



Professional Knowledge Book

Class of 2018

AN INTRODUCTION TO THE U.S. NAVY
AND MARINE CORPS

NAME _____ ALPHA _____ CO _____



UNITED STATES NAVAL ACADEMY

Duty.... Honor.... Loyalty....

CHARACTER DEVELOPMENT AND TRAINING

2014-2015 EDITION

Class of 2018,

The Navy Warfare pins and Marine Eagle, Globe, and Anchor on the cover of this Professional Knowledge Book (Pro-Book) represent the service assignments for the Class of 2014. They are in order from top to bottom in relation to the number of Ensigns and Second Lieutenants who were assigned to each community/service.

Regardless of which one you are assigned in the fall of 2017, there is a core professional knowledge that you are required to attain prior to receiving a commission as a basically trained Navy or Marine Corps Officer from the U.S. Naval Academy. The Midshipmen Training Program (MTP) is a primary means of accomplishing that requirement.

The MTP consists of six basic components: Midshipmen Qualification Standards (MQS), References, Instruction Periods, Professional Quizzes and an Exam (Pro-Quiz and Pro-Exam), Professional Competency Boards (PCB), and Professional Competency Assessments (PCA).

1. MQS are books that are divided by class year (4/C, 3/C, 2/C, and 1/C) and contain your learning objectives. Yours is in the back of this Pro-Book.
2. References are used to acquire the knowledge necessary to complete the MQS. They include this Pro-Book, websites listed in each MQS, and files posted at <http://intranet.usna.edu/Training/Professional%20Knowledge%20References.php>.
3. Instruction will be provided during come-arounds and other instruction periods/opportunities. This is your time to show that you have mastered the learning objectives. Instruction Periods are led by designated midshipmen & officer and enlisted staff members.
4. Pro-Quizzes are administered to 4/C Midshipmen weekly to assess comprehension of the applicable learning objectives of this foundational material. A Pro-Exam is administered to 4/C Midshipmen at the end of the fall semester as a mid-point evaluation for the year.
5. PCBs are oral boards administered to 4/C Midshipmen in the spring to objectively assess their comprehension of all learning objectives.
6. PCAs are multiple choice/short answer exams administered to 1/C Midshipmen in the fall and 3/2/C Midshipmen in the spring to objectively assess cumulative comprehension of the learning objectives.

The MTP is managed by the Character Development and Training Division (CD&T). It is part of a training continuum that includes the Career Information Program (CIP) managed by the Professional Development (PRODEV) Division, and Core Courses taught by PRODEV and the Leadership Education and Development (LEAD) Division. This continuum is intended to:

- Prepare you for each summer's training events
- Enable you to make informed choices regarding your preferences for service assignment
- Prepare you to be a junior officer

As you move forward during this year, take pride in your growing knowledge and understanding of the Naval Service. Take advantage of this opportunity and it will contribute to your success here at the academy, and more importantly in the Fleet.

CDR J.J. Dantone
Training Officer
USNA

4/C PROFESSIONAL TRAINING SCHEDULE

Week	Training Dates	Professional Topic	Pages
1	18Aug – 22Aug	Financial Literacy	5-10
2	25Aug – 29Aug	Military Courtesies, Customs, and Ceremonies & USNA Notable Graduates	11-21
3	*02Sep – 05Sep	Military Uniforms	22-24
4	08Sep – 12Sep	United States Navy History	25-32
5	15Sep – 19Sep	Mission and Organization of the Navy	33-37
	22Sep – 26Sep	ACADEMIC RESERVE PERIOD	
6	29Sep – 03Oct	Operational Mission Areas, Warfare Communities, and the Current Maritime Strategy	38-40
7	06Oct – 10Oct	Naval Air Warfare	41-48
8	*14Oct – 17Oct	Naval Air Warfare Platforms	49-58
9	20Oct – 24Oct	Surface Warfare	59-67
	27Oct – 31Oct	ACADEMIC RESERVE PERIOD	
10	03Nov – 07Nov	Undersea Warfare	68-76
	*10Nov – 14Nov 17Nov – 20Nov	REVIEW WEEKS	
	21Nov	MID-YEAR Pro-Exam	
11	05Jan – 09Jan	Naval Special Warfare	77-84
12	12Jan – 16Jan	Explosive Ordnance Disposal (EOD)	85-91
13	*20Jan – 23Jan	Restricted Line, Staff Corps, Limited Duty, and Chief Warrant Officers	92-95
14	26Jan – 30Jan	Information Dominance Corps (IDC)	96-102
15	02Feb – 06Feb	USMC History and Traditions	103-110
	09Feb – 13Feb	ACADEMIC RESERVE PERIOD	
16	*17Feb – 20Feb	USMC Mission, Enduring Principles, and Organization	111-120
17	23Feb – 27Feb	USMC Weapons and Platforms	121-133
18	02Mar – 06Mar	Current Global Challenges	134-143
19	09Mar – 13Mar	U.S. Navy Enlisted Personnel	144-147
	14Mar – 22Mar	SPRING BREAK	
	23Mar – 27Mar	3/C Cruise Preparation	
	30Mar – 03Apr 06Apr – 10Apr	REVIEW WEEKS	
	13Apr – 17Apr	PROFESSIONAL COMPETENCY BOARDS	

Notes:

1. MQS will be distributed during the Fall Reform.
2. Respective MQS learning objectives must be signed off in full prior to a plebe taking a quiz, exam, or board.
3. The Brigade Training Staff shall develop questions for all Pro-Quizzes, the Pro-Exam, and the Professional Competency Boards using only the MQS learning objectives.
4. Come-arounds should focus on instructing and evaluating plebes with an emphasis on preparation for Pro-Quizzes, the Pro-Exam, and PCBs.
5. Come-arounds shall be conducted daily during the week using designated Instruction Periods listed in the Battle Rhythm contained in the Midshipmen Regulations (MIDREGS). They may only be scheduled outside of these periods if a scheduling conflict arises for an upper class midshipmen or the plebe.
6. Pro-Quizzes and the Pro-Exam shall be completed on Fridays between 1900 and 2000 in accordance with the MIDREGS Battle Rhythm. **Plebes on an approved Movement Order (MO) during this time should complete the quiz or exam between 1900 and 2000 on the Sunday that immediately follows.**

*Dates with an asterisk in the chart above denote holiday shortened weeks.

PRO-QUIZ AND EXAM QUESTION TYPES AND GRADING CRITERIA

QUESTION TYPE	GRADING CRITERIA
<u>MULTIPLE CHOICE</u>	CORRECT per the key – Full credit INCORRECT – No credit
<u>TRUE OR FALSE</u>	CORRECT per the key – Full credit INCORRECT – No credit
<u>FILL IN THE BLANK</u>	CORRECT per the key – Full credit INCORRECT – No credit
<u>LIST</u>	Each answer in the list should be correct per the key (i.e., verbatim). Credit awarded for each correct item in the list.
<u>LIST AND DESCRIBE</u>	Each answer in the list should be correct per the key (i.e., verbatim). Credit awarded for each correct item in the list. Incorrect, incomplete, or no description results in no credit for that item.
<u>STATE VERBATIM</u>	CORRECT per the key – Full credit INCORRECT – No credit
<u>STATE BRIEFLY</u>	CORRECT per they key – Full credit (does not need to be verbatim) Grader should assign credit based on the midshipman's demonstrated understanding.

Notes:

1. The Pro-Quizzes and Pro-Exam are written by the Brigade Training Staff and reviewed by the 4/C Training Officer.
2. Each Pro-Quiz shall consist of no more than 20 questions.
3. The Pro-Exam shall consist of 30 questions.
4. Passing is 70%.
5. There are no-retakes for Pro-Quizzes.

WEEK 1: FINANCIAL LITERACY

Financial literacy is an extremely important matter here the U.S. Naval Academy. LTJG Nathaniel Lopez is the USNA Midshipmen Financial Advisor. His mission is to provide financial guidance and information to the Brigade of Midshipmen. It is important that every Midshipman attending USNA learns about personal finance and the Midshipmen pay system to gain control of their finances. While attending USNA over the next 4 years, Midshipmen will earn a minimum of \$14,600 of take-home pay (after deductions) through the Midshipmen stipend (explained in Section I). Additionally, at the end of their 3/C year they will be offered the Career Starter Loan of up to \$36,000. Therefore, knowledge of personal finance and the Midshipmen pay system is vital for Midshipmen to make educated financial decisions. As future leaders, financial literacy is not only essential to make smart financial choices, but to help guide those Sailors/Marines who may find themselves in financial need.

I. Understanding the Midshipmen Pay System

The Midshipmen stipend (pay/allowances) is appropriated for Midshipmen to be outfitted and to financially fulfill military and academic responsibilities while at the Naval Academy. Congress establishes the Midshipmen stipend at ***35% of the base pay rate of an O-1 with under two years of service***. The stipend for the calendar year 2014 is \$1,017 per month. After the following deductions; Taxes, Social Security, Medicare, Service Member Group Life Insurance (SGLI), Personal Deductions, Advance for Clothing and Equipment (ACE) Loan repayment, etc., a standard **monthly pay amounts released to Midshipmen is:**

- \$100 for 4/C MIDN (\$1,200 per year)
- \$200 for 3/C MIDN (\$2,400 per year)
- \$300 for 2/C MIDN (\$3,600 per year)
- 1/C MIDN pay ranges from approx. \$430-\$805 (\$7,405.00 per year average)

NOTE: Remaining net pay after deductions and monthly released pay for 4/C through 2/C is distributed into a members “Held Pay” (See section 1.e).

There are many factors associated with the Midshipmen pay system. Not only do Midshipmen need to understand how much they are receiving per month, but where to access the money, how to read their Leave and Earnings Statement, and to overall understand the Midshipmen pay system. The following terminology will help better understand this system:

- **MyPay (<https://mypay.dfas.mil/mypay.aspx>.)**: is an online pay account management system that was created and maintained by the **Defense Finance and Accounting Service (DFAS)**. It provides paycheck and tax information for military members, retirees, annuitants, and numerous federal civilian employees. This is where you, as a Midshipman, will be able to view your Earning Statements. You must log in/change your password at least ***once every 60 days*** to avoid being locked out of your MyPay account. To avoid such hassle, make it a habit to view your account once per month.
- **Leave and Earnings Statement (LES)**: The LES is a comprehensive statement of a member's leave and earnings showing your entitlements, deductions, leave information, and tax withholding information. Leave and Earning Statements are available through the MyPay website for all Midshipmen. ***It is the responsibility of the Midshipman to monitor their pay, identify pay issues as quickly as possible, and report findings to the Disbursing Office.***
- **Advance for Clothing and Equipment (ACE) Loan**: The ACE loan is an interest free government loan established by Congress to provide funding for mandatory clothing and equipment costs incurred by Midshipmen. The estimated average of a Midshipman's gear issue and purchases, over the four years is approximately \$17,500. ***Midshipmen may apply outside funding that is intended to subsidize educational expenses to the repayment of their ACE loans***

- and future uniform and textbook issues.* Authorized funds include personal checks, public and private scholarships, and college savings plans such as state 529 plans.
- **Pay Day:** Midshipmen are paid once per month at the beginning of each month for the *previous month's work*. For example, Midshipmen will receive a paycheck on 1 September for the month of August. This pay is considered "August pay" even though the payment is received in the month of September.
 - **Held Pay:** In order to ensure sufficient funds are available in Midshipmen accounts to meet mandatory issue requirements, not all pay is released into monthly paychecks. Any excess money that accumulates in pay accounts is 'Held' from one month to the next and allowed to accumulate in order to cover future issue requirements. The release of held pay into monthly paychecks takes place in July and December in order to provide Midshipmen with extra income at the beginning of each semester for uniform replacement or textbook costs. These payments are called "Semester Utility Pay." Semester Utility Pay does not apply to 1/C Midshipmen since they are receiving standard net pay.
 - **Taxes:** Midshipmen pay is subject to Federal Income Tax Withholding (FITW), Federal Insurance Contribution Act withholding (FICA), and in most cases, State Income Tax Withholding (SITW). Federal and State income tax is withheld based on the following defaults:
 - Marital status: Single
 - Number of exemptions: 01
 - State of legal residence: As declared in Permit to Report; if not declared, Maryland
 - **Servicemember Group Life Insurance (SGLI):** SGLI is provided by the Veteran's Association to all service members at a monthly rate of 6.5 cents per \$1,000 of coverage. All Midshipmen are given the maximum coverage of \$400,000 as default coverage. Midshipmen can elect to reduce their coverage in increments of \$50,000. To change SGLI coverage amounts visit the Midshipmen Personnel Office in Bancroft Hall 4001.
 - **Naval Academy Business Services Division (NABSD):** NABSD is the retail arm of the Naval Academy that operates all retail services on the Yard, including the Midshipmen Store, Uniform Store, and Textbook Store. In addition, NABSD provides Midshipmen with a no-interest credit card known as the "Midstore card" for use at the Midshipmen, Uniform, and Textbook Stores. Remember, *the more you charge on your Midstore card, the less Held pay you will be entitled to*; as it will be used to pay off the Midstore card balance.
 - **Charitable Allotments:** Midshipmen are authorized to contribute to two charitable organizations through allotments from their pay: Combined Federal Campaign (CFC), and Navy Marine Corps Relief Society (NMCRS). Allotments are deducted from January through March for CFC and from April through June for NMCRS. Allotment values must be divisible by three as they will be split between three months. For example, a Midshipman who donates \$12.00 to CFC will see a CFC allotment of \$4.00 on each of his/her January, February, and March LES's.
 - **Travel Reimbursement:** Midshipmen are reimbursed for travel performed under official orders. This includes travel to the Naval Academy when inducted, travel to/from summer cruises, and other official travel.
 - **Commuted rations (COMRATS):** It is earned at the daily ration rate (\$11.85 per day for 2014) when Midshipmen are on authorized status away from USNA, specifically, leave periods like Summer Leave, Thanksgiving, Christmas, and Spring Break. COMRATS are not taxable.

II. Personal Finance

Financial Tools

A 'Financial Tool' is thought of a metaphor to help you achieve your financial goals. Just like any other tool, it is important to *learn how to 'use' them, and not 'abuse' them* (furthered explained in Section 2). For example, financial tools like Budgets (explained in Section 2), Financial Advisors, and government organizations like the Servicemen Civil Relief Act (SCRA) (explained in Section 4) can help you gain better control of your finances. The following are other types of financial tools available only through Banks/Brokers:

- **Checking account**: A transactional deposit account held at a financial institution that allows for withdrawals and deposits. Money held in a checking account is very liquid, and can be withdrawn using checks, automated cash machines and electronic debits, among other methods.
- **Savings account**: A deposit account held at a bank or other financial institution that provides principal security and a modest interest rate. Depending on the specific type of savings account, the account holder may not be able to write checks from the account and is likely to have a limited number of free transfers/transactions.
- **Money Market account**: An interest-bearing account that typically pays a higher interest rate than a savings account, and which provides the account holder with limited check-writing ability. Similar to the interest earned on checking and savings accounts, the interest earned on a money market account is taxable.
- **Certificates of Deposit (CD)**: A savings certificate entitling the bearer to receive interest. A CD bears a maturity date, a specified fixed interest rate and can be issued in any denomination. CDs are generally issued by commercial banks and are insured by the FDIC. The term of a CD generally ranges from one month to five years.
- **Bonds**: A debt investment in which an investor loans money to an entity (corporate or governmental) that borrows the funds for a defined period of time at a fixed interest rate. Bonds are used by companies, municipalities, states and U.S. and foreign governments to finance a variety of projects and activities.
- **Mutual Funds**: An investment vehicle that is made up of a pool of funds collected from many investors for the purpose of investing in securities such as stocks, bonds, money market instruments and similar assets. Mutual funds are operated by money managers, who invest the fund's capital and attempt to produce capital gains and income for the fund's investors.
- **Exchange Traded Funds (ETF's)**: A security that tracks an index, a commodity or a basket of assets like an index fund, but trades like a stock on an exchange. ETFs experience price changes throughout the day as they are bought and sold.
- **Stocks**: A type of security that signifies ownership in a corporation and represents a claim on part of the corporation's assets and earnings. There are two main types of stock: common and preferred. Common stock usually entitles the owner to vote at shareholders' meetings and to receive dividends. Preferred stock generally does not have voting rights, but has a higher claim on assets and earnings than the common shares.
- **Individual Retirement Accounts (IRA)**: An investing tool used by individuals to earn and earmark funds for retirement savings. Traditional and Roth IRAs are established by individual taxpayers. Contributions to the Traditional IRA may be tax deductible and Roth IRA contributions are not. *After age 59 ½ withdrawals* from a Traditional are taxed and withdrawals from a Roth IRA are tax-exempt.
- **Credit Cards**: A card issued by a financial company giving the holder an option to borrow funds, usually at point of sale. Credit cards charge interest and are primarily used for short-term financing. Interest usually begins one month after a purchase is made and borrowing limits are pre-set according to the individual's credit rating. NOTE: Credit Cards are a financial tool. As previously mentioned, It's a matter of learning how to 'Use' the tool and not 'Abuse' the tool (Section 2 will discuss how to avoid the 'Abuse' of Credit Cards).
- **Loans**: The act of giving money, property or other material goods to another party in exchange for future repayment of the principal amount along with interest or other finance charges. A loan may be for a specific, one-time amount or can be available as open-ended credit up to a specified ceiling amount.

Money Habits

The definition of a habit is *an acquired behavior pattern regularly followed until it has become almost involuntary*. Therefore, when it comes to finances, you can either develop Good Money Habits or Bad Money Habits. Carrying debt on a credit card, for example, is a Bad Money Habit where you are 'abusing' the financial tool (not paying back). As a student, it is much easier to steer towards the Bad Money Habits. The reason is that you may get complacent when you don't have a significant money worries like paying a mortgage or having dependents (Spouse, children, etc.). Also, by having a limited income, if you

don't track your money habits carefully, it's easy to waste money on things that you could otherwise save. Below you will find some of the most common money habits you should acquire or avoid:

- **Good Money Habits (Acquire)**

- **Budgeting:** A budget is an estimation of the revenue and expenses over a specified future period of time. It will allow you to analyze your spending and realize whether you are overspending on one or multiple categories (Clothing, Food, Entertainment, etc...). Remember, overspending on unnecessary personal expenses will keep you from saving money.
- **Saving:** A good 'Rule of Thumb' is to save at least **20% of your monthly income**. It's best if you set money aside for saving before spending. A good way of doing this is by setting up a monthly automatic transfer, within your Bank, to your savings account on the first of every month.
- **Spending within your means:** Ensure that your spending does not exceed your income in order to avoid borrowing money (credit cards, loans, roommates, etc.) and exceeding your personal budget.
- **Not carry a Credit Card Balance:** Carrying debt, specifically **25% or more of your credit card limit**, can count against you on your Credit Report and lower your credit score. A good Rule of Thumb is to pay off the balance every month to not carry debt. This will build a good credit history on your Credit Report.
- **Save for Retirement:** One of the best financial decisions you can make at a young age is to sign up for a Roth Individual Retirement Account (IRA). The sooner you open a Roth IRA account, the longer you have compound interest working for this tax-exempt account (cannot be touched until **age 59 ½** for it to be tax free). These IRA accounts can be opened through most Banks, including Navy Federal Credit Union or USAA.

- **Bad Money Habits (Avoid):**

- **Lack of Budgeting:** Not having a budget can at times, involuntarily, have you live 'paycheck to paycheck,' especially when your income is limited. Creating a budget doesn't take long and can help you avoid living paycheck to paycheck. If you take the time to analyze your income and where you're spending your money, you can have a better idea of where your money is going and where you can cut back.
- **Not Saving money:** Not saving your money may discourage you from developing money management skills and therefore keep you away from developing Good Money Habits.
- **Living Above your means:** It is self-explanatory. If you find yourself buying items that exceed well above your income, you are most likely charging your credit cards or borrowing money. Habits like such will only dig you in an unpleasant financial situation that can take years to pay back.
- **Maxed out Credit Cards:** As discussed in the previous section, having credit cards maxed to their limit reflects against your Credit Score.

Assets vs. Liabilities

As previously mentioned in Section 2, budgeting allows you analyze your spending and keep you from overspending. However, in order to budget, you must understand the difference between your Assets and Liabilities, also known as your Cash flow:

- **Assets:** In simple terms, assets are anything that generate an income or put money in your pocket. For example, ordinary income, stocks, mutual funds, real estate, etc.
- **Liabilities:** The opposite of assets, anything takes money out of your pocket. For example, taxes, bills, entertainment, clothing, etc.

Your goal should always be to own as many Assets and avoid too many Liabilities. Again, the idea is to have your Cash flow in the positive (saving money), and not negative (living above your means). You can find a Midshipman budget spread sheet the Midshipmen Financial Advisor website:
<http://intranet.usna.edu/FinancialAdvisor/budgeting.php>.

Interest

Interest is expressed as *the charge for the privilege of borrowing or lending money, typically expressed as an Annual Percentage Rate (APR)*. If you are borrowing from a Credit Card you need to understand how much interest you are paying. Likewise, if you are lending, understand how much interest you are making. **The higher the interest, the more money you pay or make. There are two types of Interests:**

- **Compound Interest:** Compound interest is charged on the amount borrowed or lent plus the interest it has accrued. Therefore, compound interest can be thought of as “interest on interest/amount,” and will make your debt or investment grow at a faster rate than simple interest would.
- **Simple Interest:** Simple interest does not compound, it is only charged on the amount borrowed or lent.

Government Assistance on Interest: When borrowing through Credit Cards or Loan, Banks use compound interest in order to make more money off of you. But most importantly, there are financial predators such as ‘Payday Loans’ that one must be wary about. As a result, the Government has created an organization known as the Service members Civil Relief Act (SCRA). The primary purpose of the SCRA is to ease legal and financial burdens on military personnel and their families. Therefore, in terms of interest, ***you can reduce or cap interest rates on any credit card, mortgage, or other loan you acquired before you entered the military to 6% per year*** for the period you remain on active duty.

Credit Reports

Your Credit Report is a detailed report of an individual's credit history prepared by a credit bureau and used by a lender to in determining a loan applicant's creditworthiness. Your Credit Report is composed of credit history such as credit card, loans, previous or current home addresses, number of late payments, Bankruptcy, accounts on default, etc. Here are important facts you need to understand about Credit Reports:

- **How to obtain it:** You can either pay for the Credit Report through well trusted websites like myfico.com or receive a free Credit Report through annualcreditreport.com (it only includes the Report, but does not show you a Score).
- **Three different Credit Agencies:** The 3 different Credit Agencies are Experian, Equifax and Transunion. They should all correlate with each other in terms of information/history on your Credit Report. However, it is your job to ensure they all have the same information as ***you are your only auditor*** when it comes to your Credit Report.
- **Credit Score:** a three-digit number (ranges from 300-850) that tells creditors how likely you are to pay back the money you want to borrow. Here is a breakdown how creditors view you based on your Credit Score range:
 - ***<630: Bad credit***
 - ***630-689: Fair credit***
 - ***690-719: Good credit***
 - ***720-850: Excellent***

Remember, ***the lower your credit score, the riskier you appear to lenders***. Hence, a lower credit score will qualify you for a higher the interest, meaning you will be charged more to borrow money. Credit scores are also used more and more by potential employers, landlords, utility companies and others. ***The U.S. Navy may use your Credit Score and Report to determine the type of Security Clearance you may obtain***. Remember, if your credit score looks bad, you look bad.

- **Fraud on your Credit Report:** If you notice suspicious information that does not pertain to you, contact one of the credit reporting agencies immediately:
 - Equifax: www.equifax.com, 1-888-766-0008
 - Experian: www.experian.com, 1-888-397-3742
 - TransUnion: www.transunion.com, 1-800-680-7289

Once you contact them, explain with details the situation and ask that a “**fraud alert**” be placed in your file. If after the investigation they determine that you were a victim of fraud, the information will be disputed from your Credit Report.

III. USNA Financial Points of Contact

Should you have any financial questions/concerns please reach out to the following people:

For Midshipmen Pay related questions (Section I), contact:

Midshipmen Disbursing Officer
LT Nicholas Deschamps, SC, USN
410-293-3307
Bancroft Hall 4002

For Financial Advice on Personal Finance (Section II), contact:

Midshipmen Financial Advisor
LTJG Nathaniel Lopez, SC, USN
410-293-7023
Bancroft Hall 3008
Make an appointment on the Intranet at:
<http://intranet.usna.edu/FinancialAdvisor/>

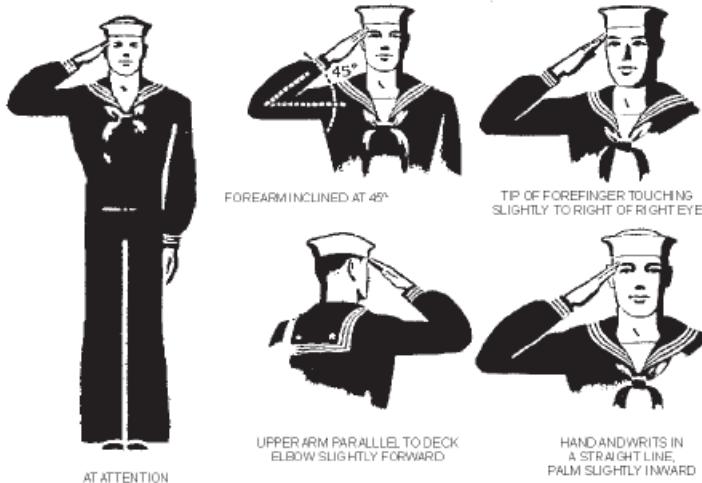
WEEK 2: MILITARY COURTESIES, CUSTOMS, AND CEREMONIES & USNA NOTABLE GRADUATES

I. Courtesies, Customs, and Ceremonies

Fleet Admiral Chester Nimitz, one of the key figures in the U.S. Navy's victory at sea in the Pacific during World War II, once said that "a naval ceremony should follow the long established rules for its execution carefully and exactly. Such attention to detail honors those who, long before us, established the ritual, and all those who, past, present, and future, take part in that ceremony."

There is no question that life in the Naval Service is a unique experience. Once you have been to sea, flown on naval air missions, or taken part in the many different things that Sailors and Marines the world over are doing every hour of every day, you will know from first-hand experience how different a job in the Naval Service can be from what your counterparts in civilian life are doing. It is only fitting, therefore, that we celebrate our uniqueness through special ceremonies and demonstrate our differences through special customs that remind us of our very different heritage.

II. Saluting



The Salute

- Salutes are customarily given with the right hand, but there are exceptions. If your right arm is injured in such a way as to prevent you from saluting, or if you are using your right hand for some military purpose, such as a Sailor holding and blowing a boatswain's pipe, then it is considered appropriate for you to salute with your left hand.
- Sailors and Marines must be covered if they are going to salute. Soldiers and Airman may salute uncovered. If you are in an office with several Soldiers or Airman, not saluting when appropriate would seem disrespectful, so you should do as those in the office do. This follows the old (and customary) saying, "When in Rome, do as the Romans do." If you encounter a senior officer who is not covered, and you are covered, you would still render a salute, even if the senior cannot return the salute.

How to Salute

- Salute from a position of attention if you are standing still.
- If you're walking, salute from an erect position.
- Face the person saluted, or if you're walking turn your head and eyes toward the person. If possible, look directly into the eyes of those you salute.
- Allow time for the person being saluted to see and return the salute; if both of you are walking, a distance of about six steps is about right.

- Hold the salute until the officer has returned or acknowledged it, then bring your hand smartly to your side.
- In most cases, a salute is accompanied by a verbal greeting. For example, when you meet an officer you know, you should accompany your salute with “Good morning Lieutenant Jones.” If you do not know the officer’s name, “Good morning ma’am” or Good morning sir” is appropriate.
- If on a double, slow to a walk when saluting.
- If you are carrying something in both hands and cannot render the hand salute, look at the officer as though you were saluting and render a verbal greeting as described below.
- If using a cell phone, pause, drop the phone to your side, stand at attention, and render the salute.

Whom to Salute

- Salute senior officers of all U.S. services and all allied foreign services. Officers in the U.S. Merchant Marine and Public Health Service wear uniforms that closely resemble Navy uniforms, and they too rate a salute. At USNA, all foreign military staff and faculty are officers.
- Salute senior officers who are close enough to be recognized whether they are wearing a uniform or civilian clothes.
- Salute the person standing an Officer of the Deck (OOD) watch no matter what their rank or rate. The same applies to anyone taking a division/detail muster.
- Salute senior officers even if they are uncovered or their hands are occupied. Your salute will be acknowledged by a verbal greeting.
- If you are walking with or standing by a senior officer, do so on his/her left side. If the occasion for a salute arises, salute when the officer salutes, not before. This is the case whether he/she is saluting a junior or a senior officer.
- If you are standing in a group and a senior officer approaches, the first to see the senior should call “Attention,” and all face the officer and salute.
- If you are overtaking a senior officer and it becomes necessary to pass, you should do so to the left, salute when abreast of the officer, and ask, “By your leave, sir/ma’am?” The officer should reply “Very well,” and return the salute.
- If you are at a crowded gathering or in a congested area, you normally salute only when addressing or being addressed by senior officers.
- Because you’re in uniform, young children or military retirees may salute you. Return the salute.
- When in doubt, salute. If you salute someone who does not rate a salute, you may cause yourself some slight embarrassment by appearing less informed than you should be. But if you fail to salute someone who does rate one, you appear to be unmilitary, discourteous, and a shirker. No one ever got into trouble for saluting when it was not expected.

When not to Salute

- In formation. The person in charge will salute for you or, in some cases, will give the order for you and others in the formation to salute. You are relieved of any responsibility to salute on your own when in formation.
- When engaged in work and saluting would interfere with what you are doing. If you are part of a work detail, the person in charge of the detail will salute for the entire group.
- In public places where saluting is obviously inappropriate (such as on a bus or while standing in line at a theater). A verbal greeting is appropriate.
- When eating. If you are addressed by a senior officer, you should stop eating and sit at attention until the officer has departed. Courtesy dictates that the senior officer will keep the interruption brief.
- In combat or simulated combat conditions.

III. The Address

Officers

- Officers are always addressed and referred to by their title or rank, such as admiral, captain, or commander.

- By tradition, the commanding officer of any ship or station, no matter what his/her rank, is addressed and referred to as “Captain.”
- An officer in the medical or dental corps is addressed and referred to by rank or as “Doctor.”
- A chaplain may be called “Chaplain” no matter what the rank.

Enlisted Personnel

- A chief petty officer is addressed as “Chief Petty Officer Smith,” or more informally as “Chief Smith” or “Chief.”
- Master and senior chief petty officers are customarily addressed and referred to as “Master Chief Smith,” “Senior Chief Smith,” “Master Chief,” or “Senior Chief.”
- Other petty officers are addressed and referred to by their specific rates. For example, you would address GM2 Johnson as “Gunner’s Mate Second Class Johnson,” “Petty Officer Second Class Johnson,” or “Petty Officer Johnson.”
- Nonrated personnel – those in paygrades E-1 through E-3 – are addressed and referred to as “Seaman Johnson” or “Fireman Apprentice Johnson” and can be referred to by their last names only in informal situations.
- Enlisted Marines are addressed using their full rank such as “Staff Sergeant Smith” or “Master Sergeant Jones” – their rank is never shortened to just “Sergeant Smith” if they are an E-6 or above.

III. Colors

The first official salute of the American flag by a foreign government took place 14 February 1778 when a Navy ship, the sloop-of-war *Ranger* under the command of Captain John Paul Jones, exchanged salutes with the French ship *Robuste*, in Quiberon Bay on the Atlantic coast of France.

Showing respect to the American flag is probably not new to you. In school, or perhaps in a scout troop, you may have recited the pledge of allegiance. You have probably been to a sporting event where the national anthem was played and everyone in the stadium stood as a mark of respect. The American flag is, in truth, a piece of colored cloth, but what it represents causes us to want to show respect for it.

Many customs and ceremonies are associated with the national ensign. The ceremonies of hoisting (raising) it at 0800 in the morning and lowering it at sunset are called morning colors and evening colors, respectively. These ceremonies take place every day on every Navy and Marine Corps shore station in the world. Ships at sea do not observe either of these formal ceremonies, but ships in port – whether moored to a pier or anchored offshore – do observe both. Aboard ships, the ceremonies have an added factor in that a flag known as the union jack is also hoisted and taken down at the same time as the national ensign. The union jack is always hoisted on a pole called a “jackstaff” at the bow (front end) of the ship, while the national ensign is always hoisted onto a pole called a “flagstaff” at the stern (back end) of the ship.

Morning Colors

- “First call to colors” is sounded precisely at 0755. Most often this is a special bugle call. An alternative is for the Officer of the Deck (OOD) to pass the word “first call to colors” over the general announcing system (1MC). On ships, a special yellow and green pennant called the PREP (or “preparative”) pennant will be hoisted to the yardarm.
- “Attention” is sounded precisely at 0800. While the colors (flags) are being briskly hoisted, the national anthem is played, “To the colors” is played by bugle, or there is silence. On ships, the PREP pennant will be hauled to the dip (lowered to the halfway point) and remain there until the ceremony is completed.
- During colors everyone within sight or hearing renders honors. If you are outside, stop doing what it is you are doing when “Attention” is sounded, face the colors or the direction from which you heard “Attention”, salute when the national anthem or “To the colors” starts, and drop the salute when it stops. If there is no national anthem or “To the colors” (e.g., silence), salute at “Attention” and hold it until you hear “Carry on.” If you are in ranks, follow the orders of the person in charge of the formation. If you are not in uniform, stand at attention. If you are driving a vehicle, stop and sit at attention.

- Once “Carry on” has been signaled, resume what you were doing before the color ceremony.

Evening Colors

- Sunset is the time for evening colors in the Navy. The exact time of sunset changes (ranging anywhere from 1700 to 2100) depending on your latitude and the time of year but will be published each day in the Plan of Day (POD) of your ship or station.
- Five minutes before sunset, “First call to colors” is sounded just as in the morning and, if you are aboard a ship, the PREP pennant will again be raised to the yardarm.
- At sunset, the colors ceremony begins when “Attention” is sounded on a bugle or when a whistle is blown. PREP is hauled to the dip just as in the morning and the procedures for standing at attention and saluting are the same as in the morning.
- While the national ensign is being lowered, the bugler (or a recording) will play “Retreat” (instead of “To the Colors,” as is played in the morning). Another difference in the two ceremonies is that as morning colors the national ensign is hauled up smartly (briskly), while at evening colors it hauled down slowly and ceremoniously.
- “Carry on” will signal the end of the ceremony just as in the morning.
- Salutes are rendered in the same manner as for Morning Colors.

Half-Masting the National Ensign

- If the ensign is flying when the word is received that the ensign is to be half-masted, it should be immediately lowered.
- If the ensign is not already flying (for example, word is received during the night), morning colors will be held as normal except that after the ensign is hoisted all the way to the peak (top of the mast or flagstaff), it is then lowered to the half-mast position. In other words, it is not appropriate to merely hoist the colors directly to half-mast; the ensign must first be two-blocked (hoisted as far as it will go), then lowered to half-mast.
- The reverse is true in the evening. Before the national ensign can be brought down for the evening, it must first be ceremoniously two-blocked and then lowered all the way down.
- Aboard ship in port, anytime the national ensign is lowered to half-mast, so is the union jack.

Shifting Colors

- Another custom, far less formal than morning or evening colors, yet unique to the sea services, is what we call shifting colors.
- As already discussed, the national ensign is flown from the flagstaff at the stern and the union jack is flown from the jackstaff at the bow when a Navy ship is in port. But when a ship gets underway (no longer moored to a pier or anchored), the national ensign is flown from the gaff (a short angled pole that is higher up and toward the middle of the ship).
- When the last line is brought on board, or the anchor is lifted clear of the bottom of the harbor (aweight), a long whistle blast is blown over the ship’s 1MC by the Boatswain’s Mate of the Watch (BMOW) and the national ensign and union jack are taken down from the flagstaff and the jackstaff respectively. This is all done smartly while a different ensign is raised briskly to the gaff.
- When a ship returns from sea, the exact opposite procedure takes place as the first mooring line is passed to the pier or the anchor touches bottom.

Underway

- Ships at sea do not make morning or evening colors, but they do fly an ensign at the gaff from sunrise to sunset.

IV. Shipboard Customs

Ships have been plying the waters of the world for many centuries and this long history has resulted in many unique customs. By observing these special customs, you will be forming a special link with Sailors from the past and keeping alive traditions that, in some cases, are thousands of years old.

The Bridge

- When a ship is underway, the area known as the bridge serves as the control point for the vessel. A team of people will always be on watch serving the ship's special needs. The Officer of the Deck (OOD) heads that team and, serving as the captain's direct representative, is responsible for the safe navigation of the vessel and for carrying out the ship's routine.
- There is a formality associated with the bridge, and many ships require all non-watch personnel to request permission from the OOD to come on the bridge, accompanying their request with a salute. This is more than a mere tradition since it allows the OOD to control access to the bridge, ensuring the watch team is not inhibited in carrying out its important duties by having too many people in the way.
- Another custom that serves a useful purpose is the calling out "Captain is on the bridge" to alert the OOD and other watch personnel to the captain's presence. This is important since it is the OOD's responsibility to report significant happenings to the captain and since the captain's authority supersedes that of the OOD when he/she is on the bridge.

The Quarterdeck

- The quarterdeck in many ways replaces the bridge as the control point of the ship when the ship is not underway. The OOD shifts his/her watch from the bridge to the quarterdeck once the ship enters port, and until the ship gets underway again.
- The location of the quarterdeck will vary according to the type of ship. It serves as the point of entry for entry and exiting for the ship. Frequently it is marked off by appropriate lines, deck markings, decorative cartridge cases, or fancy work (nautical decorations made from pieces of line). The quarterdeck is always kept particularly clean and shipshape.
- Watchstanding on the quarterdeck must be in the uniform of the day and present a smart and military appearance at all times. Personnel not on watch should avoid the quarterdeck unless their work requires them to be in that area.
- Larger vessels, such as aircraft carriers, may have two or more entry/exit points, but only one is designated as the quarterdeck.

Boarding and Departing the Ship

- The OOD or the Junior Officer of the Deck (JOOD) will meet all persons leaving or boarding the ship. There are specific procedures to be followed by Navy personnel when boarding or departing.
- Because of security considerations, you will nearly always be expected to show your ID card to the OOD (or his/her representative) whenever you board a naval vessel, whether you are a member of the crew or not.
- If the ship is alongside a pier, you will use a "brow" (a walkway that bridges the gap between the pier and the ship) to come aboard. If the ship is anchored out in the water, you will of course ride in a boat to get to the ship, and to get from the water up to the ship's main deck you will use an "accommodation ladder" (a kind of stairwell that has been rigged over the side of the ship). The opening in the ship's rail where you actually board the ship (whether you are using a brow or accommodation ladder) is called the "gangway."
- At the gangway, you should turn and face aft (where the national is flying from the flagstaff), come to attention, and smartly salute if the ensign is flying (after 0800 and before sunset). The OOD will return your salute to the national ensign. On some larger ships, you will not be able to actually see the national ensign but you should salute anyway.
- After you have saluted the national ensign, turn and face the OOD (or his/her representative), salute, and say, "I request permission to come aboard, ma'am (or sir)." The OOD will return your salute and say, "Very well," or "Permission granted," and you should proceed. (*Note:* These salutes take place no matter what the ranks or rates of the individuals involved. If the OOD is a chief petty officer and the boarding individual is a commander, the latter will still salute the CPO, who, as OOD, represents the captain.)
- If you are not in uniform, you should not salute but still face aft at attention to honor the national ensign and then, still at attention, face the OOD and request permission to come aboard.

- If you are not a member of the crew of the ship you are boarding, you should state the reason for your visit when requesting permission to come aboard.
- The procedure for leaving a ship is much the same as boarding, except that the steps are reversed. Step up to the vicinity of the gangway, salute the OOD, and say, “I request permission to leave the ship, sir (or ma’am).” When the OOD says, “Very well,” or “Permission granted,” and returns your salute, drop your salute and step to the gangway. If the ensign is flying, face aft, salute smartly, and leave.

Officers' and CPO Country

- The area on board ship where officers eat (the wardroom) and sleep (staterooms), as well as the halls (passageways) surrounding these areas, is known as “officers’ country.” Correspondingly, the area where chief petty officers eat and sleep is known as “CPO country.”
- You should avoid these areas unless you are on official business. If your duties require you to enter a room in these spaces, you should knock before entering and remove your hat. Only watchstanders wearing a duty belt or sidearm remain covered, unless a meal is progress.
- The enlisted mess deck is treated with the same courtesy as the wardroom or chief’s mess.

Ship's Bells

- For many centuries, Sailors did not have the luxury of a personal time piece. If watches were to be relieved on time, some means of telling the time had to be devised. A system that used a half-hour sand-glass and the ship’s bell was created and used for hundreds of years.
- At the beginning of the watch, the sand-glass was turned over to start it running. As soon as it ran out, the watchstanders knew the first half-hour had passed, so they rang the ship’s bell once and immediately turned the sand-glass over to start the second half-hour. Everyone on board the ship could hear the bell being rung so they could keep track of the time. When the sand ran out the second time, the watchstanders rang the ship’s bell twice. They continue this until eight bells had been rung (representing the passage of four hours or one complete watch). The watch was then relieved, and the new watch team started the whole cycle over by ringing one bell once the first half-hour had passed, and so on.
- This bell-ringing tradition has been continued on board many Navy ships even though most Sailors always have a clock, watch, computer, or handheld device in sight. Here at USNA, this tradition has been continued with bells sounding from Mahan Hall. One bell signals the start of First Period with additional bells continuing throughout the day in half-hour intervals as previously described.

V. USNA Notable Graduates

The United States Naval Academy is an institution dedicated to producing officers of the highest caliber for the nation. We have been proud to have helped shape the lives of countless outstanding individuals. Below are just a few of the many USNA graduates who have emerged as leaders in both the military and civilian world.



Chester W. Nimitz
Class of 1905
Fleet Admiral/Chief of Naval Operations

Profile

Born in Fredericksburg, Texas, Nimitz graduated from the U.S. Naval Academy in 1905. He spent almost two decades in submarines, service punctuated by instruction in diesel engines, study at the Naval War College, and tours as executive officer of an oiler and a battleship. Nimitz then commanded heavy cruiser USS Augusta, flagship of the U.S. Pacific Fleet.

In 1939 he was assigned as Chief of the Bureau of Navigation. Following the Japanese attack on Pearl Harbor on 7 December 1941, the

Navy named Nimitz Commander in Chief, U.S. Pacific Fleet and soon afterward Commander in Chief, Pacific Ocean Areas. In recognition of his superior leadership of naval forces during the victorious three-year Pacific campaign, in December 1944 Congress promoted him to fleet admiral.

As Chief of Naval Operations at the dawn of the Cold War, Nimitz directed the forward deployment of naval forces to the Mediterranean and the Far East, worked to adapt the naval services to the joint requirements of the National Security Act of 1947, and promoted adoption of jet aircraft and other advanced technologies. In recognition of his accomplishments, the Navy named USS Nimitz (CVN-68), the first ship in a new class of nuclear-powered aircraft carriers, in his honor.



Alan B. Shepard, Jr.
Class of 1945
NASA Astronaut/1st American in space

Profile

Alan B. Shepard was born November 18, 1923, in East Derry, New Hampshire and died on July 21, 1998. He attended primary and secondary schools in East Derry and Derry, New Hampshire; received a Bachelor of Science degree from the United States Naval Academy in 1944, an Honorary Master of Arts degree from Dartmouth College in 1962, and Honorary Doctorate of Science from Miami University (Oxford, Ohio) in 1971, and an Honorary Doctorate of Humanities from Franklin Pierce College in 1972. Graduated Naval Test Pilot School in 1951; Naval War College, Newport, Rhode Island in 1957.

He was awarded the congressional Medal of Honor (Space), two NASA Distinguished Service Medals, the NASA Exceptional Service Medal, the Navy Astronaut Wings, the Navy Distinguished Service Medal, and the Navy Distinguished Flying Cross. He was a recipient of the Langley Medal (highest award of the Smithsonian Institution) on May 5, 1964, the Lambert Trophy, the Kinchloe Trophy, the Cabot Award, the Collier Trophy, the City of New York Gold Medal (1971), and the achievement Award for 1971. Shepard was appointed by the President in July 1971 as a delegate to the 26th United Nations General Assembly and served through the entire assembly which lasted from September to December 1971.

Rear Admiral Shepard was one of the Mercury astronauts named by NASA in April 1959, and he holds the distinction of being the first American to journey into space. On May 5, 1961, in the Freedom 7 spacecraft, he was launched by a Redstone vehicle on a ballistic trajectory suborbital flight—a flight which carried him to an altitude of 116 statute miles and to a landing point 302 statute miles down the Atlantic Missile Range.



James Earl "Jimmy" Carter
Class of 1947
39th President of the United States

Profile

James Earl (Jimmy) Carter, Jr., who in 1976 became the fifth consecutive President with prior Navy service, was born in Plains, Georgia on 1 October 1924. Graduating from Plains High School in 1941, he attended Georgia Southwestern College in Americus, Georgia. After a year there, Carter transferred to Georgia Institute of Technology to study mathematics for a year in order to qualify for the U.S. Naval Academy. In 1943, Carter received an appointment to the academy and became a member of the Class of 1947. After completing the accelerated wartime program, he graduated on 5 June 1946 with distinction and obtained his commission as ensign. After serving in positions such as radar officer, CIC officer, Training and Education Officer, he attended the U.S. Navy Submarine School, Submarine Base, New London, Connecticut from 14 June to 17 December 1948. Carter was honorably discharged on 9 October 1953 at Headquarters, Third Naval District in New York City. On 7 December 1961, he transferred to the retired reserve with the rank of Lieutenant at his own request.

In 1962 he won election to the Georgia Senate, became Georgia's 76th governor on January 12, 1971 and, on December 12, 1974, he announced his candidacy for president of the United States. He won his party's nomination on the first ballot at the 1976 Democratic National Convention, and was elected president on November 2, 1976. Jimmy Carter served as president from January 20, 1977 to January 20, 1981. In 1982, he became University Distinguished Professor at Emory University in Atlanta, Georgia. On December 10, 2002, the Norwegian Nobel Committee awarded the Nobel Peace Prize for 2002 to Mr. Carter "for his decades of untiring effort to find peaceful solutions to international conflicts, to advance democracy and human rights, and to promote economic and social development." In 2010, he published his 25th book, White House Diary.



James B. Stockdale

Class of 1947

Prisoner of War/Awarded the Congressional Medal of Honor

Profile

Admiral Stockdale was born on December 23, 1923 in Abingon, Illinois. After graduating from the Naval Academy in 1946, he attended flight training in Pensacola, FL and in 1954 was accepted to the Navy Test Pilot School where he served as an instructor for a brief time. Stockdale's flying career took him west, and in 1962 he earned a Master's Degree in International Relations from Stanford University.

On September 9, 1965 while returning from a mission, his A-4 Skyhawk was hit by anti-aircraft fire. Stockdale ejected, breaking a bone in his back and badly dislocating his knee. Stockdale wound up in Hoa Lo Prison, the infamous "Hanoi Hilton", where he spent the next seven years. Despite being kept in solitary confinement for four years, in leg irons for two years, physically tortured more than 15 times, denied medical care and malnourished, Stockdale organized a system of communication and developed a cohesive set of rules governing prisoner behavior.

The spring of 1969 he was told that he was to be taken "downtown" and paraded in front of foreign journalists. Stockdale slashed his scalp with a razor and beat himself in the face with a wooden stool knowing that his captors would not display a prisoner who was disfigured. Later, after discovering that some prisoners had died during torture, he slashed his wrists to demonstrate to his captors that he preferred death to submission. This act so convinced the Vietnamese of his determination to die rather than to cooperate that the Communists ceased the torture of American prisoners and gradually improved their treatment of POWs. He was released from prison in 1973. He was awarded the Congressional Medal of Honor by President Gerald Ford in 1976. He was one of the most highly decorated officers in the history of the Navy, wearing twenty six personal combat decorations, including two Distinguished Flying Crosses, three Distinguished Service Medals, two Purple Hearts, and four Silver Star medals in addition to the Medal of Honor. He was the only three star Admiral in the history of the Navy to wear both aviator wings and the Medal of Honor.

After serving as the President of the Naval War College, Stockdale retired from the Navy in 1978. He published a number of books and articles and was awarded eleven honorary doctoral degrees. In 1992 he agreed to the request from H. Ross Perot to stand in as the vice presidential candidate of the Reform Party. Upon his retirement in 1979, the Secretary of the Navy established the Vice Admiral Stockdale Award for the Inspirational Leadership presented annually in both the Pacific and Atlantic fleet. Admiral Stockdale was a member of the Navy's Carrier Hall of Fame and The National Aviation Hall of Fame, and he was an Honorary Fellow in the Society of Experimental Test Pilots.

**H. Ross Perot***Class of 1953*

Entrepreneur/Presidential Candidate

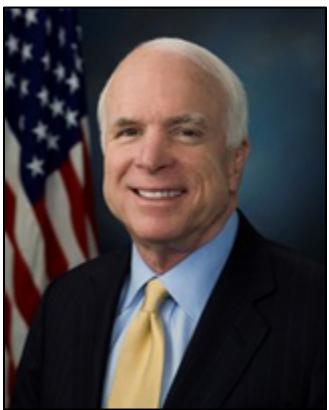
Profile

H. Ross Perot was born in 1930 in Texarkana, Texas. In 1957 he went to work for IBM as a salesman. He then founded Electronic Data Systems (EDS) in 1962, which he sold to General Motors in 1984.

In 1979 he funded an operation during the Iran hostage crisis that resulted in the rescue of two of EDS employees.

Concerned over the budget crisis, he ran for president as an independent with Vice Adm. James B. Stockdale in 1992. They won a fifth of the popular vote and finished third in the election. Following his defeat he formed the Reform Party and ran as their presidential candidate

in 1996, where he also came in third.

**John McCain***Class of 1958*

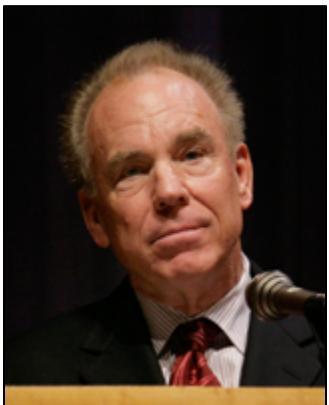
Prisoner of War/United States Senator

Profile

John Sidney McCain, III was born in Panama Canal Zone, August 29, 1936. He attended school in Alexandria, Va., and graduated from the United States Naval Academy in 1958. In 1973 he graduated from the National War College, Washington, D.C.

He was a pilot in the United States Navy from 1958 until 1981. From 1967 to 1973 he was a prisoner of war in Vietnam. He received numerous awards, including the Silver Star, Legion of Merit, Purple Heart, and Distinguished Flying Cross.

He was elected as a Republican in 1982 to the Ninety-eighth Congress (Arizona), reelected to the Ninety-ninth Congress in 1984 and served from January 3, 1983, to January 3, 1987. He was elected to the United States Senate in 1986, reelected in 1992, 1998, 2004, and again in 2010 for the term ending January 3, 2017. He was chair of the Committee on Indian Affairs, and on the Committee on Commerce, Science, and Transportation. He pursued the Republican presidential nomination for 2000, and ran (unsuccessfully) for President of the United State as the Republican nominee in 2008.

**Roger Staubach***Class of 1965*

Heisman Trophy Winner/Professional Football Player

Profile

As a midshipman, Roger Staubach was named recipient of college football's top honor, The Heisman Trophy. Staubach graduated from the Naval Academy in 1965 and went on to serve four years of active duty service in the Navy, with one year of overseas duty in Vietnam. Staubach played 11 years of professional football with the Dallas Cowboys and led the Cowboys to two Super Bowl victories. He was elected into the Hall of Fame in 1985, his first year of eligibility.

Outside of sports, in 1977 Staubach founded the Staubach Company; a commercial real estate firm that later merged with Jones Lang LaSalle

Incorporated in 2008. He was CEO of Staubach Company for a number of years and following the merger became Executive Chairman, Americas.

Roger Staubach was on the Board of Directors of the United Way of America and the Board of Advisors of the Children's Scholarship Fund. He played an active part in the American Cancer Society Annual

Children's Luncheon, and other civic, charitable and professional organizations. Honors bestowed on Roger include Office & Industrial Properties 1998 Executive of the Year, Commercial Property News Corporate Services Executive of the year both in 1999 & 2000, and was the NCAA 2000 "Teddy" Roosevelt Award Winner.



Wendy Lawrence

Class of 1981

Astronaut

Profile

Wendy Lawrence was born July 2, 1959, in Jacksonville, Florida. She graduated from Fort Hunt High School, Alexandria, Virginia, in 1977 and received a bachelor of science degree in ocean engineering from U.S. Naval Academy in 1981. She also received a master of science degree in ocean engineering from Massachusetts Institute of Technology (MIT) and the Woods Hole Oceanographic Institution (WHOI) in 1988. She was awarded the Defense Superior Service Medal, the Defense Meritorious Service Medal, the NASA Space Flight Medal, the Navy Commendation Medal and the Navy Achievement Medal. She was a recipient of the National Navy League's Captain Winifred Collins Award for inspirational leadership (1986).

Lawrence has more than 1,500 hours flight time in six different types of helicopters and has made more than 800 shipboard landings. While stationed at Helicopter Combat Support Squadron SIX (HC-6), she was one of the first two female helicopter pilots to make a long deployment to the Indian Ocean as part of a carrier battle group. In October 1990, Lawrence reported to the U.S. Naval Academy where she served as a physics instructor and the novice women's crew coach.

Selected by NASA in March 1992, Lawrence reported to the Johnson Space Center in August 1992. She completed one year of training and is qualified for flight assignment as a mission specialist. A veteran of four space flights, Lawrence has logged over 1225 hours in space. Lawrence retired from NASA in June 2006.

Admiral Howard is a 1978 graduate of Gateway High School in Aurora, Colorado. She graduated from the United States Naval Academy in 1982 and from the Army's Command and General Staff College in 1998, with a Masters in Military Arts and Sciences.



Michelle Howard

Class of 1982

First female four-star in the U.S. Navy

Profile

Admiral Howard graduated from the United States Naval Academy in 1982 and from the Army's Command and General Staff College in 1998, with a Masters in Military Arts and Sciences.

Admiral Howard served on several ships to include USS Lexington (AVT 16) where she received the secretary of the Navy/Navy League Captain Winifred Collins award in May 1987. This award is given to one woman officer a year for outstanding leadership.

She took command of USS Rushmore (LSD 47) on March 12, 1999, becoming the first African American woman to command a ship in the U.S. Navy. She has been in several sea and shore assignments and currently serves as the 38th Vice Chief of Naval Operations; another first for women.



David Robinson
Class of 1987
Professional Basketball Player

Profile

Recruited by Annapolis to play for the Academy's basketball team, David Robinson went from being a 6' 4" freshman who averaged just 7.6 points per game to a dominating 7' 1" College Player of the Year senior.

Selected by the San Antonio Spurs with the number one pick in the 1987 National Basketball Association (NBA) draft, the man known as 'The Admiral' put off his rookie season until the 1989-90 season due to his commitments to the Navy. This decision clearly had no adverse effect upon him as he would go on to be named 'Rookie of the Year'.

He was the first male basketball player to play on three U.S. basketball teams in the Olympic Games. In 2009 he was inducted into the NBA Hall of Fame along with Michael Jordan and John Stockton.

In 1991 he visited the 5th grade class at Gates Elementary School in Texas. He challenged the 94 students of the class to finish high school, promising each of them a \$2,000 scholarship if they did so. In 1998 when 50 of those students graduated, he presented each of them with an \$8,000 scholarship. In 1997 he donated \$5 million dollars to found the Carver Academy, which he continued to donate to in the following years. Due to his commitment to the community, the NBA renamed their Community Assist Award to be the David Robinson Plaque in 2003.



Erik Kristensen
Class of 1995
SEAL

Profile

Erik Kristensen graduated with honors from the U.S. Naval Academy in 1995. He served first as a Surface Warfare Officer onboard USS Chandler (DDG-996) and as an Officer-in-Charge (OIC) of a Rigid Hull Inflatable Boat (RHIB) Detachment at Naval Special Warfare Boat Unit TWELVE (SBU-12).

Kristensen subsequently taught at the Naval Academy and attended graduate school prior to transferring to Basic Underwater Demolition/SEAL (BUD/S). His first assignment as a SEAL was OIC of a

Platoon at SEAL Team EIGHT.

In March 2005, LCDR Kristensen deployed to Afghanistan as a Task Unit Commander for SEAL Team TEN to support the Global War on Terrorism. On June 28th, 2005, he led a daring mission to rescue a four-man SEAL reconnaissance squad engaged in a fierce firefight with overwhelming Taliban forces in rugged 10,000 foot mountains. Kristensen, seven other SEALs, and eight Army "Nightstalkers" died when their MH-47D Chinook helicopter was shot down by a rocket-propelled grenade.

A total of 11 SEALs died that day. It was the biggest single loss of life for Naval Special Warfare since World War II. These SEALs embodied the Navy's Core Values of Honor, Courage, and Commitment, and took care of their teammates to the last. Erik Kristensen and those who perished with him are remembered with the greatest respect and gratitude by his fellow SEALs, the Naval Academy, the Navy, and our nation.

Sources:

1. The Bluejacket's Manual
2. <http://www.usna.edu/admissions/Notables/>
3. <http://www.navyseals.com/nsu/erik-s-kristensen/>

WEEK 3: UNIFORMS

I. Military Uniforms

Your Navy uniform marks you as a professional, a member of a military service over 235 years old, and a person currently in the service of your country. While one of the main reasons that you wear a uniform is to facilitate unit cohesion, present a professional appearance, and assure uniformity, you will soon discover that there are a great many differences in the uniforms that naval personnel wear. As you become familiar with those differences, you will be able to “read” a person’s uniform in such a way as to be able to tell a great deal about him or her.

II. Uniform Variations

Many different uniforms are worn in the Navy and Marine Corps. There are versions for the different seasons of the year. There are uniforms designed for work and those meant for show. Some are only worn for special occasions. You should be familiar with the standard manner of wear of any uniform you don.

The Midshipmen Uniform Regulations (COMDTMIDNINST 1020.3B) are a reflection of the U.S. Navy Uniform Regulations (NAVPERS 15665) and are intended to train Midshipmen to properly wear and understand general uniform requirements upon graduation. You can find the Midshipmen Uniform Regulations at the following link: <http://www.usna.edu/Commandant/comdinst.php>.

Midshipmen who service assign Marine Corps will receive training on those uniforms prior to graduation and should refer to the Marine Corps Uniform Regulations (Marine Corps Order P1020.34G).

Categories of Uniform in the U.S. Navy

When making official reference to categories of uniforms or requirements for wear, the following terms shall be used:

- Dinner Dress (Formal Dress) – Dinner Dress is the most formal category of uniform. It is the equivalent of civilian “black-tie.”
- Service Dress – Service Dress is worn for official functions that do not warrant Dinner Dress. It is the equivalent of a civilian business suit.
- Service – Service uniforms are the Navy’s daily-wear uniform.
- Working – Working uniforms are worn when other uniforms may become unduly soiled or are otherwise inappropriate for a task.

Uniform Descriptions

Specific uniform descriptions and insignia/decorations can be found in Chapters 2 and 3 respectively of the Midshipmen Uniform Regulations.

III. Uniform and Grooming Standards

The primary consideration is to have a neatly groomed appearance while wearing a uniform. Grooming standards are based on several elements including neatness, cleanliness, safety, military image, and appearance. The good judgment of leaders at all levels is key to enforcement of the Naval Academy grooming policy. Personal appearance, grooming, and hair shall present a neat and professional appearance while in uniform.

Image and Cleanliness

- Navy and Marine Corps personnel must set and maintain the highest standards of smartness in uniform appearance. The military image reflected by attention to detail is a key element in the public image of the Navy.

- Uniforms shall be kept scrupulously clean, with gold lace and metal devices and insignia bright and free from tarnish and corrosion.

Articles

- No articles shall protrude from or be visible on the uniform, including such items as pencils, pens, watch chains, key chain fobs, pins, jewelry, combs, large wallets, cigars, cigarettes, pipes, or similar items.
- No communication devices are authorized for wear on a midshipman's uniform.
- Identification cards will be attached to left breast pocket at all times when inside Bancroft Hall. Lanyards are not authorized for wear. Midshipmen shall remove identification cards when outside of Bancroft Hall for security reasons.
- Civilian bags (e.g., computer bags/briefcases, gym bags, garment bags, etc., this does not include women's handbags/purses) may be worn with working and service uniforms as prescribed in the manner below:
 - Backpacks may be worn over both shoulders or hand carried in the left hand to facilitate saluting while wearing Service Khaki, Summer Working and Winter Working Blue Uniforms. Midshipmen are authorized to wear backpacks with Reefers when worn over Winter Working Blue. Backpacks must be solid black in color. The matching NWU pattern backpack is the only authorized backpack for wear with the NWU. No personal ornamentation shall be attached on or to the backpack. Midshipmen are authorized to carry one water bottle or sports drink in the side pocket of the backpack and a white towel attached to the outside of the bag for physical education class.
 - A computer bag and brief case may be worn across the left shoulder of service and working uniforms to facilitate saluting. When wearing a bag, the strap may be worn across the left shoulder (fore and aft) with the bag hanging on the same side of the body. The case or bag will not be worn with the strap and bag on opposite sides of the body (diagonally). This also applies to Blue & Gold jogging suits, team warm-ups, and PE gear.
 - All bags/brief cases worn with the uniform must conceal its content and be either solid black or navy blue in color. The only exception is team issued sports bags. There shall be no personal ornamentation attached on or to the bag/brief case.
 - While in dress uniform (e.g., Service Dress Blues), civilian bags shall be hand carried.
 - Sea bags may be worn with all uniforms.
- No eccentric or faddish glasses are permitted.
- Conservative sunglasses are permitted, except in military formations. Frames must be black and lenses cannot be mirrored or multi-colored. Glasses will not interfere with proper wear of military headgear. Oversize sunglasses that cover significant portions of the face are not authorized.
- Tinted contact lenses must be a natural color (blue, green, brown, etc.).
- Conservative jewelry is authorized for all personnel and shall be in good taste while in uniform. Eccentricities and faddishness are not permitted. Jewelry shall not present a safety or FOD (Foreign Object Damage) hazard.
 - While in uniform, only one ring per hand is authorized. Rings are not authorized for wear on thumbs.
 - Earrings are prohibited on male midshipmen at all times.
 - One earring per ear (centered on earlobe) may be worn by female MIDN in uniform.
 - Body piercings are not authorized. No articles, other than earrings for women specified above, shall be attached to or through the ear, nose, or any other body part. Additionally, body piercing is not authorized while in civilian attire.
 - Only one necklace may be worn and it shall not be visible.
 - While in uniform, only one wristwatch may be worn. The style and color of the watch should complement the uniform. Faddish colors and styles are not authorized for wear. Non-faddish colors include black, navy blue, green or tan khaki, silver or gold-toned.
 - While in uniform, only medical and POW/MIA bracelets are authorized. Plastic colored bracelets are specifically prohibited.

Civilian Clothing

- Midshipmen shall ensure that their dress and personal appearance are appropriate for the occasion and will not discredit the Naval Academy or Navy. Current styles and fashions which are conservative and in good taste are authorized. Appropriate civilian attire is required on and off the Yard at all times.
- Advocating substance abuse and making personal statements with clothing, jewelry, tattoos, etc. is prohibited.
- For travel abroad, midshipmen shall ensure that their dress and personal appearance are appropriate for the country and in accordance with the Foreign Clearance Guide (FCG) which provides clothing guidance by country.
- The civilian dress code for midshipmen can be found in Chapter 4 of the Midshipmen Uniform Regulations. You should be familiar with the following acceptable civilian attire:
 - Formal Dress
 - Business/Informal
 - Business Casual
 - Smart Casual
 - Casual

Sources:

1. The Bluejackets Manual
2. Midshipmen Uniform Regulations (COMDTMIDNINST 1020.3B)
3. http://www.usna.edu/Commandant/Directives/Instructions/1000-1999/COMDTMIDNINST%201020.3B_Midshipman%20Uniform%20Regulations%20with%20Change%206.pdf.
4. U.S. Navy Uniform Regulations (NAVPERS 15665)
5. <http://www.public.navy.mil/BUPERS-NPC/SUPPORT/UNIFORMS/UNIFORMREGULATIONS/Pages/default.aspx>.
6. Marine Corps Uniform Regulations (Marine Corps Order P1020.34G)
7. <http://www.marines.mil/Portals/59/Publications/MCO%20P1020.34G%20W%20CH%201-5.pdf>.

WEEK 4: UNITED STATES NAVY HISTORY

When the Continental Congress created a navy on October 13, 1775, it recognized the need for a force at sea to support national policy. Since that time, the nation has used the Navy in many ways to achieve varying goals and adapted it to meet changing expectations.

I. The Early Navy: Founding to 1815

During the American Revolution, 1775-1783, the British navy was too strong to challenge for control of the sea. The Continental Navy instead engaged in commerce warfare (*guerre de course*). Individual ships seized British merchant vessels. These actions raised the costs and aggravation of the war for British merchants who in turn pressured their government to make peace.

John Paul Jones is perhaps the best remembered of the revolutionary naval commanders. Conducting raids around the British Isles, he met a British warship and fought the battle that made him famous. In the Battle of Flamborough Head, 1779, Jones commanded the *Bonhomme Richard* in a victory over the HMS *Serapis*, which was protecting a merchant convoy.

Although on the Atlantic, British forces were vastly stronger than the Continental Navy, on fresh water both sides had to create fleets. Land travel in frontier areas was difficult and control of Lake Champlain in New York was vital for an armed force. In 1776, the British moved down the lake as part of a major operation. In the Battle of Valcour Island, October 1776, army Colonel Benedict Arnold commanded Americans-built ships that challenged the British advance. Although the Continental forces lost the battle, the British were delayed and returned to Canada for the winter. When a British force returned the following year, an American army was ready and defeated it at the Battle of Saratoga.

After gaining independence in 1783, the U.S. initially found a navy beyond its means. By 1785 the Navy had sold its last ship. Soon situations arose demanding a naval response. The Barbary States along North Africa extracted tribute from passing vessels and preyed upon American merchantmen. From the mid-1780s, the United States weighed the alternatives of paying tribute or sending force. Tribute was cheaper and was the path initially followed. Tensions with Algiers resulted in the Navy Act of 1794, which authorized the construction of 6 warships under the auspices of the War Department.

In the wars of the French Revolution during the 1790s, French privateers (private vessels licensed by a government to prey upon the shipping of an enemy) harassed American merchants. Without a navy there was little the U.S. could do. The Navy Act of 1798 provided for Navy Department, which dispatched vessels to protect American trade.

This new navy again went into action during the Barbary Wars (1801-1805). After a declaration of war by Tripoli, President Thomas Jefferson dispatched a “squadron of observation” to the Mediterranean. Fighting the war was handicapped by problems of distance from the U.S., lack of American bases overseas, and frequent changes in commanders. Two historically significant events occurred during the Barbary Wars:

- The burning of the frigate *Philadelphia*: In February 1804, the U.S. frigate *Philadelphia* ran aground while chasing a Barbary ship and surrendered. Subsequently, the ship floated off the shoal, and Barbary forces brought it into harbor. Lieutenant Stephen Decatur, with a volunteer crew, sailed a captured ship into the harbor at night, received permission to tie up to the *Philadelphia*, overpowered the guards, and set fire to the ship. This bold venture achieved total surprise, and Decatur and his men escaped.
- The Capture of Derne: In August 1805, in an effort to apply pressure to the ruler of Tripoli, American William Eaton located a rival claimant to the throne. With Marine First Lieutenant Presley O’Bannon, Midshipman George Mann, 1 non-commissioned officer, and seven enlisted Marines, Eaton marched over 500 Tripolitans and Mamelukes from Egypt across the Libyan desert to the port of Derne. Coordinating with the Navy, these men took the port and Tripoli quickly agreed to peace terms.

War of 1812: 1812-1815

Maritime issues including impressment and British policies towards neutral shipping during the Napoleonic wars helped provoke the U.S. to declare war against Britain in 1812. While the U.S. Navy could directly confront weak powers like the Barbary States, commerce raiding remained the only viable strategy against Great Britain.

During 1812, American frigates cruising for enemy commerce also engaged warships. Three victories over British frigates shocked the English and provided the U.S. a needed boost in morale in a war not going well on land.

- *Constitution*, commanded by Captain Isaac Hull versus *Guerriere*, August 1812
- *United States*, commanded by Captain Stephen Decatur, versus *Macedonian*, October 1812
- *Constitution*, commanded by Captain William Bainbridge, versus *Java* December 1812

British naval might soon confined American frigates to port. British power was also shown in 1813 when the frigate *Shannon* captured the USS *Chesapeake*, commanded by Captain James Lawrence.

In 1812, the frigate *Essex*, commanded by Captain David Porter, embarked on an epic commerce-raiding voyage. Rounding Cape Horn, *Essex* cruised the Pacific. Operating without any American bases, Porter attacked British whaling ships until British warships tracked down and defeated the *Essex* in 1814.

As in the Revolution, lakes provided transportation for armies operating in the interior. Contests over these communication routes brought two important American victories:

- Battle of Lake Erie, 1813: a fleet under Commodore Oliver Hazard Perry defeated the British Fleet.
- Battle of Lake Champlain, 1814: Both Britain and the U.S. constructed fleets on this lake to gain control of the invasion route. American Commodore Thomas Macdonough secured a complete victory.

II. The Old Navy: 1815-65

After the war, many of the Navy's duties involved supporting American merchant commerce through such activities as suppression of piracy, conducting diplomatic negotiations, and engaging in scientific exploration.

The most dramatic diplomatic undertakings were the voyages of Commodore Mathew C. Perry to Japan in 1853 and 1854. Japan had closed itself off from the outside world for over 200 years. Perry combined diplomacy with a show of force to secure a treaty permitting some American access.

Although many naval vessels engaged in charting oceans and coastlines, in the Great United States Expedition, 1838-1842, Lieutenant Charles Wilkes led a multi-ship expedition that was unusually ambitious. It sailed widely in the Pacific and produced a multi-volume account of its findings.

In the War with Mexico, 1846-48, the American navy was the stronger force and engaged in the actions of a dominant navy. The force blockaded the coast. It also supported an amphibious landing at Vera Cruz, 1847, planned by army Major General Winfield Scott. Naval gunners also served a battery of cannons during the siege of the city of Vera Cruz.

Civil War 1861-1865

During the Civil War, the U.S. Navy played an important role in keeping the nation from being torn asunder. It contributed to the northern victory through establishing a blockade, tracking down Confederate commerce raiders, and helping gain control of the Mississippi River.

The entire Southern coastline of 3,500 miles presented a daunting task for the union navy. Even limiting the blockade to cities with rail lines to the interior was a major undertaking, and the Navy at first concentrated on getting ships and bases for the blockading squadrons. One such base was Port Royal, between Charleston and Savannah. In 1861, a force under the command of Flag Officer Samuel F. Du Pont overpowered Confederate fortifications and secured the base for the Union.

The Mississippi River system was an important transportation network, and Union army and navy forces cooperated to reduce confederate strongholds. By late 1863, in the words of Abraham Lincoln, the river flowed "unvexed to the sea."

As the weaker naval power, the Confederacy employed commerce raiders against northern merchantmen. The most famous such raider was the *Alabama*. Built in England, the ship never entered a

Confederate port. On its two-year voyage, the *Alabama* cruised as far as the Indian Ocean seeking U.S. merchant ships until the *Kearsarge* finally tracked down the raider and sank it in 1864.

Unable to compete with the Union navy in conventional ships, the South from the beginning turned to ironclad vessels. Placing iron plating on the wooden or iron hull of a ship made it invulnerable to the ordnance of the time. In March 1862, the South had the *Virginia* ready. In Hampton Roads it encountered ships supporting a Union army, and on its first day in action easily handled the wooden ships it engaged.

That night the Union's ironclad *Monitor* arrived, under the command of Lieutenant John Worden. The battle between the two ships was a draw; neither ship substantially damaged the other. Yet the presence of the *Monitor* now meant that the Union's wooden fleet was safe. As the first confrontation of armored ships, the Battle of Hampton Roads attracted worldwide attention.

III. The Emergence of a Modern Navy: 1865-1916

After the Civil War, the Navy returned to pre-war size and duties. In time of a war with a major naval power, the Navy would engage in commerce raiding as its main contribution. In time of peace, ships sailed independently supporting American interests.

By 1880 the Navy that had been the nation's pride in the Civil War was old, obsolete, and falling apart. In 1883 Congress authorized four steel vessels: the cruisers *Atlanta*, *Boston*, and *Chicago* and the dispatch boat *Dolphin*. As befitting a navy committed to a commerce raiding strategy, the ABCD ships (as the four are known) still carried sail. Other ships followed. In 1886 Congress authorized the *Maine* and *Texas*, which were the first attempt to acquire modern armored ships.

At the end of the new century, the Navy abandoned its traditional strategy and shifted to one based on using fleets to destroy enemy fleets and establishing sea control. Captain Alfred Thayer Mahan became America's principal advocate for the strategy, publishing *The Influence of Sea Power upon History, 1660-1783*. Mahan provided a coherent, historically-based justification for the armored fleets that the world's navies were already in the process of acquiring.

The nation used the new ships and new strategy in the Spanish-American war. Although the causes of the war centered on Spanish rule in Cuba, the opening naval battle was the Battle of Manila Bay in the Philippines, May 1898. Commodore George Dewey brought the Asiatic Squadron into Manila Bay and easily defeated the Spanish force.

In Cuba, a Spanish fleet took refuge in the harbor of Santiago, and American Rear Admiral William T. Sampson brought a fleet to blockade the port. In July, the Spanish attempted to escape. After some initial confusion, the American vessels caught the Spanish ships and drove them ashore. Both of these battles confirmed the value of fleet actions for naval warfare. When the U.S. decided to keep the Philippines as a colony, the Navy acquired defensive responsibilities some 7,000 miles from the American coast.

In the twentieth century, the U. S. added to the fleet, concentrating on battleships, which were the accepted standard of naval power. In 1916 an ambitious naval building act provided for a navy that would give the United States a force equal to that of Great Britain.

In the nineteenth century, the Navy enlisted African Americans in all ratings. Since men ate and slept in the company of men performing similar duties, ships were integrated. In the early twentieth century the Navy steadily restricted enlistment. By World War I, African Americans were confined to the messmen's branch.

IV. The Navy in the World Wars, 1917-1945

When war erupted in Europe in 1914, the U.S. remained neutral. By the time the nation entered in 1917, the naval war was much different than pre-war experts had expected. World navies had prepared for massive fleet engagements, but British supremacy meant that by 1917 the German surface fleet remained in harbor and her submarines preyed on merchant ships. In an age of wireless communication, it was generally too dangerous for submarines to follow older practices of visit and search. Instead, the submarines sank vessels in a war zone without warning. The main contribution of the Navy would be convoying merchant ships.

In 1917 Secretary of the Navy Josephus Daniels authorized the enlistment of women in the reserve. They served primarily as clerks and were popularly known as "Yeomanettes." The Naval Appropriation act of 1919 required that all women be discharged.

Although reduced in size after the war, the Navy continued to rank with Great Britain as the strongest naval power. The Washington Naval Conference, 1921-22, produced treaties which sought to avoid a worldwide naval building race by limiting the size of major navies. The agreements confirmed the equality of England and the United States.

In the interwar period, the Navy explored ways to take aviation to sea. In 1921 the Navy established a Bureau of Aeronautics to both oversee aviation in the Navy and hold off rival claimants such as a proposed separate air force.

The navy obtained its first carrier, the *Langley*, in 1922 by building a flight deck on an unneeded collier. On this makeshift vessel, the Navy developed the skills to take planes to sea. Although initially the Navy envisaged carriers as supporting battleships, some officers began suggesting that carriers operate independently. One such man was Rear Admiral Joseph M. Reeves. During war games in 1929, he dispatched a carrier on a successful mock attack on the Panama Canal.

World War II

Japan invaded China in 1937, and Germany swept into Poland in 1939. The U.S. remained neutral until 1941.

Desiring to expand into islands to her south, Japan sought to neutralize the American fleet to prevent support for the Philippines. Japanese ships achieved complete surprise at Pearl Harbor, December 7, 1941. The raid devastated battleship row and eliminated ships the Navy had expected to use for a Pacific war. Congress quickly declared war on Japan. When Germany declared war on the U.S., America now faced a two-ocean war.

Under pre-war plans, the U.S. had intended to follow a Europe-first strategy and the destruction at Pearl Harbor added emphasis to this decision. In addition, Europe offered allies. In the east, Russia faced the bulk of German armies, and on the west Great Britain had held out against German attacks. Yet events in the war as well as American industrial productivity permitted sending resources to the Pacific sooner than anticipated.

A major responsibility for the Navy in the Atlantic was convoying merchant ships. In World War I, submarines had sailed independently. In World War II, the Germans used multi-boat wolf packs to locate convoys and then overwhelm escorts through numerous attacks. The allies countered with more sophisticated anti-submarine doctrine. They also were able to decode German messages and thus route convoys to areas of lesser risk.

From the beginning American and British planners debated whether it would be best to make an immediate cross-channel assault and attack Germany through France or whether it would be wiser to attack on the periphery of German power and thus weaken her strength while building allied forces. The United States and Great Britain first attacked the periphery with three amphibious operations:

- North Africa landing in 1942
- Sicily landing in 1943
- Italy landing in 1943

By 1943, a successful cross-channel attack was feasible. On D-Day, June 6, 1944, allied forces went ashore in Normandy.

The defeat of Japan first required advancing far enough across the Pacific to threaten the home islands. Starting with limited forces, allied resources steadily increased. Three battles can serve to give some idea of the course of the Pacific War and the precedents that were set:

- Midway, 1942: The Battle of Midway, fought near the Central Pacific island of Midway, is considered the decisive battle of the war in the Pacific. Before this battle the Japanese were on the offensive, capturing territory throughout Asia and the Pacific. By their attack, the Japanese had planned to capture Midway to use as an advance base, as well as to entrap and destroy the U.S. Pacific Fleet. Because of communication intelligence successes (including breaking of the Japanese code), the U.S. Pacific Fleet surprised the Japanese forces, sinking the four Japanese carriers that had attacked Pearl Harbor only six months before while only losing one carrier. More importantly, the Japanese lost over one hundred trained pilots who could not be replaced. After Midway, the Americans and their Allies took the offensive in the Pacific.
- Betio Island, Tarawa Atoll in the Gilbert Islands, 1943: The Battle of Tarawa was fought in order to set up forward air bases capable of supporting operations across the mid-Pacific, to the Philippines, and eventually into Japan. Victory in the Gilbert Islands would open the door to the Marianas Islands. Although the U.S. victory there demonstrated the doctrine of amphibious

- assaults, it also proved to be a lesson in the difficulties of Pacific warfare. Outdated charts suggested landing craft could get closer than they in fact could; pre-landing naval gunnery proved less effective than anticipated; and Japanese defenses and determination to fight to the last man made conquest difficult. Tarawa was not the finished product that many later amphibious operations were, but it paved the way for those operations.
- Battle of the Philippine Sea, 1944 (also known as the Marianas Turkey Shoot): Security of the Marianas Islands in the Western Pacific were vital to Japan, which had air bases in Saipan, Tinian, and Guam. U.S. troops were already battling Japanese on Saipan and any further intrusion would leave the Philippine Islands and Japan itself vulnerable to U.S. attack. When Japanese forces challenged carriers supporting the invasion of Saipan, the Americans devastated Japanese aircraft. The Japanese navy ended the battle with its carriers in tact but having lost three quarters of its aircraft. American domination of the Marianas was now a foregone conclusion.

In August 1945 American forces dropped an atomic bomb on Hiroshima and another on Nagasaki. Faced with this new weapon, Soviet entry into the Pacific war, and an aggressive allied conventional offensive, Japan surrendered.

The war began with African-Americans confined to the Messmen's Branch. In a war against the racism inherent in Hitler's Nazi ideology, the policy came under increasing attack. In 1942, the Navy opened general service enlisted ratings to blacks but kept training and assignments segregated. In 1944, the Navy commissioned its first black officers. Attempts to retain segregated assignment proved overly cumbersome and in 1945 the Navy experimented with integration.

Although the Navy had pioneered the use of women in World War I, in World War II the Army first authorized the services of women. In 1942, the Navy followed with the WAVES (Women Accepted for Voluntary Emergency Service).

V. Post-World War II and The Cold War

After World War II, the U.S. embraced an active role in world affairs, and the Navy was an important tool in implementing national policy. Unlike the prewar period, no rival navy could challenge American overall power. The ability to move at will on the oceans was fundamental to American postwar policy. Carrier-based tasks forces were the pre-eminent element in maintaining American sea control.

In navigating the postwar world, the Navy would be in a new bureaucratic framework. The necessity of wartime cooperation between the services produced a reorganization of the armed forces. The National Security Act of 1947 created what would become the Department of Defense, which incorporated the previously independent departments of War and Navy. Under the act the Air Force became a separate service rather than a part of the army. During the negotiations about provisions of the act, the Department of the Navy kept its own air arm (rather than have it go to the Air Force) and also kept the Marines (rather than have them placed with the Department of the Army). The act also created the National Security Council and Central Intelligence Agency.

After 1945 U.S. relations with the Soviet Union deteriorated. During this Cold War, our national policy was containment – stopping the spread of communism rather than challenge its existence in countries already under communist control.

Nuclear weapons helped back up containment. Once the U.S.S.R. exploded its own bomb in 1949, deterrence became a mainstay of the policy – preventing an enemy from using the bomb because of a fear of retaliatory strikes.

In the immediate postwar period, the Navy was frustrated in efforts to participate in the delivery of nuclear weapons. In the 1950s, the deployment of larger carriers such as the *Forrestal*, commissioned 1955, allowed operations with jets capable of carrying nuclear bombs. The Navy became a crucial part of deterrence with the nuclear submarine and a submarine-launched ballistic missile. In 1954, the *Nautilus* went to sea as the world's first nuclear submarine. In the 1950s, the Navy developed the Polaris missile, and in 1960 the *George Washington* deployed as the first ballistic submarine.

While the Cold War never became a hot war between the U.S. and the U.S.S.R., there were wars connected with the policy of containment. The first of these, the Korean War, began in 1950 when North Korea moved across the 38th parallel into South Korea.

The Navy responded with carrier-based flights in support of ground units. In September 1950, a bold amphibious assault occurred at Inchon. Naval units supplied pre-landing bombardment and protected Marines going ashore during the landing.

After the landing at Inchon, United Nations forces advanced northward across the 38th Parallel and in November neared the border with Chinese-controlled Manchuria. Chinese intervention and counter-attack caught U.N. forces unprepared and troops retreated southward. At Hungnam in December 1950, the Navy conducted a withdrawal and evacuated allied forces. An armistice in 1953 ended the fighting but there is still no peace treaty with North Korea.

In October 1962, President John F. Kennedy learned that the U.S.S.R. was putting nuclear weapons in Cuba. To force the Soviets to withdraw the missiles, the U.S. applied diplomatic pressure supported with a naval “quarantine” (a word chosen since “blockade” required a state of war). Naval vessels deployed to prevent the shipping of missile-related equipment to the island.

Concerned with threats to South Vietnam from Communist forces in North Vietnam, the U.S. engaged in a long and ultimately divisive war. The Navy flew carrier missions, conducted coastal patrols (Operation MARKET TIME), and operated a riverine forces (Operation GAME WARDEN). MARKET TIME and GAME WARDEN sought to stem the flow of enemy men and forces in South Vietnam.

The end of the Cold War brought debate about the role of the military. In the subsequent years, worldwide national interests would shape the modern Navy.

VI. The Persian Gulf War

After Iraq's army (the world's fourth largest at the time) poured across the border into Kuwait on 2 August 1990, the United States deployed a major joint force that served as the foundation for a powerful 33-nation military coalition to stem Iraq's brutal aggression. The United States Navy provided the sea control and maritime superiority that paved the way for the introduction of U.S. and allied air and ground forces, and offered strong leadership for the multinational naval force.

At the time of the invasion, the Navy was already on station in the region. The ships of Joint Task Force Middle East, a legacy of U.S. Navy presence in the Arabian Gulf since 1949, were immediately placed on alert. Battle groups led by USS Independence (CV 62) and USS Dwight D. Eisenhower (CVN 69) sped from the Indian Ocean and Eastern Mediterranean to take up positions in the Gulf of Oman and Red Sea, respectively – ready to commence sustained combat operations on arrival.

Low-key but close military ties with friendly Arab states, developed during 40 plus-years of naval operations in the region, helped pave the way for the quick introduction of U.S. ground and air forces into Saudi Arabia and other Gulf states. When U.S. Marines began arriving in Saudi Arabia, their supplies and equipment were close at hand. Maritime Prepositioning Ships based at Diego Garcia and Guam carried enough tanks, artillery and ammunition to sustain the Marines for 30 days. The MPS ships' proximity to the theater of operations allowed Marines to begin marrying up with their supplies in Saudi Arabia less than two weeks after the invasion of Kuwait.

Saddam Hussein's rejection of diplomatic efforts to solve the crisis led to the final decision to restore Kuwait's sovereignty by military force. The ensuing air war and the effects of the economic embargo decimated Iraq's military infrastructure, severed communication and supply lines, smashed weapons arsenals, and destroyed morale. Some of the first shots fired were from Navy ships in the Arabian Gulf and Red Sea, as they launched salvos of Tomahawk cruise missiles against pre-programmed targets in Iraq. After an impressive 38-day air campaign, the ground offensive began with allied forces sweeping through Iraqi defenses in blitzkrieg fashion. The allied push into Kuwait and southern Iraq was made easier by the amphibious forces on station in the Arabian Gulf. The threat they posed forced tens of thousands of Iraqi troops to maintain positions along the Kuwaiti coastline to defend against potential attack from the sea. The Iraqi army was crushed after a mere 100 hours. Iraqi troops – tired, hungry and war-weary from six months of economic blockade and more than a month of relentless allied bombing – surrendered by the thousands. Less than seven months after the Iraqi invasion, Kuwait was once again free.

VII. The Global War on Terror and the 21st Century Navy

Following the September 11, 2001 terrorist attacks on the United States, Operations Enduring Freedom (OEF) and Iraqi Freedom (OIF) commenced. The Navy participated in the full scope of combat operations

and supported a sustained increase in operational tempo in the United States Central Command (USCENTCOM) and other geographic combatant command (GCC) areas of responsibility (AOR) while carrying out many activities in support of the Global War on Terrorism.

As of 2010 when combat operations had ended in Iraq, the Navy had 53,000 active and reserve members continually deployed in support of overseas contingency operations (OCO) serving as members of carrier strike groups (CSG), expeditionary strike groups (ESG), Special Operations Forces (SOF), Seabee units, Marine forces, medical units, and as individual augmentees (IA). Sailors and Marines were fully engaged on the ground, in the air, and at sea in support of operations in Iraq, Afghanistan, and other locations. The Navy had 11,300 active and reserve members on the ground and 12,000 at sea in the USCENTCOM AOR supporting Navy, Joint Force and Combatant Commander (COCOM) requirements. Specifically:

- The Marines were maintaining a constant Marine Expeditionary Force (MEF) deployment in support of the Region Command Southwest (RC-SW) in Afghanistan.
- A significant portion of the combat air missions over Afghanistan were flown by naval air forces.
- Elite teams of Navy SEALs were heavily engaged in combat operations and Navy Explosive Ordnance Disposal platoons were defusing Improvised Explosive Devices (IED) and landmines.
- On the water, Navy Expeditionary Combat Command (NECC) Riverine forces were working closely with the Iraqi Navy to safeguard infrastructure and provide maritime security in key waterways. Navy forces were also intercepting smugglers and insurgents and protecting Iraqi and partner nation oil and gas infrastructure. Navy Seabee construction battalions were rebuilding schools and restoring critical infrastructure.
- Navy sealift was delivering the majority of heavy war equipment to CENTCOM, while Navy logisticians were ensuring materiel arrived on time.
- Navy doctors were providing medical assistance in the field and at forward operating bases (FOB).
- Navy IAs were providing combat support (CS) and combat service support (CSS) for Army, Air Force, and Marine Corps personnel. As IAs they fulfilled vital roles in USMC support, maritime and port security, cargo handling, airlift support, members of joint task force (JTF) and COCOM staffs, and Provincial Reconstruction Teams (PRT) in Afghanistan just to name a few.

Al-Qa‘ida ushered in a new era of terrorism on September 11, 2001, amplifying the need to address the underlying causes and conditions that give rise to extremists. Subsequently, American national security strategies focused on the denial of safe havens using a broad range of non-military and military capabilities.

Today the Navy and Marine Corps provide the bulk of the nation’s worldwide rotational military presence and an increasing portion of the required support for ground units in OEF. Although OEF will change significantly by the end of 2014, the Navy and Marine Corps will continue to provide a global forward presence to protect and sustain the global, interconnected maritime sphere, and support national security objectives.

Our Navy recognizes the importance of developing opportunities while being prepared to address irregular threats. Our general and special purpose forces are immediately applicable to the broad array of capabilities required to achieve regional security and stability. The Navy is uniquely positioned to assist emerging nations and fragile states, and to dissuade, deter, and when necessary, defeat irregular threats. We will build on our inherent strengths to lead and support national and international efforts.

The *Cooperative Strategy for 21st Century Seapower* places as much emphasis on preventing conflicts as on winning conflicts. This underscores the importance of securing and fostering long-term cooperative relationships based on mutual understanding and respect for each party's strategic interests, as well as increasing partners' ability to ensure their own security and stability. It recognizes the value of presence, of "being there," to maintain adequate levels of security and awareness across the maritime domain, and restrain the destabilizing activities of non-state actors. It makes clear our Navy will work alongside other U.S. services and agencies through a comprehensive government approach to advance international partnerships. This vision is currently guiding and shaping our Navy's actions, and will enhance our Navy's proficiency in capabilities to counter irregular challenges now and in the future.

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WEEK 5: MISSION AND ORGANIZATION OF THE NAVY

I. Mission

The mission of the Navy is to maintain, train, and equip combat-ready naval forces capable of winning wars, deterring aggression, and maintaining freedom of the seas.

II. The Chief of Naval Operation's Tenets

Warfighting First – Be ready to fight and win today, while building the ability to win tomorrow.

Operate Forward – Provide offshore options to deter, influence, and win in an era of uncertainty.

Be Ready – Harness the teamwork, talent, and imagination of our diverse force to be ready to fight and responsibly employ our resources.

III. National Military Structure

POTUS

The President of the United States (POTUS) serves as the Commander in Chief (CINC) of all U.S. military forces. The President is responsible to the citizens of the United States for maintaining a military that performs our nation's security needs.

SecDef

The Secretary of Defense is the principal defense policy adviser to the President and is responsible for the formulation and execution of general defense policy. Subordinate to the Secretary of Defense are the individual service secretaries, including the Secretary of the Navy.

JCS

The Joint Chiefs of Staff advise the CINC. There are seven four-star officers on the Joint Chiefs of Staff:

- | | |
|---|------------------------------|
| 1. Chairman of the Joint Chiefs of Staff | Gen Martin Dempsey, USA |
| 2. Vice-Chairman of the Joint Chiefs of Staff | ADM James Winnefeld, Jr, USN |
| 3. Commandant of the Marine Corps | Gen James Amos, USMC |
| 4. Chief of Naval Operations | ADM Jonathan Greenert, USN |
| 5. Chief of Staff of the Army | Gen Raymond Odierno, USA |
| 6. Chief of Staff of the Air Force | Gen Mark Welsh III, USAF |
| 7. Chief of the National Guard Bureau | Gen Frank Grass, ARNG |

The Chairman is the principal military adviser to the President, Secretary of Defense, and the National Security Council (NSC); however, all JCS members are military advisers by law. Since the National Security Act of 1947, the Joint Chiefs of Staff have served as planners and advisers, although they have no executive authority to command combatant forces.

NSC

The National Security Act of 1947 also established the National Security Council to consider national security issues that require Presidential decision. The National Security Council consists of four statutory members:

1. The President
2. The Vice President
3. The Secretary of State
4. The Secretary of Defense

The Chairman of the Joint Chiefs of Staff (CJCS) and the Director of National Intelligence serve as statutory advisers to the NSC.

IV. Department of the Navy Leadership

SecNav

The Secretary of the Navy has authority over both the Navy and Marine Corps. He is responsible for conducting all the affairs of the Department of the Navy, including: recruiting, organizing, supplying, equipping, training, mobilizing, and demobilizing. The Secretary also oversees the construction, outfitting, and repair of naval ships, equipment, and facilities.

CNO

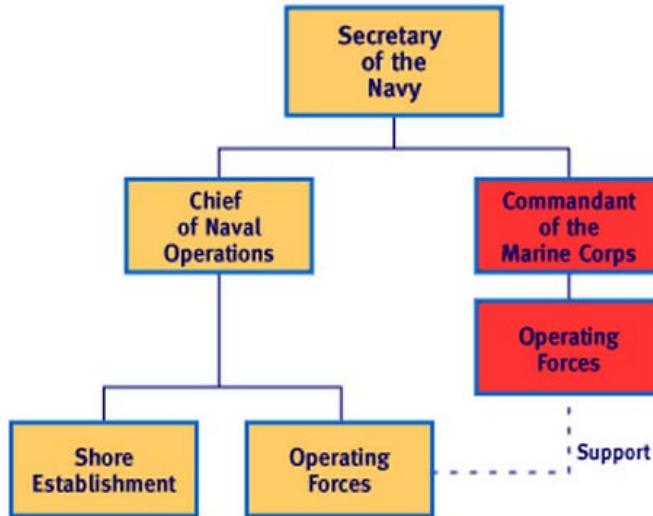
The Chief of Naval Operations (CNO) is the senior military officer in the Navy. The CNO is a four-star admiral and is responsible to the Secretary of the Navy for the command, utilization of resources and operating efficiency of the operating forces of the Navy and of the Navy shore activities assigned by the Secretary.

A member of the Joint Chiefs of Staff, the CNO is the principal naval advisor to the President and to the Secretary of the Navy on the conduct of war, and is the principal advisor and naval executive to the Secretary on the conduct of naval activities by the Department of the Navy. Assistants are the Vice Chief of Naval Operations (VCNO), the Deputy Chiefs of Naval Operations (DCNOs) and a number of other ranking officers. These officers and their staffs are collectively known as the Office of the Chief of Naval Operations (OpNav).

CMC

The Commandant of the Marine Corps (CMC) is the senior military officer in the Marine Corps. The Commandant is a four-star general and is responsible to the Secretary of the Navy for the command, utilization of resources, and operating efficiency of the operating forces of the Marine Corps.

A member of the Joint Chiefs of Staff, the CMC is the principal Marine advisor to the President and to the Secretary of the Navy on the conduct of war, and is the principal advisor and Marine executive to the Secretary on the conduct of USMC activities.



V. Chain of Command

Administrative Chain of Command

The administrative chain of command is tasked with manning, training, and equipping forces and is responsible for personnel management, supply, services, maintenance, certification, and other matters not directly related to the operational chain of command. The Navy administrative chain of command is:

1. President of the United States
2. Secretary of Defense
3. Secretary of the Navy

- President Barack Obama
The Honorable Chuck Hagel
The Honorable Ray Mabus

Operational Chain of Command

The operational chain of command is tasked with using the forces provided by all four services to carry out the orders of the National Command Authority (NCA). The NCA consists only of the POTUS and the SecDef or their duly deputized alternates or successors. The Navy operational chain of command is:

1. NCA
 2. Unified Combatant Commanders (COCOM) – Operational commanders by geographic area of responsibility (AOR). (i.e., COMUSPACOM)
 3. Subordinate Component Commanders – Responsible to Unified Commanders for the employment of forces/capabilities in the respective AOR. (i.e., COMUSPACFLT)
 4. Numbered Fleet Commanders – Responsible for operational naval forces supporting the Component Commanders. (e.g., 3rd, 4th, 5th, 6th, 7th, 10th, and Fleet Forces Command which incorporated 2nd Fleet in 2011)
 5. Task Force Commanders – Subordinate to the Numbered Fleet Commander and responsible for the planning and execution of operations to achieve military objectives. (i.e., CTF-XX where the first digit would indicate the Numbered Fleet and the second digit would indicate the specific Task Force)
 6. Task Group Commander – Subordinate to the Task Force Commander. A Carrier Strike Group (CSG) or Expeditionary Strike Group (ESG) Commander. (i.e., CTG-XX.X where the last digit would indicate the Task Group)
 7. Task Unit Commander – Functional Warfare Commanders generally within the CSG/ESG. (i.e., CTU-XX.X.X where the last digit would indicate the Task Unit)
 8. Task Element Commander – An individual platform or group of platforms (ships, aircraft, etc.) with a special purpose such as a Surface Action Group (SAG). (CTE-XX.X.X.X where the last digit would indicate the Task Element)

Command and Control

Command and control is the exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the

accomplishment of the mission. Command and control ties together all the operational functions and tasks and applies to all levels of war and echelons of command across the range of military operations. C2 is the means by which an operational commander synchronizes and integrates force activities in order to achieve unity of command. Unity of effort over complex operations is made possible through decentralized execution of centralized, overarching plans. Unity of command is strengthened through consideration of the following:

- Clearly defined authorities and roles
- Logical, standardized information management practices
- Explicit and implicit communication
- Timely decision making
- Recognized coordination mechanisms
- Disciplined battle rhythm
- Responsive, dependable, and interoperable support systems
- Shared situational awareness
- Mutual trust

Command and control of naval forces reflects our operational environment, traditions, and culture. Despite the changes in today's environment, naval forces have retained unique characteristics in the capabilities we provide, as well as the way we function, compared to the other Services/components. Unlike Army and Air Force organizations, most naval forces do not undergo a lengthy period of transition from garrison to deployed and operational status. Naval forces are operational as soon as they *take in all lines*. Being essentially self-deploying, naval forces are able to operate in support of strategic objectives without affecting another nation's sovereignty and do not necessarily require host-nation permission for their presence. As such, naval forces provide persistent military capabilities that are immediately available to the CCDR. Naval tactical commanders are expected to take initiative using the operational-level commander's guidance, which defines what needs to be done but not how to do it. Our C2 philosophy is derived from the characteristics and complexity of the maritime domain. Even in an era of nearly instantaneous communications and increasingly complex relationships among the forces of other Services and nations, having the subordinate commander execute operations in accordance with a thorough understanding of the commander's intent is a key tenet of the naval forces' C2 philosophy. Our leaders are trained, educated, groomed, and held accountable for these exceptional authorities and responsibilities.

VI. Unified Combatant Commands

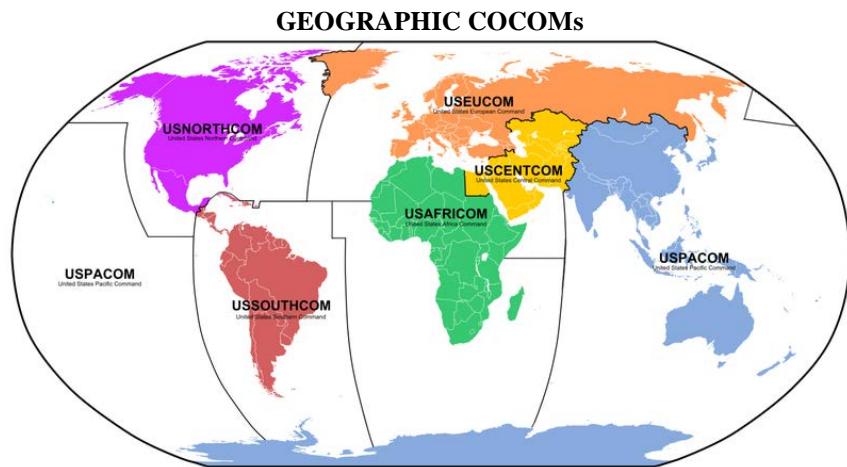
Unified Combatant Commands (COCOM) are composed of forces from two or more services, have broad and continuing missions and are normally organized on a geographical basis. There are currently nine unified commands; six are geographic (Geographic Combatant Commands – GCC) and three are functional. They are listed below along with the headquarters (HQ) location.

Geographic:

1. U.S. European Command (USEUCOM) – Patch Barracks in Stuttgart, Germany
2. U.S. Pacific Command (USPACOM) – Camp H. M. Smith in Honolulu, HI
3. U.S. Southern Command (USSOUTHCOM) – Miami, FL
4. U.S. Central Command (USCENTCOM) – MacDill AFB in Tampa, FL
5. U.S. Africa Command (USAFRICOM) – Kelley Barracks in Stuttgart, Germany
6. U.S. Northern Command (USNORTHCOM) – Peterson AFB in Colorado Springs, CO

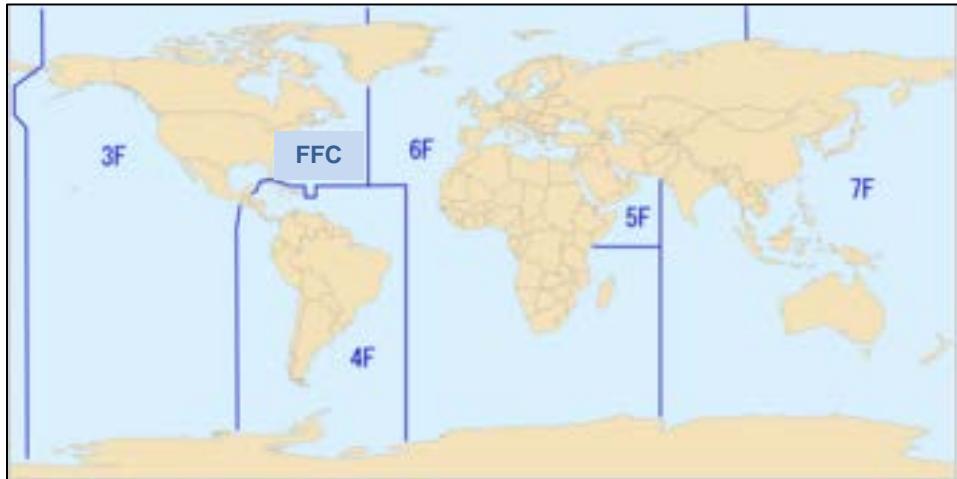
Functional:

7. U.S. Special Operations Command (USSOCOM) – MacDill AFB in Tampa, FL
8. U.S. Transportation Command (USTRANSCOM) – Scott AFB in St. Clair County, IL
9. U.S. Strategic Command (USSTRATCOM) – Offutt AFB in Omaha, NE



VII. Numbered Fleet Commands

Fleet	Area of Operation	Headquarters	COCOM
THIRD	Eastern and Central Pacific	San Diego, California	PACCOM
FOURTH	Caribbean Ocean, surrounding waters of Central and South America	Mayport, Florida	SOUTHCOM
FIFTH	Middle East (Red Sea, Arabian Sea, Persian Gulf)	Manama, Bahrain	CENTCOM
SIXTH	Mediterranean Sea	Naples, Italy	EUCOM
SEVENTH	Western Pacific and Indian Ocean	Yokosuka, Japan	PACCOM
TENTH	Cyber Warfare	Fort Meade, Maryland	STRATCOM
FFC	Eastern Atlantic	Norfolk, VA	NORTHCOM



Sources:

1. www.navy.mil/navydata/organization
2. Naval Doctrine Publication 1 (NDP-1)
3. Joint Doctrine Publication 1 (JP-1)

WEEK 6: OPERATIONAL MISSION AREAS, WARFARE COMMUNITIES, AND THE CURRENT MARITIME STRATEGY

I. Operational Mission Areas

Navy ships, staffs and reserve components are designed and/or organized to perform one or more mission areas. Mission areas define how the Navy executes naval warfare. Navy mission areas are continuously evolving as new weapons, sensors, and capabilities are introduced into the maritime domain. Listed below are the Navy's operational mission areas.

1. **AMPHIBIOUS WARFARE (AMW)** Amphibious Warfare involves military operations launched from the sea by an amphibious force (AF), embarked in ships or craft with the primary purpose of introducing a landing force (LF) ashore to accomplish the assigned mission. An AF is an amphibious task force (ATF) and an LF together with other forces that are trained, organized, and equipped for amphibious operations.
2. **ANTISUBMARINE WARFARE (ASW)** Operations conducted with the intention of denying the enemy the effective use of submarines.
3. **AIR WARFARE (AW)** The detection, tracking, destruction or neutralization of enemy air platforms and airborne weapons, whether launched by the enemy from air, surface, subsurface, or land platforms.
4. **BALLISTIC MISSILE DEFENSE (BMD)** All active and passive measures designed to detect, identify, track, and defeat attacking ballistic missiles (and entities), in both strategic and theater tactical roles, during any portion of their flight trajectory (boost, post-boost, midcourse, or terminal) or to nullify or reduce the effectiveness of such attack.
5. **COMMAND CONTROL COMMUNICATIONS (CCC)** Providing communications and related facilities for coordination and control of external forces, and control of own unit's capabilities.
6. **EXPEDITIONARY WARFARE (EXW)** A military operation conducted by an armed force to accomplish a specific objective in a foreign country. Expeditionary Operations encompassing the entire range of military operations, from foreign humanitarian assistance to forcible entry. The defining characteristic of expeditionary operations is the projection of force into a foreign setting. Includes Naval Special Warfare, Mine Warfare, Amphibious Warfare, Navy Expeditionary Combat, and Sea Basing.
7. **INFORMATION OPERATIONS (IO)** The integrated employment of the core capabilities of electronic warfare, computer network operations, psychological operations, military deception, and operations security, in concert with specified supporting and related capabilities, to influence, disrupt, corrupt or usurp adversarial human and automated decision making while protecting our own.
8. **INTELLIGENCE OPERATIONS (INT)** The variety of intelligence and counterintelligence tasks that are carried out by various intelligence organizations and activities within the intelligence process. Intelligence operations include planning and direction, collection, processing and exploitation, analysis and production, dissemination and integration, and evaluation and feedback.
9. **MINE WARFARE (MIW)** The strategic, operational, and tactical use of mines and mine countermeasures. Mine warfare is divided into two basic subdivisions: the laying of mines to degrade the enemy's capabilities to wage land, air, and maritime warfare; and the countering of enemy-laid mines to permit friendly maneuver or use of selected land or sea areas.
10. **MOBILITY (MOB)** A quality or capability of military forces which permits them to move from place to place while retaining the ability to fulfill their primary mission.
11. **STRIKE WARFARE (STW)** Naval operations to destroy or neutralize enemy targets ashore, including attacks against strategic or tactical targets, such as manufacturing facilities and operating bases, from which the enemy is capable of conducting or supporting air, surface, or subsurface operations against friendly forces.
12. **SURFACE WARFARE (SUW)** That portion of maritime warfare in which operations are conducted to destroy or neutralize enemy naval surface forces and merchant vessels.

II. Warfare Communities

To achieve this mission, the Fleet utilizes the following warfare communities:

- Surface Warfare
- Amphibious Warfare (Surface and Marine Corps assets)
- Undersea Warfare (Submarine and Mine assets)
- Air Warfare (Surface and Aviation assets)
- Special Warfare (SEALS)
- Expeditionary Warfare (EOD, Riverine, Seabee)
- Cyber Warfare / Information Dominance
- Space Warfare

III. Capabilities of the Navy

The Navy has two unique capabilities; the Carrier Strike Group (CSG) and the Expeditionary Strike Group (ESG). The Carrier Strike Group is primarily employed for sea control and are formed and disestablished on an as-needed basis. Every CSG is different but they all are comprised of similar types of assets. Below is a notional CSG.

- One Aircraft Carrier (CVN)
- One Guided Missile Cruiser (CG)
- Two Guided Missile Destroyers (DDG)
- One Attack Submarine (SSN)
- One Combined Ammunition, Oiler, and Supply Ship
- One Carrier Air Wing

The Expeditionary Strike Group centers on the flexibility of amphibious ships, an embarked Marine Expeditionary Unit (MEU), and surface and submarine combatants. The total ESG provides operational freedom and expanded warfare capabilities on land and at sea. Below is a notional ESG:

- One Amphibious Assault Ship (LHA or LHD)
- One Amphibious Transport Dock (LPD) Ship
- One Dock Landing Ship (LSD)
- One Marine Expeditionary Unit (MEU)
- AV-8B Harrier IIs
- F-35 Lightning IIs
- MV-22 Ospreys (V/STOL)
- AH-1W Super Cobra helicopters
- UH-1 Huey helicopters
- P-3/8 Maritime Patrol Aircraft
- C/KC-130 Hercules/Super Hercules
- Surface combatants and submarines

An ESG combines an Amphibious Readiness Group (ARG) with the additional combat power of surface combatants and submarines. Amphibious landing ships transport troops, vehicles, and supplies wherever they are needed and provide great flexibility to commanders planning operations. However, amphibious ships are not designed for fighting hostile naval forces, especially highly maneuverable patrol craft found in coastal environments. In order to counter those threats and provide naval surface fire surface (NSFS) in support of amphibious operations, the Navy transformed ARGs into ESGs by assigning dedicated surface and submarine combatants—cruisers, destroyers, frigates, and submarines—to support the amphibious ships.

An ESG is a scalable, adaptable force, capable of planning and executing rapid strike and combat operations while operating in a limited non-permissive (i.e., low threat) environment. ESGs combine a

highly mobile group of platforms with a lean command and authority structure. This rapid response is enabled by the capability to rapidly coordinate, deploy, and move to locations where they are needed. In addition, ESGs are designed to be self-sustaining, as well as capable of autonomous action based on being comprised of a diverse set of capabilities. A wide range of missions can be supported, from amphibious assault to disaster relief, based on the composition of integrated Navy and Marine Corps forces.

IV. Maritime Strategy

A Cooperative Strategy for 21st Century Seapower (CS-21) was presented by the Chief of Naval Operations and the Commandants of the U.S. Marine Corps and U.S. Coast Guard at the International Seapower Symposium in Newport, R.I. on Oct 17, 2007. Signed for the first time by the service chiefs of all three Sea Services, the strategy draws the Navy, Marine Corps, and Coast Guard even closer together.

This strategy reaffirms the use of seapower to influence actions and activities at sea and ashore. **The expeditionary character and versatility of maritime forces provide the U.S. the asymmetric advantage of enlarging or contracting its military footprint in areas where access is denied or limited.** Permanent or prolonged basing of our military forces overseas often has unintended economic, social or political repercussions. The sea is a vast maneuver space, where the presence of maritime forces can be adjusted as conditions dictate to enable flexible approaches to escalation, de-escalation and deterrence of conflicts.

CS-21 will be implemented to accomplish **six key tasks, or strategic imperatives:**

1. Limit regional conflict with forward deployed, decisive maritime power
2. Deter major power war
3. Win our Nation's wars
4. Contribute to homeland defense in depth
5. Foster and sustain cooperative relationships with more international partners
6. Prevent or contain local disruptions before they impact the global system

To successfully implement CS-21, the Sea Services must collectively expand **the six core capabilities of U.S. seapower:**

1. Forward Presence
2. Deterrence
3. Sea Control
4. Power Projection
5. Maritime Security
6. Humanitarian Assistance and Disaster Response

Sources:

1. http://www.navy.mil/navydata/nav_legacy.asp?id=148
2. <http://www.navair.navy.mil/index.cfm>
3. Navy Fact File: <http://www.navy.mil/navydata/ships>
4. Warfare areas: <http://www.thelightingpress.com/assets/files/NOPS/NOPS-1.pdf>
5. Maritime strategy: <http://www.navy.mil/maritime>
6. Composite Warfare Doctrine: NWP 3-56
7. "Expeditionary Strike Group: Command Structure Design Support," Susan G. Hutchins, William G. Kemple, David L. Kleinman, and Susan P. Hocevar. Paper for the C4ISR/C2Track: Paper # 364, 10th International Command and Control Research & Technology Symposium. P.3-4.

WEEK 7: NAVAL AIR WARFARE

I. Mission

The mission of naval aviation is to support our naval forces. This support helps keep vital sea lanes open and denies their use to enemy forces in time of war. To accomplish this task, naval aviation has a primary function. The primary function of naval aviation is to closely coordinate with other naval forces in maintaining command of the seas. Accomplishing this task takes five basic operations:

1. **Eyes and ears of the Fleet.** Naval aviation has over-the-horizon surveillance equipment that provides vital information to our task force operation.
2. **Protection against submarine attack.** Anti-submarine warfare operations go on continuously along our country's shoreline. This type of mission includes hunter/killer operations to be sure of task force protection and to keep our coastal waterways safe.
3. **Aid and support operations during amphibious landings.** From the beginning to the end of the operations, support requires a variety of firepower. Providing air cover and support is an important function of naval aviation in modern warfare.
4. **Rapid logistic support for ground forces.** Logistic support aircraft sustain the mobility of the ground forces. Providing logistic support aircraft is another required function of naval aviation.
5. **Search and rescue (SAR) operations.** During sea missions, the possibility of a downed aircraft or man overboard always exists. Search and rescue helps reduce the number of lives lost.

II. History

During the twentieth century, few military organizations played a more crucial role than Naval Aviation. During maritime conflicts, aircraft carriers replaced battleships as the decisive weapon, projecting their powerful air wings over vast expanses of water, striking with surprise at enemy fleets and land bases, then disappearing with equal swiftness. In times of peace, the carrier and its battle group provided American political leaders a flexible and potent way to respond to regional crises wherever and whenever American vital interests were threatened. "Where are the carriers?" has been the first question asked by American presidents at the start of every national security crisis since the end of World War II.

The Navy's interest in airplanes as a naval weapon dates back to 1898 when several naval officers became members of an inter-service board tasked to observe and investigate the military potential of the new flying machine. In 1908 and 1909, naval officer observers were present at the public demonstrations staged by the Wright brothers.

In 1910, LT Theodore G. Ellyson became the first naval officer selected for flight training. Ellyson underwent instruction with Glenn Curtiss, the producer of the first practical hydroplane and early aircraft developer. It was a Curtiss pilot by the name of Eugene Ely who made the first shipboard takeoff from the *USS Birmingham* in 1910. Ely would later become the first pilot to successfully land an aircraft on the deck of a ship. Just one year later, having successfully completed training, LT Ellyson demonstrated the ability to launch a plane utilizing a newly devised compressed air catapult.

The first naval air station was located in Annapolis at Greenbury Point in 1911. The first aircraft carrier, *USS Langley*, was commissioned in 1922 by converting an old collier to a flat top ship.

Naval aircraft saw action in WWI, but it wasn't until WWII that naval aviation gained prominence. While naval aviation saw action in both European and Pacific theaters, it was the performance at the battle of Midway that solidified their position of importance. Having destroyed all four Japanese carriers, naval aviators turned the war in the Pacific from defensive to offensive. From that point onward, the center of the fleet became the aircraft carrier instead of the battleship.

Naval aviation has continued to grow in distinction and popularity over the past few decades. From operations in Desert Storm, Iraqi Freedom, and Enduring Freedom to humanitarian assistance at home and abroad, naval aircraft and aircraft carriers have assumed prominent roles and responsibilities.

At the start of hostilities in Afghanistan, the aircraft carriers in the North Arabian Sea provided the only viable option for tactical air support. In the first two years of sustained combat operations for Operation ENDURING FREEDOM (OEF), 72% of strike sorties were flown by aircraft based on six different

carriers. Hornets, Prowlers, and Hawkeyes provided close air support at distances of 600 to 750 nautical miles from their sea base. Indicative of the dynamic employment of carrier aircraft, 80% of targets engaged were assigned to aircrews after launch and 93% of munitions were satellite-aided or laser-guided. In a single deployment, Carrier Air Wing (CVW-8) attached to USS Theodore Roosevelt (CVN-71) flew 3,000 sorties supporting troops-in-contact (TIC) 500 times.

In 2003, six of twelve aircraft carriers were surged for Operation IRAQI FREEDOM, flying half of all fighter sorties in the US Central Command area of responsibility (AOR). Carriers were on station in the Mediterranean Sea as well as the Persian Gulf. More than 700 Navy and Marine Corps aircraft provided critical combat capability with each carrier flight deck active on average 16 hours a day to generate 120-130 sorties during the first month of the war. In a single deployment, CVW-14 aboard the USS Abraham Lincoln (CVN-72) dropped 1.865 million pounds of ordnance.

Throughout campaigns in Iraq and Afghanistan, EP-3Es operating from land bases in the Middle East orbited overland providing imminent threat warning to coalition strike packages and conducted essential intelligence, surveillance, and reconnaissance (ISR) for US and coalition forces.

Naval aviation continues to provide unique capabilities for humanitarian relief operations. CVW-2 assigned to USS Abraham Lincoln (CVN-72) arrived on-station off the coast of Indonesia just five days after the Dec. 26, 2004 tsunami devastated the region. The Abraham Lincoln Carrier Strike Group (ALSG) spearheaded the emergency relief effort known as Operation UNIFIED ASSISTANCE. By month's end, Navy helicopters had flown 1,527 missions, delivering 4.8 million pounds of supplies, and transporting 2,929 people.

Likewise, sea-based aviation assets remain a valuable tool in complex contingencies such as the NATO operation in support of Libya's liberation in 2011 during Operations ODYSSEY DAWN and UNIFIED PROTECTOR. Air operations were led by EA-18G Growlers whose radar jamming pods, High-Speed Anti-Radiation Missiles, and APG-79 phased-array radar devastated the Qadhafi regime's air defense and communications networks, enabling AV-8B Harrier IIs of the 26th MEU to attack ground targets in Libya. Simultaneously, P-3C Orions attacked surface ships with AGM-65F Maverick missiles and an MV-22 conducted combat search and rescue to recover downed USAF F-15E airmen.

Naval aviation has also been at the cutting edge of aerospace expeditions, such as the first successful crossing of the Atlantic by an aircraft, exploration of the Arctic and Antarctic, and numerous "journeys of discovery" into outer space. The common link for those who participated in this exciting history was their training in Pensacola, Florida. Since 1914, it is there that young student naval aviators and naval flight officers learned and mastered the unique demands of flying naval aircraft.

III. Roles and Responsibilities

Naval Aviation personnel fall into many different categories. Naval Aviators and Naval Flight Officers (NFO) command the aircraft in today's fleet, while Naval Airmen operate many of the sophisticated equipment in-flight. On the ground, flight surgeons and maintenance personnel support the mission and keep both the aircraft and aircrews flying. Below is a brief description of some of the major roles within Naval Aviation:



Naval Aviator: Unrestricted Line Officer qualified for duty involving flying aircraft as a pilot. As a qualified Aircraft Commander, a Naval Aviator retains overall responsibility for the safe conduct of flight operations and physical control of aircraft, regardless of rank.



Naval Flight Officer (NFO): Unrestricted Line Officer responsible for various mission systems, weapon systems, and equipment. NFOs are flying officers whose duties do not involve physical control of the aircraft, but who "fight" the aircraft and retain command of navigation, communication, weapons, and avionics systems. Naval Flight Officers fill the following roles within the Naval Aviation Community:

- Weapon Systems Officer (WSO) – F/A-18D/F
- Electronic Warfare Officer (EWO) – E/A-18G
- Electronic Countermeasures Officer (ECMO) – E/A-6B
- Airborne Communications Officer (ACO), Combat Systems Officer (CSO) – E-6B
- Radar Officer (RO), Air Control Officer (ACO), Combat Information Center Officer (CICO) – E-2C/D
- Navigator/Communicator (NAV/COM), Tactical Coordinator (TACCO) – P-3C/P-8A
- Navigator (NAV), Electronic Warfare Officer/Signals Evaluator (EWO SEVAL) – EP-3E

Naval Aircrewman (NAC): Enlisted personnel in a permanent flight status. Naval Aircrewmen perform



in-flight duties in accordance with various aircrew positions and are responsible to the Aircraft/Mission Commander for the operation, maintenance and training associated with applicable aircraft systems. Depending on the type of aircraft and mission they perform, Naval Aircrewmen are divided into five distinct categories (applicable aircraft in parentheses):

1. **Aircrewman Mechanical (AWF)**: Includes flight engineers, crew chiefs, and load masters. Proficient with all in-flight emergency requirements and knowledgeable with all aircraft flight systems (P-3C, EP-3, E-6B, C-2).
2. **Aircrewman Operator (AWO)**: Operates tactical mission systems to detect, classify, track, and attack enemy submarines (P-3C, P-8A, UAS).
3. **Aircrewman Tactical Helicopter (AWR)**: Operates tactical mission systems to detect, classify, and attack enemy submarines (SH-60B, SH-60R, UAS).
4. **Aircrewman Helicopter (AWS)**: Serves as the utility aircrewman operating a wide range of equipment, from mine hunting sensors to close in combat weapons systems. Primary rescue swimmer during SAR missions (HH-60H, MH-60S, H-46, MH-53, UAS).
5. **Aircrewman Avionics (AWV)**: In flight technician/trouble shooter. Maintains and troubleshoots all avionics equipment while in flight. Operates communication systems and electronic warfare equipment (P-3C, EP-3, E-6B, UAS)

Flight Surgeon: Medical representative for an aviation command. The flight surgeon is a board-certified



medical doctor and promotes aviation safety to decrease the potential for aircraft accidents through the implementation of aviation medicine programs, flight physicals for aircrew personnel, and other routine medical tasks. The flight surgeon is responsible to the CO for the squadron's medical readiness and routinely flies with the squadron to observe in-flight stressors and crew coordination.

Professional Aviation Maintenance Officer (PAMO): Established in 2009, the PAMO community is

comprised of aerospace maintenance duty officers, aviation maintenance limited duty officers, and aviation maintenance chief warrant officers. They have significant experience and display a high level of knowledge in all aspects of aviation warfare support. In addition to serving a minimum of 24 months in an aviation maintenance activity and completing one operational deployment, PAMOs are required to complete a personnel qualification standard (PQS) and successfully pass an oral board. Once qualified, PAMOs serve as leaders within an aviation squadron's maintenance department, supporting aviation missions and the squadron's warfighting capabilities.



IV. Core Competencies

The primary function of naval aviation is to closely coordinate with other naval forces in maintaining command of the seas while also establishing dominance in the airspace surrounding vital interests. Naval Aviation supports the following operations:

1. ANTI-AIR WARFARE (AAW)
2. ANTI-SURFACE WARFARE (ASU)
3. ANTI-SUBMARINE WARFARE (ASW)
4. CLOSE AIR SUPPORT (CAS)
5. COMBAT SEARCH AND RESCUE (CSAR)
6. COMMAND, CONTROL, COMMUNICATION, COMPUTERS, COMBAT SYSTEMS, AND INTELLIGENCE (C5I)
7. LOGISTICS SUPPORT OPERATIONS (LOG)
8. INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE (ISR)
9. MINE WARFARE (MIW)
10. STRIKE WARFARE (STW)

The numerous naval aviation operations are carried out by multiple aviation platforms. In general, there are two categories of aircraft: **Fixed Wing** and **Rotary Wing**. Within these categories, aircraft are developed with specific missions in mind. Fixed wing naval aviation assets can be further classified into one of two groups: **Carrier Aviation** or **Maritime Aviation**.

IV. Naval Aviation Organization

Naval aircraft are grouped together in *squadrons*, or military units composed of a number of similar aircraft. Each squadron is composed of officers and enlisted tasked with planning, flying, and maintaining all of their aircraft in support of the mission at hand. Every type of squadron is designated with a two or three-letter abbreviation describing what missions and aircraft the squadron flies. The following tables will help decode these designators.

Squadron Letter Decoder			
Letter	Meaning	Letter	Meaning
V	Fixed Wing	Q	Electronic or Reconnaissance
H	Rotary Wing	R	Logistics
		W	Warning
		P	Patrol
		A	Attack
		F	Fighter

Squadron Abbreviation Decoder	
Squadron Type	Meaning
VAW	Carrier Airborne Early Warning
VP	Maritime Patrol
VFA	Fighter / Attack
VAQ	Electronic Attack
VQ	Fleet Air Reconnaissance
VRC	Fleet Logistics Support
HSM	Helicopter Maritime Strike
HSC	Helicopter Sea Combat
HM	Helicopter Mine Countermeasures

Individual squadrons are often grouped together with other squadrons and surface units to accomplish their mission. This is commonly done in three different ways:

Type Wing

A type wing is part of the administrative chain of command and oversees the non-deployed training of aviation squadrons. Each community has its own type wing, which assists in providing training, logistic support, and materials for each squadron. Examples include STRKFITWING (Strike Fighter Wing) and ACCLOGWING (Airborne Command Control and Logistics Wing). Type wings are land based, located at major bases, and are usually not deployable.

Carrier Air Wing

A Carrier Air Wing (CVW) is composed of all of the individual squadrons, both fixed wing and rotary wing, embarked onboard an aircraft carrier. Until 1963, Carrier Air Wings were known as Carrier Air Groups; thus, the head of each air wing came to be known as, and is still called, the Commander of the Air Group (CAG). The CAG holds the rank of Captain and reports directly to the Commander of the Carrier Battle Group, not the Commanding Officer of the carrier.

A typical modern Carrier Air Wing is composed of the following squadrons, putting the wing at approximately 70 aircraft:

- | | |
|--------------------|---|
| - 4 VFA Squadrons | (F/A-18C/D Hornet and F/A-18E/F Super Hornet) |
| - 1 VAQ Squadron | (E/A-18G Growler) |
| - 1 VAW Squadron | (E-2C Hawkeye) |
| - 1 VRC Detachment | (C-2 Greyhound) |
| - 1 HSC Squadron | (SH-60S Seahawk) |
| - 1 HSM Squadron | (SH-60R Seahawk) |

The VRC detachment includes two aircraft from the original VRC squadron designated to supply logistical support solely for the carrier on which they are embarked. Additionally, the HSM squadron often shares its helicopters with the other ships in the Carrier Battle Group that can support helicopters (cruisers, destroyers, etc.). The composition of the air wing can always be altered to fit the deployment requirements of the carrier.

Detachments

Often times, helicopter, logistics, and patrol squadrons do not deploy as a whole. When this is the case, deploying aircraft are called a detachment and are assigned to a different deploying unit. For example, VRC aircraft detach to deploy with a Carrier Air Wing, and HSM helicopters can be detached to independently acting surface vessels or destroyer squadrons. When squadrons execute detachment operations, those assigned to the detachment still fall under their home squadron's rules, but always follow the regulations and rules of engagement of the unit they are assigned to (example: VP detachment to 5th Fleet, HSM detachment to CVN).

Carrier Flight Deck Jerseys

For easy and rapid identification of personnel on an aircraft carrier flight deck, the following color-coded jerseys are worn:



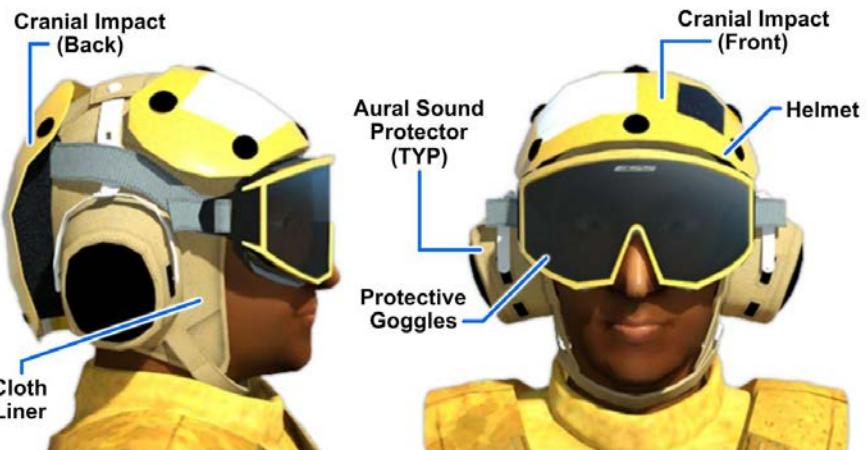
Purple
Aviation Fuels [Nickname: "Grapes"]

	<p>Blue</p> <ul style="list-style-type: none"> Plane Handlers Aircraft elevator Operators Tractor Drivers Messengers and Phone Talkers
	<p>Green</p> <ul style="list-style-type: none"> Catapult and arresting gear crews Air wing maintenance personnel Cargo-handling personnel Ground Support Equipment (GSE) troubleshooters Hook runners Photographer's Mates Helicopter landing signal enlisted personnel (LSE)
	<p>Yellow</p> <ul style="list-style-type: none"> Aircraft handling officers Catapult and Arresting Gear Officers Plane directors
	<p>Red</p> <ul style="list-style-type: none"> Ordnancemen Crash and Salvage Crews Explosive Ordnance Disposal (EOD) [Nickname: "Ordies"]
	<p>Brown</p> <ul style="list-style-type: none"> Air wing plane captains Air wing line leading petty officers
	<p>White</p> <ul style="list-style-type: none"> Air wing quality control personnel Squadron plane inspectors Landing Signal Officer (LSO) Air Transfer Officers (ATO) Liquid Oxygen (LOX) crews Safety Observers Medical personnel

V. Naval Aviation Safety

Like all warfare communities, Naval Aviation poses unique and significant safety considerations that all personnel must be aware of. Hazards associated with moving aircraft, spinning propellers, operating jet engines, loud noises, and ordinance are common to flight decks and part of everyday life aboard aviation-capable ships or shore based naval air stations. The following information is meant to provide a brief overview of aviation safety and methods used to mitigate the hazards.

Cranial: The cranial impact helmet provides impact protection to the head and includes goggles (eye protection) and sound attenuators (hearing protection). It is required to be worn by personnel whose duties required them to work on the flight deck/line.



Mk 1 Inflatable Life Preserver: The Mk 1 life preserver is required to be worn by all personnel who work on the flight deck. The life preserver includes a distress light, sea dye marker, and a whistle to allow the wearer to be found quickly in both day and night conditions. Auto-inflators are only used for personnel who will not be in an aircraft.

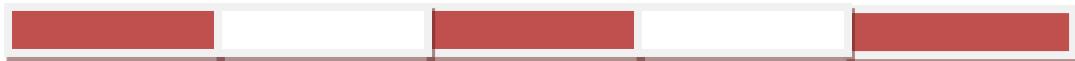


Foreign Object Debris (FOD): FOD is any object, live or not, located in an inappropriate location in the airport/flight deck environment that has the capacity to damage aircraft and/or injure personnel. FOD can include missing/lost tools, loose nuts and bolts, or any material not organic to the aircraft or its associated components. When such debris causes damage to an aircraft or injures personnel, it is considered "Foreign Object Damage," retaining the original abbreviation (FOD). To mitigate this hazard, Air Department personnel



will conduct a “FOD walkdown” (seen at right), 1 to 2 hours prior to the day’s first launch. The purpose of this walkdown is to physically search for and retrieve any potential FOD.

Fouled Deck/Foul Line: In order to land aircraft safely aboard a ship, the landing area must be clear of anything that might jeopardize or impede the landing. A deck is either “clear” for landing, or considered “foul.” If a deck is foul, something, or someone, is present in the landing area which would make the landing of an aircraft unsafe. A flight deck is also considered foul any time unauthorized personnel are in or around aircraft parked in the safe-parking area aft of the island. In order to define the proper placement of personnel and equipment on a flight deck, “foul lines” are established which define the landing area. Identified by an alternating red and white striped line that runs the length of the flight deck (see below), the foul line defines the area behind which it is safe to park aircraft, place equipment, or stand. A deck cannot be considered “clear” until any potential hazards are placed behind the foul line.



Jet Blast, Prop/Rotor Wash, and Noise: Naval aircraft typically must operate in confined quarters aboard a ship, often in close proximity to personnel. Hazards associated with jet blast, or propeller/rotor wash are therefore common. When standing or moving around operating aircraft, it is important to be cognizant of these hazards, and pay close attention to directions given by flight crews or other authorities. Operating propellers and rotors are nearly invisible, but extremely dangerous. Rotor tips cover a wide area and often dip close to the deck when a helo lands. An aircraft making a turn while taxiing can put you in harm’s way very quickly, and engine noise from one aircraft that you are watching can drown out noise from other aircraft which you are not aware of. Exhaust from jet engines creates hot temperatures and strong forces which can injure or kill personnel several hundred feet back. Intakes of engines also pose a hazard by creating a vacuum several feet in front of the engine itself. In general, any place within 100 feet of a jet engine should be considered dangerous.

To help mitigate these hazards, passengers must be led to and from a helicopter or aircraft by a member of the flight, handling, or transfer crew. Loose items must be stowed and/or secured, and all safety equipment and clothing must be properly worn. If provided, helmets must be on and buckled, with goggles down over the eyes; flight deck jerseys must be worn with sleeves rolled down; life vests must be on and fastened; and safety shoes shall be worn. When operating in or around aircraft, do not move without first looking in all directions and keep your head on a swivel, paying close attention to all aircraft around you. Finally, given that the noise level on an active flight deck can exceed 145 dB, hearing protection must always be worn during flight operations. Hearing protection can consist of either disposable, in-ear plugs (“foamies”) or headset-type noise attenuators, such as those found on the cranial. During prolonged [104 dB(A)] or particularly extreme peak exposure (165 dB) to loud noise, both types shall be used simultaneously to provide “double protection.”

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WEEK 8: NAVAL AIR WARFARE PLATFORMS

I. Fixed Wing Aviation

Aircraft Designations

All Navy aircraft, like all U.S. military aircraft, are designated with a scheme of letters and numbers that identify each aircraft's particular type, model, and series (T/M/S). Prefix letter(s), placed before the hyphen, identify an aircraft's basic, or primary, mission(s). The number(s) following the hyphen define the particular model, or design number, of the aircraft itself. Finally, if present, the letters following the model number indicate the series of that model (in successive alphabetic increments). The following prefixes (mission designators) are common to Navy Aircraft:

A	Attack
C	Cargo/Transport
E	Special electronic installation
F	Fighter
H	Helicopter
K	Tanker
P	Patrol
R	Reconnaissance
S	Antisubmarine
T	Trainer
U	Utility
V	VTOL/STOL

Carrier Aviation

The mission of carrier aviation is to provide a credible, sustainable, independent forward presence and conventional deterrence in peacetime, to operate as the cornerstone of joint/allied maritime expeditionary forces in times of crisis, and to operate and support aircraft attacks on adversaries, protect friendly forces and engage in sustained independent operations in war.

Fixed Wing Carrier Aircraft

Strike Fighter (VFA)



F/A-18 C/D Hornet	
Role: AAW / STW / CAS / ASU	The F/A-18 Hornet is the Navy's combat-tested maritime strike fighter. It can typically escort itself to the target, drop precision ordnance, and escort itself back home. The Hornet is an exceptional fighter, both in maneuverability and weaponry, as well as a superb strike aircraft.
Distinguishing Features:	Oval shaped air intakes. Single seat cockpit.
Crew:	1 Pilot
Responsibilities:	Pilot: Responsible for all operations to include aviating, navigating, communicating, and employing weapons.

F/A-18 E/F Super Hornet	
Role: AAW / STW / CAS / ASU	The F/A-18 E/F has been introduced into the fleet to replace the F-14 Tomcat and the older F/A-18 Hornets. Like the “legacy” Hornet, the Super Hornet is a maritime strike fighter; however, the Super Hornet has a greater range, higher service ceiling, larger payload, increased reliability, and an improved electronics suite when compared to the original Hornet.
Distinguishing Features:	Rectangle shaped air intakes. 35% larger surface area than the Hornet. Single (E model) or Dual (F model) seat cockpit.
Crew:	E: 1 Pilot F: 1 Pilot / 1 NFO as a Weapons System Officer (WSO)
Responsibilities:	Pilot: Aviating, Weapons Employment WSO: Weapons systems operations, weaponeering and timing of strikes



Electronic Attack (VAQ)



EA-18G Growler	
Role: STW	Modified from the F/A-18F and designed to replace the aging Prowler fleet, the EA-18G retains some of the combat capabilities of the Super Hornet while performing all of the operations of the EA-6B aircraft. Growlers are planned to fully replace Prowlers onboard Carrier Air Wings by 2015. Growlers have already begun integration into the VAQ community.
Distinguishing Features:	Rectangular shaped air intakes. Dual seat cockpit. Jamming pods on wing tips.
Crew:	1 Pilot / 1 NFO as Electronic Warfare Officer (EWO)
Responsibilities:	Pilot: Fly aircraft and evade possible threats. EWO: Navigate and operate weapons systems including jammers and AGM-88 HARM missiles.

Airborne Early Warning (VAW)



E-2C Hawkeye

Role: C5I	The E-2C Hawkeye is the Navy's all-weather, carrier-based tactical battle management, airborne early warning, and command and control aircraft.
Distinguishing Features:	Twin turboprop engines. Large rotating radar dome on spine of aircraft.
Crew:	2 Pilots / 3 NFOs
Responsibilities:	Pilot: Aviating, navigating, and threat avoidance. NFO: Mission Commander, sensor operator, Airborne Command and Control

Fleet Logistics Support (VRC)



C-2 Greyhound

Role: LOG	Provides critical logistics support to Carrier Strike Groups. Its primary mission is carrier onboard delivery (COD) of cargo, mail, and passengers between carriers and shore bases.
Distinguishing Features:	High wing. Twin turboprop engines.
Crew:	2 Pilots / 2 Enlisted Aircrew
Responsibilities:	Pilot: Aviating and safety of aircraft and crew Co-Pilot: Navigating, Communication Aircrew: Loadmasters for cargo and passengers

Maritime Aviation

Mission: To conduct global patrol, surveillance, and reconnaissance missions in a maritime role under the command of land-based forces. Maritime patrol and reconnaissance promotes regional security and enhancement of theater security cooperation through close interoperation with allied forces, friendly nations, and other U.S. military services.

Patrol (VP)



P-3C Orion

Role: ASW / ASU / STW / ISR	Originally designed as a land-based, long-range, anti-submarine warfare (ASW) patrol aircraft, the P-3C's mission has evolved in the late 1990s and early 21st century to include intelligence/surveillance/reconnaissance (ISR) of the battle space, either at sea or over land. The aircraft possesses strike capabilities with SLAM, Maverick, and unguided munitions. Also carries airborne launched torpedoes.
Distinguishing Features:	4 large turboprop engines. Large Magnetic Anomaly Detector (MAD) boom protruding from aft of aircraft.
Crew:	3 pilots / 2 NFOs / 4-6 Enlisted Aircrew / nominal crew is 12 total
Responsibilities:	Pilot: Responsible for the safety of flight during all mission phases. NFO: One Tactical Coordinator (TACCO) that typically serves as the Mission Commander; one Navigator / Comms Officer (NAVCOM) Aircrew: Operates optical / acoustic / non-acoustic sensor systems.



P-8A Poseidon

Role: ASW / ASU / STW/ ISR	The P-8A Poseidon is currently being phased in to the fleet to replace the aging P-3C aircraft. Derived from Boeing's successful 737 aircraft line, the P-8 will be able to expand upon the missions of the Orion. The United States Navy plans to acquire 117 total aircraft. The first operational flight took place in early 2012, integration began in July 2012.
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Distinguishing Features:	Boeing 737 airframe. Two large turbofan engines with flat nacelle bottoms. Raked wingtips.
Crew:	3 pilots / 2 NFOs / 3-6 Enlisted Aircrew
Responsibilities:	Pilot: Aviating and safety of the aircraft and aircrew. NFO: One Tactical Coordinator (TACCO) that typically serves as the Mission Commander; one Navigator / Comms Officer (NAVCOM) Aircrew: Operates advanced sensor systems.

Fleet Air Reconnaissance (VQ)



E-6B Mercury

Role: C5I	Dual-mission aircraft. Fulfills TACAMO (Take Charge and Move Out) mission by linking the National Command Authority (NCA) with the nation's nuclear forces (Bombers, ICBMs, SSBNs) by relaying Emergency Action Messages. Also serves as an Airborne Command Post (ABNCP) with the capability to launch U.S. land-based ICBMs via the Airborne Launch Control System (ALCS).
Distinguishing Features:	Modified Boeing 707 airframe with 4 large high-bypass turbofan engines. Antenna pod on spine of aircraft. HF antenna pod under each wingtip.
Crew:	3 Pilots, 2 NFOs as Airborne Communications Officer (ACOs)/Combat Systems Officer (CSO), 6-9 Enlisted Aircrew.
Responsibilities:	Pilot: Responsible for the safety of flight during all mission phases. May act as Mission Commander. Flying duties include aerial refueling and operating at unmanned airfields. ACO/CSO: In charge of Communications Central. Releasing Authority for all message traffic. May act as Mission Commander. Aircrew: Operation and maintenance of mission systems in-flight



EP-3E ARIES II (AERIAL RECONNAISSANCE INTEGRATED ELECTRONICS SYSTEM)

Role: ISR / C5I	Land-based Multi-Intelligence reconnaissance aircraft. Provides fleet and theater commanders worldwide with near real-time tactical SIGINT and full motion video intelligence. With sensitive receivers and high-gain dish antennas, the EP-3E exploits a wide range of electronic emissions from deep within targeted territory to provide battle space situational awareness and direct threat warning.
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Distinguishing Features:	The EP-3E is based on the P-3 platform with a "canoe" on top and bottom that houses antennas, an "M&M" radar dome under the chin, and a large number of antennas under wings and along the fuselage.
Crew:	2 Pilots, 3 Naval Flight Officers, 1 Enlisted Flight Engineer, and 18 Enlisted Aircrew.
Responsibilities:	Pilot: Responsible for safety of flight during all mission phases; can act as mission commander. NFO: Senior Electronic Warfare Tactical Evaluator (SEVAL) is typically mission commander, fusing collected intelligence with off-board data and disseminates information via voice and datalink; Tactical Evaluator (EVAL) supervises collection of intelligence; Navigator. Aircrew: Cryptologic and Aviation rated aircrew perform roles as sensor operators, flight engineers, and in-flight technicians.

II. Rotary Wing Aviation

The workhorses of the Navy, rotary wing aircraft employ over 70% of Naval Aviators. Helicopters carry out missions ranging from cargo and personnel transport to Combat Search and Rescue (CSAR), while others play vital roles in sea control, surface surveillance, or mine countermeasures operations.

Helicopter Maritime Strike (HSM)



MH-60R Seahawk	
Role: ASW / ASU / LOG / CSAR	The MH-60R is the current helicopter employed by the HSM community. The primary missions of the Romeo are anti-submarine and anti-surface warfare. Ancillary missions include search and rescue, vertical replenishment, counter-narcotics operations, and command and control operations. The Romeo has updated radar and sonar systems, a glass-cockpit configuration, and will adapt the “dipping” sonar found on older Seahawk variants.
Distinguishing Features:	Forward rear-wheel location. Radar dome under nose. Door on starboard side only. Low pylon mounts.
Crew:	1Pilot / 1 Co-pilot as Airborne Tactical Officer (ATO) / 1-2 Enlisted Aircrew
Responsibilities:	Pilot: operate aircraft ATO: supervise tactical situation/direct pilot and sensor operators Aircrew: act as sensor operator/runs radar and sonar computers

Helicopter Sea Combat (HSC)



MH-60S Knighthawk	
Role: ASU / CSAR / MIW / LOG	The MH-60S is similar to prior Seahawk variants used by the HSC community but boasts updated avionics and a glass cockpit system. The aircraft is primarily used for search and rescue and vertical replenishment. Capable of maritime strike and HA/DR (Humanitarian Assistance Disaster Relief).
Distinguishing Features:	Aft rear-wheel location. No radar dome under nose. Large cargo doors on both sides. Gunner's window behind cockpit.
Crew:	1Pilot / 1 Co-pilot / 2 Enlisted Aircr
Responsibilities:	Pilot: Operate aircraft Co-pilot: Navigation/Tactical mission control Aircr: Crew Chief/Aerial Gunners and Ground Rescue Element in CSAR

Helicopter Mine Countermeasures (HM)

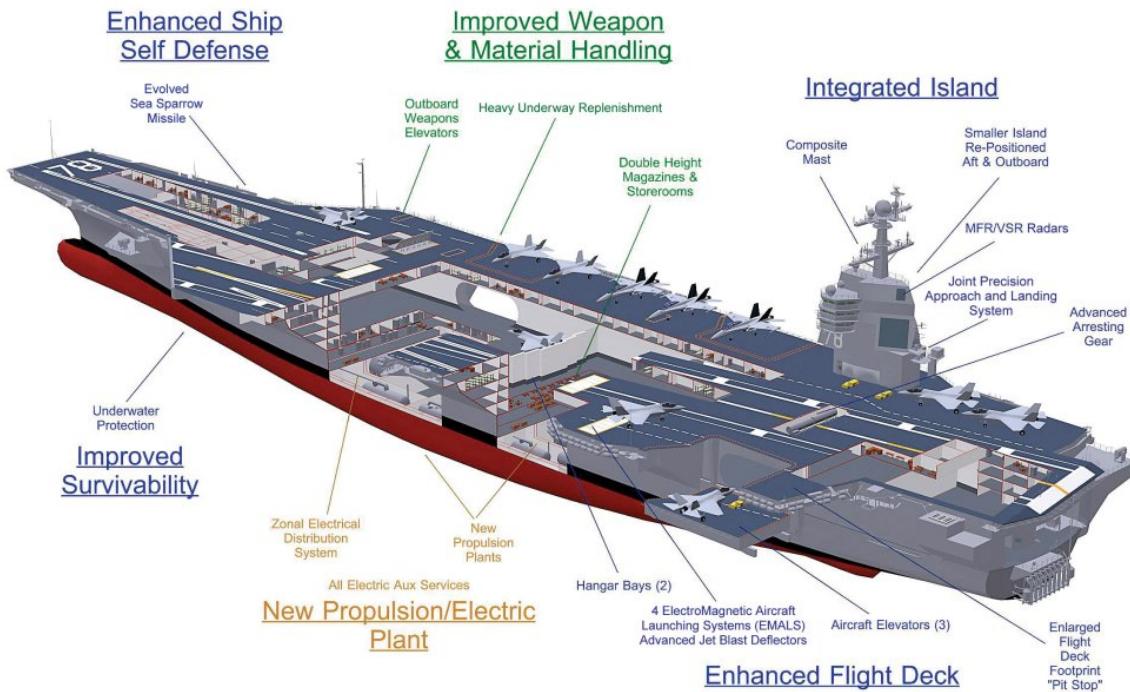


MH-53E Sea Dragon	
Role: MIW / LOG	Airborne Mine Countermeasures (AMCM), with secondary missions of vertical shipboard delivery and assault support.
Distinguishing Features:	99 feet in overall length 6 or 7 rotor blades depending on variant.
Crew:	2 pilots / 1-2 Enlisted Aircr
Responsibilities:	Pilot: aviating, communicating Co-Pilot: supervise tactical situation, direct pilot and sensor operator Aircr: sensor operator, act as loadmasters

III. The Future of Naval Aviation

Aircraft Carrier

The Navy's newest aircraft carrier will take Naval Aviation into its second century, incorporating an array of integrated technological improvements and advancements that will enhance the ship's role as the centerpiece of the 21st-century carrier strike group. Gerald R. Ford (CVN 78), the lead ship of the class, represents the largest, most powerful, and transformational warship ever built. CVN 78 is expected to be commissioned in 2016, the numerical replacement for the venerable USS Enterprise (CVN 65), which was inactivated in December 2012 after more than 50 years of service. The Ford-class embodies significant design and technology changes, improved integrated warfighting capabilities originally planned for later ships, and lessons learned from 100 years of aircraft carrier operations. Gerald R. Ford is also the first aircraft carrier designed with all-electric utilities that eliminate steam service lines and other distributed systems from the ship, improve corrosion-control efforts, and substantially reduce manning and maintenance requirements throughout its 50-year service life. The Electromagnetic Aircraft Launch System (EMALS) replaces the manpower intensive and aging steam catapult through the use of an electrically-generated moving magnetic field that propels aircraft to launch speed. EMALS expands the launch envelope, allowing launch of both heavier strike fighters and potentially lighter future unmanned aircraft. The system enables the launching and landing of aircraft with less available wind (useful when operating in restricted water space) and it permits a high degree of computer control, monitoring, and automation. The projected capability of EMALS—working in concert with all elements in the redesigned flight deck—to launch more than 160 sorties per day is a significant increase in launch capacity (25 percent) compared to Nimitz-class carriers. The ability to launch more than 270 sorties per day is projected during short periods of high-tempo operations.



The Advanced Arresting Gear (AAG) is a highly reliable system consisting of energy absorbers, power conditioning equipment, and digital controls designed to replace the existing MK-7 arresting gear in Nimitz-class carriers. EMALS and AAG improve the launch and recovery envelope of the traditional steam catapults and arresting wires, and are expected to produce less stress on airframes, save energy, and result in potentially reduced equipment and aircraft maintenance costs. EMALS will be capable of launching all

conventional and short-takeoff fixed-wing carrier aircraft currently projected for the Navy inventory through 2030, including the F-35C Lightning II. Additionally, EMALS and AAG are designed to facilitate integration of unmanned systems, with a goal of launching all future aircraft projected in the inventory through 2050.

The increase in sortie generation rates is also enabled by a combination of the redesigned flight deck, which includes more deck space, a smaller island superstructure set further aft on the ship, and a NASCAR-inspired “pit stop” concept that reduces the time required to refuel, conduct maintenance, and launch aircraft. Electromagnetic field-driven weapon elevators, a relocated “bomb farm,” and an updated shipboard ordnance arrangement, improve the flow of weapons from magazines to aircraft, further contributing to increased sortie generation. New capabilities have been integrated into the smaller island, which is positioned 140 feet further aft and three feet further outboard to enhance launch and recovery. The island incorporates the advanced Dual Band Radar integrated warfare system that provides full surveillance, weapon targeting, and air traffic control for the carrier and the strike group. Ford’s superior command-and-control and “plug and play” capabilities will enable a joint task force commander to efficiently coordinate forces far out at sea.

Strike Fighter (VFA) The **F/A-18 E/F Super Hornet** will be joined by the **F-35C Lightning II** as the replacement for the aging F/A-18 A/C starting in 2013. Variants of the F-35 will be used by the Air Force (A-Variant), Marine Corps (B-Variant with V/STOL capability), and Navy (C-Variant with carrier capability), as well as a number of international partners.



Airborne Early Warning (VAW) With significant radar and avionics upgrades, the much improved **E-2D Advanced Hawkeye** will soon be starting to replace the older E-2C models.



Unmanned Systems A number of unmanned aerial vehicles (UAVs) have been under testing and development for use by the Navy. The **Broad Area Maritime Surveillance (BAMS)** program will employ around 40 UAVs starting in 2015 to complement the P-8A Poseidon in the maritime patrol mission and are currently executing surveillance missions similar to the P-3C Orion. The **MQ-4C Triton**, a maritime derivative of Northrop Grumman’s RQ-4 Global Hawk, was chosen to fill this role. With extended range and endurance and lacking the limitations of a human onboard, the BAMS will extend the reach of the current VP community.



The Northrop Grumman **MQ-8 Fire Scout** has already deployed as a test platform with a number of surface vessels to investigate the feasibility of unmanned rotorcraft operations. The Fire Scout is designed to provide reconnaissance, situational awareness, and precision targeting support for ground, air, and sea forces.



The Northrop Grumman **X-47B** is a demonstration Unmanned Combat Air Vehicle (UCAV). In May of 2013, an X-47B was successfully launched from an aircraft carrier, with a successful arrested landing conducted in July of that year. The lessons learned from the UCAV demonstrator will be integrated into its follow-on program, the Unmanned Carrier-Launched Airborne Surveillance and Strike system (UCLASS) which the Navy plans to field by 2020.



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WEEK 9: SURFACE WARFARE

I. Mission

To provide combat ready ships to the fleet; and to supply those ships and supporting commands with the leadership, manpower, equipment, training, and material needed to achieve operational excellence and conduct prompt, sustained combat operations at sea to ensure victory.

The surface fleet is able to conduct a myriad of operations in both peace and war-time environments:

1. Maritime Interdiction Operations (MIO)
2. Naval Surface Fire Support (NSFS)
3. Undersea Warfare (USW)
4. Anti-Submarine Warfare (ASW)
5. Anti-Air Warfare (AAW)
6. Anti-Surface Warfare (ASUW)
7. Ballistic Missile Defense (BMD)
8. Strike Warfare (STW)
9. Electronic Warfare (EW)
10. Expeditionary Warfare (EXW)
11. Amphibious Warfare (AMW)
12. Mine Warfare (MIW)
13. Mobility (MOB)

II. Capabilities

With nearly 160 warships and 110 Military Sealift Command ships, the Navy's surface fleet is a dynamic force enhanced by advancements in technology and strategy. Ship classes are no longer built around a single mission area; they are built to specialize in one warfare area but must be able to operate in several additional roles. Modern surface ships possess many unique capabilities listed below.

- **Stealth** – Ship classes such as the ARLEIGH BURKE class destroyers, SAN ANTONIO class amphibious transporters, and Littoral Combat Ship (LCS) employ an angled superstructure, radar absorbent and reflective material (PCMS), and reduced emissions to significantly reduce the radar cross section of the ship, making it much more difficult to acquire on radar.
- **Endurance** – Three primary sources of propulsion employed by the Navy are steam, gas turbine, and diesel. Range and speed vary based on platform; on average a gas turbine ship has an endurance of 6000nm at 20 knots. These ranges are almost unlimited based on the Navy's unique ability to refuel at sea. Of note, Nuclear power is utilized to produce steam propulsion on Aircraft Carriers providing unlimited endurance.
- **Firepower** – Includes gun mounts, land attack cruise missiles, surface to air missiles, self-defense weapons, and surface to surface missiles.
- **Mobility** – Because over two thirds of the world's surface is ocean and eighty percent of the world's population lives within 100 nautical miles of the coast, naval forces are a potent deterrent to potential adversaries. Naval forces can arrive quickly and remain indefinitely in the waters around the world. This presence reminds potential adversaries of the U.S. military's capability and resolve to enforce international law.
- **Communication** – The surface fleet utilizes several means of communication in order to provide and employ classified and unclassified voice, messaging, data and video information from every available source in order to effectively execute the mission. The two primary means used to provide ships, submarines, aircraft, and ground forces necessary information for joint missions are: data transmission, via LINK 4A, LINK 11, and LINK 16, Cooperative Engagement Capability (CEC) and voice transmission, via Satellite COMMS, High Frequency, Ultra High Frequency, Very High Frequency, Super High Frequency, and Extremely High Frequency systems.

III. Surface Platforms/Equipment



CVN-68 Nimitz Class Aircraft Carrier	
Missions	STW, AAW, EW
Aircraft	1 Carrier Air Wing (85 aircraft)
Crew Complement	Ship's Company: 3,350; Air Wing: 2,480
Power Plant	Two Nuclear Power Plants, four shafts
Armament	Multiple NATO Sea Sparrow, Phalanx CIWS, and Rolling Airframe Missiles (RAM)

Mission: Aircraft carriers are the centerpiece of America's naval forces. On any given day, aircraft carriers exercise the Navy's core capabilities of power projection, forward presence, humanitarian assistance, deterrence, sea control and maritime security.



CG-47 TICONDEROGA Class Cruiser	
Visual Identification	Hurricane bow, split superstructure with two SPY array faces forward and two aft. Two masts, with the shorter forward and taller aft. Two sets of exhaust stacks, one aft of each mast. 5in/54 cal gun forward and aft.
Missions	Primary: AAW / Secondary: STW, ASW, ASUW, BMD (some)
Weapons	2 x 5in/54 cal dual purpose guns (1 fwd, 1 aft) CG-51 and up, 2 x VLS (61 cells fwd, 61 cells aft) 2 x 20mm Phalanx CIWS (port and stbd) 2 x Surface Vessel Torpedo Tube launchers (3 tubes per launcher) 2 x quadruple Harpoon canisters
Aircraft	2 SH-60 Helicopters
Mission Specific Capabilities	SPY-1B Air Search Radar, Aegis combat system, Towed Array Sonar
Crew Size	30 officers, 300 enlisted

Mission: Modern U.S. Navy guided missile cruisers perform primarily in a Battle Force role. These ships are multi-mission (Air Warfare (AW), Undersea Warfare (USW), Strike Warfare, and Surface Warfare (SUW)) surface combatants capable of supporting carrier battle groups, amphibious forces, or of operating independently and as flagships of surface action groups. Some Aegis Cruisers have been outfitted with a Ballistic Missile Defense (BMD) capability.



DDG-51 ARLEIGH BURKE Class Guided Missile Destroyer	
Visual Identification	Open bow, single 5in/54 cal or 5in/62 cal dual purpose gun fwd, split superstructure, four SPY array faces on superstructure, swept mast, two separate sets of stacks (1fwd, 1 aft). Flight deck aft. DDG 79 and following (FLT IIA) also have helo hangars.
Missions	Primary: AAW / Secondary: ASUW, STW, ASW, BMD (some)
Weapons	1 x 5in/54 cal or 5in/62 cal dual purpose gun 2 x VLS (29 cells fwd, 61 cells aft for DDG-78 and below, 32 cells fwd, 64 cells aft for DDG-79 and following) 2 x 20mm Phalanx CIWS (fwd and aft) 2 x Surface Vessel Torpedo Tube launchers (3 tubes per launcher) 2 x quadruple Harpoon canisters (DDG-78 and below) Evolved Sea Sparrow Missile (DDG-79 and following)
Aircraft	2 SH-60 (FLT IIA)
Mission Specific Capabilities	SPY-1D Air Search Radar, Aegis combat system, Towed Array Sonar
Crew Size	Varies based on Modernization : 28 officers, 254 enlisted

Mission: DDG 51 warships provide multi-mission offensive and defensive capabilities. Destroyers can operate independently or as part of carrier strike groups, surface action groups, amphibious ready groups, and underway replenishment groups. Guided missile destroyers are multi-mission [Anti-Air Warfare (AAW), Anti-Submarine Warfare (ASW), and Anti-Surface Warfare (ASUW)] surface combatants. The destroyer's armament has greatly expanded the role of the ship in strike warfare utilizing the MK-41 Vertical Launch System (VLS).



LCS LITTORAL COMBAT SHIP	
Visual Identification	Dual designed for max speed and shallow draft. FREEDOM (odd numbers) – Mono-hull INDEPENDENCE (even numbers)- Tri-hull

Mission	Modular; ASW, ASUW, MIW
Weapons	57mm Gun Rolling Airframe Missiles (RAM) 2 x 20mm Phalanx CIWS (fwd and aft)
Mission Specific Capabilities	TBD
Crew Size	50-85 mission dependent

Mission: The LCS class consists of two variants, the FREEDOM variant and INDEPENDENCE variant - designed and built by two industry teams, respectively led by Lockheed Martin and General Dynamics. These seaframes will be outfitted with reconfigurable payloads, called Mission Packages, which can be changed out quickly. Mission packages are supported by special detachments that will deploy manned and unmanned vehicles and sensors in support of mine, undersea and surface warfare missions.



MCM-1 AVENGER Class Mine Counter Measure Ship	
Visual Identification	Small singledeck house, crowded decks, wooden hull.
Mission	MIW
Weapons	.50 Caliber guns
Mission Specific Capabilities	Mine hunting specific systems
Crew Size	8 Officers, 75 Enlisted

Mission: Avenger class ships are designed as mine sweepers/hunter-killers capable of finding, classifying and destroying moored and bottom mines.



PC-1 Cyclone Class Patrol Coastal Ships	
Visual Identification	Stealthy designed, short vessel with one open mast, a single 25mm gun on the bow, and one Rigid Hull Inflatable Boat (RHIB) platform in the rear.
Mission	MIO
Weapons	Two 25mm machine guns; five .50 caliber machine guns; two 40mm automatic grenade launchers; two M-240 machine guns; 1 Griffin missile launcher
Crew Size	4 Officers, 24 Enlisted

Mission: The primary mission of these ships is coastal patrol and interdiction surveillance, an important aspect of littoral operations outlined in the Navy's maritime strategy. Ten of the 13 PC's are forward deployed to Manama, Bahrain in support of 5th Fleet operational tasking.

IV. Amphibious Platforms



LSD-41 WHIDBEY ISLAND Class Dock Landing Ship	
Visual Identification	Solid block superstructure. Boat/Aircraft crane starboard side
Mission	AMW, EXW
Lift capability	Capable of carrying 4 Landing Craft Air Cushion (LCACs), or 3 LCU, or 64 AAV.
Weapons	2 x 25mm machine guns 2 x 20mm CIWS mounts 2 x RAM launchers 6 x .50 caliber machine guns
Crew	22 officers, 350 enlisted. Embarked Marines: 402 plus 102 surge.

Mission: WHIDBEY ISLAND, commissioned in 1985, was the first of this class of versatile and durable dock landing ships. Their ability to ballast down and flood a well deck makes possible the loading at sea of amphibious warfare craft and their cargo. LSDs also can accommodate a sizable number of troops. The first variant of this class began with LSD 49 (HARPERS FERRY), which expanded cargo capacity, improved facilities for embarked troops and offered greater operating range. The final ship of the class, PEARL HARBOR, was commissioned in May 1998.



LPD-17 SAN ANTONIO Class Amphibious Transport Dock	
Visual Identification	Two enclosed masts, single exhaust stack. Helo hangar on flight deck. Angled hull and <u>superstructure to reduce radar cross-section (RCS)</u>
Mission	AMW, EXW
Lift capability	Capacity 2 CH-53E or 2 MV-22 or 6 UH-1N/Y Hueys or 6 AH-1W/Z Super Cobras on the flight deck. 2 LCAC or 1 LCU; 18 AAVs in the well deck.

Weapons	2 x 30mm guns 2 x RAM launchers 10 x .50 caliber machine guns
Crew	28 officers, 340 enlisted. Embarked Marines: 800

Mission: LPDs are used to transport and land Marines, their equipment, and supplies by embarked air cushion (LCAC) or conventional landing craft, augmented by helicopters or vertical take-off and landing aircraft (MV-22). These ships support amphibious operations, special operations, or expeditionary warfare missions and can serve as secondary aviation platforms for amphibious ready groups. The SAN ANTONIO class offers many improvements over previous LPDs, including the ability to interface with other surface combatants via the Cooperative Engagement Capability (CEC), Link-11, and Link-16.



LHD-1 WASP, LHA-1 TARAWA	
Visual Identification	Flight deck along the main deck. Elevator port side. Superstructure amidships starboard side. Sterngate. Largest amphibious warship.
Missions	AMW, EXW
Lift capability	Capable of carrying 3 Landing Craft Air Cushion (LCACs). 4 CH-53E Sea Stallion helicopters; 4 AH-1W/Z Super Cobra helicopters; 6 AV-8B Harrier attack aircraft; 3 UH-1N/Y Huey helicopters; 10-12 MV-22 Osprey
Crew	1,108 crew (104 officers) + 1,894 embarked troops

Mission: The LHDs provide the Marine Corps with a means of ship-to-shore movement by helicopter and tilt rotor in addition to movement by landing craft. LHDs – which have extensive storage capacity and can accommodate LCACs – have participated in major humanitarian assistance and occupation and combat operations. They served as launching platforms for Marine Corps Expeditionary forces to Afghanistan in Operation ENDURING FREEDOM in 2001-2002 and to Iraq in Operation IRAQI FREEDOM in 2003. LHDs serve as “Harrier Carriers,” launching AV-8B attack aircraft against targets.



LANDING CRAFT, UTILITY AND MECHANIZED – LCU & LCM

Visual Identification	Long flat open top; near the appearance of a barge LCU: Control compartment on the starboard side LCM: Control compartment on the stern
Mission	MOB
Lift capability	LCU: 125 tons LCM: 58-65 tons
Crew	LCU: 14 LCM: 5

Mission: Landing craft are capable of transporting cargo, tracked and/or wheeled vehicles and troops from amphibious assault ships to beachheads or piers. LCUs have both bow and stern ramps for onload/offload, have the ability to operate at sea for up to 10 days, and are capable of carrying one M1 tank or 350-400 troops. LCMs have a bow ramp for onload/offload and are capable of carrying light vehicles and troops.



LANDING CRAFT AIR CUSHION (LCAC)

Visual Identification	Large black skirt. Two large propellers aft.
Mission	MOB
Lift capability	60-75 tons
Crew	5

Mission: The LCAC is a high-speed, over the beach, amphibious landing craft. LCAC's air-cushion capability allows it to proceed inland to discharge cargo on dry, trafficable beaches, thus reducing buildups of troops, equipment and other material in the surf zone. The landing craft is capable of carrying one M1 tank or four Light Armored Vehicles or three Amphibious Assault Vehicles. LCAC is unrestricted by tides, beach gradients, and surf conditions, allowing it to access more than 70 percent of the world's beach areas. LCACs are carried by LHAs, LHDs, LPDs and LSDs.

V. Current Projects

ZUMWALT Class Destroyer (DDG 1000) provides a broad range of capabilities that are vital both to fighting and winning major combat operations. DDG 1000 incorporates the use of optimal manning

through human systems integration, improved quality of life, low operations and support costs, multi-spectral signature reduction, balanced war fighting design, survivability, and adaptability.

Each ship features a battery of two Advanced Gun Systems (AGS) firing Long-Range Land Attack Projectiles (LRLAP) that reach up to 63 nautical miles, providing a 3-fold improvement in naval surface fires coverage. DDG 1000 will employ active and passive sensors and a Dual-Band Radar (DBR) suite capable of conducting area air surveillance, including over-land, throughout the extremely difficult and cluttered sea-land interface. DDG 1000 will have a significantly reduced radar cross-section reduction as compared to current destroyers and a much greater operating area in shallow water regions against mines. ZUMWALT features increased stealth through a composite superstructure, integrated multi-function mast, and reduced acoustic signature.

Construction began on the first DDG 1000 class in February 2009 and three are currently budgeted and planned for.

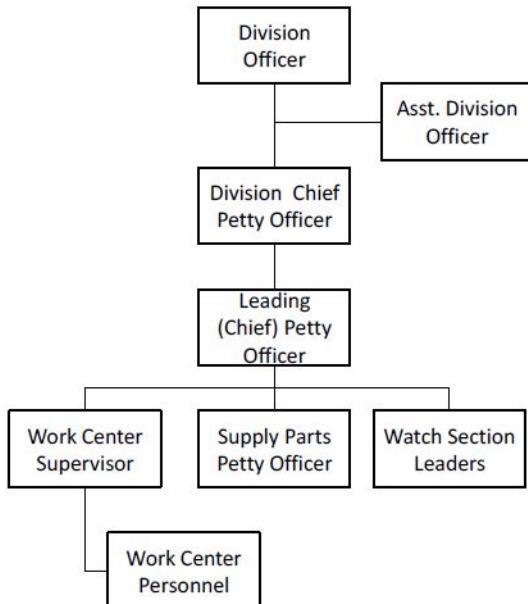
AMERICA Class Amphibious Assault Ship (LHA-6) is planned to replace the Tarawa class. Based on the USS MAKIN ISLAND (LHD-8), the LHA-6 will be a gas turbine powered ship supporting a Marine Expeditionary Brigade with launch capacity for MV-22B Osprey tilt rotors, helicopters, and F-35B STOVL strike fighters. USS AMERICA is expected to be commissioned in October 2014. To increase the number of accommodated aircraft, it will feature extensive hangar space. However, it will not have the well decks that are used to house landing craft on the TARAWA and WASP class amphibious assault ships. At a displacement of 45,000 tons and carrying a complement of strike fighters, it can serve in a small carrier role.

The typical aircraft complement for the AMERICA is expected to be twelve MV-22B Ospreys, eight AH-1Z Super Cobras, ten F-35Bs, four CH-53Ks and four MH-60S Knighthawks. The exact makeup of the ship's aircraft complement will vary according to its mission.

GERALD R. FORD class aircraft carriers (CVN-78 and up) will feature numerous improvements, including an electromagnetic catapult, reduced radar cross-section, an advanced radar, a new nuclear reactor designed for greater power generation, and automated systems designed to optimize manning. The USS GERALD R. FORD is expected to be commissioned by 2016.

VI. Shipboard Organization and Information

Typical Divisional Chain of Command



Enlisted Deck Watches

- Boatswain's Mate of the Watch (BMOW): As the senior enlisted deck watchstander, the BMOW is charged with assisting the Officer of the Deck in carrying out the daily routine. The BMOW is responsible for ensuring all stations are manned, passing word, supervising all other enlisted deck watchstanders, and maintaining the appearance and cleanliness of the pilothouse.
- Quartermaster of the Watch (QMOW): As the navigator's representative on the bridge, the QMOW is responsible for fixing the ship's position, advising the Officer of the Deck with respect to navigation, maintaining the deck log, and raising or lowering signal flags as required.
- Helmsman: The helmsman is responsible for steering the ship and maintaining a steady course in accordance with the conning officer's standard commands.
- Lee Helmsman: The lee helmsman is responsible for controlling the ship's engines in accordance with the conning officer's standard commands.
- Petty Officer of the Watch (POOW): Similar responsibilities to the BMOW, but only stationed in port. Subordinate to the Officer of the Deck, the POOW is responsible for passing word, carrying out the daily routine, maintaining the deck log, and maintaining the appearance and cleanliness of the quarterdeck.

Rendering Honors Between Ships

In accordance with Chapter 12, U.S. Navy Regulations, honors are rendered from junior ships to senior ships in the following sequence:

- 1 whistle blast (attention to starboard) or 2 whistle blasts (attention to port)
- 1 whistle blast (hand salute)
- 2 whistle blasts (two – the command for ending a salute)
- 3 whistle blasts (carry on)

Bullseyes

All shipboard spaces are given a “bullseye” to identify the deck, frame, and distance from centerline at which they are located. Just as a town or city has a system using street signs and addresses to aid in navigation, so does a Navy ship. The top sequence of numbers on a bullseye refers to the deck, frame, and distance from centerline—for example, 4-95-3-M means that the space is located on the 4th deck, at the 95th frame, the 3rd compartment to starboard of centerline (because 3 is an odd number—“port even, starboard odd”), and is a magazine. Further compartment letter identifiers (the last letter in a bullseye) can be found in Chapter 12 of the *Bluejacket’s Manual*.

Topside Responsibilities and Identification

Many deck evolutions onboard a Navy ship are potentially hazardous and require personnel involved in these evolutions to wear the proper Personal Protective Equipment (PPE), which includes hard hats. These evolutions range from launching the ship's boats to anchoring or even refueling while underway. One can easily determine which responsibilities each person has by the color hard hat they are wearing:

- White: Officer/CPO or Safety Observer
- Yellow: Petty Officer in Charge (POIC)
- Blue: Line Handler/Deck Rigger
- Purple: Fuel Handler
- Red: Line Thrower Gunner

Sources:

1. <http://www.navy.mil/navydata/fact.asp>
2. *The Bluejacket’s Manual*
3. OPNAVINST 3120.32D (Standard Organization and Regulations Manual of the U.S. Navy)
4. *The Watch Officer’s Guide*
5. NAVEDTRA 14343 (Boatswain’s Mate)

WEEK 10: UNDERSEA WARFARE

I. Mission of the Submarine Force

As stated by the CNO's Submarine Warfare Division, the U.S. Submarine Force has several goals: (1) to maintain its role as the world's preeminent Submarine Force; (2) to aggressively incorporate new and innovative technologies to maintain dominance throughout the maritime battlespace; (3) to promote the multiple capabilities of submarines and develop tactics to support national objectives through battlespace preparation, sea control, supporting the land battle and strategic deterrence, and; (4) to fill the role of the Joint Commanders' stealthy, full spectrum expeditionary platform.

II. Ethos

The US Submarine force has a long heritage of sacrifice and valor. It is a rare occurrence that there are survivors when a submarine is mortally wounded or undergoes a self-inflicted disaster. Every year on or around the 10th of April, the community comes together for the Submarine Birthday Ball to remember those who have lost their lives to the depths of the unforgiving ocean, and to recognize the year's achievements in the community. April 10th marks the sinking of the USS Thresher during Sea Trials in 1963. Although there is no official cause of the sinking, it is believed to have been a series of events. A hypothesis was derived from the sound data of the sinking, as well as an incredibly detailed inspection of other submarines in the class that poor work controls could have been the initial cause of the eventual loss of 129 sailors and shipyard personnel and a multi-billion dollar asset. The Submarine Force has, and always will, pride itself on its procedural compliance, intellectual capacity, and training and certification programs. It operates on its own, with no outside support; undetected and typically in hostile waters. It works as one team to accomplish missions vital to National Security, and every member of the crew is vital to its proper functioning, and if need-be, survival and war-fighting ability.

III. History

American Revolution

The first military submarine was the American-built *Turtle* (1775). Designed and built by the patriot David Bushnell, the hand-powered, egg-shaped device accommodated a single man. It is thought to be the first submarine capable of independent underwater operation, and the first to use a screw for propulsion. During the American Revolutionary War, *Turtle* attempted to sink a British warship, HMS *Eagle* (the flagship of British blockaders), moored in New York harbor. However, *Turtle*'s attack failed.



David Bushnell's *Turtle*

Civil War

During the American Civil War, Confederate forces revived the submarine concept. On February 18, 1864, the Confederate States Submersible, the CSS *Hunley*, performed the first successful military submarine mission when she sank the USS *Housatonic*, off Charleston Harbor. *Hunley* performed her submerged attack using a spar torpedo (an explosive charge mounted on a long pole sticking out of her

bow). Though her attack was successful, *Hunley* sank following the engagement and her entire eight-man crew perished.



World War I

Submarines first made a significant military impact in World War I. German submarines (U-boats) were central to the German naval strategy. A torpedo fired from a German U-boat sank the ocean liner RMS *Lusitania* (May 7, 1915), which directly precipitated entry of the U.S. into WWI because American leaders would not tolerate the threat of unrestricted submarine warfare against civilian shipping traffic. The fleet of American diesel submarines was used primarily for coastal defense. However, after 1917, some American boats drew assignments to European waters. These boats conducted offensive, open-sea operations from the Azores and Bantry Bay in Ireland, supporting the Allied effort to maintain open sea-lanes along the European coast and in the approaches to the British Isles.

World War II

World War II produced significant improvements in the design and operation of submarines worldwide. Side-stepping the requirements of the Treaty of Versailles, Germany built a large submarine fleet prior to the war. Their "wolfpack" tactics proved devastating to Allied military and civilian ships in the European theater. The U.S. submarine fleet employed the *Gato*, *Balao*, and *Tench* classes to score the most complete victory of any force in any theater of the war, operating in every naval theater. In spite of a hesitant beginning due to the attack on Pearl Harbor and difficulties with defective torpedoes, the submarine force destroyed 1,314 enemy ships for 5.3 million tons (including 8 aircraft carriers and over 200 warships). This translated into 55% of all enemy ships sunk. Out of 16,000 submariners, the force lost 375 officers and 3,131 enlisted men in fifty-two submarines, the highest casualty rate of any U.S. service branch in WWII.



USS Gato in 1944.

Cold War

The Cold War redefined the mission of submarines. Against the rising threat of nuclear war with the Soviet Union, several critical design improvements transformed the U.S. submarine fleet. These improvements included: (1) *The tear-dropped hull shape*. First developed for conventional diesel-electric submarines, the tear-dropped hull allowed much greater submerged operating speeds and higher propulsion efficiency. (2) *Nuclear powered propulsion*. Due in large part to the efforts of ADM Hyman Rickover (USNA '22), the "Father of the Nuclear Navy," the Naval Nuclear Power Program was born. On January 17th 1955, Commanding Officer Eugene Wilkinson spoke the famous words "underway on nuclear power" to launch the first nuclear powered submarine, USS *Nautilus* (SSN-571), on her maiden voyage. Within

three years, *Nautilus* sailed to the North Pole and shattered virtually every submarine distance, speed, and endurance record. Nuclear power continues to afford U.S. submarines nearly unlimited operational endurance because they can remain submerged nearly indefinitely—limited only by their capacity to store food.



USS Nautilus

During the 1960s, strategic planners divided the submarine force into two distinct components, ballistic missile (SSBN) submarines and fast attack (SSN) submarines. For SSBNs, the United States and the Soviet Union both developed submarine launched nuclear weapons. These weapons began as surface-launched cruise missiles, but soon improved to underwater-launched ballistic missiles. American SSBNs continue to uphold the nuclear deterrence role, forming the most survivable element of the U.S.'s nuclear triad (the other two elements being land-based ballistic missiles and air-dropped nuclear ordinance). SSNs assumed the role of protecting SSBNs to ensure successful execution of the nuclear deterrence mission. Equally important, SSNs assumed the offensive role of detecting and monitoring any foreign ballistic missile submarines. Through the height of Cold War, brave SSN crews tracked, photographed (underwater), and collected acoustic data on Soviet submarines. The crews rewrote the playbook on submarine tactics and conducted highly specialized and sensitive missions for national security. Submarine development and operation during the Cold War formed the majority of the bedrock of the submarine force today.

With the collapse of the Soviet Union in 1991, the Cold War ended. Responding to the Soviet nuclear threat had been costly, both in terms of fiscal expenditure and operational pace. However, despite the heavy demands of the Cold War, the U.S. has only lost two nuclear powered submarines. In contrast, the Soviets lost a total of nine submarines during the Cold War.

IV. Platforms

Fast Attack Submarines (SSN)

Fast Attack submarines are designed to: (1) seek and destroy enemy submarines and surface ships; (2) conduct precision strike with Tomahawk cruise missiles; (3) project power ashore by delivering and supporting Special Operation Forces; (4) carry out Intelligence, Surveillance, and Reconnaissance (ISR) missions; (5) support Carrier Strike Groups; and (6) engage in mine warfare. There are three classes of SSNs now in service. West Coast SSNs are home-ported in Pearl Harbor, HI, San Diego, CA, and Guam while East Coast SSNs are home-ported in Groton, CT, and Norfolk, VA. They are:

Los Angeles class (SSN 688 -- SSN 773)

These vessels are being decommissioned at a rate of two per year, and are being replaced by the new Virginia class submarines. Due to the increased capabilities of the Virginia class submarines, as of 2012, Los Angeles class submarines are no longer used for special operations missions.

SSN-688 and 688I *Los Angeles* class Attack Submarines



Visual Identification	Flight I and II have fairwater planes otherwise referred to as sail planes, and flight III have bow planes. Flight II and III have 12 Vertical Launch Tubes in the bow.
Mission	ASW/ASUW/Sea Denial/ISR/Strike/Offensive Mining
Weapons	MK 48 ADCAP Torpedoes – 4 Torpedo Tubes UGM-109 Tomahawk Cruise Missiles
Specific Capabilities	Can fire Tomahawks from (12) VLS tubes or torpedo tubes Outfitted with special mast to conduct ISR
Crew Size	14 Officers, 120 Enlisted



Los Angeles Class Fast Attack Submarine [Left to Right – 688 (I/II), and 688I (III)]

Seawolf class (SSN 21 -- SSN 23)

Commissioned on July 19, 1997, USS *Seawolf* (SSN 21) represents the first in a class of boats that are exceptionally quiet, fast, well-armed, and equipped with advanced sensors. The third ship of the class, USS *Jimmy Carter* (SSN 23), has a 100-foot hull extension called the “Multi-mission Platform”. This hull section provides for additional payload to accommodate advanced technology used to carry out classified research and development, and for enhanced war fighting capabilities.

SSN-21 *Seawolf* Class Attack Submarine



Visual Identification	Larger than the <i>Los Angeles</i> Class. Tapered front of sail. All have bow planes.
Mission	ASW/ASUW/Sea Denial/ISR/Strike/Special Ops
Weapons	MK 48 ADCAP Torpedoes – 8 Torpedo Tubes UGM-109 Tomahawk Cruise Missiles (can hold 50 weapons in torpedo room)
Specific Capabilities	Can fire Tomahawks only from torpedo tubes.
Crew Size	14 Officers; 126 Enlisted

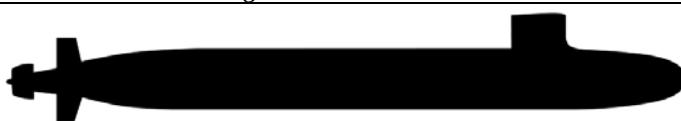


Seawolf Class Fast Attack Submarine

Virginia class (SSN 774 -- SSN 784)

The Navy is now building the next-generation SSN, the *Virginia* (SSN 774) class. Ten of the planned thirty are already in service. The *Virginia* class has several innovations that significantly enhance their capabilities with an emphasis on littoral operations. These include: (1) a fly-by-wire ship control system that provides improved shallow-water ship handling; (2) enhanced special operation forces support systems; (3) a reconfigurable torpedo room, which can house either torpedoes and Tomahawk cruise missiles, or a large number of Special Operation Forces (SOF) and all their equipment for prolonged deployments; (4) a large lock-in / lock-out chamber for divers; (5) traditional periscopes have been supplanted by two Photonics Masts that house color, high-resolution black and white, and infrared digital cameras atop telescoping arms; and (6) through the extensive use of modular construction, open architecture, and commercial off-the-shelf components, the *Virginia* class is designed to remain state-of-the-practice for its entire operational life through the rapid introduction of new systems and payloads.

The advantages of an SSN over a conventionally (diesel-electric; SSK) powered submarine are (1) longer range, (2) significantly longer endurance since fuel is not a limiting factor, (3) higher speeds, and (4) capable of sustained submerged operations since it does not have to run a diesel engine at periscope depth or on the surface to recharge batteries. However, there are a few modern diesel submarines labeled as air independent propulsion (AIP) that produce or carry air for combustion in their diesel generators, thus minimizing advantage (4) above.

SSN-774 <i>Virginia</i> Class Attack Submarine	
	
Visual Identification	Larger than <i>Los Angeles</i> class, smaller than <i>Seawolf</i> class. Tapered front of sail. All have bow planes.
Mission	ASW/ASUW/Sea Denial/ISR/Strike/Offensive Mining/Special Ops
Weapons	MK 48 ADCAP Torpedoes -- 4 Torpedo Tubes UGM-109 Tomahawk Cruise Missiles
Specific Capabilities	Can fire Tomahawks from VLS tubes or torpedo tubes. Contains modules that can be replaced based on the specific mission requirements.
Crew Size	14 Officers; 120 Enlisted



***Virginia* Class Fast Attack Submarine**

Ballistic Missile Submarines (SSBN)

Since the 1960s, strategic deterrence has been the SSBN's primary mission, providing the United States with its most survivable and enduring nuclear strike capability. There is only one type of SSBN in service, the *Ohio* class submarine.

“Boomers,” as SSBNs are often called, serve as a virtually undetectable launch platform for intercontinental ballistic missiles. They are designed specifically for stealth and the precision delivery of nuclear warheads. *Ohio* class SSBNs have the capability to carry up to 24 submarine-launched ballistic missiles (SLBMs), each having multiple independently-targeted warheads. The exact number of missiles carried by each boat varies in a classified manner, at or below a maximum set by various strategic arms limitation treaties.

The Ohio class is the largest type of submarine ever constructed for the U.S. Navy, and is second only to the Russian Typhoon-class in mass and size. West Coast Boomers are home-ported in Bangor, WA, and East Coast Boomers are home-ported in King's Bay, GA.

SSBN-726 <i>Ohio</i> Class Ballistic Missile Submarine	
	
Visual Identification	Fairwater planes otherwise known as sail planes Large "turtleback" hull design Deck stays dry while riding on the surface
Mission	Primary: Strategic Deterrence Secondary: ASW/ASUW/Sea Denial/ISR
Weapons	24 Trident II D5 SLBM Tubes MK 48 Torpedoes -- 4 Torpedo Tubes
Mission Specific Capabilities	Carries up to 24 SLBMs. Large platform and deck allows for potential special ops after completion of strategic mission.
Crew Size	15 Officers, 140 Enlisted



Ohio Class Ballistic Missile Submarine

Guided Missile Submarines (SSGN)

The first four of the *Ohio*-class SSBNs were converted into guided missile submarines (SSGN). *Ohio* class SSGNs provide the Navy with a combination of precision strike and Special Operation mission capability within a stealthy, clandestine platform. Armed with tactical Tomahawk Land Attack Missiles and equipped with superior communications capabilities, each SSGN is capable of directly supporting dozens of Special Operation Forces (SOF).

The SSGN conversion includes the installation of vertical launching systems (VLS) in a configuration dubbed "multiple all-up-round canister" (MAC). On each SSGN, 22 of the 24 missile tubes hold 7 Tomahawk cruise missiles, for a total capacity of 154 TLAMs. If the maximum number of TLAMs were loaded, one *Ohio* class SSGN would carry an entire Carrier Strike Group's equivalent of cruise missiles. The 2 remaining missile tubes act as lock-out chambers to be used by Special Forces personnel. An SSGN can berth a team of 66 SOF personnel for up to 90 days. The MAC tubes can also be used to carry and launch Unmanned Aerial Vehicles (UAVs) or Unmanned Underwater Vehicles (UUVs), giving the ship remotely controlled "eyes & ears," allowing the ship to act as a forward-deployed command & control center. SSGNs can also carry the Dry Deck Shelter/SEAL Delivery Vehicle (DDS/SDV), in support of SOF.

Like SSBNs, SSGNs also use two crews, which alternate to increase the platform's operational tempo. West Coast SSGNs are home-ported in Bangor, WA. East Coast SSGNs are home-ported in King's Bay, GA.

SSGN-726 Ohio Class Guided Missile Submarine	
	
Visual Identification	Fairwater planes otherwise known as sail planes Large "turtleback" hull design Deck stays dry while riding on the surface
Mission	ASW/ASUW/Sea Denial/ISR/Strike/Offensive Mining/Special Ops
Weapons	MK 48 Torpedoes -- 4 Torpedo Tubes UGM-109 Tomahawk Cruise Missiles -- Maximum 154
Mission Specific Capabilities	Specialized to support SOF missions. Large Tomahawk Cruise Missile payload for precision strike.
Crew Size	15 Officers, 144 Enlisted, 66 SOF personnel



Ohio Class Guided Missile Submarine Concept

V. Combat Systems

Weapons

Mk-48 and Mk-48/ADCAP (Advanced CAPability) Torpedoes

The Mk-48 is the principal heavyweight Anti-Submarine and Anti-Surface ship torpedo in the U.S. inventory. It is an acoustic-homing torpedo, having its own onboard SONAR to seek and destroy enemy contacts. SSBNs carry the original Mk-48 torpedo, but all SSNs carry the Mk-48 ADCAP. The ADCAP modification includes improvements in speed and accuracy, more sophisticated SONAR, all digital guidance and control systems, and increased range. A single Mk-48 is capable of sinking most of the world's warships. The torpedo is designed to detonate underneath a ship, creating a steam void below the ship that breaks the ship's keel. The lack of water under the keel first cracks the hull, then the surge of upward gases from the steam void rapidly pushes through the crack further splitting the ship. Finally, as the void collapses, the hull slams back into its original configuration only to collapse in on itself. After detonation, most ships have mere moments until it is sunk. Typically, Sonar Operators passively collect data which is fed into Fire Control. The Fire Control operators resolve a solution to the contact, and determine the intended track to fire the torpedo. If operationally feasible, the side opposite the contact shoots the torpedo after contact data is fed into the onboard computing system. The Mk-48 follows a pre-programmed search routine and uses an active seeker head to hunt and destroy its target, and can be controlled by a guidance wire from the submarine. The ADCAP is so capable that the target may not even be aware that a torpedo is honing in on it until it is too late. By that time, the launch submarine is well

outside of a responsive counter-launch distance and is silently listening for the pending explosion and hull destruction.

Tomahawk Cruise Missile

The Tomahawk Land Attack Missile (TLAM) is an all-weather, long range, subsonic cruise missile used for land attack warfare. U.S. submarines can launch the Tomahawk cruise missile either from a standard 21" diameter torpedo tube, or from a Vertical Launch System (VLS, used by the Type II and III *Los Angeles* class, *Virginia* class, and SSGN submarines). The most common Tomahawk cruise missile is a conventional 1,000-lb, unitary warhead. However, some are configured to release combined effects bomblets (anti-airfield).



Tomahawk Cruise Missile Launch from SSGN

Submarine-Launched Ballistic Missile (SLBM)

Trident II (D5) missiles are deployed in *Ohio*- class SSBN submarines, each carrying up to 24 missiles. The Trident II (D5) is a three-stage, solid-propellant ballistic missile with a range of more than 4,000 nautical miles. The missile's range is increased by the aerospike, a telescoping, outward extension that reduces frontal drag by about 50 percent. Trident II is launched by the pressure of expanding gas within the launch tube. The missile rises from the submarine in that pocket of air and is ejected out of the water. When the missile attains sufficient distance from the submarine, the first stage motor ignites, the aerospike extends and the boost stage begins. Each missile carries multiple nuclear warheads, housed in multiple independent re-entry vehicles (MIRVs), which launch from the missile and are independently targeted.



Trident Missile Launch from SSBN

Sensors

SONAR

Unless it is using its periscope, a submerged submarine has no optical window to the outside world. To locate contacts, to locate the ocean floor, and for targeting purposes, a submarine uses SONAR (SOund NAvigation and Ranging). SONAR is similar to RADAR, but it relies on acoustic signals rather than electromagnetic signals. SONAR can function in two modes: active (used less frequently) and passive (constantly employed). In active SONAR, the submarine emits a pulse of sound. The pulse travels through the water, reflects off the target and returns to the submarine. Onboard computers interpret the reflected pulse to determine the bearing and range to a contact. Passive SONAR involves listening to sounds -- like the noise generated by a merchant's engines, or the noise of another submarine's screw churning through

the water. SONAR is also used for navigational purposes. By identifying known features on the ocean floor, a submarine can keep track of its location.

There are many variants of SONAR hardware and software. The most advanced SONAR suite in the U.S. submarine force is called Acoustic Rapid Commercial-Off-The-Shelf Insertion (ARCI, spoken “AR-key”). The ARCI program is a phased effort to provide the submarine force with a common SONAR suite, more capable and flexible than earlier designs. ARCI’s open-system architecture (OSA) exploits commercial processing developments and employs complex algorithms that could not previously be accommodated. Commercial-Off-The-Shelf (COTS) based processors and OSA allow onboard computing power to grow at nearly the same rate as commercial industry. This facilitates regular updates to both software and hardware with minimal impact on submarine scheduling.

Periscopes and Photonics Masts

Since the dawn of submarining, periscopes were used to see outside the submarine for safety and targeting other vessels while the submarine was at periscope depth. Periscope depth is the perfect depth such that only the view piece of the periscope is above the surface of the water while the rest of the submarine remains below. Today, the submarine force largely employs photonics masts, which utilize cameras to transmit images or video to the submarine instead of using mirrors and lenses, like a periscope. Periscopes are still utilized but new classes of submarines are being fitted with photonics masts. The current uses of periscopes and photonics masts include, but are not limited to: communications, radar, detection of other ships and aircraft, ranging, infrared, and low level light detection.



Fire Control

This computer system takes raw data from various sources including multiple SONAR systems, the periscopes, radio, torpedoes still connected by wire, and manual inputs. The fusion of this information is managed by the control-room watch team, which builds the tactical picture and communicates with the submarine’s weapons. Fire Control implements algorithms to help determine the most likely range, course and speed of each contact from all of the raw inputs.

When it becomes necessary to shoot a torpedo, Fire Control is used to program the torpedo with the appropriate pre-set parameters for the environment and the contact. It tells the weapon where to look for the target and how to get there. At the time of fire, Fire Control sends the electrical signals to the torpedo tube to launch the weapon. After shooting, Fire Control continues to update the torpedo with refined targeting solutions via the torpedo’s guidance wire. Fire Control is also used to plan cruise missile strikes and it downloads the flight plan and targeting information to Tomahawk cruise missiles prior to launch.

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WEEK 11: NAVAL SPECIAL WARFARE



I. SEAL Ethos

In times of war or uncertainty there is a special breed of warrior ready to answer our Nation's call. A common man with uncommon desire to succeed. Forged by adversity, he stands alongside America's finest special operations forces to serve his country, the American people, and protect their way of life. I am that man.

My Trident is a symbol of honor and heritage. Bestowed upon me by the heroes that have gone before, it embodies the trust of those I have sworn to protect. By wearing the Trident I accept the responsibility of my chosen profession and way of life. It is a privilege that I must earn every day. My loyalty to Country and Team is beyond reproach. I humbly serve as a guardian to my fellow Americans always ready to defend those who are unable to defend themselves. I do not advertise the nature of my work, nor seek recognition for my actions. I voluntarily accept the inherent hazards of my profession, placing the welfare and security of others before my own. I serve with honor on and off the battlefield. The ability to control my emotions and my actions, regardless of circumstance, sets me apart from other men. Uncompromising integrity is my standard. My character and honor are steadfast. My word is my bond.

We expect to lead and be led. In the absence of orders I will take charge, lead my teammates and accomplish the mission. I lead by example in all situations. I will never quit. I persevere and thrive on adversity. My Nation expects me to be physically harder and mentally stronger than my enemies. If knocked down, I will get back up, every time. I will draw on every remaining ounce of strength to protect my teammates and to accomplish our mission. I am never out of the fight.

We demand discipline. We expect innovation. The lives of my teammates and the success of our mission depend on me - my technical skill, tactical proficiency, and attention to detail. My training is never complete. We train for war and fight to win. I stand ready to bring the full spectrum of combat power to bear in order to achieve my mission and the goals established by my country. The execution of my duties will be swift and violent when required yet guided by the very principles that I serve to defend. Brave men have fought and died building the proud tradition and feared reputation that I am bound to uphold. In the worst of conditions, the legacy of my teammates steadies my resolve and silently guides my every deed. I will not fail.

II. History

Today's naval special warfare personnel can trace their origins back to the amphibious scouts and raiders, Naval Combat Demolition Units, Office of Strategic Services Maritime Unit, and Underwater Demolition Teams of World War II. While none of those early organizations have survived to the present, their pioneering efforts are mirrored in the missions and professionalism of NSW today.

Naval Combat Demolition Units (NCDUs)

In June, 1943, Lieutenant Commander Draper L. Kauffman, "the father of naval combat demolition" established the Naval Combat Demolition Unit (NCDU) Training School in Fort Peirce, FL to train personnel specifically for European operations in WWII. The NCDUs, composed of six-man teams, were formed with volunteers acquired from the Navy Construction Battalion (Seabee).

By April 1944, 34 NCDU's were deployed to England in preparation for Operation OVERLORD, the Allied invasion of France on the beaches of Normandy. The NCDUs were utilized to destroy an array of

barriers and underwater obstacles. The NCDUs suffered 31 dead and 60 wounded, a casualty rate of 52 percent. The majority of the NCDUs were then transferred to the Pacific Theater of operations and eventually absorbed into the UDTs.

Underwater Demolition Teams (UDTs)

The Underwater Demolition Teams were founded in November 1943 in response to the challenges faced by the US Marine Corps in the amphibious landing on Tarawa. It was clear that the Navy needed a unit that could provide hydrographic reconnaissance and underwater demolition of obstacles prior to an amphibious landing. UDT-1 and UDT-2 were subsequently established, and saw action across the Pacific Theater to include the invasions of Saipan, Guam, Peleliu, Iwo Jima and Okinawa. With a formal training program established in Maui, Hawaii, the UDTs would perform mine clearing and demolition raids during the Korean War and canal clearance operations in the Vietnam War.

SEAL Teams

Beginning in 1961, the CNO stressed the need for a naval unit with unconventional warfare capabilities. President John F. Kennedy recognized the importance of such a unit and in 1962 established SEAL Teams ONE and TWO, with personnel transferred from the UDTs. These Teams were first tested in the initial stages of the Vietnam War as advisors to the Vietnamese in the conduct of clandestine maritime operations. Once US troop involvement increased, the SEAL Teams began conducting reconnaissance and direct action missions. During the war, LTJG Joseph Kerry, LT Thomas Norris and PO Michael Thornton all received Medals of Honor for their actions in combat.

To ensure that special operations forces maintained a high state of readiness and to correct deficiencies accentuated by the failed attempt to rescue American hostages in Iran in April 1980, a comprehensive program of Special Operations Forces (SOF) revitalization began in 1981. Established in 1987, the United States Special Operation Command (USSOCOM) provided the funding and organizational relationships necessary to field a professional U.S. special operations capability.

In 1989, SEALs participated in Operation JUST CAUSE, the invasion of Panama to topple the Noriega dictatorship. NSW forces secured the Atlantic and Pacific entrances to the Panama Canal and conducted numerous reconnaissance and direct action search and seizure missions.

From August 1990 thru March 1991, SEALs participated in Operation DESERT SHIELD and Operation DESERT STORM. They conducted beach and land border reconnaissance, combat search and rescue (CSAR), and mine countermeasure missions. SEALs also conducted a maritime deception mission, a feint that successfully drew Iraq forces away from the point of the U.S. assault into Kuwait.

In the recent conflicts of Afghanistan (Operation ENDURING FREEDOM) and Iraq (Operation IRAQI FREEDOM) the SEAL teams have conducted numerous Counterinsurgency and Counterterrorism operations to include Direct Action, Surveillance and Reconnaissance, Foreign Internal Defense and personal security detachment operations for civilian government leaders. Starting in 2009, the NSW force began conducting village stability operations to provide persistent presence within local population and support to the Afghan Local Police program. LT Michael Murphy and SO2 Michael Monsoor received Medals of Honor posthumously in Operation ENDURING FREEDOM and Operation IRAQI FREEDOM respectively.

III. Training

BUD/S

The training of Navy SEALs consists of two major training periods, Basic Underwater Demolition/SEAL Training (BUD/S) and SEAL Qualification Training (SQT). For enlisted personnel, training begins with the pre-BUD/S program in Great Lakes, IL. BUD/S is the first step towards becoming a SEAL. The training takes place in Coronado, CA and lasts at least 6 months, consisting of three phases each seven weeks long, with officers and enlisted training together. Each phase is designed to severely test the candidate's leadership and physical and mental abilities. In addition to the daily physical challenges at BUD/S, officers are expected to lead throughout the training.

- First Phase: A seven-week curriculum centered on physical fitness, water competency, mental tenacity, teamwork and hydrographical reconnaissance. This progressive training culminates during Hell Week, when candidates typically only sleep 4 hours over the course of the week.

- **Second Phase:** A seven-week combat diving phase that introduces candidates to combat swimming, as well as open and closed circuit diving, designed to make students confident in the water and evaluate them under pressure.
- **Third Phase:** A seven-week course that focuses on basic weapons, demolition, land navigation, patrolling, rappelling, marksmanship and small unit tactics.

SEAL Qualification Training (SQT)

SQT is a 28-week sequential series of courses, including Survival Evasion Resistance Escape (SERE); tactical air operations (static-line and freefall parachuting); helicopter rope suspension technique (rappel, fast rope, and cast and recovery); tactical combat medicine; communications; advanced special operations; language training; cold weather/mountaineering; maritime operations (small-boat operations, over-the-beach insertion); combat swimmer (closed-circuit diving, underwater ship attack); land warfare (small-unit tactics, light and heavy weapons, demolitions), combatives, close-quarters combat (precision close-range marksmanship, tactical decision making, and ship and building clearance); and operations in a chemical, biological, radiological, and nuclear environment. The emphasis in SQT is on building and developing an individual operator capable of joining a SEAL or SDV platoon.

After completing SQT, personnel will receive the SEAL pin, also referred to as the Trident, and the Special Warfare Operator designator or rate (SO) in the case of enlisted sailors. New SEALs then report to their command and can be deployed overseas shortly thereafter or enter the Troop training cycle, an 18-month work-up in preparation for deployment.

SEAL Team Training Cycle

For routine deployments, NSW forces use a two-year, four-phase training and deployment cycle during which an 18-month inter-deployment training cycle is followed by a six-month deployment. The IDTC consists of three phases: professional development, unit-level training, and interoperability training. On successful completion of IDTC, forces are certified as ready to deploy.

IV. Organization

Commander, Naval Special Warfare Command (NAVSPECWARCOM), a two-star rear admiral headquartered in Coronado, CA, exercises operational and administrative control of all active and reserve NSW forces stationed in the United States. The NAVSPECWARCOM mission is to man, train, equip, deploy and sustain NSW forces for operations and activities abroad in support of combatant commanders and U.S. national interests. NAVSPECWARCOMM is an echelon II command under the combatant command of USSOCOM.

Deployable NSW forces are assigned to one of the six NSW Groups. NSWG's 1 and 2 command the 8 active duty SEAL teams. Naval Special Warfare Group ONE, based in Coronado, CA, with SEAL Teams ONE, THREE, FIVE, and SEVEN as its subordinate commands. Naval Special Warfare Group TWO, based in Little Creek, VA, with SEAL Teams TWO, FOUR, EIGHT, and TEN as its subordinate commands.

Naval Special Warfare Group THREE, based in Pearl Harbor, HI, is responsible for NSW forces conducting undersea special operations worldwide. Subordinate commands include SEAL Delivery Vehicle Team ONE (SDVT-1), Training Detachment THREE (TRADET-3), and Logistics Support Unit THREE (LOGSU-3).

Naval Special Warfare Group FOUR, based in Little Creek, VA, organizes personnel to deploy combat-ready forces and maritime mobility systems with craft capabilities and capacities in accordance with USSOCOM priorities. Subordinate commands include Special Boat Teams TWELVE, TWENTY, and TWENTY TWO.

Naval Special Warfare Group TEN, based in Little Creek, VA, is responsible for intelligence, surveillance, reconnaissance, and preparation of the environment capabilities, with NSW Support Activity ONE and TWO, and the Mission Support Center as its subordinate commands.

Naval Special Warfare Group ELEVEN is responsible for NSW Reserve Components and personnel in support of NSW and joint special operations.

Naval Special Warfare Units provide support and forward deployed bases around the globe. NSW Unit-1 is located in Guam. NSW Unit-2 is located in Germany. NSW Unit-3 is located in Bahrain.

SEAL Teams

SEAL Teams are comprised of three Troops with two to three platoons each (seven platoons/Team), a Command and Control Element, and a mobile support element that is deployable overseas for extended periods of time. The SEAL Officers first leadership assignment is Assistant Officer in Charge (LTJG/LT) of a platoon, and then progress to Platoon Commander (LT) and Troop Commander (LCDR), which are major career milestones.

A standard Troop can be task-organized for operational purposes into four squads/fire teams, each with 4-5 personnel. Troop core skills consist of: Sniper, Breacher, Communicator, Maritime/Engineering, Close Air Support, Corpsman, Point-man/Navigator, Primary Driver/Navigator (Rural/Urban/Protective Security), Heavy Weapons Operator, Sensitive Site Exploitation, Air Operations Master, Lead Climber, Lead Diver/Navigation, Interrogator, Explosive Ordnance Disposal, Technical Surveillance, and Advanced Special Operations. The size of each SEAL Team with three troops and support staff is approximately 300 personnel.

The SEAL elements are trained to infiltrate their objective areas by fixed and rotary winged aircraft, Navy surface ships and submarines, vehicles, underwater, or on foot. Their ability to conduct clandestine, high-risk missions and provide real-time intelligence offers decision makers excellent situational awareness and provides multiple options to conduct warfare. NSW is a relatively small force consisting of approximately 9,250 personnel, 2,700 SEALs, 700 Special Warfare Combatant Craft-Crewmen (SWCC), 750 reservists, 4,000 Combat Support (CS) and Combat Service Support (CSS) personnel, and more than 1,100 civilians. NSW constitutes 11 percent of USSOF and less than 2 percent of the Navy's forces.

Special Warfare Combatant Craft-Crewman

SWCC are specially selected and trained enlisted personnel who operate NSW combatant craft and other craft in maritime, coastal, and riverine environment. SWCC operators must complete the 7-week SWCC basic crewman training, which emphasizes physical conditioning, water competency, seamanship, navigation, boat tactics, team work, and mental toughness. The course includes a 51-hour navigation, boat tactics and swimming evolution with little sleep and constant exposure to the elements. Completion of basic SWCC training requires proficiency in coxswain skills, over-the-horizon navigation, small-craft tactics, weapons, communications, maritime insertion and extraction, and coastal patrol and interdiction. On completion of SWCC Basic Crewman Training, students advance to Crewman Qualification Training (CQT).

CQT is a 21-week course covering weapons, seamanship, first aid, navigation, communications, waterborne patrolling, marksmanship, engineering, small-unit tactics, close-quarters combat, combative, SERE Level C, language training, and an introduction to NSW mission planning. Graduates of CQT are designated as Special Warfare Boat Operators (SB), authorized to wear the SWCC insignia, and assigned to a Special Boat Team.

V. Naval Special Warfare Missions and Capabilities

Missions

- **Direct Action** – Short-duration strikes and other small-scale offensive actions taken to seize, destroy, capture or recover in denied areas. Direct Action involves ambush, combat swimmer ship attacks, combat search and rescue; close quarters combat (CQC), and visit board search and seizure (VBSS).
Example: Operation NEPTUNE SPEAR (Osama bin Laden raid)
- **Special Reconnaissance** – Acquiring information concerning the capabilities, intentions and activities of an enemy. Special Reconnaissance involves counter-sniper operations, hydrographic reconnaissance, and listening and observation posts.
Example: Prior to an amphibious assault by Marines during the Second World War, Under Water Demolition Teams (UDTs) would conduct hydrographic reconnaissance and destroy beach obstacles.
- **Unconventional Warfare** – Operations conducted by, through and with surrogate forces that are organized, trained, equipped, supported and directed by external forces. Unconventional Warfare involves training foreign guerrilla forces or other clandestine operations.

Example: Operation ENDURING FREEDOM Village Stability Operations (VSO) in which teams have been dispersed in remote, austere, and hostile areas of Afghanistan to enable local security and re-establish or re-empower traditional local governance mechanisms that represent the population and that promote critical local development to improve the quality of life within village communities and districts.

- **Counterterrorism** – Counter Terrorism involves the prevention, deterrence, and response to terrorism.
Example: In April 2009, the Maersk Alabama was hijacked by Somali pirates, holding the ship's captain hostage. Navy SEALs killed the armed pirates and rescued the captain.
- **Foreign Internal Defense** – NSW offers training and other assistance to foreign governments and their militaries to enable the foreign government to provide for its country's national security. Foreign Internal Defense involves training the security forces of other nations in areas such as internal peacekeeping/law enforcement, border defense, counter-drug operations and military strategy. These operations are continuously ongoing around the world.
Example: SEALs served as advisors and instructors for the South Vietnamese Army.
- **Counterinsurgency** – Counterinsurgency (COIN) is defined as "those military, paramilitary, political, economic, psychological, and civic actions taken by a government to defeat an insurgency. A key aspect of COIN is the development of host nation security forces. NSW COIN operations are based on the ability to teach combat skills, regional expertise, language skills, and the ability to work among indigenous populations.
- **Operational Preparation of the Environment** – OPE covers actions to alter or shape the operations environment to create conditions favorable to the success of military operations. There are three key components: orientation activities (OA) aimed at providing area familiarization and developing plans, information, and operational infrastructure that enable future operations; target development; and preliminary engagement of the target to influence the objective prior to operations.
- **Security Force Assistance** – Security force assistance is defined as activities that contribute to uniformed action by the US Government to support the development of the capacity and capability of foreign security forces and their supporting institutions.
- **Information Operations** – NSW forces do not conduct IO as a primary core activity but coordinate with naval and other forces. IO support to NSW operations consists primarily of coordinated operation security, military deception, electronic warfare, computer network operations, and military information support operations which affect enemy perceptions of friendly forces while protecting U.S. information.

Seabasing

Given the freedom of navigation laws for surface ships and the stealth of submarines, seabased NSW forces are able to operate throughout the oceans and along the littorals of the world with few restrictions—lower profile and less intrusive presence, no reliance on host nation support, no diplomatic clearance, minimal political risk, and often without detection—to enable persistent, unobtrusive, mobile SOF presence in remote littoral areas where land bases are not available.

Seabasing support can be provided by conventional naval forces (carrier strike group, expeditionary strike group, surface strike group, missile defense surface action group, or submarines) as well as Military Sealift ships and commercial vessels.

Limitations

- **Conservation of Forces** – SEAL and SWCC operators require extensive investment in selection, training, and equipment; provide unique capabilities; and are relatively few in number. They cannot be replaced quickly nor expanded rapidly.
- **Sustained Engagement** – NSW forces can deliver a high volume of weapons fire relative to their size and are designed to strike when and where least expected, employing stealth to gain surprise or use other techniques to engage the enemy with a tactical advantage. However, their small size constrains their effectiveness as a static defense force.

- **Timing** – SEALS are a rapid-response force and can normally respond more quickly than other forces. However, preparation and rehearsal time varies with each situation. Some operations require assembly of a significant support package (submarine, ships, aircraft, etc.)
- **Support** – Support requirements may include basing, medical support, detainee operations, IO, fire support, ship, submarine, aircraft, or other attachments. Support considerations include: Transit to target area, air support, fire support, medical, quick reaction force, and target security.

VI. Naval Special Warfare Craft:



Mark VIII SEAL Delivery Vehicle (SDV)

Mission	The electrically powered Mk VIII SEAL delivery vehicle is designed to deliver up to six combat swimmers and their equipment. The Mk VIII is a 'wet' vehicle, meaning that when it submerges the hull is completely flooded, the swimmers wearing underwater breathing apparatus (UBA). The vehicle is carried in a dry deck shelter aboard a US submarine.
Payload	Equipment for up to six combat swimmers
Speed	6 kts.
Range	70 miles
Crew	6 (Two operators, Four passengers)



Mark V Special Operations Craft

Mission	Used to carry Special Operations Forces (SOF), primarily SEALS and combat swimmers, into and out of operations where the threat to these forces is considered to be low to medium. They also support limited coastal patrol and interruption of enemy activities.
Range	500+ NM
Speed	50 knots (max), 35 knots (cruise)
Payload	5 crew, 16 troops, 4 zodiacs, multiple heavy weapon mounts



11 Meter NSW RIB (Rigid-Hull Inflatable Boat)

Mission	High speed, high buoyancy extreme weather craft used to carry Special Operations Forces (SOF), primarily SEALs, into and out of maritime operations. They also support coastal patrol and interdiction of enemy activities. Fully interoperable with MK V SOC Combat Boat.
Range	200+ NM
Speed	45+ Knots
Payload	5 + 8 troops, 2 zodiacs, 2 heavy weapon mounts



Mine-Resistant Ambush Protected Vehicle (MRAP)

Mission	Ground mobility vehicle used to carry SEALs in a variety of terrain. The vehicle is designed to protect the crew from explosive events.
Range	420 miles
Speed	60+ mph
Payload	Varies significantly depending on the configuration



Rotary Wing and Tilt Rotor Aircraft	
Mission	Rotary-wing support can be provided by many sources from various services and agencies. These include dedicated support (DS) SOF aircraft and general support (GS) conventional aircraft. They can provide precision overland and overwater insertion and extraction, ISR, and/or fire support. Rotary-wing aircraft are also used by SEAL snipers as overwatch platforms for fire support and to assist in guiding tactical movement of ground forces during assaults.
Payload	Varies significantly on the type of aircraft, configuration, and environmental
Speed	RW ~110-170 knots / TR ~250 knots
Range	Varies significantly on fuel tank configuration and ability to conduct in-flight refueling

VII. Future Capabilities

Naval Special Warfare continues to execute some of the most dynamic missions for the DOD. Future officers will work in diverse environments from Helmand Province in Afghanistan to the Horn of Africa, and need to be culturally attuned to a variety of regions. The focus of NSW and USSOCOM is persistent engagement with our partners and allies around the world. The Commander, USSOCOM, wants a special operator that can work in a joint and interagency environment, act as a diplomat for our country, and continue to represent the best quality warrior in the military.

VIII. Becoming a Naval Special Warfare Officer out of USNA

SEAL Screener: For USNA Midshipmen interested in service-selecting SEALs, the evaluation process begins with the SEAL screener. The SEAL screener is a selection method designed to mentally and physically challenge 2/C midshipmen in order to evaluate their physical ability, leadership, teamwork, and determination in physically demanding situations.

SEAL Cruise: The screener results are used to help determine the best qualified Midshipmen to attend a SEAL summer cruise. On cruise, the midshipmen will be tested further and evaluated in SEAL Officer Assessment and Selection (mini-BUD/S). SEAL Cruise will also provide Midshipmen with an introduction to the Junior Officer experience in a SEAL Platoon.

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WEEK 12: EXPLOSIVE ORDNANCE DISPOSAL



I. Explosive Ordnance Disposal (EOD)

The mission of Navy EOD is: *To provide the Fleet with the capability to detect, identify, render safe, recover, evaluate, and dispose of explosive and/or hazardous ordnance items that have been fired, dropped, launched, projected, or placed in such a manner as to constitute an increased danger to operations, installations, personnel, or material.*

The *EOD core competencies* encompass the ability to render safe the following types of Unexploded Ordnance (UXO):

- Ground Ordnance (projectiles, rockets, grenades, landmines)
- Air Ordnance (bombs, missiles, aircraft explosive hazards, and dispensed munitions)
- Improvised Explosive Devices (IEDs)
- Weapons of Mass Destruction (WMDs) (chemical, biological, and nuclear weapons)
- Underwater Ordnance (mines, torpedoes, and depth charges)

II. EOD History & Overview

The Explosive Ordnance Disposal (EOD) community was officially organized as a warfare community in July of 1978 as the Special Operations Community, but the core missions and skills of EOD teams were employed and practiced far before the community's birth. A need for ordnance disposal skills was recognized during WWII, as German and Japanese military operations left behind large quantities of dud-fired ordnance. Mine Disposal School was founded in May, 1941. Bomb Disposal School was founded in January 1942 by (then) LT Draper Kauffman; based, in large part, on the British Bomb Disposal model. The first two Navy EOD commands were established in 1953.

Today, all four services have EOD Technicians, all of whom are trained at the Naval School Explosive Ordnance Disposal (NAVSCOLEOD) at Eglin Air Force Base, Florida. Navy EOD is organized somewhat differently than the other services in that EOD is its own warfare community in the Navy; in the other services, it is a component of larger communities. Additionally, Navy EOD Technicians must go through rigorous training that enables them to operate in more environments. Navy EOD exists today as the only special operations capable (Land, Sea, Air) Explosive Ordnance Disposal Technicians. Navy EOD is comprised of 425 officers and 1174 enlisted personnel.

The Navy EOD community is primarily focused around the core competencies of EOD: Underwater Mine Countermeasures (UMCM), Combat Expeditionary Support (CES), Special Operations Forces (SOF) support, Anti-Terrorism/Force Protection (AT/FP), and Navy Dive and Salvage Support Operations. Navy EOD units can deploy as a shipboard detachment with a Carrier or Expeditionary Strike Group, or as a land-based asset assigned to an Army or Marine Corps unit. Additionally, Navy EOD units are special operations capable, specifically and uniquely tasked with support to Naval Special Warfare (NSW) and Army Special Forces (SF).

III. EOD Mission Areas

There is a common misperception that Navy EOD's operational environment includes only underwater operations. This perception is far from the truth; diving is only one mission area in which Navy EOD

Technicians have expertise. Today, most Navy EOD deployments are land based with ground combat units performing offensive operations. The mission areas of Navy EOD are:

- **Mine Countermeasures (MCM):** MCM is made up of three components: EOD personnel (UMCM), surface ships (SMCM), and air units (AMCM). EOD personnel are specifically tasked with detecting and diving on armed underwater ordnance and conducting Render Safe Procedures (RSPs). Additionally, EOD personnel render safe dud-fired mines, torpedoes, and depth charges, and conduct searches for and RSPs on limpet mines. If our enemies laid mines covertly, Navy EOD personnel are the only assets in the Department of Defense that can render the mines safe, recover them, and provide attribution to a specific nation or group.
- **Special Operations Forces (SOF) Support:** Navy EOD Technicians lend their expertise to SOF units to ensure they achieve mission success. The skills learned in the EOD training pipeline lend themselves to participation in these types of operations. Navy EOD Technicians will participate in advanced training with the SOF unit they are assigned to in order to support the entire spectrum of operations with which that unit may be tasked. Today, approximately 30% of Navy EOD's deployments are in support of SOF missions.
- **Anti-Terrorism/Force Protection (AT/FP)/U.S. Secret Service Support:** AT/FP is a natural extension of the counter IED skills EOD Technicians learn. Many EOD Officers assigned to afloat staffs serve as, or work in close conjunction with, the AT/FP Officer. EOD Technicians regularly perform U.S. Secret Service support in order to mitigate and eliminate explosive hazards, which allows for travel all over the planet. Additionally, EOD Shore Detachments work in conjunction with local, state, and federal bomb disposal agencies to combat terrorist threats.
- **Expeditionary Diving and Salvage:** Expertise in diving is a vital skill needed for the disposal of underwater ordnance. All Navy EOD Technicians are Navy Divers and are trained in open-circuit SCUBA and the Mk-16 Mod 1, a computerized mixed-gas re-breather with low magnetic properties that allows EOD Technicians to operate on ordnance at up to 300 feet beneath the surface.

Though they fall under EOD command, some Navy Divers are not EOD qualified, but instead get advanced training as Second Class Divers, First Class Divers, Diving Medical Technicians, and Master Divers, specializing in surface supplied diving, open/closed circuit SCUBA, and diving medicine. These Divers may be assigned to a Mobile Diving & Salvage Unit, to an EOD Mobile Unit, or another EOD command.

IV. EOD Organization

The Type Commander (TYCOM) for Navy EOD is the Commander, Naval Expeditionary Combat Command (NECC). Under the NECC, Navy EOD forces are divided into 2 Groups, EODGRU ONE in San Diego, CA and EODGRU TWO in Norfolk, VA. Each group contains EOD Mobile Units (EODMU) which are comprised of companies and platoons, and a reserve Mobile Unit that is referred to as an EOD Operational Support Unit (EODOSU). Each EOD platoon consists of one officer and six to eight enlisted EOD Technicians. Each Group also contains an EOD Training & Evaluation Unit (EODTEU) and a Mobile Diving & Salvage Unit (MDSU). There are other EOD major commands that do not fall under one of the two Groups, but instead fall under the NECC as a separate entity.

WEST COAST	EAST COAST
COMEODGRU ONE (Coronado, CA)	COMEODGRU TWO (Little Creek, VA)
EODTEU-1 (Point Loma, CA)	EODTEU-2 (Ft. Story, VA)
EODMU-1 (Coronado, CA)	EODMU-2 (Little Creek, VA)
EODMU-3 (Coronado, CA)	EODMU-6 (Little Creek, VA)
EODMU-5 (Guam)	EODMU-8 (Rota, Spain)
EODOSU-7 (San Diego, CA)	EODOSU-10 (Little Creek, VA)
EODMU-11 (San Diego, CA)	EODMU-12 (Little Creek, VA)
MDSU-1 (Pearl Harbor, HI)	MDSU-2 (Little Creek, VA)

Additionally, each Mobile Unit has multiple Shore Detachments attached to it. These Shore detachments provide a fixed regional response capability and are usually located in proximity to a DOD installation. Navy EOD has Shore Detachments at Newport, RI; Earle, NJ; Dahlgren, VA; Yorktown, VA; Norfolk, VA; King's Bay, GA; Mayport, FL; Panama City, FL; Crane, IN; Oak Harbor, WA; Bangor, WA; China Lake, CA; San Diego, CA; Fallon, NV; Pearl Harbor, HI; Guam; Sasebo, Japan; Rota, Spain.

EOD Major Commands

- Commander Task Force 56
- Commander Task Force 68
- Center for EOD & Diving
- Commodores of EOD Group ONE and TWO
- EOD Technology Division
- MCM Squadron FIVE

V. EOD Training Pipeline

All Navy EOD students, both officer and enlisted, participate in the same training pipeline, broken into five phases: Dive School (NDSTC), NAVSCOLEOD, Jump School, Expeditionary Combat Skills and EOD Tactical Training.

1. **EOD Diver and JDO COI, Naval Diving & Salvage Training Center (NDSTC):** All Navy EOD personnel begin training at NDSTC in Panama City, FL. There, enlisted EOD students complete the 9-week EOD Diver Course of Instruction (COI) and learn to safely use open circuit SCUBA rigs and the closed circuit Mk-16 Mod 1 SCUBA re-breather. EOD officer students attend a 21-week Joint Diving Officer (JDO) COI in which they learn SCUBA, surface supplied diving, and basic understanding of conducting diving operations. EOD officer candidates will join the enlisted EOD students for the Mk-16 phase of training.
2. **Naval School, Explosive Ordnance Disposal (NAVSCOLEOD):** From Dive School, EOD students proceed to NAVSCOLEOD, at Eglin AFB, FL. The Navy provides EOD training to all four of the services. This school lasts nine months for Navy personnel, due to their additional two months of training in underwater ordnance. The school is very academically and physically intensive, especially when Navy students reach the Underwater Ordnance Division. Navy students must demonstrate capability in the following divisions in order to graduate:
 - Core I
 - Demolition
 - Tools & Methods
 - Core II
 - Ground Ordnance Division
 - Air Ordnance Division
 - Improvised Explosive Devices Division
 - Weapons of Mass Destruction Division
 - Underwater Ordnance Division
3. **Jump School:** Newly graduated Basic EOD Technicians leave NAVSCOLEOD and report immediately to parachute training at Ft. Benning, GA, or Otay Mesa, CA. EOD Technicians reporting to Ft. Benning will complete the Army Parachute COI, a three-week course leading to a static line parachuting qualification. EOD Technicians reporting to Otay Mesa, CA will complete the four-week Navy Parachute COI with Tactical Air Operations, leading to both a static line and military free-fall qualification.
4. **Expeditionary Combat Skills:** EOD technicians will continue their training in Gulfport, MS where they learn basic combat skills. The technicians will attend a 4-week COI where they learn combat marksmanship in the M9 and M4 service weapons, land navigation, basic infantry skills, and combat first aid.

5. **EOD Tactical Training:** Upon completion of ECS, they report to EOD Tactical Training at EODTEU-1 in San Diego, CA. There they will receive training in small arms, Helo Rope Suspension Technique (HRST) operations, Special Insertion and Extraction (SPIE) rigging, cast and recovery operations, rappelling, land warfare techniques, and advanced combat first aid. Once Tactical Training is completed, the EOD Technician reports to a Mobile Unit for assignment to a platoon.

VI. EOD Warfare Qualification



When the Special Operations community was realigned as the EOD Community beginning in 2007, the Personnel Qualification Standards (PQS) (not to be confused with the training pipeline) for enlisted and officer EOD Technicians became different, much as it is throughout the rest of the Navy. Enlisted EOD Technicians retain the “old” qualification path. Basic EOD Technicians complete two years of PQS, demonstrate proficiency, and complete a board to earn their Senior EOD Technician qualification. Successful completion of an additional three years of PQS, demonstrated proficiency, training, and scenario-based boards will result in qualification as a Master EOD Technician.

The warfare qualification process is now different for officers. Like their enlisted counterparts, EOD officers graduate NAVSCOLEOD as Basic EOD Technicians. However, EOD officers no longer complete Senior and Master EOD qualifications. Instead, new EOD officers must complete a three-year program of PQS, demonstrated EOD proficiency, demonstrated leadership, and complete a scenario-based oral and performance based qualification board while leading an EOD platoon. Successful completion of these requirements leads to qualification as an EOD Officer. The EOD Officer Qualification badge looks exactly the same as the Master EOD Technician’s, except it is gold rather than silver/pewter.

VII. Navy Diver Classifications

Not all Sailors who are part of the Navy EOD Community are EOD Technicians. The Navy Diving community is a subset of the EOD Community. Since all Navy EOD Technicians begin their training pipeline as Navy Divers, there is a tight bond of common expertise between EOD Technicians and Navy Divers. The term “Navy Diver” is not a monolith. “Navy Diver” refers to a Sailor who has successfully completed one of several COI’s offered at NDSTC (of which the EOD Diver COI is just one). Navy Divers who are not Navy EOD Technicians can earn the following designations:



- **SCUBA Diver:** Basic Diver attends a one-month school at NDSTC. They are restricted from “decompression” dives.
- **Second Class Diver:** Attends 4-month long training at NDSTC. 2/C Divers gain proficiency in SCUBA, MK-20, and MK-21, hyperbaric chamber operations, and diagnosis of diving related casualties.
- **First Class Diver:** Former 2/C Divers who complete the 4-week 1/C Diver COI are then qualified to supervise the dive. They have more advanced expertise in supervising hyperbaric chamber operations and diagnosing and treating diving related casualties.
- **Master Diver:** Master Divers must be a Chief Petty Officer. These 1/C Divers return to NDSTC and complete “Master Diver evaluations” in which they are evaluated in a series of scenarios by a panel of senior Master Divers. Most candidates will fail to become Master Divers on their first attempt and will have to return a year later to try again. Master Divers are the Navy’s diving experts. Regardless of their pay grade, they are addressed as “Master Diver.”
*Most enlisted Divers progress from 2/C Diver through 1/C Diver. Very few are selected as Master Divers.
- **Dive Medical Officer (DMO):** A Medical Officer who specializes in diving related illnesses.
- **Dive Medical Technician (DMT):** All DMTs are Hospital Corpsmen (HM) while all other enlisted Divers are rated as Divers (DV). These Divers complete the 2/C Diver COI and then complete a special DMT COI that further teaches them about the medical aspects of diagnosing and treating diving illnesses.
- **Diving Officer (BDO):** An officer who completes the 4-month Basic Dive Officer (BDO) COI becomes a diving officer. These officers are trained in SCUBA, Mk-20, Mk-21, as well as diving and hyperbaric chamber operations and supervision. They are directly responsible to the CO for the safe and efficient running of the command diving program. Many BDOs also complete the Salvage Officer (SO) COI, qualifying them to plan and lead salvage operations. EOD Officers attended the BDO course until 2005.

VIII. EOD-Specific Tools and Equipment

The following list is by no means all-inclusive of the equipment Navy EOD Technicians and Divers use. Rather, these are examples of some of the most commonly used pieces of equipment.

Foster-Miller TALON Bomb Robot

Weight:	115-156lbs
Payload capacity:	100lbs
Arm lift:	10lbs at full extension 20lbs total lift
Cameras:	3 IR-illuminated
Controlled from	briefcase-sized Operational Control Unit (OCU)



iRobot EOD Packbot Bomb Robot

Weight:	68lbs
Payload capacity:	46lbs
Arm lift:	10lbs at full extension 30lbs total lift
Cameras:	4: 2 color, 1 drive, 1 surveillance
Controlled from	briefcase-sized Operational Control Unit (OCU)



MK-16 Mod 1 Underwater Breathing Apparatus (UBA)

The Mk-16 SCUBA re-breather produces no bubbles; exhaled CO₂ is “recycled” with low acoustic and magnetic properties. It is electronically driven, the UBA uses 3 oxygen sensors which monitor the partial pressure of oxygen in the Diver’s breathing loop and automatically adds O₂ if the ppO₂ is not within pre-established parameters. The Diver monitors rig performance through a primary and secondary electronics display. Divers utilizing the UBA are capable of diving to 300 Feet of Sea Water (FSW). The MK-16 can use two diluent gases: N₂O₂ for dives 150 FSW or shallower, or HeO₂ for deeper dives.



Percussion Actuated Non-electric (PAN) Disruptor

Device used to render safe IEDs remotely without detonating them. The benefit of such a tool is that it allows Render Safe Procedures (RSPs) to be conducted while the EOD Technician is a safe distance from the IED.



MED-ENG EOD IX Bomb Suit

This suit provides extensive blast and fragmentation protection. It comes in multiple layers: trousers, groin protector, torso, and helmet. The IX Bomb suit also incorporates a fan and full body cooling system. The entire suit weighs over 85lbs. LTJG Danny Glenn (USNA 2010) is in the Guinness Book of World Records for fastest mile in the bomb suit at 8 minutes and 30 seconds.



MK-21 Surface Supplied UBA

Fulfills the Navy's hardhat, surface supplied diving requirements for deep-sea diving & salvage. The rig is comprised of a Kirby-Morgan Superlite 17 helmet, an umbilical containing a gas hose, communications wire, and a pneumofathometer to determine depth. Unlike older surface supplied rigs, the diver is not enclosed in a full suit; instead he/she wears only the helmet with the attached umbilical. For normal dives, max depth is 190 FSW on air, 300 FSW if the Diver is breathing HeO₂.



Sources:

1. Navy
EOD: <http://www.public.navy.mil/necc/hq/PublishingImages/NECC%20fact%20sheets/EOD.pdf>
2. NDSTC information: <http://www.netc.navy.mil/centers/ceneoddive/ndstc/Default.aspx>
3. NAVSCOLEOD information: <http://www.netc.navy.mil/centers/ceneoddive/eods/Default.aspx>
4. Contains information on platforms: <http://www.foster-miller.com/lemming.htm>

WEEK 13: RESTRICTED LINE, STAFF CORPS & LIMITED DUTY OFFICERS AND CHIEF WARRANT OFFICERS

I. Differences between Unrestricted Line, Restricted Line, and Staff Corps Officers

Unrestricted Line (URL) officers serve in all warfare communities in the United States Navy and are eligible for command opportunities both at sea and ashore. These are the primary officer communities in the Navy. The United States Naval Academy is committed to graduating Unrestricted Line Officers, but each year exceptions are made that allow Midshipmen to be assigned Restricted Line and Staff Corps.

Restricted Line (RL) Officers provide highly specialized, technical services that directly support the missions of the United States Naval Service. Restricted Line officers are not generally eligible for command at sea; however, they may command auxiliary vessels and various shore activities. Restricted Line officers wear rank insignia identical to those of Unrestricted Line officers.

Staff Corps (SC) Officers provide various highly specialized services necessary to naval installations, units, service members, and their families. Staff Corps officers may command auxiliary vessels and various shore activities, and may also attain command within their own corps. Unlike Line Officers, Staff Corps officers wear their rank on the right collar, and their corps insignia device on the left collar. The corps insignia replaces the star worn by line officers on sleeves and shoulder boards.

II. Restricted Line Communities

Engineering Duty Officer: EDOs apply technical expertise, practical engineering judgment, and business acumen to the research, development, design, acquisition, construction, life cycle maintenance modernization, and disposal of ships and submarines and their associated warfare support systems.

Aerospace Engineering Duty Officer: AEDOs provide professional management and technical direction in the entire air weapon system acquisition process from design to production and later product improvements of Naval aircraft, spacecraft, and weapons. AEDOs test and evaluate new aircraft, weapons systems, and weapons in various stages of development.

Aerospace Maintenance Duty Officer: In addition to working in fleet maintenance organizations throughout the fleet, AMDOs are very much involved in all aspects of material acquisition and support as top-level Program Managers in NAVAIR and as Commanding Officers of the Naval Aviation Depots. Also, AMDO's are involved in all aspects of material acquisition and support as top-level Program Managers in NAVAIR and as CO's of the Naval Aviation Depots.

Information Dominance Corps: IDC is comprised of four communities: Information Professional (IP), Information Warfare (IW), Intelligence (INTEL), and Meteorology and Oceanography (METOC). USNA Midshipmen who are physically qualified cannot be assigned directly to Information Dominance Corps (IDC) communities; however, they can be selected as a SWO Option in any of the four: SWO (IP), SWO (IW), SWO (INTEL), and SWO (METOC). They are required to qualify as a Surface Warfare Officer, be within 6 months of promotion to O-3, and have completed specified career milestones prior to re-designation and transfer to their IDC Community. IDC is discussed in depth in Week 15 of this Pro-Book.

Public Affairs Officers: The Public Affairs (PAO) community is responsible for "Telling the Navy Story." Navy Public Affairs comprise three functional areas:

1. Media Operations: PAOs work with media outlets to communicate with the American public.
2. Internal Communications: PAOs produce publications, briefings and video news programs to communicate with Sailors, their families, reservists, retirees and civilian employees.
3. Community relations: PAOs reach out to the American public through "hands-on" programs like public tours, Congressional and VIP visits and embarks, speaking engagements, open houses and special events.

PAOs serve at sea, ashore, and in joint assignments, and are always deployed where Navy news is being made. All PAOs join the community through lateral transfer. Today there are about 190 officers in this community, the smallest in the Restricted Line.

Human Resources

The Human Resources Community (120X) is charged with “delivering Human Resources expertise to define, recruit, develop, assign, and retain a highly-skilled workforce for the Navy Total Force mission.” Its core competencies include: Workforce Requirements; Training and Education Development; Personnel Management; and Recruiting.

III. Staff Corps Communities

There are five Navy Staff Corps communities: Medical, Supply, Civil Engineer, Judge Advocate General and Chaplain.

- **Medical Community:** All officers in the Medical, Medical Service, Dental, and Nurse Corps are licensed medical professionals and are organized under the Bureau of Medicine and Surgery.
 - **Medical Corps:** The Medical Corps consists of commissioned doctors who are responsible for maintaining the general health of personnel in the naval service. These doctors provide medical services, and administer hospitals, sick bays, and other medical facilities in the Navy. For squadrons of small ships, a medical officer may serve the entire squadron. Large ships usually have their own medical officer.
 - **Medical Service Corps:** This is the most highly diversified Corps within the Medical Community. Officers in this corps are specialists in clinical, scientific, and administrative health care fields. The Medical Service Corps now has approximately 2,600 officers. Health care scientists and clinical care specialists make up about 60 percent of the total Corps, serving in 22 different specialties including aerospace physiology, psychology, physical therapy, optometry, biochemistry, and radiation health, while health care administrators comprise the remaining 40 percent.
 - **Dental Corps:** Commissioned dentists provide dental services on shore and onboard large ships. Dental Corps officers are responsible for surgery, orthodontics, preventing and controlling dental disease, and supervising dental hygiene.
 - **Nurse Corps:** As professional registered nurses, Nurse Corps officers use nursing expertise to accomplish the health services mission. Today, there are approximately 5,200 active duty and reserve Nurse Corps officers. They care for many patients whose illnesses and injuries are no different from those found in civilian facilities. They also care for those with battle injuries or conditions resulting from fleet operations, chemical/biological warfare, or parasite-infested environments.
- **Supply Corps:** Supply Corps Officers handle the supply phases of the naval logistics. The broad responsibilities of the Supply Corps are closely related to those of many executive positions in private industry. The 2,900 Supply Officers are the business managers of the Navy and they are responsible for the supply support of the ships of the active fleet, operational units and hundreds of naval shore installations. The most important responsibility of the Supply Corps is the worldwide, integrated Navy Supply System, which gets the Fleet what it needs, where and when it needs it.
 - The Supply Corps of the United States Navy traces its beginnings to February 23, 1795 when the nation's first Purveyor of Public Supplies, Tench Francis, Jr., was appointed by President George Washington. The Supply Corps is one of the oldest staff corps in the U.S. Navy. The official motto of the Supply Corps is "Ready for Sea" - reflecting the Supply Corps' longstanding role in sustaining warfighting.
 - Supply Corps areas of responsibility are supply chain management, logistics, combat support, readiness, quality –of –life, contracting and fiscal issues.
 - Supply Corps officers are proficient in a variety of disciplines such as supply management and expeditionary logistics, inventory control, disbursement, financial management, contracting, information systems, operations analysis, material and operational logistics, fuels management, food service and physical distribution.
 - Supply Corps Purpose: To optimize the Naval Support Network to meet the Operational Readiness and Quality-of-Life Requirements of our Maritime Forces.

- Supply Corps Mission: To deliver sustained global logistics and Quality-of-Life Support to the Navy and Joint Warfighter.
- **Civil Engineer Corps:** The U.S. Navy Civil Engineer Corps (CEC) was established in 1867 to build and maintain the naval shore establishment. Its officers are the Navy's uniformed professional engineers and architects responsible for executing and managing the planning, design, construction, operation, and maintenance of the Navy's shore infrastructure. CEC Officers work in one of three areas: construction contract management, public works, or the Seabees. The Seabees consist of highly skilled personnel, schooled in both construction and defensive combat. Seabees are responsible for a wide variety of military construction and humanitarian efforts in times of peace or war:
 - Constructing and repairing aircraft runways and parking aprons
 - Constructing munitions storage areas and large scale camp sites
 - Erecting bridges and constructing roads
 - Renovating schools, medical clinics, and municipal facilities
 - Repairing piers and wharves, underwater and above
 - Constructing border outposts, expeditionary camps, community outreach centers, and medical clinics
- **Judge Advocate General Corps:** The JAG corps was established in 1967 and is composed of lawyers who provide legal services to commands, service members, and their families. The Judge Advocate General directs an organization of more than 730 judge advocates in addition to other enlisted and civilian personnel, and provides legal and policy advice to the Secretary of the Navy in all legal matters.
- **Chaplain Corps:** Officers in the Chaplain Corps are ordained ministers of various denominations and religions recognized by the Department of Defense. They provide religious ministries to naval service personnel and families, including worship services, religious education, pastoral counseling, and basic promotion of spiritual and moral welfare. Chaplains work on shore, on ships, and in the field with all branches of the naval service. Lateral transfers into the Chaplain Corps are not allowed.

Medical Corps	Dental Corps	Nurse Corps	Medical Service Corps	Civil Engineer Corps
Chaplain Corps (Christian)	Chaplain Corps (Jewish)	Chaplain Corps (Muslim)	Supply Corps	Judge Advocate General's Corps

IV. The Limited Duty Officer and Chief Warrant Officer Programs

Limited duty officer and chief warrant officer are two separate programs which provide the Navy with officer technical managers. Both programs provide the opportunity for outstanding senior enlisted personnel to compete for a commission without the need for a college degree. Combined, these two communities make up more than eleven percent of the officer corps.

- **Limited Duty Officers (LDOs):** As officer technical managers of the Line or Staff Corps, LDOs progressively advance within broad technical fields related to their former enlisted ratings. They fill leadership and management positions at the ensign through captain level that require technical

background and skills not attainable through normal development within other officer designators. LDOs serve as, but are not limited to serving as, division officers, department heads, OICs, XO and COs, ashore or afloat. *LDOs wear identical rank structure to that of Unrestricted Line officers.*

- **Navy Band Officers:** Officers in the Navy Band are Limited Duty Officers who started their careers by enlisting in the Navy Band. Enlisted personnel must be at least an E-6 in order to apply. Upon commissioning, they are assigned to one of fourteen bands, and will rotate every two to three years. Senior billets are those with the Navy Band, Washington, and the US Naval Academy Band.
- **Chief Warrant Officers (CWOs):** Although intended primarily as technical specialists, CWOs may also serve as division officers, department heads, OICs, XO and CO, ashore or afloat. Like Staff Corps officers, CWOs wear special insignia above the rank devices on their shoulder boards and sleeves to indicate their field of expertise. The ranks of CWO start at CWO2 and end at CWO5.

Chief Warrant Officer Rank Structure of the United States Navy			
CWO5	CWO4	CWO3	CWO2

Sources:

1. NKO: Supply Corps: 2013 - 2017 Strategic Plan, Commander's Guidance 2014
2. NECC Fact Sheet for Seabees: <http://www.necc.navy.mil/>

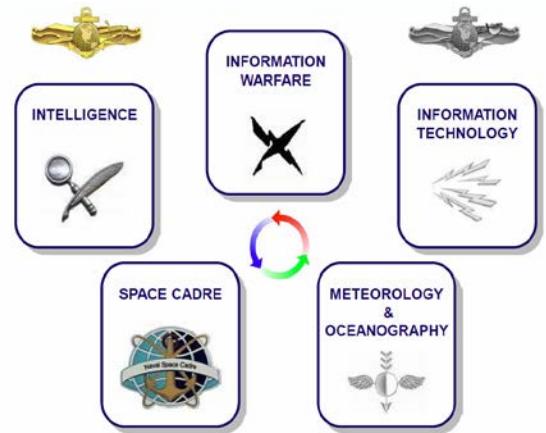
WEEK 14: INFORMATION DOMINANCE CORPS



I. Overview

The Information Dominance Corps (IDC) was created in 2009, bringing together officers, enlisted, and civilian professionals who possess extensive skills in information-intensive fields. This corps of professionals receives extensive training, education, and work experience in information, intelligence, counterintelligence, human-derived information, networks, space, meteorological and oceanographic disciplines. Members of the IDC continually develop and deliver dominant information capabilities in support of US Navy, Joint and national war fighting requirements.

Information as a warfighting discipline. Until 2009, the information-intensive communities of Oceanography, Information Warfare, Information Professional, Intelligence and the Space Cadre were treated principally as individual enablers necessary to support the Navy's traditional warfighting pillars. Recognizing the enhanced combat power of fusing the Navy's information capabilities and manpower, the Chief of Naval Operations consolidated these communities under the banner of Information Dominance. The Navy's aggregate information capability has begun to emerge as a modern warfighting enterprise, and serves as a potent asymmetric complement to its kinetic warfare capabilities. Information Dominance has been established as the Navy's newest warfighting discipline in support of the Navy's primary tenet of Warfighting First, and information itself has become a potent weapon.



II. IDC Mission

Gain a deep understanding of the inner workings of our adversaries, develop unmatched knowledge of the battlespace, provide our operating forces with sufficient over-match in wartime command and control, and project power through and across the network. This mission requires **three core capabilities** [ref. (3)]:

- Assured Command and Control (C2). Through the Navy's networks, the IDC assures secure and rapid sharing of information across all commands and most platforms, and also ensures the ability of commanders to direct operations and coordinate the application of force.
- Battlespace Awareness. The IDC maintains awareness of the physical environment (*i.e.* weather, air column, water column, topography, infrastructure, *etc.*) of the operating area, as well as a robust awareness of the capabilities, vulnerabilities, movement, trends, intentions, and threats posed by potential adversaries thus enabling informed decision making by operational and tactical commanders. Put another way, knowing the enemy and the environment.
- Integrated Fires. IDC capabilities include cyber operations, electronic warfare, and information operations that are used to enhance and coordinate the application of force by US and coalition assets, and to deny, disrupt, or defeat an adversary's capabilities.

Key Concept: The IDC core capabilities that support Navy mission objectives are, assured Command and Control (C2), Battlespace Awareness, and Integrated Fires.

III. Service Assignment

Midshipmen desiring assignment to an IDC Community have two paths out of USNA. If a Midshipman is not physically qualified (NPQ) for Unrestricted Line (URL) selection he or she may become a direct accession to an IDC community. The other path is via the SWO community with an “option.”

The SWO-option program allows Midshipmen to select as SWO with a guaranteed lateral transfer after earning her or his warfare qualification. Specific guidance on the timeline for the lateral transfer will vary but is typically at the 3-4 year mark. The SWO-IDC option program is highly attractive to many candidates because it does not require competing for a lateral transfer after completion of one’s initial tour.

Although selection for IDC service assignment is highly competitive, there are no requirements for a specific academic major, nor for any related practical experience, to join any of the IDC designators. Each IDC community has its own basic school that prepares officers for their initial tours. The minimum selection criteria are as follows:

- Superior performance in core curriculum
- Minimum 2.2 QPR
- Eligible for TS/SCI Clearance

Midshipmen desiring selection are strongly encouraged to contact any IDC Officer on the yard to discuss the selection process and current needs of the IDC Communities.

IV. Detailed IDC Community Overviews

The IDC is made up of Information Professional Officers (IP), Information Warfare (IW) Officers, Intelligence Officers (INTEL), Oceanography Officers (METOC), Space Cadre, Aerographers Mates (AG), Cryptologic Technicians (CT), Intelligence Specialists (IS), Information Technicians (IT) and Navy civilians.

Officer Designators 	Information Professional (IP) 182X, 642X, 742X	Information Warfare (IW) 181X, 644X, 744X Cyber Warfare Engineer 184X, 743X	Intelligence (INTEL) 183X, 645X, 745X	Meteorology/Oceanography (METOC) 180X, 646X
Enlisted Ratings 	Information Systems Technician (IT) 	Cryptologic Technician (CT) (CTI, CTM, CTN, CTR, CTT) 	Intelligence Specialist (IS) 	Aerographer's Mate (AG) 
Other	IT Civilian	Space Cadre 5500x 6206x Subspecialists	Intelligence Civilian	

Information Professional (IP)

Information Professional (IP) officers operate, maintain, secure, plan, acquire, and integrate three network domains afloat and ashore. The domains are separated based on the classification of information being transmitted on them [ref. (6)]:

- NIPRNET: Non-Classified Internet Protocol Routing Network, used for Unclassified information only
- SIPRNET: Secret Internet Protocol Routing Network, used for information up to and including information classified at the Secret level

- JWICS: Joint Worldwide Intelligence Communications System, used for information up to and including Top Secret (TS) and Sensitive Compartmented Information (SCI).

The two primary assignments for IP officers are either Fleet Information Dominance or Cyber and Net-Centric Commands which are summarized below: [ref. (13)]

1. **Fleet Information Dominance.** These Navy IP officers are responsible for vital shipboard functions that support everything including air operations, ship machinery control, logistics, intelligence systems, medical, and quality of life systems. While the same systems exist on smaller combatants, IPs at sea are typically found only on large deck platforms such as CVNs, LHDs, and LHAs.
2. **Cyber and Net-Centric Warfare Commands.** These are assignments ashore and include a myriad of IP facilities as well as various staffs.

Information System Technician (IT) is the enlisted rating associated with the IP community. Typical duties of ITs include communications, operations, message processing, and network administration, maintenance, and security.

Information Warfare (IW)

The Information Warfare Community provides the Commander with kinetic and non-kinetic means of achieving key objectives by affecting adversary and protecting friendly capabilities. This is achieved through the application of:

- Signals Intelligence (SIGINT) – The collection and analysis of electromagnetic signals from an adversary's communication, radar and weapons systems.
- Computer Network Operations (CNO) – Offensive and defensive network operations.
- Electronic Warfare (EW) – Includes Electronic Attack (EA) which targets an adversary, Electronic Protection (EP) which protects friendly units, and Electronic Support (ES) which includes the detection of Indications and Warnings (I&W).

Assignments for IW Officers begin with the 8-week Information Warfare Basic Course (IWBC). Following graduation from the Basic Course, IW Officers are typically assigned to one of four National Cryptologic Centers - San Antonio, Texas; Kunia, Hawaii; Augusta, Georgia; or Fort Meade, Maryland. Following their initial tour, Information Warfare Officers have several educational opportunities. One is the Naval Postgraduate School. Another is the Junior Officer Career Cryptologic Program, a competitive three-year program that offers participants the opportunity to develop broad technical and operational expertise through a combination of academics and an intensive internship at the National Security Agency. Follow on tours provide opportunities for critical IW assignments, such as a Cryptologic Resource Coordinator (CRC) and the Information Operations Warfare Commander (IWC).

Cryptologic Technician (CT) is the enlisted rating associated with the IW community. While all CTs have certain core capabilities, the specific duties of CTs are divided into five branches which generally have the following duties:

- Cryptologic Technician Interpretive (CTI) – Translate foreign-language transmissions.
- Cryptologic Technician Maintenance (CTM) – Maintain cryptologic equipment.
- Cryptologic Technician Network (CTN) – Perform system administration of JWICS and conduct Computer Network Operations.
- Cryptologic Technician Collections (CTR) – Operate Information Operations equipment; collect, analyze, and exploit electromagnetic (EM) signals; provide SIGINT.
- Cryptologic Technician Technical (CTT) – Operate and maintain electronic sensors; collect, analyze, and exploit Electronic Intelligence (ELINT).

SIGINT Capabilities

Ship's Signals Exploitation Space (SSES). The Navy's afloat Signals Intelligence (SIGINT) collection and analysis work center is SSES. SSES provides real time SIGINT tactical support using ship's sensors and national resources in support of national, theater, and fleet cryptologic requirements. Operationally,

SSES collects and analyzes foreign signals and provides tactically relevant time-sensitive I&W data extending beyond the horizon. All aircraft carriers (CVN) and amphibious assault ships (LHA/LHD), as well as many CGs and DDGs have a SSES. On CVNs and LHA/LHDs, a junior IW officer will head a division of CTs who work in SSES, but on smaller ships (*i.e.* CGs and DDGs) a smaller CT detachment will man SSES that is usually headed by a LT or a CWO. [ref. (6)]

EP-3 Aries. The Navy's most capable airborne SIGINT collection platform is the EP-3. The EP-3 provides commanders with near real-time tactical SIGINT and full motion video intelligence. With sensitive receivers and high-gain dish antennas, the EP-3E exploits a wide range of electronic emissions from deep within targeted territory. The crew fuses the collected intelligence along with off-board data and disseminates the collaborated information for direct threat warning, indications and warnings, information dominance, battle space situational awareness, suppression of enemy air defenses, destruction of enemy air-defense, anti-air warfare and anti-submarine warfare applications. In addition to pilots, NFOs, and AWs, aircrew qualified CTs, IW officers, Intelligence Officers and ISs, are assigned to and fly in EP-3 squadrons. [ref. (8)]



US Navy EP-3 Aries. Note the many antennae used for SIGINT collection.

Intelligence (INTEL)

The Naval Intelligence Community provides evaluated intelligence about an adversary's capabilities, vulnerabilities, movement, trends, and intentions in support of planning and operations. Intelligence allows anticipation or prediction of future situations and circumstances and it informs decisions by illuminating the differences in available courses of action.

One goal of naval intelligence is to reduce the risk to operations by identifying adversary capabilities, vulnerabilities, and intentions. It attempts to impart knowledge of the situation through the application of three basic intelligence functions that form the foundation of required analytical support to the commander:

1. **Intelligence Preparation of the Battlespace (IPB)** – Intelligence Preparation of the Battlespace (IPB), sometimes also referred to in Joint Doctrine as Joint Intelligence Preparation of the Operating Environment (JIPOE), is the systematic and continuous analysis of the adversary, terrain, and weather in the assigned or potential battlespace. Its goals include understanding the adversary's forces, doctrine, tactics, training, and probable courses of action, together with the physical and environmental characteristics of the target area. IPB identifies gaps in knowledge that require intelligence collection efforts.
2. **Indications and Warning (I&W)** – The goal of Indications and Warning (I&W) is to provide early warning of potential hostile action. To accomplish this goal, the analyst must be familiar with an adversary's operational order of battle (*i.e.* inventory) and normal operating patterns. The

- intent of I&W is to prevent surprise and reduce risk through early detection of adversary actions that may threaten friendly forces.
3. **Targeting** – Targeting is a function of both intelligence and operations, in which an adversary's critical vulnerabilities are identified for possible attack or disruption. Targeting is an analysis process in which the components of a target, or target system, and their vulnerabilities and relative importance are assessed to determine what effect their loss or impairment would have on the adversary. Intelligence can indicate where selective employment of force can have a major effect. For example, the destruction of a single enemy radar site can render multiple surface-to-air missile (SAM) sites useless. *Targeteering*, which is an intelligence function, identifies which weapons will achieve the desired effects on a specific target.

Intelligence Specialist (IS) is the enlisted rating associated with INTEL Community. While all ISs have a common core of duties (assist in collection, processing, analysis and dissemination of intelligence products and reports; prepare and present intelligence briefs; assist in mission planning and debrief; assist in IPB; and safeguard classified materials), the four areas of IS specialization are:

1. Imagery Analyst – Process, interpret, measure, and annotate imagery and geospatial products
2. Naval Special Warfare Analyst – Provide intelligence support for NSW mission planning, and assist in processing, interpreting, and disseminating collected information
3. Strike Warfare Analyst – Support strike mission planning, mission debrief; assist in assessing enemy vulnerabilities; perform target analysis, and bomb hit assessment
4. OPINTEL Analyst – Produce Operational Intelligence (OPINTEL) by collecting, analyzing, and processing all-source intelligence regarding an adversary's trends in military operations, training, and capabilities; perform Indications and Warning (I&W).

Carrier Intelligence Center (CVIC). Pronounced “civic”, several different workcenters comprise CVIC, which is an afloat intelligence production and analysis center located aboard every CVN. Most of these workcenters are collocated within a suite of spaces on the ship. CVIC serves as the organic intelligence center for a Carrier Strike Group (CSG). Numerous intelligence activities are conducted in CVIC such as imagery interpretation and reporting, intelligence production, strike planning, OPINTEL, mission debrief, and providing I&W to other U.S., coalition, and allied operational units. As such, CVIC maintains close liaison with other fleet assets, naval shore commands, and joint intelligence and operational commands. CVIC maintains close liaison with fleet and theater I&W watches, Navy and joint intelligence reachback agencies, and specialized national or theater targeting/analytical centers. CVIC provides timely, customized, relevant all-source intelligence products and I&W for operational commanders and mission planners in all mission areas. [ref. (6)]

Joint Intelligence Center (JIC). The JIC is the afloat intelligence production and analysis center located aboard every LHA/LHD, that supports the operational commanders of an Amphibious Ready Group (ARG) in the same basic ways that CVIC serves within a Carrier Strike Group. The most notable difference between a CVIC and a JIC is the presence of Marine Corps intelligence functions working jointly in the JIC. [ref. (6)]

<u>Levels of Intelligence</u>	<u>Intelligence Sources (i.e. the “-INTS”)</u>
<p style="text-align: center;">STRATEGIC</p> <p style="text-align: center;">Senior Military and Civilian Leaders Combatant Commanders</p> <ul style="list-style-type: none"> ● Assist in developing national strategy and policy ● Monitor the international situation ● Assist in developing military plans ● Assist in determining major weapon systems and force structure requirements ● Support the conduct of strategic operations <p style="text-align: center;">OPERATIONAL</p> <p style="text-align: center;">Combatant and Subordinate Joint Force Commanders and Component Commanders</p> <ul style="list-style-type: none"> ● Focus on military capabilities and intentions of enemies and adversaries ● Monitor events in the Joint Force Commander's area of interest ● Support the planning and conduct of joint campaigns ● Identify adversary centers of gravity <p style="text-align: center;">TACTICAL</p> <p style="text-align: center;">Commanders</p> <ul style="list-style-type: none"> ● Support planning and conducting battles and engagements ● Provide commanders with information on imminent threats to their forces ● Provide commanders with obstacle intelligence 	<p style="text-align: center;">GEOINT – Geospatial Intelligence</p> <ul style="list-style-type: none"> -- Imagery -- IMINT - Imagery Intelligence -- Geospatial Information <p style="text-align: center;">HUMINT – Human Intelligence</p> <ul style="list-style-type: none"> -- Debriefings -- Interrogation Operations <p style="text-align: right;">-- Source Operations -- Document and Media Exploitation</p> <p style="text-align: center;">SIGINT – Signals Intelligence</p> <ul style="list-style-type: none"> -- COMINT - Communications Intelligence -- ELINT - Electronic Intelligence <ul style="list-style-type: none"> ** Technical ELINT ** Operational ELINT -- FISINT - Foreign Instrumentation Signals Intelligence <p style="text-align: center;">MASINT – Measurement and Signature Intelligence</p> <ul style="list-style-type: none"> -- Electromagnetic Data -- Geophysical Data -- Materials Data <p style="text-align: right;">-- Radio Frequency Data -- Radar Data -- Nuclear Radiation Data</p> <p style="text-align: center;">OSINT – Open-Source Intelligence</p> <ul style="list-style-type: none"> -- Academia -- Interagency -- Newspapers/Periodicals <p style="text-align: right;">-- Media Broadcasts -- Internet</p>

Key Concept: Each “-INT” provides one source of information leading to all source analysis. Thus intelligence is derived from all available sources, such as HUMINT, SIGINT, OSINT, and is combined into customized and relevant intelligence products supporting warfare commanders.

Meteorology/Oceanography (METOC)

Both the terms “METOC” and “OCEANO” are used to refer to the Oceanography community which provides actionable information to include meteorological, climatological, oceanographic, and space environment observations, analyses, prognostic data or products and meteorological and oceanographic effects. The METOC Community has four Warfare Directorates that support the warfighter.

- Undersea Warfare Directorate – Supports Anti-Submarine and Mine Warfare using state-of-the-art technology to capture the characteristics of the water column, provide predictions of sensor and weapon performance, employ Unmanned Underwater Vehicles (UUV) and side scan sonar, and conduct advanced planning.
- Expeditionary Warfare Directorate – Provides Naval Special Warfare (NSW) with information that defines the physical environment allowing optimization of mission planning for tactical advantage. Deployments with SEAL teams are common, requiring outstanding physical fitness and an ability to conduct METOC support operations in remote locations.
- Weather Services Directorate – Supports several distinct operations:
 - Fleet Operations – METOC support for afloat units. Officers are generally attached to a specific ship (LHD/LHA/CVN), Strike Group, or Numbered Fleet.
 - Maritime Operations – Responsible for providing afloat units with enroute weather (WEAX) and Optimum Track Ship Routing, a service designed to keep ships safely away from hazardous weather.
 - Aviation Operations – Focused on flight weather support to aviation units around the world.
- Precise Time and Astrometry Directorate
 - Positioning and Timing – The Naval Observatory is the preeminent authority in the areas of Precise Time and Astrometry, and distributes Earth Orientation parameters and other Astronomical Data required for accurate navigation and fundamental astronomy.

- Navigation – Focused on providing hydrographic surveys supporting real world operations, as identified by Combatant Commanders and other DoD customers. Consists primarily of USNS hydrographic survey vessels and the Fleet Survey team. Their combined objective is to deliver digital and/or paper navigation products within a single deployment (45-60 day turnaround).

Aerographer's Mate (AG) is the enlisted rating associated with the METOC community. AGs collect, measure, and analyze elements of the physical operating environment (land, sea, air, space). They prepare weather forecasts and weather briefs. They prepare and disseminate air space and water column analysis in support of operations. They predict how the physical environment impacts the performance of sensors and weapons systems.

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WEEK 15: U.S. MARINE CORPS HISTORY AND TRADITIONS



I. Origins

Birth of the Marine Corps

The United States Marine Corps is a direct descendent of the British Royal Marines, who were founded in 1664. When the 2nd Continental Congress drew up plans for a Navy, it also established a Continental Marine Corps. November 10, 1775 marks the United States Marine Corps' official birthday. Tun Tavern in Philadelphia, Pennsylvania is recognized as the birthplace of the Marine Corps.

Samuel Nicholas, a Philadelphia merchant, was commissioned a Captain and ordered to raise the required number of Marines to form the two battalions. He is considered the first Commandant of the Marine Corps.

II. History and Traditions

First Amphibious Landing

The attack on New Providence, Bahamas, led by Samuel Nicholas, was the first amphibious raid in the history of the Marine Corps. Landing on 3 March 1776, the Marines made the first amphibious assault, taking the British defenders completely by surprise. The British withdrew from Fort Montague and the Marines captured the fort without firing a shot.

Early Traditions

- **Quatrefoil** – One of the traditions, which evolved from the late 1700s and early 1800s, was the use of the Quatrefoil. It enabled our sharpshooting Marines in the riggings of sailing ships to distinguish between friend and foe. Our boarding parties attached a cross design piece of rope to the top of their covers. From this evolved the Quatrefoil, today the cross-shaped braid is worn on top of the Officer's barracks cover.
- **Leatherneck** – The Marines long-standing nickname "Leatherneck" goes back to the leather collar, or neckpiece, which was worn from 1775 to 1875, that was intended to ensure the Marines kept their heads erect, and to protect their necks from sword slashes. The high collar on the blue dress uniform commemorates it today.
- **Rank Of Sergeant Major** – In 1798 Congress established the rank of Sergeant Major. The first Marine to rise to the rank of Sergeant Major was Sergeant Major Archibald Sommers. In 1957, the 21st Commandant, General Pate, established the billet of Sergeant Major of the Marine Corps as the Commandant's senior enlisted advisor. The first Sergeant Major of the Marine Corps was Sergeant Major Bestwick.
- **Marine Corps Band** – The Marine Band was established in 1798 and has played for every president except George Washington. Thomas Jefferson gave them the nickname "The President's Own."
- **Mameluke Sword** – In 1805, the Ruler of Tripoli, Prince Hamet, presented the Mameluke sword to First Lieutenant Presley O'Bannon as a token of gratitude for the Marines' actions during the Barbary Pirate Wars. A replica of that sword was adopted for use and is carried by all Marine officers. The Mameluke Sword is the oldest weapon still in use today by any of the US Armed Forces.
- **The Scarlet Stripe** – The scarlet trouser stripe first appeared on uniform trousers in 1798, and reappeared in 1840 and 1859, partly as a result of the military fashions of the day. The popular story, which cannot be supported by fact, is: In the battle of Chapultepec during the Mexican War in 1847, 90% of the Marine officers and noncommissioned officers were casualties. Thirteen of the twenty-three Marine officers participating in this battle were decorated for bravery. Thus the scarlet stripe, or





"blood stripe", worn today on the blue dress trousers is to commemorate all the officer and noncommissioned officer casualties at the battle.

- **"The Grand Old Man of the Marine Corps"** – Archibald Henderson was appointed the 5th Commandant of the Marine Corps in 1820 and remained commandant until 1859, a period of 38 years, and is known as "the Grand Old Man of the Marine Corps."
- **Marine Corps Emblem**– During the post-Civil War period, in 1868 the Marine Corps emblem was adopted. The emblem consisted of an eagle with spread wings sitting on top of a globe of the Western Hemisphere with an anchor in the background. The eagle symbolizes the nation, the globe worldwide service, and the anchor naval traditions.
- **Two Medal of Honor Recipients** – Gunnery Sergeant Dan Daly and Major Smedley Butler are the only Marines who have been awarded two Medals of Honor for two separate actions. Gunnery Sergeant Dan Daly was awarded the Medal of Honor for his actions during the Boxer Rebellion in China in 1900 and the Banana Wars in Haiti in 1915. He is also remembered for saying, "Come on, you sons of bitches! Do you want to live forever?" during the Battle of Belleau Wood in WWI. Major Smedley Butler was awarded the Medal of Honor for his actions during the Mexican War in 1914 and the Banana Wars in Haiti in 1915.
- **Father of Marine Aviation** – The development of Marine aviation began in 1912. 2nd Lieutenant Alfred A. Cunningham was the first Marine to earn naval aviation wings. Lieutenant Cunningham worked to establish Marines as aviators and is considered the father of Marine Corps aviation.

World War I (1917)

The Marine Corps underwent a drastic transformation in World War I from a small force of anti-guerrilla fighters to a large conventional force capable of sustained combat.

After 54 days of trench warfare, the Marines pulled out and received orders to protect Paris. They met the Germans at a place called Bois de Belleau (Belleau Wood). As Marines moved to the front, retreating French soldiers encouraged them to "fall back... retreat..." telling them that advancement was impossible. In classic Marine fashion, Capt Lloyd Williams reportedly answered, "Retreat hell, we just got here!" At Belleau Wood, the 4th Marine Brigade suffered enormous casualties while saving Paris from the Germans. The French government awarded the 4th Marine Brigade France's highest award, the Croix de Guerre.

- **Devil Dog** – German soldiers feared the Marines, calling them "Teufelhunden" or "Devil Dog", a name which is still used by Marines to this day.

Post-World War I

During and after World War I, the Marines were consistently called upon to protect American interests and provide security in such places as Haiti, Nicaragua, and the Dominican Republic. During this same period, the concept of close air support was implemented for the first time and the serious study of the amphibious assault was undertaken.

- **Thirteenth Commandant** – Perhaps the most significant event of this period was the appointment of Major General John A. Lejeune as the 13th Commandant of the Marine Corps. His major accomplishments as Commandant include:
 - Guiding the Corps toward the amphibious assault role.
 - Establishing the Marine Corps Institute.
 - Enhancing the officer corps through the Company Grade Officer's School and the Field Grade Officer's School.
 - Organizing Headquarters Marine Corps.
- **Women In The Corps** – Women entered the ranks of the Marine Corps for the first time in 1918, when 277 reservists and Women Marines joined the Corps, beginning with Opha Mae Johnson.

The Island Hopping Campaign of World War II

Guadalcanal

In August 1942, the 1st Marine Division made the first amphibious landing of World War II. When the Marines came ashore, the Japanese launched a sea attack against the US Navy amphibious ships. The operation was not yet complete when the Navy withdrew from Guadalcanal with thousands of Marines and critical equipment aboard. Instead of spearheading an offensive operation, the Marines assumed a defensive

perimeter until the rest of the Marines aboard the ships could return. By February of 1943, the Marines had full control of Guadalcanal and the US concentrated on the offensive in the Pacific.

Tarawa

There were over 4,800 Japanese on Tarawa manning 32 large coastal artillery pieces, 106 machine guns, and 14 tanks. In November 1943, the 2d Marine Division attacked Tarawa. The reefs surrounding the island stopped the majority of the landing craft. The Marines waded to the shore, some 500 hundred yards distant, in the face of machine gun and mortar fire. 76 hours after the start of the assault on Tarawa, the Marines captured the island at the cost of 1,100 dead and 2,300 wounded Marines.

The significance of Tarawa was that the Japanese commander claimed, "a million men assaulting for a hundred years could not take Tarawa." It took the Marines just 76 hours. Only 17 Japanese surrendered; the rest fought to the death.



Iwo Jima

Iwo Jima was needed in order to provide a clear flight path for American B-29 strategic bombers. The Japanese spent almost 20 years preparing for the defense of this island. On the morning of 19 February 1945, the Marines landed on Iwo Jima. It was the largest Marine amphibious landing to date, and the costliest. The Marines sustained more than 26,000 casualties while fighting the 21,000 Japanese soldiers that defended the barren, rugged terrain. Many of the 1500 caves and pillboxes on the island had reinforced walls ten feet thick.

In recognition of the Marines' heroism in the battle on Iwo Jima, Navy Admiral Chester A. Nimitz said, "Among the Americans who fought and died at Iwo Jima, uncommon valor was a common virtue."

During this battle Marines raised the American flag on Mount Suribachi. An Associated Press photographer, Joe Rosenthal, snapped a picture, which has taken its place with the most famous pictures and paintings of our country's history. This picture was the inspiration for the Marine Corps War Memorial in Washington, D.C.

Okinawa

The final great land offensive in the Pacific area was the invasion of Okinawa by the combined forces of the Marine Corps and the Army. The Marine Corps landed the two Marine Divisions on the western beaches of Okinawa, with another Marine Division held in reserve. Defending this mighty fortress were 117,000 Japanese. However, on 21 June 1945, after three months of fighting, Japanese resistance ended. The successful conquest of the island of Okinawa enabled our ships, planes and submarines to tighten the blockade around Japan's home islands.

The Korean War

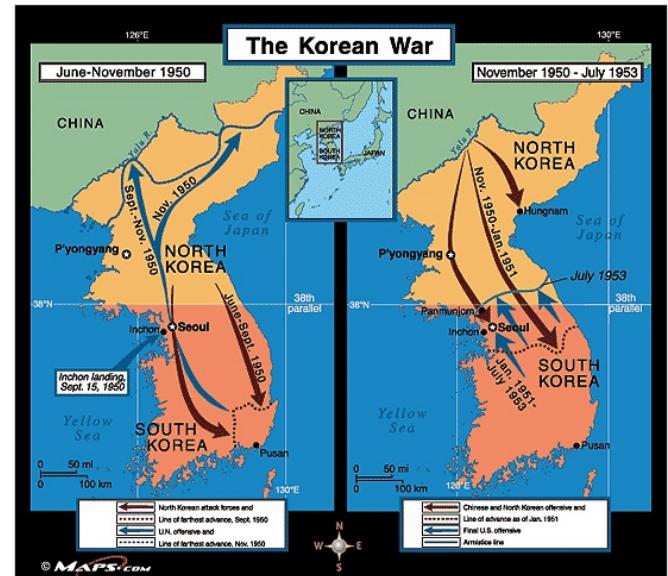
The Pusan Perimeter

Following World War II, Korea split into North and South along the 38th parallel. The North became Communist and the South became a Democratic Republic. In the summer of 1950, North Korean troops supplied with Russian and Chinese equipment and advisors crossed the 38th Parallel attacking South Korea. The US Army was immediately dispatched from Japan along with other United Nations (UN) forces.

The South Koreans and the US Army were pushed back to a small perimeter around the port city of Pusan. Within days, the 1st Provisional Marine Brigade sailed from San Diego for Pusan. This rapid deployment of a combat ready Marine contingent displayed the Marine Corps' concept of being a "Force in Readiness."

When the Marines arrived in August 1950, elements of the US Army were already surrounded within the Pusan Perimeter. The 1st Provisional Marine Brigade was used to plug holes in the perimeter defense. The Marines then pushed the North Koreans back 26 miles along the left flank.

As the Marines moved in as a blocking force, a North Korean division attacked. The following day the Marines attacked the left flank of the North Korean division and the rest of the regiment soon took the ridges overlooking the river. On 3 September, the North Koreans attacked the perimeter again. The Marines moved in and, after three days of tough fighting, they pushed the North Koreans back 6 miles, securing the perimeter.



The Inchon Landing

The significance of this assault was (1) the tides, (2) the maneuver to an unexpected landing site, and (3) the dramatic effect on the war. The city of Inchon had tidal variation of 33 feet, was surrounded by large mud flats, had an island fortress protecting it, and was surrounded by an 8-foot sea wall, which the Marines had to scale from their landing craft.

In September 1950, the 1st Marine Division, commanded by MajGen Oliver P. Smith, fought in hand-to-hand combat, using flame-throwers and any weapons at their disposal. After 2 days of fighting the Marines captured Inchon and prepared to advance onto the South Korean capital of Seoul.

The Battle for Seoul

On Septemeber 22, 1950 the 1st Marine Division entered Seoul to find it heavily fortified. Casualties mounted as the forces engaged in desperate house-to-house fighting. Seoul was taken after 3 days of heavy fighting.

The Chosin Reservoir

The 1st Marine Division pushed north toward the border between North Korea and Communist China as winter arrived. As the Marines moved north through the frozen mountainous terrain, the Communist Chinese Forces (CCF) prepared to move south. The Marines marched to the west of a man-made reservoir called Chosin. Colonel Lewis B. "Chesty" Puller served as the commanding officer of the 7th Marine Regiment.

On the night of 2 November, just south of the Chosin Reservoir, a Chinese Communist Division attacked the 7th Marine Regiment who was the lead element for the division. The Marines fought off the attack for five days until the Chinese broke contact and simply disappeared.

On 27 November, eight Chinese divisions out-flanked the Marines. The Army units on the Marine's left flank were crumbling and the Marines were dangerously exposed. The UN forces crumbled and retreated. The Marines were left alone with their supply lines cut off, 70 miles from the sea. There was only one choice for the Marines, to fight their way back down the supply lines to the sea. This is when MajGen Smith said, "We are not retreating, we're just attacking in a different direction." It was a testament of the Marines' fighting spirit.

As the 1st Marine Division began their controlled withdrawal from the Chosin Reservoir, the weather became just as fierce as the enemy. As the Marines withdrew from the Chosin Reservoir, they took all of their men and equipment, evacuated all the dead and wounded, and left nothing to aid the Chinese divisions.

The 1st Marine Division was the only unit to come out of the Chosin Reservoir intact. Colonel "Chesty" Puller was awarded his fifth Navy Cross for his leadership and bravery. Chesty Puller is the only Marine who has been awarded five Navy Crosses.

The war quickly came to a stalemate. For several months, Marines conducted limited operations. The overall situation changed little in the months to come as the Chinese offered to negotiate. A truce was signed on 27 July 1953.

Three Developments from the Korean War

- Use of lightweight body armor in the latter stages of the war. This is the origin of the flak jackets used in the fleet today.
- Introduction of the thermal boots. Because of the intense cold, frostbite injuries, and the problem of fighting in an arctic environment, all Marine replacements for Korea were sent to Bridgeport, California for extensive cold weather training prior to departure for Korea.
- Introduction of the helicopter into a combat environment. The Marine Corps pioneered the doctrine of Vertical Envelopment; also known as the helicopter assault.

The Vietnam War

The Vietnam War was part of a wider containment strategy, with the stated aim of stopping the spread of communism. The U.S. aim in Vietnam was to secure an independent and non-Communist South Vietnam.

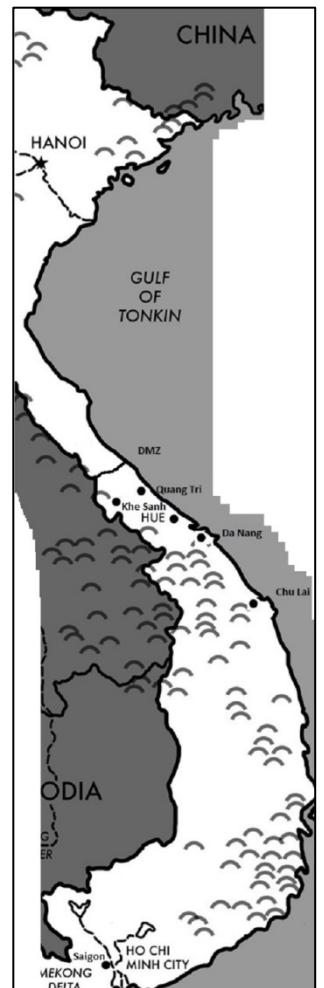
Da Nang

As air strikes went deep into North Vietnam, the Americans established an airbase in the northern part South Vietnam at Da Nang. The US suspected the Viet Cong would attack this air base, so the Marine Corps was called in to protect it. On March 8, 1965, the 9th Marine Expeditionary Brigade landed at Da Nang. They were the first ground combat forces to deploy to South Vietnam, and by the end of 1965, more than 38,000 Marines would be there.

Operation STARLITE

In late July of 1965, intelligence reports indicated that the 1st Viet Cong Regiment, some 2,000 strong, was preparing to attack Chu Lai. Acting on this information, the Marines initiated the first regimental-sized operation since the Korean War. On 18 August 1965, a classic "hammer and anvil" operation was launched. It was named Operation STARLITE.

2d Battalion, 4th Marines conducted a helicopter-borne assault from the west and 3d Battalion, 3d Marines conducted an amphibious assault from the southeast. Both battalions converged on the 1st Viet Cong Regiment, and with reinforcement from 3d Battalion, 7th Marines, they dealt the Viet Cong its first major defeat of the war, denying them sanctuary along the coast, and testing the combined helicopter and amphibious doctrine that the Marines had developed and studied for more than a decade. Two Medals of Honor, six Navy Crosses, and 14 Silver Stars were among the honors awarded the leathernecks of Operation STARLITE.



Khe Sanh

The Quang Tri province in which Khe Sanh was located bordered the demilitarized zone (DMZ) and was one of the key objectives of the North Vietnamese Army (NVA) in 1967. U.S. defense of the DMZ was centered on the Khe Sanh Combat Base and the NVA had to take it in order to control the province.

Northwest of Khe Sanh was a group of hills that overlooked the base and was used by the NVA to launch mortar and rocket attacks. The 2d and 3d Battalions of the 3d Marine Regiment attacked the NVA, pushed them off the high ground, and occupied the hills. The significance of the “Hill Fights” was that the Marines denied the NVA control of Quang Tri Province and at the same time enhanced the security of Khe Sanh. However, the NVA would attack the base again on a large scale during the Tet Offensive.

Tet Offensive

On January 31, 1968, 70,000 NVA and Viet Cong forces launched a large-scale operation that coincided with the Vietnamese Lunar New Year called Tet. The Tet Offensive was a coordinated series of attacks on more than 100 cities and towns in South Vietnam. The North Vietnamese believed that the attacks would foment discontent and rebellion among the South Vietnamese and that the offensive would break up the alliance between South Vietnam and the United States.

The NVA managed to infiltrate and gain control of Hue city. The Marines fought house-to-house and street-to-street to retake the city; it was the first time since Korea that the Marines fought in this manner. After 24 days of fighting, the NVA forces were defeated and Hue was secured.

At Khe Sanh Combat Base, the Marines came under siege by three NVA divisions for 77 days. Despite being cut off by land, the Marines were supporting by massive aerial firepower and resupply and they successfully held Khe San.

Tet related battles continued for four more months, but when it was over, the Communists had suffered a stunning military defeat with 80,000 casualties. Despite the North Vietnamese defeat, the Tet Offensive provoked a political crisis in the U.S. that marked a turning point in the Vietnam War.

Global War on Terrorism (GWOT) and Operation ENDURING FREEDOM (OEF)

Following the terrorist attacks of September 11, 2001, the United States government began what was called the "Global War on Terrorism."

In response to the Taliban government's refusal to respond to known terrorist activities within their borders, Marines were deployed to Afghanistan as part of Operation ENDURING FREEDOM (OEF). The entire American military focused its might on defeating Al-Qaeda. Combat operations began in October, and in November, Marines of the 26th Marine Expeditionary Unit (MEU) were the first major ground forces in Afghanistan. In mid-December, 2001, these Marines captured Kandahar Airport and converted it into one of the first coalition command centers in the country.

After the initial invasion, much progress had been made. The threat of violence had been greatly reduced, hundreds of schools had been constructed, and millions in aid had been distributed. In October of 2004, Afghanistan held its first direct elections, and one year later, they conducted the first Afghan parliamentary election.

As early as 2004, Marine infantry units embedded female Marines in these formerly all-male units to build trust with the local populace. In 2009, the Corps formalized the program to train and deploy Female Engagement Teams (FETs) alongside infantry units in order to build trust and confidence with Afghan women. Each team of female Marines had to cross difficult cultural hurdles in order to obtain permission to engage with Afghan women before they could begin to assess their needs, convey information, perform security searches, and whenever possible, win the support of Afghan mothers and daughters. What they learned as some of the first cultural outsiders to ever talk to remote Afghan women helped the Marine Corps define its aid programs and build trust with villagers. The program was successful.

At the start of 2010, the II Marine Expeditionary Brigade (MEB) led Operation MOSHTARAK. The largest military operation since the beginning of the war in Afghanistan, Operation MOSHTARAK drove the Taliban from cities across southern Afghanistan, including the Taliban stronghold of Marjah, and effectively ended their 2-year rule of the region.

The war in Afghanistan officially became the longest war in U.S. history in June of 2010. Marines continue to fight the Taliban and train Afghan soldiers to eventually shoulder the burden of Afghanistan's national security. With the first democratic transfer of power in Afghanistan scheduled to occur this year, the U.S. combat mission in Afghanistan will come to an end in 2014.

Operation IRAQI FREEDOM (OIF)

Initial Operations

In 2003, Iraq became a second front in the war on terrorism with Operation IRAQI FREEDOM (OIF), with Marine responsibilities ranging from combat and security operations to humanitarian efforts. One of the key objectives of OIF during 2003 was the capture of Iraq's capital, Baghdad. A convoy of 30,000 Marines advanced 500 miles from the border of Kuwait in just 10 days. On April 9, 2003, Marines secured the center of Baghdad. That same day, Coalition forces declared an end to Saddam Hussein's rule.

Al Anbar Province Overview

During the first four years of OIF, the Anbar Province was the deadliest province for American service members, claiming approximately one-third of American fatalities. In a country where most were associated with the Shi'a branch of Islam, the Anbar Province was the Sunni stronghold that had long provided Saddam Hussein with the support he needed to remain in power. Early in OIF, it provided an important base for Al Qaeda and insurgent operations. Part of its significance came from the fact that the Western Euphrates River Valley served as an important infiltration route for foreign fighters headed to Iraq's heartland. The New York Times compared this region to the Vietnam War's Ho Chi Minh Trail, as foreign fighters and insurgents used the river valley to move in relative safety from the Syrian border to cities like Baghdad, Ramadi, and Fallujah.

Fallujah, Al Anbar Province

Fallujah was one of the least damaged areas of Iraq immediately after the 2003 invasion by the U.S.-led Coalition. Iraqi Army units stationed in the area abandoned their positions and disappeared into the local population, leaving unsecured military equipment behind. Fallujah was also the site of a Ba'athist resort facility called "Dreamland", located a few kilometers outside the city proper. The damage the city had avoided during the initial invasion was negated by damage from looters, who took advantage of the collapse of Saddam Hussein's regime. The looters targeted former government sites, the Dreamland compound, and the nearby military bases. Aggravating this situation was the proximity of Fallujah to the infamous Abu Ghraib prison, from which Saddam Hussein, in one of his last acts, had released all prisoners.

In early March 2004, the Army's 82nd Airborne Division transferred authority of Al Anbar province to I Marine Expeditionary Force (MEF). The Marines soon had their hands full when insurgents in Fallujah ambushed a convoy later that month, capturing four American contractors employed by Blackwater USA. The captives were beaten, set on fire, and then hung from a bridge over the Euphrates River. In response, on April 4, 2004, the Marines conducted Operation VIGILANT RESOLVE in which they surrounded the city and tried to find the responsible insurgents, backing off at the request of the provisional government. A cease fire was declared in May, and the Marines stayed out of the city for the next six months.

The break in fighting gave insurgents in Fallujah a chance to build up. Coalition patrols that came close to the perimeter of the city were met with enemy fire. In early November, the Iraq interim government declared a state of emergency and Iyad Allawi, the prime minister, agreed that something needed to be done to "clean Fallujah from the terrorists." Operation PHANTOM FURY began November 8, 2004, with American, Iraqi, and British forces entering the city. Regimental Combat Team 1 and Regimental Combat Team 7, the Marine units involved in the assault, entered from the north and proceeded to fight through the streets. By November 16 most of the major resistance was suppressed, but Marines continued to find isolated cells until December 23.

Fallujah is the greatest urban battle Marines have fought since the 1968 Battle for Hue City. It served as a decisive strike against the Iraqi insurgency, but also showcased the Marine core values of honor, courage, and commitment. At least eight Navy Crosses were awarded for the battle, more than any other single action in Iraq or Afghanistan.

The Marines

The following are the accounts of three Marines in OIF and OEF.

- In 2004, during a reconnaissance mission in the town of Karabilah, Iraq, Corporal Jason Dunham and his men heard gunfire erupt nearby. Cpl Dunham ordered his squad toward the fighting, receiving enemy fire as they moved. At the scene, they discovered seven vehicles scrambling to depart. As they halted the vehicles to search for weapons, an insurgent leapt out. He attacked

Dunham and then released a grenade. Without hesitation, the corporal tore off his Kevlar helmet and used it to cover the grenade. He bore the full force of the fatal explosion, saving the lives of at least two other Marines in his squad. Dunham's brave actions distinguished him as the first Marine to be awarded the Medal of Honor since the Vietnam War.

- On 8 September 2009, Corporal Dakota Meyer maintained security at a patrol rally point while other members of his team moved on foot with two platoons of Afghan National Army and Border Police into the village of Ganjal for a pre-dawn meeting with village elders. Moving into the village, the patrol was ambushed by more than 50 enemy fighters firing rocket propelled grenades, mortars, and machine guns from houses and fortified positions on the slopes above. Corporal Meyer took the exposed gunner's position in a gun-truck as they drove down the steeply terraced terrain in a daring attempt to disrupt the enemy attack and locate the trapped U.S. team. Disregarding intense enemy fire now concentrated on their lone vehicle, Corporal Meyer killed a number of enemy fighters with the mounted machine guns and his rifle, some at near point blank range, as he and his driver made three solo trips into the ambush area. During the first two trips, he and his driver evacuated two dozen Afghan soldiers, many of whom were wounded. When one machine gun became inoperable, he directed a return to the rally point to switch to another gun-truck for a third trip into the ambush area where his accurate fire directly supported the remaining U.S. personnel and Afghan soldiers fighting their way out of the ambush. Despite a shrapnel wound to his arm, Corporal Meyer made two more trips into the ambush area in a third gun-truck accompanied by four other Afghan vehicles to recover more wounded Afghan soldiers and search for the missing U.S. team members. Still under heavy enemy fire, he dismounted the vehicle on the fifth trip and moved on foot to locate and recover the bodies of his team members. For his daring initiative and bold fighting spirit throughout the 6-hour battle, Corporal Meyer was awarded the Medal of Honor.
- On 21 November 2010, Lance Corporal Kyle Carpenter and a fellow Marine were manning a rooftop security position on the perimeter of Patrol Base Dakota in a small village in the Marjah District of Afghanistan when enemy forces initiated a daylight attack using hand grenades, one of which landed inside their sandbagged position. Without hesitation and with complete disregard for his own safety, Lance Corporal Carpenter moved toward the grenade in an attempt to shield his fellow Marine from the deadly blast. When the grenade detonated, his body absorbed the brunt of the blast, severely wounding him, but saving the life of his fellow Marine. For his undaunted courage, bold fighting spirit, and unwavering devotion to duty in the face of almost certain death, Lance Corporal Carpenter was awarded the Medal of Honor.

Sources:

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1. MILLET, R. ALLAN SEMPER FIDELIS, The History of the United States Marine Corps
 2. <http://www.marines.com/history-heritage>
 3. <http://www.cmohs.org>
 4. Operation Starlite: The First Battle of the Vietnam War by Otto J. Lehrack from Leatherneck Magazine (2005)
 5. Fallujah – Looking Back at the Fury by Lance Corporal Benjamin Harris from Marines Magazine (June 29, 2010)
 6. <http://marines.mil/moh>

APPENDIX A: Other important operations not expanded upon within this chapter include but is not limited to Operation URGENT FURY (Grenada 1983), Operation JUST CAUSE (Panama 1989), Operation UNITED SHIELD (Somalia 1992-1995). You will NOT be tested on the contents of the Appendix

WEEK 16: USMC MISSION, ENDURING PRINCIPLES, AND ORGANIZATION

I. Who We Are

Marines and amphibious naval forces operate in an expeditionary lane that makes use of position and tempo across the physical domains. The Marine Corps' special role in the joint force remains grounded in our ethos. Indeed, *who we are* shapes *what we do*, and *how we do it*. To Marines, the intertwined nature of our spirit and our actions is so natural that we struggle to tell our story in any other terms; it is the service-defining principle that has brought victory on hundreds of battlefields. What matters most about the Marine Corps is not its warfighting methodology, but its warfighting philosophy. To understand the role of the Marine Corps in the nation's defense, you have to start with the individual Marine.

We are United States Marines. We have carried a tradition of honor, courage, and commitment since 1775. Marines have fought in large wars and small, smoothly adapting to the nation's needs and demands. The adaptability of Marines to challenges in every clime and place is a hallmark of our Corps. We have fought pirates, insurgents, regulars, and irregulars. We've fought them in the air, on the ground, at sea, and in cyberspace. We are expeditionary, tough, disciplined, and always faithful. We have a well-earned reputation for directness, but this belies a subtlety and complexity in our warfighting.

We serve. We are proud to defend a great nation. In the information age, the headlines come from all continents, and at all hours. Yet, while tyranny rises and falls, while injustice spreads, while innocents are threatened and global stability is challenged, Americans are confident of one thing: their Marines stand ready. Americans need a force that is ready to move to the sound of chaos. Our leaders need a ready force that can be committed at a moment's notice to buy time for strategic decision-making. Wherever and however our citizens, allies, or interests are threatened, this nation needs a force ready to respond to today's crisis with today's force . . . today. In special partnership with the world's finest Navy, Marines are that force.

We make Marines. What happens on the parade decks at Parris Island and San Diego, or in the hills of Quantico, is what makes us Marines—it is the hardening of body and mind, the infusion of discipline and the casting of an indelible esprit de corps. Marines come from all walks of life, every race, every ethnicity, and both genders. *E pluribus unum*: from many, one. We take the best young Americans and shape them through a crucible of tough training. From diversity, a uniformity of character and discipline emerges. We temper them in core values—honor, courage, and commitment—to make them resilient. We polish them to a razor-sharp edge, honing them with a dedication to duty that makes a Marine willing to serve, willing to sacrifice, willing to fight. We instill in young warriors the idea that one succeeds by being part of a team, serving a cause greater than one's self. "Marine" means living hard, executing any mission, no matter how austere the conditions. "Marine" means leaders who are trusted, biased for action and accountable. "Marine" means men and women who know that to lead is to serve. "Marine" means being always faithful to the nation and one's fellow warriors . . . it is a moral imperative that drives Marines, from fire-team leader to Commandant.

We prevail on the battlefield; any battlefield. "The Marines have landed and the situation is well in hand." Our success is founded on one thing: the Marine Corps ethos and its manifestation in the individual Marine. For Marines, failing to achieve success is unthinkable; personally or professionally. Over centuries, the courage and fortitude of Marines have made household names of places like Belleau Wood, Guadalcanal, Iwo Jima, Chosin Reservoir, Khe Sanh, Kuwait City, Fallujah, and Marjah. That legacy continues, revealed in places like a tsunami ravaged Japan, an imploded Libya, a flooded Pakistan, a shell-shocked Beirut, and a Taliban-infested Helmand Province in Afghanistan. We are proud of our heritage, and sometimes wear our pride on our sleeves. I do not think the nation would want it any other way, for we are America's Marines.

We make our nation strong. Building Marines is an investment in the character of our citizenry. The Marine mindset draws from the special characteristics of the American people, and they are rightly proud to be reminded of the virtue that lies within them. The large number of Marines who have gone on to be successful CEOs, entrepreneurs, astronauts, university presidents, and political leaders gives evidence that selfless service, disciplined character, strong values, and mental toughness stay with a Marine long after he

or she takes off the uniform. Today's young Marines represent the strength of our youth, the legacy of our elders, and the pride of our nation.

– Excerpt from “Who we are” by General James F. Amos, USMC 2012 *Proceedings*, U.S. Naval Institute, Annapolis, MD

II. U.S. Marine Corps Mission

As directed by the National Security Act of 1947, the Marine Corps shall be organized, trained, and equipped to:

1. Provide Fleet Marine Forces of combined arms, together with supporting air components, for service with the United States Fleet in the seizure or defense of advanced naval bases and for the conduct of such land operations as may be essential to the prosecution of a naval campaign.
2. Provide detachments and organizations for service on armed vessels of the Navy, and security detachments for the protection of naval property at naval stations and bases.
3. Develop, in coordination with the Army, Navy, and Air Force, the doctrines, tactics, techniques, and equipment employed by landing forces in amphibious operations. The Marine Corps shall have primary interest in the development of those landing force doctrines, tactics, techniques, and equipment which are of common interest to the Army and the Marine Corps.
4. Provide, as required, Marine forces for airborne operations, in coordination with the Army, the Navy, and the Air Force and in accordance with doctrines established by the Joint Chiefs of Staff.
5. Develop, in coordination with the Army, the Navy, and the Air Force, doctrines, procedures, and equipment of interest to the Marine Corps for airborne operations which are not provided for by the Army.
6. Be prepared, in accordance with integrated joint mobilization plans, for the expansion of the peacetime components to meet the needs of war.
7. Perform such other duties as the President may direct.

The collateral functions of the Marine Corps are to:

1. Maintain a Marine Corps Reserve for the purpose of providing trained units and qualified individuals to be available for active duty in the Marine Corps in time of war or national emergency and at such other times as the national security may require.
2. Provide Marine officer and enlisted personnel in support of the Department of State security program overseas.

The implied functions of the Marine Corps are to:

1. Organize, train, and equip Marine Corps forces for assignment to unified and specified commands in support of national war plans.
2. Assign such forces to unified and specified commands, as directed.
3. Support Marine Corps and other forces assigned to unified and specified commands, as directed.
4. Be prepared, in accordance with integrated joint mobilization plans, to expand peacetime components to meet the needs of war.

Marine Corps aviation shall be organized to provide supporting air components for the Fleet Marine Forces in the seizure or defense of advanced naval bases and in the conduct of such land operations as may be essential to the prosecution of a naval campaign; and, as a collateral function, to participate as an integral component of naval aviation in the execution of such other Navy functions as the fleet commanders may direct.¹

III. Marine Corps Ethos

Being a Marine is a state of mind. It is an experience some have likened more to a calling than a profession. Being a Marine is not a job—not a pay check; it is not an occupational specialty. It is not male or female, majority or minority; nor is it a rank insignia. Stars, bars, or chevrons are only indicators of the responsibility or authority we hold at a given time. Rather, being a Marine comes from the eagle, globe, and anchor that is tattooed on the soul of every one of us who wears the Marine Corps

¹ Marine Corps Doctrine Publication 1-0, *Marine Corps Operations*, p. 1-15.

uniform. It is a searing mark in our innermost being which comes after the rite of passage through boot camp or Officer Candidates School when a young man or woman is allowed for the first time to say, "I'm a United States Marine." And unlike physical or psychological scars, which, over time, tend to heal and fade in intensity, the eagle, globe, and anchor only grow more defined—more intense—the longer you are a Marine. "Once a Marine, always a Marine."

This matter of being different is at the very heart of leading Marines. It defines who and what we are by reflecting the mystical cords of the mind that bind all Marines. What we are, what we have been, what Marines will always be, is enduring.

There is yet another element of being different that defines Marines, and that is selflessness: a spirit that places the self-interest of the individual second to that of the institution we know as the Corps. That selflessness is stronger nowhere in American society than among Marines.

The Marine Corps' vision of leading is less concerned with rank, self-identity, recognition, or privilege than the essence of our Corps: the individual Marine and the unyielding determination to persevere because Marines and the Corps do not fail. Our vision of leading is linked directly to our common vision of warfighting, which needs leaders devoted to leading, capable of independent and bold action, who are willing and eager to assume new and sometimes daunting responsibilities, willing to take risks—not because they may succeed, but because the *Corps* must succeed.²

IV. Enduring Principles

Principles define fundamental beliefs that form the foundation from which Marines derive their ethos and basic operating instincts. The following principles help to further define the cultural identity of Marines in the most basic terms—they express what we believe:

Every Marine a Rifleman. Every Marine - regardless of military occupational specialty - is first and foremost a disciplined warrior.

Expeditionary Naval Force. Marines are “soldiers of the sea,” an integral part of the naval Services — lean, versatile, flexible, and ready. We are organized, trained, and equipped to conduct naval campaigns and operate on and from naval platforms, or to fight in protracted campaigns ashore.

Combined Arms Organization. In 1952, Congress directed the Marine Corps’ composition as an air-ground combined arms force. This integrated force, known as the MAGTF, has unique and incomparable warfighting capabilities. Our MAGTF contains organic air, ground, and logistics elements under a single command element, making it an effective and integrated combined arms force.

Ready and Forward Deployed. Congress’ intent that the Marine Corps serve as the “force in readiness” was founded on a recognized national need for a force capable of rapid response to emerging crises. This requirement mandates high standards of readiness across the force. We are routinely forward deployed around the globe and stand prepared to respond quickly in times of crisis.

Agile and Adaptable. The Marine Corps’ agility is based on its expeditionary mindset and flexible structure, able to operate either from the sea or in sustained operations ashore. We can adapt quickly with unparalleled speed across an extraordinary range of military operations. Our organizational design and training facilitate a seamless transition between these operations, providing the necessary capability to operate effectively.

Marines Take Care of Their Own. We are stewards of the most important resource entrusted to us—our Nation’s sons and daughters. We make Marines, imbue them with our Core Values, and offer them the opportunity to serve a cause greater than themselves. Marines live up to the motto, Semper Fidelis. We are faithful to those who fall and we care for our wounded Marines and their families.

² Marine Corps Warfighting Publication 6-11, *Leading Marines*, Chapter 1, p. 7-8, 13, 25.

V. Culture and Mentality

The close integration of dissimilar Marine units stems from an organizational culture centered around the infantry. Every other Marine capability exists to support the infantry. Unlike many Western militaries, the Marine Corps remained conservative against theories proclaiming the ability of new weapons to win wars independently. For example, Marine Aviation has always been focused on close air support and has remained largely uninfluenced by airpower theories proclaiming that strategic bombing can single-handedly win wars.

This focus on infantry is matched with the fact that “Every Marine is a rifleman,” emphasizing the infantry combat abilities of every Marine. All enlisted Marines receive training first and foremost as a rifleman; all officers receive training as a rifle platoon commander. The value of this culture has been demonstrated many times throughout history.

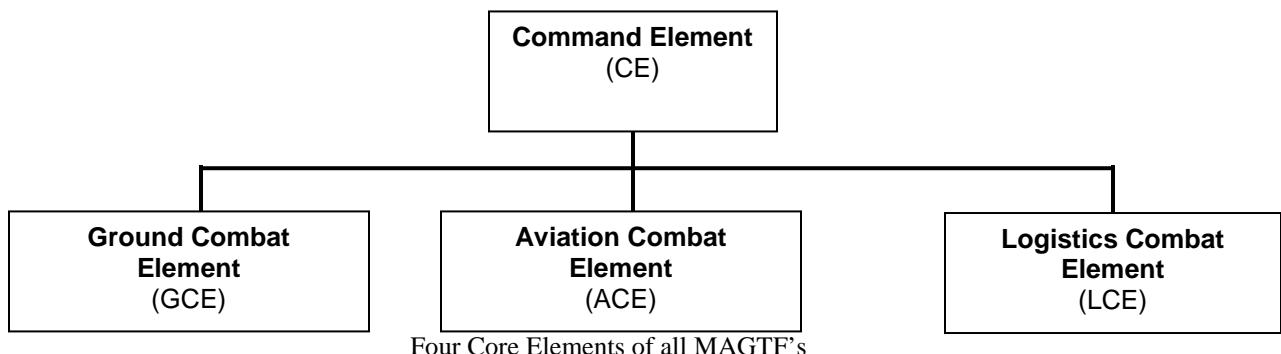
VI. Basic Structure and Organization

The Marine Corps is a task-organized, multi-capable military organization. It is a middleweight force that lies between our Special Operations Forces and our nation’s heavier forces in the Army with a force that complements both. It is scalable and adaptive and it provides our Nation with a force capable across the range of military operations.

The **Marine Air-Ground Task Force (MAGTF)** is the Marine Corps’ principal organization. It provides combatant commanders with scalable, versatile expeditionary force able to respond to a broad range of contingency, crisis and conflict situations.

MAGTF (regardless of size) is composed of the following four elements:

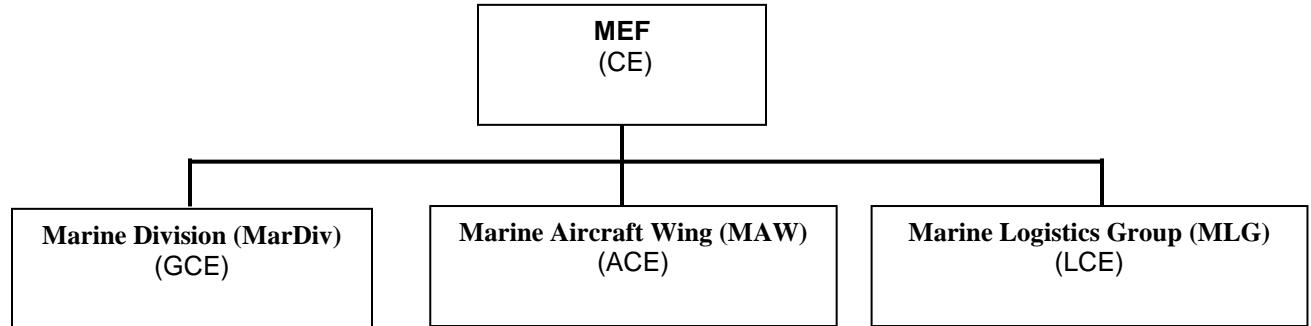
1. **Ground Combat Element (GCE):** Infantry (battalion, regiment, or division) augmented with tank, artillery, Light Armored Reconnaissance (LAR), Amphibious Assault Vehicles (AAV), combat engineers and reconnaissance assets.
2. **Aviation Combat Element (ACE):** Contains aircraft to support the tactical situation. Tactical helicopters with fixed wing assets for close air support
3. **Logistics Combat Element (LCE):** Provides all necessary logistical support to the MAGTF including: Transportation, Engineering, Embarkation, Medical/Dental, and Headquarters and Service.
4. **Command Element (CE):** Administration, intelligence, operations, logistics, communications, medical, legal, chaplain, etc.



Although a MAGTF is a task organization tailored to a specific mission, there are four types of MAGTFs: the Marine Expeditionary Unit (MEU), the Marine Expeditionary Brigade (MEB), the Marine Expeditionary Force (MEF) and the Special Purpose MAGTF (SPMAGTF).

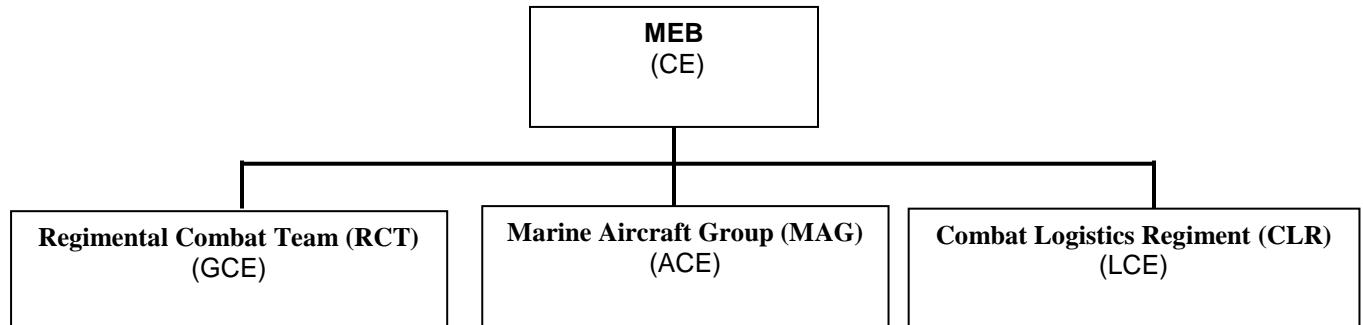
Marine Expeditionary Force (MEF)

The MEF is the largest principal war fighting element in the active force structure of the Marine Corps and is usually commanded by a Lieutenant General. The size and composition of a deployed MEF varies depending on the needs of the mission. Each MEF has one to three Marine Expeditionary Units (MEU) assigned to it that deploy throughout the globe.



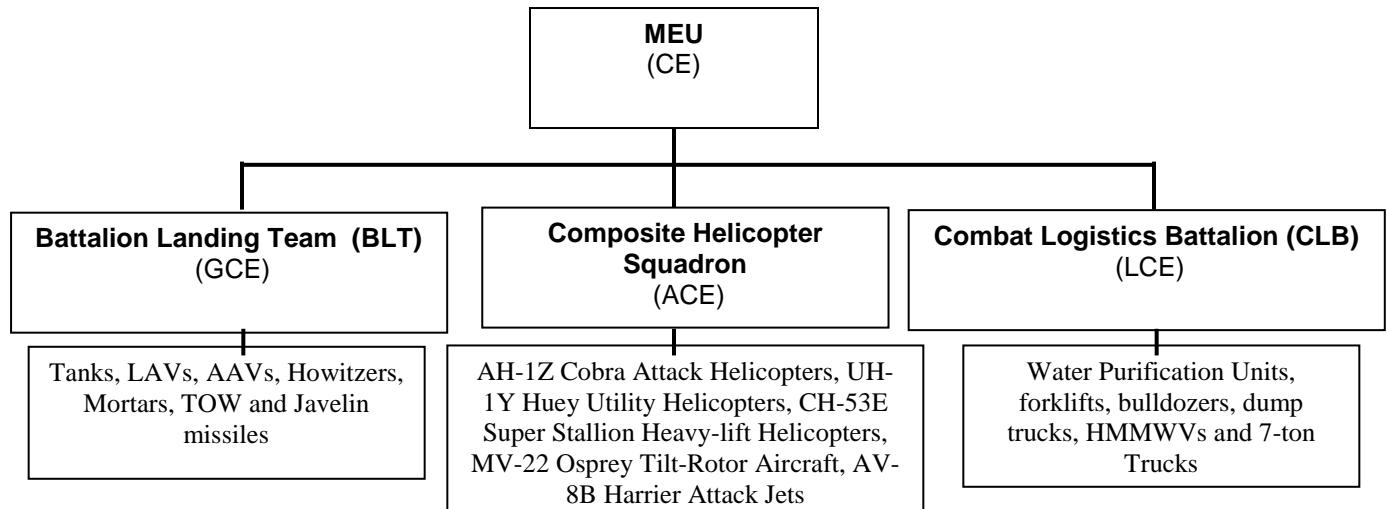
Marine Expeditionary Brigade (MEB)

The MEB is the next largest MAGTF structure the Marine Corps employs. Unlike the MEF, which has permanent structure, the MEB is typically stood up for specific theaters and engagements, such as MEB Afghanistan (MEB A), or deployed as a smaller, forward deployed element of the MEF. The MEB is typically commanded by a Brigadier or Major General and is composed of a Regimental Combat Team (RCT), a Marine Air Group (MAG), and a Combat Logistics Regiment (CLR).



Marine Expeditionary Unit (MEU)

In combat and non-combat situations alike, the Marine Expeditionary Unit (MEU) is our nation's self-contained, forward-deployed response force. Embarked aboard amphibious assault ships, the MEU maintains a constant state of readiness, able to plan and launch a mission within six hours. Each MEU can be customized but generally includes a reinforced infantry battalion, a composite aircraft squadron and a support group. It is routinely deployed with an Expeditionary Strike Group (ESG).



Special Purpose MAGTF (SPMAGTF)

A special purpose MAGTF (SPMAGTF) may be formed to conduct a specific mission that is limited in scope and focus and often in duration. A special purpose MAGTF may be any Expeditionary Operations size, but normally it is a relatively small force—the size of a Marine expeditionary unit or smaller—with narrowly focused capabilities chosen to accomplish a limited mission. A special purpose MAGTF may be task-organized deliberately from the assets of a standing Marine expeditionary force and deployed from its home base for a particular mission, or it may be formed on a contingency basis from an already deployed MAGTF to perform an independent, rapid-response mission of usually limited scope and duration.³

VII. Locations

Locations of Major Air/Ground Elements

West Coast

Camp Pendleton, CA: I MEF, 1st Marine Division, 1st Marine Logistics Group
Marine Corps Air Station (MCAS), Miramar, CA: 3d Marine Aircraft Wing
11th, 13th, 15th MEUs*

East Coast

Camp Lejeune, NC: II MEF, 2d Marine Division, 2d Marine Logistics Group,
MCAS, Cherry Point, NC: 2d Marine Aircraft Wing
22nd, 24th, 26th MEUs*

Marine Corps Bases, Okinawa, Japan

III MEF, 3d Marine Division, 3d Marine Logistics Group, 1st Marine Aircraft Wing
31st MEU*

*MEUs are not standing units. The command element of a MEU is a standing command. The units that comprise the GCE, ACE, and LCE rotate after each scheduled deployment. Each particular unit is “chopped” or attached to a MEU for a period of approximately 18 months.

New Orleans, Louisiana

Marine Corps Reserves (MARFORRES) – Serves as the headquarters for all Marine Reservists and Reserve units. The four subordinate commands of MARFORRES are the 4th Marine Division, the 4th Marine Aircraft Wing, the 4th Marine Logistics Group, and the Marine Corps Mobilization Command.

VIII. Officer Training

Midshipmen who desire a commission in the United States Marine Corps must attend Leatherneck during 1/C summer training.

ROTC Cadets are required to attend Platoon Leaders Course (PLC) or Officer Candidate School (OCS) in Quantico, VA prior to commissioning.

Following commissioning, all Marine commissioned officers attend The Basic School (TBS) at Marine Corps Base Quantico, VA. There, they spend six months learning to command a rifle platoon. The Basic School is an example of the Corps’ approach to furthering the concept that “Every Marine is a rifleman.” Approximately halfway through TBS, students will have the opportunity to indicate preferences for a Military Occupational Specialty (MOS) as well as a geographical duty assignment. MOSs are awarded on merit and specific needs of the Marine Corps; most officers will get one of their top choices. Entry-level MOS schools range in duration from six weeks to 24 months.

³ Marine Corps Doctrine Publication 3, *Expeditionary Operations*, Chapter 3, p. 70-77.

IX. Officer Ranks

Marine Corps officer ranks are subdivided into company-grade officers (O-1 to O-3), field-grade officers (O-4 to O-6), and generals (O-7 to O-10).

	2ndLt	Second Lieutenant	O-1
	1stLt	First Lieutenant	O-2
	Capt	Captain	O-3
	Maj	Major	O-4
	LtCol	Lieutenant Colonel	O-5
	Col	Colonel	O-6
	BGen	Brigadier General	O-7
	MajGen	Major General	O-8
	LtGen	Lieutenant General	O-9
	Gen	General	O-10

Warrant Officers, who come primarily from the Staff Non-Commissioned Officer ranks, provide leadership and training in specialized fields and skills.

	WO	Warrant Officer	W-1
	CWO2	Chief Warrant Officer 2	W-2
	CWO3	Chief Warrant Officer 3	W-3
	CWO4	Chief Warrant Officer 4	W-4
	CWO5	Chief Warrant Officer 5	W-5

X. Enlisted Training

Enlisted Marines attend recruit training, or boot camp, at either Marine Corps Recruit Depot (MCRD) San Diego or Marine Corps Recruit Depot Parris Island. Women train at Parris Island; men train at both Sand Diego and Parris Island. Marine recruit training is the longest among the American military services. Marine boot camp is 13 weeks long compared to the U.S. Army's at 9 weeks. Following recruit training, enlisted Marines then attend the School of Infantry training at Camp Geiger or Camp Pendleton. Infantry Marines begin their training immediately at the Infantry Training Battalion (ITB), while Marines in all other military occupational specialties (MOSSs) train for 29 days with Marine Combat Training (MCT), learning common infantry skills, before continuing on to their MOS schools.

XI. Enlisted Ranks

N/A	Pvt	Private	E-1
	PFC	Private First Class	E-2
	LCpl	Lance Corporal	E-3
	Cpl	Corporal	E-4
	Sgt	Sergeant	E-5
	SSgt	Staff Sergeant	E-6
	GySgt	Gunnery Sergeant	E-7
	MSgt	Master Sergeant	E-8
	1st Sgt	First Sergeant	E-8
	MGySgt	Master Gunnery Sergeant	E-9
	SgtMaj	Sergeant Major	E-9
	SMMC	Sergeant Major of the Marine Corps	E-9

Enlisted Marines

Enlisted Marines in the pay grades E-1 to E-3 make up the bulk of the Corps' ranks. Although they don't technically hold leadership ranks, the Corps' ethos stresses leadership among all Marines, and junior Marines are often assigned responsibility normally reserved for seniors.

Non-Commissioned Officers (NCO)

Those in the pay grades E-4 and E-5 are Non-Commissioned Officers (NCOs). They primarily supervise junior Marines and act as a vital link with the higher command structure, ensuring that orders are carried out correctly.

Staff Non-Commissioned Officers (SNCO)

Marines Staff Sergeants and higher are Staff Non-Commissioned Officers (SNCOs), charged with supervising NCOs and acting as enlisted advisors to the command.

The E-8 and E-9 levels each have two ranks per pay grade, each with different responsibilities. The First Sergeant (E-8) and Sergeant Major (E-9) ranks are command-oriented, with Marines of these ranks

serving as the senior enlisted Marines in a unit, charged to assist the commanding officer in matters of discipline, administration, and morale and welfare of the unit. First Sergeants typically serve as the senior enlisted Marine in a company, battery, or other unit at similar echelon, while Sergeants Major serve the same role in battalions, squadrons, or larger units. Master Sergeants (E-8) and Master Gunnery Sergeants (E-9) provide technical leadership as occupational specialists in their specific MOS.

The Sergeant Major of the Marine Corps is a unique rank conferred on the senior enlisted Marine of the entire Marine Corps, personally selected by the Commandant of the Marine Corps. The Sergeant Major of the Marine Corps wears unique chevrons with an Eagle, Globe, and Anchor at the center, flanked by two five-point stars.

XII. Rifle Platoon Organization

The goal of all initial Marine Corps training is to make each Marine a competent element of a Rifle Platoon, either as a platoon commander or a platoon member.

Mission

The primary mission of a Marine Rifle Platoon is to locate, close with, and destroy the enemy by fire and maneuver or to repel his assault by fire and close combat.

Rifle platoon makeup

The platoon is composed of three rifle squads. Each squad consists of three fire teams. The Rifle Squad is normally employed as part of the rifle platoon and will be assigned a mission as a base of fire or as a maneuver element. The fire team is the basic fire unit and is organized into the following roles.

- A. Rifleman – acts as a scout for the fire team, carrying and employing the M16A4 Service Rifle.
- B. Team Leader – the Fire team leaders initiate the action directed by the squad leader. In the attack, fire team leaders act as fighter-leaders, controlling their fire teams primarily by example. Fire team members base their actions on the actions of their fire team leader. Throughout the attack, fire team leaders exercise such positive control as is necessary to ensure that their fire teams function as directed. He carries and employs the M4 Carbine.
- C. Automatic Rifleman – carries the M27 Infantry Automatic Rifle (IAR), providing the bulk of the fire power for the fire team, and serves as the Assistant Fire Team Leader.
- D. Grenadier/Assistant Automatic Rifleman – carries and employs the M203 40mm grenade launcher that provides the fire team with an indirect fire asset to compliment the rest of the team's direct fire weapons. He also carries extra ammunition for the Automatic Rifleman.

The fire team is the smallest and most efficient tactical element in the Marine Corps, this four-man team provides sufficient firepower and exceptional flexibility on the battlefield. Marines depend on the Marines they fight alongside, and nowhere is this commitment more evident—or critical—than in a Marine fire team.

XIII. The Four Safety Rules

There are four weapon safety rules that have been adopted as a foundation for all Marines. These must be strictly adhered to at all times. They are:

- **Rule #1. Treat every weapon as if it were loaded.** When a Marine takes charge of a rifle in any situation, he must treat the weapon as if it were loaded, determine its condition, and continue applying the other safety rules.
- **Rule #2. Never point a weapon at anything you do not intend to shoot.** A Marine must maintain muzzle awareness at all times. This rule exists not only for your safety, but also for the others around you.
- **Rule #3. Keep your finger straight and off the trigger until you are ready to fire.** A target must be identified before moving the finger to the trigger. By keeping your finger straight you prevent the reaction of prematurely firing a round prior to positively identifying the target.
- **Rule #4. Keep the weapon on safe until you intend to fire.** A target must be identified before taking the weapon off safe. This rule is intended to eliminate the chance of the weapon discharging by accident (e.g., brush snagging the trigger). Additionally, this rule acts as a fail

safe. It protects you and fellow Marines from allowing an automatic motor-reflex determine when the weapon will fire. Negligent Discharge is usually followed by Non-judicial Punishment.

Before moving from the firing line on the range each weapon will be cleared by visually inspecting the chamber (safety on, magazine removed, bolt pulled to the rear, chamber empty) and verbally stated “clear” by the shooter and also the coach.

Sources:

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3. USMC Concepts and Programs 2013
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5. MCRP 3-1A Rifle Marksmanship
6. FMFM 6-4 Infantry Company/Platoon
7. Handbook for Marine NCOs, 5th Edition
8. Marine Officer’s Guide, 7th Edition
9. MCWP 3-11.2 Marine Rifle Squad
10. <http://www.marines.com/operating-forces/equipment>
11. <http://www.marines.com/becoming-a-marine/commissioning-programs>
12. <http://www.usna.edu/USMCIInfo/>

See APPENDIX A of the Pro-Book for addition information (not testable).

WEEK 17: USMC WEAPONS AND PLATFORMS

I. Rifle Platoon - Individual Weapons

M16A4 Service Rifle



Primary Function: Designed for three-round burst or single-shot semi-automatic firing, the M16 is lightweight, yet still pinpoint accurate rifle, capable of hitting targets with precision at a maximum effective range of 550 meters.

Caliber: 5.56x45mm NATO

Weight: 8.79 lbs. (with 30 round magazine)

Effective Range: Area TGT – 800 meters, Point TGT – 550 meters

M4 Carbine



Primary Function: Infantry Weapon—less weight and shorter barrel than the M16 making it more appropriate weapon for shorter distances and confined spaces.

Caliber: 5.56x45mm NATO

Weight: 7.5 lbs (with 30 round magazine)

Effective Range: Area TGT – 600 meters, Point TGT – 500 meters

M203 40mm Grenade Launcher



Primary Function: The M203 is a single-shot, 40mm grenade launcher that attaches to the M16A4 assault rifle and the M4 Carbine. When targets cannot be accessed by direct fire, Marines use the M203 Grenade Launcher to engage enemies. Typically, this weapon is carried by either the Fire Team's Grenadier or Fire Team Leader.

Caliber: 5.56x45mm NATO

Effective Range: Area TGT - 350m, Point TGT - 150 meters

M27 Infantry Automatic Rifle (IAR)



Primary Function: The M27 is the automatic weapon that delivers accurate suppressive fires in support of the Fire Team. It is a lightweight, magazine-fed 5.56mm weapon. The M27 is intended to enhance an automatic rifleman's maneuverability and displacement speed.

Caliber: 5.56mmx45mm NATO

Weight: 7.9 lb (3.6 kg) empty

Effective Range: Area TGT 800m, Point TGT 550m

II. Rifle Company/Battalion - Crew Served Weapons

M249 Light Machine Gun



Purpose: The M249 light machinegun provides Marines with a lighter smaller caliber machinegun that can be used in conjunction with the M240B medium machinegun or depending on the mission as a smaller lighter machinegun that still provides a continuous and high rate of fire to engage long-range targets.

Ammunition: 5.56X45mm NATO-standard ammunition

Weight: 17 pounds with bipod and tools

Length: 41 inches

Maximum effective range: 1000 meters

Maximum range: 3600 meters

Rate of fire: 85 rounds/minute sustained, 725-850 rounds/minute cyclic

Capacity: Ammunition comes in 100- or 200-round belts. The SAW can also accept the standard 30-round M16 magazine

M240B Medium Machine Gun



Purpose: The M240 Machinegun provides Marines with a continuous and high rate of fire to engage long-range targets. It is a heavier automatic weapon than the M249 Squad Automatic Weapon (SAW) but provides a faster rate of fire and a longer effective range. Typically, the tripod is employed when the

weapon is to be used for defensive situations, or when precise fire is needed in support of maneuver units. The bipod is always attached and is suitable for use while patrolling.

Ammunition: 7.62mm

Weight with bipod: 24 pounds

Maximum effective range with tripod: 1800 meters

Maximum range: 3725 meters

Can be mounted on tanks and light armored vehicles

MK-153 Shoulder Launched Multipurpose Assault Weapon (SMAW)



Purpose: Portable anti-armor rocket launcher. Its mission is to destroy bunkers and other fortifications during assault operations as well as other designated targets with the dual mode rocket and to destroy main battle tanks with the HEAA rockets.

Ammunition: 83mm

Weight:

To Carry: 16.6 pounds (7.54 kg)

Ready-to-Fire (HEDP): 29.5 pounds (13.39 kg)

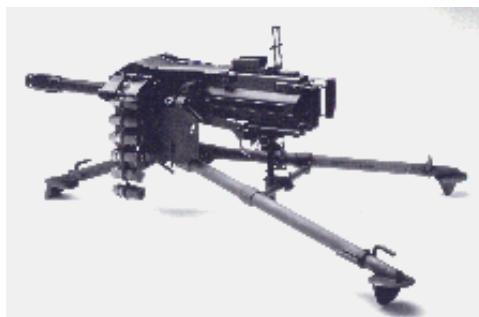
Ready-to-Fire (HEAA): 30.5 pounds (13.85 kg)

Maximum effective range:

1 x 2 Meter Target: 250 meters

Tank-Sized Target: 500 meters

MK19 Mod 3 Automatic Grenade Launcher



Purpose: At the smallest unit level, the lightest weapons often carry the day, as maneuverability is one of the primary assets of a Marine fireteam. When high-volume, suppressive fire support is required, there are few weapon systems as effective as the MK19 Mod 3 Automatic Grenade Launcher. Capable of destroying most light-armored vehicles, protecting supply convoys and even defending against hovering rotary aircraft, the MK19 provides Marine infantry battalions with the means to deliver massive direct fire or indirect fire from hidden positions. The MK19 rapidly fires explosive 40mm grenades, making it an ideal weapon against armored, mechanized and enemy infantry forces.

Ammunition: High-explosive, dual-purpose M430 40x53mm grenades

Weight: 72.5 pounds

Weight with tripod: 120 pounds

Maximum effective range: 1,500 yards
Nearest safe distance to launch: 75 meters in combat/310 meters in training

.50 Caliber Machine Gun



Purpose: The Browning .50 Cal Machine gun provides Marines with automatic weapon suppression fire for offensive and defensive purposes. This weapon can be used effectively against enemy personnel, light armored vehicles and slow, low-flying aircraft.

Ammunition: .50 caliber rounds

Weight: 124 pounds (84 pound gun; 44 pound tripod)

Length: 65.13 inches

Maximum effective range: 1829 meters with tripod mount

FGM-148 JAVELIN



Purpose: The greatest assets to Marines fighting on the ground are maneuverability and firepower, and perhaps no weaponry provides a better combination of both than the FGM-148 Javelin Anti-tank Missile. In fact, after firing the Javelin, Marines can begin moving to a different area before the missile even reaches its target, preventing the enemy from discovering their position.

BGM-71 TOW Missile



Purpose: Tube launched, optically tracked wire-guided anti-tank missile capable of penetrating armor 30-inches thick at more than 3,000 meters.

60mm Mortar



81mm Mortar



Purpose: Marines are known for their exceptional ability to work cohesively as a unit, and nowhere is this more evident than when mortar teams are providing effective, indirect fire on a target. With 60mm and 81mm mortars, Marines work together to provide constant and accurate high-angle suppressive fire on targets they may not be able to even see. Marine mortar teams locate targets by converting chart data to firing data, delivering mortar fire in timely response to the ground units they support.

Features: Serving as lightweight, portable artillery, mortars are fired by dropping each round into the muzzle. The round slides down the base of the barrel where it strikes the firing pin located inside the base cap. The flame from the exploding cartridge ignites the propelling charge, producing the gas pressure that drives the round up and out of the barrel, high into the air. After it has reached its apogee, the mortar round falls to the target.

Types of Mortars: 60mm mortars are organic to the rifle company and have a range of 3500 meters. 81mm mortars are an asset of the infantry battalion and have a range of 5700 meters. Both mortars can fire: High Explosive (HE) shells (several varieties) – Effective against lightly armored targets, personnel and fortifications

Smoke rounds – Effective as a screening or signaling round

Illumination rounds – Effective in night missions requiring illumination of an enemy target

III. Additional Marine Platforms

M777 Howitzer



Purpose: Marines on the ground rely on the Marines by their side, but they also depend on Marine support from long range. The M777 Lightweight 155mm howitzer provides timely, accurate and continuous

firepower in support of Marine Infantry forces. In 2005, the Marine Corps began fielding the M777, a much smaller, lighter (9,000 pounds lighter) and more maneuverable towed cannon weapon than its predecessor, resulting in improved transportability and mobility without impacting range or accuracy. 7-ton trucks are used to move the M777s, enabling Marine artillery units to move faster between positions. A must for equipment in an expeditionary force, the howitzer is also highly deployable, able to be lifted externally by both the MV-22 Osprey and CH-53E Super Stallion.

High Mobility Multipurpose Wheeled Vehicle (HMMWV)



Purpose: Since the mid-1980s, there hasn't been a Marine vehicle more utilized for a wider variety of missions than the Marine HMMWV. Operating on every area of the battlefield, Marine HMMWVs are truly multipurpose vehicles, serving such functions as command and control, troop transport, shelter carrier, towed weapons mover, armament carrier, TOW missile system carrier and even ambulance. For Marine units requiring specific vehicle configurations, Marine HMMWVs have several kits that can be easily installed to meet the requirements of each mission.

Features: 6.2 Litre, V8 diesel engine; 3 speed, automatic transmission; Four-wheel drive, independent rear suspension; Can be mounted with the M2 .50 cal, M240 or M249 machinegun; Fording capable with deep-water fording kit installed; Armored plating and bullet-resistant glass can be mounted.

Medium Tactical Vehicle Replacement (MTVR)



Purpose: With a highly survivable armor package, off-road mission profile and large cargo and crew compartment, the MTVR brings Marines and supplies to the fight fast, even in the most austere environments. The MTVR Armor System (MAS) provides complete 360-degree protection, including overhead and underbody armor that can withstand small-arms fire, Improvised Explosive Devices (IEDs) and mine blasts. In addition to transporting Marines and hauling fuel, water, food and supplies on paved

roads, dirt roads or makeshift roads, the MTVR is also the primary mover of the M777 Lightweight 155mm howitzer.

Features: Can transport up to 15 tons of payload at a maximum speed of 65 miles per hour, Cargo compartment is 26 feet long, 8 feet wide and 12 feet high, Can ford five feet of water, all MTVR model variants can carry three Marines in the cab, Independent suspension provides excellent off-road maneuverability, Features a central tire inflation system

Light Armored Vehicle (LAV-25)



Primary function: Marines are known for being adaptable, versatile and reliable. With numerous variants and a proven track record on the battlefield, the LAV-25 has also earned this reputation. Marine Light Armored Vehicles combine speed, maneuverability and firepower to perform a variety of functions, including security, command and control, reconnaissance and assault. Able to operate on land and in water, carry communications equipment and provide a weapons platform, the LAV isn't just part of a combined arms force—it is one.

Features: Can drive in 4- or 8-wheel drive; Can reach speeds of 62.5 mph on land; Powerful diesel fuel engine; 360-degree traversing turret; Armed with 25mm cannon and two M240 machine guns; Operated by a crew of three Marines; Includes two 4-barrel smoke grenade launchers

Mine-Resistant Ambush-Protected (MRAP) Vehicle / MRAP All-Terrain Vehicle (MATV)



Purpose: With V-shaped hulls, raised chassis and armored plating, the Mine Resistant Ambush Protected Vehicle (MRAP) and MATV have proven to be the single most effective counter to Improvised Explosive Devices (IEDs). Blast-resistant underbodies and layers of thick, armored glass offer unparalleled protection, while all-terrain suspension and run flat combat tires ensure Marines can operate in complex and highly restricted rural, mountainous and urban terrains.

M1A1 Abrams Tank



Purpose: Marine equipment is not typically described as being "heavy," but exceptions can be made when "heavily armored" and "heavily armed" are also part of the description. At close to 70 tons, the M1A1 Abrams is among the heaviest tanks in the world, but it more than makes up for its heft with tremendous firepower and surprising maneuverability. The principal battle tank of the Marine Corps, the M1A1 provides armor-protected firepower in support of Marine ground forces.

Features: Bulk of firepower comes from its 120mm smoothbore main gun; Mounted guns include a M2 .50 cal machine gun and two M240 machine guns; 2 six-barreled smoke grenade launchers; Powered by a 1,500 horsepower gas turbine power plant system; Speeds top out at approximately 41 mph; Ammunition is stored in a blowout compartment for crew safety; Operated by a crew of four Marines; Six periscopes provide 360-degree view.

Assault Amphibian Vehicle (AAV)-7



Purpose: From ship to shore to objective, no equipment better defines the distinction and purpose of Marine Corps expeditionary capabilities than the AAV-7 Amphibious Assault Vehicle. Designed to assault any shoreline from the well decks of Navy assault ships, AAVs are highly mobile, tracked armored amphibious vehicles that transport Marines and cargo to and through hostile territory.

Features: Typically, the first vehicles to land during beach raids and assaults; All-welded aluminum hull protects crew from small arms fire; Eight smoke grenade launchers; Turret armed with .50 cal machinegun and 40mm grenade launcher; Can be outfitted with Mine Clearance Line Charges; Operates at speeds of 45mph on land; 8-10 knots in water; Can carry 21 combat-loaded Marines and 3 crewmembers; Can transport 10,000 pounds of cargo; Can fire on land and water; Enough fuel to drive 300 miles inland.

AH-1Z Super Cobra/Viper



Purpose: No aircraft defines the role of close air support better than the Marine AH-1 Super Cobra/Viper. Whether it's providing cover for advancing ground forces or escorting assault support helicopters en route to a landing zone, the AH-1Z is called on when Marines need firepower from the air.

Features: Able to project multiple missiles, rockets and 20mm cannon fire on targets otherwise inaccessible, the AH-1 has played a major role in every U.S. military conflict since Vietnam. Today it continues to provide the precision, armament and tactical situational awareness to fight in close proximity with our Marines below. Equipped with enhanced navigation displays that distinguish friends from enemies, data transfer systems that deliver real-time aerial reconnaissance to Marines on the ground and composite rotor blades and tail booms that can withstand 23mm cannon fire, the Marine AH-1 is the perfect example of why Marine Aviation has been called "flying artillery."

UH-1Y Huey/ Venom



Purpose: No single aircraft provides a better blend of all six Marine Aviation functions than the Marine UH-1. A case study in Offensive Air Support, Assault Support, Command and Control, and Aerial Reconnaissance, the Marine utility helicopter of choice is truly a microcosm of Marine Aviation. With low-flying AH-1s aimed in on the hostile street ahead and hovering UH-1s covering adjacent rooftops, combat Marines can engage under the watchful eye of close air support.

Features: When outfitted with door-mounted .50 caliber and 7.62 machine guns and teamed alongside AH-1s, Marine UH-1s arm MAGTF commanders with unprecedented response, situational awareness and a 360-degree field of fire support for advancing ground forces. Currently, all Marine UH-1N Hueys are being replaced with four-bladed UH-1Y Venoms featuring upgraded glass cockpit avionics, a new satellite data link network, a 125% boost in payload and 50% increase in range and speed. Now, with the power to keep up with the larger helicopters they escort, utility helicopters will continue to support Marines for decades to come.

CH-53E Sea Stallion/Super Stallion Helicopter



Purpose: The heavy-lift helicopter of the Marine Corps can carry a 26,000-pound Light Armored Vehicle, 16 tons of cargo 50 miles and back, or enough combat-loaded Marines to lead an assault or humanitarian operation; but perhaps what's most amazing about the largest military helicopter in the U.S. is what it achieves despite its size. Though powerful enough to lift every aircraft in the Marine inventory except the KC-130, the CH-53E Super Stallion is compact enough to deploy on amphibious assault ships, and has the armament, speed and agility to qualify as much more than a heavy lifter.

Features: Armed with window-mounted .50-caliber machine guns, chaff and flare dispensers for anti-air defense, an in-flight refueling probe for limitless range and a forward-looking infrared (FLIR) imager for night and all-weather navigation, the Marine CH-53E is commonly called on for assault transport of Marine ground forces. Though long-range insertion missions are standard protocol for this Marine workhorse, it is the rapid resupply of Marines at the forefront that makes the Super Stallion one of the most used aircraft in Marine Aviation.

MV-22 Osprey Tiltrotor



Purpose: With the speed and range of a turboprop, the maneuverability of a helicopter and the ability to carry 24 Marine combat troops twice as fast and five times farther than previous helicopters, the Osprey greatly enhances the advantages Marines have over their enemies. The Osprey's impact was felt immediately upon its arrival in Iraq. Commenting on its advanced expeditionary capabilities and staggering operational reach, a top Marine commander went as far as to say it turned his battle space "from the size of Texas into the size of Rhode Island."

Features: Designed for expeditionary assault, raid operations, cargo lift and special warfare; Built with composite materials, fly-by-wire flight controls, digital cockpits; Vertical takeoff and landing, and short takeoff and landing capabilities; In-flight refueling.

F/A-18 Hornet



Purpose: A basic tenet of all Marine aircraft is the requirement for usability in multiple missions, and the Marine F/A-18 upholds this doctrine. Able to be quickly configured for fighter or attack missions, or a combination of both, the twin-engine, all-weather, day or night Marine jet can be used for fighter escort, enemy air defense suppression, reconnaissance, air control and the calling card of Marine Aviation: close air support.

Features: With external and internal weapon stations able to deliver Sparrow, AMRAAM and Sidewinder air-to-air missiles, air-to-ground munitions in the form of Harpoon and Maverick missiles, general purpose, cluster and laser-guided bombs, and a 6-barrel 20mm gun in the nose section for extremely close encounters, few aircraft in the world are counted on as heavily as the F/A-18 Hornet.

AV-8B Harrier II



Purpose: Representing, arguably, the greatest breakthroughs in aircraft technology, the Harrier was the first VSTOL-capable (vertical/short takeoff and landing) jet in the Marine inventory, giving MAGTF commanders new flexibility on the battlefield. With the ability to attack anywhere, the Harrier forces the enemy to defend everywhere, exposing vulnerabilities the enemy must divert resources to protect.

Features: 22,000 pounds of thrust enable the Harrier II to hover like a helicopter, and then blast forward like a jet at near-supersonic speeds. Like every aircraft in the Marine fleet, this aircraft is used for multiple missions, which include attacking and destroying surface and air targets, escorting helicopters, engaging in air-to-air defense, providing reconnaissance and applying offensive and defensive support with its arsenal of missiles, bombs and an onboard 25mm cannon. Offering the versatility to conduct almost any mission, the Harrier II provides the ideal blend of firepower and mobility to effectively counter enemies engaged by our ground forces.

EA-6B Prowler



Purpose: It is the ability of the EA-6B Prowler to neutralize enemy air defenses that enables Marines to gain the air superiority needed for mission success. Enemy air defenses rely on early warning radar to indicate an impending air strike. But to acquire a signal, they have to send a signal, and it is the electronic warfare equipment arming Marine Prowlers that illuminates these electronic footprints. The Marine Prowler's ability to detect, sort, classify, jam and destroy air defenses leaves the enemy with two options: leave the radar on, or turn it off. Either way, their defenses are reduced to expensive but useless metal.

Features: Information isn't allowed to return to an enemy's radar because EA-6Bs intercept it first, and the methods by which these signals can be exploited are numerous. Marine Prowlers are equipped with five tactical jamming pods, electronic surveillance systems, radar-seeking HARM missiles, non-kinetic fire systems that leave electronic equipment disabled but intact, and countermeasures that mask the approach of our nearby ground-attack aircraft.

KC-130J Hercules



Purpose: To achieve the global reach and rapid deployability our nation requires, Marine Aviation must be able to deliver Marines, fuel and cargo where needed. Answering the call is the Marine KC-130 Hercules. A tactical tanker/transport aircraft that stretches more than 90 feet in length and 130 feet wing to wing, the KC-130 Hercules can resupply austere battle zones, provide a Direct Air Support Center, insert ground troops and perform medevac operations. It is during the mission of tactical aerial refueling, however, that the Marine KC-130 has earned the reputation for being best in the world.

Features: Able to carry more than 12,000 gallons of fuel and simultaneously refuel two aircraft at 300 gallons a minute, the Hercules has been called the workhorse of Marine Aviation. Recently, the first armed version of the Marine KC-130 was employed—named the Harvest HAWK (Hercules Airborne Weapons Kit). With the ability to deliver air-to-ground Hellfire missiles, precision-guided bombs and 30mm auto-cannon rounds, Marines in the air now have another way to support Marines on the ground.

RQ-7B Shadow



Purpose: The recent development and fielding of Unmanned Aircraft Systems (UAS) has delivered even more capabilities to our Marines. One such aircraft, the RQ-7B Shadow, is deployed in squadrons as an asset of the Marine Expeditionary Force or Marine Expeditionary Brigade. Designed to provide reconnaissance, relay communications and assist in target acquisition, the RQ-7B Shadow keeps an eye above the battlefield for extended periods of time, constantly relaying information between Marine air and ground controls. The Shadow enhances the capabilities of Marine commanders across the spectrum of military operations and was first deployed during Operation Iraqi Freedom in September 2007.

Features: Remotely piloted; Conducts reconnaissance, surveillance, target acquisition, indirect fires adjustment, battlefield damage assessment and rear area security support; Equipped with electro-optical and infrared (EO/IR) sensors, communications relay payloads and laser designators; Video and laser targeting is used to locate enemy positions; Launched from a trailer-mounted pneumatic catapult; Fixed, 3-wheel landing gear; Total endurance time up to 6 hours; max speed 135 mph; gross weight 375 lbs; range 68 miles.

Sources:

1. <http://www.marines.com/operating-forces/equipment>

WEEK 18: CURRENT GLOBAL CHALLENGES

I. State Based Challenges

Information for this module is drawn from the fundamental strategic guidance of the U.S. government. The National Security Strategy Report (NSS) is a White House publication intended to articulate the global security interests, goals, and objectives of the United States (source: National Security Strategy Archive, <http://nssarchive.us/>). From this Presidential guidance, the Department of Defense (DoD) crafts the Quadrennial Defense Review (QDR). The QDR meets the legislative mandate for a review of DoD strategy and priorities. The QDR assesses threats and challenges, and adjusts strategies, capabilities, and forces to address current and future threats (Source: Strategic Defense Reviews).

In addition to this guidance, the DoD annually provides threat assessment reports to Congress. The Director, Defense Intelligence Agency (DIA) appears before Congressional committees to provide “assessments based upon the agency’s worldwide human intelligence, technical intelligence, counterintelligence, and document and media exploitation capabilities, along with information from DIA’s partners in the Intelligence Community (IC) and the entire defense intelligence enterprise, international allies, and open sources.” U.S. law also requires the DoD to report annually on the military and security developments of China and, separately, North Korea.

These documents are carefully reviewed and scrutinized to properly represent the available intelligence and official U.S. government intentions. As such, the majority of this module is comprised of direct excerpts in order to avoid misstatements or ambiguities:

Regional challenges from state actors are highlighted in both the NSS and QDR, specifically China, North Korea, Iran, and Russia. These states are part of a “broad array of threats and opportunities” confronting the U.S., including threats from non-state actors (terror groups, private citizens) and global trends (aging, technological change, climate change). Never-the-less, these four states – due to a range of factors such as military capability, intentions, geography, and political institutions – are the principal state based challenges to U.S. national security in the near term.

China

BLUF: The rapid pace and comprehensive scope of China’s military modernization continues, combined with a relative lack of transparency and openness from China’s leaders regarding both military capabilities and intentions. There is greater risk that tensions over long-standing sovereignty disputes or claims to natural resources will spur disruptive competition or erupt into conflict, reversing the trends of rising regional peace, stability, and prosperity in the Asia-Pacific region. (Source: 2012 Quadrennial Defense Review)



THE PEOPLE’S REPUBLIC OF CHINA (PRC) continues to pursue a long-term, comprehensive military modernization program designed to improve the capacity of its armed forces to fight and win short-duration, high-intensity regional contingencies. Preparing for potential conflict in the Taiwan Strait, which

includes deterring or defeating third-party intervention, remains the focus and primary driver of China's military investment. However, the Chinese People's Liberation Army (PLA) also is placing emphasis on preparing for contingencies other than Taiwan, including potential contingencies in the South and East China Seas. (Source: 2014 DoD Annual Report on China)

China's leaders describe modernization of the PLA as essential to preserving and sustaining what they view as a "period of strategic opportunity" to advance China's national development during the first two decades of the 21st century. China's leaders see this period as providing an opportunity to focus on fostering a stable external environment to provide the PRC the strategic space to prioritize economic growth and development and to achieve "national rejuvenation" by 2049. At the same time, Chinese leaders express a desire to maintain peace and stability along their country's periphery; expand their diplomatic influence to facilitate access to markets, capital, and resources; and avoid direct confrontation with the United States and other countries. This strategy has led to a growing Chinese presence in regions all over the world, and particularly on its periphery, creating new and expanding economic and diplomatic interests. China's expanding interests have led to friction between some of its regional neighbors, including allies and partners of the United States. (Source: 2014 DoD Annual Report on China)

In the coming years, countries such as China will continue seeking to counter U.S. strengths using anti-access and area-denial (A2/AD) approaches and by employing other new cyber and space control technologies. Additionally, China will continue to develop sophisticated integrated air defenses that can restrict access and freedom of maneuver in waters and airspace beyond territorial limits. Growing numbers of accurate conventional ballistic and cruise missile threats represent an additional, cost-imposing challenge to U.S. and partner naval forces and land installations. (Source: 2012 Quadrennial Defense Review)

The October 2013 MANEUVER-5 exercise in the Philippine Sea, which included participation from all three PLA navy fleets – the North Sea Fleet, the East Sea Fleet, and the South Sea Fleet – was the largest PLA Navy open-ocean exercise seen to date. Additionally, China conducted the three-part MISSION ACTION series of joint military exercises over a six week period during September and October. These exercises combined PLA ground, navy and air forces in large-scale maneuvers along China's southern and southeastern coasts. (Source: 2014 DoD Annual Report on China)

As China's interests, capabilities, and international influence have grown, its military modernization program has also become increasingly focused on military investments for a range of missions beyond China's coast, including sea lane security, counter-piracy, peacekeeping, and humanitarian assistance/disaster relief (HA/DR). (Source: 2014 DoD Annual Report on China)

With China, the Department of Defense is building a sustained and substantive dialogue with the People's Liberation Army designed to improve our ability to cooperate in concrete, practical areas such as counter-piracy, peacekeeping, and humanitarian assistance and disaster relief. At the same time, we will manage the competitive aspects of the relationship in ways that improve regional peace and stability consistent with international norms and principles. (Source: 2012 Quadrennial Defense Review)

China participated in the Rim of the Pacific (RIMPAC) exercise for the first time in the summer of 2014. Held every two years by Commander, U.S. Pacific Fleet (PACFLT), RIMPAC 2014 is a multinational maritime exercise that takes place in and around the Hawaiian Islands.

We will continue to pursue a positive, constructive, and comprehensive relationship with China. We welcome a China that takes on a responsible leadership role in working with the United States and the international community to advance priorities like economic recovery, confronting climate change, and nonproliferation. We will monitor China's military modernization program and prepare accordingly to ensure that U.S. interests and allies, regionally and globally, are not negatively affected. More broadly, we will encourage China to make choices that contribute to peace, security, and prosperity as its influence rises. We are using our newly established Strategic and Economic Dialogue to address a broader range of issues, and improve communication between our militaries in order to reduce mistrust. We will encourage continued reduction in tension between the People's Republic of China and Taiwan. We will not agree on every issue, and we will be candid on our human rights concerns and areas where we differ. But

disagreements should not prevent cooperation on issues of mutual interest, because a pragmatic and effective relationship between the United States and China is essential to address the major challenges of the 21st century. (Source: 2010 National Security Strategy)

North Korea

BLUF: North Korea remains closed and authoritarian. North Korea's long-range missile and weapons of mass destruction (WMD) programs – particularly its pursuit of nuclear weapons in contravention of its international obligations – constitutes a significant threat to peace and stability on the Korean Peninsula and in Northeast Asia and is a growing, direct threat to the United States. (Source: 2012 Quadrennial Defense Review)



The Democratic People's Republic of Korea (DPRK) remains one of the United States' most critical security challenges for many reasons. These include North Korea's willingness to undertake provocative and destabilizing behavior, including attacks on the Republic of Korea (ROK), its pursuit of nuclear weapons and long-range ballistic missiles, and its willingness to proliferate weapons in contravention of United Nations Security Council Resolutions. (Source: 2014 DoD Annual Report on DPRK)

Under Kim Jong Il, DPRK strategy focused on internal security; coercive diplomacy to compel acceptance of its diplomatic, economic, and security interests; development of strategic military capabilities to deter external attack; and challenging the ROK and the U.S.-ROK Alliance. We anticipate these strategic goals will be consistent under North Korea's current leader, Kim Jong Un. (Source: 2014 DoD Annual Report on DPRK)

The United States remains vigilant in the face of North Korea's continued provocations and steadfast in its commitments to Allies in the region, including the security provided by extended deterrence commitments through the nuclear umbrella and conventional forces. (Source: 2014 DoD Annual Report on DPRK)

Advances in missile technology and the proliferation of these capabilities to new actors represent a growing challenge to the U.S. military's defense of the homeland. We must stay ahead of limited ballistic missile threats from regional actors such as North Korea and Iran, seeking to deter attacks or prevent them before they occur. (Source: 2012 Quadrennial Defense Review)

The North Korean regime continues to pursue interests counter to those of the United States. Faced with this threat, the United States is committed to maintaining peace and security on the Korean Peninsula and closely monitors the situation through military and diplomatic channels in coordination with the ROK, Japan, China, and Russia. The U.S. Armed Forces will continue their close collaboration with the ROK military to deter and defend against North Korean provocations. (Source: 2012 Quadrennial Defense Review)

North Korea fields a large, forward-deployed military that retains the capability to inflict serious damage on the ROK, despite significant resource shortfalls and aging hardware. The DPRK continues to be deterred from conducting large-scale attacks on the ROK primarily due to the strength of the U.S.-ROK Alliance. On a smaller scale, however, the DPRK has demonstrated its willingness to use military provocation to achieve national goals. In 2010, it sank the ROK naval vessel CHEONAN, killing 46 ROK Navy sailors, and shelled Yeonpyeong Island, killing two ROK Marines and two civilians. (Source: 2014 DoD Annual Report on DPRK)

North Korea's continued pursuit of nuclear technology and capabilities and development of intermediate- and long-range ballistic missile programs, as reflected in the December 2012 Taepo Dong-2 missile launch and February 2013 nuclear test, underscore the threat to regional stability and U.S. national security posed by North Korea. These programs, and North Korea's expressed hostility toward the ROK and proliferation of items prohibited under United Nations Security Council Resolutions 1718, 1874, 2087, and 2094, make the DPRK a continued security challenge for the United States and its Allies and partners. (Source: 2014 DoD Annual Report on DPRK)

North Korea's third nuclear test in February 2013 and subsequent announcement of plans to restart and refurbish nuclear facilities at Yongbyon highlight the continued challenge posed by its nuclear programs. The September 19, 2005 Joint Statement of the Six-Party Talks, and United Nations Security Council Resolutions 1718, 1874, 2087, and 2094 call for the complete and verifiable denuclearization of North Korea. Given North Korea's unwillingness to abide by these commitments, the U.S. Department of Defense will continue to manage the North Korean security challenge through close coordination and consultation with the international community, particularly with our ROK and Japanese Allies. (Source: 2014 DoD Annual Report on DPRK)

The United States will pursue the denuclearization of the Korean peninsula and work to prevent Iran from developing a nuclear weapon. This is not about singling out nations—it is about the responsibilities of all nations and the success of the nonproliferation regime. Both nations face a clear choice. If North Korea eliminates its nuclear weapons program, and Iran meets its international obligations on its nuclear program, they will be able to proceed on a path to greater political and economic integration with the international community. If they ignore their international obligations, we will pursue multiple means to increase their isolation and bring them into compliance with international nonproliferation norms. (Source: National Security Strategy)

Iran

BLUF: In the Middle East region, Iran remains a destabilizing actor that threatens security by defying international law and pursuing capabilities that would allow it to develop nuclear weapons. Even as Iran pledges not to pursue nuclear weapons, Iran's other destabilizing activities will continue to pose a threat to the Middle East, especially to the security of our allies and partners in the region and around the world. (Source: 2012 Quadrennial Defense Review)



For decades, the Islamic Republic of Iran has endangered the security of the region and the United States and failed to live up to its international responsibilities. In addition to its illicit nuclear program, it continues to support terrorism, undermine peace between Israelis and Palestinians, and deny its people their universal rights. Many years of refusing to engage Iran failed to reverse these trends; on the contrary, Iran's behavior became more threatening. Engagement is something we pursue without illusion. It can offer Iran a pathway to a better future, provided Iran's leaders are prepared to take it. But that better pathway can only be achieved if Iran's leaders change course, act to restore the confidence of the international community, and fulfill their obligations. The United States seeks a future in which Iran meets its international responsibilities, takes its rightful place in the community of nations, and enjoys the political and economic opportunities that its people deserve. Yet if the Iranian Government continues to refuse to live up to its international obligations, it will face greater isolation. (Source: National Security Strategy)

Tehran poses a major threat to U.S. interests through its regional ambitions, support to terrorist and militant groups, improving military capabilities and nuclear ambitions. Iran is active throughout the region and has increased its influence during the past twelve months in Syria, Iraq, Yemen, and Bahrain. (Source: 2014 Defense Intelligence Agency Annual Threat Assessment)

However, Iran has somewhat tempered its belligerent rhetoric since President Hasan Ruhani took office in August 2013. Ruhani's international message of moderation and pragmatism is intended to support Tehran's enduring objectives, which are to preserve the Supreme Leader's rule, counter Western influence, and establish Iran as the dominant regional power. Supreme Leader Ali Khamenei continues to dominate Iran's power structure as both the political-spiritual guide and the commander in chief of the armed forces. (Source: 2014 Defense Intelligence Agency Annual Threat Assessment)

Iran has threatened to temporarily impede international ship traffic transiting through the Strait of Hormuz if it is attacked or in response to further sanctions on its oil exports. Additionally, Iran has threatened to launch missiles against U.S. targets and our regional allies in response to an attack. Tehran could also employ its terrorist surrogates. However, it is unlikely to initiate or intentionally provoke a conflict or launch a preemptive attack. (Source: 2014 Defense Intelligence Agency Annual Threat Assessment)

In Iraq, Iran works closely with Baghdad to maintain its influence and its access to Syria and Levant via air and ground transport. Iran continues to fund, train, and support Iraqi Shia groups to defend the Shia-led government against the perceived threat of Sunni violence, including spillover from the conflict in Syria. Iran will likely use its leverage with Shia groups and Iraqi government officials to influence the 2014 Iraqi elections to maintain an Iran-friendly government regime in Baghdad. In addition to its support of irregular forces, Iran is steadily improving its military capabilities. The navy is developing faster, more lethal surface vessels, growing its submarine force, expanding its cruise missile defense capabilities, and increasing its presence in international waters. The navy conducted its farthest out-of-area deployment to date in March 2013, docking in China, and for the first time ever an Iranian submarine visited India in December 2013. The navy aspires to travel as far as the Atlantic Ocean. (Source: 2014 Defense Intelligence Agency Annual Threat Assessment)

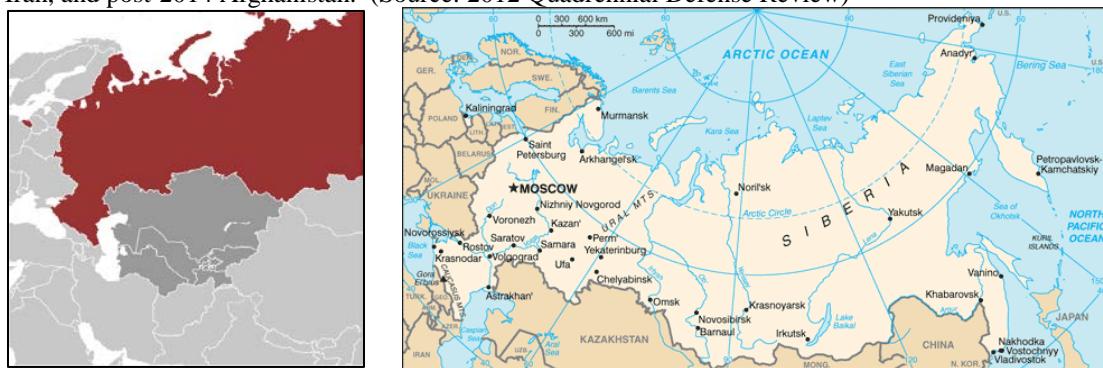
Iran is laboring to modernize its air and air defense forces under the weight of international sanctions. Each year, Iran unveils what it claims are state-of-the-art, Iranian-made systems, including SAMs, radars, unmanned aerial vehicles, and it did so again in 2013. It continues to seek an advanced long range surface-to-air missile system. (Source: 2014 Defense Intelligence Agency Annual Threat Assessment)

Iran can strike targets throughout the region and into Eastern Europe. In addition to its growing missile and rocket inventories, Iran is seeking to enhance lethality and effectiveness of existing systems with improvements in accuracy and warhead designs. Iran is developing the Khalij Fars, an anti-ship ballistic missile which could threaten maritime activity throughout the Persian Gulf and Strait of Hormuz. Iran's Simorgh space launch vehicle shows the country's intent to develop intercontinental ballistic missile (ICBM) technology. (Source: 2014 Defense Intelligence Agency Annual Threat Assessment)

Over the past five years, a top Administration priority in the Middle East has been preventing Iran from acquiring a nuclear weapon, pursued through a multilateral, multi-pronged strategy combining diplomacy, international economic pressure, and the resolve to keep military options on the table. The November 2013 Joint Plan of Action in the P5-plus-one nuclear negotiations with Iran represents only a first step toward a longer term comprehensive solution. Concerns over Iran's destabilizing influence as well as the uncertain trajectory of the greater Middle East will require the United States and our regional partners to remain capable of defeating aggression in this volatile region. As diplomacy on nuclear issues continues, the Department will maintain all options on the table and counter other threats that Iran poses in the region, including development of mid- and long-range missiles and support to terrorists and insurgents. (Source: 2012 Quadrennial Defense Review)

Russia

BLUF: Russia's multi-dimensional defense modernization and actions that violate the sovereignty of its neighbors present risks. We will engage Russia to increase transparency and reduce the risk of military miscalculation. The United States is willing to undertake security cooperation with Russia, both in the bilateral context and in seeking solutions to regional challenges, when our interests align, including Syria, Iran, and post-2014 Afghanistan. (Source: 2012 Quadrennial Defense Review)



Russia continues to actively pursue its active foreign and defense policies, both along its periphery and elsewhere. In 2014, we expect Moscow will continue efforts to expand its influence in Eurasia by pushing its neighbors to increase cooperation with Russia and Russian-led organizations rather than the West, as Moscow recently did with Ukraine and Armenia. Russian leaders likely regard their support of Syria as a success and Moscow will continue to promote a negotiated resolution to the crisis, consider higher-profile defensive arms deliveries on a case-by-case basis, block efforts to gain UN authorization for military intervention, and insist that the Syrians themselves rather than external forces must determine any transition in power. Russian leadership further views the recent P5+1 agreement an opportunity to enhance bilateral relations with Tehran, although they will be wary of improvement in relations between Iran and the United States and European Union. Russia is ready to exploit any deterioration of relations between the United States and its allies and will move to offer support to such states. (Source: 2014 Defense Intelligence Agency Annual Threat Assessment)

We expect Russia's military modernization will lead to a more agile and compact force capable of more modern forms of warfare. A future force will be smaller, but more capable of handling a range of contingencies on Russia's periphery. We expect continued effort on improvement of joint operations capabilities and rearmament because of the high priority Russian leadership places on these portfolios. The general purpose forces will continue to acquire new equipment in the near term, but deliveries will be small and largely consist of modernized Soviet-era weapons. Russia also has purchased select foreign systems, such as France's Mistral amphibious assault ship, unmanned aerial vehicles from Israel, and Italian light armored vehicles. The first Mistral, purchased from France, was launched in France on 15 October 2013. (Source: 2014 Defense Intelligence Agency Annual Threat Assessment)

Russia's ten-year rearmament plan is a top priority for the armed forces, but it faces funding and implementation risks owing in part to a potential decline in oil and gas revenues, spending inefficiencies,

an aging industrial base, and corruption. Russia spent an announced \$66 billion on its armed forces in 2013, and the current budget plan calls for a 12.9 percent inflation-adjusted increase in 2014. (source: DIA) Russia's Afghanistan policy reflects an uneasy balance between Moscow's wish for stability in Afghanistan and its desire to prevent any long-term U.S. military presence in Central Asia. With the drawdown of U.S. forces this year, Russia is increasingly worried about security threats flowing from Afghanistan. Russia maintains friendly ties with the Afghan government, but only provides modest aid. However, Moscow views the Afghan National Security Forces as insufficiently trained to secure Afghanistan after the departure of ISAF forces in 2014. Russia believes that bordering Central Asian states will be vulnerable to a spillover of violence and expanded narcotics trafficking. Moscow probably wishes to seize upon the departure of coalition forces from Central Asia—most notably the forthcoming closure of the Manas Transit Center in Kyrgyzstan—to reassert its influence in the region, particularly in the security sphere. (Source: 2014 Defense Intelligence Agency Annual Threat Assessment)

Russia will continue to maintain a robust and capable arsenal of strategic and nonstrategic nuclear weapons for the foreseeable future. To support this policy, the Russian government is making strong investments in its nuclear weapon programs. Priorities for the strategic nuclear forces include force modernization and command and control facilities upgrades. Russia will field more road-mobile SS-27 Mod-2 ICBMs with multiple independently targetable reentry vehicles. It also will continue development of the RS-26 intercontinental ballistic missile, the Dolgorukiy ballistic missile submarine and SS-NX-32 Bulava submarine-launched ballistic missile, and next-generation cruise missiles. (Source: 2014 Defense Intelligence Agency Annual Threat Assessment)

The United States will continue to maintain safe, secure, and effective nuclear forces while reducing our strategic nuclear forces in accordance with the New START Treaty. We will pursue further negotiated reductions with Russia. In a new round of negotiated reductions, the United States would be prepared to reduce ceilings on deployed strategic warheads by as much as one-third below New START levels. The United States will also work with our NATO allies to seek bold reductions in U.S. and Russian non-strategic nuclear weapons in Europe. (Source: Quadrennial Defense Review)

We seek to build a stable, substantive, multidimensional relationship with Russia, based on mutual interests. The United States has an interest in a strong, peaceful, and prosperous Russia that respects international norms. As the two nations possessing the majority of the world's nuclear weapons, we are working together to advance nonproliferation, both by reducing our nuclear arsenals and by cooperating to ensure that other countries meet their international commitments to reducing the spread of nuclear weapons around the world. We will seek greater partnership with Russia in confronting violent extremism, especially in Afghanistan. We also will seek new trade and investment arrangements for increasing the prosperity of our peoples. We support efforts within Russia to promote the rule of law, accountable government, and universal values. While actively seeking Russia's cooperation to act as a responsible partner in Europe and Asia, we will support the sovereignty and territorial integrity of Russia's neighbors. (Source: National Security Strategy)

II. Foreign Terrorist Organizations

Foreign Terrorist Organizations (FTOs) are designated by the Secretary of State in accordance with section 219 of the Immigration and Nationality Act (INA). FTO designations play a critical role in the fight against terrorism and are an effective means of curtailing support for terrorist activities. Legal Criteria for Designation under Section 219 of the INA as amended:

- It must be a foreign organization.
- The organization must engage in terrorist activity, as defined in section 212 (a)(3)(B) of the INA (8 U.S.C. § 1182(a)(3)(B)), or terrorism, as defined in section 140(d)(2) of the Foreign Relations Authorization Act, Fiscal Years 1988 and 1989 (22 U.S.C. § 2656f(d)(2)), or retain the capability and intent to engage in terrorist activity or terrorism.
- The organization's terrorist activity or terrorism must threaten the security of U.S. nationals or the national security (national defense, foreign relations, or the economic interests) of the United States.

An interactive map of FTOs can be accessed via the Office of the Director of National Intelligence, National Counterterrorism Center (NCTC) Counterterrorism Calendar at <http://www.nctc.gov/site/groups/index.html>.

In February of 2014, the Director of the Defense Intelligence Agency (DIA) provided the Annual Threat Assessment to the Senate Armed Services Committee. Below is the DIA's list of Transnational Terrorist Threats, many of which are designated Foreign Terrorist Organizations.

- Al-Qa'ida (AQ) Command and Control
- Al-Qa'ida in the Arabian Peninsula (AQAP)
- Al-Qa'ida in Iraq (AQI), also known as the Islamic State of Iraq and Levant (ISIL), Al-Nusrah Front
- Al-Qa'ida in the Lands of the Islamic Maghreb (AQIM)
- Al-Shabaab (AS)
- Al-Murabitun
- Islamic Revolutionary Guard Corps–Qods Force (IRGC-QF) and Hizballah
- Lashkar-e Tayyiba (LT)
- Revolutionary Armed Forces of Colombia (FARC)
- European Home Grown Violent Extremists (HVEs)
- U.S. Homegrown Violent Extremists (HVEs) and Insider Threats

Al-Qa'ida (AQ)

- **Command and Control** – Al-Qa'ida is a transnational terror group responsible for the September 11, 2001 attacks on the United States and the training of extremist fighters in Afghanistan, Iraq, and Syria. AQ's strategic objectives are to remove Western influence from the Muslim world, topple governments of Muslim countries, and establish a pan-Islamic caliphate under Sharia Law. AQ's leadership is constrained to a safe haven in Pakistan, but continues to inspire regional terrorist affiliates and other terror groups. (Source: 2014 NCTC Counterterrorism Calendar)
- **Al-Qa'ida in the Arabian Peninsula (AQAP)** – AQAP is a Sunni extremist group based in Yemen that has orchestrated numerous high-profile terrorist attacks. The group has targeted local, US, and Western interests in the Arabian Peninsula, but is now pursuing a global strategy. (Source: 2014 NCTC Counterterrorism Calendar)
- **Al-Qa'ida in Iraq (AQI), also known as the Islamic State of Iraq and Levant (ISIL) and Al-Nusrah Front** – Established in April 2004 by Sunni extremist Abu Mus'ab al-Zarqawi who pledged his group's allegiance to Usama Bin Laden, AQI targeted Coalition forces and civilians using tactics such as vehicle-borne improvised explosive devices (VBIEDs), suicide bombers, and executions of hostages by beheading and other means, attempting to pressure countries and foreign companies to leave Iraq. Since late 2011, AQI has also participated in the Syrian conflict through its alias, al-Nusrah Front. (Source: 2014 NCTC Counterterrorism Calendar)
- **Al-Qa'ida in the Lands of the Islamic Maghreb (AQIM)** – An Algeria-based Sunni Muslim jihadist group which operates primarily in the northern coastal areas of Algeria and in parts of the desert regions of southern Algeria and northern Mali. AQIM was originally formed in 1998 as the Salafist Group for Preaching and Combat (GSPC), a faction of the Armed Islamic Group, which was the largest and most active terrorist group in Algeria. The GSPC was renamed in January 2007 after the group officially joined al-Qa'ida. GSPC had close to 30,000 members at its height, but the Algerian Government's counterterrorism efforts have reduced AQIM's ranks to fewer than 1,000. AQIM mainly employs conventional terrorist tactics, including guerrilla-style ambushes and mortar, rocket, and IED attacks. Its principal sources of funding include extortion, kidnapping, and donations. Although counterterrorism pressure is probably compelling AQIM to consider alternative safe havens in other under-governed areas elsewhere in the region, the group most likely retains the capability to launch attacks against regional and Western interests in Mali and neighboring countries. During the next year, we expect AQIM to likely bolster its ties to al-Qa'ida-aligned terrorist groups in North and West Africa. (Source: 2014 NCTC Counterterrorism Calendar)

Al-Shabaab (AS)

- The Harakat Shabaab al-Mujahidin—commonly known as al-Shabaab—was the militant wing of the Somali Council of Islamic Courts that took over most of southern Somalia in the second half of 2006. Despite the group’s defeat by Somali and Ethiopian forces in 2007, al-Shabaab—a clan-based insurgent and terrorist group—has continued its violent insurgency in southern and central Somalia. The group has exerted temporary and, at times, sustained control over strategic locations in those areas by recruiting, sometimes forcibly, regional sub-clans and their militias, using guerrilla warfare and terrorist tactics against the Somali Federal Government (SFG), African Union Mission in Somalia (AMISOM) peacekeepers, and nongovernmental aid organizations. As of 2013, however, pressure from AMISOM and Ethiopian forces had largely degraded al-Shabaab’s control, especially in Mogadishu but also in other key regions of the country, and conflict among senior leaders had exacerbated fractures within the group. (Source: 2014 NCTC Counterterrorism Calendar)
- The group continued to pose a threat to Western interests in East Africa as demonstrated by the September, 2013 attack on the Westgate Mall in Nairobi, Kenya, which left at least 67 dead. During 2014, a regrouped al-Shabaab will continue to pose a threat to the fragile Somali government and its regional backers. It will attempt to replicate the success of its Westgate attack with additional operations outside Somalia. (Source: 2014 Defense Intelligence Agency Annual Threat Assessment)

Al-Murabitun

- This newly formed group poses a growing threat to Western interests in North Africa, based on the network’s record of sophisticated attacks against Western mineral and energy interests in Niger and Algeria in 2013. (Source: 2014 Defense Intelligence Agency Annual Threat Assessment)

Islamic Revolutionary Guard Corps – Qods Force (IRGC-QF) and Hizballah

- Formed in 1982 in response to the Israeli invasion of Lebanon, Hizballah (the “Party of God”), a Lebanon-based Shia terrorist group, advocates Shia empowerment globally. The group also supports Palestinian rejectionist groups in their struggle against Israel and provides training for Iraqi Shia militants attacking Western interests in Iraq. Hizballah Secretary General Hasan Nasrallah publically indicated in May 2013 that Hizballah was supporting Bashar al-Assad’s regime by sending fighters to Syria. (Source: 2014 NCTC Counterterrorism Calendar)
- Iran continues to support and arm terrorist and militant groups in the Middle East. The IRGC-QF has supported pro-regime fighters in Syria, including elements from Lebanese Hizballah, Iraqi Shia groups, and Syrian militias. Captured video footage suggests the Qods Force is operating artillery and leading attacks against Syrian opposition. Hizballah also continues to send operatives to other locations outside Syria to plan external attacks and operations. (Source: 2014 Defense Intelligence Agency Annual Threat Assessment)

Lashkar-e Tayyiba (LT)

- Lashkar-e-Tayyiba, also known as Army of the Righteous, is one of the largest and most proficient of the Kashmir-focused militant groups. LT formed in the early 1990s as the military wing of Markaz-ud-Dawa-wal-Irshad, a Pakistan-based Islamic fundamentalist missionary organization founded in the 1980s to oppose the Soviets in Afghanistan. Since 1993, LT has conducted numerous attacks against Indian troops and civilian targets in the disputed Jammu and Kashmir state, as well as several high-profile attacks inside India itself. Concern over new LT attacks in India remains high. The United States and United Nations have designated LT an international terrorist organization. The Pakistani Government banned LT and froze its assets in 2002. In 2008 the US Treasury Department imposed sanctions on four senior LT leaders, and in April 2012 two senior LT leaders were placed on the US State Department Rewards for Justice list. (Source: 2014 NCTC Counterterrorism Calendar)
- The group has focused on India, but has dedicated greater operational resources from Indian Kashmir to Afghanistan in the years following the 2008 Mumbai attacks. LT ideologically advocates killing Americans and other Westerners, and in previous years has advanced plots

ultimately disrupted by counterterrorism authorities in Australia and Denmark. (Source: 2014 Defense Intelligence Agency Annual Threat Assessment)

Revolutionary Armed Forces of Colombia (FARC)

- Established in 1964 as the military wing of the Colombian Communist Party, the Revolutionary Armed Forces of Colombia (Fuerzas Armadas Revolucionarios de Colombia) is Latin America's oldest, largest, most capable, and best-equipped insurgency of Marxist origin—although it only nominally fights in support of Marxist goals today. The FARC primarily operates in Colombia, with some activities—including extortion, kidnapping, weapons acquisition, and logistics—occurring in neighboring countries. (Source: 2014 NCTC Counterterrorism Calendar)
- This group poses a significant and continuing threat to U.S. personnel and interests in 2014, despite peace talks with Bogota. (Source: 2014 Defense Intelligence Agency Annual Threat Assessment)

European Home Grown Violent Extremists (HVE)

- Individuals will remain an ongoing security concern and challenge for Western security services in 2014 as they radicalize within their home base; return home after gaining terrorist training and/or, combat experience abroad; or develop contacts domestically or abroad to plan attacks against Western interests. Although not all returning fighters will pose a threat, DIA is particularly concerned about self-initiated or “lone wolf” attacks on U.S. military and allied military members in Europe. The Revolutionary People’s Liberation Party/Front (DHKP/C) also signaled a renewed effort to target U.S./DoD interests with its 1 February 2013 attack on the U.S. Embassy in Ankara and has proven resilient despite crackdowns on the organization in Turkey and elsewhere.

(Source: 2014 Defense Intelligence Agency Annual Threat Assessment)

U.S. Home Grown Violent Extremists (HVE)

- HVEs continue to pose the most likely terrorist threat to DoD, as evidenced by several successful attacks and numerous disrupted plots targeting DoD facilities, installations, and personnel in recent years. While they are less likely to generate complex and spectacular attacks than transnational terror groups, HVEs can conduct attacks with little or no warning, complicating efforts by law enforcement and intelligence agencies to detect and disrupt them. Since 2009, a small number of individuals working for or with access to DoD personnel and facilities have acted on behalf of or have been inspired by terrorist groups. We anticipate terrorist groups and sympathetic violent extremists will continue seek to establish relationships with individuals associated with DoD to collect information and conduct attacks. (Source: 2014 Defense Intelligence Agency Annual Threat Assessment)

Sources:

1. 2010 National Security Strategy Report is available on the White House website at: http://www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf
2. 2014 QDR is available on the DoD website at: http://www.defense.gov/pubs/2014_Quadrennial_Defense_Review.pdf
3. 2014 Defense Intelligence Agency (DIA) Annual Threat Assessment: http://www.dia.mil/Portals/27/Documents/News/2014_DIA_SFR_SASC_ATA_FINAL.pdf
4. 2014 Annual Reports to Congress are available on the DoD website at: http://www.defense.gov/pubs/2014_DoD_China_Report.pdf and http://www.defense.gov/pubs/North_Korea_Military_Power_Report_2013-2014.pdf
5. 2014 National Counterterrorism Center (NCTC) Counterterrorism (CT) Calendar: <http://www.nctc.gov/calendar.html>
6. Strategic Defense Reviews: <http://www.defense.gov>
7. Department of State Country Reports on Terrorism 2012 / Chapter 6 – Foreign Terrorist Organizations: <http://www.state.gov/j/ct/rls/crt/2012/209989.htm>

WEEK 19: U.S. NAVY ENLISTED PERSONNEL

I. Introduction

Enlisted Sailors in the modern Navy have a higher level of training and education than ever before. Many of our Sailors have acquired college credits and degrees either before entering the Navy or as a result of self-development. Today the Navy requires unprecedented technical proficiency and expertise in its enlisted Sailors. Officers are tasked with leading these motivated individuals and developing them into a cohesive team with mission accomplishment as the highest priority. Given the quality and diversity of these sailors, officers will find leading them both challenging and rewarding. The trust and professionalism shared between an officer and his or her Sailors starts with an appreciation and respect for the value of these individuals and a desire to know them beyond their productivity levels. Therefore, it is essential that each officer learn about his or her Sailors, how they are trained, and how they advance.

II. Rates, Rating, and Paygrade

Every member of the Navy is either nonrated, rated, or a commissioned officer. Men and women who enlist in the Navy begin as nonrated personnel. A combination of experience and specialized training will allow them to move into a rated category and then advance through a number of levels. Rated personnel are called “petty officers.” Nonrated and rated personnel together are referred to as “enlisted personnel.”

Paygrade

Everyone in the Navy has a paygrade. A paygrade defines a person’s relative standing in the Navy and, of course, determines how much money he or she is paid per month. A new enlisted recruit enters the Navy as an E-1, which is the first enlisted paygrade. Enlisted personnel advance through their paygrades by taking advancement exams (E-4 though E-7) and having their records evaluated by a selection board (E-7 through E-9).

Rating

A **rating** is an occupational specialty in the Navy. In order to qualify for a rating, a Sailor must work their way through the general apprenticeship levels (E-1 through E-3) or attend a service school. Personnel in paygrades E-1 through E-3 can be considered either designated or non-designated. Non-designated personnel pick one of three available Professional Apprenticeship Career Track (PACT) programs: Airman, Seaman, or Fireman. A PACT Sailor seeking to advance into a specific rating is considered a “striker” and is required to achieve a significant level of experience and training toward a particular rating to formally recognized as a “designated striker.” Once designated a formal rating abbreviation is added to the general rate and paygrade (i.e., BMSA, YNSR, etc...)

There are three categories of ratings: general, service, and emergency.

- General ratings are occupations for paygrades E-4 through E-9. Each general rating has a distinctive badge. Examples are OS, GM, ET.
- Service ratings are those general ratings that are subdivided into specific services. Examples are Gas-turbine systems Technician (GS), which is subdivided into GSE (electrical) and GSM (mechanical).
- Emergency Ratings can be created in times of war or national emergency and are ratings not normally needed by the Navy. There are currently no emergency ratings active today.

The following is a list of common ratings which you should know by name and abbreviation:

AB (Aviation Boatswain’s Mate)
AT (Aviation Electronics Technician)
AD (Aviation Machinist’s Mate)
AE (Aviation Electrician’s Mate)

IT (Information Systems Technician)
LN (Legalman)
LS (Logistics Specialist)
MA (Master-at-Arms)

AO (Aviation Ordnanceman)	MC (Mass Communications Specialist)
AS (Aviation Support Equipman Technician)	MM (Machinist's Mate)
AW (Aviation Warfare Systems Operator)	OS (Operations Specialist)
CS (Culinary Specialist)	QM (Quartermaster)
CT (Cryptologic Technician)	RP (Religious Programs Specialist)
DC (Damage Controlman) MU (Musician)	PS (Personnel Specialist)
ET (Electronics Technician)	SO (Special Warfare Operator)
EOD (Explosive Ordnance Disposal Technician)	UT (Utilitiesman)
GM (Gunner's Mate)	
HM (Hospital Corpsman)	
HT (Hull Technician)	

Rate

Petty Officers are identified by a combination of letters and/or numbers that represent the individual's paygrade and rating. This is known as an enlisted personnel's **rate**. The first two or three letters represent the general or service rating; the number or letter(s) following indicate the paygrade. An enlisted person who identifies him/herself as BM2 Smith, would be a Boatswain's Mate Second Class. The "BM" is the general service rating and the "2" indicates the paygrade of an E-5. Examples:

HM3	Hospital Corpsman Third Class (Petty Officer)
LN2	Legalman Second Class (Petty Officer)
OS1	Operations Specialist First Class (Petty Officer)
LSC	Chief Logistics Specialist
CTTCS	Senior Chief Cryptological Technician-Technical
MMC M	Master Chief Machinist Mate

Petty Officers

In the Navy, E-4 to E-6 personnel are considered non-commissioned officers (NCOs), and are specifically called Petty Officers in the Navy. Petty Officers perform not only the duties of their specific career field but also lead junior enlisted personnel. They take responsibility for their subordinates, address grievances, inform the chain of command on matters pertaining to good order and discipline, and may even have to place personnel on report. The title Petty Officer comes from the French word *petit* meaning small. In medieval England, villages had several "petite" or "petty" officers who were subordinate to major officials. Thus, Petty Officers are assistants to senior officers.

Chief Petty Officers

In the Navy, E-7 to E-9 personnel are senior NCOs collectively known as the Chief's Mess. Chiefs are specifically tasked, in writing, with the duty of training Junior Officers (Ensign, Lieutenant (j.g.), Lieutenant, and Lieutenant Commander). They have separate berthing and dining facilities (where feasible), wear khaki uniforms similar in appearance to a commissioned officer's, and perform separate duties from other enlisted Sailors. Advancement to Chief Petty Officer (E-7) or above requires a peer review by existing Chief Petty Officers beyond the normal examination score and performance evaluation process. The proper form of address to a Chief Petty Officer is "Chief", "Senior Chief", or "Master Chief".

Command Master Chief (CMC)

After obtaining Master Chief Petty Officer, service members may choose to further their career by becoming a Command Master Chief Petty Officer (CMC). A CMC is considered to be the senior-most enlisted service member within a command, and is the special assistant to the Commanding Officer in all matters pertaining to the health, welfare, job satisfaction, morale, utilization, advancement and training of the command's enlisted personnel. CMC insignia are similar to the insignia for Master Chief, except that the rating symbol is replaced by an inverted five-point star, reflecting a change in their rating.

III. Uniform Insignia

Enlisted personnel will wear rating badges or insignias on all uniforms with the exception of non-rated personnel when they wear utilities and coveralls. Insignias and badges with no rating specific markings will be worn on utilities or coverall for E-4 personnel and above. Personnel in paygrades E-7 through E-9 wear collar devices (i.e., gold anchors with USN and fouled chain). A Senior Chief will have one silver star above the anchor, and a Master Chief will have two silver stars. When wearing either the peacoat or outer jacket, rating badges or collar devices will be worn with the exception of non-rated personnel. An E-4 (Petty Officer Third Class) wears one chevron on his/her rating badge, an E-5 (Petty Officer Second Class) has two, and an E-6 (Petty Officer First Class) has three.

The insignia shown below depict that a Boatswain's Mate (BM). The crossed anchors below the "crow" identify the individual as a BM on the rating badge. Notice the star in the place of the anchors on the insignia of the Master Chief Petty Officer of the Navy. The star shows the individual is a CMC.

Non-Commissioned Officer and Enlisted Rate Structure of the United States Navy				
Master Chief Petty Officer of the Navy	Master Chief Petty Officer	Senior Chief Petty Officer	Chief Petty Officer	Petty Officer First Class
E-9	E-9	E-8	E-7	E-6
 	 	 	 	 
Petty Officer Second Class	Petty Officer Third Class	Seaman	Seaman Apprentice	Seaman Recruit
E-5	E-4	E-3	E-2	E-1
 	 	 	 	No insignia

Note: Personnel in paygrades E-3 and below are identified by their diagonal stripes and the color assigned to their prospective community.

General Apprenticeships

Seaman

Airman

Fireman

Hospital Corpsman

Constructionman

Color of Stripes

White on Black Background/

Black on White Background

Green Stripes on Black or White Background

Red Stripes on Black or White Background

White on Black Background/

Black on White Background

Light Blue Stripes on Black or White Background

IV. Naval Enlisted Classification (NEC) Codes

An NEC is a special code used to identify a skill, knowledge, aptitude, or qualification not included in general or service rating training. For example, not all Boatswain's Mates (BM) are qualified tugmasters. They would go through the qualification process and earn the NEC BM-0161. This tells the detailer – the administrative personnel at Navy Personnel Command (NAVPERSCOM) in Millington, TN, who match individuals to specific assignments (bils) in the Navy- that this particular Sailor can be assigned the tugmaster billet anywhere in the Navy. With few exceptions, NECs are assigned to personnel by the

Enlisted Personnel Management Center (EPMAC) in New Orleans. There are six type of NEC codes: entry series, rating series, special series, alphanumeric, numerical, and planning.

V. Service Schools

For some ratings, graduation from a particular service school is necessary for advancement. Selection for a service school depends on the rate, time in service, current duty assignment, school quotas, and the operational schedule of the Sailor's unit. The five types of enlisted service schools are:

- **Class A** – Provides the basic technical knowledge required for job performance and further specialized training. An NEC may be awarded to identify the skill.
- **Class C** – Advanced skills and techniques needed to perform a particular job are taught. An NEC may also be awarded to identify the level of skill.
- **Class E** – Designated for professional education leading to an academic degree.
- **Class F** – Trains fleet personnel who are en route to, or are members of ships' companies. Also provides individual training such as refresher, operator, maintenance, or technical training of less than 13 calendar days. A NEC is not awarded.
- **Class R** – This is the basic school that provides initial training after enlistment, also known as "boot camp" or "recruit training." It prepares the recruit for early adjustment to military life by inculcating basic skills and knowledge about military subjects. Class R schooling for all recruits is conducted at Recruit Training Center, Great Lakes, IL.

VI. Enlisted Advancement

Advancement in the Navy means greater responsibility, increased pride, better pay, and more privileges. Advancements to Petty Officer in the Navy are made through centralized competition. The general requirements are:

- Advancement to E-2 and E-3 is based on Time-In-Rate (TIR), 9 months in length, and performance.
- Advancement to E-4 through E-9 is based on a combination of time in service, TIR, awards, performance (evaluations), and score on the annual/semi-annual exams held in March and September for E-4 through E-6. For E-7 the advancement exam is held annually, in January. A selection board is convened in July and results are posted in early August. For E-8 and E-9, advancement is based on performance and board selection.
- Meet all appropriate citizenship or security clearance requirements for advancement in certain rates or ratings.
- Fulfill special requirements for certain ratings.
- Meet all physical readiness/body fat standards.
- Be recommended by the Commanding Officer.

Sources:

1. Enlisted Rating Insignia: http://www.navy.mil/navydata/navy_legacy_hr.asp?id=259
2. US Navy Ranks and Rates: <http://www.navy.mil/navydata/ranks/rankrate.html>
3. Navy Enlisted Promotion Chart: <http://usmilitary.about.com/od/navy/l/blpromchart.htm>
4. Chief Petty Officer Heritage: <http://www.history.navy.mil/faqs/faq46-1.htm>

APPENDIX A: IMPORTANT INFORMATION FOR MIDSHIPMEN INTERESTED IN A USMC COMMISSION **(Non-testable Material)**

I. Types of Orders

Operation Order Overview

The operations order provides a means of directing and influencing your unit to synchronize actions toward accomplishing a mission. The order consists of an orientation and five paragraphs. All five paragraphs work together to coordinate your resources into a plan on how you will reach the goal of mission accomplishment. Below are each of the five paragraphs, what kind of information they contain, and how they work together.

1. **Warning Order** – A warning order is a preliminary notice of an order or action which is to follow. It usually describes the situation, allocates forces and resources, establishes command relationships, provides other initial planning guidance, and initiates subordinate unit mission planning.
2. **Operation Order (OSMEAC)**
 - **Orientation** – Gives a brief description of the terrain you will be operating in. Understanding the impact terrain has on your movement and mission will help you to come up with a feasible solution.
 - **Situation** – This paragraph provides details on both friendly and enemy personnel operating in your area of operations.
 - **Mission** – A short statement containing five “W’s”. *When is Who, doing What, to Whom, and Why.* This information is useful in determining a course of action (COA).
 - **Execution** – This is where we communicate the plan (solution) for our problem (the mission) we are tasked to accomplish. We provide enough detail to direct how to accomplish the mission without being too detailed where we lose initiative from subordinates. We imply discretion to subordinates in determining how they accomplish their tasks.
 - **Administration & Logistics** – This paragraph focuses on medical issues, Enemy Prisoners of War handling, food, water, and ammunition needed to accomplish the mission. We remember the details involved in this portion using the four “B’s”: Beans, Bullets, Band-Aids, and Bad Guys.
 - **Command & Signal** – Concludes the order by discussing how events will be communicated throughout the operation. We will also discuss where key personnel are going to be located, and what the order will be for succession of command in the event of the unit leader becomes a casualty.
3. **Fragmentary Order (Frag O)** – A fragmentary order is an order that is usually issued on a day-to-day basis that eliminates the need for restating information contained in a basic operations order. Frag orders usually contain the mission (paragraph II) and execution (paragraph III), along with any other parts that have changed since the original order was issued.

II. The Orders Process

BAMCIS - The Marine Corps is tasked day to day or complex operations and uses the acronym BAMCIS as a guide to the six steps of troop leading procedures.

- **Begin Planning** – To plan the use of time, the Marine Corps uses reverse planning. Start with the last action for which time is given (i.e. time of attack) and work backward. A warning order will often be issued at the start of the planning process to allow unit members time to prepare for the upcoming operation.
- **Arrange for Reconnaissance** – Before the unit leader can complete the plan, assumptions about the enemy must be confirmed. A leader’s reconnaissance is arranged to confirm the unit leader’s estimate of the situation.

- **Make Reconnaissance** – This is the actual conduct, or execution, of the unit leader's reconnaissance of the enemy.
- **Complete Plan** – After the unit leader's estimate of the situation on the enemy has been either confirmed or denied (based off the actual reconnaissance made), the unit leader completes the plan.
- **Issue Order** – This will be the final order issued for the mission. The operation order (OSMEAC) can be written, but is issued orally.
- **Supervise** – Supervision is continuous and occurs throughout the entire combat orders process for a mission. The unit leader for that mission is ultimately responsible and accountable for mission accomplishment. "**Inspect what you expect.**"

III. USMC Leadership

Leadership Traits

Leadership traits are the qualities of character that everyone possesses in some capacity. Good leaders have developed these qualities as strengths. A good way to remember the 14 leadership traits is by the acronym "JJ DID TIE BUCKLE".

- **Justice** Giving reward and punishment according to the merits of the case in question. The ability to administer a system of rewards and punishments impartially.
- **Judgment** The ability to weigh facts and possible solutions on which to base sound decisions.
- **Dependability** The certainty of proper performance of duty.
- **Integrity** The uprightness and soundness of moral principles. The quality of truthfulness and honesty.
- **Decisiveness** The ability to make decisions promptly and announce them in a clear, forceful manner.
- **Tact** The ability to deal with others with respect.
- **Initiative** Taking action in the absence of orders.
- **Enthusiasm** The display of sincere interest and exuberance in the performance of duty.
- **Bearing** The creating of a favorable impression in carriage, appearance, and personal conduct at all times.
- **Unselfishness** Avoidance of providing for one's own comfort and personal advancement at the expense of others.
- **Courage** The mental quality that recognizes fear of danger or criticism, but enables a man to proceed in the face of it with calmness and firmness.
- **Knowledge** The understanding of a science or an art. The range of one's information.
- **Loyalty** The quality of faithfulness to country, Corps, seniors and subordinates.
- **Endurance** An individual's mental and physical stamina measured by the ability to withstand pain, fatigue, stress, and hardship.

Leadership Principles

Leadership principles are time tested and proven guidelines of leadership.

1. **Know Yourself And Seek Self Improvement** – Evaluate yourself by using the leadership traits and determine your strengths and weaknesses. Work to improve your weaknesses and utilize your strengths.
2. **Be Technically And Tactically Proficient** – As a Marine, you must demonstrate your ability to accomplish the mission, and to do this you must be capable of answering questions and demonstrating competence in your MOS. Respect is the reward of the Marine who shows competence.
3. **Seek Responsibility And Take Responsibility For Your Actions** – For professional development, you must actively seek out challenging assignments. You must use initiative and sound judgment when trying to accomplish jobs that are not required by your grade. Seeking responsibilities also means that you take responsibility for your actions.
4. **Make Sound And Timely Decisions** – The leader must be able to rapidly estimate a situation and make a sound decision based on that estimation. Hesitation or a reluctance to make a decision

- leads subordinates to lose confidence in your abilities as a leader. Loss of confidence in turn creates confusion and hesitation within the unit.
5. **Set The Example** – Your appearance, attitude, physical fitness, and personal example are all watched by the Marines in your unit. If your personal standards are high, then you can rightfully demand the same of your Marines. If your personal standards are not high you are setting a double standard for your Marines, and you will rapidly lose their respect and confidence.
 6. **Know Your Marines And Look Out For Their Welfare** – Knowledge of your Marines' personalities will enable you, as the leader, to decide how to best handle each Marine and determine when close supervision is needed.
 7. **Keep Your Marines Informed** – To promote efficiency and morale, a leader should inform the Marines in his unit of all happenings and give reasons why things are to be done. This, of course, is done when time and security permit. Informed Marines perform better and, if knowledgeable of the situation, can carry on without your personal supervision.
 8. **Develop A Sense Of Responsibility Among Your Subordinates** – Assigning tasks and delegating the authority to accomplish tasks promotes mutual confidence and respect between the leader and subordinates. It also encourages the subordinates to exercise initiative and to give wholehearted cooperation in the accomplishment of unit tasks.
 9. **Ensure That Tasks Are Understood, Supervised and Accomplished** – You must communicate your instructions in a clear, concise manner. Before your Marines start a task, allow them a chance to ask questions or seek advice. Supervision is essential. Allow subordinates to use their own techniques, and then periodically check their progress.
 10. **Train Your Marines As A Team** – Every waking hour Marines should be trained and schooled, challenged and tested, corrected and encouraged with perfection and teamwork as a goal. Train with a purpose and emphasize the essential element of teamwork.
 11. **Employ Your Command In Accordance With Its Capabilities** – Seek out challenging tasks for your unit, but be sure that your unit is prepared for and has the ability to successfully complete the mission.

IV. USMC Military Occupational Specialties (MOS)

MOS Description	Notes
Adjutant	
Ground Intelligence	Male Only
Human Source Intelligence	
Signals Intelligence	
Aviation Intelligence	
Infantry	Male Only
Logistics	
Communications	
Artillery	Male Only
Combat Engineer	
Tanks Officer	Male Only
Assault Amphibious Vehicle Officer	Male Only
Ground Supply	
Financial Management	
Public Affairs	
Military Police	
Aircraft Maintenance	
Aviation Supply	
Low Altitude Air Defense Officer	Male Only
Air Support Control Officer	
Air Defense Control Officer	
Air Traffic Control Officer	

IV. History

Lebanon

On 25 August 1982, Marines landed in Beirut, Lebanon. The country was engaged in an intense civil war between various political factions. The Marines mission was to help evacuate the Palestine Liberation Organization (PLO) to help stabilize the situation. By 31 August, all of the PLO members were evacuated from the city of Beirut. After completing their mission, the Marines departed the city.

When the civil war worsened, the Marines returned to Lebanon and conducted a combined surface and helicopter landing into the Beirut International Airport. On 23 October 1983 the Marine barracks at the Beirut International Airport was bombed. At 0622 that Sunday morning, a suicide terrorist drove a five-ton truck loaded with explosives into the lobby of the Marine barracks. The resulting explosion leveled the four-story building used by the Marines as a barracks and headquarters. 241 Marines and Sailors died in the attack.

Grenada

In October 1983, President Reagan ordered a joint Marine and Army force to land on the small Caribbean island of Grenada. The President was concerned about the safety of American lives and the deteriorating political situation.

Operation URGENT FURY began at 0500 on 25 October. Marines landed ashore in order to rescue American medical students held captive in Grenada. By 28 October, all organized resistance had ceased and the mission was accomplished.

Panama

Relations between Panama's leader Manuel Noriega and the US government deteriorated in the 1980's due to his alleged drug involvement and election fraud.

On 20 December 1989, President Bush ordered US forces to invade Panama and to apprehend Manuel Noriega. This operation was named Operation JUST CAUSE. The mission had several objectives: To install the rightfully elected officials in the Panamanian government, to apprehend Noriega and bring him to justice, and to restore peace to the Panamanian people.

Marine and Army units searched Panama City for days trying to capture the evasive Noriega. Noriega sought refuge in the Vatican embassy, which was then surrounded by US forces. After a 12-day stalemate and through the use of psychological warfare, Noriega surrendered to American forces. After Noriega's deportation, the duly elected government was installed as the ruling government of Panama.

Persian Gulf War

On 2 August 1990, Iraqi President Saddam Hussein ordered his armed forces to invade its southern neighbor Kuwait. Immediately, President Bush ordered a military buildup in the region in concert with the government of Saudi Arabia to halt further aggression by Hussein.

The deployment of US forces was called Operation DESERT SHIELD. During "Desert Shield", Marines at sea helped enforce a maritime blockade of Iraqi shipping. The Navy and Marine Corps team conducted many highly publicized amphibious "rehearsals" to show the Iraqis their capabilities. Because of these demonstrations, the Iraqis committed three divisions to defending the Kuwaiti coast against an amphibious landing.

Coalition forces, headed by the US armed forces took up positions in the Persian Gulf and the surrounding countries.

In January 1991 the war began. The US first established air supremacy and then started the ground campaign. The 1st and 2d Marine Divisions' mission was to conduct a frontal attack through two Iraqi minefield/obstacle belts. The Marine forces at sea executed an amphibious demonstration, done to divert Iraqis' attention to the fake amphibious landing. The Army was then able to hit the Iraqis with a "left hook", advancing around their left flank deep into Iraq. The abandoned Saudi frontier town of Al-Khafji was the site of the first ground engagement with Iraqi forces.

Operation DESERT STORM was a success. The 100-hour battle proved the lethal effectiveness of our well-trained and disciplined Marines.

Somalia

Somalia is an East African nation that lost half a million people to starvation and drought in the late 1980's. Somalia's government disintegrated after an uprising of armed warrior clans began in the north in 1988. By 1991, anarchy reigned as fourteen clans vied for control.

The Marines landed in Mogadishu on 9 December 1992. Their mission was to secure the port complex, airport, and the abandoned US Embassy. Once ashore, Marines broke the gridlock of food distribution and established humanitarian relief sectors in central and southern Somalia. By 1993 the Marines successfully stopped the widespread starvation. The UN took command of the operation and the Marines withdrew.

After a two-year absence, the Marines returned in 1995 during Operation UNITED SHIELD. The UN failed to restore order to Somalia so they called on the US to help withdraw UN forces from the country. The Marines were engaged in 27 firefights during the evacuation of UN forces.

Humanitarian and disaster relief

Humanitarian and disaster relief operations were also conducted by Marines during 1998 in Kenya, and in the Central American nations of Honduras, Nicaragua, El Salvador, and Guatemala. In 1999, Marine units deployed to Kosovo in support of Operation ALLIED FORCE. In December, 2004, a tsunami struck numerous nations in the Indian Ocean region killing more than 150,000 and causing enormous devastation. Marine units from were immediately deployed to Thailand, Indonesia, and Sri Lanka to assist in disaster relief operations. In September and October of 2005, nearly 3,000 Marines and sailors conducted search and rescue, humanitarian relief, and disaster recovery operations in Louisiana and Mississippi in the aftermath of hurricanes Katrina and Rita.

Sources:

1. MCRP 6-11B Marine Corps Values: A User's Guide for Discussion Leaders

APPENDIX B: ADDITIONAL INFORMATION FOR THE CIVIL ENGINEER CORPS

(Non-testable Material)

History

The U.S. Navy Civil Engineer Corps (CEC) was established in 1867 to build and maintain the naval shore establishment. Its officers are the Navy's uniformed professional engineers and architects responsible for executing and managing the planning, design, construction, operation, and maintenance of the Navy's shore infrastructure. Before 1941, the CEC used private contractors to accomplish all overseas construction. However, after the attack on Pearl Harbor the need for a militarized construction force was realized because international law does not permit civilians to resist enemy military attacks. Military construction forces made up of highly skilled military personnel, schooled in both construction and defensive combat were formed into Construction Battalions and given the name "Seabees". All officers and enlisted personnel assigned to any of the Naval Construction Force (NCF) units are considered Seabees.

Rear Admiral Moreell, who established the first battalions, gained an exception to Navy policy granting Civil Engineer Corps officers command authority over the enlisted Seabees, making CEC officers the only restricted line officers with command authority in combat situations. Rear Admiral Morell also gave the Seabees their official motto "Construimus, Batuimus" - "We Build, We Fight." Seabees may be deployed around the world to perform contingency construction, provide humanitarian relief, support amphibious operations, or accomplish important construction tasks.



Core Competencies

CEC officers develop three core competencies:

- Warfare Qualification – they develop warfighting skills required to achieve qualification as Seabee Combat Warfare Specialist.
- Professional Engineering License – they are required to achieve licensure as professional engineers (PEs) or registration as a registered architect.
- Certified Acquisition Professional – As construction project managers, they are required to pursue certification as acquisition professionals under the Defense Acquisition Workforce Improvement Act.



CEC officers serve mainly in Naval Facilities Engineering Command (NAVFAC) or the Naval Construction Force (NCF) in three general areas:

- Public works
- Construction contract management
- Civilian contractor oversight

CEC officers typically provide acquisition for military contracts (MILCON), engineering planning, design engineering, project management, environmental engineering support, construction contracting, and operations and maintenance for shore-based and ocean facilities to the Navy, the Marine Corps, Unified Commanders, and DoD Agencies.

Additional sources:

1. Naval Civil Engineer Operations (NWP 4-04)
2. Seabee Operations in the MAGTF (NTTP 4-04.1)
3. Doctrinal Reference for Naval Construction Forces (NTTP 4-04.2.1)

4. Joint Engineering Operations (JP 3-34)
5. Seabee Combat Handbook, Vol. 1 (NAVEDTRA 14234)
6. Seabee Combat Handbook, Vol. 2 (NAVEDTRA 14235)
7. Blue Jackets Manual (BJM)
8. Foreign Humanitarian Assistance/Disaster Relief Handbook (FHA/DR Handbook)
9. <http://www.history.navy.mil/faqs/faq67-1.htm>
10. Naval Construction Force (Seabees) Fact Sheet
(http://www.public.navy.mil/necc/hq/PublishingImages/NECC%20fact%20sheets/NECC_SEABE_ES2_FactSheet2012.pdf)
11. NAVFAC Fact Sheet (<https://www.navfac.navy.mil/content/dam/navfac/PDFs/factsheets/navfac-fact-sheet.pdf>)
12. NECC Fact Sheet (<http://www.necc.navy.mil/>)
13. NAVFAC Strategic Plan (https://www.navfac.navy.mil/about_us/navfac_strategic_plan_2013to2016.html)