

JANUARY 2011

ALLHANDS

MAGAZINE OF THE U.S. NAVY



Owners + Operators
MANUAL 2011

Owners + Operators

MANUAL 2011

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* Fold-out poster of Enlisted Ratings, Warfare Pins, Armed Forces Ranks, Order of Precedence and Devices included.

1 MESSAGE FROM THE CNO

It is my pleasure to introduce the new “Owners and Operators” edition of *All Hands* magazine for 2011. It serves as a reference for the fleet, our wider Navy family and those who maintain an interest in what we do to protect our nation’s interests, I hope you find it a useful resource wherever you serve or live.

As the Chief of Naval Operations, it has been my privilege and true pleasure to witness every day the undeniable good you deliver across the globe. You demonstrate the depth of American compassion and the strength of American resolve at a time when American leadership in the world is needed. On a daily basis, you epitomize the honor, courage and commitment that have defined our Navy for 235 years – qualities that continue to make us the most formidable seagoing service the world has ever known. You are the finest Sailors with whom I’ve ever served, and I have been honored to serve alongside you.

Today, you or your shipmates are forward deployed and engaged around the world, executing the full range of core capabilities defined in our Maritime Strategy. It was written three years ago, but is more relevant today than ever. Our Navy demonstrates the speed, agility and flexibility required by a nation with global interests in a time of increasing uncertainty.

On any given day, more than 40,000 Sailors are deployed and almost half of our 287 ships, submarines, and aircraft are underway around the world. As we have throughout our history, America’s Navy goes wherever America’s interests are. So today, more than 15,000 Sailors serve on the ground in the Middle East, and another 14,000 serve at sea in the region. At the same time, we recognize our nation’s interests extend far beyond our current campaigns in Iraq and Afghanistan.

Our Navy is conducting ballistic missile defense in the Mediterranean and the Sea of Japan, providing proactive humanitarian assistance in Central America, carrying out maritime security operations off the coast of Africa, and assuring friends and allies in the waters of the Indian Ocean and Western Pacific.

We remain committed to ensuring the dominance of our Navy tomorrow, the readiness of our fleet today and the well being of our Sailors, Navy civilians and families always.

This past year, the Navy achieved significant progress within these focus areas: We deployed USS *Freedom* (LCS 1) nearly two years early, commissioned new SSNs, DDGs and T-AKEs, and started construction of the first Navy Joint High Speed Vessel. We accepted fleet delivery of the Advanced *Hawkeye* airborne early warning aircraft and began purchasing in numbers the most advanced electronic warfare aircraft in the world. We set a new world record with our electromagnetic railgun, and conducted the first ever flight of an aircraft at supersonic speed using biofuels.

We proved crucial to international disaster relief efforts after the devastating earthquake in Haiti and the massive flooding in Pakistan. In a historic milestone, female Sailors will join the submarine community for the first time in our Navy. We continue to improve on a strong record of diversity in our accessions, and enjoyed the strongest recruitment and retention in our history. We opened 1,500 new child care spaces with another 3,500 planned in the coming year, and our Navy was distinguished as the first organization ever to win consecutive *Workforce Magazine* Optimas Awards. These are significant accomplishments, and I know even greater ones are ahead.

My CNO guidance and its 18 intentions continue to guide our course and enable us to be confident of our progress in a crucial period for our Navy and nation. This year, I emphasize the following five intentions: (1) continue to be the dominant, ready naval force across all maritime missions, (2) build a Navy with appropriate force structure and strategic laydown, (3) achieve decision superiority, (4) align the requirements, resources and acquisition processes and (5) evolve and establish international relationships.

There are great challenges today, but in every challenge there are opportunities available to those who take bold action. You continue to inspire all with your ingenuity, your extraordinary professionalism and your dedication to each other. You make us the world’s finest Navy, and I thank you for your service to our great nation.

— Adm. Gary Roughead
Chief of Naval Operations

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Secretary of the Navy
The Honorable Ray Mabus

Chief of Naval Operations
Adm. Gary Roughead

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Rear Adm. Dennis Moynihan

**DEFENSE MEDIA ACTIVITY -
ANACOSTIA**

Chief of Production
Dennis Casaday

Chief of Publishing
Lt. Cmdr. Ohene Gyapong

Navy Liaison Officer
Lt. Reagan Balsamo

EDITORIAL
Editor

Marie G. Johnston

Assistant Editor/LCPO
MCCS(SW/AW) Ernest W. Frazier
MCC(SW/AW) AnTuan D. Guerry

LPO

MC1(SW/AW) Andrew Meyers

Photo Editor

MC2(EXW) Todd Frantom

Staff

MC1 Bruce Cummins
MC2 William Blake
MC2(AW) Jonathan Hutto Sr.
MC3(SW) Mikelle Smith
MC3 Shannon Burns

LAYOUT AND DESIGN

Art Director
Tim Mazurek

Illustration
Robb Gensic



[On the Front Cover]

Photo by MC2 James R. Evans

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NAVY COMPONENT'S

Numbered Fleets

The map depicts the unified commands' Areas of Operation (AO). The Navy supports regional unified commands with component commands and numbered fleets.

U.S. Fleet Forces Command

Headquarters: Norfolk

Mission: U.S. Fleet Forces (USFF) organizes, mans, trains and equips Navy forces. USFF is the Navy component commander providing direct support to U.S. Joint Forces Command, U.S. Northern Command and U.S. Strategic Command.

USFF's other primary responsibilities include determining and providing future and current needs of the fleet for warfighting and readiness capabilities to the Chief of Naval Operations. USFF strives to have an effectively prepared total Navy force by building a fleet with speed, endurance, global reach, unique capabilities

and the operational agility to give a range of options to regional combatant commanders.

U.S. Pacific Fleet

Headquarters: Pearl Harbor

Mission: U.S. Pacific Fleet (PACFLT) operates in support of the U.S. Pacific Command (PACOM) theater security strategy and provides interoperable, trained and combat-ready naval forces to PACOM and other U.S. combatant commanders as required. In addition to these traditional Title X responsibilities, PACFLT has a vital operational role as Commander, Joint Task Force 519. This mission requires PACFLT to not only maintain the training and readiness of the Joint Task Force Headquarters staff, but to also command the joint force during times of conflict, crisis or war.

As part of the nation's Maritime Strategy, PACFLT conducts humanitarian assistance and disaster relief efforts. Pacific Partnership is an annual mission by PACFLT involving partner nations, nongovernmental organizations and other groups working to provide medical and dental care, school and hospital repairs.

PACFLT provides forward presence, deterrence, sea control, power projection and security for the Pacific Ocean, the world's largest maritime domain, covering one-third of the world's surface.

U.S. 2nd Fleet

Headquarters: Norfolk

Mission: U.S. 2nd Fleet exercises delegated operational control and administrative control of assigned ships, aircraft and landing forces. U.S. 2nd Fleet Fleet plans for and, when directed, conducts maritime,

joint and combined operations in support of designated unified and allied commanders.

U.S. 2nd Fleet Fleet trains, certifies and provides maritime forces to respond effectively to global contingencies.

AO: North Atlantic Ocean

Flagship: Rotational

U.S. 3rd Fleet

Headquarters: San Diego

Mission: U.S. 3rd Fleet delivers combat-ready naval forces, executes fleet operations and defines future fleet requirements to deter aggression, preserve freedom of the seas and promote peace and security.

AO: Pacific Ocean from the North Pole to the South Pole and from the continental West Coast to the International Date Line.

U.S. Naval Forces Southern Command/U.S. 4th Fleet

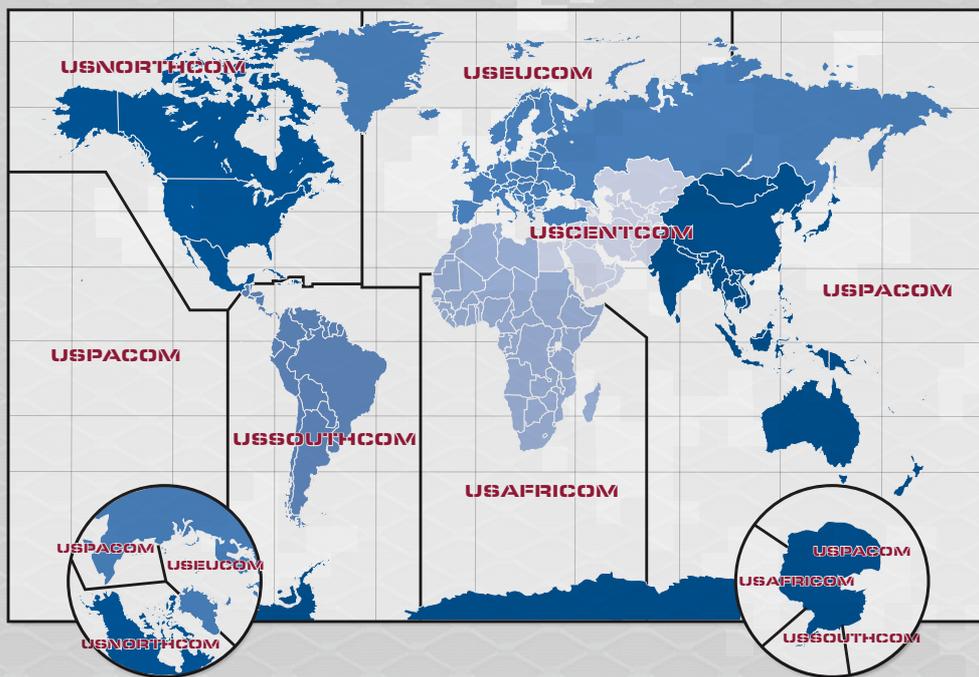
Headquarters: Mayport, Fla.

Mission: U.S. Naval Forces Southern Command (NAVSO) is the Navy component commander for U.S. Southern Command (SOUTHCOM), which is headquartered in Miami. U.S. 4th Fleet is the numbered fleet assigned to NAVSO. NAVSO/4th Fleet directs U.S. Navy forces operating in the SOUTHCOM AO and interacts with Caribbean, Central and South American civil forces and navies to shape the maritime environment.

Through theater security cooperation, NAVSO/4th Fleet work to build and strengthen relations, develop partner nation capabilities and maintain maritime access to defend southern approach to the United States in support of the Maritime Strategy.

NAVSO/4th Fleet also provides operational control for U.S. Navy units supporting joint and interagency efforts in counter-illicit trafficking operations and efforts to stem the flow of illegal migration.

AO: Caribbean Sea, Eastern Pacific and South Atlantic waters surrounding 31 countries and 12 dependencies, and covering about 15.6 million square miles.



U.S. Naval Forces Central Command/ U.S. 5th Fleet/Combined Maritime Forces

Headquarters: Manama, Bahrain

Mission: U.S. Naval Forces Central Command (COMUSNAVCENT)/5th Fleet is the naval component command for U.S. Central Command that conducts maritime operations to help ensure security and stability throughout the region, promotes U.S. interests, prevents regional conflict and defeats our adversaries.

COMUSNAVCENT acts in concert with other Central Command components, Combined Maritime Forces and joint task forces to deter destabilizing activities and promote a lawful maritime order in the Central Command AO.

U.S. and coalition forces conduct missions in support of Operations Enduring Freedom and Iraqi Freedom as well as maritime security operations in the Arabian Gulf, Arabian Sea, Red Sea and off the coast of Somalia.

Operations in the NAVCENT area are focused on reassuring regional partners of the United States' commitment to security, that promotes stability and global prosperity. These operations protect maritime infrastructure, deter and disrupt piracy, prevent drug and weapons smuggling and deny violent extremists use of the maritime environment as a venue for attack.

AO: Approximately 5 million square miles, including the Arabian Gulf, Gulf of Oman, Arabian Sea, Gulf of Aden, Red Sea and parts of the Indian Ocean. This expanse, comprised of 22 countries, includes three critical chokepoints at the Strait of Hormuz, the Suez Canal and the Strait of Bab al Mandeb at the southern tip of Yemen.

U.S. Naval Forces Europe/Naval Forces Africa/U.S. 6th Fleet

Headquarters: Naples, Italy

Mission: U.S. Naval Forces Europe/Naval Forces Africa/U.S. 6th Fleet (CNE-C6F) is the maritime arm of European Command (EUCOM) and Africa Command (AFRICOM) responsible for supporting the Military Strategy and the strategic objectives of EUCOM, AFRICOM and the chief of naval operations. CNE-C6F

provides overall command, operational control and coordination of U.S. naval forces in the EUCOM and AFRICOM areas of responsibility.

By providing presence with a purpose, CNE-C6F follows a peacetime engagement plan focusing on exercises and operations that improve interoperability and increase regional maritime security among European and African nations.

U.S. naval forces in Europe and Africa remain committed to building emerging partnerships' maritime safety and security capabilities while positively shaping the environment "south and east" to deny maritime criminals, terrorists or any other destabilizing element freedom of action.

AO: More than 21 million square miles including 92 countries and territories and a population of more than 1 billion people. This territory extends from the Cape of Norway through the waters of the Baltic, Black and Mediterranean Seas, most of Europe, parts of the Middle East to the Cape of Good Hope in South Africa.

Flagship: USS *Mount Whitney* (LCC/JCC 20)

U.S. 7th Fleet

Headquarters: Yokosuka, Japan

Mission: The U.S. 7th Fleet operates in the largest area of responsibility of the Navy's numbered fleets. U.S. naval forces have maintained a continuous forward presence in this region for more than a century and a half, directly supporting U.S. national interests, upholding key alliances and expanding maritime partnerships. The U.S. 7th Fleet uses both forward and rotationally deployed ships, aircraft, submarines and other maritime forces independently or as part of a joint, combined or multinational force, executing military operations across the spectrum, from major combat operations to humanitarian assistance and disaster relief.

U.S. 7th Fleet Fleet forces operate in the region on a continuous basis and obtain critical "local knowledge" – increasing opportunities to train and operate with our allies, friends and partners, while allowing for rapid response to any crisis, natural or manmade. The 7th Fleet

AOR is home to more than 50 percent of the world's population, speaking more than 3,000 languages and includes two of the world's largest economies (China and Japan).

AO: Covers 48 million square miles of the Pacific and Indian Oceans, from the International Date Line to the waters east of Africa, and from the Kuril Islands in the north to the Antarctic in the south, including 39 coastal nations.

Flagship: USS *Blue Ridge* (LCC 19)

U.S. Fleet Cyber Command/U.S. 10th Fleet

Headquarters: Fort George G. Meade, Md.

Mission: U.S. Fleet Cyber Command (FLTCYBERCOM) is the Navy's service component to U.S. Cyber Command (USCYBERCOM), and will execute the operational missions assigned to the Navy by U.S. Strategic Command and USCYBERCOM. As the Navy's principal point of action for cyber warfare, information operations and space, to include computer network operations, U.S. 10th Fleet (C10F) will partner with and support other fleet commanders to provide guidance and direction to ensure coordinated, synchronized and effective preventative and response capability in cyberspace.

FLTCYBERCOM/C10F unifies the Navy's ability to implement DoD cyberspace policy and strategy at the convergence of sea power and cyber power as well as increases our ability to prevent and respond to cyber threats. It brings unity of effort for cyberspace integration into planning and operations to support commanders' warfighting requirements by creating capabilities that complement kinetic options.

FLTCYBERCOM/C10F works closely with Joint and interagency partners to develop offensive and defensive cyberspace capabilities, infrastructure, experience and access, posturing our Navy to reduce risks associated with cyber threats while at the same time offering opportunities for the Navy to continue leverage the advantages of cyberspace.

AO: Worldwide

Commander, Navy Installations Command

United States

California

Naval Air Weapons Station
(NAWS) China Lake
Naval Air Facility (NAF) El Centro
Naval Air Station (NAS) Lemoore
Naval Base (NAVBASE) Coronado
NAVBASE Ventura County – Point Magu
NAVBASE San Diego
Naval Weapons Station (NWS) Seal Beach
Naval Support Activity (NSA) Monterey
NAVBASE Point Loma

Connecticut

Naval Submarine Base
(SUBASE) New London

District of Columbia

(Naval District Washington)
NSA Bethesda
Naval Magazine (NAVMAG) Indian Head
NSA Washington
Joint Base Anacostia-Bolling
NSA South Potomac- Dahlgren

Florida

NAS Jacksonville
NAS Key West
NAS Whiting Field
NAS Pensacola
Naval Station (NAVSTA) Mayport
NSA Panama City
NSA Orlando

Georgia

NAS Atlanta
SUBASE Kings Bay
NSA Athens

Hawaii

Joint Base Pearl Harbor-Hickam
Pacific Missile Range Facility Barking Sands

Illinois

NAVSTA Great Lakes

Indiana

NSA Crane

Louisiana

NAS Joint Reserve Base (JRB) New Orleans
NSA New Orleans

Maine

NAS Brunswick

Maryland

NAS Patuxent River
NSA Annapolis

Mississippi

Naval Construction Battalion
Center Gulfport
NAS Meridian

New Hampshire

Naval Shipyard (NSY) Portsmouth

Nevada

NAS Fallon

New Jersey

NWS Earle

New York

NSA Saratoga Springs

Pennsylvania

NAS JRB Willow Grove
NSA Mechanicsburg

Puerto Rico

Naval Activity Puerto Rico

Rhode Island

NAVSTA Newport

Tennessee

NSA Mid-South Millington

Texas

NAS Corpus Christi
NAS JRB Fort Worth
NAS Kingsville
NAVSTA Ingleside

Virginia

Joint Expeditionary Base Little
Creek-Fort Story
NAS Oceana
NAVSTA Norfolk
NSA Norfolk, North Annex
NWS Yorktown
NSA Norfolk Naval Shipyard
Cheatham Annex
NSY Norfolk-Portsmouth

Washington State

NAS Whidbey Island
NAVBASE Kitsap
NAVSTA Everett

Worldwide

Bahrain

NSA Bahrain

Cuba

NAVSTA Guantanamo Bay

Diego Garcia

Navy Support Facility Diego
Garcia Indian Ocean

Djibouti

Camp Lemonnier, Djibouti

Greece

NSA Souda Bay

Guam

NAVBASE Guam
NSA Anderson

Italy

NAS Sigonella
NSA Naples

Japan

NAF Atsugi
NAF Misawa
Commander Fleet Activities
(CFA) Yokosuka
CFA Sasebo
CFA Okinawa

Korea

CFA Chinhae

Singapore

Singapore Area Coordinator

Spain

NAVSTA Rota

(Source: CNIC) 

Photo by MC1 Jason Swink

5 FLEET AND FAMILY SUPPORT



- Relocation Assistance
 - Clinical Counseling Services
 - Family Advocacy
 - Exceptional Family Member
 - Sexual Assault Victim Intervention Sexual Assault Prevention and Response (SAPR)
 - Life Skills Workshops
 - Emergency Response/Community Alliance Services
 - Child & youth programs provide child development spaces worldwide for Navy families.
- To submit an online request for care, go to www.mwr.navy.mil, click on “Child and Youth” and “I need Childcare.”
- For more information about these and other programs go to www.ffsp.navy.mil.

Fleet Readiness

Fitness, Sports and Deployed Forces

The Navy’s Morale, Welfare and Recreation (MWR) services offer programs to help Sailors shape up and stay fit. Among these programs are:

- Deployed Forces Support program
- Deployed Forces Support Coordinators
- The Navy’s MWR Civilian Afloat program (fit bosses/fun bosses)
- All-Navy Sports program

More information can be found at www.mwr.navy.mil.

Housing

The CNIC Housing program is focused on ensuring that all eligible accompanied and unaccompanied personnel have an opportunity to be housed suitably, affordably and safely in the community, in privatized housing or in government-managed housing.

To learn more about the CNIC Housing program go to www.cnic.navy.mil/CNIC_HQ_Site/WhatWeDo/FleetandFamilyReadiness/Housing/index.htm.

To find Navy installation-specific housing information go to the One-Stop website at www.housing.navy.mil/onestop/Default.aspx.

(Source: CNIC) 

The Fleet & Family Readiness (FFR) program at Commander, Navy Installations Command (CNIC) is responsible for policy development, resourcing and oversight of quality-of-life programs for Sailors and their families. FFR enables a ready Navy force through programs such as family readiness, fleet readiness and housing programs.

Family Readiness

More than 80 Fleet and Family Support Centers throughout the fleet provide Sailors and their families access to services, resources, counseling and education.

Programs include:

- Deployment Support
- Ombudsman Support
- Personal Financial Management
- New Parent Support Home Visitation
- Transition Assistance
- Family Employment Readiness



Photo by MC2 Kenneth W. Robinson



Photo by MC2 Canifce Villarreal

Bureau of Medicine and Surgery

The Navy Bureau of Medicine and Surgery (BUMED) is the headquarters command for Navy medicine. Under the leadership of the Navy Surgeon General, Vice Adm. Adam M. Robinson Jr., Navy medicine provides high quality health care to beneficiaries in wartime and in peacetime. Highly trained Navy medicine personnel deploy with Sailors and Marines worldwide - providing critical mission support aboard ship, in the air, under the sea and on the battlefield. At the same time, Navy Medicine's military and civilian health care professionals are providing care for uniformed services' family members and retirees at military treatment facilities around the globe. Every day, no matter what the environment, Navy Medicine is ready to care for those in need, providing world class care, anytime, anywhere.

Navy Medicine's Global Force for Good

Our humanitarian assistance/disaster response missions in direct support of the Maritime Strategy are continually expanding due to their consistent success. Nowhere has this been more evident than in USNS *Comfort's* (T-AH 20) mission in Haiti following the January 2010 earthquake. The lifesaving and life changing service Navy medicine provided the Haitian people, while simultaneously maintaining the highest standards of patient and family-centered care for Sailors and family members at home cannot be over emphasized. Operation *Unified Response* illustrates without a doubt that we truly are a "global force for good."

Navy medicine not only responds to disasters around the world and at home, but also conducts proactive humanitarian missions in places as far reaching as Africa through *Africa Partnership Station* to the Pacific Rim through *Pacific Partnership* and South America through *Continuing Promise*. USNS *Mercy's* (T-AH 19) recent deployment in support of *Pacific Partnership 2010*, now the fifth annual Pacific Fleet proactive humanitarian assistance mission, is strengthening ongoing relationships with host and partner nations in Southeast Asia and Oceania. The Navy's hospital ships are executing the

Maritime Strategy by building the trust and cooperation needed to strengthen regional alliances and empower partners around the world. With each successful deployment, the Navy increases its interoperability with host and partner nations, non-governmental organizations and the interagency.

Regional Medical Commands, Hospitals

National Naval Medical Center, Bethesda, Md.
Naval Medical Center (NMC) Portsmouth, Va.
NMC San Diego

Other facilities include:

Nine CONUS Naval Hospitals
Seven OCONUS Naval Hospitals
Eight CONUS Naval Health Clinics
Two OCONUS Naval Health Clinics
119 Branch Medical Clinics
Six CONUS Dental Clinics
Two OCONUS Dental Clinics
Six CONUS Research Commands
Three OCONUS Research Commands
Five DoD Health Care Schools

Military Sealift Command Hospital ships:

USNS *Mercy* (T-AH 19), homeport San Diego
USNS *Comfort* (T-AH 20), homeport Baltimore

Navy Medicine Resources

National Intrepid Center of Excellence (NICoE)

The National Intrepid Center of Excellence (NICoE), dedicated June 24, 2010, is an advanced facility dedicated to research, diagnosis and treatment of military personnel and veterans suffering from mild traumatic brain injury (mTBI) and psychological health issues.

The NICoE is a 72,000 square foot, two-story facility located on the Navy campus at Bethesda, adjacent to the new Walter Reed National Military Medical Center. It is designed to provide the most advanced services for advanced diagnostics, initial treatment plan and family

Dentists: 1,275
Active Duty: 1,015
Reservists: 260

Medical Service Corps: 2,746
Active Duty: 2,417
Reservists: 329

Nurses: 3,965
Active Duty: 2,860
Reservists: 1,105

Hospital Corpsmen: 29,626
Active Duty: 24,367
Reservists: 5,259

education, introduction to therapeutic modalities, referral and reintegration support for military personnel and veterans with mTBI, post traumatic stress disorder, and/or complex psychological health issues. Further, the NICoE conducts research, tests new protocols and provides comprehensive training and education to patients, providers and families while maintaining ongoing telehealth follow-up care across the country and throughout the world.

The Navy was appointed the executive agent of the NICoE Aug. 10, 2010, by DoD and has been treating patients since October 2010.

Operational Stress Control Resources

Navy Operational Stress Control (OSC) is a program supported by Navy Medicine. The foundation of OSC is the Stress Continuum Model, that provides Sailors, leaders and family members a visual tool for assessing stress responses and practical steps to take to mitigate stress injuries. For more information, visit <https://www.nko.navy.mil/portal/perationstresscontrol/operationalstresscontrol>.

The Naval Center for Combat and Operational Stress Control was created to improve the psychological health of Navy and Marine Corps forces through training, education, care system improvement and facilitating research and information distribution. For more information see, www.nccosc.navy.mil

OSCAR Teams

The Marine Corps, in collaboration with Navy Medicine, has deployed the Operational Stress Control and Readiness (OSCAR) program which embeds psychological health professionals within operational units. OSCAR provides early intervention and prevention support throughout all of the phases of deployment. The OSCAR program is now available at all three active Marine divisions.

Each OSCAR team consists of two mental health providers and two specially trained psychiatric technicians. These teams provide education and consultation to commanders, entire units and individual Marines.



Project FOCUS is Families OverComing Under Stress (FOCUS) is designed for families needing to ramp up their resiliency to best handle the demands of deployment and combat and operational stress. Through parent, child and family sessions, FOCUS helps Navy and Marine families develop strong skills in problem solving, goal setting, communication and emotional regulation. The free program is offered through BUMED in collaboration with University of California -Los Angeles. For details and a list of FOCUS locations, go to www.focusproject.org or call 310-794-2482.

Returning Warrior Workshops

Making a successful transition from the war zone to the home front is the focus of Returning Warrior Workshops (RWW), a well-received program for Navy and Marine Corps Reservists. The workshops are expense-paid weekend events for about 200 service members and their spouses or significant others. In addition to presentations from senior military leaders who have been in combat, there are breakout sessions where participants discuss — and help learn to resolve — stressful situations arising in deployment and reintegration. A number of support services are available at the workshops along with counselors, psychological health outreach coordinators and chaplains to assist service members in re-acclimating with their families and to civilian life.

For more information on workshops in your area, visit www.ia.navy.mil/rww_dates.pdf.

TRICARE

TRICARE, the civilian-care component of the Military Health System, recently launched the TRICARE Assistance Program (TRIAP), a free Web-based service for psychological health services. Available to active-duty service members and their families, TRIAP uses audiovi-

sual telecommunications systems, such as video chat and instant messaging. Assistance counselors are on hand around-the-clock for nearly any behavioral health issue, and a referral or prior authorization is not required. For complete information, visit www.tricare.mil/TRIAP.

Additional Resources can be found at:

Navy Suicide Prevention Program Web site: www.suicide.navy.mil.

Combat operational stress control/management, resiliency materials and programs designed specifically for the Navy population are accessible at www.nmcphc.med.navy.mil/Healthy_Living/Psychological_Health/Stress_Management/operandcombatstress.aspx.8.

(Source: BUMED)



Photo by MCG Ryan Steinhour

8 PAY & BENEFITS



Photo by MCSA Benjamin C. Jernigan

Family Separation Allowance

Family separation allowance (FSA) compensates qualified members for added expenses incurred because of an enforced family separation. There are three different categories depending on the status of the Sailor and their family members. Family separation allowance is \$250 per month. See DoD Financial Management Regulation (FMR), Vol. 7A, Chapter 27 for more information.

Overseas Tour Extension Incentive Program

The Overseas Tour Extension Incentive program offers eligible enlisted members the opportunity to receive their choice of one of four incentive options for extension of the DoD tour length for 12 months or more. For more information see a command career counselor or MILP-ERSMAN Article 1306-300.

Hardship Duty Pay

Hardship duty pay is payable to members who are entitled to basic pay while performing duty designated by the secretary of defense as hardship duty. Current rates and locations are maintained in the DoD FMR, 7A, 17.

Combat Zone Tax Exclusion

Combat zone tax exclusion allows earnings received while performing duties in, or in direct support of, areas designated as combat zones to be excluded from taxes. Exclusion is unlimited for enlisted members and warrant officers. For more information consult DoD FMR, 7A, 44, or go to: www.defenselink.mil/militarypay/pay/tax/10_combatzone_05.html.

Imminent Danger Pay, Hostile Fire Pay

Imminent Danger Pay (IDP) is a threat-based pay, meaning it is payable for any month the member performs duty in an IDP area (designated by DoD). Hostile Fire Pay (HFP) is an event-based pay, meaning the member is exposed to an actual occurrence of hostile fire or an explosion of a hostile mine. The rate of IDP/HFP is \$225 per month. Designated areas are listed in DoD FMR, 7A, 10.

Sea Duty Incentive Pay

Sea duty incentive pay (SDIP) offers extra pay of up to \$750 per month for extension on, or early return to sea (voluntary curtailment of shore duty). For more information on SDIP, visit the Navy Personnel Command (NPC) website www.npc.navy.mil and select “*Career Info*,” “*Pay and Benefits*” and “*SDIP*.”

Special Duty Assignment Pay

Special duty assignment pay (SDAP) is a monthly incentive pay to sustain manning levels and obtain high quality enlisted personnel for designated special duty assignments. For more information on SDAP, visit the NPC website www.npc.navy.mil select “*Career Info*,” “*Enlisted Career Progression*,” “*Incentives*” and scroll to “*SDAP*.”

Critical Skills Retention Bonus

Critical Skills Retention Bonus is used to ensure essential skills remain in military service. When a critical skill becomes scarce, DoD offers a financial incentive – some bonuses are \$20,000 or more. For more information, contact your command career counselor or your enlisted community manager.

Assignment Incentive Pay

Assignment incentive pay (AIP) applies to traditionally hard-to-fill assignments or less desirable geographic locations. For more AIP information including a listing of locations eligible for AIP, visit: www.npc.navy.mil/CareerInfo/PayAndBenefits/AIP.htm.

Federal tax Advantage

Because some allowances are not taxable, the result is actually additional compensation. Untaxed allowances include BAS, BAH, overseas housing allowance, cost-of-living allowance and FSA. Further tax advantages are available through participation in the Uniformed Services Thrift Savings Plan (TSP). Visit the pay and compensation calculator at www.npc.navy.mil/CareerInfo/StayNavyTools or choose the calculator on www.defenselink.mil/militarypay/pay/bp/index.html.

Foreign Language Proficiency Bonus

Sailors skilled in a foreign language may be eligible for a foreign language proficiency bonus of up to \$500 per month for demonstrated proficiency in a foreign language or a maximum \$1,000 per month for more than one foreign language. Refer to OPNAVINST 7220.7F and NAVADMINs 143/06, 252/06, 072/07 and 156/08 for specific eligibility criteria.

Basic Allowance for Housing

Basic allowance for housing reduces out-of-pocket expense for off-base living. This non-taxable allowance generally covers rent, utilities and renter’s insurance. For details visit: www.defenselink.mil/militarypay/pay/bah/.

Basic Allowance for Subsistence

Basic allowance for subsistence is adjusted annually based on the cost of food. For details on 2011 rates, visit: www.defenselink.mil/militarypay/pay/bas/index.html.

Savings Deposit Program

The Savings Deposit Program (SDP) is allowed for Sailors during assignments and deployments to specified locations. SDP pays 10-percent interest and allows Sailors to deposit a portion of their current pay, up to a maximum of \$10,000. Interest paid on SDP is taxable and rules apply. For information, contact the local finance office prior to deployment, or visit <http://www.dfas.mil/militarypay/woundedwarriorpay/savingsdepositprogramsdp.html>

Family Subsistence Supplemental Allowance in Addition to BAS

Family Subsistence Supplemental Allowance, in addition to BAS, is an additional food allowance some large military families may qualify for and is based on total household income. Contact the fleet and family support center or a command financial specialist for assistance in determining eligibility. For details, visit: www.fns.usda.gov/fns/ or <https://www.dmdc.osd.mil/fssa>.

Military Pay Raises

Annual military pay raises are linked to the employment cost index (ECI). Military pay raises are equal to a yearly increase in the ECI. But, pay raises may exceed these levels if authorized and funded by Congress. Go to www.defenselink.mil/militarypay/pay/bp/05_annualraise.html, for more information.

Medical and Dental

The TRICARE medical plan is one of the benefits afforded active and Reserve families. TRICARE is a regionally managed health care program. Contact a health care benefits advisor at your nearest military treatment facility or Navy Reserve activity. For additional information, visit www.tricare.mil.

Military Leave and Liberty

Active-duty members accumulate two-and-a-half days of leave per month, totaling 30 days of paid leave each year. While earned leave is intended for use throughout the year, members may carry forward leave not to exceed 75 days at the end of the fiscal year [this carryover eligibility has been extended to Sept. 30, 2013, per NAVADMIN 281/10 (dtd. Aug. 23, 2010) when leave carryover resets to 60 days].

Navy Exchange/Commissary

The Navy Exchange Service Command manages tax-free, discounted shopping for quality goods and also manages Navy Lodges, ship's stores, and other programs. For more information, visit the Navy Exchange website at www.navy-nex.com.

The Defense Commissary Agency operates a worldwide chain of grocery stores serving military personnel, retirees and their families in a safe and secure shopping environment. Shoppers save an average of more than 30 percent on their purchases, which is worth about \$4,400 annual savings for a family of four. For more information visit the commissary website at www.commissaries.com.

Retirement Pay

One of the most attractive incentives of a military career is the retirement system that provides lifelong retirement income for those who serve 20 or more years. Active-duty and Reserve retirement plans differ. To view retirement plans and an easy-to-use online calculator visit www.npc.navy.mil/CareerInfo/StayNavyTools or www.defenselink.mil/militarypay/pay/bp/index.html and then choose the calculator.

Thrift Savings Plan (TSP)

TSP is a 401(k)-like savings plan for Sailors. It accumulates long-term, tax-deferred savings and earnings for a retirement nest egg, regardless of whether the Sailor remains for a full military career. Useful information can be found at www.tsp.gov.

Certifications/NAVY COOL

The Navy's Credentialing Opportunities On-Line (COOL) identifies civilian credentials that best map to a Sailor's rating and training. The COOL website guides Sailors seeking training paths and funding toward industry-recognized, professional certification and licensure exams. This tool helps ensure Sailors have career opportunities within the Navy, as well as a successful follow-on career when they transition to the civilian workforce. For more information on Navy COOL, visit <https://www.cool.navy.mil>.

Navy Personnel Command Customer Service Center

NPC Customer Service Center (CSC) is the one-stop shop for all questions. If unsure about who to contact or where to go, call 1-866-U-ASK-NPC (1-866-827-5672) and let the customer service agents help you, or visit the CSC website at www.npc.navy.mil/AboutUs/NPC/CSC/. E-mail questions can be sent to CSCMailbox@navy.mil.

The Balancing Act – Navy Assistance For Sailors' Lives

Pregnancy Policy

Known as the Postpartum Operational Deferment, the June 2007 revision of the Pregnancy and Parenthood Instruction (OPNAVINST 6000.1C) authorized an extension of current operational deferment from four to 12 months for new mothers. The increased operational deferment policy allows more time for families to arrange long-term child care. For more, visit the Women's Policy website at www.npc.navy.mil/AboutUs/BUPERS/WomensPolicy/.

Adoption Leave

Navy families are authorized up to 21 days of non-chargeable administrative leave for parents who adopt children in a DoD-qualified adoption. Details are covered in OPNAVINST 6000.1C Section 202.

Paternity Leave

Male service members are now able to take up to 10 days of administrative leave when their spouse gives birth to a child. The leave must be used within 60 days of the birth or return from deployment. For more information, see NAVADMIN 341/08.

(Source: Navy Personnel Command) 



11 PAY CHART

All Hands 2011 Navy Monthly Pay [proposed]																
Years of Service	<2	2	3	4	6	8	10	12	14	16	18	20	22	24	26	
Enlisted Members																
E-9	0	0	0	0	0	0	4,658	4,764	4,896	5,053	5,210	5,463	5,677	5,903	6,246	
E-8	0	0	0	0	0	3,813	3,982	4,086	4,211	4,346	4,591	4,715	4,926	5,042	5,331	
E-7	2,651	2,893	3,004	3,150	3,265	3,461	3,572	3,770	3,933	4,045	4,163	4,209	4,364	4,447	4,763	
E-6	2,292	2,522	2,634	2,742	2,854	3,109	3,208	3,399	3,458	3,501	3,551	3,551	3,551	3,551	3,551	
E-5	2,101	2,241	2,349	2,460	2,633	2,814	2,962	2,980	2,980	2,980	2,980	2,980	2,980	2,980	2,980	
E-4	1,925	2,024	2,134	2,242	2,338	2,338	2,338	2,338	2,338	2,338	2,338	2,338	2,338	2,338	2,338	
E-3	1,738	1,848	1,960	1,960	1,960	1,960	1,960	1,960	1,960	1,960	1,960	1,960	1,960	1,960	1,960	
E-2	1,653	1,653	1,653	1,653	1,653	1,653	1,653	1,653	1,653	1,653	1,653	1,653	1,653	1,653	1,653	
E-1	1,475	1,475	1,475	1,475	1,475	1,475	1,475	1,475	1,475	1,475	1,475	1,475	1,475	1,475	1,475	
E-1 with less than four months: 1,294.50																
Warrant Officers																
W-5	0	0	0	0	0	0	0	0	0	0	0	6,855	7,203	7,461	7,749	
W-4	3,855	4,146	4,266	4,382	4,585	4,785	4,985	5,290	5,557	5,811	6,017	6,220	6,518	6,761	7,040	
W-3	3,520	3,666	3,817	3,866	4,024	4,335	4,658	4,810	4,986	5,167	5,493	5,712	5,845	5,985	6,175	
W-2	3,096	3,273	3,428	3,539	3,637	4,079	4,235	4,387	4,575	4,721	4,854	5,012	5,117	5,200	5,200	
W-1	2,732	2,958	3,108	3,204	3,462	3,765	3,901	4,090	4,278	4,424	4,560	4,725	4,725	4,725	4,725	
Commissioned Officers																
O-10	0	0	0	0	0	0	0	0	0	0	0	15,477	15,552	15,875	16,439	
O-9	0	0	0	0	0	0	0	0	0	0	0	13,536	13,731	14,013	14,504	
O-8	9,578	9,892	10,099	10,158	10,417	10,851	10,952	11,363	11,483	11,837	12,352	12,825	13,142	13,142	13,142	
O-7	7,958	8,328	8,499	8,635	8,881	9,124	9,406	9,686	9,968	10,851	11,598	11,598	11,598	11,598	11,656	
O-6	5,898	6,480	6,905	6,906	6,932	7,229	7,269	7,269	7,681	8,411	8,840	9,269	9,512	9,759	10,238	
O-5	4,917	5,539	5,923	5,995	6,234	6,377	6,692	6,923	7,221	7,676	7,895	8,110	8,354	8,354	8,354	
O-4	4,243	4,911	5,238	5,312	5,616	5,942	6,347	6,665	6,884	7,011	7,084	7,084	7,084	7,084	7,084	
O-3	3,730	4,228	4,564	4,976	5,214	5,476	5,644	5,924	6,068	6,068	6,068	6,068	6,068	6,068	6,068	
O-2	3,223	3,671	4,228	4,370	4,460	4,460	4,460	4,460	4,460	4,460	4,460	4,460	4,460	4,460	4,460	
O-1	2,797	2,912	3,520	3,520	3,520	3,520	3,520	3,520	3,520	3,520	3,520	3,520	3,520	3,520	3,520	
Commissioned Officers (with more than four years of active service as an Enlisted Member or Warrant Officer)																
O-3e	0	0	0	4,976	5,214	5,476	5,645	5,924	6,159	6,293	6,476	6,476	6,476	6,476	6,476	
O-2e	0	0	0	4,370	4,460	4,602	4,843	5,028	5,165	5,165	5,165	5,165	5,165	5,165	5,165	
O-1e	0	0	0	3,518	3,758	3,897	4,040	4,180	4,370	4,370	4,370	4,370	4,370	4,370	4,370	

Source: National Defense Authorization Act 2011 - HR 5136

Photo by MCC Steve Johnson

12 INDIVIDUAL AUGMENTEE DUTY

Navy Refines Processes, Improves Training, Support For Individual Augmentees (IAs), Families

Approximately 10,000 Sailors are on IA orders at any given time, and more than 80,000 Sailors have been on an IA assignment since 2002.

The Navy is committed to improving the process of assigning IA Sailors and to supporting them and their families with the same commitment and care that deploying Sailors and their families traditionally receive. Several organizations play key roles in providing oversight and support to our Sailors deploying for nontraditional expeditionary missions in support of overseas contingency operations (OCO).

U.S. Fleet Forces Command is the executive agent for the IA continuum and Naval Installations Command is the executive agent for IA family support. The following key stakeholders in the IA continuum are vital to the success of IA Sailors and family support:

- Navy Personnel Command - orders generation and personnel support
- Navy Reserve Forces Command - administration and oversight of Reserve personnel
- Expeditionary Combat Readiness Center (ECRC) - supervision and coordination of IA training
- Commander, Task Force-Individual Augmentee - Boots-on-Ground administrative support
- Navy Mobilization and Processing Sites (NMPS) – The sites in Norfolk, San Diego, Gulfport, Miss., and Port Hueneme, Calif., provide in-processing support ensuring Sailors are prepared for deployment. During redeployment, they ensure Sailors' needs, issues and concerns are addressed prior to reintegration into Navy and civilian life.
- Fleet and Family Support Centers - dedicated support to Navy families throughout the IA continuum.

Deciding To Be A Navy IA

There are four primary assignment processes that determine how IA Sailors deploy: Global Support Assignment (GSA), Individual Augmentee Manpower Manage-

ment (IAMM), Reserve Component Mobilization (RC Mob) and OCO Support Assignment (OSA) Sailors. With recent changes implemented, only officers fill billets in the GSA process. RC Mob assignments provide the right RC Sailor with the right skills at the right time. IAMM assignments meet the dynamic demands of the combatant commanders. The OSA process, that went into effect for enlisted Sailors on Nov. 1, 2010, encourages volunteerism and eliminates inequities identified in other processes.

IA billets supporting OSA assignments can be viewed on Career Management System-Individual Detailing, www.npc.navy.mil/Enlisted/CMS.

Officers can contact their specialty detailer for IA assignments. Reserve Component Sailors can sign-up to receive automated e-mails for mobilization opportunities by subscribing to GovDelivery www.navyreserve.navy.mil.

Career Benefits Of Volunteering For IA Duty

IA tours are career enhancing in the areas of advancement and recognition. Some incentives include guaranteed follow-on detailing, advancement exams options, campaign/service awards, Projected Rotation Date extensions if coming from shore duty, OCO Navy Enlisted Classification or additional qualified designations, concurrent evaluations/fitness reports, and increased IA advancement rates. To learn about additional IA incentives, go to the FAQ section on the Navy IA website www.ia.navy.mil.

IA Deployment Orders

First and foremost, Read Your Orders. Sailors receive different orders based on the assignment process they are billeted to fill. GSA Sailors receive two sets of orders. The first set of orders for a permanent change of station is received shortly after negotiating with the detailer and has details for detaching from the current command and reporting to ECRC San Diego or Norfolk. The second set of orders for temporary additional duty (TEMADD) outline point-of-contact information, training site locations, transportation, OCONUS deployment and additional guidance (NAVADMIN 333/10).



IAMM Sailors receive TEMADD/indeterminate temporary duty (ITDY) orders. Emergent requirements due to operational need mean delivery of orders to the selected IA may be less than 60 days prior to the first interim stop report date (NAVADMIN 332/10).

RC Mob Sailors receive involuntary orders. Notification for involuntary mobilization is a minimum of 60 days with the goal of 180 days notification. NRFC uses volunteers to fill mobilization requirements to the maximum extent possible. Sailors who desire to volunteer for mobilization are encouraged to contact their Navy Operational Support Center and have their manpower availability status codes updated to a volunteer status (NAVADMIN 235/08).

OSA Sailors will not receive TEMADD orders. These orders will take them from their current parent command to the identified NMPS, through a mission-specific training track into theater for their OSA assignment, and back to their parent command (NAVADMIN 334/10).

To view their orders, IA Sailors can log onto BUPERS Online (BOL) www.bol.navy.mil, select the NMCMPs link, and click "View My Orders."

Command Individual Augmentee Coordinator (CIAC)

Every command is required to have a CIAC. A CIAC is the command's representative who supports the IA Sailor before during, and after deployment. CIACs are the IA Sailor's "first line of defense" for IA information and support. They work closely with the command's ombudsman and individual deployment support specialists (IDSS) to ensure the family is supported while the Sailor is deployed.

Training

All IA Sailors are required to complete the pre-deployment online training courses listed in the latest Expeditionary Screening Checklist (NAVPERS 1300/22). The courses are accessible on the Navy Knowledge Online (NKO) e-Learning under the mandatory training "For All Individual Augmentees." These online courses prepare Sailors for pre-deployment training pipelines, to include Navy Individual Augmentee Combat Training, a three-week program that provides Navy IAs with the basic combat skills training for their Boots-on-Ground tour.

Requirements

The Expeditionary Screening Checklist is a detailed checklist IA Sailors are required to complete to ensure they are ready for deployment. It includes medical and dental screenings (NAVMED 1300/4), as well as government travel card, security clearance, training and personal requirements. Commanding officers report the IA Sailors' suitability via BOL. The Expeditionary Screening Checklist is available on the Navy IA website or on Navy Personnel Command's website www.npc.navy.mil.

Noble Eagle Number

The Noble Eagle (NE) number is a tracking number applied to a specific IA mission. It can be found in every IA Sailor's orders. IA Sailors should provide their NE number to their families to expedite location and communication in case of any emergency situation. A brief

description of NE numbers is available on NKO under the "Individual Augmentee" tab.

Family Support

The Navy is just as committed to the families of IA Sailors as to the Sailors themselves. To guarantee families receive the best support possible, IA Sailors need to update their family member information in the Navy Family Accountability and Assessment System.

If a family changes location during the deployment, needs help or has general questions, they can contact the CIAC, Ombudsman, IDSS or the ECRC IA Family help desk at ecrc.fs.fct@navy.mil. For emergencies, they can contact the 24-hour toll-free hotline at (877) 364-4302 with their deployed IA Sailor's NE number.

Reintegrating After Deployment

Sailors returning from an IA deployment have had a wide-range of experiences. During the Warrior Transition Program in Kuwait, Sailors begin the process of reintegration back into normal Navy or civilian life. There, Sailors complete a Post-Deployment Health Assessment, and six months later they complete a follow-on Post-Deployment Health Re-Assessment, both outlined in Defense Health Assessment guidance.

Following their return to CONUS, Sailors can attend Returning Warrior Workshops (RWW),

a key component of the DoD Yellow Ribbon Program for Reintegration. RWWs are designed to enhance the resiliency of active component (AC) and Reserve component Sailors who have completed IA assignments in combat zones or were exposed to highly stressful situations during deployment. These weekend events provide an atmosphere to address personal stress associated with non-traditional deployments and are comprised of workshops intended to assist Sailors with successful reintegration back into work, community and family life. The RWW schedule is posted on the Navy IA website.

(Source: U.S. Fleet Forces Command, Navy Expeditionary Combat Command and Expeditionary Combat Readiness Center.)



Photo by Marine Corps Sgt. Christopher R. Rye

Photo by MC1(AW) R. Jason Brunson

Commander Navy Expeditionary Combat Command (NECC), Virginia Beach, Va.

NECC serves as the Type Commander for the Navy's expeditionary forces and as central management for the readiness, resources, manning, training and equipping of those forces.

NECC is a command element and force provider for integrated maritime expeditionary missions. NECC provides expeditionary forces capable of performing waterborne and ashore anti-terrorism/force protection, theater security cooperation and engagement, and humanitarian assistance/disaster relief contingency response. Upon request, NECC supplements Coast Guard homeland security requirements while training and equipping forces to support joint mission requirements.

Maritime Expeditionary Security Force (MESF)

MESF provides inshore and coastal surveillance, security and anti-terrorism/force protection for aircraft, airfields, campsites, convoys and convoy routes, ports, harbors, anchorages, approaches, roadways and other inshore or coastal areas of importance.

Additionally, MESF embarks security teams on board Navy and merchant vessels to provide in-transit security protection. Maritime Expeditionary Security Squadrons are deployable worldwide and operate sophisticated surveillance and communications equipment supporting landward, seaward and embarked security forces.

Together, these forces provide security to vital shipping, forces and infrastructure in the littoral regions.

Commander, Maritime Expeditionary Security Group 1, San Diego

- Maritime Expeditionary Security Squadron (MSRON) 1, San Diego
- MSRON 3, San Diego
- MSRON 5, San Diego

- MSRON 7, Guam
- MSRON 9, Everett, Wash.
- MSRON 11, Seal Beach, Calif.

Commander, Maritime Expeditionary Security Group 2, Portsmouth, Va.

- MSRON 2, Portsmouth, Va.
- MSRON 4, Portsmouth, Va.
- MSRON 6, Portsmouth, Va.
- MSRON 8, Newport, R.I.
- MSRON 10, Jacksonville, Fla.
- MSRON 12, Williamsburg, Va.
- MSRON 14, Toledo, Ohio

Explosive Ordnance Disposal (EOD)

EOD conducts counter Improvised Explosive Device (IED) operations both ashore and at sea. They locate, identify, and render safe explosive hazards and disarm underwater explosives such as mines. EOD technicians can handle chemical, biological and radiological threats, and are the only military EOD force that can both parachute from the air to reach distant targets or dive under the sea to disarm weapons. Mobile diving and salvage units are the only DoD capability that provides force protection and dive services in the combat zone to clear harbors of navigation hazards, engage in underwater search and recovery operations, and perform limited underwater repairs on ships.

Commander, EOD Group 1, San Diego

- EOD Mobile Unit (EODMU) 1, San Diego
- EODMU 3, San Diego
- EODMU 5, Guam
- EODMU 11, Whidbey Island, Wash.
- Mobile Diving and Salvage Unit (MDSU) 1, Pearl Harbor
- EOD Training and Evaluation Unit (EODTEU) 1, San Diego
- EOD Expeditionary Support Unit (EODESU) 1, San Diego

Commander, EOD Group 2, Virginia Beach, Va.

- EODMU 2, Virginia Beach, Va.
- EODMU 6, Virginia Beach, Va.
- EODMU 8, Sigonella, Italy
- EODMU 12, Virginia Beach, Va.
- EODESU 2, Virginia Beach, Va.
- EODTEU 2, Virginia Beach, Va.
- MDSU 2, Virginia Beach, Va.
- EOD Operational Support Unit (EODOSU) 10, Virginia Beach, Va.

Commander, Navy Expeditionary Logistics Support Group (NAVELSG) Williamsburg, Va.

The Navy Expeditionary Logistics Force is responsible for providing expeditionary logistics capabilities for the Navy or joint services customers, primarily within the maritime domain of the littorals. NAVELSG conducts surface- and air-handling missions, cargo terminal and warehouse operations, fuels distribution, customs inspections, ordnance reporting and handling and expeditionary communications.

As part of NECC, NAVELSG deploys tailored force packages providing expeditionary logistics to combatant commanders and component commanders, and provides support to all NECC deployed commands, detachments and teams. NAVELSG provides multi-function logistics detachments with organic command and control to support both CONUS and OCONUS operations.

1st Expeditionary Logistics Regiment (NAVELR)

- Navy Cargo Handling Battalion (NCHB) 1, Williamsburg, Va.

2nd NAVELR

- NCHB 4, Charleston, S.C.
- NCHB 10, Yorktown, Va.

3rd NAVELR

- NCHB 7, Great Lakes, Ill.
- NCHB 8, Fort Dix, N.J.

4th NAVELR

- NCHB 11, Jacksonville, Fla.
- NCHB 12, Bessemer, Ala.
- NCHB 13, Gulfport, Miss.

5th NAVELR

- NCHB 3, Alameda, Calif.
- NCHB 5, Tacoma, Wash.
- NCHB 14, Port Hueneme, Calif.

**NAVELSG Training And Evaluation Unit,
Williamsburg, Va.**

**NAVELSG Expeditionary Support Unit,
Williamsburg, Va.**

Naval Construction Force

The Naval Construction Force (Seabees) provides a wide range of construction in support of operating forces, including roads, bridges, bunkers, airfields and logistics bases. It provides support in response to disaster recovery operations; performs civic action projects as part of the Navy's theater security cooperation program; and provides force protection for personnel and construction projects.

Underwater construction teams provide construction, inspection and repair of ocean facilities such as wharves, piers, underwater pipelines, moorings and boat ramps.

**1st Naval Construction Division,
Virginia Beach, Va.**

**1st Naval Construction Division Forward,
Pearl Harbor**



Photo by MC1 James E. Foehl

Naval Construction Regiments

1st Naval Construction Regiment, Port Hueneme, Calif.

- Naval Mobile Construction Battalion (NMCB) 17, Fort Carson, Colo.
- NMCB 18, Tacoma, Wash.
- Naval Construction Force Support Unit 2, Port Hueneme, Calif.

3rd Naval Construction Regiment, Atlanta

- NMCB 14, Jacksonville, Fla.
- NMCB 23, Ft. Belvoir, Va.
- NMCB 24, Huntsville, Ala.

7th Naval Construction Regiment, Newport, R.I.

- NMCB 21, Lakehurst, N.J.
- NMCB 26, Mt. Clemens, Mich.
- NMCB 27, Brunswick, Maine

9th Naval Construction Regiment, Dallas

- NMCB 15, Belton, Mo.
- NMCB 22, Fort Worth, Texas
- NMCB 25, Fort McCoy, Wis.
- NMCB 28, Shreveport, La.

22nd Naval Construction Regiment, Gulfport, Miss.

- NMCB 1, Gulfport, Miss.
- NMCB 11, Gulfport, Miss.
- NMCB 74, Gulfport, Miss.

25th Naval Construction Regiment, Gulfport, Miss.

- NMCB 7, Gulfport, Miss.
- NMCB 133, Gulfport, Miss.
- Underwater Construction Team (UCT) 1, Virginia Beach, Va.

- Construction Battalion Maintenance Unit (CBMU) 202, Virginia Beach, Va.

30th Naval Construction Regiment, Port Hueneme, Calif.

- NMCB 3, Port Hueneme, Calif.
- NMCB 4, Port Hueneme, Calif.
- NMCB 5, Port Hueneme, Calif.
- NMCB 40, Port Hueneme, Calif.
- CBMU 303, San Diego
- UCT 2, Port Hueneme, Calif.

Seabee Readiness Groups

- 20th Seabee Readiness Group (SRG), Gulfport, Miss.
- 31st SRG, Port Hueneme, Calif.

Riverine Force

The riverine force is a combat arms force developed to establish and maintain control of rivers and waterways for military and civil purposes; deny their use to hostile forces; and destroy waterborne, hostile forces as necessary. The riverine force combats sea-based terrorism and other illegal activities, such as hijacking, piracy and human trafficking.

Commander, Riverine Group 1, Virginia Beach, Va.

- Riverine Squadron (RIVRON) 1, Virginia Beach, Va.
- RIVRON 2, Virginia Beach, Va.
- RIVRON 3, Yorktown, Va.

Maritime Civil Affairs And Security Training (MCAST) Command, Virginia Beach, Va.

Maritime Civil Affairs and Security Training (MCAST) Command provides maritime civil affairs (MCA) and security force assistance (SFA) core competencies to enhance international partnerships. These capabilities enable a partner nation to establish maritime security and enhance regional stability.

Maritime Civil Affairs Teams (MCATs) deploy globally and engage on the front lines of American diplo-

macy. Comprised of Sailors with language expertise and cultural skills, MCATs identify the critical needs of local citizens in the most vulnerable regions of the world.

MCA regionally-aligned planners, teams and specialists coordinate between the operational commander, U.S. country team, host nation civil and military entities and other key partners to facilitate the collaboration of diplomacy, defense and development.

SFA mobile training teams (MTTs) support combatant and navy component commanders' security cooperation efforts by delivering customized training to designated host nations. SFA MTTs provide training in foreign locales and give local nationals the capability to govern and protect themselves and their areas of responsibility from enemies.

- MCAST Det. Virginia Beach, Va.

Navy Expeditionary Intelligence Command (NEIC), Virginia Beach, Va.

NEIC capabilities provide timely, relevant force protection indications, warnings and tactical intelligence, which enables combatant commanders to conduct missions across the spectrum of expeditionary operations; including major combat operations, maritime security operations, combat engineering/construction, theater security cooperation support, security assistance, foreign military training, MCA and riverine operations.

Expeditionary Combat Readiness Center (ECRC), Virginia Beach, Va.

ECRC coordinates with the U.S. Army across 14 states to oversee all administrative processing, equipping, training, deployment and re-deployment of Sailors assigned as individual augmentees, in-lieu of forces as well as providing support to Sailors assigned to provisional units committed to joint and maritime security operations.

- ECRC Det. Kuwait
- ECRC Det. Iraq
- ECRC Det. Afghanistan

(Source: Navy Expeditionary Combat Command) 

17 SPECIAL WARFARE

Commander, Naval Special Warfare Command, Coronado, Calif.

Naval Special Warfare Recruiting Directorate, Coronado, Calif.

- Navy Parachute Team “Leap Frogs,” Coronado, Calif.

Commander, Naval Special Warfare Group (NSWG) 1, Coronado, Calif.

- SEAL Teams 1/3/5/7
- Logistics Support Unit (LOGSU) 1, Coronado, Calif.
- Support Activity 1, Coronado, Calif.
- Naval Special Warfare Unit (NSWU) 1, Guam
- NSWU 3, Bahrain

Commander, NSWG 2, Little Creek, Va.

- SEAL Teams 2/4/8/10
- LOGSU 2, Little Creek, Va.
- Support Activity 2, Little Creek, Va.
- NSWU 2, Germany

Commander, NSWG 3, Coronado, Calif.

- SEAL Delivery Vehicle Team 1, Pearl City, Hawaii

Commander, NSWG 4, Little Creek, Va.

- Special Boat Team (SBT) 12, Coronado, Calif.
- SBT 20, Little Creek, Va.
- SBT 22, Stennis, Miss.
- Naval Small Craft Instruction and Technical Training School, Stennis, Miss.

Naval Special Warfare Center (NSWC), Coronado, Calif.

- Naval Special Warfare Basic Training Command, Coronado, Calif.
- Naval Special Warfare Advanced Training Command, Coronado, Calif.



Photo by MCC Kathryn Whittenberger

Commander, NSWG 11

- SEAL Team 17, Coronado, Calif.
- SEAL Team 18, Little Creek, Va.

Commander, Naval Special Warfare Development Group, Dam Neck, Va.

(Source: Naval Special Warfare Command)

18 WORKING UNIFORM

The Navy Working Uniform (NWU) is intended for year-round wear and shall be the standard working uniform ashore. The NWU is designed to accommodate male and female Sailors and to fulfill multi-functional/geographical uniform requirements at sea and ashore.

Sailors who have not been issued NWUs at Recruit Training Command or purchased NWUs while assigned to an active rollout location must maintain their current working uniforms until the NWU is available in the area/region assigned. For more information, go to NAV-ADMIN 299/10.

Enlisted Men's Navy Working Uniform (NWU)

Basic Uniform Components

- Shirt, NWU
- Trousers, NWU
- Cap, Eight-Point
- Boot, Black, Leather 9" (Men)
- Sock, Black, Boot
- Undershirt, Cotton, Blue, Crewneck
- Undershorts
- Belt, Black, Cotton or Nylon w/Silver Clip
- Buckle, Silver
- Insignia, Collar (Embroidered)
- Name/U.S. NAVY Service Tapes (Identification Markings)
- Straps, Blousing

Prescribable Items

- Coat, Parka (w/Black Fleece Liner)
- Cap, Knit (Watch), Black
- Mockneck, Black

(Note: For proper wear refer to U.S. Navy Uniform Regulation NAVPERS 15665 online at www.persnet.navy.mil/commandsupport/usnavyuniforms/uniformregulations/)

Optional Items

- Boots, Black, Rough Out 9" (Men)
- Earmuffs (w/outer garment only)
- Overshoes
- Gloves, Black Leather

Enlisted Women's Working Uniform

Basic Uniform Components

- Shirt, NWU
- Trousers, NWU
- Cap, Eight-Point
- Boot, Black, Leather 9" (Women)
- Sock, Black, Boot
- Undershirt, Cotton, Blue, Crewneck
- Brassiere
- Underpants
- Belt, Black, Cotton or Nylon w/Silver Clip
- Buckle, Silver
- Insignia, Collar (Embroidered)
- Name/U.S. NAVY Service Tapes (Identification Markings)
- Straps, Blousing

Prescribable Items

- Coat, Parka (w/Black Fleece Liner)
- Cap, Knit (Watch), Black
- Mockneck, Black

Optional Items

- Boots, Black, Rough Out 9" (Women)
- Earmuffs (w/outer garment only)
- Overshoes
- Gloves, Black Leather
- Earrings, Silver Ball
- Handbag, Black



Photo by MC2(EXW) Todd Frantom

8-Point Cover

- Square on head, not resting on ears.
- Visor just above eye level and parallel to deck.

Rank Insignia

- The appropriate embroidered rate/rank insignia will be worn on the front of the NWU cap and on each collar by all Sailors E-4 to O-10.

T-Shirt & Mockneck Sweater

- Collar should fit comfortably around neck.
- Mockneck sweater sleeve length shall not extend beyond the length of the NWU shirt sleeve.

Warfare Insignia

- Primary warfare insignia shall be sewn centered and flush with the top of U.S. Navy tape. The fabric strip shall be sewn with a ¼ inch border on the left and right of the embroidery.

Sleeve Length

- When shirt cuff is fastened length of sleeve should cover the wrist bone, but not extend further than the first knuckle at the base of the thumb.

Sleeve Rolling

- 3-inch-wide band covered with fabric side out and cuff clearly visible.
- 2 inches above elbow.

Shirt Length

- Shirt length must extend to the bottom of the crotch, but not lower than the middle of the cargo pocket flap.
- No gapping at blouse front, both sides of shirt opening must overlap.

Trouser

- Trousers worn at waistline with belt.
- Trouser length should be long enough to touch deck when not wearing boots.

Trouser Blousing

- Blouse trousers using blousing straps. Blousing straps should be affixed between the 3rd and 4th eyelets from the top.

NWU Boots

- Boot laces must be tied and tucked into the cuff of the boots.
- Boots should be worn with boot socks.
- Smooth finish boots are authorized for shore and shipboard use.
- Rough-out boots are authorized for shore duty only.

* All buttons and closures shall be secured.

* Recommend uniforms be washed inside out.

You know where you want to go.

Sailor Career Toolbox

The tools you need to get there.

<http://www.npc.navy.mil/CareerInfo/CareerToolbox/>





NAVY RESERVE
Ready Now. Anytime, Anywhere.

The mission of the Navy Reserve is to provide strategic depth and deliver operational capabilities to our Navy and Marine Corps team, and joint forces, from peace to war.

We cannot be the Navy we are today without our Reserve component. And the way that they move into our active force after having served in an active capacity is absolutely seamless. And the importance that we place on our Reserve programs is extremely high.

— Adm. Gary Roughead
Chief of Naval Operations

Navy Reserve: A Vital Part of the Navy Total Force

Whether working in the United States or abroad, ashore, at sea or in the air, today's Navy Reserve is an integral part of the Navy Total Force. Navy Reserve Sailors uphold the core values of honor, courage and commitment and prove that it's one Navy, one mission. Together, active and Reserve component Sailors make up one of the most capable forces the world has ever seen.

Navy Reserve personnel are fully integrated into global operations and planning. Like their motto says: Navy Reserve Sailors are Ready Now. Anytime, Anywhere!

An Enduring Mission

The mission of the Navy Reserve is to provide strategic depth and deliver operational capabilities to the Navy and Marine Corps team as well as to joint forces, from peace to war.

Established in 1915, the Navy Reserve has played an important role in every conflict since then. Today, at

the tip of the spear, 6,500 mobilized or deployed Navy Reserve Sailors are providing about half of the Navy's ground forces serving in the U.S. Central Command and in other critical roles worldwide.

The Navy Reserve also responds to urgent requirements. For example, when an earthquake struck Haiti in 2010, Navy Reserve air crews and fleet logistics aircraft delivered urgently needed food, medical supplies and water. Navy Reserve doctors, nurses and hospital corpsmen provided care to the wounded, and Reserve Seabees, ground crews, logisticians and communicators provided "on-demand expertise" to bring in aid.

And every day, the Navy Reserve provides critical operational support. Reserve Sailors support ship maintenance, fly training and aggressor sorties, provide global intelligence support and much more.

What's in it for me?

Reserve Sailors enjoy a full array of benefits. But there's more: professional growth, personal pride, meaningful challenges and a greater cause.

Advance Your Professional Career

Navy Reserve Sailors continue to train and advance. Navy training, leadership and experience provides Reserve Sailors with skills that civilian employers find highly valuable. The Navy Reserve can bolster a resumé, finance an education and provide state-of-the-art training – all while providing additional income.

Take Pride in the Company You Keep

Reserve Sailors stay connected to what they love about the Navy – the people. They share a common bond and a camaraderie that only exists among those who serve.

Your Commitment is Honored

The contribution of each and every Sailor is valuable. Service can and does vary from a few days per year to full-time service. As a Reserve Sailor, service matters.



Photo by UT2 Vuong Ta

Photo by EO3 Mikayla Mondragon

Enjoy Exciting New Challenges

Sailors who want to take their skills to another level, be part of something bigger and make an impact on the world can do it in the Navy Reserve – while staying close to home, family and friends.

Strike A Balance

The Navy Reserve makes it possible to lead a balanced life and enjoy the best of both worlds. When Sailors continue serving in the Navy Reserve, they stay connected to the things that matter most – at home and on duty.

Unbeatable Benefits Provide Security and Flexibility

Navy Reserve benefits provide security while enabling Sailors to pursue career and education opportunities – benefits that are hard to match.

The Navy Reserve enables the continuum of service philosophy: recruit Sailors once and retain them for life through flexible service options that provide opportunities for meaningful and valued work across a career.

Health Care and Life Insurance

Reserve component Sailors and their families are eligible for highly affordable TRICARE Reserve Select medical care and dental benefits, as well as affordable Serviceman's Group life insurance for Sailors, spouses and children. Having this health and life insurance gives Reserve Sailors the flexibility to change jobs, go to school, start a family – on their terms.

Great Pay and Benefits

Navy Reserve Sailors earn pay and retirement credit, making it one of the only part-time jobs that provides a chance to earn a retirement. Reserve Sailors continue to compete for advancement and enjoy a wide variety of training, education, and travel opportunities (both duty and Space "A"). Reserve Sailors and their families have

access to commissaries, exchanges, Morale, Welfare and Recreation facilities, activities, gyms and clubs.

Life in the Navy Reserve

Traditionally, serving in the Navy Reserve requires a minimum of one weekend a month and two weeks a year. And there are many ways to fit the Navy Reserve into civilian life.

Reserve Sailors train at the nearest Navy Operational Support Center – there's one in every state, in Puerto Rico and Guam – or they may train at an active-duty Navy, Marine Corps or joint command. Exercises and other duty can take Reserve Sailors across the United States or around the globe.

Flexible drilling may be an option. Some fulfill their service commitment in a single, extended mission or serve on weekdays. There are many ways to serve that also support civilian careers or school schedules.

How Do I Get Started?

It's easier than ever to keep serving – it's like changing lanes from the active component to the Reserve component. Plan early and make informed decisions!

The Navy Reserve offers affiliation bonuses of up to \$20,000. Programs like the Career Transition Office, Career Management System Interactive Detailing and perform to serve with Selected Reserve option, show the options. Command career counselors have all the latest details.

With a Reserve billet and unit identified before leaving active duty, Sailors who change lanes can start serving immediately, even while attending school, embarking on a new career, or starting a family. Stay Navy!

For more information, go to www.navyreserve.com. 



Photo by Ted Carlsson



Photo by MCCS Andrew McKaskle



Photo by McC Kim Harris

Cruisers

Modern U.S. Navy guided-missile cruisers perform primarily in a battle force role. These ships are multimission, anti-air warfare (AAW), anti-submarine warfare (ASUW), long-range strike and anti-surface warfare (ASW) surface combatants capable of supporting carrier and expeditionary strike groups, amphibious forces, or of operating independently and as flagships of surface strike groups.

Ticonderoga-class

- USS *Bunker Hill* (CG 52)
- USS *Mobile Bay* (CG 53)
- USS *Antietam* (CG 54)
- USS *Leyte Gulf* (CG 55)
- USS *San Jacinto* (CG 56)
- USS *Lake Champlain* (CG 57)
- USS *Philippine Sea* (CG 58)
- USS *Princeton* (CG 59)
- USS *Normandy* (CG 60)
- USS *Monterey* (CG 61)
- USS *Chancellorsville* (CG 62)
- USS *Cowpens* (CG 63)
- USS *Gettysburg* (CG 64)
- USS *Chosin* (CG 65)
- USS *Hue City* (CG 66)
- USS *Shiloh* (CG 67)
- USS *Anzio* (CG 68)
- USS *Vicksburg* (CG 69)
- USS *Lake Erie* (CG 70)
- USS *Cape St. George* (CG 71)
- USS *Vella Gulf* (CG 72)
- USS *Port Royal* (CG 73)

Destroyers

Guided-missile destroyers are multimission AAW, ASW and ASUW surface combatants. They operate independently for support of carrier and expeditionary strike groups and surface strike groups.



Arleigh Burke-class

- | | |
|-------------------------------------|-----------------------------------|
| USS <i>Arleigh Burke</i> (DDG 51) | USS <i>Ramage</i> (DDG 61) |
| USS <i>Barry</i> (DDG 52) | USS <i>Fitzgerald</i> (DDG 62) |
| USS <i>John Paul Jones</i> (DDG 53) | USS <i>Stethem</i> (DDG 63) |
| USS <i>Curtis Wilbur</i> (DDG 54) | USS <i>Carney</i> (DDG 64) |
| USS <i>Stout</i> (DDG 55) | USS <i>Benfold</i> (DDG 65) |
| USS <i>John S. McCain</i> (DDG 56) | USS <i>Gonzalez</i> (DDG 66) |
| USS <i>Mitscher</i> (DDG 57) | USS <i>Cole</i> (DDG 67) |
| USS <i>Laboon</i> (DDG 58) | USS <i>The Sullivans</i> (DDG 68) |
| USS <i>Russell</i> (DDG 59) | USS <i>Milius</i> (DDG 69) |
| USS <i>Paul Hamilton</i> (DDG 60) | USS <i>Hopper</i> (DDG 70) |
| | USS <i>Ross</i> (DDG 71) |

USS *Mahan* (DDG 72)
 USS *Decatur* (DDG 73)
 USS *McFaul* (DDG 74)
 USS *Donald Cook* (DDG 75)
 USS *Higgins* (DDG 76)
 USS *O’Kane* (DDG 77)
 USS *Porter* (DDG 78)
 USS *Oscar Austin* (DDG 79)
 USS *Roosevelt* (DDG 80)
 USS *Winston S. Churchill* (DDG 81)
 USS *Lassen* (DDG 82)
 USS *Howard* (DDG 83)
 USS *Bulkeley* (DDG 84)
 USS *McCampbell* (DDG 85)
 USS *Shoup* (DDG 86)
 USS *Mason* (DDG 87)
 USS *Preble* (DDG 88)
 USS *Mustin* (DDG 89)
 USS *Chafee* (DDG 90)
 USS *Pinckney* (DDG 91)
 USS *Momsen* (DDG 92)
 USS *Chung-Hoon* (DDG 93)
 USS *Nitze* (DDG 94)
 USS *James E. Williams* (DDG 95)
 USS *Bainbridge* (DDG 96)
 USS *Halsey* (DDG 97)
 USS *Forrest Sherman* (DDG 98)
 USS *Farragut* (DDG 99)
 USS *Kidd* (DDG 100)
 USS *Gridley* (DDG 101)
 USS *Sampson* (DDG 102)
 USS *Truxtun* (DDG 103)
 USS *Sterett* (DDG 104)
 USS *Dewey* (DDG 105)
 USS *Stockdale* (DDG 106)
 USS *Gravelly* (DDG 107)
 USS *Wayne E. Meyer* (DDG 108)
 USS *Jason Dunham* (DDG 109)
 PCU *William P. Lawrence* (DDG 110)*
 PCU *Spruance* (DDG 111)*
 PCU *Michael Murphy* (DDG 112)*

Zumwalt-class

Zumwalt (DDG 1000)*
Michael Monsoor (DDG 1001)*

Frigates

Frigates fulfill a protection-of-shipping mission as ASW combatants for amphibious expeditionary forces, underway replenishment groups and merchant convoys.

Oliver Hazard Perry-class

USS *Boone* (FFG 28)**
 USS *Stephen W. Groves* (FFG 29)**
 USS *John L. Hall* (FFG 32)
 USS *Jarrett* (FFG 33)
 USS *Underwood* (FFG 36)
 USS *Crommelin* (FFG 37)**
 USS *Curtis* (FFG 38)**
 USS *Doyle* (FFG 39)**
 USS *Halyburton* (FFG 40)
 USS *McClusky* (FFG 41)**
 USS *Klakring* (FFG 42)**
 USS *Thach* (FFG 43)
 USS *DeWert* (FFG 45)
 USS *Rentz* (FFG 46)
 USS *Nicholas* (FFG 47)
 USS *Vandegrift* (FFG 48)
 USS *Robert G. Bradley* (FFG 49)
 USS *Taylor* (FFG 50)
 USS *Gary* (FFG 51)
 USS *Carr* (FFG 52)
 USS *Hawes* (FFG 53)
 USS *Ford* (FFG 54)
 USS *Elrod* (FFG 55)
 USS *Simpson* (FFG 56)**
 USS *Reuben James* (FFG 57)
 USS *Samuel B. Roberts* (FFG 58)
 USS *Kauffman* (FFG 59)
 USS *Rodney M. Davis* (FFG 60)**
 USS *Ingraham* (FFG 61)

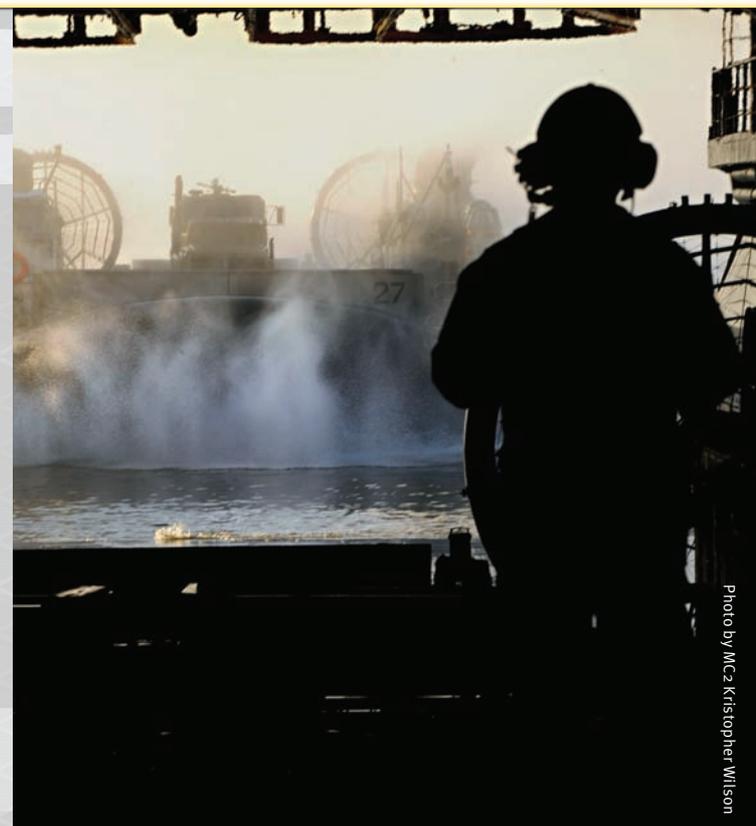


Photo by MCA Kristopher Wilson

Amphibious Assault

Operating as part of the modern U.S. Navy, amphibious assault ships project power and maintain presence by serving as the cornerstone of the expeditionary strike groups. These ships use air cushion landing craft, (LCAC), conventional landing craft and helicopters to move Marine assault forces ashore.

In a secondary role, using AV-8B *Harrier* aircraft and ASUH helicopters, these ships perform sea control and limited power projection missions.

Tarawa-class

USS *Nassau* (LHA 4)
 USS *Peleliu* (LHA 5)

Wasp-class

USS *Wasp* (LHD 1)
USS *Essex* (LHD 2)
USS *Kearsarge* (LHD 3)
USS *Boxer* (LHD 4)
USS *Bataan* (LHD 5)
USS *Bonhomme Richard* (LHD 6)
USS *Iwo Jima* (LHD 7)
USS *Makin Island* (LHD 8)

America-class

PCU *America* (LHA 6)*

Amphibious Transport Dock

Amphibious transport dock ships are used to transport and land elements of a landing force for a variety of expeditionary warfare missions. These ships are used to transport Marines, their equipment and supplies by embarked air cushion or conventional landing craft or amphibious vehicles, augmented by helicopters or vertical take off and landing aircraft in amphibious assault, special operations, or expeditionary warfare missions.

Austin-class

USS *Cleveland* (LPD 7)
USS *Dubuque* (LPD 8)
USS *Denver* (LPD 9)
USS *Ponce* (LPD 15)

San Antonio-class

USS *San Antonio* (LPD 17)
USS *New Orleans* (LPD 18)
USS *Mesa Verde* (LPD 19)
USS *Green Bay* (LPD 20)
USS *New York* (LPD 21)
San Diego (LPD 22)*
Anchorage (LPD 23)*
Arlington (LPD 24)*
Somerset (LPD 25)*

Amphibious Dock Landing

Dock landing ships support amphibious operations including landings via air, LCAC, conventional landing craft and helicopters, onto hostile shores.

Whidbey Island-class

USS *Whidbey Island* (LSD 41)
USS *Germantown* (LSD 42)
USS *Fort McHenry* (LSD 43)
USS *Gunston Hall* (LSD 44)
USS *Comstock* (LSD 45)
USS *Tortuga* (LSD 46)
USS *Rushmore* (LSD 47)
USS *Ashland* (LSD 48)

Harpers Ferry-class

USS *Harpers Ferry* (LSD 49)
USS *Carter Hall* (LSD 50)
USS *Oak Hill* (LSD 51)
USS *Pearl Harbor* (LSD 52)

Amphibious Command

Amphibious Command ships provide command and control for fleet commanders. Commissioned in 1970, these are the only ships to be designed initially for an amphibious command ship role. Earlier amphibious command ships lacked sufficient speed to keep up with a 20-knot amphibious force. USS *Blue Ridge* (LCC 19) became the 7th Fleet command ship in 1979, and USS *Mount Whitney* (LCC/JCC 20) became the 6th Fleet command ship in 2005. *Mount Whitney* was transferred to Military Sealift Command, but is still in commission.

Blue Ridge-class

USS *Blue Ridge* (LCC 19)
USS *Mount Whitney* (LCC/JCC 20)

Mine Countermeasures Ships

Avenger-class ships are designed as mine hunter-killers capable of finding, classifying and destroying moored and bottom mines. The last three MCM ships were purchased in 1990, bringing the total to 14 fully deployable, oceangoing *Avenger*-class ships. These ships use sonar and video systems, cable cutters and a mine detonating device that can be released and detonated by remote control. They are also capable of conventional sweeping measures.

Avenger-class

USS *Avenger* (MCM 1)
USS *Defender* (MCM 2)
USS *Sentry* (MCM 3)
USS *Champion* (MCM 4)
USS *Guardian* (MCM 5)
USS *Devastator* (MCM 6)
USS *Patriot* (MCM 7)
USS *Scout* (MCM 8)
USS *Pioneer* (MCM 9)
USS *Warrior* (MCM 10)
USS *Gladiator* (MCM 11)
USS *Ardent* (MCM 12)
USS *Dextrous* (MCM 13)
USS *Chief* (MCM 14)

Coastal Patrol Ships

The primary mission of these ships is coastal patrol and interdiction surveillance, an important aspect of littoral operations.

These ships provide the U.S. Navy with a fast, reliable platform that can respond to emergent requirements in a shallow water environment. Five of these ships have been forward-deployed to the Gulf region in support of the war on terrorism.

The *Cyclone*-class have all been employed jointly with the U.S. Coast Guard to help protect the nation's coastline. The Navy and Coast Guard signed an agree-

ment in August 2004 that allowed five ships to be under the operational command of the Coast Guard beginning in October 2004. Two of five ships returned to the Navy in 2008; the remainder will return in 2011. In 2009, the ships began a sustainment program to update their communication, engineering and support systems.

Cyclone-class

- USS *Tempest* (PC 2)
- USS *Hurricane* (PC 3)
- USS *Monsoon* (PC 4)
- USS *Typhoon* (PC 5)
- USS *Sirocco* (PC 6)
- USS *Squall* (PC 7)
- USS *Chinook* (PC 9)
- USS *Firebolt* (PC 10)
- USS *Whirlwind* (PC 11)
- USS *Thunderbolt* (PC 12)

Littoral Combat Ship

The littoral combat ship is a fast craft designed to operate in hostile near-shore environments yet capable of open-ocean operations. It is designed to defeat asymmetric “anti-access” threats such as mines, quiet diesel submarines and fast surface craft. *Freedom*-class consists of two different hull forms – a semiplaning monohull and an aluminum trimaran. Both have reconfigurable payloads for interchangeable mission packages that focus on antisubmarine, mine and surface warfare.

Freedom-class

- USS *Freedom* (LCS 1)
- USS *Independence* (LCS 2)
- Fort Worth* (LCS 3)*
- Coronado* (LCS 4)*

Submarine Tenders

Submarine tenders furnish maintenance and logistic support for nuclear-powered attack submarines and are

the largest of the active auxiliaries. Their crews are made up mostly of technicians and repair personnel.

Emory S. Land-class

- USS *Emory S. Land* (AS 39)
- USS *Frank Cable* (AS 40)

Joint High Speed Vessel

The JHSV program is procuring high-speed transport vessels for the Army and the Navy. These vessels will be used for fast intra-theater transportation of troops, military vehicles and equipment. JHSV will be capable of transporting 600 short tons 1,200 nautical miles at an average speed of 35 knots. The ships will be capable of operating in shallow-draft ports and waterways, interfacing with roll-on/roll-off discharge facilities, and on/off-loading a combat-loaded Abrams Main Battle Tank (M1A2). Other joint requirements include an aviation flight deck to support day and night air vehicle launch and recovery operations. As a non-combatant sealift ship, the Navy variant of JHSV will be crewed by civilian mariners, either employed by or under contract to the Navy’s Military Sealift Command. U.S. Army vessels will be crewed by Army craft masters.

Spearhead-class

- Spearhead* (JHSV 1)*
- Vigilant* (JHSV 2)*
- Fortitude* (JHSV 3)*
- Fall River* (JHSV 4)*
- Unnamed (JHSV 5)*

Other Ships In Commission

- USS *Constitution*
- USS *Pueblo* (AGER 2)
- Self Defense Test Ship* (EDDG 31)

*Under construction or authorized for construction

**Navy Reserve Force

(Source: Naval Sea Systems Command) 



Photo courtesy Dennis Griggs

26 MILITARY SEALIFT COMMAND SHIPS



Photo by MC2 Jon Husman

Military Sealift Command

Military Sealift Command (MSC) operates approximately 110 noncombatant, civilian-crewed ships that replenish U.S. Navy ships, conduct specialized missions, strategically preposition combat cargo at sea around the world and move military equipment and supplies used by deployed U.S. forces. In wartime, more than 90 percent of all equipment and supplies needed by U.S. military forces is carried by sea.

MSC, headquartered in Washington, D.C., has six major subordinate commands worldwide. Military Sealift Fleet Support Command in Norfolk crews, trains, equips and maintains MSC's government-owned, government-operated ships around the globe. In addition, five operational commands called Sealift Logistics Commands (SEALOGs) are located in Norfolk; San Diego; Naples, Italy; Manama, Bahrain; and Singapore.

Naval Fleet Auxiliary Force

The ships of MSC's Naval Fleet Auxiliary Force (NFAF) are the supply lines to U.S. Navy ships at sea. These ships provide virtually everything that Navy ships need, including fuel, food, ordnance, spare parts, mail and other supplies. All NFAF ships are government-owned and crewed by civil service mariners. Some of the ships also have a small contingent of Navy personnel aboard for operations support, supply coordination and helicopter operations. When needed, some NFAF ships also carry military or civilian helicopter detachments.

Ammunition Ships (T-AE)

USNS *Flint* (T-AE 32)
USNS *Shasta* (T-AE 33)*

Fast Combat Support Ships (T-AOE)

USNS *Supply* (T-AOE 6)
USNS *Rainier* (T-AOE 7)
USNS *Arctic* (T-AOE 8)
USNS *Bridge* (T-AOE 10)

Hospital Ships (T-AH)

USNS *Mercy* (T-AH 19)
USNS *Comfort* (T-AH 20)

Dry Cargo/Ammunition Ships (T-AKE)

USNS *Lewis and Clark* (T-AKE 1)
USNS *Sacagawea* (T-AKE 2)
USNS *Alan Shepard* (T-AKE 3)
USNS *Richard E. Byrd* (T-AKE 4)
USNS *Robert E. Peary* (T-AKE 5)
USNS *Amelia Earhart* (T-AKE 6)
USNS *Carl Brashear* (T-AKE 7)
USNS *Wally Schirra* (T-AKE 8)
USNS *Matthew Perry* (T-AKE 9)
USNS *Charles Drew* (T-AKE 10)
USNS *Washington Chambers* (T-AKE 11)*

Fleet Replenishment Oilers (T-AO)

USNS *Henry J. Kaiser* (T-AO 187)
USNS *Joshua Humphreys* (T-AO 188)
USNS *John Lenthall* (T-AO 189)
USNS *Walter S. Diehl* (T-AO 193)
USNS *John Ericsson* (T-AO 194)
USNS *Leroy Grumman* (T-AO 195)
USNS *Kanawha* (T-AO 196)
USNS *Pecos* (T-AO 197)
USNS *Big Horn* (T-AO 198)
USNS *Tippicanoe* (T-AO 199)
USNS *Guadalupe* (T-AO 200)
USNS *Patuxent* (T-AO 201)
USNS *Yukon* (T-AO 202)
USNS *Laramie* (T-AO 203)
USNS *Rappahannock* (T-AO 204)

Fleet Ocean Tugs (T-ATF)

USNS *Catawba* (T-ATF 168)
USNS *Navajo* (T-ATF 169)
USNS *Sioux* (T-ATF 171)
USNS *Apache* (T-ATF 172)

Rescue and Salvage Ships (T-ARS)

USNS *Safeguard* (T-ARS 50)
USNS *Grasp* (T-ARS 51)
USNS *Salvor* (T-ARS 52)
USNS *Grapple* (T-ARS 53)

Special Mission Ships

MSC's Special Mission Program provides operating platforms and services for a wide variety of U.S. military and other U.S. government missions. Oceanographic and hydrographic surveys, underwater surveillance, missile tracking, command and control, and submarine support are just a few of the specialized capabilities this program provides.

Cable Laying/Repair Ship (T-ARC)

USNS *Zeus* (T-ARC 7)

Command Ship (LCC)

USS *Mount Whitney* (LCC 20)

Missile Range Instrumentation Ships (T-AGM)

USNS *Observation Island* (T-AGM 23)
USNS *Invincible* (T-AGM 24)

Navigation Test Support Ships (T-AGS)

USNS *Waters* (T-AGS 45)

Ocean Surveillance Ships (T-AGOS)

USNS *Victorious* (T-AGOS 19)
USNS *Able* (T-AGOS 20)
USNS *Effective* (T-AGOS 21)
USNS *Loyal* (T-AGOS 22)
USNS *Impeccable* (T-AGOS 23)

Oceanographic Survey Ships (T-AGS)

USNS *Pathfinder* (T-AGS 60)
USNS *Sumner* (T-AGS 61)
USNS *Bowditch* (T-AGS 62)



USNS *Henson* (T-AGS 63)
USNS *Bruce C. Heezen* (T-AGS 64)
USNS *Mary Sears* (T-AGS 65)

Submarine and Special Warfare Support Ships

MV-C-Commando
MV C-Champion
MV Dolores Chouest
MV HOS Arrowhead
MV HOS Eagle View
MV HOS Black Powder
MV HOS Westwind
MV HOS Dominator

Submarine Tender (AS)

USS Emory S. Land (AS 39)
USS Frank Cable (AS 40)

Pre-Positioning

The MSC Pre-positioning Program supports the U.S. Army, U.S. Navy, U.S. Air Force, U.S. Marine Corps and Defense Logistics Agency. Afloat pre-positioning strategically places military equipment and supplies aboard ships located in key ocean areas to ensure rapid availability to U.S. combat troops during a conflict, a humanitarian operation or other contingency. In addition, two high-speed vessels support geographic combatant command and service requirements for intra-theater lift and theater security cooperation.

Air Force Container Ships (T-AK)

MV CAPT Steven L. Bennett (T-AK 4296)
MV TSGT John A. Chapman (T-AK 323)

Army Container Ships (T-AK)

MV LTC John U.D. Page (T-AK 4543)
MV SSGT Edward A. Carter Jr. (T-AK 4544)

Maritime Prepositioning and Force Container Roll-on/Roll-off and Tanker (T-AK, T-AKR and T-AOT)

USNS *Lawrence H Gianella* (T-AOT 1125)
USNS *SGT Matej Kocak* (T-AK 3005)
USNS *PFC Eugene A. Obregon* (T-AK 3006)
USNS *MAJ Stephen W. Pless* (T-AK 3007)
USNS *2ND LT John P. Bobo* (T-AK 3008)
USNS *PFC Dewayne T. Williams* (T-AK 3009)
USNS *1ST LT Baldomero Lopez* (T-AK 3010)
USNS *1ST LT Jack Lummus* (T-AK 3011)
USNS *SGT William R. Button* (T-AK 3012)
USNS *1ST LT Harry L. Martin* (T-AK 3015)
USNS *LCPL Roy M. Wheat* (T-AK 3016)
USNS *GYSGT Fred W. Stockham* (T-AK 3017)
USNS *Seay* (T-AKR 302)
USNS *Sisler* (T-AKR 311)
USNS *Dahl* (T-AKR 312)
MV *MAJ Bernard F. Fisher* (T-AK 4396)

Offshore Petroleum Distribution System (T-AG)

MV *VADM K.R. Wheeler* (T-AG 5001)

Aviation Logistics Support Ships (T-AVB)

SS *Wright* (T-AVB 3)
SS *Curtiss* (T-AVB 4)

Large, Medium-speed Roll-on/Roll-off Ships (T-AKR)

USNS *Watson* (T-AKR 310)
USNS *Red Cloud* (T-AKR 313)
USNS *Charlton* (T-AKR 314)
USNS *Watkins* (T-AKR 315)
USNS *Pomeroy* (T-AKR 316)
USNS *Soderman* (T-AKR 317)

High-Speed Vessel (HSV)

HSV *Westpac Express* (HSV 4676)
HSV *Swift* (HSV 2)



Photo by Lt. Ed Early

Break-Bulk (T-AK)

SS *Cape Jacob* (T-AK 5029) ***

Sealift Force

MSC's Sealift Program provides high-quality, efficient and cost-effective ocean transportation for DoD and other federal agencies during peacetime and war.

Large, Medium-speed Roll-on/Roll-off Ships (T-AKR)

USNS *Shughart* (T-AKR 295)
USNS *Gordon* (T-AKR 296)
USNS *Yano* (T-AKR 297)
USNS *Gilliland* (T-AKR 298)
USNS *Bob Hope* (T-AKR 300)
USNS *Fisher* (T-AKR 301)
USNS *Mendonca* (T-AKR 303)
USNS *Pililaau* (T-AKR 304)

USNS *Brittin* (T-AKR 305)

USNS *Benavidez* (T-AKR 306)

Tankers T-AOT

USNS *Richard G. Matthiesen* (T-AOT 1124) ****

MT *Empire State* (T-AOT 5193)

MT *Evergreen State*

Dry Cargo Ships

MV *Mohegan* (T-AK 5158)

MV *Virginian* (T-AK 9205)

T/B *Megan Beyel/MOBRO 1210*

* Expected deactivation in 2010

** Under construction

*** Construction expected to begin in September 2010

**** Transferring to MSC in February 2010

(Source: Military Sealift Command) 



Attack Submarines

Attack submarines (SSNs) are designed to seek and destroy enemy submarines and surface ships; project power ashore with *Tomahawk* cruise missiles and special operation forces (SOF); carry out intelligence, surveillance and reconnaissance (ISR) missions; conduct irregular warfare (IW) missions; and engage in mine warfare.

There are three classes of SSNs. The *Los Angeles*-class is the backbone of the submarine force with 43 subs now in service.

The *Seawolf*-class submarine is a multi-mission vessel designed to be exceptionally quiet, fast and well-armed, with advanced sensors. The *Virginia*-class is the Navy's next generation SSN and is built to excel in both deep ocean and shallow waters conducting a wide variety of missions including anti-submarine and surface ship, warfare, SOFs, ISR, IW and mine warfare.

Los Angeles-class

- USS *Memphis* (SSN 691)
- USS *Bremerton* (SSN 698)
- USS *Jacksonville* (SSN 699)
- USS *Dallas* (SSN 700)
- USS *La Jolla* (SSN 701)
- USS *City of Corpus Christi* (SSN 705)
- USS *Albuquerque* (SSN 706)
- USS *San Francisco* (SSN 711)
- USS *Houston* (SSN 713)
- USS *Norfolk* (SSN 714)
- USS *Buffalo* (SSN 715)
- USS *Olympia* (SSN 717)
- USS *Providence* (SSN 719)
- USS *Pittsburgh* (SSN 720)
- USS *Chicago* (SSN 721)
- USS *Key West* (SSN 722)
- USS *Oklahoma City* (SSN 723)
- USS *Louisville* (SSN 724)
- USS *Helena* (SSN 725)
- USS *Newport News* (SSN 750)
- USS *San Juan* (SSN 751)

- USS *Pasadena* (SSN 752)
- USS *Albany* (SSN 753)
- USS *Topeka* (SSN 754)
- USS *Miami* (SSN 755)
- USS *Scranton* (SSN 756)
- USS *Alexandria* (SSN 757)
- USS *Asheville* (SSN 758)
- USS *Jefferson City* (SSN 759)
- USS *Annapolis* (SSN 760)
- USS *Springfield* (SSN 761)
- USS *Columbus* (SSN 762)
- USS *Santa Fe* (SSN 763)
- USS *Boise* (SSN 764)
- USS *Montpelier* (SSN 765)
- USS *Charlotte* (SSN 766)
- USS *Hampton* (SSN 767)
- USS *Hartford* (SSN 768)
- USS *Toledo* (SSN 769)
- USS *Tucson* (SSN 770)
- USS *Columbia* (SSN 771)
- USS *Greeneville* (SSN 772)
- USS *Cheyenne* (SSN 773)

Seawolf-Class

- USS *Seawolf* (SSN 21)
- USS *Connecticut* (SSN 22)
- USS *Jimmy Carter* (SSN 23)

Virginia-class

- USS *Virginia* (SSN 774)
- USS *Texas* (SSN 775)
- USS *Hawaii* (SSN 776)
- USS *North Carolina* (SSN 777)
- USS *New Hampshire* (SSN 778)
- USS *New Mexico* (SSN 779)
- USS *Missouri* (SSN 780)
- California* (SSN 781)*
- Mississippi* (SSN 782)*
- Minnesota* (SSN 783)*
- North Dakota* (SSN 784)*
- John Warner* (SSN 785)*

Photo by Paul Farley

Photo by Paul Farley

Ballistic Missile Submarines

Strategic deterrence has been the sole mission of the fleet ballistic missile submarine (SSBN) since its inception in 1959. The SSBN provides the nation's most survivable and enduring nuclear strike capability. The *Ohio*-class submarine replaced aging SSBNs built in the 1960s and is far more capable. *Ohio*-class Trident ballistic missile submarines provide the sea-based "leg" of the nuclear deterrence triad. *Ohio*-class SSBNs have the capability to carry up to 24 *Trident II* (D5) submarine launched ballistic missiles with multiple, independently-targeted warheads.

The first four *Ohio*-class submarines have been converted to guided-missile submarines (SSGN) with the capability to transport and support Navy special operations forces.

Ohio-class

- USS *Henry M. Jackson* (SSBN 730)
- USS *Alabama* (SSBN 731)
- USS *Alaska* (SSBN 732)
- USS *Nevada* (SSBN 733)

- USS *Tennessee* (SSBN 734)
- USS *Pennsylvania* (SSBN 735)
- USS *West Virginia* (SSBN 736)
- USS *Kentucky* (SSBN 737)
- USS *Maryland* (SSBN 738)
- USS *Nebraska* (SSBN 739)
- USS *Rhode Island* (SSBN 740)
- USS *Maine* (SSBN 741)
- USS *Wyoming* (SSBN 742)
- USS *Louisiana* (SSBN 743)

Guided-Missile Submarines

The 1994 Nuclear Posture Review determined that the United States needed only 14 SSBNs to meet the nation's strategic force needs. The decision was made to transform four *Ohio*-class submarines into conventional land attack and SOF platforms. This allowed the Navy to leverage existing submarine technology while expanding capability to meet the current and future needs of U.S. combatant commanders.

The SSGN Program Office converted four *Ohio*-class SSBNs into SSGNs in a little more than five years at a significantly lower cost than building a new platform.

- USS *Ohio* (SSGN 726)
- USS *Michigan* (SSGN 727)
- USS *Florida* (SSGN 728)
- USS *Georgia* (SSGN 729)

Submarine Rescue Diving & Recompression System

The Submarine Diving and Recompression System (SRDRS) is a rapidly deployable rescue asset that can be delivered by air or ground, installed on pre-screened military or commercial vessels of opportunity via a ship interference template and mated to a distressed submarine within 72 hours of first notification. SRDRS' rescue module, Falcon, can conduct rescue operations to a depth of 2,000 feet, can mate to a disabled submarine at a combined list and trim angle of up to 45 degrees and can transfer up to 16 personnel at a time.

Large-Scale Vehicle 2 (LSV 2)

LSV 2 *Cutthroat*, the world's largest unmanned, autonomous submarine, offers the capability to conduct a wide variety of studies dramatically improving the acoustic and operational performance of future submarines.

Cutthroat, a 205-ton, large-scale submarine test vehicle, is used to affordably explore and test emerging technologies and to conduct physics-based experiments. Specific emphasis will be on stealth, hydrodynamics, hydroacoustics and propulsion designs to permit technology insertion into current and future submarines.

Cutthroat (LSV 2)

*Under construction or authorized for construction, not yet commissioned.

(Note: *Virginia*-class submarines (SSN 786 to SSN 791 have been authorized, but not named.)

(Source: Naval Sea Systems Command) 



32 AIRCRAFT CARRIERS

Aircraft carriers are the centerpiece of America's naval forces. On any given day, aircraft carriers exercise the Navy core capabilities of power projection, forward presence, humanitarian assistance, deterrence, sea control and maritime security. In times of crisis, the first question leaders ask is: "Where are the carriers?"

USS *Enterprise* (CVN 65) and 10 ships of the *Nimitz*-class make up the fleet of active aircraft carriers and will be replaced by the *Gerald R. Ford* class. The namesake of the class is scheduled to be delivered in 2015. These in-service carriers, and *Gerald R. Ford*-class (under construction) are each designed for a service life of approximately 50 years with one mid-life refueling. These ships are the centerpiece of America's naval forces.

Enterprise-class

USS *Enterprise* (CVN 65)

Nimitz-class

USS *Nimitz* (CVN 68)

USS *Dwight D. Eisenhower* (CVN 69)

USS *Carl Vinson* (CVN 70)

USS *Theodore Roosevelt* (CVN 71)

USS *Abraham Lincoln* (CVN 72)

USS *George Washington* (CVN 73)

USS *John C. Stennis* (CVN 74)

USS *Harry S. Truman* (CVN 75)

USS *Ronald Reagan* (CVN 76)

USS *George H.W. Bush* (CVN 77)

Gerald R. Ford-class

Gerald R. Ford (CVN 78)*

*Under construction.

(Source: Naval Air Forces) 

Photo by MC3 Nicholas Hall





Photo by MCz John Philip Wagner Jr.

Carrier Based

EA-18G Growler

A variant of the U.S. Navy F/A-18F two-crew strike fighter, the EA-18G combines the combat-proven F/A-18F strike fighter with the proven Improved Capability III (ICAP III) Airborne Electronic Attack suite.

Squadrons

- VAQ-129 *Vikings*
- VAQ-132 *Scorpions*
- VAQ-138 *Yellowjackets*
- VAQ-141 *Shadowhawks*

F/A-18E/F Super Hornet

The F/A-18E/F provides the carrier strike group with a strike fighter that has significant growth potential and increased range, endurance and ordnance-carrying capabilities.

Squadrons

- VFA-2 *Bounty Hunters*
- VFA-11 *Red Rippers*
- VFA-14 *Tophatters*
- VFA-22 *Fighting Redcocks*
- VFA-27 *Royal Maces*
- VFA-31 *Tomcatters*
- VFA-32 *Swordsmen*
- VFA-41 *Black Aces*

- VFA-81 *Sunliners*
- VFA-102 *Diamondbacks*
- VFA-103 *Jolly Rogers*
- VFA-105 *Gunslingers*
- VFA-115 *Eagles*
- VFA-122 *Flying Eagles*
- VFA-131 *Wildcats*
- VFA-136 *Knighthawks*
- VFA-137 *Kestrels*
- VFA-143 *Pukin' Dogs*
- VFA-147 *Argonauts*
- VFA-154 *Black Knights*
- VFA-211 *Fighting Checkmates*
- VFA-213 *Black Lions*

F/A-18 Hornet

The F/A-18 is an all-weather, attack aircraft that can also be used as a fighter. In its fighter mode, the F/A-18 is used primarily as an escort and for fleet air defense. In its attack mode, it is used for force projection, interdiction and close and deep air support.

Squadrons

- Blue Angels*
- VFA-15 *Valions*
- VFA-25 *Fist of the Fleet*
- VFA-34 *Blue Blasters*
- VFA-37 *Bulls*
- VFA-83 *Rampagers*
- VFA-86 *Sidewinders*
- VFA-87 *Golden Warriors*
- VFA-94 *Mighty Shrikes*
- VFA-97 *Warhawks*
- VFA-106 *Gladiators*
- VFA-113 *Stingers*
- VFA-125 *Rough Raiders*
- VFA-146 *Blue Diamonds*
- VFA-151 *Vigilantes*
- VFA-192 *Golden Dragons*
- VFA-195 *Dambusters*
- VFA-204 (USNR) *River Rattlers*
- VFC-12 (USNR) *Fighting Omars*



EA-6B Prowler

The EA-6B *Prowler*, a twin-engine, mid-wing aircraft designed for carrier and advanced base operations, provides an umbrella of protection for strike aircraft, ground troops and ships by jamming communications. The primary mission of the EA-6B *Prowler* is suppression of enemy air defenses in support of strike aircraft and ground troops by interrupting enemy electronic activity and obtaining tactical electronic intelligence within the combat area.

Squadrons

- VAQ-130 *Zappers*
- VAQ-131 *Lancers*
- VAQ-133 *Wizards*
- VAQ-134 *Garudas*
- VAQ-135 *Black Ravens*
- VAQ-136 *Gauntlets*
- VAQ-137 *Rooks*
- VAQ-139 *Cougars*
- VAQ-140 *Patriots*
- VAQ-142 *Gray Wolves*
- VAQ-209 (USNR) *Star Warriors*

E-2C Hawkeye

The E-2C *Hawkeye* is the Navy's all-weather, carrier-based tactical battle management airborne early warning, command and control aircraft. The *Hawkeye* provides all-weather airborne early warning, airborne battle management and command and control functions for the carrier strike group and joint force commander.

Additional missions include surface surveillance coordination, air interdiction, offensive and defensive counter air control, close air support coordination, time critical strike coordination, search and rescue airborne coordination and communications relay.

Squadrons

- VAW-77 (USNR) *Nightwolves*
- VAW-112 *Golden Hawks*
- VAW-113 *Black Eagles*
- VAW-115 *Liberty Bells*

- VAW-116 *Sun Kings*
- VAW-117 *Wallbangers*
- VAW-120 *Grey Hawks*
- VAW-121 *Bluetails*
- VAW-123 *Screwtops*
- VAW-124 *Bear Aces*
- VAW-125 *Tigertails*
- VAW-126 *Seahawks*

C-2A Greyhound

The C-2A provides critical logistics support to carrier strike groups. Its primary mission is the transport of high-priority cargo, mail and passengers between carriers and shore bases and can deliver a combined payload of 10,000 pounds over a distance of more than 1,000 nautical miles. The interior arrangement of the cabin can readily accommodate cargo, passengers and litter patients.

Priority cargo such as jet engines can be transported from shore to ship in a matter of hours. A cargo cage system or transport stand provides restraint for loads during launches and landings.

Squadrons

- VRC-30 *Providers*
- VRC-40 *Rawhides*

Shore Based

E-6B Mercury

The E-6B *Mercury* aircraft provides a survivable communications link between national decision makers and the country's arsenal of strategic nuclear weapons. The E-6B enables the president of the United States and the secretary of defense to directly contact submarines, bombers and missile silos protecting our national security through deterrence.

Squadrons

- VQ-3 *Ironman*
- VQ-4 *Shadows*
- VQ-7 *Roughnecks*

P-3C Orion/EP-3E Aries II

Originally designed as a land-based, long-range, anti-submarine warfare patrol aircraft, the P-3C's mission has evolved in the late 1990s and early 21st century to include surveillance of the battle space, either at sea or over land. Its long-range and long-loiter time have proved invaluable assets during Operation *Iraqi Freedom* as it can view the battlespace and instantaneously provide that information to ground troops, especially U.S. Marines.

The P-3C has advanced submarine detection sensors such as directional frequency and ranging sonobuoys and magnetic anomaly detection equipment. The P-3C can carry a mixed payload of weapons internally and on wing pylons. The EP-3E *Aries II* (Airborne Reconnaissance Integrated Electronic System II) is the Navy's only land-based signals intelligence (SIGINT) reconnaissance aircraft. The 11 aircraft in the Navy's inventory are based on the *Orion* P-3 airframe and provide fleet and theater commanders worldwide with near real-time tactical SIGINT. With sensitive receivers and high-gain dish antennas, the EP-3E exploits a wide range of electronic emissions from deep within targeted territory.

Squadrons

VP-1 *Screaming Eagles*
VP-4 *Skinny Dragons*
VP-5 *Mad Foxes*
VP-8 *Tigers*
VP-9 *Golden Eagles*
VP-10 *Lancers*
VP-16 *War Eagles*
VP-26 *Tridents*
VP-30 *Pro's Nest*
VP-40 *Fighting Marlins*
VP-45 *Pelicans*
VP-46 *Grey Knights*
VP-47 *Golden Swordsmen*
VP-62 (USNR) *Broad Arrows*
VP-69 (USNR) *Totems*
VQ-1 *World Watchers*
VQ-2 *Sandeman*

VPU-1 *Old Buzzards*
VPU-2 *Wizards*

C-130T Hercules

The C-130T is the workhorse of the fleet and its primary mission is to satisfy Navy-specific fleet essential airlift requirements worldwide, to include flexible response to the fleet and short notice operational requirements for both training and deployed units. The C-130T operates from shore installations to provide intra-theater logistics support for all aspects of naval power. It is a four-engine, turbo-prop aircraft capable of landing and taking off from short, rough dirt runways. It can transport up to 92 personnel, or 42,000 pounds of cargo, and can be configured to perform the air medical evacuation mission carrying up to 70 litters.

Squadrons

VR-53 (USNR) *Capital Express*
VR-54 (USNR) *Revelers*
VR-55 (USNR) *Minutemen*
VR-62 (USNR) *Nomads*
VR-64 (USNR) *Condors*

C-9B/DC-9 Skytrain II

The C-9B fleet is located throughout CONUS, Europe and Asia. The C-9B aircraft provides cargo and passenger transportation, as well as forward deployment logistics support.

Squadrons

VR-46 (USNR) *Eagles*
VR-52 (USNR) *Task Masters*
VR-56 (USNR) *Globe Masters*
VR-61 (USNR) *Islanders*

C-40A Clipper

The C-40A *Clipper* provides critical logistics support to the Navy. Its flight deck features a flight management computer system with an integrated GPS. The U.S. Navy Reserve, which operates and maintains the aircraft, is the

first customer for the newest member of the Boeing next-generation 737 family.

The *Clipper* was ordered by the Navy to replace its fleet of aging C-9B *Skytrains*. The C-40A is the first new logistics aircraft in 19 years to join the Navy Reserve. Currently, the Navy Reserve provides 100 percent of the Navy's worldwide in-theater medium and heavy airlift.

Squadrons

VR-57 (USNR) *Conquistadors*
VR-58 (USNR) *Sunseekers*
VR-59 (USNR) *Lonestar Express*

C-12 Huron

The C-12 *Huron* is the military variant of the commercial *King Air* series aircraft. It is an all-metal, low-wing, T-Tail monoplane with two turbo-prop engines. The flight deck and cabin are pressurized for high altitude flight. This aircraft incorporates a cargo door with an integral air-stair door to permit easy entry and egress. With an effective payload capacity of up to 4,215 pounds, the cabin can readily be configured to accommodate passengers, cargo or both.

The mission of the C-12 *Huron* is to provide rapid, high priority movement of personnel and cargo; range clearance, courier flights, medical evacuation and humanitarian rescue; multi-engine pilot training; and testing assets.

C-12 *Huron*'s are located at Naval Air Station (NAS) North Island, Calif.; NAS Norfolk; NAS Patuxent River, Md.; NAS Joint Reserve Base (JRB) Willow Grove, Pa.; NAS JRB New Orleans; NAS Fort Worth; NAS Jacksonville, Fla.; NAS Corpus Christi, Texas; Naval Air Facility (NAF) Andrews Air Force Base, Washington, D.C.; Marine Corps Airstation (MCAS) Yuma, Ariz.; MCAS Miramar, Calif.; MCAS Beaufort, S.C.; MCAS New River, N.C.; MCAS Iwakuni, Japan; MCAS Futenma, Japan; Naval Station Guantanamo Bay, Cuba; Naval Support Activity Bahrain; NAF Atsugi, Japan; NAF Kadena, Japan; and NAF Misawa, Japan.

C-20A/D

The C-20A and D are commercial derivative Gulfstream III aircraft that provides worldwide airlift for senior leadership and dignitaries.

Squadrons

Fleet Logistics Support Wing Det.,
Sigonella, Italy (C-20A)
VR-1 (USNR) *Starlifters*, Andrews AFB,
Washington, D.C. (C-20D)

C-20G

The C-20G is a commercial derivative Gulfstream IV aircraft that provides long-range, medium airlift logistics support for fleet battle groups. The C-20G is a Gulfstream IV variant with a cargo door providing long-range, medium lift capability.

Squadrons

VR-48 (USNR) *Skyliners*
VR-51 (USNR) *Windjammers*
VMR Det. MCAF Kaneohe Bay, Hawaii (USMC)

C-26

The C-26 is the military variant of the commercial Model SA-227-DC (Metro 23) aircraft series manufactured by Fairchild Aircraft Corporation. It's an all-metal, low-wing, cabin-class aircraft with two Allied Signal TPE331-12 turbo-prop engines. With a maximum payload capacity of 5,020 pounds, the cabin can be configured to accommodate up to 19 passengers, cargo or a combination of both.

The four European-based aircraft provide rapid response cargo and passenger transportation as well as forward deployment logistics support, and the two RC-26D aircraft and one EC-26D aircraft in Hawaii support range operations at Pacific Missile Range Facility (PMRF) Barking Sands, Kauai.

NAF *Sigonella*
NAF *Naples*
PMRF *Kauai*



C-37

The C-37A/B is a Gulfstream 5/550 respectively, providing executive transport to the Secretary of the navy and chief of naval operations and other executive level personnel.

Squadrons

VR-1 ETD (USNR) *Pacific Starlifters*, Hickham AFB,
Hawaii (C-37A)
VR-1 (USNR) *Starlifters*, Andrews AFB,
Washington, D.C. (C-37B)

F-5N/F Tiger

The F-5N is a single seat, twin-engine, tactical fighter providing air-to-air combat training for carrier air wings. The F-5F aircraft is a dual-seat version, twin-engine, tactical fighter trainer commonly used for training ad-

versary pilots. The F-5F can also be used in the adversary mission. Both aircraft serve in an adversary-training role with simulation capability of current threat aircraft in air to air combat mode.

Squadrons

VFC-13 *Saints*
VFC-111 *Sundowners*
VMFT-401 *Snipers*

Test and Evaluation (TE) Squadrons

TE squadrons thoroughly test new and modified fixed-wing, rotary and unmanned aircraft headed to the fleet. Avionics, weapons, flying qualities, software and ergonomics are just a few out of the long list of aircraft aspects that get tested. Successful completion of TE is normally required for full-rate acquisition approval.

Squadrons

VX-1 *Pioneers*
VX-20 *Force*
VX-23 *Salty Dogs (Growlers)*
VX-30 *Bloodhounds*
VX-31 *Dust Devils*
HX-21 *Blackjack*

Helicopters

SH-60F/HH-60H *Sea Hawk*

The *Sea Hawk* is a twin-engine helicopter used for anti-submarine warfare, search and rescue, drug interdiction, anti-ship warfare, cargo lift, and special operations. The Navy's SH-60B *Sea Hawk* is an airborne platform based aboard cruisers, destroyers, and frigates and deploys sonobuoys (sonic detectors) and torpedoes in an antisubmarine role. They also extend the range of the ship's radar capabilities. The Navy's SH-60F is carrier-based.

Squadrons

HS-3 *Tridents*
HS-4 *Black Knights*
HS-5 *Nightdippers*
HS-6 *Indians*
HS-7 *Dusty Dogs*
HS-10 *Warhawks*
HS-11 *Dragonslayers*
HS-14 *Chargers*
HS-15 *Red Lions*
HSC-84 (USNR) *Red Wolves*

SH-60B/MH-60R

The MH-60R continues the legacy of the SH-60B mission by conducting ASW and ASUW from the decks of cruisers, destroyers and frigates and also deploys as a carrier-based squadron. The MH-60R adds a dipping sonar, multimode Inverse Synthetic Aperture Radar, enhanced Electronic Support Measures, self-defense suite digital torpedos and air-to-ground weapons.

Squadrons

HSL-37 *Easy Riders*
HSL-40 *Airwolves*
HSL-42 *Proud Warriors*
HSL-43 *Battle Cats*
HSL-44 *Swamp Foxes*
HSL-45 *Wolfpack*
HSL-46 *Grandmasters*
HSL-48 *Vipers*
HSL-49 *Scorpions*
HSL-51 *Warlords*
HSL-60 (USNR) *Jaguars*
HSM-41 *Seahawks* (MH-60R)
HSM-71 *Raptors* (MH-60R)
HSM-77 *Saberhawks* (MH-60R)

MH-60S *Knight Hawk*

The MH-60S is a twin-engine helicopter used for logistics support, vertical replenishment, search and rescue, naval special warfare support and future missions to include organic airborne mine countermeasures and combat search and rescue.

Squadrons

HSC-2 *Fleet Angels*
HSC-3 *Merlins*
HSC-8 *Eightballers*
HSC-12 *Golden Falcons*
HSC-21 *Blackjacks*
HSC-22 *Sea Knights*
HSC-23 *Wild Cards*
HSC-25 *Island Knights*
HSC-26 *Chargers*
HSC-28 *Dragon Whales*
HSC-85 *High Rollers*

VH-60N *Night Hawk*

The VH-60N is a twin engine, all-weather helicopter flown by Marine Helicopter Squadron 1 and supports the executive transport mission for the president of the United States. The VH-60N is an executive transport helicopter derived from both the U.S. Army's UH-60

Black Hawk and the U.S. Navy's SH-60 *Sea Hawk* aircraft. The H-60 family of helicopters is widely used throughout DoD for anti-submarine warfare, search and rescue, drug interdiction, anti-ship warfare, cargo lift and special operations. The VH-60N was first delivered to HMX-1 in 1989 as a replacement for the VH-1N.

Squadrons

HMX-1 *The Nighthawks*

MH-53E *Sea Dragon*

The MH-53E, a mine-countermeasures derivative of the CH-53E *Super Stallion*, is heavier and has a greater fuel capacity than the *Super Stallion*. Capable of transporting up to 55 troops, the MH-53E can carry a 16-ton payload 50 nautical miles, or a 10-ton payload 500 nautical miles. In its primary mission of airborne mine countermeasures, the MH-53E is capable of towing a variety of mine countermeasures systems.

Squadrons

HM-14 (USNR) *Vanguard*
HM-15 (USNR) *Blackhawks*

Unmanned Aircraft Systems (UAS)

RQ-7B *Shadow* Unmanned Aerial Vehicle (UAV)

The *Shadow* is a joint UAS employed by the Marine Corps' VMU squadrons (VMU-1, VMU-2 and VMU-3) to provide Marine Air Ground Task Force commanders with both planned and immediate air reconnaissance. Each VMU operates three systems and each system possesses four air vehicles. The RQ-7B carries electro-optical and infrared sensors to provide day and night imagery as well as a laser spotter to support targeting. It serves in the air reconnaissance function to produce intelligence, target acquisition and battle damage assessment. It also supports the command and control function by serving as a platform for airborne communications relay.

MQ-8B Navy Fire Scout

Fire Scout has the ability to autonomously take-off from and land on any ship control station equipped aviation-capable warship and also at unprepared landing zones close to the forward edge of the battle area (FEBA). It can carry out surveillance, find tactical targets, track and designate targets and provide accurate targeting data to strike platforms such as strike aircraft, helicopters and ships. The UAV is also able to carry out battle damage assessment.

Trainers

T-6A Texan II

The T-6A *Texan II* is a tandem-seat, turboprop trainer whose mission is to train Navy and Marine Corps pilots and naval flight officers. The aircraft is one component of the Joint Primary Aircraft Training System along with simulators, computer-aided academics and a Training Integration Management System.

The joint program, that will replace Navy T-34C aircraft, uses commercial off-the-shelf subsystems to the maximum extent possible. The Navy's total T-6A requirement is 315 aircraft. The Navy aircraft and ground-based training systems will be completely supported and maintained by commercial vendors with intermediate maintenance provided for selected systems at the operating site.

Squadrons

VT-4 *Warbucks*
VT-10 *Wildcats*

T-34C Turbomentor

The T-34C is used to provide primary flight training for student pilots. As a secondary mission, approximately 10 percent of the aircraft provide pilot proficiency and other aircraft support services to Commander, Naval Air Force, U.S. Atlantic Fleet; Commander, Naval Air Force, U.S. Pacific Fleet; and Naval Air Systems Command's "satellite sites" operated throughout CONUS. The T-34C was procured as a commercial derivative aircraft certified under an FAA-Type Certificate. Throughout its life, the aircraft

has been operated and commercially supported by the Navy using FAA processes, procedures and certifications.

Squadrons

VT-2 *Doer Birds*
VT-3 *Red Knights*
VT-6 *Shooters*
VT-27 *Boomers*
VT-28 *Rangers*

T-45A/C Goshawk

The T-45A, the Navy version of the British Aerospace *Hawk* aircraft, is used for intermediate and advanced portions of the Navy/Marine Corps pilot training program for jet carrier aviation and tactical strike missions. The T-45 includes an integrated training system that includes the aircraft, operations and instrument fighter simulators, academics and training integration system. There are two versions of T-45 aircraft currently in operational use at this time, the T-45A and T-45C derivatives. The T-45A, which became operational in 1991, contains an analog design cockpit while the new T-45C (delivery began in 1997) is built around a new digital "glass cockpit" design.

Squadrons

VT-7 *Eagles*
VT-9 *Tigers*
VT-21 *Redhawks*
VT-22 *Golden Eagles*

T-44A Pegasus and the TC-12 Huron

The T-44A and the TC-12 are used to train Navy and Air Force pilots to fly multiengine, turbo-prop aircraft such as the P-3 and the C-130.

Squadrons

VT-31 *Wise Owls* (T-44A)
VT-35 *Stingrays* (TC-12)

T-39N/G Sabreliner

The T-39N *Sabreliner* is a multipurpose, low-wing, twin-jet aircraft. The 14 T-39Ns – derivatives of the commercial *Sabre* model 265-40 – are used for training

undergraduate military flight officer students in radar navigation and airborne radar-intercept procedures. The eight T-39Gs – derivatives of the commercial *Sabre* model 265-60 – are used for student non-radar training.

Squadrons

VT-4 *Mighty Warbucks*
VT-86 *Sabre Hawks*

TH-57 Sea Ranger

The TH-57 *Sea Ranger* is a derivative of the commercial Bell *Jet Ranger* 206 and its primary mission is to provide advanced rotary-wing training to Navy and Marine Corps pilots. The TH-57 has two variants – TH-57B and TH-57C models. The TH-57B is used for primary visual flight rules training and the TH-57C is used for advanced instrument flight rules training.

Squadrons

HT-8 *Eightballers*
HT-18 *Vigilant Eagles*

Special Squadrons

VC-6 *Firebees*
VC-8 *Redtails*
VX-1 *Pioneers*
VX-9 *Vampires*
TACRON-11 *Dirigimi*
TACRON-12 *Talons*
TACRON-21 *Blackjacks*
TACRON-22 *Skylords*

F-5N/F Tiger

The F-5N is a single seat, twin-engine, tactical fighter and attack aircraft providing simulated air-to-air combat training. The aircraft is a dual-seat version, twin-engine, tactical fighter commonly used for training and adversary combat tactics. The aircraft serves in an aggressor-training role with simulation capability of current threat aircraft in fighter combat mode.

Squadrons

VFC-13 *Saints*
VFC-111 *Sundowners*

(Source: Naval Air Forces) 

Strategic Strike

Trident II (D-5)

Larger and with longer range than *Trident I*, the *Trident II* was first tested aboard a submarine in March 1989 and deployed in 1990.

General-Purpose Bombs

The MK-80 series general-purpose bomb family was created in the late 1940s and has been the standard air-launched bomb for the services ever since. The general-purpose bomb family is designed to provide blast and fragmentation effects and is used extensively in a number of configurations including laser-guided bombs, joint direct attack munitions (JDAM) and air-delivered mining applications. The unguided versions of the general-purpose bomb can also be delivered in freefall or delayed modes depending upon mission requirements. There were three basic versions of these bombs in inventory for many years:

- 2,500 pound MK 82/BLU 111
- 1,000 pound MK 83/BLU 110
- 2,000 pound MK 84/BLU 117

The remaining versions of the MK 80 series bombs are being converted from the MK designation to the bomb-live unit (BLU) designation during new production.

The Navy's MK 80 series bombs remaining in inventory are filled with H-6 high explosive; the newer BLU series bombs incorporate a PBXN-109 explosive that provides less sensitive characteristics and is considered safer to handle and stow.

The Navy's newest member to the BLU series is the BLU-126 low-collateral warhead. It is identical to the BLU-111 with the exception of the amount of PBXN-109 explosive filler. The aft end of the BLU-126 bomb is packed with approximately 27 pounds of explosive filler with the remainder of the bomb being filled with inert material.

Laser-Guided Bomb Kits (LGB)

LGBs were developed to enhance the terminal accuracy of air-launched, general-purpose bombs and entered the

fleet's inventory in 1968. An LGB kit consists of a computer control group (CCG) and air foil group (AFG) normally attached to a general-purpose bomb to form an LGB.

The Dual Mode Laser Guided kit enhances existing LGB kits by adding global positioning system/inertial navigation system (GPS/INS) capabilities. Like the LGB it consists of a CCG and an AFG.

Joint Direct Attack Munition (JDAM)

JDAM kits were jointly developed with the U.S. Air Force to provide increased accuracy for air-launched bombs. The JDAM kit consists of a tail kit and mid-body strakes attached to a general purpose or penetrator bomb body - 500, 1,000 and 2,000 pounds.

Guidance and control is provided by a GPS/INS.

Laser Joint Direct Attack Munition (LJDAM)

LJDAM is a precision guided bomb, consisting of a modular laser sensor integrated with inventory JDAM kits to provide moving target kill capability. The laser sensor kit is field-installed on the 500-pound version of JDAM.

Joint Stand-off Weapon (JSOW)

The JSOW is an air-launched "drop-and-forget" weapon that is capable of approximately 60 nautical mile stand-off ranges. JSOW variants provide the fleet with a strike interdiction capability against soft and hardened targets such as fixed and relocatable air defense elements, parked aircraft, command and control facilities, light combat vehicles, industrial elements, bunkers, personnel and, beginning in FY10, enemy surface ships.

Currently, two variants of JSOW are in the fleet: AGM-154A, which uses GPS/INS guidance and general purpose submunitions, and AGM-154C, which adds a terminal imaging infrared seeker and a two-stage *Broach* warhead.

HARM (High-Speed Anti-Radar Missile)

HARM is the standard anti-radar missile in the U.S. inventory. It's used as both a strike-protection and anti-ship weapon. First deployed aboard USS *Kitty Hawk* (CV

63) in January 1984, it was first used in combat in April 1986 during raids on Libya.

Harpoon/Stand-Off Land Attack Missile - Expanded Response (SLAM-ER)

The *Harpoon/SLAM-ER* missiles are derivatives from the original *Harpoon*, that was conceived in 1965.

Harpoon

The *Harpoon* Block 1C is an air or surface-launched, anti-ship, all-weather cruise missile which employs an autonomous active radar seeker to attack a wide variety of surface ship targets from standoff ranges. The *Harpoon*, which entered service in 1977, is currently carried by F/A-18 and P-3C aircraft as well as a portion of the DDG 51 and CG 47 surface ship classes for the U.S. Navy.

Numerous air, surface and submarine platforms currently deploy *Harpoon* for 27 foreign military sales (FMS) international customers. *Harpoon* Block III is a retrofit kit currently under development to add a Network Enabled Weapon (NEW) datalink and GPS guidance to provide target selectivity to the combat proven *Harpoon* missile.

SLAM-ER

SLAM-ER is an upgrade to the *SLAM* missile which adds *Tomahawk* derivative planar wings to increase flight range to more than 150 nautical miles and a titanium warhead for increased hardened target penetration. *SLAM-ER* also includes software improvements which allow the pilot to precisely select a target impact point from a cockpit display of the infrared image of the target. Improved mission planning is provided to simplify and shorten operator mission planning timelines.

SLAM-ER is used to attack critical nodes of high value fixed and relocatable land targets as well as surface ship targets underway or pier-side. *SLAM-ER* is currently deployed from F/A-18 and P-3C aircraft and is planned for the P-8A aircraft. *SLAM-ER* is currently in production for FMS international customers.

Maverick

The *Maverick* is a short-range, air-to-surface, tactical missile. The version used by the Navy carries a warhead designed to penetrate large, hard targets. First deployed in August 1972.

Tomahawk Cruise Missile

An all-weather, ship- or submarine-launched, cruise missile, *Tomahawks* have proven to be highly survivable weapons due to their low radar detectability and terrain/wave-skimming flight. It was first deployed in 1986.

The *Tomahawk* Land-Attack Missile (TLAM) is an all-weather subsonic cruise missile that can be fired from surface or submarine launch platforms. The *Tomahawk* carries a nuclear or conventional payload. The conventional, land-attack, unitary variant carries a 1,000-pound-class warhead (TLAM-C) while the submunitions dispenser variant carries 166 combined-effects bomblets (TLAM-D). The Block III version incorporates engine improvements, an insensitive extended range warhead, time-of-arrival control and navigation capability using an improved Digital Scene Matching Area Correlator and GPS – which can significantly reduce mission-planning time and increase navigation and terminal accuracy.

The *Tomahawk* was used operationally for the first time during Operation *Desert Storm*. *Tomahawks* were fired against targets in Afghanistan in October 2001 during Operation *Enduring Freedom*. During Operation *Iraqi Freedom* in March 2003, 802 *Tomahawks* were fired against Iraq.

Tomahawk Block IV (TLAM-E) or “*Tactical Tomahawk*,” has capability enhancements that include (a) increased flexibility using two-way satellite communications to reprogram the missile in-flight to a new aimpoint or preplanned mission, send a new mission to the missile en route to a new target and missile health and status messages during the flight; (b) increased responsiveness with faster launch timelines, mission-planning capability aboard the launch platform, loiter capability in the area

of emerging targets, the ability to provide battle-damage indication in the target area and the capability to provide a single-frame image of the target or other area of interest along the missile flight path; and (c) improved affordability: Full-rate production of the *Tactical Tomahawk* began in July 2004.

Anti-Air Warfare (AAW) Aircraft Guns M-61-A1

This 20mm Gatling gun, which also forms the basis for the *Phalanx* Close-In Weapons System is mounted aboard the F/A-18 *Hornet*.

Surface-To-Air Missiles

RIM-116 Rolling Airframe Missile (RAM)

Developed jointly with the Federal Republic of Germany, RAM provides ships with a low-cost, self-defense system against anti-ship missiles and asymmetric air and surface threats.

Standard Missile

Standard Missile 2 (SM-2) is the Navy’s primary surface-to-air defense weapon. It is an integral part of the *Aegis* Weapons System aboard *Ticonderoga* and *Arleigh Burke*-class destroyers SM-2 MR (Block III, IIIA, IIIB).

Air-To-Air Missiles

Advanced, Medium-Range, Air-to-Air Missile (AMRAAM)

An all-weather, all-environment, radar-guided missile developed as a follow-on to the *Sparrow* missile series. AMRAAM is smaller, faster, lighter and has improved capabilities against very low-altitude and high-altitude targets in an electronic countermeasure environment. Its active radar, in conjunction with an inertial reference unit and microcomputer system, makes the missile less dependent on the aircraft fire control system enabling the pilot to aim and fire several missiles at multiple targets.

The AMRAAM is a result of a joint U.S. Navy and U.S. Air Force development effort and is in service with numerous NATO and Allied countries. The AMRAAM was deployed in September 1991 and is carried on the F/A-18 *Hornet*.

AIM-54 Phoenix Missile

The *Phoenix* missile is the Navy’s only long-range, air-to-air missile. The missile is designed for use in all-weather and heavy jamming environments. The improved *Phoenix*, the AIM-54C, can better counter projected threats from tactical aircraft and cruise missiles.

Sparrow/Sea Sparrow

A highly-maneuverable, all-weather, beyond-visual-range, semi-active radar homing air-to-air missile used by the United States, NATO and other allied forces. Current air-to-air versions are carried on the F/A-18 aircraft.

In a shipboard version, the *Sea Sparrow*, provides U.S. Navy and NATO ships with an effective, anti-air weapon. First deployed in 1958, numerous models and upgrades have occurred to the *Sparrow* missile family.

Evolved Sea Sparrow Missiles (ESSM)

The first ESSM was delivered to the fleet in late 2002. The new missile provides the primary air defense for capital ships of 10 nations participating in the program.



Sidewinder

The *Sidewinder* is a short-range, infra-red, visual range air-to-air missile used by the United States, NATO and other allied nations. The missile has been through a number of modernizations and the current fleet weapon is the AIM-9M. The missile is an all-aspect, heat-seeking missile with improved capabilities against countermeasures.

A major modification to the AIM-9M *Sidewinder* is the AIM-9X. The AIM-9X is a joint U.S. Navy and U.S. Air Force program that upgrades the missile with a staring focal plan array in the seeker, and extremely agile airframe and state-of-the-art signal processors resulting in enhanced target acquisition, missile kinematics and improved infrared counter-countermeasure capabilities.

The missile's high, off-bore sight capability can be coupled to a helmet-mounted cueing system that will revolutionize the way that air-to-air missiles are employed. The *Sidewinder* is currently deployed on the F/A-18, AV-8 and AH-1 aircraft.

Shipboard Guns

MK 45 – 5-inch 54/ 62 caliber gun

This fully automatic naval gun provides surface combatants accurate naval, gunfire against fast, highly-maneuverable, surface targets, air threats and shore batteries during amphibious operations.

MK 38 – 25 mm machine gun system

This single-barrel, air-cooled, heavy machine gun is effective up to 2,000 yards (Mod 2). The stabilized Mod 2 was developed in 2003 to improve ship self-defense and meet the needs of ships throughout the fleet, especially those operating in the Arabian Gulf.

MK 75 – 76mm/62 caliber, 3-inch gun

Best suited for use aboard smaller combat vessels, the MK 75 features rapid fire capability with low manning requirements. The gun was approved for fleet use in 1975 and was first deployed aboard *USS Oliver Hazard Perry* (FFG 7) in 1978.

Phalanx Close-In Weapons System (CIWS)

The *Phalanx* CIWS combines a 20mm Gatling gun with search and tracking radar to provide surface ships with terminal defense against anti-ship missiles. The system underwent operational tests and evaluation aboard *USS Bigelow* (DD 942) in 1977 and went into production in 1978 with the first systems installed aboard *USS Coral Sea* (CV 43) in 1980.

Phalanx automatically detects, tracks, and engages air warfare threats while the Block 1B's man-in-the-loop system counters emerging littoral warfare threats.

Anti-Submarine Warfare (ASW) Torpedoes

MK 46

The MK 46 Mod 5A(S) torpedo achieved its initial operational capability and was introduced into the fleet in 1979. It can be launched from fixed and rotary wing aircraft and surface combatants VLA and torpedo tubes. Full-up MK 46 torpedoes are no longer being produced. In 1987, a major upgrade program enhanced the performance of the MK 46 Mod 5A(S) in shallow water.

A service life extension program was initiated in 1992 to extend the life of the MK 46 Mod 5A(S), convert it to the MK 46 Mod 5A(SW), and to provide additional shallow water and bottom avoidance modes. The MK 46 Mod 5A(SW) was introduced to the fleet in 1996.

MK 48

The MK 48 heavyweight torpedo is used solely by submarines and is employed as the primary ASW and anti-surface ship weapon aboard attack, ballistic missile and guided missile submarines. Developed by the Applied Research Laboratory, Pennsylvania State University and Westinghouse Electric Corporation, Baltimore, the MK 48 and its subsequent variants have been in service with the Navy since 1972.

Its latest version, MK 48 Mod 7 Common Broad Advanced Sonar System torpedo is optimized for both

deep and littoral waters and has advanced counter-countermeasure capabilities.

MK 50

The MK 50 is a highly capable undersea weapon for U.S. Navy aircraft and surface ships. It is an advanced lightweight digital torpedo designed for use against faster, deeper-diving and more sophisticated submarines.

The stored chemical energy propulsion system develops full power at all depths and is capable of multi-speed operations required by the tactical situation. Although full-up torpedoes have not been produced since 1993, the Block I software upgrade program has enhanced the MK 50's shallow water and countermeasure capability.

MK 54

The MK 54 *MAKO* lightweight torpedo integrates existing torpedo hardware and software from the MK 46, MK 50 and MK 48 with state-of-the-art commercial-off-the-shelf digital signal processing technology. It incorporates an advanced guidance and control section and tactical software improvements to significantly increase shallow water counter-countermeasure capability at reduced lifecycle costs.

Mines

MK 67 Submarine Launched Mobile Mine (SLMM)

Based on the MK 37 torpedo, the SLMM is a submarine-deployed mine used for clandestine mining in hostile environments. The SLMM is a shallow water mine consisting basically of a modified MK 37 torpedo.

Quickstrike

The *Quickstrike* is a family of shallow water, aircraft-laid mines. The MK 65 mine is a 2,000 pound mine with a specially designed thin-walled casing. Other *Quickstrike* versions (MK 62, MK 63) are converted general purpose bombs of the 500 pound and 1,000 pound sizes.

(Sources: Naval Sea Systems Command and Naval Air Systems Command) 



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AMERICA CALLS ON US.**

Photo by M3 Dylan McCord



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PACIFIC OCEAN The aircraft carrier USS *Ronald Reagan* (CVN 76) maneuvers through fog in the Pacific Ocean. The *Ronald Reagan* Carrier Strike Group is conducting a composite training unit exercise in preparation for an upcoming deployment.

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