

Basic Order of Battle - PREFERRED MUNITIONS					
Counter	Platform	Description	Counter	No. of Counters	Total No. of Platforms
000-51	Arleigh Burke-class Aegis guided-missile destroyer armed with about 90 VLS tubes.	1 ship	40	1	40
000-1000	Zumwalt class guided-missile destroyer armed with 12 Conventional Prompt Strike Missiles.	1 ship	10	1	10
CG	Large deck amphibious assault ship carries F/A-18 Hornets and tiltrotor Marine aircraft.	1 ship	1	1	1
LHA	Ampibious transport dock ship that carries Marines.	1 ship	4	1	4
LPD	Multipurpose amphibious assault ship carries landing craft.	1 ship	10	1	10
LHD/LSD	Nuclear-powered attack submarine carries Tomahawk missiles.	1 ship	10	1	10
SSN	Older nuclear-powered attack submarine with 28 torpedoes or cruise missiles.	1 ship	10	1	10
UUV	Unmanned underwater vehicle modular payloads including torpedoes.	1 vehicle	10	1	10
CVN	Aircraft carrier.	1 carrier	1	1	1
Special Forces	Special Forces units.	1 unit	1	1	1
MUR	Marine littoral Regiment armed with small UAVs and anti-ship missiles.	1 unit	1	1	1
MOTF	Multi-Domain Task Force armed with PGMs, MRK, or LR ballistic missiles.	1 unit	1	1	1
HAD	Ballistic missile defense system; counters short-range ballistic missiles, cruise missiles, and aircraft.	1 battery	10	1	10
Patriot	Air defense system; counters short-range ballistic missiles, cruise missiles, and aircraft.	1 battery	10	1	10

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# Dangerous Straits

Wargaming a Future Conflict over Taiwan

Stacie Pettyjohn, Becca Wasser, and Chris Dougherty

## About the Authors



**Stacie Pettyjohn** is a Senior Fellow and Director of the Defense Program at CNAS. Her areas of expertise include defense strategy, posture, force planning, the defense budget, and wargaming. Prior to joining CNAS, Pettyjohn spent over 10 years at the RAND Corporation as a political scientist. Between 2019–2021, she was the director of the strategy and doctrine program in Project Air Force. From 2014–2020, she served as the co-director of the Center for Gaming. In 2020, she was a volunteer on the Biden administration's defense transition team. She has designed and led strategic and operational games that have assessed new operational concepts, tested the impacts of new technology, examined nuclear escalation and warfighting, and explored unclear phenomena, such as gray zone tactics and information warfare. Previously, she was a research fellow at the Brookings Institution, a peace scholar at the United States Institute of Peace, and a TAPIR fellow at the RAND Corporation. Pettyjohn holds a PhD and an MA in foreign affairs from the University of Virginia and a BA in history and political science from the Ohio State University.



**Becca Wasser** is a Fellow in the Defense Program and co-lead of the Gaming Lab at CNAS. Her research areas include defense strategy, force design, strategic and operational planning, force posture and employment, and wargaming. Prior to joining CNAS, Wasser was a senior policy analyst at the RAND Corporation, where she led research projects and wargames for the Department of Defense and other U.S. government entities. She holds a BA from Brandeis University and an MS in foreign service from the Edmund A. Walsh School of Foreign Service at Georgetown University.



**Chris Dougherty** is a Senior Fellow in the Defense Program and co-lead of the Gaming Lab at CNAS. His primary research areas include defense strategy, operational concepts, and force planning. Prior to joining CNAS, Dougherty served as senior advisor to the deputy assistant secretary of defense for strategy and force development at the Department of Defense. During this time, he led a handful of major initiatives, including the development and writing of major sections of the 2018 National Defense Strategy.

## About the Defense Program

During the past 15 years, CNAS has defined the future of U.S. defense strategy. Building on this legacy, the CNAS Defense Program team continues to develop high-level concepts and concrete recommendations to ensure U.S. military preeminence into the future, and to reverse the erosion of U.S. military advantages vis-à-vis China and, to a lesser extent, Russia. Specific areas of study include concentrating on great-power competition, developing a force structure and innovative operational concepts adapted for this more challenging era, and making hard choices to effect necessary change. This paper is a part of the Gaming Lab at CNAS, a larger initiative led by the Defense Program that develops highly tailored unclassified games and exercises to help policymakers and other stakeholders gain critical insights into key national security problems.

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## Executive Summary

Until recently, U.S. policymakers and subject matter experts have viewed the People's Republic of China's (PRC's) forcible unification with Taiwan as a distant threat. But the mix of rapid Chinese military modernization, a narrow window for localized near-parity with the U.S. military, and growing pessimism about the prospects for peaceful unification may lead the PRC to perceive that it has the ability to pursue a successful operation against Taiwan. Beijing's lessons learned from Russia's invasion of Ukraine could prompt the People's Liberation Army (PLA) to adjust its war plans for Taiwan to become more effective and deadly. Coupled together, these developments may suggest an accelerated timeline for seizing Taiwan. It is therefore urgent that the United States, in conjunction with its regional allies and partners, identify ways to deter the PRC from invading Taiwan and prevent a future conflict.

To do so, the Gaming Lab at CNAS, in partnership with NBC's *Meet the Press*, conducted a high-level strategic-operational wargame exploring a fictional war over Taiwan, set in 2027. The wargame sought to illuminate the dilemmas that U.S. and Chinese policymakers might face in such a conflict, along with the strategies they might adopt to achieve their overarching objectives. The game was intended to produce insights as to how the United States and its allies and partners could deter the PRC from invading Taiwan and could better position themselves to defend Taiwan and defeat such aggression should deterrence fail.

The wargame indicated there is no quick victory for either side if China decides to invade Taiwan. Neither side felt as though it had lost the fight over Taiwan, and even though China hoped to achieve a swift and decisive victory, it was prepared for a long fight. Beijing was faced with a dilemma: whether to keep the war limited and hope the United States did not become involved, or to preemptively strike U.S. targets to improve Chinese probability of success, but at the high cost of prolonging the conflict. In such a scenario, neither Beijing nor Washington is likely to have the upper hand after the first week of the conflict, which suggests a protracted conflict.

Moreover, a conflict over Taiwan may quickly lead to consequences far beyond what Beijing and Washington intend. The wargame demonstrated how quickly a conflict could escalate, with both China and the United States crossing red lines. There is a high risk that deterrent signals may be misread in a

potential future fight due to differences in military strengths and weaknesses, and these shape the types of escalation Beijing and Washington are likely to select. As the wargame illustrated, despite its declared policy of no first use, China may be willing to brandish nuclear weapons or conduct a limited demonstration of its nuclear capability in an effort to prevent or end U.S. involvement in a conflict with Taiwan.

The wargame highlighted an additional asymmetry in this tension: the role that capable U.S. allies and partners could play in a future conflict. Not only does China lack such relationships, but capable military partners on the U.S. side add significant combat power, depth, and strategic significance to efforts to defend Taiwan. This further complicates PRC decision-making about how it may choose to invade Taiwan, and about how it may seek to deter U.S. and allied involvement.

Ultimately, the wargame indicates that the United States and its allies and partners have an opportunity to take steps to significantly strengthen deterrence and ensure that the PRC never sees an invasion of Taiwan as a profitable option. But, in order to change the Indo-Pacific military balance in their favor and develop the advancements in capability, posture, and planning that can hold PRC aggression at bay, the United States and its allies and partners must take immediate steps in several key areas.

First, the U.S. Department of Defense should make sustained investments in long-range precision-guided weapons and undersea capabilities, while also developing additional basing access in the Indo-Pacific region to facilitate operations and enhance survivability. The DoD should deepen its strategic and operational planning with highly capable allies such as Japan and Australia to improve their collective ability to respond to Chinese aggression against Taiwan. Additionally, DoD planning should move beyond defeating a rapid invasion to consider how to fight a protracted war and make changes to facilitate long-term operations and favorable war termination. Finally, the department ought to explore the risks of escalation in the context of a war with China, so that these can be anticipated, prevented, and managed.

Second, the U.S. Congress should enable key improvements through the Pacific Deterrence Initiative and should help shape Taiwan's military posture. Third, Taiwan must improve its defensive capabilities by investing in asymmetric, resilient, and attritable capabilities by increasing training for its active and reserve forces; and by stockpiling key weapons and supplies.

## Introduction

Russia's invasion of Ukraine in 2022 shocked the world, upending the assumption that a large-scale conventional war in Europe was inconceivable. Russian President Vladimir Putin's overt use of violence shattered assumptions that revisionist states such as Russia would pursue their aims through covert subversion and coercive statecraft, below the threshold of war.<sup>1</sup> Russia's invasion has raised fears that the world faces an authoritarian assault on freedom and democracy. Ripple effects of the Ukraine war are global, and the lessons of this conflict extend far beyond Europe's borders.

For decades, defense analysts have warned that Chinese military modernization was shifting the balance of power in East Asia, potentially enabling China to seize Taiwan.<sup>2</sup> Taiwan has governed itself since 1949, when Chiang Kai-Shek's Kuomintang forces fled there after their defeat in the Chinese Civil War, but the People's Republic of China has insisted that Taipei is a breakaway province that must unite with Beijing. While cross-strait tensions have waxed and waned over the past 73 years, the potential use of overt military force against Taiwan is of utmost concern to U.S. policymakers—even more so after Russia's attack on Ukraine.<sup>3</sup>

Until recently, U.S. officials and experts have seen forcible unification as a distant threat because

of the immense challenge and risk of launching an amphibious assault on Taiwan. But China's rapid modernization and professionalization of the People's Liberation Army call this assumption into question.<sup>4</sup> When coupled with the lack of progress by the U.S. military on acquiring advanced technologies, developing a new American way of war, and improving posture in the Indo-Pacific region to strengthen deterrence, this may lead China to perceive it has the ability to pursue a successful operation against Taiwan.<sup>5</sup> Some worry that Chinese experts are increasingly pessimistic about the prospects for peaceful unification and, as a result, may resort to military force.<sup>6</sup> For instance, the head of U.S. Indo-Pacific Command, Admiral John Aquilino, announced that "this problem is much closer to us than most think,"<sup>7</sup> while his predecessor maintained that China could invade Taiwan by 2027.<sup>8</sup>

**While the invasion of Ukraine does not necessarily portend an invasion of Taiwan, China is learning from Russia's missteps and thinking about how to address deficiencies in its own forces, plans, and strategy.**

Events in Europe have made these concerns more urgent. While the invasion of Ukraine does not necessarily portend an invasion of Taiwan, China is learning from Russia's missteps and thinking about how to address deficiencies in its own forces, plans, and strategy.<sup>9</sup> Beijing is likely also assessing U.S. and international responses to aggression against Taiwan. For its part, Taiwan is drawing lessons about Ukraine's staunch resistance and considering the capabilities, training, and operational concepts that would be needed to defend itself against a Chinese invasion.<sup>10</sup> More recently, U.S. President Joe Biden stated that the United States would commit military resources to Taiwan should China attack. Although the White House denied any change in official U.S. policy, the president's statement veers from the U.S. approach of "strategic ambiguity," in which it is unclear whether the United States would come to Taiwan's aid in case of an invasion, and may be viewed as Washington issuing a deterrent threat to Beijing.<sup>11</sup>

Considering these developments, the Gaming Lab at CNAS, in partnership with NBC News's *Meet the Press*, conducted a wargame to explore a fictional war over Taiwan, set in 2027.<sup>12</sup> The game sought to illuminate the options that U.S. and Chinese policymakers might have in such a conflict, the dilemmas they

might face, and the strengths and weaknesses of various strategies. Ultimately, this wargame aimed to identify steps that the United States and its allies and partners could take to deter the PRC from invading Taiwan, and to better position themselves to defeat such aggression should deterrence fail.

The wargame produced several critical insights about a potential near-term conflict over Taiwan between the PRC and the United States.<sup>13</sup> This report highlights the key takeaways from the game. It concludes with concrete recommendations for how the United States and its allies and partners can improve defense planning and strengthen deterrence in the Indo-Pacific, with the intent of preventing a future war over Taiwan and, if that fails, improving U.S. ability to defend Taiwan.



CNAS' Dangerous Straits strategic-operational game. (William Plowman/NBC News)

## Dangerous Straits: The Wargame

The CNAS Gaming Lab conducted a two-sided wargame in April 2022 to examine a potential conflict sparked by a Chinese invasion of Taiwan in 2027. This game focused on American and Chinese decision-making at the high operational and strategic levels. The intent of the wargame was twofold. First, by filming it for *Meet the Press*, CNAS sought to educate the general public about how a conflict could unfold between China and the United States over Taiwan. Second, the wargame aimed to provide insight into how China may choose to fight, and how the United States and its allies and partners could defeat Chinese aggression.

The wargame featured 10 participants, current and former U.S. government officials and subject matter experts on U.S. and PRC defense strategy. Participants were assigned to either the PRC (Red) or the U.S. (Blue) team, representing senior defense officials advising their respective presidents. The Red team sought to unify Taiwan with the PRC while preventing the United States and its allies from defending Taiwan. The Blue team aimed to defend Taiwan from Chinese aggression and keep the PRC from forcibly subjugating Taiwan. The

military forces of Taiwan, Japan, and Australia were represented by the White Cell, consisting of the CNAS team, which also adjudicated interactions between the Red and Blue teams' plans.<sup>14</sup>

The wargame examined a scenario in which discussions over independence in Taiwan's legislature erupted into a political crisis during which the PRC demanded immediate unification talks. After Taipei refused to join talks while refuting moves toward independence, China mobilized PLA forces and undertook a significant military buildup in its Eastern Theater Command. As it moved key forces and capabilities to forward staging areas closer to Taiwan, U.S. intelligence officials confirmed that an attack on Taiwan was imminent. Thus, the wargame began with both teams preparing for a potential attack, posturing their forces to best achieve their objectives. The Blue team's first task was to identify ways to bolster deterrence, while crafting a strategy to defend Taiwan if deterrence failed. The Red team's first task was to develop their initial invasion strategy, having received orders from President Xi Jinping to invade.

The scenario posited a future in which the PRC, Taiwan, and the United States had shored up their military strength and addressed critical deficiencies.

As a result, the wargame made optimistic assumptions that each was able to make improvements that have previously proved elusive. The scenario also posited that there was ample warning of China's military buildup. Moreover, the White Cell assumed that all three forces were competent at executing military operations—albeit with different levels of proficiency. As demonstrated by the Russian military performance in Ukraine, this is a critical assumption that could impact findings and recommendations.<sup>15</sup>

It is worth noting that this wargame was run only once, and thus the insights derived from the game should be tested further. Moreover, wargames are indicative rather than predictive. The decisions and outcomes of this game are plausible, but that does not make them highly probable. Nonetheless, observations from this wargame yield lessons that should inform U.S. and allied and partner planning for defending Taiwan.

## Key Insights

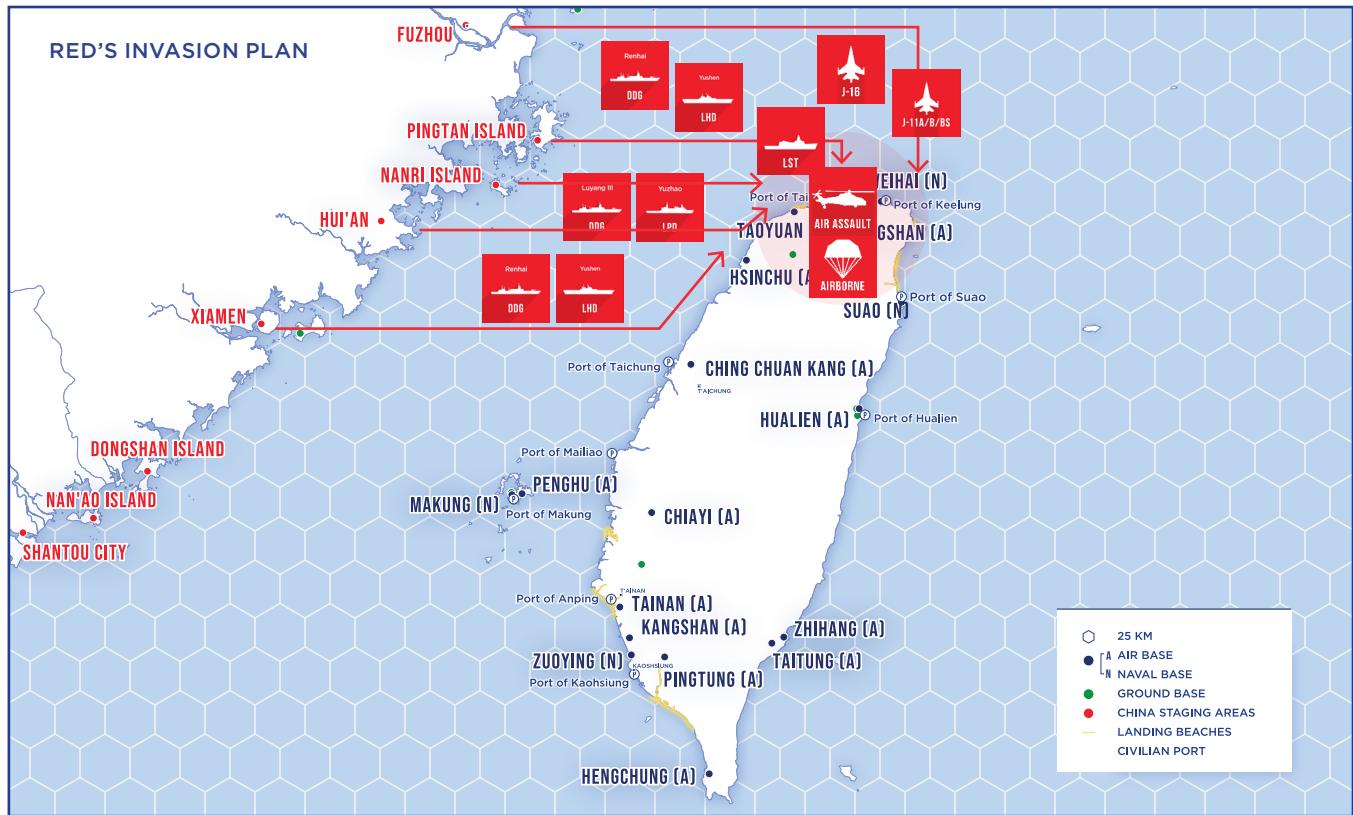
Several critical insights emerged from gameplay and player discussion. These insights have significant implications for a future conflict over Taiwan in the Indo-Pacific, and they represent lessons learned from the wargame.

### Illusions of a Short War

The Red team developed a plan focused on employing a large invasion force to achieve a quick victory. The team faced a dilemma: whether to concentrate on Taiwan and avoid striking U.S. forces in the hope that they would stay on the sideline, or to attack Blue forces to gain a military advantage and hope that Blue would be willing to negotiate after Taiwan fell. The former course of action could keep the war limited and improve the chances that Red could control Taipei before other countries intervened. The latter significantly increased the prospects of winning, if Blue did become involved, but also risked a larger, more difficult, and possibly longer conflict. The second course of action ultimately won out because Red was worried that Blue would intervene regardless, and it would be easier to strike at Blue earlier than later. The Red team simultaneously launched air and missile strikes against Taiwan's forces while also preemptively attacking key Blue bases, particularly those on Guam. Red's attacks were not sufficient to knock out U.S. forces and instead prompted a strong Blue and allied response to Red's aggression.



Participants in the Dangerous Straits wargame discuss courses of action. (William Plowman/NBC News)



The Red team sought to force Taipei to capitulate before Blue's forces could recover from Red's opening blow. Red aimed to decapitate Taiwan's leadership, launch punitive strikes to erode Taiwan's will to resist, and cut off communications to the island to reduce Taipei's strategic messaging aimed at rallying international support. Alongside these strategic attacks, Red sought to rapidly ferry ground forces to beaches and ports in northern Taiwan, in addition to airdropping forces in the same region, to capture Taipei as quickly as possible. Red believed this would generate enough momentum to conquer the northern half of the island and compel the rest of the country to surrender. The United States and its allies would then face the unpalatable prospect of rolling back Red's territorial gains, which would be incredibly difficult—if not impossible—and ultimately conclude that it was not worth the cost.<sup>16</sup>

Red's quick victory proved elusive. Enabled by its control of the skies over Taiwan, Red amphibious, airborne, and air assault invasion forces made it ashore, but encountered fierce resistance.<sup>17</sup> Red forces occupied a beach and airfield north of Taipei but suffered heavy losses. When the game ended, Red's invasion force still had to traverse mountainous and heavily defended

terrain to reach the capital. Moreover, Red also had to find a way to provide fuel, food, and ammunition to its forces ashore while Blue forces attacked its vulnerable lines of communication.<sup>18</sup>

Ultimately, neither side was able to decisively win in the initial week of fighting. Both Red and Blue had expended large portions of their inventories of precision long-range missiles, lost many fighter aircraft, and needed to resupply and rearm forces under attack. However, Red still had civilian assets it could use to continue its cross-strait invasion, aided by its geographic proximity to Taiwan.

We do not know what the long-term outcome might have been, but a protracted conflict appeared to be plausible. Red's rapid assault failed in this fictional scenario, due to Blue and Taiwan's smart investments in capabilities, training, and munitions. Blue's plans had focused on halting Red's cross-strait attack, particularly its navy. When Blue's submarines had fired all their torpedoes and its aircraft had launched most of their long-range precision munitions, it had limited options for immediately generating offensive combat power. Neither side felt as though it had lost the fight over Taiwan. Even though China hoped to deter U.S. and allied and partnered



The Red team develops its initial strategy to invade Taiwan. (William Plowman/NBC News)

involvement to support Beijing's desired quick victory, it was prepared for a long fight.

This suggests that should a Chinese invasion of Taiwan occur it would be essential for Taiwan and the United States not to lose the war in the opening days. But preventing China from its preferred quick triumph over Taipei would not equate to an American and Taiwanese victory. Therefore, U.S. and allied and partnered defense planners need to think beyond the opening week to consider how to win a protracted war.

### Falling Off Escalation Ladders

After Red attacked Blue forces on bases in Japan and Guam, the conflict spiraled in a series of tit-for-tat escalations, as each team attacked the other's territory more aggressively in response to prior attacks. These offensives were not purely punitive. Oftentimes, they were also driven by military necessities. The Red team believed it could not risk allowing U.S. forces to thwart the initial wave of its amphibious assault and thus decided to preemptively hit American forces and bases in Japan and Guam. It also would have attacked a U.S. aircraft carrier if one had been within missile range. In response, the Blue team used bombers to launch cruise missile strikes at Red ships in port, which were easier targets than ships sailing toward Taiwan.

The escalations increased with each passing turn. Each side viewed its own attacks as proportional and constituting a message to the opponent that he must desist from certain actions or face more severe consequences. But the situation quickly increased the scope and intensity of the hostilities. Because Red had already attacked American territory, it felt it had little

**U.S. and allied and partnered defense planners need to think beyond the opening week to consider how to win a protracted war.**

to lose by launching a cruise missile strike at U.S. bases in Hawaii in retaliation for Blue attacks on its ports. The Red team also launched missile salvos at U.S. allies including Japan, Australia, and the Philippines. To degrade Red's command and control and targeting, Blue attacked its Eastern Theater Command headquarters in Nanjing and early warning radars on Chinese territory. In response to the continued strikes on its territory, including a thwarted strike on an H-20 bomber base, Red wanted to target military installations in the continental United States, but did not have the forces to do so.

The Blue team possessed a significant ability to attack Chinese forces with precision-guided weapons in this wargame, although its stores of advanced long-range missiles quickly ran low. In contrast, Red's ability to project conventional power beyond the second island chain in 2027 remained quite limited. Red only had a small number of long-range bombers and aerial refueling tankers, relative to those that would have been necessary to retaliate against the continental United States with conventional weapons.<sup>19</sup> While cyber weapons were considered as a means to reach such targets, the Red team favored conventional attack options because they carried a stronger signal. The Blue team likewise considered more aggressive actions in cyberspace but restrained itself out of concern that the United States

likely presented a larger, and more vulnerable target for strategic cyberattacks.

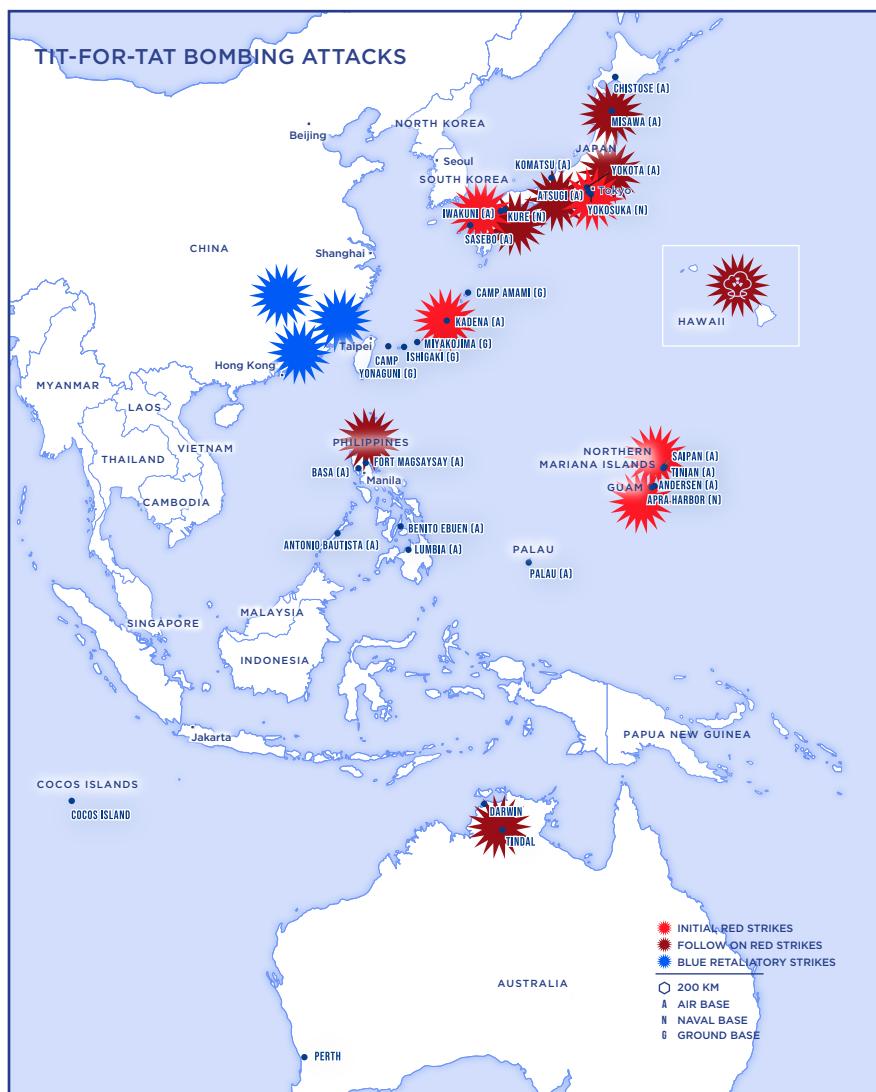
Escalation in this game did not adhere to the traditional model of a symmetric ladder that each side climbed deliberately and could stop at any point.<sup>20</sup> Instead, both sides had their own escalation ladder with different rungs, reflecting their different approaches, perceptions, and capabilities. But what was most striking was that their actions quickly led to consequences beyond the intentions of both teams. Neither seemed to receive the other's message that their actions were calibrated, proportional, and intended to force de-escalation.

Moreover, Red and Blue had different strengths and weaknesses that shaped the type of escalation they chose. Red had a stronger hand initially, but it lacked credible conventional responses to attacks on its territory, leading it to turn to its nuclear arsenal. Blue had more conventional and nuclear options but was more concerned about escalation in cyberspace. Before they knew it, both Blue and Red had crossed key redlines, but neither was willing to back down. Therefore, escalation was less of a gradual and controlled climb to the top than a quick race to the bottom, where both teams had fallen off their ladders and ended up in uncharted territory.<sup>21</sup>

This demonstrates how a conflict over Taiwan may quickly descend into an escalatory spiral. China and the United States may struggle to communicate redlines, leading to deterrent signals being misread by both Beijing and Washington in such a conflict.

### Thinking the Unthinkable: Limited Nuclear Use

In the first move of the wargame, the Red team took a page from Putin's playbook in Ukraine and threatened to use nuclear weapons to deter outside intervention in an "internal affair" as well as any attacks against the Chinese mainland.<sup>22</sup> Despite China's policy of no



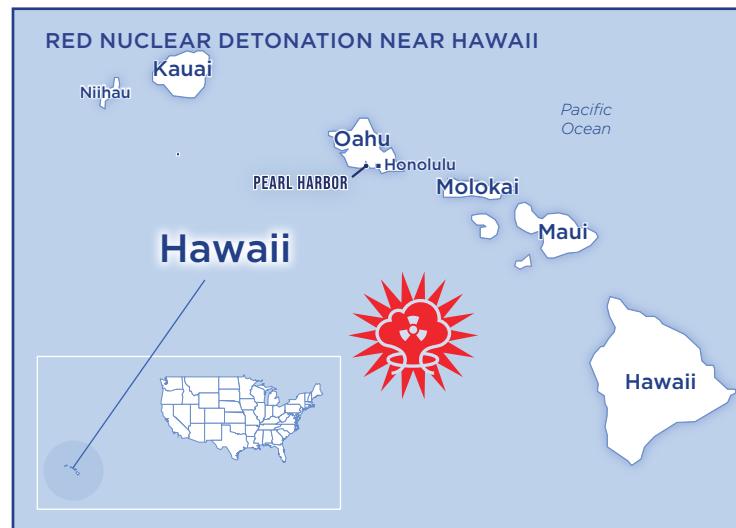
Red's opening attacks on U.S. bases in Japan and Guam, along with Blue's attacks on Red ships in port, led to a spiral of escalation that expanded the scope of the war.

first use, there was little debate in the Red team about brandishing nuclear weapons. The team agreed to issue the nuclear threat, and, in the pre-initiation of hostilities, to start deploying Chinese nuclear-missile submarines into waters where the weapons could reach the West Coast of the United States. Although preemption would provide a military advantage, the Blue team dismissed the idea because of China's nuclear weapons and fears of escalation. Blue also sought to reinforce its strategic posture and issued statements that Red would face severe consequences for being the first to use nuclear weapons. Throughout the game, the Blue team was also careful to avoid attacking targets that might threaten the Chinese regime. Ultimately, the Blue team believed the superior size and sophistication of its nuclear arsenal would deter Chinese nuclear use.

The Blue team's faith in its strategic deterrent proved to be a mistake. As the conflict spiraled with tit-for-tat attacks on Red and Blue territory, the Red team felt that it needed to up the ante from its airbase attacks on Japan, Guam, and Hawaii to protect its core interests and prevent further attacks on its mainland. Lacking conventional long-range strike options, the Red team detonated a nuclear weapon not far from Hawaii to demonstrate the credibility of its threats. This high-altitude nuclear explosion resulted in an electromagnetic pulse that would have disrupted and potentially destroyed any unshielded or unprotected electronics on nearby ships or aircraft, but otherwise did not directly impact Hawaii. Nonetheless, it was the first use of a nuclear weapon during a conflict since



*Members of the Blue team craft their strategy to defend Taiwan.  
(William Plowman/NBC News)*



*The Red team conducted a high-altitude nuclear demonstration shot near Hawaii to signal its resolve.*

World War II. Since this occurred during the last move of the wargame, we do not know how the Blue team would have responded, but this likely would have been viewed as a major escalation.

There is a risk that a future conflict between the United States and China could go nuclear. In a conflict over Taiwan, Beijing may be willing to forgo its stated no-first-use policy to brandish or detonate a nuclear weapon in an effort to prevent or end U.S. involvement in the war. While an unlikely possibility is an outright surprise strategic exchange as envisioned during the Cold War, there is a risk that China could employ nuclear weapons in a limited way. Should that occur, it is unclear where the conflict would go. This suggests that the United States and its allies and partners need to discuss and plan for potential scenarios centered around China's limited nuclear use.

#### **An Asymmetric Advantage: Allies and Partners**

In the wargame, Red faced a coalition of states that helped defend Taiwan—not just Washington and Taipei. Japan and Australia not only provided Blue forces with access to bases, but also contributed their highly capable aircraft and ships to combat operations. They did so because of the shifting sentiment toward authoritarian aggression that had accelerated in the wake of the Ukraine war. Red air and missile strikes against bases on their territory further helped push them to intervene. The Philippines did not participate in operations but supported the coalition by permitting U.S. forces to operate from its territory.



Australia and Japan provided base access and contributed forces to the defense of Taiwan, while the Philippines permitted U.S. forces to use bases on its territory.

In contrast, China lacks allies. While experts debate whether some of China's partners, namely Russia, would join the fight, this was not represented in the game. Instead, the Red team discussed how North Korea and Russia could undertake actions to distract the Blue team, and how China could obtain advantageous basing access in a country such as Cambodia. These efforts paled in contrast to the contributions of Australia, Japan, and the Philippines to the Blue team's effort. This highlights a critical asymmetry in such a conflict: China would likely stand alone against a highly capable coalition of forces that regularly operate together.

The Red team was acutely aware that if U.S. allies came to the defense of Taiwan, this would negatively shift the odds against China. Australia and Japan both provide

sophisticated air and maritime forces that are in many cases superior to Chinese capabilities. Their entrance into the fight would augment Blue's capacity and help deny Red a rapid military victory. The Blue team was also aware of this advantage and tried to leverage the improved ties between Washington, Canberra, and Tokyo to strengthen deterrence in the first move. At the outset of the conflict, Blue naval ships were conducting a joint exercise with Japanese, Australian, and Taiwanese ships in the Philippine Sea. The combined fleet remained outside the reach of Red's intermediate-range ballistic missiles and therefore prioritized survivability over directly contributing to the defense of Taiwan. However, the fleet was intended to send a strong political deterrent signal, and this might have succeeded had the Red team not been ordered to force unification.<sup>23</sup>

In the first move, the Red team had a heated discussion about how to separate Blue from its allies. Red believed that while it could not stop Blue from coming to Taiwan's defense, it could drive wedges between Washington, Tokyo, and Canberra. Because Red viewed Blue intervention as inevitable, its approach was to strike Blue forces hard at the onset of the conflict to weaken U.S. combat power, while refraining from attacks on Japanese or Australian forces. This was intended to send a deterrent message to Tokyo and Canberra that they would be spared if they remained out of the fray.

However, in practice Red found this strategy difficult to implement. In its opening salvo, Red launched ballistic and cruise missile strikes against Blue bases and air defenses in Japan. Red intentionally avoided striking shared U.S.-Japanese bases or Japanese-only bases. Red, therefore, opted to leave unscathed a significant number of U.S. aircraft to keep Tokyo out of the fight. But because the security forces and civilians of host nations typically provide protection and services on facilities used by U.S. forces even when these are not co-located with those of the host nation's military, it was difficult for Red to discriminate between Blue and Japanese targets. Moreover, Red's base strikes still amounted to an attack on Japanese soil, leading Japanese forces to enter the war—although they primarily bolstered defenses on their territory and conducted limited operations in the East China Sea.

This highlights the tension in the Red team between its need to degrade Blue forces early in the conflict and its desire not to provoke additional intervention. Perversely and ironically, Red's actions were the driver for such third-party intervention. Red's actions also broadened the aperture of the conflict, because of the perceived need to take punitive actions against third-party nations for joining the fight. The Red team continually expended its high-end medium- and intermediate-range ballistic missiles and cruise missiles against Japanese, Australian, and Philippine military targets, while also targeting U.S. forces and launching an amphibious invasion and bombing campaign in Taiwan. This diluted the Red team's attention and stretched critical missile inventories, distracting from its primary operation: the invasion of Taiwan.

China's lack of alliances and the U.S. emphasis on coalition warfighting would likely color a future conflict. By contributing combat power, critical access, and basing, U.S. allies and partners are of strategic significance to efforts to defend Taiwan. All these factors could turn the tide of a Chinese invasion of Taiwan and complicate China's decision-making, including its military strategy. This stresses how important it is that the United States identify a "coalition of the willing" in advance of such a conflict to provide ample time to develop war-winning strategies that integrate allies and partners and improve interoperability.

## **Recommendations for Improving Deterrence in the Indo-Pacific**

The most significant takeaway from this wargame is that there will be no swift victory if China decides to invade Taiwan. While neither side felt as though it had lost the fight over Taiwan, neither had a decisive upper hand in the conflict after a week of fighting. Despite Red's hopes to achieve a swift and decisive victory, it remained prepared for a long fight due to the importance of unification. But an invasion would be an extremely risky gamble for the PRC, as it would require betting that its unproven forces would be able to competently execute an intensely complicated joint operation. If the Taiwanese population resisted as the Ukrainian population has, they could make a challenging operation very costly—at great expense to themselves. Even if China proved less capable than this wargame assumed and could not put ashore a large number of forces on Taiwan, it remains the case that China has the conventional firepower to cause widespread suffering, destruction, and devastation.

Based on its modernization plans, China is projected to have a larger and increasingly sophisticated nuclear force by 2027 to complement its growing conventional capabilities.<sup>24</sup> A conflict over Taiwan may be difficult to contain, given the operational advantages of striking the other's territory first. Given the nuclear risks and rapid escalation highlighted in this wargame, to say nothing of the catastrophic human and economic damage from a war, it is

critical for the United States, Taiwan, and allies such as Japan and Australia to strengthen deterrence to prevent a conflict over Taiwan from ever occurring. Moreover, U.S. policymakers need to place a renewed emphasis on escalation management, so that they can understand potential red lines and flashpoints and reduce the risk of inadvertent escalation.

For decades, U.S. policymakers believed they had ample time to respond to China's rise as a military power. Rather than pivoting or rebalancing to the Indo-Pacific, U.S. administrations have become distracted with wars, unrest, and instability elsewhere. This has allowed China to significantly close the gap in military power, to the point where it could believe that victory in a war over Taiwan is a distinct possibility.



A member of the CNAS White Cell adjusts forces on the map. (William Plowman/NBC News)

The lessons learned from this wargame directly lend themselves to actions to strengthen deterrence. Recommendations for the U.S. Department of Defense and Congress, and for Taiwan, are as follows:

#### **For the U.S. Department of Defense**

##### *Make sustained investments in long-range precision-guided weapons.*

The United States needs to build an inventory sufficient to strike the number of mobile and fixed targets that would be required in this conflict, thus denying China a swift and decisive victory. At present, the U.S. inventory of long-range munitions is insufficient to deny China a swift victory or weather a lengthy war of attrition. The DoD should also seek to enter into agreements with allies and partners, such as Australia, to enable sharing stockpiles of weapons during such a conflict.

##### *Increase investments in undersea capabilities.*

In the wargame, undersea capabilities proved to be a key U.S. advantage. While the current shipbuilding plan envisions procuring the maximum number per year of submarines that the industry can generate, the United States should explore options to expand its industrial base and augment its attack submarines with unmanned underwater vehicles. Additionally, the United States should explore ways to sustain undersea warfare in a forward theater by rearming and resupplying submarines at sea and in protected forward bases.

##### *Strengthen posture in the Indo-Pacific region.*

Bolstering U.S. posture requires obtaining additional basing access and developing a system of layered passive and active defenses on existing bases.<sup>25</sup> The wargame illustrated that U.S. intervention in this conflict depended on being able to absorb a Chinese first strike by dispersing forces on bases throughout East Asia. The United States currently does not have sufficient access or supporting forces and equipment to enable this type of operation, despite the DoD's embrace of distributed operational concepts aimed at enhancing survivability.<sup>26</sup>

*Deepen strategic and operational planning with Japan and Australia to improve preparations to respond to Chinese aggression.*

Advance planning would enable coordinating a swift response should a Chinese invasion appear imminent. While ground- and space-based sensors have made it difficult to disguise a large troop buildup or enact strategic surprise, a few months is not sufficient warning time to arrange the delicate political conversations that would be necessary regarding what forces and capabilities various nations would contribute, let alone to address the sensitive topic of political and legal constraints. Developing a common understanding of capabilities, national caveats, and strategic and operational preferences well in advance is essential to strengthening deterrence and developing coalition strategies that account for the preferences and mandates of allies and partners.

##### *Move beyond thinking about how to defeat a rapid invasion.*

China's envisioned quick invasion of Taiwan currently dominates thinking in the department about how a conflict with China over Taiwan could unfold. Planners should begin considering how to fight a protracted war, and how to make the subsequent investments and changes that the department would need to facilitate long-term operations and favorable war termination. Such changes may include focusing on contested logistics, including munitions stockpiles, spare parts, and fuel, so that the United States can project a sustained amount of combat power beyond the first few days or weeks of a war.<sup>27</sup> The department needs to also consider how to get supplies and weapons to support Taiwanese defenders.

##### *Explore the risks of escalation in the context of a war with China to anticipate, prevent, and manage escalation.*

China is on its way to becoming a nuclear great power. Beijing is significantly expanding the size of its nuclear arsenal and developing a triad of nuclear delivery systems. With these enhanced capabilities, China may be more willing to undertake conventional aggression and brandish or use its nuclear weapons to deter outside intervention. The Pentagon must bolster its conventional forces to strengthen deterrence, but it also needs to be mindful of the risks of inadvertent escalation and take steps to manage it during a crisis and war.

## For the U.S. Congress

*Enable key improvements through the Pacific Deterrence Initiative (PDI).*

Congress has a key role to play in PDI oversight, which means it should ensure that DoD funding is going to priority efforts—including those mentioned here—such as improving posture and munitions stockpiles in the Indo-Pacific. Congress has the remit to improve PDI requests and redirect funds to priority efforts and capabilities. Should the DoD not budget for activities and investments that truly strengthen deterrence, it is incumbent upon Congress to ensure that resources are directed to those that do. A focal point of PDI should be making improvements to base infrastructure and investments in supporting equipment and personnel, so that U.S. forces can conduct distributed operations. If these investments are not made and Chinese missile attacks can concentrate on a handful of bases, U.S. forces could be knocked out in the opening blow.

*Help shape Taiwan’s military development.*

Congress has an oversight role for U.S. arms sales, including both foreign military sales (FMS) and foreign military financing (FMF). It should encourage all FMS and FMF to Taiwan to align with the capabilities and training that Taipei truly requires to repel a Chinese invasion.

## For Taiwan

*Improve defensive capabilities by investing more resources in asymmetric, resilient, and, in some cases, attritable systems.*

This requires a shift away from the country’s current acquisition approach, which emphasizes large surface ships and manned aircraft. In particular, Taiwan should acquire mobile air defenses, additional anti-ship and coastal defense cruise missiles, sea and land mines, artillery, anti-tank guided munitions, loitering munitions, and unmanned aerial vehicles. Taipei has made some strides in these areas, but this scenario posited more changes than are currently planned to Taiwan’s defense posture and operations.

*Invest in military training for asymmetric defensive operations against a capable adversary.*

Taipei must couple its acquisitions with improved training for Taiwan’s armed forces to enable them to effectively use these weapons and operate while under attack. Training efforts should extend to Taiwan’s reserve forces to improve their military effectiveness, which was higher in the game than current levels of readiness suggest.

*Stockpile critical supplies, so that it is prepared to mount a strong and sustained defense against a Chinese invasion.*

Because resupply would be difficult during an open conflict, Taiwan should store stocks of critical provisions that it would need to fight a long war. These should include civilian materiel such as medicines and fuel, as well as weapons.

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