNAS staff often had to explain to potential participants and supporters where the GIUK Gap was located, how Alliance naval activity in the gap had atrophied in recent years, and why this Cold War hot spot has been creeping back into focus. As the Alliance has returned to its core mission of collective security in the wake of Russia’s illegal annexation of Crimea in 2014, many of NATO’s recent efforts have focused on the vulnerability of the Baltic States and Poland.

During the game, participants’ questions and comments also demonstrated a lack of familiarity with NATO’s crisis management procedures. As they grappled with everything from electronic warfare to a collision between a surface ship and a submarine to a breach in an undersea cable, players sought information on what was illegal, what types of activities could be considered “normal,” what procedures were in place to cope with specific scenarios, and how much they could “see” below the surface. While some players had been selected because of their pre-existing interest in and knowledge of the GIUK Gap, most players left the game with a much deeper understanding of this strategic corner of the North Atlantic.

In addition to exposing a general lack of familiarity with the GIUK Gap, “Forgotten Waters” showed participants how a hybrid threat affecting the internal politics of a NATO ally could be a great disruptor to transatlantic unity, resolve, and action. In the second move, for example, players were told that a disinformation campaign in Iceland (assumed to be stemming from Russia) had altered the outcome of that country’s national election, putting into power a leader intent on reducing the U.S. military presence in Iceland. Players faced a string of complicated challenges: the need to expose and counter the disinformation campaign, the need to maintain and fortify alliance unity, and the need to develop alternative basing options for U.S. P-8 ASW patrol aircraft.

Responses by NATO and national governments to the disinformation scenarios often lacked imagination. Whereas in other parts of the exercise, participants would study their orders of battle (documents outlining the military forces they could deploy or use in a crisis), in Move 2, facing an aggressive disinformation or cyber campaign, there was no “order of battle” that participants could consult. The Alliance did dispatch the Secretary General and SACEUR to Iceland to try to persuade the new Icelandic leader to maintain close ties to NATO and its members. NATO also issued many public statements stressing alliance solidarity and announcing its actions. Participants learned in this game, however, that countering disinformation with truth isn’t necessarily effective. While national capitals and international organizations such as NATO had an understanding of such challenges, based on considerable firsthand experience, most have failed to develop tools to cope with these types of challenges. Addressing the disinformation challenge will require new partnerships with the private sector, agile systems that allow countries to respond rapidly, and more advanced digital operations.

The Iceland scenario in Move 2 offered another important lesson: the geostrategic value of this small country. NATO’s longstanding and heated debates on burden-sharing tend to equate an ally’s value with the percentage of GDP it spends on defense. NATO members should of course deliver on their pledges from the 2014 Wales Summit to spend more on defense, but the indispensable nature of a country such as Iceland cannot be fully evaluated by measuring its defense spending.5 Iceland’s unique geographic position highlights the strategic importance of location and access within the broader debate. Although Iceland spends nothing on military forces—because it does not have them—the exercise highlighted the underlying hard truth that no plan can adequately defend alliance interests in the Atlantic if it does not include access to Iceland.

As participants grappled with the news from Iceland, they also had to address the fact that an undersea cable between Iceland and Canada had been cut. This part of the exercise provided interesting lessons about intelligence sharing. The U.S. team had evidence that the Russians were responsible for the cut in the cable, but in seeking agreement among the allies to reproach the Russians about this incident and to warn against any more such actions, they met some resistance. Some of the allies expressed a lack of trust in U.S. intelligence and asked if any of the other allies might serve as independent verifiers. Only after more than one source could confirm that the Russian government was responsible did the allies agree to proceed with the demarche.

Forgotten Waters highlighted other disparities among NATO states that impeded action. First, allies varied in the degree to which they viewed the GIUK Gap as an area of strategic importance. Second, some NATO members considered strategic deterrence assets to be a much greater concern than the anti-submarine threat, a variation reflected in the allies’ respective defense investments.

Even where allies have invested in ASW capabilities that are well suited to address the challenges NATO faces in the GIUK Gap, not all those assets are deployed in or near the North Atlantic. U.S. P-8s and Triton Unmanned Aircraft Systems, for example, are forward-deployed to Asia; the challenges associated with “pivoting” those assets to the North Atlantic in a crisis were on full display during Forgotten Waters.

The exercise also highlighted an array of allied views on the utility of relying on the NATO-Russia Council (NRC) during a crisis. During Move 1, the Russia team proposed a NATO-Russia Council meeting to discuss the collision between a Russian submarine and an Italian vessel participating in a NATO exercise. NATO debated this idea for some time and, while most allies supported the idea of a meeting, some suggested that NATO should make the meeting conditional on Russia leaving the area. In making the NRC meeting conditional, however, NATO had to accept that it might not happen at all: if Russia simply declined NATO’s request, the alliance would be without any open channel to help ease tensions.

Perhaps the biggest impediment to action during the exercise was the NATO decision-making process, which was disinclined towards rapid action. This phenomenon was not an artifact of the game; all participants attested that it reflected the reality in NATO consultations. Here, blame is shared by all sides. Inside NATO, SACEUR and other leaders lacked pre-formed plans or coordination processes that would facilitate a decisive response to an urgent situation. Considerable confusion over NATO’s rules of engagement produced yet more indecision. Some NATO allies, putting more emphasis on their own domestic security needs, showed a preference for unilateral action rather than helping develop a coordinated NATO response.

Alliance Capability Challenges

The challenges of the alliance’s administrative and procedural processes pale in comparison to the difficulties that will confront NATO after it decides to act. Neither the individual member states, nor the alliance as a whole, presently possess the ability to conduct a comprehensive and coordinated anti-submarine warfare campaign under either peacetime or wartime conditions. The Atlantic-facing members of NATO now possess far fewer frigates—the premier class of surface vessels designated to conduct ASW operations—than they did 20 years ago. Where they collectively had around 100 frigates in 1995, that number hovers at 51 today. Similarly, these nations had, in 1995, 145 attack submarines—those dedicated to anti-shipping and anti-submarine warfare missions—but that number has plummeted to a present low of 84. Moreover, most of the 52 U.S. attack submarines are presently being “pivoted” to the rising threat in the Asian Pacific region.6 In addition, the United States has placed its large underwater Sound Surveillance System (SOSUS) in a standby condition, where data remains available but is unmonitored, while the U.S. Navy’s Surveillance Towed-Array Sensor System (SURTASS) fleet is being cut from nine to five ships. As a result, NATO’s ability to monitor and track threats in the underwater environment has been badly degraded, just as a revanchist Russia is re-emerging to challenge NATO interests in the Atlantic Ocean and the Mediterranean Sea.7

After the Cold War and the dissolution of the Soviet Union, Russia’s Navy struggled for a time to define its strategic role. In July 2015, however, President Putin enunciated a new Maritime Doctrine for Russia that defined the Arctic, Atlantic, Indian, and Pacific Oceans and the Caspian Sea as geostrategic theaters. This new Maritime Doctrine specified the Atlantic Ocean, in particular, as an arena for potential conflict with the United States and NATO: “The national maritime policy on the Atlantic regional direction is determined by the growing economic, political and military pressure of NATO bloc countries … [which are] drastically reducing the capabilities of the Russian Federation to implement its maritime activities.”8 In other words, “we are coming out into the Atlantic because you have threatened us along our western border in Central Europe.” If this strategy is carried out, in all likelihood it will be Russia’s submarine force—led by the Sierra II, Victor III, and Akula-class submarines that were newly commissioned or under construction as the USSR collapsed—that will represent the vanguard of Russia’s strategic assertiveness. These highly effective older boats will be supplemented by new fast attack submarines, the Yasen class, which first entered service in 2014. Armed with land attack cruise missiles, anti-ship cruise missiles, and anti-ship and anti-submarine torpedoes, the Yasen class brings a new level of lethality to the undersea environment. It is also rumored to be quieter than its predecessors, although not as quiet as American Seawolf and Virginia-class submarines.9 Russia has been persistently testing the NATO alliance in the Baltic Sea for years. Late in 2016, several news sources reported that multiple Russian submarines had transited through the North Atlantic and entered the Mediterranean Sea in support of a Russian carrier strike group that was operating off Syria.10 Russian submarines have appeared off the east coast of the United States as well.11

The Forgotten Waters tabletop exercise made it clear that the alliance is nowhere near ready to respond quickly to undersea challenges. The size of NATO’s anti-submarine force is smaller, and it is decidedly less ready to conduct operations; at least one knowledgeable participant suggested that no less than 50 days would be required to assemble a ready ASW force. Some nations that possess new high-technology capabilities are reluctant to share these across the alliance due to commercial and proprietary concerns. Participants recognized that if even a group of multinational alliance ships could be assembled in a high material condition of readiness, they would have had little to no ASW training together as a team in recent decades. The effectiveness of such a force under competitive conditions of real-time ASW operations would be questionable. Former Supreme Allied Commander General Philip Breedlove, USAF (Ret), stated that the alliance lacks experience in basic command and control. “NATO couldn’t pull off Libya today,” he said, in an allusion to the alliance’s 2011 Odyssey Dawn campaign, and it could not execute high-end maritime combat, let alone a theater-wide ASW campaign. It became clear from the Forgotten Waters exercise that additional and persistent NATO ASW exercises are needed to rebuild long-atrophied skills.

Deficits in capabilities and capacities, in qualities and quantities, are occurring as the undersea environment is rapidly gaining strategic importance. In the past, the oceans were viewed as a contested commons across which key supplies and troops would flow to war. Today, in addition, key economic infrastructure are undersea, including communications cables and energy wellheads and pipelines. Ninety-nine percent of all transoceanic communications flow through undersea cables; nearly one third of all oil global and natural gas production is drawn from undersea wells.12 These are persistently under threat. Forgotten Waters revealed both how crucial these investments are to the daily lives of alliance members and the paucity of thought that has been devoted to their defense. Assumptions that care and maintenance of undersea assets are the responsibility of the commercial sector break down during wartime conditions, when the presence of enemy combatants can prevent commercial ships from making the repairs necessary to maintain communications and energy flows. In a global economy that is increasingly dependent upon access to the undersea environment, the NATO alliance must adapt rapidly to these new conditions.

#### The GIUK Gap is a key strategic location which is ignored now---that causes Russian aggression, NATO needs ASW capabilities to deter

Smith and Hendrix 17 — Julianne Smith and Jerry Hendrix. Forward was by Robert D. Kaplan, the bestselling author of twenty books on foreign affairs. Julianne Smith, former Adjunct Senior Fellow, Transatlantic Security Program. Jerry Hendriz, Former Senior Fellow and Director, Defense Program. "Forgotten Waters," CNAS, 5-2-2017, https://www.cnas.org/publications/reports/forgotten-waters, accessed 6-30-2022, WMK

Forward

Geography still rules, despite the conceits of the jet age and the information age. Geography is where any discussion of the strategic environment must begin. To know a country’s geography provides clues to its intentions better than any wiretap of its national security meetings. The geography that concerned us in the “Forgotten Waters” exercise described in this paper is the North Atlantic passage between Greenland and Iceland to the west and the United Kingdom to the east: the GIUK Gap, as it was known throughout the Cold War. The key here is precisely the geography that cannot be seen from above: the underwater domain where the slope and composition of the bottom, as well as nearly isothermal temperatures, make for ideal sound propagation. This geography is further complicated by pipelines, communications cables, and economic exclusion zones. Indeed, below the surface of a boisterous ocean is a critical strategic world.

The GIUK Gap forms the principal choke point between Russia’s great Northern Fleet and its strategic interests in the North Atlantic and all points south. The Russians, as a resurgent power, have modernized their military forces, but they still face the same geographical limitations as in the past. For a Russian warship to get from icy northern waters to the eastern Mediterranean, it must pass through the GIUK Gap. If American warships are sent with large numbers of troops and materiel to reinforce Europe, they must cross Atlantic waters infested with Russian submarines, surface vessels, or aircraft that transited south through the gap. It is here that the geographies of North America and Europe meet and intermesh.

Because the GIUK Gap made for a perfect strategic gateway during the Cold War, the West invested heavily in capabilities there to keep the gate shut. Almost three decades since the Berlin Wall fell, the Gap is returning to its Cold War importance, but it is yet underappreciated by contemporary policymakers. NATO faces threats from all directions, so how can the Alliance also pay attention to the North Atlantic? How can it rebuild military capabilities and skillsets for this region when resources are constrained? Should the NATO members in the region adopt a defensive posture and protect convoys, or should they adopt an offensive posture and venture out to hunt subs, or perhaps both? Such questions, pondered by World War II naval planners, are once again relevant.

The Forgotten Waters tabletop exercise concentrated on what is hidden from view, but is critical nevertheless. And something new and even larger informed this exercise: the vast increase in container shipping over the decades, underwater cables for electronic communications, and the growth of the American, Chinese, Indian, and other navies have made the seas as important as the dry land. They can no longer be relegated to the outer boundaries of strategic thinking. Newly pertinent is the celebrated 1904 essay by British geographer Sir Halford J. Mackinder, “The Geographical Pivot of History,” that shook the foundations of strategic theory. It declared that the Central Asian heartland of Eurasia had become the key battleground, as European power struggles had grown to encompass the entire Eastern Hemisphere. This spatial way of thinking would now, however, place increased importance on the seas. Mackinder’s theory would now conclude that, rather than the Central Asian hub on dry land, it is the rim of the imaginary wheel that revolves around that hub that has attained strategic dominance. Along that rim are the seas: the East China Sea, the South China Sea, the Indian Ocean, the Mediterranean via the Suez Canal, and the GIUK Gap. And so this paper is concerned with a puzzle-piece of the earth that, rather than obscure and marginal, is critical to NATO’s strategic thinking and its future.

Introduction

Russia’s aggressive actions in recent years have reminded us of the importance of transatlantic resolve and of maintaining strong deterrence. In the quarter-century since the end of the Cold War, and particularly during the most recent tenure of President Vladimir Putin, Russia has changed; once a reluctant but pragmatic partner, it is an increasingly aggressive actor as in earlier strategic eras. Its military has begun to transition, too: in a state of disrepair after the collapse of the Soviet Union, it is now a steadily modernizing force with significant capabilities focused on traditional and asymmetric missions. Russia has paired its military capabilities with an array of gray zone tactics involving proxies, subterfuge, and disinformation designed to intimidate neighbors and sow divisions among the transatlantic partners. The current reality of Russian power and ambition necessitates a renewed examination of Russian strategy across traditional and emerging domains.

The maritime domain, in particular, is once again garnering increased attention among NATO allies, especially as Russian submarines have become more capable, while Allied anti-submarine warfare (ASW) capabilities have atrophied over time. Defense experts now caution that the “GIUK Gap”—a line stretching between Greenland and Iceland to the United Kingdom—is a potential flashpoint between NATO and Russia, whose Murmansk-based Northern Fleet must transit the Gap to reach the Atlantic.1 So that Russia’s maritime assets might project force and support its interests, Putin revamped Russia’s national security strategy in 2016 to stress unfettered maritime access to the Atlantic. This partially explains why the GIUK Gap has seen more submarine traffic and higher tensions in recent years.2 Although Russia recently announced cuts to its defense spending, the authors believe that it will continue to devote resources to advanced nuclear submarines and other platforms that promise asymmetric advantages.3 Russian submarine patrols in the area hit recently a post–Cold War high; low-level, high-speed Russian aircraft flybys of U.S. naval warships have increased. As a result, focus on Allied maritime capabilities that could deter these actions has heightened.

### 2AC --- MDA k Sanctions

#### Maritime domain awareness spills-over to other policies --- key to enforce sanctions

Cheng ‘19

(Dean Cheng is Senior Research Fellow in the Asian Studies Center, of the Kathryn and Shelby Cullom Davis Institute for National Security and Foreign Policy, at The Heritage Foundation. Emma Childs, a member of The Heritage Foundation’s Young Leaders Program, made valuable contributions to this report, “The Importance of Maritime Domain Awareness for the Indo–Pacific Quad Countries,” pg online @ <https://www.heritage.org/global-politics/report/the-importance-maritime-domain-awareness-the-indo-pacific-quad-countries> //um-ef)

Finally, improved MDA can support other policies. For example, sanctions against North Korea have been circumvented by Chinese and Russian provision of at-sea transfers of oil to North Korean vessels. As of September 2018, some 148 transfers had provided North Korea with perhaps a million barrels of illicit petrol, oil, and lubricants (POL).6 Many of these transfers occur on the high seas, outside any nation’s EEZ, and are therefore much harder to detect and monitor. For a country to have a fairly complete MDA, it must collect the maximum amount of information about any ship or vessel within national waters, as well as its own EEZ. A country must also be aware of threats that might arise from international waters. Despite the investment of substantial resources by some countries, including the various members of the Quad as well as South Korea, Singapore, and the PRC, most countries’ ability to maintain MDA remains, at best, incomplete. This fact was highlighted in the search for the lost Malaysian passenger flight MH370. Despite air traffic control’s radar tracking the aircraft’s initial flights and subsequent satellite updates (from the aircraft’s systems), it disappeared from regional air traffic and air defense radars. A subsequent three-year search, involving 26 nations, 60 ships, and 50 aircraft, has not resolved the fate of the hapless airliner.7 Seow Bei Yi, “MH370: Straits Times Web Special Highlights Sea and Air Assets Used in Hunt,” The Straits Times (Singapore) September 20, 2014, https://www.straitstimes.com/singapore/mh370-straits-times-web-special-highlights-sea-and-air-assets-used-in-hunt (accessed January 9, 2019). There is neither a single maritime monitoring authority, nor complete, 24/7, all-weather coverage of the world’s waterways and open ocean. Even where regions are under observation, states may not share that data for reasons of national security. This is even more problematic due to the general decline in the number of available naval and maritime law enforcement platforms. The U.S. Navy, for example, is currently operating with fewer than 300 ships, set against a 355-ship requirement for global operations. The U.S. Coast Guard has 243 vessels that are more than 65 feet in length, but most of these are service vessels, such as buoy tenders and smaller patrol craft. The total number of National Security Cutters, High Endurance Cutters, and Medium Endurance Cutters available to patrol American EEZs (which include not only the East and West Coasts, but the waters around Alaska, Hawaii, Guam, and Puerto Rico) is only 37.8 U.S. Coast Guard, “Cutters,” June 12, 2018, https://www.uscg.mil/datasheet/display/Article/1547943/cutters/ (accessed January 9, 2019). The challenge associated with MDA is only partly one of data collection. Thanks to the proliferation of ship-tracking technologies and surveillance systems and methods, there is a growing amount of available maritime information. But that information can only be useful once it is analyzed. Consequently, improved MDA requires not only more and better coverage of the world’s oceans (and associated activity above and below the surface), but also more analytical capacity.

# Deterrence Advantages

## General Stuff

### 1AC/2AC --- AI Key

#### AI is key to sub effectiveness.

Seffers 22 — George, SIGNAL Magazine Editor in Chief, writer, reporter, former Signal Corps soldier, Lyon College. 02-xx-2022, "Undersea Combat Includes Way More Than Submarines," No Publication, https://www.proquest.com/docview/2634875455?parentSessionId=u%2B5W4WluliUjbAmCjuVeYogVpPAmksheOKzmHlrQefM%3D&pq-origsite=primo&accountid=14667, accessed 6-30-2022 //THS—OLW

AI and unmanned systems aid underwater stealth missions.

While submarines are vital to undersea warfare, success in the domain requires the integration of a much broader array of systems and technologies, including artificial intelligence and unmanned systems.

Undersea warfare is a lot more than just submarine versus submarine. My job is to make sure our undersea forces-and that includes our ballistic missile submarines, our attack submarines, our carrier strike group ASW [anti-submarine warfare] forces, maritime patrol aircraft, fixed systems, unmanned and autonomous systems, all of that-are able to integrate as part of an undersea battle force, explains Rear Adm. Richard Seif, USN, commander, Undersea Warfighting Development Center (UWDC), Groton, Connecticut.

The UWDC mission is to support undersea superiority, in part by integrating a wide array of technologies and developing doctrine for multidomain undersea warfare. Priorities include cross-domain tactical development and capability development; wargaming; in-depth analysis of real-world operations; rapid integration of new weapons, sensors and new technologies such as artificial intelligence (AI) and machine learning (ML); and direct support of deployed undersea forces. Based in Groton, the UWDC also has detachments in Norfolk, Virginia, and San Diego and includes an Arctic Submarine Lab and a Tactical Analysis Group.

We have to integrate across domains. When I say across domains, I mean space and cyber all the way to the seafloor and then integrate all of that combat power as part of a broader joint force

Communications and a common operating picture are integral to the joint-domain operations, but both are a particular challenge undersea. When were talking about integrating with the joint force and integrating across domains, what we're really talking about is the ability to share a common operating picture and communicate without giving up our stealth, communicate using a variety of systems. My command, UWDC, is working really hard integrating and developing new technology and experimenting with it and making sure we're ready to communicate across domains with both manned and unmanned platforms," Adm. Seif notes.

Having served aboard five nuclear fast attack submarines, including as a commanding officer on the USS Buffalo (SSN 715) and USS Jacksonville (SSN 699), Adm. Seif does not discount the critical role of submarines. "Within the submarine force, as part of the undersea domain, our nuclear attack submarine force does take up a fair amount of my priorities. I think of our attack submarines as our country's apex predators ready to appear at the time of our choosing and deliver just overwhelming combat power," he says.

Submarines remain vital in part because of their stealth and versatility. "We expect our submarine force, as a stealth force and endurance capability, to operate inside an adversary's defensive perimeters and deliver all kinds of effects-precision strike, anti-surface weapons, anti-submarine weapons, seabed warfare, mining, delivery of SEAL [sea, air and land] teams and really every kind of effect you can think of" he adds. "But what really makes us most effective is when our undersea forces are able to integrate with other stealth forces and share targeting, communicate and ultimately provide access as part of the broader joint force"

The Navy currently is building Columbia-class submarines to replace Ohio-class ballistic missile subs. They are considered the Navy's number one acquisition priority and will be the "largest, most capable and most advanced submarines" according to a Navy fact sheet.

The service also is building the Block V Virginia-class submarine, a nuclear-powered fast attack vessel that incorporates stealth technologies and intelligence gathering capabilities and will carry more Tomahawk cruise missiles than its predecessors. "The ability to put a variety of weapon systems and payloads into the Block V Virginia class is just really gamechanging for the undersea enterprise. As new weapon systems and new long-range weapons and different capabilities come online, my team's job is to make sure the crews are ready to work with and optimize those," he declares.

Adm. Seif also touts the growing importance of unmanned or autonomous systems to the undersea warfare mission. The Navy's Unmanned Undersea Vehicle Master Plan document published in 2000 points out that unmanned underwater vehicles can support a wide range of missions, including tactical oceanography, communications, navigation, anti-submarine warfare [ASW] and intelligence, surveillance and reconnaissance.

### 1AC/2AC --- New Russia Capabilities

#### Russia has new submarines with AI capabilities---they are *ginormous*

Tiwari 22 — Sakshi Tiwari, "World’s 2 Largest Submarines," Latest Asian, Middle-East, EurAsian, Indian News, 6-27-2022, https://eurasiantimes.com/worlds-2-largest-submarines-russian-navys-belgorod-dmitri-donskoi/, accessed 6-30-2022, WMK

Meanwhile, a significant development concerning Russia’s largest submarines has been observed in the White Sea — several miles away from the theatre of war and close to Russia’s northwestern coast.

On June 26, Naval Analyst HI Sutton citing Open Source Intelligence revealed that the two largest submarines in the world- the Belgorod (K-239) and the Dmitriy Donskoi (TK-208) of the Typhoon Class were caught on the surface of the White Sea.

He further claimed that these subs are ginormous, much bigger than anything in the West, even the US Navy’s Ohio Class which is US Navy’s prized possession and a nuclear-powered submarine in the American fleet. However, it was not immediately clear why the two submarines appeared suddenly in the White Sea.

The White Sea is a southern inlet of the Barents Sea on Russia’s northwest coast. It is pertinent to note that the White Sea serves as a vital conduit between Russia’s Far Eastern ports and the economically vibrant regions of northwest Russia and other nations.

The White Sea-Baltic Canal, which flows into Lake Onega, connects it to the waterway network of European Russia.

Although the exact purpose of the two submarines floating in the White Sea is unknown, there are speculations that the Dmitry Donskoi was assisting the sea trials of a submarine — potentially the Belgorod. EurAsian Times could not independently verify this information.

“White Sea is Russia’s backyard, close to Finland and Sweden. It is possible that the two submarines were headed to the Barents Sea via the White Sea-Baltic Canal for some routine operation. Since the canal is not too deep, the submarines might have had to surface and transit”, according to military analyst Joseph P Chacko.

When asked whether the submarines had anything to do with soon-to-be NATO members Finland and Sweden, Chacko said, “These are strategic submarines that only use long-range ballistic missiles. To guard against the Nordics, the Iskander missile would suffice. So, I think it was just Russia guarding its perimeter against the US or undertaking a routine exercise.”

The Dmitry Donskoi was reportedly first sighted in the White Sea last week, on June 17 or 18. However, the appearance of the Belgorod-class evokes interest as the mammoth submarine is still on trial, according to Sutton.

Ginormous Russian Submarine In The White Sea

The Project 941 Akula class RFS Dmitri Donskoy (TK-208) nuclear ballistic missile submarine is part of the Russian Navy and goes by the NATO reporting name Typhoon.

The submarine, which is 175 meters long — nearly 600 feet — has been operational since 1980 and has undergone substantial upgrades throughout its existence. The ship has a crew of about 160 people and has a displacement of 48,000 tons.

The submarine can unleash a wave of missiles at targeted ships and cause significant damage when unchallenged, thanks to its powerful missile artillery. These submarines can also relatively covertly launch massive ballistic missiles from anywhere in the world.

Even though it is the last serving submarine of its class, with all other sister ships decommissioned over the years, Russian state news agency TASS reported that the Dmitry Donskoi would remain in service for the next five years at least. It was the biggest submarine in the world until the Belgorod, also sighted in the White Sea.

The Belgorod is a sizable, stealthy, specially designed nuclear vessel that was constructed from the unfinished hull of an Oscar-II cruise missile submarine. Everything from underwater drones like the Klavesin-2R to Losharik miniature submarines is believed to be compatible.

The ship’s hull was extended to a length of around 184 meters (604 feet), and its displacement was increased to 30,000 tons (when submerged), which was less than half that of the Ohio-class ballistic missile submarines used by the US Navy.

According to an article by HI Sutton, Belgorod will be manned by Russian sailors but run by the covert Main Directorate Deep-Sea Research company GUGI.

He also stated that although the submarine has undergone considerable renovations and may even have some of the newest technology, she is still an earlier generation of the submarine and is probably less stealthy than the most recent generations of submarines.

It was earlier revealed that the artificial intelligence-guided nuclear-tipped Poseidon torpedoes will be integrated into the 14,700-ton submarine.

EurAsian Times had earlier reported that it would most likely be used in the Pacific fleet, which might endanger US naval bases on the West Coast and significant cities like Los Angeles. Additionally, its underground construction and inexhaustible nuclear power could move undetected to any region.

### 1AC --- Nuclear Deterrence I/L

#### Detection is the lynchpin of effective nuclear deterrence

Perkins et al. 16. Captain William A. Perkins is currently serving as the Director of Fleet Operations (N3) for the Pacific based US Seventh Fleet. Perkins is designated as P-3 Orion Weapons & Tactics Instructor in the US Navy and on his seven deployments he has flown combat missions in every operational theatre in which the P-3C operates. In 2012, he completed a successful aviation squadron command tour as Commanding Officer of Tactical Air Control Squadron 11. A prolific author and strategist, his work has been published in Jane’s Defence Weekly, Jane’s Navy International, US Naval Institute’s Proceedings, Joint Warfare Centre’s Three Swords and in the Journal of the JAPCC. In addition, while assigned to the JAPCC, he wrote three strategic level studies on NATO maritime and air integration challenges; “Alliance Airborne Anti-Submarine Warfare”; June 2016; Joint Air Power Competence Center; <https://www.japcc.org/white-papers/alliance-airborne-anti-submarine-warfare/> //BY

“Many assessments of what the Russian military can and cannot do have been inaccurate. This isn’t just problematic for the facts’ sake – more troubling, it risks skewing our assessment of how far Moscow will go… When Western analysts – and in turn, Western leaders – seek to discredit Russian military capabilities, Moscow will likely continue to take the opportunity to prove them wrong.”

Since non-NATO submarine deployments nearly ceased in the mid-1990s, NATO now has a generation of officers and civilian leaders who did not grow up experiencing the “cat and mouse” environment of submarine warfare which existed during the Cold War. NATO has conducted three major joint operations during since the end of the Cold War. None of these operations were conducted in an area challenged by the presence of an adversary submarine. Just as air chiefs fight the perception NATO will always have air superiority in any campaign, maritime leaders must also engage to challenge the perception that NATO’s maritime forces will always have maritime superiority. This perception, coupled with inaccurate beliefs regarding the capability of the Russian Federation’s maritime capability, has coloured maritime defence spending for decades. As a result, NATO has ceded much of the advantage it earned at the conclusion of the Cold War. Therefore, to dispute this prevailing theory, this study is intended to be read by a much broader audience than purely the maritime component.

Unlocated submarines present numerous problems for both the Maritime component and for NATO writ large. An adversary submarine which is not tracked from a theatre level will have freedom of movement to pose numerous threats to NATO forces and territories. A single submarine can effectively close a maritime choke point, such as the Strait of Gibraltar, preventing merchant traffic or naval forces from transiting.  An unlocated submarine can lie in wait for a naval task force and effectively pick off the high value capital ships, removing in a single blow a significant part of the joint capability to project power (aircraft carrier, amphibious assault ship) or resupply naval forces at sea Adversary attack submarines (SSN) are charged with detecting and potentially engaging not only NATO surface ships, but NATO’s ballistic missile submarines serving as the seaborne aspect of the nuclear deterrent. If those submarines are not tracked at a theatre level, it puts the nuclear deterrent force at risk. Furthermore, an unlocated submarine could establish a covert operating area close to a NATO nation’s coastline. From there, it can project striking power deep into NATO, exploiting recent advancements in modern cruise missile capability (some with ranges in excess of 1500km) and ballistic missile capability. All of these situations become significantly mitigated by tracking submarines throughout their deployment at a theatre level. NATO excelled at tracking submarines in the Cold War, but the skills have atrophied and the resources have dwindled.

### 2AC --- ASW K2 Deter

#### ASW is key to deter Russia---otherwise Russia can do targeted attacks on the US and EU mainland. We are falling behind

Woody 22 — Christopher Woody edits and reports on defense and security issues. Christopher Woody, "As Russia’s ground forces struggle in Ukraine, NATO navies are staying focused on Moscow’s submarines," Business Insider, 3-15-2022, https://www.businessinsider.com/nato-trains-for-anti-submarine-warfare-amid-russia-ukraine-attack-2022-3, accessed 6-30-2022 WMK

After Russia’s 2014 attack on Ukraine, the US "saw an uptick of Russian navy submarine out-of-area deployers, which culminated in Russian general-purpose submarines" operating off of the US East Coast, Vice Adm. Daniel Dwyer, commander of the US Navy’s 2nd Fleet, said at the WEST Conference in San Diego in February.

"It was determined at that point that the Atlantic no longer provided that geography that enabled our protection and that standoff [distance] that we’ve enjoyed for so many decades," added Dwyer, whose command was reactivated in 2018 in response to that undersea activity.

Russian submarines have also added the ability to attack land targets with cruise missiles, which they demonstrated for the first time with strikes on ISIS targets in Syria in 2015, surprising US military leaders in Europe.

NATO commanders fear those missiles could be used against ports and other infrastructure in Europe, potentially interfering with resupply and reinforcement efforts. Recent US and NATO drills have focused on getting convoys across the Atlantic and to disembarkation points in Europe.

US military leaders also see those missiles as a growing threat to the US mainland. US Air Force Gen. Glen VanHerck, who is responsible for North America as head of Northern Command and NORAD, has repeatedly warned about air- and sea-launched cruise missiles.

VanHerck has pointed specifically to Russia’s Severodvinsk-class guided-missile submarines, calling them "on par with ours" and telling lawmakers this month that those subs, also called the Yasen class, "are designed to deploy undetected within cruise-missile range of our coastlines to threaten critical infrastructure during an escalating crisis."

"This challenge will be compounded in the next few years as the Russian Navy adds the Tsirkon hypersonic cruise missile to the Severodvinsk’s arsenal," VanHerck told the House Armed Services Committee.

VanHerck has advocated new and modernized detection systems to spot activity in the sea and the air around the US, including updates to the Navy’s Integrated Undersea Surveillance System, which is important "as Russia and China continue to field highly advanced guided-missile submarines," VanHerck told lawmakers.

Russia’s struggles on the ground in Ukraine have raised questions about the quality of its military and its leadership after years of investment and upgrades. Russia’s navy has had a limited role in the conflict so far, and the US Navy’s top civilian official has cautioned against drawing conclusions about its capabilities.

"One should never underestimate one’s adversary," Navy Secretary Carlos del Toro said this month at the McAleese defense conference. "Perhaps the shortcomings that we’ve seen with regards to the Russian army as it invades Ukraine, the same disadvantage doesn’t necessarily translate over to the navy and their submarine force."

Moscow is investing "very strategically and wisely" in its submarines, "and their technology approaches ours," del Toro said, "so one should never underestimate that capability and the threat that that capability presents to us."

### 2AC --- Seapower k NATO Deterrence

#### Sea power is the lifeblood NATO readiness and deterrence---underpins logistics and hard power

Alleslev 19 — Leona Alleslev-Krofchak is a Canadian politician and former military officer. Alleslev, Leona. "NATO Anti-submarine warfare: rebuilding capability, preparing for the future." Science and Technology Committee (STC) (2019). https://www.nato-pa.int/download-file?filename=sites/default/files/2019-10/REPORT%20150%20STC%2019%20E%20rev.%201%20fin%20-%20ANTI-SUBMARINE%20WARFARE.pdf WMK

8. The importance of the sea for the Alliance can hardly be overstated (see also Map 1). The conventional defence of Europe rests on two pillars (Breedlove, 2018). First, the Alliance must have robust military power, including Canadian and US forces, present and ready in Europe, including its maritime approaches. Second, the North American Allies must be able to reinforce and resupply the European continent with materiel and personnel in times of crisis or war. International law, norms, and multinational institutions underpin the principle of freedom of navigation in peace time (Tamnes, 2018). However, in contingency situations, the Alliance will only be able to guarantee such freedom if it can exercise control of the sea and project power into and across it.

9. As its name makes abundantly clear, the North Atlantic Ocean is at the core of the North Atlantic Treaty Organization. It is a vital part of NATO’s area of responsibility and its most important sea line of communication (Olsen, 2018). It is “NATO’s lifeblood”, as General Philip M. Breedlove, NATO’s former Supreme Allied Commander Europe, so aptly puts it (Breedlove, 2018). In addition to its military importance, it also remains the key to economic prosperity in North America and Europe and hosts critical undersea communication cables.

10. While the North Atlantic may be the most important maritime environment for the Alliance, NATO should also be in a position to exercise control of, or guarantee access to, its other maritime areas of responsibility, most importantly the Baltic, Mediterranean, and Black Seas.

11. The Baltic Sea connects nine European countries, including six Allies. Maritime traffic is extremely dense. Almost 15% of global maritime cargo traffic is related to the region (Nordenman, 2018). Moreover, the Baltic Sea is the third most important energy node after the Strait of Hormuz and the Strait of Malacca. If Russia ever succeeded in closing the 104-kilometre land border between Poland and Lithuania (the Suwalki gap), the maritime approaches in the Baltic Sea would also be the only viable reinforcement and resupply route for Estonia, Latvia, and Lithuania.

12. In recent decades, the Mediterranean Sea has become increasingly important for the Alliance and especially for the nine Allies with Mediterranean shores. Maritime trade between countries in the region accounts for almost a quarter of global maritime trade (UFM, n.d.). Another key reason remains the continuing difficult security environment in the Maghreb and the Eastern Mediterranean. A very visible sign of the Mediterranean Sea’s rising importance was the move of the US Sixth Fleet’s headquarters from London to Naples in the mid-2000s.

13. While the Black Sea boasts far less maritime traffic, it still represents a highly complex geopolitical environment for NATO as a whole and for Bulgaria, Romania, and Turkey in particular. This has been especially true after the 2008 Russia-Georgia conflict, Russia’s illegal and illegitimate annexation of Crimea in 2014, and the ongoing aggression in eastern Ukraine. The military picture remains complicated for all sides. The 1936 Montreux Convention imposes firm legal restrictions as regards vessels of war. The scope of these restrictions differs for littoral and non-littoral states. Non-Black Sea countries cannot send submarines through the Turkish Straits. Restrictions also apply to surface ships. Limits apply to the size of ships and fleets as well as to the duration of stay (maximum 21 days). Moreover, Black Sea countries can only send submarines through the Straits if they are joining their base in the Black Sea for the first time or if they return from maintenance or repair outside the Black Sea. Two new submarines assigned to Russia’s Black Sea Fleet have not yet joined their home base but remain in Tartus, Syria.

14. As new opportunities and challenges arise due to the changing climate, the High North is another area deserving of close monitoring by the Alliance. Arctic oil and gas projects could still alter the global energy market. New maritime sea routes connecting the Atlantic and the Pacific could change global trade. Commercial fishing in the North Atlantic and North Pacific already accounts for about 40% of commercial fish landings globally. Tourism is on the rise. In short, the human footprint in the Arctic is increasing - and, with it, state interests. Submarines are ideally adapted to operate in the Arctic. They can thus show presence, gather valuable intelligence, present hybrid challenges, and close off increasingly busy Arctic chokepoints. In addition to Russia as an Arctic state, Chinese researchers are working on making the country’s submarines ice-capable for the Arctic (Goldstein, 2019), and the United States has noted that China could aspire to send its submarines into the Arctic in the future (US DOD, 2019a).

### AT: Russia = Defensive Posture

#### Russian subs are offensive

Alleslev 19 — Leona Alleslev-Krofchak is a Canadian politician and former military officer. Alleslev, Leona. "NATO Anti-submarine warfare: rebuilding capability, preparing for the future." Science and Technology Committee (STC) (2019). https://www.nato-pa.int/download-file?filename=sites/default/files/2019-10/REPORT%20150%20STC%2019%20E%20rev.%201%20fin%20-%20ANTI-SUBMARINE%20WARFARE.pdf WMK

23. The Rapporteur would agree with the latter. One basic problem of Russia’s strategy is that actions Russia would (want to) perceive as defensive – denying access beyond the GIUK gap to protect its nuclear arsenal – should be seen as a strategic challenge to the Alliance – threatening the transatlantic link.

24. Another element in Russia’s naval modernisation also points towards an offensively oriented posture: the new Kalibr-3M14 long-range precision-guided missiles which can target both surface vessels and land targets from as far as 1,500 to 2,500 kilometres. As a result, Russian submarines not only present a threat to the transatlantic link; they can now also deny access to Alliance littorals in support of the much broader A2/AD threat (Tamnes, 2018). Kalibr missiles could hold critical nodes deep in Alliance territory at risk, even when on station in the Barents and White Seas. Indeed, Russia has tested launching these missiles from their home base, significantly reducing the time to launch (O’Dwyer, 2019). If the upper estimate holds true, a submarine in the White Sea could place a Kalibr on NATO Headquarters in Brussels and at least 13 Allied capitals (see also Map 4). In a crisis or war, Russian submarines could target critical disembarkation ports for troop reinforcements and potentially even North America’s eastern seaboard if they slipped undetected into the western North Atlantic. Such a situation would have significant military, political, and psychological effects on member states, potentially undermining NATO’s ability and will to fulfil its core tasks (Allport, 2018).

#### Yes revisionist---they seek power to assert their position in the global order

Jeffrey Edmonds 20, Adjunct Senior Fellow, Transatlantic Security Program, Center for a New American Security (CNAS), M.P.A. from Harvard’s Kennedy School of Government, Andrea Kendall-Taylor, 4/4/20, "IV. The Evolution of the Russian Threat to NATO", Whitehall Papers, Volume 95, Issue 1: Future NATO: Adapting to New Realities, https://www.tandfonline.com/doi/full/10.1080/02681307.2019.1731209

In addition to maintaining influence along its periphery and halting NATO’s eastward expansion, Russian foreign policy has long focused on reasserting Russia’s status as a great power. Russians have historically seen their country as a great nation and its precipitous domestic decline and global retreat in the 1990s created widespread domestic resentment. The Kremlin seeks to be treated as an equal of the US and to ensure that Moscow’s interests are taken into account in all major international decisions. Re-establishing Russia’s global prestige has been an important source of Putin’s domestic popularity. Russia’s illegal annexation of Crimea and to a lesser extent its intervention in Syria, as well as Russia’s expanded influence in the Middle East and other global hotspots such as Afghanistan, North Korea and Libya have also boosted Putin’s domestic standing. However, as public dissatisfaction over Russia’s economic stagnation has grown, the popular euphoria over Ukraine and Putin’s international accomplishments has waned. Putin’s public approval rating stood at 68% in December 2019, down from a high of 87% in August 2014 in the aftermath of Russia’s illegal annexation of Crimea.2

In addition to these long-term objectives of the Russian state, Putin has emphasised several other, related priorities that have caused Russian foreign policy to evolve over the 20 years he has been in power.3

First, Putin has placed great emphasis on countering what he views as US and Western unilateralism. Russian foreign policy has long sought to create a multipolar − or what Russian foreign policy circles describe as ‘polycentric’ − world where Russia serves as an independent and unaligned pole. Although Russian officials likely understand that Moscow’s ability to project positive influence that would attract other countries into its sphere of influence or to shape the policies of other states has declined, Russia seeks to ensure that no other power can dictate terms to Moscow. Putin also appears to view it as his personal mission to oppose what he sees as Western hypocrisy – namely, attempts by the West to uphold international rules and norms when they serve Western interests, and to circumvent those same rules when they impede Western goals. Several leaders, including Turkish President Recep Tayyip Erdogan and Hungarian Prime Minister Viktor Orban, appear to admire and at times emulate Putin’s willingness to stand up to the West.

Similarly, Putin has actively focused on countering ‘colour revolutions’, or what he sees as US and Western efforts to unseat unfriendly regimes by fomenting internal instability. Putin appears to genuinely believe that the US and the West seek to overthrow him and bring about regime change, and he views efforts to promote democracy – especially US efforts – as thinly veiled attempts to undermine his legitimacy. Putin has long sought to counter these initiatives, and his efforts to do so have grown in scope and intensity. Since 2014, Russia has no longer been content to push back against democracy promotion but has actively taken the fight to Western democracies. Because Moscow gauges its power in relation to the US, the Kremlin views weakening these countries as a means of enhancing its own standing.4 In the NATO context, this means that the Kremlin has accelerated efforts to exploit the fault lines within and between European states and between the US and Europe, and to fuel doubts among vulnerable NATO members about their Allies’ commitment to collective defence.5

Putin has also increased the emphasis on militarism and grown more reliant on military tools to advance Russian interests. His interventions in Georgia, Ukraine and Syria have reinforced his confidence that military action serves as an effective means of achieving his foreign policy objectives. Putin has seen that the use of military force enhances Russia’s bargaining position with the West, and in particular that these types of actions are the most effective way to gain the attention of the West.6 Moreover, Russia has modernised its military over the past decade, successfully creating a highly capable force.7 In this respect, military instruments – including cyber weapons – have become relatively more effective than Russia’s soft power or economic tools, suggesting that the Kremlin will continue to rely on military options.

Putin has undertaken more active and assertive efforts to advance Russian objectives. Moscow’s increasingly assertive foreign policy is a reflection not of the country’s growing strength, but of the perception that US and Western disarray has created an opening for Russia to exploit.8 In other words, Moscow assesses that the current US-led world order is coming to an end and that rising powers such as China and Russia should have a greater influence in world affairs. Notably, Putin has found common cause with China’s President Xi Jinping, and the two countries have deepened cooperation across key dimensions of their relationship, including in the political, economic and defence realms. Despite the historic mistrust and growing power asymmetry between Russia and China, there is potential for Moscow and Beijing to cooperate in the next 10 to 15 years in ways that could threaten US and European interests. Russia and China share an interest in reducing US global influence and undermining the strength and cohesion of US−Europe relations.

Given the growing instability in the international system and the longstanding challenges within the Russian Federation, such as its weak economic foundation, Putin appears to be calculating that he must act now to influence the international order while he still has the ability to do so. The West’s failure to mount sufficient opposition to his moves so far, along with challenges internal to the West – such as Brexit, the Yellow Vest protest movement in France and the rise of far-right populist leaders in Europe – have only reinforced his perception that this is a promising path to restoring Russian influence.

### AT: Russia Navy Bad

#### Russia’s navy sucks but submarine modernization overcomes it

Alleslev 19 — Leona Alleslev-Krofchak is a Canadian politician and former military officer. Alleslev, Leona. "NATO Anti-submarine warfare: rebuilding capability, preparing for the future." Science and Technology Committee (STC) (2019). https://www.nato-pa.int/download-file?filename=sites/default/files/2019-10/REPORT%20150%20STC%2019%20E%20rev.%201%20fin%20-%20ANTI-SUBMARINE%20WARFARE.pdf WMK

18. Overall, Russia’s naval capabilities still remain “vastly inferior to the collective power of the Alliance” (Allport, 2018). As in other domains, Moscow seeks to compensate by maximising its asymmetric strengths – often to great effect. That is one reason Russia also turns to maritime hybrid tactics, “to turn its weak hand into a strong one”, notes Admiral James G. Stavridis, former NATO Supreme Allied Commander Europe (SACEUR) (Stavridis, 2018). In hybrid scenarios, Russia could employ the full range of military and civilian capabilities and operate as ambiguously as possible (Stavridis, 2018). Submarines are well suited for hybrid tactics, as they can create deniable effects and conduct seabed operations.

### 2AC --- Russia Aggressive Now

#### Russia is ramping-up offensive capabilities and sub-based strategies in the arctic --- focused on repelling NATO and offensive actions to acquire resources

Coffey and Kochtis ‘20

(Luke Coffey Former Director, Allison Center for Foreign Policy, Daniel Kochis Senior Policy Analyst in European Affairs, pg online @ <https://www.heritage.org/defense/report/nato-the-21st-century-preparing-the-alliance-the-challenges-today-and-tomorrow> //um-ef)

With the main threat to NATO coming from Russia, there are five critical regions near or in the North Atlantic area that require focused NATO attention albeit for different reasons. NATO must focus on (1) the Arctic, (2) the Baltic Sea, and (3) the Black Sea regions because they are under the direct threat of Russian aggression. NATO must focus on (4) the Balkans because the region remains the unfinished business of Euro-Atlantic integration and is susceptible to malign Russian influence. The social and economic conditions in some places in the Balkans makes the region ripe for Islamist extremism. NATO must finally focus on (5) the Middle East and North Africa (MENA). While not part of NATO’s area of responsibility in terms of collective defense, problems originating in the MENA region have a tendency to spill over into Europe. 1. NATO and the Arctic. The Arctic, commonly referred to as the High North, is a strategically important region. The possibility of decreasing ice coverage during the summer months, and advances in technology, mean that shipping, natural resource exploration, and tourism will bring an increase of economic activity. Although the Arctic region has been an area of low conflict among the Arctic powers, NATO should consider the implications of Russia’s recent aggressive military behavior. NATO is a collective security organization designed to defend the territorial integrity of its members. Five NATO members (Canada, Denmark, Iceland, Norway, and the United States) are Arctic countries, and each has territory above the Arctic Circle. In addition, two closely allied nations (Finland and Sweden) also have Arctic territory. NATO has no agreed common position on its role in the Arctic region. No NATO Summit Declaration even mentions the word Arctic, and neither does the Alliance’s 2010 Strategic Concept. NATO has been internally divided on the role that the Alliance should play in the High North. Norway is the leading voice inside the Alliance for promoting NATO’s role in the Arctic. It is the only country in the world that has its permanent military headquarters above the Arctic Circle, and it has invested extensively in Arctic defense capabilities. Canada has likewise invested heavily in Arctic defense capabilities. However, unlike Norway, Canada has stymied past efforts by NATO to play a larger role in the region. Generally speaking, there is a concern in Canada that an Alliance role in the Arctic would afford non-Arctic NATO countries influence in an area where they otherwise would have none. As a sovereign nation-state, Canada has a prerogative to determine which role, if any, NATO should play in Canada’s Arctic region. However, as a collective-security alliance, NATO cannot ignore the Arctic altogether, and the Alliance should not remain divided on the issue. Russia has a long history in the Arctic. In the early 18th century, Russia sent a number of large expeditions to explore and map the Siberian coastline at crippling cost to the treasury. The explorers, scientists, and adventurers who partook in the Kamchatka expeditions, known as the Great Northern Expeditions, numbered in the thousands. Even by today’s standards, these are still probably the largest scientific expeditions in history. Almost 300 years later, Russia is still staking new claims in the Arctic. In 2007, Artur Chilingarov, then a member of the Russian Duma, led a submarine expedition to the North Pole and planted a Russian flag on the seabed. Later he declared: “The Arctic is Russian.”88 Paul Reynolds, “Russia Ahead in Arctic ‘Gold Rush,’” BBC News, August 1, 2007, http://news.bbc.co.uk/2/hi/in\_depth/6925853.stm (accessed October 1, 2019). Today, Russia is motivated to play an active role in the Arctic region for three reasons: Low-risk promotion of Russian nationalism. Because nationalism is on the rise in Russia, President Vladimir Putin’s Arctic strategy is popular among the population. For Putin, the Arctic is an area that allows Russia to flex its muscles without incurring any significant geopolitical risk. The economic potential of the region. Russia is also eager to promote its economic interests in the region. Half of the world’s Arctic territory and half of the Arctic region’s population is located in Russia. It is well known that the Arctic is home to large stockpiles of proven, yet unexploited, oil and gas reserves. The majority of these reserves is thought to be located in Russia. In particular, Russia hopes that the Northern Sea Route (NSR) will become one of the world’s most important shipping lanes. Russia’s security in the region. Russia has invested heavily in militarizing its Arctic region. While the Arctic region remains peaceful, Russia’s recent steps to militarize the region, coupled with its bellicose behavior toward its neighbors, makes the Arctic a security concern. It is worth closely examining Russia’s recent steps to militarize its presence in the Arctic region. In March 2017, a decree signed by Putin gave the Federal Security Service (FSB), which controls law enforcement along the NSR, additional powers to confiscate land “in areas with special objects for land use, and in the border areas.”89 Russia’s Arctic territory is within this FSB-controlled border zone. The FSB and its subordinate coast guard have added patrol vessels and built up Arctic bases, including a new coast guard base in Murmansk that opened in December 2018.90 is also taking on an increased role in the Arctic and is now charged with protecting infrastructure sites that are deemed to be of strategic importance, including a new liquefied natural gas (LNG) export terminal at Sabetta that opened in December 2017.92 Atle Staalesen, “National Guard Becomes Arctic Protector,” The Barents Observer, January 28, 2019, https://thebarentsobserver.com/en/security/2019/01/national-guard-becomes-arctic-protector (accessed June 19, 2019). The Russian national guard was also reportedly tasked with security at a floating nuclear power plant, the Akademik Lomonosov, which sailed from Murmask on August 23, was towed across the NSR, and arrived at the town of Pevek on September 14.94 Staalesen, “National Guard Becomes Arctic Protector”; Atle Staalesen, “World’s First Floating Nuclear Power Plant Is Making Pevek an Arctic Boom Town,” The Barents Observer, November 30, 2018, https://thebarentsobserver.com/en/arctic-industry-and-energy/2018/11/worlds-first-floating-nuclear-power-plant-making-pevek-arctic (accessed June 20, 2019); and Aria Bendix, “Russia’s First Floating Nuclear Power Plant, Which Activists Dubbed ‘Chernobyl on Ice,’ Has Docked Near Alaska. Photos Show Its Journey,” Business Insider, September 27, 2019, https://www.businessinsider.com/russia-floating-nuclear-plant-photos-arrival-2019-9 (accessed October 7, 2019). Russia hopes to export similar floating nuclear power plants in the future.95 Bendix, “Russia’s First Floating Nuclear Power Plant, Which Activists Dubbed ‘Chernobyl on Ice,’ Has Docked Near Alaska.” The Arctic, in particular the Kola Peninsula, factors heavily into Russia’s basing, procurement, and military structuring. As a recent report summarized: Russia’s military leadership accords absolute priority to perimeter defence of the Kola Peninsula, to ensure the survivability of second-strike nuclear assets. The Kola Peninsula and its surrounding areas are considered of strategic importance for Russian national security. Perimeter defence around Kola and the extension of the “Bastion” defence concept are designed to give Russia defence in depth.96 Mathieu Boulègue, “Russia’s Military Posture in the Arctic, Managing Hard Power in a ‘Low Tension’ Environment,” Chatham House, June 28, 2019, p. 6, https://www.chathamhouse.org/publication/russia-s-military-posture-arctic-managing-hard-power-low-tension-environment (accessed July 22, 2019). The continued importance of the Bastion concept for Russia underlines the primacy of the Arctic-based Northern Fleet, which accounts for two-thirds of the Russian navy. An Arctic command was established in 2015 to coordinate all Russian military activities in the Arctic region.97 Dave Majumdar, “Russia to Standup New Arctic Command,” U.S. Naval Institute News, updated February 18, 2014, http://news.usni.org/2014/02/18/russia-standup-new-arctic-command (accessed June 20, 2019). An Arctic brigade was formed in 2015, although plans for a second brigade have thus far failed to materialize.98 Boulègue, “Russia’s Military Posture in the Arctic, Managing Hard Power in a ‘Low Tension’ Environment,” p. 23. A naval deepwater division, based in Gadzhiyevo in the Murmansk region and directly subordinate to the Minister of Defense, was established in January 2018.99 “Russian Northern Fleet Creates Submarine Division for Deep-Water Operations,” Navy Recognition, April 27, 2018, http://www.navyrecognition.com/index.php/news/defence-news/2018/april-2018-navy-naval-defense-news/6169-russian-northern-fleet-creates-submarine-division-for-deep-water-operations.html (accessed June 20, 2019). Russian forces in the Arctic have gained important recent experience, as “Russian troops have now been training in Arctic conditions for more than four years, and many troops from the Arctic Brigade have received live combat experience in Syria.”100 Boulègue, “Russia’s Military Posture in the Arctic, Managing Hard Power in a ‘Low Tension’ Environment,” p. 18. Since Russian air assault units are intended to serve as spearhead forces for the Arctic brigade,101 Ibid. the “majority of air-assault units in Russia have to undergo Arctic training.”102 Ibid. Russia is also investing in military bases in the Arctic. Its base on the large island Alexandra Land, commissioned in 2017, can house 150 soldiers without being re-supplied for up to 18 months.103 Elizabeth McLaughlin, “The Race for the Arctic: As New Frontier Opens, Russia Leaves US in Its Wake,” ABC News, May 10, 2017, http://abcnews.go.com/International/race-arctic-frontier-opens-russia-leaves-us-wake/story?id=47304875 (accessed June 20, 2019), and Andrew Osborn, “Putin’s Russia in Biggest Arctic Military Push Since Soviet Fall,” Reuters, January 30, 2017, http://mobile.reuters.com/article/idUSKBN15E0W0 (accessed June 20, 2019). In addition, Soviet-era facilities have been re-opened. The airfield on Kotelny Island, for example, was reactivated in 2013 for the first time in 20 years and “will be manned by 250 personnel and equipped with air defense missiles.”104 Jacek Siminski, “Russia Reactivates Military Airfield in the Arctic Region After 20 Years,” The Aviationist, December 8, 2013, https://theaviationist.com/2013/12/08/russia-arctic-base/ (accessed June 20, 2019), and Osborn, “Putin’s Russia in Biggest Arctic Military Push Since Soviet Fall.” In September 2018, the Northern Fleet announced construction plans for a new military complex to house a 100-soldier garrison and anti-aircraft units at Tiksi, which is likely now complete.105 Nurlan Aliyev, “Russia’s Military Capabilities in the Arctic,” International Centre for Defence and Security, June 25, 2019, https://icds.ee/russias-military-capabilities-in-the-arctic/ (accessed October 9, 2019). Also, in 2018, Russia opened an Arctic airfield at Nagurskoye that is equipped with a 2,500-meter landing strip, which can accommodate a range of Russian fighter jets and surveillance aircraft.106 Malte Humpert, “New Satellite Images Reveal Extent of Russia’s Military and Economic Build-Up in the Arctic,” High North News, May 6, 2019, https://www.highnorthnews.com/en/new-satellite-images-reveal-extent-russias-military-and-economic-build-arctic (accessed November 4, 2019). In fact, air power in the Arctic is increasingly important to Russia; an Arctic air squadron managed by the Northern Fleet will soon be deployed to Monchegorsk on the Kola Peninsula, roughly 62 miles from the Finnish and Norwegian borders.107 Atle Staalesen, “Russia Establishes New Arctic Air Squadron to Protect Its Northern Sea Route,” The Barents Observer, July 19, 2019, https://thebarentsobserver.com/en/security/2019/07/russia-establishes-new-arctic-air-squadron-protect-its-northern-sea-route (accessed July 23, 2019). In 2018, according to the Russian Ministry of Defense, “Russian Tu-142 Bear and Il-38 May maritime patrol and anti-submarine warfare aircraft, as well as Su-24MR Fencer tactical reconnaissance jets, flew more than 100 sorties in total above the Arctic circle.”108 Joseph Trevithick, “Russia Projects Heavy Airpower in the Arctic from Constellation of New and Improved Bases,” The War Zone, January 2, 2019, http://www.thedrive.com/the-war-zone/25763/russia-projects-heavy-airpower-in-the-arctic-from-constellation-of-new-and-improved-bases (accessed June 20, 2019). In total, Russia has 14 operational airfields in the region along with 16 deepwater ports.109 Robbie Gramer, “Here’s What Russia’s Military Build-Up in the Arctic Looks Like,” Foreign Policy, January 25, 2017, http://foreignpolicy.com/2017/01/25/heres-what-russias-military-build-up-in-the-arctic-looks-like-trump-oil-military-high-north-infographic-map/?utm\_content=buffer12641&utm\_medium=social&utm\_source=twitter.com&utm\_campaign=buffer (accessed June 20, 2019). The investments in these new military facilities have cold-weather combat in mind. Major General Igor Kozhin, head of the Russian Naval Air Force, claimed that Russia had successfully tested a new airstrip cover that is effective in “temperatures down to minus 30 centigrades.”110 Alte Staalesen, “Navy Pilots Take Off to New Arctic Bases,” The Barents Observer, March 13, 2019, https://thebarentsobserver.com/en/2019/03/navy-pilots-take-new-arctic-bases (accessed June 20, 2019). Russia undertook regular air patrols in the Arctic in 2019.111 Thomas Nilsen, “Russia Resumes North Pole Patrols with Fighter Jets,” The Barents Observer, February 2, 2019, https://thebarentsobserver.com/en/security/2019/02/russia-resumes-north-pole-patrols-fighter-jets (accessed June 20, 2019). As an example, the Russian Ministry of Defense announced that in January 2019, two Tu-160 bombers flew for 15 hours in international airspace over the Arctic.112 Thomas Nilsen, “In Polar Night, Russia Exercises Strategic Bombers and Newest Frigate,” The Barents Observer, January 27, 2019, https://thebarentsobserver.com/en/security/2019/01/polar-night-russia-exercises-strategic-bombers-and-newest-frigate (accessed June 20, 2019). Over the course of one week in April 2019, Russian fighter and bomber jets flew near the coast of Norway twice. In one instance, two TU-60 bombers and a MiG-31 flew 13 hours over the Barents, Norwegian, and North Seas. British and Danish jets scrambled to meet the Russian aircraft.113 Russian Arctic flights are often aggressive. In March 2017, nine Russian bombers simulated an attack on the U.S.-funded, Norwegian-run radar installation at Vardø, Norway, above the Arctic Circle.114 In May 2017, 12 Russian aircraft simulated an attack against NATO naval forces taking part in the Eastern Atlantic Area (EASTLANT) 17 exercise near Tromsø, Norway, and later that month, Russian aircraft targeted aircraft from 12 nations which were taking part in the Arctic Challenge 2017 exercise near Bodø.115 Thomas Nilsen, “Arctic Challenge 2017 Set for Take Off,” The Barents Observer, May 16, 2017, https://thebarentsobserver.com/en/security/2017/05/arctic-challenge-2017-set-take (accessed June 20, 2019), and Nilsen, “Russian Bombers Simulated an Attack Against This Radar on Norway’s Barents Sea Coast.” In April 2018, Maritime Patrol Aircraft from Russia’s Pacific Fleet for the first time exercised locating and bombing enemy submarines in the Arctic, while fighter jets exercised repelling an air invasion in the Arctic region.116 “Russian Pacific Fleet Il-38N MPA Practice ASW in Arctic,” Navy Recognition, April 2, 2018, https://www.navyrecognition.com/index.php/news/defence-news/2018/april-2018-navy-naval-defense-news/6109-russian-pacific-fleet-il-38n-mpa-practice-asw-in-arctic.html (accessed June 20, 2019). The 45th Air Force and Air Defense Army of the Northern Fleet was formed in December 2015, and Russia reportedly has placed radars and S-300 missiles on the Arctic bases at Franz Joseph Land, the New Siberian Islands, Novaya Zemlya, and Severnaya Zemlya.117 Trude Pettersen, “Northern Fleet Gets Own Air Force, Air Defense Forces,” The Barents Observer, February 1, 2016, https://thebarentsobserver.com/en/security/2016/02/northern-fleet-gets-own-air-force-air-defense-forces (accessed June 20, 2019). In 2017, Russia activated a new radar complex on Wrangel Island.118 Damien Sharkov, “Russia Deploys Air Radar on Arctic Wrangel Island,” Newsweek, January 4, 2017, http://www.newsweek.com/russia-deploys-air-radar-arctic-wrangel-island-538527 (accessed June 20, 2019). Russia plans to lay a nearly 8,000-mile fiber optic cable across its Arctic coast, linking military installations along the way from the Kola Peninsula through Vladivostok.119 Thomas Nilsen, “Russia Plans to Lay Trans-Arctic Fiber Cable Linking Military Installations,” The Barents Observer, April 24, 2018, https://thebarentsobserver.com/en/security/2018/04/russia-slated-lay-military-trans-arctic-fibre-cable#.Wt-EVDOjlWI.twitter (accessed June 20, 2018). In November 2018, Russia announced rocket firings in the Norwegian Sea that were between 20 nautical miles and 40 nautical miles from the Norwegian coast. As previously noted, the test firings, with little advance notice, were designed to send a message as they took place in an area through which NATO ships were sailing during the Trident Juncture exercise.120 Thomas Nilsen, “Russia to Test-Launch Rockets Near Norway’s Arctic Coast in Last Days of Trident Juncture,” Radio Canada International, Eye on the Arctic, October 31, 2018, http://www.rcinet.ca/eye-on-the-arctic/2018/10/31/russia-missile-launch-norway-finnmark-arctic-flight-nato-trident-juncture/ (accessed June 21, 2019). Russia has reportedly deployed Murmansk-BN long-range radio jammers to Severomorsk, the Kola Peninsula, and in Kamchatka, as well as Krasukha-2 and Krasukha-4 electronic warfare systems to bases at Novaya Zemlya, Severnaya Zemlya, the New Siberian Islands, and Chukotka.121 Atle Staalesen, “Russia Says Its Radio-Electronic Shield Now Covers the Arctic,” The Barents Observer, May 21, 2019, https://thebarentsobserver.com/en/arctic-security/2019/05/russia-says-its-radio-electronic-shield-now-covers-arctic#.XOQApTtGEgg.twitter (accessed July 23, 2019). In December 2019, Russia’s Joint Strategic Command overseeing every Arctic military unit was upgraded to an “independent military administrative unit, equal in status to a military district.”122 Nurlan Aliyev, “Russia’s Military Capabilities in the Arctic,” International Centre for Defence and Security in Estonia, June 25, 2019, https://icds.ee/russias-military-capabilities-in-the-arctic/ (accessed January 13, 2020). Russia is developing equipment optimized for Arctic conditions, such as the Mi-38 helicopter and three new nuclear icebreakers, to add to the 40 icebreakers already in service, six of which are nuclear.123 Stephen Blank, “Russia’s New Arctic Base Continue [sic] the Militarization of the High North,” Eurasia Daily Monitor, Vol. 12, No. 202 (November 2015), http://www.jamestown.org/single/?tx\_ttnews%5Btt\_news%5D=44572&no\_cache=1#.VxqCwfkrJph (accessed June 21, 2019), and Osborn, “Putin’s Russia in Biggest Arctic Military Push Since Soviet Fall.” Former U.S. Coast Guard Commandant Admiral Paul Zukunft has expressed concern that “Russia is probably going to launch two icebreaking corvettes with cruise missiles on them over the course of the next several years.”124 Yasmin Tadjdeh, “Zukunft: Coast Guard Could Arm Future Icebreaker,” National Defense, May 3, 2017, http://www.nationaldefensemagazine.org/articles/2017/5/3/zukunft-coast-guard-could-arm-future-icebreaker (accessed June 21, 2019). In July 2019, Russia tested two Tor-M2DT anti-aircraft missile systems designed for operating in the Arctic at Novaya Zemlya.125 Thomas Nilsen, “New Arctic Anti-Aircraft Missiles Tested at Novaya Zemlya,” The Barents Observer, July 18, 2019, https://thebarentsobserver.com/en/security/2019/07/new-tor-m2dt-missiles-tested-novaya-zemlya (accessed July 23, 2019). In July 2017, Russia released a new naval doctrine citing the alleged “ambition of a range of states, and foremost the United States of America and its allies, to dominate the high seas, including in the Arctic, and to press for overwhelming superiority of their naval forces.”126 Dmitry Gorenburg, “Russia’s New and Unrealistic Naval Doctrine,” War on the Rocks, July 26, 2017, https://warontherocks.com/2017/07/russias-new-and-unrealistic-naval-doctrine/ (accessed June 20, 2019). In May 2017, Russia announced that its build-up of the Northern Fleet’s nuclear capacity is intended “to phase ‘NATO out of [the] Arctic.’”127 Daniel Brown, “Russia’s NATO Northern Fleet Beefs Up Its Nuclear Capabilities to Phase ‘NATO Out of Arctic,’” Business Insider, June 1, 2017, http://www.businessinsider.com/russias-northern-fleet-beefs-up-its-nuclear-capabilities-phase-nato-out-arctic-2017-6 (accessed June 20, 2019). The Northern fleet, however, faces limitations; a recent report notes that the majority of its assets are not Arctic-specific, operating beyond the region and in other strategic directions. This situation is worsened by the Northern Fleet’s general lack of ice-class surface vessels and its heavy reliance on Rosatomflot civilian icebreakers to ensure passage along the NSR and transit in ice conditions east of the Barents Sea and Novaya Zemlya.128 Boulègue, “Russia’s Military Posture in the Arctic, Managing Hard Power in a ‘Low Tension’ Environment,” p. 20. Russia’s Northern Fleet has focused on building newly refitted submarines, including a newly converted Belgorod nuclear-powered submarine that was expected to launch in April 2019129 The Belgorod is expected to carry six Poseidon drones, also known as nuclear torpedoes, and will carry out “covert missions.”131 Alex Lockie, “Russia Says It’s Going to Arm a Submarine with 6 Nuclear ‘Doomsday’ Devices,” Business Insider, March 12, 2019, https://www.businessinsider.com/russia-to-arm-a-secretive-submarine-with-6-nuclear-doomsday-devices-2019-3 (accessed June 21, 2019). See also “Russian Northern Fleet Creates Submarine Division for Deep-Water Operations,” Navy Recognition, and “Russia to Convert Belgorod Submarine for Special Missions,” Sputnik News, February 9, 2012, https://sputniknews.com/military/20120209171227695/ (accessed June 20, 2019). The submarine will have a smaller mini-sub potentially capable of tampering with or destroying undersea telecommunications cables.132 Lockie, “Russia Says It’s Going to Arm a Submarine with 6 Nuclear ‘Doomsday’ Devices.” According to Russian media reports, the Belgorod “will be engaged in studying the bottom of the Russian Arctic shelf, searching for minerals at great depths, and also laying underwater communications.”133 As an Arctic power, Russia’s military presence in the region is to be expected. However, it should be viewed with some caution due to Russia’s pattern of aggression. In the Arctic, sovereignty equals security. Respecting national sovereignty in the Arctic would ensure that the chances of armed conflict in the region remain low. Since NATO is an intergovernmental alliance of sovereign nation-states built on the consensus of all of its members, it has a role to play in Arctic security. Ignoring the importance of the Arctic region for collective security is short-sighted.

### 2AC --- Russia Escalating/Subs Deter

#### Ukraine is the brink not a thumper – Russia is escalating and only sub capabilities can deter

Eckstein 22 – Megan Eckstein is the naval warfare reporter at Defense News. She has covered military news since 2009, with a focus on U.S. Navy and Marine Corps operations, acquisition programs, and budgets. She has reported from four geographic fleets and is happiest when she’s filing stories from a ship. Megan is a University of Maryland alumna. (Megan Eckstein, "Lawmakers: US submarine force can help check Russian ambitions in Ukraine," Defense News, 1-24-2022, https://www.defensenews.com/naval/2022/01/24/lawmakers-us-submarine-force-can-help-check-russian-ambitions-in-ukraine/, Accessed 7-1-2022, LASA-SC)

The U.S. Navy must dedicate forces to pushing back against Russian activity throughout the European theater in the coming weeks, two lawmakers said, even as the world’s focus is on Ukraine’s land borders with Russia and Belarus.

Sen. Richard Blumenthal and Rep. Joe Courtney agreed that a strong show of force from the Navy — particularly in the undersea domain, where Russia has focused its modernization efforts — could help deter Russia from its overall effort to assert itself in the region or to stop a small conflict from growing into something larger.

The two Connecticut Democrats spoke Jan. 24 at a virtual event hosted by submarine builder General Dynamics Electric Boat.

Russian President Vladimir Putin “will test us in every single place that he can. He’s doing it right now in Ukraine: he wants to restore the hegemony over countries that formerly were part of the Soviet Union; bring back Ukraine into Mother Russia; conduct a hybrid war of military actions, cyber-attack and misinformation. And part of his overall strategy is to bolster undersea warfare and thereby push the United States, try to divide allies, and create instability,” Blumenthal said in response to a question regarding how naval forces could help get Putin to back down in Ukraine.

“Undersea warfare — because we’re talking about the Mediterranean, about the Black Sea as potential areas of tension and conflict — is very much in play even though it isn’t directly involved in the confrontation in the Eastern Ukraine area or Crimea or in the northern borders of Ukraine, which represent perhaps the greatest immediate threat in Belarus, where Putin is amassing forces right now,” he added.

The senator said he agreed with President Joe Biden’s statement that U.S. troops should not be sent into Ukraine to fight, but he said strengthening and bolstering NATO capabilities in the region would be important, as well as finding other ways to show strength “around the world in other areas where we go head-to-head with the Russians.”

He added that the U.S. should also focus on economic sanctions against Russia, including export controls on semiconductors and other technologies Russia needs to keep its economy going; disconnecting Russia from the international financial system; supplying more arms to Ukraine so the country can defend itself; and getting NATO allies, especially Germany, united in their efforts to respond to Russia.

Though the world’s focus has been on Ukraine’s border with Russia to the east and Belarus to the north, Russia announced last week that it would hold a series of large naval drills in all its geographically dispersed fleets, upping the ante in its standoff against the West.

“The drills are intended to practice navy and air force action to protect Russian national interests in the world’s oceans and to counter military threats to the Russian Federation,” the defense ministry said, adding that they will start this month and run through February in the Mediterranean, North Atlantic and Pacific.

Just the day before that announcement, the U.S. Navy announced its guided-missile submarine Georgia was in Cyprus for a port call — an unusual move, announcing the location of this large submarine loaded to the gills with conventional missiles, that in recent history has only been done to send a message to Russia or North Korea.

Courtney, in following up to the same question at the event, said the Harry S. Truman Carrier Strike Group exercising with NATO forces in the Mediterranean represented “the most visible sign of presence that the Navy is exercising out there.” But, he said, the submarine fleet would have an important, if less visible, role in checking Russian aggression.

Saying that Russia’s string of exercises would “flood the zone” with submarines in the North Atlantic, where Russia’s submarine-heavy Northern Fleet operates, Courtney said: “There’s no question that our undersea fleet is going to be very busy at this very tense moment and is definitely going to play a big role in terms of making sure that whatever possible conflict may emerge, that it does not escalate into something more serious.”

### 2AC --- Detect k Nuke Deterrence

#### Detection k2 nuclear deterrence

Perkins et al. 16. Captain William A. Perkins is currently serving as the Director of Fleet Operations (N3) for the Pacific based US Seventh Fleet. Perkins is designated as P-3 Orion Weapons & Tactics Instructor in the US Navy and on his seven deployments he has flown combat missions in every operational theatre in which the P-3C operates. In 2012, he completed a successful aviation squadron command tour as Commanding Officer of Tactical Air Control Squadron 11. A prolific author and strategist, his work has been published in Jane’s Defence Weekly, Jane’s Navy International, US Naval Institute’s Proceedings, Joint Warfare Centre’s Three Swords and in the Journal of the JAPCC. In addition, while assigned to the JAPCC, he wrote three strategic level studies on NATO maritime and air integration challenges; “Alliance Airborne Anti-Submarine Warfare”; June 2016; Joint Air Power Competence Center; <https://www.japcc.org/white-papers/alliance-airborne-anti-submarine-warfare/> //BY

“Many assessments of what the Russian military can and cannot do have been inaccurate. This isn’t just problematic for the facts’ sake – more troubling, it risks skewing our assessment of how far Moscow will go… When Western analysts – and in turn, Western leaders – seek to discredit Russian military capabilities, Moscow will likely continue to take the opportunity to prove them wrong.”

Since non-NATO submarine deployments nearly ceased in the mid-1990s, NATO now has a generation of officers and civilian leaders who did not grow up experiencing the “cat and mouse” environment of submarine warfare which existed during the Cold War. NATO has conducted three major joint operations during since the end of the Cold War. None of these operations were conducted in an area challenged by the presence of an adversary submarine. Just as air chiefs fight the perception NATO will always have air superiority in any campaign, maritime leaders must also engage to challenge the perception that NATO’s maritime forces will always have maritime superiority. This perception, coupled with inaccurate beliefs regarding the capability of the Russian Federation’s maritime capability, has coloured maritime defence spending for decades. As a result, NATO has ceded much of the advantage it earned at the conclusion of the Cold War. Therefore, to dispute this prevailing theory, this study is intended to be read by a much broader audience than purely the maritime component.

Unlocated submarines present numerous problems for both the Maritime component and for NATO writ large. An adversary submarine which is not tracked from a theatre level will have freedom of movement to pose numerous threats to NATO forces and territories. A single submarine can effectively close a maritime choke point, such as the Strait of Gibraltar, preventing merchant traffic or naval forces from transiting.  An unlocated submarine can lie in wait for a naval task force and effectively pick off the high value capital ships, removing in a single blow a significant part of the joint capability to project power (aircraft carrier, amphibious assault ship) or resupply naval forces at sea Adversary attack submarines (SSN) are charged with detecting and potentially engaging not only NATO surface ships, but NATO’s ballistic missile submarines serving as the seaborne aspect of the nuclear deterrent. If those submarines are not tracked at a theatre level, it puts the nuclear deterrent force at risk. Furthermore, an unlocated submarine could establish a covert operating area close to a NATO nation’s coastline. From there, it can project striking power deep into NATO, exploiting recent advancements in modern cruise missile capability (some with ranges in excess of 1500km) and ballistic missile capability. All of these situations become significantly mitigated by tracking submarines throughout their deployment at a theatre level. NATO excelled at tracking submarines in the Cold War, but the skills have atrophied and the resources have dwindled.

### 2AC --- Info Share Deters Russia

#### Info sharing deters Russia hybrid warfare---it obviates strategic ambiguity and ensures resilience

Hicks et al. 16. Kathleen Holland Hicks was a former United States deputy secretary of defense. She was the first Senate-confirmed woman in this role. Hicks previously served as the principal deputy under secretary of defense for policy during the Obama administration; “Undersea Warfare in Northern Europe”; July 2016; CSIS; <https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/160721_Hicks_UnderseaWarfare_Web.pdf> //BY

Recommendation: Improve Information Sharing to Develop a Common Undersea Operating Picture

One of the most potent attributes of Russia's undersea capabilities is the strategic ambiguity created by the submarine force. Many of the NATO and partner nations in Northern Europe already possess relevant ASW capabilities, but they are not integrated to produce a common undersea operating picture. Developing allied and partner information-sharing capabilities will help lift the veil on Russia's undersea activities and decrease its coercive power. To achieve greater integration, NATO should develop a transmission-agnostic, encrypted data standard for undersea sensing data. Data streams from static and mobile sensors could not only feed local assets but be relayed to a shore-based NATO fusion center, potentially colocated with the ASW COE and aligned with the ASW-focused SNMG, to provide analytic capability. For submarine operations, this capability should include maintaining synchronized charts of allied and partner submarine areas of operation.

Desired Effect: Decreases the strategic ambiguity created by Russian undersea capabilities. A common undersea operating picture can also help ensure the resiliency of undersea infrastructure to minimize underwater incidents and deconflict ASW operations.

## 1AC Scenario --- Arctic

### 1AC --- Arctic ADV

#### Advantage 1 is THE ARCTIC CIRCLE:

#### The Arctic Circle is a geo-strategic hotspot BUT we have no info – satellites fail.

Larter 20 — David Larter, 09-21-2020, "The Arctic is a strategic hot spot, but Western allies lack good intel," Defense News, https://www.defensenews.com/naval/2020/09/21/the-arctic-is-a-strategic-hot-spot-but-western-allies-lack-good-intel/, accessed 6-30-2022 //THS—OLW

WASHINGTON — The United States and its allies have been chilling out this summer, but experts and officials say something has been missing that prevents them from making the most of the experience.

A flurry of exercises, patrols and news releases has made one point clear: The [Arctic is a strategic hot spot](https://www.defensenews.com/naval/2020/05/11/the-us-navy-returns-to-an-increasingly-militarized-arctic/). Over the past few months, the U.S. has sent some of its highest-end and most sophisticated assets to the Arctic region, including the highly secretive attack [submarine Seawolf](https://www.navy.mil/Press-Office/News-Stories/display-news/Article/2321399/uss-seawolf-operates-in-6th-fleet/), its Rota, Spain-based missile defense destroyers, and [Air Force B-2 bombers](https://www.airforcemag.com/article/flexing-in-the-arctic/).

And it has not been alone. The United Kingdom, Canada, France, Denmark and others have [joined](https://www.navy.mil/Press-Office/News-Stories/display-news/Article/2299799/us-forces-participate-in-canadian-operation-nanook/) the U.S. in patrols and exercises in the High North, as both Russia and China have stepped up their presence in the region.

But according to analysts, governments and a senior former military official, the Western coalition lacks adequate surveillance and intelligence in the region.

“We have significant domain awareness challenges, and that really begins in the high latitudes,” former U.S. Coast Guard Commandant Adm. Paul Zukunft told a virtual audience at the 2020 Defense News Conference, which took place Sept. 9-10. “Things start to get pretty dark once you get up higher than 72 degrees north.”

Among the allies, a consensus has formed that as China and Russia seek to exploit the warming Arctic for new, faster shipping routes and for resources, it’s essential they invest in greater surveillance capabilities. To illustrate the issue, Zukunft said the Coast Guard recently made a stunning discovery in the Arctic — something for which the service should have received early warning from intelligence officials.

“We sent a national security cutter to patrol that region in a relatively ice-free portion of the season,” Zukunft recounted. “And we stumbled upon a joint exercise between Russia and China. Our intelligence community did not have awareness that this was going on. So we were the originators of this information and otherwise we would not have known. We need to continue to invest in domain awareness.”

Zukunft posited that it should be possible to identify high-threat locations in the Arctic region and send assets to monitor those areas. That would be more effective than trying to saturate the whole region with air and surface assets, he said.

Snow blind

That’s an assessment agreed to by U.S. allies such as Denmark. Last winter, the Danish prime minster [said in an interview](https://www.usnews.com/news/world/articles/2019-12-03/danish-pm-suggests-increasing-arctic-surveillance-in-response-to-russian-activity) that the increased Russian activity in the Arctic meant her country should invest in more space-based surveillance as well as anti-submarine capabilities.

But that is easier said than done, according to Bryan Clark, a retired U.S. Navy submarine officer and analyst with the Hudson Institute.

“To get Arctic and Antarctic imagery, you have to use polar orbits,” Clark explained. "Geostationary satellites won’t work down there: You’d get a very small area for a very expensive satellite. … Unless you want to put in place a dozen polar-orbiting satellites, you just aren’t going to get the kind of real-time imagery that you get in the mid-latitudes.

Arctic submarine warfare is coming and we’re behind – ASW barriers will be penetrated now and an offensive posture is key.

Kaushal et. al. 22 — Sidharth Kaushal is a Research Fellow, Sea Power at RUSI. He holds a doctorate in International Relations from the London School of Economics, where his research examined the ways in which strategic culture shapes the contours of a nation's grand strategy. James Byrne is a Senior Research Fellow in the Proliferation and Nuclear Policy program at RUSI. Joe Byrne is a Research Analyst in the Proliferation and Nuclear Policy program at RUSI. Giangiuseppe Pili is a Research Fellow for RUSI’s Project Sandstone. Gary Somerville is a Research Analyst in the Proliferation and Nuclear Policy program at RUSI , 4-1-2022, "Chapter II: The Balance of Capabilities in the Subsurface Domain," https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966, accessed 6-30-2022 //THS—OLW

Key Points

Despite a quantitative decline since the collapse of the Soviet Union, there have been several qualitative improvements in Russia’s submarine force that partially offset this fact.

The force now has a number of missions which may not require it to sortie far from the Arctic. These include conducting precision strikes against ground targets at long ranges and, potentially, exerting sea control over the NSR. Simply placing forces in the Greenland-Iceland-UK (GIUK) Gap is not an adequate riposte to this force.

In the models run to inform the campaign analysis in this chapter, both Russian and NATO submarines are effective at penetrating each other’s ASW barriers. For NATO, this incentivizes a forward posture in a conflict with Russia. On the one hand, a reactive posture emphasizing containing Russian submarines may lead to failure while an offensive posture can exploit Russia’s asymmetrical vulnerabilities.

The subsurface environment has a rough, but highly offence-dominated balance of power.

Modernization of ASW and offense is key to stop Russia – otherwise, nuclear war and they’ll cut our cables.

Kaushal et. al. 22 — Sidharth Kaushal is a Research Fellow, Sea Power at RUSI. He holds a doctorate in International Relations from the London School of Economics, where his research examined the ways in which strategic culture shapes the contours of a nation's grand strategy. James Byrne is a Senior Research Fellow in the Proliferation and Nuclear Policy program at RUSI. Joe Byrne is a Research Analyst in the Proliferation and Nuclear Policy program at RUSI. Giangiuseppe Pili is a Research Fellow for RUSI’s Project Sandstone. Gary Somerville is a Research Analyst in the Proliferation and Nuclear Policy program at RUSI , 4-1-2022, "Chapter II: The Balance of Capabilities in the Subsurface Domain," https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966, accessed 6-30-2022 //THS—OLW

Russia’s Northern Fleet submarines have been a mainstay of its maritime force posture during the Soviet era and since. The defense of the maritime component of Russia’s nuclear triad has historically been the primary focus of this force, with the interdiction of Atlantic SLOCs in wartime occupying a secondary role.[1](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) Post-Cold War, however, the changing maritime geography of the Arctic, as well as the evolution of Russia’s strategic position, have incentivized an evolution of the Northern Fleet’s subsurface capabilities and missions.

After a post-Cold War trough in its capabilities, which saw the Russian navy’s submarine force shrink in size from 266 operational boats in 1991 to 64 in 2000, the fleet embarked on a process of modernization to restore both capacity and capability.[2](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) While the number of vessels in service is smaller, modernization under the Russian Federation’s 10-year state armament plan, launched in 2010, have increased the lethality of the force. The Russian navy was the largest beneficiary of the 2010 State Armament Plan, receiving 26.3% of the roughly RUB10 trillion (about $140 billion) allocated between 2011 and 2020.[3](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) This expenditure has underpinned the progress of ambitious projects, such as the Yasen-class and Yasen-M-class guided missile submarines (SSGNs), Russia’s most advanced nuclear-powered submarines to date. The Russian navy is also no longer alone in the subsurface space. It has been joined by GUGI, which fields a number of special purpose submarines, including the Belogorod and Khabarovsk – two modified Oscar-class SSGNs that can act as motherships for deep-sea surveillance assets. These include the Harpsichord UUV (unmanned underwater vehicle) and the Losharik – a specialized deep-diving vessel — which can carry the nuclear-armed Poseidon torpedo.[4](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) These assets enable the Russian submarine force to act in a variety of clandestine activities, from placing underwater sensors to the disruption of an adversary’s sensor networks and undersea cables.

While the decline in the number of submarines in the Russian navy has continued, this has been offset by qualitative improvements in the force. As of 2016, the Northern Fleet was estimated to comprise 24 active submarines, excluding SSBNs.[5](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) The Pacific fleet, which controls the other major route of egress from the Arctic, has six SSGNs and four Akula-class attack submarines (SSNs), as well as 11 Kilo-class diesel-electrics (SSKs), two of which are the modern improved Kilo.

The mission set of the Russian navy’s submarines has evolved in a number of ways. While the protection of SSBNs remains paramount, the Russian submarine fleet has taken on a number of additional roles. The force has followed the rest of the navy by embracing a role in a conventional precision strike campaign. Its newest Yasen-class nuclear submarines have a Vertical Launch System (VLS) capacity that hold up to 40 Kalibr land-attack missiles.[6](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) Precision strike is crucial to Russia’s approach to localizing conventional wars on its periphery – both by inflicting calibrated ‘assigned damage’ on an adversary’s society and by slowing the pace of deployment.[7](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) The ability to launch conventionally armed precision strike assets is therefore highly beneficial to a service seeking to stake its claim to limited national resources. The Russian navy has effectively made a case for itself as a force capable of conducting a full spectrum of strike operations ranging from conventional precision strikes to low-yield nuclear strikes and, at the top of the escalation ladder, strategic nuclear strikes. Its subsurface assets are central to its ability to play this role.[8](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) Russian military science scholarship reveals a fear of foreign powers conducting a conventional strike campaign against the country’s interior.[9](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966)

In addition to this function, subsurface assets will be critical to any Russian effort to exert control over the NSR. While it is true that submarines are less useful as a tool of presence missions than more visible surface vessels, a tacit understanding of the balance of power underneath the ocean’s surface tends to shape the behavior of competing parties.[10](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) For example, during the so-called ‘Third Battle of the Atlantic’, in which the US and USSR competed to secure an undersea advantage during the Cold War, both nations sought to demonstrate their ability to, respectively, break out into the ocean and deny their opponent the ability to do so. In other words, the subsurface balance of power is an ‘elephant in the room’, which shapes the behavior of parties across a range of scenarios.[11](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966)

Finally, it is likely that at least a portion of the Russian submarine fleet in the Arctic will attempt to break out of its bastions into the North Atlantic in crisis and wartime, though analysts debate the relative weight placed on this mission.[12](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) Special purpose submarines such as the GUGI-controlled Belgorod can potentially play a crucial role in a range of scenarios given potential coercive value of their ability to impact the functioning of undersea cables. Similarly, if Russian Arctic-based SSGNs manage to get into the Norwegian Sea or the Atlantic, they could in principle threaten infrastructure such as bases hosting NATO’s tanker fleet in wartime.

#### EXTINCTION:

#### Cable clips cause nuclear escalation – extinction.

Clark 16 — Bryan is a Senior Fellow with the Center for Strategic and Budgetary Assessments; Bulletin of Atomic Scientists, 2016, “Undersea cables and the future of submarine competition,” vol. 72, accessed 07-01-22 RECUT//THS—OLW

Tapping today’s fiber-optic cables is theoretically possible, but it is easier to cut or damage them and significantly impact the cables’ users. And while the exact location of cables is not publicly available, improvements to “bottom survey” equipment and unmanned undersea vehicles are making finding cables easier and faster. In time-sensitive military or diplomatic operations, the loss of communications for a few minutes or hours can be catastrophic. With financial transactions, the loss of even fractions of a second can cost millions of dollars as high-speed trades miss their targets and other transactions fail to go through or are lost entirely. The dozens of cable outages that occur each year do not cause a complete loss of service, but they do slow data-transfer speeds as information is re-routed through fewer intact cables. Most of these cable breaks happen in relatively shallow water, when rough weather moves cables around until they break or fishing trawlers catch a cable in a net. Some outages, however, have more nefarious origins. In 2013, three divers with hand tools cut the main cable connecting Egypt with Europe, reducing Egypt’s Internet bandwidth by 60%.

Repairing a submarine cable at sea is difficult and time consuming. First the break has to be located using built-in monitoring systems that can indicate the cable segment in which the break is likely to have occurred. Cable repair ships then must go to that location and pull up the cable until they get to the damaged spot. A new section of cable can then be spliced in, which can take several days to complete.

In addition to the cables themselves, their onshore termination points are particularly vulnerable – and easier to find than a submerged cable. Sometimes consisting of a non-descript building on a beach or marshland, these locations are often the junction of several cables that are then connected with terrestrial phone and cellular networks. An accident or attack on one of them could have the same effect, in the short-term, of cutting multiple cables at once. Because they are easier to monitor, a break at the termination point could be diagnosed more quickly; but it may be harder to repair because more damage could be caused to an exposed cable than one hundreds of feet underwater.

As more cables are installed on the ocean floor, redundancy will increase the resilience of communication networks. But as the case of Egypt shows, the reduction of bandwidth from cutting one or more cables can still be significant. Although communications are not completely lost, lowered bandwidth may have a similar effect on time-critical transmissions as a complete loss of connectivity. For example, stock exchanges must be tightly synchronized for buyers and sellers to work off the same prices. Similarly, military cryptology systems tie codes to time standards; if bandwidth goes down, networks can “drop synch” and be unable to properly decode messages.

Given the likely economic and military impacts of cable breaks, the ability to threaten or protect submarine cables and their shore landings will be increasingly important in future conflicts. In a crisis, an aggressor could use multiple coordinated attacks on cables to compel an opponent to back down or employ them as part of an opening offensive to cut off the defender’s military forces from national commanders, intelligence data, and sensor information. Cable attacks could also be highly destabilizing, since they could prevent a nuclear-armed opponent from controlling and monitoring its strategic weapons and early-warning systems. In response, the country targeted could choose to place its nuclear weapons in a higher alert condition – or initiate a preemptive attack

#### Russia first strikes cause extinction – nuclear winter.

Higgins 18 — Abigail, covers international development, global health, poverty, and gender. Before Vox she was a foreign correspondent and researcher in East Africa writing for The Washington Post, The Guardian, and Foreign Policy, among others.10-18-2018, "10 ways the world is most likely to end, explained by scientists," Vox, https://www.vox.com/future-perfect/2018/10/18/17957162/nuclear-war-asteroid-volcano-science-climate-change/, accessed 7-1-2022 //THS—OLW

The good news for us is that scientists think the world will be habitable for at least a few hundred million more years. The bad news is there’s a lot that could change that. The risk of the threats highlighted in the report actually causing mass casualties are still small, but that doesn’t mean they’re not important to pay attention to — especially when the worst-case scenario means human extinction. Here’s what should be keeping you up at night and what, realistically, might cause humans to go the way of dinosaurs. 1) Nuclear war A nuclear detonation from one of today’s more powerful weapons would cause a fatality rate of 80 to 95 percent in the blast zone stretching out to a radius of 4 kilometers — although “severe damage” could reach six times as far. But it isn’t just the immediate deaths we need to worry about — it’s the nuclear winter. This is when the clouds of dust and smoke released shroud the planet and block out the sun, causing temperatures to drop, possibly for years. If 4,000 nuclear weapons were detonated — a possibility in the event of all-out nuclear war between the US and Russia, which hold the vast majority of the world’s stockpile — an untold number of people would be killed, and temperatures could drop by 8 degrees Celsius over four to five years. Humans wouldn’t be able to grow food; chaos and violence would ensue. A big worry here is the arsenal of nukes. While numbers have fallen over several decades, the United States and Russia have just under 7,000 warheads each, the largest collections in the world. The UK, France, China, India, Pakistan, North Korea, and Israel all have nuclear weapons. Hundreds of nuclear weapons are ready to be released within minutes, a troubling fact considering that the biggest threat of nuclear war may be an accident or miscommunication. A few times since the 1960s, Russian officers (and, in 1995, the president) narrowly decided not to launch a nuclear weapon in response to what they’d later find out were false alarms.

**Russia has the Arctic on lock – offensive NATO strategies effectively deter Russia and guarantee a NATO sphere of influence otherwise Kola encirclement.**

Grady 20 — John, Former managing editor of Navy Times, retired as director of communications for the Association of the United States Army 7-1-2020, "Panel: NATO Needs to Take Russian Offensive, Defensive Advances in Arctic Seriously," USNI News, https://news.usni.org/2020/07/01/panel-nato-needs-to-take-russian-offensive-defensive-advances-in-arctic-seriously, accessed 7-1-2022 //THS—OLW

Russia’s massive 70-warship Ocean Shield exercise in the Baltic Sea last year signaled the Kremlin’s intention to be the dominating Arctic power militarily and economically, two international security experts said Tuesday.

“The complexity of exercises has expanded significantly over the last twelve years” as Moscow has pushed conventional and nuclear military modernization programs forward to assert its dominance regionally, Katarzyna Zysk, head of the Centre for Security Policy at Norway’s Institute of Defence Studies, said in a Center for Strategic and International Studies online forum on June 30.

The exercises, often unannounced, are more sophisticated now than when they resumed following Russia’s moves against Georgia and later Ukraine. They involve joint land, air and naval forces in combined operations, “making it less predictable” to NATO planners in assessing the immediate and long-term goals of the Russian military.

But what is clear from this stepped-up tempo is that the “Russian military force in the Arctic is not necessarily going to stay in the Arctic,” she added. This can mean exerting pressure from the Baltic to the Black Sea, as it did by moving warships closer to Ukraine and also showing the flag in the eastern Mediterranean.

Heather Conley, director of CSIS’ Europe program, said at the event that the United States and NATO “just can’t seem to get it right” when it comes to Arctic security. The shortfalls run from the U.S. level of investment in ice-hardened warships and icebreakers to many European nations downplaying the risks in the region to the alliance.

“We have to make those investments,” so the United States can demonstrate its credible presence in the North Atlantic and the North Pacific, Conley said. She added that presence would translate into conducting freedom of navigation operations in the Arctic, as well as responding to manmade or natural disaster and assisting in search and rescue. It also would mean more exercises like Trident Juncture to give U.S. and NATO forces real training in harsh conditions.

“We have to have access” to what some call the “Fifth Ocean,” she said.

For the Russians, the Northern Sea Route [NSR] through Arctic water is an economic lifeline in its exporting of energy to major consumers like China. Conley said the route also offers them advantages in moving naval forces from one ocean to another as the situation demands. That flexibility overcomes shortcomings in its shipbuilding and its modernization of its blue-water fleet.

The Northern Sea Route, which is now more often free of ice, is also the reason why they are building airfields and other military facilities from the Pacific back toward the Kola Peninsula.

In the west on the Kola Peninsula, the home of the Northern Fleet with ballistic missile and attack submarines and surface combatants, Conley said the Kremlin has maintained “a significant conventional deterrent” in terms of aircraft, including strategic bombers and advanced fighters, as well as S-400 radars. She estimated 60 percent of the naval assets based there “are doing territorial defense” through anti-access/area denial missions.

But, as Zysk added, the Kremlin also “has successfully modernized its submarine ballistic fleet” to assert its offensive reach from the Kola Peninsula. In fact, she said this was Moscow’s top military priority when it upped its defense spending in 2010: to maintain “nuclear deterrence and second-strike capability.”

Although Russia’s shipbuilding has sputtered in delivering large ships such as aircraft carriers and in overhauling aging Cold War-era cruisers, Zysk saw its defense industrial base “pushing harder and harder” in developing precision weapons, hypersonic cruise missiles, robotic mines, and nuclear-capable drones.

The weapons are effective as offensive threats and deterrents, she said.

But as effective as these new systems are, Zysk said the Russians still realize that “having a blue-water navy is symbolic of a great power,” and they haven’t shelved that as a long-term objective.

At the same time as the Kremlin has boosted the number of military exercises, it also has increasingly tested NATO’s defenses. Zysk said Russia has simulated attacks on potential major targets and used electromagnetic jamming to cripple GPS in Norway. “There’s great uncertainty [in Norway over] these kinds of activity.”

Conley said that uncertainty marks much of Russia’s military activity in the far north. The lack of transparency of Russian military activities – from announcing exercises to reporting accidents in the Arctic – raises the stakes of a miscalculation of intent. She specifically cited the secrecy that surrounded the deaths of 14 crew members in a fire aboard a deep-sea submersible in the Barents Sea as an example of why a new international forum was needed to address Arctic security concerns.

The bottom line is NATO and the United States [US] “need maritime and air awareness” in the Arctic to effectively deter an assertive Russia as arms control agreements lapse. Conley added, “we do not have the capability or the experience to operate there.”

#### Russian Kola expansion triggers nuclear Armageddon.

Klare 20 — Michael, The Nation’s defense correspondent, is professor emeritus of peace and world-security studies at Hampshire College and senior visiting fellow at the Arms Control Association in Washington, DC. Also wrote a cool book about climate and the pentagon budget 2-11-2020, "A World War Could Break Out in the Arctic," Nation, https://www.thenation.com/article/world/nato-russia-norway/, accessed 7-1-2022 //THS—OLW

In early March, an estimated 7,500 American combat troops will travel to Norway to join thousands of soldiers from other NATO countries in a massive mock battle with imagined invading forces from Russia. In this futuristic simulated engagement—it goes by the name of Exercise Cold Response 2020—allied forces will “conduct multinational joint exercises with a high-intensity combat scenario in demanding winter conditions,” or so claims the Norwegian military anyway. At first glance, this may look like any other NATO training exercise, but think again. There’s nothing ordinary about Cold Response 2020. As a start, it’s being staged above the Arctic Circle, far from any previous traditional NATO battlefield, and it raises to a new level the possibility of a great-power conflict that might end in a nuclear exchange and mutual annihilation. Welcome, in other words, to World War III’s newest battlefield.

For the soldiers participating in the exercise, the potentially thermonuclear dimensions of Cold Response 2020 may not be obvious. At its start, Marines from the United States and the United Kingdom will practice massive amphibious landings along Norway’s coastline, much as they do in similar exercises elsewhere in the world. Once ashore, however, the scenario becomes ever more distinctive. After collecting tanks and other heavy weaponry “prepositioned” in caves in Norway’s interior, the Marines will proceed toward the country’s far-northern Finnmark region to help Norwegian forces stave off Russian forces supposedly pouring across the border. From then on, the two sides will engage in—to use current Pentagon terminology—high-intensity combat operations under Arctic conditions (a type of warfare not seen on such a scale since World War II).

And that’s just the beginning. Unbeknownst to most Americans, the Finnmark region of Norway and adjacent Russian territory have become one of the most likely battlegrounds for the first use of nuclear weapons in any future NATO-Russian conflict. Because Moscow has concentrated a significant part of its nuclear retaliatory capability on the Kola Peninsula, a remote stretch of land abutting northern Norway—any US-NATO success in actual combat with Russian forces near that territory would endanger a significant part of Russia’s nuclear arsenal and so might precipitate the early use of such munitions. Even a simulated victory—the predictable result of Cold Response 2020—will undoubtedly set Russia’s nuclear controllers on edge.

To appreciate just how risky any NATO-Russian clash in Norway’s far north would be, consider the region’s geography and the strategic factors that have led Russia to concentrate so much military power there. And all of this, by the way, will be playing out in the context of another existential danger: climate change. The melting of the Arctic ice cap and the accelerated exploitation of Arctic resources are lending this area ever greater strategic significance.

ENERGY EXTRACTION IN THE FAR NORTH

Look at any map of Europe and you’ll note that Scandinavia widens as it heads southward into the most heavily populated parts of Denmark, Finland, Norway, and Sweden. As you head north, however, it narrows and becomes ever less populated. At its extreme northern reaches, only a thin band of Norway juts east to touch Russia’s Kola Peninsula. To the north, the Barents Sea, an offshoot of the Arctic Ocean, bounds them both. This remote region—approximately 800 miles from Oslo and 900 miles from Moscow—has, in recent years, become a vortex of economic and military activity.

Once prized as a source of vital minerals, especially nickel, iron ore, and phosphates, this remote area is now the center of extensive oil and natural gas extraction. With temperatures rising in the Arctic twice as fast as anywhere else on the planet and sea ice retreating ever farther north every year, offshore fossil-fuel exploration has become increasingly viable. As a result, large reserves of oil and natural gas—the very fuels whose combustion is responsible for those rising temperatures—have been discovered beneath the Barents Sea and both countries are seeking to exploit those deposits. Norway has taken the lead, establishing at Hammerfest in Finnmark the world’s first plant above the Arctic Circle to export liquified natural gas. In a similar fashion, Russia has initiated efforts to exploit the mammoth Shtokman gas field in its sector of the Barents Sea, though it has yet to bring such plans to fruition.

For Russia, even more significant oil and gas prospects lie further east in the Kara and Pechora Seas and on the Yamal Peninsula, a slender extension of Siberia. Its energy companies have, in fact, already begun producing oil at the Prirazlomnoye field in the Pechora Sea and the Novoportovskoye field on that peninsula (and natural gas there as well). Such fields hold great promise for Russia, which exhibits all the characteristics of a petro-state, but there’s one huge problem: The only practical way to get that output to market is via specially designed icebreaker-tankers sent through the Barents Sea past northern Norway.

The exploitation of Arctic oil and gas resources and their transport to markets in Europe and Asia has become a major economic priority for Moscow as its hydrocarbon reserves below the Arctic Circle begin to dry up. Despite calls at home for greater economic diversity, President Vladimir Putin’s regime continues to insist on the centrality of hydrocarbon production to the country’s economic future. In that context, production in the Arctic has become an essential national objective, which, in turn, requires assured access to the Atlantic Ocean via the Barents Sea and Norway’s offshore waters. Think of that waterway as vital to Russia’s energy economy in the way the Strait of Hormuz, connecting the Persian Gulf to the Indian Ocean, is to the Saudis and other regional fossil-fuel producers.

THE MILITARY DIMENSION

No less than Russia’s giant energy firms, its navy must be able to enter the Atlantic via the Barents Sea and northern Norway. Aside from its Baltic and Black Sea ports, accessible to the Atlantic only via passageways easily obstructed by NATO, the sole Russian harbor with unfettered access to the Atlantic Ocean is at Murmansk on the Kola Peninsula. Not surprisingly then, that port is also the headquarters for Russia’s Northern Fleet—its most powerful—and the site of numerous air, infantry, missile, and radar bases along with naval shipyards and nuclear reactors. In other words, it’s among the most sensitive military regions in Russia today.

Given all this, President Putin has substantially rebuilt that very fleet, which fell into disrepair after the collapse of the Soviet Union, equipping it with some of the country’s most advanced warships. In 2018, according to The Military Balance, a publication of the International Institute for Strategic Studies, it already possessed the largest number of modern cruisers and destroyers (10) of any Russian fleet, along with 22 attack submarines and numerous support vessels. Also in the Murmansk area are dozens of advanced MiG fighter planes and a wide assortment of anti-aircraft defense systems. Finally, as 2019 ended, Russian military officials indicated for the first time that they had deployed to the Arctic the Kinzhal air-launched ballistic missile, a weapon capable of hypersonic velocities (more than five times the speed of sound), again presumably to a base in the Murmansk region just 125 miles from Norway’s Finnmark, the site of the upcoming NATO exercise.

More significant yet is the way Moscow has been strengthening its nuclear forces in the region. Like the United States, Russia maintains a “triad” of nuclear delivery systems, including intercontinental ballistic missiles (ICBMs), long-range “heavy” bombers, and submarine-launched ballistic missiles (SLBMs). Under the terms of the New Strategic Arms Reduction Treaty (New START), signed by the two countries in 2010, the Russians can deploy no more than 700 delivery systems capable of carrying no more than 1,550 warheads. (That pact will, however, expire in February 2021 unless the two sides agree to an extension, which appears increasingly unlikely in the age of Trump.) According to the Arms Control Association, the Russians are currently believed to be deploying the warheads they are allowed under New START on 66 heavy bombers, 286 ICBMs, and 12 submarines with 160 SLBMs. Eight of those nuclear-armed subs are, in fact, assigned to the Northern Fleet, which means about 110 missiles with as many as 500 warheads—the exact numbers remain shrouded in secrecy—are deployed in the Murmansk area.

For Russian nuclear strategists, such nuclear-armed submarines are considered the most “survivable” of the country’s retaliatory systems. In the event of a nuclear exchange with the United States, the country’s heavy bombers and ICBMs could prove relatively vulnerable to pre-emptive strikes as their locations are known and can be targeted by American bombs and missiles with near-pinpoint accuracy. Those subs, however, can leave Murmansk and disappear into the wide Atlantic Ocean at the onset of any crisis and so presumably remain hidden from US spying eyes. To do so, however, requires that they pass through the Barents Sea, avoiding the NATO forces lurking nearby. For Moscow, in other words, the very possibility of deterring a US nuclear strike hinges on its ability to defend its naval stronghold in Murmansk, while maneuvering its submarines past Norway’s Finnmark region. No wonder, then, that this area has assumed enormous strategic importance for Russian military planners—and the upcoming Cold Response 2020 is sure to prove challenging to them.

WASHINGTON’S ARCTIC BUILDUP

During the Cold War era, Washington viewed the Arctic as a significant strategic arena and constructed a string of military bases across the region. Their main aim: to intercept Soviet bombers and missiles crossing the North Pole on their way to targets in North America. After the Soviet Union imploded in 1991, Washington abandoned many of those bases. Now, however, with the Pentagon once again identifying “great power competition” with Russia and China as the defining characteristic of the present strategic environment, many of those bases are being reoccupied and new ones established. Once again, the Arctic is being viewed as a potential site of conflict with Russia and, as a result, US forces are being readied for possible combat there.

Secretary of State Mike Pompeo was the first official to explain this new strategic outlook at the Arctic Forum in Finland last May. In his address, a kind of “Pompeo Doctrine,” he indicated that the United States was shifting from benign neglect of the region to aggressive involvement and militarization. “We’re entering a new age of strategic engagement in the Arctic,” he insisted, “complete with new threats to the Arctic and its real estate, and to all of our interests in that region.” To better protect those interests against Russia’s military buildup there, “we are fortifying America’s security and diplomatic presence in the area…hosting military exercises, strengthening our force presence, rebuilding our icebreaker fleet, expanding Coast Guard funding, and creating a new senior military post for Arctic Affairs inside of our own military.”

The Pentagon has been unwilling to provide many details, but a close reading of the military press suggests that this activity has been particularly focused on northern Norway and adjacent waters. To begin with, the Marine Corps has established a permanent presence in that country, the first time foreign forces have been stationed there since German troops occupied it during World War II. A detachment of about 330 Marines were initially deployed near the port of Trondheim in 2017, presumably to help guard nearby caves that contain hundreds of US tanks and combat vehicles. Two years later, a similarly sized group was then dispatched to the Troms region above the Arctic Circle and far closer to the Russian border.

From the Russian perspective, even more threatening is the construction of a US radar station on the Norwegian island of Vardø about 40 miles from the Kola Peninsula. To be operated in conjunction with the Norwegian intelligence service, the focus of the facility will evidently be to snoop on those Russian missile-carrying submarines, assumedly in order to target them and take them out in the earliest stages of any conflict. That Moscow fears just such an outcome is evident from the mock attack it staged on the Vardø facility in 2018, sending 11 Su-24 supersonic bombers on a direct path toward the island. (They turned aside at the last moment.) It has also moved a surface-to-surface missile battery to a spot just 40 miles from Vardø.

In addition, in August 2018, the US Navy decided to reactivate the previously decommissioned Second Fleet in the North Atlantic. “A new Second Fleet increases our strategic flexibility to respond—from the Eastern Seaboard to the Barents Sea,” said Chief of Naval Operations John Richardson at the time. As last year ended, that fleet was declared fully operational.

DECIPHERING COLD RESPONSE 2020

Exercise Cold Response 2020 must be viewed in the context of all these developments. Few details about the thinking behind the upcoming war games have been made public, but it’s not hard to imagine what at least part of the scenario might be like: a US-Russian clash of some sort leading to Russian attacks aimed at seizing that radar station at Vardø and Norway’s defense headquarters at Bodø on the country’s northwestern coast. The invading troops will be slowed but not stopped by Norwegian forces (and those US Marines stationed in the area), while thousands of reinforcements from NATO bases elsewhere in Europe begin to pour in. Eventually, of course, the tide will turn and the Russians will be forced back.

No matter what the official scenario is like, however, for Pentagon planners the situation will go far beyond this. Any Russian assault on critical Norwegian military facilities would presumably be preceded by intense air and missile bombardment and the forward deployment of major naval vessels. This, in turn, would prompt comparable moves by the United States and NATO, probably resulting in violent encounters and the loss of major assets on all sides. In the process, Russia’s key nuclear retaliatory forces would be at risk and quickly placed on high alert with senior officers operating in hair-trigger mode. Any misstep might then lead to what humanity has feared since August 1945: a nuclear apocalypse on Planet Earth.

There is no way to know to what degree such considerations are incorporated into the classified versions of the Cold Response 2020 scenario, but it’s unlikely that they’re missing. Indeed, a 2016 version of the exercise involved the participation of three B-52 nuclear bombers from the US Strategic Air Command, indicating that the American military is keenly aware of the escalatory risks of any large-scale US-Russian encounter in the Arctic.

In short, what might otherwise seem like a routine training exercise in a distant part of the world is actually part of an emerging US strategy to overpower Russia in a critical defensive zone, an approach that could easily result in nuclear war. The Russians are, of course, well aware of this and so will undoubtedly be watching Cold Response 2020 with genuine trepidation. Their fears are understandable—but we should all be concerned about a strategy that seemingly embodies such a high risk of future escalation.

Ever since the Soviets acquired nuclear weapons of their own in 1949, strategists have wondered how and where an all-out nuclear war—World War III—would break out. At one time, that incendiary scenario was believed most likely to involve a clash over the divided city of Berlin or along the East-West border in Germany. After the Cold War, however, fears of such a deadly encounter evaporated and few gave much thought to such possibilities. Looking forward today, however, the prospect of a catastrophic World War III is again becoming all too imaginable and this time, it appears, an incident in the Arctic could prove the spark for Armageddon

All of NATO is key – Worldwide conflict quickly follows.

Kaushal et. al. 22 — Sidharth Kaushal is a Research Fellow, Sea Power at RUSI. He holds a doctorate in International Relations from the London School of Economics, where his research examined the ways in which strategic culture shapes the contours of a nation's grand strategy. James Byrne is a Senior Research Fellow in the Proliferation and Nuclear Policy program at RUSI. Joe Byrne is a Research Analyst in the Proliferation and Nuclear Policy program at RUSI. Giangiuseppe Pili is a Research Fellow for RUSI’s Project Sandstone. Gary Somerville is a Research Analyst in the Proliferation and Nuclear Policy program at RUSI , 4-1-2022, "Chapter II: The Balance of Capabilities in the Subsurface Domain," https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966, accessed 6-30-2022 //THS—OLW

The primary forward deployed component of the US naval commitment to Europe is four Arleigh Burke-class destroyers based at Rota, in Spain, and four P-8A Orions at Sigonella, in Sicily. While the primary purpose of the Arleigh Burkes is their contributions to the ballistic missile defense (BMD) system envisioned as part of the European Phased Adaptive Approach, the vessels are ASW capable.[50](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) Arleigh Burkes are equipped with the AN/SQR-19 towed-array sonar, as well as the AN/SQS-53C hull-mounted sonar.[51](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) It is, however, an open question whether any of these vessels will be diverted from their primary mission of BMD in an Arctic scenario.

The reconstitution of the US Navy’s Second Fleet,[52](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) and a series of recent visits to northern waters by assets such as the Seawolf-class submarine, suggest that the US will maintain a larger number of assets engaged in the northern theatre of the European region in the future. At present, if it is correct to assume that the US will strive to maintain 60% of its SSN fleet in the Indo-Pacific at any given time, this would leave approximately 21 out of the remaining 51 vessels available for deployment.[53](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) If one assumes a high peacetime readiness rate of 80% of the fleet being at – or close to – readiness, this implies that 16 vessels would in theory be available for deployment to northern European waters. Following work done by other analysts on the subject of rapid redeployment, we assume a baseline of 50% of vessels capable of redeploying in the early stages of a conflict, which would imply that approximately eight submarines could rapidly redeploy to Europe in the first week of a conflict – though fewer than this may be deployed, given the existence of other missions beyond great power competition.[54](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) On the other hand, given a month to build up assets in the region, it can be assumed that 13 SSNs – 70% of the available force – could be deployed to NATO’s northern flank. Similarly, one might expect to see an initially limited number of surface combatants reallocated to northern Europe in a crisis, with institutions such as Sweden’s FOI placing the number at four to seven in a week. Not all US surface assets deployed to Europe in a crisis involving Russia will be allocated to the High North. Missions in the Baltic Sea and the Atlantic will also likely take up resources. The authors assume, therefore, that half the available assets will be allocated to High North missions.[55](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966)

For the purpose of this analysis, the authors assume that allied fleets such as the Royal Navy and the French navy are likely to be able to contribute a maximum of three ASW-optimized frigates apiece in the first weeks of a crisis and up to six after 30 days.[56](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) Currently, the Royal Navy would likely deploy its Type-23 frigate, though the arrival of the more modern Type-26 as a replacement is imminent. While the Royal Navy expects to field 12 frigates (FFGs), including eight Type-26s by the late 2020s, the demands of force protection for the UK’s carrier battle groups are likely to compete with other missions.[57](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) The French navy maintains a similar force, though in any crisis involving Russia it may well see Mediterranean security as a competing priority, given the activity of the Black Sea fleet in this area.[58](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) It is assumed that Allies such as Germany and Italy would allocate their ASW-capable vessels closer to home in regions such as the Baltic Sea and Mediterranean in any conflict involving Russia. The Royal Navy has three Astute-class SSNs in active service, with another four entering service in the 2020s. It is assumed that the Royal Navy can deploy between one and three SSNs to the Arctic at present, based on the force likely to be available to the service over the course of the 2020s, and up to five over a longer period.[59](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) Britain expects to deploy nine P-8 Poseidon MPAs, while France sends 18 Atlantique II planes. Assuming a readiness rate of 50%, and the division of French assets discussed earlier, it is estimated that roughly four to six MPAs are available from each state over the course of a week and a month, respectively.[60](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966)

Regional navies such as the Belgian, Norwegian and Danish navies will likely be able to contribute one or two ASW-capable vessels and, in the case of Norway, one or two SSKs at short notice. The Royal Norwegian air force expects to deploy five Poseidons by the mid-2020s.[61](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/02681307.2022.2030966) In addition NATO members Germany and Italy could contribute one or two MPAs – although their focus is likely to be on the Baltic Sea and the Mediterranean.

### 2AC --- Heg A/O

#### We’re not prepared for a European war – it would collapse transatlantic partnerships, erode the EU, undo the pivot to Asia, and cause fast prolif.

* Link turns DoD DA
* Straight turns NATO/HEG bad
* Decks EU CP solvency

Graham 3/8 — Thomas E. Graham is a distinguished fellow at the Council on Foreign Relations. He is a cofounder of the Russian, East European, and Eurasian studies program at Yale University and sits on its faculty steering committee. He is also a research fellow at the MacMillan Center at Yale. He has been a lecturer in global affairs and political science since 2011, teaching courses on U.S.-Russian relations and Russian foreign policy, as well as cybersecurity and counterterrorism. Graham was special assistant to the president and senior director for Russia on the National Security Council staff from 2004 to 2007. He was director for Russian affairs on the staff from 2002 to 2004, 3-8-2022, "Preventing a Wider European Conflict," Council on Foreign Relations, https://www.cfr.org/report/preventing-wider-european-conflict, accessed 6-25-2022 //THS—OLW \*Edited for ableist language

Implications for the United States

A wider European conflict would pose the stiffest challenge to the global standing of the United States [US] since the end of the Cold War and to the international system it has built and underwritten for decades longer. It would test the durability of its global system of alliances and the efficacy of international regimes and institutions that have guarded world peace, security, and prosperity. The challenge would come at a time when the United States [US] itself is in immense disarray, as a deeply polarized polity confronts massive domestic problems—the pandemic, inflation, racial justice, and cultural wars—that leave less time and fewer resources for foreign matters. The United States will be tested to see whether it can muster the will, energy, and creativity to execute an effective policy toward the unfolding crisis in Europe.

At home, public attention has been focused on developments in and around Ukraine, but the Joe Biden administration cannot ignore the home front. In response to U.S.-levied sanctions, Russia can be expected to step up its cyber operations against the United States. It will more actively sow disinformation, seek to exacerbate domestic tensions, and ~~paralyze~~ [inhibit] critical infrastructure. The severity of the attacks will likely rise in proportion to the harshness of the sanctions Washington levies on Moscow.

Abroad, the fate of the transatlantic community, a central pillar of U.S. security and prosperity, would be a stake. One of the Biden administration’s priorities, as laid out in the Interim National Security Strategy Guidance released in March 2021, is repairing U.S. alliances—especially with Europe—after four disruptive years under President Donald Trump. Although relations are more cordial, significant substantive differences remain and the willingness of allies to align behind a common purpose for the long haul remains questionable.

The United States’ allies have rallied behind a harsh set of sanctions in response to Russia’s invasion of Ukraine, but preserving unity as the conflict drags on remains a challenge, especially if sacrifice is spread unevenly across NATO, as will likely be the case. Putin will seek to exploit divisions through differentiated levels of pressure on NATO members, targeted energy cutoffs, offers of negotiation, and the like to most advance two long-standing Russian goals: the end of NATO as a collective defense organization and the erosion of the foundations of the EU. Should he succeed, the new order that would emerge in Europe is far from certain. But Russia would undoubtedly play a central role in its formulation, and almost any conceivable new order would diminish the power and role of the United States [US] on the continent.

A similar situation obtains in the Indo-Pacific region. The Biden administration spent 2021 bolstering relations with its allies and partners—energizing the Quad (the United States, Australia, India, and Japan), and cutting a submarine deal with the United Kingdom and Australia—to meet the growing strategic challenge posed by China. A major, prolonged European distraction could undo further efforts to pivot to Asia, raise doubts among allies and partners about the credibility of the U.S. commitment, and free China to pursue its objectives with greater vigor. The United States [US] could avoid this outcome by pursuing lesser goals in Europe—leading to the quicker development of a new order less favorable to American interests—or by a massive buildup of its military capabilities that would enable it to play a major, perhaps decisive, role in both regions. The latter would have to come at the cost of the Biden administration’s domestic priorities. Whether the Biden administration could muster sufficient domestic political support, if it decided to move in this direction, is far from certain.

In addition to regional challenges, a major European conflict would also stress critical international regimes and institutions. One of the first victims would likely be the arms control regime that has served as the foundation of strategic nuclear stability for the past fifty-plus years. The United States withdrew from some central elements—including the Anti-Ballistic Missiles (ABM) and the Intermediate-Range Nuclear Forces (INF) treaties—but two critical elements have remained in place: the New START treaty and the Nonproliferation Treaty (NPT). A wider conflict in Europe would all but guarantee that the United States and Russia could not agree to a follow-on treaty to the New START treaty before it expires in 2026, and the NPT review conference tentatively scheduled for August 2022 would fall by the wayside. As a consequence, the incipient arms race now underway, fueled by new technologies—hypersonics, cyber tools, and artificial intelligence—would accelerate. A new wave of nuclear proliferation could ensue, especially if U.S. allies and partners lose faith in America’s commitment to extended deterrence. Mutually assured destruction, which for better or worse has anchored strategic stability since the early 1970s, would be severely stressed in a multipolar nuclear landscape with Russia and the United States fighting at least a proxy war.

Likewise, a broader conflict in Europe would stress, perhaps to the breaking point, the United Nations [UN] and many of its auxiliary organizations. Already stymied by a growing rift between the Western permanent members and Russia and China, the Security Council would have failed in its primary reason for being—to prevent the outbreak of a major conflict in Europe. It could continue to exist as a forum for the airing of grievances and acrimonious debate, but it would serve little purpose as a platform for addressing major global issues.

Finally, the humanitarian costs of a wider conflict in Europe would be staggering, particularly given the destructiveness of modern weapons. Beyond the physical destruction and loss of life, untold numbers of refugees would flow across borders not only into Central East Europe but perhaps further West depending on the scale of the fighting. The strain on the socioeconomic systems—coming on top of the stress of the two-year-old pandemic, economic dislocation, and mounting inflation—could bring some close to collapse.

#### Extinction---rogue tech, bio arms-racing, and climate change.

Harari ’18 [Yuval; September 26; Professor of History at Hebrew University of Jerusalem; "We need a post-liberal order now," https://www.economist.com/open-future/2018/09/26/we-need-a-post-liberal-order-now]

If the liberal order is collapsing, what new kind of global order might replace it? So far, those who challenge the liberal order do so mainly on a national level. They have many ideas about how to advance the interests of their particular country, but they don’t have a viable vision for how the world as a whole should function. For example, Russian nationalism can be a reasonable guide for running the affairs of Russia, but Russian nationalism has no plan for the rest of humanity. Unless, of course, nationalism morphs into imperialism, and calls for one nation to conquer and rule the entire world. A century ago, several nationalist movements indeed harboured such imperialist fantasies. Today’s nationalists, whether in Russia, Turkey, Italy or China, so far refrain from advocating global conquest.

In place of violently establishing a global empire, some nationalists such as Steve Bannon, Viktor Orban, the Northern League in Italy and the British Brexiteers dream about a peaceful “Nationalist International”. They argue that all nations today face the same enemies. The bogeymen of globalism, multiculturalism and immigration are threatening to destroy the traditions and identities of all nations. Therefore nationalists across the world should make common cause in opposing these global forces. Hungarians, Italians, Turks and Israelis should build walls, erect fences and slow down the movement of people, goods, money and ideas.

The world will then be divided into distinct nation-states, each with its own sacred identity and traditions. Based on mutual respect for these differing identities, all nation-states could cooperate and trade peacefully with one another. Hungary will be Hungarian, Turkey will be Turkish, Israel will be Israeli, and everyone will know who they are and what is their proper place in the world. It will be a world without immigration, without universal values, without multiculturalism, and without a global elite—but with peaceful international relations and some trade. In a word, the “Nationalist International” envisions the world as a network of walled-but-friendly fortresses.

Many people would think this is quite a reasonable vision. Why isn’t it a viable alternative to the liberal order? Two things should be noted about it. First, it is still a comparatively liberal vision. It assumes that no human group is superior to all others, that no nation should dominate its peers, and that international cooperation is better than conflict. In fact, liberalism and nationalism were originally closely aligned with one another. The 19th century liberal nationalists, such as Giuseppe Garibaldi and Giuseppe Mazzini in Italy, and Adam Mickiewicz in Poland, dreamt about precisely such an international liberal order of peacefully-coexisting nations.

The second thing to note about this vision of friendly fortresses is that it has been tried—and it failed spectacularly. All attempts to divide the world into clear-cut nations have so far resulted in war and genocide. When the heirs of Garibaldi, Mazzini and Mickiewicz managed to overthrow the multi-ethnic Habsburg Empire, it proved impossible to find a clear line dividing Italians from Slovenes or Poles from Ukrainians.

This had set the stage for the second world war. The key problem with the network of fortresses is that each national fortress wants a bit more land, security and prosperity for itself at the expense of the neighbors, and without the help of universal values and global organisations, rival fortresses cannot agree on any common rules. Walled fortresses are seldom friendly.

But if you happen to live inside a particularly strong fortress, such as America or Russia, why should you care? Some nationalists indeed adopt a more extreme isolationist position. They don’t believe in either a global empire or in a global network of fortresses. Instead, they deny the necessity of any global order whatsoever. “Our fortress should just raise the drawbridges,” they say, “and the rest of the world can go to hell. We should refuse entry to foreign people, foreign ideas and foreign goods, and as long as our walls are stout and the guards are loyal, who cares what happens to the foreigners?”

Such extreme isolationism, however, is completely divorced from economic realities. Without a global trade network, all existing national economies will collapse—including that of North Korea. Many countries will not be able even to feed themselves without imports, and prices of almost all products will skyrocket. The made-in-China shirt I am wearing cost me about $5. If it had been produced by Israeli workers from Israeli-grown cotton using Israeli-made machines powered by non-existing Israeli oil, it may well have cost ten times as much. Nationalist leaders from Donald Trump to Vladimir Putin may therefore heap abuse on the global trade network, but none thinks seriously of taking their country completely out of that network. And we cannot have a global trade network without some global order that sets the rules of the game.

Even more importantly, whether people like it or not, humankind today faces three common problems that make a mockery of all national borders, and that can only be solved through global cooperation. These are nuclear war, climate change and technological disruption. You cannot build a wall against nuclear winter or against global warming, and no nation can regulate artificial intelligence (AI) or bioengineering single-handedly. It won’t be enough if only the European Union forbids producing killer robots or only America bans genetically-engineering human babies. Due to the immense potential of such disruptive technologies, if even one country decides to pursue these high-risk high-gain paths, other countries will be forced to follow its dangerous lead for fear of being left behind.

An AI arms race or a biotechnological arms race almost guarantees the worst outcome. Whoever wins the arms race, the loser will likely be humanity itself. For in an arms race, all regulations will collapse. Consider, for example, conducting genetic-engineering experiments on human babies. Every country will say: “We don’t want to conduct such experiments—we are the good guys. But how do we know our rivals are not doing it? We cannot afford to remain behind. So we must do it before them.”

Similarly, consider developing autonomous-weapon systems, that can decide for themselves whether to shoot and kill people. Again, every country will say: “This is a very dangerous technology, and it should be regulated carefully. But we don’t trust our rivals to regulate it, so we must develop it first”.

The only thing that can prevent such destructive arms races is greater trust between countries. This is not an impossible mission. If today the Germans promise the French: “Trust us, we aren’t developing killer robots in a secret laboratory under the Bavarian Alps,” the French are likely to believe the Germans, despite the terrible history of these two countries. We need to build such trust globally. We need to reach a point when Americans and Chinese can trust one another like the French and Germans.

Similarly, we need to create a global safety-net to protect humans against the economic shocks that AI is likely to cause. Automation will create immense new wealth in high-tech hubs such as Silicon Valley, while the worst effects will be felt in developing countries whose economies depend on cheap manual labor. There will be more jobs to software engineers in California, but fewer jobs to Mexican factory workers and truck drivers. We now have a global economy, but politics is still very national. Unless we find solutions on a global level to the disruptions caused by AI, entire countries might collapse, and the resulting chaos, violence and waves of immigration will destabilise the entire world.

This is the proper perspective to look at recent developments such as Brexit. In itself, Brexit isn’t necessarily a bad idea. But is this what Britain and the EU should be dealing with right now? How does Brexit help prevent nuclear war? How does Brexit help prevent climate change? How does Brexit help regulate artificial intelligence and bioengineering? Instead of helping, Brexit makes it harder to solve all of these problems. Every minute that Britain and the EU spend on Brexit is one less minute they spend on preventing climate change and on regulating AI.

In order to survive and flourish in the 21st century, humankind needs effective global cooperation, and so far the only viable blueprint for such cooperation is offered by liberalism. Nevertheless, governments all over the world are undermining the foundations of the liberal order, and the world is turning into a network of fortresses. The first to feel the impact are the weakest members of humanity, who find themselves without any fortress willing to protect them: refugees, illegal migrants, persecuted minorities. But if the walls keep rising, eventually the whole of humankind will feel the squeeze.

### AT: Economic Focus---2NC

— Danita Catherine Burke, 12-13-2018, "Why the new Arctic 'Cold War' is a dangerous myth," Conversation, https://theconversation.com/why-the-new-arctic-cold-war-is-a-dangerous-myth-108274, accessed 7-5-2022 //THS—OLW

#### Russia is not peaceful in the Arctic – their goals are Arctic dominance.

Rumer et al. 21 — Eugene, Former national intelligence officer for Russia and Eurasia at the U.S. National Intelligence Council, is a senior fellow and the director of Carnegie’s Russia and Eurasia Program, Richard Sokolsky, Nonresident senior fellow in Carnegie’s Russia and Eurasia Program. Paul Stronski, Senior fellow in Carnegie’s Russia and Eurasia Program, 3-29-2021, "Russia in the Arctic—A Critical Examination," Carnegie Endowment for International Peace, https://carnegieendowment.org/2021/03/29/russia-in-arctic-critical-examination-pub-84181, accessed 7-5-2022 //THS—OLW

RUSSIAN MILITARY AND ECONOMIC INTERESTS IN THE ARCTIC

Russia has three key military interests in the Arctic. Foremost is securing the second-strike capability of its ballistic missile submarine (SSBN) force on the Kola Peninsula—home to seven of the Russian Navy’s eleven ballistic missile submarines—in a conflict with NATO.8 Concerns about the security of these assets largely account for Russia’s efforts to improve its anti-access/area-denial [A2/AD] systems and monitoring and surveillance capabilities, the increasing tempo of strategic exercises and patrols of long-range bombers and anti-submarine warfare (ASW) aircraft, and the upgrading of military infrastructure to support these operations.9

A second, partly related, interest is protecting Russia’s ability to operate in the North Atlantic and the European Arctic in the event of a conflict with NATO. Unlike Russia’s other fleets, the Northern Fleet has direct access to the Barents and Norwegian Seas and the Atlantic Ocean. Its ability to operate there could be critical in determining the outcome of a conflict on NATO’s eastern flank.10

A third interest is military protection for Russia’s growing economic development, investments, and commercial interests in the Arctic. The vastness of the region, the long and open borders whose only protection is offered by remoteness and inhospitable climate, the poor communications systems and infrastructure, the overall harsh environmental conditions, and growing civilian activities there increase the risk of maritime shipping, nuclear, and environmental accidents—and thus the need to be able to rapidly deploy military-response capabilities.

Russia’s peacetime military presence in the Arctic and the allocation of resources to improve its military capabilities and infrastructure there are aligned with these interests. Maintaining a predominant military position in the Arctic is seen as a necessary component of Russia’s posture there, given the Kremlin’s priorities in Europe and tense relationship with the West, NATO’s enhanced military capabilities near the Russian border, and Western sanctions targeted to constrain Russian energy exploration and production activities in the Arctic.

### AT: No Escalation---2AC

#### A war would suck!

Rumer et al. 21 — Eugene, Former national intelligence officer for Russia and Eurasia at the U.S. National Intelligence Council, is a senior fellow and the director of Carnegie’s Russia and Eurasia Program, Richard Sokolsky, Nonresident senior fellow in Carnegie’s Russia and Eurasia Program. Paul Stronski, Senior fellow in Carnegie’s Russia and Eurasia Program, 3-29-2021, "Russia in the Arctic—A Critical Examination," Carnegie Endowment for International Peace, https://carnegieendowment.org/2021/03/29/russia-in-arctic-critical-examination-pub-84181, accessed 7-5-2022 //THS—OLW

IMPLICATIONS FOR U.S./NATO POLICY

Mutual accusations and warnings by NATO and Russia about the threat they pose to each other risk becoming a self-fulfilling prophecy. The situation is similar to the classic “security dilemma,” in which states take steps to increase their security, prompting other states to respond with their own security measures, thereby decreasing security for the first state.72 This is risky. The commitment of NATO members to each other and Russia’s vision of its security requirements, which emphasizes strategic depth and buffers to shield it from perceived threats to the homeland, meet toe-to-toe along the alliance’s northern flank.

An outright military conflict in the Arctic would not be confined to the region and would prove catastrophic for both sides. All the Arctic stakeholders have an obvious interest in avoiding such an outcome, as the result of either a deliberate or an unintended escalation. The latter is the more likely scenario and this risk is likely to increase as the opposing forces continue to operate in close proximity to each other.

However, neither side has shown willingness to back down. For NATO it is a matter of maintaining the credibility of its commitment to mutual defense; for Russia, its main adversary has advanced to the gates of the homeland and is intent on denying the security, geopolitical, and economic claims to which it feels entitled. The rising tensions are not the result of mutual misunderstandings—both sides’ actions are deliberate and reflect clashing interests.

## 1AC Scenario --- Black Sea

### 1AC---Black Sea ADV

#### Cohesive ASW in the Black Sea is key to deter Russian aggression in the region

Vișan 18 — George Vișan is an associate researcher at the Romania Energy Center (ROEC). George Vișan (2018) Eurasia Daily Monitor Volume: 15 Issue: 8 <https://jamestown.org/program/growing-submarine-threat-black-sea/> WMK

In the four years that have passed since Russia annexed Crimea, the number of Russian submarines active in the Black Sea has grown from one to seven. These submarines pose a grave threat to the security of the North Atlantic Treaty Organization’s (NATO) eastern flank. And together with the Kremlin’s military buildup on the occupied peninsula, they have shifted the balance of forces in the region in Russia’s favor.

Immediately after the annexation of Crimea, Russia embarked on an ambitious program of modernizing its Black Sea Fleet, based out of Sevastopol. Originally, six Admiral Grigorovich–class (Project 11356P/M) guided-missile frigates and six Kilo-class submarines were to be constructed and deployed in the Black Sea (Interfax, May 13, 2014). Both frigates and submarines are capable of launching Kalibr land-attack cruise missiles with a range of over 2,000 kilometers. However, the ongoing war in eastern Ukraine has delayed the building of the Admiral Grigorovich frigates as Kyiv stopped supplying Russian defense contractors with the gas turbines necessary to power them (see EDM, January 25, 2017; The Moscow Times, June 8, 2015). Presently, only three ships have been commissioned.

Nevertheless, all six of the Kilo-class submarines have been delivered and commissioned. Furthermore, four of these submarines have fired their cruise missiles in anger in support of the Russian intervention in Syria (the Rostov-na-Donu, Krasnodar, Veliky Novgorod and Kolpino). In operational terms, this means that their crews are battle-tested and have a high degree of confidence in their boats and weapons systems.

A veteran of the Cold War, the Kilo diesel-electric attack submarine remains a potent weapons system to this day. It is one of the quietest conventional submarines in service and one of the safest. In the confines of the Black Sea and of the Eastern Mediterranean, these submarines can strike targets with torpedoes and cruise missiles with relative ease, while being protected by Russia’s burgeoning anti-access and area denial (A2/AD) “bubbles” (ROEC, July 14, 2015). Their capability to launch Kalibr cruise missiles makes them extremely dangerous, being able to hit targets well inside the Black Sea region, as well as in Europe, Central Asia and the Middle East. As such, the Kilo submarine is an A2/AD asset as well as an offensive power projection platform, capable of hitting NATO facilities in Central and Eastern Europe or to threaten the Deveselu missile defense base in Romania (see EDM, February 16, 2017; September 19, 2017).

Among NATO members in the Black Sea, region only Turkey has fully developed anti-submarine warfare (ASW) capabilities and can meet the challenge posed by Russian undersea vessels. Furthermore, Turkey’s control over the Bosporus and Dardanelles Straits allows for easy monitoring of transiting Russian submarines. However, Ankara’s ASW capabilities are divided between the Black Sea and the Mediterranean Sea and its readiness is being put to the test by Russia’s assertiveness. Romania and Bulgaria, the other two NATO members in the region that possess navies, are struggling to offer up any kind of effective response.

For NATO, the writing is on the wall—it needs to increase its ASW capabilities fast in order to deter the Russian submarine threat. As part of the European Reassurance Initiative (ERI) US P-8 Poseidon aircraft have begun patrolling over the Black Sea in order to track these submarines and gather intelligence. Nevertheless, the presence of Russian fighter aircraft as well as sophisticated air defense systems in and around Crimea makes the P-8s vulnerable to interception and/or interference (România Liberă, September 9, 2017). Clearly, besides a stronger Alliance presence in the region, there needs to be an overall increase in regional ASW capabilities.

An obvious response to the Russian submarine threat in the Black Sea is increasing Romania’s and Bulgaria’s naval capabilities. Romanian and Bulgarian navies operate old ships equipped mostly with outdated Russian sensors and weapons systems. Both countries have not acquired military vessels since joining the North Atlantic Alliance, mostly due to economic reasons. Nevertheless, the Russian military buildup in Crimea has created a sense of urgency concerning naval capabilities for Bucharest and Sofia.

In 2017, Bulgaria announced plans to acquire two multi-role corvettes (Defense News, August 29, 2017), in effect reviving a program dating back to 2007 (Novinite, October 2007). Romania is also preparing to acquire multi-role corvettes, which it views as the single most effective type of surface combatant for littoral areas (MApN.ro, December 8, 2017). Bucharest is likely to purchase four such vessels in a program that will span seven years and is estimated to be worth $1.9 billion. Furthermore, the Romanian Navy plans to modernize its vintage Type 22 frigates, acquired from the United Kingdom in 2003, using the offset agreement from the corvette purchase (MApN.ro, December 8, 2017). A decision concerning the corvette program is expected in 2018. Plans have also been drawn up to buy submarines; but such an acquisition process may not begin until sometime between 2020 and 2026 (Agerpres, January 26, 2017).

Besides looking to obtain new ships for their aging fleets, Romania and Bulgaria have been involved, since 2014, in numerous US- and NATO-led naval exercises in the Black Sea and the Mediterranean. Exercises like Sea Breeze 2017 (C6f.navy.mil, July 25, 2017) have included not only a large number of NATO allies, but also Ukraine and Georgia, targets of Russian aggression. Increasing the number of NATO joint exercises in the Black Sea sends a clear deterrence signal to Moscow, while also increasing capabilities and readiness at a fraction of the cost of new military acquisitions.

In the short term, it seems that Russia has the upper hand in the Black Sea region due to its fast-paced rearmament drive and sophisticated A2/AD assets. However, NATO can overcome this threat by developing regional capabilities designed to thwart apparent Russian advantages. Smart defense investments in critical capabilities, such as ASW, combined with complex joint exercises can restore the regional military balance in favor of the Alliance.

#### Deterrence breakdown ensures escalating conflicts there and in Syria

**Hamilton 20** [Robert E. Hamilton, Ph.D., is a Middle East Institute Non-Resident Scholar for Frontier Europe Initiative, is also an Associate Professor of Eurasian Studies at the U.S. Army War College, during a 30-year career in the U.S. Army, he served overseas in Saudi Arabia, Iraq, Germany, Belarus, Qatar, Afghanistan, the Republic of Georgia, Pakistan and Kuwait, is a graduate of the German Armed Forces Staff College and the U.S. Army War College, “NATO Needs to Focus on the Black Sea,” DefenseOne, Aug 4, 2020, <https://www.defenseone.com/ideas/2020/08/nato-needs-focus-black-sea/167431/>]

Next, NATO’s presence in the Baltics and Poland is the right size: large enough to present a credible deterrent to Russia, but not large enough to present an offensive military threat. NATO was right to beef up its presence in the Baltics after 2014. After all, the three tiny Alliance members are simply incapable of defending themselves alone in the unlikely event of war with Russia. But deploying seven full brigades totaling 40,000 to 50,000 troops, as some analysts suggest, would be destabilizing. Russia would doubtless perceive this deployment as an offensive threat and increase its forces in response. The four NATO battle groups currently deployed – one each to the three Baltic republics and Poland – are important for their composition as much as their size. These 5,000-plus troops could do no more than delay a Russian incursion while NATO deployed reinforcements. But the fact that 24 of the 30 NATO members contribute forces to the Alliance’s “Enhanced Forward Presence” mission makes it clear to Russia that NATO is united in its determination to defend the Baltics, and that war there means war with nearly all of NATO.

Lastly, there is no indication that Moscow has any intention of invading the Baltics. Russia has always seen the Baltics as different from the rest of the former Soviet Union. In short, when the Kremlin looks at Estonia, Latvia, and Lithuania it sees Europe, and it had always played by different rules in Europe than in its self-designated “near abroad”. Anatol Lieven remarked on this Russian tendency in his book The Baltic Revolution: “A large proportion of Baltic Russians have been prepared to acknowledge that the Balts have a superior civic culture, are cleaner, more orderly and harder working. They may qualify this by saying that Russian life is ‘friendlier’, or ‘more humane’, but this is the exact reverse of the usual colonizer: colonized self-images.”

Russia’s behavior toward the Baltic States immediately after the collapse of the Soviet Union made clear the extent to which it treats them differently. As it was intervening on behalf of separatist movements in Georgia and Moldova, it scrupulously avoided escalating the situation with the Russian-speaking minorities in Latvia and Estonia. Despite the fact that Moscow was exceptionally unhappy with the treatment of Russians speakers there, and had military forces deployed to both countries until 1994, it always expressed its grievances through official, institutional channels instead of trying to rally the Russian-speaking minorities to violence or intervening directly as it did elsewhere.

Rather than fixate on the Baltics, where the threat is low and a deterrent force is in place, NATO should pay more attention to the Black Sea region. It is here that Russia has already intervened militarily, and is attempting to fracture the Alliance and erode confidence in its commitments. The Black Sea region also serves as the hub for Russia’s recent expansion into the Eastern Mediterranean and is critical to its efforts to support its intervention in Syria.

There are four main reasons the Black Sea region demands more attention.

First, three of the six littoral states – Romania, Bulgaria, and Turkey – are NATO members and two – Ukraine and Georgia – were promised membership in 2008. Whether the Alliance should have committed to membership for Ukraine and Georgia is no longer relevant; it made the commitment and routinely reiterates it at NATO summits. Every year that the fear of Russia’s reaction delays progress on bringing Kyiv and Tbilisi into NATO erodes confidence in NATO’s other commitments.

Next, an examination of Russian military activities in the last decade-plus leads to the conclusion that the Black Sea and Eastern Mediterranean is the area of greatest geopolitical importance for Russia. All of its military interventions in this period – Georgia, Ukraine and Syria – have occurred in this region, and Moscow clearly intends to challenge the West in this part of the world. NATO provides the best vehicle to meet this challenge and protect the important national interests Western states have in this region.

#### Black Sea conflict causes great power war

**Joja 20** [Iulia-Sabina Joja is a DAAD Post-Doctoral Fellow at the Foreign Policy Institute of the Johns Hopkins School of Advanced International Studies in Washington, DC, where she researches Black Sea security, “Three Conflict Scenarios for The Black Sea in 2020,” Jan 7, 2020, Black Sea Strategy Papers, https://www.fpri.org/article/2020/01/three-conflict-scenarios-for-the-black-sea-in-2020/]

Conclusion

These three conflict scenarios are plausible risks for the Black Sea in 2020. Looking at “the wider Black Sea area” over a medium-term perspective, a more complex array of challenges is visible. In the Western Balkans, proposed land swaps and France’s veto against the European Union expansion add tension to a vulnerable region at the heart of Europe. To the south, Turkey’s divergence from other NATO members and the development of Russia’s offensive military capability development and projection into the Mediterranean add fuel to the fire. Along Turkey’s southern border, Iraq and Syria will be consumed by humanitarian tragedies. Finally, looking east, China’s Belt and Road Initiative is expanding Beijing’s influence in the Black Sea and into Europe more broadly. Increased security and stability in the Black Sea will be essential.

To prevent further conflict, American and European policymakers should prioritize the Black Sea as a security region. At a minimum, sanctions against Russia should be maintained. The West should support Ukraine’s and Georgia’s sovereignty and territorial integrity, as well as their Western path. To prevent China’s buying up of the region, Western powers should consider offering infrastructure investment opportunities as alternatives to a poor and underdeveloped region while ensuring visibility with regard to regional public opinion. Lastly, in the NATO framework, pressure should be exerted to prevent Turkey from acting against collective interests.

#### Goes nuclear

**Amineh 3** [Mehdi Parvizi Amineh, Ph. D in Poli Sci @ University of Amsterdam & Senior research fellow and Programme director of the Energy Programme Asia @ International Institute for Asian Studies) “Globalisation, Geopolitics and Energy Security in Central Eurasia and the Caspian Region,” Hand-out of lecture held on June 19 2003, Clingendael International Energy Programme, pg. <http://www.clingendael.nl/ciep/events/20030619/20030619_amineh.pdf>] \*CEA = post-Soviet Central Eurasia ]

The increasing involvement of the US, the EU, Russia, China, Iran, and Turkey, and also TNCs in the region underscores the significance of the oil and gas resources in CEA and the potential competition for the control of these resources. What we are witnessing now is, a re-composition of the geo-strategic map not only for CEA and the Caspian region, but also of the whole world.

Tensions could be further aggravated by disparities in military power, if conflicts were to escalate. The Eurasian region includes states with a number of the largest armed forces in Europe and Asia: Russia, Turkey, Ukraine, Iran, Pakistan, China, India and Uzbekistan. The region also has four nuclear-armed countries – Russia, China, Pakistan and India – making it a dangerous potential flash point of global significance. Further, security risks concern the US / NATO involvement in numerous political and economic crises in post-Soviet CEA, the war on terrorism in Afghanistan, and the war and crisis in Iraq.

#### Additional Russian incursions into Syria cause Russia-Israel war, which draws in the US and causes great power nuclear war

**Peck 19** [Michael Peck, “A Nuclear Nightmare: How a War Between Russia and Israel Could Start,” Nov 16, 2019, https://nationalinterest.org/blog/buzz/nuclear-nightmare-how-war-between-russia-and-israel-could-start-96861]

The potential for war is real.

Key point: In the end, either Israel or Russia will have to back down.

Could Israeli air strikes in Syria trigger war between Israel and Russia?

Israel remains determined to continue pounding Iranian forces in Syria in a bid to keep Tehran’s forces away from Israel’s northern border. At the same time, Russia has thousands of troops in Syria that could be caught in the crossfire—or even become belligerents if Moscow tires of its Syrian ally being pummeled.

And if Israel and Russia come to blows, would Israel’s big brother—the United States—feel compelled to intervene?

Not that Jerusalem or Moscow are eager for such a fight. “Neither of us desire a military confrontation,” a senior Israel Defense Forces (IDF) official told me during a recent interview in Jerusalem. “It would be detrimental to both sides.”

Yet Israel’s policy boils down to this: it will do whatever it sees as necessary to eject Iranian forces from Syria. And if Russia doesn’t like it, then that’s just the price of ensuring that Syria doesn’t become another Iranian rocket base on Israel’s border.

Relations between Jerusalem and Moscow are far warmer than during the Cold War. The result is a strange embrace reminiscent of the U.S.-Soviet detente of the 1970s. On the surface, a certain friendliness and desire for cooperation. Yet beneath the smiles is wariness, suspicion and a clash of fundamental interests.

“No one in Israel is confused about who the Russians are and who they are aligned with,” said the IDF official, who spoke on condition of anonymity. “The Russians are not our allies, to put it mildly. We have one ally, and that is the United States. The Russians are here for totally different objectives. They are supporting a regime [Syria] that has an outspoken goal of annihilating Israel if it only could. They are also part of a coalition that supports Iran.”

Just how easily Israeli military operations can trigger an incident became evident during a September 2018 strike on ammunition depots in western Syria. Anti-aircraft missiles launched by Syrian gunners accidentally shot down a Russian Il-20 surveillance aircraft, killing fifteen people. Israel denies Russian accusations that it deliberately used the Russian plane as cover, or failed to give Moscow sufficient warning of the raid. Yet Russia still blamed Israel for the mishap and retaliated by supplying advanced S-300 anti-aircraft missiles to Syria.

Nonetheless, Israel sees value in Russia as a potential restraint on Iran, and a possible lever to get Iranian forces out of Syria. After a February meeting between Prime Minister Benjamin Netanyahu and President Vladimir Putin to mend fences after the Il-20 incident, Israeli officials claimed Putin had agreed that foreign forces should withdraw from Syria. For Moscow, friendly relations with Israel offer more influence in the Middle East even as America may be scaling down its presence in the region.

Still, the Kremlin has denounced Israeli strikes in Syria as “illegitimate.” Syria has been a Russian ally for more than fifty years, and it was Russian air strikes—along with Iranian and Hezbollah troops—that saved Syrian president Bashar al-Assad’s faltering regime from ISIS and other rebel groups. At least 63,000 Russian troops have served in Syria since 2015. Though Putin has promised since 2016 that Russian forces would withdraw, Russia currently retains more than 5,000 troops and private military contractors in Syria, backed by several dozen aircraft and helicopters.

And Russia is in Syria to stay. The Syrian port of Tartus is Russia’s only naval base in the Mediterranean: in 2016, Moscow and Damascus signed a forty-nine-year agreement that allows nuclear-powered Russian warships to operate from there. In addition, Russian aircraft and surface-to-air missiles, including the long-range S-400 air defense system, operate from at least two air bases in western Syria.

Israel can live with the Russians next door—but not the Iranians. Israeli officials warn of Tehran’s plan to station 100,000 Iranian and allied troops in Syria. Hezbollah, with its estimated arsenal of 130,000-plus rockets, already menaces Israel’s Lebanon frontier. Syria joining Lebanon as a second Iranian rocket base is the stuff of Israeli nightmares.

“We can – and we intend to – make it as difficult as possible and inflict a price tag that the Iranians aren’t willing to pay,” the IDF official said. And the Israeli Air Force has been just doing that, attacking “Iranian and Hezbollah targets hundreds of times,” Netanyahu announced after a devastating attack on Iranian arms depots near Damascus International Airport in January.

“We continue to implement our plans,” the IDF official replied when asked if Russia would deter Israeli raids into Syria. “Our activities suggest that, despite everything, we enjoy significant freedom of action.”

But more telling was his one-word response when asked how willing is Israel to fight for that freedom of action.

“Willing.”

Which leaves the question: Can Israel target Iran in Syria without triggering a clash with Russia?

There are deconfliction mechanisms in place, including a hotline between the Israeli and Russian militaries. “We are very strict about informing the Russians about our activities and that their operational picture is up to date,” said the IDF official. Yet those procedures were not sufficient to avoid a downing of a Russian plane.

Perhaps that ill-fated Il-20 was just at the wrong place at the wrong time. Still, it is not hard to imagine a multiplicity of equally fatal scenarios. Russian advisers or technicians caught in an Israeli raid on an Iranian or Syrian installation. An errant Israeli smart bomb that hits a Russian base, or a Russian pilot or anti-aircraft battery spooked by a nearby Israeli raid into opening fire. Or, perhaps Russia will just feel obligated to support the prestige of its Syrian ally and its shaky government. Just how incendiary Syrian skies are for everyone became evident in December 2017, when U.S. F-22 fighters fired flares to warn off two Russian Su-25 attack jets that breached a no-go zone in eastern Syria.

To be clear, the IDF is neither boastful nor belligerent about its capabilities versus Russia, a former superpower with the largest nuclear arsenal on the planet. The IDF official likened Israel to “The Mouse that Roared,” the classic novel of a tiny nation that challenges the United States.

But if Israel resembles any mouse, it’s Mighty Mouse: small, powerful and not afraid to use its fists. In fact, what makes a potential Israel-Russia battle so dangerous is that it is not hypothetical. After the 1967 Six-Day War, Soviet fighters were sent to Egypt. This led to a notorious July 1970 incident when in a well-planned aerial ambush over the Suez Canal, Israeli fighters shot down five Soviet-piloted MiG-21 jets in three minutes.

On the other hand, Russia doesn’t need to fight Israel to hurt Israel. Indeed, the IDF official seemed less concerned about a physical clash between Israeli and Russian forces, and more concerned that Russia could choose to supply advanced weapons—such as anti-aircraft missiles—to Israeli enemies such as Syria and Iran. In the early 1970s, the Soviet Union supplied numerous air defense missiles and guns to Egypt and Syria, which inflicted heavy losses on Israeli planes in the 1973 October War. If it wants to, Russia can make Israeli air operations very expensive.

As always with the Arab-Israeli (or Iranian-Israeli) conflict, the real danger isn’t the regional conflict, but how it might escalate. In the 1973 war, the Soviets threatened to send troops to Egypt unless Israel agreed to a cease-fire. The United States responded by going on nuclear alert.

Were the Israelis and Russians to come to blows, or if Moscow were to seriously threaten military force against Israel, could the United States risk a grave loss of prestige by not intervening to back its longtime ally? Could Russia—whose Syrian intervention is a proud symbol of its reborn military muscle and great power status—not retaliate for another downed Russian plane or a dead Russian soldier?

Which leads to the ultimate question: could tensions between Israel and Russia lead to a clash between American and Russian troops?

In the end, somebody will have to back down. But Iran isn’t about to give up its outpost on Israel’s border, and Russia probably can’t force them to. Then there is Israel, which is grimly determined to stop Iran.

As the IDF official said, “We have proven over more than 70 years as a sovereign state that you don’t push us around.”

#### NATO Cohesion is key to solve

Hodges and Bugajski, 20 – Lt. Gen. (Ret.) Ben Hodges is Pershing Chair in Strategic Studies at the Center for European Policy Analysis (CEPA). He served as commander of Allied Land Command (2012-2014) and as commander of U.S. Army Europe (2014-2017). Janusz Bugajski is Senior Fellow at CEPA and has authored 20 books on Europe, Russia, and transatlantic relations, "NATO Needs a Coherent Approach to Defending its Eastern Flank," War on the Rocks, June 12, <https://warontherocks.com/2020/06/nato-needs-a-coherent-approach-to-defending-its-eastern-flank/> -- Iowa

What practical steps can NATO take towards this end? First, it should recognize the strategic significance of the Black Sea region and eliminate the existing “tiered” forward presence, which includes “enhanced Forward Presence” in the Baltic Sea region and “tailored Forward Presence” in the Black Sea region. Next, NATO members should improve situational awareness and prepare for rapid political and military responses to Kremlin provocations along the entire eastern flank. Third, allies need to upgrade air and missile capabilities and improve security cooperation programs, procedures, and personnel assignments. And finally, NATO should support NATO partners in the Black Sea region — Ukraine and Georgia — while increasing investment in their economic development.

The Strategic Setting

In response to Russia’s invasion of Ukraine in 2014, NATO created an asymmetrical defense posture along its eastern flank. It prioritized the defense of the Baltic Sea region and the Baltic states — Estonia, Latvia, and Lithuania — which the alliance considered most vulnerable to Russian pressure. This included deploying enhanced Forward Presence battle groups, bolstering Baltic air policing, increasing military readiness and exercises, improving integrated air and missile defense and long-range fires, and establishing an array of mission command and control headquarters. NATO continues to prioritize the region.

In the Black Sea Region, on the other hand, the alliance settled for tailored Forward Presence and took a more ad hoc approach to improving mission command, regional air policing, and exercises. It strengthened coastal radar systems and slowly established new land force headquarters. The United States expanded its capabilities at Mihail Kogălniceanu air base by bringing Aegis Ashore ballistic missile defenses online in Romania. Bulgaria and Romania are also modernizing their air forces. The U.S. and allied naval presence has increased in the Black Sea, but must operate within the parameters of the 1936 Montreux Convention, which recognizes Turkish sovereignty over the Bosporus Straits, grants Ankara the authority to restrict military access, and prevents non-littoral countries from possessing a permanent naval presence in the region.

NATO’s asymmetrical eastern flank deterrence — enhanced Forward Presence versus tailored Forward Presence — has created gaps and seams in both the Baltic and the Black Sea regions that Moscow could potentially exploit. By not presenting a more unified, coherent front, the alliance remains exposed to Moscow’s military probing, subversion, disinformation, cyberattacks, and overt diplomatic and economic pressure.

In contrast, Moscow views the eastern flank — its western flank — more coherently than NATO, and employs a long-term strategy aimed to restore a sphere of influence in Central and Eastern Europe. In the Baltic Sea region, the Kremlin has modernized its forces in the Western Military District, transformed the Kaliningrad exclave into a potential platform for limited ground invasions or attacks against NATO members, emplaced cutting-edge mobile short-range Iskander-M missiles and S-400 air defense systems, threatened nuclear attack against allies and partners, and conducted large exercises which are aggressive towards Poland and the Baltic states.

In the Black Sea region, the Kremlin has demonstrated an even greater willingness to use force. This is due to NATO’s more ad hoc deterrence posture, and less formal partnerships with regional countries compared to the Baltic Sea region. The Black Sea region is also, in many respects, of even greater strategic value to Moscow because it is the “launching pad” for destabilizing operations in Syria and naval operations in the Eastern Mediterranean. Russia has continued militarizing Crimea and its war in eastern Ukraine, maintained the occupation of Moldovan and Georgian territories, pursued destabilizing campaigns in the Western Balkans and South Caucasus, and is attempting to drive a wedge between Turkey and NATO while threatening Ankara with mass migration flows from Idlib in Syria. Russia brazenly attacked Ukrainian navy vessels in November 2018 — only releasing the 24 Ukrainian sailors in September 2019 — and holds more than 200 “hostages.”

Effective deterrence is not just about a mathematical balance of forces, but about conveying to the Kremlin the capabilities and resolve of NATO and its partners. Any perceived absence of cohesion and coherence — like NATO’s asymmetric approach to the Baltic Sea region and Black Sea region — could unintentionally signal to Moscow that it can exploit seams within the alliance with impunity. This necessitates a new strategy for the eastern flank.

Meeting the Russian Threat

NATO needs a coherent strategy across the Baltic and Black Sea regions with a balance of capabilities that present a united, unassailable front against Moscow’s assertiveness — in short, taking the view of “one flank, one threat, one presence.” The alliance can make substantial progress towards this goal with the following practical steps.

### Impacts --- Nuke Terror

#### Black Sea instability causes terrorist nuclear acquisition --- it’s the heart of the global nuclear black market

**Meakins 17** [Joss Meakins, “Trafficking in Destruction: Nuclear Smuggling in the Black Sea Region,” 5 September, 2017, <https://shoc.rusi.org/informer/trafficking-destruction-nuclear-smuggling-black-sea-region>]

Nuclear terrorism is a severe and credible threat. In July, the Washington Post reported that Daesh (also known as the Islamic State of Iraq and Syria, ISIS) had almost ‘stumbled on the ingredients for a dirty bomb.’

Today, the Black Sea region is the heart of the world’s nuclear black market. Russia retains the world’s largest nuclear stockpile, which is dispersed across hundreds of sites, many poorly guarded due to corruption and political instability. While Russia is likely the primary source for black-market radiological material, former Soviet countries between Russia and the Black Sea similarly possess weakly guarded nuclear and radiological materials. In theory, these materials can easily be transported by land or via Black Sea ports to actors that seek to use it, including non-state actors in Turkey, Iraq or Syria.

Understandably, the most widely analysed worst-case scenario concerning nuclear terrorism has primarily focused on terrorists detonating a nuclear bomb. Although this is a terrifying possibility, it remains extremely difficult to manufacture or steal a nuclear weapon.

Indeed, producing weapons-usable, ‘highly-enriched’ uranium (HEU) – at least 20% U-235 and probably much higher – or plutonium is almost certainly beyond the ability of most terrorist groups. The enrichment process is highly technical and expensive, and plutonium can only be created inside a nuclear reactor. Similarly, nuclear weapons and weapons-usable materials are (comparatively) tightly guarded, mostly in high-security military installations.

It would be considerably easier for a terrorist group to create and use a dirty bomb or ‘radiological dispersion device’ (RDD), which would spread dangerous radioactive substances over a large area. The potential threat posed by an RDD is clearly demonstrated by a radioactive contamination incident in the Brazilian city of Goiânia in 1987. Here, scavengers in a scrapyard deliberately broke open the radioactive capsule inside an abandoned teletherapy unit, containing an isotope of caesium-137.

The men distributed the curious glowing material as a gift to friends and family, contaminating 249 people and killing four. The incident caused $36 million in damage and produced three football fields of radioactive waste. 112,000 people sought medical attention, fearing that they had been contaminated. An RDD could provoke a similar reaction, overwhelming hospitals and causing a breakdown in public health services. In Goiânia, contaminated soil or buildings had to be removed wholesale; a similar clean-up operation in central London, for example, could necessitate the demolition or abandonment of part of the city.

Although only a handful of radioactive substances are suitable to create a RDD, many of these are widely available, being used in hospitals, universities, mines and other civilian sites. From 1993–2014, 1,150 incidents of theft or loss of radiological materials were reported to the International Atomic Energy Agency (IAEA), many of which could be used in an RDD.

Caesium-137, a radioactive powder, is of particular concern because it is dispersible, water soluble and can be made into an aerosol spray. Those seeking to use it for destructive purposes might not use a dirty bomb, but rather contaminate the water supply or target an enclosed space such as a subway system. With no tell-tale explosion, it could take hours for the attack’s source or the attack itself to be discovered.

Worryingly, there is a well-documented trade in dirty-bomb ingredients in the Black Sea region. Large ports such as Batumi and Odessa and frozen conflict zones such as Abkhazia, South Ossetia and Transnistria are known as hotspots for radiological (and indeed nuclear) trafficking. In these locations, criminal syndicates exploit the endemic corruption present, while utilising existing human, drugs and weapons trafficking routes to smuggle radioactive materials.

In particular, Georgia and Armenia have seen several notable cases in recent years.

In 2003, Garik Dadayan, an Armenian, was sentenced to jail but served only 2.5 years for trying to smuggle 200 g of weapons-grade uranium into Georgia. In 2010, Dadayan supplied weapons-grade uranium to two smugglers who thought they were selling a sample to Islamic terrorists.

In 2012, three men were arrested in Batumi for trying to sell caesium-137, while in 2014, two Armenians were apprehended trying to smuggle caesium-137 into Georgia.

In January 2016, three Georgians were arrested for attempting to sell Caesium-137 to undercover police, while in April 2016, six people were arrested for attempting to sell Uranium in Tbilisi.

Moldova is another important node in the radiological and nuclear smuggling network. In 2011, investigations in Moldova uncovered a deal to sell bomb-grade uranium to a buyer in Sudan. The seller ranted about his hatred of America and claimed to have 10 kg of uranium and access to plutonium. The deal was orchestrated by a Russian-Ukrainian citizen known as the ‘the Colonel’ who lived in Transnistria and was found to have paid a corrupt policeman to transport the materials.

Since 2015, meanwhile, Russian crime groups have made four known attempts to sell illegal radioactive materials in the country. Again in 2015, two Moldovans were arrested for trying to sell Caesium-135. The dealer was revealed to have claimed that ISIS could potentially use the substance to make a dirty bomb. The supplier was supposedly a Russian FSB officer who had access to more dangerous material, but when the arrests were made, the supplier vanished.

Such examples reveal the emergence of an unholy alliance in the Black Sea region between corrupt security personnel, organised crime groups and non-state buyers, spawned by corruption, poverty and weak rule of law. In the words of one Moldovan investigator, ‘as long as the smugglers think they can make big money without getting caught, they will keep doing it’.

#### Nuclear terrorism causes extinction

Hayes 18 [Peter Hayes, Director of the Nautilus Institute and Honorary Professor at the Centre for International Security Studies at the University of Sydney, January 18, 2018. “NON-STATE TERRORISM AND INADVERTENT NUCLEAR WAR.” https://nautilus.org/napsnet/napsnet-special-reports/non-state-terrorism-and-inadvertent-nuclear-war]

That is, non-state actors with nuclear weapons or threat goals and capacities do not seek the same goals, will not use the same control systems, and will use radically different organizational procedures and systems to deliver on their threats compared with nuclear armed states. If used tactically for immediate terrorist effect, a non-state nuclear terrorist could violently attack nuclear facilities, exploiting any number of vulnerabilities in fuel cycle facility security, or use actual nuclear materials and even warheads against military or civilian targets. If a persistent, strategically oriented nuclear terrorist succeed in gaining credible nuclear threat capacities, it might take hostage one or more states or cities. If such an event coincides with already high levels of tension and even military collisions between the non-nuclear forces of nuclear armed states, then a non-state nuclear terrorist attack could impel a nuclear armed state to escalate its threat or even military actions against other states, in the belief that this targeted state may have sponsored the non-state attack, or was simply the source of the attack, whatever the declared identity of the attacking non-state entity. This outcome could trigger these states to go onto one or more of the pathways to inadvertent nuclear war, especially if the terrorist attack was on a high value and high risk nuclear facility or involved the seizure and/or use of fissile material. Some experts dismiss this possibility as so remote as to be not worth worrying about. Yet the history of nuclear terrorism globally and in the Northeast Asian region suggests otherwise. Using the sand castle metaphor, once built on the high tide line, sand castles may withstand the wind but eventually succumb to the tide once it reaches the castle—at least once, usually twice a day. Also, theories of organizational and technological failure point to the coincidence of multiple, relatively insignificant driving events that interact or accumulate in ways that lead the “metasystem” to fail, even if each individual component of a system works perfectly. Thus, the potential catalytic effect of a nuclear terrorist incident is not that it would of itself lead to a sudden inter-state nuclear war; but that at a time of crisis when alert levels are already high, when control systems on nuclear forces have already shifted from primary emphasis on negative to positive control, when decision making is already stressed, when the potential for miscalculation is already high due to shows of force indicating that first-use is nigh, when rhetorical threats promising annihilation on the one hand, or collapse of morale and weakness on the other invite counter-vailing threats by nuclear adversaries or their allies to gain the upper hand in the “contest of resolve,” and when organizational cybernetics may be in play such that purposeful actions are implemented differently than intended, then a terrorist nuclear attack may shift a coincident combination of some or all of these factors to a threshold level where they collectively lead to a first-use decision by one or more nuclear-armed states. If the terrorist attack is timed or happens to coincide with high levels of inter-state tension involving nuclear-armed states, then some or all of these tendencies will likely be in play anyway—precisely the concern of those who posit pathways to inadvertent nuclear war as outlined in section 2 above. The critical question is, just as a catalyst breaks some bonds and lets other bonds form, reducing the energy cost and time taken to achieve a chemical reaction, how would a nuclear terrorist attack at time of nuclear charged inter-state tension potentially shift the way that nuclear threat is projected and perceived in a four or five-way nuclear-prone conflict, and how might it affect the potential pathways to inadvertent nuclear war in such a system? Such a pervasive incremental effect is shown in Figure 6 below. Any one or indeed all of these starting nuclear control profiles may be disputed, as might the control profile at the end of the response arrow. (In Figure 6, each nuclear state responds to a terrorist nuclear attack by loosening or abandoning negative controls against unauthorized use, and shifts towards reliance mostly on positive procedural controls biased towards use). But each nuclear armed state will make its moves in response to the posited terrorist nuclear attack partly in response to its expectations as to how other nuclear armed states will perceive and respond to these moves, as well as their perception that an enemy state may have sponsored a terrorist nuclear attack—and considered together, it is obvious that they may not share a common image of the other states’ motivations and actions in this response, leading to cumulative potential for misinterpretation and rapid subsequent action, reaction, and escalation. It is also conceivable—although intuitively it would seem far less likely–that a terrorist nuclear attack at such a conjuncture of partly or fully mobilized nuclear armed states might induce one or more of them to stand down, slow down its decision making or deployments, establish new communication channels with potential nuclear enemy states, and even make common cause to hunt down and eliminate the non-state nuclear terrorist entity, or coordinate operations to respond to the threat of a second terrorist nuclear attack—the credibility of which would be high in the aftermath of a successful initial non-state nuclear attack. As Robert Ayson concluded: In considering the ways in which a terrorist nuclear attack could (wittingly or unwittingly) spark off a wider nuclear exchange government leaders are entitled to be just as worried about their own actions—how they would respond to a terrorist nuclear attack and how that response might get very catastrophically out of control—as about the terrorist act per se. If so, states need to do more than consider the best ways to prevent terrorists from acquiring, deploying and then detonating a nuclear weapon. They also need to think about how they can control themselves in the event of a nuclear terrorist attack (even if some might suggest this risks handing the terrorist a premature and unnecessary victory by giving them indirect influence over the choices states make).[[20]](https://nautilus.org/napsnet/napsnet-special-reports/non-state-terrorism-and-inadvertent-nuclear-war/" \l "_ftn20)

### Internals --- Black Sea Important

#### NATO Black Sea deterrence is crucial to regional stability --- only NATO’s presence prevents reckless Russian intervention into Syria

**Coffey 20** [Luke Coffey, had served at the UK Ministry of Defence since 2010 as senior special adviser to then-British Defence Secretary Liam, is the director of the Douglas and Sarah Allison Center for Foreign Policy at the Heritage Foundation, where he oversees research on nations stretching from South America to the Middle East, “While the U.S. is not a Black Sea country, it needs to be a Black Sea power,” July 21, 2020, MEI, https://www.mei.edu/publications/while-us-not-black-sea-country-it-needs-be-black-sea-power]

While the Baltic region is incredibly important for NATO, this lack of focus on the Black Sea was unfortunate. The region matters to the U.S. and its NATO allies. The Black Sea is home to three NATO members (Romania, Turkey and Bulgaria) and two aspirant NATO countries that face partial Russian occupation (Ukraine and Georgia). Important oil and gas transit links crisscross the region. So do many important fiber optic cables and shipping lanes.

On the tactical level, Moscow’s action in the region and its militarization of Crimea furthers its goal of making the Black Sea a Russian lake. Russia has deployed 28,000 troops to Crimea and has embarked on a major program to build housing, restore airfields, and install new radars there. In addition, Russia has deployed advanced air defense and anti-ship missiles that give it a leg up above the rest in terms of controlling the surface and the skies above the Black Sea.

On the strategic level, Russia uses the Black Sea as a springboard to challenge U.S. interests elsewhere in the world. For example, Russia has used its Black Sea presence on occupied Crimea to launch and support naval operations in support of Syrian President Bashar al-Assad. In the early days of Moscow’s intervention in Syria, the Moskva, a Russian navy guided missile cruiser, played a vital role in providing air defense for Russian forces. Hundreds of thousands of tons of grain and wheat have been shipped from Crimea to Syria to help the Assad Regime’s food shortage problems. Hundreds of trips have been made between Crimea’s port city of Sevastopol and the Russian naval base in Tartus, Syria to transport military hardware and resupplies.

Thankfully policymakers are now waking up. For the U.S. three Black Sea countries can play an important role in America’s presence in the region: Romania, Georgia and Ukraine.

### Impacts --- NW = Ext

#### Nuke war *causes extinction*.

Starr, ’14 Steven Starr, the Senior Scientist for Physicians for Social Responsibility and Director of the Clinical Laboratory Science Program at the University of Missouri. Starr has published in the Bulletin of the Atomic Scientists and the Strategic Arms Reduction (STAR) website of the Moscow Institute of Physics and Technology, June 11th, 2014, “There Can be No Winners in a Nuclear War”, Truth Out, <https://truthout.org/articles/there-can-be-no-winners-in-a-nuclear-war/>

Nuclear war has no winner. Beginning in 2006, several of the world’s leading climatologists (at Rutgers, UCLA, John Hopkins University, and the University of Colorado-Boulder) published a series of studies that evaluated the long-term environmental consequences of a nuclear war, including baseline scenarios fought with merely 1% of the explosive power in the US and/or Russian launch-ready nuclear arsenals. They concluded that the consequences of even a “small” nuclear war would include catastrophic disruptions of global climate and massive destruction of Earth’s protective ozone layer. These and more recent studies predict that global agriculture would be so negatively affected by such a war, a global famine would result, which would cause up to 2 billion people to starve to death. These peer-reviewed studies – which were analyzed by the best scientists in the world and found to be without error – also predict that a war fought with less than half of US or Russian strategic nuclear weapons would destroy the human race. In other words, a US-Russian nuclear war would create such extreme long-term damage to the global environment that it would leave the Earth uninhabitable for humans and most animal forms of life. A recent article in the Bulletin of the Atomic Scientists, “Self-assured destruction: The climate impacts of nuclear war,” begins by stating: “A nuclear war between Russia and the United States, even after the arsenal reductions planned under New START, could produce a nuclear winter. Hence, an attack by either side could be suicidal, resulting in self-assured destruction.” In 2009, I wrote “Catastrophic Climatic Consequences of Nuclear Conflicts” for the International Commission on Nuclear Non-proliferation and Disarmament. The article summarizes the findings of these studies. It explains that nuclear firestorms would produce millions of tons of smoke, which would rise above cloud level and form a global stratospheric smoke layer that would rapidly encircle the Earth. The smoke layer would remain for at least a decade, and it would act to destroy the protective ozone layer (vastly increasing the UV-B reaching Earth) as well as block warming sunlight, thus creating Ice Age weather conditions that would last 10 years or longer. Following a US-Russian nuclear war, temperatures in the central US and Eurasia would fall below freezing every day for one to three years; the intense cold would completely eliminate growing seasons for a decade or longer. No crops could be grown, leading to a famine that would kill most humans and large animal populations. Electromagnetic pulse from high-altitude nuclear detonations would destroy the integrated circuits in all modern electronic devices, including those in commercial nuclear power plants. Every nuclear reactor would almost instantly meltdown; every nuclear spent fuel pool (which contain many times more radioactivity than found in the reactors) would boil off, releasing vast amounts of long-lived radioactivity. The fallout would make most of the US and Europe uninhabitable. Of course, the survivors of the nuclear war would be starving to death anyway. Once nuclear weapons were introduced into a US-Russian conflict, there would be little chance that a nuclear holocaust could be avoided. Theories of “limited nuclear war” and “nuclear de-escalation” are unrealistic. In 2002 the Bush administration modified US strategic doctrine from a retaliatory role to permit preemptive nuclear attack; in 2010, the Obama administration made only incremental and miniscule changes to this doctrine, leaving it essentially unchanged. Furthermore, Counterforce doctrine – used by both the US and Russian military – emphasizes the need for preemptive strikes once nuclear war begins. Both sides would be under immense pressure to launch a preemptive nuclear first-strike once military hostilities had commenced, especially if nuclear weapons had already been used on the battlefield. Both the US and Russia each have 400 to 500 launch-ready ballistic missiles armed with a total of at least 1800 strategic nuclear warheads, which can be launched with only a few minutes warning. Both the US and Russian Presidents are accompanied 24/7 by military officers carrying a “nuclear briefcase,” which allows them to transmit the permission order to launch in a matter of seconds. Yet top political leaders and policymakers of both the US and Russia seem to be unaware that their launch-ready nuclear weapons represent a self-destruct mechanism for the human race. For example, in 2010, I was able to publicly question the chief negotiators of the New START treaty, Russian Ambassador Anatoly Antonov and (then) US Assistant Secretary of State Rose Gottemoeller, during their joint briefing at the UN (during the Non-Proliferation Treaty Review Conference). I asked them if they were familiar with the recent peer-reviewed studies that predicted the detonation of less than 1% of the explosive power contained in the operational and deployed US and Russian nuclear forces would cause catastrophic changes in the global climate, and that a nuclear war fought with their strategic nuclear weapons would kill most people on Earth. They both answered “no.” More recently, on April 20, 2014, I asked the same question and received the same answer from the US officials sent to brief representatives of the NGOS at the Non-Proliferation Treaty Preparatory Committee meeting at the UN. None of the US officials at the briefing were aware of the studies. Those present included top officials of the National Security Council. It is frightening that President Obama and his administration appear unaware that the world’s leading scientists have for years predicted that a nuclear war fought with the US and/or Russian strategic nuclear arsenal means the end of human history. Do they not know of the existential threat these arsenals pose to the human race . . . or do they choose to remain silent because this fact doesn’t fit into their official narratives? We hear only about terrorist threats that could destroy a city with an atomic bomb, while the threat of human extinction from nuclear war is never mentioned – even when the US and Russia are each running huge nuclear war games in preparation for a US-Russian war. Even more frightening is the fact that the neocons running US foreign policy believe that the US has “nuclear primacy” over Russia; that is, the US could successfully launch a nuclear sneak attack against Russian (and Chinese) nuclear forces and completely destroy them. This theory was articulated in 2006 in “The Rise of U.S. Nuclear Primacy,” which was published in Foreign Affairs by the Council on Foreign Relations. By concluding that the Russians and Chinese would be unable to retaliate, or if some small part of their forces remained, would not risk a second US attack by retaliating, the article invites nuclear war. Colonel Valery Yarynich (who was in charge of security of the Soviet/Russian nuclear command and control systems for 7 years) asked me to help him write a rebuttal, which was titled “Nuclear Primacy is a Fallacy.” Colonel Yarynich, who was on the Soviet General Staff and did war planning for the USSR, concluded that the “Primacy” article used faulty methodology and erroneous assumptions, thus invalidating its conclusions. My contribution lay in my knowledge of the recently published (in 2006) studies, which predicted even a “successful” nuclear first-strike, which destroyed 100% of the opposing side’s nuclear weapons, would cause the citizens of the side that “won” the nuclear war to perish from nuclear famine, just as would the rest of humanity.

## Cables Adv/Scenario

### 1AC --- Cables Advantage

#### Underwater cables undergird global stability facilitating financial transactions and military communication – disruptions cascade globally.

Sunak 17 – Rishi Sunak is the Member of Parliament for Richmond (Yorkshire). He was elected in 2015 and has the privilege of representing both the Army’s largest garrison, Catterick Garrison, and also RAF Leeming. ("Undersea Cables Indispensable, insecure," Policy Exchange, 2017, https://policyexchange.org.uk/wp-content/uploads/2017/11/Undersea-Cables.pdf, Accessed 7-1-2022, LASA-SC)

As Rishi Sunak’s powerful report highlights, we have allowed this vital infrastructure of undersea cables to grow increasingly vulnerable. This should worry us all. Cables are isolated in the midst of the oceans, their locations are known, and they are often subject to only minimal security at on-shore landing sites. Furthermore, the technical capabilities required to damage cables are relatively low and unsophisticated. The risk posed to these garden hose-thin connections that carry everything from military intelligence to global financial data is real and growing. In the most severe scenario of an all-out attack upon undersea cable infrastructure by a hostile actor the impact of connectivity loss is potentially catastrophic, but even relatively limited sabotage has the potential to cause significant economic disruption and damage military communications. The waters of the Atlantic have long symbolised the spirit of openness and exploration and, today, the course once charted by the Mayflower is the world’s busiest digital sea-lane. But if that openness is to be preserved, we must be prepared to act with both creativity and strength. This Policy Exchange report accurately highlights the Russian dimension to this risk. Over my own career, I have seen the Atlantic transition from being a theatre characterised by near complete NATO supremacy following the collapse of the Soviet Union to a space that Russia is actively contesting through a resurgent and revanchist naval doctrine. This rise in Russia’s maritime assertiveness has been well-documented and in many respects this bellicosity is a symptom of weakness, attempting to deflect from domestic economic failures that once led Senator John McCain to describe the Putin regime as “a gas station masquerading as a country”. But if the relative weakness of the Russian position makes a conventional conflict with NATO unlikely, it also raises the appeal of asymmetric targets like fibre-optic cables. Recent reports make clear that Russian submarine forces have undertaken detailed monitoring and targeting activities in the vicinity of North Atlantic deep-sea cable infrastructure. And as another example of Russian interest in asymmetric targets, it is worth remembering that in Crimea, Russia successfully took control of land based communications infrastructure early in its annexation of the peninsula. Russia’s relative weakness also attracts it to conducting hybrid warfare. The fundamental idea of hybrid warfare is hostile activity that stops short of full, overt, offensive action and is sufficiently ambiguous that it allows the aggressor plausible deniability and makes international response more difficult. Hybrid warfare has traditionally been land-based, but as I have argued previously, this is about to change and we should prepare for increased maritime hybrid activity. Chinese activities in the South China Sea and Iranian actions in the Arabian Gulf already show characteristics of a hybrid approach, using civilian vessels rather than easily identifiable ‘gray hull’ naval platforms to obfuscate the involvement of state actors. Underwater cables are an obvious target for such hostile action: they are a vital infrastructure asset with ambiguous protection in international law that can be damaged with relatively unsophisticated, non-military hardware. The question that this provokes is what we should do about it? The recommendations Mr Sunak sets out in this report are a serious contribution to the field and a welcome recognition of the precautions that nations like the UK and the US must take in confronting risks posed to communications infrastructure. As well as the actions each government must take unilaterally to improve their security, there is much that can be achieved through partnership. Firstly, governments working with private companies can build more redundancy into their cable systems by creating more “dark cables” which are kept in reserve. Secondly, NATO partners must collectively ready themselves to face this new mix of naval tactics. Where necessary, NATO must be prepared to defend global submarine cables, exactly as we defend our electrical grid, industrial base and transportation networks. This will require highly technical and capable undersea navies from allied countries, better used to working together through regular joint exercises and operations. The need for sea power is greater than ever.

#### Lacking ASW capabilities risk cable clipping and Russian aggression

Vandiver 20 – John Vandiver covers U.S. military activities across Europe and Africa. Based in Stuttgart, Germany, he previously worked for newspapers in New Jersey, North Carolina and Maryland. He is a graduate of the University of Delaware. (John Vandiver, "Allied subs, warships launch large underwater warfare drills off Iceland," Stars and Stripes, 6-29-2020, https://www.stripes.com/theaters/europe/allied-subs-warships-launch-large-underwater-warfare-drills-off-iceland-1.635562, Accessed 7-1-2022, LASA-SC)

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The U.S. is also concerned that Russian forces could damage undersea cables that transmit most of the electronic data between the U.S. and Europe.

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“Exercises today seize opportunities for NATO and Allied nations to sharpen warfighting skills by focusing on high-end capabilities including Anti-Submarine Warfare,” said Vice Adm. Keith Blount, head of NATO’s Allied Maritime Command, in a statement. “Dynamic Mongoose will ensure we remain prepared for operations in peace, crisis and conflict.”

#### Cable attacks cause first-strikes

Clark 16 – Brian Clark worked for the American international brokerage firm Euro Brokers Inc. (Brian, "Undersea cables and the future of submarine competition," Bulletin of the Atomic Scientists, 2016, https://www.tandfonline.com/doi/pdf/10.1080/00963402.2016.1195636, Accessed 7-3-2022, LASA-SC)

Given the likely economic and military impacts of cable breaks, the ability to threaten or protect submarine cables and their shore landings will be increasingly important in future conflicts. In a crisis, an aggressor could use multiple coordinated attacks on cables to compel an opponent to back down or employ them as part of an opening offensive to cut off the defender’s military forces from national commanders, intelligence data, and sensor information. Cable attacks could also be highly destabilizing, since they could prevent a nuclear-armed opponent from controlling and monitoring its strategic weapons and early-warning systems. In response, the country targeted could choose to place its nuclear weapons in a higher alert condition – or initiate a preemptive attack.

#### It decimates strategic stability

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Stability in international relations depends in part on predictability, and the ability of targets to detect attacks and respond appropriately. Emerging changes in undersea warfare threaten to undermine today’s relative stability – including essential underwater infrastructure like submarine cables – through the loss of surveillance information and command-andcontrol capabilities, or risks to “second strike” nuclear capabilities of ballistic-missile submarines. To sustain their national security and preserve stability, large economies and nuclear powers will need to improve their ability to monitor and control the waters off their shores, just as they do the skies above their lands.

#### Collapses the internet – they have the resources

Hinck 18 – Garrett Hinck is a PhD student in political science at Columbia University, studying international relations and the political economy of security. He was previously a research assistant with the Technology and International Affairs and Nuclear Policy programs at the Carnegie Endowment for International Peace. (Garrett Hinck, "Evaluating the Russian Threat to Undersea Cables," Lawfare, 7-1-2018, https://www.lawfareblog.com/evaluating-russian-threat-undersea-cables, Accessed 7-1-2022, LASA-SC)

Is vital internet infrastructure at risk from new Russian naval capabilities? NATO’s military leadership has warned in recent months that the Russian navy is aggressively probing undersea communications cable networks. These cables form a global infrastructure system that transmits 99 percent of the international data sent over the internet. Should we be concerned? Despite the ominous warnings, defense officials have not provided much specific information about the actual substance of the Russian threat.

In the worst scenario, an attack that cut submarine cables coming into the United States could significantly harm its access to the global internet. Ordinary users would probably experience massive losses in bandwidth, particularly for services such as Google and Facebook that host much of their data overseas. Since most government also relies on commercial internet infrastructure, the outages would also interrupt official communications. Any data hosted outside the U.S. would become nearly inaccessible to U.S. parties and vice versa. For people who depend on the internet in daily life, such an attack would be a national disaster. But it is not clear whether NATO believes Russia has the capability or the intention of attacking cable networks in that fashion.

What is known about this problem can be broken down into four categories: Russia’s cable warfare capabilities, the Russian navy’s potential underwater targets, potential effects from damage to submarine cables, and NATO’s publicly acknowledged efforts to respond to Russia. In this post, I summarize existing information on each of these and then pose outstanding questions about the potential Russian threat. My earlier piece on Lawfare provides more background on submarine cables as well as the international law protecting them.

Russia’s cable warfare capabilities

Moscow threatens undersea cables primarily with submarines and spy ships that deploy deep-sea submersibles. At DefenseOne, a national security news site from Atlantic Media, Magnus Nordenman detailed how Russia has converted ballistic missile subs to deploy the highly secretive AS-12 Losharik deep-sea submarine. The Losharik can dive down thousands of meters, enabling it to target cables at depths that would be very difficult to repair.

The most prominent Russian spy ship is the Yantar. Classified as an "oceanographic research vessel," the Yantar on its 2015 voyage probing a cable route to Cuba provoked some of the first reporting that Russia was targeting cables. That trip drew attention to the Yantar’s capabilities for intelligence operations. It carries advanced surveillance equipment, including a remotely operated underwater vehicle and two manned submersibles that the BBC reported can dive about 6,000 meters. For context, the average depth of the ocean floor is about 3,700 meters.

With all its advanced gear, the Yantar has been busy since it came into service in 2015. The ship deployed off a U.S. submarine base in Georgia in 2015, located the wrecks of crashed Russian fighter jets in the eastern Mediterranean in 2016 and assisted in the search for a missing Argentine submarine in 2017. The Russian navy is scheduled to complete construction on a second Yantar-class ship in 2019 and to begin building a third in 2020.

#### Extinction

Eagleman ’10 [Dr. David; 11/9/2010; PhD in Neuroscience @ Baylor University, Adjunct Professor of Neoroscience @ Stanford University, Former Guggenheim Fellow, Director of the Center for Science and Law, BA @ Rice University; “Six Ways The Internet Will Save Civilization”; https://www.wired.co.uk/article/apocalypse-no]

Many great civilisations have fallen, leaving nothing but cracked ruins and scattered genetics. Usually this results from: natural disasters, resource depletion, economic meltdown, disease, poor information flow and corruption. But we’re luckier than our predecessors because we command a technology that no one else possessed: a rapid communication network that finds its highest expression in the internet. I propose that there are six ways in which the net has vastly reduced the threat of societal collapse.

Epidemics can be deflected by telepresence

One of our more dire prospects for collapse is an infectious-disease epidemic. Viral and bacterial epidemics precipitated the fall of the Golden Age of Athens, the Roman Empire and most of the empires of the Native Americans. The internet can be our key to survival because the ability to work telepresently can inhibit microbial transmission by reducing human-to-human contact. In the face of an otherwise devastating epidemic, businesses can keep supply chains running with the maximum number of employees working from home. This can reduce host density below the tipping point required for an epidemic. If we are well prepared when an epidemic arrives, we can fluidly shift into a self-quarantined society in which microbes fail due to host scarcity. Whatever the social ills of isolation, they are worse for the microbes than for us.

The internet will predict natural disasters

We are witnessing the downfall of slow central control in the media: news stories are increasingly becoming user-generated nets of up-to-the-minute information. During the recent California wildfires, locals went to the TV stations to learn whether their neighbourhoods were in danger. But the news stations appeared most concerned with the fate of celebrity mansions, so Californians changed their tack: they uploaded geotagged mobile-phone pictures, updated Facebook statuses and tweeted. The balance tipped: the internet carried news about the fire more quickly and accurately than any news station could. In this grass-roots, decentralised scheme, there were embedded reporters on every block, and the news shockwave kept ahead of the fire. This head start could provide the extra hours that save us. If the Pompeiians had had the internet in 79AD, they could have easily marched 10km to safety, well ahead of the pyroclastic flow from Mount Vesuvius. If the Indian Ocean had the Pacific’s networked tsunami-warning system, South-East Asia would look quite different today.

Discoveries are retained and shared

Historically, critical information has required constant rediscovery. Collections of learning -- from the library at Alexandria to the entire Minoan civilisation -- have fallen to the bonfires of invaders or the wrecking ball of natural disaster. Knowledge is hard won but easily lost. And information that survives often does not spread. Consider smallpox inoculation: this was under way in India, China and Africa centuries before it made its way to Europe. By the time the idea reached North America, native civilisations who needed it had already collapsed. The net solved the problem. New discoveries catch on immediately; information spreads widely. In this way, societies can optimally ratchet up, using the latest bricks of knowledge in their fortification against risk.

Tyranny is mitigated

Censorship of ideas was a familiar spectre in the last century, with state-approved news outlets ruling the press, airwaves and copying machines in the USSR, Romania, Cuba, China, Iraq and elsewhere. In many cases, such as Lysenko’s agricultural despotism in the USSR, it directly contributed to the collapse of the nation. Historically, a more successful strategy has been to confront free speech with free speech -- and the internet allows this in a natural way. It democratises the flow of information by offering access to the newspapers of the world, the photographers of every nation, the bloggers of every political stripe. Some posts are full of doctoring and dishonesty whereas others strive for independence and impartiality -- but all are available to us to sift through. Given the attempts by some governments to build firewalls, it’s clear that this benefit of the net requires constant vigilance.

Human capital is vastly increased

Crowdsourcing brings people together to solve problems. Yet far fewer than one per cent of the world’s population is involved. We need expand human capital. Most of the world not have access to the education afforded a small minority. For every Albert Einstein, Yo-Yo Ma or Barack Obama who has educational opportunities, uncountable others do not. This squandering of talent translates into reduced economic output and a smaller pool of problem solvers. The net opens the gates education to anyone with a computer. A motivated teen anywhere on the planet can walk through the world’s knowledge -- from the webs of Wikipedia to the curriculum of MIT’s OpenCourseWare. The new human capital will serve us well when we confront existential threats we’ve never imagined before.

Energy expenditure is reduced

Societal collapse can often be understood in terms of an energy budget: when energy spend outweighs energy return, collapse ensues. This has taken the form of deforestation or soil erosion; currently, the worry involves fossil-fuel depletion. The internet addresses the energy problem with a natural ease. Consider the massive energy savings inherent in the shift from paper to electrons -- as seen in the transition from the post to email. Ecommerce reduces the need to drive long distances to purchase products. Delivery trucks are more eco-friendly than individuals driving around, not least because of tight packaging and optimisation algorithms for driving routes. Of course, there are energy costs to the banks of computers that underpin the internet -- but these costs are less than the wood, coal and oil that would be expended for the same quantity of information flow.

The tangle of events that triggers societal collapse can be complex, and there are several threats the net does not address. But vast, networked communication can be an antidote to several of the most deadly diseases threatening civilisation. The next time your coworker laments internet addiction, the banality of tweeting or the decline of face-to-face conversation, you may want to suggest that the net may just be the technology that saves us.

### Internals --- Subs key Solve Cables/Russia

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### Cables I/L---1AC

#### Effective detection and intel sharing deter Russia from cutting cables

Alleslev 19. Leona Alleslev-Krofchak is a Canadian politician and former military officer who served as the [member of Parliament](https://en.wikipedia.org/wiki/Member_of_Parliament_(Canada)) (MP) for [Aurora—Oak Ridges—Richmond Hill](https://en.wikipedia.org/wiki/Aurora%E2%80%94Oak_Ridges%E2%80%94Richmond_Hill); “NATO ANTI-SUBMARINE WARFARE: REBUILDING CAPABILITY, PREPARING FOR THE FUTURE”; October 13, 2019; SCIENCE AND TECHNOLOGY COMMITTEE (STC) Special report; <https://www.nato-pa.int/download-file?filename=sites/default/files/2019-10/REPORT%20150%20STC%2019%20E%20rev.%201%20fin%20-%20ANTI-SUBMARINE%20WARFARE.pdf> //BY

III. THE RUSSIAN SUBMARINE THREAT TO NATO A. SUBMARINES IN RUSSIA’S STRATEGY 15. Russia’s submarines must be placed in the context of the larger strategic picture, as submarines play a vital role in this respect. Russia’s grand strategy remains to reclaim its status as a great power on the global stage. A key pillar of this effort is a substantial military modernisation premised on high levels of defence spending. Russia does not publish reliable, transparent figures on this spending. According to one of the most reliable estimates, the level of defence spending has fallen slightly since its high point in 2015, when Russia spent 4.83% of its GDP on defence. Still, in 2018, it remained high at 4% (IISS, 2019). Regardless, Russian military spending, including on submarines, does not need to be high to achieve effective asymmetric effects, as should become clear below. 16. Alongside military modernisation, Russia continues to seek political and military buffer zones in what it calls its ‘near abroad’. For one, Russia pursues hybrid and asymmetric tactics to create strategic uncertainty and localised surprises (Metrick and Hicks, 2018). Additionally, its leadership pursues targeted tactical overmatch by creating anti-access/area-denial (A2/AD) ‘bubbles’ (Metrick and Hicks, 2018). Russia’s northern shores and the Baltic and Black Seas are critical links in this A2/AD approach. 17. Russia’s maritime strategy seeks to fulfil several fundamental goals, most prominently the provision and protection of its submarine-based nuclear deterrent, the defence of its homeland, and increasing Russia’s power, influence, and economic strength (Allport, 2018). As an important consequence, the Russian navy continues to prioritise a) the replacement of its submarines equipped with nuclear warheads, b) strengthening its naval forces for conventional anti-surface 150 STC 19 E rev. 1 fin 4 warfare and land attack (Allport, 2018), and c) improving its capabilities for asymmetric and maritime hybrid operations. 18. Overall, Russia’s naval capabilities still remain “vastly inferior to the collective power of the Alliance” (Allport, 2018). As in other domains, Moscow seeks to compensate by maximising its asymmetric strengths – often to great effect. That is one reason Russia also turns to maritime hybrid tactics, “to turn its weak hand into a strong one”, notes Admiral James G. Stavridis, former NATO Supreme Allied Commander Europe (SACEUR) (Stavridis, 2018). In hybrid scenarios, Russia could employ the full range of military and civilian capabilities and operate as ambiguously as possible (Stavridis, 2018). Submarines are well suited for hybrid tactics, as they can create deniable effects and conduct seabed operations. 19. In particular, Allied defence leaders have sounded warnings that Russia could tap or sever undersea communication cables (see Box 1 and Map 2). Its vessels have been spotted near these cables, perhaps to map the network. Although designed with redundancy in mind, the tapping or severing of undersea communication cables could be extremely consequential for transatlantic and intra-European communications. If Russia or any other state could tap into this network, it could covertly gain intelligence of strategic importance, for example on financial streams, trading data, and classified military or government information. The international trading and financial systems are critically dependent on this network. A disruption would have massive and immediate effects on economic markets (BBC, 2017; Stavridis, 2018). As Keir Giles, a senior consulting fellow at Chatham House has argued, Russia has learnt from its Crimea campaign: “physical access to the communications infrastructure and telecommunications” was the key to information dominance (BBC, 2017). 20. Currently, no truly effective systems for monitoring undersea cable networks exist (Analytic Exchange Progam, 2017). Hence, a key advantage of disrupting undersea cables lies in deniability. A 2008 incident illustrates this. No bad actor was behind the near-simultaneous cutting of undersea cables from the Middle East to Europe and Asia. A ship dragging an anchor and an undersea landslide were responsible. However, if this happened to cables crucial for the Allies, how could they be sure a state was behind this (Smith and Hendrix, 2017)? Even if one Ally had good intelligence, would it be able to share enough to convince others? And what would happen if this took place at critical points in time? One senior interlocutor during the recent STCTTS visit to the United Kingdom said that Russia could lay mines near these cables. If they were detonated at the right time, the Alliance could lose a war before it would even start. It is time for NATO to come up with a good answer. 21. With Moscow’s revived focus on submarines, two classic Cold War concepts of operations have made a return when it comes to the North Atlantic: ‘bastions’ and ‘bastion defence’ (Olsen, 2018). Bastions are those maritime zones where Russia concentrates its at-sea nuclear deterrent. Naturally, Russia wants to keep these strategic submarines safe and thus heavily protects these bastions. Russia’s European bastion is centred on its northern shores (see Map 3). Beyond the bastion, a defensive perimeter of bastion defence stretches all the way to the so-called Greenland-Iceland-UK gap (GIUK gap). One reason the GIUK gap is important to Russia is the fact that, from this line onwards, US assets equipped with Tomahawk cruise missiles can hit vital targets in Russia (Allport, 2018). Russia cannot challenge the Alliance for control of the North Atlantic (Olsen, 2018). Thus, Russian naval assets, most importantly tactical submarines, would seek to deny access to Allied vessels venturing beyond the gap in times of crisis or war (Olsen, 2018). 22. Not every element of Russian maritime strategy, naval modernisation, and operational activities should be seen as inherently threatening. After all, the Russian military was at a particularly low point when it initiated modernisation efforts. Reasonable experts differ on whether Russia’s evolving maritime posture is defensively or offensively oriented. Some argue that Russia’s maritime strategy and posture is defensive at its core (Allport, 2018). Others read Moscow’s actions as geared towards the offensive (Olsen, 2018). 150 STC 19 E rev. 1 fin 5 23. The Rapporteur would agree with the latter. One basic problem of Russia’s strategy is that actions Russia would (want to) perceive as defensive – denying access beyond the GIUK gap to protect its nuclear arsenal – should be seen as a strategic challenge to the Alliance – threatening the transatlantic link. Box 1: Notable quotes on the threat against undersea cables 24. Another element in Russia’s naval modernisation also points towards an offensively oriented posture: the new Kalibr-3M14 long-range precision-guided missiles which can target both surface vessels and land targets from as far as 1,500 to 2,500 kilometres. As a result, Russian submarines not only present a threat to the transatlantic link; they can now also deny access to Alliance littorals in support of the much broader A2/AD threat (Tamnes, 2018). Kalibr missiles could hold critical nodes deep in Alliance territory at risk, even when on station in the Barents and White Seas. Indeed, Russia has tested launching these missiles from their home base, significantly reducing the time to launch (O’Dwyer, 2019). If the upper estimate holds true, a submarine in the White Sea could place a Kalibr on NATO Headquarters in Brussels and at least 13 Allied capitals (see also Map 4). In a crisis or war, Russian submarines could target critical disembarkation ports for troop reinforcements and potentially even North Admiral (Ret.) James Stavridis, former NATO Supreme Allied Commander Europe (Sunak, 2017): “Recent reports make clear that Russian submarine forces have undertaken detailed monitoring and targeting activities in the vicinity of North Atlantic deep-sea cable infrastructure.” Air Chief Marshal Sir Stuart Peach, Chief of the Defence Staff, UK Ministry of Defence (Peach, 2017): “There is a new risk to our way of life that is the vulnerability of the cables that crisscross the seabed.” Arnor Sigursjonsson, Director General of the Defence Directorate in Iceland’s Ministry of Foreign Affairs, December 2018 (Willet, 2018): “[Undersea cables] are not only linking Iceland to Europe and to North America, but they are the linkages between North America and Europe directly, south of Iceland […]. If you manage to disrupt those, that will have major consequences globally

### Uniq --- Cables at Risk

#### Cables are increasingly vulnerable – ASW is key to protection

Sunak 17 – Rishi Sunak is the Member of Parliament for Richmond (Yorkshire). He was elected in 2015 and has the privilege of representing both the Army’s largest garrison, Catterick Garrison, and also RAF Leeming. ("Undersea Cables Indispensable, insecure," Policy Exchange, 2017, https://policyexchange.org.uk/wp-content/uploads/2017/11/Undersea-Cables.pdf, Accessed 7-1-2022, LASA-SC)

As Rishi Sunak’s powerful report highlights, we have allowed this vital infrastructure of undersea cables to grow increasingly vulnerable. This should worry us all. Cables are isolated in the midst of the oceans, their locations are known, and they are often subject to only minimal security at on-shore landing sites. Furthermore, the technical capabilities required to damage cables are relatively low and unsophisticated. The risk posed to these garden hose-thin connections that carry everything from military intelligence to global financial data is real and growing. In the most severe scenario of an all-out attack upon undersea cable infrastructure by a hostile actor the impact of connectivity loss is potentially catastrophic, but even relatively limited sabotage has the potential to cause significant economic disruption and damage military communications. The waters of the Atlantic have long symbolised the spirit of openness and exploration and, today, the course once charted by the Mayflower is the world’s busiest digital sea-lane. But if that openness is to be preserved, we must be prepared to act with both creativity and strength. This Policy Exchange report accurately highlights the Russian dimension to this risk. Over my own career, I have seen the Atlantic transition from being a theatre characterised by near complete NATO supremacy following the collapse of the Soviet Union to a space that Russia is actively contesting through a resurgent and revanchist naval doctrine. This rise in Russia’s maritime assertiveness has been well-documented and in many respects this bellicosity is a symptom of weakness, attempting to deflect from domestic economic failures that once led Senator John McCain to describe the Putin regime as “a gas station masquerading as a country”. But if the relative weakness of the Russian position makes a conventional conflict with NATO unlikely, it also raises the appeal of asymmetric targets like fibre-optic cables. Recent reports make clear that Russian submarine forces have undertaken detailed monitoring and targeting activities in the vicinity of North Atlantic deep-sea cable infrastructure. And as another example of Russian interest in asymmetric targets, it is worth remembering that in Crimea, Russia successfully took control of land based communications infrastructure early in its annexation of the peninsula. Russia’s relative weakness also attracts it to conducting hybrid warfare. The fundamental idea of hybrid warfare is hostile activity that stops short of full, overt, offensive action and is sufficiently ambiguous that it allows the aggressor plausible deniability and makes international response more difficult. Hybrid warfare has traditionally been land-based, but as I have argued previously, this is about to change and we should prepare for increased maritime hybrid activity. Chinese activities in the South China Sea and Iranian actions in the Arabian Gulf already show characteristics of a hybrid approach, using civilian vessels rather than easily identifiable ‘gray hull’ naval platforms to obfuscate the involvement of state actors. Underwater cables are an obvious target for such hostile action: they are a vital infrastructure asset with ambiguous protection in international law that can be damaged with relatively unsophisticated, non-military hardware. The question that this provokes is what we should do about it? The recommendations Mr Sunak sets out in this report are a serious contribution to the field and a welcome recognition of the precautions that nations like the UK and the US must take in confronting risks posed to communications infrastructure. As well as the actions each government must take unilaterally to improve their security, there is much that can be achieved through partnership. Firstly, governments working with private companies can build more redundancy into their cable systems by creating more “dark cables” which are kept in reserve. Secondly, NATO partners must collectively ready themselves to face this new mix of naval tactics. Where necessary, NATO must be prepared to defend global submarine cables, exactly as we defend our electrical grid, industrial base and transportation networks. This will require highly technical and capable undersea navies from allied countries, better used to working together through regular joint exercises and operations. The need for sea power is greater than ever.

#### Cutting cables would be REALLY BAD

David 22 – Rona has been a journalist for over 20 years, collaborating with various media trusts: Pro Tv, Prima Tv, RFI, Cotidianul (…). Notable is also her experience within the Environment Commission of the Romanian Senate, as an advisor to the Chairman of this commission. In the period 2008-2010 she was a correspondent for Prima TV at the European Parliament in Strasbourg, which allowed her a European approach to media issues. (Rona Rita David, "Submarine Cables: Risks and Security Threats," Energy Industry Review, 3-25-2022, https://energyindustryreview.com/analysis/submarine-cables-risks-and-security-threats/, Accessed 7-5-2022, LASA-SC)

Cutting submarine cables, an old and proven practice of war

Recent attacks on cables carrying voice and data traffic between North America and Europe lead to the idea that they seem to be undergoing a new development. France and the United Kingdom had already dealt with this experience on the part of the Germans during the First World War. These infrastructures were part of the global cable telegraph network. Similarly, the United States cut wartime cables as a means of disrupting the ability of an enemy power to command and control distant forces.

The first such attacks took place in 1898, during the Spanish-American War. That year, in the Gulf of Manila (Philippines), the USS Zafiro cut the cable connecting Manila to the Asian continent to isolate the Philippines from the rest of the world, as well as the cable connecting Manila to the Philippine city of Capiz. Other spectacular cable attacks took place in the Caribbean, plunging Spain into the dark during the conflict in Puerto Rico and Cuba, which contributed greatly to the final victory of the United States.

Russia interested in NATO’s subsea infrastructure

Russia seems to materialize the concerns at the highest level in this field. In 2015, the presence of Russian vessel Yantar along the US coast, near the cables, did not fail to arouse tensions between the two states. At the end of 2017, the situation repeated.

“We are now seeing Russian underwater activity in the vicinity of undersea cables that I don’t believe we have ever seen. Russia is clearly taking an interest in NATO and NATO nations’ undersea infrastructure,” said Admiral Andrew Lennon, commander of the organization’s submarine forces. It’s like going back to the days of the Cold War… To the point where Policy Exchange has devoted an entire chapter of its “Russia Risk” report to this topic. The think tank recalls the episode of the annexation of Crimea in 2014, when the peninsula was isolated from the rest of Ukraine by physically cutting off communications.

“If the relative weakness of the Russian position makes a conventional conflict with NATO unlikely, fibre-optic cables can be a target for Russia. We should prepare for an increase in hybrid actions in the maritime field, not only in Russia, but also in China and Iran,” underlines the former commander of the NATO allied forces, the American Admiral James G. Stravridis.

Three major security risks

The first risk factor is the growing volume of data flowing through cables, which encourages third countries to spy on or disrupt traffic.

The second risk factor is the increasing capital intensity of these facilities, which leads to the creation of international consortia involving up to dozens of owners. These owners are separated from the entities that produce the cable components and from those that position the cables along the ocean floor. Timeshare makes it possible to reduce costs substantially, but at the same time allows the entry in these consortia of state actors who could use their influence to disrupt data flows, or even to interrupt them in a conflict scenario. At the other end of the spectrum, GAFAMs (Google, Apple, Facebook, Amazon, and Microsoft) now have the financial and technical capacity to build their own cables. Thus, the Dunant cable, which links France to the United States, is entirely owned by Google. The Chinese giants have also embarked on a strategy of submarine conquest: this is the case of the Peace cable, which connects China to Marseilles, owned by the Hengtong company, considered by the Chinese government as a model of “civilian-military”.

Another threat is espionage, which requires specially equipped submarines, or submarines operating from ships, capable of intercepting, or even modifying, data passing through fibre-optic cables without damaging them. So far, only China, Russia and the United States have such means.

The most vulnerable point of submarine cables, however, is where they reach land: the landing stations Thus, the town of Lège-Cap-Ferret, where the interface room between the Franco-American cable “Amitié” will be built, has recently become a veritable nest of spies, according to informed sources.

### Internals --- Cables k Internet

#### Collapses the internet – they have the resources

Hinck 18 – Garrett Hinck is a PhD student in political science at Columbia University, studying international relations and the political economy of security. He was previously a research assistant with the Technology and International Affairs and Nuclear Policy programs at the Carnegie Endowment for International Peace. (Garrett Hinck, "Evaluating the Russian Threat to Undersea Cables," Lawfare, 7-1-2018, https://www.lawfareblog.com/evaluating-russian-threat-undersea-cables, Accessed 7-1-2022, LASA-SC)

Is vital internet infrastructure at risk from new Russian naval capabilities? NATO’s military leadership has warned in recent months that the Russian navy is aggressively probing undersea communications cable networks. These cables form a global infrastructure system that transmits 99 percent of the international data sent over the internet. Should we be concerned? Despite the ominous warnings, defense officials have not provided much specific information about the actual substance of the Russian threat.

In the worst scenario, an attack that cut submarine cables coming into the United States could significantly harm its access to the global internet. Ordinary users would probably experience massive losses in bandwidth, particularly for services such as Google and Facebook that host much of their data overseas. Since most government also relies on commercial internet infrastructure, the outages would also interrupt official communications. Any data hosted outside the U.S. would become nearly inaccessible to U.S. parties and vice versa. For people who depend on the internet in daily life, such an attack would be a national disaster. But it is not clear whether NATO believes Russia has the capability or the intention of attacking cable networks in that fashion.

What is known about this problem can be broken down into four categories: Russia’s cable warfare capabilities, the Russian navy’s potential underwater targets, potential effects from damage to submarine cables, and NATO’s publicly acknowledged efforts to respond to Russia. In this post, I summarize existing information on each of these and then pose outstanding questions about the potential Russian threat. My earlier piece on Lawfare provides more background on submarine cables as well as the international law protecting them.

Russia’s cable warfare capabilities

Moscow threatens undersea cables primarily with submarines and spy ships that deploy deep-sea submersibles. At DefenseOne, a national security news site from Atlantic Media, Magnus Nordenman detailed how Russia has converted ballistic missile subs to deploy the highly secretive AS-12 Losharik deep-sea submarine. The Losharik can dive down thousands of meters, enabling it to target cables at depths that would be very difficult to repair.

The most prominent Russian spy ship is the Yantar. Classified as an "oceanographic research vessel," the Yantar on its 2015 voyage probing a cable route to Cuba provoked some of the first reporting that Russia was targeting cables. That trip drew attention to the Yantar’s capabilities for intelligence operations. It carries advanced surveillance equipment, including a remotely operated underwater vehicle and two manned submersibles that the BBC reported can dive about 6,000 meters. For context, the average depth of the ocean floor is about 3,700 meters.

With all its advanced gear, the Yantar has been busy since it came into service in 2015. The ship deployed off a U.S. submarine base in Georgia in 2015, located the wrecks of crashed Russian fighter jets in the eastern Mediterranean in 2016 and assisted in the search for a missing Argentine submarine in 2017. The Russian navy is scheduled to complete construction on a second Yantar-class ship in 2019 and to begin building a third in 2020.

### Internals --- Info Share k Missions

#### Wargames prove – lack of sharing causes mission failure

Smith 17 – JULIANNE SMITH is a Senior Fellow at the Center for a New American Security (CNAS) and Director of its Transatlantic Security Program. She previously served as the Deputy National Security Advisor to the Vice President of the United States and as the Principal Director for European and NATO Policy in the Office of the Secretary of Defense in the Pentagon. ("FORGOTTEN WATERS Minding the GIUK Gap on JSTOR," Center for a New American Security, 2017, https://www.jstor.org/stable/resrep06178, Accessed 7-1-2022, LASA-SC)

The “Forgotten Waters” exercise revealed a lack of familiarity with the GIUK Gap: geographically, strategically, and tactically. It provided CNAS analysts and participants with several important insights about hybrid threats, the critical role of Iceland, intelligence sharing, disparities among NATO states, and NATO decision-making. Particularly in its third move, which involved a more conventional set of military threats, the exercise exposed numerous gaps in military capability and capacity as well as technical shortfalls. Here, we focus first on strategic issues, and then on alliance issues, that the exercise highlighted.

### Uniq --- Automated Subs Inev.

#### Automated submarines are inevitable.

Wilson 19 – J.R. Wilson has been a full-time freelance writer, focusing primarily on aerospace, defense and high technology, since 1992, when he finished a four-year assignment as North American Group Editor for the UK-based Jane’s Information Group. A 1971 graduate of the University of Missouri School of Journalism, he spent eight years with United Press International before joining McDonnell Douglas Astronautics Co. as head of public relations for the space sector. ("Unmanned submarines seen as key to dominating the world’s oceans," Military Aerospace, 10-15-2019, https://www.militaryaerospace.com/unmanned/article/14068665/unmanned-underwater-vehicles-uuv-artificial-intelligence, Accessed 7-1-2022, LASA-SC)

The Spanish and British empires dominated the world in large part by dominating the oceans. Nazi Germany and Imperial Japan were major sea powers during World War II by adding submarines to their surface fleets.

That combination remains the key to sea power today, dominated by the U.S. Navy, with 68 nuclear-powered submarines, 11 aircraft carriers, and more than 450 other ships like destroyers, cruisers, and support ships.

In recent years, China has overtaken the U.S. in numbers, with more than 500 ships, including 75 submarines and three aircraft carriers, of which about half has been built since 2010. Still, China’s open-ocean naval capability lags far behind the U.S. No other navy in the world comes close to the U.S. or China. Now a new era in naval power is emerging — unmanned vehicles.

Nearly two decades into the 21st Century, both nations are putting significant effort into adding autonomous and semi-autonomous platforms to their surface and subsurface naval forces. The underwater realm is the most difficult because of the limitations of underwater communications, which makes some form of artificial intelligence (AI) mandatory.

China has been uncharacteristically open about its intentions for AI, from an announced underwater city inhabited and operated entirely by robots to official government goals of capitalizing on AI to transform their military into the strongest in the world.

While Chinese government spending on AI research is far greater than that of the U.S., however, a large percentage of global effort is coming from the U.S. commercial sector, on which the Pentagon relies heavily for technology advances. Still, Chinese companies also are increasing their AI investments.

The influence of massive spending on developing AI for undersea systems portends the greatest change in military sea power since the introduction of nuclear-powered vessels.

“Equipping our military vessels with a higher-level of artificial intelligence is the answer to the increasing size and complexity of data to be processed as well as the need to reduce staff,” says Dominique Giannoni, an executive at Thales Underwater Systems in Valbonne, France.

China autonomous undersea efforts

In a rare July 2018 interview with the South China Morning Post, Lin Yang, director of a classified program at the Shenyang Institute of Automation in Shenyang, China, says her country has plans to develop new-generation military underwater robots by 2021. His 912 Project’s goal is to develop AI-driven unmanned submarines to handle surveillance, mine laying, and attack missions.

Western China-watchers say the Chinese navy has several AI-enabled vessels in development — with a focus on autonomous submarines — as part of a major push to overtake U.S. dominance in the Indo-Pacific region and beyond. That includes 100-foot long extra-large unmanned underwater vehicles (XLUUVs) intended for deployment early in the next decade.

Another civilian project is China’s most ambitious undersea AI effort to date, with significant military potential. In 2018, China announced it was working on an AI-run underwater base, equipped with autonomous submarines to extend its reach.

According to published reports, the submarines would deploy for investigation and scientific surveillance missions, then return to the unmanned base to download data and recharge. The base itself, located on the ocean floor as deep as 36,000 feet, also would conduct research on the immediate area, process and fuse all collected data, and transmit the results to a surface ship or land station.

No location for the base or a timetable for its deployment have been released, but, given the speed with which China is developing AI across the board, and especially for undersea applications, the first elements are expected in the near future.

While being promoted as a major advance in research on undersea life and topography, the military potential of such long-endurance unmanned cooperative systems cannot be ignored.

China must “grasp the changes of national security circumstances, speed up preparations for military struggle, including battle planning, capacity building and command system building,” Chinese President Xi Jinping said in a speech during a naval inspection in Qingdao, China, according to China Daily.

Russia also is putting considerable effort into AI, but is not believed to be anywhere near the level of the U.S. or China.

U.S. autonomous undersea programs

The 2020 Pentagon budget request cites advances of potential adversaries in asking for major funding increases for autonomous weapons programs. Requests include a ten-fold increase in spending on large unmanned surface vessels by the Navy and more than 50 percent more for Army robotics development. The requests total $3.7 billion on unmanned systems across the services, plus another $900 million on AI.

The Embracing Artificial Intelligence in Undersea Warfare session at the Navy Submarine League’s Submarine Technology Symposium in May summarized the U.S. Navy’s increasing focus on AI — especially undersea:

“As the current submarine force trusts mechanical and electrical technology to execute the mission, the future force will need to trust AI to extract and exploit actionable patterns among an ocean of data,” the session says. “The advent of big data and deep learning technology has rendered signal detection and classification an increasingly automated process. Furthermore, advances in autonomous navigation have enabled unmanned platforms to operate alone or in swarms.

“It will be critical for the 21st century that the undersea fleet advance in its AI capabilities, develop algorithms that are intuitive and explainable, cultivate users’ trust in AI, and design future systems around the use of AI. Meanwhile, we must also recognize our adversaries’ disruptive AI capabilities and develop appropriate countermeasures against them.”

Despite technological strides in AI, unmanned maritime vessels face a host of new and potentially disabling challenges — especially in underwater applications. A 2014 Rand Corp. research paper on Designing Unmanned Systems with Greater Autonomy looked at how AI is being implemented — and researched for future application — across the board for unmanned systems. The report also noted the unique challenges facing UUV autonomy.

“Achieving and maintaining communication with underwater vehicles and even with surface vehicles is technically challenging, especially at longer ranges. Water attenuates radio waves and other wireless signals that can easily be used at long range in air-to-ground or air-to-air communications,” the report stated. “This means that high-bandwidth communications underwater are largely impractical using traditional communication technologies.”

“Although there has been some experimentation with laser communications for underwater applications, laser communications systems are expensive and consume considerable amounts of power. Because of these communications limitations, UUVs that do not require continuous communications links are essential. For example, autonomous path planning is needed to avoid underwater obstacles and unanticipated terrain features.”

### Uniq --- Russia Cuts Cables Now

#### Russian submarine dominance causes cable cutting---deniability makes it highly likely. Assumes cable redundancy

Alleslev 19 — Leona Alleslev-Krofchak is a Canadian politician and former military officer. Alleslev, Leona. "NATO Anti-submarine warfare: rebuilding capability, preparing for the future." Science and Technology Committee (STC) (2019). https://www.nato-pa.int/download-file?filename=sites/default/files/2019-10/REPORT%20150%20STC%2019%20E%20rev.%201%20fin%20-%20ANTI-SUBMARINE%20WARFARE.pdf WMK

19. In particular, Allied defence leaders have sounded warnings that Russia could tap or sever undersea communication cables (see Box 1 and Map 2). Its vessels have been spotted near these cables, perhaps to map the network. Although designed with redundancy in mind, the tapping or severing of undersea communication cables could be extremely consequential for transatlantic and intra-European communications. If Russia or any other state could tap into this network, it could covertly gain intelligence of strategic importance, for example on financial streams, trading data, and classified military or government information. The international trading and financial systems are critically dependent on this network. A disruption would have massive and immediate effects on economic markets (BBC, 2017; Stavridis, 2018). As Keir Giles, a senior consulting fellow at Chatham House has argued, Russia has learnt from its Crimea campaign: “physical access to the communications infrastructure and telecommunications” was the key to information dominance (BBC, 2017).

20. Currently, no truly effective systems for monitoring undersea cable networks exist (Analytic Exchange Progam, 2017). Hence, a key advantage of disrupting undersea cables lies in deniability. A 2008 incident illustrates this. No bad actor was behind the near-simultaneous cutting of undersea cables from the Middle East to Europe and Asia. A ship dragging an anchor and an undersea landslide were responsible. However, if this happened to cables crucial for the Allies, how could they be sure a state was behind this (Smith and Hendrix, 2017)? Even if one Ally had good intelligence, would it be able to share enough to convince others? And what would happen if this took place at critical points in time? One senior interlocutor during the recent STCTTS visit to the United Kingdom said that Russia could lay mines near these cables. If they were detonated at the right time, the Alliance could lose a war before it would even start. It is time for NATO to come up with a good answer.

### Uniq --- Russia Will Cut

#### Moscow has the means and motives to attack cables – fosters espionage and disrupts military planning.

Morcos 21 – Pierre Morcos is a visiting fellow in the Europe, Russia, and Eurasia Program at the Center for Strategic and International Studies, where he focuses on European security issues. A career diplomat with the French Foreign Service, he most recently served as deputy head of the Strategic Affairs and Cybersecurity Division, focusing on NATO and European defense issues. Trained as a civil servant in the National School for Administration (Ecole Nationale d'Administration), he holds a B.A. and an M.P.A. from the Paris Institute of Political Studies (Sciences Po). ("Invisible and Vital: Undersea Cables and Transatlantic Security," CSIS, 6-11-2021, https://www.csis.org/analysis/invisible-and-vital-undersea-cables-and-transatlantic-security, Accessed 7-5-2022, LASA-SC)

Indeed, in recent years, Russian attention to transatlantic undersea cables, particularly in the North Atlantic Ocean, has increased commensurately with NATO’s perception of undersea cables’ importance and vulnerability. Moscow has two primary means by which it could directly threaten the cables: submarines and surface vessels that can deploy autonomous or manned submersibles. An example of the former was the Losharik spy submarine, which—before a tragic fire in 2019 decommissioned it—likely had the deep-sea capability necessary to map or destroy undersea cables. While the Losharik is being repaired, the Russian Navy has other such submarines and is developing unmanned undersea drones, such as the nuclear-powered Poseidon. As for surface ships, the most famous is the Yantar, which is ostensibly a research vessel but is understood to act as a spy ship that could deploy underwater submersibles to attack and destroy sections of cables.

There are several conceivable objectives severing a cable might achieve: cutting off military or government communications in the early stages of a conflict, eliminating internet access for a targeted population, sabotaging an economic competitor, or causing economic disruption for geopolitical purposes. Actors could also pursue several or all of these objectives simultaneously.

More difficult and subtle than destroying the cables is tapping them to record, copy, and steal data, which would be later collected and analyzed for espionage. It is believed this could be done in one of three ways: inserting backdoors during the cable manufacturing process, targeting onshore landing stations and facilities linking cables to networks on land, or tapping the cables at sea. Each is more difficult than the one before, and the last—tapping the cables at sea— is believed to be so technically challenging that it is not publicly known whether any country is even capable of it.

### Impacts --- Cables Turn Econ/New Scenario

#### Cable cutting collapses the economy--- submarine deterrence is key to solve

BBC 17 — "Could Russia cut undersea communication cables?," BBC News, 12-15-2017, https://www.bbc.com/news/world-42365191, accessed 7-1-2022, WMK

The UK’s top military officer has warned that Russia could strike a "catastrophic" blow to the economy by targeting communications and internet cables that run under the sea.

Air Chief Marshal Sir Stuart Peach, the chief of the defence staff, said the lines could potentially be cut or disrupted.

The suggestion raises several questions:

Is that something Russia’s likely to do?

What would happen if they - or someone else - did such a thing?

What do the cables do?

They provide internet and communications links between separate countries and continents.

The full network of around 428 cables spans 683,508 miles (1.1 million km), circling the globe.

Huge quantities of data fly around under the waves, in cables filled with fibre optics - strands of glass as thin as a sheet of paper.

Unfortunately, while their technology is reliable, these pivotal cables are physically fragile. The fibres are encased in steel wire and then coasted in plastic - but many cables are still only around 3cm in diameter.

Natural disasters can damage them and even a ship dropping anchor can sever a cord. That’s happened before at the port of Alexandria in Egypt, straining connections between Europe, Africa and Asia.

Why are defence chiefs worried?

The BBC’s defence correspondent, Jonathan Beale, says fears of Russia cutting, disrupting or "wire-tapping" undersea communication lines are growing.

Defence and intelligence chiefs cite the country’s modernised navy, increased submarine activity and willingness to use information warfare.

Russian subs are increasingly present in the North Atlantic, particularly the GIUK Gap, a strip of ocean between Greenland, Iceland, and the UK.

Air Chief Marshal Peach is flagging up that Britain and its Nato allies lack the subs, ships and aircraft to sustain constant vigilance.

Our correspondent notes that the UK will get new Maritime Patrol Aircraft within the next decade, but until then is reliant on Nato support to spot subs.

Nato’s former top military chief, Admiral James G Stavridis, is also concerned. "We’ve allowed this vital infrastructure to grow increasingly vulnerable and this should worry us all," he said recently.

What would happen if the cables were cut?

Keir Giles, an expert in Russian information warfare who works with the Chatham House think tank, stresses that this is not a new concern.

He thinks it’s unlikely to happen as the economic fallout would also affect Russia "but it is definitely a scenario for which they are practising".

And if it did happen, the damage would be considerable.

"The fact that people wouldn’t be able to log on to Facebook would be just a tiny, tiny aspect of all the disruption that would be caused if these cables were interfered with," says Mr Giles.

"International trading and financial transactions are managed across sub-sea cables. The economic impact would be enormous and immediate."

He believes Russia is conflict-proofing itself, "seeking to reduce its reliance on the correct functioning of the internet by setting up its own parallel systems", and rehearsing for what would happen if its internet connection collapsed.

Russia is not the only nation with an interest in undersea cables. During the Cold War, for example, the US attached a recording device to a Soviet cable to learn more about the USSR’s submarine and missile capabilities.

However, Mr Giles says it’s the only state "with an intensive programme looking at ways of isolating targets from information".

Has Russia attempted to disrupt UK cables in the past? We can’t be sure - it’s classified.

What’s in it for Russia?

Information control, in short.

"They are probing the vulnerabilities of civilian communications infrastructure," Mr Giles says.

"You can’t see what they’re doing underwater. You can see what they’re doing on land or with satellites.

"What Russia learned from Crimea is that in order to take over communications for a target area you don’t need expensive cyber weapons, you don’t need noisy and disruptive techniques like denial of service attacks.

"All you need is physical access to the communications infrastructure and telecommunications expertise embedded with your special forces.

### Impacts --- Internet Good

#### Destroys the global financial system

Sunak 17 – Rishi Sunak is the Member of Parliament for Richmond (Yorkshire). He was elected in 2015 and has the privilege of representing both the Army’s largest garrison, Catterick Garrison, and also RAF Leeming. ("Undersea Cables Indispensable, insecure," Policy Exchange, 2017, https://policyexchange.org.uk/wp-content/uploads/2017/11/Undersea-Cables.pdf, Accessed 7-5-2022, LASA-SC)

The risk to the global financial system The US Federal Reserve estimates that some $10 trillion dollars (about four times the UK’s annual GDP) are transmitted via undersea cables every day. Moreover, the Society for Worldwide Interbank Financial Telecommunication (SWIFT), which provides the international framework for some 11,000 financial institutions to conduct an average of 15 million transactions a day, is wholly reliant on undersea cables.i In such a highly interdependent world, the shockwaves resulting from a major cable disruption at a leading financial centre such as London, New York, Hong Kong, or Singapore are potentially catastrophic. As Karl Rauscher (President Emeritus of the Institute of Electrical and Electronics Engineers and the author of a major report on the risks associated with undersea cables) puts it: “The impact of such a failure on international security and economic stability could be devastating... It is unclear if civilization can recover from the failure of a technology that has been so rapidly adopted without a backup plan... Without (the network), the world’s economic financial market would immediately freeze.”ii Put simply, if an adversary were to succeed in executing a successful attack against Britain’s undersea cable infrastructure the result would be financial disaster on an unprecedented scale. In the words of Federal Reserve chief of staff Steve Malphrus: “When communications networks go down, the financial services sector does not grind to a halt. It snaps to a halt.”iii

#### It collapses multilateral governance and causes Arctic and space wars – extinction.

WEF ’21 [World Economic Forum; In Partnership with Marsh McLennan, SK Group, and Zurich Insurance Group, “Middle Power Morass: Navigating Global Divides” in *The Global Risks Report 2021*, p. 52-58]

Forced to choose sides, governments may face economic or diplomatic consequences, as proxy disputes play out in control over economic or geographic resources. The deepening of geopolitical fault lines and the lack of viable middle power alternatives make it harder for countries to cultivate connective tissue with a diverse set of partner countries based on mutual values and maximizing efficiencies. Instead, networks will become thick in some directions and non-existent in others. The COVID-19 crisis has amplified this dynamic, as digital interactions represent a “huge loss in efficiency for diplomacy” compared with face-to-face discussions.23 With some alliances weakening, diplomatic relationships will become more unstable at points where superpower tectonic plates meet or withdraw.

At the same time, without superpower referees or middle power enforcement, global norms may no longer govern state behaviour. Some governments will thus see the solidification of rival blocs as an opportunity to engage in regional posturing, which will have destabilizing effects.24 Across societies, domestic discord and economic crises will increase the risk of autocracy, with corresponding censorship, surveillance, restriction of movement and abrogation of rights.25

Economic crises will also amplify the challenges for middle powers as they navigate geopolitical competition. ASEAN countries, for example, had offered a potential new manufacturing base as the United States and China decouple, but the pandemic has left these countries strapped for cash to invest in the necessary infrastructure and productive capacity.26 Economic fallout is pushing many countries to debt distress (see Chapter 1, Global Risks 2021). While G20 countries are supporting debt restructure for poorer nations,27 larger economies too may be at risk of default in the longer term;28 this would leave them further stranded—and unable to exercise leadership—on the global stage.

Multilateral meltdown

Middle power weaknesses will be reinforced in weakened institutions, which may translate to more uncertainty and lagging progress on shared global challenges such as climate change, health, poverty reduction and technology governance. In the absence of strong regulating institutions, the Arctic and space represent new realms for potential conflict as the superpowers and middle powers alike compete to extract resources and secure strategic advantage.29 If the global superpowers continue to accumulate economic, military and technological power in a zero-sum playing field, some middle powers could increasingly fall behind. Without cooperation nor access to important innovations, middle powers will struggle to define solutions to the world’s problems. In the long term, GRPS respondents forecasted “weapons of mass destruction” and “state collapse” as the two top critical threats: in the absence of strong institutions or clear rules, clashes— such as those in Nagorno-Karabakh or the Galwan Valley—may more frequently flare into full-fledged interstate conflicts,30 which is particularly worrisome where unresolved tensions among nuclear powers are concerned. These conflicts may lead to state collapse, with weakened middle powers less willing or less able to step in to find a peaceful solution.

#### It's a threat multiplier – every impact is worsened by lacking communication

Chapman 21 – Professor Bert Chapman, Purdue University Libraries. (Bert Chapman, "Undersea Cables: The Ultimate Geopolitical Chokepoint," Purdue, 12-13-2021, https://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=1000&context=forces, Accessed 7-5-2022, LASA-SC)

The past year has seen the world become familiar with the disastrous economic, national security and public health implications of infectious disease has demonstrated by the Coronavirus pandemic. It is now time for world opinion to become aware of the economic and national security implications of losing access to the information transmitted by undersea cables. Cable information and data transmission have gone from the initial 17 hours and 40 minutes it took to transmit messages between President Buchanan and Queen Victoria to the fastest cables transferring data at speed of nearly 25 terabytes per second, which is twice the amount of the annual data generated by the Hubble Space Telescope. 61 Losing such access for even a short amount of time would have asphyxiating consequences, which would cascade across the globe and take a long time to work around and overcome. Undersea cables and their geoeconomic and geopolitical criticality involve Mahan’s emphasis on command of the sea, Corbett’s on seapower’s critical communication requirements, Mackinder’s on the importance of the Eurasian heartland, and Spykman’s emphasis on the rimland’s strategic importance. 62 Numerous works of varying quality and perspectives and numerous international strategic trends, exacerbated by the Coronavirus pandemic, are placing increasing emphasis on the vulnerability of the U.S. and its maritime allies to supply chain disruptions and hostility from countries as varied as China, Iran, North Korea, and Russia. Some of these works are beginning to recognize the vitally important role undersea cables play in our emerging geoeconomic, geopolitical, and strategic environment and urge the U.S. and its maritime allies to take a more assertive stance against the powers threatening the international geopolitical order. 63

# Mine Warfare Advantage

## Top Shelf

### 1AC --- Mine Warfare ADv

#### NATO has the largest minesweeper fleet, but modernization is required

Andrea Daolio 19, Andrea Daolio, from Italy, has an engineering background and a longstanding passion for wargaming and for geopolitical, historical, and military topic, 10/21/19, “Meeting the Mine Warfare Challenge with Unmanned Systems,” CIMSEC, https://cimsec.org/meeting-the-mine-warfare-challenge-with-unmanned-systems/

During World War II, Operation Starvation which mined Japanese home waters severely disrupted Japanese maritime traffic and sunk more than 1.2 million tons of shipping for the loss of only 15 airplanes, while demanding only 5.7 percent of the XXI Bomber Command’s total sorties. Yet a few years later the U.S. Navy was unprepared when it had to face enemy mines itself in the Korean War, resulting in the delay of the amphibious landing at Wonsan. At the end of the war, the mine countermeasures forces, which accounted for less than two percent of all UN naval forces, had suffered 20 percent of naval casualties.

The 1987-1988 and 1991-1992 Gulf crises once again showed how deadly mines can be even for a totally superior force, damaging the USS Samuel B. Roberts (FFG-58), the flagship for Airborne Mine Countermeasures operations USS Tripoli (LPH-10) and the USS Princeton (CG-59). Since World War II, mines have damaged or sunk four more times more US Navy ships than all other weapons.These events have been studied in detail by the Chinese People’s Liberation Army and other potential adversaries of the U.S. like Iran and North Korea, and all those nations have significant mine arsenals. China has a fleet of 33 mine warfare vessels and over 50,000 mines (some put the estimate as high as 80,000 or even 100,000), consisting of over 30 varieties of contact, magnetic, acoustic, water pressure and mixed reaction sea mines, remote control sea mines, rocket-rising and mobile mines.1

Russia has a fleet of 47 Mine Warfare vessels and inherited an arsenal of “upwards of 250,000” mines from the Soviet Union, while Iran is estimated to have between 3,000 and 20,000 mines and North Korea is said to have 50,000 mines.2 As if these numbers were not threatening enough, Iraq was able to damage two U.S. Navy ships by deploying only around 1,000 mines, many of them old types dating back to before World War I that can be replicated cheaply (contact mines cost as little as $1500) even by third world nations. More than 30 countries produce and more than 20 countries export mines, and even highly sophisticated versions of the weapon are available in the international arms trade.

NATO on the other hand has the largest MCM fleet in the world with 149 ships (as of 2016), but those ships are becoming old and obsolete (many are second-hand vessels retired by their original owner and then sold to smaller NATO countries). And only 7 percent of these vessels are part of the U.S. Navy. The need to renovate and enlarge this force is immediately apparent.

#### AI submarines solve minesweeping, minelaying, and avoidable collisions; they cost less too

Mehak Dhiman 21, Dihman is a student at the Jindal School of International Affairs and Research Intern at the Centre for Security Studies, January 2021, “The Role of Artificial Intelligence in the Navy,” *CSS: Issue Brief*, <https://jgu.s3.ap-south-1.amazonaws.com/jsia/Mehak+Dhiman+-+Role+of+AI+and+the+Navy.pdf>, JH

Integration of AI in navy will help in developing new offensive ships and submarines which will be able to perform various functions at once. This will not only result in more deadly attacks but will also save on the number of ships and manpower required to carry out such tasks separately on separate ships and separate locations. One such unmanned submersible is the one recently acquired by the US Navy, based on Boeing’s Echo Voyager prototype UUV Orca Extra Large Unmanned Undersea Vehicles (XLUUVs).

This is a 15.5m long submersible which offers a range of 6,500 nautical miles and numerous months of operation on a single fuel module. It uses a Kalman filtered inertial navigation unit aided by a set of doppler velocity logs, and depth sensors to navigate underwater since it can only use GPS at the surface. This is a multi-functional, offensive undersea vehicle which can indulge in mine countermeasures, anti-submarine warfare, anti-surface warfare, electronic warfare and strike missions. It was also put to test. Ocean testing tasks included charging the battery, controlling the vehicle in currents and wave action, submerging the vehicle and returning to the surface. Echo Voyager returned to sea in 2018 through early this year for Bravo sea trials, designed to expand the operational envelope from the initial test series.” a Boeing spokesperson said.

The current system of navigating in water has proven to be very problematic for the department of navy and has also been heavy on the capital resources due to the number of avoidable collisions. These incidents can be checked by deploying AI for such tasks which will make navigation reliable and efficient. It will help in detecting obstacles in unfavorable conditions and from a great distance. This will also give more time for maneuvering past the object without putting too much pressure on the sailor. Sea Hunter is one such autonomous ship procured by the US Navy which performs most of its functions without human interference. The most surprising part about this ship is its completely autonomous navigation system. Sea Hunter became the first ship to autonomously navigate from San Diego to Pearl Harbor, Hawaii, and back without a single crew member aboard and without any major collision.

The Sea Hunter is the first entirely unmanned sea voyager. It was engineered by Reston, Va.- based Leidos. They say that it is navigated by a specially designed artificial intelligence (AI), which assimilates the required data from sensors, radars and AI cameras installed on the vessel. It can be on its own for weeks while performing various functions like tracking enemy submarines, removing mines, detecting torpedoes and acting as a communication relay. Like any other AI based autonomous naval vehicle this ship also costs way less than fully manned ships. Operating Sea Hunter costs $20,000 a day, which is 35 times less than the daily running costs of an Arleigh Burke-class destroyer ($700,000).

Threat detection in navy usually involves spotting static as well as moving objects in the route finalized for carrying out any task. This further helps in navigating efficiently and avoiding collisions and unwanted confrontations and encounters with underwater mines. In a research conducted by Albert Michael we see how pre-processing and minimum risk routes have been combined to navigate aircraft carriers for a successful flight.

#### Scenario #1: Iran

#### Tension with Iran are at an all time high in the Strait of Hormuz

Diana Stancy Correll 22, Diana Stancy Correll was a breaking news reporter for the Washington Examiner, graduate of Elon University, 6/21/22, “U.S. warship fires flare to ward off Iranian military boat in "unsafe" encounter amid soaring nuclear tension”, Navy Times <https://www.cbsnews.com/news/us-iran-unsafe-encounter-strait-of-hormuz-nuclear-talks-tension/>, JH

A U.S. Navy warship fired a warning flare to wave off an Iranian Revolutionary Guard speedboat coming straight at it during a tense encounter in the strategic Strait of Hormuz, officials said Tuesday. The incident on Monday involving the Guard and the Navy comes as tensions remain high over stalled negotiations over [Iran](https://www.cbsnews.com/us-iran-tensions/)'s tattered nuclear deal with world powers and as Tehran [enriches uranium closer than ever to weapons-grade](https://www.cbsnews.com/news/iran-news-nuclear-deal-iaea-grossi-tehran-removes-cameras-fatal-blow/) levels under decreasing international oversight.

Meanwhile, the United Nations' nuclear watchdog said Iran now plans to enrich uranium through a second set of advanced centrifuges at its underground Fordo facility amid the standoff.

The Cyclone-class patrol ship USS Sirocco and Spearhead-class expeditionary fast transport USNS Choctaw County found themselves in the close encounter with three Iranian fast boats while coming through the Strait of Hormuz to enter the Persian Gulf, the Navy said.

In a video released by the Navy's Bahrain-based 5th Fleet, a high-speed Guard Boghammar is seen turning head-on toward the Sirocco. The Sirocco repeatedly blows its horn at the Boghammar, which turns away as it closes in. The flare shot can be heard, but not seen, as the Boghammar passes the Sirocco with the Iranian flag flying above it.

The Navy said the Boghammar came within 50 yards of the Sirocco, raising the risk of the vessels running into each other. The overall encounter lasted about an hour, the Navy said.

The Guard's "actions did not meet international standards of professional or safe maritime behavior, increasing the risk of miscalculation and collision," the Navy said.

Iran did not immediately acknowledge the incident in the strategic waterway — a fifth of all traded oil passes through the strait. The Navy separately told The Associated Press that this marked the second so-called "unsafe and unprofessional" incident it had with Iran in recent months.

#### Iran escalating in the Strait of Hormuz with mines poses a major threat to American ships in the Gulf; only a comprehensive strategy to remove the mines solves

Elisa Catalano Ewers and Ariane Tabatabai 20, Elisa Ewers is a Former Adjunct Senior Fellow with the Middle East Security program at the Center for a New American Security (CNAS), with 20 years of experience in U.S. national security and foreign policy, Ariane M. Tabatabai is the Middle East Fellow at the Alliance for Securing Democracy at the German Marshall Fund and an Adjunct Senior Research Scholar at Columbia University, 6/16/20, “How Iran’s Oil Infrastructure Gambit could Imperil the Strait of Hormuz,” *War on the Rocks*, <https://warontherocks.com/2020/07/how-irans-oil-infrastructure-gambit-could-imperil-the-strait-of-hormuz/>, JH

Creating new routes for its oil exports may offer Iran escalatory options in the Strait of Hormuz. But would Iran take such a step? Such an Iranian naval offensive would represent a serious provocation — the most direct confrontation yet between Washington and Tehran. Some may question whether Iran would really choose to go this route. Hypothetically, we assume they may cite the resources necessary to build out Rouhani’s plan, at a time when Iran is under increasing economic pressure and facing political challenges in an upcoming domestic election cycle. Or the fact that the recent energy market crash coupled with the pandemic crisis make such an expensive undertaking not cost effective for Iran’s oil exporting program. While all are reasonable points for debate, these counter-arguments miss the point of Iran’s moves. Because the Strait of Hormuz plays both important practical and symbolic roles in the region, advancing Iranian capabilities to disrupt the waterway is a real deterrence tool, and a means by which to pressure neighbors as well as the United States and those aligned with it. The credible threat that Iran could shut down the strait now is backed by its increasingly effective and multi-layered arsenal of water and limpet mines, fast and attack boats, drone boats, anti-ship missiles, coastal defense, and submarines.

So, Iran may have increasing capabilities to conduct more aggressive operations in the strait. But who would risk making the decision to go ahead with it? On paper, the two Iranian navies still share the Strait of Hormuz as an area of responsibility. But in practice, the Guards have the upper hand there. And in addition to being better funded and equipped than the traditional Iranian navy, the Revolutionary Guards are also more aggressive than their conventional counterparts. The Revolutionary Guards navy will continue to employ an asymmetric doctrine when deciding how its naval assets are used. The objective is not naval superiority, but rather the bread and butter of the Guards’ operations: a mix of lower cost, sometimes proxy-executed, asymmetric tactics that can cause pain, sow concern, and build leverage.

Meanwhile, the U.S. Navy’s fleet of minesweepers is [aging](https://www.propublica.org/article/iran-has-hundreds-of-naval-mines-us-navy-minesweepers-find-old-dishwashers-car-parts). As Pro Publica [reported](https://www.propublica.org/article/iran-has-hundreds-of-naval-mines-us-navy-minesweepers-find-old-dishwashers-car-parts) in 2019, “the sonar meant to detect mines was so imprecise that in training exercises it flagged dishwashers, crab traps and cars on the ocean floor as potential bombs.” The U.S. Navy has rightly[prioritized](https://fas.org/sgp/crs/weapons/RL32665.pdf) increased readiness and force upgrades across the fleet. Recent [budget cycles](https://armedservices.house.gov/_cache/files/4/c/4c91c1c0-d977-46bb-9a4b-3c0d4775ffbb/35D45A722F7BFAD3E36A9B95A88F6809.fy21-ndaa-chairman-s-mark-summary-vfinal.pdf) support that initiative but the debate over the what systems to upgrade and how much to invest is not over, the time horizon for the initiative is long, and a key focus remains on tools to address great power competition — specifically in the Pacific. The Navy’s serious undertaking is not aided by distractions from President Trump and his administration, commenting on[naval rules of engagement](https://www.bloomberg.com/opinion/articles/2020-05-03/trump-s-dangerously-wrong-about-destroying-iranian-speedboats), or what firms should build the Navy’s [new frigates](https://www.defenseone.com/politics/2020/06/trump-says-wisconsin-shipyards-location-swayed-navys-frigate-award/166460/).

Finally, the uneven responses to Iranian provocations last year culminating in the killing of Guards Commander Qassem Soleimani have reinforced the unpredictability of U.S. staying power. All these elements likely factor into Iran’s calculus. Its new comprehensive initiative, which Supreme Leader Ayatollah Khamenei has [characterized](https://www.tasnimnews.com/fa/news as the Rouhani government’s “most strategic plan,” might produce a new lever Iran may plan to use in its favor in the Persian Gulf.

Iran’s plan to set the conditions that would allow for effectively closing the Strait of Hormuz has been lost in a busy news cycle in the United States. But its implications, if implemented, are likely to reverberate for years to come, including drawing China further into the region. As the United States continues to send mixed signals about its strategy and presence in the Middle East and the U.S. Navy rightly continues to shift its attention and resources to the Pacific, Iran is building its capabilities and signaling its intention to consider adopting a more aggressive posture in the Persian Gulf and Gulf of Oman.

Without a clear and comprehensive strategy towards Iran in particular and the region in general, the United States risks perpetuating an “either/or” debate about its interests in the Middle East while not planning for and managing for evolving threats. Developing plans to assess Iran’s intentions in the Strait of Hormuz and wider Persian Gulf does not mean the United States, or its military, will become dragged deeper into the region. But effective management would begin by putting this development in the proper context of a pattern of escalation with Iran, isolation from allies on Iran policy, and the lack of any diplomatic efforts to de-escalate increasing tensions across the board with Iran. Without this broader analysis, diplomatic effort, and military planning combined, America’s Iran strategy will continue to fall short.

#### Closing the Strait collapses the global economy

Elisabeth Braw 21, Elisabeth Braw is a Resident Fellow at the American Enterprise Institute (AEI), where she focuses on deterrence against emerging forms of aggression, such as hybrid and grey zone threats, 8/5/21, “Attacks on Gulf shipping leave the global economy vulnerable,” *Poltico*, https://www.politico.eu/article/gulf-shipping-attacks-leave-global-economy-vulnerable-trade/

Last week, an oil tanker traveling through the Gulf of Oman was [struck](https://www.jpost.com/breaking-news/israeli-ship-attacked-in-gulf-of-oman-report-675389) by a suspected kamikaze drone, killing two crew members. And yesterday, several vessels traveling through the nearby Strait of Hormuz reported sudden emergencies, while another was [boarded](https://www.bbc.com/news/world-middle-east-58083671) by operatives suspected of being Iranian troops. A terrible situation for all affected, to be sure. But the rest of us should be concerned too.

Global shipping is extraordinarily efficient, managing to transport [80 percent](https://unctad.org/webflyer/review-maritime-transport-2018) of global trade so reliably that consumers take it for granted. As the Mercer Street vessel’s misfortune demonstrates, though, shipping is also highly vulnerable to disruptions. And increased maritime aggression stands to harm ordinary consumers as well.

The U.S., U.K. and Israeli governments all [blame Iran](https://apnews.com/article/middle-east-business-iran-persian-gulf-tensions-419efc522acbd213a79696c9876af6dc) for the Gulf of Oman attack, saying they are [certain of the country’s guilt](https://apnews.com/article/middle-east-business-iran-persian-gulf-tensions-419efc522acbd213a79696c9876af6dc) regarding events on the Liberian-flagged vessel, which is owned by a Japanese firm and managed by a U.K. company belonging to Israeli billionaire Eyal Ofer. Iran has denied striking the Mercer Street and no footage of the incident has been released, but most shipping analysts suspect the country as well.

Yesterday, another tanker, the Panama-flagged Asphalt Princess, was [reported](https://www.reuters.com/article/shipping-security-emirates-seizure-idUSL8N2PA6EE) to have been boarded by armed men, thought to be Iranian operatives, in the Strait of Hormuz, while other cargo ships also reported sudden steering problems.

“This is a shadow conflict between Iran and Israel, where shipping has been caught in the middle,” said Cormac McGarry, a maritime analyst with the global risk consultancy Control Risks, referring to the Mercer Street.

“You can attack a Japanese-owned, Liberian-flagged vessel simply because it’s linked to an Israeli billionaire. It’s a very useful way of launching deniable attacks that don’t directly target your adversary,” he added.

Indeed, the alleged attack on the Mercer Street and these suspected new attacks are only the latest incidents involving cargo ships traveling through the Gulf of Oman and its twin, the Strait of Hormuz.

The Gulf of Oman and the Strait of Hormuz, through which vast quantities of oil and other essential goods travel, form a vital artery of the globalized economy, with several dozen cargo vessels owned by a range of companies, many in Western countries, and carrying flags ranging from the Philippines and Liberia [traversing its waters](https://www.marinevesseltraffic.com/HORMUZ-STRAIT/ship-traffic-tracker?full_screen=yes&map=dual) at any given time.

As the shadow wars between Iran and Israel and Iran and Saudi Arabia intensify, those commercial vessels — without whose cargo, companies around the world would have to cease operations — face the risk of being harmed simply because of their affiliation with a particular country.

In the past couple of years, Israel is thought to have used mines to [attack](https://www.wsj.com/articles/israel-strikes-target-iranian-oil-bound-for-syria-11615492789) several Iranian tankers transporting oil to Syria, while a range of attacks thought to have been perpetrated by Iran have targeted ships linked to Israel.

“Lots of things happen in the Gulf of Oman,” said Simon Lockwood, a maritime expert with the global insurance broker Willis Towers Watson. “This is the fourth incident in a short time involving an Israel-affiliated vessel.”

For example, two years ago, the Stena Impero was thought to have been seized by Iran’s Revolutionary Guards not because of any serious maritime infractions but as an apparent proxy for the U.K., which itself had [seized an Iranian tanker](https://www.theguardian.com/world/2019/jul/04/royal-marines-gibraltar-tanker-oil-syria-eu-sanctions) suspected of breaching EU sanctions on Syria a short time earlier.

Ships are set up to transport goods and, these days, also rudimentarily defend themselves against pirates — which is why the Mercer Street had a security guard on board. However, they’re not set up to defend themselves against hostile-state attacks.

“If Iran wanted to cause serious supply chain disruptions, it could escalate these attacks in the Strait of Hormuz,” McGarry said.

**Slow growth causes great power war.REPLACE**

Dr. Hal Brands 21, history PhD from Yale, Kissinger Distinguished Professor of Global Affairs at the Johns Hopkins University School of Advanced International Studies; and Dr. Michael Beckley, political science PhD from Columbia, associate professor of political science at Tufts University; 9/24/2021, “China Is a Declining Power—and That’s the Problem,” <https://foreignpolicy.com/2021/09/24/china-great-power-united-states/>, pacc

Slowing growth makes it harder for leaders to keep the public happy. Economic underperformance weakens the country against its rivals. Fearing upheaval, leaders crack down on dissent. They maneuver desperately to keep geopolitical enemies at bay. Expansion seems like a solution—a way of grabbing economic resources and markets, making nationalism a crutch for a wounded regime, and beating back foreign threats.

Many countries have followed this path. When the United States’ long post-Civil War economic surge ended, Washington violently suppressed strikes and unrest at home, built a powerful blue-water Navy, and engaged in a fit of belligerence and imperial expansion during the 1890s. After a fast-rising imperial Russia fell into a deep slump at the turn of the 20th century, the tsarist government cracked down hard while also enlarging its military, seeking colonial gains in East Asia and sending around 170,000 soldiers to occupy Manchuria. These moves backfired spectacularly: They antagonized Japan, which beat Russia in the first great-power war of the 20th century.

A century later, Russia became aggressive under similar circumstances. Facing a severe, post-2008 economic slowdown, Russian President Vladimir Putin invaded two neighboring countries, sought to create a new Eurasian economic bloc, staked Moscow’s claim to a resource-rich Arctic, and steered Russia deeper into dictatorship. Even democratic France engaged in anxious aggrandizement after the end of its postwar economic expansion in the 1970s. It tried to rebuild its old sphere of influence in Africa, deploying 14,000 troops to its former colonies and undertaking a dozen military interventions over the next two decades.

All of these cases were complicated, yet the pattern is clear. If a rapid rise gives countries the means to act boldly, the fear of decline serves up a powerful motive for rasher, more urgent expansion. The same thing often happens when fast-rising powers cause their own containment by a hostile coalition. In fact, some of history’s most gruesome wars have come when revisionist powers concluded their path to glory was about to be blocked.

#### Scenario #2: China

#### China will invade Taiwan now; Ukraine has set the stage and draws in Russia

Enrico Colombatto 22, Enrico Colombatto is a professor of economics at the University of Turin, Italy; he is also director of research at the Institut de Recherches Economiques et Fiscales (IREF) in Paris, 5/12/22, “Taiwan: Scenarios for an invasion from China,” *GIS*, <https://www.gisreportsonline.com/r/china-taiwan-invasion/>, JH

The Russian invasion of Ukraine has shown that the quest for personal prestige, historical nostalgia and beliefs in national myths still play a role in shaping international politics. The economy is important, of course, but it is only part of the story in some cases. Indeed, Taiwan may be another victim of the rhetoric of “reunification with the motherland” and Beijing’s need to boost its image with the illusion of an easy gain on the international stage.

Some speculate that Russian President Vladimir [Putin](https://www.gisreportsonline.com/r/containing-russia/)’s blunder in Ukraine will make mainland China more cautious. As Ukraine has taught the Russians, reunification is not always welcome – spoiling the aggressor’s plans to present the world with a fait accompli before reactions and countermeasures take force.

There are important differences, however, between Ukraine and Taiwan. The world has recognized Ukraine as an independent nation since the collapse of the Soviet Union in 1991, while many nations do not support Taiwan’s independence and recognize the [People’s Republic of China](https://english.www.gov.cn/) as the sole legal government of China.

One may also argue that Beijing might be encouraged to take advantage of the West’s preoccupation with Eastern Europe and possibly reluctance to oppose Russia and China simultaneously. In this light, of course, ongoing tensions in Ukraine would justify a deal between Russia and China to allow Russia to circumvent Western sanctions and set the stage for China’s possible invasion of Taiwan.

The current global situation will soon hit the well-performing Taiwanese economy. Thanks to its free-market approach, Taiwan is a success story. It features an impressive growth record and low inflation (the government predicts 2 percent in 2022, up from 1.6 percent in 2021). Taiwan is a world player in electronics (microchips), a significant machinery exporter and a major destination for high-tech foreign direct investments.

For the Taiwanese, heightened tensions threaten its robust trade with mainland China and Hong Kong, which absorb about 50 percent of the island’s exports. A political crisis will force the Taiwanese to direct more resources to the defense industry, while future investments by domestic and international actors will be threatened. Growth can suffer. In short, independence is expensive even without overt aggression.

#### That war goes nuclear because Chinese nuclear and conventional forces are intermingled

Talmadge 18 [Caitlin, Associate Professor of Security Studies at the Edmund A. Walsh School of Foreign Service at Georgetown University, “Beijing’s Nuclear Option: Why a U.S.-China War Could Spiral Out of Control,” accessible online at <https://www.foreignaffairs.com/articles/china/2018-10-15/beijings-nuclear-option>, published Nov/Dec 2018]

As China’s power has grown in recent years, so, too, has the risk of war with the United States. Under President Xi Jinping, China has increased its political and economic pressure on Taiwan and built military installations on coral reefs in the South China Sea, fueling Washington’s fears that Chinese expansionism will threaten U.S. allies and influence in the region. U.S. destroyers have transited the Taiwan Strait, to loud protests from Beijing. American policymakers have wondered aloud whether they should send an aircraft carrier through the strait as well. Chinese fighter jets have intercepted U.S. aircraft in the skies above the South China Sea. Meanwhile, U.S. President Donald Trump has brought long-simmering economic disputes to a rolling boil. A war between the two countries remains unlikely, but the prospect of a military confrontation—resulting, for example, from a Chinese campaign against Taiwan—no longer seems as implausible as it once did. And the odds of such a confrontation going nuclear are higher than most policymakers and analysts think. Members of China’s strategic community tend to dismiss such concerns. Likewise, U.S. studies of a potential war with China often exclude nuclear weapons from the analysis entirely, treating them as basically irrelevant to the course of a conflict. Asked about the issue in 2015, Dennis Blair, the former commander of U.S. forces in the Indo-Pacific, estimated the likelihood of a U.S.-Chinese nuclear crisis as “somewhere between nil and zero.” This assurance is misguided. If deployed against China, the Pentagon’s preferred style of conventional warfare would be a potential recipe for nuclear escalation. Since the end of the Cold War, the United States’ signature approach to war has been simple: punch deep into enemy territory in order to rapidly knock out the opponent’s key military assets at minimal cost. But the Pentagon developed this formula in wars against Afghanistan, Iraq, Libya, and Serbia, none of which was a nuclear power. China, by contrast, not only has nuclear weapons; it has also intermingled them with its conventional military forces, making it difficult to attack one without attacking the other. This means that a major U.S. military campaign targeting China’s conventional forces would likely also threaten its nuclear arsenal. Faced with such a threat, Chinese leaders could decide to use their nuclear weapons while they were still able to. As U.S. and Chinese leaders navigate a relationship fraught with mutual suspicion, they must come to grips with the fact that a conventional war could skid into a nuclear confrontation. Although this risk is not high in absolute terms, its consequences for the region and the world would be devastating. As long as the United States and China continue to pursue their current grand strategies, the risk is likely to endure. This means that leaders on both sides should dispense with the illusion that they can easily fight a limited war. They should focus instead on managing or resolving the political, economic, and military tensions that might lead to a conflict in the first place. A NEW KIND OF THREAT There are some reasons for optimism. For one, China has long stood out for its nonaggressive nuclear doctrine. After its first nuclear test, in 1964, China largely avoided the Cold War arms race, building a much smaller and simpler nuclear arsenal than its resources would have allowed. Chinese leaders have consistently characterized nuclear weapons as useful only for deterring nuclear aggression and coercion. Historically, this narrow purpose required only a handful of nuclear weapons that could ensure Chinese retaliation in the event of an attack. To this day, China maintains a “no first use” pledge, promising that it will never be the first to use nuclear weapons. The prospect of a nuclear conflict can also seem like a relic of the Cold War. Back then, the United States and its allies lived in fear of a Warsaw Pact offensive rapidly overrunning Europe. NATO stood ready to use nuclear weapons first to stalemate such an attack. Both Washington and Moscow also consistently worried that their nuclear forces could be taken out in a bolt-from-the-blue nuclear strike by the other side. This mutual fear increased the risk that one superpower might rush to launch in the erroneous belief that it was already under attack. Initially, the danger of unauthorized strikes also loomed large. In the 1950s, lax safety procedures for U.S. nuclear weapons stationed on NATO soil, as well as minimal civilian oversight of U.S. military commanders, raised a serious risk that nuclear escalation could have occurred without explicit orders from the U.S. president. The good news is that these Cold War worries have little bearing on U.S.-Chinese relations today. Neither country could rapidly overrun the other’s territory in a conventional war. Neither seems worried about a nuclear bolt from the blue. And civilian political control of nuclear weapons is relatively strong in both countries. What remains, in theory, is the comforting logic of mutual deterrence: in a war between two nuclear powers, neither side will launch a nuclear strike for fear that its enemy will respond in kind. The bad news is that one other trigger remains: a conventional war that threatens China’s nuclear arsenal. Conventional forces can threaten nuclear forces in ways that generate pressures to escalate—especially when ever more capable U.S. conventional forces face adversaries with relatively small and fragile nuclear arsenals, such as China. If U.S. operations endangered or damaged China’s nuclear forces, Chinese leaders might come to think that Washington had aims beyond winning the conventional war—that it might be seeking to disable or destroy China’s nuclear arsenal outright, perhaps as a prelude to regime change. In the fog of war, Beijing might reluctantly conclude that limited nuclear escalation—an initial strike small enough that it could avoid full-scale U.S. retaliation—was a viable option to defend itself. STRAIT SHOOTERS The most worrisome flash point for a U.S.-Chinese war is Taiwan. Beijing’s long-term objective of reunifying the island with mainland China is clearly in conflict with Washington’s longstanding desire to maintain the status quo in the strait. It is not difficult to imagine how this might lead to war. For example, China could decide that the political or military window for regaining control over the island was closing and launch an attack, using air and naval forces to blockade Taiwanese harbors or bombard the island. Although U.S. law does not require Washington to intervene in such a scenario, the Taiwan Relations Act states that the United States will “consider any effort to determine the future of Taiwan by other than peaceful means, including by boycotts or embargoes, a threat to the peace and security of the Western Pacific area and of grave concern to the United States.” Were Washington to intervene on Taipei’s behalf, the world’s sole superpower and its rising competitor would find themselves in the first great-power war of the twenty-first century. In the course of such a war, U.S. conventional military operations would likely threaten, disable, or outright eliminate some Chinese nuclear capabilities—whether doing so was Washington’s stated objective or not. In fact, if the United States engaged in the style of warfare it has practiced over the last 30 years, this outcome would be all but guaranteed. Consider submarine warfare. China could use its conventionally armed attack submarines to blockade Taiwanese harbors or bomb the island, or to attack U.S. and allied forces in the region. If that happened, the U.S. Navy would almost certainly undertake an antisubmarine campaign, which would likely threaten China’s “boomers,” the four nuclear-armed ballistic missile submarines that form its naval nuclear deterrent. China’s conventionally armed and nuclear-armed submarines share the same shore-based communications system; a U.S. attack on these transmitters would thus not only disrupt the activities of China’s attack submarine force but also cut off its boomers from contact with Beijing, leaving Chinese leaders unsure of the fate of their naval nuclear force. In addition, nuclear ballistic missile submarines depend on attack submarines for protection, just as lumbering bomber aircraft rely on nimble fighter jets. If the United States started sinking Chinese attack submarines, it would be sinking the very force that protects China’s ballistic missile submarines, leaving the latter dramatically more vulnerable. Even more dangerous, U.S. forces hunting Chinese attack submarines could inadvertently sink a Chinese boomer instead. After all, at least some Chinese attack submarines might be escorting ballistic missile submarines, especially in wartime, when China might flush its boomers from their ports and try to send them within range of the continental United States. Since correctly identifying targets remains one of the trickiest challenges of undersea warfare, a U.S. submarine crew might come within shooting range of a Chinese submarine without being sure of its type, especially in a crowded, noisy environment like the Taiwan Strait. Platitudes about caution are easy in peacetime. In wartime, when Chinese attack submarines might already have launched deadly strikes, the U.S. crew might decide to shoot first and ask questions later. Adding to China’s sense of vulnerability, the small size of its nuclear-armed submarine force means that just two such incidents would eliminate half of its sea-based deterrent. Meanwhile, any Chinese boomers that escaped this fate would likely be cut off from communication with onshore commanders, left without an escort force, and unable to return to destroyed ports. If that happened, China would essentially have no naval nuclear deterrent. The situation is similar onshore, where any U.S. military campaign would have to contend with China’s growing land-based conventional ballistic missile force. Much of this force is within range of Taiwan, ready to launch ballistic missiles against the island or at any allies coming to its aid. Once again, U.S. victory would hinge on the ability to degrade this conventional ballistic missile force. And once again, it would be virtually impossible to do so while leaving China’s nuclear ballistic missile force unscathed. Chinese conventional and nuclear ballistic missiles are often attached to the same base headquarters, meaning that they likely share transportation and supply networks, patrol routes, and other supporting infrastructure. It is also possible that they share some command-and-control networks, or that the United States would be unable to distinguish between the conventional and nuclear networks even if they were physically separate. To add to the challenge, some of China’s ballistic missiles can carry either a conventional or a nuclear warhead, and the two versions are virtually indistinguishable to U.S. aerial surveillance. In a war, targeting the conventional variants would likely mean destroying some nuclear ones in the process. Furthermore, sending manned aircraft to attack Chinese missile launch sites and bases would require at least partial control of the airspace over China, which in turn would require weakening Chinese air defenses. But degrading China’s coastal air defense network in order to fight a conventional war would also leave much of its nuclear force without protection. Once China was under attack, its leaders might come to fear that even intercontinental ballistic missiles located deep in the country’s interior were vulnerable. For years, observers have pointed to the U.S. military’s failed attempts to locate and destroy Iraqi Scud missiles during the 1990–91 Gulf War as evidence that mobile missiles are virtually impervious to attack. Therefore, the thinking goes, China could retain a nuclear deterrent no matter what harm U.S. forces inflicted on its coastal areas. Yet recent research suggests otherwise. Chinese intercontinental ballistic missiles are larger and less mobile than the Iraqi Scuds were, and they are harder to move without detection. The United States is also likely to have been tracking them much more closely in peacetime. As a result, China is unlikely to view a failed Scud hunt in Iraq nearly 30 years ago as reassurance that its residual nuclear force is safe today, especially during an ongoing, high-intensity conventional war. China’s vehement criticism of a U.S. regional missile defense system designed to guard against a potential North Korean attack already reflects these latent fears. Beijing’s worry is that this system could help Washington block the handful of missiles China might launch in the aftermath of a U.S. attack on its arsenal. That sort of campaign might seem much more plausible in Beijing’s eyes if a conventional war had already begun to seriously undermine other parts of China’s nuclear deterrent. It does not help that China’s real-time awareness of the state of its forces would probably be limited, since blinding the adversary is a standard part of the U.S. military playbook. Put simply, the favored U.S. strategy to ensure a conventional victory would likely endanger much of China’s nuclear arsenal in the process, at sea and on land. Whether the United States actually intended to target all of China’s nuclear weapons would be incidental. All that would matter is that Chinese leaders would consider them threatened. LESSONS FROM THE PAST At that point, the question becomes, How will China react? Will it practice restraint and uphold the “no first use” pledge once its nuclear forces appear to be under attack? Or will it use those weapons while it still can, gambling that limited escalation will either halt the U.S. campaign or intimidate Washington into backing down? Chinese writings and statements remain deliberately ambiguous on this point. It is unclear which exact set of capabilities China considers part of its core nuclear deterrent and which it considers less crucial. For example, if China already recognizes that its sea-based nuclear deterrent is relatively small and weak, then losing some of its ballistic missile submarines in a war might not prompt any radical discontinuity in its calculus. The danger lies in wartime developments that could shift China’s assumptions about U.S. intentions. If Beijing interprets the erosion of its sea- and land-based nuclear forces as a deliberate effort to destroy its nuclear deterrent, or perhaps even as a prelude to a nuclear attack, it might see limited nuclear escalation as a way to force an end to the conflict. For example, China could use nuclear weapons to instantaneously destroy the U.S. air bases that posed the biggest threat to its arsenal. It could also launch a nuclear strike with no direct military purpose—on an unpopulated area or at sea—as a way to signal that the United States had crossed a redline. If such escalation appears far-fetched, China’s history suggests otherwise. In 1969, similar dynamics brought China to the brink of nuclear war with the Soviet Union. In early March of that year, Chinese troops ambushed Soviet guards amid rising tensions over a disputed border area. Less than two weeks later, the two countries were fighting an undeclared border war with heavy artillery and aircraft. The conflict quickly escalated beyond what Chinese leaders had expected, and before the end of March, Moscow was making thinly veiled nuclear threats to pressure China to back down. Chinese leaders initially dismissed these warnings, only to radically upgrade their threat assessment once they learned that the Soviets had privately discussed nuclear attack plans with other countries. Moscow never intended to follow through on its nuclear threat, archives would later reveal, but Chinese leaders believed otherwise. On three separate occasions, they were convinced that a Soviet nuclear attack was imminent. Once, when Moscow sent representatives to talks in Beijing, China suspected that the plane transporting the delegation was in fact carrying nuclear weapons. Increasingly fearful, China test-fired a thermonuclear weapon in the Lop Nur desert and put its rudimentary nuclear forces on alert—a dangerous step in itself, as it increased the risk of an unauthorized or accidental launch. Only after numerous preparations for Soviet nuclear attacks that never came did Beijing finally agree to negotiations. China is a different country today than it was in the time of Mao Zedong, but the 1969 conflict offers important lessons. China started a war in which it believed nuclear weapons would be irrelevant, even though the Soviet arsenal was several orders of magnitude larger than China’s, just as the U.S. arsenal dwarfs China’s today. Once the conventional war did not go as planned, the Chinese reversed their assessment of the possibility of a nuclear attack to a degree bordering on paranoia. Most worrying, China signaled that it was actually considering using its nuclear weapons, even though it had to expect devastating retaliation. Ambiguous wartime information and worst-case thinking led it to take nuclear risks it would have considered unthinkable only months earlier. This pattern could unfold again today.

#### Mine warfare and unmanned submarines are key to deter Chinese invasion of Taiwan

Minnie Chan 22, Minnie Chan is an award-winning journalist, specialising in reporting on defence and diplomacy in China, 6/28/22, “US urged to plan minelaying campaign to halt mainland Chinese attack on Taiwan,” *South China Morning Post*, <https://www.scmp.com/news/china/military/article/3183273/us-urged-plan-minelaying-campaign-halt-mainland-chinese-attack>, JH

A US navy commander suggests that laying mines in the Yellow Sea and Pearl River Delta could help bring Beijing to the negotiating table.

The United States could pursue an aggressive but low-cost strategy of laying mines in the Yellow Sea and Pearl River Delta to force China to negotiate in the event of conflict between the two powers, according to an American naval analyst.

He said the countermeasure could be seen as a form of deterrence or economic warfare designed to prevent an escalation [if the US decided to intervene](https://www.scmp.com/news/china/diplomacy/article/3160692/us-has-practised-strategic-ambiguity-taiwan-decades-set-change) following a [mainland Chinese attack on Taiwan](https://www.scmp.com/news/china/military/article/3182168/beijing-likely-step-its-campaign-reunify-taiwan-analysts-say).

In an article published by the US Naval Institute this month, Commander Victor Duenow wrote that the country's armed forces would be at a "significant and immediate disadvantage" when dealing with the aggressive and capable [People's Liberation Army](https://www.scmp.com/topics/china-military) as [China had closed the military capability gap with the US](https://www.scmp.com/news/china/military/article/3182724/keep-china-pentagon-must-cut-red-tape-and-embrace-latest), and even gained superiority in several areas.

The article, which won the first prize in naval mine warfare essay contest sponsored by the Mine Warfare Association, a non-profit aimed at promoting awareness of the weapons, suggested the US Indo-Pacific Command (IndoPaCom) should "pursue offensive mining capabilities to use in the Yellow Sea and Pearl River Delta".

Duenow, who has experience of airborne mine countermeasures, said the PLA Navy (PLAN) was "limited" in how it could respond, and had mainly focused on countering mines in ports and near the shore.

"Finding a way to bring China into diplomatic negotiations on favorable terms to the United States is the goal, and offensive mine warfare can help achieve it," he wrote, adding that mine warfare would also jeopardise China's economy by disrupting trade and oil supplies.

"The United States can also dispute Chinese sea control while preparing for a counteroffensive ... By investing in cost-effective mine warfare, IndoPaCom can deter Chinese aggression and buy time while it builds high-end warfighting capabilities to better counter China."

Tensions in the Taiwan Strait have mounted in recent years as the [PLA has stepped up its military operations](https://www.scmp.com/news/china/military/article/3180160/chinese-pla-bombers-carry-out-night-raid-drills-around-taiwan), prompting a renewed focus on what the US reaction would be to an attack on the island.

Beijing considers Taiwan as a renegade province that should be brought into its fold - by force if necessary.

"Naval mining is a nasty countermeasure that would put both Chinese warships and commercial vessels at high risk," Beijing based naval analyst Li Jie said, but argued the tactic was more likely to trigger a response from the PLA than force China to the negotiating table.

"The PLAN will stage a comprehensive minesweeper campaign by blocking waterways in the region. If Washington wants to push Beijing into a corner, it might push the PLA to take tit-for-tat action by laying naval mines in some waterways used by American vessels."

Macau-based military observer Antony Wong Tong said the US could use stealth fighter jets to drop homing torpedoes in the Pearl River Delta.

"The Pearl River Delta area includes inland rivers and has no warships. Moves to lay mines in that area would actually be targeting civilian vessels, which will violate international law," Wong said.

The US navy is developing a new type of mine warfare that can be placed covertly on the seabed by a robot submarine with sensors to spot a target by firing an encapsulated homing torpedo.

Drew Thompson, a visiting senior research fellow at the National University of Singapore's Lee Kuan Yew School of Public Policy, said: "If [mainland] China decides to use force against Taiwan, there will be intervention, and there will be escalation," adding naval mining could be seen as a form of economic warfare.

"Economic warfare is a major tool in China's toolkit, as is economic coercion [against Taiwanese businesses], just as the US and UN use financial sanctions. China denounces other countries' unilateral sanctions, even when it practices its own. Blockades are an extension of warfare."

Collin Koh, a research fellow with the S Rajaratnam School of International Studies at Nanyang Technological University in Singapore, said: "Naval mining is ultimately one of the tools used in the lead up to, and during war.

"Assuming naval mining is done in the window of tension that precedes the possible outbreak of conflict, such a known act will of course be inflammatory and escalatory, but it may also help to cool heads and compel the other party to reconsider his options."

During the Vietnam war, the US conducted a short minelaying campaign after North Vietnam launched its Easter offensive in March 1972, that saw thousands being laid in the waters off Haiphong and other ports.

A year later it had to remove them all in a six-month operation agreed under the Paris Peace Accords.

#### Minelaying deters China but neither US or Taiwan has the capability right now

Lt Col Julian Thomas 22, Lieutenant Colonel Thomas is a student at the US Naval War College, College of Naval Warfare in Newport, Rhode Island; prior to this assignment, he was the Sustainment Maintenance Branch Chief, Headquarters United States Air Force, Pentagon, Washington DC, 4/5/22, “Bold and Unprecedented Moves: Building a US-Taiwan Defense Strategy in the Strait of Taiwan and South China Sea,” *Journal of Indo-Pacific Affairs, Air University Press*, <https://www.airuniversity.af.edu/JIPA/Display/Article/3019529/bold-and-unprecedented-moves-building-a-us-taiwan-defense-strategy-in-the-strai/>, JH

Also, in a China–Taiwan scenario, a good counter A2/AD zone strategy would involve creating a forbidden zone within the Strait of Taiwan, exploiting China’s antisubmarine capabilities as a potential vulnerability. Since China has weak antisubmarine capabilities, the joint force, Taiwan, and allies can position submarines as a deterrent force that could inflict an extremely high cost to China’s fleets. The use of very cheap and effective sea mines would be a good element of any sea denial course of action. However, the US Navy lacks even a threadbare capability in this warfare area. Taiwan has a modest one but probably not sufficient given the hydrography of the Taiwan Strait. Mines take some time and effort to sweep. If nothing else, this would seriously affect any time, space, and force consideration of invaders and thus make any mine laying forces an early target in a war. In addition, Beijing is heavily dependent on seaborne commerce.[64](https://www.airuniversity.af.edu/JIPA/Display/Article/3019529/bold-and-unprecedented-moves-building-a-us-taiwan-defense-strategy-in-the-strai/#sdendnote64sym) If inbound Chinese vessels and aircraft perceive that they cannot safely navigate through Taiwan’s counter A2/AD zone, it would make it extremely difficult for Beijing to receive goods. Chinese trade traveling through the counter A2/AD zone could be targeted to frustrate and pressure China economically to change its behavior in the SCS.[65](https://www.airuniversity.af.edu/JIPA/Display/Article/3019529/bold-and-unprecedented-moves-building-a-us-taiwan-defense-strategy-in-the-strai/#sdendnote65sym)

#### Scenario #3: Trade

#### Free floating mines pose a threat to trade across the entire Mediterranean; Turkey is key

Riya Baibhawi 22, Riya is an experienced News Writer with a demonstrated history of working in the broadcast media industry with a Bachelor of Arts focused in Psychology from Panjab University, 3/28/22, “Amid Russia-Ukraine War, Free-floating Naval Mines Threaten The Mediterranean,” *Republic World*, https://www.republicworld.com/world-news/russia-ukraine-crisis/amid-russia-ukraine-war-free-floating-naval-mines-threaten-the-mediterranean-articleshow.html

While, Turkish President Recep Tayyip Erdogan said that his government was vigilant and had taken necessary steps, the threat of undiffused mines crossing the Bosphorus lingers. On the west of the Bosphorus lies the Mediterranean- consisting of European countries like Greece, Italy and France; African countries including Egypt, Algeria and Morocco and the Jewish state of Israel. Arab states, including Lebanon and Syria, which are already shadowed by decades of war, also lie on the Mediterranean coast. Turkey, which holds control over the Bosphorus is under maximum threat. Experts and observers have opined that even a single explosion could lead to heavy destruction.

Notably, a total of 420 mines were deployed off the coast of Odesa by Ukrainian authorities to deter Russian troops. It is now known how many of them are currently floating free in the Black Sea or if any of them had entered the Mediterranean, but experts have said the mines-each containing 20 kgs of TNT- pose a serious threat to ships, cargoes and towns located at coasts.

#### Those mines undermine the Black sea economy which is key to food, semiconductors, supply shipping, and the global economy Joshua **Keating 22**, Joshua Keating is a global security reporter for Grid focused on conflict, diplomacy and foreign policy, author of the book, "Invisible Countries: Journeys to the Edge of Nationhood,” a graduate of Oberlin College, 5/25/22, “Why the battle for the Black Sea may be the most important showdown in the war — for Ukraine and for the world,” Grid, <https://www.grid.news/story/global/2022/05/25/why-the-battle-for-the-black-sea-may-be-the-most-important-showdown-in-the-war-for-ukraine-and-for-the-world/>, JH

Russia had an advantage in the Black Sea from the start. Prior to 2014, both countries maintained naval fleets in Crimea under a [treaty signed in the 1990s](https://www.nytimes.com/1997/06/01/world/setting-past-aside-russia-and-ukraine-sign-friendship-treaty.html). When Russian President Vladimir Putin’s forces annexed the Crimean Peninsula, they also took over about [75 percent of Ukraine’s fleet](https://www.defensenews.com/naval/2021/08/09/after-2014-decimation-ukrainian-navy-rebuilds-to-fend-off-russia/), leaving it reliant on a “mosquito fleet” of mostly small patrol boats to defend its southern coast.

In the early days of the current war, Russia’s navy [moved quickly to enact](https://warontherocks.com/2022/04/the-russo-ukrainian-war-at-sea-retrospect-and-prospect/) a blockade of the Ukrainian coast. It closed off the Kerch Strait, which connects the smaller Sea of Azov to the Black Sea. The important Sea of Azov port cities of Berdyansk and Mariupol have since fallen to Russian forces. Some 20 Russian naval vessels including six submarines are also patrolling the southern coast.

Further west, Russian warships and the forces now stationed on Snake Island are also enforcing a blockade on Odessa, Ukraine’s largest seaport. Ukrainian forces have been fighting to retake the [now-iconic outcropping](https://www.bbc.com/news/world-europe-61406808), hoping to prevent the Russians from setting up surface-to-air missile capabilities there.

Adding to the danger are hundreds of sea mines that both sides placed off Ukraine’s coast in the early days of the war. Many of these mines [have become unmoored](https://www.reuters.com/world/europe/floating-mines-black-sea-endangering-grain-oil-trade-officials-2022-04-05/) and are floating into open waters, imperiling shipping.

The result is that, even though Russia has not formally declared a blockade, that’s the current reality. “No one’s going to take a chance of going in there right now, either running astray of mines or the Russian navy,” Sal Mercogliano, a former merchant mariner and shipping historian, told Grid. Even if a shipping company were willing to take the risk, insurance rates are skyrocketing, making travel to Ukrainian ports prohibitively expensive. At [least 80 merchant ships](https://www.ft.com/content/8151ba97-5c07-4cef-9ad9-234c532b2481) are stuck in Ukrainian ports, and at least 10 have been attacked.

A few ships have been moving along coastal routes between Odessa and the Black Sea’s outlet to the Danube River at the town of Izmail. In theory, this could allow Ukraine to ship goods as far west as the Netherlands via Europe’s inland waterways. Unfortunately, Izmail also lies within artillery range of Snake Island.

Economic impact

The [effect of international sanctions on Russia’s economy](https://www.grid.news/story/global/2022/05/12/is-the-russian-economy-stabilizing-or-doomed-both/) has gotten more attention, but the damage done to the country where fighting is actually taking place has been far more profound.

The [World Bank projects](https://www.weforum.org/agenda/2022/04/ukraine-economy-decline-war/#:~:text=World%20Bank%3A%20Ukraine%20economy%20to%20contract%20by%2045%25%20in%202022,global%20slowdown%20and%20surging%20inflation.) that Ukraine’s economy will contract by up to 45 percent this year. Some of this is pure physical destruction: The Kyiv School of Economics estimated that as of the beginning of May, the war [had caused $94 billion](https://kse.ua/about-the-school/news/direct-damage-caused-to-ukraine-s-infrastructure-during-the-war-has-reached-over-94-billion/) in infrastructure damage. Then there’s the lost economic output of the 6 million Ukrainians who have left the country, and the roughly equal number who have been internally displaced.

But when asked about the first thing the international community could do to support Ukraine’s economy, Natalie Jaresko, the country’s former minister of finance, answered “unblock the ports.” Prior to the war, Black Sea shipping accounted for half of the country’s total external trade and 90 percent of its trade in grains including wheat and sunflower oil. Ukraine is the world’s [fourth-largest grain exporter](https://www.reuters.com/business/ukraine-could-lose-6-bln-grain-exports-with-ports-blocked-2022-03-21/), and losses could top $6 billion. “There’s about 20 million tons sitting in storage that has to be exported to make room for the new harvest,” Jaresko said. “Otherwise, we know something’s going to rot.”

Critical as food is, it’s not the only commodity affected by the maritime blockade. Ukraine produces around [half the world’s supply](https://www.reuters.com/technology/exclusive-ukraine-halts-half-worlds-neon-output-chips-clouding-outlook-2022-03-11/) of the neon gas used to produce semiconductor chips. Ukraine is also a [major producer of the wire harnesses](https://www.bloomberg.com/news/articles/2022-03-15/ukraine-plant-shutdowns-may-cost-europe-output-of-700-000-cars?sref=C3P1bRLC) used in European cars’ electrical systems.

All of these goods have traditionally left Ukraine by sea.

The shutdown of Ukraine’s most important trade route has left the country heavily dependent on foreign aid. The good news for Ukrainians: They are receiving quite a bit of aid. The $40 billion economic assistance package passed by Congress last week includes [$8.76 billion in economic assistance](https://www.aljazeera.com/news/2022/5/19/unprecedented-us-congress-passes-massive-ukraine-aid-package). But these funds are neither sufficient nor sustainable in the long run.

Shipping analyst John Konrad said Russia’s blockade is a reminder of the still-critical role of shipping in the global economy. “We have a kind of global ‘sea blindness,’” he told Grid. “We think everything can just be airlifted out. It can’t. Grain is too heavy and bulky. And it would be extremely expensive to truck it all.”

Critical as it is for Ukraine, the effects of the blockade are being felt globally via disruptions to the [international food supply](https://www.grid.news/story/360/2022/04/04/casualty-of-war-in-ukraine-the-global-food-supply/), particularly in food-vulnerable countries in the Middle East and Africa that were heavily dependent on Ukrainian grain. Ukraine [grows enough food](https://www.economist.com/leaders/2022/05/19/the-coming-food-catastrophe) to feed 400 million people around the world, at a time when prices were already on the rise. World Food Programme Executive Director David Beasley [warned last month](https://www.ft.com/content/8151ba97-5c07-4cef-9ad9-234c532b2481), “Millions of people will die because these ports are blocked.” Or as Jaresko put it to Grid, “what Putin has done is declare war against the world’s poor.”

The battle for control of the Black Sea has gotten less international attention than the fights over territory on land. One could argue it’s the front of this war that matters most for the rest of the world.

#### Ukraine trade key to stop food insecurity; mines are the key internal link

Kelvin Chan and Paul Wiseman 22, Kelvin Chan is a verified business reporter as seen in [Associated Press](https://muckrack.com/media-outlet/ap), [Bloomberg Businessweek](https://muckrack.com/media-outlet/bizweek-businessweek), [Business Insider](https://muckrack.com/media-outlet/bizinsider), [Fox News](https://muckrack.com/media-outlet/fox), [HuffPost](https://muckrack.com/media-outlet/huffpost) and has a degree in Journalism, Paul Wiseman is a journalist for the associated press and also has a journalism degree, 6/18/22, “Wheat and barley shortage: How Russia-Ukraine war triggered a global food crisis,” Fox 11https://www.foxla.com/news/wheat-barley-shortage-russia-ukraine-war-trigger-food-crisis

Russian hostilities in Ukraine are preventing grain from leaving the "breadbasket of the world" and making food more expensive across the globe, threatening to worsen shortages, hunger and political instability in developing countries.

Together, [Russia and Ukraine](https://www.fox5dc.com/tag/russia-ukraine) export nearly a third of the world’s wheat and barley, more than 70% of its sunflower oil and are big suppliers of corn. Russia is the top global fertilizer producer.

World food prices were already climbing, and the war made things worse, preventing some 20 million tons of Ukrainian grain from getting to the Middle East, North Africa and parts of Asia.

Weeks of negotiations on safe corridors to get grain out of Ukraine's Black Sea ports have made little progress, with urgency rising as the summer harvest season arrives.

"This needs to happen in the next couple of months (or) it’s going to be horrific,’’ said Anna Nagurney, who studies crisis management at the University of Massachusetts Amherst and is on the board of the Kyiv School of Economics.

She says 400 million people worldwide rely on Ukrainian food supplies. The U.N. Food and Agriculture Organization projects up to 181 million people in 41 countries could face food crisis or worse levels of hunger this year.

Here’s a look at the global food crisis:

What's the situation?

Typically, 90% of wheat and other grain from Ukraine's fields are shipped to world markets by sea but have been held up by Russian blockades of the Black Sea coast.

Some grain is being rerouted through Europe by rail, road and river, but the amount is a drop in the bucket compared with sea routes. The shipments also are backed up because Ukraine’s rail gauges don't match those of its neighbors to the west.

Ukraine’s deputy agriculture minister, Markian Dmytrasevych, asked European Union lawmakers for help exporting more grain, including expanding the use of a Romanian port on the Black Sea, building more cargo terminals on the Danube River and cutting red tape for freight crossing at the Polish border.

But that means food is even farther from those that need it.

"Now you have to go all the way around Europe to come back into the Mediterranean. It really has added an incredible amount of cost to Ukrainian grain,’’ said Joseph Glauber, senior research fellow at the International Food Policy Research Institute in Washington.

Ukraine has only been able to export 1.5 million to 2 million tons of grain a month since the war, down from more than 6 million tons, said Glauber, a former chief economist at the U.S. Department of Agriculture.

Russian grain isn't getting out, either. Moscow argues that Western sanctions on its banking and shipping industries make it impossible for Russia to export food and fertilizer and are scaring off foreign shipping companies from carrying it. Russian officials insist sanctions be lifted to get grain to global markets.

European Commission President Ursula von der Leyen and other Western leaders say, however, that sanctions don't touch food.

What are the sides saying?

Ukraine has accused Russia of shelling agricultural infrastructure, burning fields, stealing grain and trying to sell it to Syria after Lebanon and Egypt refused to buy it. Satellite images taken in late May by Maxar Technologies show Russian-flagged ships in a port in Crimea being loaded with grain and then days later docked in Syria with their hatches open.

Ukrainian President Volodymyr Zelenskyy says Russia has provoked a global food crisis. The West agrees, with officials like European Council President Charles Michel and U.S. Secretary of State Antony Blinken saying Russia is weaponizing food.

Russia says exports can resume once Ukraine removes mines in the Black Sea and arriving ships can be checked for weapons.

Russian Foreign Minister Sergey Lavrov promised that Moscow would not "abuse" its naval advantage and would "take all necessary steps to ensure that the ships can leave there freely."

Ukraine and Russia mainly export staples to developing countries that are most vulnerable to cost hikes and shortages.

Countries like Somalia, Libya, Lebanon, Egypt and Sudan are heavily reliant on wheat, corn and sunflower oil from the two warring nations.

"The burden is being shouldered by the very poor," Glauber said. "That’s a humanitarian crisis, no question.’’

Beside the threat of hunger, spiraling food prices risk political instability in such countries. They were one of the causes of the Arab Spring, and there are worries of a repeat.

The governments of developing countries must either let food prices rise or subsidize costs, Glauber said. A moderately prosperous country like Egypt, the world's top wheat importer, can afford to absorb higher food costs, he said.

#### Food insecurity causes of existential nuke war.

Julian Cribb 19. Author, Journalist, Editor and Science Communicator, Principal of Julian Cribb & Associates who Provide Specialist Consultancy in the Communication of Science, Agriculture, Food, Mining, Energy and the Environment, More Than Thirty Awards for Journalism. 10/03/2019. “6 - Food as an Existential Risk.” Food or War, 1st ed., Cambridge University Press. DOI.org (Crossref), doi:10.1017/9781108690126.

Weapons of Mass Destruction

Detonating just 50–100 out of the global arsenal of nearly 15,000 nuclear weapons would suffice to end civilisation in a nuclear winter, causing worldwide famine and economic collapse affecting even distant nations, as we saw in the previous chapter in the section dealing with South Asia. Eight nations now have the power to terminate civilisation should they desire to do so – and two have the power to extinguish the human species. According to the nuclear monitoring group Ploughshares, this arsenal is distributed as follows:

– Russia, 6600 warheads (2500 classified as ‘retired’)

– America, 6450 warheads (2550 classified as ‘retired’)

– France, 300 warheads

– China, 270 warheads

– UK, 215 warheads

– Pakistan, 130 warheads

– India, 120 warheads

– Israel, 80 warheads

– North Korea, 15–20 warheads.11

Although actual numbers of warheads have continued to fall from its peak of 70,000 weapons in the mid 1980s, scientists argue the danger of nuclear conflict in fact increased in the first two decades of the twenty-first century. This was due to the modernisation of existing stockpiles, the adoption of dangerous new technologies such as robot delivery systems, hypersonic missiles, artificial intelligence and electronic warfare, and the continuing leakage of nuclear materials and knowhow to nonnuclear nations and potential terrorist organisations.

In early 2018 the hands of the ‘Doomsday Clock’, maintained by the Bulletin of the Atomic Scientists, were re-set at two minutes to midnight, the highest risk to humanity that it has ever shown since the clock was introduced in 1953. This was due not only to the state of the world’s nuclear arsenal, but also to irresponsible language by world leaders, the growing use of social media to destabilise rival regimes, and to the rising threat of uncontrolled climate change (see below).12

In an historic moment on 17 July 2017, 122 nations voted in the UN for the first time ever in favour of a treaty banning all nuclear weapons. This called for comprehensive prohibition of “a full range of nuclear-weapon-related activities, such as undertaking to develop, test, produce, manufacture, acquire, possess or stockpile nuclear weapons or other nuclear explosive devices, as well as the use or threat of use of these weapons.”13 However, 71 other countries – including all the nuclear states – either opposed the ban, abstained or declined to vote. The Treaty vote was nonetheless interpreted by some as a promising first step towards abolishing the nuclear nightmare that hangs over the entire human species.

In contrast, 192 countries had signed up to the Chemical Weapons Convention to ban the use of chemical weapons, and 180 to the Biological Weapons Convention. As of 2018, 96 per cent of previous world stocks of chemical weapons had been destroyed – but their continued use in the Syrian conflict and in alleged assassination attempts by Russia indicated the world remains at risk.14

As things stand, the only entities that can afford to own nuclear weapons are nations – and if humanity is to be wiped out, it will most likely be as a result of an atomic conflict between nations. It follows from this that, if the world is to be made safe from such a fate it will need to get rid of nations as a structure of human self-organisation and replace them with wiser, less aggressive forms of self-governance. After all, the nation state really only began in the early nineteenth century and is by no means a permanent feature of self-governance, any more than monarchies, feudal systems or priest states. Although many people still tend to assume it is. Between them, nations have butchered more than 200 million people in the past 150 years and it is increasingly clear the world would be a far safer, more peaceable place without either nations or nationalism. The question is what to replace them with.

Although there may at first glance appear to be no close linkage between weapons of mass destruction and food, in the twenty-first century with world resources of food, land and water under growing stress, nothing can be ruled out. Indeed, chemical weapons have frequently been deployed in the Syrian civil war, which had drought, agricultural failure and hunger among its early drivers. And nuclear conflict remains a distinct possibility in South Asia and the Middle East, especially, as these regions are already stressed in terms of food, land and water, and their nuclear firepower or access to nuclear materials is multiplying.

It remains an open question whether panicking regimes in Russia, the USA or even France would be ruthless enough to deploy atomic weapons in an attempt to quell invasion by tens of millions of desperate refugees, fleeing famine and climate chaos in their own homelands – but the possibility ought not to be ignored.

That nuclear war is at least a possible outcome of food and climate crises was first flagged in the report The Age of Consequences by Kurt Campbell and the US-based Centre for Strategic and International Studies, which stated ‘it is clear that even nuclear war cannot be excluded as a political consequence of global warming’. 15 Food insecurity is therefore a driver in the preconditions for the use of nuclear weapons, whether limited or unlimited.

A global famine is a likely outcome of limited use of nuclear weapons by any country or countries – and would be unavoidable in the event of an unlimited nuclear war between America and Russia, making it unwinnable for either. And that, as the mute hands of the ‘Doomsday Clock’ so eloquently admonish, is also the most likely scenario for the premature termination of the human species.

Such a grim scenario can be alleviated by two measures: the voluntary banning by the whole of humanity of nuclear weapons, their technology, materials and stocks – and by a global effort to secure food against future insecurity by diverting the funds now wasted on nuclear armaments into building the sustainable food and water systems of the future (see Chapters 8 and 9).

### 2AC --- Plan k Mines

#### AI submarines are key to NATO’s position in mine warfare

Michael E. O’Hanlon 18, Michael E. O'Hanlon is a senior fellow and director of research in Foreign Policy at the Brookings Institution, where he specializes in U.S. defense strategy, the use of military force, and American national security policy, 11/29/18, “The role of AI in future warfare,” *Brookings Institute*, <https://www.brookings.edu/research/ai-and-future-warfare/>, JH

Another major complicating development could be the advent of constellations or swarms of smart robotic devices. For example, by 2040, large numbers of smart sea mines could pose enormous threats to shipping; in the scenario of Russian aggression, NATO would need to mount a response to these threats.[[6]](https://www.brookings.edu/research/ai-and-future-warfare/#footnote-6) The devices might in effect be miniature submarines, with sensors and explosives as payload. Russia is already strong in submarine technology[[7]](https://www.brookings.edu/research/ai-and-future-warfare/#footnote-7) and could probably master this type of technology in the years to come. Such unmanned underwater vehicles (UUVs) could be widely deployed in places like the Baltic Sea in times of crisis. Rather than having to hunt for a couple dozen Russian submarines, as might be the case today—already a daunting proposition—NATO forces seeking to reach Baltic ports might need to search for hundreds or even thousands of potent threats. It seems implausible that arms control agreements would prevent the development and deployment of such autonomous systems, not only because of the verification challenges but also because the United States itself will feel powerful incentives to create more autonomous systems, including those with the ability to employ lethal force under certain types of conditions, as Paul Scharre has convincingly argued.[[8]](https://www.brookings.edu/research/ai-and-future-warfare/#footnote-8)

Another type of robotic swarm might be used to create an interconnected network of unmanned aquatic systems functioning, in effect, as mobile mines or torpedoes. This is not presently a technology concept that the U.S. Navy has come close to operationalizing; a 2013 RAND study lists the technology maturity of such systems as between 1 and 3 on a Technology Readiness Level scale that goes from 1 to 9.[[11]](https://www.brookings.edu/research/ai-and-future-warfare/#footnote-11) However, the constituent technologies, such as automated sensors, are already largely available.[[12]](https://www.brookings.edu/research/ai-and-future-warfare/#footnote-12) As AI improves, a constellation of such devices could be made largely autonomous.

Much of the relevant technology is already available. Drug-trafficking organizations have been using semisubmersibles to transport drugs to the United States for years, now craft with very slender vessel designs that are efficient at cutting through waves (though still slower than most warships).[[13]](https://www.brookings.edu/research/ai-and-future-warfare/#footnote-13) A decade ago, it was already possible to build such boats with a payload of 10 tons and at a cost of less than $1 million per vessel; they were often manned then, but making them fully autonomous would not be a major leap.[[14]](https://www.brookings.edu/research/ai-and-future-warfare/#footnote-14)

Such capabilities create the specter of not just “smart mines” (able to distinguish one type of ship from another before detonating) but mobile, re-deployable, and agile mines operating as autonomous networks. Since mines have been responsible for most U.S. Navy ship losses since World War II, this is a particularly unsettling prospect.[[15]](https://www.brookings.edu/research/ai-and-future-warfare/#footnote-15) In modern times, the U.S. Navy has primarily avoided mines by staying clear of waters where they might be deployed, as opposed to having any particularly effective counter to them. The main alternative, as outlined by Caitlin Talmadge, would be to conduct extensive clearing operations to create relatively narrow channels for movement, if enough time is available for such purposes. (Talmadge estimated a month or more in a scenario in which Iran mined the Persian Gulf and the U.S. Navy and allies then sought to clear the waterways.)[[16]](https://www.brookings.edu/research/ai-and-future-warfare/#footnote-16) Used against America’s enemies of recent decades, this might have been a doable proposition. But when a U.S. Navy vessel has to approach a Baltic port against a Russian foe of 2025 or 2030 or 2035 or 2040, the situation could be very different. Clearing operations against what would in effect be mobile and self-healing minefields populated by devices that can communicate with each other and reposition themselves to create dense, lethal networks will be much more difficult than clearing current threats.

If NATO figured out how to jam the communications between smart, unmanned, mobile mines, the adversary’s robotic systems might simply be deployed in redundant patterns to be sure there were no gaps in coverage. They could also be programmed to change their positions every so often to elude neutralization and to repair any potential gaps in their coverage—even if there were no central data processor that actually knew where the gaps were located and even if space-based navigation systems were disabled (since the UUVs could have various types of inertial or bottom-following guidance).[[17]](https://www.brookings.edu/research/ai-and-future-warfare/#footnote-17) The network could be set up simply to play the odds, in an environment of little communication and poor information exchange.

Because of NATO’s strategic depth and its enormous resource disparity when measured against Russia’s—two advantages the United States and its allies would likely not have in the Pacific theater against China—NATO would still be favored to win a conventional-only conflict in eastern Europe 20 years from now. But the degree of difficulty would be quite considerable and the degree of escalatory risk highly unsettling. In my book, I attempt to offer Washington and other NATO capitals some policy options. For the purposes of this essay, the simple point is this: robotics and AI could take on a central, and very important, role in warfare by 2040—even without anything resembling a terminator or a large killer robot.

#### NATO has the largest minesweeper fleet, but modernization is required

Andrea Daolio 19, Andrea Daolio, from Italy, has an engineering background and a longstanding passion for wargaming and for geopolitical, historical, and military topic, 10/21/19, “Meeting the Mine Warfare Challenge with Unmanned Systems,” CIMSEC, https://cimsec.org/meeting-the-mine-warfare-challenge-with-unmanned-systems/

During World War II, Operation Starvation which mined Japanese home waters severely disrupted Japanese maritime traffic and sunk more than 1.2 million tons of shipping for the loss of only 15 airplanes, while demanding only 5.7 percent of the XXI Bomber Command’s total sorties. Yet a few years later the U.S. Navy was unprepared when it had to face enemy mines itself in the Korean War, resulting in the delay of the amphibious landing at Wonsan. At the end of the war, the mine countermeasures forces, which accounted for less than two percent of all UN naval forces, had suffered 20 percent of naval casualties.

The 1987-1988 and 1991-1992 Gulf crises once again showed how deadly mines can be even for a totally superior force, damaging the USS Samuel B. Roberts (FFG-58), the flagship for Airborne Mine Countermeasures operations USS Tripoli (LPH-10) and the USS Princeton (CG-59). Since World War II, mines have damaged or sunk four more times more US Navy ships than all other weapons.These events have been studied in detail by the Chinese People’s Liberation Army and other potential adversaries of the U.S. like Iran and North Korea, and all those nations have significant mine arsenals. China has a fleet of 33 mine warfare vessels and over 50,000 mines (some put the estimate as high as 80,000 or even 100,000), consisting of over 30 varieties of contact, magnetic, acoustic, water pressure and mixed reaction sea mines, remote control sea mines, rocket-rising and mobile mines.1

Russia has a fleet of 47 Mine Warfare vessels and inherited an arsenal of “upwards of 250,000” mines from the Soviet Union, while Iran is estimated to have between 3,000 and 20,000 mines and North Korea is said to have 50,000 mines.2 As if these numbers were not threatening enough, Iraq was able to damage two U.S. Navy ships by deploying only around 1,000 mines, many of them old types dating back to before World War I that can be replicated cheaply (contact mines cost as little as $1500) even by third world nations. More than 30 countries produce and more than 20 countries export mines, and even highly sophisticated versions of the weapon are available in the international arms trade.

NATO on the other hand has the largest MCM fleet in the world with 149 ships (as of 2016), but those ships are becoming old and obsolete (many are second-hand vessels retired by their original owner and then sold to smaller NATO countries). And only 7 percent of these vessels are part of the U.S. Navy. The need to renovate and enlarge this force is immediately apparent.

#### AI submarines solve mine detection and avoidable collisions; they cost less too

Mehak Dhiman 21, Dihman is a student at the Jindal School of International Affairs and Research Intern at the Centre for Security Studies, January 2021, “The Role of Artificial Intelligence in the Navy,” *CSS: Issue Brief*, <https://jgu.s3.ap-south-1.amazonaws.com/jsia/Mehak+Dhiman+-+Role+of+AI+and+the+Navy.pdf>, JH

Integration of AI in navy will help in developing new offensive ships and submarines which will be able to perform various functions at once. This will not only result in more deadly attacks but will also save on the number of ships and manpower required to carry out such tasks separately on separate ships and separate locations. One such unmanned submersible is the one recently acquired by the US Navy, based on Boeing’s Echo Voyager prototype UUV Orca Extra Large Unmanned Undersea Vehicles (XLUUVs).

This is a 15.5m long submersible which offers a range of 6,500 nautical miles and numerous months of operation on a single fuel module. It uses a Kalman filtered inertial navigation unit aided by a set of doppler velocity logs, and depth sensors to navigate underwater since it can only use GPS at the surface. This is a multi-functional, offensive undersea vehicle which can indulge in mine countermeasures, anti-submarine warfare, anti-surface warfare, electronic warfare and strike missions. It was also put to test. Ocean testing tasks included charging the battery, controlling the vehicle in currents and wave action, submerging the vehicle and returning to the surface. Echo Voyager returned to sea in 2018 through early this year for Bravo sea trials, designed to expand the operational envelope from the initial test series.” a Boeing spokesperson said.

The current system of navigating in water has proven to be very problematic for the department of navy and has also been heavy on the capital resources due to the number of avoidable collisions. These incidents can be checked by deploying AI for such tasks which will make navigation reliable and efficient. It will help in detecting obstacles in unfavorable conditions and from a great distance. This will also give more time for maneuvering past the object without putting too much pressure on the sailor. Sea Hunter is one such autonomous ship procured by the US Navy which performs most of its functions without human interference. The most surprising part about this ship is its completely autonomous navigation system. Sea Hunter became the first ship to autonomously navigate from San Diego to Pearl Harbor, Hawaii, and back without a single crew member aboard and without any major collision.

The Sea Hunter is the first entirely unmanned sea voyager. It was engineered by Reston, Va.- based Leidos. They say that it is navigated by a specially designed artificial intelligence (AI), which assimilates the required data from sensors, radars and AI cameras installed on the vessel. It can be on its own for weeks while performing various functions like tracking enemy submarines, removing mines, detecting torpedoes and acting as a communication relay. Like any other AI based autonomous naval vehicle this ship also costs way less than fully manned ships. Operating Sea Hunter costs $20,000 a day, which is 35 times less than the daily running costs of an Arleigh Burke-class destroyer ($700,000).

Threat detection in navy usually involves spotting static as well as moving objects in the route finalized for carrying out any task. This further helps in navigating efficiently and avoiding collisions and unwanted confrontations and encounters with underwater mines. In a research conducted by Albert Michael we see how pre-processing and minimum risk routes have been combined to navigate aircraft carriers for a successful flight.

#### UUVs are key for minesweeping, minelaying, and detection for when the Navy is hesitates to deploy manned vessels

Scott Savitz et al 13, Scott Savitz, Irv Blickstein, Peter Buryk, Robert W. Button, Paul DeLuca, James Dryden, Jason Mastbaum, Jan Osburg, Phillip Padilla, Amy Potter, Carter C. Price, Lloyd Thrall, Susan K. Woodward, Roland J. Yardley, John M. Yurchak, the RAND Corporation is a nonprofit institution that helps improve policy and decisionmaking through research and analysis, “U.S. Navy Employment Options for Unmanned Surface Vehicles (USVs),” *Rand Corporation*, <https://www.rand.org/content/dam/rand/pubs/research_reports/RR300/RR384/RAND_RR384.pdf>, JH

Of the 62 missions and functions we evaluated, 27 are highly suitable for USV employment. Table 4.1 divides the full list of missions and functions into three levels of suitability for USV employment (highly suitable, possibly suitable, and less suitable) and three levels of USV technological development (in or near market, emerging, and incipient).

As the left-hand cell of the top row shows, USV applications that are already in or near the combined civilian/military market are almost all highly suitable for U.S. Navy missions and functions. For example, USVs for the SAR of conscious victims have already been employed on beaches, particularly for the rescue aspect of this mission, in which the USV is directed to the victim, who grabs it and rides it to safety. Using a USV rather than a manned asset for this mission can reduce risk to additional personnel. USVs are already capable of persistent ISR and environmental collection in permissive environments and have long been used for both testing and training; for all of these applications, USVs can reduce costs and the requirement for capital assets. Other nations’ navies already employ USVs for influence minesweeping. Mechanical minesweeping and “mine harvesting” (collecting detached, floating mines in a net) require only the use of simple towing capabilities. Employing USVs for these mine warfare missions would reduce the risk posed to personnel and capital assets by exposure to minefields. The U.S. Navy could acquire USVs to fulfill these concepts of employment within the next several years.

The concepts of employment listed in the center and right-hand cells of the top row are also highly suitable for naval missions, but they depend on technological capabilities that are less developed. The military deception, information operations, and electronic warfare missions could be conducted at lower risk to personnel and capital assets, as well as at potentially lower cost. In addition, the relative expendability of USVs could enable these missions to be conducted in new, bolder ways, including in anti-access/area-denial (A2/AD) environments. USVs could play a role in diminishing the effectiveness of an adversary’s A2/AD systems not only by deceiving adversary sensors but also by jamming or targeting them to impair overall network performance.

Using USVs to conduct mine warfare missions would reduce the risk mines pose to personnel and capital assets. Minelaying by USVs could enable this mission, now performed exclusively by aircraft, to be conducted more clandestinely in more dangerous A2/AD environments without imposing further demand and risk on high-value assets. In those same environments, and for the same reasons, it would be advantageous to conduct ISR and environmental collection using unmanned systems; USVs could be employed when their cross-domain capabilities, payload capacity, endurance, or other attributes make them preferable to other unmanned systems. Moreover, even when UAVs or UUVs are preferred, USVs could play an important supporting role by providing them with resources, cross-domain links, and services such as data processing. USVs could also provide such support in more benign environments, as well as shuttle goods between ships and shore locations without requiring the use of additional personnel.

USVs would also be highly suitable for protecting other platforms, performing missions that are often dull but occasionally dangerous. For example, they could serve as armed escorts for ships, keeping personnel out of harm’s way and freeing up resources for other missions. Protecting port infrastructure and ships in port from FAC using USVs would be advantageous if the USVs in question could be fully autonomous. This would reduce the risk to personnel (and potentially reduce costs) compared with having manned vessels conduct the mission. Unarmed ASW area sanitization—a painstaking mission to detect and classify any enemy submarines—could be performed by USVs at lower risk and with less demand on capital assets than with manned platforms.

To reiterate, USVs are highly suitable for all of the missions and functions listed in the first row of Table 4.1. The U.S. Navy could consider investing in R&D to bring these capabilities to fruition. A key consideration for resource allocation in this context is the degree of technological advancement required, which is not perfectly correlated with the TRL. Some prospective missions, such as minelaying, may be relatively easy from a technical standpoint; USV capabilities have yet to be developed for this purpose due to a lack of interest, not technical challenges. However, developing fully autonomous USVs to counter FAC would require dramatic advances in autonomy for threat identification and use of force.

## Iran Scenario

### 1AC --- Iran Scenario

#### Scenario #\_\_: Iran

#### Iran escalating in the Strait of Hormuz with mines poses a major threat to American ships in the Gulf; only a comprehensive strategy to remove the mines solves

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Creating new routes for its oil exports may offer Iran escalatory options in the Strait of Hormuz. But would Iran take such a step? Such an Iranian naval offensive would represent a serious provocation — the most direct confrontation yet between Washington and Tehran. Some may question whether Iran would really choose to go this route. Hypothetically, we assume they may cite the resources necessary to build out Rouhani’s plan, at a time when Iran is under increasing economic pressure and facing political challenges in an upcoming domestic election cycle. Or the fact that the recent energy market crash coupled with the pandemic crisis make such an expensive undertaking not cost effective for Iran’s oil exporting program. While all are reasonable points for debate, these counter-arguments miss the point of Iran’s moves. Because the Strait of Hormuz plays both important practical and symbolic roles in the region, advancing Iranian capabilities to disrupt the waterway is a real deterrence tool, and a means by which to pressure neighbors as well as the United States and those aligned with it. The credible threat that Iran could shut down the strait now is backed by its increasingly effective and multi-layered arsenal of water and limpet mines, fast and attack boats, drone boats, anti-ship missiles, coastal defense, and submarines.

So, Iran may have increasing capabilities to conduct more aggressive operations in the strait. But who would risk making the decision to go ahead with it? On paper, the two Iranian navies still share the Strait of Hormuz as an area of responsibility. But in practice, the Guards have the upper hand there. And in addition to being better funded and equipped than the traditional Iranian navy, the Revolutionary Guards are also more aggressive than their conventional counterparts. The Revolutionary Guards navy will continue to employ an asymmetric doctrine when deciding how its naval assets are used. The objective is not naval superiority, but rather the bread and butter of the Guards’ operations: a mix of lower cost, sometimes proxy-executed, asymmetric tactics that can cause pain, sow concern, and build leverage.

Meanwhile, the U.S. Navy’s fleet of minesweepers is [aging](https://www.propublica.org/article/iran-has-hundreds-of-naval-mines-us-navy-minesweepers-find-old-dishwashers-car-parts). As Pro Publica [reported](https://www.propublica.org/article/iran-has-hundreds-of-naval-mines-us-navy-minesweepers-find-old-dishwashers-car-parts) in 2019, “the sonar meant to detect mines was so imprecise that in training exercises it flagged dishwashers, crab traps and cars on the ocean floor as potential bombs.” The U.S. Navy has rightly[prioritized](https://fas.org/sgp/crs/weapons/RL32665.pdf) increased readiness and force upgrades across the fleet. Recent [budget cycles](https://armedservices.house.gov/_cache/files/4/c/4c91c1c0-d977-46bb-9a4b-3c0d4775ffbb/35D45A722F7BFAD3E36A9B95A88F6809.fy21-ndaa-chairman-s-mark-summary-vfinal.pdf) support that initiative but the debate over the what systems to upgrade and how much to invest is not over, the time horizon for the initiative is long, and a key focus remains on tools to address great power competition — specifically in the Pacific. The Navy’s serious undertaking is not aided by distractions from President Trump and his administration, commenting on[naval rules of engagement](https://www.bloomberg.com/opinion/articles/2020-05-03/trump-s-dangerously-wrong-about-destroying-iranian-speedboats), or what firms should build the Navy’s [new frigates](https://www.defenseone.com/politics/2020/06/trump-says-wisconsin-shipyards-location-swayed-navys-frigate-award/166460/).

Finally, the uneven responses to Iranian provocations last year culminating in the killing of Guards Commander Qassem Soleimani have reinforced the unpredictability of U.S. staying power. All these elements likely factor into Iran’s calculus. Its new comprehensive initiative, which Supreme Leader Ayatollah Khamenei has [characterized](https://www.tasnimnews.com/fa/news as the Rouhani government’s “most strategic plan,” might produce a new lever Iran may plan to use in its favor in the Persian Gulf.

Iran’s plan to set the conditions that would allow for effectively closing the Strait of Hormuz has been lost in a busy news cycle in the United States. But its implications, if implemented, are likely to reverberate for years to come, including drawing China further into the region. As the United States continues to send mixed signals about its strategy and presence in the Middle East and the U.S. Navy rightly continues to shift its attention and resources to the Pacific, Iran is building its capabilities and signaling its intention to consider adopting a more aggressive posture in the Persian Gulf and Gulf of Oman.

Without a clear and comprehensive strategy towards Iran in particular and the region in general, the United States risks perpetuating an “either/or” debate about its interests in the Middle East while not planning for and managing for evolving threats. Developing plans to assess Iran’s intentions in the Strait of Hormuz and wider Persian Gulf does not mean the United States, or its military, will become dragged deeper into the region. But effective management would begin by putting this development in the proper context of a pattern of escalation with Iran, isolation from allies on Iran policy, and the lack of any diplomatic efforts to de-escalate increasing tensions across the board with Iran. Without this broader analysis, diplomatic effort, and military planning combined, America’s Iran strategy will continue to fall short.

#### Iranian mining of the Strait of Hormuz would constitute an act of war against the US

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An Act of War?

In early 2012, tensions between the United States and Iran were spiking, and “mine-rattling” threats from Teheran to close the Arabian Gulf and the Strait of Hormuz exacerbated jittery world petroleum markets. Iranian rhetoric generated increasingly draconian U.S. and UN sanctions. Given the experience of the 1980s “tanker war,” the naval mine threat could not be ignored. On 12 February 2012, [Vice Admiral Mark I. Fox](http://www.bloomberg.com/news/2012-02-12/u-s-would-block-iran-from-mining-hormuz-strait-commander-says.html), Commander U.S. Fifth Fleet, declared: “If Iran mines the Arabian Gulf, it’ll be an act of war.”

Is this correct? As it turns out, there are international guidelines for naval mining and, if followed, they empower nations to deploy their “weapons that wait” in peacetime and during “armed conflict.” In the latter case, mining by non-state actors, e.g., terrorist groups, might also be permitted.

For example, [the Hague Convention VIII of 1907](http://avalon.law.yale.edu/20th_century/hague08.asp) focuses on “The Laying of Automatic Submarine Contact Mines” (Section VII) during times of war. “Automatic” mines are those weapons not under the direct control of the miner, whether anchored to the sea bottom or not. In 1907, this meant primarily contact weapons (still in many navies’ inventories in 2014), but the rules would also apply to “influence” mines that fire on the magnetic, acoustic, pressure, electric-potential and seismic “signatures” of a target surface ship or submarine. In that regard, Articles 1-2 state, “It is forbidden” to lay:

Unanchored (i.e., drifting) automatic contact mines, except when they are so constructed as to become harmless one hour at most after the person who laid them ceases to control them

Anchored automatic contact mines which do not become harmless as soon as they have broken loose from their moorings

Automatic contact mines, whether anchored or not, off the coast and ports of the enemy, with the sole object of intercepting commercial shipping

Article 3 stipulates that when anchored automatic contact mines are employed, every possible precaution must be taken for the security of peaceful (a broader category than just commercial) shipping. Belligerents must “do their utmost’ to render these mines harmless within a limited time (not just an hour). Furthermore, should these mines cease to be under the miner’s surveillance, the mining countries must notify ship owners and governments through diplomatic channels about the mine danger zones “as soon as military exigencies permit.”

Neutral countries that lay automatic contact mines off their coasts must follow the same rules imposed on belligerents. The neutral state must inform ship owners, by a notice issued in advance, where automatic contact mines have been laid, and this notice must be communicated at once to the governments through diplomatic channels.

At the close of the war, the “Contracting Powers” (i.e., states party to the 1907 convention) must do their utmost to remove the mines that they have laid, with each government responsible for removing its own mines. With regard to anchored automatic contact mines laid by one of the belligerents off the coast of the other, their positions must be notified to the other party by the Power that laid them. For example, after the U.S. Navy mined Haiphong harbor and other North Vietnamese waterways in July 1972 and the Paris Peace Talks resumed in January 1973, U.S. mine countermeasures (MCM) forces were responsible for clearing all mined areas––Operation End Sweep––later that year. As it turned out, most of the naval mines had already been [rendered safe through self-sterilization](http://www.amazon.com/gp/product/B003HIWQKO/ref=as_li_qf_sp_asin_il_tl?ie=UTF8&camp=1789&creative=9325&creativeASIN=B003HIWQKO&linkCode=as2&tag=httpwaronthec-20&linkId=Q2RLVGTW6LX2MU2K).

And each Power must proceed with the least possible delay to remove the mines in its own waters.

For the U.S. Navy today, the [Commander’s Handbook on the Law of Naval Operations](https://www.usnwc.edu/getattachment/a9b8e92d-2c8d-4779-9925-0defea93325c/) outlines the naval mining rules of the road that must be followed, whether during peace, crisis or war, to determine whether deploying “weapons that wait” is a legal action or an act of war.

Section 9.2.2 Peacetime Mining

Mindful of the safety of its citizens, during peacetime a nation may deploy armed and controlled mines in its own internal waters at any time without notification. A nation may also mine its own archipelagic waters and territorial sea during peacetime when necessary for its national security. If a nation deploys armed mines in its archipelagic waters or the territorial sea, appropriate international notification––e.g., through the International Maritime Organization and other diplomatic channels––of the existence and location of such mines is required. However, deploying controlled mines in a nation’s own archipelagic waters or territorial sea is not subject to such notification or removal requirements.

Because the right of innocent passage through territorial seas can be suspended only temporarily, armed mines must be removed or rendered harmless as soon as the security threat that generated their deployment has ended. Armed mines may not be emplaced in international straits or archipelagic sea-lanes during peacetime.

A nation may deploy controlled mines in international waters (i.e., beyond the territorial sea) if they do not unreasonably interfere with other lawful uses of the oceans. The determination of what constitutes an “unreasonable interference” involves a balancing of several factors, including the reason for their emplacement (e.g., self-defense), the extent of the area to be mined, the hazard (if any) to other lawful ocean uses, and the duration of their emplacement. Because controlled mines do not constitute a hazard to navigation, international notice of their emplacement is not required.

The Handbook notes that armed mines may not be deployed in international waters prior to the outbreak of armed conflict, except under the most demanding requirements of individual or collective self-defense. If armed mines were to be deployed in international waters, the deploying nation must provide prior notification of their location. Moreover, a nation deploying armed mines in international waters during peacetime must maintain an on-scene presence in the area to ensure that appropriate warning is provided to ships approaching the mine danger area. All armed mines must be expeditiously removed or rendered harmless, either by sweeping or self-sterilization, when the imminent danger that justified their deployment has passed.

Thus, Gaddafi’s mining of the Red Sea and Gulf of Suez in 1984 could have been regarded as an act of war, but it took about a year to determine, beyond reasonable doubt, that Libyan naval forces were indeed responsible for the mines.

Finally, armed or controlled mines may not be emplaced in internal waters, territorial seas, or archipelagic waters of another nation in peacetime without that nation’s consent.

It is interesting to note that the Handbook here refers only to “nation” and not other non-state actors, e.g., terrorist groups. This must mean that any use of naval mines by non-state actors in peacetime is illegal.

Honored in their Breach!

Perhaps honored more in their breach than observance (as evidenced by Albania’s mining of the Corfu Channel in 1946 and Iran and Iraq’s indiscriminate use of mines during the 1980s “Tanker War”), the laws of naval mining are nonetheless clear. If the rules were followed, in peacetime, crisis and armed conflict, China’s, Russia’s, Iran’s and any other country’s use, including the United States, of naval mines––particularly in self-defense roles––would not, per se, be an “act of war.”

But, that’s a big “if.”

And, so it might be in the Black Sea, as well. Or in the South China Sea, too.

#### If they close the Gulf, the US will strike back out of economic fears

Kathy Gilsinan 19, Kathy Gilsinan is a contributing writer at the Atlantic, where she has reported on national security and contributed to its extensive and acclaimed coronavirus coverage, 6/26/19, “America’s Free-Rider Problem in the Strait of Hormuz,” *The Atlantic*, https://www.theatlantic.com/politics/archive/2019/06/why-does-us-protect-strait-hormuz/592654/

There remains, of course, the deterrent of the possible U.S. response. “If they close the Strait of Hormuz, they’re going to get bombed,” Kelanic says. “If we didn’t intervene and bomb them and then clear the strait, which we would have plenty of time to do”—given that the U.S. and allied strategic petroleum reserves could make up any oil shortfall for months—“oil supplies would be constricted and prices would go up.”

How much exactly is hard to say, though the potential to remove a fifth of the world’s oil could cause a severe spike. Talmadge noted in a 2008 paper that the Iraqi invasion of Kuwait in the 1990s, which stopped oil exports from both countries, doubled the price of oil at the time and kept them elevated for a year. Today these effects would be mitigated somewhat by strategic oil reserves that can make up supply shortfalls for months.

#### US war with Iran draws in Russia and China---WWIII

Dr. Robert Farley 22, PhD from the University of Washington, Professor of Political Science at the University of Kentucky’s Patterson School of Diplomacy, “5 Places Where World War III Could Erupt In 2022”, <https://www.19fortyfive.com/2022/01/5-places-where-world-war-iii-could-erupt-in-2022/>, JH

5 Places World War III Could Erupt: Iran

Any honest appraisal of US policy towards Iran now recognizes that then-President Donald Trump’s decision to abandon the Joint Comprehensive Plan of Action (JCPOA), better known as the Iran Nuclear Deal, was a disastrous mistake.

The US effort to increase military and economic coercion against Iran has failed. Iran has stepped up its nuclear efforts while improving the sophistication of its missile forces and increasing its covert activities across the region.

Negotiations have thus far failed to restore the status quo, as the United States has stumbled over its inability to commit and Tehran has taken a tough attitude. If negotiations fail to bring Iran into some kind of a deal, the threat of military action lurks in the background. While the Biden administration doesn’t seem excited about the prospect of war, US allies in Riyadh and Jerusalem could try to trigger a confrontation. Similarly, if Iran comes to believe an attack is inevitable, it could pre-empt with all the tools it has available. Iran lacks committed great power backing, but a conflict in the Middle East could open opportunities elsewhere for Russia and China.

### 2AC --- Closing Straight Collapses Econ

#### Independently closing the Strait collapses the global economy

Elisabeth Braw 21, Elisabeth Braw is a Resident Fellow at the American Enterprise Institute (AEI), where she focuses on deterrence against emerging forms of aggression, such as hybrid and grey zone threats, 8/5/21, “Attacks on Gulf shipping leave the global economy vulnerable,” *Poltico*, https://www.politico.eu/article/gulf-shipping-attacks-leave-global-economy-vulnerable-trade/

Last week, an oil tanker traveling through the Gulf of Oman was [struck](https://www.jpost.com/breaking-news/israeli-ship-attacked-in-gulf-of-oman-report-675389) by a suspected kamikaze drone, killing two crew members. And yesterday, several vessels traveling through the nearby Strait of Hormuz reported sudden emergencies, while another was [boarded](https://www.bbc.com/news/world-middle-east-58083671) by operatives suspected of being Iranian troops. A terrible situation for all affected, to be sure. But the rest of us should be concerned too.

Global shipping is extraordinarily efficient, managing to transport [80 percent](https://unctad.org/webflyer/review-maritime-transport-2018) of global trade so reliably that consumers take it for granted. As the Mercer Street vessel’s misfortune demonstrates, though, shipping is also highly vulnerable to disruptions. And increased maritime aggression stands to harm ordinary consumers as well.

The U.S., U.K. and Israeli governments all [blame Iran](https://apnews.com/article/middle-east-business-iran-persian-gulf-tensions-419efc522acbd213a79696c9876af6dc) for the Gulf of Oman attack, saying they are [certain of the country’s guilt](https://apnews.com/article/middle-east-business-iran-persian-gulf-tensions-419efc522acbd213a79696c9876af6dc) regarding events on the Liberian-flagged vessel, which is owned by a Japanese firm and managed by a U.K. company belonging to Israeli billionaire Eyal Ofer. Iran has denied striking the Mercer Street and no footage of the incident has been released, but most shipping analysts suspect the country as well.

Yesterday, another tanker, the Panama-flagged Asphalt Princess, was [reported](https://www.reuters.com/article/shipping-security-emirates-seizure-idUSL8N2PA6EE) to have been boarded by armed men, thought to be Iranian operatives, in the Strait of Hormuz, while other cargo ships also reported sudden steering problems.

“This is a shadow conflict between Iran and Israel, where shipping has been caught in the middle,” said Cormac McGarry, a maritime analyst with the global risk consultancy Control Risks, referring to the Mercer Street.

“You can attack a Japanese-owned, Liberian-flagged vessel simply because it’s linked to an Israeli billionaire. It’s a very useful way of launching deniable attacks that don’t directly target your adversary,” he added.

Indeed, the alleged attack on the Mercer Street and these suspected new attacks are only the latest incidents involving cargo ships traveling through the Gulf of Oman and its twin, the Strait of Hormuz.

The Gulf of Oman and the Strait of Hormuz, through which vast quantities of oil and other essential goods travel, form a vital artery of the globalized economy, with several dozen cargo vessels owned by a range of companies, many in Western countries, and carrying flags ranging from the Philippines and Liberia [traversing its waters](https://www.marinevesseltraffic.com/HORMUZ-STRAIT/ship-traffic-tracker?full_screen=yes&map=dual) at any given time.

As the shadow wars between Iran and Israel and Iran and Saudi Arabia intensify, those commercial vessels — without whose cargo, companies around the world would have to cease operations — face the risk of being harmed simply because of their affiliation with a particular country.

In the past couple of years, Israel is thought to have used mines to [attack](https://www.wsj.com/articles/israel-strikes-target-iranian-oil-bound-for-syria-11615492789) several Iranian tankers transporting oil to Syria, while a range of attacks thought to have been perpetrated by Iran have targeted ships linked to Israel.

“Lots of things happen in the Gulf of Oman,” said Simon Lockwood, a maritime expert with the global insurance broker Willis Towers Watson. “This is the fourth incident in a short time involving an Israel-affiliated vessel.”

For example, two years ago, the Stena Impero was thought to have been seized by Iran’s Revolutionary Guards not because of any serious maritime infractions but as an apparent proxy for the U.K., which itself had [seized an Iranian tanker](https://www.theguardian.com/world/2019/jul/04/royal-marines-gibraltar-tanker-oil-syria-eu-sanctions) suspected of breaching EU sanctions on Syria a short time earlier.

Ships are set up to transport goods and, these days, also rudimentarily defend themselves against pirates — which is why the Mercer Street had a security guard on board. However, they’re not set up to defend themselves against hostile-state attacks.

“If Iran wanted to cause serious supply chain disruptions, it could escalate these attacks in the Strait of Hormuz,” McGarry said.

### 2AC --- Impacts --- Econ

**America lashes out. Cross out defense that doesn’t assume polarization.**

Matthew **Baum 19**, Marvin Kalb Professor of Global Communications at Harvard University, and Philip Potter, Associate Professor of Politics at the University of Virginia, April 2019, “Media, Public Opinion, and Foreign Policy in the Age of Social Media,” *The Journal of Politics*, 82(2), <https://www.journals.uchicago.edu/doi/abs/10.1086/702233>,

An erosion of the public’s capacity to impose democratic constraint has a similar impact on the audience cost arguments and, more broadly, on our understandings of democratic credibility and conflict reciprocation. International relations scholars generally agree that leaders usually feel some pressure to actually carry out the threats and promises that they make in the international system. This might be because they care about their reputation with other leaders, but the usual argument is that democracies are more likely than autocracies to follow through on threats because they have domestic audiences who will hold them to account if they fail to do so (Fearon 1994; Schultz 2001). Polarization undermines that linkage, thereby potentially undermining the democratic advantage in foreign crisis negotiations and, ultimately, making war more likely. **The tribal element** of **polarized politics** means that followers are **unlikely** to hold their leader to account. Opposition, in turn, is **unlikely** to give the president **any credit regardless of the policy**. Thus, while traditional versions of audience cost theory assumed that in democracies domestic audiences would judge a vacillating leader harshly, such accountability is **less likely** to emerge in **a polarized environment**.3 In this respect, polarization thus causes democratic leaders to **more closely resemble** their autocratic counterparts.

As we have noted, even in the information environment that preceded cable, satellite, and the Internet, the public had a low baseline of attentiveness. But voters were able to use heuristics to help them determine both when to engage with foreign policy issues and what to think about them when they did (Popkin 1991; Sniderman et al. 1991). This was accomplished primarily through reliance on partisan elites (Iyengar and Kinder 1987; Krosnick and Kinder 1990). However, **opposition and disaffected copartisans** have **no meaningful access** to the public in **a polarized and fragmented media ecosystem**. Elite whistle-blowing will **only inhibit** leaders when there is a credible threat that the public will hear **the whistle being blown**, but the audience cost mechanism relies on precisely this hand-tying process. If it breaks down there is no reason for democratically elected leaders to fear punishment for backing down on their threats and commitments and therefore no boost to their credibility when they make commitments.

**The polarized** and **fragmental information environment** also has **corrosive effects** on **the rally-round-the-flag phenomenon**, at least with regard to how it has been widely understood to date. Since approval rallies for presidents following uses of force abroad were traditionally located primarily among opposition partisans, partisan tribalism seems likely to result in smaller and less frequent rallies. For instance, when President Obama drew a “red line” with Syria over President Assad’s use of chemical weapons against civilians, he faced widespread criticism from Republicans in Congress and low marks from the public over his handling of the crisis. At the same time, public support for intervening in Syria remained low, arguably complicating Obama’s efforts to credibly communicate America’s resolve to Assad.

That said, while we may observe smaller and less frequent spikes in presidential approval ratings as a consequence of heightened polarization, **a different sort of rally effect** may become **more common**. That is, **the intensity of support for** and **opposition to** the president might spike among his supporters or opponents in **the immediate aftermath of a crisis event**. A case in point is President Trump’s recent sounding of the alarm over a Central American migrant caravan during the run-up to the 2018 midterm election. Notwithstanding the assertions of many pundits, there is little evidence that President Trump succeeded in increasing overall support for Republicans by characterizing the migrant caravan as an invasion. Trump first tweeted about the caravan on October 18, 2018. According to data on fivethirtyeight.com, Democrats led Republicans by 8.4 percentage points in the generic ballot during October 1–18. The Democratic lead from October 19 through election day was 8.3 points, or basically unchanged. Indeed, one postelection analysis (Winston Group 2018) concluded that late-deciding voters broke toward the Democrats by 12 points and cited the emphasis on the migrant caravan, which crowded out good news on the economy, as a key causal factor. However, among Republicans, concern over illegal immigration measurably increased with Trump’s caravan-related tweets. It is entirely possible, albeit uncertain, that Republican turnout in some states consequently rose, thereby improving the performance of Republican candidates in close elections, such as the Senate race in Florida and the gubernatorial race in Georgia. Since Democrats were already at historic levels of intensity leading up to the election, such a spike could have produced a net benefit for Republican candidates. The implication is that **prior concerns** about “diversionary” conflict were **overblown** because the types of conflicts that a leader might initiate for such a purpose were precisely those most likely to collapse the elasticity of reality (**mak**ing the risk greater than the potential reward). However, in **a highly polarized environment** where the electoral battle is more about mobilizing supporters than convincing the undecided there may be **much more incentive** for leaders to engage in this potentially **destructive behavior**.

**Downturns ensure global leadership turnover.**

Dr. Markus **Brückner 19**, Economics PhD and Professor at Australian National University, External Consultant to IMF and World Bank; and Dr. Hans Grüner, Economics PhD and Professor at the University of Mannheim, External Consultant to European Central Bank; 10/31/2019, “Economic growth and political extremism,” *Public Choice*, Issue 185/1-2. pp 131-159, <https://doi.org/10.1007/s11127-019-00745-w>,

Abstract

We argue that the growth rate, but not the level of aggregate income, affects the support for extreme political parties. In our model, extreme parties offer short-run benefits to part of the population at the expense of a minority. Growth effects on the support for such parties arise when uncertainty exists over whether the same subset of individuals will receive the same benefits in the future. **More people** are willing to take **political risks** if economic growth is slow. Based on a panel of 16 European countries, our empirical analysis shows that **slower growth** rates are associated with a significant increase in **right-wing extremism**. We find no significant effect of economic growth on the support for extreme left-wing parties.

1 Introduction

Distributional consequences are associated with political extremism, both in the short run and in the long run. Extreme political parties often propose to redistribute resources away from specific subgroups of society, such as the rich, ethnic minorities, or citizens living in specific regions. This paper analyzes the impact of economic growth on the support for extreme political parties in western democracies. We argue that the growth rate, but not the level of aggregate income, affects the support for extremism.

In the first part of our paper, we discuss three alternative explanations for why an increase in the economic growth rate reduces the support for extreme political parties. Two well-known explanations are related to retrospective voting and behavioral effects, the latter meaning that voters may react more strongly to changes in than to levels of economic well-being. The third, novel explanation is that parties with extreme political platforms are perceived to create considerable uncertainty about the future distribution of income.

We develop **a simple game-theoretic model** that analyzes that uncertainty effect. In our model, extreme political parties offer **short-run gains** from redistribution to a group of individuals. However, the same individuals also face **long-run losses** owing to the higher income risk that is associated with an extreme regime.1 The model permits a comparative static analysis with respect to several key variables of interest. The growth rate is associated with **larger future income risk**. Such risk reduces the number of voters favoring extreme parties. The level of aggregate income has no effect on the support for extremism. Income inequality raises support for redistribution and affects the impact that a change in the growth rate has on the support for extremism.

An important feature of our model is that the effect of economic growth on the support for extremism depends on uncertainty of future income redistribution. If redistributive policies are perceived as predictable—in the sense that the same group will have income taken away from it in the future—then the political support for an extremist party is unaffected by growth.

In the empirical part of our paper, we estimate the relationship between economic growth and the support for extreme political parties using a **panel data**set comprising **16 European countries**. Our dependent variable is a survey-based measure, compiled by Euro-barometer, of respondents' support for extreme right-wing parties and extreme left-wing parties. We use that data, which spans more than **three decades** and contains entries on **a semi-annual frequency**, to estimate the effects of economic growth on the support for extremism. Our empirical analysis shows a significant negative effect of real per capita GDP growth on the support for extreme right-wing parties: controlling for country and time fixed effects, a **one percent**age point decline in real per capita **GDP growth** increases the vote share of **extreme right-wing parties** by up to **one percent**age point. We document that the negative effect of economic growth on the support for right-wing extremism is **robust** across **estimation techniques** and **model specifications**. We do not find a systematic effect of growth on the support for left-wing extremism.

A possible explanation for the differential effects between left-wing and right-wing extremism that relates closely to our theoretical model is that right-wing extremism might be associated with more uncertainty over what groups will be subject to income expropriation in the future. Left-wing extremism is associated with income redistribution, but little uncertainty exists over its target. Communist doctrine (see, for example, the Communist Manifesto by Marx and Engels 1848), envisions a classless society; i.e., a society wherein incomes are distributed equally. Over the past century, extreme left-wing parties have followed closely that doctrine by proposing to redistribute incomes from rich to poor; as opposition parties they have voted against laissez faire policies and, when in power, they have implemented programs that reduced the wealth and income prospects of the rich (see, e.g., Brown 2010).

Right-wing extremism, in contrast to left-wing extremism, does not advocate a classless society. Instead, it often is associated with discrimination against specific groups of society for racial, religios, political or other reasons.2 An extreme case of a murderous and discriminatory regime was the German fascist rule during the first half of the 20th century. One can see it as a direct consequence of the Nazi party's "Fuhrerprinzip"—"the principle of unconditional authority of the leader" (Bernholz 2017, p.9)—which created considerable uncertainty over who might be stigmatized, imprisoned or killed in the future.3 Indeed, from the Nazi period we know that various groups were stigmatized for different reasons4 and that stigmatization also was particularly erratic.5,6

The empirical analysis of our paper is related to Stevenson (2001), who examines the determinants of aggregate policy preferences in a panel of 14 European countries. One of Stevenson's main findings is that declines in economic growth cause policy preferences to shift to the right, while increases in economic growth cause policy preferences to shift to the left.7 Our paper differs from Stevenson in at least three important aspects. First, in contrast to Stevenson, we show that our empirical results are robust to controlling for **country fixed effects**, meaning that our results also hold at the **within-country level**, and not just in **cross-section**. Relatedly, Acemoglu et al. (2008, 2009) showed that the cross-country relation between income and democracy turns insignificant when country fixed effects are entered into the econometric model. Second, we provide evidence that our empirical findings reflect a **causal effect** of **economic growth** on **political extremism**. We show that our main findings are robust to estimating dynamic models that enable to test for Granger causality; and we also show that the main findings hold with an **instrumental variables** approach. Third, we distinguish in our empirical analysis between extreme right-wing and extreme left-wing parties. That distinction matters: a robust negative effect of economic growth is found on the support for extreme right-wing parties, whereas no systematic effect exists for the support of extreme left-wing parties. Our finding of a significant negative effect of economic growth on the support for right-wing extremism is in line with the finding of Bromhead et al. (2012), who show that the vote share of right-wing extremists during **the Great Depression** was significantly larger in those countries that experienced a more severe economic crisis. Using subnational data for **218 European regions** during 1990-2016, Rao et al. (2018) find a **significant negative effect** of regional output on the vote share of extreme right-wing parties, but no signicant effect on extreme left-wing parties.

**Leadership turnover causes nuclear war.**

Dr. Andrew **Bertoli 18**, PhD and International Relations Professor at IE University, Spain; Dr. Allan Dafoe, PhD and International Relations Professor at UCLA; and Robert Trager, Political Science Professor at UCLA; 5/9/2018, “Is There a War Party? Party Change, the Left–Right Divide, and International Conflict,” *Journal of Conflict Resolution*, 63(4), <https://doi.org/10.1177%2F0022002718772352>, pacc

Is the likelihood that a democracy will take military action against other countries largely influenced by which party controls the presidency? Many believe so (Palmer, London, and Regan 2004; Arena and Palmer 2009; Clare 2010). In modern American politics, one party is consistently identified as more hawkish than the other. Surveys have revealed that Republican voters consistently prefer more aggressive policies (Eundak 2006; Trager and Vavreck 2011; Gries 2014). Moreover, many believe that Al Gore, had he been elected, would not have invaded Iraq like President George W. Bush did (Jervis 2003; Lieberfeld 2005), and that the foreign policies of Hillary Clinton and Donald Trump would be similarly opposed (Paletta 2016).

Nevertheless, it is very difficult to determine whether the party in control of the presidency really has an important impact on foreign policy due to the selection of parties into particular domestic and international contexts. Put simply, which party controls the presidency is not random. For example, the victory of George W. Bush in 2004 can be attributed to a number of domestic and international factors at the time, including the American public's heightened concerns over national security following September 11. Similarly, Barack Obama's success in 2008 was influenced by problems at home and a decrease in public willingness to engage in military adventurism. Therefore, an **observational analysis** would likely be **biased** by such **selection processes**. Thus, even if countries behave differently when certain parties control the presidency, it would be very **difficult** to know if that difference is explained by the parties or by **the environments** into which the parties are selected.

In principle, we could **overcome** this problem by running an experiment in which we **randomly assigned countries** to be ruled by **leaders from different parties**. Such an ideal research design would avoid the **confounding** problem, making it **possible to test** whether countries tend to be more or less aggressive when certain parties control the presidency. Experiments are unmatched in their ability to identify causal effects, so this type of study could greatly improve our understanding of how electing candidates from different parties influences foreign policy.

We approximate this ideal experiment by using a **regression discontinuity** (RD) design. Specifically, we look at **close presidential elections** where a candidate from one party barely defeated a candidate from a different party. Such a design works if it is close to random which party won in these cases, a premise which is plausible given the inherent randomness in large national elections. Thus, we use close elections to get data that are similar to what would result from a real experiment. Such natural experimental designs are extremely rare in the study of war and thus warrant attention in the exceptional instances when they do occur.

We run two main analyses. First, we look at whether countries tend to be more (or less) aggressive when presidential candidates from right-wing parties barely defeat candidates from left-wing parties. This quasi-experimental comparison involves a small sample size (n = 29), but we still find noteworthy evidence that electing right-wing candidates increases the likelihood that countries will initiate high-level military disputes against other states. Second, to increase our statistical power, we examine cases where candidates from incumbent parties barely won or barely lost to candidates from challenger parties (n = 36). Specifically, we test whether countries experienced a larger change in their propensity to engage in military disputes when the candidate from the challenger party barely won. Thus, our key outcome of interest here is how much countries deviated from their prior levels of dispute involvement. We find **statistically significant evidence** that electing candidates from challenger parties causes countries to experience a larger change in their propensity to engage in military conflict with other states.

Upon further examination of the data, we find that the results from our second test are largely explained by a tendency for candidates from challenger parties to initiate military disputes in their first year in office. Thus, these findings support the theory that major **leadership transitions** tend to increase the chances of state aggression, either because new leaders **lack the experience** to **manage international crises** effectively or because they need to **prove their resolve** by **acting tough**.

This article makes several important contributions to the study of international relations. First, there is a long-standing debate in political science over whether leaders have an important independent impact on interstate conflict or whether their influence is largely constrained by strategic realities (Byman and Pollack 2001; Mearsheimer and Walt 2003; Jones and Olken 2009; Chiozza and Goemans 2011; Saunders 2011; Horowitz, Stam, and Ellis 2015; Croco 2015). This study provides quasi-experimental evidence that leaders do have a meaningful impact on foreign policy. Second, the results presented here suggest that domestic political ideology can spill over into the international realm. One of the main explanations for the democratic peace is that democracies act in accordance with their domestic norms when it comes to foreign policy (Morgan and Campbell 1991). The findings presented here support that hypothesis by showing that left-wing leaders do tend to behave more dovishly in international affairs. Third, these results suggest that we should be alert to the potential for **interstate conflict** when right-wing leaders are in office, as well as after elections where party control of the presidency changes hands.

This study is also notable because it is one of the **first** in the international relations literature to use a **preanalysis plan**. Prior to looking at any of the results, we **pre-registered** the main tests that we planned to conduct in this article. Our motivation here was to **tie our hands**, so that there could be **no question** of sifting through the data to find the statistical tests that produced the most interesting or significant results. The temptation for scholars to run many tests and then report the ones that are most "interesting" can lead to misleading findings. This danger has attracted a great deal of attention across scientific fields over the last decade, and it is seen by many as a major problem for quantitative research (Nosek et al. 2015). The purpose of preanalysis plans is to help ensure that research remains credible.

The article proceeds as follows. We first discuss the theoretical bases for the claim that party control of the presidency influences conflict decisions and review the existing empirical work on this subject. We then outline the research design in more detail. Next, we conduct design checks to verify that the research design is appropriate. We then present the results for party ideology. After that, we test whether party turnover leads to changes in the likelihood of state aggression. We then discuss the findings and conclude.

Leaders, Parties, and International Conflict

In recent years, much debate has arisen over whether leaders influence the chances of interstate conflict, and if so, how. A major question in this research program is whether leaders from certain parties are more likely to behave aggressively in foreign affairs or whether the ideology of the leader is largely unrelated to state behavior.

The theory that party control of the presidency influences the chances of interstate conflict can be derived from three premises. The first is that conservatives and liberals hold different views about the legitimacy or efficacy of military force. This assumption is backed by **cross-national survey data** showing that liberals tend to be more concerned with fairness, duties of care, and preventing harm, while conservatives tend to favor the preservation of social orders, the purity of sanctified objects, and loyalty to in-groups (Graham, Haidt, and Nosek 2009; Boer and Fischer 2013). **Several studies** have also found that these differences in moral foundations influence foreign policy attitudes (Schwartz 1992; Kertzer et al. 2014; Kertzer and Rathbun 2015). In particular, liberals are more "prosocial" and seek **compromise** internationally, in contrast to conservatives, who are more "proself” and therefore **bargain more aggressively** (Schwartz, Caprara, and Vecchione 2010).

The second assumption is that general differences in party attitudes appear at the elite level. There are two ways that these differences could affect the behavior of political elites. First, the political leaders could sincerely hold beliefs and preferences similar to those of their constituents, leading them to have different foreign policy strategies and goals. Alternatively, the leaders could have different beliefs and attitudes than their constituents, but nonetheless recognize that they must carry out their supporters' agenda if they hope to stay in office.

Although it is difficult to know the extent to which leaders true foreign policy preferences reflect those of their constituents, several observational studies show that changes in a leader's base correlate with changes in their approach to international affairs. First, Mattes, Leeds, and Carroll (2015) find that changes in the supporting coalitions of leaders predict foreign policy change, measured by the policy positions taken by nations in the United Nations General Assembly. Rathbun (2004) and Haas (2005) come to a similar conclusion looking at support for peace-enforcement missions, and Solingen (2009) finds that economic interests and the ideologies of partisan coalitions influence nuclear weapons policy. Therefore, even when a leader has different foreign policy beliefs and goals than the rest of the party, there may still be pressure to **toe the party line**.

The third assumption is that leaders from different parties can act on their divergent preferences. This means that international and domestic constraints on leaders cannot be so powerful that they largely limit leaders to a single course of action. For example, some realists argue that there is little room for leaders to have an independent impact on foreign policy because they all need to defend and advance the national interest (Mearsheimer 2001; Mearsheimer and Walt 2003). Regarding domestic constraints, Trager and Vavreck (2011) find that right-wing and left-wing leaders can have incentives to hide their "types." Liberal leaders may be forced to adopt more hawkish foreign policies because they fear that their moderation will sometimes be interpreted as weakness (Schultz 2005), whereas conservative leaders may have incentives to adopt more moderate policies because the public would likely judge them unduly aggressive if they acted hawkishly. Thus, leader preferences and political incentives could actually push in opposite directions.

Several **previous studies** have examined whether right-wing leaders tend to behave more aggressively in foreign policy than left-wing leaders. Using logistic regression on panel data covering eighteen parliamentary democracies from 1949 to 1992, Palmer, London and Regan (2004) find that right-wing governments are more likely to be involved in military disputes, while left-wing governments are more likely to see the disputes in which they are involved in escalate. Their explanation is that right-wing parties favor using force more often, so their leaders will engage in military conflict more often. However, when left-wing leaders engage in conflict, they will need to emerge victorious to justify their involvement, so they will be more likely to bargain tough and escalate if necessary. These researchers find that a shift from left to right government increases the chances of dispute initiation by about 50 percent and that left-wing governments are about twice as likely to escalate conditional on being in a dispute. Second, Arena and Palmer (2009) apply a probit model to panel data covering twenty stable democracies from 1960 to 1996 and find that right-wing governments are more likely to initiate disputes. Their theory is based on the finding that right-wing leaders are less likely to be removed from office for using force unwisely than left-wing leaders. This makes right-wing leaders more likely to start international conflicts in the hopes of increasing their domestic support. Third, Clare (2010) applies logistic regression to twenty parliamentary democracies from 1950 to 1998 and finds that parliamentary democracies are about twice as likely to initiate disputes when they are controlled by right-wing parties.

The central limitation of these studies is that their conclusions rest on the results of **regression analysis** on cross-national panel data. Such an approach is not guaranteed to eliminate bias from omitted variables. In fact, the results from this type of analysis can be **badly biased**, even when researchers control for a wide range of important covariates (Clarke 2005). In some cases, controlling for potential con-founders can even **amplify bias** (Pearl 2013). Thus, the results from these past studies should be interpreted as a **tentative first cut** at answering this question rather than the **final word** on the subject.

The design-based approach that we employ in this article gets around the omitted variable bias problem because the as-if random assignment of leaders to office should create **balance** across observable and unobservable pretreatment characteristics. In many other scientific fields, the results of **conventional observational analyses** have been overturned by design-based studies. For example, the validity of hormone replacement therapy and a variety of theories in development economics, psychology, and elsewhere have been overturned when experimental and quasi-experimental approaches were brought to bear (Women's Health Initiative 2002; Freedman 2009; Dunning 2012). Therefore, the tests that we present in this article provide an important step forward in our understanding of the empirical relationship between party control of the presidency and interstate conflict.

Before moving on to our research design, though, we should first lay out the hypotheses that we want to test. As we detail in our preanalysis plan, we started this project with the belief that leaders do matter and that electing leaders from different parties does affect the likelihood of state aggression. Given this prior, we formulated two main hypotheses. The first is the party ideology hypothesis, which predicts that electing leaders from right-wing parties will increase the likelihood of state aggression. The second hypothesis is highly general and speaks directly to the question of whether leaders matter in international relations. It posits that electing a leader from the incumbent party will lead to less change in international dispute behavior than electing a leader from a challenger party. We refer to this as the incumbent/challenger hypothesis.

Party Ideology Hypothesis: Electing presidential candidates from right-wing parties will make countries more aggressive than electing candidates from left-wing parties.

Incumbent/Challenger Hypothesis: Electing candidates from challenger parties will lead to a greater change in state aggression than electing candidates from incumbent parties (the absolute difference in aggression between presidential terms will be greater when there is party turnover).

One issue that is related to the incumbent/challenger hypothesis is that new leaders may be particularly likely to act aggressively early in their terms. There are several reasons why this might be the case. First, new leaders may lack the experience to manage international crises effectively, making it more likely that disagreements with other states will turn into military conflicts (Potter 2007). Second, new leaders may be more likely to want to show the international community that they are willing to use force abroad, which could strengthen their bargaining leverage in future international negotiations (Wolford 2007; Dafoe 2012). Third, new leaders may want to send a signal to their domestic audiences that they are tough when it comes to foreign affairs, which could increase their popularity at home. This idea that leaders are more likely to get involved in military disputes when they first arrive in office has received support from cross-national logistic regression analysis on panel data (Gelpi and Grieco 2001) and a mixed-methods analysis that looks at American presidents (Potter 2007).

While most of the existing theory and research on leadership transitions has focused on cases where new leaders come to office, a similar logic might be applied to party control of the presidency, particularly when it comes to the reputational mechanisms. New leaders who are from the same party as the old one should be able to associate themselves with the previous leader's reputation, giving them less of a need to signal their resolve. On the other hand, when leaders from challenger parties come to power, there should be less certainty that the new leader will have an approach to foreign policy that is similar to the old one's. In short, when party control of the presidency changes hands, it marks a more significant leadership transition (Mattes, Leeds, and Matsumura 2016). Thus, even if parties tend to behave pretty similarly across ideologies, we might still find that leaders from challenger parties might be much more aggressive early in their tenures.

Challenger Aggression Hypothesis: Electing candidates from challenger parties will lead to an increase in state aggression when the new leader takes office.

We did not preregister the challenger aggression hypothesis prior to looking at the results, but this was the only hypothesis we tested outside of those we preregis-tered. Thus, the findings do not reflect data mining. Nevertheless, some readers may wish to interpret the test of this particular hypothesis as exploratory.

Research Design

There are several different design-based approaches that could be used to investigate how leaders affect state behavior. One would be to look at all cases of leadership turnover and compare how countries behaved before and after the leadership change. This research design rests on the idea that countries are comparable before and after leadership transitions. This assumption may be plausible in some cases, but in others, it is clearly invalid. For example, the periods before and after normal electoral leader transitions are usually not comparable. Many countries elect the leader and members of the legislature at the same time, making it difficult to determine the effect of leadership change by itself. Similarly, looking at cases when leaders were forcibly removed from office also has its limitations, since leaders are usually removed at times of extreme political tension. Likewise, leadership changes that are caused by assassinations are not likely to provide valid comparisons. The new leader will probably have to deal with a more complicated political situation in the aftermath of the assassination, making the beginning of their term much different from the end of the previous leader's term.

Another potentially promising approach would be to focus on changes in leadership that resulted from the natural deaths of leaders. The timing of natural leader deaths should be fairly unrelated to the domestic and international environments. Moreover, the legislature will typically not change following the natural death of a leader, making it much easier to isolate the independent effect of leaders on foreign policy. However, the natural death approach is not well-suited for this particular study. The reason is that the new leader almost always comes from the same party as the old leader. Thus, this exogenous change in leadership does not provide much leverage in determining how party control of the presidency affects interstate conflict. This research design could be useful in looking at other types of variation in leaders, such as age, military experience, and occupational background. However, it is not a promising design for this study.

The approach that we take instead is to use an RD design. RD involves comparing units that barely surpassed and barely fell short of an important cut point that influenced treatment assignment. For example, if there was a test where everyone who scored a fifty or higher got a scholarship, researchers could assess the effects of getting the scholarship by comparing the students who scored fifty and fifty-one to the students who scored forty-eight and forty-nine. So long as there is no sorting at the cut point, as could happen if the graders had opportunity and motive to nudge some test takers above the cut point, it should be close to random which of these students won the scholarship, since they were all on the verge of getting it (Lee 2008).

Close elections provide an excellent opportunity to use RD analysis. Given the inherent randomness in the electoral process, whether candidates barely win or barely lose in close elections is plausibly as-if random (Eggers et al. 2015).1 Political scientists have used RD to study questions like how winning an election influences a party's likelihood of winning the next election (Lee 2008) and how winning an election affects a candidate's wealth later in life (Eggers and Hainmueller 2009). Scholars have also used RD to test how economic and political outcomes differ when Republican candidates for mayor barely defeat or barely lose to Democratic candidates (Pettersson-Lidbom 2008; Gerber and Hopkins 2011; Beland 2015; de Benedictis-Kessner and Warshaw 2016).

In this article, we look at close presidential elections. To our knowledge, this study is the first to apply RD specifically to presidential elections. For our analysis, we followed the procedures that were outlined in our preanalysis plan (which is available at the end of the Online Appendix). We will briefly summarize these procedures in the remainder of this section.

Our Statistical Approach

There are two general ways to analyze an RD. The first, known as the continuity approach, involves plotting two smoothing functions on either side of the cut point and estimating the difference at the cut point (Voeten 2014). This method should be used when the score, or "forcing variable," is continuous. The second method is the local-randomization approach, appropriate when the forcing variable is discrete (Lee and Card 2008; Cattaneo, Frandsen, and Titiunik 2015; Bertoli 2017). It involves drawing a window around the cut point and treating the units within that window like they were in a randomized experiment.

Since the forcing variable in this study is vote share in a presidential election, which is essentially continuous, we would normally use the continuity approach. However, we discovered in our preanalysis plan that the continuity approach had a type 1 error rate (false-positive rate) of 12 percent for this study, which we believe is due to our small sample size. Since the type 1 error rate should be 5 percent by design, we chose not to use this method, since it was overly likely to give us significant results. Instead, we used the local-randomization approach, which we found had a type 1 error rate of about 4 percent.

Defining Close Elections

We considered elections to be close if the top two candidates were within 2 percent of the cut point (48 percent to 52 percent range). Data on close races were available in the data set constructed by Bertoli, Dafoe, and Trager (2018). This data set includes every democratic election between 1815 and 2010, where democracies are defined as countries with Polity IV Institutionalized Democracy scores above five. The data set provides information on the top two candidates including their names, parties, and vote shares in the election. If there were more than two candidates running in an election, we focused only on the votes for the top two candidates, rescaling their vote shares accordingly. In cases where there were runoffs, we used their vote shares from the runoff rather than the initial election. We also excluded close elections in nondemocracies because we were concerned about fraud in these cases. Given the possibility of fraud, we did not feel confident in assuming that the outcomes of these elections were as-if random.

One complication that arose is that the United States elects presidents through the electoral college. This system makes it possible for candidates to lose the popular vote but still win the election if they defeat their rival in the electoral college. To deal with this issue, we counted the electoral college vote rather than the popular vote when looking at the United States. This decision is consistent with other similar studies (Bertoli, Dafoe, and Trager 2018). For every other country, we used the popular vote.

Measuring Party Ideology

To identify parties as left or right-wing, we evaluated the parties against each other according to their positions at the time of the election on social questions associated with liberalism and conservatism. Parties were judged further to the right when they expressed support for "traditional values," national, religious, racial, or ethnic in-groups, or the benefits of authority and traditional sources of authority such as a monarchy. Parties were judged further to the left when they expressed inclusive sentiments, a duty of care for vulnerable groups, and support for democratic principles. Secondarily, we evaluated parties as left or right on economic policy preferences. Advocacy for wealthier interests placed a candidate further to the right, and advocacy for the less well-off is associated with the left. These two social and economic dimensions are highly correlated, with the principal exceptions coming from communist and postcommunist countries. In these cases, the primary social dimension determined the left-right coding. When parties could not be easily classified as left or right according to these metrics, we excluded the election from the ideology test.

Main Analyses

We looked at two different types of close elections. The first were close elections between right-wing and left-wing parties, where it was essentially random whether the presidency was controlled by a leader with a right-wing or left-wing ideology. In total, we have twenty-nine close elections between right-wing and left-wing parties. The second set of close elections that we analyzed was narrow races between an incumbent and challenger party. In these cases, it was as-if random whether the country experienced party continuity or change in the executive branch. We have thirty-six of these close elections in our data set. For this group of cases, we were particularly interested in testing whether a change in party control of the presidency increased the likelihood of a change in state aggression.

Although our sample sizes are not large, the power tests that we ran at the beginning of this project indicated that we had a good chance of picking up a medium-sized or large effect. For the test of left- versus right-wing parties, we determined we would correctly detect (at a = .05) a medium-sized effect (0.5 standard deviation [SD]) 30 percent of the time, a large effect (0.8 SD) 54 percent of the time, and a very large effect (1.2 SD) 82 percent of the time. In the incumbency power analysis, we found that we would detect a medium-sized effect 55 percent of the time, a large effect 93 percent of the time, and a very large effect over 99 percent of the time. Also, if the effects were small or nonexistent, the power tests indicated that we would be able to establish confidence intervals that were precise enough to rule out very large (+1.2 SD) positive and negative effects.2

Moreover, although the results turn out to be significant at conventional levels, we encourage readers to avoid interpreting p values as either significant (p < .05) or not while reading this article and to bear the bias-variance trade-off in research design in mind. Almost all quantitative research in international relations lacks any claim to strong causal identification, being based on observational data and linear adjustment of largely ad hoc covariate sets. By contrast, the design presented here has a strong claim to causal identification and unbiasedness, providing a crucial complement to the vast majority of the literature which does not. Thus, since p values provide a continuous measure of how inconsistent the evidence is with the null hypothesis, a higher p value in an unbiased design may actually reflect more evidence against the null than a lower p value in a biased one. Small p values (e.g., p < .2), even if not significant at conventional standards, also provide important evidence in these contexts.

In addition to our two main tests, we examined whether candidates from challenger parties are more likely to initiate military disputes at the beginning of their terms than candidates from incumbent parties, which would be consistent with the theory that major leadership transitions make state aggression more likely. Our motivation for running this test came from reading Wolford (2007), Dafoe (2012), and Wu and Wolford (2016). These articles advance a compelling theory and intriguing empirical evidence that new leaders have reputational incentives to act tough when they first come to office. We find strong evidence consistent with this hypothesis.

Outcomes

We measured aggression using the number of militarized interstate disputes (MIDs) that a country initiates. These disputes are cases where countries explicitly threatened, displayed, or used force against other states (Ghosn, Palmer, and Bremer 2004). Specifically, we look at the number of these disputes that a state initiated starting from when the leader took office and ending at the date that the winner of the next election was scheduled to start. In cases where leaders were replaced part of the way through their term, we used the day that they left office instead. Since the length of time that candidates held office varied, we divided the total number of disputes by the duration of the time period. Thus, the unit of measurement is military disputes initiated per year in office.

We use slightly different versions of the outcome variables for our different tests. For the ideology test, we use military disputes initiated per year, as described in the previous paragraph. For the main incumbency test, we use the absolute change in military disputes initiated per year from the previous term. We use this variable because we are interested in evaluating whether there was a larger absolute change in military aggression when the challenger party barely won. Thus, the measure is:

Absolute change in military aggression =|MIDs/year during winner's term

—MIDs/year during previous term|

In other words, we are testing whether challenger parties gaining control of the presidency makes countries with high levels of prior aggression more likely to experience a decrease in dispute initiation and countries with low levels of prior aggression more likely to experience an increase in dispute initiation. We conduct a one-sided test for this analysis, since we expect that the absolute change will be larger for countries where the challenger party barely wins. Lastly, for the exploratory test about whether challenger candidates tend to be more aggressive when they first take office, we look at the number of disputes that each country initiated in the first year of the new presidential term.

Across these tests, our main outcomes are (1) military disputes initiated and (2) high-level military disputes initiated. High-level disputes are cases where countries used force against other states or entered into international wars.3 Following the preanalysis plan, we examine high-level disputes, which constitute actual uses of force, separately because the factors that drive posturing may be different from those that drive actual violence. As secondary outcomes, we look at (3) all disputes that countries engaged in and (4) all high-level disputes that countries engaged in. These cases include disputes that countries did not start but participated in nonetheless.

Estimation

We employ two estimation strategies. Our primary statistical analysis involves t tests. This is a simple approach, recommended for its parsimony and robustness, which is appropriate given the assumption that close elections were as-if random (Dunning 2012). As a secondary test, we plot the outcome as a function of the electoral result and estimate how the expected value of the outcome changes at the cut point using local linear regression, as is often done for RD designs. An advantage with using this approach is that it makes it possible to visualize how outcomes change at the cut point.

Design Checks

Our research design rests on one main assumption, necessary for internally valid estimates: the outcomes of the close elections considered in this study are as-if random. For example, the design would be invalid if any candidates could precisely manipulate their vote shares around the cut point, such as by counting the votes and adding just enough to win. This assumption should be valid for democracies provided that elections are fair (Eggers et al. 2015).

A second "representativeness" assumption facilitates generalizing from our results, and this is that the democracy years experiencing close elections are not dissimilar to democracy years in which elections are not close. If this assumption is reasonable, then we can generalize from our results to all democracy years. However, if the countries that had close elections are not representative of other democracies, then the causal estimates that we find may not reflect broader patterns in international relations.

We can test the as-if randomness assumption in two ways. First, we can check that the samples are balanced on important pretreatment characteristics. Figure 1 plots the balance using two-sided t tests. The graph on the left shows that countries where right-wing parties barely won were very similar to countries where left-wing parties barely won, and the graph on the right shows that countries where incumbent parties barely won were similar to countries where challenger parties barely won. In Figure 1, we look at twenty-four covariates, and not a single one is significantly imbalanced. Thus, the data are consistent with the assumption that who won these close elections was as-if random.

[Figure One Omitted]

[Figure Two Omitted]

Second, we can test whether there is balance in the number of cases on either side of the cut point. Figure 2 shows how close right-wing and incumbent parties were to winning the presidency. For the twenty-nine close elections between right-wing and left-wing parties, there were sixteen cases where the right-wing party won and thirteen cases where the left-wing party won (p = .71). Similarly, for the thirty-six close elections between incumbent and challenger parties, there were seventeen cases where the incumbent party won and nineteen cases where the challenger party won (p = .87). Thus, there is no evidence of sorting in either sample.

[Figure Three Omitted]

We can also evaluate the external validity assumption by comparing the two samples to the broader population of all democracies since 1815. Figure 3 uses box-plots to compare our samples to the broader population with respect to covariates related to military power. The comparisons show that our samples are very similar to the broader population of democracies from 1815 to 2010. Thus, at least with respect to these covariates, there is little reason to believe that either of our samples consist of an idiosyncratic group of countries that would behave differently than most other democracies. Rather, the representativeness of our samples indicates that our results should be indicative of broader trends in international relations.

In sum, the outcomes of the close elections appear to be random, and the countries where the close elections happened are fairly representative of all other democracies. Therefore, the design appears to have worked very well. In the next two sections, we will look at how electing presidential candidates from different parties affects state aggression using this new empirical approach.

Results for Party Ideology

Our results indicate that right-wing parties tend to be **more aggressive** than left-wing parties. Table 1 shows the aggression levels of the countries that had close elections between right-wing and left-wing candidates. On average, the countries where right-wing parties barely won started .06 more disputes per year than countries where left-wing parties barely won. Similarly, they engaged in .10 more high-level disputes per year than countries where left-wing parties barely won. Given that the average duration of a presidential term for these countries is 4 years and 169 days, this adds up to .32 more disputes initiated and .43 more high-level disputes initiated over an average presidential term.

Figure 4 plots the estimates for the two main outcome variables along with the two other indicators of aggression. The **confidence intervals** are based on two-tailed t tests. They suggest that electing right-wing parties does increase state aggression, particularly when it comes to high-level disputes. Of course, all of these confidence intervals cover zero, so we cannot rule out zero effect with 95 percent confidence based on this analysis alone. The estimate most different from zero is of high-level disputes initiated (p = .25). For disputes initiated, the results appear to be more consistent with no effect (p = .64), as do the results for the supplemental tests of all disputes and all high-level disputes.

[Table One Omitted]

[Figure Four Omitted]

However, if we look at the **specific disputes** in more detail, the evidence that electing right-wing leaders increases state aggression grows stronger. While all the high-level disputes that the right-wing leaders engaged in involved **unequivocal uses of force**, the only high-level dispute that any of the left-wing leaders initiated is questionable and should probably be excluded. This dispute was between Costa Rica and Nicaragua in 1995, and it did not involve any military action by either country. Costa Rican police crossed the Nicaraguan border in pursuit of suspects and were arrested. Two days later, the Costa Rican police force retaliated by arresting two Nicaraguan police officers who had crossed the border "to get a drink of water." The two sides made a prisoner swap on the following day. If this case is dropped, then electing right-wing parties appears to lead countries to initiate . 12 more high-level disputes per year (p = .162).4

Moreover, the only reason that these results are not significant is because the United States (2001) is an outlier, which inflates the standard errors. We can address this issue by modifying the outcome to a **simple indicator variable** for whether countries initiated any high-level disputes (no = 0, yes = 1), which makes our test **insensitive to outliers**. The estimates then suggest that electing right-wing parties increases the chances that countries will initiate high-level military disputes by 25 percent (p = .041). Therefore, even though the initial tests were not statistically significant, they become more conclusive after we address some minor issues with the data.

Given the number of democracies in the world today, there may be enough close elections to get much more precise estimates a decade or two from now or maybe even after the next expansion of the MID data set. This design is definitely worth returning to in the near future. However, for the present, we will turn to a second test in the next section on more data that yields increased statistical power. This test provides further evidence that which party controls the presidency does affect the likelihood of state aggression.

Results for Incumbent versus Challenger Parties

The second test that we run compares cases where challenger parties barely defeated incumbent parties to cases where they barely lost to incumbent parties. In these cases, it was as-if random whether the incumbent or challenger party won. Thus, we can test how much military aggression changes when the party that controls the executive branch changes. The outcomes that we use for this test are the absolute changes in the military indicators between the term when the incumbent or challenger party barely won and the previous term. For this analysis, we use one-sided tests that assume that there will tend to be a larger change in military aggression when the challenger party barely wins.

Table 2 shows the absolute change in aggression levels for the countries that had close elections between candidates from incumbent and challenger parties. When the candidates from challenger parties barely won, the absolute change in disputes initiated per year was .031 greater than when candidates from incumbent parties barely won (p = .30; 26 percent increase from baseline). For high-level disputes, the difference is even more notable. The absolute change in **high-level disputes** initiated per year was .074 greater than when candidates from incumbent parties barely won (p = .046, 133 percent increase from baseline). The average length of the presidential terms for these data was 4.42 years, so this adds up to a difference of .33 high-level disputes initiated per presidential term. Figure 5 plots the confidence intervals for the aggression indicators.

This estimated effect is **substantively large** relative to other determinants of conflict that international relations scholars have analyzed. For example, past studies have found that revolutions increase the likelihood that countries will initiate military disputes by about 74 percent (Colgan 2010), arms transfers by about 60 percent (Krause 2004), and neutrality pacts with potential conflict joiners by about 57 percent (Leeds 2003). The effect of challenger parties winning appears to be in the ballpark of these estimates, although it is hard to nail down this effect very precisely because of the relatively small sample size.

Figure 6 illustrates the effect for high-level disputes across a greater range of margins of victory. As countries move from incumbent party victories (the points on the left) to challenger party victories (the points on the right), there is a large shift in the absolute change in high-level disputes initiated. Countries where the challenger party barely won experienced a much larger change than countries where the incumbent party barely won. Although this method of estimating the treatment effect was not the primary method that we discussed in our preanalysis plan, the results for this approach are **fairly conclusive**.

### 2AC --- Tensions w/iran high

#### Tension with Iran are at an all time high in the Strait of Hormuz

Diana Stancy Correll 22, Diana Stancy Correll was a breaking news reporter for the Washington Examiner, graduate of Elon University, 6/21/22, “U.S. warship fires flare to ward off Iranian military boat in "unsafe" encounter amid soaring nuclear tension”, Navy Times <https://www.cbsnews.com/news/us-iran-unsafe-encounter-strait-of-hormuz-nuclear-talks-tension/>, JH

A U.S. Navy warship fired a warning flare to wave off an Iranian Revolutionary Guard speedboat coming straight at it during a tense encounter in the strategic Strait of Hormuz, officials said Tuesday. The incident on Monday involving the Guard and the Navy comes as tensions remain high over stalled negotiations over [Iran](https://www.cbsnews.com/us-iran-tensions/)'s tattered nuclear deal with world powers and as Tehran [enriches uranium closer than ever to weapons-grade](https://www.cbsnews.com/news/iran-news-nuclear-deal-iaea-grossi-tehran-removes-cameras-fatal-blow/) levels under decreasing international oversight.

Meanwhile, the United Nations' nuclear watchdog said Iran now plans to enrich uranium through a second set of advanced centrifuges at its underground Fordo facility amid the standoff.

The Cyclone-class patrol ship USS Sirocco and Spearhead-class expeditionary fast transport USNS Choctaw County found themselves in the close encounter with three Iranian fast boats while coming through the Strait of Hormuz to enter the Persian Gulf, the Navy said.

In a video released by the Navy's Bahrain-based 5th Fleet, a high-speed Guard Boghammar is seen turning head-on toward the Sirocco. The Sirocco repeatedly blows its horn at the Boghammar, which turns away as it closes in. The flare shot can be heard, but not seen, as the Boghammar passes the Sirocco with the Iranian flag flying above it.

The Navy said the Boghammar came within 50 yards of the Sirocco, raising the risk of the vessels running into each other. The overall encounter lasted about an hour, the Navy said.

The Guard's "actions did not meet international standards of professional or safe maritime behavior, increasing the risk of miscalculation and collision," the Navy said.

Iran did not immediately acknowledge the incident in the strategic waterway — a fifth of all traded oil passes through the strait. The Navy separately told The Associated Press that this marked the second so-called "unsafe and unprofessional" incident it had with Iran in recent months.

#### Tensions high now

Nasser Karimi 22, reporter, 6/13/22, “Iran says 2 Revolutionary Guard members ‘martyred’ as regional tensions rise*,” The Times of Israel*, https://www.timesofisrael.com/iran-says-2-revolutionary-guard-members-martyred-as-regional-tensions-rise/

TEHRAN, Iran (AP) — Two members of the paramilitary Revolutionary Guard’s aerospace division died as “martyrs” in Iran in separate incidents over the weekend, Iranian media reported on Monday. The term is typically a designation given to those on important assignments.

The deaths of the two men come as tensions remain high over Iran’s tattered nuclear deal with world powers, and its uranium enrichment program that is now the closest it has ever been to weapons-grade levels. While authorities offered no suggestion of foul play in the men’s deaths, Israel has been accused of killing other high-ranking Guard members amid the growing crisis.

The semiofficial Fars and Tasnim news agencies, believed to be close to the Guard, identified one of the dead as Ali Kamani and said he died in Iran’s central city of Khomein. Tasnim said that Kamani died in a “car accident,” without elaborating.

### 2AC --- Iran Uses Mines

#### Mines are the most likely weapon to cut off the Strait

TNI Staff 21, for over almost three decades, The National Interest, founded in 1985 by Irving Kristol and Owen Harries, has displayed a remarkable consistency in its approach to foreign policy, 10/24/21, “Iran's Antiquated Mines Could Sink a U.S. Aircraft Carrier,” *The National Interest*, <https://nationalinterest.org/blog/reboot/irans-antiquated-mines-could-sink-us-aircraft-carrier-195380>, JH

Here's What You Need to Remember: Iran’s most effective and proven weapon to cut off the Straits of Hormuz are likely to be sea mines.

The United States is accusing Iran of testing rockets near one of its aircraft carriers in the Persian Gulf as it passed through the Straits of Hormuz. U.S. Central Command (CENTCOM) denounced the Iranian actions as “highly provocative.” But could Iran actually sink one of the U.S. Navy’s mighty flattops?

According to CENTCOM, Iranian Revolutionary Guard Corps (IRGC) naval vessels conducted live-fire drills less than 1,500 yards away from the Nimitz-class carrier USS Harry S. Truman (CVN-75), the Arleigh Burke-class destroyer USS Bulkeley (DDG-84) destroyer and the French frigate FS Provence on Saturday. Moreover, civilian shipping traffic was in the area.

“Firing weapons so close to passing coalition ships and commercial traffic within an internationally recognized maritime traffic lane is unsafe, unprofessional and inconsistent with international maritime law,” said CENTCOM spokesman Commander Kyle Raines in a statement. He noted, however, that the Iranians were clearly not firing in the direction of the U.S. ships.

The Straits of Hormuz are a natural chokepoint for entry into the Persian Gulf. The channel is only about twenty-one miles wide at its narrowest while the shipping lane is about two miles wide. There is also a two-mile buffer zone on either side of the sea lane. The narrow straits are an ideal point for Tehran to make an attempt at blocking access to the Persian Gulf or to ambush allied naval forces—which indeed it attempted during the 1980s.

According to CENTCOM, the handful of IRGC vessels fired unguided rockets—which are not especially threatening to a vessel the size of USS Harry S. Truman in small numbers. However, a lucky shot could have damaged the massive ship and the aircraft carried onboard. At such close range, even unguided weapons have a decent chance of hitting a target. At best, the Iranian boats might have achieved a “mission kill” on the U.S. and French vessels. It’s very unlikely that the IRGC vessels could have actually sunk Harry S. Truman or its escorts.

Iranian forces would have had to employ their small attack craft en masse to have a chance of doing real damage to the U.S. Navy task force—as the Millennium Challenge 2002 simulation demonstrated. Indeed, the IRGC has rehearsed such an attack on a mock-up of the USS Nimitz in the Straits of Hormuz in previously during an exercise called ["Ninth Great Prophet."](https://www.youtube.com/watch?v=widl5Tz4QfA)

Those Iranian drills involved hordes of speedboats armed with cruise missiles and rockets, medium- and large-caliber torpedoes, sea mines, heavy machine guns and shoulder-fired surface-to-air missiles. Those swarming boats were coupled with shored-based missiles and other weapons. The U.S. Navy’s Littoral Combat Ship program—specifically, its surface warfare module—was developed to counter the Iranian swarming boat threat, but the service has yet to arm those vessels with an appropriate missile system.

While the swarming boat concept might work in exercises and simulations, it has never been demonstrated during a real war. Iran’s most effective and proven weapon to cut off the Straits of Hormuz are likely to be sea mines. Sea mines have sunk or disabled the majority of the nineteen U.S. Navy vessels lost since World War II. Of those nineteen ships, fifteen vessels were victims of sea mines. Indeed, an Iranian sea mine—an antique World War I design, no less—nearly sank the frigate USS Samuel B. Roberts (FFG 58) on April 14, 1988.

More recently, during the 1991 Gulf War, Iraqi sea mines proved to be a vexing problem for the U.S. Navy. “In February 1991, the U.S. Navy lost command of the northern Arabian Gulf to more than 1,300 mines that had been sown by Iraqi forces virtually under the ‘noses’ of multinational coalition naval forces constrained by their rules of engagement,” [wrote naval warfare guru Scott Truver,](https://www.usnwc.edu/getattachment/19669a3b-6795-406c-8924-106d7a5adb93/Taking-Mines-Seriously--Mine-Warfare-in-China-s-Ne) director of national security programs at Gryphon Technologies, in a Naval War College paper.

Iraqi sea mines of antiquated design ~~crippled~~ [destroyed] the multi-billion dollar Aegis cruiser USS Princeton (CG 59) and the Iwo Jima-class amphibious assault ship USS Tripoli (LPH-10) on the same day during that conflict. The mines cost less than $25,000 each.

The real danger isn’t Iranian anti-ship missiles or rockets—it’s the lowly, oft-neglected threat of sea mines.

#### Iran seeks to escalate tensions with mine warfare

Seth J. Frantzman 19, Seth J. Frantzman is Senior Middle East Correspondent and Middle East affairs analyst at The Jerusalem Post and received his Ph.D from the Hebrew University of Jerusalem in 2010, 6/13/19, “Pompeo: Iran behind tanker strike, part of campaign to 'escalate tension',” <https://www.jpost.com/middle-east/incident-in-gulf-of-oman-explosions-affect-two-oil-tankers-report-592351>, JH

Iran was likely behind a coordinated attack on two tankers in the Gulf of Oman early Thursday morning, the United States said, as “limpet mines” were spotted on one of the wrecked ships.

The attack comes a month after four tankers were sabotaged off the United Arab Emirates in May and will raise US-Iran tensions to their worst point in years.

US Secretary of State Mike Pompeo said the attack on two oil tankers on June 13 was one in a list of Iranian and Iranian-backed attacks over the last month. It was a “clear threat to peace, security and freedom of navigation,” he said, asserting that Iran was disrupting world oil markets and that the international community condemns the assault. The US has instructed its UN ambassador to raise the attack at the UN. “The US will defend its force, interests, partners and allies. We call upon all nations threatened to join us in that endeavor.”

The attacks began after 6 a.m. in the morning when the US Fifth Fleet heard a distress call from a tanker in the Gulf of Oman that had exited the Strait of Hormuz. Forty-five minutes later another distress call was made. Two tankers, the Kokuka Courageous, which had left the Saudi Arabian port of Al Jubail on June 10, and the Front Altair, which had left UAE port of Ruwais with 75,000 tonnes of Naphta on board, were in damaged by explosions. The Kokuka Courageous had been attacked twice, according to numerous reports, while the Front Altair was on fire and its starboard side blackened from the bridge to half-way down its lengthwise bulkhead.

In Oman and Pakistan locals received reports of the explosions and passed them on to Iran’s Al-Alam TV which soon broadcast the first reports. Iranian-linked media pushed the story and were soon running images of one of the tankers on fire and even posted dated video of a different attack by Iranian-backed Houthis on a Saudi ship from 2017.

Iran’s Foreign Minister Javad Zarif was nonplussed, calling the incident “suspicious” as it took place during a historic state visit of Japanese Prime Minister Shinzo Abe. It also comes amid tensions with the US and US threats to retaliate for any Iranian attacks. The US said Iran was “almost certainly” responsible for attacks last month on four tankers. But this incident on June 13 was far more serious, forcing the evacuation of the ships.

The USS Bainbridge assisted in the rescue of 21 crew from one of the tankers, CNN reported. A US Navy P-8, which carried surveillance and anti-submarine warfare systems, was dispatched to the scene. The P-8 would have taken almost an hour to reach the area and likely by the time it got there whoever had carried out the attack was gone. The USS Bainbridge is a guided-missile destroyer which was sent with the USS Abraham Lincoln carrier strike group toward the Persian Gulf in early May. It was sent during the rising tensions with Iran after US National Security Advisor John Bolton threatened retaliation for any Iranian, or Iranian proxy, attacks on the US or US allies.

CBS reported that a US Defense official told correspondent David Martin that it was “highly likely Iran caused these attacks.” CNN reported that the crew of the Bainbridge saw an “unexploded mine” attached to one of the ships that was harmed.

Russia’s Deputy Foreign Minister Sergey Ryabkov warned against “hasty attempts to pin the blame” after the attack. France also said it was disturbed by the incident, linking it with a cruise missile attack on a Saudi airport earlier this week. That attack was carried out by the Houthis against an airport on June 12.

The attack on the tankers was “well planned and coordinated,” the International Association of Independent Tanker Owners said. All forty-four crew from the two ships were rescued by the afternoon. Iranian media reported that Iran had rescued the crew and that the Front Altier had sunk, but the US said that in fact the Bainbridge had rescued the 21 sailors of one of the ships, apparently from the Kokuka Courageous. The Front Altair had not sunk, although damage to it was significant. A magnetic mine was fingered as the culprit behind the damage to the Kokuka Courageous which claimed to have suffered two attacks. Smoke belching from the Front Altair was visible from satellites in the afternoon.

US Secretary of State Mike Pompeo was expected to speak about the incident in the afternoon on Tuesday. It is the third serious incident since the US threatened against Iranian aggression in May. It comes in the wake of the May 12 sabotage on four tankers and the May 19 rocket attack near the US embassy in Baghdad.

Iran meanwhile has been seeking to ease tensions with the US with visits by the German foreign minister this week and also Japan’s Prime Minister.

The price of crude oil jumped after the attacks, rising four percent to at least $62. Around thirty percent of the world’s seaborne crude oil passes through the Strait of Hormuz, according to the chairman of the INTERTANKO tanker association. Iran has threatened in the past to close the Straits, most recently in comments by an Iranian naval commander in April. Iran also has a naval base only twenty miles from the attack on the two ships at the port of Jask. The base has been used to drill Iranian submarines and anti-ship missiles in the past. As recently as February Iran demonstrated its latest missiles and naval power.

#### Iran submarines/mines

James Fargher 17, James A. Fargher works as an intelligence analyst at a political risk firm in the UK, and is currently enrolled as a PhD candidate at the Department of War Studies, King’s College London, 4/5/17, “‘This Presence will Continue Forever’: An Assessment of Iranian Naval Capabilities in the Red Sea,” <https://cimsec.org/tag/mines/>, JH

Sinc e 1988, the main effort by the Iranian naval leadership has concentrated on building up Iran’s asymmetric capabilities, including acquiring a strong submarine force.38 Although most of Iran’s submarines are small or midget craft designed for operations in the shallow waters of Persian Gulf, Iran does possess at least four blue-water submarines.39

Three of these are diesel-electric Kilo­-class submarines, purchased from Russia in the 1990s.40 The Kilo-class was designed as a quiet attack submarine, but because they were intended for colder climates, Iran’s three Kilos do not operate well in the warm waters of the Persian Gulf. For this reason, whilst they are currently based in the main Iranian naval station at Bandar Abbas in the Strait of Hormuz, a new submarine base for them is reportedly under construction at Chah Bahar on the Gulf of Oman.41 Not much is yet known about the fourth submarine, the lead boat of the domestically-produced Fateh-class, but it is designed for service in blue water.42

The three Kilo submarines represent Iran’s main operating capability in the Red Sea. Whilst its surface ships are hampered by their vulnerability to air attack and small operating range, the Kilo-class submarine is designed for extended operations in open waters.43 Each Kilo is thought to be armed with wake-homing torpedoes, and they can carry a total payload of 24 mines, deployable through the torpedo tubes.44 A batch of 1,000 mines was included in the original purchase from Russia.45

Since then, Iran is estimated to have built up a stockpile of at least 2,000 mines, including the M-08 contact mine, the MDM-6 pressure mine, and the EM-52 smart mine.46 The Red Sea and the Bab-el-Mandeb Strait are too deep for the M-08 contact mine, which operates at depths of up to 110 meters, but potentially within the range for both the MDM-6 and EM-52.47 The EM-52 is a particularly lethal threat, as it is laid on the sea floor and is a guided, rocket-propelled warhead. It is also powerful enough to penetrate a carrier hull.48

Seafloor mines are especially challenging to detect; it took a Royal Navy minesweeper six days to detect a single Iranian smart mine in the Red Sea in the 1980s.49 Caitlin Talmadge, in her analysis of Iranian capabilities in the Strait of Hormuz, calculated that a task force of 12 NATO ships managed to clear an Iraqi minefield at a rate of 1.18 mines per day, a rate that was unusually fast and done under ideal conditions.50 Given the rugged geography of the Red Sea’s floor and the proliferation of smart mines, it is not clear whether another task force would be able to clear an Iranian minefield at the same rate.

However, the Kilo class is aging, and these vessels are vulnerable to U.S. and British hunter-killer groups. The proximity of Western forces to the Bab-el-Mandeb Strait and the strategic importance of the Red Sea to Western interests suggests that the Kilo submarines would probably only get one voyage to the Red Sea before being neutralized in the case of hostilities. If Iran deployed all three of its blue-water submarines, which is unlikely, they could sow 72 mines at most. If a naval task force was to achieve the same rate of minesweeping as in Talmadge’s analysis, it would take 61 days to clear this minefield completely. Nevertheless, it is improbable that the Iranian leadership would risk all three of its largest submarines on such a risky, possibly one-way mission, and similarly it is unlikely that minesweepers would be able to operate with the same speed in the Red Sea as in the Persian Gulf. Therefore, a rough estimate of Iran’s submarine capabilities and mine stock would indicate that a single Kilo submarine with a well-trained crew could close the Bab-el-Mandeb Strait for at least a week in an attempt to divert attention away from combat in the Persian Gulf.

### 2AC --- War w/Iran Bad

#### War with Iran risks extinction

**Avery, 13** - John Avery received a B.Sc. in theoretical physics from MIT and an M.Sc. from the University of Chicago. He later studied theoretical chemistry at the University of London, and was awarded a Ph.D. there in 1965. He is now Lektor Emeritus, Associate Professor, at the Department of Chemistry, University of Copenhagen. Fellowships, memberships in societies: Since 1990 he has been the Contact Person in Denmark for Pugwash Conferences on Science and World Affairs. In 1995, this group received the Nobel Peace Prize for their efforts. He was the Member of the Danish Peace Commission of 1998. Technical Advisor, World Health Organization, Regional Office for Europe (1988- 1997). Chairman of the Danish Peace Academy, April 2004 (“An Attack On Iran Could Escalate Into Global Nuclear War” Countercurrents, 11/6, <https://www.countercurrents.org/avery061113.htm>

Despite the willingness of Iran's new President, Hassan Rouhani to make all reasonable concessions to US demands, Israeli pressure groups in Washington continue to demand an attack on Iran. But such an attack might escalate into a global nuclear war, with catastrophic consequences. As we approach the 100th anniversary World War I, we should remember that this colossal disaster escalated uncontrollably from what was intended to be a minor conflict. There is a danger that an attack on Iran would escalate into a large-scale war in the Middle East, entirely destabilizing a region that is already deep in problems. The unstable government of Pakistan might be overthrown, and the revolutionary Pakistani government might enter the war on the side of Iran, thus introducing nuclear weapons into the conflict. Russia and China, firm allies of Iran, might also be drawn into a general war in the Middle East. Since much of the world's oil comes from the region, such a war would certainly cause the price of oil to reach unheard-of heights, with catastrophic effects on the global economy. In the dangerous situation that could potentially result from an attack on Iran, there is a risk that nuclear weapons would be used, either intentionally, or by accident or miscalculation. Recent research has shown that besides making large areas of the world uninhabitable through long-lasting radioactive contamination, a nuclear war would damage global agriculture to such a extent that a global famine of previously unknown proportions would result. Thus, nuclear war is the ultimate ecological catastrophe. It could destroy human civilization and much of the biosphere. To risk such a war would be an unforgivable offense against the lives and future of all the peoples of the world, US citizens included.

#### US and Russia get drawn in – ensures accidents

Simpson 17. Emile Simpson – Former British Army Officer. “This Is How Great-Power Wars Get Started,” 6/21/17. https://foreignpolicy.com/2017/06/21/this-is-how-great-power-wars-get-started/

Are the U.S. and Russia being sucked into war in the Middle East, and if so, how can escalation be averted? The present political dynamics in the Middle East are unsettled and kaleidoscopic. But in the interests of brevity, leaving aside smaller players, and before we think about the role of the United States and Russia, the basic configurations of power in the region since the 2011 Arab Spring can be simplified in terms of five loose groupings. First, a grouping of Sunni monarchies (Saudi Arabia, the United Arab Emirates, Jordan, and Bahrain); Arab secular nationalists (Egypt since President Abdel Fatteh el-Sisi took over in 2013, Algeria, Morocco, and Tunisia); and Gen. Khalifa Haftar’s faction in eastern Libya. Second, a grouping of Turkey; Qatar; and Muslim Brotherhood affiliates such as Hamas in Gaza, Egypt under President Morsi before 2013, and the internationally-recognized Libyan government based in the western part of that country. Third, a grouping of Iran and its Shiite allies, including Iraq (at least among key factions of the Baghdad government), the Assad regime in Syria, and Hezbollah in Lebanon. Fourth, the collection of various Sunni jihadi networks, including the Islamic State, various al Qaeda affiliates, and any number of smaller factions. Fifth, there is Israel, which does not fit into any of the above, but is most closely aligned with members of the first grouping. Three key stories since the 2011 Arab Spring broadly explain how the United States and Russia fit into these dynamics, and why these two great powers are being dragged into confrontation in the Middle East. The first story is the tension between human rights and stability. Initially motivated by humanitarian impulse, the United States and its Western allies achieved regime change in Libya and attempted it in Syria, by backing rebels in each case. These rebellions rapidly became infected by radical Islamists, giving Russia the opportunity, not unreasonably, to claim that, in the interest of preventing Islamist chaos, it was backing strongmen on the opposite side (Haftar in Libya and Assad in Syria). Egypt is a similar case. Russia took advantage of the Obama administration’s aversion to the Sisi regime’s human rights abuses following the overthrow of Muslim Brotherhood rule to increase Russian influence in Cairo, as exemplified by Egypt’s current diplomatic support for the Russian intervention in Syria. The second story is the 2015 Iran nuclear deal brokered by the Obama administration, and reluctantly accepted by the Trump administration, whose advocates claimed that it was the best way to stop Iran from acquiring a nuclear weapon without the resort to force. Russia joined sanctions against Iran, but since they were lifted, Moscow has developed warmer relations with Tehran, as exemplified by the way it acted as a key broker between Saudi Arabia and Iran to set up the November 2016 OPEC agreement. By contrast with Moscow, the Trump administration has taken a hard-line stance toward Tehran. It has various motives for that shift: Iranian missile testing since the deal was signed; Iranian support for Shiite militia groups in Iraq, Syria, Yemen, and Lebanon; and a belief that traditional U.S. allies such as Saudi Arabia, the UAE, and Israel are in need of greater support (notwithstanding that many Israelis supported the nuclear deal). The third story is the role that radical Sunni Islamist networks now play in the region, enabled by social media and other online tools that facilitate networking. One simply cannot explain the speed and scale at which the Islamic State formed, for example, without that network effect. These fluid jihadi networks have proved effective in exploiting tears in the fabric of order in fragile states, and then governing captured ground, predominantly in areas with Sunni majority populations, above all in western Iraq, northern Syria, and southern Yemen. When one puts these three stories together, we see the nexus of the current U.S.- Russia standoff in Syria.When one puts these three stories together, we see the nexus of the current U.S.- Russia standoff in Syria. At the center of the nexus is the fact that while the U.S.-led coalition has done a good job of beating back the Islamic State in Iraq and Syria, the policy goal under both the Obama and Trump administrations has only been negatively defined as the defeat of the Islamic State. Neither administration has set out a positive vision for who will govern territory cleared of the Islamic State. In other words, the U.S. has a military strategy without a political counterpart — and the more the Islamic State’s territorial control has been squeezed, the more evident the absence of U.S. political strategy has become. Enter the Trump administration, which in keeping with its broader hard-line stance toward Iran, has been consistently clear about who it does not want to govern r-captured ground, namely, Iran-backed Shiite militias, who form a large part both of Assad’s ground forces and indeed Baghdad’s. Hence the Trump administration has taken the view that both Sunni jihadi groups and Shiite militias should be grouped under the same category of radical Islamic terrorism. Consistent with this, it has stepped up action against Shiite paramilitary groups in Syria. Furthermore, the administration’s hard-line attitude, conveyed by Trump in his visit to Riyadh in May, encouraged the blockade of Qatar by Saudi Arabia, the UAE, Bahrain, and Egypt, on the basis of alleged Qatari support for Iranian proxies. But the glaring absence of a U.S. positive political vision in the Middle East has left its negatively defined anti-Islamic State and anti-Iranian goals untethered, which has generated regional confusion. Imagine a sheepdog who is good at barking, but has little sense of direction: The Middle East is now in the position of its harried flock. Even the administration itself seemed confused about how to respond to the implications of its own strategy, as was clear from its plainly contradictory signals on the Qatar crisis: While President Trump initially enthusiastically endorsed the blockade of Qatar in public, his national security team sought to de-escalate it behind the scenes, and this calmer line seems to be prevailing. So, what does Washington positively want? Who knows.So, what does Washington positively want? Who knows. Although the most likely outcome of the Qatar crisis at this point is a U.S. brokered de-escalation, it is likely that a jilted Doha will subsequently look to become less dependent on the United States by building up existing relations with Turkey, which already has a base in Doha; Russia, which already has strong commercial links with the emirate (Qatar owns a large stake in Rosneft, for example); and Iran, with whom it needs good relations given the need to cooperate over the shared exploitation of natural gas fields in the Persian Gulf. The limits of having no positive political strategy are also evident in Iraq and Syria. In Iraq, the United States military has effectively helped clear ground for Iranian Shiite militias to backfill, which contradicts the administration’s anti-Iranian position. The only real alternative is to support a greater governance role for Kurdish groups, potentially as part of an enlarged independent Kurdish state. But so far, the U.S. position has been to support the unity of Iraq. In Syria, the situation is more complex, because unlike the Iraqi Kurds, who have reasonably good relations with Ankara, the Turkish government is vehemently opposed to any kind of independent Kurdish state in northern Syria. But the U.S.-led coalition overwhelmingly relies on Kurdish ground forces in Syria, and they hold most of the ground cleared from the Islamic State. Does the United States support a Kurdish state in northern Syria? We don’t know. Has it provided any alternative to a Kurdish state in northern Syria? No. Is the territory still legally part of Syria? Yes. Unsurprisingly, there is serious confusion on the ground, which has produced the U.S.-Russian escalation we see today. So back to the original question: Are we are headed toward a great-power conflict in the middle east? In my view, until the U.S. presents a positive political strategy, we will continue to have direct clashes between Russian-supported Shiite militias and U.S. forces, which may well produce an accident in which either Russia shoots down a U.S. plane or vice versa. Even then, I think that neither Washington nor Moscow would rationally want a conventional fight. But conflict dynamics are never wholly rational; far from it. Violence can generate new emotional pressures in conflict and spin out of control in a direction nobody anticipated. Besides the risk of escalation with Russia, the more the United States starts directly attacking Shiite militias, the more likely the Iranian nuclear deal will completely break down. This would reopen the possibility of a U.S. war with Iran. Even before that point, Iran would likely react to counter the United States in the region by exerting much more aggressive influence over Baghdad. The nightmare scenario would be an Iranian puppet like ex-Prime Minister Nouri al-Maliki getting back into power and issuing a demand for U.S. forces to leave Iraq, which would put Washington in a vexed position of either accepting or returning to direct rule. To avoid escalations of this sort, the Trump administration should now lay out a positively defined political vision for the Middle East, which would accompany and tether its negatively defined anti-Islamic State and anti-Iranian goals. At this time, the fundamental part of this vision must be a clear U.S. position on the future of Kurdish-held areas in Iraq and Syria.

#### That guarantees nuclear escalation

Arbatov 17. Alexey Arbatov – head of the Center for International Security at the Primakov National Research Institute of World Economy and International Relations. “Beyond the Nuclear Threshold: Russia, NATO, and Nuclear First Use,” 10/17. https://www.europeanleadershipnetwork.org/wp-content/uploads/2017/10/Beyond-the-Nuclear-Threshold.pdf

It is worthy of note that the latest versions of the Russian Military Doctrine of December 2014 and the U.S. Nuclear Posture of 2010 have only two principal differences. One is that the U.S. is apparently willing to defend its allies with the use of nuclear weapons, if they are attacked by overwhelming conventional forces, whereas Russia does not provide such assurance. The other is that Russia is ready to use nuclear arms if facing the prospect of defeat by large-scale conventional aggression, while the United States for obvious reasons does not envision such a contingency. As for hypothetical NATO-Russia conflict, which at present should be of primary concern, there are three conceivable causes of nuclear first use: 1. The “traditional” scenario of using tactical nuclear weapons as an escalation from a conventional conflict to prevent one’s imminent defeat. 2. Nuclear use due to an accident or provocation. 3. Reaction to attacks by an enemy’s conventional weapons against one’s nuclear forces and their C3I systems (which may be defined by a term “entanglement”). In today’s world, there are two trends aggravating the danger of first use. One is the tense standoff between Russian and U.S./NATO armed forces over Ukraine, and in the Baltic, Black Sea, and Arctic regions, as well as a lack of cooperation in parallel military operations in Syria. To some extent, similar conflict might erupt between China and the U.S. or its allies in the Western Pacific over Taiwan and disputed islands and the jurisdiction of territorial seas. The second trend is the development of new weaponry, C3I systems and operational concepts, which erode the traditional delineation between nuclear and conventional arms, between offensive and defensive systems, and between a local conflict and a regional—or even global—war. Escalation of local conflict One of the great paradoxes of today is that the level of armed forces concentrated on both sides of NATO-Russia common border is much lower than 25 years ago,1 but the risk of armed conflict is much higher. This is due to several factors. In the absence of mutually recognized dividing lines, “quasi-frozen” conflicts in Ukraine, Georgia, Azerbaijan, and Moldova could suddenly erupt and draw Poland, the Baltic states, Turkey, and Romania - together with the rest of NATO - into a military clash with Russia. Discarding the fears of its weaker neighbors, Russia considers NATO expansion to its borders to be inherently unlawful and threatening. Although the present scale of the alliance deployment is modest, these forces are considered only a forward echelon of NATO’s altogether superior conventional military power, which may be promptly redeployed from the rest of Europe and across the Atlantic from the United States. The next war might thus take place much closer to Russia’s heartland than envisioned 40- 50 years ago, which makes Moscow’s fears and stakes in a potential conflict much higher. To demonstrate its resolve and toughness Russia is challenging NATO near its territory, where Russian conventional forces are naturally superior. Even in peacetime, large-scale military exercises of Russian and NATO armed forces close to each other create a threat of collisions and accidents between ships and aircraft with an accompanying risk of escalation. Such a chain reaction might be hard to stop: the Kremlin is keen to prove that the weakness of the 1990s will never return, while the White House is determined to demonstrate that it remains the “toughest guy on the block”. In the present state of confrontation, a direct military conflict between Russia and NATO in Eastern Europe, the Baltic or the Black seas would provoke an early use of nuclear arms by any side which consider defeat otherwise unavoidable. This risk is exacerbated by the fact that tactical nuclear and conventional systems are co-located at the bases of general purpose forces and employ dual-purpose launchers and delivery vehicles of the Navy, Air Force, and ground forces. Should the Intermediate Nuclear Forces Treaty (INF)2 collapse, and deployment of new medium and shorter range missiles in Europe by either or both sides become a reality, the prospect of early nuclear use and a consequential prompt escalation of nuclear strikes from theater to strategic level would be much more probable. The way to deal with the above-mentioned dangers requires making several moves: The first is to apply a more concerted effort to peacefully settle Europe’s ongoing conflicts, above all in Ukraine and Moldova. If the Minsk agreements are not implemented, two years since their conclusion, they should be supplemented with effective enforcement mechanisms. Secondly, the INF Treaty must be preserved and mutual accusatiounites of non-compliance should be addressed and removed through diplomacy. Thirdly, the scale of military exercises of Russia and NATO should be reduced on a mutual basis and separated geographically. Confidence-building and transparency measures (Vienna Document, Open Skies Treaty) should be expanded and the U.S.-Soviet accident voidance conventions (of 1972 and 1989) should be enhanced and put on a NATO-Russia footing. Finally, an agreement should be reached to halt the military buildup on both sides of the NATO-Russian border at the present level, with the intention to reduce force deployments in the future. Accidents As reliable as negative control systems are (e.g. the prevention of unauthorized nuclear use), accidents are possible, even between the U.S. and Russia. A frightening example of things going terribly wrong was provided by the 1995 accident involving the launch of a Norwegian geodesic rocket, which was taken for a Trident 2 missile, triggering the Russian early warning system. The event was urgently reported to the president, the “Cheget” system was activated, and Boris Yeltsin, as he said later, for several minutes held his finger “on the nuclear button” – until the incident was settled. But what if the event had been in fact an unauthorized single launch of Trident-2, or a French SLBM? Would it have started a massive exchange of nuclear strikes and a global catastrophe? To complicate the picture further, a growing number of nations will in the near and medium term acquire sea-based ballistic and cruise missiles and hypersonic boost-glide weapons with variable trajectories, which would make accidents or provocations more likely and the process of identifying an attacker less certain. The avoidance of nuclear war by miscalculation or provocation should be the top priority for the U.S. and Russia in spite of the tensions in their relations, or rather precisely because of such tensions.

## China-Taiwan Scenario

### 1AC --- China-Taiwan Scenario

#### Scenario #\_\_: China

#### China will invade Taiwan now; Ukraine has set the stage and draws in Russia

Enrico Colombatto 22, Enrico Colombatto is a professor of economics at the University of Turin, Italy; he is also director of research at the Institut de Recherches Economiques et Fiscales (IREF) in Paris, 5/12/22, “Taiwan: Scenarios for an invasion from China,” *GIS*, <https://www.gisreportsonline.com/r/china-taiwan-invasion/>, JH

The Russian invasion of Ukraine has shown that the quest for personal prestige, historical nostalgia and beliefs in national myths still play a role in shaping international politics. The economy is important, of course, but it is only part of the story in some cases. Indeed, Taiwan may be another victim of the rhetoric of “reunification with the motherland” and Beijing’s need to boost its image with the illusion of an easy gain on the international stage.

Some speculate that Russian President Vladimir [Putin](https://www.gisreportsonline.com/r/containing-russia/)’s blunder in Ukraine will make mainland China more cautious. As Ukraine has taught the Russians, reunification is not always welcome – spoiling the aggressor’s plans to present the world with a fait accompli before reactions and countermeasures take force.

There are important differences, however, between Ukraine and Taiwan. The world has recognized Ukraine as an independent nation since the collapse of the Soviet Union in 1991, while many nations do not support Taiwan’s independence and recognize the [People’s Republic of China](https://english.www.gov.cn/) as the sole legal government of China.

One may also argue that Beijing might be encouraged to take advantage of the West’s preoccupation with Eastern Europe and possibly reluctance to oppose Russia and China simultaneously. In this light, of course, ongoing tensions in Ukraine would justify a deal between Russia and China to allow Russia to circumvent Western sanctions and set the stage for China’s possible invasion of Taiwan.

The current global situation will soon hit the well-performing Taiwanese economy. Thanks to its free-market approach, Taiwan is a success story. It features an impressive growth record and low inflation (the government predicts 2 percent in 2022, up from 1.6 percent in 2021). Taiwan is a world player in electronics (microchips), a significant machinery exporter and a major destination for high-tech foreign direct investments.

For the Taiwanese, heightened tensions threaten its robust trade with mainland China and Hong Kong, which absorb about 50 percent of the island’s exports. A political crisis will force the Taiwanese to direct more resources to the defense industry, while future investments by domestic and international actors will be threatened. Growth can suffer. In short, independence is expensive even without overt aggression.

#### That war goes nuclear because Chinese nuclear and conventional forces are intermingled

Talmadge 18 [Caitlin, Associate Professor of Security Studies at the Edmund A. Walsh School of Foreign Service at Georgetown University, “Beijing’s Nuclear Option: Why a U.S.-China War Could Spiral Out of Control,” accessible online at <https://www.foreignaffairs.com/articles/china/2018-10-15/beijings-nuclear-option>, published Nov/Dec 2018]

As China’s power has grown in recent years, so, too, has the risk of war with the United States. Under President Xi Jinping, China has increased its political and economic pressure on Taiwan and built military installations on coral reefs in the South China Sea, fueling Washington’s fears that Chinese expansionism will threaten U.S. allies and influence in the region. U.S. destroyers have transited the Taiwan Strait, to loud protests from Beijing. American policymakers have wondered aloud whether they should send an aircraft carrier through the strait as well. Chinese fighter jets have intercepted U.S. aircraft in the skies above the South China Sea. Meanwhile, U.S. President Donald Trump has brought long-simmering economic disputes to a rolling boil. A war between the two countries remains unlikely, but the prospect of a military confrontation—resulting, for example, from a Chinese campaign against Taiwan—no longer seems as implausible as it once did. And the odds of such a confrontation going nuclear are higher than most policymakers and analysts think. Members of China’s strategic community tend to dismiss such concerns. Likewise, U.S. studies of a potential war with China often exclude nuclear weapons from the analysis entirely, treating them as basically irrelevant to the course of a conflict. Asked about the issue in 2015, Dennis Blair, the former commander of U.S. forces in the Indo-Pacific, estimated the likelihood of a U.S.-Chinese nuclear crisis as “somewhere between nil and zero.” This assurance is misguided. If deployed against China, the Pentagon’s preferred style of conventional warfare would be a potential recipe for nuclear escalation. Since the end of the Cold War, the United States’ signature approach to war has been simple: punch deep into enemy territory in order to rapidly knock out the opponent’s key military assets at minimal cost. But the Pentagon developed this formula in wars against Afghanistan, Iraq, Libya, and Serbia, none of which was a nuclear power. China, by contrast, not only has nuclear weapons; it has also intermingled them with its conventional military forces, making it difficult to attack one without attacking the other. This means that a major U.S. military campaign targeting China’s conventional forces would likely also threaten its nuclear arsenal. Faced with such a threat, Chinese leaders could decide to use their nuclear weapons while they were still able to. As U.S. and Chinese leaders navigate a relationship fraught with mutual suspicion, they must come to grips with the fact that a conventional war could skid into a nuclear confrontation. Although this risk is not high in absolute terms, its consequences for the region and the world would be devastating. As long as the United States and China continue to pursue their current grand strategies, the risk is likely to endure. This means that leaders on both sides should dispense with the illusion that they can easily fight a limited war. They should focus instead on managing or resolving the political, economic, and military tensions that might lead to a conflict in the first place. A NEW KIND OF THREAT There are some reasons for optimism. For one, China has long stood out for its nonaggressive nuclear doctrine. After its first nuclear test, in 1964, China largely avoided the Cold War arms race, building a much smaller and simpler nuclear arsenal than its resources would have allowed. Chinese leaders have consistently characterized nuclear weapons as useful only for deterring nuclear aggression and coercion. Historically, this narrow purpose required only a handful of nuclear weapons that could ensure Chinese retaliation in the event of an attack. To this day, China maintains a “no first use” pledge, promising that it will never be the first to use nuclear weapons. The prospect of a nuclear conflict can also seem like a relic of the Cold War. Back then, the United States and its allies lived in fear of a Warsaw Pact offensive rapidly overrunning Europe. NATO stood ready to use nuclear weapons first to stalemate such an attack. Both Washington and Moscow also consistently worried that their nuclear forces could be taken out in a bolt-from-the-blue nuclear strike by the other side. This mutual fear increased the risk that one superpower might rush to launch in the erroneous belief that it was already under attack. Initially, the danger of unauthorized strikes also loomed large. In the 1950s, lax safety procedures for U.S. nuclear weapons stationed on NATO soil, as well as minimal civilian oversight of U.S. military commanders, raised a serious risk that nuclear escalation could have occurred without explicit orders from the U.S. president. The good news is that these Cold War worries have little bearing on U.S.-Chinese relations today. Neither country could rapidly overrun the other’s territory in a conventional war. Neither seems worried about a nuclear bolt from the blue. And civilian political control of nuclear weapons is relatively strong in both countries. What remains, in theory, is the comforting logic of mutual deterrence: in a war between two nuclear powers, neither side will launch a nuclear strike for fear that its enemy will respond in kind. The bad news is that one other trigger remains: a conventional war that threatens China’s nuclear arsenal. Conventional forces can threaten nuclear forces in ways that generate pressures to escalate—especially when ever more capable U.S. conventional forces face adversaries with relatively small and fragile nuclear arsenals, such as China. If U.S. operations endangered or damaged China’s nuclear forces, Chinese leaders might come to think that Washington had aims beyond winning the conventional war—that it might be seeking to disable or destroy China’s nuclear arsenal outright, perhaps as a prelude to regime change. In the fog of war, Beijing might reluctantly conclude that limited nuclear escalation—an initial strike small enough that it could avoid full-scale U.S. retaliation—was a viable option to defend itself. STRAIT SHOOTERS The most worrisome flash point for a U.S.-Chinese war is Taiwan. Beijing’s long-term objective of reunifying the island with mainland China is clearly in conflict with Washington’s longstanding desire to maintain the status quo in the strait. It is not difficult to imagine how this might lead to war. For example, China could decide that the political or military window for regaining control over the island was closing and launch an attack, using air and naval forces to blockade Taiwanese harbors or bombard the island. Although U.S. law does not require Washington to intervene in such a scenario, the Taiwan Relations Act states that the United States will “consider any effort to determine the future of Taiwan by other than peaceful means, including by boycotts or embargoes, a threat to the peace and security of the Western Pacific area and of grave concern to the United States.” Were Washington to intervene on Taipei’s behalf, the world’s sole superpower and its rising competitor would find themselves in the first great-power war of the twenty-first century. In the course of such a war, U.S. conventional military operations would likely threaten, disable, or outright eliminate some Chinese nuclear capabilities—whether doing so was Washington’s stated objective or not. In fact, if the United States engaged in the style of warfare it has practiced over the last 30 years, this outcome would be all but guaranteed. Consider submarine warfare. China could use its conventionally armed attack submarines to blockade Taiwanese harbors or bomb the island, or to attack U.S. and allied forces in the region. If that happened, the U.S. Navy would almost certainly undertake an antisubmarine campaign, which would likely threaten China’s “boomers,” the four nuclear-armed ballistic missile submarines that form its naval nuclear deterrent. China’s conventionally armed and nuclear-armed submarines share the same shore-based communications system; a U.S. attack on these transmitters would thus not only disrupt the activities of China’s attack submarine force but also cut off its boomers from contact with Beijing, leaving Chinese leaders unsure of the fate of their naval nuclear force. In addition, nuclear ballistic missile submarines depend on attack submarines for protection, just as lumbering bomber aircraft rely on nimble fighter jets. If the United States started sinking Chinese attack submarines, it would be sinking the very force that protects China’s ballistic missile submarines, leaving the latter dramatically more vulnerable. Even more dangerous, U.S. forces hunting Chinese attack submarines could inadvertently sink a Chinese boomer instead. After all, at least some Chinese attack submarines might be escorting ballistic missile submarines, especially in wartime, when China might flush its boomers from their ports and try to send them within range of the continental United States. Since correctly identifying targets remains one of the trickiest challenges of undersea warfare, a U.S. submarine crew might come within shooting range of a Chinese submarine without being sure of its type, especially in a crowded, noisy environment like the Taiwan Strait. Platitudes about caution are easy in peacetime. In wartime, when Chinese attack submarines might already have launched deadly strikes, the U.S. crew might decide to shoot first and ask questions later. Adding to China’s sense of vulnerability, the small size of its nuclear-armed submarine force means that just two such incidents would eliminate half of its sea-based deterrent. Meanwhile, any Chinese boomers that escaped this fate would likely be cut off from communication with onshore commanders, left without an escort force, and unable to return to destroyed ports. If that happened, China would essentially have no naval nuclear deterrent. The situation is similar onshore, where any U.S. military campaign would have to contend with China’s growing land-based conventional ballistic missile force. Much of this force is within range of Taiwan, ready to launch ballistic missiles against the island or at any allies coming to its aid. Once again, U.S. victory would hinge on the ability to degrade this conventional ballistic missile force. And once again, it would be virtually impossible to do so while leaving China’s nuclear ballistic missile force unscathed. Chinese conventional and nuclear ballistic missiles are often attached to the same base headquarters, meaning that they likely share transportation and supply networks, patrol routes, and other supporting infrastructure. It is also possible that they share some command-and-control networks, or that the United States would be unable to distinguish between the conventional and nuclear networks even if they were physically separate. To add to the challenge, some of China’s ballistic missiles can carry either a conventional or a nuclear warhead, and the two versions are virtually indistinguishable to U.S. aerial surveillance. In a war, targeting the conventional variants would likely mean destroying some nuclear ones in the process. Furthermore, sending manned aircraft to attack Chinese missile launch sites and bases would require at least partial control of the airspace over China, which in turn would require weakening Chinese air defenses. But degrading China’s coastal air defense network in order to fight a conventional war would also leave much of its nuclear force without protection. Once China was under attack, its leaders might come to fear that even intercontinental ballistic missiles located deep in the country’s interior were vulnerable. For years, observers have pointed to the U.S. military’s failed attempts to locate and destroy Iraqi Scud missiles during the 1990–91 Gulf War as evidence that mobile missiles are virtually impervious to attack. Therefore, the thinking goes, China could retain a nuclear deterrent no matter what harm U.S. forces inflicted on its coastal areas. Yet recent research suggests otherwise. Chinese intercontinental ballistic missiles are larger and less mobile than the Iraqi Scuds were, and they are harder to move without detection. The United States is also likely to have been tracking them much more closely in peacetime. As a result, China is unlikely to view a failed Scud hunt in Iraq nearly 30 years ago as reassurance that its residual nuclear force is safe today, especially during an ongoing, high-intensity conventional war. China’s vehement criticism of a U.S. regional missile defense system designed to guard against a potential North Korean attack already reflects these latent fears. Beijing’s worry is that this system could help Washington block the handful of missiles China might launch in the aftermath of a U.S. attack on its arsenal. That sort of campaign might seem much more plausible in Beijing’s eyes if a conventional war had already begun to seriously undermine other parts of China’s nuclear deterrent. It does not help that China’s real-time awareness of the state of its forces would probably be limited, since blinding the adversary is a standard part of the U.S. military playbook. Put simply, the favored U.S. strategy to ensure a conventional victory would likely endanger much of China’s nuclear arsenal in the process, at sea and on land. Whether the United States actually intended to target all of China’s nuclear weapons would be incidental. All that would matter is that Chinese leaders would consider them threatened. LESSONS FROM THE PAST At that point, the question becomes, How will China react? Will it practice restraint and uphold the “no first use” pledge once its nuclear forces appear to be under attack? Or will it use those weapons while it still can, gambling that limited escalation will either halt the U.S. campaign or intimidate Washington into backing down? Chinese writings and statements remain deliberately ambiguous on this point. It is unclear which exact set of capabilities China considers part of its core nuclear deterrent and which it considers less crucial. For example, if China already recognizes that its sea-based nuclear deterrent is relatively small and weak, then losing some of its ballistic missile submarines in a war might not prompt any radical discontinuity in its calculus. The danger lies in wartime developments that could shift China’s assumptions about U.S. intentions. If Beijing interprets the erosion of its sea- and land-based nuclear forces as a deliberate effort to destroy its nuclear deterrent, or perhaps even as a prelude to a nuclear attack, it might see limited nuclear escalation as a way to force an end to the conflict. For example, China could use nuclear weapons to instantaneously destroy the U.S. air bases that posed the biggest threat to its arsenal. It could also launch a nuclear strike with no direct military purpose—on an unpopulated area or at sea—as a way to signal that the United States had crossed a redline. If such escalation appears far-fetched, China’s history suggests otherwise. In 1969, similar dynamics brought China to the brink of nuclear war with the Soviet Union. In early March of that year, Chinese troops ambushed Soviet guards amid rising tensions over a disputed border area. Less than two weeks later, the two countries were fighting an undeclared border war with heavy artillery and aircraft. The conflict quickly escalated beyond what Chinese leaders had expected, and before the end of March, Moscow was making thinly veiled nuclear threats to pressure China to back down. Chinese leaders initially dismissed these warnings, only to radically upgrade their threat assessment once they learned that the Soviets had privately discussed nuclear attack plans with other countries. Moscow never intended to follow through on its nuclear threat, archives would later reveal, but Chinese leaders believed otherwise. On three separate occasions, they were convinced that a Soviet nuclear attack was imminent. Once, when Moscow sent representatives to talks in Beijing, China suspected that the plane transporting the delegation was in fact carrying nuclear weapons. Increasingly fearful, China test-fired a thermonuclear weapon in the Lop Nur desert and put its rudimentary nuclear forces on alert—a dangerous step in itself, as it increased the risk of an unauthorized or accidental launch. Only after numerous preparations for Soviet nuclear attacks that never came did Beijing finally agree to negotiations. China is a different country today than it was in the time of Mao Zedong, but the 1969 conflict offers important lessons. China started a war in which it believed nuclear weapons would be irrelevant, even though the Soviet arsenal was several orders of magnitude larger than China’s, just as the U.S. arsenal dwarfs China’s today. Once the conventional war did not go as planned, the Chinese reversed their assessment of the possibility of a nuclear attack to a degree bordering on paranoia. Most worrying, China signaled that it was actually considering using its nuclear weapons, even though it had to expect devastating retaliation. Ambiguous wartime information and worst-case thinking led it to take nuclear risks it would have considered unthinkable only months earlier. This pattern could unfold again today.

#### Mine warfare and unmanned submarines are key to deter Chinese invasion of Taiwan

Minnie Chan 22, Minnie Chan is an award-winning journalist, specialising in reporting on defence and diplomacy in China, 6/28/22, “US urged to plan minelaying campaign to halt mainland Chinese attack on Taiwan,” *South China Morning Post*, <https://www.scmp.com/news/china/military/article/3183273/us-urged-plan-minelaying-campaign-halt-mainland-chinese-attack>, JH

A US navy commander suggests that laying mines in the Yellow Sea and Pearl River Delta could help bring Beijing to the negotiating table.

The United States could pursue an aggressive but low-cost strategy of laying mines in the Yellow Sea and Pearl River Delta to force China to negotiate in the event of conflict between the two powers, according to an American naval analyst.

He said the countermeasure could be seen as a form of deterrence or economic warfare designed to prevent an escalation [if the US decided to intervene](https://www.scmp.com/news/china/diplomacy/article/3160692/us-has-practised-strategic-ambiguity-taiwan-decades-set-change) following a [mainland Chinese attack on Taiwan](https://www.scmp.com/news/china/military/article/3182168/beijing-likely-step-its-campaign-reunify-taiwan-analysts-say).

In an article published by the US Naval Institute this month, Commander Victor Duenow wrote that the country's armed forces would be at a "significant and immediate disadvantage" when dealing with the aggressive and capable [People's Liberation Army](https://www.scmp.com/topics/china-military) as [China had closed the military capability gap with the US](https://www.scmp.com/news/china/military/article/3182724/keep-china-pentagon-must-cut-red-tape-and-embrace-latest), and even gained superiority in several areas.

The article, which won the first prize in naval mine warfare essay contest sponsored by the Mine Warfare Association, a non-profit aimed at promoting awareness of the weapons, suggested the US Indo-Pacific Command (IndoPaCom) should "pursue offensive mining capabilities to use in the Yellow Sea and Pearl River Delta".

Duenow, who has experience of airborne mine countermeasures, said the PLA Navy (PLAN) was "limited" in how it could respond, and had mainly focused on countering mines in ports and near the shore.

"Finding a way to bring China into diplomatic negotiations on favorable terms to the United States is the goal, and offensive mine warfare can help achieve it," he wrote, adding that mine warfare would also jeopardise China's economy by disrupting trade and oil supplies.

"The United States can also dispute Chinese sea control while preparing for a counteroffensive ... By investing in cost-effective mine warfare, IndoPaCom can deter Chinese aggression and buy time while it builds high-end warfighting capabilities to better counter China."

Tensions in the Taiwan Strait have mounted in recent years as the [PLA has stepped up its military operations](https://www.scmp.com/news/china/military/article/3180160/chinese-pla-bombers-carry-out-night-raid-drills-around-taiwan), prompting a renewed focus on what the US reaction would be to an attack on the island.

Beijing considers Taiwan as a renegade province that should be brought into its fold - by force if necessary.

"Naval mining is a nasty countermeasure that would put both Chinese warships and commercial vessels at high risk," Beijing based naval analyst Li Jie said, but argued the tactic was more likely to trigger a response from the PLA than force China to the negotiating table.

"The PLAN will stage a comprehensive minesweeper campaign by blocking waterways in the region. If Washington wants to push Beijing into a corner, it might push the PLA to take tit-for-tat action by laying naval mines in some waterways used by American vessels."

Macau-based military observer Antony Wong Tong said the US could use stealth fighter jets to drop homing torpedoes in the Pearl River Delta.

"The Pearl River Delta area includes inland rivers and has no warships. Moves to lay mines in that area would actually be targeting civilian vessels, which will violate international law," Wong said.

The US navy is developing a new type of mine warfare that can be placed covertly on the seabed by a robot submarine with sensors to spot a target by firing an encapsulated homing torpedo.

Drew Thompson, a visiting senior research fellow at the National University of Singapore's Lee Kuan Yew School of Public Policy, said: "If [mainland] China decides to use force against Taiwan, there will be intervention, and there will be escalation," adding naval mining could be seen as a form of economic warfare.

"Economic warfare is a major tool in China's toolkit, as is economic coercion [against Taiwanese businesses], just as the US and UN use financial sanctions. China denounces other countries' unilateral sanctions, even when it practices its own. Blockades are an extension of warfare."

Collin Koh, a research fellow with the S Rajaratnam School of International Studies at Nanyang Technological University in Singapore, said: "Naval mining is ultimately one of the tools used in the lead up to, and during war.

"Assuming naval mining is done in the window of tension that precedes the possible outbreak of conflict, such a known act will of course be inflammatory and escalatory, but it may also help to cool heads and compel the other party to reconsider his options."

During the Vietnam war, the US conducted a short minelaying campaign after North Vietnam launched its Easter offensive in March 1972, that saw thousands being laid in the waters off Haiphong and other ports.

A year later it had to remove them all in a six-month operation agreed under the Paris Peace Accords.

#### Minelaying could deter China but neither US or Taiwan has the capability

Lt Col Julian Thomas 22, Lieutenant Colonel Thomas is a student at the US Naval War College, College of Naval Warfare in Newport, Rhode Island; prior to this assignment, he was the Sustainment Maintenance Branch Chief, Headquarters United States Air Force, Pentagon, Washington DC, 4/5/22, “Bold and Unprecedented Moves: Building a US-Taiwan Defense Strategy in the Strait of Taiwan and South China Sea,” *Journal of Indo-Pacific Affairs, Air University Press*, https://www.airuniversity.af.edu/JIPA/Display/Article/3019529/bold-and-unprecedented-moves-building-a-us-taiwan-defense-strategy-in-the-strai/

Also, in a China–Taiwan scenario, a good counter A2/AD zone strategy would involve creating a forbidden zone within the Strait of Taiwan, exploiting China’s antisubmarine capabilities as a potential vulnerability. Since China has weak antisubmarine capabilities, the joint force, Taiwan, and allies can position submarines as a deterrent force that could inflict an extremely high cost to China’s fleets. The use of very cheap and effective sea mines would be a good element of any sea denial course of action. However, the US Navy lacks even a threadbare capability in this warfare area. Taiwan has a modest one but probably not sufficient given the hydrography of the Taiwan Strait. Mines take some time and effort to sweep. If nothing else, this would seriously affect any time, space, and force consideration of invaders and thus make any mine laying forces an early target in a war. In addition, Beijing is heavily dependent on seaborne commerce.[64](https://www.airuniversity.af.edu/JIPA/Display/Article/3019529/bold-and-unprecedented-moves-building-a-us-taiwan-defense-strategy-in-the-strai/" \l "sdendnote64sym) If inbound Chinese vessels and aircraft perceive that they cannot safely navigate through Taiwan’s counter A2/AD zone, it would make it extremely difficult for Beijing to receive goods. Chinese trade traveling through the counter A2/AD zone could be targeted to frustrate and pressure China economically to change its behavior in the SCS.[65](https://www.airuniversity.af.edu/JIPA/Display/Article/3019529/bold-and-unprecedented-moves-building-a-us-taiwan-defense-strategy-in-the-strai/" \l "sdendnote65sym)

### 2AC --- Mines Stop Invasion

#### Minelaying allows for negotiations and stops invasion

Meera Suresh 22, Senior writer at International Business Times with a degree in Journalism and lives currently in India, 6/28/22, “US Navy Commander Floats Alarming Plan On China: Mine Yellow Sea, Pearl River Delta,” *International Business Times*, https://www.ibtimes.com/us-navy-commander-floats-alarming-plan-china-mine-yellow-sea-pearl-river-delta-3554456

The U.S. can bring Beijing to the negotiation table by mining the Yellow Sea and Pearl River Delta in the event of a conflict between the two superpowers, a U.S. Navy commander has noted. Mining these two key waterways would strike the Chinese economy, he added.

Commander Victor Duenow made these observations in an [article](https://www.usni.org/magazines/proceedings/2022/june/disputing-chinese-sea-control-through-offensive-sea-mining) published by the U.S. Naval Institute this month. According to the naval expert, possible future conflict scenarios between the United States and an "increasingly aggressive and capable" China will leave the former at a disadvantage.

Mines are cheap and effective weapons that can help the U.S. buy time and space for a counterattack in the event of Beijing launching a conflict through surprise and deception, Duenow said. The commander's essay reportedly won the first prize in the naval mine warfare essay contest sponsored by the Mine Warfare Association.

"If the People’s Liberation Army Navy (PLAN) had free use of its naval facilities during a conflict with the United States, China would be better able to attain and sustain sea control. Mining Chinese waters would exploit China’s relative weakness in mine countermeasures, challenge and deter PLAN activity, and disrupt logistics support for PLAN offensive operations," noted Duenow, who is experienced in airborne mine countermeasures.

Though China has mine countermeasures platforms, its equipment is outdated, limited and focused on mine countermeasures in the nearshore and port environments. This would leave China vulnerable, he added.

He added that mining the Pearl River Delta and the Yellow Sea would also disrupt China’s economy by interrupting the flow of Chinese trade goods and oil imports. "Finding a way to bring China into diplomatic negotiations on favorable terms to the United States is the goal, and offensive mine warfare can help achieve it. Mines complicate China’s military problem, placing PLAN forces at risk. The United States can also dispute [Chinese sea control](https://ibtimes.com/habitual-offender-beijing-lashes-out-after-uss-benfold-enters-south-china-sea-3553116) while preparing for a counteroffensive," he added.

However, many think the tactic would infuriate China further. According to Beijing-based naval analyst Li Jie, mining the waterway will trigger a response from the PLA than force China to the negotiating table.

"The PLAN will stage a comprehensive minesweeper campaign by blocking waterways in the region. If Washington wants to push Beijing into a corner, it might push the PLA to take tit-for-tat action by laying naval mines in some waterways used by American vessels," Li told [South China Morning Post.](https://www.scmp.com/news/china/military/article/3183273/us-urged-plan-minelaying-campaign-halt-mainland-chinese-attack)

Collin Koh, a research fellow with the S Rajaratnam School of International Studies at Nanyang Technological University in Singapore, also thinks the act will be escalatory. "Assuming naval mining is done in the window of tension that precedes the possible outbreak of conflict, such a known act will of course be inflammatory and escalatory, but it may also help to cool heads and compel the other party to reconsider his options," he told the news outlet.

#### UUVs uniquely allow minelaying campaigns in the SCS and Taiwan Strait

Gabriel Honrada 22, Senior Security Correspondent at Asia Times; assistant Lecturer and PhD Student at People's Friendship University of Russia, 1/12/22, “Underwater drones herald sea change in Pacific warfare,” *Asia times,* <https://asiatimes.com/2022/01/underwater-drones-herald-sea-change-in-pacific-warfare/>, JH

The drones that have changed the complexion of war from the sky are being replicated at sea, as great powers develop and deploy unmanned underwater vessels (UUVs) to gain a strategic edge in the Pacific and beyond.

The United States, United Kingdom, China and Russia are all developing and deploying the vessels, indicating the “dronification” of future maritime warfare.

The UK, which is expanding its military presence in the Pacific, is set to operate its [first extra-large underwater drone](https://ukdefencejournal.org.uk/royal-navy-looking-for-extra-large-drone-submarine/) to complement its Astute-class submarines. The Royal Navy’s efforts to design, build, and test such a drone have been designated Project CETUS, and aim to produce a 27-tonne, 12-meter Autonomous Underwater Vehicle (AUV) demonstrator.

The contract for Project CETUS is projected to be finalized in financial year 2021-2022, with a projected cost of 21.5 million pounds (US$29.3 million.)

The Royal Navy is also working on the [Manta underwater drone](https://www.navylookout.com/manta-the-royal-navy-gets-its-first-extra-large-autonomous-submarine/), an unmanned version of the existing S201 manned submersible made by MSubs, a British manufacturer.

The US is working on the similar [Orca Extra Large Unmanned Undersea Vehicle (XLUUV)](https://news.lockheedmartin.com/2017-10-30-Lockheed-Martin-to-Design-U-S-Navys-Extra-Large-Unmanned-Undersea-Vehicle-XLUUV-Orca), as the US Navy awarded Boeing contracts worth a total of $274.4 million to produce five Orca XLUUVs in 2019.

The Orca can be used for mine countermeasures, anti-submarine warfare, anti-surface warfare, electronic warfare and strike missions without risking the lives of its operators.

China is also known to be using underwater drones, with [Indonesia seizing three Chinese drones](https://www.scmp.com/news/china/military/article/3117076/chinas-underwater-drones-seized-indonesia-expose-tech-routes) labeled “Shenyang Institute of Automation Chinese Academy of Sciences” near South Sulawesi’s Selayar The same year, [China allegedly deployed 12 Sea Glider](https://www.forbes.com/sites/hisutton/2020/03/22/china-deployed-underwater-drones-in-indian-ocean/) underwater drones in the Indian Ocean to gather oceanographic data to support submarine operations. Island in December 2020.

Moreover, China operates the [HSU-001 underwater drone](https://www.thedrive.com/the-war-zone/41478/china-tested-an-ai-controlled-submarine-hunting-underwater-drone-a-decade-ago-report), which is roughly analogous to the Project CETUS, Manta, and Orca drones. The HSU-001 was reportedly tested off Fujian or the Taiwan Strait, simulating anti-submarine operations.

The proliferation of underwater drones in the Pacific region is changing the complexion of underwater warfare, as the region’s maritime environment poses unique operational challenges to underwater operations.

The contested South China Sea is a semi-enclosed body of water with numerous unmapped underwater features and shallows, which makes navigation hazardous for both crewed surface and underwater combatants.

At the same time, the South China Sea provides an ideal operating environment for shallow-water conventional submarines, as the area’s underwater features and high shipping traffic enables such vessels to stay undetected for prolonged periods by using environmental factors to mask their signatures.

By extension, the South China Sea is an ideal proving ground for underwater drones, as they can perform underwater tasks that may be too dull, demanding, dangerous or even dirty for humans.

Underwater drones can be used for bathymetric mapping, alongside recording the thermal, magnetic, and acoustic properties of specific underwater passages to find blind spots where submarines can travel undetected safely.

As such, this capability is particularly suited for use in the South China Sea, which is among the most challenging bodies of water for submarine navigation due to its shallow waters, numerous underwater peaks and sandbars.

The [recent collision of the USS Connecticut](https://news.usni.org/2021/11/01/investigation-concludes-uss-connecticut-grounded-on-uncharted-sea-mount-in-south-china-sea) submarine with an unmapped seamount in the South China Sea illustrates the danger. In addition, these drones can also find submarine hiding spots to serve as staging areas for underwater operations, or sanctuaries to avoid enemy anti-submarine warfare operations.

They can also potentially be used for mine-hunting and minelaying operations. Underwater drones can scout underwater minefields and possibly disarm naval mines. They may reduce the need for specialized diver teams to reconnoiter, identify, and demine potential landing beaches for amphibious warfare operations.

The drones can also perform anti-submarine operations by actively searching and tracking enemy submarines, without endangering manned surface vessels or submarines. The [1971 sinking of the Indian frigate INS Kukri](http://www.indiandefencereview.com/interviews/1971-war-sinking-of-the-khukri/) by the Pakistani submarine PNS Hangor illustrates the possibility of anti-submarine warships becoming easy prey for enemy submarines.

The use of underwater drones for anti-submarine purposes will thus minimize the need to commit manned warships for such operations.

More significantly, underwater drones can become strategic weapons when loaded with nuclear weapons. Such nuclear-armed underwater drones can bypass enemy missile defenses by traveling underwater, slipping near or into major coastal cities, ports and naval bases for attack purposes.

One such weapon is Russia’s [Poseidon drone](https://www.thedefensepost.com/2021/01/20/russia-base-underwater-drones/), which gives Russia a credible second-strike capability in the event of a nuclear attack.

### 2AC --- China Invades

#### China will invade and is motivated by sacred commitments and will risk everything for Taiwan

Gregory J. **Moore**, PhD, **14**. Head of the School of International Studies at the University of Nottingham, Ningbo, China, “The Power of “Sacred Commitments”: Chinese Interests in Taiwan,” Foreign Policy Analysis 12(2), <https://www.researchgate.net/publication/261719298_The_Power_of_Sacred_Commitments_Chinese_Interests_in_Taiwan>)

Toward an Understanding of China’s Interests in Taiwan Moving to an analysis of the interests that drove Beijing in the Taiwan Strait Crisis of 1995–1996, this study employs a tripartite methodology8 based on (i) interviews conducted with 28 Chinese America watchers/IR experts and 30 American Chinawatchers/IR experts about the crisis, (ii) the statements of concerned policy elites in both capitols before, during and after the crisis, and (iii) conclusions drawn about the crisis as found in the best scholarship from the secondary literature. The study is focused on getting at the underlying factors/interests that actually drove the crisis at the policy level. Without them, the crisis would not have occurred. Beginning with the interviews of 30 American and 28 Chinese experts,10 the well- known, well-established, and well-connected Chinese and American respondents were asked a number of questions, including “What US interests are at stake in the Taiwan Strait such that the United States would risk war with China over Taiwan?” (Table 1) and “What are the reasons China wants Taiwan back badly enough to risk war with the US?” (Table 2) In each case, it was made clear to the interviewees that the question was in reference to the perceptions and considerations of Chinese and American decision-making elites and the time of the 1995–1996 crisis. In giving their responses, respondents were asked to rank them in importance, giving greater weight to the reasons that they thought carried greater importance in the decision-making process. For example, if there were two reasons of equal importance, they might rate them each at 50%; if there were three reasons, a policy was pursued or three interests that were at stake, the first might be 60% of the reason, the second 30% and the third 10% and so on, always adding up to 100% so as to facilitate quantifying the results.11 Table 1 indicates the results of the interviews on the question regarding American interests in the Taiwan Strait in 1995–1996. Both the American and Chinese respondents saw American interests in the Strait at the time as consistent with a security-centric focus. American respondents’ emphasized strategic interests (46.5% of respondent emphasis) and economic interests in the region (4.6%) as motivations for US policy in the Strait in 1995–1996. Another factor that was important here, however, was domestic politics (19%) and in this case the influence of the Taiwan lobby. President Clinton was under heavy pressure from Congress to grant Lee Teng-hui a visa in 1995, and there is no doubt this was a primary reason he did so. Again, the visa and the Lee visit were the matters that got the whole crisis rolling. Also important were the facts that Taiwan was a democracy (and the United States supports democracy) and that Taiwan was a friend (and the United States supports its friends).12 As it regards Chinese interests in Taiwan, however, the story was a bit different in terms of the type of factors driving policy. Table 2 above indicates that the most important interest for the Chinese decision-making elite concerning Taiwan, according to both the American and Chinese respondents, was to uphold what is here called China’s “sacred commitments” to Taiwan by blocking anything or anyone who would take it away from China. In other words, “sacred commitments” are the single most important reason China wanted Taiwan back enough to risk war with the United States in 1995–1996 according to both Chinese and American respondents. What are “sacred commitments”? Sacred commitments are defined here as a basket of emotional, nationalistic, historical and almost spiritual notions held by many in China about the “sacredness” of territorial integrity and the commitment of the founders and revolutionaries of modern China to the reunification of the motherland, including Taiwan. “Sacred commitments” accurately describes and reflects the content of numerous Chinese government and scholarly statements on the “sacred” character of Taiwan and the “mission” of bringing Taiwan back to the Mainland. “Sacred commitments” is a label I have given to the following sorts of notions which were found in the secondary literature, statements of policy elites, and in the words of the interviewees: 1. a heartfelt desire to engender a sense of dignity among the Chinese people as they seek to finally end (in part by regaining Taiwan) the period of foreign oppression and domination they endured after 1839,13 along with a sense of the restoration of national “face” (“mianzi” or ) that the return of Taiwan would bring 2. a historical view of the need for China to be unified to be great (and the sense of perception of national greatness China would then achieve with reunification) 3. a commitment to China’s forefathers to complete the revolution started in 1911 and continued in 1949 (and Taiwan represents unfinished business in this regard)14 4. a Chinese sense of identity that Taiwan is simply an important part of China, and the unique place accorded Taiwan in China’s discourse on unity, sovereignty and territorial integrity in the last 60 years.15 Based on the research presented here, sacred commitments, not unlike the commitments of religious practitioners, are commitments that go beyond the pragmatic or utilitarian (and thus material), but are kept because of vows made, beliefs held, and emotions deeply felt. “Sacred commitments” have a life of their own in the mind and the heart, can be powerful motivators, and are “a-rational” in nature, in other words not necessarily “rational” in the utilitarian sense, and yet not at all “irrational” from the perspective of those who hold them. The term “sacred commitments” was derived from the Chinese word for “sacred,” “shen sheng de,” which can be translated as “sacred,” “divine,” or “holy,” and is found in many places in the official Chinese lexicon and scattered throughout other Chinese writings—official, scholarly and popular—in reference to Taiwan.16 Upon close analysis of official government statements on Taiwan and reunification (before and after the 1995–1996 crisis), the term “sacred” is found paired together with other terms like “mission,” “task,’ and “duty” in the context of getting Taiwan back, and in descriptions of Taiwan itself Taiwan was sometimes referred to as China’s “sacred territory.” Because “sacred” was paired with various other words in the interviews, secondary literature and in official statements, the term “sacred commitments” was coined to encompass all of the meanings associated with “sacred” in China’s discourse about Taiwan and reunification. In other words, because Taiwan has been viewed as China’s “sacred territory,” and the idea that getting it back is the Chinese people’s “sacred mission,” “sacred task,” or “sacred duty,” Mainland Chinese have a commitment to reunification that is itself “sacred.” This is the logic behind the term, “sacred commitments.” Sacred commitments should be distinguished from Beijing’s more fundamental and more general national interests, as well as from what Beijing calls its “core interests,” though certainly getting Taiwan back constitutes both a national interest and a core interest. China has many national interests, including development, security, clean air to breath and water to drink for its people, access to sufficient supplies of fossil fuels, and the like. The Chinese government does not have “sacred commitments” to each of these, as sacred commitments is defined here, however. Nor does “Taiwan as core interest” capture what is entailed in “sacred commitments.” China has a number of core interests, including Tibet, Xinjiang, Taiwan, the South China Sea and the East China Sea,17 but while all are important to Beijing, and the violation of any of these are arguably casus belli, it cannot be said that all are comparable to the “sacred commitments” that Beijing has to reunification with Taiwan.18 Zheng Wang argues that since the 1989 Tiananmen incident and the end of the Cold War, the CCP’s overriding raison d’etre has been redefined from class struggle and communist revolution, to national liberation and rejuvenation following imperialist-driven national humiliation (Wang:101– 129). In this context, he argues, “Taiwan is fundamental because after Hong Kong and Macau’s return19 it is the single remaining inhabited Chinese territory not yet returned to the motherland” (131). What is here called “sacred commitments,” this basket of issues, was easily the most common response of both Chinese and American interviewees, and the one interviewee gave the most weight to in responding to the question about China’s interests in getting Taiwan back. 49.4% of the Chinese interviewees’ emphasis was placed on what is here called sacred commitments. In fact, “of the 28 Chinese respondents interviewed, only four failed to refer to some aspect of what has here been called ‘sacred commitments.’” Typical of Chinese responses, Tsinghua University’s Chu Shulong emphasized that the conceptual, historical idea that China should be united—what the Chinese call “da yi tong”—was the primary force behind China’s interest in Taiwan.20 Another interviewee, a senior member of China’s research and intelligence community, argued that reunification with Taiwan is China’s “historical task” and that this was the bulk of the impetus behind the drive for reunification. A researcher/diplomat at a Chinese Foreign Ministry think tank said China’s interest in Taiwan was not economic because China had so much Taiwanese investment already, nor was it strategic, but rather it was about “dignity,” “completion of national unity,” and historical Chinese notions regarding the importance of a unified China (“da yi tong” again). A scholar at one of China’s best universities said she believed getting Taiwan back was primarily (65% of her emphasis) about “national dignity.” Another well-known scholar in Beijing said he believed that while the government did fear the “domino effect” of letting Taiwan go as it regarded other regions of China (Tibet, Xinjiang, etc.), as well as the legitimacy crisis that Chinese leaders allowing Taiwan to go would face (together 40% of his emphasis), the most fundamental issues included fear of losing “national face” (mianzi), Taiwan’s “symbolic importance” or the issue of “national pride,” and again the historical notion of the importance of a unified China. He added another factor as well that the last 50 years have created an incremental structure of relations between the PRC and Taiwan that has made it difficult to break out of,21 a social structural factor. A researcher at another of China’s government think tanks said unifying the Chinese people/ race (“tongyi Zhonghua minzu”) was the most important issue as it regarded China’s interest in Taiwan. Another interesting dimension of the “sacred commitments” issue and Taiwan is that two of the interviewees said the Taiwan issue is more emotional for the average Chinese people than for the more pragmatic government officials, that for the average Chinese the key issue is the historical, emotional, passionate appeal of what is here called “sacred commitments.” One after another of China’s international relations and America experts described what is here called “sacred commitments” as the, or at least a, primary reason the Mainland Chinese were/are so passionate about Taiwan. Moving on to other factors given by interviewees, the second most common answer among the Chinese was domestic political concerns (21.2%). More specifically, the interviewees argued that leaders feared that any policy that led to letting Taiwan go would anger the people, leading to a loss of political legitimacy which would possibly lead them to lose power and possibly even be deposed. The people of China are truly passionate about Taiwan and a number of the interviewees maintained that the leaders really fear the backlash that would come from military leaders and the Chinese “laobaixing”22 if they were to be in power at the time Taiwan were allowed to successfully secede.23 The third most common response was strategic/security interests (10.1%), or the fear that Taiwan would be subsumed into the American orbit and be used by the Americans as an “unsinkable aircraft carrier” against China, threatening Chinese security interests. Fourth was the fear that losing Taiwan would have negative ramifications for territorial integrity above and beyond the loss of Taiwan itself (7.3%). The argument here was that Tibetans, Uighurs, Mongolians, and other non-Han separatist groups in China would say, “If the Taiwanese can declare independence, why can’t we?”24 While they didn’t give this one a lot of emphasis in percentages, many of the Chinese interviewees raised this point (seven of 28 explicitly mentioned it). It was not something that appeared in official statements, however, most likely because it would have been too sensitive to express publically. Moving now from the interviews to statements of policy elites (which form the second leg of this tripartite methodology), in the speeches of Chinese officials, there is much to support the notion that sacred commitments are the key to understanding China’s desire to get Taiwan back in 1995–1996 as well.25 For example, on March 8, 1996, Central Military Commission vice chair and defense minister Chi Haotian quoted People’s Liberation Army founding father Zhu De, saying, “As long as Taiwan is not liberated, the Chinese people’s historical humiliation is not washed away; as long as the motherland is not reunited, our people’s armed forces’ responsibility is not fulfilled.”26 Deng Xiaoping himself said, “It is the common wish of the Chinese people to reunify our country. Once the country is unified, all the Chinese people cannot only stand tall, but also soar” (Bai 1995:23). President Jiang Zemin put it this way. “To put an end to the separation between the two sides of the Taiwan Strait and achieve the reunification of the motherland is the strong aspiration and unshakable determination of all the Chinese people, including our Taiwan compatriots. It is also an irresistible historical trend” (Jiang 1995:8). Yet more interesting are a number of other statements that specifically ascribe a “sacred” character to the return of Taiwan. In a March 21, 1996, press release commenting on United States House Resolution 148, which explicitly urged the Clinton administration to support Taiwan militarily in the event of a Chinese attack,27 an official Chinese government statement was made, that “the Chinese government and the people express our resolute opposition to and strong indignation at this detestable act of the US side which constitutes a serious encroachment upon China’s sovereignty and a gross interference in China’s internal affairs... Taiwan is China’s sacred territory” (PRC Press Release 1996:49). In a letter to the UN Secretary General in 1998 regarding Taiwanese accession to the UN, Chinese Permanent Representative to the UN Qin Huasun wrote, “The settlement of the question of Taiwan and the reunification of the motherland are the sacred missions of all the Chinese people, including those in Taiwan” (BBC and Xinhua News Agency). In March 2000, then-Premier Zhu Rongji called the resolution of “the Taiwan question” and “the complete reunification of the motherland” a “sacred mission” (MacIntyre and August). Hong Kong Chinese correspondent Willy Wo-Lap Lam quoted a senior PLA officer as arguing for a tough stand on Taiwan after Chen Shui-bian’s August 2002 statements by saying, “If we don’t do anything, we may forever fail in the holy task of liberating the island” (Lam). Here it’s about a “holy task.”28 This recitation of the statements of Chinese leaders and scholars, particularly when taken alongside the answers provided by the respondents (who were free to say what they really thought),29 is indicative of the notion that statement, such as “Taiwan is China’s sacred territory,” is clearly an ideational, emotional, even “religious” commitment that is widely held to in China, not just a government slogan. Such a “sacred” commitment is not rooted in the material. While anyone familiar with official Chinese government statements can become cynical about them, the use of this particular language and the fact that it is repeated so often in conversation with persons who have no personal political interest in repeating “the party line,” underline the notion that these “sacred commitments” are very real,30 and they clearly play a role in how the Chinese view/handle Taiwan. There is support in the secondary literature as well for these arguments that China’s commitment to Taiwan is not based primarily on material security considerations, but on an ideational fixation on Taiwan and reunification. In his excellent study of the role of Taiwan in China’s historical nationalism, Christopher Hughes argues that the cession of Taiwan to Japan in 1895 following China’s loss to Japan in the Sino-Japanese War of that year, was “one of the sparks that set off the prairie fire of Chinese nationalism,”31 underlining again that for Mainland Chinese thinkers, Taiwan’s loss has an outsize importance in the Chinese nationalist narrative. American China specialist John Garver emphasizes the connections between what have been called here “sacred commitments” and China’s domestic politics in understanding the crisis. Garver argues that in the wake of the failures of CCP policies from the Great Leap Forward (1958) to the Cultural Revolution (1966–1976) to the Tiananmen Incident (1989), during the 1990s, the Party was relying on nationalism as a rallying point to sustain its legitimacy, and this made the Taiwan problem much more sensitive (Garver 1997:47–49). Seemingly treating China’s commitment to Taiwan as a given, a matter with a historical force of its own, Garver maintains that as Chinese domestic politics shifted to nationalism as a basis for political legitimacy, the Taiwan issue became the litmus test for the younger, more moderate leaders, the way in which they had to show the older, revolutionary leaders that they remained men and women of mettle. There could be no compromise on Taiwan. Added to this was the succession crisis with Deng Xiaoping’s failing health in 1994 and thereafter (he died in 1997)—the new technocratic leadership lacked the revolutionary credentials of their elders and yet needed the elders’ support to rule, so they had little room for compromise on the Taiwan issue given its sensitivities (50).32 In his description of the central importance of Taiwan to Sino-American relations, Principal Deputy Director of the US State Department’s Policy Planning Staff during the time of the crisis, Alan Romberg, says of the island, “For Beijing it symbolized sovereignty, occupying a place at the very core of China’s own sense of national identity and dignity. It stood as an issue of principle that permitted no compromise.” (Romberg 2003:217) Continuing in the vein of the statements above on Taiwan’s value, well-known Chinese scholar Su Ge has said, “... [F]rom ancient times Taiwan has been a sacred (shensheng de in the original Chinese) and indivisible part of China’s territory, and this is a fact of history that no one can change” (Su 1999:6; translation by the author). Hao Yufan, with an argument consistent with this study as well, says the Taiwan issue is “an internal problem,” a problem that exists “... due to the interference of foreign powers and an unfinished civil war” (Hao 2001:183). He adds “... [Taiwan] is a symbol of the invasions and bullying China has suffered by the foreign powers... no [Mainland Chinese] leader can exhibit any weakness on the Taiwan issue” (183). Sourcing “Sacred” Where have these “sacred commitments” come from? What is it about Taiwan that evokes such deep feelings among Mainland Chinese? Does “identity” have something to say about this? Chinese identity is usually rooted in conceptions of the Yellow River region and the civilization that grew up there over the past five thousand years, focusing in particular on the dynastic system of a unified China that began under Emperor Qin some two thousand-plus years ago. A concept with primarily ideational and social derivations, identity in China’s case can certainly be related in part as well to the physical, material geography of the Asian landmass on which the Chinese people live. As it regards this case study, it is important to note that Chinese identity on the Mainland has been constructed to include Taiwan. In fact, it is not possible for most Mainland Chinese to conceive of China without Taiwan, so successful has been the production of this view of Chinese identity in Mainland China.33 There are several ways in which today’s Mainland Chinese identity is closely tied to Taiwan and by which Taiwanese independence movements and US policy sometimes threatens it. To substantiate this point, a bit of history must be recalled. Again, the Mainland Chinese notion that “a strong China is a united China” is hundreds of years old, though the notion is very much alive today in China and many of the Chinese interviewees mentioned it in interviews for this study. When the ruling Chinese dynasty was strong, China was unified and could in most cases thwart threats to China’s sovereignty. When China’s ruling dynasty became weak, order would break down, the country would sometimes break apart, and “foreign devils” would take advantage of China’s weakness, dividing it further. The latter scenario characterized China’s situation in the nineteenth century when the Qing Dynasty floundered and foreign powers began encroaching on China’s dignity and its territory. Since 1839 in particular, China has suffered much at the hands of foreign powers, starting with the Opium Wars that began at that time, and continuing with the loss of Taiwan to Japan in 1895, and on through the 1930s and 1940s with the Japanese invasion of Mainland China and the Chinese Civil War. Out of this have come notions of China’s “century of humiliation” (approximately 1839–1949). This history and the strong sense of indignation it has engendered in the Chinese people, which is boldly propagated today by China’s government media and educational system, is a powerful part of today’s Mainland Chinese identity. It has led to what Gries (2001) has called “the victimization narrative,” a narrative or discourse in China about China’s suffering at foreign hands since 1839, which has also become a fundamental part of Chinese identity today in the PRC. This, as Zheng Wang argues, is the key element of China’s constructed identity today, for “historical memory is the prime raw material for constructing China’s national identity,” (Wang:223) and this victimization narrative (or as Wang puts it, this narrative of national humiliation) is the key element the Party has inculcated in the people since 1992 to shore up support and its own legitimacy.34 This narrative of Chinese identity in today’s PRC is the soil in which grows what has here been called “sacred commitments” to Taiwan—the emotionalism, nationalism, and indignation at the roles of foreign powers in (i) wresting Taiwan away from China,35 and (ii) in keeping Taiwan away from China.36 The Taiwan question is close to the heart of the deepest lore of the Chinese Communist Party’s rise to power and its epic battles with the Japanese, then the KMT, and then the KMT’s flight to Taiwan, where the Americans protected them from what Mainlanders saw as their just desserts. For all of these reasons, from the Mainland Chinese perspective, to allow Taiwan to leave China, whether by plebiscite or by foreign incursion, is tantamount to treason, an assault on “Chinese identity” as it is presented here, and, if Zheng Wang is right, is a threat to the core identity and fundamental legitimacy of the Chinese Communist Party today. A China that is not strong enough to stop its territory from being carved up (as was the case in 1895, and as the departure of Taiwan would indicate to them today) could not be the China that Mainland Chinese see gloriously rising from the ashes of the Western incursions and Japanese invasions of China, the Chinese civil war and the Cultural Revolution. In Mainland Chinese eyes this rise started under the bold but often flawed leadership of Mao Zedong, but has continued under the pragmatic oversight of Deng, Jiang, Hu and now Xi, as China’s booming economy continues to strengthen the country and enrich the people. A Taiwan that successfully secedes creates in effect cognitive dissonance as it regards Mainland Chinese identity, for this would be a serious disconnect between the “what is” (in this case) and the “what should be.” Moreover, allowing Taiwan to go is also seen as an insult to China’s dignity given all that has happened to China at foreign hands. A very important point here is that reunification is seen as a way to finally put right what first Japan, then the KMT/Nationalists, and then the United States have perpetuated in Mainland eyes in engineering and then maintaining the separation of Taiwan from China. Letting Taiwan go is also seen as a betrayal by today’s Chinese of their ancestors who pledged to get Taiwan back, a powerful point in a society in which Confucianism (and its respect for elders) has been an important part of its historical identity. China’s “sacred commitments” to regaining Taiwan strike very close to the heart of the Mainland Chinese identity as currently conceived. Addressing Counter-Arguments As it regards this study’s conclusions, how would one know whether they were wrong? Realists like John Mearsheimer argue that non-material factors like “sacred commitments” do not drive major policy decisions, but rather material factors do.37 To test this approach against the one offered in this study, one might ask what this case would have looked like had such material factors and interests been the driving forces? One employing a material-driven Realist approach38 to China’s interest in Taiwan and the 1995–1996 crisis might have expected to have observed several things. First, one would have expected the Chinese to consider Taiwan’s importance primarily in terms of economic/resource benefits that might accrue by regaining the island or by its strategic value as the “unsinkable aircraft carrier.” Second, the difference in status between Taiwan’s actual independence and its present status (that is, as independent in every way except for formal, declaratory independence and the international recognition that would accompany it) would not have been expected to have been all that important to Beijing. In strictly strategic terms, there is no difference between the two statuses of Taiwan—in reality it is administratively separate from China in either case, with its own government, its own currency, its own military. Third, China must be expected to have looked at its security as its primary interest, so the matter of Taiwan can be taken in no other context. Therefore, in line with Realists assumptions, its identity and/or emotionalism connected to unresolved conflicts from the past would not be expected to trump the deeper issue of national security. Given that a war to regain Taiwan could put China in a position of being at war with the United States, the nation that poses the most serious potential security threat to China, the nation most in a position to thwart China’s rise as a great power, and (ironically) the foreign nation singly most responsible for helping facilitate the astronomical growth of China’s export-led economy (by its own foreign policy in the 1970s and its open trade policies since), one would expect China to take a long view of its economic and security interests and do everything it could to avoid war with the United States over the symbolism involved in Taiwan’s status, at least until China’s power matures. How do these three assumptions inherent to a Realist, material-driven approach compare to the results of this study? First, while there certainly is a strategic value to Taiwan that could benefit Mainland China, it was not the issue this research found to be the driving force for China’s interest in Taiwan under the period of study. Rather, “sacred commitments” were found to be most salient. Moreover, the argument that China’s primary interest in Taiwan is strategic has been made by some, but is found wanting here. For example, Alan Wachman has argued that China’s primary interest in Taiwan is strategic, most importantly so that China’s navy has a break-out capability, enabling its ships and in particular its submarines39 greater freedom to move eastward from Taiwan into deeper water with greater ease and less detectability by the United States and its security partners. The argument is that presently China is blocked in to some degree, from Japan’s main islands to the Ryukyus, to Taiwan, to the Philippines, and around to Singapore and the Malacca Straits. Taiwan would give China naval projection power, hence its value.40 Wachman’s argument has a number of problems as presented. William Murray, retired submariner, expert on China’s maritime policy, and associate professor at the US Naval War College, says he does not agree with Wachman that China’s possession of Taiwan would give its navy (its submarines in particular) a break-out capacity, allowing its ships and subs greater ease and less detectability to move out of the first-string of islands surrounding China’s coast: “I don’t really think China’s submarines would have much of a problem getting to deep water undetected in wartime, as is, so I don’t really agree with Dr. Wachman’s premise.”41 Wachman’s argument has another problem. In his case for the importance of the geo-strategic factors from the Chinese point of view, he presents primarily the PLA perspective. Almost all of sources and quotes he presents are from the PLA.42 It is no surprise that these thinkers would emphasize the geo-strategic salience of getting Taiwan back. The data I have presented here, while it includes the PLA point of view, is not limited there to. In his arguments, Wachman makes great concessions to what I have called “sacred commitments” and the role of domestic political pressures on the leadership,43 though in the end he dismisses their importance in favor of geo-strategic factors. Yet while he has written an entire book on the question, “Why Taiwan? Geostrategic Rationales for China’s Territorial Integrity,” he makes an enormous concession in his conclusion that, “... the foreign policy elites and even individuals in the central leadership may share the conviction that Taiwan has geostrategic salience, although conclusive evidence of that has yet to be presented.”44 This study has presented evidence that while Taiwan has strategic value in Beijing’s eyes, what is more important in this case are “sacred commitments” and domestic political pressures. Second, again regarding the necessary assumptions of a material-driven approach and the outcome of this study, Beijing clearly is concerned about the symbolic difference between (i) a Taiwan that is formally independent, and (ii) a Taiwan that is not formally independent but exists as a de facto independent political entity as is the case today. Chinese leaders have stated time and again that China reserves the right to go to war if Taiwan declares formal independence. In fact, they have registered their vehement opposition to any removal of “Republic of China” from ROC passports and passed an Anti-Secession Law in 2005 saying that (i) any moves by Taipei to separate itself from China, (ii) any actual separation of Taiwan from China, or (iii) anything that results in the permanent delaying of reunification are each sufficient causes for Chinese use of force. Third, because China is willing to go to war over Taiwan if the latter declares independence, even if it means war with the United States, neither strategic long-term nor short-term material interests appear to be driving its calculations. It must be something else, for surely Beijing knows that a war with the United States over Taiwan would do much more to threaten China’s security and other material interests than any other international scenario Beijing might imagine short of outright invasion by a foreign power or a foreign-led insurrection inside China.45 The point is, this research and other studies46 show that what are here called “sacred commitments” and domestic political concerns have been the driving forces in Beijing’s Taiwan policy, not material factors and interests and that because of these factors China is prepared to go to war over Taiwan if it comes to that, despite the costs. A note is due here about sacred commitments and generalizability. It is not suggested here that sacred commitments is a general predictor of Chinese behavior in any given situation, for the sacred commitments narrative seems to be a factor relegated to application to Taiwan alone. The sacred narrative has not been applied by Beijing to the South China Sea, the Diaoyu Islands or any other feature. How are Chinese commitments to Taiwan comparable to China’s commitments to the East China Sea or the South China Sea? Speaking first of similarities, China has claims to not only Taiwan, but to islands in both the East China and South China Seas.47 The Diaoyus/East China Sea and the South China Sea, if possessed unchallenged by China, would bring Beijing certain territorial, resource, and security benefits as well, as with Taiwan. With the Diaoyu Islands, another similarity with Taiwan is that 1895 is the year that both were taken by Japan according to the Chinese narrative.48 Another similarity has arisen, in that recently the South China Sea and the East China Sea have been defined as being part of China’s “core interests,” which has been the case for Taiwan for as long as the PRC has existed. The similarities end there, however. First, neither the Diaoyu Islands nor the South China Sea has figured prominently in China’s nationalism discourse until more recently. During WW2 ROC President Chiang Kai-shek had argued (successfully) with Roosevelt, Churchill, and Stalin for the inclusion of Formosa/ Taiwan in the Cairo and Potsdam Declarations as needing to be returned to China, though such prominence was not given to the Diaoyu Islands or the South China Sea. As for Mao, while he made claims about the importance of retaking Taiwan from the establishment of the People’s Republic of China in 1949 on, there was very little discussion of the South China Sea or the Diaoyu Islands from top Chinese leaders until the early 1970s, and even then there was no comparison to the importance of the role played in Chinese discourse that Taiwan has held. Second, no one lives on the maritime features that comprise the South China Sea and the East China Sea, except in the case of Sansha City on Yongxing (Woody) Island in the Paracel Island Group, which quite recently has acquired approximately 600 inhabitants. Taiwan, on the other hand, has 23 million inhabitants, approximately 98% of which have Han Chinese heritage. Moreover, those Chinese inhabitants have created a democracy and buy their defensive equipment from the United States. Third, Taiwan has an area of about 14,000 square miles, whereas Yongxing (Woody) Island, the largest of the Paracels, comprises 0.8 square miles, and the five isles which comprise the Diaoyu Islands together make up 2.7 square miles. Fourth, most of the nations of the world recognize Taiwan as belonging historically to China based on historical documents (only 22 nations and the Vatican recognize the Republic of China, the rest of the world’s nations recognizing the PRC and accepting it as the sole representative of China), demographic realities (a majority Chinese population), and at least two international legal documents (the Cairo and Potsdam Declarations) noting China’s rightful claim to Taiwan and stating that the island should return to China (along with other territories taken by Japan)49 at the end of WW2. On the contrary, few nations of the world recognize China’s claims to either the East China Sea and Diaoyu Isles or the South China Sea nine-dotted line area. Fifth, Chinese public opinion is highly supportive of central government efforts to prevent the separation of Taiwan from the Mainland, even if it meant war, whereas the South and East China Seas do not have the emotional, historical or nationalistic appeal Taiwan does to ordinary Chinese.50 The Chinese government enjoys little room for compromise on Taiwan as it regards public opinion, whereas it might enjoy greater policy flexibility in dealing with the East and South China Seas. For example, while the Chinese government might have the flexibility to work out a compromise arrangement with Japan on joint management of the East China Sea, etc., there will be no compromise in Mainland Chinese policy/minds on the ultimate return of Taiwan to the Mainland. Finally, while the Chinese government has sharpened its rhetoric regarding its claims in the South and East China Seas in the last few years, it has not used the emotional, “sacred commitments” narrative in these two cases, as it has with Taiwan. For all of these reasons, while China may in the end go to war over some of the features in the East and South China Seas in coming years if situations warrant it—as its confrontations with Japan (Diaoyudao/Senkakus), the Philippines (Huangyandao/Penatag,) and Vietnam (Spratleys and Paracels) in recent years suggest is at least a possibility—this is not a given in the sense that war over Taiwan would be if Taiwan were to make any moves toward independence, etc. While they have upgraded the status of the South and East China Sea claims to “core interests” (as has been the case with Taiwan since the establishment of the PRC), the Chinese government has not constructed a “sacred commitments” narrative about the South and East China’s Seas. Consequently, I would not expect the level of commitment to these areas and their features as I would to Taiwan, I would expect greater policy flexibility in these areas than I would with Taiwan, and I would expect a higher threshold for major armed conflict in these areas than with Taiwan. That said, and given the stable relations between Beijing and Taipei presently, minor armed conflict (skirmishes) over maritime features in the East and South Chinese Seas may in the short term be a greater danger than armed conflict over Taiwan, which would be of a more serious nature given the long history of unresolved conflict, the significant military forces arrayed on both sides of the Strait, the emotionalism, and the proximity of a large non-combatant population which could be impacted on both sides of the Strait. Another question that might arise in response to the arguments presented here is why has China exhibited some degree of policy flexibility toward Taiwan though sacred commitments must be viewed more or less as a constant? Sacred commitments as argument claims to explain motivations, but makes no pretense of explaining tactics, or what policymakers will actually do in a given situation. Actual policy in any state is impacted by many factors, including domestic policy, perceptions, events, and strategic and cost–benefit analyses of achieving desired goals, etc. Beijing’s policy flexibility, where seen, depends on situational, domestic political, strategic and other factors including political trends in Taiwan such as the election of Ma with his more amiable Beijing policy, all depending on which season of policy flexibility is being addressed. Conclusions and Implications for Theory and Policy The most basic Chinese interest in the crisis in the Taiwan Strait in 1995–1996 was to prevent any moves by Taiwan toward becoming independent primarily because of China’s “sacred commitments” to reunification and secondarily because of concerns among the leadership that the loss of Taiwan would be a serious blow to their legitimacy.51 Wrapped up in all of this was China’s identity as a developing “socialist state with Chinese characteristics” which has suffered a “century of humiliation” and is informed by “the victimization narrative” (Gries 2001), all of which made the government and people of the PRC very sensitive to events regarding Taiwan (Wang 2012). In Beijing’s eyes Lee Teng-hui’s visit to the United States and his highly political speech at Cornell symbolized both Lee-inspired Taiwan separatism and American complicity therein. This was in part due to the Chinese misperception that Clinton could and would block the Lee visa in Congress, and China’s misperception as to US motives in the Strait (believing that the United States really was bent on encouraging Taiwan to become independent).52 Consequently, by granting Lee a visa, the Chinese concluded that America had threatened a vital Chinese interest—it had challenged China’s “sacred commitments” to Taiwan. After the Lee visit, China’s commitment to preventing Taiwan from declaring independence meant a need to deter Taiwan from walking down the road to independence, which the Chinese sought to achieve by missile firings and military exercises in and around the Taiwan Strait in 1995 and 1996. This study has concluded that China’s interest in regaining Taiwan53 is constituted by a combination of the following variables, in order of salience: “sacred commitments,” domestic politics (which include leaders’ fear of angering people and leaders’ fear of loss of legitimacy and loss of power if Taiwan was let go), security interests, the fear that losing Taiwan could presage a loss of other areas (Tibet, etc.), and economic interests. It has concluded that all of these have worked in conjunction to serve construct China’s “interest” in and policy of striving to regain (or at least not lose) Taiwan. These are not mutually exclusive because, for example, the domestic political pressure on the leaders not to “lose” Taiwan comes in part from the peoples’ own notion of “sacred commitments” to Taiwan, which was created in part by government-run media sources and educational institutions. Likewise, strategic and economic interests in Taiwan put pressure on the leaders not to let Taiwan go, but to honor these “sacred commitments.” The fear of the precedent of letting Taiwan go, as it regards independence movements in Tibet and Xinjiang, also added to the pressure on the leaders not to compromise on Taiwan. Though not equal in their impact, these things all worked together to shape policy and bring about the policy outcome described above. Understanding their interplay is not a clean, tidy, or necessarily scientific process, however. This is why triangulation via the tripartite method described here was selected as a way of trying to understand the factors that were most salient in the minds of the policymakers in this case. This study has a number of theoretical implications, the most important of which is the role of ideational factors, sacred commitments in particular, in China’s Taiwan policy. It has been conventional wisdom54 to see China’s foreign policy as very much in the tradition of realpolitik. 55 However, while many ascribe to China Realist world views and the primacy of realpolitik-driven foreign policy proclivities, as it concerns this particular case China’s policy toward Taiwan in the 1995–1996 crisis seems to have been driven more so by idealpolitik—or more specifically, constructed notions of a “sacred commitment” to reunification—than toward the strategic and material gains it could gain by reunification. This is consistent with a school of thought, as it regards understanding China’s foreign policy, that material-driven, rational choice approaches to understanding Chinese foreign policy do not get us as far as approaches that utilize in addition (or in some cases exclusively) non-material (ideational, social, normative, identity-based, etc.) factors toward the same end.56 Making this same case is Taiwan-based scholar Shih Chih-yu, who argues that if in fact security considerations were Beijing’s primary concern regarding Taiwan’s importance, why not just let Taiwan become independent, and then seek a security pact with it? He maintains that it was not Chinese concerns about national security that motivated the strong Chinese show of force in the Taiwan Strait in 1995 and 1996, but rather nationalism and emotionalism that were the primary motivating forces,57 arguing that despite its possible use as a forward naval base, Taiwan is in fact more trouble than it’s worth, particularly if its attainment meant war with the United States, which could truly threaten Mainland China’s national security. Thomas Christensen’s study of Chinese foreign policy behavior concurs with Shih’s conclusions. Since realpolitik would suggest attention to political realities, not legalities, it is puzzling why the change from de facto independence, which Taiwan has had since 1949, to legal independence would drive China to risk damage to its economy and war with the world’s only superpower [the US]. But there is convincing evidence that China is prepared to do just that.” (Christensen 1996:45) Christensen buttresses the point that an ahistorical Realism just does not explain China’s attitudes toward Taiwan, for China’s obsession with Taiwan is simply not “rational” from a conventional rationalist, utilitarian, or material-driven Realist perspective. Taken alone, perhaps China’s “sacred” rhetoric might be seen as simply rhetoric. Yet considering the consistency with which this language has been used by China’s highest officials and its scholars and researchers, and taken against the backdrop of the comments of the respondents in this study, it must be taken seriously. Subsequently, a number of policy implications flow from this study. First, policymakers in the United States and Taiwan must remain clear that China’s commitment to Taiwan is unwavering, not entirely “rational”58 from a realpolitik perspective, and is even “sacred” in nature. While pragmatism probably is the reigning worldview in China today and much of China’s foreign policy behavior is consistent with it, its approach to Taiwan is different, as this study has shown. Relations between Beijing and Taipei have since 2008 been good, and we all hope they’ll continue to improve. Yet this is not a given, however, because (i) the stakes for Beijing have not changed (Beijing still wants Taiwan back and will not compromise on that), (ii) Taiwan is a democracy and so a continuation of today’s relatively Beijing-friendly policy under the Ma Administration is not guaranteed, and (iii) with Beijing’s growing economic and military capabilities the scales are slowly tipping in its favor if it does eventually decide to resort to force.59 The second implication of this study is that armed conflict in the Taiwan Strait, with China on one side and Taiwan and the United States on the other, remains all too easy to slip into, even today. Though the increasing economic interdependence between Mainland China and Taiwan certainly raises the costs of going to war, it is not clear that it has lessened the dangers of conflict considerably once the term of the present leadership in Taiwan comes to an end in 2016, particularly as the balance of power across the Strait continues to tip in Beijing’s favor.60 Third, and consequently, the United States will have little choice but to continue its “double deterrence” policy toward Beijing and Taipei (Bush 2013), that is, attempting to deter Beijing from using force vis a` vis Taiwan, and at the same time attempting to deter Taiwan from moves toward independence or otherwise unilaterally altering the status quo between it and China. This would include continuing to sell Taiwan, in the least provocative (to Beijing) manner possible, the basic tools Taiwan needs for its defense (Kan 2013), while doing all it can to maintain good relations with both Beijing and Taipei. Washington might do a better job as well of communicating to Beijing that it is not opposed to reunification as long as Taiwan finds the means thereto acceptable. In this respect, there is a fundamental misunderstanding of US policy on Beijing’s part, for Beijing seems convinced that the United States is bent on keeping Taiwan and the Mainland divided.61 This study found that in this classic confrontation between a status quo hegemonic power (the United States) and a rising power (China), squaring off over a wealthy island in a strategic waterway (Taiwan), there is surprisingly little evidence that the stuff of standard material-driven discourse on security concerns and balancing drove China’s policy. All of this leads to the conclusion that while Realism may be the best lens through which to view some foreign policy behavior, in this case it would not have been very fruitful to employ Realist approaches to SinoAmerican relations, depending as they do so exclusively on strategic material factors and material definitions of interests for their explanatory power. For cases such as this one, more fruitful are approaches like constructivism, and methodologies like the one employed in this study, that incorporate domestic politics, interests defined in non-material ways, and non-material (ideational and social) factors more fully and systematically. Failing to do so leaves one with the unfortunate consequence of overlooking or at least under accounting for the force of factors such as China’s “sacred commitments” to Taiwan.

#### No alt causes---China will be forced by domestic political pressure to invade

**Quingguo 14** (Jia Quingguo, PhD, is Professor and Associate Dean of the School of International Studies of Peking University, “Debating China: The U.S.-China Relationship in Ten Conversations: Taiwan and Tibet,” Oxford University Press; 1 edition)

Why is the political status of Taiwan so important to China? For China, the Taiwan problem is first a matter of sovereignty and territorial integrity. That itself is important for any country. Second, it is also a matter of national dignity and respect. For over a hundred years after the Opium War in 1840, imperialist powers repeatedly invaded China and carved up its territories into spheres of influence. Restoring national independence and reunifying the country therefore has become a most cherished aspiration of the Chinese people. After the founding of the People’s Republic of China in 1949, China did become independent and regained most of its territories. However, Taiwan has remained separate—an enduring symbol of China’s weakness and humiliation. Third, the Taiwan problem implicates national unity. China suffers from separatist movements, especially in the minority areas of Xinjiang and Tibet, and Taiwan independence may encourage separatism in those regions. Fourth, the Chinese Communist Party (CCP) promised national reunification to the Chinese people, and its political legitimacy would be undermined if it did not stop Taiwan’s independence. Finally, to many people in China, Taiwan has great strategic value. It is located off the Chinese coast and, if independent, could block much of China’s access to the outside world and become a platform for foreign invaders. The political pressures on the Chinese government when it comes to Taiwan are tremendous and growing. In the past, Chinese people knew that China was weak and could not stop the United States from selling weapons to Taiwan. Now, many believe that China should no longer tolerate such insulting behavior. Confronted with this mounting domestic pressure, the CCP is finding it increasingly difficult to justify its “weak” responses, such as verbal protests, to U.S. weapons sales and believes it needs to demonstrate its courage with concrete acts of retaliation. Because national unification is an important source of political legitimacy, the CCP could face a serious domestic political crisis if it does not handle the Taiwan issue deftly.

#### Invasion swiftly goes nuclear.

Stacie L. Pettyjohn 22, senior fellow and director of the defense program at the Center for a New American Security; and Becca Wasser, a fellow in the defense program and co-lead of The Gaming Lab at the Center for a New American Security, 5/20/2022, “A Fight Over Taiwan Could Go Nuclear,” https://www.foreignaffairs.com/articles/china/2022-05-20/fight-over-taiwan-could-go-nuclear/)//BB

Russia’s invasion of Ukraine has raised the specter of nuclear war, as Russian President Vladimir Putin has placed his nuclear forces at an elevated state of alert and has warned that any effort by outside parties to interfere in the war would result in “consequences you have never seen.” Such saber-rattling has understandably made headlines and drawn notice in Washington. But if China attempted to forcibly invade Taiwan and the United States came to Taipei’s aid, the threat of escalation could outstrip even the current nerve-wracking situation in Europe.

A recent war game, conducted by the Center for a New American Security in conjunction with the NBC program “Meet the Press,” demonstrated just how quickly such a conflict could escalate. The game posited a fictional crisis set in 2027, with the aim of examining how the United States and China might act under a certain set of conditions. The game demonstrated that China’s military modernization and expansion of its nuclear arsenal—not to mention the importance Beijing places on unification with Taiwan—mean that, in the real world, a fight between China and the United States could very well go nuclear.

Beijing views Taiwan as a breakaway republic. If the Chinese Communist Party decides to invade the island, its leaders may not be able to accept failure without seriously harming the regime’s legitimacy. Thus, the CCP might be willing to take significant risks to ensure that the conflict ends on terms that it finds acceptable. That would mean convincing the United States and its allies that the costs of defending Taiwan are so high that it is not worth contesting the invasion. While China has several ways to achieve that goal, from Beijing’s perspective, using nuclear weapons may be the most effective means to keep the United States out of the conflict.

China is several decades into transforming its People’s Liberation Army (PLA) into what the Chinese President Xi Jinping has called a “world-class military” that could defeat any third party that comes to Taiwan’s defense. China’s warfighting strategy, known as “anti-access/area denial,” rests on being able to project conventional military power out several thousand miles in order to prevent the American military, in particular, from effectively countering a Chinese attack on Taiwan. Meanwhile, a growing nuclear arsenal provides Beijing with coercive leverage as well as potentially new warfighting capabilities, which could increase the risks of war and escalation.

China has historically possessed only a few hundred ground-based nuclear weapons. But last year, nuclear scholars at the James Martin Center for Nonproliferation Studies and the Federation of American Scientists identified three missile silo fields under construction in the Xinjiang region. The Financial Times reported that China might have carried out tests of hypersonic gliders as a part of an orbital bombardment system that could evade missile defenses and deliver nuclear weapons to targets in the continental United States. The U.S. Department of Defense projects that by 2030, China will have around 1,000 deliverable warheads—more than triple the number it currently possesses. Based on these projections, Chinese leaders may believe that as early as five years from now the PLA will have made enough conventional and nuclear gains that it could fight and win a war to unify with Taiwan.

Our recent war game—in which members of Congress, former government officials, and subject matter experts assumed the roles of senior national security decision makers in China and the United States—illustrated that a U.S.-Chinese war could escalate quickly. For one thing, it showed that both countries would face operational incentives to strike military forces on the other’s territory. In the game, such strikes were intended to be calibrated to avoid escalation; both sides tried to walk a fine line by attacking only military targets. But such attacks crossed red lines for both countries, and produced a tit-for-tat cycle of attacks that broadened the scope and intensity of the conflict.

For instance, in the simulation, China launched a preemptive attack against key U.S. bases in the Indo-Pacific region. The attacks targeted Guam, in particular, because it is a forward operating base critical to U.S. military operations in Asia, and because since it is a territory, and not a U.S. state, the Chinese team viewed striking it as less escalatory than attacking other possible targets. In response, the United States targeted Chinese military ships in ports and surrounding facilities, but refrained from other attacks on the Chinese mainland. Nevertheless, both sides perceived these strikes as attacks on their home territory, crossing an important threshold. Instead of mirror-imaging their own concerns about attacks on their territory, each side justified the initial blows as military necessities that were limited in nature and would be seen by the other as such. Responses to the initial strikes only escalated things further as the U.S. team responded to China’s moves by hitting targets in mainland China, and the Chinese team responded to Washington’s strikes by attacking sites in Hawaii.

A NEW ERA

One particularly alarming finding from the war game is that China found it necessary to threaten to go nuclear from the start in order to ward off outside support for Taiwan. This threat was repeated throughout the game, particularly after mainland China had been attacked. At times, efforts to erode Washington’s will so that it would back down from the fight received greater attention by the China team than the invasion of Taiwan itself. But China had difficulty convincing the United States that its nuclear threats were credible. In real life, China’s significant and recent changes to its nuclear posture and readiness may impact other nations’ views, as its nuclear threats may not be viewed as credible given its stated doctrine of no first use, its smaller but burgeoning nuclear arsenal, and lack of experience making nuclear threats. This may push China to preemptively detonate a nuclear weapon to reinforce the credibility of its warning.

China might also resort to a demonstration of its nuclear might because of constraints on its long-range conventional strike capabilities. Five years from now, the PLA still will have a very limited ability to launch conventional attacks beyond locations in the “second island chain” in the Pacific; namely, Guam and Palau. Unable to strike the U.S. homeland with conventional weapons, China would struggle to impose costs on the American people. Up until a certain point in the game, the U.S. team felt its larger nuclear arsenal was sufficient to deter escalation and did not fully appreciate the seriousness of China’s threats. As a result, China felt it needed to escalate significantly to send a message that the U.S. homeland could be at risk if Washington did not back down. Despite China’s stated “no-first use” nuclear policy, the war game resulted in Beijing detonating a nuclear weapon off the coast of Hawaii as a demonstration. The attack caused relatively little destruction, as the electromagnetic pulse only damaged the electronics of ships in the immediate vicinity but did not directly impact the U.S. state. The war game ended before the U.S. team could respond, but it is likely that the first use of a nuclear weapon since World War II would have provoked a response.

The most likely paths to nuclear escalation in a fight between the United States and China are different from those that were most likely during the Cold War. The Soviet Union and the United States feared a massive, bolt-from-the-blue nuclear attack, which would precipitate a full-scale strategic exchange. In a confrontation over Taiwan, however, Beijing could employ nuclear weapons in a more limited way to signal resolve or to improve its chances of winning on the battlefield. It is unclear how a war would proceed after that kind of limited nuclear use and whether the United States could de-escalate the situation while still achieving its objectives.

AN OUNCE OF PREVENTION

The clear lesson from the war game is that the United States needs to strengthen its conventional capabilities in the Indo-Pacific to ensure that China never views an invasion of Taiwan as a prudent tactical move. To do so, the United States will need to commit to maintaining its conventional military superiority by expanding its stockpiles of long-range munitions and investing in undersea capabilities. Washington must also be able to conduct offensive operations inside the first and second island chains even while under attack. This will require access to new bases to distribute U.S. forces, enhance their survivability, and ensure that they can effectively defend Taiwan in the face of China’s attacks.

Moreover, the United States needs to develop an integrated network of partners willing to contribute to Taiwan’s defense. Allies are an asymmetric advantage: the United States has them, and China does not. The United States should deepen strategic and operational planning with key partners to send a strong signal of resolve to China. As part of these planning efforts, the United States and its allies will need to develop war-winning military strategies that do not cross Chinese red-lines. The game highlighted just how difficult this task may be; what it did not highlight is the complexity of developing military strategies that integrate the strategic objectives and military capacities of multiple nations.

Moving forward, military planners in the United States and in Washington’s allies and partners must grapple with the fact that, in a conflict over Taiwan, China would consider all conventional and nuclear options to be on the table. And the United States is running out of time to strengthen deterrence and keep China from believing an invasion of Taiwan could be successful. The biggest risk is that Washington and its friends choose not to seize the moment and act: a year or two from now, it might already be too late.

#### China will invade Taiwan with submarines

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The most worrisome flash point for a U.S.-Chinese war is Taiwan. Beijing's long-term objective of reunifying the island with mainland China is clearly in conflict with Washington's longstanding desire to maintain the status quo in the strait. It is not difficult to imagine how this might lead to war. For example, China could decide that the political or military window for regaining control over the island was closing and launch an attack, using air and naval forces to blockade Taiwanese harbors or bombard the island. Although U.S. law does not require Washington to intervene in such a scenario, the Taiwan Relations Act states that the United States will "consider any effort to determine the future of Taiwan by other than peaceful means, including by boycotts or embargoes, a threat to the peace and security of the Western Pacific area and of grave concern to the United States." Were Washington to intervene on Taipei's behalf, the world's sole superpower and its rising competitor would find themselves in the first great-power war of the twenty-first century. In the course of such a war, U.S. conventional military operations would likely threaten, disable, or outright eliminate some Chinese nuclear capabilities- whether doing so was Washington's stated objective or not. In fact, if the United States engaged in the style of warfare it has practiced over the last 30 years, this outcome would be all but guaranteed. Consider submarine warfare. China could use its conventionally armed attack submarines to blockade Taiwanese harbors or bomb the island, or to attack U.S. and allied forces in the region. If that happened, the U.S. Navy would almost certainly undertake an antisubmarine campaign, which would likely threaten China's "boomers," the four nuclear armed ballistic missile submarines that form its naval nuclear deterrent. China's conventionally armed and nuclear-armed submarines share the same shore-based communications system; a U.S. attack on these transmitters would thus not only disrupt the activities of China's attack submarine force but also cut off its boomers from contact with Beijing, leaving Chinese leaders unsure of the fate of their naval nuclear force. In addition, nuclear ballistic missile submarines depend on attack submarines for protection, just as lumbering bomber aircraftrely on nimble fighter jets. If the United States started sinking Chinese attack submarines, it would be sinking the very force that protects China's ballistic missile submarines, leaving the latter dramatically more vulnerable. Even more dangerous, U.S. forces hunting Chinese attack submarines could inadvertently sink a Chinese boomer instead. After all, at least some Chinese attack submarines might be escorting ballistic missile submarines, especially in wartime, when China might flush its boomers from their ports and try to send them within range of the continental United States. Since correctly identifying targets remains one of the trickiest challenges of undersea warfare, a U.S. submarine crew might come within shooting range of a Chinese submarine without being sure of its type, especially in a crowded, noisy environment like the Taiwan Strait. Platitudes about caution are easy in peacetime. In wartime, when Chinese attack submarines might already have launched deadly strikes, the U.S. crew might decide to shoot first and ask questions later. Adding to China's sense of vulnerability, the small size of its nucleararmed submarine force means that just two such incidents would eliminate half of its sea-based deterrent. Meanwhile, any Chinese boomers that escaped this fate would likely be cut offfrom communication with onshore commanders, leftwithout an escort force, and unable to return to destroyed ports. If that happened, China would essentially have no naval nuclear deterrent.

### 2AC --- China Threatening SCS

#### China is threatening US maritime power in the South China Sea

**Berger amd Gilday 20 \*** United States Marine Corps four-star general, 38th Commandant of the United States Marine Corps, David. \*\* United States Navy officer, 32nd chief of naval operations, Michael. (12-20, “Advantage at Sea Prevailing with Integrated All -Domain Naval Power,” United States Navy, https://news.usni.org/2020/12/17/u-s-maritime-strategy-advantage-at-sea)HS

Today, the People’s Republic of China (PRC) and the Russian Federation (RF) employ all instruments of their national power to undermine and remake the international system to serve their own interests. Each conduct a variety of malign activities incrementally, attempting to achieve their objectives without triggering a military response. Both nations back their revisionist activities with regionally powerful militaries and obscure their aggressive behavior by mixing military and paramilitary forces with proxies. China’s and Russia’s attempts to exert control over natural marine resources and restrict access to the oceans have negative repercussions for all nations. China has implemented a strategy and revisionist approach that aims at the heart of the United States’ maritime power. It seeks to corrode international maritime governance, deny access to traditional logistical hubs, inhibit freedom of the seas, control use of key chokepoints, deter our engagement in regional disputes, and displace the United States as the preferred partner in countries around the world. To enable its strategy, China deploys a multilayered fleet that includes the People’s Liberation Army Navy, the China Coast Guard, and the People’s Armed Forces Maritime Militia—naval auxiliaries disguised as civilian vessels—to subvert other nations’ sovereignty and enforce unlawful claims. It continues to militarize disputed features in the South China Sea and assert maritime claims inconsistent with international law. Its state-subsidized distantwater fishing fleet steals vital resources from nations unable to defend their own exclusive economic zones. To support its multilayered fleet, China is also developing the world’s largest missile force, with nuclear capabilities, which is designed to strike U.S. and allied forces in Guam and in the Far East with everything from ballistic missiles to maneuverable cruise and hypersonic missiles. Further, China has centralized its robust strategic, space, cyber, electronic, and psychological warfare capabilities. With naval forces as the cornerstone of its efforts, China is aggressively growing and modernizing its military. Already commanding the world’s largest naval force, the PRC is building modern surface combatants, submarines, aircraft carriers, fighter jets, amphibious assault ships, ballistic nuclear missile submarines, large coast guard cutters, and polar Figure 1: Growth of China’s maritime forces since 2000. (Source: Office of Naval Intelligence) 4 Advantage at Sea icebreakers at alarming speed. China’s navy battle force has more than tripled in size in only two decades (Figure 1). This rapid growth is enabled by a robust shipbuilding infrastructure, including multiple shipyards that exceed those in the United States in both size and throughput. In conflict, excess PRC industrial capacity, including additional commercial shipyards, could quickly be turned toward military production and repair, further increasing China’s ability to generate new military forces. Whereas U.S. naval forces are globally dispersed, supporting U.S. interests and deterring aggression from multiple threats, China’s numerically larger forces are primarily concentrated in the Western Pacific. However, as China seeks to establish regional hegemony, it is also expanding its global reach. China’s One Belt One Road initiative is extending its overseas logistics and basing infrastructure that will enable its forces to operate farther from its shores than ever before, including the polar regions, Indian Ocean, and Atlantic Ocean. These projects often leverage predatory lending terms that China exploits to control access to key strategic maritime locations.

### 2AC --- China Navy Dom = Taiwan Invasion

#### Chinese naval dominance in the SCS leads to Taiwan invasion

**Carpenter 19**, Ted Galen Carpenter is senior fellow for defense and foreign policy studies at the Cato Institute, (7-15-19“China Flexes Its Military Muscles in the Western Pacific”, Cato Institue, <https://www.cato.org/commentary/china-flexes-its-military-muscles-western-pacific>)MS

It was just a matter of time until the surging economic capabilities of the People’s Republic of China would translate into more serious military capabilities. After more than two decades of annual (usually double‐​digit) boosts in defense spending, that time has arrived. China’s new clout is especially evident with the deployment of a modern navy equipped with an array of sophisticated weapons systems. Beijing’s policies in the South China Sea, the Taiwan Strait, and to some extent throughout the Western Pacific, are exhibiting greater assertiveness to match its’s rising military clout. That posture is leading to mounting tensions with the United States and Washington’s East Asian allies. It will be an important challenge for both sides to manage such frictions so that they do not produce a war that would be disastrous for all concerned. Beijing's military buildup and modernization has reached the point that US policymakers and defense planners are paying very close attention. The US Defense Intelligence Agency's 2019 report to Congress concludes that Beijing is building up its ground, air, and naval forces to achieve a more robust capability to invade Taiwan. Some of those moves also apply to China's ambitions in other areas of the Western Pacific. China has focused especially on developing potent anti-access, area denial (A2/AD) capabilities in recent years. Deployment of a new generation of anti-ship missiles and torpedoes, surface to air missiles, and aerial defense systems, is central to that strategy. Such weapons increase the vulnerability of US forces if Washington contemplates intervening militarily to prevent a Chinese armed initiative against Taiwan. They also materially reduce the advantage that US naval and air forces currently enjoy in the South China Sea. Beijing's apparent expectation is that it can raise the risk level to the United States high enough that US leaders will have to reconsider the strategy of maintaining US primacy in the Western Pacific, especially in the Taiwan Strait and the South China Sea. Xi Jinping pledged to complete the modernisation of the country’s military by 2035 and to transform it into a world-class fighting force by 2050 It is not a far-fetched goal. Some US analysts and pundits believe that Beijing already is becoming America's full-fledged military peer competitor in the Pacific. That concern seems premature, since it is unlikely that China can hope to match the US militarily on a global basis (or even throughout the Pacific Basin) for several more decades, if then. But matching or even exceeding Washington's air and naval power throughout the Western Pacific, especially in China's's immediate neighborhood, is another matter. Beijing may be very close to achieving that goal already. As its military power has expanded, China's behavior has become noticeably more assertive, if not aggressive, in such locales as the East China Sea, the Taiwan Strait, and the South China Sea. In the East China Sea, Beijing is contesting Japan's control of the Senkaku islands and pressing its own claim to that territory. In addition to national pride, the China's pressure reflects a desire to control extensive fishing resources and probable oil and mineral wealth in the waters surrounding the uninhabited Senkakus. The Japanese government has refused to budge on the territorial dispute, and Washington firmly backs Tokyo's position, but officials in both countries are increasingly worried about the extent of Chinese military power in that area. Beijing’s belligerence is even more evident in the Taiwan Strait. China conducted 16 military drills around Taiwan in 2017 alone, compared to just eight in 2016 and even fewer during the previous decade. The accelerated pace continued in 2018 and into 2019. Beijing’s naval and air power war games included having a flotilla led by an aircraft carrier, transit through the Strait. A senior Chinese official, Liu Junchuan, boasted that “the contrast in power across the Taiwan Strait will become wider and wider, and we will have a full, overwhelming strategic advantage over Taiwan.” Speaking on June 1, 2019, at the Shangri-La Dialogue, an annual multilateral conference on Pacific security issues, Defense Minister Wei Fenghe warned against efforts either in Taiwan or foreign countries to thwart China’s goal of reunification. Wei added ominously that, “If anyone dares to split Taiwan from China, the Chinese military will have no choice but to fight at all costs, for national unity.” In addition to its own accelerated military activities in the Taiwan Strait, China is reacting with more intense hostility to the presence of naval vessels from any other country in those waters. Most of Beijing’s angry protests have been directed at the United States for sending warships through the Strait, but Chinese officials display similar intolerance toward other powers. An especially odd incident occurred in April 2019 when, for reasons not entirely clear, France sent one of its naval vessels through the Strait. Beijing responded with a vitriolic protest. It is increasingly evident that Chinese leaders not only regard Taiwan as part of China, but they consider the Strait to be Chinese territorial waters.

## Trade/Black Sea Scenario

### 1AC --- Trade/Black Sea Scenario

#### Scenario #\_\_: Trade

#### Free floating mines pose a threat to trade across the entire Mediterranean; Turkey is key

Riya Baibhawi 22, Riya is an experienced News Writer with a demonstrated history of working in the broadcast media industry with a Bachelor of Arts focused in Psychology from Panjab University, 3/28/22, “Amid Russia-Ukraine War, Free-floating Naval Mines Threaten The Mediterranean,” *Republic World*, https://www.republicworld.com/world-news/russia-ukraine-crisis/amid-russia-ukraine-war-free-floating-naval-mines-threaten-the-mediterranean-articleshow.html

While, Turkish President Recep Tayyip Erdogan said that his government was vigilant and had taken necessary steps, the threat of undiffused mines crossing the Bosphorus lingers. On the west of the Bosphorus lies the Mediterranean- consisting of European countries like Greece, Italy and France; African countries including Egypt, Algeria and Morocco and the Jewish state of Israel. Arab states, including Lebanon and Syria, which are already shadowed by decades of war, also lie on the Mediterranean coast. Turkey, which holds control over the Bosphorus is under maximum threat. Experts and observers have opined that even a single explosion could lead to heavy destruction.

Notably, a total of 420 mines were deployed off the coast of Odesa by Ukrainian authorities to deter Russian troops. It is now known how many of them are currently floating free in the Black Sea or if any of them had entered the Mediterranean, but experts have said the mines-each containing 20 kgs of TNT- pose a serious threat to ships, cargoes and towns located at coasts.

#### Those mines undermine the Black sea economy which is key to food, semiconductors, supply shipping, and the global economy Joshua **Keating 22**, Joshua Keating is a global security reporter for Grid focused on conflict, diplomacy and foreign policy, author of the book, "Invisible Countries: Journeys to the Edge of Nationhood,” a graduate of Oberlin College, 5/25/22, “Why the battle for the Black Sea may be the most important showdown in the war — for Ukraine and for the world,” Grid, <https://www.grid.news/story/global/2022/05/25/why-the-battle-for-the-black-sea-may-be-the-most-important-showdown-in-the-war-for-ukraine-and-for-the-world/>, JH

Russia had an advantage in the Black Sea from the start. Prior to 2014, both countries maintained naval fleets in Crimea under a [treaty signed in the 1990s](https://www.nytimes.com/1997/06/01/world/setting-past-aside-russia-and-ukraine-sign-friendship-treaty.html). When Russian President Vladimir Putin’s forces annexed the Crimean Peninsula, they also took over about [75 percent of Ukraine’s fleet](https://www.defensenews.com/naval/2021/08/09/after-2014-decimation-ukrainian-navy-rebuilds-to-fend-off-russia/), leaving it reliant on a “mosquito fleet” of mostly small patrol boats to defend its southern coast.

In the early days of the current war, Russia’s navy [moved quickly to enact](https://warontherocks.com/2022/04/the-russo-ukrainian-war-at-sea-retrospect-and-prospect/) a blockade of the Ukrainian coast. It closed off the Kerch Strait, which connects the smaller Sea of Azov to the Black Sea. The important Sea of Azov port cities of Berdyansk and Mariupol have since fallen to Russian forces. Some 20 Russian naval vessels including six submarines are also patrolling the southern coast.

Further west, Russian warships and the forces now stationed on Snake Island are also enforcing a blockade on Odessa, Ukraine’s largest seaport. Ukrainian forces have been fighting to retake the [now-iconic outcropping](https://www.bbc.com/news/world-europe-61406808), hoping to prevent the Russians from setting up surface-to-air missile capabilities there.

Adding to the danger are hundreds of sea mines that both sides placed off Ukraine’s coast in the early days of the war. Many of these mines [have become unmoored](https://www.reuters.com/world/europe/floating-mines-black-sea-endangering-grain-oil-trade-officials-2022-04-05/) and are floating into open waters, imperiling shipping.

The result is that, even though Russia has not formally declared a blockade, that’s the current reality. “No one’s going to take a chance of going in there right now, either running astray of mines or the Russian navy,” Sal Mercogliano, a former merchant mariner and shipping historian, told Grid. Even if a shipping company were willing to take the risk, insurance rates are skyrocketing, making travel to Ukrainian ports prohibitively expensive. At [least 80 merchant ships](https://www.ft.com/content/8151ba97-5c07-4cef-9ad9-234c532b2481) are stuck in Ukrainian ports, and at least 10 have been attacked.

A few ships have been moving along coastal routes between Odessa and the Black Sea’s outlet to the Danube River at the town of Izmail. In theory, this could allow Ukraine to ship goods as far west as the Netherlands via Europe’s inland waterways. Unfortunately, Izmail also lies within artillery range of Snake Island.

Economic impact

The [effect of international sanctions on Russia’s economy](https://www.grid.news/story/global/2022/05/12/is-the-russian-economy-stabilizing-or-doomed-both/) has gotten more attention, but the damage done to the country where fighting is actually taking place has been far more profound.

The [World Bank projects](https://www.weforum.org/agenda/2022/04/ukraine-economy-decline-war/#:~:text=World%20Bank%3A%20Ukraine%20economy%20to%20contract%20by%2045%25%20in%202022,global%20slowdown%20and%20surging%20inflation.) that Ukraine’s economy will contract by up to 45 percent this year. Some of this is pure physical destruction: The Kyiv School of Economics estimated that as of the beginning of May, the war [had caused $94 billion](https://kse.ua/about-the-school/news/direct-damage-caused-to-ukraine-s-infrastructure-during-the-war-has-reached-over-94-billion/) in infrastructure damage. Then there’s the lost economic output of the 6 million Ukrainians who have left the country, and the roughly equal number who have been internally displaced.

But when asked about the first thing the international community could do to support Ukraine’s economy, Natalie Jaresko, the country’s former minister of finance, answered “unblock the ports.” Prior to the war, Black Sea shipping accounted for half of the country’s total external trade and 90 percent of its trade in grains including wheat and sunflower oil. Ukraine is the world’s [fourth-largest grain exporter](https://www.reuters.com/business/ukraine-could-lose-6-bln-grain-exports-with-ports-blocked-2022-03-21/), and losses could top $6 billion. “There’s about 20 million tons sitting in storage that has to be exported to make room for the new harvest,” Jaresko said. “Otherwise, we know something’s going to rot.”

Critical as food is, it’s not the only commodity affected by the maritime blockade. Ukraine produces around [half the world’s supply](https://www.reuters.com/technology/exclusive-ukraine-halts-half-worlds-neon-output-chips-clouding-outlook-2022-03-11/) of the neon gas used to produce semiconductor chips. Ukraine is also a [major producer of the wire harnesses](https://www.bloomberg.com/news/articles/2022-03-15/ukraine-plant-shutdowns-may-cost-europe-output-of-700-000-cars?sref=C3P1bRLC) used in European cars’ electrical systems.

All of these goods have traditionally left Ukraine by sea.

The shutdown of Ukraine’s most important trade route has left the country heavily dependent on foreign aid. The good news for Ukrainians: They are receiving quite a bit of aid. The $40 billion economic assistance package passed by Congress last week includes [$8.76 billion in economic assistance](https://www.aljazeera.com/news/2022/5/19/unprecedented-us-congress-passes-massive-ukraine-aid-package). But these funds are neither sufficient nor sustainable in the long run.

Shipping analyst John Konrad said Russia’s blockade is a reminder of the still-critical role of shipping in the global economy. “We have a kind of global ‘sea blindness,’” he told Grid. “We think everything can just be airlifted out. It can’t. Grain is too heavy and bulky. And it would be extremely expensive to truck it all.”

Critical as it is for Ukraine, the effects of the blockade are being felt globally via disruptions to the [international food supply](https://www.grid.news/story/360/2022/04/04/casualty-of-war-in-ukraine-the-global-food-supply/), particularly in food-vulnerable countries in the Middle East and Africa that were heavily dependent on Ukrainian grain. Ukraine [grows enough food](https://www.economist.com/leaders/2022/05/19/the-coming-food-catastrophe) to feed 400 million people around the world, at a time when prices were already on the rise. World Food Programme Executive Director David Beasley [warned last month](https://www.ft.com/content/8151ba97-5c07-4cef-9ad9-234c532b2481), “Millions of people will die because these ports are blocked.” Or as Jaresko put it to Grid, “what Putin has done is declare war against the world’s poor.”

The battle for control of the Black Sea has gotten less international attention than the fights over territory on land. One could argue it’s the front of this war that matters most for the rest of the world.

#### Semiconductor shortages sparks US China War

Julian E. Barnes 22, Julian E. Barnes is a national security reporter for The New York Times covering the intelligence agencies, 1/26/22, “How the Computer Chip Shortage Could Incite a U.S. Conflict With China,” *The New York Times*, https://www.nytimes.com/2022/01/26/us/politics/computer-chip-shortage-taiwan.html

WASHINGTON — The war game scenario conducted by a Washington think tank began with a sudden failure at three Taiwanese semiconductor foundries that make high-end computer chips used in such items as smartphones, automobiles and military equipment.

The halt in production raised questions of whether a cyberattack by Beijing was responsible — touching off an international crisis between China and the United States that the researchers said could grind the global economy to a halt and incite a military confrontation.

The war game and study by the Center for a New American Security, which is set to be released on Thursday, illustrate how dependent the world is on Taiwanese computer chips — and how that dependence could draw the United States and China into various kinds of conflict.

The report comes as Congress has put new energy into bills to increase domestic production of semiconductors in the United States. Diversifying the global supply chain for computer chips is a key recommendation in the report.

Last week, President Biden urged Congress to pass those bills and promised he would work to bring production of semiconductor chips back to the United States.

“Today we barely produce 10 percent of the computer chips, despite being the leader in chip design and research,” Mr. Biden said. “And we don’t have the ability to make the most advanced chips now — right now. But today, 75 percent of production takes place in East Asia. Ninety percent of the most advanced chips are made in Taiwan. China is doing everything it can to take over the global market so they can try to outcompete the rest of us and have a lot of applications — including military applications.”

Even if Congress approves new government investments in America’s microchip production capacities, matching Taiwanese expertise is years away, if it is even possible, the report’s authors say. The United States is already more dependent on Taiwan’s high-end microchips than it was on Middle Eastern oil in decades past, the report said.

China, the war game predicts, could use economic coercion, cyberoperations and hybrid tactics to try to seize or harm Taiwan’s semiconductor industry — and the United States must become better able to identify and counter Chinese tactics that could threaten the microchip supply.

War games like this one involve current and former officials, academics and other experts sitting around a table playing various roles. After an initial scenario is presented, the teams take turns making strategic decisions. Such exercises are supposed to yield insights about how different players would act, and lay plain what sort of moves each group might make.

Becca Wasser, who helped design and lead the scenario, said that while many war games were conducted to study China, most focused on conventional military threats, giving short shrift to the many ways China could exert pressure on Taiwan.

And countering those pressure points could be difficult, especially if the United States and Taiwan were at odds over the best strategy. In the scenario, the U.S. team presumed the Taiwan team would go along with its strategies to counter China. But Taiwan’s interest sometimes led it to cross-purposes. For example, when the United States wanted to bring semiconductor engineers to the safety of America, Taiwan resisted, worried about a brain drain.

“Whatever the United States tried to do by itself in the game really fell flat,” Ms. Wasser said. “We have seen a variety of examples of that in real life.”

As a result, multilateral responses and global efforts to build resiliency in the supply chain for computer chips are most likely the best strategy, the report said.

Taiwan has relied on its dominance of the microchip industry for its defense. The “silicon shield” theory argued that because its semiconductor industry is so important to Chinese manufacturing and the United States consumer economy, actions that threaten its foundries would be too risky.

Martijn Rasser, a co-author of the study and a former C.I.A. analyst, said it was crucial for the international community to convince Taiwan that its shield strategy needed to be internationalized. “The long-term play has to be a geographic dispersal of those capabilities out of Taiwan in exchange for enhanced security guarantees for the island,” he said.

The Biden administration has made clear that in the case of Ukraine, while the United States would economically punish Russia for any invasion, it would not commit troops to fight alongside Kyiv to stop any intervention by Moscow. The longstanding American policy toward Taiwan calls for shoring up its defenses and practicing strategic ambiguity over whether Washington would militarily intervene in a conflict over the island.

But Taiwan and its semiconductors are far more important to America’s economy than Ukraine is — meaning it would very likely be far more difficult for the United States to stay out of a conflict involving Taiwan.

Taiwan accounts for half of the overall production of microchips that are critical to the functioning of mobile phones, consumer electronics, cars, military equipment and more. South Korea, the nearest competitor, has about 17 percent of the overall market. But Taiwanese chips are the smallest and fastest, and its foundries account for 92 percent of the most advanced designs.

“It’s almost impossible to duplicate Taiwan’s manufacturing capability of high-end chips, of low-end chips,” said Dan Blumenthal, a scholar at the American Enterprise Institute. “It’s just the manufacturing hub of the world.”

Although the United States and Europe are trying to boost their own domestic design and production of semiconductors, they do not have the abilities to mass produce the most advanced designs that the Taiwan Semiconductor Manufacturing Company, or TSMC, can make.

“If the semiconductor supply chain is infringed upon by China in some way, all of the sudden the things that Americans look to in their daily lives, to get to and from work, to call their loved ones, to do a variety of different things, those disappear,” Ms. Wasser said.

### 2AC --- Food Wars

#### Food scarcity triggers global war.

Henk-Jan Brinkman 11, Chief, Policy, Planning and Application in the Peacebuilding Support Office of the United Nations; and Cullen S. Hendrix, Assistant Professor, The College of William & Mary, and Fellow, Robert S. Strauss Center for International Security and Law, University of Texas at Austin, July 2011, “Food Insecurity and Violent Conflict: Causes, Consequences, and Addressing the Challenges,” <https://ucanr.edu/blogs/food2025/blogfiles/14415.pdf>

Rising food prices contribute to food insecurity, which is a clear and serious threat to human security. Interest in food security as a catalyst for political instability and conflict has grown rapidly since 2007–2008, when food protests and riots broke out in 48 countries as a result of record world prices. In February 2011, the food price index of the Food and Agriculture Organization of the United Nations (FAO) reached a new historic peak, and the rise in food prices contributed to the wave of protests across North Africa and the Middle East that toppled Tunisian president Zine El Abidine Ben Ali and Egyptian president Hosni Mubarak.

Among major development organizations, the unchallenged consensus is that war and conflict are development issues: conflict ravages local economies, often leading to forced migration, refugee populations, disease, a collapse of social trust, and acute food insecurity. But is food insecurity itself a cause of conflict? Based on a review of recent research, the answer is a highly qualified yes. Food insecurity, especially when caused by higher food prices, heightens the risk of democratic breakdown, civil conflict, protest, rioting, and communal conflict. The evidence linking food insecurity to interstate conflict is less strong, though there is some historical evidence linking declining agricultural yields to periods of regional conflict in Europe and Asia.

These links are highly context-specific: they are contingent on existing political institutions, levels of economic development, social safety nets and demographic pressures. Food insecurity is neither a necessary nor sufficient condition for acute political violence and conflict. Generally, the risk of violent conflict is higher where political regimes intermingle democratic and authoritarian institutions or when a youth bulge, low levels of development, deteriorating economic conditions, or high inequalities among groups are present.

Fragile states (which have a high share of food imports), and the households within them (who must spend a large share of their income on food), are particularly vulnerable to higher food prices. Moreover, this vulnerability has increased over time. On the other hand, violent conflicts have also contributed to higher food prices and food insecurity, contributing to a vicious cycle.

While the situation seems bleak, the contingent nature of food insecurity’s effect on conflict suggests that governments, international organizations (IOs), and non-governmental organizations (NGOs) can take positive steps to reduce food insecurity and break the relationship between food insecurity and conflict. Governments can act to shield their citizens from higher prices and volatility in world markets by initiating measures to stabilize food prices and by establishing social protection systems that mitigate the impact of high food prices on vulnerable groups. Unfortunately, the capacity of fragile states to do that is limited. The World Food Programme and NGOs can assist in times of acute crisis to provide relief. Finally, governments, IOs and NGOs can work to make food security a part of the post-conflict peacebuilding and reconstruction process. The challenges are great, but the potential social, economic, and political costs of inaction are even greater.

#### Rigorous empirical studies prove food insecurity causes conflict.

Ore Koren 16, PhD Candidate at the University of Minnesota in Political Science and Former Jennings Randolph Peace Scholar at the United States Institute of Peace, & Benjamin E. Bagozzi, Assistant Professor in the Department of Political Science & International. Relations at the University of Delaware, “From Global to Local, Food Insecurity is Associated with Contemporary Armed Conflicts”, Food Security, October 2016, Volume 8, Issue 5, https://link.springer.com/article/10.1007/s12571-016-0610-x

What do these findings indicate about the variation in the risk of conflict and civil conflict? Firstly, all four models support the argument that a significant relationship exists between food insecurity and conflict. More specifically, these findings suggest that, for an average country, the baseline risk of conflict and civil conflict increases in regions that provide at least some access to food – supporting the expectation that global demands for food should generally direct conflict towards agricultural areas. At the same time, within agricultural areas, conflict is intuitively more likely to arise in regions where the levels of food per capita are low – that is, where food supplies are scarce. Secondly, and in line with previous research (Burke et al. 2009; O’Loughlin et al. 2012; Hsiang and Meng 2014; Hendrix and Salehyan 2012), warmer regions and areas with lower precipitation were significantly more likely to experience conflict. This supports the argument that food scarcity can serve, to some extent, as a mediating factor for the effects of climate variables, in addition to the independent impact of food insecurity related concerns on conflict. Thirdly, as extant studies (e.g., Hegre and Sambanis 2006) suggest, poorer regions are more likely to experience conflict, as are more ethnically diverse regions, although it appears that higher levels of democracy do not translate into more peace once cell level characteristics are taken into account.3 Perhaps unsurprisingly, regions with larger populations are more likely to experience conflict, as are more rural regions, as some scholars have argued (Fearon and Laitin 2003; Kalyvas 2006; Buhaug et al. 2009).

In sum, four models involving different explanatory variables have been utilized to examine two conceptualizations of conflict as an outcome of interest. The results strongly support extant arguments that access to and availability of food are each associated with an increased occurrence of armed conflict. This evidence does not negate previous explanations of conflict that emphasize the importance of political and economic development or climactic variation. However, by highlighting the strong association between food access and availability on one hand, and local political violence on the other, the above findings do show that these past expositions (e.g. Miguel et al. 2004; Burke et al. 2009; Hsiang and Meng 2014) in and of themselves are insufficient to fully explain the likelihood of local level conflict. Simply put, the present study confirms that there exists a systematic, and global, relationship between food insecurity on one hand, and the occurrence and persistence of social conflict on the other.

Discussion

What do these findings imply about the effect of food insecurity and conflict? Naturally, even the most detailed and elaborate models are simplistic, especially when containing as diverse a range of observations as those examined above. Nevertheless, in terms of conditional probabilities, all models show a statistically significant first difference change of approximately +92 % in the probability of conflict when a high risk scenario is simulated for an average cell.4

The conditional probabilities discussed above highlight the inherent complexity of social systems, as a phenomenon as notable as violent conflict ultimately arises due to a variety of stressors. Therefore, it should be emphasized that the above findings should not be interpreted as explaining conflict onset. Conflict can erupt due to various political (Buhaug 2010; Fearon and Laitin 2003) or economic (Hegre and Sambanis 2006; Collier and Hoeffler 2005) reasons – which may or may not be related to food insecurity – that are beyond the scope of this paper. Rather, the present study more simply suggests that political violence will have a higher likelihood of concentrating in regions that (i) offer more access to food resources and (ii) face low levels of food availability within areas that offer some access to food resources.

This study adopts an economic perspective on food security to explain this variation in the concentration of social conflict. From the demand side, violent conflict is most likely to revolve primarily around access to food sources. When food insecurity produces higher demands for food, these demands will directly compel groups and individuals to seek out and fight over existing food resources, rather than leading these actors to pursue and fight over geographic areas that lack any (or have very little) agricultural resources. Thus, access to croplands and food is a necessary condition for food insecurity-induced conflict, which is confirmed in the cropland analyses presented here. From the supply side, and within those areas that do already offer access to agriculture and/or food, conflict is most likely to occur in regions that offer lower levels of food availability, or insufficient food supplies. This is because lower food availability (or supplies) in these contexts directly implies higher levels of resource scarcity, which can engender social grievances, and ultimately, social and political conflict (Brinkman and Hendrix 2011; Hendrix and Brinkman 2013). More broadly, several causal mechanisms could plausibly link food security and social conflict.

For one, conflict in regions with higher food access and lower availability might arise as a principal outcome of food insecurity. This approach is most directly in tune with the body of research concerned with the resource scarcity-based security implications of climate change (e.g. Miguel et al. 2004; Burke et al. 2009; O’Loughlin et al. 2012), as well as with broader studies of conflict dynamics and food security in both rural and urban contexts (Brinkman and Hendrix 2011; Hendrix and Brinkman 2013; Messer and Cohen 2006). From this perspective, individuals and groups actively fight with one another due to food insecurity-induced grievances, which may manifest in groups’ attempts to overthrow existing political structures, or in these actors’ efforts to more directly seize and control available (but scarce) agricultural resources in an effort to better guarantee long-term food security for their constituents. If future global projections for population growth, consumption, and climate change hold true, then these dynamics suggest that incidences of violent conflict over food scarcity and food insecurity may increase as individuals and groups fight over a continuously shrinking pool of resources, including food.

A second mechanism involves the existence of logistic support in conflict-prone regions, or lack thereof. Throughout history and well into the nineteenth century, armies living off the land have been a regular characteristic of warfare. The utilization of motorized transport vehicles and airlifts has significantly reduced the need of modern militaries to rely on local populations for support, at least among modernized, highly technological militaries (Kress 2002, 12–13). However, given the bureaucratic and economic capabilities required to maintain such systems, the majority of state and non-state armed groups in the developing world are still unlikely to be supported by well-developed logistic supply chains (Henk and Rupiya 2001). Taking into account the consistent relationship between economic welfare and conflict (Hegre and Sambanis 2006; Fearon and Laitin 2003), unsupported warring groups on all sides of a conflict may move into regions that offer more access to cropland in order to forage and pillage to support themselves, which in turn produces higher incidences of hostilities, especially if there is not much food per person available within these fertile regions. Hence, violent conflict in this case is not the direct result of food insecurity, but rather is shaped by food insecurity concerns. The identified relationships between food security and conflict are robust across numerous alternative model specifications, and imply an independent effect of food insecurity in shaping conflict dynamics and conflict risk. Especially when considered alongside current, and projected, climatic and political-economic conditions, this linkage suggests that countries could see an increase in localized conflict worldwide in the coming years. However, this anticipated trend should be considered with caution for several key reasons.

#### Food scarcity triggers global war.

Henk-Jan Brinkman 11, Chief, Policy, Planning and Application in the Peacebuilding Support Office of the United Nations; and Cullen S. Hendrix, Assistant Professor, The College of William & Mary, and Fellow, Robert S. Strauss Center for International Security and Law, University of Texas at Austin, July 2011, “Food Insecurity and Violent Conflict: Causes, Consequences, and Addressing the Challenges,” <https://ucanr.edu/blogs/food2025/blogfiles/14415.pdf>

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#### Food is the most probable conflict trigger AND causes terrorism

Carolyn Heneghan 15, Reporter, Citing UN Experts at the Global Harvest Initiative Report, 1/22/2015, “Where Food Crises and Global Conflict Could Collide”, http://www.fooddive.com/news/where-food-crises-and-global-conflict-could-collide/350837/

World War III is unimaginable for many, but some experts believe that not only is this degree of global conflict imminent, but it may be instigated not by military tensions, oil and gas, or nuclear threats, but instead by, of all things, food.

As it stands, countries across the globe are enduring food crises, and the U.N.’s Food & Agriculture Organization (FAO) estimates that about 840 million people in the world are undernourished, including the one in four children under the age of 5 who is stunted because of malnutrition.

Assistant director-general of U.N. FAO Asia-Pacific Hiroyuki Konuma told Reuters that social and political unrest, civil wars, and terrorism could all be possible results of food crises, and “world security as a whole might be affected.” Such consequences could happen unless the world increases its output of food production 60% by mid-century. This includes maintaining a stable growth rate at about 1% to have an even theoretical opportunity to circumvent severe shortages. These needs are due to the growing global population, which is expected to reach 9 billion by 2050 while demand for food will rise rapidly.

### 2AC --- NATO k Black Sea Mines

#### Black sea mines require NATO cohesion; Turkey is key and their cooperating now

[Hilmi Hacaloglu](https://www.voanews.com/author/hilmi-hacaloglu/jji_i) et al 22, [Hilmi Hacaloglu](https://www.voanews.com/author/hilmi-hacaloglu/jji_i), [Umut Colak](https://www.voanews.com/author/umut-colak/kro_m), [Ezel Sahinkaya](https://www.voanews.com/author/ezel-sahinkaya/kkoyo) is a multimedia journalist at VOA’s [Extremism Watch Desk](https://www.voanews.com/extremism-watch) covering Turkey, Eurasia, and the Middle East, 4/8/22, “Amid Russia-Ukraine War, Turkey Worries About Floating Mines in Black Sea,”https://www.voanews.com/a/amid-russia-ukraine-war-turkey-worries-about-floating-mines-in-black-sea/6521222.html, JH

As Turkish military dive teams this week safely defused their third floating naval mine in Turkish waters since March 26, some maritime experts said the explosives still pose a threat to Istanbul's Bosphorus Strait.

On March 19, Russia’s FSB intelligence service said 420 naval mines were drifting freely in the Black Sea after breaking loose in a storm. The FSB says Ukrainian forces set the mines, but Ukrainian authorities dismissed that accusation as disinformation.

Ukrainian authorities accused Russia of planting the naval mines in the Black Sea and using them as "uncontrolled drifting ammunition."

“If these mines were broken loose as claimed, the risk continues even in the Bosphorus [Strait],” Bora Serdar, a retired staff colonel from the Turkish Naval Forces, told VOA. “It wouldn't be a surprise if at least a few mines went in the strait."

A regional threat

On March 26, Turkey, a NATO member, detected the first stray mine on the Black Sea coast of Istanbul near its Bosphorus Strait. The second one was found off the coast of Igneada, near the Bulgarian border, on March 28.

Turkish authorities announced Turkish Underwater Defense teams safely detonated both mines.

“Our mine hunter vessels and naval patrolling ships are all vigilant,” Turkish Defense Minister Hulusi Akar said on March 29, adding that Turkey is working on identifying the source of floating naval mines.

The Bosphorus Strait connects the Black Sea with the Marmara, the Aegean, and the Mediterranean seas and runs through Turkey’s largest city, Istanbul. It is a major shipping route for Black Sea countries.

Besides Turkey, Romania neutralized a mine on March 28 after fishermen first spotted it and reported it to the naval forces.

On Thursday, defense ministers of Turkey, Bulgaria, Georgia, Poland, Romania, and Ukraine met virtually at Turkey’s request to discuss the threat.

“The importance of cooperation in the Black Sea for peace, calm, and stability, including the fight against the mines, was emphasized at the meeting," Turkish Defense Minister Akar said in a statement.

### 2AC --- Mines kill Trade

#### Mines spotted in the strait undermine trade

Andrew Wilks 22, Andrew Wilks is a freelance journalist based in Ankara; previously worked as the deputy editor of Anadolu News Agency’s English service and for UK newspapers in London, 4/7/22, “Drifting sea mines bring Ukraine war to Turkey’s Bosporus Strait,” *AL-moniter*, <https://www.al-monitor.com/originals/2022/04/drifting-sea-mines-bring-ukraine-war-turkeys-bosporus-strait>, JH

Istanbul’s Bosporus Strait, one of the world’s busiest waterways, is threatened by naval mines drifting across the Black Sea from [Ukraine](https://www.al-monitor.com/originals/2022/04/turkey-us-launch-new-strategic-mechanism-amid-ukraine-crisis), posing a danger to maritime traffic in the area.

Three mines have been destroyed over the past two weeks, the third detonated by Turkish military divers near the strait’s northern entrance on Wednesday, raising concerns about the growing risk to the thousands of tankers and container ships that pass through the channel every year.

Ukraine and Russia have accused each other of laying mines. They share the Black Sea coastline with Turkey, Bulgaria, Georgia and Romania.

Ukraine’s Foreign Ministry has accused Russia of setting adrift Ukrainian mines it seized after the 2014 annexation of Crimea to “discredit Ukraine before international partners.” The ministry's statement said Russian Gen. Mikhail Mizintsev warned on Tuesday of the “[threat of Ukrainian mines](https://apnews.com/article/russia-ukraine-business-religion-europe-united-nations-48a35c1e9b53a055974110dd2e5afa02) drifting along the coastline of Black Sea states.”

The appearance of mines led to the [temporary closure of the Bosporus](https://www.aa.com.tr/en/turkey/turkiye-reopens-bosphorus-traffic-after-old-mine-neutralized/2546541), which links the Marmara and the Mediterranean seas to the Black Sea, and a ban on nighttime fishing in the area. The Turkish navy has stepped up its air and sea operations to find them.

Military commentators have suggested the mines broke free of their cables during bad weather and have been carried by currents across the Black Sea. According to Russian authorities, some [420 mines](https://www.aa.com.tr/en/russia-ukraine-war/russia-claims-10-mines-planted-by-ukrainian-navy-adrift-in-black-sea-sea-of-azov/2551959) were at one time anchored off the Ukrainian coast.

“How many mines have been laid; [how many stray mines](https://www.iha.com.tr/haber-emekli-tuggeneral-ozgur-tor-serbest-kalan-mayinlarin-hepsinin-bulunmasi-lazim-1042813/) have broken free?” Ozgur Tor, a retired Turkish brigadier general, said in an interview with Ihlas Haber Ajansi. “All the others that remain must be found. If not, it poses a danger to any [ship] in the Black Sea. We’re talking about 30 kilos of explosives, the power to sink a ship. It needs to be cleaned up until the last mine is gone.”

The first mine was spotted by fishermen off the coast of Sariyer, an Istanbul suburb on the European coast of the Bosporus, on March 26.

Turkey had previously advised ships to keep a “sharp lookout” and report any possible mines.

“What’s in Ukraine is coming here. After 20 to 25 days, those mines can spread from Igneada to Sinop,” [said Atif Malkoc](https://www.cumhuriyet.com.tr/turkiye/karadenizli-balikcilarin-serseri-mayin-tedirginligi-1919526), chairman of the Samsun Fisheries Cooperatives Association, referring to towns that span Turkey’s coast from the Bulgarian border eastward. “It’s very dangerous for fishermen and ships. There’s nothing we can do [but] everyone will look out for them.”

Last year some 38,500 ships, including crude oil tankers, passed through the Bosporus, which [Turkey closed to military vessels](https://www.al-monitor.com/originals/2022/03/will-erdogan-draw-lessons-putins-ukraine-mistakes) shortly after Russia’s Feb. 24 invasion.

The risk of shipping accidents on the 30-kilometer (19-mile) channel is cited as a justification for the [Turkish government’s plan to build a canal](https://www.al-monitor.com/originals/2020/01/turkey-canal-istanbul-crazy-project-question-of-billions.html) to circumvent the winding waterway, which runs through the heart of Istanbul, Turkey’s largest city with 16 million residents.

#### Floating mines pose a major threat to shipping in the Bosporus

DW 22, Deutsche Welle, sometimes abbreviated to DW, is a German public, state-owned international broadcaster funded by the German federal tax budget, 4/2/22, “Experts warn Black Sea mines pose serious maritime threat,” https://www.taiwannews.com.tw/en/news/4494708

After the Turkish navy defused the mine and closed the Bosporus, authorities also banned fishing activities at night until further notice. Since it links the Black Sea with the Mediterranean, the strait is an essential trade route for all the states neighboring the Black Sea. But it also creates a bottleneck for wheat exports from Russia and — usually — Ukraine. If blocked, it could drive wheat prices even higher.

Many shipping companies are already under pressure because of the war in Ukraine: The German Shipowners' Association (VDR) estimates that at least 60 cargo ships belonging to international merchant fleets are currently stuck in Ukrainian ports. Now, the drifting mines are making an already critical situation worse.

"We are very worried," as Gokhan Ozcan of the Turkish shipowners' association KOSDER told the Turkish daily newspaper Dünya. Ozcan said he had received several phone calls from partners, particularly in Mediterranean countries, who wanted to know whether they could take the risk of sending their container ships via the Bosporus.

On top of this, insurance companies are currently effectively refusing to cover damages caused by war. Shipping companies thus take a substantial financial risk if they decide to send ships to Romania, Moldavia, Bulgaria, Russia or Georgia.

### 2AC --- Mine Risk High

#### Mines found as far as Mediterranean

News 24 22, 3/28/22, “Turkey and Romania find mines floating off coast,” <https://www.news24.com/news24/World/News/turkey-and-romania-find-mines-floating-off-coast-20220328>, JH

Turkey on Monday said a second mine which could have come from Ukraine was discovered near its coastline, while Romania also said a mine had been found off its Black Sea coast.

Russia had warned more than a week ago that some aged mines that Ukrainians had deployed in the Black Sea against its invading troops had become dislodged from their cables by storms and could drift as far as the Straits of Bosphorus and the Mediterranean Sea.

On Monday, the Turkish defence ministry tweeted that "a mine was detected off Igneada near the Bulgarian border" on the Black Sea.

"The mine has been secured... and an intervention launched to neutralise it," it said.

Later, the ministry confirmed the device had been defused.

Also on Monday, Romanian authorities said another mine had been found 39 nautical miles (70-72 km) from the coastal town of Capul Midia.

According to the defence ministry, the device was spotted by a fishing vessel on Monday morning and was then destroyed by a specialised disposal squad.

A first mine was found on Saturday and defused by the Turkish navy, after a fisherman had reported seeing it about two kilometres  off Rumelifeneri, on the entrance of the Bosphorus north of Istanbul.

Ankara has spoken to Ukrainian and Russian authorities to follow up "coordination on this subject," Turkey's defence minister said on Saturday.

In its warning on 19 March, Russia's FSB security service said that "dilapidated" mines that Ukrainians had deployed against its forces had broken from their cables and were floating in the Black Sea.

Several days ago, Turkish authorities warned on the NAVTEX maritime alert system that there was a risk of mines floating from Ukrainian waters after being dislodged from their anchors by a storm.

Underwater mines normally have to be equipped with systems that render them harmless if they break free from their anchors.

But older mines could lack this safety measure, Turkish media reported.

#### Mediterranean is the key global hotspot for the global economy; mine interruption collapses that

Panagiota Manoli 21, Panagiota Manoli is Assistant Professor in Political Economy of International Relations at the Department of Political Science and International Relations, University of the Peloponnese, 6/27/21, “Economic Linkages across the Mediterranean: Trends on trade, investments and energy,” *Eliamep*, https://www.eliamep.gr/en/publication/%CE%BF%CE%B9%CE%BA%CE%BF%CE%BD%CE%BF%CE%BC%CE%B9%CE%BA%CE%BF%CE%AF-%CE%B4%CE%B5%CF%83%CE%BC%CE%BF%CE%AF-%CF%84%CF%89%CE%BD-%CE%BC%CE%B5%CF%83%CE%BF%CE%B3%CE%B5%CE%B9%CE%B1%CE%BA%CF%8E%CE%BD-%CF%87/#:~:text=The%20overall%20value%20of%20Mediterranean,(EU)%20economies%20in%20particular.

Trade is considered to be a key driver of economic development and regional cooperation, as countries which are well-integrated into international trade networks tend to grow more. In the case of the Mediterranean, littoral countries have a heterogeneous foreign trade profile, while most of them are weakly linked to global trade networks and the global value chain. Mediterranean economies are open economies, with exports of goods and services accounting for 30-40% of GDP for most, though the percentages are much higher for some small Mediterranean economies, such as Malta with 144%, Slovenia with 85%, and Cyprus with 64%.[[11]](https://www.eliamep.gr/en/publication/%CE%BF%CE%B9%CE%BA%CE%BF%CE%BD%CE%BF%CE%BC%CE%B9%CE%BA%CE%BF%CE%AF-%CE%B4%CE%B5%CF%83%CE%BC%CE%BF%CE%AF-%CF%84%CF%89%CE%BD-%CE%BC%CE%B5%CF%83%CE%BF%CE%B3%CE%B5%CE%B9%CE%B1%CE%BA%CF%8E%CE%BD-%CF%87/" \l "_ftn11)

“The overall value of Mediterranean exports to the rest of the world (including intra-Med flows) is about US$1.9 trillion (in 2019). That accounts for 10.3% of world exports.”

The value of foreign (merchandized) trade varies significantly between Mediterranean countries. France and Italy are top traders with foreign trade worth more than US$1 trillion each, while Spain comes third with exports valued at US$700 billion (in 2019). The smaller traders account for a fraction of that value, with states such as Montenegro and Palestine trading well below US$10 billion each.[[12]](https://www.eliamep.gr/en/publication/%CE%BF%CE%B9%CE%BA%CE%BF%CE%BD%CE%BF%CE%BC%CE%B9%CE%BA%CE%BF%CE%AF-%CE%B4%CE%B5%CF%83%CE%BC%CE%BF%CE%AF-%CF%84%CF%89%CE%BD-%CE%BC%CE%B5%CF%83%CE%BF%CE%B3%CE%B5%CE%B9%CE%B1%CE%BA%CF%8E%CE%BD-%CF%87/" \l "_ftn12) The overall value of Mediterranean exports to the rest of the world (including intra-Med flows) is about US$1.9 trillion (in 2019) which accounts for 10.3% of world exports.

The majority of foreign trade is conducted with countries beyond the Mediterranean, and with other European Union (EU) economies in particular. In terms of exports, the EU attracts more than half of Egyptian, Algerian, Libyan, Moroccan and Tunisian exports. However, this dependency on European markets is arguably due to energy exports. Germany (US$200 billion), the United States (US$120 billion) and the UK (US$100 billion) were the Mediterranean’s primary export destinations in 2018.[[13]](https://www.eliamep.gr/en/publication/%CE%BF%CE%B9%CE%BA%CE%BF%CE%BD%CE%BF%CE%BC%CE%B9%CE%BA%CE%BF%CE%AF-%CE%B4%CE%B5%CF%83%CE%BC%CE%BF%CE%AF-%CF%84%CF%89%CE%BD-%CE%BC%CE%B5%CF%83%CE%BF%CE%B3%CE%B5%CE%B9%CE%B1%CE%BA%CF%8E%CE%BD-%CF%87/" \l "_ftn13) Mediterranean imports from the EU are more diverse. While Morocco, Algeria and Tunisia reduced their dependence on EU products, Libya and Egypt have significantly increased their imports of EU products in recent years. Germany is also the biggest exporter to Mediterranean countries (US$260 billion), with China a close second (US$180 billion) in 2018. Other key exporters include the USA, Belgium and the Netherlands.[[14]](https://www.eliamep.gr/en/publication/%CE%BF%CE%B9%CE%BA%CE%BF%CE%BD%CE%BF%CE%BC%CE%B9%CE%BA%CE%BF%CE%AF-%CE%B4%CE%B5%CF%83%CE%BC%CE%BF%CE%AF-%CF%84%CF%89%CE%BD-%CE%BC%CE%B5%CF%83%CE%BF%CE%B3%CE%B5%CE%B9%CE%B1%CE%BA%CF%8E%CE%BD-%CF%87/" \l "_ftn14)

### 2AC --- AT: Ukraine Solves

#### Ukraine didn’t pay attention in class so NATO is key to defuse Black sea mines

ANI 22, 4/3/22, “Ukraine unable to defuse its mines in Black Sea, shifted task to NATO: Russian official,” The Print, <https://theprint.in/world/ukraine-unable-to-defuse-its-mines-in-black-sea-shifted-task-to-nato-russian-official/901036/>, JH

Kyiv [Ukraine], April 3 (ANI/Sputnik): Ukraine is unable to defuse its own mines drifting in the Black Sea and has passed this task on to NATO, Deputy Secretary of the Russian Security Council Mikhail Popov said on Sunday.

“NATO instructors have been actively training Ukrainian soldiers, conducted joint drills with the Ukrainian navy. And exactly one year ago in March, the Ukrainian navy together with NATO fleet performed training of anti-mine forces and equipment. Only, it seems, they did not learn anything,” Popov told Komsomolskaya Pravda newspaper.

“Ukraine cannot defuse drifting mines on its own, by default transferring this task to NATO,” Popov added.

The Russian Federal Security Service (FSB) warned earlier that the Ukrainian army has set about 420 mines close to its seaports, with some of them swept into the sea. The FSB did not excluded the possibility of them drifting into the Bosporus Strait and then the Mediterranean Sea. (ANI/Sputnik)

# Accidents Advantage

## Top Shelf

### 1AC --- Collisions Scenario

#### China is developing AI subs now---that undermines US marine dominance

Glass 18 — Paulina Glass is an editorial fellow at Defense One. Paulina Glass, "China’s Robot Subs Will Lean Heavily on AI: Report," Defense One, 7-23-2018, https://www.defenseone.com/technology/2018/07/chinas-robot-subs-will-lean-heavily-ai-report/149959/, accessed 6-30-2022, WMK

A rare interview with the leader of a Chinese unmanned-submarine program offers tantalizing new hints about the direction of China’s artificial-intelligence and naval-technology efforts — as well as Beijing’s messaging and deterrence strategies.

Lin Yang runs the 912 Project, a classified program to develop new-generation military underwater robots by 2021. He told the South China Morning Post that the robot boats are intended to supplement the PLA Navy’s manned subs by handling such tasks as surveillance, minelaying, and even attacks on enemy vessels, relying on AI to adjust to changing conditions.

One close observer of China’s military technology efforts found the interview remarkable.

"It is quite striking that a senior Chinese [scientist] is willing to confirm the story and discuss a classified program, the 912 Project, in an English-language publication,” said Elsa B. Kania, adjunct fellow at the Center for New American Security. “Presumably, that uncharacteristic transparency reflects a recognition of the relevance of this disclosure for signaling and deterrent purposes."

The researchers’ statements on the new autonomous submarines reflect a recent push by Chinese media to highlight naval innovation and capabilities. The China Daily reported that during a naval inspection in Qingdao, China, in June, President Xi Jinping delivered a speech atop a new submarine recently shown in a naval parade in the South China Sea. He stressed the need “to grasp the changes of national security circumstances, speed up preparations for military struggle, including battle planning, capacity building and command system building.”

"The PLA recognizes a potential opportunity to undermine current U.S. dominance in undersea warfare,” Kania said. "It is difficult to evaluate the veracity of the story or the maturity of these efforts, so such accounts should be assessed critically but taken seriously."

Last week, Chinese media reported the unveiling of new remote-controlled undersea vehicles for “emergency rescue, marine salvage, and undersea engineering projects,” which it purported to be among the most advanced of its kind. Similarly, Chinese media released plans for a multi-functional rescue ship that will be commissioned in 2021 for use in the South China Sea. The submarines, however, would be unique in their use of artificial intelligence.

“The PLA is actively pursuing a range of AI-enabled capabilities, recognizing their potential to disrupt the military balance in the Indo-Pacific and beyond,” Kania said. “In particular, the PLA is concentrating on naval applications of AI, including for decision support and in increasingly autonomous vessels and submarines."

Gaps in detection risk nuclear escalation from collisions in the SCS---**integrating AI and intel sharing is key**

Storey 21. Dr Ian Storey is a Senior Fellow and editor-in-chief of the academic journal Contemporary Southeast Asia at ISEAS - Yusof Ishak Institute in Singapore; “Submarines overcrowding the South China Sea: A major accident could happen”; December 6, 2021; ThinkChina; <https://www.thinkchina.sg/submarines-overcrowding-south-china-sea-major-accident-could-happen> //BY

In early October, the US submarine USS Connecticut hit an "uncharted seamount" underwater, prompting an investigation leading to the removal of the captain and two officers. However, this is not the only incident involving US Navy vessels, which only underscores issues such as operational demands in keeping up with China's activities, as well as the fact that the South China Sea is indeed becoming congested with submarines, with little communication between various users. ISEAS academic Ian Storey tells us more.

For the sailors aboard the US Navy’s nuclear-powered submarine USS Connecticut, the events of 2 October constitute every submariner’s worst nightmare.

On that day, the 9,000-tonne Seawolf-class fast-attack submarine struck an undersea mountain (known as a seamount) hundreds of feet below the pitch-black waters of the South China Sea.

Miraculously only 15 of the 116 crew members sustained injuries. The vessel’s bow was crumpled, but the hull was not breached, and the nuclear reactor was undamaged.  The submarine was able to surface and make its way to Guam under its own power.

Two months on, the investigation into the crash is closed, the Connecticut has been patched up and will return to its home port in Washington state to undergo further repairs.

While the incident may be over, it is worth looking at in closer detail, for the causes, responses and implications highlight several important issues pertinent to the ongoing territorial, jurisdictional and geopolitical dispute being played out in the heart of Southeast Asia.

Accidents involving submarines are surprisingly common, with 37 over the past 20 years. Since the advent of nuclear-powered submarines in the 1950s, the US Navy has lost two and Russia seven.

Let’s start with the causes. A month after the accident, the US Navy confirmed that the Connecticut had hit an "uncharted seamount" and not another warship. Subsequently, the Navy concluded that the accident had been preventable. The seamount was uncharted because the constant seismic activity along the Asia-Pacific’s "Ring of Fire’" occasionally throws up new seamounts. Nevertheless, the Navy sacked the captain and two other senior officers because they had failed to follow proper navigational procedures.

An almost identical incident to the Connecticut happened in 2005 when the USS San Francisco, a Los Angeles-class nuclear submarine, collided with a seamount at full tilt near Guam. On that occasion, the submarine was almost lost; the front section of the submarine was severely damaged, one crew member died, and 98 were injured. That both submarines survived is a testament to the professionalism of the crew and the robust construction of the vessels.

But the Connecticut accident deals another blow to the reputation of the US Navy in Asian waters. In 2017, in separate incidents, two destroyers, the USS Fitzgerald and the USS John S. McCain, collided with merchant ships with the loss of seven and ten sailors, respectively.

The Arleigh Burke-class guided missile destroyer USS John S. McCain (DDG 56) is towed away from the pier at Changi Naval Base, 5 October 2017. (Mass Communication Specialist 1st Class Micah Blechner)

These mishaps highlighted troubling leadership, training and maintenance issues, exacerbated by the heavy operational demands placed on America’s Pacific Fleet as it struggles to keep pace with China’s naval activities in the region while at the same time maintaining a presence across the Western Pacific. China’s navy now has more battle force ships than its US counterpart, operates shiny new warships (though perhaps not as capable as US vessels) and can focus its activities on Northeast and Southeast Asia.

China used the incident to strengthen its narrative that America’s military presence in the South China Sea undermines regional stability. China has been particularly vexed at US military reconnaissance missions near its coast and bases in the Paracel and Spratly Islands (the Connecticut was, according to one report, in the vicinity of the Paracels when the accident happened).

The Global Times, the Chinese Communist Party-owned mouthpiece, even put up an online petition calling for America to provide more information on the accident, accusing it of a cover-up.

After the accident, Beijing called on the US to cease its military activities in the South China Sea, and claimed that the presence of US submarines increased the risk of a collision or nuclear accident (it didn’t mention that the PLA-Navy’s fleet of a dozen nuclear-powered submarines also operates in the area). China also used the seamount accident to criticise the Australia-UK-US (AUKUS) agreement which aims to supply Australia with eight nuclear-powered subs.

Politicking aside, there are legitimate concerns about the potential for a submarine accident in the South China Sea.

In some areas, the waters are too shallow for submarines to operate, but in other areas, there are deep trenches of the kind submarines love to lurk in. The problem is that those underwater troughs are becoming increasingly crowded with submarines from both regional and extra-regional states.

Although submarines are covered by the Code for Unplanned Encounters at Sea (CUES) — which is designed to prevent dangerous incidents at sea from occurring — they cannot conduct the type of signalling and communications surface warships can. Singapore has advocated a code of conduct for submarines to supplement CUES, but given the inherently clandestine nature of submarine operations, this is almost certainly a non-starter. In 2009, a British and French submarine bumped into each other in the North Atlantic. If close allies like the UK and France can’t communicate the positions of their submarines to each other, what hope is there in the contested waters of the South China Sea?

Moreover, as retired PLA Colonel Zhou Bo recently argued, given the growing mutual animosity and mistrust between China and America, if an accident involving their submarines were to occur, de-escalating it would prove far more challenging than previous Sino-US military incidents. It isn’t reassuring that since President Biden took office, the US and Chinese defence ministers haven’t even spoken to each other.

#### Collisions in the SCS are likely absent AI integration---accidents escalate

Rogoway 21. Tyler Rogoway is the Editor in Chief at The Warzone; “Why Multi-Billion Dollar Nuclear Submarines Still Run Into Things Underwater”; October 11, 2021; The Warzone; <https://www.thedrive.com/the-war-zone/42706/why-multi-billion-dollar-nuclear-submarines-still-run-into-things-underwater> //BY

What are the pitfalls and blind spots that could result in a multi-billion dollar submarine loaded with the most advanced sensors on earth colliding with something underwater?

Submarine navigation requires very detailed knowledge of the immediate surrounding area. There are two common methods of achieving safe, submerged navigation: Detailed charts and active high-frequency sonar employment.

Highly accurate charts are always the first choice. Active sonar transmissions are used to confirm the water depth checks with the chart. These active sonar pulses can be transmitted in front and to the sides of modern submarines. These short-range, high-frequency sonar systems reveal nearby underwater objects with great clarity. Submerged objects, such as mines, wrecks, and other submarines are [plainly visible to a trained sonar operator](https://www.thedrive.com/the-war-zone/35603/veteran-submariner-on-how-sonar-crews-tirelessly-hunt-enemies-they-cant-even-see).

The downside to the use of active sonar is that it is detectable and at approximately two times the range it allows the operator to search, in most ocean environments. A typical high-frequency, high-resolution sonar may see out to 5,000 yards and is vulnerable to detection out to least 10,000 yards or farther in good conditions. This means an adversary can localize a submarine’s position, and it can remain undetected [while trailing](https://www.thedrive.com/the-war-zone/33090/how-american-and-allied-submarines-regularly-fight-to-the-death-off-the-bahamas) the active-sonar emitting submarine for as long as it uses its high-resolution sonar.

This vulnerability to detection is why active sonar is rarely used. If bottom-mapping sonars verify the submarine's position on the chart, there is less need to use a high-frequency, forward-looking sonar that may reveal your position.

U.S. Navy charts [are the most accurate charts](https://www.thedrive.com/the-war-zone/31838/heres-the-story-behind-that-mysterious-navy-cube-croatian-fishermen-pulled-from-the-sea) in use today. They are digital (with paper backups), which allows them to be updated more frequently. Ideally, every sub in the U.S. Navy has the most recent chart that accurately reflects reality outside the hull. In practice, we have found that this is not always the case. Some areas of the world have tens of yards between soundings, these blind spots may hide topographical formations that rise up from the bottom into a submarine’s operating envelope.

If a submarine is operating in an area where they suspect the presence of adversary submarines, they may choose to not use high-frequency active sonar to verify surrounding topography. This, as described earlier, is because the sonar transmissions will give away their position if detected. This means the submarine relies on accelerometer dead-reckoning for the ship’s position.

This type of navigation has very small errors that compound over time. Eventually, the submarine can be out of position by hundreds of yards or more. The error grows with time until the next navigational fix. There are ways to fix the submarine's position that doesn’t involve sonar, but they don't reveal what topography is hidden between soundings on a chart.

How can other submarines and the emergence of unmanned underwater vehicles be a factor?

Collision with manned submarines in the South China Sea is a very real concern. The body of water is bordered by many nations that operate conventional and nuclear-powered submarines. China operates the largest submarine base in Asia, [Yulin Naval Base](https://www.thedrive.com/the-war-zone/35837/image-shows-chinese-submarine-entering-mysterious-cave-facility-at-south-china-sea-base" \t "_blank), in the South China Sea. At any time, there could be multiple submarines operating in the area.

Cooperative nations like Australia and Vietnam work with allies to manage water space and avoid collisions. This helps mitigate the risk of collision. Other countries that do not deconflict submarine operations pose a real risk to themselves and other submarines.

The risk of submarine collision in the South China Sea is more likely than in other areas of the world because it’s a very busy area for vessels of all types, including submarines. The increased activity makes passive sonar less effective. Submarines can, and will, hide in noisy areas to mask their passive broadband signature with background noise. The means [two submarines may pass](https://www.thedrive.com/the-war-zone/33018/modern-submarine-torpedo-attacks-are-nothing-like-what-you-see-in-the-movies) very close to each other, and neither will hear the other, if background noise is loud enough to mask both submarines.

[Unmanned underwater vehicles](https://www.thedrive.com/the-war-zone/38443/snakehead-will-be-the-largest-underwater-drone-that-u-s-nuclear-submarines-can-deploy) are [changing the way we operate](https://www.thedrive.com/the-war-zone/26513/boeing-is-building-the-navy-big-orca-submarine-drones-to-hunt-and-lay-mines-and-more) submarines. UUVs [can operate in very shallow](https://www.thedrive.com/the-war-zone/37713/check-out-these-navy-special-operators-deploying-an-underwater-scout-drone) or [restricted waters](https://www.thedrive.com/the-war-zone/38475/indonesian-fisherman-caught-what-appears-to-be-a-chinese-underwater-drone) that a nuclear submarine would not be able to. UUVs use a combination of [sonars and artificial intelligence to navigate](https://www.thedrive.com/the-war-zone/41478/china-tested-an-ai-controlled-submarine-hunting-underwater-drone-a-decade-ago-report) submerged with less risk to human life. If a UUV runs aground, it doesn’t risk damaging a nuclear reactor or injuring crewmen because it has neither. This capability has put UUVs in high demand and [employed by many navies](https://www.thedrive.com/the-war-zone/14733/the-us-navy-has-created-its-first-ever-underwater-drone-squadron) around the globe.

The South China Sea is supposedly very challenging to navigate for submarines in some areas, especially large types. Is its unique underwater ‘littoral’ topography a major issue?

The topography of the South China Sea is very difficult to navigate because of its high tectonic activity. The bottom is in a constant state of change. Some areas of the South China Sea are very deep, with sudden changes in depth to very shallow, near vertical-like structures that can rise to the surface.

These pinnacles are navigation hazards and, if not detected in time, may result in a submerged collision. Measuring bottom depth below the submarine may not give it enough time to maneuver out of the way of a near-vertical topographical change just ahead.

#### Causes World War 3

Holloway 17 – Henry Holloway, Online Reporter at Express Newspapers, “World War 3 on the Brink in the Pacific – Nukes and Warships Ready for Devastating War”, Daily Star, 2-4, http://www.dailystar.co.uk/news/latest-news/584828/US-China-War-South-China-Sea-World-War-3-Donald-Trump-Trade-Shipping-Reality-Tillerson

Washington and Beijing have both been flexing their military muscles as Chinese military bosses declared “war between the US and China is now reality”. Warships, missiles, and nuclear-capable bombers are flooding the region as both superpowers prepare for a potentially nuclear conflict. The cradle of this war zone is the South China Sea which Beijing claim belongs to the Chinese by right while the US weighs in support of the Asian power’s Pacific neighbours. Experts have warned just one wrong move could cause the region to explode into war between the US and China. Daily Star Online can now reveal just how close the world is to war igniting between the US and China and the start of World War 3. David L. Goldwyn, a former special envoy for the US State Department, warned of conflict with China in a report to the Atlantic Council seen by Daily Star Online. He said: "China is prone to testing new US presidents and Mr. Trump seems intent on testing, if not provoking, China. "A miscalculation on either side creates a non-negligible risk of military conflict.” Defiant Beijing have been continuing to expand into the disputed waters as they claim islands and sandbars to build giant defensive bases packed with missiles and designed to launch warplanes. The Communist giant claims the seas flanked by nations such as the Philippines, Vietnam, Malaysia due to its strategic importance – offering access from the Indian Ocean to the Pacific. Half of the world’s merchant ships pass through the disputed waters, and China is staking its claim as part of the brewing trade war with the US. It is also believed the sea is rich in oil and natural gas, according to studies by the Department of the Environment and Natural Resources. China understands the power which can be seized by claiming the sea, and packing the region with weapons including nuclear submarines base in Hainan. The superpower has also deployed its aircraft carrier, and announced their second will be stationed in the swirling conflict cauldron. Meanwhile, the US is expanding its reach as it places nuclear-capable bombers in their bases in Guam, fighter jets and marines in Japan, and missile systems in South Korea. Experts have claimed the US has as many as “400” military bases surrounding China in a pincer movement designed to provoke Beijing. War tensions have reached a new head as some of new US president Donald Trump’s top aides have talked up war with China.

#### And, Sub bumping causes US/China and China/Japan war—rallies nationalism and miscalculation

Farley, 15 (Robert, assistant professor at the Patterson School of Diplomacy and International Commerce, “3 ways China and the US could go to war in the South China Sea,” The National Interest, 6-6-15, http://nationalinterest.org/feature/3-ways-china-the-us-could-go-war-the-south-china-sea-13055)

In the Cold War, the Soviet Union and NATO suffered innumerable submarine “near misses,” as boats hunted each other, and occasionally bumped each other, in the Atlantic, the Arctic, and the North Sea. The dynamics of U.S.-Chinese sub interaction hasn’t yet played out in quite the same way, in part because China has yet to establish a sustained SSBN patrol, and in part because Chinese boats do not range as far as their Soviet counterparts. But as the submarine force of the PLAN becomes more adventurous, submarine incidents may increase.¶ Many analysts are arguing that the PLAN needs to push its submarines past the first island chain in order to seriously threaten U.S. access to China’s littoral. Preparing for this would require increasing the tempo of the PLAN’s submarine operations, which would more often put China’s boats in proximity with Japanese and American subs. To be sure, Chinese submarines are loud enough that U.S. boats should have plenty of time to get out of their way, but the same could be said of Soviet boats for much of the Co ld War.¶ If a major submarine incident happened between the United States and China, the nature of the medium might offer some hope for de-escalation (we often don’t hear about these accidents until much later). But such an incident would also put more lives and property at stake than a fighter collision.¶ Accidental war is rare, but not impossible. Common to all of these scenarios is the potential that Chinese (or less likely, American) public opinion might become so inflamed as to box in policymakers. If Xi Jinping, who has made assertive foreign policy a cornerstone of his administration, feels that he cannot back down and survive politically, then things could get unpredictable very quickly.

#### That war goes nuclear.

Robert Ayson 14, Professor of Strategic Studies at Victoria University; and Desmond Ball, Emeritus Professor in the Strategic and Defence Studies Centre at the Australian National University; November 2014, “Escalation in North Asia: A Strategic Challenge for Australia,” <http://ips.cap.anu.edu.au/sites/default/files/COG%20%2318%20Web.pdf>

There is no guarantee that China and Japan will be able to keep their bilateral military interactions in the East China Sea below the threshold of armed violence, even if it is their continuing preferences to do so. This event would not necessarily ruin Asia’s long record for the avoidance of major interstate wars. The downing of a plane or the sinking of a coastguard vessel would not automatically spell the beginning of a catastrophic conflict. But Asia’s relative peace has induced a tendency to assume that war of almost any sort is largely unthinkable because it would be so costly, including for economic reasons. It is important to question any prevailing assumptions that this logic will remain robust in a serious Sino-Japanese crisis which could well be just around the corner.¶ There may also be a corresponding assumption that Japan would not be the first to use force because of long-standing constitutional and moral restraints. Again this should be questioned. Some years back, when the transformation of the Japanese Coastguard (JCG) was already becoming evident, Richard Samuels observed that in contrast to the Maritime Self Defense Force (which ‘is denied authority to fire on enemy ships unless fired on first’) the JCG ‘is now allowed by law to initiate armed conflict under conditions that are vaguely defined and easily justifiable in retrospect. Local commanders are now authorised to use force under the conditions of “justifiable defense” and during an “emergency.”’ 2 M. Taylor Fravel has argued that China tends to restrict its use of force in territorial disputes to situations when its claim is weak.3 But this limitation is of little comfort whenever the Senkaku/Diaoyu dispute is seen as one of those weaker claims. ¶ Should minor hostilities eventuate, either accidentally or by design, a good deal would then depend on the political temperature of the Sino-Japanese relationship. In the event of any public coverage, nationalist sentiment in both countries would likely put both governments in a difficult position, even if restraint was their preferred option. The paucity of ongoing political contact between China and Japan at the highest level (in contrast to Sino-US relations under Xi and Obama) might make an agreement on restraint harder to agree, as would the absence of the maritime communications mechanism that the two countries are currently discussing. There is little sign that Sino-Japanese strategic relations constitute what Coral Bell once called an adverse partnership which the Cold War superpowers had already begun to develop by the time they found themselves in the Cuban Missile Crisis. The absence of a similar mutually chastening experience is probably one reason today’s North Asia lacks a ‘consciousness between the dominant powers, that they have solid common interests as well as sharp conflicting interests.’4¶ Something Small May Escalate Very Quickly¶ Whatever the evolving atmospherics of the Xi-Abe relationship, it is difficult to avoid the view that Japan and China are locked in one of Asia’s closest approximations to a zero-sum-game over status and prestige. An ascendant China is bad for Japan’s status and a more vital Japan is a direct challenge to China’s aspirations. These dynamics play out in their East China Sea contest. And even if an improved political environment in North Asia can be reached with more amicable Japan-China relations, perverse military-technical incentives for the rapid escalation of conflict could still be viciously destabilising in the event of even a minor outbreak of violence. ¶ Perhaps the most pernicious of these escalatory dynamics is the duality of China’s strategic predicament. On the one hand China’s growing assertiveness in the East China Sea is a sign of greater national confidence that the People’s Republic now has the power to revise the regional conditions that it has hitherto had to put up with. On the other hand, China’s growing military presence in Asia’s maritime theatres is the visible tip of a military iceberg characterised by severe vulnerabilities in C4SIR—Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance— and inexperience in operating effectively beyond the first island chain. If Beijing thought for some reason, rightly or wrongly, that a more significant use of force against the PLA by Japan was imminent, the pressures to preempt by way of China’s own escalation would be very significant. If Japan’s knowledge of China’s military weaknesses were accompanied by a Chinese underestimation of Japan’s surveillance power, any hint of Chinese breakout could be a very hazardous moment in their strategic relationship. In an excellent study, Avery Goldstein has pointed to the real dangers of crisis instability between the China and the United States.5 But more scholarly and official attention needs to be directed to crisis instability problems between China and Japan.¶ Of course it cannot be expected that any such escalating Sino-Japanese conflict will necessarily remain between the two of them. The United States, Japan’s alliance guarantor, will likely face some very early decision points about whether to enter the fray. In some senses at least, a degree of American involvement seems almost automatic. There are intimate links between Japan’s and America’s armed forces and C4SIR systems in North Asia, including their cooperation in underwater Sound Surveillance Systems (SOSUS) facilities.6 It is difficult to imagine Washington having anything less than a front seat in the evolving violent drama. This raises the costs of China’s escalation in a way that might first be thought to generate great caution in Beijing; for the disablement of Japanese systems is also likely to impinge on America’s military eyes and ears in Asia.¶ China would need to think twice about escalating a bilateral conflict with Japan because of the distinct possibility of direct US military involvement. But knowing the resources that Japan’s ally could bring to bear, China could in fact face incentives to escalate very quickly against Japan before America made that fateful decision. And if for some reason Beijing believed that the United States was unlikely to come good on its confirmation that the Mutual Security Treaty applies to Japan in the context of Senkaku/Diaoyu Islands, the deterrence of Chinese escalation could in fact be weakened. There is at least some speculation that China might exploit an emerging crisis with Japan in an attempt to force the United States to blink.7 ¶ Beijing could well be uncertain about what Washington would do. But in the pressure and confusion of an already serious crisis, China’s leaders only need to think that American involvement is a possibility to face some additional escalatory pressures. The PLA would be operating in the knowledge that its vulnerable C4SIR systems would be among the very first targets of American military action to defend its alliance partner. China would therefore face at least two types of escalatory pressures. The first one is more general: to use what forces it has available over which it may lose effective command should its control systems be disabled. In this way the possibility of American involvement may, through China’s preemptive moves, become an absolute certainty. The second pressure is more specific: China would find it too tempting not to target American C4SIR systems including America’s satellite capabilities. ¶ A Nuclear Exchange is Also Possible¶ In this sequence, the move from a small and even accidental use of force involving China and Japan to a much more serious and damaging triangular conflict with United States participation suddenly seems plausible. By no means is it too much to imagine China’s early resort to anti-satellite attacks, its exploitation of asymmetric advantages with its growing missile capabilities to target America’s aircraft carriers, and an acceleration in Chinese cyber-attacks for military purposes. Nor in response, or in anticipation, is it implausible to envision devastating American and Japanese attacks against China’s C4SIR and missile systems. All three parties would very likely be aiming to keep this escalating exchange in the conventional domain (and only two of them have nuclear weapons that might be used). But there are strategic and material factors which suggest that nuclear escalation is less unlikely than some might wish to presume.¶ An outwardly confident but inwardly vulnerable China may resort to nuclear threats against Japan as a form of intimidation. That would immediately require America’s closest attention. Nuclear weapons remain for China the great equaliser. But this also means that as prized assets, China may want to use its nuclear weapons early if it feels that its ability to retain the capacity to do so is at risk. Two material issues surface here to make this hugely destabilising situation possible. The first is that China lacks separate tactical and strategic C4SIR systems. This raises the prospect that American (and Japanese) conventional attacks designed to degrade China’s control of its conventional forces may also reduce Beijing’s confidence in its ability to retain a nuclear deterrence capability. China may face a horrible dilemma such that if it wants to retain a nuclear option, it has to use it early rather than as a last resort. The second is that, because of basing arrangements, China may assume that an American conventional attack will also remove some of its land based nuclear missiles and sea based nuclear systems. This is also a perverse incentive to nuclear escalation.

#### And, SSBN escalation AND bumping accidents with the U.S. and Russia are under-estimated but a greater risk than any other weapon

Hayes 18, [Peter Hayes is Director of the Nautilus Institute and Honorary Professor at the Centre for International Security Studies at the University of Sydney, OFF THE BEACH: UNDERWATER WARFARE IN THE 21ST CENTURY, https://nautilus.org/napsnet/off-the-beach-underwater-warfare-in-the-21st-century/?view=pdf]

Against this desperate tactic, even the US had no effective countermeasure. The problem it presented to strategic stability was that it brought Soviet submarines even closer to American anti-submarine forces than when they hid mid-ocean or under the umbrella of their own anti-submarine forces close to home, implying that they had to fire first in a crisis to be sure of annihilating the American leadership as a way to disable US nuclear forces and thereby limit the damage to the USSR from a perceived, pending American first strike. And for the US, it suggested that these submarines should be attacked early in a crisis, before even one Soviet missile was fired from a submarine, a step that could accelerate escalation even if Soviet intentions had actually been only to threaten nuclear attack, not to actually use nuclear weapons.

From being the most secure, lost in the deep ocean, and therefore the ultimate and unassailable second strike force that could and would retaliate, no matter what happened to the homeland, submarine nuclear forces and their antithesis became the most provocative weapons of all. These forces were no longer the ultimate guarantor of “strategic stability,” better called the balance of terror, instead they were less controllable due to distance and communications difficulties and more prone to pre-delegation of nuclear-use authority in case the home national command disappeared off the periscope, possibly literally. Their weapons were now the most rapidly deliverable even compared to missiles or forward-deployed fighter bombers in Alaska, Europe and East Asian bases in Japan, Korea and Guam.

Indeed, it is now known that a Soviet submarine nearly fired nuclear weapons at US warships at the height of the 1962 Cuban missile crisis; and as part of that confrontation, the Soviets had dispatched a nuclear missile-firing submarine to stand off Honolulu, ready to nuke it if the situation had escalated. And, off the beaches and ports, superpower submariners engaged in cat-and-mouse games, sometimes even colliding with each other. American submarines also tapped into Soviet submarine communication cables in the Sea of Okhotsk to secure fantastic quantities of communications data for the US, operating even inside Soviet territorial waters. Enormous risks were taken, which only came to light in subsequent decades as submariners recounted their experiences.

Post-Cold War submarine proliferation

When the Soviet Union collapsed, on the surface it looked like the superpower submarine competition was over. The now-Russian submarine fleet in the Pacific (and Atlantic) was moored in port. Some subs sank at the dock, reactors and all; others caught on fire. For a decade, no-one paid much attention to what was going on under the water, offshore in the Pacific.

In reality, the submarine game never stopped. Competition resumed in the early 2000s between the US and Russian strategic nuclear submarines and their respective anti-submarine forces. China, India, and Pakistan have all put nuclear missile-firing submarines to sea or begun to test them seriously. Even North Korea tested submarine-launched missiles and declared its intention to emulate the superpowers.

#### Sub-bumping risks extinction

David **Krieger 96**. Founder and president, Nuclear Age Peace Foundation, chair of the Executive Committee, International Network of Engineers and Scientists for Global Responsibility, councilor and co-chair of the Peace and Disarmament Commission, World Future Council, written or edited 23 books and hundreds of articles and book chapters. 03-12-1996. “Denuclearization of the oceans: linking our common heritage with our common future.” http://www.wagingpeace.org/denuclearization-of-the-oceans-linking-our-common-heritage-with-our-common-future/

Accidents aboard nuclear submarines have caused a number of them to sink with long-term adverse environmental consequences for the oceans. In addition to accidents, many countries have purposefully dumped radioactive wastes in the oceans. With regard to proper stewardship of the planet, it is time to raise the issue of denuclearizing the world’s oceans. To fail to raise the issue and to achieve the denuclearization of the oceans is to abdicate our responsibility for the health and well-being of the oceans and the planet. Nuclearization of the Oceans Nuclearization of the oceans has taken a variety of forms. The primary ones are: 1. the oceans have served as a medium for hiding nuclear deterrent forces located on submarines; 2. nuclear reactors have been used to power ships, primarily submarines, some of which have gone down at sea with their nuclear fuel and nuclear weapons aboard; 3. increasing use is being made of the oceans for the transportation of nuclear wastes and reprocessed nuclear fuels; 4. the oceans have been used as a dumping ground for nuclear wastes; 5. atmospheric nuclear weapons testing, particularly in the Pacific, has been a source of nuclear pollution to the oceans as well as the land; and 6. underground nuclear weapons testing, such as that conducted by France in the South Pacific, has endangered fragile Pacific atolls and caused actual nuclear contamination to the oceans as well as risking a much greater contamination should the atolls crack due to testing or future geological activity. The problems arising from nuclearization of the oceans can be viewed from several perspectives. From an environmental perspective, issues arise with regard to nuclear contamination in the oceans working its way up through the food chain. The biological resources of the oceans will eventually affect human populations which are reliant upon these resources. The threat of nuclear contamination has diminished with regard to nuclear testing, which has not taken place in the atmosphere since 1980. Moreover, the nuclear weapons states have committed themselves to a Comprehensive Test Ban Treaty, which they have promised to conclude by 1996. This treaty, if concluded, will end all underground nuclear testing. The dumping of high-level radioactive waste material was curtailed by the Convention on the Prevention of Marine Pollution by the Dumping of Wastes and Other Matter, which entered into force in 1975. A later amendment to this Convention prohibited ocean dumping of all radioactive wastes or other radioactive matter. However, exemptions authorized by the International Atomic Energy Agency and non-compliance remain a concern. Problems can be anticipated in the future when radioactive contaminants already dumped in canisters or contained in fuel or weapons aboard sunken submarines breach their containment. Increased use of the oceans to transport nuclear wastes and reprocessed nuclear fuel (between Japan and France, for example) has substantially increased the risk of contamination. Coastal and island states that are on the route of the transportation of nuclear materials stand high risks of contamination in the event of an accident at sea. International law regarding the transportation of hazardous material must be strengthened and strictly enforced by the international community to prevent catastrophic accidents in the future. From a human rights perspective, inhabitants of island states in the Pacific have suffered serious health effects and dislocation as a result of atmospheric and underground nuclear weapons testing. In response to assurances by France that their underground testing in the South Pacific is entirely safe, the islanders in Polynesia and throughout the Pacific have retorted: If it is so safe, why isn’t it being done in France itself? The response of the French government has been that French Polynesia is French territory, highlighting the arrogance and abuse that accompanies colonialism. Human rights issues also arise with regard to maintaining a nuclear deterrent force that threatens the annihilation of much of humanity. The Human Rights Committee stated in November 1984 in their general comments on Article 6 of the International Covenant on Civil and Political Rights, i.e., the right to life, that “the production, testing, possession, deployment and use of nuclear weapons should be prohibited and recognized as crimes against humanity.” The deployment of nuclear weapons on submarines, therefore, arguably constitutes a crime against humanity, and thus a violation of the most fundamental human right, the right to life. From a security perspective, the nuclear weapons states argue that having a submarine-based deterrent force assures their security. Thus, to varying degrees, each of the nuclear weapons states maintains strategic submarines capable of causing unthinkable destruction if their missiles were ever launched. (See Appendix.) Viewed from the self-interests of nearly all the world’s population-except the nuclear weapons states whose leaders appear addicted to maintaining their nuclear arsenals -the continued reliance on nuclear deterrence, at sea or on land, poses a frightening threat to continued human existence. In 1972 the Seabed Agreement prohibited the emplacement of nuclear weapons on the seabed, ocean floor, or subsoil thereof. This agreement prohibited what was already deemed unnecessary by the nuclear weapons states; placing nuclear weapons on submarines made them less vulnerable to detection and destruction than placing them on or beneath the seabed or ocean floor. The oceans continue to be used by the nuclear weapons states as an underwater shadow world for their missile carrying submarines. The United States alone currently has 16 Trident submarines, each carrying some 100 independently targeted nuclear warheads. Each Trident submarine has a total explosive force greater than all the explosive force used in World War II, including at Hiroshima and Nagasaki. Britain, with the help of the United States, is replacing its older class of Polaris SSBNs with a fleet of four Trident submarines. France currently has five strategic missile submarines with four more of a superior class to be commissioned by 2005. Russia has over 35 strategic missile submarines with an estimated capacity of 2,350 nuclear warheads. China has two modern ballistic missile submarines. Its Xia class submarine carries twelve 200 kiloton nuclear warheads. The total destructive force that day and night lurks beneath the oceans is a chilling reminder of our technological capacity to destroy ourselves. That this threat was created and is maintained in the name of national security suggests a collective madness that must be opposed and overcome if, for no other reason, we are to fulfill our obligation to posterity to preserve human life. An ongoing responsibility resides with the nuclear weapons states to fulfill the obligations set forth in Article VI of the Non-Proliferation Treaty (NPT), “to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.” At the NPT Review and Extension Conference in April and May 1995, the treaty was extended indefinitely after extensive lobbying by the nuclear weapons states. At the same time the nuclear weapons states promised to enter into a Comprehensive Test Ban Treaty by 1996, and to engage in a “determined pursuit” of the ultimate elimination of their nuclear arsenals. Protecting the Common Heritage The Law of the Sea Treaty enshrines the concept of the oceans as the common heritage of [hu]mankind. Maintaining the oceans as a common heritage demands that the oceans be protected from contamination by nuclear pollutants; that they not be used in a manner to undermine basic human rights, particularly the rights to life and to a healthy environment; and that the oceans not be allowed to serve as a public preserve for those states that believe their own security interests demand the endangerment of global human survival.

#### Russian miscalculation causes extinction---it’s more likely than the Cold War

Perry 17 [William J. Perry was the nineteenth secretary of defense for the United States, serving from February 1994 to January 1997. He previously served as deputy secretary of defense (1993–94) and as undersecretary of defense for research and engineering (1977–81). He currently heads the William J. Perry Project, which aims to prevent the use of nuclear weapons in the future. He is the Michael and Barbara Berberian Professor at Stanford University and serves as codirector of the Nuclear Risk Reduction initiative and the Preventive Defense Project. 4/25. "Have we forgotten the Cold War? Nuclear threat more real than ever." <http://thehill.com/blogs/pundits-blog/foreign-policy/330418-have-we-forgotten-the-cold-war-nuclear-threat-more-real>]

I lived most of my adult life during the Cold War, and, throughout, I never lost sight of one overwhelming reality — at any time, the Cold War could turn hot, resulting in the extinction of our civilization. Now, inexplicably, we are recreating many of the conditions of the Cold War. In fact, I believe that, today, the likelihood of a nuclear catastrophe is actually greater than it was during the Cold War. The relations between the United States and Russia are as hostile as they were during the Cold War. Russia has dropped its long-term policy of "No First Use" of nuclear weapons and is rebuilding its nuclear arsenal. It is threatening its neighbors with these deadly weapons and indirectly threatening the U.S. Responding to this challenge, the U.S. has begun rebuilding its nuclear arsenal. We seem determined to replay the Cold War arms race, with costs estimated at more than $1 trillion — with predictably terrible dangers. Have we simply forgotten the immense dangers of the Cold War? Several times during the Cold War, we faced the prospect of a nuclear war by miscalculation, most dramatically during the Cuban Missile Crisis in 1962. After that crisis, President Kennedy said that he believed we had a one-in-three chance of nuclear war. But Kennedy did not know — which we now know — that the Soviet Union had already placed tactical nuclear weapons on the island that were fully operational. If Kennedy had accepted the unanimous recommendation of his Joint Chiefs of Staff to invade Cuba, our troops would have been decimated on the beachheads by tactical nuclear weapons and a general nuclear war would surely have followed. The miscalculations of Soviet and U.S. leaders almost subjected the world to a nuclear holocaust. I believe we avoided that catastrophe as much by good luck as by good management. Today, because of the ongoing hostility between the U.S. and Russia, we are recreating the conditions that could lead to a nuclear war by miscalculation. A higher risk is that of an accidental nuclear war. Because of our "Launch on Warning" policy, a nuclear war could result by accident if our missile attack warning system experienced a false alarm. During the Cold War, there were three such false alarms in the U.S. and two that we know about in the Soviet Union. In 1979, I personally experienced one of the false alarms in the U.S., and it changed forever my way of thinking about nuclear dangers. I was awoken at 3 a.m. by the watch officer at the North American Aerospace Defense Command (NORAD) saying that the computer was showing 200 intercontinental ballistic missiles (ICBMs) on the way from the Soviet Union to the United States. We were spared a disaster because the watch officer correctly concluded that the computer was giving a false reading — as it turns out, due to human error. But what if that false alarm had occurred during the Cuban Missile Crisis? In that context, the watch officer surely would have passed the alarm on to the president, who, after being awoken at 3 a.m., would have had less than 10 minutes to decide whether to launch our ICBMs before they were destroyed in their silos. Humans will err again. Machines will malfunction again. Today, just as in the Cold War, we face the possibility of an accidental war destroying our civilization. Besides the return of those Cold War dangers, we now have two new dangers: the possibility of a regional nuclear war or a nuclear attack by a terror group.

## 2AC Stuff

### 2AC --- Risk of Accidents High

#### High risk of accidental war in the south china sea --- too many subs and too little information risks escalation

Lendon ‘21

(Brad, “Chinese submarine's alleged surprise show highlights risk of the unexpected at sea,” pg online @ [https://www.cnn.com/2021/12/03/asia/taiwan-strait-china-submarine-mic-intl-hnk-ml/index.html //](https://www.cnn.com/2021/12/03/asia/taiwan-strait-china-submarine-mic-intl-hnk-ml/index.html%20//) um-ef)

The unexpected appearance of an alleged Chinese submarine in the Taiwan Strait this week has highlighted the dangers posed by the frequent presence of military vessels in the narrow waterway, which analysts warn could ultimately spark an unintended conflict. Writing on the Covert Shores blog Monday, submarine expert H.I. Sutton identified the vessel as a Chinese Type-94 nuclear-powered ballistic missile sub in a photo from the open source European satellite imagery service, Sentinel-2. The sub was spotted allegedly cruising above the surface of the waters separating Taiwan from mainland China, where many analysts say conflict is more likely to start from an accidental collision than a planned event -- and the more warships in a confined space, the more chances there are for accidents to happen. The reason for its alleged presence in the strait is unknown, but Sutton said it was likely the Chinese sub -- also known as an SSBN or boomer -- was on a routine mission, possibly heading back to a People's Liberation Army (PLA) Navy port on the Bohai Sea for repairs or maintenance. But other experts who viewed the satellite image said the alleged presence of a boomer on the surface was perplexing. "An SSBN on the surface is all but unheard of," said Carl Schuster, an ex-US Navy captain and former director of operations at the US Pacific Command's Joint Intelligence Center. "This may suggest a hull or engineering problem that requires a major shipyard to investigate and fix." The Taiwan Strait is just 110 miles (180 kilometers) across at its narrowest point. It has become one of the world's military hotspots as China puts increasing pressure on self-governed Taiwan, which Chinese President Xi Jinping has vowed to bring under Beijing's control. In response, supporters of the government in Taipei, including the United States, have stepped up their military presence in the region. This week, the commander of the US Navy's 7th Fleet, headquartered in Japan, said more US and partner aircraft carriers are needed in the western Pacific. Vice Adm. Karl Thomas, speaking on board the aircraft carrier USS Carl Vinson after large-scale naval exercises involving the US, Japan, Australia, Canada and Germany, said aircraft carriers make a big statement of deterrence. "When we think about how we might fight, ... four aircraft carriers is a good number, but six, seven or eight would be better," Thomas said, according to a report in the Wall Street Journal. Meanwhile, China -- which already boasts the world's largest navy by number of ships -- is continuing to churn out new naval vessels. In November, its fourth Type 55 destroyer, the Anshan, joined the People's Liberation Army Navy (PLAN) fleet and a fifth is expected to do so by year's end, Naval News reported. The Type 55s are considered to be among the world's most modern and powerful surface combat ships. And with more ships comes more potential for a mishap, as the US Congressional Research Service wrote last year in a report on the South and East China Seas. Stepped-up US and Chinese military ship and aircraft operations in the South China Sea "could increase the risk of a miscalculation or inadvertent action that could cause an accident or lead to an incident that in turn could escalate into a crisis or conflict," the report said. And in 2018, that's almost what happened when a Chinese destroyer sailed dangerously close to a US guided missile destroyer in the South China Sea -- in what the US Navy described as an "aggressive maneuver." The two ships came within 45 yards (41 meters) of each other, according to US Navy reports. But Taiwan and its supporters are not standing still. Taipei last month started construction on the first of a planned eight indigenously built submarines. Australia, a vocal supporter of Taiwan and critic of Beijing's increasing military pressure around the region, said earlier this year it plans to build a fleet of nuclear-powered subs. Japan in October launched the second boat in its new class of diesel-electric submarines. The first in the Taigei class is expected to be commissioned in March. The potential for collisions at sea was brought into focus in October, when a US Navy sub, USS Connecticut, struck what the US Pacific Fleet said was an undersea mountain in the South China Sea. The Connecticut, a nuclear-powered fast attack sub, limped on the surface back to the US naval base on the Pacific island of Guam after that incident. And in 2017, a spate of US Navy accidents in Asia raised similar concerns. While there has been no indication the alleged Chinese sub spotted Monday suffered an accident, "it is an interesting mystery," said Schuster, who also noted the PLA could have simply been showing its muscle in the strait, as the US and its partner navies have done recently.

### 2AC --- U.S. Tracking China Subs

#### U.S. is already tracking Chinese subs in the SCS --- makes their disads inevitable, but the only way it works is if we use AI to interpret data

Xuanzun ‘21

(Liu Xuanzun, reporter, “US attempts to monitor PLA submarines with increased spy ship activities in S.China Sea: think tank report,” pg online @ <https://www.globaltimes.cn/page/202107/1228578.shtml> //um-ef)

A Beijing-based think tank is keeping an eye on an increase in close-range reconnaissance activities this year by US Navy ocean surveillance ships in the South China Sea, saying in a report released on Tuesday that the US is attempting to monitor Chinese submarine activities in the region and provide anti-submarine intelligence support. This situation poses a significant threat not only to the Chinese People's Liberation Army (PLA) submarines, but also to its submarine-based nuclear missiles, Chinese experts warned, and suggested countermeasures including noise disruptions by using civilian and military vessels. In the first half of 2021, the South China Sea saw a surge in US maritime reconnaissance activities, with all five ocean surveillance ships owned by the US Navy - four Victorious-class ships and an Impeccable-class ship - having conducted missions in the region, the South China Sea Strategic Situation Probing Initiative (SCSPI) said in the report. The US deployed at least one surveillance ship to the South China Sea in at least 161 days out of the total of 181 days in the first half of 2021, a coverage rate of 89 percent that indicates such deployments have become routine, the SCSPI said. The US ships' missions were likely intended to monitor PLA submarine movements, analyze their key activity regions and frequently used routes, and provide anti-submarine intelligence support, the report said, noting that the US ocean surveillance ship activities were accompanied by aerial monitoring, with more than 2,000 US spy aircraft conducting close-range reconnaissance on China each year. According to the SCSPI's monitoring, waters off the Xisha and Zhongsha islands were some key points of interest for the US surveillance ships, as the ocean there is more than 2,000 meters deep and has a complicated environment, making the region a natural battlefield for underwater and anti-submarine warfare. Before 2021, the US Navy rarely deployed ships to the west of the Xisha Islands, but both the USNS Victorious and USNS Impeccable conducted reconnaissance this year, the report pointed out. Reportedly planning to build seven next-generation ocean surveillance ships, the US is expected to further increase its maritime reconnaissance activities in the South China Sea, the report said. US ocean surveillance ship activities are a huge threat to the PLA, not only to its submarine forces, but also to its submarine-based strategic nuclear missiles, Song Zhongping, a Chinese military expert and TV commentator, told the Global Times on Tuesday. The US is gathering environmental information on underwater battlefields and creating a database that can be used to search for and attack PLA submarines much faster in a possible future battle, Song said.

### 1AC/2AC --- China War

**China war causes extinction**

Ann **Lee 17**. Adjunct Professor of Economics and Finance at New York University. “Talking Policy: Ann Lee on US-China Relations.” *World Policy Journal*. February 10. <http://www.worldpolicy.org/blog/2017/02/10/talking-policy-ann-lee-us-china-relations>

World Policy Journal: When President Trump was first elected, you expressed worry about the future of U.S.-China relations. Now that he's been in office for a few weeks, how do you think this tension will play out?

Ann Lee: Well, I don't think I've changed my mind about this after seeing what has transpired with other nations. I don't think that it's necessarily going to go much more smoothly with China.

WPJ: What do you think the worst-case scenario would be?

AL: I think the worst-case scenario is that the U.S. and China fight a real war where you have a series of provocations that somehow end up becoming **World War III**.

WPJ: How likely do you think that is?

AL: That's hard to say. I think that based on some of his closest advisors like Peter Navarro and Steve Bannon, it's more likely than not if he chooses to listen to whatever advice they give him. Let's hope that's not the case, but it almost feels like there are certain people in his administration that want a war—are planning for one—and there are obviously media reports that they seem to want one based on past interviews or statements.

WPJ: We do not hear a lot of Chinese perspectives in the Western media. What has been the Chinese government’s general reaction to the proposals of the Trump administration?

AL: I think the Chinese are just as concerned as anybody else in the world. A lot of folks there have been disturbed by Trump's actions in his first days in office—clearly the phone call he took from Taiwan sort of set the precedent. And I think the Chinese are under no illusions that it's going to be an easy road dealing with the Trump administration. I am sure they are ready and bracing for a very tumultuous, rocky road in this relationship. Hopefully they can avoid a situation where the two nations do go to battle because certainly if that happens it would be **the end of civilization as we know it**.

### 2AC --- Miscalc = NW

#### US-China war from miscalculation goes nuclear

Kulacki 16

Gregory Kulacki (China Project Manager in the UCS Global Security Program). “The Risk of Nuclear War with China: A Troubling Lack of Urgency.” Union of Concerned Scientists. May 2016. http://www.ucsusa.org/sites/default/files/attach/2016/05/Nuclear-War-with-China.pdf

**Summary Twenty-four hours a day, 365 days a year, the governments of the United States and the People’s Republic of China are a** few poor decisions away **from starting a war that could** escalate rapidly and end in a nuclear exchange**. Mismatched perceptions increase both the possibility of war and the likelihood it will result in the use of nuclear weapons. Miscommunication or** misunderstanding could spark a conflict that both governments may find difficult to stop**. War between the United States and the People’s Republic of China is** not inevitable**, but failing to acknowledge the risks is certain to make it more likely.** Introduction The possibility that the United States of America and the People’s Republic of China (PRC) could become involved in a nuclear war is increasing. Both governments must acknowledge the danger if they hope to avoid it. Several factors contribute to the risk of a nuclear war between the United States and the People’s Republic of China: • **The United States and China have a contentious history. Mutual mistrust sustains an entrenched and deepening antagonism despite sincere and occasionally successful efforts to cooperate on shared concerns such as climate change and nuclear terrorism. •** Both governments are preparing for war**, including improving their nuclear arsenals.** U.S. and PRC decision makers believe they need a demonstrable readiness to use military force— including nuclear weapons—to ensure the other nation will yield in a military confrontation. • U.S. and PRC leaders try to avoid conflict, but their discussions of contentious issues are inadequate. The extensive military exchanges the governments have conducted have produced memoranda of understanding on the conduct of naval vessels and aircraft, but strategic dialogues on their nuclear forces, missile defenses, and anti-satellite weapons are perfunctory. • U.S. and PRC officials see the risk differently. U.S. officials are concerned that if a military conflict starts, they may need to use nuclear weapons to stop it. PRC officials assume that no nation would ever invite nuclear retaliation by using nuclear weapons first. Their concern is to assure the PRC maintains a credible ability to retaliate after a U.S. nuclear attack. Can this peace that is not peace be maintained indefinitely? **Diplomacy has not slowed steadily accelerating preparations for war, nor has it resolved U.S.-PRC disputes over the status of Taiwan, North Korean threats, or the freedom of military navigation in East Asian waters**. Keeping the peace depends on the skill and patience of political leaders who seek to avoid conflict even as they keep a nervous eye on the balance of rapidly evolving military technologies they are not trained to assess. Former U.S. secretary of defense Robert McNamara closed a lifetime of watching that balance by warning, “The indefinite combination of human fallibility and nuclear weapons will destroy nations” (Morris 2003). It is a warning the leaders of the United States and the People’s Republic of China should take to heart.

# DA Answers

## UUVs Inevitable

### 2AC --- Draw-Down of Manned Inev.

#### U.S. shift to UUV’s inevitable --- high cost of manned vessels

Zhao ‘18

(TONG, PhD in science, technology, and international affairs from the Georgia Institute of Technology is a fellow in the Nuclear Policy Program at the Carnegie Endowment for International Peace, based at the Carnegie–Tsinghua Center for Global Policy in Beijing. His research focuses on strategic security issues, including nuclear weapons policy, arms control, nonproliferation, missile defense, space security, and other international security issues. He was previously a Stanton nuclear security fellow with the Managing the Atom Project and the International Security Program at the Belfer Center for Science and International Affairs at Harvard University. He has held a number of other positions, including as a nonresident WSD-Handa fellow at Pacific Forum CSIS and working for the Office of Foreign Affairs of the People’s Government of Beijing Municipality. He holds a and received a BS in physics and an MA in international relations from Tsinghua University, “Tides of Change,” pg online @ <https://carnegieendowment.org/files/Zhao_SSBN_final.pdf> //um-ef)

The growing U.S. interest in using UUVs for ASW coincides with the ongoing challenges that the United States faces in using manned systems for this purpose. With a tightened military budget and stretched shipbuilding capacity, the U.S. Navy cannot afford to dramatically increase its total number of manned platforms. As figure 2 shows, the size of the U.S. SSN force is projected to continue to decline until around the late 2020s, as old models are decommissioned.

### 2AC --- No UUV 4 offense Now

#### U.S. not using UUV’s for offensive operations now

Zhao ‘18

(TONG, PhD in science, technology, and international affairs from the Georgia Institute of Technology is a fellow in the Nuclear Policy Program at the Carnegie Endowment for International Peace, based at the Carnegie–Tsinghua Center for Global Policy in Beijing. His research focuses on strategic security issues, including nuclear weapons policy, arms control, nonproliferation, missile defense, space security, and other international security issues. He was previously a Stanton nuclear security fellow with the Managing the Atom Project and the International Security Program at the Belfer Center for Science and International Affairs at Harvard University. He has held a number of other positions, including as a nonresident WSD-Handa fellow at Pacific Forum CSIS and working for the Office of Foreign Affairs of the People’s Government of Beijing Municipality. He holds a and received a BS in physics and an MA in international relations from Tsinghua University, “Tides of Change,” pg online @ <https://carnegieendowment.org/files/Zhao_SSBN_final.pdf> //um-ef)

So far, the United States has been relatively restrained in its use of unmanned systems for ASW missions. A RAND report observes that, to date, the main U.S. objective in using UUVs for ASW has been “to conduct ASW operations short of weapons engagement.”15 That said, the report does note that a “further objective is to perform this function [of weapons engagement].” For their part, Chinese analysts expect that the United States will deploy the most advanced unmanned ASW first to the Asia Pacific and that China will be the primary target. They expect Washington to deploy an ASW-capable USV as early as 2018. Unmanned ASW platforms are expected to be deployed first along the First Island Chain and at U.S. bases in Singapore; Okinawa, Japan; the Philippines; and Australia to monitor Chinese submarines operating in the East and South China Seas as they transit through the region’s limited number of chokepoints.16

### 2AC --- U.S. = UUV Active Sonar

#### U.S. will use UUVs for active sonar now

Zhao ‘18

(TONG, PhD in science, technology, and international affairs from the Georgia Institute of Technology is a fellow in the Nuclear Policy Program at the Carnegie Endowment for International Peace, based at the Carnegie–Tsinghua Center for Global Policy in Beijing. His research focuses on strategic security issues, including nuclear weapons policy, arms control, nonproliferation, missile defense, space security, and other international security issues. He was previously a Stanton nuclear security fellow with the Managing the Atom Project and the International Security Program at the Belfer Center for Science and International Affairs at Harvard University. He has held a number of other positions, including as a nonresident WSD-Handa fellow at Pacific Forum CSIS and working for the Office of Foreign Affairs of the People’s Government of Beijing Municipality. He holds a and received a BS in physics and an MA in international relations from Tsinghua University, “Tides of Change,” pg online @ <https://carnegieendowment.org/files/Zhao_SSBN_final.pdf> //um-ef)

The deployment of unmanned systems could enable states to engage in more aggressive behavior in a crisis. Without the need to worry about human casualties, military commanders might be emboldened to use unmanned vehicles more assertively than they would use manned systems. For example, because self-exposure is less of a concern for UUVs than it is for manned systems, UUVs use active sonar more frequently to detect enemy vessels.17

### 2AC --- U.S. Navy Drones Inev.

#### U.S. naval UUV development inevitable

Larter ’21

(David, naval warfare reporter for Defense News. Before that, he reported for Navy Times, “With the submarine threat on the rise, the US Navy looks to autonomous water sensor drones,” pg online @ <https://www.defensenews.com/naval/2021/02/17/with-the-submarine-threat-on-the-rise-the-us-navy-looks-to-autonomous-water-sensor-drones/> //um-ef)

WASHINGTON – The U.S. Navy is collecting proposals for a new autonomous glider drone that can collect data — such as water temperatures over time — as a way to improve how it hunts for enemy submarines. The system will be the next generation of the current Littoral Battlespace Sensing Glider, which generally deploys from one of the Navy’s five oceanographic survey ships. That glider became the center of an international incident in 2016 when China seized the drone, calling it a hazard to navigation. The Navy would use the drones for measuring water conditions in places where it might expect to need to hunt submarines in the future and help guide fleet operational planning. The drone would need to be able to operate for 90 days at a time, dive to depths of up to 200 meters – or 657 feet – and take a sample every 2 seconds, according to documents posted to Naval Information Warfare Systems Command’s website. The Navy wants the drone to be able to loiter at depth or on the bottom, be able to transmit data when it surfaces via iridium satellite or a line-of-site datalink and be recoverable by either a survey ship or a vessel of opportunity. The drone should also be able to scuttle itself and erase the data if tampered with, a function that can be triggered by operators at a command center or if the machine is tampered with, the documents read. Proposals are due March 8. The Navy has made anti-submarine warfare a major focus of its drone programs, with the medium unmanned surface vessel under development being considered primarily as an anti-submarine warfare asset.

### 2AC --- Subs Inevitable---China/U.S

#### U.S and China AI Sub deployment inevitable

**StrategyPage 22** 6-3-2022, "Submarines: The Robotic Naval Arms Race," StrategyPage, <https://www.strategypage.com/htmw/htsub/articles/20220603.aspx>

The navies of the United States and China are in a naval arms race as each turns out more unmanned surface and subsurface ships. So far in 2022 China has produced the Zhu Hai Yun, a 2,000-ton ship that carries up to fifty unmanned submarine, surface and airborne vehicles. Zhu Hai Yun is operated remotely to get it out to the high seas, where the ship operates autonomously to carry out a variety of missions it is capable of. China is depending on its AI (Artificial Intelligence) software to effectively carry out its mission and then signal that it is returning. The U.S. Navy has similar but smaller (145-ton) unmanned surface ships that do not carry and operate other autonomous vehicles but can stay at sea for up to sixty days carrying out ASW (Anti-submarine warfare) missions. The navy has also developed larger autonomous cargo ships to move supplies long distances. Smaller armed and unarmed autonomous vessels have been in service for decades to patrol ports and coastal areas. China believes it has a lead in AI control software and the Zhu Hai Yun is an effort to test that. The Americans are depending on less ambitious technologies that have produced impressive results so far and a new Orca autonomous submarine takes those proven concepts further than ever before.

A month before China presented the Zhu Hai Yun, the Americans received the first of 24 Orca 80-ton XLUUV (extra-large UUVs) that can carry and deploy a variety of naval mines and evade enemy detection due to their small size.

Orca was the U.S. Navy solution to the difficulties with deploying offensive mobile naval mines and a robotic submarine in enemy controlled waters, like the South China Sea. Orca could even operate as an offensive weapon against Chinese submarines seeking to block access to the South China Sea and Taiwan. China is considered the major submarine threat in the Pacific and the South China Sea is seen as a major future battleground.

Currently China has about 55 diesel-electric subs of recent design in service versus 42 operated by Japan and South Korea, each with 21. Malaysia and Indonesia each have two and Australia has six. The United States has about 30 nuclear attack subs in the Pacific. The anti-China coalition also has a large array of surface and aerial ASW forces.

To even the odds China has built a network of underwater sensors in the South China Sea that is complemented by ASW aircraft and surface ships. South Korea and Japan have similar technology monitoring their coastal waters. The only nation capable of blocking Chinese subs from moving out of the South China Sea is the United States, which has underwater sensors and a large fleet of ASW aircraft. The problem is defeating the Chinese diesel-electric submarine force. China has been trying to build effective SSNs for decades and that is still a work-in-progress. Chinese non-nuclear subs are another matter and they have become world-class.

The U.S. Navy believes robotic subs carrying mobile mines would be an effective new ASW asset because the U.S. is already developing some of the new ASW technology needed for this. This includes UUVs (Unmanned Underwater Vessels) and mobile mines. Over a decade ago the navy adopted civilian underwater UUVs used for monitoring the oceans and has been using them to do that as well as collect data useful for wartime submarine operations. With a growing number of civilian and military customers, American UUV developers and manufacturers have been coming up with new ocean research UUVs that also have military applications. The latest example of this is the new class of XLUUVs with the ability to go deeper, carry a cargo bay for other research gear to be stored and deployed from, and operate autonomously for up to six months. The first of these XLUUVs was the Echo Voyager, which Boeing developed from a research project and had the first one ready for testing in 2016. The tests were successful and have involved more complex and completely autonomous operations. In 2019 the navy ordered four militarized “Orca” versions of the Echo Voyager for $11 million each. Both models are diesel-electric powered autonomous subs that are 16 meters (51 feet) long with a payload compartment 9.1 meters long and 2.6 meters (8.5 feet) in diameter and inside the pressure hull. Propulsion is by battery powered electric motors and diesel generators to recharge the batteries when on or near the surface. This XLUUV has no topside sail and can stay underwater for days at a time because there is no crew on board to sustain. While submerged these UUVs can move at 14 kilometers an hour and have sufficient generator fuel to travel 12,000 kilometers. The main difference between Echo Voyager and Orca is that Echo Voyager is built to dive to extreme (3,400 meters/11,000 feet) depths. Orca does without that but adds additional passive sensors and signal processing computers to detect other submarines or surface ships. There is also an underwater communications system for arming the dozen Hammerhead mobile mines Orca is designed to carry and place on the ocean floor in areas like the South China Sea. These Hammerhead bottom mines carry a Mk 54 lightweight torpedo, which is normally carried by ASW helicopters and aircraft. Mk 54 has a range of ten kilometers and a guidance system that is regularly updated. Hammerhead is being used in a similar fashion to a larger version of this used during the Cold War that deployed a larger Mk 48 torpedo. Hammerhead is an encapsulated system equipped with passive sensors to detect and identify submarines and surface ships and attack specific types of targets, like diesel-electric subs larger than Orca.

### 2AC --- Sensors inev

#### Prolif is thumped – sensors have already been deployed

**Keller 21** [John Keller, Chief editor at Military & Aerospace Electronics, 5-3-2021, accessed on 7-4-2022, Military Aerospace, "Sensors aboard many swarming unmanned vehicles threaten the stealthiness of global submarine technology", <https://www.militaryaerospace.com/unmanned/article/14202400/unmanned-submarines-sensors> mimou]

Expensive submarines today must contend with an expanding array of inexpensive robot [sensors](https://www.militaryaerospace.com/sensors) and submarine hunters that can blanket the ocean. These include small handheld drones that operate in swarms, air-launched drones like the U.S. Coyote that can launch from ASW aircraft, and sonar-equipped underwater robot gliders that quietly search the ocean.

Sea- and air-based [unmanned](https://www.militaryaerospace.com/unmanned) vehicles versus submarines essentially is an arms race between an expensive but fragile weapon and hordes of cheap sensor and weapons platforms. It parallels the race between the development of stealth aircraft, and the development of sensors to detect them.

### 2AC --- AI ASW Inev.

#### AI ASW integration is inevitable, it’s just a question of broader interoperability and deterrence

Osborn 22. Kris Osborn is the Defense Editor for the National Interest. Osborn previously served at the Pentagon as a Highly Qualified Expert with the Office of the Assistant Secretary of the Army—Acquisition, Logistics & Technology. He also has a Master’s Degree in Comparative Literature from Columbia University; “Artificial Intelligence Is Strengthening the U.S. Navy From Within”; April 14, 2022; The National Interest; <https://nationalinterest.org/blog/buzz/artificial-intelligence-strengthening-us-navy-within-201822> //BY

The Navy is progressively phasing [artificial intelligence](https://nationalinterest.org/blog/techland-when-great-power-competition-meets-digital-world/how-strengthen-america%E2%80%99s-artificial) (AI) into its ship systems, weapons, networks, and command and control infrastructure as computer automation becomes more reliable and advanced algorithms make once-impossible discernments and analyses.

Previously segmented data streams on ships, drones, aircraft, and even [submarines](https://nationalinterest.org/blog/buzz/navy-budget-request-includes-additional-funding-submarine-construction-201643) are now increasingly able to share organized data in real-time, in large measure due to breakthrough advances in AI and machine learning. AI can, for instance, enable command and control systems to identify moments of operational relevance from among hours or days or surveillance data in milliseconds, something which saves time, maximizes efficiency, and performs time-consuming procedural tasks autonomously at an exponentially faster speed.

“Multiple data bytes of information will be passed around on the networks here in the near future. So as we think about big data, and how do we handle all that data and turn it into information without getting overloaded, this will be a key part of AI, then we're talking about handling decentralized systems,” Nathan Husted of the Naval Surface Warfare Center, Carderock told an audience at the 2022 Sea Air Space Symposium. “ ..and of course, AI plays a big part in the management in between the messaging and operation and organization of these decentralized systems.”

[AI’s success](https://nationalinterest.org/blog/techland-when-great-power-competition-meets-digital-world/artificial-intelligence-and-future) could be described paradoxically: in one sense, its utility or value is only as effective as the size and quality of its ever-expanding database. Yet by contrast, its conclusions, findings, or “answers” are very small and precise. Perhaps only two seconds of drone video identify the sought-after enemy target, yet surveillance cameras have hours if not days of data. AI can reduce the procedural burden placed upon humans and massively expedite the decisionmaking process.

“If we look at the battlespace, we are actually training for the future. As we look at AI in the battlespace … we've got big data and AI systems. So we're going to have this extremely complicated, information-rich combat environment,” Husted said…

Navy industry partners also see AI as an evolving technology that will progressively integrate into more ship systems, command and control, and weapons over time as processing speeds increase and new algorithms increase their reliability by honing their ability to assimilate new or unrecognized incoming data. This building block approach, for example, has been adopted by Northrop Grumman in its development of a new ship-integrated energy management, distribution, and storage technology called [Integrated Power and Energy Systems](https://nationalinterest.org/blog/buzz/integrated-power-and-energy-system-will-forever-change-naval-combat-201806) (IPES). For instance, Northrop Grumman’s solution is built to accommodate new computing applications as they become available, such as AI-generated power optimization and electric plant controls.

The technology seeks to organize and store energy sources to optimize distribution across a sphere of otherwise separated ship assets such as lasers, sensors, command and control, radar, or weapons. AI-enabled computing can help organize incoming metrics and sensor data from disparate ship systems to optimize storage and streamline distribution as needed from a single source depending upon need.

“AI is an emerging capability that shows promise in some of these more complex electrical architectures to manage in near real-time. Future capability that would rely upon AI and be more computationally intensive is likely to happen in some aspects of electric plant controls,” Matthew Superczynski, chief engineer for Northrop Grumman’s Power/Control Systems, told The National Interest in an interview.  “We are building upon the architecture the Navy already has to give them more capability and lower risk. We can build on top of that.”

### 2AC/1AR --- Sub Militarization Inev

#### Militarized subs inevitable – every major power is developing them

**Gatopoulos 21** [Alex Gatopoulos, Alex Gatopoulos is a News Editor and Defence Analyst at Al Jazeera English, 4-20-2021, accessed on 7-4-2022, Al Jazeera, "Project Force: Who will win the underwater arms race?", <https://www.aljazeera.com/features/2021/4/20/silent-killers-21-century-submarines> mimou]

The developments do not stop there. A new class of Russian submarine, the Khabarovsk, will be fitted to carry the giant superfast autonomous nuclear torpedo, Poseidon, in effect an underwater nuclear-powered drone, capable of speeds of up to 180km/h (112mph) and armed with a huge, multi-megaton nuclear warhead. The torpedo’s range is virtually unlimited and is designed to destroy ports, coastal cities and large fleet concentrations.

Future plans

Russia is not the only country upgrading its submarines. France, the UK and the US are all developing and building the next class of missile and attack sub. They can dive deeper to avoid detection and advances in engine design mean they are even quieter and therefore stealthier than previous generations. Many of these designs have already been fielded, while others are near completion.

China and India are also working on their own improved nuclear sub designs in an effort to dominate their own seas and keep up with regional competitors. There can be setbacks. India’s first nuclear-powered missile sub, the INS Arihant, was damaged when a hatch was left open, allowing water to partially flood the sub. The design has since been finalised and a second missile sub, or SSBN, INS Arighat is undergoing trials.

It is not all about nuclear propulsion. Improvements in Air Independent Propulsion (AIP) now allow non-nuclear submarines some of the advantages of their nuclear cousins.

Able to stay submerged for weeks at a time, these cheaper submarines give middle-ranking naval powers an affordable way to enhance their naval firepower, while also using their stealthy abilities to gather intelligence and land special forces teams ashore, their mission flexibility giving their commanders more options.

Unmanned Underwater Vehicles (UUVs), are also starting to make their presence felt. These robot subs can gather intelligence, lay mines and sweep the seas around them for enemy vessels. The US navy is planning a whole range of them, such as Boeing’s Orca, with other navies following suit. Able to operate autonomously, they can stay at sea for months at a time, sending valuable data back to their headquarters while remaining hidden. At least that is the idea. No country has publicly claimed a robotic submersible that was found a few years ago by a Chinese fishing vessel in the South China Sea. It was capable of satellite communications and recording images, and was suspected by the Chinese authorities of being used to spy on Chinese naval activity in the area.

China itself is developing its own fleet of unmanned AI-controlled submarines that, once completed, will be capable of a wide variety of missions. Without having to worry about keeping a human crew safe, these robot subs can be smaller, stay at sea almost indefinitely and operate at greater depths as they can be built differently to withstand the incredible pressures of the very deep sea.

Even minor nuclear power North Korea is researching how to turn small, yet quiet diesel-electric subs into missile carriers for its fledgeling nuclear weapons arsenal. Pyongyang is keen to develop its own invulnerable second strike retaliatory capability, ensuring the survival of the country.

## AT: Strategic Stability DA

### 2AC---AT: Strat Stability

#### AI subs don’t undermine second strike---physics and practicality BUT assist ASW capabilities which solves the AFF

Gates 16 — Jonathan Gates is a defence consultant with a career spanning 35 years. His initial work in the Royal Corps of Naval Constructors concentrated on the design of warships, their sensors and weapons. Subsequently, in the defence industry, he managed multidisciplinary projects and spent a period as Engineering Director of the Al-Yamamah contract. He has written a number of papers and books on naval engineering. Jonathan Gates (2016) Is the SSBN Deterrent Vulnerable to Autonomous Drones?, The RUSI Journal, 161:6, 28-35, DOI: 10.1080/03071847.2016.1265834 WMK

Some journalists have drawn direct (but erroneous) parallels between the technological advancements enjoyed by remotely piloted UAVs and the far more technically challenging autonomous UUV situation.2 This has led some to claim that low-cost UUVs will make ‘the seas transparent’.3 The assertion is that UUVs will be able to roam the oceans in massive numbers searching for submarines, particularly the Trident-armed Vanguard-class SSBNs. Although admitting that this will take some time, they claim that it will eventually render the Vanguard’s replacement, the Dreadnought class, obsolete.4 However, the political desire to find some argument that will suddenly undermine the case for SSBNs has led to some mistaken assumptions and incorrect conclusions. For instance, opponents to Dreadnought have failed to take into account the laws of physics. It is these laws that contribute to making the oceans opaque; they present significant difficulties that may be impossible for technology to overcome. Scientists, engineers and naval officers with knowledge of the subject regard these claims with extreme scepticism.5 This article explains some of the capabilities and limitations of the technology, in the process dispelling many assertions that have been put forward.

The main difficulties of detecting submarines in the open ocean with autonomous vehicles are twofold. First, there is the challenge faced by all sensors trying to detect very small signals in an environment that mutes and distorts indications of the submarine’s presence. Second, there are the practical problems of powering the autonomous vehicles so that their sensors are effective and so that the vehicles can be positioned where they can deliver real operational value. As such, the claims that SSBNs will be made obsolete because they will be easily detected by autonomous vehicles in the open ocean are not credible.

There are, nevertheless, ways in which such vehicles could be developed to assist ASW forces. While they are unlikely to make the seas transparent, there are areas where they could give ASW forces an advantage and force submarine captains to adopt different tactics. Examining the continuing development of autonomous technology is important as a means to understand their potential and to develop the Royal Navy’s response. The US has identified UUVs asa disruptive technology, but only envisages them in roles that support ever-more sophisticated ASW operations.6

#### They don’t shift strategic stability---broad detection is impossible

Gates 16 — Jonathan Gates is a defence consultant with a career spanning 35 years. His initial work in the Royal Corps of Naval Constructors concentrated on the design of warships, their sensors and weapons. Subsequently, in the defence industry, he managed multidisciplinary projects and spent a period as Engineering Director of the Al-Yamamah contract. He has written a number of papers and books on naval engineering. Jonathan Gates (2016) Is the SSBN Deterrent Vulnerable to Autonomous Drones?, The RUSI Journal, 161:6, 28-35, DOI: 10.1080/03071847.2016.1265834 WMK

Transparent, Translucent or Opaque Seas

‘Transparent oceans’ implies that all submarines can be ‘seen’ wherever they are, rendering the deterrent obsolete because they would be easy prey for a pre-emptive strike. However, this fails to pass critical scrutiny. Richard L Garwin proposed a typology that distinguished between different types of threats to strategic submarines. These were categorised as ‘open-ocean search’, ‘tracking’ and ‘trailing’.7 Each of these types indicates a different level of confidence in the position of an adversary’s submarine: for open-ocean search, there is no knowledge of wherea submarine is within the deployable zone; for tracking, the location can be narrowed to a more specific area; and in trailing situations, the submarine is kept within weapons range.8 Nuclear powers, each deploying a seaborne force of submarines with nuclear missiles, are ensured of strategic stability provided that the position of their submarines is extremely difficult to determine.9 This article argues that detecting an adversary’s submarine is near impossible in the open ocean.

Autonomous Vehicles in a Submarine Open-ocean Search Role

The reason that nuclear-powered submarines were chosen to carry the nuclear-armed missiles of the continuous at-sea deterrent is that it is extremely difficult to detect a submarine. SSBNs are designed not to be found and to operate in oceans that give them ample opportunity to disappear. As they are nuclear-powered, they can remain submerged at depth for months.

If UAVs were to search for SSBNs, the first of many challenges would be how to detect the submarine. The sensors that UAVs use above water – cameras, thermal imagers and radar – employ detectors that function by using electromagnetic waves. However, these waves can penetrate only the uppermost layers of the ocean, because seawater is a good conductor of electricity. The laws of physics state that the intensity of electromagnetic waves falls exponentially as they penetrate a conductor. At the wavelengths employed by the sensors mentioned, the Beer–Lambert Law determines that these waves can only penetrate a few millimetres of seawater. An exception is light detection and ranging imagers that use blue-green light and multispectral laser imagers.10 These can probe 50–100 m deep in clear blue waters. However, even this is insufficient to reach the typical operating depths of a nuclear submarine. Except in transparent waters, these techniques are severely limited, and cannot penetrate far into the sediment-rich and turbulent waters that SSBNs generally inhabit.

Aircraft use one type of sensor to search for submarines that has been proposed for UAVs – magnetic anomaly detectors. These sense the disturbance of the Earth’s magnetic field produced by the submarine’s ferromagnetic hull and steel components. The steel hull of a submarine (and of most surface ships) not only acts as a large magnet, but its movement through the water generates additional magnetic effects. These effects can be mitigated if a submarine uses a degaussing system – coils of wire within the vessel that carry an electrical current to generate an equal and opposite magnetic field to that of the hull. This ‘magnetic cloaking device’ cancels out the magnetic disturbance. The latest ‘closed-loop degaussing system’ is very effective at reducing a submarine’s magnetic signature. Nevertheless, close to the vessel the magnetic field of the submarine is irregular and difficult to cancel out completely. This gives some opportunity for the small residual magnetic disturbance to be detected within about 1 km, meaning that magnetic anomaly detectors are very short-range sensors.

Advances in technology have led to the miniaturisation of magnetic anomaly detectors so they could be mounted on UAVs; these detectors are now being considered for the ship- and aircraft-launched MagEagle version of the ScanEagle autonomous UAVs.11 These UAVs would be useful for anti-submarine warfare forces to confirm the exact position of a submarine that has already been detected. However, their detection range is so modest that searching the vast spaces of the unpredictable oceans is unlikely to be the best use of UAVs. Moreover, advances in detection technology are usually countered by advances in signature reduction (improved degaussing) and consequent further reduction of detection ranges. The introduction of new countermeasures to confuse the detector would also mitigate the advances in detection technology.

Other non-acoustic detection techniques have been kept under review, with wake detection perhaps having some potential.12 As a submarine advances it pushes water aside. This generates a conical wave pattern that spreads out from the bow of the submarine. Where this cone breaks the surface of the sea it manifests itself as a triangular set of low surface waves that, in calm water, could be used to detect a submarine’s recent track. However, to extract this wake pattern from the complex wave patterns of, say, the North Atlantic Ocean requires a great deal of signal processing. This is a substantial computational task and probably beyond the possible computer payload of a UAV, or even a satellite. In addition to the complexity of surface waves, like all signatures, there are difficulties because of interference from similar signals, including those produced by surface ships, whales and shoals of fish. To ensure that conventional submarines are efficient when they are powered through the water, naval architects aim to reduce wake to ensure efficiency. This is currently not of great concern to nuclear submarines because of their large power plants. However, wake reduction may become more important, requiring modification of the outer hull shape and the development of offboard decoys.

UUVs, the UAVs’ underwater cousins, are used mainly to gather small sets of oceanographic data using simple onboard sensors powered by modest batteries. They either drift or are driven at very low speeds, so they are limited in their trajectories by currents. To overcome currents and allow them to search on a predetermined course for long periods would require significant developments in battery or fuel-cell technology.

Navies have been using tethered UUVs for mine-hunting operations for decades, but only recently have these become autonomous.13 Nevertheless, searching for mines in predetermined positions with the close support of surface vessels is a long way from searching totally autonomously for submarines in the whole ocean.

Even if there were a clear operational imperative to build vast numbers of low-cost UUVs to detect submarines, the complex underwater environment presents many obstacles to their development for a search role. As radar cannot be used underwater, the detection of submarines relies on sonars to sense acoustic waves emitted by the submarines. This technique, passive sonar, is covert and enables the sonar to obtain the direction of any source of the sound it detects. However, determining the distance of the sound source is more diffcult.

The sonars search a wide range of acoustic frequencies from low to high (typically below 10 kHz to above 30 kHz). The lower frequencies travel long distances underwater but, to exploit them, the acoustic sensors (hydrophone arrays) need to be very large. UUVs are constrained to the higher (shorter-range) frequencies unless they can accommodate large arrays or tow long arrays, and to do that, they would need to be the size, and have the complexity, of a small submarine.14

If an SSBN does not want to be found, then detecting it is very difficult. Thanks to noise-reduction technology, the sound emissions of nuclear-powered submarines are very, very low. Submarines themselves are the quintessential submarine detector because they are equipped to be aware of underwater threats. They are fitted with extensive sets of arrays and typically have more than 10,000 hydrophone sensors whose data are analysed using powerful computers.15 Nevertheless, even they find it difficult to detect other submarines. For example, in 2009 there was a collision between two SSBNs, HMS Vanguard and the French Navy’s Le Triomphant.16 The boats did not detect each other, despite having teams of highly trained sonar operators using sophisticated passive sonars, even when they were almost close enough to touch. The then French Defence Minister Hervé Morin said: ‘We face an extremely simple technological problem, which is that these submarines are not detectable. They make less noise than a shrimp’.17 While this may have been an exaggeration, it indicates the challenges facing any autonomous UUV searching for any modern submarine. In 2010, the Royal Navy’s latest fleet submarine, HMS Astute, entered service, and it has even better sound reduction features than HMS Vanguard,18 which will presumably be further enhanced for the Dreadnought SSBNs.

Detecting an SSBN is a challenge both for other submarines and for specialist ASW ships deploying long towed arrays. These comprise long arrays of hydrophones that can detect low frequencies emanating from far away as well as having the directionality that limits unwanted noise interference. As UUVs are unable to deploy low-frequency sensors, they would be severely limited in detection ranges.

A major factor that makes detection particularly difficult is the abundance of noises that propagate well at the low frequencies used to search for submarines.19 Crashing waves and the lashing of rain produce background interference in the open ocean, especially in areas where submarines like to lurk. Man-made noises from the world’s shipping activity generate significant noise ‘pollution’ that travels far from busy trade routes. Other forms of marine life, such as whales and large shoals of fish, will also add to the cacophony.

The interference is even greater in coastal regions where there are many more ships, some of which are even noisier than container ships. Within the littoral there are, worldwide, billions of alpheid (snapping) shrimp that, together, produce a noise that swamps that of the quietest submarine.

Very sensitive acoustic detectors can be produced for UUVs, although not necessarily at the most useful frequencies. However, sensitivity is not the key factor. A more sensitive detector can detect quieter sounds but is more susceptible to noise interference. Using binoculars to find a car lost in the fog does not improve the visibility – it just enables the fog to be seen more easily. Like a person searching in fog, the range of UUV sensors, already handicapped by only being able to operate at high frequencies, is further limited by interference, particularly in coastal waters. Even with improved processing power, this limitation precludes significant improvements in UUV sensor ability. Like UAVs, the detection range of UUVs is noticeably constrained by environmental factors.

The use of a ‘swarm’ of UUVs has been compared to the use of swarms of UAVs in other contexts.20 However, the swarm concept is not just about numbers. It requires the UUVs to cooperate with each other so that their search is coordinated. This requires the interchange of a great deal of data over a significant range. Unfortunately, range and data transfer rates of underwater communications by acoustic techniques are limited, which imposes practical constraints on UUV swarms.

In the future, the use of large aperture arrays in conjunction with advanced adaptive or statistical signal processing and array processing techniques may be able to extend the detection range. The longer arrays would exploit the low-frequency signature in particular environments and circumstances. However, towing or deploying and processing a large array would place demands on the electrical power available from a UUV and the performance benefits would be variable, dependent on environmental conditions such as propagation, noise and interference.

Using sonar to detect submarines has to take into account the nature of acoustic propagation. Sonar signals are distorted by changes in the speed of sound in seawater that is, itself, dependent on factors such as temperature, pressure and salinity. Changes of the speed of sound with depth often increase then decrease to produce horizontal layers that diffract sonar signals in such a way that they cannot penetrate the adjacent layers. These effects vary from one part of the ocean to another as well as changing over time. In addition, the edges of ocean currents represent sharp temperature changes that can produce changes in the propagation of sonar waves, characterised by a vertical discontinuity that cannot be penetrated by sonar waves. Submarines are equipped to determine the spatial and temporal variability of the ocean’s propagation characteristics, but this would be extremely difficult for UUVs. Not only does the seawater’s inhomogeneity make sonar detection difficult, but, at times, it renders the seas impenetrable to sonar and provides submarines with opportunities to vanish.21

It is true that as detection and classification techniques continue to evolve, detecting and classifying very weak signals – against background noise and interference – will remain a fundamental challenge.

UUVs will be further hampered by the difficulty of alerting other forces to their presence were any contact made, especially if they were deep in the ocean. Communications below water are short range, so the UUV would have to ascend nearly to the surface (or even to the surface) in order to establish a satellite communications link.

#### The sky isn’t falling---unmanned vehicles don’t interfere with nuclear weapons and other systems thump

Gates 16 — Jonathan Gates is a defence consultant with a career spanning 35 years. His initial work in the Royal Corps of Naval Constructors concentrated on the design of warships, their sensors and weapons. Subsequently, in the defence industry, he managed multidisciplinary projects and spent a period as Engineering Director of the Al-Yamamah contract. He has written a number of papers and books on naval engineering. Jonathan Gates (2016) Is the SSBN Deterrent Vulnerable to Autonomous Drones?, The RUSI Journal, 161:6, 28-35, DOI: 10.1080/03071847.2016.1265834 WMK

There are many types of autonomous vehicles currently available or in development for a potential ASW role. UAVs, UUVs and USVs are all being developed, and the tasks that they are being designed to perform are varied. However, what emerges is that the environmental conditions experienced by the different types of drone are different and this limits the types of operations that they can carry out.

Unlike many of the tasks undertaken by drones in general, searching for submarines is extremely difficult as the latter are designed to disappear. For this reason, autonomous vehicles are unlikely to represent a revolutionary change, although their emerging capability will have implications for submarine and ASW operations. There is a potential evolutionary path that incorporates autonomous vehicle technology into naval operations that will improve effectiveness or lower costs. The use of autonomous vehicles (especially large, fast USVs, large ship-deployed UUVs and UAVs) could deny areas of operation to submarines, but such overt surveillance would be open to avoidance, and could be challenged by other naval vessels and countermeasures as part of a layered defence.

The below-water sensors available to UAVs (laser, magnetic anomaly) and UUVs (high-frequency sonar) have very short detection ranges. Even if a submarine-like target were detected, the autonomous vehicle would need to track and classify the target as an enemy submarine and to report back to headquarters. This would require a further degree of sophistication with cost implications to be developed. The assumption that large numbers of ‘lost-cost’ autonomous vehicles will make the oceans transparent is misleading because it would take an immense number of vehicles to cover even a fraction of an SSBN’s operational areas.

### 2AC --- Subs can evade

#### Aff doesn’t kill deterrence --- just changes how subs will operate

Kallenborn ‘19

(Zachary, freelance researcher and analyst, specializing in chemical, biological, radiological, and nuclear (CBRN) weapons, CBRN terrorism, drone swarms, and emerging technologies, October 2019 Proceedings Vol. 145/10/1,400, “pg online @ <https://www.usni.org/magazines/proceedings/2019/october/if-oceans-become-transparent> // um-ef)

Imagine a world in which the oceans hide nothing. Cheap sensors are deployed all across and below the water. Swarms of unmanned undersea, surface, and aerial vehicles rove in search of adversaries. Governments can see everything that happens. Nuclear-armed submarines that once hid in the vastness of the ocean would be revealed. What does this mean for the sea-based nuclear deterrence and second-strike reliability? And how should states respond?

Greater ocean transparency changes the character of submarine deterrence, but does not eliminate key advantages. In particular, ocean transparency shifts the competition from hider-finder to find-chase-kill. Instead of relying on stealth, submarines will need to emphasize speed and self-defense, including manipulating adversary sensors and deploying sophisticated submarine decoys.

### 2AC --- Strategic Stability Fake

#### The concept of strategic stability is wrong

Podvig 12 — A physicist trained at the Moscow Institute of Physics and Technology, Podvig works on the Russian nuclear arsenal, US-Russian relations, and nonproliferation. In 1995, he headed the Russian Strategic Nuclear Forces Research Project. Pavel Podvig, "The myth of strategic stability," Bulletin of the Atomic Scientists, 10-31-2012, https://thebulletin.org/2012/10/the-myth-of-strategic-stability/, accessed 7-4-2022, WMK

Strategic stability is one of those ideas that seem to enjoy almost unqualified support among nuclear and non-nuclear weapon states, nuclear disarmament advocates and skeptics, as well as nuclear abolitionists and nuclear hawks. And it is probably because of this universal support that the pursuit of strategic stability became the single most serious obstacle on the way toward nuclear disarmament.

Strategic stability usually refers to a state of affairs in which countries are confident that their adversaries would not be able to undermine their nuclear deterrent capability. It is generally believed that, if the nuclear deterrence potentials are secure, nuclear powers would not feel the need to build up their strategic arsenals and, most important, would not be under pressure to launch their missiles in a crisis. Understood this way, strategic stability does not seem a particularly controversial concept. Few people would advocate instability in matters that involve nuclear weapons. But the problem is that the key elements of the concept are so poorly defined that it has no useful meaning and virtually no practical value.

First of all, the numbers that are used to judge the effectiveness of deterrence have always been completely arbitrary. For example, in the early 1980s, the US intelligence agencies estimated that, in the event of a surprise Soviet attack, surviving launchers in each of the three legs of the US strategic triad could independently destroy about 70 percent of the Soviet economic value — a task that would require thousands of surviving warheads. And still the United States was concerned that this might not be enough to deter the Soviet Union. The Soviet Union, on the other hand, had a different view of what was necessary for effective deterrence: A Soviet official document from the late 1980s estimated that its retaliatory strike would destroy about 80 targets on US territory. Given that the Soviet strategic force still included more than 10,000 nuclear warheads at the time, this number does not seem particularly large. However, the authors of the estimate seemed quite confident that such a capability would provide the Soviet Union with an adequate deterrence potential.

These numbers are probably much lower today, but they are almost certainly as arbitrary as they were in the 1980s. All evidence suggests that the estimations of the number of weapons that might be required for deterrence have always been determined by the number of weapons available — rather than the other way around. So, once nuclear states start cutting down their nuclear arsenals, they have no problem adjusting their views of efficient deterrence accordingly. In August, for example, a former commander of the US Strategic Command stated on record that “the retaliatory capability of 300 nuclear weapons on anybody’s territory is catastrophic.” But there is no reason to believe that the retaliatory capability of, say, 30 nuclear weapons — or even three — is anything but catastrophic. Indeed, the experience of the Cuban Missile Crisis or concerns about the emerging nuclear capabilities of countries like North Korea and Iran tells us that just a small probability of having a single nuclear weapon delivered to someone’s territory is a very strong deterrent.

The arbitrary nature of the assumptions that underlie the idea of strategic stability makes this concept extremely malleable and politically charged. Depending on the politics of the moment, just about any configuration of strategic forces could be declared sufficiently stable or dangerously unbalanced, and any imaginable threat could be brought into the equation or conveniently ignored. On the surface it may not look this way — there is, after all, an intellectual tradition that explains, for example, why silo-based multiple-warhead missiles are destabilizing weapons or why missile defense undermines strategic stability. Historically, however, it has always been the politics and not the theoretical arguments that have had the upper hand in most of these discussions; even the most difficult strategic stability problems are usually resolved by a simple decision that they are not problem anymore.

### 2AC --- AI Subs Inevitable

#### AI Subs inevitable---

#### A — Russia---that’s the 1AC

#### B — The DoD and China

Macaulay 20 — Thomas Macaulay, "The US Navy is developing AI-powered submarines that could kill autonomously," TNW | Neural, 3-10-2020, https://thenextweb.com/news/the-us-navy-is-developing-ai-powered-submarines-that-could-kill-autonomously, accessed 7-4-2022, WMK

The US Navy is developing AI-controlled submarines that could have the ability to kill without human control.

The project — called CLAWS — is being led by the Office of Naval Research, which is responsible for the science and technology programs of the US Navy and Marine Corps.

Budget documents uncovered by New Scientist, describe CLAWS as an “autonomous unmanned undersea weapon system” that could be installed on robot submarines such as the Orca underseas vehicle being developed by Boeing.

These boats will be armed with 12 torpedo tubes that could be controlled by CLAWS without any input from a human.

“It will clandestinely extend the reach of large UUVs [unmanned underwater vehicles] and increase the mission areas into kinetic effects,” read the documents.

Prototype on its way

CLAWS was first revealed in 2018 as an attempt to “improve the autonomy and survivability of large and extra-large unmanned underwater vehicles.” However, there had been no mention of a weapons capability until now, according to New Scientist.

The budget documents reveal that CLAWS has been allocated $26 million this year and another $23 million for next year, which will be used to develop the idea into a working prototype.

Stuart Russell, a professor of computer science at the University of California, who described CLAWS as a “dangerous development.”

“Equipping a fully autonomous vehicle with lethal weapons is a significant step, and one that risks accidental escalation in a way that does not apply to sea mines,” he told New Scientist.

Lethal autonomous weapons on their way?

The US is not alone in working on autonomous submarines.

Chinese scientists expect to deploy unmanned military subs in the world’s oceans bt the early 2020s. Although the final decision on whether to attack will still be made by commanders — for now — the developments suggest that a new front in the AI arms race is being opened up at sea.

#### C — NATO---might TKO the AFF but its only 13 of them!!

Larter 18 — David B. Larter was the naval warfare reporter for Defense News. David B. Larter, "To combat Russian subs, NATO allies are teaming up to develop unmanned systems at sea," SDQuébec, 25 octobre 2018, https://sdquebec.ca/fr/nouvelle/to-combat-russian-subs-nato-allies-are-teaming-up-to-develop-unmanned-systems-at-sea, accessed 7-4-2022 WMK

The U.S. and its NATO allies are teaming up to more closely cooperate on the development and fielding of unmanned maritime systems, according to an agreement signed by the defense heads of 13 NATO allies.

During the July summit, the powers signed onto a plan to jointly pursue technologies aimed at mine and sub hunting, according to an October news release making the agreement public.

“The use of unmanned systems is a potentially game changing leap forward in maritime technology,” the release read. “Working alongside traditional naval assets, these unmanned systems will increase both our situational awareness and our control of the seas.”

The release, while short on details, seems to open up the possibility that development of underwater and surface drones could be even more lucrative for companies involved, as it hints at the alliance seeking common, interoperable systems. That means a proven drone might be competing for business in 13 markets simultaneously instead of just one.

“Through this initiative, Allies will also be able to exploit economies of scale to reduce costs, allowing increasing defence budgets to go even further,” the release said.

The countries involved in the agreement are Belgium, Denmark, Germany, Greece, Italy, the Netherlands, Norway, Poland, Portugal, Spain, Turkey, the United Kingdom and the United States.

For NATO watchers, the agreement is the latest sign of just how seriously the alliance is taking the threat from Russian submarines.

“NATO members are alarmed by the growing threat from Russian submarines, and are investing more resources to deal with it,” said Jorge Benitez, a senior fellow at the Atlantic Council who previously served as the lead on NATO issues for the Office of the Secretary of Defense. “Under [President Vladimir] Putin, Russia has deployed new, stealthier submarines in the north Atlantic that are much harder for NATO navies to track.

“This new multinational cooperation in undersea drones is the most recent example that NATO is taking the Russian threat in the north Atlantic much more seriously than it has in the past quarter century.”

### ---Russia/China Dev Now

#### DA is terminally thumped –

#### RUSSIA and the US – they’re individually developing tech now

Bisht 21 – author for the Defense Post. (Inder Singh Bisht, "Russia Develops AI-Controlled Underwater Swarm Drone System," Defense Post, 5-5-2021, https://www.thedefensepost.com/2021/05/05/russia-underwater-swarm-drone/, Accessed 7-3-2022, LASA-SC)

Russia is developing a system consisting of a swarm of underwater combat drones, Gazeta.Ru reported, citing a source.

The AI-controlled system, consisting of both surface and underwater vehicles with a total displacement of 500-1,000 tons, will be deployed in a range of missions, including against an enemy aircraft carrier, the Moscow-based news outlet explained.

“For example, the command post sets a common task — to destroy the enemy aircraft carrier strike group. Artificial intelligence, which will control the swarm of underwater drones, solves this problem in accordance with very specific and constantly changing circumstances,” the news outlet quoted the source as saying.

“Then you need to focus on one of the areas. Then make a maneuver and shift efforts to another direction. Then, for a while, withdraw from the battle and mislead the enemy with demonstrative actions,” the source, which the website claimed is embedded in the country’s military-industrial complex, added.

“All this will be done by artificial intelligence, which receives data on the situation from a wide variety of sources.”

Currently, system developers are working on refining the inter-medium (air to water) transmission of control commands.

The “latest electronic gyroscopes”— devices that detect the deviation of an object from its desired orientation — will be fitted into the vehicles for navigation.

“Their error per 1,000 km (621 miles) of track can be significantly less than 100 meters (0.062 miles). This will allow the drone to be brought into the vicinity of the target with great accuracy,” the website wrote.

Since the unmanned vehicles are generally cheaper than their manned counterparts and do not carry the risk of human casualties, the Russian navy can much more easily afford to lose a vehicle during operations compared.

Russia’s Other Underwater Drone system

The news of the development of a swarm of underwater and surface drones comes on the heels of Moscow’s announcement of a series of submarines to carry the underwater nuclear torpedo, Poseidon.

Dubbed the “doomsday drone,” the Poseidon has a range of 1,000 kilometers (620 miles) and can carry a nuclear warhead with a yield of up to 100 megatons to most parts of the world while remaining immersed 1,000 meters (3,300 feet) beneath the surface.

US Navy Exercise With Manned-Unmanned Platforms

Meanwhile, the US Navy also undertook a naval exercise last month consisting of a range of manned and unmanned vehicles operating together off the California coast.

The seven-day Unmanned Integrated Battle Problem 21 provided a glimpse of the future fleet consisting of a mix of crewed and uncrewed vessels. The drill focused on how the unmanned systems work in synchronization with manned counterparts.

#### 2---CHINA – they’ve been working on it for years.

Lewis 21 – Lauren Lewis is a reporter for the Daily Mail covering foreign news and geopolitical shifts. (Lauren Lewis, "China is developing underwater robots that can attack WITHOUT humans," Mail Online, 7-8-2021, https://www.dailymail.co.uk/news/article-9765037/China-developing-underwater-AI-robots-hide-sea-attack-WITHOUT-human-guidance.html, Accessed 7-3-2022, LASA-SC)

China is developing underwater AI robots that can hide in the sea and attack enemy vessels with torpedoes without human guidance.

The unmanned underwater vehicles (UUVs) were developed in experiments over a decade ago and successfully managed to use artificial intelligence to find a dummy submarine and attack it with a torpedo.

The experiments, conducted in the Taiwan Strait, saw the UUV deployed on a fixed course 30ft below the surface.

It was able to identify the location of the submarine, change course, circle the target, and then fire at the dummy with an unarmed torpedo.

The UUV used sonar and onboard sensors to fetch data, which were analysed by the computer, to help it make complete the task.

The experiments were described in papers written by researchers at Harbin Engineering University in 2010 and declassified last week.

'The needs of future underwater warfare bring new development opportunities for the unmanned platforms,' wrote the scientists, led by Professor Liang Guolong.

He added the UUVs - which have presumably developed since 2010 - could be programmed to operate in a group and make simultaneous attacks on one target.

China conducted the tests in the Taiwan Strait - a contested body of water that Beijing claims, with the island, as its own.

The oddly timed announcement comes after China warned Japan against offering to join forces with the US military to defend Taiwan.

An opinion column in Global Times claimed Japan was 'digging its own grave' by offering to defend Taiwan from China alongside the US.

The article also said Japan was 'powerless' against the Chinese military and warned it not to cross Beijing's 'red lines'.

UUVs are already used by commercial shipping companies and navies but they have never been used in combat.

### 2AC/1AR --- AI Subs Now

#### US AI subs are the squo – it’s just a question of ramping up info sharing.

Suciu 21 – Peter Suciu is a freelance writer who covers business technology and cyber security. He currently lives in Michigan. (Peter Suciu, "The U.S. Navy Goes All in With AI," ClearanceJobs, 6-28-2021, https://news.clearancejobs.com/2021/06/28/the-u-s-navy-goes-all-in-with-ai/, Accessed 7-3-2022, LASA-SC)

For the Fiscal Year 2022 budget, the Department of Defense could have more than 600 ongoing efforts focused on artificial intelligence (AI) and machine learning, a 50% increase over the current-year levels. The Pentagon plans to invest $874 million next year in AI-related technologies to boost deterrence against near-peer adversaries including China – but also to enhance efficiencies in computing, command and control and logistics.

To keep technological pace with China and other potential adversaries, the DoD is looking to leverage its technological advantages by investing in various cutting-edge technologies including hypersonic technology, cyber, quantum computer and AI.

These technologies could change the character of warfare, and potentially result in a more lethal and distributed battlefield. The Pentagon’s efforts with AI and machine learning are also part of the military’s $2.3 billion science and technology research budget. The efforts are being led by the military Joint Artificial Intelligence (JAIC) in Washington.

### 2AC --- Sonar Thumps

#### **Sonar thumps tracking**

Mizokami 22 – Kyle Mizokami is a Writer on Defense and Security issues, lives in San Francisco. (Kyle Mizokami, "Watch: How the U.S. Navy Hunts Down Russia and China's Subs," Popular Mechanics, 1-6-2022, https://www.popularmechanics.com/military/weapons/a38657943/sub-detecting-sonobuoy/, Accessed 7-3-2022, LASA-SC)

Anti-submarine warfare is one of the least well-known forms of combat, making the Navy's investment particularly interesting. Sans sonobuoys, submarines rely on the opacity of the world's oceans to evade detection, sneaking up on enemy ships before ambushing them with a brace of missiles or torpedoes. Modern submarines can attack their targets while fully submerged, making visual or radar detection impossible. ASW hunters must find them via sound, using sonar to detect lurking submarines.

One way of doing so is through the use of so-called "active sonar." Active uses a burst of sound energy, transmitted through the water, to detect unseen objects. The thriller film The Hunt for Red October made this burst, often called a "ping," famous when it debuted in 1990; It's probably the first sound you imagine when you consider a submarine. As the burst travels through the water, it bounces off of underwater objects and returns in the direction from which it came, boomerang-style. A sub's crew can then analyze the sonar return to determine if it's coming from an enemy submarine. Counting the time it takes for bursts to return also allows the sub hunters to figure out the direction in which the enemy subs are traveling.

But another way to identify submarines is via aircraft, and it's extremely effective. Airborne sub hunters are capable of searching vast distances and responding quickly to reports of enemy submarines. The problem for airplanes is that, unlike surface ships and other submarines, they are unable to utilize any sort of built-in sonar, since they travel over the water rather than through it.

That's where sonobuoys come in. The floating sensors can listen to the ocean and relay that data to aircraft flying above. The long, thin buoy is one portion of the two-part Air Deployable Active Receiver (ADAR) system. A P-3 or P-8 anti-submarine aircraft, MH-60 Seahawk helicopter, or even a surface ship will drop AN/SSQ-101 and AN/SSQ-125 sonobuoys in an attempt to find an enemy sub.

Once released, the AN/SSQ-101 enters the water and deploys its payload. One of the first things it releases is a floating transmitter that bobs on the surface of the ocean, relaying whatever information it finds to nearby friendly ships and aircraft. Next, the sonobuoy unfolds a five-sided array of 40 underwater microphones (known as hydrophones), creating an underwater listening post.

The other half of the ADAR system is the AN/SSQ-110A sonobuoy. The AN/SSQ-110A is more exciting and consists of two explosive charges. Each time an explosive charge detonates, it sends a pulse of sound energy through the surrounding water. These pulses, especially those bouncing off of enemy submarines, are picked up by the listening AN/SSQ-101. ASW hunters would typically drop multiple AN/SSQ-101s, hopeful that their data could help triangulate an enemy sub's position. The newer AN/SSQ-125, which replaces explosive charges with electronically generated sound, is replacing the -110A.

### 2AC --- Aff Solves

#### Aff solves the DA – only deterrence can prevent AI escalation

Stephenson 22 – Alex Stephenson is a China military technology research assistant at Georgetown University’s Center for Security and Emerging Technology and former surface warfare officer in the U.S. Navy. (Alex Stephenson, "How AI Would — and Wouldn’t — Factor Into a U.S.-Chinese War," War on the Rocks, 5-3-2022, https://warontherocks.com/2022/05/how-ai-would-and-wouldnt-factor-into-a-u-s-chinese-war/, Accessed 7-3-2022, LASA-SC)

In a potential conflict, AI would offer distinct benefits for both Chinese and American forces. While People’s Liberation Army capabilities remain inferior in many respects, Chinese military leaders are investing in AI to offset U.S. military advantages. In his Center for a New American Security report on China’s AI strategy, Gregory Allen points out that China’s government sees AI as a promising military “leapfrog” development, meaning that it offers advantages to the People’s Liberation Army despite its lagging behind on development of other technologies. Rather than psychological or cognitive operations, as several scholars have suggested, our analysis of Chinese military investments suggests that AI’s most immediate and profound effects will come from intelligent munitions, as well as from maintenance and logistics systems that are already under development. Accordingly, we recommend two lines of effort to increase the likelihood of U.S. victory in a near-term U.S.-Chinese war: expanding investment in counter-AI research and adopting zero-trust architectures for the development of U.S. AI systems.

First, the United States must be prepared to degrade and counter the People’s Liberation Army’s evolving suite of AI systems. Department of Defense planners should continue to regulate Chinese access to advanced equipment, data, and capital to hinder the availability and utility of AI systems. As one of us found last year, very few of the People’s Liberation Army’s AI equipment suppliers are named in U.S. end-user export control lists. More of them should be. Gaps in the U.S. export control framework, combined with a lack of situational awareness, continue to allow the Chinese military to access U.S. technology and capital in pursuit of AI.

Simultaneously, the United States can impose costs on AI-reliant Chinese forces by embracing advances in the fields of counter-AI and counter-autonomy. In responding to China’s growing AI power, it is important for U.S. leaders to avoid a strategy that is reactive, defensively oriented, and which might become yet another area where the United States is on the wrong side of the cost curve. Counter-autonomy could help to avoid that outcome. Specifically, the Department of Defense should invest more in adversarial machine learning techniques — finding and exploiting weaknesses in Chinese AI models by feeding them specific data inputs. In a 2020 white paper, the Defense Science Board recommended that the department use counter-autonomy “to defend against increasingly autonomous systems deployed by adversaries, and to ensure that U.S. autonomous systems are not vulnerable to adversary countermeasures.” Despite the recommendation, the Department of Defense has not publicly created a senior counter-autonomy leadership position, nor has it invested in related research projects or sought to acquire systems designed specifically to understand and defeat Chinese AI platforms. But doing so would be crucial to ensure U.S. success in a near-term crisis.

Second, the United States should continue to invest in its own AI capabilities to remain competitive with the People’s Liberation Army. Chinese military leaders have long recognized their forces’ deficiencies in conducting joint operations — but U.S. forces, too, have a long way to go before they can effectively and reliably operate joint command and control. By using AI to intelligently incorporate sensors from across different services, the United States is more likely to keep its edge when conducting joint operations. The Department of Defense should also invest further in intelligent munitions. It has long relied on large salvos, which quickly deplete the U.S. missile inventory in a variety of combat scenarios. Successfully fielding intelligent standoff weapons to curtail this deficiency would be invaluable during a potential battle with the Chinese military.

### 2AC --- Transparency inev

#### Transparency measures inevitable --- tech is slow

Kallenborn ‘19

(Zachary, freelance researcher and analyst, specializing in chemical, biological, radiological, and nuclear (CBRN) weapons, CBRN terrorism, drone swarms, and emerging technologies, October 2019 Proceedings Vol. 145/10/1,400, “pg online @ <https://www.usni.org/magazines/proceedings/2019/october/if-oceans-become-transparent> // um-ef)

Growing Transparency A broad range of emerging technologies is reducing the ocean’s opacity. Unmanned undersea vehicles offer cheap platforms for nanotechnology and 3-D-printed sensors and antisubmarine weapons. Machine learning and big-data tools enable the analysis of this data. At the same time, the proliferation of aerial drones and commercial satellite imagery allow improved intelligence collection on activity at submarine ports. These technologies reinforce one another. . Improved autonomy allows better machine vision, faster decision-making, and more complex behaviors. More autonomy means less need for potentially disruptable human control. Additive manufacturing means cheaper, more customizable drones. Autonomy will allow drones to work together in swarms, coordinating among numerous systems, allowing much more efficient and broader searches. Heterogeneous swarms could include surface, aerial, and other undersea drones to form a massive antisubmarine drone network. Of course, the ocean will not become transparent overnight; some of the necessary technologies are barely even concepts and there are significant challenges. Distributed sensors will generate massive amounts of information. If states cannot effectively handle it, they will risk seeing submarines that do not exist while missing those that do. Further, swarming may also increase the vulnerabilities to information attack through disruption of interdrone communication. Power and undersea communication will likely be a challenge too, though swarms could be linked to a support vessel to recharge and geo-locate. Most likely, transparency will grow as these technologies mature and are fielded at scale. And true transparency may never occur. But even a significant reduction of the ability of submarines to hide poses challenges for nuclear deterrence.

### 2AC --- Counter Measures/Big Ocean

#### Counter-measures and the vastness of the ocean ensures second-strike capabilities remain in-tact

Kallenborn ‘19

(Zachary, freelance researcher and analyst, specializing in chemical, biological, radiological, and nuclear (CBRN) weapons, CBRN terrorism, drone swarms, and emerging technologies, October 2019 Proceedings Vol. 145/10/1,400, “pg online @ <https://www.usni.org/magazines/proceedings/2019/october/if-oceans-become-transparent> // um-ef)

Find, Chase, Kill Even in a transparent ocean, states must bring weapons into range to destroy nuclear submarines to a retaliatory launch. Submarine warfare comprises three stages: find, chase, and kill. Find: Locate an adversary submarine in the vastness of the ocean. Even in a future fully transparent ocean, finding submarines would not be trivial. Sensors must be replaced or moved. Drone and manned searches must be coordinated, platforms maintained, and adversary countermeasures mitigated. Ocean data must be collected, stored, and processed. Processing challenges mean transparency may be significantly delayed. States must establish the training, doctrine, and organizational capability to manage these systems effectively. Chase: Bring weapon systems within range. Even if an adversary’s nuclear-armed submarine can be located, assets must get close enough to kill it. Submarines deployed near adversary territory will be easier to catch, but their range and mobility remain an advantage compared with land-based missiles and aircraft. Kill: Use weapon systems to cause sufficient harm to the submarine to disable or destroy it. For nuclear submarines, kill must occur before the submarine can launch a retaliatory nuclear strike. Failure means potentially devastating destruction. Perceived risks of failure may prevent an attempt in the first place. The framework can be useful at multiple levels. States can be assessed based on their military’s overall ability to find, chase, and kill adversary submarines and prevent adversaries from doing the same. The elements of each component are highly interdependent both within and between the components. For example, find involves linking numerous, diverse sensor systems together. At the tactical level, the competition will move fluidly between different components. In chase, antisubmarine forces might: a) lose track of the submarine, shifting back to find; b) continue following the submarine (continuing chase); or c) engage, shifting the competition to kill. Protecting Deterrence The shifting nature of undersea competition demands new approaches to ensure the sea-based deterrent and second-strike remain robust. To offset greater ocean transparency states could: Move Faster: Designers must improve submarine speed. Faster submarines make it easier to escape adversary antisubmarine assets. Because transparency likely will come with processing and analysis delays, faster submarines create more uncertainty on the submarine’s location. In an actual attack, higher speeds might enable nuclear submarines to buy enough time to launch a retaliatory nuclear strike. Shoot Farther: Improve submarine-launched ballistic-missile range. Increased range allows nuclear submarines to increase the area over which they can threaten an adversary. Find and chase would become more difficult. Defenders will find it more difficult and time-consuming to deploy antisubmarine assets in weapons range. Hide Better: The various methods of transparency will create exploitable weaknesses. For example, submarines may be designed to fool machine vision systems; and cyber, electronic, or space attack could disable detection systems. Similarly, undersea drones could serve as decoys for nuclear-armed submarines. Such “sub-sinks” would force the expenditure of more resources to find, chase, and kill nuclear submarines. An attempted first strike also would need to devote more nuclear weapons to defeating the submarine-based deterrent. An attack on a decoy would give the nuclear submarine more time to flee or launch a nuclear strike. Fight Harder: Navies can explore new ways to defend nuclear submarines and counter antisubmarine capabilities. Drone sub-sinks and other drones may also help defend nuclear-armed submarines from conventional attack. Drones could be equipped with defensive antitorpedo systems and offensive antisubmarine weapons. To ensure nuclear deterrence, defensive systems only need to create enough survivability to allow a nuclear retaliation. Investments in information warfare capabilities such as jammers and directed-energy weapons would also help counter some adversary drone systems. A transparent ocean does not mean the end of a sea-based second-strike capability. Every innovation can be countered. Improvements now can help ensure second-strike remains reliable into the future.

### 2AC/1AR --- Tracking Disproves

#### **The US has always been able to track – no reason this is different**

Cohen 17 – Zachary Cohen is a writer and reporter for CNN Politics, where he focuses on the national security beat in Washington, covering the Pentagon, US State Department, White House, intelligence community and Capitol Hill.. (Zachary Cohen, "US launches 'most advanced' stealth sub amid undersea rivalry," CNN, 10-26-2017, https://www.cnn.com/2017/10/26/politics/navy-uss-south-dakota-submarine-china-russia/index.html, Accessed 7-3-2022, LASA-SC)

Forbes said the United States has traditionally been able to track foreign submarines but recent advancements made by the Chinese and Russians highlight the need for developments like those seen on the USS South Dakota to maintain American undersea dominance.

Russia has invested heavily in developing its own underwater stealth capabilities in recent years and their submarine technology is approaching the level of the US fleet, much like the peer-to-peer comparison seen during the Cold War, according to one congressional aide familiar with the issue.

While the Russian military is not necessarily building a large quantity of submarines, it is developing boats with advanced quieting capabilities that are “very competitive” with those in the US fleet, said Hendrix.

“Russia is modernizing its existing fleet of Oscar-class multipurpose attack nuclear submarines and producing their next generation Severodvinsk Yasen-class,” US Pacific Command chief Adm. Harry Harris told the House Armed Services Committee earlier this year.

“The Russians are making a leverage investment … with submarines you don’t have to build a lot of them,” according to Hendrix.

The United States has also recently noticed an uptick in Russian submarine activity – conducting “spurts” of heavy patrols across various regions, according to the aide and a US Navy official.

“They can’t maintain the presence we do with 24/7 operations, but this activity is meant to push the boundary and to see what the US reaction will be,” the aide said.

But while the United States continues to monitor foreign submarine activity, the increase in Russian patrols is widely viewed as presence and testing maneuvers that do not pose an immediate military threat.

### 2AC/1AR --- Missile Defense

#### Missile defense makes the da inevitbale

Gregory Kulacki 16. PhD, political theory and international relations, senior analyst and China project manager at the Union of Concerned Scientists. January 2016. “China’s Military Calls for Putting Its Nuclear Forces on Alert.” UCS USA. <http://www.ucsusa.org/sites/default/files/attach/2016/02/China-Hair-Trigger-full-report.pdf>

According to newly translated Chinese sources, discussions of putting missiles on high alert appear to stem from increasing Chinese military concerns about retaining a credible nuclear retaliatory capability in the face of accurate U.S. nuclear weapons, the development of high-precision conventional weapons, and missile defenses. In addition, U.S. unwillingness to acknowledge mutual vulnerability in bilateral nuclear talks with China creates the impression that the United States is still seeking to render itself invulnerable to a Chinese retaliatory strike. These sources suggest that the Chinese military, which is already developing more survivable mobile missiles and submarine- launched missiles, believes that putting the nation’s missiles on high alert would be a step toward assured retaliation.

### 2AC --- Primacy Good

#### nuclear primacy prevents or limits the impact of a nuclear war---effective first-strike capability means the U.S. would preempt if China began preparation to launch nukes

Lieber and Press 7 – Keir Lieber, Assistant Professor of Political Science at the University of Notre Dame, and Daryl Press, Associate Professor of Government at Dartmouth College, July/August 2007, “Superiority Complex,” The Atlantic, http://www.theatlantic.com/doc/200707/china-nukes

From a military perspective, this modernization has paid off: A U.S. nuclear first strike could quickly destroy China’s strategic nuclear arsenal. Whether launched in peacetime or during a crisis, a preemptive strike would likely leave China with no means of nuclear retaliation against American territory. And given the trends in both arsenals, China may live under the shadow of U.S. nuclear primacy for years to come. This assessment is based on unclassified information, standard targeting principles, and formulas that defense analysts have used for decades. (And we systematically chose conservative estimates for key unknowns, meaning that our analysis understates U.S. counterforce capabilities.) The simplest version of an American preemptive strike would have nuclear-armed submarines in the Pacific launch Trident II missiles at the Chinese ICBM field in Henan province. The Navy keeps at least two of these submarines on “hard alert” in the Pacific at all times, meaning they’re ready to fire within 15 minutes of a launch order. Since each submarine carries 24 nuclear-tipped missiles with an average of six warheads per missile, commanders have almost 300 warheads ready for immediate use. This is more than enough to assign multiple warheads to each of the 18 Chinese silos. Chinese leaders would have little or no warning of the attack. During the Cold War, U.S. submarines posed little danger to China’s silos, or to any other hardened targets. Each warhead on the Trident I missiles had little chance—roughly 12 percent—of success. Not only were those missiles inaccurate, their warheads had a relatively small yield. (Similarly, until the late 1980s, U.S. ICBMs lacked the accuracy to carry out a reliable disarming attack against China.) But the Navy’s new warheads and missiles are far more lethal. A Trident II missile is so accurate, and the newer W88 warhead so powerful, that if the warhead and missile function normally, the destruction of the silo is virtually assured (the likelihood is calculated as greater than 99 percent). In reality, American planners could not assume such near-perfect results. Some missiles or warheads could malfunction: One missile’s rockets might fail to ignite; another’s guidance system might be defective. So a realistic counterforce plan might assign four warheads to each silo. The U.S. would “cross-target” the missiles, meaning that the warheads on each missile would each go to different silos, so that a silo would be spared only if many missiles malfunctioned. Even assuming that 20 percent of missiles malfunctioned—the standard, conservative assumption typically used by nuclear analysts—there is a 97 percent chance that every Chinese DF-5 silo would be destroyed in a 4-on-1 attack. (By comparison, a similar attack using Cold War–era Trident I missiles would have produced less than a 1 percent chance of success. The leap in American counterforce capabilities since the end of the Cold War is staggering.) Beyond bolstering the ability to conduct a first strike, the improvements to U.S. counterforce weapons also allow war planners to design nuclear options that will make the weapons more “usable” during high-stakes crises. Nuclear planners face many choices when they consider striking a given target. First, they must choose a warhead yield. The American arsenal includes low-yield weapons such as the B-61 bomb, which can detonate with as little explosive force as 0.3 kilotons (one-fiftieth the power of the bomb that destroyed Hiroshima), and high-yield weapons such as the B-83 bomb, which can yield 1,200 kilotons (80 times the strength of the Hiroshima bomb). For a military planner, high-yield weapons are attractive because they’re very likely to destroy the target—even if the weapon misses by some distance. Low-yield warheads, on the other hand, can be more discriminating, if planners want to minimize civilian casualties. A second key decision for war planners is whether to set the weapon to detonate at ground level or in the air above the target. A groundburst creates enormous overpressure and ground shock, ideal for destroying a hardened target. But groundbursts also create a lot of radioactive fallout. Dirt and other matter is sucked up into the mushroom cloud, mixes with radioactive material, and, after being carried by the wind, falls to earth in the hours after the blast, spreading lethal radiation. Airbursts create smaller zones of extremely high overpressure, but they also generate very little fallout. If the detonation occurs above a threshold altitude (which depends on the weapon yield), virtually no heavy particles from the ground mix with the radioactive material in the fireball. The radioactive material rises into the high atmosphere and then falls to earth over the course of several weeks in a far less dangerous state and over a very wide area, greatly reducing the harm to civilians. In the past, a nuclear attack on China’s arsenal would have had horrific humanitarian consequences. The weapons were less accurate, so an effective strike would have required multiple high-yield warheads, detonating on the ground, against each target. The Federation of American Scientists and the Natural Resources Defense Council modeled the consequences of such an attack—similar to the submarine attack described above—and published their findings in 2006. The results were sobering. Although China’s long-range missiles are deployed in a lightly populated region, lethal fallout from an attack would travel hundreds of miles and kill more than 3 million Chinese civilians. American leaders might have contemplated such a strike, but only in the most dire circumstances. But things are changing radically. Improved accuracy now allows war planners to target hardened sites with low-yield warheads and even airbursts. And the United States is pushing its breakthroughs in accuracy even further. For example, for many years America has used global-positioning systems in conjunction with onboard inertial-guidance systems to improve the accuracy of its conventionally armed (that is, nonnuclear) cruise missiles. Although an adversary may jam the GPS signal near likely targets, the cruise missiles use GPS along their flight route and then—if they lose the signal—use their backup inertial-guidance system for the final few kilometers. This approach has dramatically improved a cruise missile’s accuracy and could be applied to nuclear- armed cruise missiles as well. The United States is deploying jam- resistant GPS receivers on other weapons, experimenting with GPS on its nuclear-armed ballistic missiles, and planning to deploy a new generation of GPS satellites—with higher-powered signals to complicate jamming. The payoff for equipping cruise missiles (or nuclear bombs) with GPS is clear when one estimates the civilian casualties from a lower-yield, airburst attack. We asked Matthew McKinzie, a scientific consultant to the Natural Resources Defense Council and coauthor of the 2006 study, to rerun the analysis using low-yield detonations compatible with nuclear weapons currently in the U.S. arsenal. Using three warheads per target to increase the odds of destroying every silo, the model predicts fewer than 1,000 Chinese casualties from fallout. In some low-yield scenarios, fewer than 100 Chinese would be killed or injured from fallout. The model is better suited to predicting fallout casualties than to forecasting deaths from the blast and fire, but given the low population in the rural region where the silos are, Chinese fatalities would be fewer than 6,000 in even the most destructive scenario we modeled. And in the future, there may be reliable nonnuclear options for destroying Chinese silos. Freed from the burden of killing millions, a U.S. president staring at the threat of a Chinese nuclear attack on U.S. forces, allies, or territory might be more inclined to choose preemptive action. Strategic Implications of the Nuclear Imbalance The most plausible flash point for a serious U.S.-China conflict is Taiwan. Suppose Taiwan declared independence. China has repeatedly warned that such a move would provoke an attack, probably a major air and naval campaign to shatter Taiwan’s defenses and leave the island vulnerable to conquest. If the United States decided to defend Taiwan, American forces would likely thwart China’s offensive, since aerial and naval warfare are strengths of the U.S. military. But looming defeat would place great pressure on China’s leaders. Losing the war might mean permanently losing Taiwan. This would undermine the domestic legitimacy of the Chinese Communist Party, which increasingly relies on the appeal of nationalism to justify its rule. A crippling defeat would also strain relations between political leaders in Beijing and the Chinese military. To stave off a regime-threatening disaster, the political leaders might decide to raise the stakes by placing part of the Chinese nuclear force on alert in hopes of coercing the United States into accepting a negotiated solution (for example, a return to Taiwan’s pre-declaration status). By putting its nuclear forces on alert, however, China’s leaders would compel a U.S. president to make a very difficult decision: to accede to blackmail (by agreeing to a cease-fire and pressuring the Taiwanese to renounce independence), to assume that the threat is a bluff (a dangerous proposition, given that each Chinese ICBM carries a city-busting 4,000-kiloton warhead), or to strike the Chinese missiles before they could be launched. How do America’s growing counterforce capabilities affect this scenario? First, American nuclear primacy may prevent such a war in the first place. China’s leaders understand that their military now has little hope of defeating U.S. air and naval forces. If they also recognize that their nuclear arsenal is vulnerable—and that placing it on alert might trigger a preemptive strike—the leaders may conclude that war is a no-win proposition. Second, if a war over Taiwan started anyway, U.S. nuclear primacy might help contain the fighting at the conventional level. Early in the crisis, Washington could quietly convey to Beijing that the United States would act decisively if China put its vulnerable nuclear arsenal on alert. Finally, if China threatened to launch nuclear attacks against America’s allies, its territory, or its forces in Asia, nuclear primacy would make a preemptive first strike more palatable to U.S. leaders. Any decision to attack China’s ICBM force, though, would be fraught with danger. A missile silo might have escaped detection. Furthermore, a strike on China’s 18 ICBMs would leave Beijing with roughly 60 shorter-range nuclear missiles with which to retaliate against U.S. forces and allies in the region. However, in the aftermath of a “clean” disarming strike—one that killed relatively few Chinese—American leaders could credibly warn that a Chinese nuclear response would trigger truly devastating consequences, meaning nuclear attacks against a broader target set, including military, government, and possibly even urban centers. In light of warnings from Chinese defense analysts and from within China’s military that it might use nuclear weapons to avoid losing Taiwan, an American president might feel compelled to strike first. In this terrible circumstance, he or she would reap the benefits of the past decade’s counterforce upgrades.

### 2AC --- SS = War

#### Reliance on mutual nuclear vulnerability is more likely to cause all their impacts

Matthew Harris 15, President of Prime Meridian Communications, a public policy research and communications company, December 2015, “Deterring Chinese Ballistic Missile Threats to the U.S. Homeland,” Comparative Strategy, Vol. 34, No. 5, p. 447-457

Nuclear war between the United States and China is possible. Yet, many U.S. government officials disregard this possibility when emphasizing strategic stability with Beijing. Strategic stability—the mutual conviction that using military force will result in unacceptable retaliatory damage—is a fundamentally flawed concept because it relies solely on offensive strategic forces to deter U.S.-Chinese nuclear war. The flaw derives from the argument that nuclear weapons states will not launch a first strike or engage in highly provocative actions if both sides are vulnerable to nuclear retaliation. The Chinese government's efforts to improve and expand its nuclear weapons force structure with ballistic missiles capable of attacking the U.S. homeland contradict this argument. The emphasis on strategic stability, currently mainstream in the U.S. government, fails to adequately protect the American people because it encourages Chinese efforts to deploy greater numbers of nuclear warheads capable of annihilating U.S. cities. This encouragement, an intended consequence of strategic stability, does not lead to greater U.S.-Chinese stability, but increases the chances of miscalculation, opportunism, and accidental nuclear launches. Therefore, is it not prudent to create an effective defense against Chinese ballistic missile threats to the U.S. homeland rather than focusing solely on ensuring both sides have a nuclear retaliatory capability, or, as President Ronald Reagan asked in March 1983: “Would it not be better to save lives than to avenge them?”

## AT: Espionage DA

### AT: Stealing Tech Turn

#### And, tech advances ensure information is protected --- no risk of espionage

Lin-Greenberg ‘20

(Erik Lin-Greenberg is a postdoctoral fellow at the University of Pennsylvania’s Perry World House, “Allies And Artificial Intelligence: Obstacles To Operations And Decision-Making,” pg online @ https://tnsr.org/wp-content/uploads/2020/03/TNSR-Vol-3-Issue-2-Lin-Greenberg.pdf //um-ef)

Even when formalized agreements establish the processes and institutions that enable AI cooperation between states, many leaders may remain hesitant to share the sensitive data that underpins AI development and operations. Information-sharing arrangements are plagued by commitment problems as states can back out of their agreements to exchange data if they fear that data will be leaked or their capabilities and shortcomings will be revealed.114 This might be particularly true in ad hoc coalitions or larger alliances, where relationships between member states may be weaker. Recent technological advances, however, may help overcome these commitment problems by convincing member states that their data will remain secure even when shared. In particular, developments in the field of cryptology allow states to share data with partners for use in AI systems, while hiding the exact content of input data. Secure multiparty computation, for example, is a privacy-preserving technique in which AI algorithms perform their computations using an input that remains secret, but provide an output that is public to all authorized users.115 Secure multiparty computation has been increasingly used in the medical and financial sectors where analysts seek to assess trends but need to protect individual-level health and fiscal data to avoid violating privacy regulations.116 This and other privacy preserving approaches could be applied to a range of AI-enabled alliance military tasks, such as the classification of objects in satellite and reconnaissance imagery. Member states might feed sensitive intelligence data into a secure multiparty computation-based system managed by an alliance’s intelligence fusion center, which would then return information about potential targets, without revealing attributes about each state’s intelligence inputs.

## AT: Ptix DA

### Plan Pop w/Manchin

#### Manchin loves artificial intelligence in the military

Demarest 22 – Colin Demarest is a reporter at C4ISRNET, where he covers military networks, cyber and IT. Colin previously covered the Department of Energy and its NNSA — namely Cold War cleanup and nuclear weapons development — for a daily newspaper in South Carolina. Colin is also an award-winning photographer. (Colin Demarest, "Pentagon must advance AI to stay ahead of rivals, industry execs tell Congress," C4ISRNet, 5-4-2022, https://www.c4isrnet.com/artificial-intelligence/2022/05/04/pentagon-must-advance-ai-to-stay-ahead-of-rivals-industry-execs-tell-congress/, Accessed 7-4-2022, LASA-SC)

The U.S. must act to preserve its edge over rival nations on artificial intelligence and cybersecurity, starting by embracing a new leadership position at the Pentagon, industry executives told Congress this week.

While the U.S. is ahead of China, Russia and other adversaries, deliberate and holistic efforts must be undertaken to maintain that lead, the officials with Alphabet Inc.’s Google and Microsoft Corp. said.

“We are ahead. We’re losing ground,” Andrew Moore, director of Google Cloud AI, said during a May 3 hearing of a Senate Armed Services cyber subcommittee. “I’m most worried about our structures. Bringing in massive-scale, superhuman automation means changing organizational structures and change management.”

Eric Horvitz, Microsoft’s chief scientific officer, offered similar guidance.

“The U.S. is leading in science, at the core principles and the creative applications, from my point of view,” he told the panel. “That said, these days technical advances spread around the world like lightning.”

The Department of Defense late last year created the chief digital and artificial intelligence officer position to accelerate all things digital at the Pentagon. The CDAO — soon to be Craig Martell, Lyft’s machine-learning executive — will oversee the Joint Artificial Intelligence Center, Defense Digital Service and the agency’s chief data officer, and will report directly to the deputy defense secretary. The office is expected to be fully operational this year.

Moore applauded the move Tuesday and wished Martell success.

“This is how we’re going to succeed, by having a centralized effort to put an artificial intelligence strategy across the whole DoD,” he said. “You cannot just magic AI on top of existing systems. You have to think about how you’re going to change operations.”

Moving forward, Horvitz said, there is a need to “get our hands dirty and work hard and then share ideas, insights, across the sectors.” Integrating scientific achievements into the Defense Department’s day-to-day routines will be crucial.

“We often think about AI … as on the battlefield, as kinetics,” Horvitz said. “But DoD is a huge operation, in peacetime and in war. The logistics, planning, predictive models, employment, back to health care, the VA system — all can benefit greatly by even basic applications of machine learning, predictions, diagnoses and planning.”

The Pentagon recognizes the value of AI and is actively pursuing and investing in it. Some, though, believe it’s moving too slowly or with incorrect priority.

“Make no mistake, our adversaries will capitalize on this technology, using AI to power attacks on our networks as well as increasing their ability to detect our intrusions on their networks and to respond quickly,” Sen. Joe Manchin, the West Virginia Democrat who heads the subcommittee, said at the hearing. Failing to prepare, he continued, “would be disastrous.”

A Defense Department assessment from 2018 warned that China and Russia are spending significant sums of money on AI for military applications. The investment threatens to erode U.S. technological and operational advantages, according to the document.

“Put simply,” Sen. Mike Rounds, R-S.D., said at the hearing, “our adversaries are going to use AI against us, so we must use AI to defend against them.”

#### It benefits the West Virginia industrial base

Manchin 19 – Joseph Manchin III is an American politician and businessman serving as the senior United States senator from West Virginia, a seat he has held since 2010. ("Manchin Secures West Virginia Priorities In National Defense Authorization Act," 5-23-2019, https://www.manchin.senate.gov/newsroom/press-releases/manchin-secures-west-virginia-priorities-in-national-defense-authorization-act, Accessed 7-4-2022, LASA-SC)\*\*

Washington, D.C. – U.S. Senator Joe Manchin (D-WV), member of the Senate Armed Services Committee, secured provisions in the committee’s markup of the National Defense Authorization Act for Fiscal Year 2020, a vital piece of legislation that authorizes defense funding and provides authorities for our military to defend the nation. On Wednesday, the committee voted to report the bill, which authorizes $750 billion in funding for the Department of Defense and the national security programs of the Department of Energy.

“At a time when we face many threats at home and abroad with budget constraints because of our country’s dire fiscal challenges, we must make sure that we maintain a strong defense while also reducing unnecessary costs,” Senator Manchin said. “This bipartisan defense package provides necessary funding to support our troops and defend our nation and provide support to our West Virginia service members and industrial base. I am proud to have worked in a bipartisan way to include these provisions and I look forward to working with my colleagues to pass this important legislation.”

Below is the list of West Virginia provisions included in the committee passed bill:

Increase of $14.3 million in Innovative Readiness Training program for joint training between Active Duty, Reserves and National Guard to include West Virginia National Guard.

Procurements and upgrades to submarines, aircraft carriers, civil air patrol, and the CH-53K which benefits West Virginia defense industrial base.

Increase of $2 million for metals affordability research which benefits West Virginia defense industrial base.

Increase of $3.5 million in RDT&E for the extraction of rare earth elements from coal ash which is primarily extracted from West Virginia.

### 2AC---Subs Popular

#### Congress wants more funding for submarines

**Spinella 6/23** [Sten Spinella, Staff writer at The Day, 6-23-2022, accessed on 7-5-2022, RhodeIsland News, "Day – House Armed Services Committee approves more than $14 billion for submarine construction", <https://darik.news/rhodeisland/day-house-armed-services-committee-approves-more-than-14-billion-for-submarine-construction/544044.html> mimou]

Connecticut U.S. Rep. Joe Courtney, D-II District, chairman of the Seapower and Projection Forces subcommittee, helped secure $14.6 billion for submarine procurement, repair, research and development.

“At a time when many people wonder whether Congress can and should work together, I am proud that our committee has shown once again that we can do exactly that,” Courtney said Thursday. said in the morning news release. “The defense authorization that we completed this morning is based on the President’s budget request in several key areas, particularly in building on our long-term naval and shipbuilding efforts. I am proud that the committee has approved our shipbuilding industry, our navy and approved the bipartisan work undertaken by our subcommittee to closely monitor the near and long term needs of the Marine Corps and the security needs of our nation.

Parts of the bill relating to eastern Connecticut include $6.5 billion per year to build two Virginia-class submarines. Of this, $4.5 billion will go to the two submarines to be built in 2023, while the other $2 billion will help in procuring and future construction of submarines by 2025.

Congress has already passed, and President Joe Biden, earlier this year, signed an omnibus bill worth $12.5 billion to fund submarine purchases, repair work, and research and development at Electric Boat in Groton. That bill funds a two-per-year construction rate of new Virginia-class submarines for 2022 and beyond, providing $35 million for shipyard and industrial base improvements.

The House bill approved Thursday also provided $3.1 billion in funding for the second year for the first Columbia-class submarine, as well as $2.8 billion to aid in the construction of the second Columbia-class submarine.

electric boat held [keel-laying function](https://www.theday.com/local-news/20220604/first-columbia-class-submarine-keel-true-and-fairly-laid-at-electric-boat) Earlier in June to mark the start of construction for the Submarine District of Columbia (SSBN 826), the first of its newly named class of boats. Navy Secretary Carlos del Toro, who delivered the keynote address of the ceremony, said at the time that the Colombia-class submarines “will be the cornerstone of our national security” and represent 70% of America’s nuclear arsenal.

“Columbia is now the largest single shipbuilding program in the Navy’s budget,” Courtney said at the ceremony. “Its production facilities have transformed the horizons of Quonset Point, Groton and Newport News. Dramatic recruitment in southern New England over the past decade has elevated Electric Boat to the number one private employer position in both Connecticut and Rhode Island, a trend that will continue into the 2030s.

According to a news release from Courtney’s office, the House NDAA bill includes an allocation of $750 million for a submarine industrial base, of which $541 million is for “submarine supplier development, shipyard infrastructure, strategic outsourcing and technology opportunities.” Will go The remaining $227 million will support workforce development.

“For eastern Connecticut, this bill comes at an exciting time as years of work increasing submarine production and building a skilled workforce have culminated in the massive expansion of Groton Shipyard and the supply chain that supports it,” said Courtney. said on Thursday. News release. “With thousands of new employees in this year alone, this bill ensures we keep up the pace and reflects the central importance of the work done every day by our region’s shipbuilders to the security of our nation.”

The bill provides more than $1 billion for research and development of future submarine capabilities. “These efforts are critical to maintaining the health of the design and engineering workforce at Electric Boat,” Courtney’s office said.

The partnership with academic institutions researching underwater capabilities for the submarines would cost about $20 million. One such program is a collaboration between the National Institute of Undersea Vehicle Technology, the University of Connecticut, and the University of Rhode Island. The bill allocates $22 million for testing remote acoustic sensors, “which will help evaluate existing off-the-shelf platforms being developed by the Navy. [Groton’s ThayerMahan](https://www.theday.com/business/20220331/sen-murphy-honors-groton-based-thayermahan-as-innovator-of-month)Courtney’s office said.

Courtney’s office wrote that the law puts $8.5 million toward research and development to improve advanced submarine maneuverability, “such as those currently under development at Progeny Systems at Groton.” The bill will also dedicate $15.5 million to a military construction project at the Naval Submarine Base in Groton. The project is “to replace the existing underwater electromagnetic measurement system due to the planned construction of a temporary dry dock on the electric boat in support of the Columbia-class submarine program.”

Once the convention committee agrees, the bill will go to the House and Senate, and if passed, will go to President Biden’s desk for their signature. The House Appropriations Committee on Wednesday approved nearly $762 billion for the 2023 defense budget — the committee may add another $15.1 billion for military construction projects in a separate bill it is set to vote on. The NDAA authorizes the amount that can be used for defense spending, but does not have the appropriate funding capacity, as the Appropriation Bill does.

#### Enhancing submarines is incredibly bipartisan

**Brown 21** [Kathy Brown, Editor in chief at Haddam Killingworth News, 9-24-2021, accessed on 7-5-2022, HKNow, "House votes to pass Courtney-backed provisions in 2022 Defense Authorization Bill", <https://hk-now.com/house-votes-to-pass-courtney-backed-provisions-in-2022-defense-authorization-bill/> mimou]

WASHINGTON, DC (Sept. 24, 2021) – Today, Congressman Joe Courtney (CT-02), Chairman of the House Armed Services Subcommittee on Seapower and Projection Forces, voted to pass the Fiscal Year 2022 National Defense Authorization Act (NDAA) (H.R. 4350) in the House of Representatives. The House-passed NDAA supports servicemembers and their families, would protect and strengthen America’s global alliances, and includes historic support for shipbuilding and submarine construction and procurement—the most since the 1980’s. The bill received bipartisan support in the House of Representatives, and was passed today by a vote of 316-113.

“At a time when America’s national security priorities continue to shift towards the maritime domain—a necessity underscored just recently by the historic new AUKUS alliance—our 2022 NDAA is exactly what’s needed to ensure we’re prepared to overcome tomorrow’s challenges,” said Rep. Courtney. “The decisions made in this bill are not random – it is the result of months of focused and bipartisan review of the budget and the needs of our nation. One of the most urgent needs facing Congress and the administration is the expansion of our Navy fleet to meet the looming challenges around the world. Shipbuilding is a long game that requires a stable and clear outlook – and this bill provides a strong starting point for fleet size deliberations moving forward.”

“It’s no wonder then that this bill focuses so much on boosting our naval and maritime fleets and, in particular, our submarine capabilities,” Courtney added. “Building on a budget request that represented the largest combined investment in submarine procumbent and development in recent history, the NDAA goes even further by taking the initial and needed steps needed to expand submarine production. The expansion of the shipyard, the new submarines being built by our skilled workers, the increase in work up and down our eastern Connecticut supply chain—the NDAA is the foundation of that activity and will help keep it going strong.

“We’ve got more work ahead until our 2022 NDAA becomes final, and as Chairman of the Seapower Subcommittee I’ll continue working with my colleagues on both sides of the aisle—and on both sides of the Capitol building—to send it to President Biden’s desk.”

Earlier this month, the House Armed Services Committee voted 57-2 to authorize the 2022 NDAA for final consideration. [Click here](https://courtney.house.gov/media-center/press-releases/courtney-statement-passage-bipartisan-defense-authorization-bill) to read more.

Eastern Connecticut Priorities included in the 2022 NDAA

Submarines and Undersea Capabilities — The House-passed NDAA provides a total of $13.4 billion for submarine procurement, repair, research & development priorities including:

Virginia-class Submarine – supports the sustained two-per-year build rate of new Virginia-class submarines in 2022 and beyond, continuing the Block V multi-year contract and reflecting Courtney’s bipartisan work to preserve the two a year build rate. The bill also authorizes $567 million to allow the Navy to support shipyard facility and industrial base improvements to enable future increases in Virginia class submarine production from two to three by 2025, a long-time priority of Chairman Courtney’s.

Columbia-class Submarine – fully supports the second year of funding for the first Columbia class submarine and supports advanced procurement to support the second, in line with the contract announced in June 2020. The bill includes a Courtney-authored provision providing $200 million to continue efforts to improve the nationwide submarine supplier base.  Also included in the bill is a provision Courtney authored to expand the National Sea-Based Deterrence Fund (NSBDF) to extend continuing production authority to additional components of the new submarine, increasing production efficiency and reducing costs. Recent data from the Navy shows through the use of this authority has saved $1.4 billion in the Columbia program to the tune of over $100 million per boat.

Research and Development of Future Submarine Capabilities– the bill includes $949 million in research and development of future submarine capabilities, including a $150 million increase for developing capabilities for the next block of submarines, and about $30 million to develop the SSN(X), the planned future follow-on to the Virginia-class. These efforts are vital to sustaining the health of the design and engineering workforce at Electric Boat.

USS Hartford repair availability – the bill fully authorizes the budget request of $710 million to support the remainder of the maintenance availability for the USS Hartford in 2022. In June, the Navy awarded the “smart start” contract to Groton’s Electric Boat (EB) for initial maintenance work on the boat, one of the largest submarine maintenance availabilities ever executed by the yard. [Click here](https://courtney.house.gov/media-center/press-releases/courtney-welcomes-us-navy-smart-start-contract-award-general-dynamics) to learn more.

The bill also includes other Courtney-led provisions to augment undersea priorities such as:

Academic Partnerships for Undersea Research – The bill authorizes $25 million to support partnerships with academic institutions conducting research on undersea capabilities, such as the National Institute for Undersea Vehicle Technology, a collaborative program between the University of Connecticut and the University of Rhode Island.

Submarine Workforce Development – Authorizes $20 million to support training programs to help support expansion of the skilled submarine workforce as the industrial base ramps up construction of new submarines. Courtney has strongly supported workforce development efforts in the region to support hiring at Electric Boat and the supply chain through programs like the Eastern Connecticut Manufacturing Pipeline.

Remote Acoustic Sensors – The bill included a Courtney-authored provision to allocate $20 million towards supporting operational testing of unmanned remote acoustic sensor systems, which will help the Navy evaluate existing off-the-shelf platforms like those developed by Groton’s ThayerMahan.

### 2AC/1AR --- ASW/Tracking Bipart

#### NDAA thumps – increased ASW and tracking capabilities are bipartisan

**Young 21** [Todd Young, Senator Todd Young represents the state of Indiana. He currently serves on the U.S. Senate Committees on Finance; Foreign Relations; Commerce, Science & Transportation; and Small Business and Entrepreneurship. Previously, in the House, he served on the House Armed Services Committee, the House Budget Committee, and most recently the House Ways and Means Committee., 12-15-2021, accessed on 7-5-2022, Young.senate, "Young Votes to Pass Final Defense Authorization to Prioritize Troops, Strengthen National Security | U.S. Senator Todd Young of Indiana", <https://www.young.senate.gov/newsroom/press-releases/young-votes-to-pass-final-defense-authorization-to-prioritize-troops-strengthen-national-security> mimou]

WASHINGTON – Today, after months of unnecessary delays, U.S. Senator Todd Young (R-Ind.) voted to approve the bipartisan National Defense Authorization Act (NDAA). The bill passed by a vote of 89-10 and included provisions that will benefit our military and make Americans safer and more secure.

“While Democrats haggled over their reckless tax-and-spend proposal, this vital defense bill has been on the back burner receiving little attention. Though it’s later than it should have been, the version we passed today is far better than President Biden’s original plan. It gives our troops a pay raise and puts real resources behind countering the aggressive actions of Putin’s Russia and the Chinese Communist Party.

“I’m proud to have secured several key provisions in this bill, including provisions to strengthen cybersecurity cooperation with Israel, invest in emerging technologies, and create a bipartisan commission to examine our two decades of war in Afghanistan. The bill also includes a plan I worked on with members of the Burmese community in Indiana to support the restoration of democracy in Burma,” said Senator Young.

As passed, this NDAA gives our troops a 2.7 percent pay raise and provides a 3 percent increase over the previous year’s military budget. This increase is more for our military than President Biden’s proposal, which would have slashed defense spending. This increase is critical to keep pace with the Chinese Communist Party which has averaged ranged between 7.2 percent and 8.1 percent increases in year-over-year growth since 2016.

Senator Young, a U.S. Naval Academy graduate and Marine who serves on the U.S. Senate Foreign Relations Committee, worked to ensure the bill would strengthen our military, while keeping Americans safe amidst threats from coronavirus, Russia, and the Chinese Communist Party.

The NDAA was also a success for keeping liberal priorities out of the final bill. The compromise legislation rejected distractions that would have impacted the rights of Hoosier gun owners and would have required women to register for the draft.

Four of Senator Young’s national security priorities were included in the legislation.

Senator Young’s provisions in the NDAA:

[The Afghanistan War Commission Act](https://www.young.senate.gov/newsroom/press-releases/young-duckworth-effort-to-create-independent-afghanistan-war-commission-gains-bipartisan-support-in-the-senate) to establish a 16-member nonpartisan commission to examine military, diplomatic and intelligence activities by the U.S. from late 1996 to the withdrawal of American troops from Afghanistan in August. This is essential as we examine our two decades at war and our failed withdrawal from Afghanistan.

U.S.-Israel Cybersecurity Cooperation Enhancement to establish a Department of Homeland Security grant program to facilitate closer U.S.-Israel cybersecurity cooperation.

Pilot program on acquisition practices for emerging technologies to bring the themes of Senator Young’s [Endless Frontier Act](https://www.young.senate.gov/newsroom/press-releases/chinese-communist-party-lobbies-against-senator-youngs-endless-frontier-act) into the Department of Defense. This requires the Department to identify and award no less than four agreements for new projects to support high priority modernization activities that are consistent with the National Defense Strategy and creates an advisory group to bring private sector expertise into the process.

Support Democracy in Burma, a bipartisan amendment that was drafted with the input of leaders from across the Burmese community in an effort to restore democracy and hold those responsible accountable following this year’s coup. This amendment requires the U.S. government to examine supporting the National Unity Government, denying legitimacy for the junta, and the role sanctions could play in accountability.

Senator Young also secured the following provisions in support of Indiana projects:

Anti-Submarine Warfare Equipment:

As the United States engages in strategic competition, our Navy will be at the forefront of securing vital sea lanes, protecting commerce, and reducing threats to the homeland from the navies of China and Russia. Sonobuoys, like those manufactured by Ultra Electronics in Columbia City, Indiana, are a vital tool in detecting and tracking submarine threats from our peer competitors. Senator Young secured a 20% increase in funding to procure additional sonobuoys. Persistent Maritime Intelligence Gathering:

Senator Young also secured funding support for two additional MQ-4C Triton drones, reversing the Biden Administration’s decision to not procure this aircraft. The Triton provides long-range intelligence, surveillance, reconnaissance, and targeting capabilities over vast oceans spaces. As the United States seeks to deter against China in the Pacific, this airborne capability will be invaluable in monitoring China’s deployments of ships and aircraft. Rolls-Royce produces the engines for the Triton in Indianapolis, Indianapolis.

#### NATO AI integration is enormously popular and bipartisan

Cronk 20. Terri Moon Cronk is a Journalist for DoDNews; Defense Official Calls Artificial Intelligence the New Oil”; Oct 19, 2020; Department of Defense; <https://www.defense.gov/News/News-Stories/Article/Article/2386956/defense-official-calls-artificial-intelligence-the-new-oil/> //BY

Speaking on a panel about AI superpowers at the Politico AI Summit, Nand Mulchandani said AI is a very large technology and industry. "It's not a single, monolithic technology," he said. "It's a collection of algorithms, technologies, etc., all cobbled together to call AI."

The United States has access to global datasets, and that's why global partnerships are so incredibly important, he said, noting the Defense Department launched the AI partnership for defense at the JAIC recently to have access to global datasets with partners, which gives DOD a natural advantage in building these systems at scale.

"Industry has to develop on its own, and that's where the global talent is; that's where the money is; that's where all of the innovation is going on," Mulchandani noted, adding that the U.S. government's job is to be able to work in the best way and absorb the best technology that it can. That includes working hand in glove with industry on a voluntary basis, he said.  
      
He said there are certain areas of AI that are highly scaled that you can trust and deploy at scale.

"But notice many or not many of those systems have been deployed on weapon systems. We actually don't have any of them deployed," he said.

Mulchandani said the reason is that explainability, testing, trust and ethics are all highly connected pieces and even AI security when it comes to model security, data security being able to penetrate and break models. This is all very early, which is why the DOD and the U.S. government widely have taken a very stringent approach to putting together the ethics principles and frameworks within which we're going to operate.

"[Earlier this year, one of the first international visits that we made were to [NATO](https://www.nato.int/) and our European partners, and [we] then pulled them into this AI partnership for defense that I just talked about," he said. "Thirteen different countries are getting together to actually build these principles because we actually do need to build a lot of confidence in this."

DOD loves larger budgets for AI, Mulchandani said, and there's been incredible bipartisan support for it with the JAIC and all its other investments. "But in aggregate as a society or a country, our models are very different, which is [why] you have to look at all of the venture capital [and] all of the investment going in both in existing companies but also in new companies in AI."

He said DOD continues to attract and have the best talent at JAIC.  
"The real tricky part is: How do we actually take that technology and get it deployed? That's the complexity of integrating AI into existing systems, because one isn't going to throw away the entire investment of legacy systems that one has, whether it be software or hardware or even military hardware," Mulchandani said. "[How] can we absorb the best of what's coming and get it integrated into the system as where the complexity is?"

### 2AC --- Data/AI Sharing Bipart

#### AAAI Act proves that AI data sharing is bipartisan

Portman 21. Robert Jones Portman is an American attorney and politician serving as the junior United States senator for Ohio. “Portman, Rosen Bipartisan Legislation to Strengthen America’s Artificial Intelligence Capabilities Included in FY 2022 National Defense Authorization Act”; December 15, 2021; Press Release; <https://www.portman.senate.gov/newsroom/press-releases/portman-rosen-bipartisan-legislation-strengthen-americas-artificial> //BY

WASHINGTON, DC – Today, U.S. Senators Rob Portman (R-OH) and Jacky Rosen (D-NV) announced that their[Advancing American AI Innovation Act](https://www.portman.senate.gov/newsroom/press-releases/portman-rosen-introduce-bipartisan-legislation-strengthen-americas) has passed as part of the FY 2022 National Defense Authorization Act (NDAA). This bipartisan legislation creates a Department of Defense (DoD) pilot program establishing artificial intelligence (AI) data libraries relevant to the development of AI intelligence software and technology, ensuring private companies have access to accurate data so they can better meet DoD needs.

“The United States cannot take its Artificial Intelligence leadership for granted. We must fully utilize the public, as well as private sector, to synchronize and develop our AI capabilities across the transportation, health care, manufacturing, and national security policy spaces,” said Portman. “I am pleased that the Advancing American AI Innovation Act has passed as part of the FY 2022 NDAA, as it will assist in facilitating this critical public-private partnership.”

“I’m pleased that our bipartisan legislation that will enable small businesses to develop artificial intelligence software and technology, in partnership with the Department of Defense, was included in the national defense bill and is now on its way to becoming law,” said Senator Rosen. “The AI field is rapidly evolving and has significant implications for national security. By creating these AI data libraries, we can provide companies tools and information to better develop AI software and technology in line with the needs of the Department of Defense.”

### 1AR --- AT: Employees Dislike DoD

#### Tech CEO’s override employee reluctance---they love the DoD

Glaser 20. April Glaser is a reporter on the tech investigations team for NBC News in San Francisco; “Thousands of contracts highlight quiet ties between Big Tech and U.S. military”; July 8, 2020; NBC; <https://www.nbcnews.com/tech/tech-news/thousands-contracts-highlight-quiet-ties-between-big-tech-u-s-n1233171> //BY

Tech Inquiry's research comes as technology companies have ramped up efforts to win large military and law enforcement contracts, despite employee activism against the work.

Microsoft and Amazon are currently [locked in a court battle](https://www.nbcnews.com/business/business-news/amazon-files-suit-over-microsoft-s-jedi-cloud-contract-pentagon-n1090076) over the future of the high profile $10 billion Joint Enterprise Defense Infrastructure contract, also known as JEDI, which was awarded to Microsoft in December 2019 to build cloud solutions for the Pentagon. The award was immediately contested by Amazon, claiming Microsoft was favored because of Trump’s political grievances with Amazon’s owner, Jeff Bezos, who also owns the Washington Post.

Over the past two years, rank-and-file workers at Amazon have [steadily](https://www.washingtonpost.com/news/the-switch/wp/2018/06/22/amazon-employees-demand-company-cut-ties-with-ice/) [protested](https://www.businessinsider.com/amazon-employees-letter-protest-palantir-ice-camps-2019-7) the company’s deals with federal and local law enforcement, specifically addressing its facial recognition contracts with police and the company’s cloud services used by Palantir, which builds databases for ICE.

Amazon has been responsive to [employee activism](https://www.nbcnews.com/tech/tech-news/amazon-employees-push-company-be-climate-leader-combat-global-warming-n993076) around climate change, but has resisted [calls to stop working with ICE](https://www.buzzfeednews.com/article/carolineodonovan/amazon-says-the-government-should-decide-whether-it-can). In 2018, [Bezos said](https://www.cnn.com/2018/10/15/tech/jeff-bezos-wired/index.html) the company had no plans to stop working with the Department of Defense.

Microsoft employees likewise [petitioned the company](https://www.nytimes.com/2018/07/26/technology/microsoft-ice-immigration.html) to drop its $19.4 million contract with Immigration and Customs Enforcement after the company boasted in [a blogpost in 2018](https://www.nbcnews.com/tech/tech-news/microsoft-backtracks-proud-support-ice-blog-post-goes-viral-n884446) that it was “proud to support” ICE and that its software allows ICE to “utilize deep learning capabilities to accelerate facial recognition and identification” of immigrants.

Microsoft President Brad Smith has [defended his company's defense work](https://www.seattletimes.com/business/microsoft/microsoft-president-brad-smith-defends-companys-work-with-u-s-military/).

But the tension with tech workers remains, Whittaker said.

“It’s important to recognize that the marketing that happens inside of these companies, assuring workers that what they’re doing is good and that their surveillance program is used for disaster relief and not drone targeting, for instance, is much like the marketing targeted at the public,” she said

As Big Tech’s relationship with American military and law enforcement operations continues to blossom, examining the history of the tech industry reveals that the ties are more endemic to Silicon Valley than today’s crop of executives often acknowledge.

“Silicon Valley has always been in the business of war,” said Margart O’Mara, a historian of the technology industry and a professor at the University of Washington. “And the specific process of contracting and subcontracting with the military is familiar in the Valley too, dating back to the 1950s and 60s.”

## AT: DoD Tradeoff DA

### Plan is cheap

#### Orca thumps and proves it’s cheap

Middendorf 21 – Hon. J. William Middendorf has served a number of presidential administrations in high-level positions, including Secretary of the Navy and Ambassador to the European Communities, the Organization of American States, and the Netherlands. (Hon. J. William Middendorf Ii, "Meet the U.S. Navy’s Unmanned Ships of the Future," Heritage Foundation, 1-1-2021, https://www.heritage.org/defense/commentary/meet-the-us-navys-unmanned-ships-the-future, Accessed 7-3-2022, LASA-SC)

How much Orca will improve upon the technology already inside Echo Voyager is unknown. U.S. Naval Institute News reports that Orca will be capable of mine countermeasures, anti-submarine warfare, anti-surface warfare, and strike missions. Orca could carry sonar payloads, detect enemy submarines, and send location data to friendly helicopters and surface ships.

Orca could even pack MK-46 lightweight torpedoes or MK-48 heavyweight torpedoes to attack submarines and surface ships. It would even carry anti-ship missiles. It can also be used to drop off cargoes on the seabed, such as sensors, to detect or lay mines to impede shipping. The modular payload system and open architecture software ensure Orca could be rapidly configured based on need.

This sort of versatility in a single, low-cost package is at this point unheard of in military spending. The nearest rough equivalent is the $584 million Littoral Combat Ship, which requires a crew of forty. While the LCS is faster and carries a larger payload, the autonomous Orca is cheaper by orders of magnitude.

For missions such as anti-submarine warfare, dozens of cheaper Orcas could saturate an area, potentially a far more effective strategy than that provided by a single surface ship or a manned submarine. Several Orcas could be controlled by a single shore-based crew, allowing the autonomous submarines to operate independently for days or even weeks at a time.

Another benefit of unmanned submersibles is that they are more or less disposable and able to operate in dangerous waters without risking human lives. Orca could pretend to be a full-size submarine; waiting for an enemy submarine to take a shot while a real Virginia-class nuclear-powered attack submarine sits back, waiting to ambush it. Orca could take on the most dangerous missions, such as laying mines in heavily defended waters. They would be leaving behind a deadly surprise for enemies convinced that mine laying in their waters is simply too dangerous for manned submarines.

It is still not known whether an Orca system can become a full-fledged part of the fleet, although the Navy’s purchase of four indicates that there are plans for using them for real-world missions. The Navy may be purchasing enough to continue testing while having a few on hand for actual use. Inexpensive systems like Orca could go a long way towards one of the most understated promises of unmanned air, land, and sea drones: reversing the out-of-control costs of today’s weapons systems.

### NM = DARPA

#### **Normal means is DARPA which solves**

Albon 22 – Courtney Albon is C4ISRNET's space and emerging technology reporter. She previously covered the U.S. Air Force and U.S. Space Force for Inside Defense. (Courtney Albon, "DARPA budget request seeks to bolster ‘critical’ defense technologies," C4ISRNet, 4-28-2022, https://www.c4isrnet.com/battlefield-tech/2022/04/27/darpa-budget-request-seeks-to-bolster-critical-defense-technologies/, Accessed 7-3-2022, LASA-SC)

The Defense Advanced Research Projects Agency’s $4.1 billion request for fiscal 2023 prioritizes technologies “critical” for the Pentagon, including microelectronics, biotechnology and artificial intelligence, budget documents show.

DARPA’s detailed fiscal 2023 budget plan was released April 25, nearly a month after the Department of Defense unveiled its top-level spending request. The budget proposal shows a $250 million increase over the $3.8 billion Congress appropriated for DARPA in fiscal 2022, largely driven by an $883 million ask for microelectronics, $414 million for biotech programs and $412 million for AI efforts.

The Pentagon is developing a strategy for investment in 14 critical technologies, many of which are reflected in DARPA’s budget priorities. Director Stefanie Tompkins has said that while other agencies may take incremental steps toward addressing these areas, DARPA wants to provoke major capability shifts through its programs.

“DARPA is looking at what is the big breakthrough that might break what’s on everybody else’s roadmap and change the entire solution space,” she said during the C4ISRNET Conference on April 20.

### New Projects Thump

#### New projects thump

Griffin 16 – Matthew Griffin, described as “The Adviser behind the Advisers” and a “Young Kurzweil,” is a world class futurist and strategic advisor helping build Centennial companies. He is the founder of the 311 Institute, a global Futures and Deep Futures consultancy working across the next 50 years, and the World Futures Forum and XPotential University, two philanthropic organisations whose mission it is to reduce global inequality and ensure the benefits of the future are accessible to everyone, irrespective of their abilities or background. He is also the author of the Codex of the Future series and "How to Build Exponential Enterprises. (Matthew Griffin, "America launches the worlds first fully autonomous submarine hunter," 311 Institute, 4-26-2016, https://www.311institute.com/america-launches-the-worlds-first-fully-autonomous-warship/, Accessed 7-4-2022, LASA-SC)

The US military have launched their first experimental, fully autonomous self-driving warship, dubbed Sea Hunter, and representing a major advance in robotic warfare, which is increasingly forming the core of America’s strategy to counter the Chinese and Russians, it’s designed to hunt enemy submarines.

The 132ft unarmed ASW Continuous Trail Unmanned Vessel (ACTUV) prototype is the naval equivalent of Google’s self-driving car. Designed to cruise on the ocean’s surface for two or three months at a time and with a range of over 10,000 miles it has neither a crew nor anyone controlling it remotely. And that kind of endurance and autonomy could make it a highly efficient submarine stalker at a fraction of the cost of the Navy’s manned vessels.

### Funding Now

#### They have dedicated funding

Patin 22 – Hugo holds a Master's degree in economic and social studies from the University of Paris 1 Panthéon Sorbonne. He is currently an international volunteer for France in Senegal, West Africa. Passionate about geopolitical issues, he has developed a strong interest in the analysis of defence issues. (Hugo Patin, "Unmanned Underwater Vehicles: A Strategic Opportunity," Grey Dynamics, 6-22-2022, https://greydynamics.com/unmanned-underwater-vehicles-a-strategic-opportunity/, Accessed 7-4-2022, LASA-SC)

The US Navy is integrating Subsea and Seabed Warfare (SSW) into their Full Spectrum Undersea Warfare (FSUSW). American defence companies such as General Dynamics Mission Systems are proposing their innovations as part of an overall forward-looking vision for seabed warfare. From 2021 to 2025, the US Navy would like to spend $1.9 billion on UUVs. It is expected to spend $941 million on USVs (unnamed surface vehicles) and UUVs in 2021 alone, an 129% increase of over 2019 (source). The US Navy hopes to develop a ‘shadow fleet’ of unmanned ships to make up for its numerical deficit in the face of the rising Chinese Navy.

### 2AC---DoD Trade off Thumpers

#### DA is thumped – we already deployed naval warships in Europe

McLeary 6/29 [Paul McLeary, Paul McLeary covers major defense programs and acquisitions policy for POLITICO. He previously covered the Pentagon for Foreign Policy, Defense News and Breaking Defense, and has embedded with U.S. forces in Iraq, Afghanistan and Syria., 6-29-2022, accessed on 7-5-2022, POLITICO, "Biden sends more ships, fighter jets and troops to Europe", <https://www.politico.com/news/2022/06/29/biden-sends-ships-jets-troops-europe-00043103> mimou]

Since Russia’s invasion of Ukraine in February, the U.S. has deployed 20,000 additional forces to Europe, bringing the total to over 100,000.

Probably the biggest and most visible part of the new deployments will be two more Arleigh Burke-class destroyers that will be homeported in Rota, Spain, making a total of six U.S. warships capable of performing air defense missions and launching cruise missiles well inland. The destroyers will help patrol the Mediterranean where Russian cruisers and submarines have been more active over the last year, and provide missile defense for southern European allies.

In the weeks before the invasion, the U.S. sent four destroyers to Europe, marking the largest naval presence in Europe since 2018. Those ships eventually went home to the U.S.

## AT: Strat Con DA

### Plan part of Strat Con

#### The plan is part of the strat con --- wont be perceived as a change

NATO 22, NATO’s strategic concept, 7/1/22, “Brussels Summit Declaration,” https://www.nato.int/cps/en/natohq/official\_texts\_156624.htm

19.We have agreed to strengthen the Alliance's deterrence and defence posture in all domains.  We are reinforcing our maritime posture and have taken concrete steps to improve our overall maritime situational awareness.  We have prepared strategic assessments on the Baltic and Black Seas, the North Atlantic, and the Mediterranean.  Through an enhanced exercise programme, we will reinvigorate our collective maritime warfighting skills in key areas, including anti-submarine warfare, amphibious operations, and protection of sea lines of communications.  The posture will also ensure support to reinforcement by and from the sea, including the transatlantic dimension with the North Atlantic being a line of communication for strategic reinforcement.  In the air domain, we have agreed a Joint Air Power Strategy, which is a key enabler for NATO's peacetime Air Policing and Ballistic Missile Defence missions.  It will strengthen our Integrated Air and Missile Defence, and guide our aerospace capabilities to operate together jointly, more swiftly, and effectively in peacetime, crisis, and conflict.  We also face new threats from cruise missiles and the proliferation of related technology as well as from new challenges, such as unmanned aerial vehicles, and will monitor developments that could affect Alliance security.  Recognising that space is a highly dynamic and rapidly evolving area, which is essential to a coherent Alliance deterrence and defence posture, we have agreed to develop an overarching NATO Space Policy.

# CP Answers

## Specific CP Answers

### 2AC --- EU CP

#### EU fails --- AI commercialization of tech and adoption isn’t fast enough to solve or ensure interop --- need U.S. action

Christie ‘22

(E. H. Christie, Finnish Institute of International Affairs, “Defence cooperation in artificial intelligence: Bridging the transatlantic gap for a stronger Europe,” European View 2022, Vol. 21(1) 13 –2 //um-ef)

Before proceeding, it is worth spelling out the extent to which European security is dependent on NATO and in particular on the US. Of the EU’s 27 member states, 21 are members of NATO. These countries account for about 93% of the population1 of the EU. Christie 15 Within NATO, those Allies that are also EU members only account for about 20% of total defence expenditure across the Alliance, while the US alone accounts for about 70% of the same total.2 Beyond these aggregate indicators, it is furthermore the case that the US is considerably ahead of the EU in terms of practical adoption of AI. For illustration, in 2020 US private-sector investment in AI was around $23.6 billion, but was only $2 billion in the EU, implying a ratio of 12 to 1 in favour of the US (Zhang et al. 2021, 96). Scientific output indicators offer a more nuanced picture. In 2019, the EU accounted for 16.4% of the world’s peer-reviewed AI publications, ahead of the US with 14.6%, while China occupied the top spot with 22.4% (Zhang et al. 2021, 20). On the other hand, if one measures research output in terms of publications on the Arxiv database, the US is ahead of the EU (Zhang et al. 2021, 33) by a ratio of almost two to one, which is nonetheless much less than the large gap in private investment mentioned above. That the EU performs similarly to the US in terms of scientific research, but far less well in terms of investment and commercialisation of new digital technologies, is an old problem which has proven very difficult to address, whether at national or EU level (Baroudy et al. 2020). In the following sections, I offer reflections on three challenge areas for European and Allied defence institutions: interoperability challenges, international security challenges and investment challenges. These three challenges are effectively interdependent. While interoperability is a permanent goal in an alliance context, be it NATO or the EU, it is particularly salient in cases of rapid technological change, such as with AI, as there is a need for a higher tempo across areas of activity. Heightened international security challenges likewise increase the need for urgency to ensure that Western nations do not fall behind potential adversaries. Investment, in turn, is the engine for rapid change, enabling the dynamic adoption of new technologies, relevant capability-development activities and other adaptations along the value chain of military activities. Overall, my central argument is that the confluence of rapid technological change and heightened international security challenges requires a higher pace of change and adaptation that can only succeed if serious investments are made on both sides of the Atlantic

#### interoperability isn’t a buzzword --- without harmonization throughout the development process, breakthroughs are impossible --- the U.S. must be *DIRECTLY* involved to overcome gaps in capabilities

Christie ‘22

(E. H. Christie, Finnish Institute of International Affairs, “Defence cooperation in artificial intelligence: Bridging the transatlantic gap for a stronger Europe,” European View 2022, Vol. 21(1) 13 –2 //um-ef)

Interoperability can be defined as ‘the ability of systems, units or forces to provide services to, and accept services from other systems, units or forces and the use the services so exchanged to enable them to operate effectively together’ (Dufour 2018, 1). The first general challenge to interoperability is the overall gap between the US and Europe in terms of total defence investment, as well as in terms of civilian technological attainment with respect to AI and related technologies. There is no single solution to this problem, which is much broader in scope than traditional military–technical standards, such as those pursued in the NATO context through existing mechanisms. For this broad challenge, overall policy decisions relating to national investment choices and technology policy coordination between the two sides of the Atlantic are of particular importance. Further discussion of this follows in the sections on investment challenges and international security challenges.16 European View 21(1) A second challenge to interoperability is that, as far as digital technologies are concerned, the civilian sector of the economy, on both sides of the Atlantic, is more advanced, more dynamic and also not especially oriented towards meeting military needs. For decades, the military sector has represented only a very small share of the total sales volume of the computing and semiconductor industries. The same pattern is repeating itself currently with AI. This stands in great contrast to narrower dual-use technologies, for example aerospace, where the military sector remains inherently important. With digital technologies, defence institutions are under much more pressure to either adapt to civilian industry products and standards or to pay a significant premium to suppliers to secure military-grade equipment and software. A third challenge to interoperability lies in how AI is implemented in practice. To set up a bespoke machine-learning algorithm in a given data environment, best practice in the software industry is to pursue some variant of ‘agile’ development. This involves a very different product-development cycle, essentially proceeding with multiple rapid iterations of an imperfect product that is released in preliminary versions and later revised—like software products released in various ‘beta versions’—with upgrades developed over time. This contrasts greatly with the traditional production of major military platforms, which puts a premium on strict quality control and compliance with requirements at every development step—an approach referred to in the software industry as ‘waterfall’ development (Christie 2021b, 87). Agile product development may pose challenges to interoperability. Unless very tight standards are applied, there is a considerable risk of divergences in how different national institutions go about solving a particular AI or data analytics problem. With large traditional military platforms there are long time frames during which states can take coordination steps, either by purchasing the same platforms, or by building consensus in terms of requirements and standards. However, when a comparatively small team works dynamically to generate an algorithmic solution to a particular problem in a matter of weeks or months, traditional coordination through existing consultation mechanisms may pose risks to the speed advantage inherent to agile development. Conversely, once a solution has been developed, its adoption in somewhat different environments may be challenging for a range of technical reasons. None of these issues is insurmountable, but they do pose, in a new light, classical trade-offs between the benefits of inventiveness and dynamism, on the one hand, and those of imposing constraints through standards and other harmonising measures to ensure that new products can be broadly used and shared on the other. In the case of AI, a typical observation is that there are many excellent prototypes and pilot projects in numerous defence institutions, but there are also serious outstanding challenges in terms of scaling up to enterprise-wide solutions, let alone Alliance-wide solutions.

### 2AC --- DOS CP

#### UUV plans are classified

Zhao 18 – Tong Zhao is a senior fellow in the Nuclear Policy Program at the Carnegie Endowment for International Peace, based in Beijing. His research focuses on strategic security issues, such as nuclear weapons policy, deterrence, arms control, nonproliferation, missile defense, hypersonic weapons, and China’s security and foreign policy. (Tong, "The Impact of Future Unmanned Systems," Carnegie Endowment for International Peace, 10-24-2018, https://carnegieendowment.org/2018/10/24/impact-of-future-unmanned-systems-pub-77497, Accessed 7-4-2022, LASA-SC)

Beyond general intelligence and surveillance purposes, U.S. UUVs could be used in more aggressive ways. The 2004 Navy UUV Master Plan, the most recent one made public, raised concerns in China because it explicitly identified “hold at risk” as one important ASW mission for UUVs. (A more recent plan was reportedly completed in 2011 but remains classified.)8 The hold-at-risk mission would include “monitoring all the submarines that exit a port or transit a chokepoint,” presumably for the purpose of ensuring that such submarines can be trailed and, if necessary, destroyed.9 A 2009 RAND Corporation study sponsored by the U.S. Navy explored the practicalities of this mission by considering the use of one or more UUVs to patrol secretly near an enemy’s submarine base to detect and trail exiting submarines in a timely fashion. As a hypothetical example, this study uses China’s submarine base at Jianggezhuang, an important facility on the Yellow Sea where Chinese SSBNs have often been spotted by satellites. The study concludes that an effective barrier could be “established outside a port, such as the Jianggezhuang submarine base, using a UUV operating at 0.5 [knots] and able to detect and classify at a range of 0.125 [nautical miles].”10

#### Military key to interoperability and overcoming data classification

ALLESLEV 19 – Leona Alleslev Leona is a Canadian politician and former military officer who served as the member of Parliament for Aurora—Oak Ridges—Richmond Hill. (“NATO ANTI-SUBMARINE WARFARE: REBUILDING CAPABILITY, PREPARING FOR THE FUTURE,” NATO Parliamentary Assembly, 10-19-2022, <https://www.nato-pa.int/download-file?filename=/sites/default/files/2019-10/REPORT%20150%20STC%2019%20E%20rev.%201%20fin%20-%20ANTI-SUBMARINE%20WARFARE.pdf>, Accessed 7-4-2022, LASA-SC)

47. NATO faces a twin problem. For one, its own ASW capabilities have withered, as the number of ASW-capable platforms has fallen, in some areas radically. Moreover, the capabilities the Alliance still possesses are rapidly ageing and encounter interoperability problems (Hicks et al., 2016). At the same time, the submarine capabilities of near-peer competitors have increased significantly, even if they cannot best the most modern Allied submarines. 48. Several reasons explain but do not excuse this state of affairs. As the immediate threat of the Soviet Union waned in the early 1990s, defence budgets began to shrink substantially. They took another big hit after the financial crisis of 2007/2008. More importantly perhaps, a strategic reorientation towards expeditionary warfare took place after the Cold War ended. While based on sound reasons, this reorientation came at a high price for other capability areas, including ASW (Perkins, 2016; Allport, 2018; Hudson and Roberts, 2018): - naval vessels conducted more and more generic maritime security or were repurposed for land attack missions; - MPAs increasingly focused on wider intelligence, surveillance, and reconnaissance; - ASW-capable vessels almost ceased operating in the North Atlantic and Arctic Oceans; and - some Allies chose not to replace certain capabilities at the end of their lifetime. 49. One area where Allies have retained robust capabilities, including through timely replacement programmes, is maritime ASW helicopters. Acoustic detection systems installed on the seabed or on shore are highly classified systems, thus little information is available. Some experts have stated that the United States has likely placed its large underwater Sound Surveillance System near the GIUK gap in standby (Smith and Hendrix, 2017). Experts also question its ability to detect the quietest Russian submarines. The US Navy is pursuing upgrades and new systems, but little is publicly known. Allied inventories of tactical submarines, MPAs, and frigates either continue to face significant shortfalls today or will in the near future. It is thus worth highlighting the ongoing modernisation efforts in this regard.

#### Sharing info with NATO requires DoD approval

CJO 20 – The Combined Joint Operations from the Sea Centre of Excellence (CJOS COE) was established in 2006 to provide a focal point for Joint Maritime Expeditionary Operations expertise for Allied nations. (“Allied Interoperability & Integration Guide,” April 2020, <http://www.cjoscoe.org/infosite/wp-content/uploads/2020/03/2020-Allied-Interoperability-and-Integration-Guide_Version-2.0.pdf>, Accessed 7-4-2022, LASA-SC)

The U.S. Foreign Disclosure Policy is unique among NATO partners. All Department of the NAVY (DON) activities shall ensure the provisions of the DON Foreign Disclosure Manual (SECNAV M-5510.34) are followed. All information (except Unclassified information that has been approved for release to the public) must be reviewed for releasability using the foreign disclosure process. Foreign Disclosure Office (FDO) or Navy International Programs Office (NIPO) must be notified of all affected references as early as possible to meet all foreign disclosure requirements and determine whether a Foreign Military Sales (FMS) case is necessary. Any potential issues involving the disclosure of military intelligence should be referred to Deputy Chief of Naval Operations for Information Warfare (CNO (N2N6)). US Foreign Disclosure Policy regulates and controls (and sometimes restricts) the distribution of sensitive information and data and consequently sets the rules and levels of PN integration. All documents intended for release need to be processed early enough and preferably written as templates releasable to all participants. To avoid late delivery to the foreign units, it is necessary to submit all written documents (e.g. exercise orders, pre-ex messages, Operational Orders (OPORDERs), directives and guidance (OPTASKS)) to a U.S. FDO/FDR well in advance of the required delivery date. It is highly recommended that all the messages be marked with ""REL TO USA, REL NATO or NATION X," classification markings; where "NATION X" is a nation who has requested training support and participation in U.S. exercises through USFF. This is an important point which is frequently missed in coalition cooperation with coalition units and must be addressed and highlighted commencing as early as the IPC in order to promote the effective integration of coalition units.

#### Data controlled by ONI

Ackerman ‘21

(Robert, retired as editor in chief of SIGNAL Magazine after 23 years. A seasoned technology journalist, Ackerman also has served as a war correspondent covering the Iraq War embedded with the U.S. Army’s 101st Airborne Division, “Naval Intelligence Does a Deep Dive on Capabilities,” pg online @ <https://www.afcea.org/content/naval-intelligence-does-deep-dive-capabilities> //um-ef)

The Office of Naval Intelligence (ONI) is listening carefully to operations underwater as it prepares for the Navy to meet new and emerging threats. This work includes probing new adversarial technologies as well as working with partners in industry and overseas to improve U.S. capabilities. Andrew G. Richardson, deputy commander, Office of Naval Intelligence, gave an unclassified snapshot of the ONI’s efforts in a breakout session of West 2021, a virtual conference cosponsored by AFCEA International and USNI streaming live June 29-30. Richardson described many of the ONI’s activities, but he gave particular emphasis to undersea warfare as an ONI focus. “Intelligence support to undersea warfare is perhaps our most important mission,” Richardson declared. “The ONI has a unique role to play in the undersea warfare domain, collecting and analyzing data from increasingly sophisticated manned and unmanned adversary platforms.” Richardson emphasized that the ONI is working across boundaries to exploit new technologies. “As the nation’s acoustic intelligence center of excellence, we are modernizing our operations and fully embracing automation to the greatest extent possible,” he said. At the heart of this effort is cooperation with other organizations, including overseas allies. “Naval intelligence has more formal intelligence sharing relationships with our foreign partners than any other military intelligence service,” he claimed. “We are working to come up with very innovative collection opportunities and strategies with our allies across the globe. They are really impactful things we are going to be doing.”

### 2AC --- Allies PIC

#### The cp results in LESS information --- more countries opting in ensures more data and better chances of tracking subs and mapping the ocean

Eckstein ‘20

(Megan, naval warfare reporter at Defense News. She has covered military news since 2009, with a focus on U.S. Navy and Marine Corps operations, acquisition programs, and budgets, “Sonar Equipped Drone Fleets Could be Key to Future Submarine Warfare,” pg online @ <https://news.usni.org/2020/03/09/sonar-equipped-drone-fleets-could-be-key-to-future-submarine-warfare> //um-ef)

“We’ve done it. We’ve already shown that multistatic ASW works. That’s our system: we’ve been doing it since 2012 in Dynamic Manta, we’ve demonstrated it operationally, and we just keep adding things onto it. So it can be done. So, whether other nations want to do it with us, that’s up to them,” Warner said. NATO Centre for Maritime Research and Experimentation (CMRE) operates two Ocean Explorer autonomous unmanned vehicles named Harpo and Groucho. NATO CMRE photo. Warner said Harpo and Groucho are 21-inch diameter AUVs that were built by Florida Atlantic University. The vehicles themselves are 18 years old, but the batteries and sensors are constantly being upgraded, meaning the vehicle that originally had four hours of battery life can now operate for 72 hours without intervention. CMRE’s Dan Hutt told USNI News that the next step would be to scale up these operations. To conduct multistatic ASW in the GIUK Gap, for example, would require hundreds of AUVs from participating NATO nations. The idea, though, would be to “flood the ocean with lots of cheap assets – they all have sensors, potentially different kinds of sensors, they can all talk to each other over a vast network – that’s a really powerful concept for ASW. We only have a handful of these, so we want to scale up and work with the nations to do a bigger demonstration.” While several NATO countries are upgrading their fleets of “high-end submarines and frigates,” many cannot afford such exquisite systems, Warner said. “But they certainly can afford a fleet of unmanned vehicles with towed arrays. And if they were all using the same standard, they could all buy from their own countries’ industry – that’s what we’re about, we’re not competing with industry, we’re developing standards,” she continued. “Every nation’s industry would benefit from building these vehicles and the towed arrays, and then they could all operate together.”

#### And, the plan is necessary to make that data-sharing effective

Williams ‘22

(Laura, senior editor for Defense One. She previously covered defense technology and cybersecurity for FCW and Defense Systems. Before then, Williams has reported on several issues, including internet culture, national security, health care, politics and crime for various publications. She has a master's in journalism from the University of Maryland, College Park and a bachelor's in dietetics from the University of Delaware, “DOD looks to expand its data partnerships with allies,” pg online @ <https://fcw.com/security/2022/01/dod-looks-expand-its-data-partnerships-allies/360395/> //um-ef)

The Defense Department is looking to expand its data partnerships with international allies to improve military operations. “It's about speed. And if you don't organize your data, if you can't create repeatable, testable and trusted data workflows from the tactical edge all the way up to your senior most decision-making boardroom activities, then you will just lag behind,” the Pentagon’s chief data officer, David Spirk, told reporters at a Defense Writers Group event on Jan. 5. “We've seen this in industry, it's really no different in the strategic competition with other nation-states who have an ability to harness their data, and can access the compute required to actually do something with it.” Spirk said it’s been a year since the stand up of an international council of chief data officers' first meeting, part of an intelligence alliance with representatives from the United States, United Kingdom, Australia, Canada and New Zealand called the Five Eyes. The partnership allows for collaboration between the countries in developing data management practices, policies and strategies. Spirk said he’s watched allies’ data organizations mature and has encouraged them to join the Defense Department chief data officers council meetings with its more than 300 data leaders. Additionally, the group plans to have an in-person meeting in the U.S. Indo-Pacific Command’s headquarters in February, he said. Spirk also noted that he was having conversations with some of the North Atlantic Treaty Organization’s CIOs around expanding DOD’s data management partnerships. “NATO is beginning to explore establishing their own formal CDO. They've had the activity being conducted from portions of the CIO before, but they're starting to look at what does that formal organization look like, how does it interact with the other counterparts,” he said. “And I think in establishing that what you'll see across the NATO partners is everybody getting in line and understanding how they're going to go ahead and formalize what we have in the U.S. and across some of our partners.” Retired Gen. James Cartwright, the Atlantic Council’s board director and former vice chairman of the Joint Chiefs of Staff, said improving U.S. data sharing with allies should be a priority. “If we can start to share unprocessed, sensor data with all of our friends and allies…then we bring to the table one thing that our adversaries can’t: diversity. Diversity in scale,” Cartwright said during a Jan. 5 event on the next National Defense Strategy and cooperating with allies. “Our allies are our diversity intellectually and in capability.”

### 2AC --- PICS/Share Outside of NATO

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### 2AC --- AT: PICS

#### “The” means one or more.

Oxford ND – The OED is the definitive record of the English language, featuring 600000 words, 3 million quotations, and over 1000 years of English. ("THE English Definition and Meaning," Lexico, https://www.lexico.com/en/definition/the, Accessed 7-5-2022, LASA-SC)

[The] Denoting one or more people or things already mentioned or assumed to be common knowledge.

#### “The” can refer to particular instances

Cambridge ND – Cambridge University Press has been publishing dictionaries for learners of English since 1995. Cambridge Dictionaries Online began offering these dictionaries completely free of charge in 1999 — and today, Cambridge Dictionary is still growing. ("the," Cambridge Dictionaries, https://dictionary.cambridge.org/us/dictionary/english/the, Accessed 7-5-2022, LASA-SC)

used before some adjectives to turn the adjectives into nouns that refer to one particular person or thing described by the adjective:

It seems that the deceased (= this particular dead person) had no living relatives.

I suppose we'll just have to wait for the inevitable (= the particular thing that is certain to happen).

#### “The” DOES NOT mean “all”

Swan 9 – Michael Swan is a full-time writer specialising in English Language teaching and reference materials. He is co-author of The New Cambridge English Course, Learner English and Effective Reading, and has extensive teaching experience with adult learners. (Michael, “Practical English Usage,” Third Edition, Oxford, Published 2019, <https://online.flipbuilder.com/jeru/kjhl/index.html>, Accessed 7-5-2022, LASA-SC)

We usually use no article, not the, to talk about things in general - the does not mean 'all'. (For details and exceptions, see 68.)

Books are expensive, (not The books art expensive.) Life is hard, (not The life is hard)

#### Jerry agrees – thinking the means all is a common English error – no article solves

Trzeciak 95 – Jerry has over 20 years' experience as a musician, classroom music and instrumental music teacher. (Jerry, "Common English errors in mathematical papers," 1995, https://www.impan.pl/wydawnictwa/dla-autorow/errors.pdf, Accessed 7-5-2022, LASA-SC)

The does not mean “all”. If you talk about things in general, use no article

#### The cp results in LESS information --- more countries opting in ensures more data and better chances of tracking subs and mapping the ocean

Eckstein ‘20

(Megan, naval warfare reporter at Defense News. She has covered military news since 2009, with a focus on U.S. Navy and Marine Corps operations, acquisition programs, and budgets, “Sonar Equipped Drone Fleets Could be Key to Future Submarine Warfare,” pg online @ <https://news.usni.org/2020/03/09/sonar-equipped-drone-fleets-could-be-key-to-future-submarine-warfare> //um-ef)

“We’ve done it. We’ve already shown that multistatic ASW works. That’s our system: we’ve been doing it since 2012 in Dynamic Manta, we’ve demonstrated it operationally, and we just keep adding things onto it. So it can be done. So, whether other nations want to do it with us, that’s up to them,” Warner said. NATO Centre for Maritime Research and Experimentation (CMRE) operates two Ocean Explorer autonomous unmanned vehicles named Harpo and Groucho. NATO CMRE photo. Warner said Harpo and Groucho are 21-inch diameter AUVs that were built by Florida Atlantic University. The vehicles themselves are 18 years old, but the batteries and sensors are constantly being upgraded, meaning the vehicle that originally had four hours of battery life can now operate for 72 hours without intervention. CMRE’s Dan Hutt told USNI News that the next step would be to scale up these operations. To conduct multistatic ASW in the GIUK Gap, for example, would require hundreds of AUVs from participating NATO nations. The idea, though, would be to “flood the ocean with lots of cheap assets – they all have sensors, potentially different kinds of sensors, they can all talk to each other over a vast network – that’s a really powerful concept for ASW. We only have a handful of these, so we want to scale up and work with the nations to do a bigger demonstration.” While several NATO countries are upgrading their fleets of “high-end submarines and frigates,” many cannot afford such exquisite systems, Warner said. “But they certainly can afford a fleet of unmanned vehicles with towed arrays. And if they were all using the same standard, they could all buy from their own countries’ industry – that’s what we’re about, we’re not competing with industry, we’re developing standards,” she continued. “Every nation’s industry would benefit from building these vehicles and the towed arrays, and then they could all operate together.”

### 2AC --- AT: ADV CP

#### All other options fail --- underwater monitoring is key

Economist 22 — The Economist, 01-27-2022, "Finding submarines is likely to get easier," Economist, https://www.economist.com/technology-quarterly/2022/01/27/finding-submarines-is-likely-to-get-easier, accessed 7-4-2022 //THS—OLW

Whatever happened to Jonesy?

An ocean that is suffused with sensors above and below the surface and which has sub-tracking robots on the prowl is certainly a more inhospitable place for a submarine—or at least, for one that does not belong to America or one of its allies. Flooding the world’s oceans with such sensors is something only a great power can do. As far as most people are concerned, says Mr Cote, “the oceans are opaque, and will probably remain so.”

Changing this would require some new technique to supplement what is available, and there is lots of research on detecting magnetic disturbances and very, faint wakes sniffing out telltale chemicals or radiation, and pinging targets with lasers tuned to the blue-green wavelengths which best penetrate seawater. Some of these techniques might work best underwater. Pictures of curious appendages that might hold sensors of various sorts on submarines coming into or leaving port reliably spark discussion in the sub-curious parts of the internet. Others could be deployed from aerial drones, and thus could be used a lot more if such drones became more numerous. But short ranges look likely to remain a problem for all these methods, as does the fundamental challenge of separating signal from noise in big messy oceans.

And submariners could fight back, notes David Blagden of the University of Exeter. A submarine leaving port might “delouse” itself of inquisitive usvs by using technology as rudimentary as a tugboat and rope netting. Should wake detection show promise, submarines could simply head to rougher seas. The low-power transmissions from usvs to satellites or nearby warships could be jammed by other usvs, or by drones.

The last of those tactics speaks to a perennial problem for anti-submarine warfare. The oceans do not just make it hard to gather information; they also make it hard to pass it on. Sensors which spend all their time submerged have either to be hard wired to cables or to communicate using acoustic modems that are slow, cumbersome and limited in range. This is a real bottleneck for systems trying to make use of auvs.

### 2AC --- AT: U.S. Unilat CP

#### Cant do it alone --- U.S. DOD doesn’t have the processing power or AI ready

Aranake 4/25/22

(“JUST IN: Military Lagging in Data Processing Capabilities,” pg online @ <https://www.nationaldefensemagazine.org/articles/2022/4/25/progress-on-military-data-processing-capabilities-continue-to-lag> //um-ef)

The U.S. military is falling short in developing and implementing crucial data collection, artificial intelligence and machine learning capabilities, the head of Northcom said April 25. The U.S. military continues to deploy new sensors, satellites and other technologies to collect and produce data, and that in turn requires more computing power to process volumes of information. “Candidly, we’re not moving fast enough for me,” said Air Force Gen. Glen VanHerck, commander of North American Aerospace Defense Command during a Defense Writers Group event. The military currently processes 2 percent of the data it collects, VanHerck said. “We can’t apply what I say are industrial age, industrial base processes to software-driven capabilities in today’s environment,” he added. Northcom and industry partners are working on a program called Pathfinder, which would allow the military to process 100 percent of the data it collects through the use of artificial intelligence, he continued. Artificial intelligence and machine learning are crucial to achieving “information dominance,” so that the military has information sooner to share with allies and partners, VanHerck said. The Air Force conducted three “Global Information Dominance Experiments” last year. The exercises demonstrated that the military could leverage emerging data analysis to give leaders more time to react to threats, according to an Air Force press release. “That Global Information Dominance Experiment has demonstrated that today, the capability exists, if you share the data, to utilize the machines to learn,” VanHerck said during the conversation. “Machines that can start counting numbers and tell you when there’s changes in vehicles…vehicles in a parking lot, vehicles in a weapons storage area. “And then it can actually take and slew sensors to that and give you an alert to [notify you] to look at this location,” he continued. VanHerck voiced similar criticisms of the slow progress of the Defense Department’s adoption of artificial intelligence and machine learning last year when he spoke with the Center for Strategic and International Studies. Since then, the Defense Department has taken steps aimed to address its long-standing difficulties in processing data. Late last year, Deputy Secretary of Defense Kathleen Hicks issued a memo establishing a Chief Digital and Artificial Intelligence Officer, whose office would replace the Joint Artificial Intelligence Center created in 2018. An April 25 Defense Department press release announced the appointment of Dr. Craig Martell — previously head of machine learning at Lyft — as the Chief Digital and Artificial Intelligence Officer. “Advances in AI and machine learning are critical to delivering the capabilities we need to address key challenges both today and into the future,” said Hicks in the release.

### 2AC --- Sats CP

#### Only subs work in foreign waters—key to mapping and deterrence

Gates 16 — Jonathan Gates is a defence consultant with a career spanning 35 years. His initial work in the Royal Corps of Naval Constructors concentrated on the design of warships, their sensors and weapons. Subsequently, in the defence industry, he managed multidisciplinary projects and spent a period as Engineering Director of the Al-Yamamah contract. He has written a number of papers and books on naval engineering. (Jonathan Gates, “Is the SSBN Deterrent Vulnerable to Autonomous Drones?” The RUSI Journal, December 21, 2016, <https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/03071847.2016.1265834)//mcu> ty william

However, there are practical and political limitations to surface-based and airborne autonomous vehicles detecting submarines while they are in other states’ territorial waters.24 Both UAVs and USVs – vessels that float on the surface but that are capable of deploying deep underwater sensors– could overtly patrol these waters. **This could be seen as an act of aggression which might spark political objections**. They could be attacked and disabled. However, there may be fewer objections if they were targeted in international waters. While an attack on a manned vessel would escalate conflict in times of tension, an attack on a USV may be seen as less inflammatory.

#### SARs fail—ocean current, timing-- even if R&D solves submarines will just advance

Uppal 21 – Director and founder of IDST; Project & Program Manager with 15+ experience in Satellite, Defense & Aerospace.(Rajesh Uppal, “Risking importance of non-acoustic detection technology of stealthy submarines in anti-submarine warfare,” International Defense, Security and Technology, 2/10/2021, https://idstch.com/geopolitics/rising-importance-of-non-acoustic-detection-technologies-of-stealthy-submarines-in-anti-submarine-warfare/)//mcu

Reliable and repeatable submerges submarine wake detection is a challenging task, primarily due to the enormous variability of ocean surface conditions. With increasingly high sea states, a radar attempting to image from a shallow grazing angle will have to confront wave troughs and peaks, which will disrupt the wake pattern and shadow, on average, half of the pattern. Not only must the radar do a good job of capturing the surface image but the post-processing demands of finding the specific shape of a wake pattern in a very noisy radar image of the sea surface are quite difficult, typically using a Hough transform or Radon transform algorithm, both of which require a lot of computing power. While wake detection using SAR even under optimal conditions may result in a highlight accurate track of the wake, **the delay between the production of the wake and its contact with the surface adds a considerable amount of uncertainty** as to the immediate position of the submarine being tracked, unless it is running very shallow. While the shape of the wake front could be used to infer the distance and the depth of the submarine, for submarines running deep wake detection radars may well become primarily a ‘tripwire’ sensor, not unlike MAD used for initial detection and tracking rather than prosecution of an attack. Ultimately, once SAR wake detection tech matures, it will provide a potent capability to detect submarines from orbital and high flying airborne platforms. This will drive submarines to greater depths and lower transit speeds, and result in further design changes in hull shaping to produce the least detectable wake patterns.

### 2AC --- AT: Aerial systems

#### Submarines outpace ariel systems, even if they work its short range and cant search oceans

Gates 16 — Jonathan Gates is a defence consultant with a career spanning 35 years. His initial work in the Royal Corps of Naval Constructors concentrated on the design of warships, their sensors and weapons. Subsequently, in the defence industry, he managed multidisciplinary projects and spent a period as Engineering Director of the Al-Yamamah contract. He has written a number of papers and books on naval engineering. (Jonathan Gates, “Is the SSBN Deterrent Vulnerable to Autonomous Drones?” The RUSI Journal, December 21, 2016, <https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/03071847.2016.1265834)//mcu> ty william

Aircraft use one type of sensor to search for submarines that has been proposed for UAVs – magnetic anomaly detectors. These sense the disturbance of the Earth’s magnetic field produced by the submarine’s ferromagnetic hull and steel components. The steel hull of a submarine (and of most surface ships) not only acts as a large magnet, but its movement through the water generates additional magnetic effects. These effects can be mitigated if a submarine uses a degaussing system – coils of wire within the vessel that carry an electrical current to generate an equal and opposite magnetic field to that of the hull. This ‘magnetic cloaking device’ cancels out the magnetic disturbance**. The latest ‘closed-loop degaussing system’ is very effective at reducing a submarine’s magnetic signature**. Nevertheless, close to the vessel the magnetic field of the submarine is irregular and difficult to cancel out completely. This gives some opportunity for the small residual magnetic disturbance to be detected within about 1 km, meaning that magnetic anomaly detectors are **very short-range** sensors. Advances in technology have led to the miniaturisation of magnetic anomaly detectors so they could be mounted on UAVs; these detectors are now being considered for the ship- and aircraft-launched MagEagle version of the ScanEagle autonomous UAVs.11 These UAVs would be useful for anti-submarine warfare forces to confirm the exact position of a submarine that has already been detected. However, **their detection range is so modest that searching the vast spaces of the unpredictable oceans is unlikely** to be the best use of UAVs. Moreover, **advances in detection technology are usually countered by advances in signature reduction** (improved degaussing) and consequent further reduction of detection ranges. The introduction of new countermeasures to confuse the detector would also mitigate the advances in detection technology.

#### UUVs best to cover ocean data collection --- can operate in shallow waters and cover areas of interest

Zhao ‘18

(TONG, PhD in science, technology, and international affairs from the Georgia Institute of Technology is a fellow in the Nuclear Policy Program at the Carnegie Endowment for International Peace, based at the Carnegie–Tsinghua Center for Global Policy in Beijing. His research focuses on strategic security issues, including nuclear weapons policy, arms control, nonproliferation, missile defense, space security, and other international security issues. He was previously a Stanton nuclear security fellow with the Managing the Atom Project and the International Security Program at the Belfer Center for Science and International Affairs at Harvard University. He has held a number of other positions, including as a nonresident WSD-Handa fellow at Pacific Forum CSIS and working for the Office of Foreign Affairs of the People’s Government of Beijing Municipality. He holds a and received a BS in physics and an MA in international relations from Tsinghua University, “Tides of Change,” pg online @ <https://carnegieendowment.org/files/Zhao_SSBN_final.pdf> //um-ef)

One application UUVs are used for is conducting intelligence preparation of battlespace operations, including collecting data about seafloor topography, underwater currents, and other hydrological information.5 One advantage UUVs have for conducting this mission is that their small physical size allows them to operate in shallow waters. Although current U.S. underwater hydrophone systems cover the main chokepoints along the island chains on the edge of the Western Pacific, they do not cover all waterways and maritime areas of interest; other U.S. ASW surveillance systems, including satellite-based ones, may be stretched to provide constant and effective surveillance.6 UUVs and USVs can help fill this gap. Their ability to conduct patrols automatically for prolonged periods is another advantage. For example, the Defense Advanced Research Projects Agency’s (DARPA) ASW Continuous Trail Unmanned Vessel (ACTUV) Program has produced a vessel—known as Sea Hunter—that has a reported range of 10,000 nautical miles at a speed of 12 knots; the vessel already has completed its initial sea trials and has been transferred to the U.S. Navy.7

### 2AC --- AUKUS CP

#### AUKUS causes escalation, prolif, and miscalc

Nagara 21 – Bunn Nagara a political analyst and honorary research fellow at the Perak Academy. He was formerly a senior fellow at the Institute of Strategic and International Studies (ISIS) Malaysia, an Asean research fellow at ISEAS Singapore, and a research fellow at JIIA Tokyo. (Bunn Nagara, "Aukus’ failure to consult Asia dooms it to disappointment," South China Morning Post, 11-22-2021, https://www.scmp.com/comment/opinion/article/3156658/how-aukus-failure-consult-asia-dooms-it-disappointment, Accessed 7-2-2022, LASA-SC

The case for the Aukus alliance is self-explanatory to those who are part of the pact, particularly if countries in Southeast Asia do not matter to them.

Advocates see the grouping of Australia, the UK and the US – with New Zealand also considering cooperating in areas other than nuclear submarine development – as an overdue deterrent against China’s maritime assertiveness. It extends other anglophone alliances that have US primacy as a common priority.

US exceptionalism desensitises Aukus to regional reservations and places it above multilateral restraint and external oversight. As a dedicated military alliance, it has focus and clarity of purpose while avoiding ambiguity for a stronger deterrence capacity.

With all members from outside Asia, Aukus also operates free from regional inhibitions and any obligation to seek regional approval. But to see these as net gains with no downsides would be a mistake. What gives Aukus its freedom also spells its limits and liabilities.

US militarist postures in contested spaces are not new. Freedom of navigation operations since 2015 to curtail Chinese adventurism have resulted only in its escalation. The Southeast Asia Treaty Organisation withered away because of a lack of regional interest, indicating that even co-opting US allies in Southeast Asia won’t work without region-wide endorsement.

Aukus and its submarines are unlikely to dent China’s posture. For the region, it could escalate US-China tensions and provoke a tougher Chinese response.

The game-changer is an unprecedented nuclear-powered navy for non-nuclear-armed Australia. Some in Southeast Asia see this as risking nuclear proliferation and nudging China into a deepening arms race.

This region can wear down alliances it is unimpressed with through sustained indifference. Early euphoria over endorsement from the Philippines and Singapore soon faded.

By late September, Philippine President Rodrigo Duterte shared Indonesian and Malaysian concerns that Aukus would spur a regional arms race. Weeks later, Singapore Defence Minister Ng Eng Hen advised the US to “stay very far away” from physically confronting China.

Aukus has clear deterrence “sticks” but no diplomatic “carrots”. Its provocative nature could diminish diplomatic efforts elsewhere.

Simply adding alliances might not produce a stronger coalition if partner concerns are not addressed. For example, inviting France into Aukus now would not heal the rifts already created.

Aukus has stumbled into controversy in a region bristling with sensitivities. Its US imprimatur does not encourage Europe or Asia, whether with Trump-like unpredictability or Biden-esque chaos.

Following the messy withdrawal of Western forces from Afghanistan, Aukus arrives in a region where people still remember a shambolic US departure from Saigon. Even as Australian diplomats try selling Aukus abroad, former prime ministers have criticised it for undermining vital interests.

Washington might not care to recall its own nightmares in Vietnam or elsewhere. But Europeans and Asians who are more mindful of history might be wary of how US forces tend to treat local allies when quitting a conflict zone.

Under the Aukus agreement, only nuclear-powered, not nuclear-armed, submarines will be provided. While that will reassure China, it could also cause more controversy and rejection.

That all Aukus countries are from outside the region may be more troubling. Without belonging to the region, they have no permanent stake or concern for its future. If the Aukus alliance damages relations with China, distance will help cushion the impact.

One concern is that Aukus nations are not subject to regional influence, conventions or mechanisms. They can commit or withdraw as they alone see fit, answerable to no authority. The alliance’s job description is unilaterally defined, with little regard for regional interests or norms.

Aukus doesn’t have to crimp non-military options to cause anxiety. Raising militarist prospects strains the interests of the smaller, less-developed nations that typify the region, where the status quo is founded on settling disputes amicably and rejecting the use or threat of force.

US-China competition has spanned hypersonic missiles, carrier-based strike aircraft and aircraft carrier design. Aukus now adds submarine assets to the rival inventories.

New Zealand’s potential entry implies more tension. Other anti-China measures can be expected, posing greater challenges to security protocols.

Aukus requires far more political endorsement in a region where no member has a military base. Deals like nuclear propulsion for some submarines cannot compensate for the lack of assured logistical support sourced locally. But the region rejects great power conflict where it has to pick up the pieces, including its own.

No military pact can address the comprehensive challenges in US-China competition. Economic, technological and other rivalries will not be resolved by raising the military stakes. Aukus’ advertised prospects have placed it beyond its realisable potential.

Advocates and detractors could find that it delivers less than promised because it was never fit for purpose. That members of the alliance failed to consult countries in the region was an early liability.

Refusing to consider their concerns after the alliance has been agreed only confirms its fallibility. What Aukus can do that other alliances cannot is another subject for debate, insofar as it is worth debating.

## T Answers

### 2AC --- Plan = SC

#### AI Data sharing and harmonization is security cooperation

Groen ‘20

(Michael S. Groen, Director, Joint Artificial Intelligence Center, “Joint Artificial Intelligence Center Director Briefs Reporters on Efforts to Scale AI,” pg online @ <https://www.defense.gov/News/Transcripts/Transcript/Article/2427955/joint-artificial-intelligence-center-director-briefs-reporters-on-efforts-to-sc/> //um-ef)

One thing we note is that stovepipes don't scale, so we will work through our partners in the AI Executive Steering Group and the -- and the subcommittees of that group, to integrate and focus common architectures, AI standards, data-sharing strategies, educational norms, and best practice for AI implementation. We'll continue to work across the department on AI ethics, AI policy, AI governance, and we'll do that as a community. We'll also continue to work with like-minded nations to enhance security cooperation and interoperability through our AI partnership for the – for defense. All of the JAIC’s work comes back to that enabling, that broad transformation across the department. We want to help defense leaders see that AI is about generating essential warfighting advantages. AI is not IT (information technology). It's not a black box that a contractor's going to deliver to you. It's not some digital gadget that an IT rep will show you how to log into.

### Plan = DOD

#### It's the DOD

DOD No date, Federal Register, https://www.federalregister.gov/agencies/defense-department#:~:text=The%20Department%20of%20Defense%20is,and%20women%20on%20active%20duty

The Department of Defense is responsible for providing the military forces needed to deter war and protect the security of our country. The major elements of these forces are the Army, Navy, Marine Corps, and Air Force, consisting of about 1.3 million men and women on active duty. They are backed, in case of emergency, by the 825,000 members of the Reserve and National Guard. In addition, there are about 600,000 civilian employees in the Defense Department. Under the President, who is also Commander in Chief, the Secretary of Defense exercises authority, direction, and control over the Department, which includes the separately organized military departments of Army, Navy, and Air Force, the Joint Chiefs of Staff providing military advice, the combatant commands, and defense agencies and field activities established for specific purposes. The National Security Act Amendments of 1949 redesignated the National Military Establishment as the Department of Defense and established it as an executive department ([10 U.S.C. 111](https://www.govinfo.gov/link/uscode/10/111)), headed by the Secretary of Defense.

### 2AC --- Plan = ML/AI

#### The plan is a subset of AI --- Machine Learning

Pfau ‘21

(Lieutenant Andrew Pfau, USN, is a submariner serving as an instructor at the U.S. Naval Academy. He is a graduate of the Naval Postgraduate School and a recipient of the Rear Admiral Grace Murray Hopper Computer Science Award, “A ROADMAP TO SUCCESSFUL SONAR AI,” pg online @ <https://cimsec.org/tag/asw/> //um-ef)

Dataset Curation

Artificial Intelligence and Machine Learning are often conflated and used interchangeably. Artificial Intelligence refers a field of computer science interested in creating machines that can behave with human-like abilities and can make decisions based on input data. In contrast, Machine Learning, a subset of the AI filed, refers to computer programs and algorithms that learn from repeated exposure to many examples, often millions, instead of operating based on explicit rules programmed by humans.4 The focus in this article is on topics specific to ML models and systems, which will be included as parts in a larger AI or autonomous system. For example, an ML model could classify ships from passive sonar data, this model would then feed information about those ships into an AI system that operates an Unmanned Underwater Vehicle (UUV). The AI would make decisions about how to steer the UUV based on data from the sonar ML model in addition to information about mission objectives, navigation, and other data.

### 2AC/1AR --- ML = AI

#### Machine learning is the core issue of AI

**Wang 09** Ph.D. from Beijing Institute of Technology Professor with the School of Information and Electronics, BIT(Hua, 12-19-2009, "A Brief Review of Machine Learning and Its Application," International Conference on Information Engineering and Computer Science, https://ieeexplore.ieee.org/abstract/document/5362936)HS

With the popularization of information and the establishment of the databases in great number, and how to extract data from the useful information is the urgent problem to be solved. Machine learning is the core issue of artificial intelligence research, this paper introduces the definition of machine learning and its basic structure, and describes a variety of machine learning methods, including rote learning, inductive learning, analogy learning , explained learning, learning based on neural network and knowledge discovery and so on. This paper also brings foreword the objectives of machine learning, and points out the development trend of machine learning. Learning is the main hallmark of human intelligence and the basic means to obtain knowledge. Machine learning is the fundamental way to make the computer intelligent. R.Shank has said: "If a computer can not learn, it will not be called intelligent." Since learning is an integrative mental activity with memory, thinking, perception, feeling, and other mental activities closely related. So, researchers from different fields give a different interpretation with different disciplines respectively, and give some different points of view. II. MACHINE LEARNING Machine learning is a subject that studies how to use computers to simulate human learning activities, and to study self-improvement methods of computers that to obtain new knowledge and new skills, identify existing knowledge, and continuously improve the performance and achievement. Compared with human learning, machine learning learns faster, the accumulation of knowledge is more facilitate the results of learning spread easier. So, any progress of human in the field of machine learning, will enhance the capability of computers, thus have an impact on human society

#### ML is within the field of AI

**MIT 22**—Massachusetts Institute of Technology (MIT Sloan, 6-29-2022, "Machine learning, explained," https://mitsloan.mit.edu/ideas-made-to-matter/machine-learning-explained)HS

Machine learning is a subfield of artificial intelligence, which is broadly defined as the capability of a machine to imitate intelligent human behavior. Artificial intelligence systems are used to perform complex tasks in a way that is similar to how humans solve problems. The goal of AI is to create computer models that exhibit “intelligent behaviors” like humans, according to Boris Katz, a principal research scientist and head of the InfoLab Group at CSAIL. This means machines that can recognize a visual scene, understand a text written in natural language, or perform an action in the physical world. Machine learning is one way to use AI. It was defined in the 1950s by AI pioneer Arthur Samuel as “the field of study that gives computers the ability to learn without explicitly being programmed.”