



Naval Operating Concept for Joint Operations

As part of the Joint Force, the Navy and Marine Corps Team (the Naval Services) exist to fight and win our Nation's wars, and to influence events and advance U.S. interests globally. In supporting our *National Security Strategy*, we assure allies, dissuade military confrontation, deter threats and coercion, and, when required, preempt or defeat our Nation's adversaries. The forward expeditionary nature and rapid surge capability of the Navy and Marine Corps makes our Services ideally suited to fulfill these goals with immediately employable, combat ready forces to project power when and where needed. The Naval Services also maintain the capability to surge additional ready forces forward if so ordered. The Naval Services must continue to adapt to provide flexible, persistent, and decisive warfighting capabilities as part of the Joint Force. The Department of the Navy's *Naval Power 21* provides our transformational vision. It focuses on innovative organizations, concepts, technologies, and business practices to achieve an exponential improvement in warfighting effectiveness. The Naval Operating Concept (NOC) for Joint Operations represents an initial effort of an iterative process to describe how the Navy and Marine Corps will train, organize, deploy, employ and sustain a more capable and ready force, now through 2020, as part of the Joint Force. The Navy and Marine Corps are committed to achieving an unprecedented level of integration while expanding cooperative efforts with our sister services to strengthen our Nation's warfighting capabilities. This transformation is ultimately dependent upon the creativity, initiative, and commitment of our people. We expect this concept to guide the actions of every Sailor and Marine, active and reserve.

A handwritten signature in black ink, appearing to read "Vern Clark".

Vern Clark, Admiral, USN
Chief of Naval Operations

A handwritten signature in black ink, appearing to read "Michael W. Hagee".

Michael W. Hagee, General, USMC
Commandant of the Marine Corps

INTRODUCTION

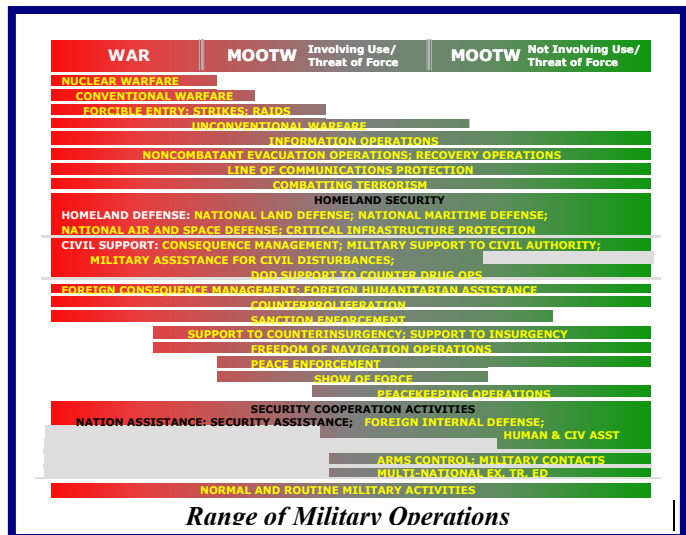
Our security will require transforming the military you will lead—a military that must be ready to strike at a moment's notice in any dark corner of the world.

—President George W. Bush,
West Point, 01 Jun 02

An enduring role of Naval Forces lies in their tradition of continuous forward deployment of combat credible power that guarantees freedom of the world's seas and regional access. This maritime freedom is integral to sustaining the global economy and U.S. national security. Naval Forces are flexible, rapidly employable, and able to respond to crises with a full range of combined arms and warfighting capabilities. Their forward posture and the ability to rapidly scale those forward forces leverages the speed and mobility gained by those who control the maritime domain. Naval Forces exploit the asymmetric advantage afforded by sea superiority. These forces protect sea lines of communication and strategic choke points. They provide our Nation with the ability to project sustained military power, contribute to the defeat of anti-access strategies, and exert national influence throughout the globe, maintaining a persistent presence unencumbered by a dynamic international environment.

This Naval Operating Concept (NOC) for Joint Operations, as a capstone concept, provides the overarching guidance for the development of future capabilities and forces, and for the further alignment of naval concepts within a greater joint context.

It describes in broad terms how the Navy and Marine Corps Team will operate across the full range of military operations in the near, mid, and far terms through 2020. The NOC links Navy and Marine Corps visions and concepts with emerging Army, Air Force, and joint operational concepts, and describes the capabilities that an integrated Naval Force contributes to joint and multinational operations. The NOC operationalizes Naval Power 21 and complements the Naval Transformation Roadmap.



The defense strategy calls for Naval Forces to be capable of coordinated joint military operations, in order to achieve the objectives and goals of assuring allies, dissuading adversaries, deterring aggression, and decisively defeating any adversary. The Joint Force must be capable of defending the United States, deterring aggression in four critical regions, and swiftly defeating adversaries in two conflicts while retaining the option for decisive victory in one. The NOC describes the capabilities that the Naval Services will use toward these ends. It reflects the fact that the United States may not be able to determine with confidence which nation, combination of

nations, or non-state actors will pose a threat to vital U.S. interests or to the interests of U.S. allies and friends in the future. However, it is feasible to project and anticipate the capabilities that adversaries might employ or acquire. This concept, using a capabilities-based approach, focuses on the ability of the Naval Services to meet the challenges associated with how adversaries might fight, rather than who the adversary might be and where a war might occur.

Many of the traditional core characteristics of Naval Forces are intertwined with the Joint Force attributes described in the Joint Vision and emerging joint operating concepts. In addition, the major components described in detail in this document integrate and incorporate elements of the joint concepts as indicated below.

<u>J O I N T</u>	<u>N A V A L</u>
Precision Engagement Dominant Maneuver	SEA STRIKE
Full Dimensional Protection	SEA SHIELD
Dominant Maneuver Focused Logistics	SEA BASING
Joint C4ISR	FORCEnet

The NOC explains how the Navy-Marine Team operates. It amplifies the Naval vision to provide a more detailed foundation for force structure planning and follow-on Naval concept development, experimentation, and assessment. It also provides context for the role of Naval Forces and capabilities in joint operations, and serves as the basis for the development of Naval capabilities and their integration into the operating concepts of the Joint Force.

To meet the demands of the defense strategy, the Navy and Marine Corps must continue to operate effectively as a forward-postured, immediately employable force in joint and multinational environments. The Service visions, *Sea Power 21* and *Marine Corps Strategy 21*, recognize the challenges posed by a changing security environment and point the way to the future. The Navy and Marine Corps will leverage and integrate their respective strengths to produce a more effective and efficient Naval Force with improved warfighting capabilities for the Joint Force. The Naval Services will organize, deploy, employ, and sustain forces to conduct operations guided by the interrelated and complementary concepts of *Sea Strike*, *Sea Shield*, and *Sea Basing* integrated with the family of Marine Corps concepts, *Expeditionary Maneuver Warfare*, *Operational Maneuver from the Sea*, and *Ship-to-Objective Maneuver*; all of this will be enabled by *FORCEnet*. (These concepts and terms are defined in the following box.)

- **Sea Strike** is a broadened concept for projecting precise and persistent Naval offensive power. It describes how 21st-century Naval Forces will exert direct, decisive, and sustained influence in joint campaigns through the application of persistent intelligence, surveillance, and reconnaissance (ISR), time-sensitive strike, *Ship-to-Objective Maneuver (STOM)*, and information operations (IO) to deliver accurate and devastating combat power.
- **Sea Shield** is a concept that describes the manner in which Naval Forces will protect our national interests with layered global defensive power. It is based on our sustained forward presence, and on our abilities to dominate the seas and to provide distributed and networked intelligence to enhance homeland defense, assure access to the contested littorals, and project defensive power deep inland.
- **Sea Basing** serves as the foundation from which offensive and defensive power are projected, making *Sea Strike* and *Sea Shield* realities. It describes the projection, sustainment, and operational maneuver of sovereign, distributed, and networked forces operating globally from the sea. *Sea Basing* will provide Joint Force Commanders with global command and control (C2) capability and extend integrated support to the other Services.
- **Expeditionary Maneuver Warfare (EMW)** will serve as the Marine Corps capstone concept for the 21st century. It is the union of Marine Corps core competencies, maneuver warfare philosophy, and expeditionary heritage.
- **Operational Maneuver from the Sea (OMFTS)** is a concept for the projection of maritime power ashore. It focuses on the operational objective using the sea as maneuver space and pitting strength against weakness. It generates overwhelming tempo and momentum; it emphasizes intelligence, deceptions, and flexibility; and it integrates all organic, joint, and multinational assets.
- **Ship-to-Objective Maneuver (STOM)** applies the principles and tactics of maneuver warfare to the littoral battlespace. It allows for conducting combined arms penetration and exploitation operations from over the horizon directly to objectives ashore without stopping to seize, defend, and build up beachheads or landing zones.
- **FORCEnet** is the enabler of these capabilities, and the operational construct and architectural framework for Naval warfare in the information age. It will allow systems, functions, and missions to be aligned to transform situational awareness, accelerate decision making, and allow Naval Forces to greatly distribute their combat power.

The NOC emphasizes the critical capabilities of Naval Forces. It describes how the Naval component will operate as an integrated force; it sets the direction for institutional change, and for the education and training of Naval personnel; and it expands Navy and Marine Corps collaboration.

STRATEGIC ENVIRONMENT

We need to change not only the capabilities at our disposal, but also how we think about war. All the high-tech weapons in the world will not transform the U.S. armed forces unless we also transform the way we think, the way we train, the way we exercise and the way we fight.

—Secretary of Defense Donald Rumsfeld,
National Defense University, 31 Jan 02

The *National Security Strategy* sets forth a comprehensive blueprint for achieving national interests in the face of an unpredictable and dangerous security environment. The military dimension of this strategy recognizes the potential for armed conflict and the evolving ways in which war will be conducted. Future military operations will

vary in scope and form, while the fundamental nature of conflict will remain violent and chaotic.

Conflict will erupt from many sources. Explosive population growth, especially in littoral regions, will lead to further urbanization and competition for scarce resources. Extreme factions espousing increasingly virulent ideologies will seek to dominate others through coercion and aggression. Terrorists and other non-state organizations, unconstrained by borders, may further undermine the strategic environment and create new flashpoints for instability. These factors will contribute to the creation of a challenging international security environment.

Conventional and unconventional threats will emerge to challenge U.S. military superiority and threaten our homeland and global interests. Creative, adaptive adversaries will employ an array of forces, strategies, and weaponry. Adversaries, varying from traditional armed forces to terrorist cell-based organizations, will use symmetric and asymmetric methods, employ anti-access strategies, and counter U.S. strengths. Both state-sponsored and non-state adversaries will capitalize on the operational and tactical difficulties of operating in the littoral environment and dense population centers. These adversaries will use and manipulate the pervasive influences of global communications and the potential intelligence gained from commercially available assets. They will exploit vulnerabilities in maritime commerce and other worldwide transportation networks upon which global economies depend. Adversaries may employ weaponry ranging from low-technology innovations to weapons of mass destruction and disruption. As a result of global connectivity, weapons proliferation, and the availability of low-cost commercial and dual-use technologies, potential adversaries can readily acquire, upgrade, or enhance existing systems and platforms to improve their warfighting capabilities. Increasingly, these capabilities are combined to deny local or regional access.

IMPLICATIONS FOR THE JOINT FORCE

Joint forces will be expeditionary, adaptable, and responsive in order to performing a broad set of missions and tasks that support the defense strategy. These forces will need to rapidly deploy and surge forward, and employ versatile combat capabilities. They must be coordinated and interoperable, fusing complementary Service functions to create a set of synergistic joint capabilities. Joint Force Commanders (JFCs) require flexible, multi-mission force packages to deter and defeat opponents who will increasingly employ deception, surprise, and unconventional methods to achieve their objectives. A netted architecture will be necessary to permit collaborative planning and decentralized execution, which in turn will enable compressed decision cycles. Defeating adversaries will require the contribution of joint forces across all dimensions of an expanded battlespace in multiple theaters, either sequentially or simultaneously.

Through *Sea Shield* and *Sea Strike*, the Navy and Marine Corps Team will implement *Full Dimensional Protection* and *Precision Engagement* to maintain freedom of the seas for the joint forces and to safeguard maritime trade. Naval Forces will conduct time-sensitive and sustained strikes when and where required, particularly in support of the Global War on Terrorism. Theater air and missile

defense capabilities will deny our adversaries the ability to threaten our forces, allies, or friends—over land as well as in the maritime environment. Naval Forces will deter potential adversaries through the ability to pre-empt or interdict aggressive action.

To quickly respond to crises and accelerate force closure, Naval Forces can be rapidly shifted between theaters. Innovative training and force planning will enable them to sustain a heightened state of readiness to provide an agile, rapid, phased surge capability to reinforce other forward-deployed Naval or joint forces and meet the combatant commander's timelines. The physical presence of these forces may preclude crises and mitigate an adversary's ability to deploy and integrate anti-access capabilities. The ability to project power from the sea throughout and beyond the littorals, including forcible-entry operations (FEO), allows the Joint Force to set initial conditions, preempt hostile action, and decisively defeat an adversary. Naval Forces, enabled by *FORCEnet*, will have the capability to serve as the nucleus of, and provide an operating base for, a Joint Task Force (JTF) Headquarters.

Naval Forces will minimize the need for host nation support by providing a sustainable, sovereign sea base that is relatively free from diplomatic, regulatory, and political constraints, thus limiting the impact of area-denial strategies. These forward-operating forces possess inherent force protection while providing connectivity to leverage National assets through a reachback capability. A persistent, integrated, and tiered joint intelligence surveillance, and reconnaissance sensor network will support joint forces. These forces will be mobile, maneuverable, networked, and distributed. Additionally, operating forward provides joint forces with the situational awareness necessary to understand regional security environments and operating cultures while laying the foundations for joint and multinational interoperability.

Naval power from the sea can be leveraged through all phases of a joint campaign and in the diplomatic initiatives that may precede it. Forward-deployed forces, complemented by forces rapidly surging forward from CONUS or other theaters, provide decision-makers with credible and flexible deterrent options and with an immediately employable combat capability. Joint Force Commanders maneuvering Naval Forces at the operational level can project massed offensive and defensive combat power from the sea at the time and place of their choosing. Early in the campaign, the sea base provides optimal means for the Joint Force Commander to command, employ, support, and sustain joint advance force operations. As required by the campaign plan, Naval Forces can conduct forcible-entry operations to secure the necessary area and infrastructure, thus enabling additional joint or multinational forces to be introduced.

Enabled by *FORCEnet*, the sea base will integrate joint capabilities into a coherent force that will significantly increase the ability of the Joint Force to command and control, project, support, and sustain forces throughout the battlespace. As a crisis expands, the sea base can be scaled in size and capability to meet the needs of the JFC. Flow-in forces from CONUS or other theaters can augment forward-deployed forces in any region with rapidly deploying Navy and Marine Corps forces optimally configured for the assigned mission. Today's Carrier Battle Groups (CVBGs), Surface Action Groups (SAGs), Amphibious Forces, Combat Logistics Forces (CLF), and Maritime Prepositioned Forces (MPF) can exploit the maritime domain to quickly arrive in support of a joint campaign. In the future, Carrier and

Expeditionary Strike Groups (CSGs and ESGs) and strike or theater ballistic missile SAGs, reinforced with Maritime Prepositioning Groups (MPGs) capable of merging into an Expeditionary Strike Force (ESF), will provide an even more robust, balanced Naval Force operating from a maneuverable sea base to meet the requirements of the global security environment.

With Naval Forces, the JFC can compel an adversary to disperse forces in order to defend against all possible points of entry or to expose forces to counter the threat. The ability of sea-based forces to attack, rapidly withdraw, maneuver, and attack again will force even a numerically superior enemy to react, creating opportunities for Joint Force exploitation.

FORCEnet: ENABLING AN INTEGRATED NAVY AND MARINE CORPS TEAM

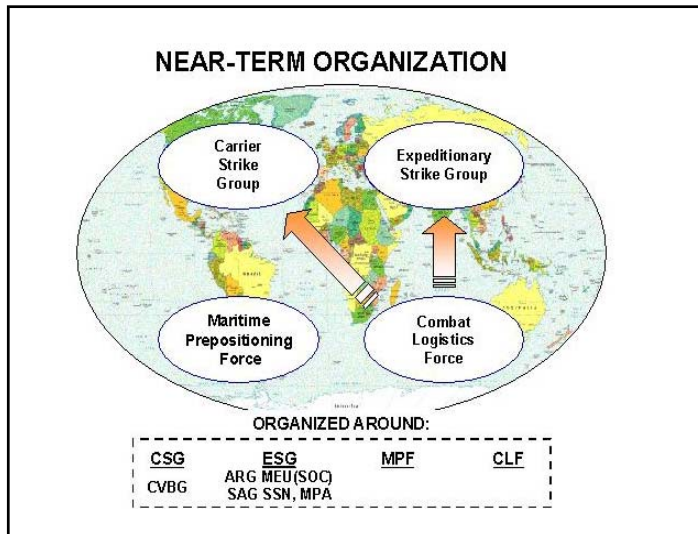
Fully integrated and networked joint command, control, communications, computers, intelligence, surveillance, and reconnaissance (JC4ISR) will be a catalyst for Naval transformation and serve as part of the basis for future system development. Naval C4ISR will be developed in a coordinated effort with the other Services, and within a joint framework, to ensure the optimal degree of system integration and data sharing. Via *FORCEnet*, Expeditionary Naval Forces will integrate warriors, sensors, C2, platforms, and weapons into a networked, distributed, and sustainable combat force. *FORCEnet* will enhance situational awareness and decentralized decision making while compressing decision cycles and facilitating real-time collaborative planning, offensive and defensive power projection, and maneuver in time and space. Directly integrated with JC4ISR, it will permit a dispersed Naval Force to distribute or concentrate combat power as needed in an enlarged battlespace.

Use of *FORCEnet* increases the effectiveness of *Sea Strike*, *Sea Shield*, *Sea Basing*, *Expeditionary Maneuver Warfare*, *Operational Maneuver from the Sea*, and *Ship-to-Objective Maneuver*, and thereby facilitates integrated Naval Forces and operations that are fully interoperable with other joint forces. It will focus on creating information networks with new levels of connectivity and integration, which will provide common and consistent data throughout the force and will integrate the force into the joint information network. Netted sensors, processing, databases, applications, weapons, and forces will support dynamic C2 between Naval Forces globally. Naval Forces will leverage the connectivity provided by *FORCEnet* systems to expand operational reach, permitting offensive and defensive power projection of weapons and maneuver forces over vast areas from a dispersed sea base. Initial efforts will create a web-enabled environment transitioning stove-piped, legacy systems into an interoperable system of systems. The network will link new capabilities with legacy systems and reachback to databases, providing greater access to information. Redundant and incompatible legacy systems will be phased out. Network defensive measures will incorporate defense in depth to ensure that networks are reliable.

NAVAL OPERATIONS IN THE NEAR AND MID TERMS

Naval Forces will be task organized to project increasingly capable power from the sea. These forces will conduct theater security cooperation, supporting other

nations in their efforts to battle terrorism within their borders. Information on terrorists will be gathered through JC4ISR. We will further promote U.S. and allied interests through military operations other than war (MOOTW) such as maritime interception operations (MIO), humanitarian assistance, disaster relief, non-combatant evacuation operations (NEO), peace support missions, enforcement of embargoes and no-fly zones, and counter-proliferation measures.



Today, the Navy and Marine Corps deploy in Carrier Battle Groups (CVBGs) and Amphibious Ready Groups/Marine Expeditionary Units (Special Operations Capable) (ARG/MEU(SOC)) supported by the Combat Logistics Force (CLF) and supplemented by the Maritime Prepositioning Force (MPF). Future Naval Forces will transform beyond coordinated operations toward a fully integrated force.

New organizational constructs, the Carrier Strike Group (CSG) and Expeditionary Strike Group (ESG), are being instituted as key components of the global integrated Naval Force necessary to meet the forward-deterrent and rapid-response requirements of the defense strategy. The security environment also demands more independent strike-capable groups on the part of the Navy and Marine Corps. Organizing around ESGs, CSGs, and Surface Action Groups (SAGs) dramatically increases the number of independently employable Naval strike groups. This increase in Naval capability gives joint and combatant commanders greater operational freedom and scalable joint response options, and provides greater geographic coverage and readily available tailorable force packages if pre-emptive actions are required. This new distributed combat force provides rapidly available global strike capability and the ability to immediately transition from a posture of deterrence to one that supports full-scale joint combat operations with long-term sustainability.

Capitalizing on increased strike capacity and more effective joint operations, future deployment cycles will shift from CVBGs and ARG/MEU(SOC)s to CSGs and ESGs, respectively. A Carrier Strike Group, which will retain the robust combat capability inherent in the CVBG, will consist generally of an aircraft carrier, a cruiser (CG), two guided-missile destroyers (DDGs), an attack submarine (SSN), and a fast combat support ship (T-AOE). The CSG will provide a sustained-strike capability unique among Naval Force packages. Together with future systems such as the improved E-2C *Hawkeye* aircraft and the Cooperative Engagement Capability (CEC), these ships would provide the group with sufficient defense against the most likely air, surface, and subsurface threats.

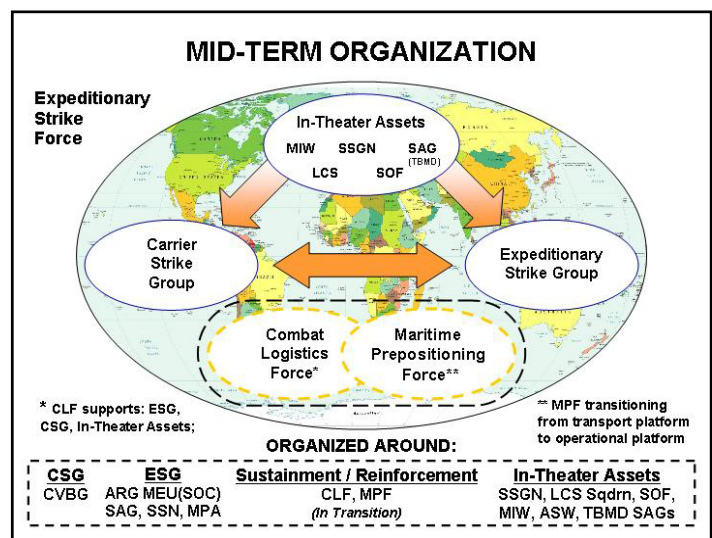
The major new element of this organizational construct of operations is the Expeditionary Strike Group, which will generally consist of a standard three-ship

ARG, a CG, two DDGs, an SSN, and, in the future, a new generation of destroyer. This construct increases the power the ESG can project, and allows it to operate independently in most threat environments without the support of a CSG, expanding employment options. The *Aegis* combatants (guided-missile cruisers and/or guided-missile destroyers) would provide air defense, strike (with *Tomahawk* land-attack missiles (TLAMs)), anti-submarine warfare and anti-surface warfare. In the future, additional combatants would include ships with the new advanced gun system, like DD(X), that would provide an organic naval surface fire support (NSFS) capability, strike (via TLAM), and additional anti-submarine and anti-surface capability. By adding a potent maritime dominance capability to the ARG, the ESG makes the power projection capabilities of the MEU/SOC more potent in waters in which potential foes might employ anti-access strategies, and augments those power projection capabilities with land-attack cruise missiles and surface fires.

Strike and Missile Defense Surface Action Groups (SAGs), capable of operating independently or in conjunction with CSGs or ESGs, will provide scalable presence options. In the near term, three-ship SAGs will be established to provide additional independent strike capability. These TLAM-equipped SAGs will provide deterrence and near-

instantaneous contingency response, while maintaining the ability to conduct maritime interdiction and other tasks normally assigned to surface combatants. In the future, these SAGs will provide the foundation for a sea-based, mobile ballistic missile defense shield that will provide security for joint and allied forces ashore.

In larger-scale conflicts or higher-threat scenarios, CSGs, SAGs, ESGs, and Amphibious Forces would combine to form an Expeditionary Strike Force (ESF) to provide the necessary level of power projection, sea superiority, and combat capability for a wide range of military operations. Deployments of guided missile submarines (SSGNs) and the initial acquisition of modular, multi-mission littoral combatants will improve the range of response options. Similar to the way in which Marine Air-Ground Task Forces¹ (MAGTFs) scale from MEU to MEB to MEF, a mix of CSGs, ESGs, in-theater assets, CLF and MPF can surge globally to operate together as an integrated ESF when conditions dictate.



¹ Marine Air-Ground Task Force: A task organized force construct with a Command Element, a Ground Combat Element, an Aviation Combat Element, and a Combat Service Support Element. The standard MAGTF organizations are the Marine Expeditionary Unit (MEU), the Marine Expeditionary Brigade (MEB), and the Marine Expeditionary Force (MEF).

The Navy and Marine Corps will change by organizing, deploying, employing and sustaining forces, using *Sea Strike*, *Sea Shield*, *Sea Basing*, and *Expeditionary Maneuver Warfare*.

Sea Strike

The joint concepts of *Precision Engagement* and *Dominant Maneuver* provide the framework for the Naval Services to identify and pursue *Sea Strike* capabilities that will be increasingly integrated with the complementary strike capabilities of the Air Force, Army, and Special Operations Forces (SOF). Widely distributed Naval Forces must be able to gain positional advantage to locate, surveil, track, target, and strike an adversary to achieve joint objectives.

Naval Forces will deliver joint fires with increased range, lethality, accuracy, and timeliness from aircraft, ships, submarines, unmanned vehicles, and ground forces in direct action or in support of other joint forces. Improved strike options will be enabled by *FORCEnet*, fusing information from Naval, joint, national, and multinational resources. *FORCEnet* will also enable the Naval Services to develop an integrated joint fires command and control (C2) capability to better support joint land forces. Navy and Marine Corps forces will strive toward becoming seamlessly networked with persistent ISR assets, including unmanned and autonomous sensors, to cover the depth and breadth of the battlespace. Coordinated with the Air Force's global ISR concept, space-based and organic assets will provide the information necessary for improved target detection, acquisition, evaluation, and engagement. The result will be an unparalleled sharing of C4ISR capabilities and enhanced decentralized decision making at all levels throughout the force. *FORCEnet* will be critical to the development of a unified, joint approach to the intelligence preparation of the battlespace.

Operational innovation, new asset configurations, and equipment reliability will increase combat power. These capabilities, coupled with increased weapons carrying capacity through the use of precise, small-diameter bombs, will generate higher target engagement rates for manned and unmanned combat aerial vehicles. Naval Forces will increase the operational reach and decisive impact of Naval fires. Improvements include: the flight characteristics, counter-detection capability, and weapons capacity of aviation assets; development of in-flight re-targetable missiles and extended range munitions; clandestine² strike; and undersea Special Operations Forces (SOF) delivery. This increased combat power, combined with the advantage of linked sensors and shooters, will provide immediately responsive Naval fires capable of precision, volume, and time-sensitive strike. Integrated with the long-range capabilities of the Air Force Global Strike Task Force, Naval fires provide the JFC with the full array of strike and close air support options.

Evolving offensive and defensive IO capabilities, such as Electronic Warfare (EW), Psychological Operations (PSYOPS), Computer Network Attack (CNA), Computer Network Defense (CND), Operational Security (OPSEC), and Military Deception, will be integrated with kinetic fires and will broaden the ability of the Joint Force to shape the battlespace. The increasing use of offensive IO to disrupt the

² Clandestine: An operation conducted in such a way as to assure secrecy or concealment.

adversary's plans and defensive IO to ensure the security of our own networks will provide the Joint Force with an asymmetric advantage.

Marine forces employing operational maneuver from the sea (OMFTS), and conducting ship to objective maneuver (STOM) will greatly increase the operational tempo, reach, and flexibility of the Joint Force. The Navy and Marine Corps Team provides the sea-based forcible-entry capability critical for the introduction of follow-on Air Force, Army, and multinational forces. Additionally, Marine forces, organized as Marine Air-Ground Task Forces (MAGTFs), are ideally suited to be employed as an Operational Maneuver Element (OME) during Sustained Operations Ashore (SOA).

Advanced surface assault vehicles, air cushion landing craft, and tilt rotor platforms will extend operational maneuver throughout the battlespace. The improved navigational and combat identification capabilities provided through the network will support this maneuver. The combination of Naval fires, including extended-range Naval surface fire support and integrated Naval tactical fixed-wing aviation, will leverage digital connectivity to support decisive maneuver and develop overwhelming combat power. Once ashore, lightweight, expeditionary ground fire support systems and close air support from scalable MAGTFs will further augment the Joint Task Force (JTF) land attack capabilities. These expeditionary operations will be augmented by maritime prepositioning forces capable of integrating with the ESF in the conduct of supporting, reinforcing, and sustaining operations.

Sea Shield

Naval Forces will project greater defensive power over sea and land to protect joint forces, friends, and allies. This defensive shield, projected by sea-based forces, degrades the enemy's ability to successfully target and engage friendly forces; facilitates strike options, maneuver, and sensing; and enables the deployment of follow-on forces into the theater. The ability of forward Naval Forces to extend a sea shield over the shore will significantly enhance the deployment options of the JFC while helping to build and maintain an uninterrupted deployment momentum for the Joint Force. *Sea Shield* helps achieve the requirements associated with *Full Dimensional Protection* for the Joint Force through the execution of *Dominant Maneuver* and *Precision Engagement*. It focuses on the refinement of existing, and the development of new, capabilities to gain and sustain access for the Joint Force in the contested littorals.

Naval Forces will achieve littoral sea dominance by employing a combination of current platforms, upgraded legacy systems, littoral combatants, unmanned vehicles, and advanced deployable sensors to counter missiles, mines, submarines, asymmetric tactics, and terrorists. Embarked MAGTF assets will augment force protection as the situation dictates.

Naval Forces provide sustainable protection to an increasingly networked and distributed Joint Force. These Naval Forces extend the defensive umbrella by exploiting sea control, improving persistent and pervasive expeditionary sensing capabilities, and employing offboard and organic systems. Selected technical improvements will transform the capabilities of anti-submarine and mine warfare.

Upgrades to submarines, maritime patrol and rotary-wing aircraft, and surface anti-submarine warfare and mine counter-measures (MCM) systems from deep water through littoral penetration sites will provide key capability improvements. Initial fielding and employment of the modular mission capabilities associated with a littoral combatant ship will bolster the Naval Forces' ability to conduct littoral anti-submarine warfare and MCM operations. Mine warfare platforms and organic systems will provide a critical access capability for the ESF. Dedicated large-scale mine-clearing operations will rely on MCM platforms and heavy-lift helicopters operating from a large ship until the transition is made to a new Mine Command Ship, which will be equipped with unmanned hunting and sweeping systems as well as MCM-capable light helicopters. To confront the adversary's submarines, ASW forces will be augmented by advanced arrays and unmanned undersea vehicles. Improved ASW will result from the integration of traditional coordinated procedures with improved networked data sharing, which will optimize resource allocation to more effectively detect, track, and engage submarine threats.

The defensive umbrella of *Sea Shield* will include the deployment of an air and missile defense capability. A sea-based theater air and missile defense capability, based on improved Aegis technologies, will be developed and employed to help defend Naval, joint, and multinational forces at sea and ashore, and will contribute to integrated efforts to defend the homeland. Air and missile defense capabilities residing in CSGs, ESGs (including MAGTF assets), and in-theater assets will protect critical aerial and sea ports of debarkation, Joint Force concentrations, and the key political and military assets of friends and allies from missile attack. This capability will be developed to integrate with and complement the Army's and Air Force's joint air defense capabilities and operating concepts. The ability of Naval Forces to sustain access and project defensive firepower deep inland will directly contribute to the ability of Air Force Air and Space Expeditionary Task Forces and Army Objective Forces of the future to deploy directly to the battlefield.

Maritime domain awareness will be developed through networked interagency cooperation. Naval Forces, including special purpose anti-terrorism/force protection MAGTFs, will be capable of supporting lead federal agencies in detecting and intercepting threats to the U.S. homeland, and they will provide incident response should an attack occur within the country.

Sea Basing

In the near to mid term, *Sea Basing* will provide secure support and sustainment of systems, platforms, and operating forces, through the CLF and selected platforms of the MPF, other afloat prepositioning ships, and new high-speed air and surface craft. Exploiting the integrated capabilities of the joint functional concepts *Dominant Maneuver* and *Focused Logistics*, the sea base is the foundation for generating overwhelming offensive and defensive joint power from assets that can deliver integrated fires, project and sustain maneuver forces, and maintain command and control. The sea base expands and contracts to match mission requirements by incorporating the full range of Naval Forces, including SSGNs, SAGs, amphibious ships, and littoral combatants.

Today, the CLF supports CVBGs while the MPF supplements the capabilities of the ARG/MEU(SOC). As new equipment and platforms become available, the CLF and MPF will begin to merge, to provide enhanced reinforcement and sustainment to the ESF and select joint forces ashore. The sea base will provide increased support to Special Operations Forces (SOF) in the form of security provided by MEU(SOC) forces, including the Aviation Combat Element, as well as combat service support, Naval fires, Naval aviation assets, or an Afloat Forward Staging Base (AFSB).

Naval Forces, operating from dispersed locations and using a netted C2 structure, will interface with Naval shore facilities and strategic supply pipelines through an increasingly integrated Naval logistics system. Navy and Marine Corps logistics and prepositioning forces will merge by integrating advanced technologies, systems, processes, and organizational structures. Technology and networking capabilities, including early-generation system self-diagnostics, will improve asset visibility. When combined with improvements in at-sea transfer of cargo, equipment, and munitions, this will yield more timely and accurate sustainment of forces at sea and ashore while reducing reliance on land-based infrastructure within the Joint Operational Area (JOA).

CLF platforms, Navy ships, and ships assigned to the Military Sealift Command, using new underway replenishment systems, will be able to transfer twice the cargo weight in the higher sea states; this will greatly improve the sustainment capability of the sea base and lend greater persistence to joint operations. Technical advancements in materiel-handling equipment and modular packaging will increase the speed and scope of re-armament at sea, decreasing the time off-station. Advanced intermodal modular packaging techniques will improve handling and reduce retrograde, waste, and storage requirements.

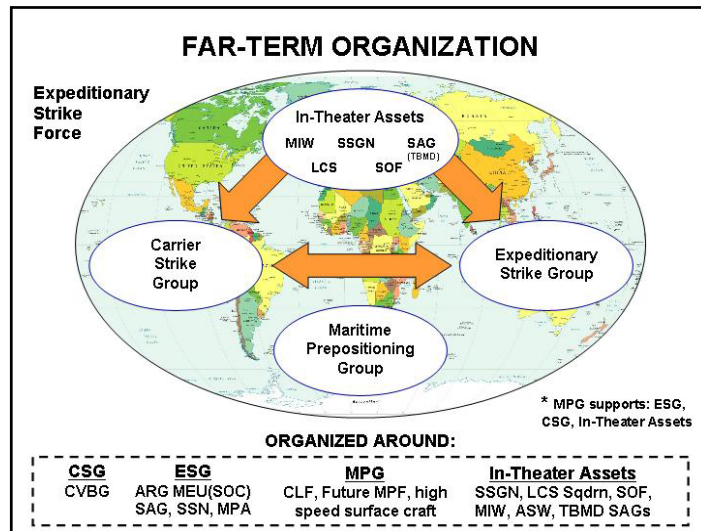
The introduction of new-generation amphibious and maritime prepositioning ships provides the ability to selectively offload, thereby creating greater flexibility through tailorable force packaging and sustainment throughout the battlespace. Combined with high-speed ships and craft, and tilt-rotor aircraft, force deployment and employment will be accelerated. The introduction of these new platforms will also provide an expanded reconstitution-at-sea capability, including the ability to receive cargo via strategic or intra-theater sealift. Modular configuration of spaces and equipment on selected platforms will give commanders a greater ability to command operations from dispersed locations. Additionally, an Afloat Forward Staging Base will provide more basing and employment options for Special Operations Forces and selected joint forces. This combination of organizational and technical advances in platforms and systems, coupled with new operating and functional concepts, will give the Joint Force more agility, increase operational tempo, and improve inter-Service operability.

NAVAL OPERATIONS IN THE FAR TERM

Further improvements in *Sea Strike*, *Sea Shield*, and *Sea Basing* will continue to strengthen joint operations in achieving full-spectrum dominance. Future Naval operations will fully exploit the asymmetric advantage that a netted sea-based force brings by increasing the offensive and defensive power that can be projected and

sustained from the sea. Capitalizing on unprecedented integration of warfighting functions at sea, the Navy and Marine Corps will project multidimensional power while sustaining the sea base and forces conducting military operations ashore. These forces will close without the need for host nation support within the JOA.

Forward Naval operating forces will be organized into an ESF, elements of which will train together to ensure readiness for a wide range of contingencies. The ESF will consist of CSGs, ESGs, and Maritime Prepositioning Groups (MPGs)³. The ESF can be scaled with the introduction of forcible-entry-capable, amphibious Marine Expeditionary Brigades and in-theater



assets. Flexible Naval capabilities are provided by in-theater assets (e.g., littoral combatant squadrons conducting Maritime Intercept Operations (MIO), ASW, ASUW, and Mine Warfare (MIW); SAGs dedicated to missile defense; and SSGNs conducting missile strike, SOF insertion, or intelligence missions). These elements will deploy as units capable of independent operations, and can be quickly integrated into the ESF based on requirements. The MPG provides both operational reinforcement and sustained endurance to the ESG, CSG, and theater assets, and together they will form a sovereign sea base, operating primarily in international waters or from coalition bases and waters. The ESF brings complementary capabilities to Air Force Air and Space Expeditionary Task Forces, Army Objective Forces, and Joint Special Operations Forces for integrated joint operations across the spectrum of conflict.

Sea Strike

Building on the capabilities achieved through the mid term, *Sea Strike* operations will project increasingly decisive offensive power. Naval Forces, using information from manned and unmanned Naval, joint, national, and multinational assets, will establish an understanding of the adversary's vulnerabilities. Based on identified vulnerabilities, intuition, pattern recognition, and experience, commanders will conduct conventional, clandestine, and time-sensitive strike, ship-to-objective maneuver and EW/IO, delivering decisive, sustainable combat power and accuracy during joint operations.

Penetrating and persistent intelligence, surveillance and reconnaissance (ISR) will be obtained through the use of organic and long-dwell, unmanned and autonomous

³ The Maritime Prepositioning Group consists of the Combat Logistics Force, Maritime Prepositioning Force (Future), and high-speed surface craft.

stealthy sensors that are located from the seabed to space and are fully integrated and networked with reconnaissance forces, manned platforms, and maneuver elements. The ESF will use the mix of sensing, correlation, and fusion capabilities resident within the sensor grid for battlespace preparation and awareness to support rapid and decentralized operations while countering an adversary's use of deception and misinformation. Data will be fused from national sensors, aircraft, manned and unmanned reconnaissance platforms, and maneuver elements. This data fusion will enable precision targeting, in-flight retargeting, and updates to weapons systems, and thereby achieve focused effects supporting Naval, joint, and multinational forces.

Naval fires provided directly from surface combatants, submarines, and aircraft will be linked together via a fully netted digital fires network. The integrated network will enable massed firepower from dispersed forces, provide rapid engagement of both fixed and time-sensitive targets, and facilitate simultaneous operations. The addition of hypersonic missiles, electromagnetic guns, long-range projectiles, advanced gun systems, and miniaturized munitions will expand the strike capacity of the ESF and will make hardened and deeply buried targets vulnerable. Offensive Air Support fires will provide precision and area fires including fires against mobile targets. Stealthy manned and unmanned aircraft capable of delivering both precision and volumes of fire will bring added capability to quickly engage mobile, re-locatable, and "pop up" targets in concert with other joint assets. The Naval Services will continue to coordinate their efforts in developing the capability and capacity to quickly engage time-sensitive targets with the efforts of the other Services and SOF. The ESF will seamlessly shift the focus of its fires to provide flexible, reliable, responsive all-weather fires to support maneuver and destroy enemy forces across the depth and breadth of the battlespace.

MAGTFs within the ESF will use advanced vertical and surface assault assets and techniques with netted, digital, over-the-horizon communications to attack operational objectives. This combined arms force, with sea-based C2 and logistics support, creates unmatched operational tempo by coordinating maneuver with dispersed, integrated Naval fires. Amphibious forces will conduct forcible-entry operations when required. The use of highly mobile ground forces in concert with aviation platforms operating from the sea base or austere airfields ashore, expands the operational reach of the force and generates the warfighting impact traditionally provided by far heavier forces.

The ESF employs clandestine assets and IO to gain an asymmetric advantage over its adversary. Undersea strike will employ SOF and missiles as part of integrated fires to engage critical and time sensitive targets. Military deception, psychological operations (PSYOPS), electronic warfare (EW) and computer network attack (CNA), integrated with kinetic fires and maneuver, will be combined for decisive effects.

Sea Shield

In the far term, *Sea Shield* will provide integrated and layered global defensive power for the Joint Force, enabled by networked intelligence and shared information provided through *FORCEnet*. The ESF will use this power to enhance homeland defense, maintain freedom of the seas, assure access through strategic choke points and in the contested littorals, and project defensive power deep inland. Often, Naval

Forces will provide most defensive capabilities for joint forces initially, and then integrate that protection with other joint capabilities throughout the conduct of operations.

The ESF will conduct operations (e.g., precision attack, missile defense, anti-submarine and mine countermeasure operations, anti-ship operations (including raids), special operations, escort, ship defense actions, and MIO) in concert with other joint forces, to assure continuous access and force protection for joint and multinational forces. Threats are detected, identified, and tracked using a robust network of organic and non-organic systems. Using a variety of both sea- and ground-based kinetic and non-kinetic weapons, Naval Forces will deny the adversary the ability to successfully interdict or attack U.S. or allied forces, during deployment, employment, and post-conflict re-deployment, and on the home front.

Naval Forces will dominate the undersea environment. The ESF will conduct networked undersea operations, characterized by distributed and persistent ISR, rapid cueing, and lethal engagement, to maintain local undersea superiority and defeat any submarine threat. In the acoustically complex littoral, networked undersea operations of ASW, capable unmanned systems will act as significant force multipliers, reducing the timeline required to detect, track, and engage the threats. The ESF, employing submarines, surface ships, fixed- and rotary-wing aircraft, and unmanned vehicles, will provide an undersea defensive shield for the sea base during transit and littoral operations.

Naval Forces will integrate both dedicated and organic mine warfare capabilities to ensure access through littoral penetration sites. Dedicated MCM forces employing a variety of manned and unmanned systems will clear mines through mine hunting and sweeping. Organic mine warfare systems will provide focused mine detection, sweeping, and avoidance capabilities to allow Naval Forces to clear lanes through mined corridors, straits, or littoral penetration zones.

Fast enemy surface combatants and other waterborne threats will be defeated by a dispersed force of networked platforms conducting ship defense actions; this force will include organic weapons systems, littoral combatants, and helicopters. These platforms, using distributed unmanned sensors, will be armed with revolutionary new technologies such as directed and high-energy weapons capable of precise close-in defense.

Undersea and surface dominance will allow *Sea Shield* to extend further inland, both abroad and at home, using the capabilities in sea-borne platforms. Additionally, next-generation airborne and ground-based radar capabilities will provide improved threat detection and tracking over land, at sea, and in space. Naval Forces will use a combination of these systems to engage and defeat air and ground artillery and missile threats. New long-range surface-to-air missiles, ground-based cruise missile defense systems, space-based defensive systems, and a cooperative engagement capability will contribute to this process of coordinating distributed weapons. The enhanced defensive capability generated by these new systems will free a greater portion of integrated Naval tactical fixed-wing aviation assets to conduct offensive missions.

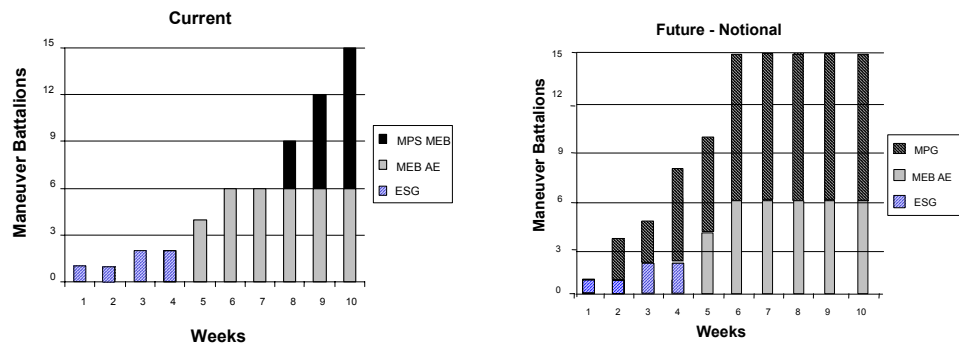
These extended *Sea Shield* capabilities represent a broadened mission for our Naval Forces that will reduce the urgency to deploy land-based defensive assets and increase the influence of sea-based operations ashore. This extended defensive shield

from the sea, using the integrated defense and cueing infrastructure of Naval and joint forces, ensures joint and coalition forces access and protection at sea and ashore.

Sea Basing

In the far term, *Sea Basing* will provide an increased ability to protect, project, and support joint and multinational forces from the sea. Integrated combatant and auxiliary Naval Forces, including the future MPF, will become a single, fully netted force to enhance the speed and effectiveness of expeditionary warfare. The modular capabilities resident in the sea base create the flexibility to configure multi-mission ships to serve in a joint C2 role using a deployable joint command and control system. The distributed, networked tools provided by *FORCEnet* will enhance en route collaborative planning and rehearsal capabilities.

Leveraging the conditions set by forward-deployed ESGs and CSGs, elements of a Marine Expeditionary Brigade will arrive at locations en route to the objective area via strategic lift and self-deployment. These flow-in forces will then move directly to the sea base via intra-theater assets. Sea-based capabilities will ensure access to all equipment for inspection, maintenance, testing, and selective reconfiguration of tactical loads, resulting in compressed Reception, Staging, Onward Movement, and Integration. New developments in high-speed vessels, high-speed lighterage, vertical lift assets, landing craft, and advanced surface assault vehicles will enable phased at-sea arrival and assembly of additional forces. The attainment of these capabilities will enable accelerated deployment and employment timelines for surging forces, and will enhance their ability to project sustained ground combat power. This accelerated deployment will provide the JFC with a more robust forcible-entry capability, and a rapidly employable exploitation force for the current mission or an early-entry force for the next mission.



Future sea base platforms and systems will provide for selective offload of specific forces, equipment, and supplies. This provision will allow a commander to tailor forces for specific missions. Regardless of whether the mission is a logistics-intensive humanitarian relief operation or a large-scale ship-to-objective maneuver in a major contingency, selective offload optimizes force packaging for employment. *Sea Basing* also contributes to increased operational tempo by increasing speed, mobility, and maneuverability while decreasing or eliminating operational pauses. The ability to

assemble tailored sustainment packages for the requesting commander and then deliver those them directly to units decreases the amount of time and associated equipment and manpower ashore needed to support operations. Sea-based automated materiel handling (strike-up, strike-down, automated warehousing, modularity) will ensure the rapid identification and delivery of materiel and force packaging.

The sea base is sustained through the platforms of the Maritime Prepositioning Group using integrated Naval logistics to interface with Naval and joint bases and joint strategic logistics pipelines. New-generation, higher-capacity combat logistic ships will sustain a secure, sovereign, at-sea re-supply pipeline from land depots and ports outside the area of operations to the sea-based forces within that area. At-sea maneuverability, coupled with advanced underway replenishment technologies and techniques, and advanced high-speed air and surface lift, will ensure increased force readiness over time. The capabilities resident in sea-based platforms provide for at-sea transfer of personnel, heavy and out-sized equipment, and inter-modal containers, along with at-sea reload. Further, the sea base can provide medical care facilities, serve as a base for selected joint forces, and provide for the throughput of select joint supplies, support, and forces.

The sea base provides Naval and select joint forces with the ability to reconstitute at sea, enabling them to rapidly re-employ in order to exploit opportunities and conduct subsequent operations. Once units are recovered to the sea base, onboard logistics capabilities enable the restoration of those units' readiness levels for further employment. Advancements in maintenance, storage, distribution, and information technology will speed the process. While being restored, forces may be simultaneously task organized for new missions and operationally repositioned toward new objectives in the area of operations. At-sea reconstitution optimizes the Navy and Marine Corps Team for employment as an operation maneuver element of the Joint Force.

The sea base will provide a materiel management and maintenance capability that will support operations for both sea-borne and land-borne forces. This capability will be enhanced through the integrated logistics management system, providing total asset visibility and automated diagnostics. Most headquarters, aviation, and service support activities will remain afloat, reducing the logistics and force protection requirements ashore while improving the agility and flexibility of the force. The logistics demand for forces ashore is reduced by streamlining what is taken ashore, by improving efficiency in vehicles and equipment, by remotely monitoring equipment, and by ensuring total visibility of logistics assets (both supplies and transportation) and requirements while leaving certain functions at sea. Logistics and other supporting functions will operate from multiple locations. Thus, logistics sustainment can come from a secure sea base, providing tailored support packages for movement directly to dispersed forces.

Advances in sea basing will also enable early-entry Marine and follow-on Army forces at multiple points of entry to flow as coherent, integrated combined-arms teams capable of concentrating lethal combat power and engaging an adversary. The ability of the Naval Services to contribute to the transformational deployment methods of the other Services will dramatically improve the overall ability of the Joint Force to counter our adversaries' area-denial and anti-access strategies.

THE WAY AHEAD

This concept stresses the benefits that integrated Naval operations bring to joint warfighting. The complexity of the future battlespace will require increased interoperability and integration across the entire Joint Force for operational effectiveness. By effectively capitalizing on commonality and by coordinating or integrating functions when and where appropriate, the Navy and Marine Corps Team will produce an integrated warfighting force with unmatched potential.

People and Culture

The Navy and Marine Corps Team (comprising active, reserve, and civilian personnel) is an effective fighting force that has consistently capitalized on many technological and operational innovations. Examples of its rich and unique operational heritage are carrier aviation, amphibious warfare, vertical envelopment, underway replenishment, nuclear power, undersea strategic deterrence, the MAGTF, and Aegis integrated air defenses. By achieving greater commonality, we strengthen the foundation for future integrated Naval operations, and further extend our history of innovation.

Major changes to culture are long-term endeavors, and achieving fully integrated Naval operations may require a full generation. Organizational changes between the Services that reduce redundancies can increase efficiency and optimize the allocation of resources. Combining units with complementary capabilities that have overlapping missions and functions will enhance the overall capability set while streamlining overhead. Therefore, the first significant steps in the way ahead will be those philosophical, conceptual, doctrinal, and organizational actions that will lead to greater integration.

Sailors and Marines will be fundamental to the success of this change. They are the ones who embody the culture that must be the heart of the future Naval Force. The transformation to an integrated Naval Force will require institutionalizing fundamental changes, including more effective integration with and use of our reserve forces, while remaining true to our warrior cultures. Familiarity and trust between Sailors and Marines at every level of operations are essential to true integration. The key to building this trust and integration is to train and educate Sailors and Marines to think and operate as a single Naval Force. Historically, both Services have produced committed, dedicated, and professional warfighters. The Navy will continue to do this through *Sea Warrior*, its commitment to the growth and development of its people. The Marine Corps will continue to make Marines through a rigorous process that focuses on cohesion while preparing Marines for the physical and psychological challenges of battle. Developments in training and education will ensure Sailors and Marines are prepared to operate as a team within an integrated Naval Force.

Training and Education

Our Service training programs must continue to support unique or specialized skill sets while seizing appropriate opportunities to foster integration, especially in

leader development and professional military education. Even in more specialized training, there may be opportunities to build awareness in individual Sailors and Marines that they are part of the larger integrated Naval Force.

Integrating training and education at appropriate levels of our professional development creates a shared experience that facilitates improved understanding, communication, and coordination between the Services. Successful integrated training and education programs—the Naval Justice School, the Expeditionary Warfare Training Group Atlantic and Pacific, ARG/MEU(SOC) workups, and initial Naval aviation flight training—have led to increased warfighting effectiveness and training efficiency.

As the integration processes in logistics, C2, mission planning, fires, and integrated Naval tactical fixed-wing aviation within the Naval Services mature from the near to far term, training and education will be established to ensure that there is one common operating system. The professional education curricula of the Naval War College and Marine Corps University will be more closely aligned to teach common elements of our warfighting philosophy. The Navy and Marine Corps will seek to give their officers more opportunities to attend each other's Service schools and participate in joint professional military education, to further contribute to joint operations. Candidates for integration include training on equipment operated by both Services (e.g., training on F/A-18 and Joint Strike Fighter maintenance, the Theater Battle Management Core System, network operations, and information technology) and training for the Joint Force Air Component Commander (JFACC) staff. Follow-on analysis will seek to find other appropriate opportunities to integrate Naval education and training. Where full integration is not applicable, the Naval Services should use training and education venues to help build elements of a common culture in terms of warfighting philosophy, conceptual understanding, and integrated operations.

Navy/Marine Corps Collaboration

The Navy and Marine Corps will collaborate to further their ability to operate as an integrated force. We must coordinate our doctrine, collaborate on research, invest in common technology, and experiment in tandem to build the future force.

Coordinated, Integrated Doctrinal Development

The Navy and Marine Corps doctrine-development processes will be coordinated and, where appropriate, integrated. Integrated doctrine will include an overarching publication that articulates the Naval warfighting philosophy, highlighting the operating concepts detailed in the NOC (e.g., CSG/ESG) as well as any appropriate warfare publications (including tactics, techniques, and procedures) that describe how Naval forces interact with each other and with joint and multinational forces. The common Naval warfighting philosophy will be articulated in a new capstone Naval Doctrine Publication, *Naval Warfare*, which will shape the subordinate publications of both the Navy and Marine Corps. Integration of appropriate lower-level, more detailed publications will be accomplished as current publications are reviewed and updated.

Naval Forces: Concept Development and Experimentation

As we develop Joint concepts and conduct experiments, we must take intellectual risks informed by military judgment. We must... look for failure as the metric of intellectual honesty and the hallmark of a vibrant entrepreneurial culture.

—Secretary of Defense Donald Rumsfeld,
U.S. Joint Forces Command, 01 Oct 02

The Navy and Marine Corps are coordinating their Concept Development and Experimentation (CD&E) activities. For example, the Navy's Fleet Battle Experiment Echo was held in conjunction with the Marine Corps' Urban Warrior experiment, and both Services' concept development organizations have developed the *Enhanced Networked Sea Basing* concept. The Naval War College and the Marine Corps Warfighting Lab have taken steps to showcase the utility of Naval concepts during other Services' Title X wargames. The partnership between the Navy Warfare Development Command and the Marine Corps Combat Development Command is an example of how collaborative efforts between the Services can yield products that contribute to future integrated operations. This collaboration will be expanded to include regular coordination on a broad spectrum of activities. Future concepts will be developed as Naval documents, while concepts for Service-unique specialties will be reviewed by both Services to ensure consistency within the overarching Naval warfighting philosophy and doctrine.

Experimentation: As concepts are developed, the emerging doctrine, procedures, organizations, and technology must be evaluated through a coherent and aggressive experimentation process. To achieve this coherency, the Navy and Marine Corps will closely coordinate the Navy's Sea Trial process and the Marine Corps' experimentation process. This process must tap into the creativity of all our Sailors and Marines, and engender a culture in which new ideas are encouraged, not just tolerated, even if they fail.

Research and Development: In modern warfare, technological innovation confers the potential for greater dispersion and complexity of action within a unified battlespace. The search for improved technologies permeates the preparation for and conduct of war, but it must be pursued purposefully and in a disciplined manner. Technology is a tool, a means to an end; by leveraging technology we can maintain a decisive advantage. The Office of Naval Research is charged with initial scientific research and technology development for both the Navy and Marine Corps. As CD&E efforts become more collaborative, S&T programs will be closely aligned to those efforts to ensure all programs are pursued purposefully in a disciplined manner to support the long-term goals.

Joint Forces: Alignment, Concept Development, and Experimentation

To ensure joint forces are truly interoperable and complementary in the future, the Sea Services will be fully engaged in Joint Concept Development and Experimentation

(JCD&E). The Navy and Marine Corps are also committed to robust cooperation with the Army, Air Force, Special Operations Command, and Coast Guard in this area. The Naval Services will enhance their integration in the JCD&E activities of the U.S. Joint Forces Command, the Joint Staff, and the combatant commanders. Where appropriate, the Naval Services will provide a single integrated input into JCD&E processes and integrated participation in those processes.

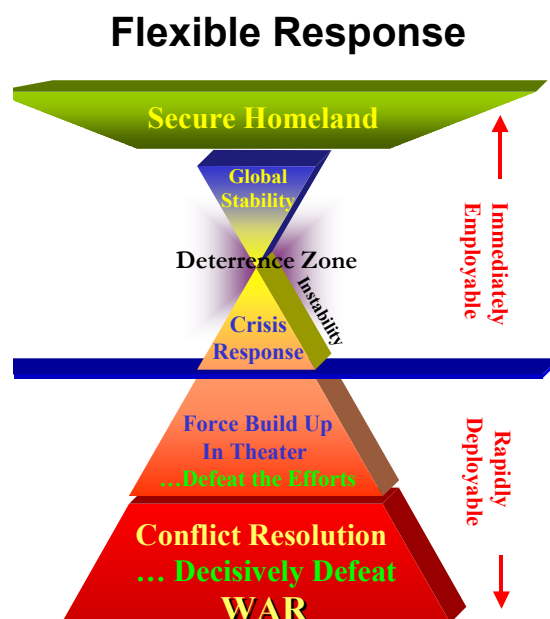
The concepts of each Service flow from the same strategic guidance and joint concepts; they offer opportunities for mutual support and reinforcement when applied to joint operations. For example, the *Sea Strike* concept will be aligned with the Air Force's Precision Engagement and Global Attack, and the Army's Objective Force concepts. Similarly, in joint operations, *Sea Shield* will support Air and Space Superiority, and *Sea Basing* will complement Global Mobility and Agile Combat Support. The Naval Services will partner with Special Operations Command as it develops future concepts and capabilities, and with the Coast Guard as it assumes its new position in the Department of Homeland Security. To achieve the common goal of joint decision superiority, all the Services' C4ISR concepts and capabilities must be fully interoperable.

As we look to the future, some areas of mutual interest with other Services are ripe for exploration. We intend to enter into serious dialogue, with goals of truly enhanced interoperability and the elimination of redundancies where it makes good sense. Initial areas which we intend to explore with the Army include integrated joint air defenses, command and control of joint fires, coordinated air support concepts, improved logistics delivery and support systems, and collaboration on new high-speed surface vessel capabilities and other sealift platforms. Opportunities for increased collaboration and complementarity with the Air Force include more integrated command and control systems, common C4ISR and data streams, shared munitions development, more efficient joint operation of test and training ranges, joint unmanned air vehicle development, and pursuit of complementary aircraft fleets.

Similar opportunities are apparent with Special Operations Command to further joint interoperability of operational and support forces. It is important for the Naval Forces to take the first steps in a dedicated effort to realize the vision proposed in the development of the joint operations concepts.

CONCLUSION

The Naval Services bring unique competencies and complementary capabilities to joint operations. The challenges facing the Joint Force demand globally responsive forces to defend the homeland, deter forward, and swiftly and



decisively defeat adversaries. This response requires a balance between forward-positioned and CONUS-based forces, to provide Joint Force flexibility.

The Navy and Marine Corps are intrinsically expeditionary. Because of their forward posture, they deter aggression, they are familiar with the operating area, and they give the Joint Force a knowledge advantage critical to achieving decision superiority. Naval Forces provide an immediately employable forcible-entry capability that enables them to respond to crises and establish the conditions necessary to permit the full deployment and employment of joint and multinational capabilities. This allows the rapid build-up of forces in the theater of operations to swiftly and decisively defeat the efforts of an aggressor. Naval offensive and defensive power projected from a mobile sea base supports global force application across the spectrum of conflict.

This NOC describes the critical capabilities Naval Forces will bring to achieve full-spectrum dominance through joint warfighting. *Sea Power 21, Expeditionary Maneuver Warfare*, and the supporting concepts outlined in the NOC reinforce these joint capabilities. *FORCEnet* is intended to be the framework for information exchange. *Sea Strike* integrates the functional concepts of *Precision Engagement* and *Dominant Maneuver*. *Sea Shield* helps achieve *Full Dimensional Protection* by projecting greater defensive power over sea and land to protect joint forces, friends, and allies. *Sea Basing* exploits the integration of the joint *Dominant Maneuver* and *Focused Logistics* concepts to lay the foundation for both *Sea Strike* and *Sea Shield*.

Sea Basing has significant implications for Joint Force capabilities and is key to joint operations in the 21st century. *Sea Basing* enables the generation of overwhelming offensive and defensive power from assets that can deliver integrated fires, project and sustain maneuver forces, and maintain command and control in an austere or area-denial environment. *Sea Basing* provides the Joint Force with increased ability to command and control, protect, project, and support joint and multinational forces from the sea.

This Naval Operating Concept for Joint Operations emphasizes the benefits that integrated Naval operations bring to joint warfighting. As the Navy and Marine Corps integrate their warfighting capabilities, we are committed to achieving maximum interoperability and complementarity with the Army, Air Force, Coast Guard, and Special Operations Command in future joint operations.