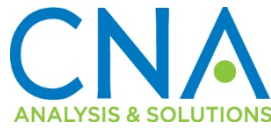


# American Naval Policy, Strategy, Plans and Operations in the Second Decade of the Twenty-first Century

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**January 2017**

A handwritten signature in black ink, appearing to read "E. Thompson".

Eric V. Thompson, Director  
Center for Strategic Studies

## Abstract

This paper provides a brief overview of U.S. Navy policy, strategy, plans and operations. It discusses some basic fundamentals and the Navy's three major operational activities: peacetime engagement, crisis response, and wartime combat. It concludes with a general discussion of U.S. naval forces. It was originally written as a contribution to an international conference on maritime strategy and security, and originally published as a chapter in a Routledge handbook in 2015. The author is a longtime contributor to, advisor on, and observer of US Navy strategy and policy, and the paper represents his personal but well-informed views. The paper was written while the Navy (and Marine Corps and Coast Guard) were revising their tri-service strategy document *A Cooperative Strategy for 21<sup>st</sup> Century Seapower*, finally signed and published in March 2015, and includes suggestions made by the author to the drafters during that time.

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# Introduction and acknowledgement

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## Overview

This chapter seeks to explain broadly U.S. Navy policy, strategy, plans and operations in the second decade of the twenty-first century.<sup>1</sup> It does so by discussing some basic fundamentals, and then the Navy's three major operational activities: Peacetime engagement, crisis response and wartime combat. For each activity, it describes the Navy's ends, ways and means.<sup>2</sup>

The approach taken is deliberately specific, that is, it tries to present the actual application of concepts rather than just discussing the concepts themselves. While concepts are important, true understanding of the uses of naval power requires some explanation of actual operations, organizations and systems.<sup>3</sup>

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<sup>1</sup> This paper is an informed but personal interpretation of U.S. Navy policy, strategy and operations. The Navy's official strategy is scheduled for publication in March 2015, to be signed by Commandant of the Marine Corps General Joseph Dunford USMC, Chief of Naval Operations ADM Jonathan Greenert USN, and Commandant of the Coast Guard Admiral Paul Zukunft USCG. It is to update Commandant of the Marine Corps General James T. Conway USMC, Chief of Naval Operations ADM Gary Roughead USN, and Commandant of the Coast Guard Admiral Thad W. Allen USCG, *A Cooperative Strategy for 21<sup>st</sup> Century Seapower (CS21)* (Washington DC: October 2007). More detail on recent official Navy strategy, policy, concepts and doctrine is in *Naval Operations Concept 2010 (NOC 2010)*, (Washington DC: 2010); and *Naval Doctrine Publication 1: Naval Warfare (NDP 1)* (1 March 2010), signed by the same three service leaders. Since taking office in September 2011, Admiral Greenert has published undated short pieces of authoritative guidance and explanation, the latest editions of which are: *CNO's Sailing Directions*, *CNO's Position Report: 2014*, and *CNO's Navigation Plan 2015-2019*. Current high-level joint U.S. doctrine is in Director, Joint Staff LTG Curtis M. Scaparrotti USA, *Joint Publication 3-32: Command and Control for Joint Maritime Operations* (Washington DC: The Joint Staff, 7 August 2013). See also Secretary of the Navy Ray Mabus, *Department of the Navy Transformation Plan: FY 2014-2016* (Washington DC: Department of the Navy, July 2, 2014).

<sup>2</sup> For a recent brief treatment of U.S. maritime and naval strategy, policy, plans and operations, see CAPT Bernard D. Cole USN (Ret), *Asian Maritime Strategies: Navigating Troubled Waters* (Annapolis MD: Naval Institute Press, 2013), Chapter Two "The United States," 38-60.

<sup>3</sup> The views expressed in this chapter are my own, and do not necessarily represent those of the United States Government, the United States Navy, nor the CNA Corporation.

## Fundamentals

Some important underlying propositions must be understood first, in contemplating and analyzing American naval power today and its relationship to that of other nations and non-state actors:

- The United States is a nation of laws, and the Navy and its uses are deeply rooted in – and subordinate to -- American law. The Constitution of the United States of America – the supreme law of the country – designates the U.S. President as the “Commander in Chief of the Army and Navy of the United States,” and gives the power to the U.S. Congress “provide and maintain a Navy,” as well as to “make Rules for the Government and regulation of the land and naval Forces.” It is important to remember that, at the end of the day, the U.S. Navy is not an independent actor, but clearly subject to the direction of the President.<sup>4</sup>
- The United States has used its Navy as an important tool of national security policy since the very earliest days of the Republic. The Navy has participated significantly in all the nation’s wars, since the American Revolution through Operation Enduring Freedom. It has also served as a significant tool of American diplomacy and international economic policy during times of prolonged peace. America is used to thinking of its Navy as one of its leading institutions, and calling upon it to carry out a wide

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<sup>4</sup> Guidance to the Navy from the President can take many forms. For the latest public U.S. presidential national security guidance, see President Barack Obama, *National Security Strategy* (Washington DC: The White House, February 2015). An example of informed congressional naval concerns is Rep. Randy Forbes (Republican – Virginia), “Revitalize American Sea Power,” U.S. Naval Institute *Proceedings*, CXL (Mar 2014), 16-21; “The Conservative Case for American Seapower,” (*Real Clear Defense*, July 24 2013); and “What Congress Can Do to Restore the Balance of Power with China,” (*DefenseOne*, November 9, 2014). Congressman Forbes is a Republican from Virginia and serves currently as the chairman of the House Armed Services Seapower and Projection Forces Subcommittee and Co-Chairman of the Navy-Marine Corps Caucus.

range of diplomatic, information, military and economic policies. These are fundamental bases of the American use of naval power – and while not unique in the world, they differ markedly from the experience of many other nations.

- The U.S. Navy seldom operates alone. America has many other such institutions with related mandates, and expects the Navy to coordinate and cooperate with them in its activities and operations. In the 19<sup>th</sup> century, U.S. Navy commanders coordinated their peacetime operations closely with the U.S. Consular Service, and in wartime with U.S. Army commanders. In the twentieth century, the Navy became increasingly integrated into a joint U.S. military system, evolving from the creation before World War I of the Joint Board of the Army and the Navy, through establishment during World War II of the Joint Chiefs of Staff and joint theaters of operation, through the passage of the National Security Act of 1947, the creation of the Office of the Secretary of Defense, and the passage of the Goldwater-Nichols Department of Defense Reorganization Act in 1986 and subsequent related legislation. U.S. naval operations today are typically embedded in inter-agency and joint operations – the culmination of decades of increasing U.S. national security agency and inter-service integration – directed by the President and the Secretary of Defense through the Joint Chiefs of Staff, and under the command of a designated joint Combatant Commander (supported by the forces of other appropriate combatant commanders).<sup>5</sup> Meanwhile, the organizing,

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<sup>5</sup> The Chief of Naval Operations – the senior uniformed military officer in the U.S. Navy chain of command – is a member of the Joint Chiefs of Staff, and as such renders naval operational advice to his colleagues, to the Chairman of the Joint Chiefs of Staff, to the Secretary of Defense, and to the President. For a survey and analysis of recent guidance that the Navy has received from higher authority, see Catherine Dale, *National Security Strategy: Mandates, Execution to Date, and Issues for Congress*, R43174 (Washington DC: Congressional Research Service (CRS), August 6, 2013 and subsequent editions). The most recent public guidance from the Secretary of Defense is in Leon Panetta, *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense* (Washington DC: Department of Defense, January 2012.) For an analysis, see Catherine Dale and Pat Towell, *In Brief: Assessing the January 2012 Defense Strategic Guidance (DSG)* R42146 (Washington DC: Congressional Research Service (CRS), August 13, 2013 and subsequent editions). Additional guidance can be gleaned from Charles Hagel, *Quadrennial Defense Review 2014* (Washington DC: Department of Defense, March 4, 2014). For informed commentary, see National Defense Panel, *Ensuring a Strong U.S. Defense for the Future* (Washington DC: United States Institute of Peace, 31 July 2014). The standard work on the U.S.

manning, training, equipping, and maintaining of U.S. naval forces is the responsibility – under the President and Secretary of Defense – of the civilian Secretary of the Navy, the Chief of Naval Operations (the uniformed head of the Navy), and the bureaus, offices, and commands of the Department of the Navy, the Navy Shore establishment, and the Fleet – all with funds authorized and appropriated (in some detail) by the U.S. Congress each year.

- The U.S. Navy seldom operates without allies and/or partners. U.S. naval forces relied on forward French, Spanish and Dutch bases and assistance in the American Revolutionary War against Great Britain; and on British and Neapolitan bases in the Republic's early wars with France, Tripoli and Algiers. The U.S. Navy used British Hong Kong as a base in America's war with Spain, fought as part of an international force during the Chinese "Boxer" Uprising, and integrated into Royal Navy and other allied naval formations in the North Atlantic and Mediterranean during World War I. During World War II, the United States and Royal Navies achieved probably the most intimate naval alliance ever known, with numerous other allied navies integrated with them to varying degrees. During the Cold War, the Free World's alliance system provided the backdrop for a system of close U.S. Navy relationships with the navies of NATO and Rio Pact nations, as well as Japan, South Korea, Taiwan, the Philippines, Thailand, Australia and others. Since the end of the Cold War, many of those relationships have, if anything, been enhanced – at sea, on planning staffs, in classrooms, and in laboratories.<sup>6</sup>
- By virtue of its geographical and geo-political situation in the world, America has mostly used its naval power forward, across the seas, far from its own shores. This has been as true in times of peace as in times of war. Whether protecting American merchants, missionaries and diplomats in the 19<sup>th</sup> century or storming European and South Pacific beaches in the

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joint operational commands and their commanders is Cynthia Watson, *Combatant Commands; Origins, Structure, and Engagements* (Santa Barbara CA: Praeger, 2011)

<sup>6</sup> For an example of the post-Cold War evolution of allied relationships at sea, see "NATO and Japan Conduct First Ever Joint Counter-Piracy Drill," *NATO News* (3 October 2014). For an example of contemporary U.S. Navy-Royal Navy planning, see Chief of Naval Operations Admiral Jonathan Greenert USN and First Sea Lord Admiral Sir George Zambellas RN, *Combined Seapower: A Shared Vision for Royal Navy-United States Navy Cooperation* (10 December 2014).

mid-20<sup>th</sup> century, the US Navy – in conjunction with other elements of American power and influence -- has been called upon to operate at a great distance from the North American continent, and for long periods of time. America's leaders and populace have come to expect that forward and sustained operations are central to its naval posture.<sup>7</sup> Again, while America is not unique in this regard, this experience is different from that of many other countries.

- Since the very beginnings of the Nation and its Navy, that forward presence has been global, reflecting the global interests of the United States. America's very earliest wars were fought in the North and South Atlantic, the Mediterranean, the Southeast Pacific, and the waters of Indonesia. The American Civil War saw both "American" navies deployed in the Atlantic and the Far East, and Confederate raiders operating throughout the globe – from the Cape of Good Hope to the Bering Sea. The Spanish-American War was fought in the Caribbean and the Far East; World War I throughout the world but especially in the North Atlantic and Mediterranean; and World War II famously throughout the Atlantic, Pacific and Mediterranean. The Cold War saw the creation of vast U.S. Navy fleets designed to contest, control and use the North Atlantic, the Caribbean and Mediterranean, the North Pacific and even the Indian and Arctic Oceans. The United States sees the post-Cold war environment as necessitating a continuation of that global deployment pattern, albeit with far fewer individual warships in the force.<sup>8</sup>

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<sup>7</sup> For a view that a forward force posture may no longer be sustainable, under certain budget conditions, see "Deputy Secretary of Defense Robert Work on the Asia-Pacific Rebalance," (New York: Council on Foreign Relations, September 30, 2014)

<sup>8</sup> For an argument that the United States should continue such a policy, see Stephen Brooks, John Ikenberry and William Wohlforth, "Don't Come Home, America: The Case against Retrenchment," *International Security* 37 (Winter 2012/13), 7-51. See also Rebecca Edelston, *Persistent Engagement in the Era of Minimal Footprint* (Alexandria VA: CNA, April 2014). For the variety of alternative views, see Elbridge Colby, *Grand Strategy: Contending Contemporary Analyst Views and Implications for the U.S. Navy*, CRM D0025423.A2/Final (Alexandria VA: CNA, November 2011); and Michael Gerson and Alison Lawler Russell, *American Grand Strategy and Seapower: Conference Report*, CRM D0025988.A2/Final (Alexandria VA: CNA, November 2011). A recent analysis of this issue is in Evan Montgomery, "Contested Primacy in the Western Pacific: China's Rise and the Future of U.S. Power Projection," *International Security* XXXVIII (Spring 2014), 115-149.

- Within that global pattern, however, the U.S. Navy, however, has often had to focus on one or more specific theaters of the world, as directed by the President. These focal seas have often shifted, reflecting and demonstrating a vital deployment flexibility that has always characterized the force. Before and during World War I, the preponderance of US naval power shifted to the North Atlantic. After that war – and throughout World War II – the bulk of U.S. fleet strength was deployed forward in the Western Pacific. After that war, the fleet was again weighted in favor of the North Atlantic and Mediterranean, and today we are seeing yet another “rebalance” toward the Pacific. It should be pointed out that as all of these shifts occurred, one constant for almost 200 years has been the necessity for a permanent U.S. Navy force far forward in the Pacific, due to the political, diplomatic, economic and societal interests of the United States in that region since its earliest days – well before it had even acquired its own Pacific seacoast. Before modern Imperial Japanese or Qing Dynasty Chinese fleets existed, an American East India Squadron was operating in the western Pacific.
- The U.S. Navy is – and usually has been – a “full-service navy,” capable of conducting a wide range of peacetime, crisis, and wartime tasks – from humanitarian assistance through combating piracy through anti-submarine warfare to strategic nuclear deterrence – and using a wide variety of specialized warship and aircraft types and weapon systems. There are few areas of naval endeavor or naval ship types that the U.S. Navy has not been proficient in at one time or another. At various times in its history, however, the Navy neglected one or more areas: Battle-line war at sea and sealift for the Army during most of the 19<sup>th</sup> century, for example, and riverine warfare during most of its history (except for the American Civil War, the Vietnam War, and the decade since the 9/11 Al Qaeda terrorist attacks on New York and Washington). Nevertheless, the Navy normally seeks to provide a wide range of options to the President. A key debate throughout its history has been what is the optimum balance among the wide variety of tasks and ship, aircraft and weapon system types, given available resources. This debate is quite active today, both within and outside the Navy.



- America has been a rich, technologically advanced and innovative country – especially at sea – from its very beginnings.<sup>9</sup> Since its origins as 13 British colonies, America has always had a reservoir of highly competent seafarers to officer its warships, and – somewhat more recently – to man them. American warships were sufficiently well constructed and equipped to battle and defeat Royal Navy warships during the American Revolution. The “super-frigates” of the early American republic were a technological marvel. The American Civil War saw innovative use—by both sides -- of revolutionary new technologies: Iron armor, gun turrets, submarines, mines and more. That technological prowess – indeed, superiority -- has continued through the present day, with American naval architects, engineers and operators leading the world in naval technologies as diverse as aircraft carrier design, nuclear propulsion, cruise missiles, high-performance jet aircraft, sonar, electronic warfare, and ballistic missile defense. The US government and American defense industry maintains a massive naval industrial base, concentrated heavily in the shipyards, factories, and laboratories of the Lockheed Martin, Northrop Grumman, Boeing, Raytheon and other corporations, and the U.S. Navy itself.<sup>10</sup>
- Above all, the U.S. Navy has been an operational Navy: A ready, sea-going, and tactically proficient professional Navy.<sup>11</sup> Peacetime forward deployments, responses to crises and foreign wars have always necessitated long periods forward at sea on station, and long transit times

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<sup>9</sup> There is a large contemporary literature asserting that the fundamentals of American power – and the bases for American naval power – are in decline. For a carefully argued counter-argument, see Robert Lieber, *Power and Willpower in the American Future: Why the United States is Not Destined to Decline* (Cambridge; Cambridge University Press, 2012).

<sup>10</sup> For current trends in the U.S. military industrial base, see Ben Fitzgerald and Kelley Saylor, *Creative Disruption: Technology, Strategy and the Future of the Global Defense Industry* (Washington DC: Center for a New American Security (CNAS), June 5, 2014). For Defense Department views, see Under Secretary of defense for Acquisition, Technology and Logistics, *Annual Industrial Capabilities Report to Congress* (Washington DC: Office of the Deputy Assistant Secretary of Defense for Manufacturing and Industrial Base Policy, U.S. Department of Defense, October 2013). For a description and analysis of a key portion of that industrial base, see *The Economic Importance of the U.S. Shipbuilding and Repairing Industry* (Washington DC: U.S. Maritime Administration (MARAD), May 30, 2013).

<sup>11</sup> For a characterization of the U.S. Navy’s “operators,” see CAPT Gerald G. O’Rourke USN (Ret), “Great Operators, Good Administrators, Lousy Planners,” U.S. Naval Institute *Proceedings* (August 1984), 75-8.

at sea to and from home port. Centuries of constant national direction to the Navy to be ready to conduct global deployments, combat operations, diplomatic visits, and engagement with foreign armed forces has driven intense schedules of at-sea exercises, training evolutions, and experiments across the whole gamut of naval missions and activities.<sup>12</sup> From the cruise of the “Squadron of Evolution” to Europe in 1891 to the circumnavigation of the globe by the Great White Fleet in 1907-9 to the immense “Fleet Problems” of the interwar period to the great NATO and other multinational at-sea exercises of the Cold War, the U.S. Navy has pushed itself (and its allies and partners) hard, at sea, to hone the skills necessary to carry out national and alliance tasking should the successful application of naval force be required.<sup>13</sup>

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<sup>12</sup> The focus of this paper is therefore on U.S. Navy deployment and employment strategy, not on its – usually congruent -- declaratory strategy. For studies of recent U.S. Navy declaratory strategy, see the 17 volumes of the *U.S. Navy Capstone Strategies* series by Peter Swartz with Karin Duggan (Alexandria VA: CNA, 2009-2012); the three edited volumes by John Hattendorf on U.S. naval strategies of the 1970s, 1980s and 1990s, published by the Naval War College Press in their “Newport Papers” series; CAPT Peter D. Haynes USN, “American Naval Thinking in the Post-Cold War Era: The U.S. Navy and the Emergence of a Maritime Strategy, 1989-2007” (PhD diss.: U.S. Naval Postgraduate School, June 2013); and Amund Lundesgaard, *U.S. Navy Strategy and Force Structure after the Cold War*, IFS Insights no. 4 (Oslo: Institutt for Forsvarsstudier (IFS), November 2011).

<sup>13</sup> On the beginnings of the modern era of U.S. Navy operations, see James C. Rentfrow, *Home Squadron: The U.S. Navy on the North Atlantic Station* (Annapolis MD: Naval Institute Press, 2014). On the Great White Fleet deployment, see James R. Reckner, *Teddy Roosevelt's Great White Fleet* (Annapolis MD: Naval Institute Press, 2001); (On the interwar Fleet Problems, see Albert A. Nofi, *To Train the Fleet for War: The U.S. Navy Fleet Problems, 1923-1940* (Newport RI: Naval War College Press, 201).

## Peacetime, Crisis and War

With a firm understanding of the foundations and characteristics of U.S. naval power, we can now turn to its uses: Just what is it that this forward-deploying, sea-going, global, technologically advanced force is supposed to do?

An easy way to consider this is to discuss it in terms of three major conditions and activities: Peacetime readiness and engagement, crisis response and wartime combat.<sup>14</sup> And for each of those, to describe the Navy's ends, ways and means.<sup>15</sup>

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<sup>14</sup> While parsing naval actions by "peace, crises and war" is a useful explanatory device, the real world is often far messier. In an era with a total global war being conducted – like today -- the U.S. Navy may well be simultaneously conducting wartime operations in one theater, responding to a crisis in another theater, and conducting peacetime operations in two or three other theaters.

<sup>15</sup> This paper recognizes the difference between "ends," "ways" and "means," and the importance of distinguishing among them. Discussions of "ways" and "means" are combined throughout, however, so as to improve the flow of the narrative, which would otherwise be too stilted, choppy, and repetitious – as are many such papers that seek to rigidly apply the "ends-ways-means" construct. In particular, discussions of Navy "ways" without immediate discussion of the "means" to implement those ways are often at an impenetrable level of abstraction. This paper's listing of "ways" and "means", -- organized by "peacetime", crises" and "war" -- reflects the author's judgment and experience. *Joint Publication 3-32: Command and Control for Joint Maritime Operations* (07 August 2013) lists some twenty "specific maritime operations," but does not organize them in a "peacetime, crises and war" (or any other) typology.

# Peacetime Readiness & Engagement

## Ends

The role of the U.S. Navy in peacetime is to help preserve the security, freedom, commerce and economic well-being of America and its people, at home and abroad, and of its friends and allies.

## Ways & means

To help achieve these ends, the President and Secretary of Defense use the U.S. Navy for a variety of peacetime tasks, heavily focused on deterrence, reassurance of friends and partners, and readiness for possible future combat. In joint U.S. military parlance, many of these operations fall under the first and second phases (“Phase 0,” or “shaping;” and “Phase I” or “detering”) of an often useful joint six-phase planning model.<sup>16</sup>

There are eight main ways in which the Navy serves the nation and the broader international community during times of peace: Through strategic nuclear deterrence, ballistic missile defense, deterrence of conventional crises and war (through naval readiness and engagement), maritime safety operations, maritime security operations, humanitarian assistance operation, naval diplomacy, and support to science. The Navy’s capabilities in all these areas provide the President, the Secretary of Defense, and the U.S. joint combatant commanders with a wide range of options, to implement national policy.

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<sup>16</sup> See *Joint Publication 5-0: Joint Operation Planning* (Washington DC: Joint Chiefs of Staff, 11 August 2011), xxiii-xxiv and III-38 – III-41

The United States government believes that purposeful global forward deployment of its naval forces, in various regions, with tailored forces capable of accomplishing relevant tasks, helps underpin world political, economic and social stability, to the great benefit of the United States and, indeed, all of the world's nations.<sup>17</sup> The United States also believes that its naval forces cannot – and should not – be the only naval forces directed to carry out such activities; and seeks to coordinate and cooperate with naval partners – and especially with its highly capable European and east Asian allies -- wherever possible, to share in providing a level of maritime security that benefits them as well.

## Strategic nuclear deterrence

The nation's strategic nuclear policies and posture are designed specifically to help deter possible Russian and Chinese strategic nuclear attack on the United States and its allies and partners.<sup>18</sup> The U.S. Navy's contributions to the nation's strategic nuclear triad has two main elements: 14 treaty-limited Ohio-class nuclear-powered ballistic missile submarines (SSBNs) capable of launching Trident II D-5 sea-launched ballistic missiles (SLBMs); and a small fleet of land-based Boeing E-6B Mercury airborne command post and relay aircraft.<sup>19</sup> Several

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<sup>17</sup> For a critique of U.S. Navy peacetime operations, see CAPT Ivan T. Luke USCG (Ret), "Let's Get Serious About Peacetime Ops," U.S. Naval Institute *Proceedings* (October 2013), 54-58.

<sup>18</sup> For U.S. nuclear weapons employment strategy, see *Report on Nuclear Employment Strategy of the United States: Specified in Section 5491 of 10 U.S.C.* (Washington DC: Department of Defense, June 12, 2013). For overall U.S. nuclear defense policy, see Secretary of Defense Robert Gates, *Nuclear Posture Review Report* (Washington DC: U.S. Department of Defense, April 2010). For recent views of the Commander, U.S. Strategic Command, see ADM Cecil D. Haney USN, "Remarks on Strategic Deterrence in the 21<sup>st</sup> Century" (Washington DC: Atlantic Council, January 15, 2015). A recent U.S. non-governmental expert policy consensus is in *An Agreement in Support of a Sustainable U.S. Nuclear Posture* (Washington DC: Center for Strategic and International Studies (CSIS): 18 January 2013). See also Keith Payne et al., *Nuclear force Adaptability for Deterrence and Assurance: A Prudent Alternative to Minimum Deterrence* (Fairfax VA: National Institute Press, 2014).

<sup>19</sup> Other elements of the U.S. strategic triad include U.S. Air Force long-range nuclear bomber aircraft, land-based at U.S. airfields, and intercontinental ballistic missiles (ICBMs), capable of being launched from silos in the United States. For inter-relationships among these elements (and arms control issues), see Amy F. Woolf, *U.S. Strategic Nuclear Forces: Background, Developments, and Issues* RL 33640 (Washington DC: Library of Congress Congressional Research Service (CRS), July 14, 2013 and subsequent editions).

of these submarines are on patrol at any one time, in both the Atlantic and Pacific Oceans. These submarines are undetectable while on patrol, and are therefore the most survivable leg of the triad. American SSBN and SLBM plans and programs are carried out in close cooperation with those of the United Kingdom and its four Royal Navy Vanguard-class SSBNs. Planning is currently under way for 12 US *Ohio* follow-on replacement SSBNs, including close coordination and cooperation with the Royal Navy's own SSBN replacement program.<sup>20</sup>

## Ballistic missile defense (BMD)

US combatant commanders routinely request and deploy US Navy cruisers and destroyers capable of ballistic missile defense forward in the Northwest Pacific, Persian Gulf and Eastern Mediterranean, as components of the U.S. 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> Fleets, to help deter ballistic missile attacks and to defend if necessary against a short-warning North Korean or Iranian ballistic missile attack on US or allied and friendly nations or forward US forces in the theater.<sup>21</sup> Some BMD-capable warships are homeported forward in Japan and Spain, while those in the Persian Gulf rotate routinely forward from bases in the continental United States.<sup>22</sup>

Several allied and friendly navies deploy similar sea-based ABM systems, including Spain, the United Kingdom, Australia, the Netherlands, Germany, Japan, and South Korea. U.S. Navy cooperative engagement with these allies on ballistic missile defense systems interoperability and operations is close and

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<sup>20</sup> For an argument that the United States should cancel replacement of its SSBNs, and rely instead on anti-ballistic missile defense as a strategic deterrent, see Maxwell Cooper, "The Future of Deterrence? Ballistic Missile Defense," U.S. Naval Institute *Proceedings* 139 (September 2013), 52-57. See also Peter Dombrowski, "Strategic Stability and SSBNs: Arms Control May be the Answer" *The Interpreter*, 2 October 2014.

<sup>21</sup> The most recent comprehensive public statement of U.S. ballistic missile defense policy is Secretary of Defense Robert Gates, *Ballistic Missile Defense Review Report* (Washington DC: U.S. Department of Defense, February 2010). See also John F. Morton, "Modernize Aegis for Naval Dominance," U.S. Naval Institute *Proceedings* CXL (May 2014), 60-65.; and Richard Weitz, "US Missile Defense," *World Affairs* 176 (July/August 2013), 80-87.

<sup>22</sup> The US Army also deploys ground-based ballistic missile defense systems – radars and/or missiles -- forward in Japan, South Korea, Israel, Kuwait, and the United Arab Emirates, Turkey. Several U.S. allies in Europe, the Middle East and Asia also deploy Patriot missiles, including a NATO deployment to Turkey.

frequent.<sup>23</sup> Since 2014, the U.S. Navy has also manned a forward Aegis Ashore facility in Romania, as part of the European Phased Adaptive Approach (EPAA) to ballistic missile defense.<sup>24</sup>

## Deterrence of conventional crises and war, through naval readiness and engagement

### *Readiness*

A central and continuous role of the U.S. Navy in peacetime is deterrence of possible conventional crises and wars.<sup>25</sup> That role is exercised through a program of personnel, material and operational readiness, to provide forward combat-ready

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<sup>23</sup> See especially Ronald O'Rourke, *Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress*, RL 33745 (Washington DC: Library of Congress Congressional Research Service (CRS), November 7, 2014 and subsequent editions); Ian E. Rinehart, Steven A. Hildreth, and Susan V. Lawrence, *Ballistic Missile Defense in the Asia-Pacific Region: Cooperation and Opposition*, R43116 (Washington DC: Congressional Research Service (CRS), June 24, 2013 and subsequent editions); RADM Brad Hicks USN (Ret) , CAPT George Galdorisi USN (Ret) and Scott C. Truver, "The Aegis BMD Global Enterprise: A 'High-End' Maritime Partnership," *Naval War College Review* 65 (Summer 2012), 65-80; and Steven J. Whitmore and John R. Deni, *NATO Missile Defense and the European Phased Adaptive Approach: The Implications of Burden Sharing and the Underappreciated Role of the U.S. Army* (Carlisle Barracks PA: U.S. Army War College Strategic Studies Institute (SSI), October 2013). For an assessment of global missile forces, see *Ballistic & Cruise Missile Threat*, NASIC-1031-0985-13 (Wright-Patterson Air Force Base, OH: National Air and Space Intelligence Center (NASIC), 2013. On upgrading current U.S. Navy BMD systems, see Edward J. Walsh, "Cruisers, Destroyers Move Toward Integrated Air Defense," U.S. Naval Institute *Proceedings*, (February 2015), 88. See also Lance M. Bacon, "Missile Defense Ships Face Arms Race, High Op Tempo," *Navy Times* (February 9, 2015), 20.

<sup>24</sup> On the EPAA, see Karen Kaya, "NATO Missile Defense and the view from the Front Line," *JFQ* 71 (4<sup>th</sup> quarter 2013), 84-89.

<sup>25</sup> See especially Jonathan Solomon, "Conventional Deterrence Requires Forward Presence," *Information Dissemination* blog (October 14, 2014). For a thorough treatment of U.S. naval deterrence, see Michael Gerson and Daniel Whiteneck, *Deterrence and influence: the Navy's Role in Preventing War*, CRM D0019315.A4/1Rev (Alexandria VA: CNA, 2009). For the wide range of current national and trans-national threats that U.S. leaders must assess as requiring deterrence, see Director, Defense Intelligence Agency, LTG Michael T. Flynn USA, *Annual Threat Assessment: Statement before the Senate Armed Services Committee*, (Washington DC: Defense Intelligence Agency, April 18, 2013).

forward deployed and surge forces in response to Presidential direction.<sup>26</sup> The operational elements included constant at-sea work-ups and exercises, as well as global intelligence, surveillance and reconnaissance operations (ISR). All of these at-sea operations are conducted in accordance with long-standing international law.

The central ways and means by which the US Navy contributes to peacetime deterrence of crisis and war are through the permanent forward deployment of the U.S. 5<sup>th</sup> and 7<sup>th</sup> Fleets, in the Indian Ocean and the Western Pacific.<sup>27</sup> These are the most combat-ready, balanced and capable conventional forces in the U.S. Navy. In the absence of crisis or war tasking – which has actually been the norm – their powerful forward deterrent presence is seen by the United States as an important contributor to the peace and stability of those regions.<sup>28</sup> Ships of these fleets are maintained forward through a variety of methods: *Rotation* of ships and crews from the United States; *forward basing* of ships and crews; *hull swaps* in which crews remain forward and ships are rotated for them to serve on; and *crew swaps*, in which ships remain forward and crews are rotated to serve on them.<sup>29</sup>

Carrier Strike Groups (CSGs), ships on BMD patrols, Amphibious Ready Groups/Marine Expeditionary units (ARG/MEUs), and attack and conventional cruise missile submarines (SSNs and SSGNs) all routinely rotate forward from the continental United States (CONUS) to the 5<sup>th</sup> Fleet to maintain a powerful

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<sup>26</sup> The current U.S. Navy approach to fleet readiness is discussed in Commander, U.S. Fleet Forces ADM Bill Gortney USN and Commander, U.S. Pacific Fleet ADM Harry Harris USN, “Applied Readiness,” U.S. Naval Institute *Proceedings* (October 2014), 40-45

<sup>27</sup> For the origins and development of these fleets, see Robert J. Schneller, Jr. *Anchor of Resolve: A History of U.S. Naval Forces Central Command/Fifth Fleet* (Washington DC: Naval Historical Center, Department of the Navy, 2007); and Edward J. Marolda, *Ready Seapower: A History of the U.S. Seventh Fleet* (Washington DC: Department of the Navy, Naval History and Heritage Command, 2012).

<sup>28</sup> This “two forward hubs” posture has characterized U.S. Navy deployment strategy more or less for over 60 years. For a discussion of its future tenability (and other options) in the face of declining U.S. defense budgets and changing world conditions, see Daniel Whiteneck, Michael Price, Neil Jenkins and Peter Swartz, *The Navy at a Tipping Point: Maritime Dominance at Stake?* CAB D0022262.A3/1REV (Alexandria VA: CNA, March 2010)

<sup>29</sup> On forward basing, see Richard R. Burgess, “Force Multiplier,” *Seapower* (December 2014), 24-26. For an illustration of a hull swap, see MC3 Mackenzie P. Adams, “USS Tortuga, USS Ashland Hold Hull-Swap Ceremony,” *U.S. Navy News*, August 28, 2013.



permanent and ready in-theater forward presence. An Afloat Forward Staging Base (AFSB) and smaller units are permanently forward based in-theater, with crews rotating in and out to serve on them. 5<sup>th</sup> Fleet ship maintenance capabilities are also available at the U.S. Navy facility on the British Indian Ocean Territory island of Diego Garcia.<sup>30</sup>

Meanwhile, the CSG, ARG/MEU, submarines and mine warfare ships of the US 7<sup>th</sup> Fleet are largely forward-based in Japan and Guam, and new U.S. Navy Littoral Combat Ships (LCS) have been operating out of forward facilities at Singapore, with four planned to do so in the future.<sup>31</sup>

In European and African waters, the U.S. Navy permanently deploys the U.S. 6<sup>th</sup> Fleet, including a forward fleet flagship forward and land-based maritime patrol aircraft; as well as the above-mentioned permanent forward afloat BMD capability in the eastern Mediterranean. The fleet periodically swells with intermittent warships transiting the Mediterranean to and from Arabian Sea, available to exercise with European and North African navies and to respond to crises or war requirements.<sup>32</sup>

### *Rebalancing*

Since the end of the Cold War, the geographic focus of U.S. Navy forward presence readiness has shifted. And it continues to shift. The Western Pacific has remained as important as it did during the Cold War. Perhaps more so.<sup>33</sup> But

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<sup>30</sup> On the importance of Diego Garcia, see “Andrew Erickson, Walter Ladwig, and Justin Mikolay, “Diego Garcia: Anchoring America’s Future Presence in the Indo-Pacific,” *Harvard Asia Quarterly* 15.2 (2013), 20-28.

<sup>31</sup> For a good update on the LCS deployments to date, see 7<sup>th</sup> Fleet Public Affairs, “USS Fort Worth Arrives in US 7<sup>th</sup> Fleet” NNS 141204-01 *Navy News Service* (4 December 2014). On the naval development of Guam, see Lea Eclavea, “Wharf Extension on Guam Improves Support for Navy Mission,” NNS141218-10, *Navy News Service* (18 December 2014).

<sup>32</sup> On emerging requirements for more U.S. Navy warships in European waters, see David Larter, “NAVEUR: Ships Needed in 6<sup>th</sup> Fleet for High-End Training,” *Navy Times* (13 January 2015).

<sup>33</sup> On current security issues in the Indian Ocean and Western Pacific regions, see RADM Michael A. McDevitt USN (Ret), *The Long littoral Project: Summary Report: A Maritime Perspective on Indo-Pacific Security*, IRP-2013-U-004654-Final (Alexandria VA: CNA, June 23, 2013). See also his “America’s New Defense Strategy and its Military Dimension,” *Global Asia: A Journal of the East Asia Foundation*, 7 (Winter 2012).

presence – including combat operations – in the Arabian and adjacent seas became even more important than previously, with increasing demands on U.S. naval resources, especially due to Operations Enduring Freedom (OEF) and Iraqi Freedom (OIF), and later Inherent Resolve. Meanwhile, U.S. naval presence has already declined considerably in Atlantic and European waters and littorals, after the Soviet threat disappeared. The contemporary Sixth Fleet is much smaller than its Cold War antecedent, despite a greatly expanded area of responsibility, beyond the Mediterranean. U.S. Navy bases in Maine, Newfoundland, Bermuda, Iceland, the Azores, the United Kingdom, Sardinia, and elsewhere have closed.

Much of the American (and West European) draw-down from European and Atlantic waters had already taken place in the decades preceding the Obama Administration announcement of a rebalancing of U.S. defense posture toward the Western Pacific.<sup>34</sup> The current rebalancing is more a rebalancing to the Western Pacific from the continental United States and Southwest Asia, than from Atlantic and European waters.<sup>35</sup> The U.S. naval presence in European waters and at European bases has been stable for years, and in fact has been increasing with the forward homeporting of U.S. Navy Ballistic Missile Defense destroyers at Rota, Spain in 2014.

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<sup>34</sup> On the U.S. Navy's current rebalancing to the Asia-Pacific, see RDML Michael Smith USN's authoritative, "Roadmap to the Rebalance," U.S. Naval Institute *Proceedings* 139 (August 2013), 44-49. See also Phillip C. Saunders, *The Rebalance to Asia: U.S. China Relations and Regional Security* (Washington DC: National Defense University Institute for National Strategic Studies (INSS) *Strategic Forum*, August 2013); Robert G. Sutter, Michael E. Brown, and Timothy J.A. Adamson, *Balancing Acts: The U.S. Rebalance and Asia-Pacific Stability* (Washington DC: The George Washington University Elliott School of International Affairs and Sigur Center for Asian Studies, August 2013); and Patrick Cronin, *Achieving Strategic Rebalance in the Asia-Pacific Region: Testimony Before the House Armed Services Committee* (Washington DC: Center for a New American Security (CNAS), July 24, 2013). Chief of Naval Operations Admiral Jonathan Greenert provided an update on the status of the U.S. Navy's rebalancing efforts in "Remarks at the Center for Strategic and International Studies (CSIS), 19 May 2014" (Washington DC: Office of the Chief of Naval Information, 2014).

<sup>35</sup> For a run-down of specific U.S. military elements being "rebalanced," see Ronald O'Rourke, *China Naval Modernization: Implications for U.S. Navy Capabilities – Background and Issues for Congress*, RL 33153 (Washington DC: Congressional Research Service (CRS), September 8, 2014 and subsequent editions); and Karen Parrish, "U.S., Japan Agree to Expand Security, Defense Cooperation," *Armed Forces Press News Service*, October 3, 2013. On the important role of the American Pacific island territory of Guam in the rebalance, see Shirley A. Kan, *Guam: U.S. Defense Deployments*, RS 22570 (Washington DC: Library of Congress Congressional Research Service (CRS), September 12, 2013 and subsequent editions).

Should a future President decide on different rebalance of U.S. forces globally, U.S. naval forces should be able to respond quickly and with relative ease, given their inherent flexibility and mobility.

### *Force protection*

An aspect of U.S. Navy peacetime readiness is ship force protection, at home and abroad. The 2000 Al Qaeda terrorist suicide attack on the guided missile destroyer USS *Cole* (DDG-67) while she was refueling in the port of Aden, Yemen, demonstrated the importance of peacetime protection to the nation's warships as they patrol the seven seas. The Navy subsequently instituted a range of force protection measures surrounding U.S. Navy port calls and ship visits – domestic and forward -- including port vulnerability assessments, changed rules of engagement (ROE), the use of floating barriers and small boat patrols, and close coordination between the Navy's Naval Criminal Investigative Service (NCIS) agents and local police and harbor security authorities.

### *Experimentation*

Ongoing U.S. Navy experimentation at sea is also a part of fleet readiness, but geared more to the future than the present; As ideas for new systems to deter or wage war occur to naval planners and designers, the Navy tries to put them to sea during peacetime, to experiment with them and foster their development, if the experiment proves successful.<sup>36</sup> The *Sea Shadow* (IX-529) experimental stealth ship that operated from the 1980s through the first decade of the 21<sup>st</sup> century is one of the more striking examples of this.

### *Engagement*

Many of these operations involve intense engagement with foreign navies and other military forces. The U.S. Navy needs to – and does -- collaborate with a

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<sup>36</sup> On contemporary U.S. naval experimentation, see *Experimentation Planning Guide* (Norfolk VA: Navy Warfare Development Command, 2010) and The Naval Studies Board, *The Role of Experimentation in Building Future Naval Forces* (Washington DC: The National Academies Press, 2004). For some insights from history, see Brian McCue, *Wotan's Workshop: Military Experiments before World War II* (Alexandria VA: CNA and Quantico VA: Marine Corps University Press, 2013).

broad spectrum of partners, many of which have very limited naval means, while remaining committed to long-standing U.S. allies—most of which have deployed more robust naval forces.<sup>37</sup> Naval engagement can help improve international relationships and build international trust and confidence, while enabling the exchange of skills and information that could prove vital should the navies have to operate alongside each other during a crisis or war.<sup>38</sup> Bi-lateral and multilateral exercises at sea have been a principle means to engage positively with allied and friendly navies, to practice cooperation, transfer skills and establish and maintain professional personal relationships.

Many multilateral and bi-lateral exercises have become major recurring events, such as:

- NATO exercises in European waters, such as Noble Justification, Proud Manta and Brilliant Mariner<sup>39</sup>
- Exercises with European navies, such as the United Kingdom's multinational Joint Warrior<sup>40</sup>
- BALTOPS in the Baltic Sea
- Sea Breeze and other exercises with Black Sea navies
- Noble Dina, in the Mediterranean with the Greek and Israeli navies
- Phoenix Express, with North African navies

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<sup>37</sup> For current U.S. Navy engagement policy, see RDML Michael E. Smith USN, "Strategic Cooperation: Everybody Wins," U.S. Naval Institute *Proceedings* 139 (March 2013), 56-61. U.S. Navy engagement has long included a robust European component, and this continues. See RDML Michael E. Smith USN, "Navy's Continued Commitment to Europe," *Information Dissemination* blog (April 17, 2013).

<sup>38</sup> For a rigorous analysis of the effect of such engagement on a U.S. ally's sovereignty, see CDRE Eric Lehre RCN (Ret) PhD, *At What Cost Sovereignty? Canada-US Military Interoperability in the War on Terror* (Halifax NS: Dalhousie University Centre for Foreign Policy Studies, 2013)

<sup>39</sup> Exercise Noble Justification was the most recent significant NATO maritime exercise, taking place in the Mediterranean and Atlantic Ocean in October 2014. It involved more than 20 warships and several submarines and aircraft from the United States and 13 other NATO nations, plus two NATO partners – Sweden and Finland. It was under the command of VADM Peter Hudson RN, NATO's Maritime Commander. See "NATO Naval Drills Begin in Mediterranean Sea, Atlantic Ocean," *NATO News* (16 October 2014).

<sup>40</sup> The 2014 Sea Breeze exercise – in the wake of the Ukraine Crisis -- included warships from Ukraine, Georgia, Romania, Turkey, Canada, Spain and the United States See "NATO Ships Take Part in Multinational 'Sea Breeze' Exercise in Black Sea," *NATO News* (9 September 2014).

- Cutlass Express with East African navies
- Obangame Express with West African and European navies (and the Brazilian Navy)
- International Mine Countermeasures Exercise (IMCMEX) in the Persian Gulf region<sup>41</sup>
- Cooperation Afloat Readiness and Training (CARAT) and Southeast Asia Cooperation Against Terrorism (SEACAT) in Southeast Asia
- Balikatan and PHIBLEX in the Philippines
- Malabar with the Indian Navy in the Indian Ocean (in 2014 with the Japanese Maritime Self Defense Force (JMSDF) also
- Talisman Saber in the Southwest Pacific
- Cobra Gold off Thailand
- Naval Engagement Activities (NEA) with Vietnam
- Foal Eagle and Ulchi Freedom Guardian in Korea
- Keen Edge, with Japan
- Pacific Bond, with Australia and Japan
- Chilemar with the Chilean Navy
- PANAMAX to practice protection of safe passage through the Panama Canal
- Southern Partnership Station with Latin American and European navies
- Trident Fury, in the Pacific with Canada
- Rim of the Pacific (RIMPAC) off Hawaii<sup>42</sup>
- Bold Alligator<sup>43</sup>

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<sup>41</sup> IMCMEX 2014 was a massive exercise involving 40 nations, 38 ships and 19 unmanned underwater vehicles – the largest of its kind in the world. See VADM John Miller USN, “More Than 40 Nations Unite to Protect the Global Commons from Mines,” *Navy Live Blog* (November 2, 2014).

<sup>42</sup> RIMPAC is the world’s largest multinational naval warfare exercise. Sponsored by the U.S. Third Fleet, RIMPAC exercises began in 1971 and included naval forces from Australia, Canada, New Zealand, the United Kingdom and the United States (the “AUSCANZUKUS” nations). 23 nations participated in RIMPAC 2014, including the original five, Norway, and the People’s Republic of China (for the first time). See Daniel P. Taylor, “The Main Event,” *Seapower* LVII (December 2014), 34-36.

<sup>43</sup> Bold Alligator 14, off the coasts of Virginia and North Carolina, was a major US Navy-US Marine Corps amphibious exercise, with participation by ships from the Netherlands, Denmark, Mexico and Peru. See Megan Eckstein, “Exercise Bold Alligator,” *Defense Daily* (30 Oct 2014).

- Proliferation Security Initiative (PSI) exercises<sup>44</sup>

Other engagement means include port visits, personnel exchanges, staff talks, and war games with close U.S. allies and partners, as well as various bi-lateral and multi-lateral material acquisition and research programs.<sup>45</sup> The U.S. Navy routinely hosts officers and enlisted students from allied and friendly nations at its schools and training events.<sup>46</sup> Since 1969, the Chief of Naval Operations (CNO) has hosted an International Seapower Symposium (ISS) at the Naval War College in Newport every two years. 155 heads of the world's navies or their representatives participated in the last event, in 2011, and the next meeting is scheduled for September 2014. The CNO also hosts bi-lateral visits to Washington from selected counterparts, and reciprocates in foreign capitals as well.

In the case of NATO allies and Korea, longstanding integrated naval command structures have been evolving since the end of the Cold War. Common NATO doctrine, tactics, techniques and procedures – in the development of which the U.S. Navy has participated -- are widely and routinely practiced and used, including by several non-NATO navies, improving global naval interoperability.

Long-standing NATO institutions provide a framework for continuing multilateral approaches at sea by the U.S., Canadian and European navies, and have allowed the navies of post-Cold War NATO members in the Baltic and the Balkans to

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<sup>44</sup> See Tony Bertuca, "PACOM Launches New Asia Pacific Proliferation Security Exercise," *Inside the Navy* (August 4, 2014), 13.

<sup>45</sup> The U.S. Navy has, naturally particularly close ties to the navies and other military forces of America's formal allies, including the navies of all the NATO nations, Japan, South Korea, the Philippines, Australia, New Zealand, and Thailand. Very cooperative naval relations also exist with the navies of close U.S. military partners in the Middle East, especially of Israel, Jordan, Bahrain, Kuwait, Morocco, and others. For an example of international participation in U.S. Navy war games, see *U.S. Naval War College Global 2013 Game Report* (Newport RI: U.S. Naval War College, 11 March 2011).

<sup>46</sup> A good example of such classroom engagement is the U.S. Navy's long-running International Law of Military Operations (ILOMO) Course, attended by legal advisors from dozens of nations. See Bob Krekorian, "International Military and Civilian Legal Advisors Graduate from DIILS," NNS130619-5 (*Navy News*: June 19, 2013). See also David F. Manning, *Global Arms of Seapower: The Newport Connection: The International Officer Programs of the United States Naval War College* (October 29, 2014)

integrate their operations and practices with those of older alliance members.<sup>47</sup> The U.S. Navy encourages this multinational activity, seeing it as a force-multiplier when future international naval coalitions need to be deployed at sea.<sup>48</sup> Prior to the Ukrainian Crisis of 2014, the U.S. regarded the NATO area as a zone of relative peace, and its NATO allies as potential “exporters” of security – alongside U.S. forces -- to areas beyond the North Atlantic Treaty area, especially Middle Eastern and African waters, where both the interests and capabilities of most NATO nations often converge.<sup>49</sup>

No such multinational alliance framework exists, however, in the Middle East or the Indo-Pacific, and the U.S. Navy –within the limits set by U.S. foreign policy – actively encourages increased multi-nationalism at sea among its allied, partner and friendly navies in those regions. For example, U.S. Navy engagement activity tries to help make the Indian, Australian, Japanese and South Korean navies more interoperable, as well as the navies of the Gulf Cooperation Council (GCC) in Southwest Asia. The U.S. Navy has been especially active in fostering tri-lateral naval approaches among the U.S., Japanese and South Korean navies; and among the U.S., Japanese and Australian navies. The U.S. Navy also has routinely engaged in exercises with Ukrainian and Georgian naval forces in the Black Sea.

Brazil has been a traditional American naval partner. The navies were co-belligerents during the two world wars, and allies during the Cold War. That

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<sup>47</sup> For NATO's current official post-Cold War maritime strategy, see NATO, *Alliance Maritime Strategy*, 17 Jun 2011. See also VADM Peter Hudson RN, “The Renaissance at Sea: A New Era for Maritime NATO,” *RUSI Journal* (June-July 2014), 24-28. A US Navy officer – ADM James Stavridis – recently served in the top operational military position in NATO -- SACEUR – a first. See ADM James Stavridis, *The Accidental Admiral* (Annapolis MD: Naval Institute Press, 2014).

<sup>48</sup> A recent example of this policy has been the assignment of an American admiral to lead NATO's Standing NATO Maritime Group 2 and a US Navy cruiser as the force command ship. See LTJG Timothy Dover USN, NNS141204-10, “USS Vicksburg Deploys to Support NATO,” *Navy News Service* (4 December 2014)

<sup>49</sup> For an in-depth study of such convergences, see Gary E. Weir and Sandra J. Doyle (eds.), *You Cannot Surge Trust: Combined Naval Operations of the Royal Australian Navy, Canadian Navy, Royal Navy, and the United States Navy, 1991-2003* (Washington DC: Naval History and Heritage Command, 2013). For recommendations for the future, see LCDR Mark Lawrence USN, “NATO's Maritime Future,” *U.S. Naval Institute News*, 7 October 2014)



partnership continues, as a sub-set of the overall relationship between the two large sovereign American nations. The U.S. Navy hopes that the naval partnership will deepen, as Brazil becomes a major world power. Just this year, a Brazilian Navy diesel-electric submarine helped a U.S. Navy carrier strike group work up before deploying overseas. Likewise, the highly capable Chilean Navy also has provided diesel-electric submarine training services to U.S. Navy fleet units.

In the eastern Mediterranean, the U.S. Navy continues its traditional but low-key engagement with the Israeli Navy.<sup>50</sup> This includes the annual Noble Melinda exercise, focusing on explosive ordnance disposal, diving and salvage operations.

More dynamic has been the growing peacetime partnership between the U.S. Navy and the India Navy, manifested through the bilateral Malabar exercise program, increased sales of American naval equipment to the Indian Navy, and other activities.<sup>51</sup>

During the Cold War, the Soviet Navy was the chief potential wartime opponent of the U.S. Navy, and U.S. Navy policy, strategy, tactics and equipment all had a heavy anti-Soviet Navy focus. This is no longer the case. While U.S. relationships with Russia –the main successor state to the Soviet Union – are hardly as warm as those with America’s various allies, partners and friends, U.S. Navy peacetime relationships with the Russian Navy had been cordial and often cooperative (until the Ukrainian Crisis of 2014).

The Russian Navy participated in annual post-Cold War FRUKUS exercises with the navies of the United States, Britain and France; in many of the annual U.S. Navy-sponsored multilateral Baltic Operations (BALTOPS) exercises; and in bilateral Incidents at Sea (INCSEA) talks with the U.S. Navy and several other navies since the middle of the Cold War. The Russian Navy was represented at

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<sup>50</sup> ON U.S. Navy-Israeli Navy engagement, see Dov S. Zakheim, *The United States Navy and Israeli Navy: Background, Current Issues, Scenarios, and Prospects*, COP D0026727.A1/Final (Alexandria VA: CNA, February 2012)

<sup>51</sup> For an important analysis of trends in U.S. Navy-Indian Navy relationships, see Nilanthi Samaranayake et al., *U.S.-India Security Burden-Sharing? The Potential for Coordinated Capacity-Building in the Indian Ocean* DRM-2012-U-001121-Final2 (Alexandria VA: CNA, April 2013)



the U.S. Navy-sponsored International Seapower Symposium (ISS) in Newport in 2011, participated in BALTOPS 2012, and engaged with the U.S. Navy and other navies in the U.S.-sponsored RIMPAC 2012 exercise off Hawaii -- the world's largest multinational naval exercise.<sup>52</sup>

The Russian and U.S. navies –along with many others – have operated with each other closely at sea in the multinational anti-piracy offensive in the Arabian Sea. U.S. Navy ship visits to Vladivostok and other Russian ports before 2014 were routine. While there are worrisome disagreements between the Russian and western governments – exacerbated recently over Russia's 2014 actions in Ukraine -- the U.S. Navy hopes that its own sincere and well-meaning engagement efforts will bear fruit.

The U.S. Navy likewise engages the Chinese People's Liberation Army Navy (PLAN) in peacetime cooperative efforts. As discussed above, the U.S. Navy has been no stranger to the China Seas. Indeed, the U.S. Seventh Fleet used Tsingtao as its main forward operating base from 1945 to 1949. Mutual port visits between US Navy and PLAN warships took place throughout the 1980s, and sporadically ever since. PLAN warships have operated with U.S. Navy and other western warships as part of the anti-piracy efforts in the Arabian sea, and recently exercised closely with U.S. Navy warships, including surface combatant helicopter cross-decking operations.

In September 2013, the U.S. Pacific Fleet hosted three PLAN warships at Pearl Harbor, Hawaii and exercised with them in Hawaiian waters.<sup>53</sup> The PLAN commander visited the United States in October 2013, and the U.S. Navy Chief of Naval Operations visited China in 2014. The PLAN participated for the first time in 2014 in the long-running U.S.-led RIMPAC exercise. U.S. naval engagement with the PLAN is constrained, however by Section 1201 of the U.S. 2000 Defense

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<sup>52</sup> The Russian Navy, however, declined an invitation to participate in RIMPAC 2014.

<sup>53</sup> See William Cole, "Chinese Navy Warships Will Arrive at Pearl Harbor Friday," *Honolulu Star-Advertiser* (September 4, 2013). For a discussion of USN-PLAN engagement from U.S. Navy commanders, see VADM Robert Thomas USN, "Here's What Has been Done to Improve Military relations with China," *Defense One*, 9 November 2014; and CNO ADM Jonathan Greenert, "Charting the Navy's Future in a Changing Maritime Domain" (Washington DC: Brookings Institution, November 4, 2014)

Authorization Act, which restricts certain forms of U.S. military-to-military cooperation with the Chinese.<sup>54</sup>

As with the Russian Navy, the U.S. Navy aspires to a cordial and mutually beneficial relationship with the PLAN, in East Asia and throughout the world. The Navy is making every effort to demonstrate its sincerity and respect for the emerging Chinese power, while maintaining its traditional strong views on the benefits that accrue to all to respect customary international law.

There are only a handful of nations with which the U.S. Navy does not engage: North Korea being the main example. While formal U.S. Navy engagement with the various naval forces of Iran does not exist, the two sides normally avoid confrontations in the Persian Gulf (although as recently as 2008, Iran engaged in aggressive maneuvers toward transiting U.S. Navy warships in international waters near the Strait of Hormuz). With the possibility emerging of improved relationships between Iran and the U.S., a former U.S. Navy 5<sup>th</sup> Fleet commander has floated the possibility of an agreement to improve Iranian-American ship-to-ship communications in the Gulf, as a confidence-building measure and to avoid unwanted crises.<sup>55</sup>

## Maritime safety

This an area that is primarily the domain of the world's Coast Guards, but here too the U.S. Navy has certain important roles to play, engaging international partners. One key aspect of this issue area, for navies, is submarine escape and rescue. The U.S. Navy has been a strong participant in and supporter of the International Submarine Escape and Rescue Liaison Office (ISMERLO), established in 2003 at Norfolk, Virginia by NATO's Submarine Escape and Rescue Working Group (SMERG) to assist in the global coordination of international rescue operations.

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<sup>54</sup> For opposing domestic U.S. policy expert views on the efficacy of engaging the PLAN, see Christopher J. Castelli, "Analysts: For China's Defense Proposals, Implementation is Everything," *Inside the Pentagon* (August 29, 2013), 4-5.

<sup>55</sup> See VADM Kevin Cosgriff USN (Ret) and Ellen Laipson, "Testing the Waters for Normalizing U.S.-Iran Relations," (posted on *Defense One*, September 9, 2013).

Inspired in part by the tragic sinking of the Russian submarine *Kursk* (K-141) in 2000, ISMERLO has evolved into a world-wide network within which navies engage to share equipment and procedural standards, to better come to the rescue of each other's stricken submarines.<sup>56</sup> In a related initiative, the U.S. Navy participates (alongside the Russian, Chinese, Indian, Pakistani and 17 other navies) in the Asia Pacific Submarine Conference (APSC), in which submariners from every navy in that region engage each other, to share submarine rescue technologies, procedures and lessons learned.<sup>57</sup>

## Maritime security operations

Since the end of the Cold War, U.S. Presidents and Secretaries of Defense have demanded more from the U.S. Navy than preparation for global or regional wars at sea. Responding to national direction, the U.S. Navy has become increasingly involved – and adept – in conducting a wide range of peacetime maritime security operations, including counter-drug operations (especially in the Caribbean), counter-piracy operations (especially in the Arabian Sea), and counter-terrorist operations (globally, but especially in the Arabian Sea and the Mediterranean).<sup>58</sup> These operations are often conducted in cooperation with the U.S. Coast Guard and/or foreign naval forces and coast guards.<sup>59</sup> Of particular note have been the

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<sup>56</sup> On ISMERLO, see Journalist Seaman Andrew Zask, "New International Submarine Rescue Coordination Center Opens," *Navy News Service* (September 9, 2004).

<sup>57</sup> On APSC and the related annual multi-national exercise Pacific Reach (PACREACH), see RDML Phillip G. Sawyer, "Working with our Asia-Pacific Partners," *Undersea Warfare* (Spring 2013, 4.

<sup>58</sup> For trends in international lawlessness and international disorder, and the means to counter them, see Michael Miklaucic and Jacqueline Brewer, *Convergence: Illicit Networks and National Security in the Age of Globalization* (Washington DC: National Defense University (NDU) Press, 2013). On U.S. government counter-drug strategy at sea in the Caribbean, see *Caribbean Border Counternarcotics Strategy* (Washington DC: Executive Office of the President of the United States, January 2015)

<sup>59</sup> On the U.S. Coast Guard, see *Safety, Security and Stewardship: 2011 DHS White Paper on the U.S. Coast Guard* (Washington DC: Department of Homeland Security, 2011); *America's 21<sup>st</sup> Century Coast Guard: Resourcing for Safety, Security and Stewardship: 2013 White Paper on Resourcing the U.S. Coast Guard* (Washington DC: Department of Homeland Security, 2013); and *United States Coast Guard Arctic Strategy* (Washington DC: U.S. Coast Guard Headquarters: May 2013). On Navy-Coast Guard relationships, see Chief of Naval Operations Admiral Jonathan Greenert and Commandant of the Coast Guard Robert Papp, *The National Fleet: A*

Proliferation Security Initiative (PSI) operations, to counter the shipment by sea of weapons of mass destruction (WMD).<sup>60</sup> U.S. Navy units operating in the Caribbean and other Latin American waters are organized as the U.S. 4<sup>th</sup> Fleet.<sup>61</sup> Typically, maritime security operations utilize surface combatants and/ or amphibious ships (which operate sea-based small craft, helicopters, and unmanned aerial vehicles (UAVs) vital to these missions, and land-based maritime patrol and surveillance aircraft (MPSA) and UAVs. New U.S. Navy Littoral Combat Ships (LCS) and Joint High Speed Vessels (JHSV) are being integrated into these operations as they join the fleet.

A critical skill set -- largely introduced since the end of the Cold War and required for many of these operations -- is Visit, Board, Search and Seizure (VBSS), using U.S. Navy sailors, naval special warfare teams (SEALS), Coast Guardsmen or Marines, depending on the individual situation, deploying directly from ships, small craft or helicopters.

Mature navies with similar skill sets to those of the U.S. Navy often complement U.S. Navy vessels and aircraft in these operations, with command of the entire operation often vested in a non-U.S. Navy commander.<sup>62</sup> Developing navies are often involved as complementary forces, ship-riders, and trainees, to help enhance their own indigenous capabilities, especially in maritime law-enforcement.<sup>63</sup>

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*Joint United States Navy and United States Coast Guard* (June 2013), and *The National Fleet Plan* (Mar 2014)

<sup>60</sup> Recent analyses of the implementation of the Proliferation Security Initiative include Aaron Dunne, *The Proliferation Security Initiative: Legal Considerations and Operational Realities* (Stockholm: Stockholm International Peace Research Institute (SIPRI), May 2013); Mary Beth Nikitin, *Proliferation Security initiative (PSI)* RL 34327, (Washington DC: Congressional Research Service (CRS), June 15, 2012 and subsequent editions); and *Proliferation Security Initiative*, GAO-12-441 (Washington DC: U.S. Government Accountability Office (GAO), March 2012).

<sup>61</sup> For an argument that the U.S. Navy should pay more attention to Latin American waters, see RADM Sinclair Harris USN, "South is Forward," U.S. Naval Institute *Proceedings* (February 2015), 18-23.

<sup>62</sup> For a European view on maritime security operations, see VADM Lutz Feldt FGN (Ret), Dr. Peter Roell, Ralph D. Theile, *Maritime Security - Perspectives for a Comprehensive Approach* (Berlin: Institut für Strategie- Politik- Sicherheits- und Wirtschaftsberatung (ISPSW), April 2013)

<sup>63</sup> U.S. Navy policy on maritime security cooperation is in Commandant of the Marine Corps General James F. Amos, Chief of Naval Operations Admiral Jonathan Greenert, and

In 2006, the U.S. Navy formed a Navy Expeditionary Combat Command (NECC), in large part to focus and expand its existing capabilities in certain maritime security operations, including combat construction, mobile dive and salvage, riverine, coastal, and harbor patrol and combat operations afloat; explosive ordnance demolition; force protection operations, expeditionary logistics support, and theater security cooperation. This effort has been aimed largely at less developed regions of the world, where indigenous naval capabilities might be low or lacking, and in need of engagement and assistance. New skill sets in maritime civil affairs and security force assistance were added as well.

NECC commands routinely deploy small teams of specialists forward to engage and train local navies and others – often alongside colleagues from the U.S. Coast Guard, other U.S. services, civilian agencies and non-governmental organizations (NGOs) and other mature navies in Europe, North America, Asia and elsewhere.

Examples of recent U.S. Navy Maritime Security Operations, usually with allied and partner navies, include: NATO's Operation Active Endeavor in the Mediterranean (counter-terrorism since 2001); Straits of Malacca ship protection operations (in 2002); Africa Partnership Station (APS) (since 2007); Southern Partnership Station (SPS) in Latin American waters and ports (since 2008); and Operation Martillo in the Caribbean and Eastern Pacific (counter-drug operations since 2012).<sup>64</sup>

Certainly the most widely publicized U.S. Navy maritime security operation has been its participation in the intensive and extensive multinational cooperative counter-piracy operations in the Arabian Sea (since 2009).<sup>65</sup> The 2013 APS

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Commandant of the Coast Guard Admiral Robert J. Papp, *Maritime Security Cooperation: An integrated Navy-Marine Corps-Coast Guard Approach* (Washington DC: January 2013)

<sup>64</sup> For an argument that NATO's considerable naval activities are all but unknown in the United States, even among policy elites, see Jacob Stokes and Nora Bensahel, *NATO Matters: Ensuring the Value of the Alliance for the United States* (Washington DC: Center for a New American Security, October 2013). On Operation Martillo, see John C. Marcario, "Pooling Resources," *Seapower* LVII (December 2014), 50-51.

<sup>65</sup> There is a large literature on the multinational counter-piracy operations in the Arabian Gulf. See especially RDML Terence McKnight USN (Ret) and Michael Hirsch, *Pirate Alley: Commanding Task Force 151 off Somalia* (Annapolis MD: Naval Institute Press, 2012). On the effect of those operations and remaining global challenges, see the most recent *Reports on Acts of Piracy and*

deployment to West African ports was on board a Royal Netherlands Navy ship, and included U.S., British, Dutch and Spanish marines.<sup>66</sup>

### *Counter-piracy operations in the Arabian Sea*

This remarkable multinational Maritime Security Operation merits special mention. It shows the international naval community at its finest. Not only has the United States sent its ships, aircraft, sailors and Marines to carry out United Nations resolutions and help the world's shippers and merchant seamen against the depredations of Somali pirates, but so too have NATO (in Operation Ocean Shield), the European Union (in Operation Atalanta), Russia, India, China and numerous other countries. Many have joined in a multinational force combined task force (CTF 151), the command of which has rotated among participating nations. Others – including the NATO and EU squadrons -- have cooperated with CTF 151 under the auspices of the Shared Awareness and De-confliction (SHADE) initiative – an ad hoc mechanism of informal meetings in-theater aimed at coordinating and de-conflicting naval operations to the benefit of all.

As with other maritime security operations in the area, the command organization is loose, based more on cooperation than direction. The effort has had a host of salutary spin-offs: Providing much needed operational and leadership experience at-sea for the world's navies; introducing the Chinese to the concepts and issues of international maritime endeavor; and providing a venue for European contributions to Middle Eastern security and East Asian experience in multinational military constructs.<sup>67</sup>

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*Armed Robbery Against Ships* published by the International Maritime Organization (IMO) (London UK). For historical context, see Bruce A. Elleman, Andrew Forbes, and David Rosenberg (eds.), *Piracy and Maritime Crime: Historical and Modern Case Studies*, Newport Paper #35 (Newport RI: Naval War College Press, January 2010). A recent analysis of Somali piracy is in Sarah Percy and Anja Shortland, "The Business of Piracy in Somalia," *The Journal of Strategic Studies* 36 (August 2013), 541-578.

<sup>66</sup> For more detail on the multinational 2013 APS deployment, see Donna Miles, "Partnership Station Promotes Security, Capacity in West Africa," U.S. Department of Defense: American Forces Press Service: September 3, 2013.

<sup>67</sup> A significant first was an August 2013 helicopter cross-decking exercise conducted by two U.S. Navy and PLAN destroyers in the Gulf of Aden. See MCS2 Rob Aylward, "US, China Conduct Counter Piracy Exercise," *Navy News Service* (NNS 130825-01, 25 August 2013); and

## Humanitarian assistance operations

Naval humanitarian assistance operations have attracted a great deal of international attention lately, but they are not particularly new. U.S. Navy and especially U.S. Coast Guard – vessels and aircraft have been conducting these operations for years, in the wake of natural and man-made disasters.<sup>68</sup> These operations provide assistance to populations in dire need, in part due to simple concern for fellow human beings in distress and to help ensure that detrimental political instability does not result from the misfortune that had just befallen them.<sup>69</sup>

U.S. Navy sailors on port visits have routinely sought out opportunities for humanitarian assistance, from painting schoolhouses to providing medical aid. Following the Cold War, the Navy's two hospital ships and large amphibious ships – although originally designed for national defense purposes – have proven particularly useful in that regard, with entire operations structured around their humanitarian assistance capabilities.<sup>70</sup>

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Hendrick Simoes, "U.S. Navy Seeks More Cooperation with China in Counter-Piracy Exercise," *Stars and Stripes* (26 August 2013).

<sup>68</sup> For a broad look, see James J. Wirtz and Jeffrey A. Larsen (eds.), *Naval Peacekeeping and Humanitarian Operations: Stability from the Sea*. (London and New York: Routledge, 2008)

<sup>69</sup> On U.S. Navy humanitarian assistance and disaster relief policy, see RDML Michael Smith USN, "Humanitarian Assistance, Disaster Response Missions Strengthen Navy," (*Navy Live* blog, 12 June 2013). See also ADM Gary Roughead USN (Ret), J. Stephen Morrison, RADM Thomas Cullison USN (Ret), and Seth Gannon, *U.S. Navy Humanitarian Assistance in an Era Of Austerity* (Washington DC: Center for Strategic and International Studies (CSIS): March 2013). For a critique of U.S. Navy policy on these operations, see Robert J. Carr, "The Mission is Warfighting, Not Relief," U.S. Naval Institute *Proceedings* 136 (December 2010), 10. For a recent instance of U.S. humanitarian assistance in a coalition context, see Matthew Grund and Catherine Lea, *Japan-U.S. Alliance Management: Natural Disaster Response Cooperation with the U.S. Forces in Japan* (Arlington VA: CNA, September 2014)

<sup>70</sup> For example, annual Pacific Partnership (since 2006) and Southern (i.e.: Caribbean) Partnership Station deployments.



## Naval diplomacy

Navies have long been tools of their nations' peacetime foreign policies, and the U.S. Navy has been no exception.<sup>71</sup> Peacetime U.S. Navy ship movements are routinely directed to “show the flag”, at sea or in port, to demonstrate diplomatic friendship or – in some instances – displeasure. Navy ships at sea are also routinely used to assert and maintain the rights granted to U.S. warships under international law, including the right of innocent passage. U.S. Secretaries of Defense and State frequently find afloat U.S. Navy commanders to be useful participants in forward U.S. diplomacy.

## Support to science

Warships, airplanes and weapons systems are all applications of the findings of scientists, engineers and other technologists. Consequently, the U.S. Navy has had a long history of fostering scientific endeavors that have potential naval applications – from metallurgy to ballistics to aeronautics to nuclear engineering to meteorology and oceanography.<sup>72</sup> The Navy can and does, however, periodically use its capabilities and highly trained people to aid in scientific endeavor that does not have an obvious direct naval link.

The Navy has a long history of supporting scientific exploration in the Antarctic; and Navy ships have been used to recover astronauts for years. The Navy has also supported scientific research in the Arctic, in support of U.S. policy.<sup>73</sup> In 2014,

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<sup>71</sup> For a recent commentary on naval diplomacy, see CDR Kevin Rowlands RN, “Decided Preponderance at Sea: Naval Diplomacy in Strategic Thought,” *Naval War College Review* (Autumn 2012), 89-105.

<sup>72</sup> A current salient issue area is climate change and energy. See Ralph Espach, Duncan Depledge, and Tobias Feakin, *The Climate and Energy Nexus: Challenges and Opportunities for Transatlantic Security*, ICP-2013-U-004986-Final (Alexandria VA: CNA and RUSI, June 2013); and CNA Military Advisory Board (MAB), *National Security and the Accelerating Risks of Climate Change* (Alexandria VA: CNA, May 2014).

<sup>73</sup> On the scientific thrust of U.S. and U.S. Navy Arctic policy, see President Barack Obama, *National Strategy for the Arctic Region* (Washington DC: The White House, May 2013); *Implementation Plan for the National Strategy for the Arctic Region* (Jan 2014); and Chief of Naval Operations Admiral Jonathan Greenert, *U.S. Navy Arctic Roadmap 2014-2030* (Washington DC: U.S. Navy Task Force Climate Change, February 2014). For an argument that



after a break of almost 40 years, a U.S. Navy warship was once again employed to recover a space capsule – an unmanned NASA Orion crew module -- from the oceans.<sup>74</sup>

## Force protection

Even in times of peace, real threats exist to U.S. naval forces. These include crime, terrorism, intelligence gathering, and cyber attack.<sup>75</sup> The U.S. Navy maintains a Naval Criminal Investigative Service (NCIS), U.S. 10<sup>th</sup> Fleet network defense units, a Coastal Riverine Force, and other elements to protect itself from these threats.<sup>76</sup>

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maritime security issues are becoming more salient in the Arctic, necessitating increased international naval engagement there, see Lee Willett, “Frozen Over: Maritime Security Challenges in the ‘High North’”, *Jane’s Navy International* (December 2012), 21-24. See also Ronald O’Rourke, *Changes in the Arctic: Background and Issues for Congress*, R41153 (Washington DC: Congressional Research Service (CRS), August 4, 2014 and subsequent editions); and VADM Lutz Feldt, FGN (Ret), *The Importance of the Arctic Region: Implications for Europe and Asia* (Berlin: Institut für Strategie- Politik- Sicherheits- und Wirtschaftsberatung (ISPSW), May 2013). For a recent U.S. Navy exercise in the Arctic that included support to science, see Ryan Hopper, “ICEX 2014,” *Undersea Warfare* (Summer 2014), 10-15.

<sup>74</sup> See Mass Communication Specialist Seaman Christopher A. Veloicaza, “Anchorage Completes NASA Orion Mission,” NNS 141208 -04, *Navy News* (8 December 2014); and “Anchorage Departs on NASA’s Orion Mission,” NNS141202-01, *Navy News* (2 December 2014)

<sup>75</sup> In the fall of 2013, the U.S. Navy’s 10<sup>th</sup> Fleet successfully defended the unclassified Navy-Marine Corps Intranet (NMCI) against a foreign hostile hacking attack. For a press report of the incident, see Julian Barnes and Siobhan Gorman, “U.S. Says Iran Hacked Navy Computers,” *Wall Street Journal* (September 27, 2013).

<sup>76</sup> On NCIS, see Meghann Myers, “Exclusive: NCIS Director Focusing on Economic Crimes, Special Response Teams,” *Navy Times* (1 December 2014); and Director Mark Clookie, *The Naval Criminal Investigative Service Strategic Vision: Global Support to Global Challenges* (Washington DC: NCIS, 2010).

## **“A global force for good”<sup>77</sup>**

In sum, the U.S. government believes that the global forward presence at sea of the U.S. Navy – carrying out all of the above activities and more – helps foster a climate of free and unimpeded transit of goods and services on the high seas that benefits all the nations of the world. It is one of the pillars of the global world economic system from which all have benefitted, despite financial crises and the recessions.

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<sup>77</sup> “A Global Force for Good” was the U.S. Navy’s recruiting slogan since 2009. On the validity of this assertion, see LCDR Matthew Krull USN, “We Really Are a Global Force for Good,” U.S. Naval Institute *Proceedings* (January 2014), 12. The Navy has been recently phasing out the phrase, however. See Mark D. Faram, “Forcing out ‘Force for Good’” *Navy Times* (29 December 2014-5 January 2015), 4.

# Crisis Response

## Ends

Should peacetime operations fail to help stem international crises from occurring, Presidents Secretaries of Defense, and joint Combatant Commanders expect the Navy to be ready to respond to crises as they occur, to provide them with a wide range of options, to help dampen or resolve them, as the American national interest requires, and cooperate when necessary with the navies of like-minded allied and partner nations in so doing.<sup>78</sup> The inherent flexibility, scalability, mobility, and multiple capabilities of U.S. naval forces provide the President with a wide range of useful options during a crisis, to use as he calculates is warranted.<sup>79</sup>

## Ways and means

### Engagement and crisis response

As crises loom or unfold, the United States and like-minded nations typically gather together in “coalitions of the willing,” normally under the auspices of a United Nations mandate and often by invoking alliance or other ties. If peacetime

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<sup>78</sup> There is a large literature on U.S. naval crisis response. See especially Eugene Cobble, Hank Gaffney, and Dmitry Gorenburg, *For the Record: All U.S. Forces' Responses to Situations, 1970-2000 (with Additions Covering 2000-2003)* (Alexandria VA: CNA, 2005). A more recent analysis is Larissa Forster, *Influence Without Boots on the Ground: Seaborne Crisis Response*, Newport Paper #39 (Newport RI: Naval War College Press, January 2013).

<sup>79</sup> For an argument that naval crisis response has become far more complex and diverse than heretofore, see CAPT Robert B. Watts USCG, “The New Normalcy: Sea Power and Contingency Operations in the Twenty-First Century,” *Naval War College Review* 65 (Summer 2012), 47-64.

naval engagement has been productive, the U.S. Navy and other navies will be ready to operate together effectively at sea under crisis conditions, should the coalition's political leaders of coalition members so direct. They will understand each other's capabilities and capacities, and know how to communicate with each other quickly and securely, divide maritime tasks among themselves, formulate options for the political leadership to consider, and then combine to carry out coalition directives under stressful conditions.

## Positioning and shows of force

Political leaders have used naval force movements to try to help defuse, stabilize and resolve crises for centuries. Recent examples of U.S. presidential use of the U.S. Navy in this fashion include the movement of two American carrier battle groups to the Taiwan Straits area in 1996 and the deployment of U.S. Navy warships into the Black Sea in the wake of the Russo-Georgian War of 2008, and during the Ukrainian Crisis of 2014.

## Forward naval presence and crisis response

Some regions are more prone to crises of direct U.S. concern than others. In addition to contributing to regional stability and enabling engagement with allies and partners, permanent forward-deployed U.S. naval forces ensure that ready U.S. forces can be on scene to help dampen or resolve crises on terms favorable to the United States and its allies.

During the Cold War, the forward deployed and ready U.S. 6<sup>th</sup> and 7<sup>th</sup> Fleets were able to respond quickly to crises in the Eastern Mediterranean and Black Sea, the Western Pacific, and adjacent waters. In the post-Cold War environment, the same is true for the 5<sup>th</sup> and 7<sup>th</sup> Fleets in the Arabian and China Seas.<sup>80</sup> The 6<sup>th</sup>

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<sup>80</sup> There is a large literature on potential South China Sea crises and the role of U.S. and other naval forces. See especially RADM Michael McDevitt USN (Ret), "The South China Sea and U.S. Policy Options," *American Foreign Policy Interests* 35 (July-August 2013), 175-187; and Carlyle A. Thayer, *Chinese Assertiveness and U.S. Rebalancing: Confrontation in the South China Sea?* (Paper delivered at Annual Conference of the Association for Asian Studies, San Diego CA, March 22, 2013)

Fleet as well, although greatly reduced in ship numbers, nevertheless retains this function in the Eastern Mediterranean today, as evidenced by its role in the 2013 Syrian chemical weapons crisis and the 2014 Ukrainian Crisis.

For quick response to Caribbean crises, the U.S. Navy can easily surge from its home bases on the American coasts.

## Avoidance of unintended incidents at sea

While U.S. naval forces are often used to dampen and defuse crises, they must also ensure that they do not inadvertently (or willfully) exacerbate a crisis – or cause one to occur. To this end U.S. Navy commanders and their crews are trained in the rights and responsibilities of warships under the Laws of War and the Law of the Sea.<sup>81</sup> In 1972, the United States Navy and the Soviet Navy signed an "Incidents at Sea" (INCSEA) agreement that has served as an example for other similar agreements between other countries (and which is still in force between the U.S. and Russian navies).<sup>82</sup> In April 2014, the U.S. Navy Chief of Naval Operations was a party to the signing of a "Code for Unplanned Encounters at Sea," (CUES) in Qingdao, China, at a meeting of the Western Pacific Naval Symposium (WPNS).

## Non-combatant evacuations (NEO)

U.S. Navy-U.S. Marine Corps amphibious forces are particularly suited to conduct NEOs from countries experiencing crisis conditions, as was demonstrated in Liberia in 2003 (Operation Shining Express) and Lebanon in 2006, especially in situations where air or road evacuation is too impractical or dangerous.

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<sup>81</sup> On the Law of the Sea, see especially CAPT (Ret) Mark Rosen USN (JAGC), *Challenges to Public Order and the Seas* (Alexandria VA: CNA, Mar 2014).

<sup>82</sup> On the INCSEA agreement, see David Winkler, *Cold War at Sea: High-Seas Confrontation between the United States and the Soviet Union* (Annapolis MD: Naval Institute Press, 2000)

## Disaster response operations

U.S. Navy and especially U.S. Coast Guard – vessels and aircraft have responded to crises triggered by natural and man-made disasters for years. These operations provide rapid assistance to populations in dire need, in part due to simple concern for fellow human beings in distress and to help ensure that detrimental political instability does not result from the misfortune that had just befallen them. Recent disasters such as the 2004 tsunami in Asia, the 2007 cyclone in Bangladesh, the 2010 earthquake in Haiti, the 2011 tsunami in Japan, the 2013 typhoon in the Philippines, and the 2014 Korean ferry disaster occasioned rapid surges of U.S. Navy ships and aircraft to the affected regions, bringing badly needed medical, transportation and security forces.<sup>83</sup>

Forward deployed and easily surged U.S. Navy aircraft carriers and amphibious ships have proven especially valuable during disaster response operations, due to their availability and high state of readiness, capacity to conduct significant helicopter operations, ability to transport large quantities of materials, and organic medical facilities on board.<sup>84</sup>

## Special crisis responses

The roll-on/roll-off container ship *MV Cape Ray* was put under U.S. Navy command in 2014 to neutralize Syrian chemical weapons, illustrating the utility of imaginative sea-basing in certain crisis situations.<sup>85</sup>

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<sup>83</sup> These joint U.S. operations, including significant U.S. Navy participation, were termed Unified Assistance, Sea Angel II, Unified Response, and Tomadachi. For an excellent case study of Unified Assistance, see Bruce A. Elleman, *Waves of Hope: The U.S. Navy's Response to the Tsunami in Northern Indonesia*, Newport Paper #28 (Newport RI: Naval War College Press, February 2007). An important earlier example is in Charles R. Smith, *Angels from the Sea: Relief Operations in Bangladesh, 1991* (Washington DC: Headquarters, U.S. Marine Corps, 1995)

<sup>84</sup> On the operational and tactical aspects of these operations, see CAPT Cathal O'Connor USN, "Foreign Humanitarian Assistance and Disaster-Relief Operations: Lessons Learned and Best Practices," *Naval War College Review* 65 (Winter 2012), 153-160

<sup>85</sup> See "Hagel Congratulates Cape Ray for Syria Mission," *American Forces Press Service*, August 18, 2014)

## U.S. Navy crisis response attributes

Attributes that enable the U.S. Navy to respond effectively to crises, when tasked, include:

- On-scene combat readiness, and repositioning and surge capability, globally
- Modulated combat capabilities, up and down the ladder of possible appropriate force responses
- Man-made and natural disaster response capabilities
- Well-established, inter-operable relationships with allied and friendly navies and their commanders, both in the region in question and available to deploy there as coalition forces from outside the region
- Command structures adaptable to joint direction, participation by U.S. sister services, and rapid situation changes
- Flexible, experienced, educated and well-trained leaders capable of leading on-scene in fast-moving, complex, high-stakes crisis environments, and supporting American diplomacy.

# Combat

## Ends

The President and the American people expect that U.S. naval forces will fight skillfully and prevail in combat, to prevent and resist military attacks on the United States and its friends and allies, and their forces and populations. The U.S. Navy is a combat force. “Warfighting First” is the very first of the current Chief of Naval Operations’ three basic tenets (the others being “Operate Forward” and “Be Ready”).<sup>86</sup>

## Peacetime engagement and coalition combat

As in crises, the United States and like-minded nations also often gather together for war in “coalitions of the willing,” normally under the auspices of a United Nations mandate and often by invoking alliance or other ties. If peacetime naval engagement has been productive, the U.S. Navy and other navies will be ready to operate together effectively at sea in combat, should the coalition’s political leaders of coalition members so direct. As in crises, they will understand each other’s capabilities and capacities, and know how to communicate with each other quickly and securely, divide maritime tasks among themselves, formulate options for the political leadership to consider, and then combine to carry out coalition directives under wartime conditions.

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<sup>86</sup> Chief of Naval Operations (CNO) Admiral Jonathan Greenert USN, *CNO’s Sailing Directions* (Washington DC: undated (but 2011)).



## Ways and means

In discussing the U.S. Navy's ways and means of achieving the nation's ends through combat at sea, it is useful to lay out the **warfare areas** that comprise modern naval combat (and the **capabilities** that enable operations in each), as well as the **phases** of such combat.

## Warfare areas

If directed to fight and win in combat, the U.S. Navy has developed a wide array of complementary capabilities necessary to prevail in thirteen necessary warfare areas.<sup>87</sup> The spread of these thirteen warfare areas ensures that no enemy will be able to identify and exploit a glaring vulnerability, and provide a complete range of options for war at sea and from the sea to the President as commander-in-chief of the U.S. armed forces and to joint and combined operational commanders.

Those warfare areas include strike warfare, amphibious warfare, naval special warfare, anti-submarine warfare, anti-air warfare, ballistic missile defense, anti-surface warfare, blockade, mine warfare, navy expeditionary combat, naval electronic warfare, ship protection, and strategic sealift – all supported by information dominance and naval combat logistics operations. With the exception of blockade, the U.S. Navy exercises continuously at sea to establish, maintain and improve war-winning proficiency in all of these warfare areas.

## Strike warfare

In strike warfare, Navy sea-based strike aircraft, land-attack missiles, and naval gunfire attack and destroy targets ashore. Precision is a principle attribute. The principal sea-based strike aircraft is the F/A-18 Hornet (which comes in a half-dozen variants: A through F), attacking from one of the Navy's nuclear-powered

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<sup>87</sup> The listing is the author's. Other lists exist. See for example, Allied Joint Publication (AJP) 3.1, *Allied Joint Maritime Operations* (April 2004), section V.

aircraft carriers (CVNs).<sup>88</sup> The reach of Navy strike aviation is greatly enhanced through use of long-range U.S. Air Force tanker aircraft.

The principal land-attack weapon is the Tomahawk Land-Attack Missile (TLAM), a precise, long-range, all-weather cruise missile launched from nuclear-powered attack submarines (SSN) and guided missile submarines (SSGN), cruisers (CG) and destroyers (DDG).<sup>89</sup> Navy cruisers and destroyers mount guns that provide Naval Surface Fire Support (NSFS) against targets ashore. US Navy long-range carrier strike operations from the Arabian Sea into Afghanistan and Iraq are currently on-going in support of U.S., Afghan, and Iraqi forces.<sup>90</sup>

Land-based US Air Force, US Army, US Marines Corps, and allied and friendly forces also can and do conduct strike operations, in coordination with the Navy, under joint and allied command.

## Amphibious warfare

In amphibious warfare, the U.S. Navy combat loads U.S. Marines, gets them to their objective area, lands them on hostile shores, and continues to support them from the sea in order to assault and seize a beachhead, raid, divert attention, evacuate troops or civilians, or any of a host of other amphibious tasks.<sup>91</sup> The

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<sup>88</sup> On the F/A-18E/F, see Richard r. Burgess, "Advancing the Super Hornet," *Seapower* (November 2013), 32-36.

<sup>89</sup> On use of the Tomahawk missile as a strike weapon, see William Matthews, "The Weapon of Choice," *Seapower* (November 2013), 38-40.

<sup>90</sup> For an appreciation of the role of Navy strike/fighter aircraft in Afghanistan counter-insurgency (COIN) operations, see LT Jeff McLean USN, "A Junior Officer's Perspective on Close Air support and Counterinsurgency," U.S. Naval Institute blog, August 22, 2013. On SSGN capabilities, see Kelvin Wong, "USN Showcases SSGN Capabilities with USS *Michigan* in Latest Asia-Pacific Deployment" (*IHS Jane's Defence Weekly* (08 September 2014).

<sup>91</sup> The U.S. Marine Corps is a large and powerful naval armed service unlike any other in the world. Like the U.S. Navy, it is a separate service within the U.S. Department of the Navy – one of the three service departments of the U.S. Department of Defense. Navy-Marine Corps relationships are close – especially in entry-level officer education and amphibious warfare. On Navy-Marine Corps relations, see Chief of Naval Operations Admiral Jonathan W. Greenert USN and Commandant of the Marine Corps General James F. Amos USMC, "A New Naval Era," U.S. Naval Institute *Proceedings* 139 (June 2013), 16-20. On recent exercises designed to re-invigorate the capabilities of the two services to conduct amphibious warfare operations, see Otto Kreisher, "Crisis Response: Amphibious Exercise Showcases Navy-Marine Teamwork,

Navy provides three specialized types of large amphibious warships: Amphibious assault ships (LHD), amphibious transport docks (LPD), and amphibious landing docks (LSD). Naval close air and gunfire support from Navy carriers, cruisers and destroyers provides fire support to Marines ashore during the operation as necessary. Depending on the scope and scale of the operations, Marines task organize into one of several possible forms of a Marine Air-Ground Task Force (MAGTF), landing with their own infantry, armor, artillery, helicopters and fixed-wing aircraft, and utilizing a mix of Navy and Marine Corps landing craft and connectors.<sup>92</sup>

The U.S. Marine Corps has also prepositioned equipment forward on two squadrons of U.S. Navy Maritime Prepositioning Ships (MPS) in the Western Pacific and at Diego Garcia, and ashore in Norway. The MPS ships deploy to a port near the scene of intended action, and the Marines fly in to meet their prepositioned equipment at those ports. The Marine Corps also deploys combat-ready Special Marine Air-Ground Task forces (SPMAGTFs) by air in situations where U.S. amphibious ships may be unavailable.

The US Navy also supports the US Army in loading and unloading Army cargoes from ships in friendly or non-defended areas where there are no fixed port facilities. The two services annually exercise this capability, known as Joint Logistics Over the Shore (JLOTS).

## Naval special warfare

The U.S. Navy's Naval Special Warfare Command (NSWC) can insert US Navy SEAL Teams ashore from U.S. Navy warships, especially from specially configured guided missile submarines (SSGN). NSWC also operates a variety of

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Engages International Coalition," *Seapower* 56 (September 2013), 16-18; and Lance M. Bacon, "Bold Alligator is Back," *Navy Times* (October 18, 2014). For a discussion of ways to bring the services even closer, see Col Bradley E. Weisz USMC, "Optimizing the Blue-Green Team" (*Marine Corps Gazette* 97 (September 2013), 50-54.

<sup>92</sup> On the U.S. Marine Corps' vision of the future application of U.S. amphibious power, see Commandant of the Marine Corps General James E. Amos, *Expeditionary Force 21* (Washington DC: Headquarters, U.S. Marine Corps, 4 March 2014).

small Special Warfare Combatant Craft (SWCC), especially SEAL Delivery Vehicles (SDVs) and Mark V Special Operations Craft (SOC). Navy SEALs and special warfare craft are totally integrated into joint U.S. Special Operations Command (USSOCOM) operations.

## Anti-submarine warfare (ASW)

Anti-submarine warfare is a highly complex, technologically sophisticated form of naval warfare.<sup>93</sup> To find and kill enemy submarines, Navy commanders orchestrate the coordinated operations of a wide array of platforms and systems, including attack submarines (SSN), ASW helicopters deployed on aircraft carriers, guided missile cruisers and destroyers (CG and DDG), land-based maritime patrol aircraft (P-3C and new P-8A aircraft), and fixed and mobile undersea surveillance systems. Submarines, surface ships and aircraft deploy various types of sonar and other listening devices, to find and identify hostile submarines, and torpedoes to destroy them. An ASW module is under development as one of three inter-changeable modules for new US Navy Littoral Combat Ship (LCS) “seaframes.”<sup>94</sup>

## Anti-air warfare (AAW)

In anti-air warfare, U.S. Navy commanders use missile-firing F/A-18 strike fighter aircraft to engage enemy aircraft, as well as a variety of surface-to-air missiles launched from guided missile cruisers (CG) and destroyers (DDG).<sup>95</sup> Some of these missile systems are designed to kill at a great distance; others are to destroy close-in air threats. The centerpiece of cruiser-destroyer anti-air warfare capabilities is the Aegis combat system, with its radar tracking, missile and other

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<sup>93</sup> See CAPT William J. Toti USN (Ret), “The Hunt for Full-Spectrum ASW,” U.S. Naval Institute *Proceedings* (June 2014), 38-43.

<sup>94</sup> On the outlook for US Navy ASW, see ADM Jonathan Greenert, “How the U.S. Can Maintain the Undersea Advantage,” *Defense One* (October 12, 2013). See also Bryan Clark, *The Emerging Era in Undersea Warfare*, (Washington DC: Center for Strategic and Budgetary Assessments (CSBA): 2015)

<sup>95</sup> For a classic discussion of naval anti-air warfare, see Michael W. Smith, *Antiair Warfare Defense of Ships at Sea* (Alexandria VA: Center for Naval Analyses, September 1981).

elements.<sup>96</sup> The US Air Force, US Army and US Marine Corps have significant complementary land-based aircraft and missile AAW capabilities.

## Ballistic missile defense (BMD)

BMD is a relatively new naval warfare area, established to destroy or neutralize incoming enemy ballistic missiles from the sea. Many of the US Navy's inventory of guided missile cruisers (CG) and destroyers (DDG) have a ballistic missile defense capability, capable of protecting themselves, other warships at sea, and adjacent land areas. Their systems represent an expansion of the Aegis anti-air warfare combat system, using enhanced radar and missile technologies. As discussed earlier, the U.S. Navy routinely deploys BMD ships forward in peacetime (and mans an Aegis Ashore facility in Romania) to deter ballistic missile attacks "out of the blue" on forward U.S. forces and U.S. allies. But BMD is also an important and integrated component of the U.S. Navy's arsenal in case of fuller, wider war.<sup>97</sup>

## Anti-surface warfare (ASUW)

This classic naval warfare area seeks to neutralize or destroy enemy surface combatants, using Navy strike-fighter aircraft; missiles and gunfire from cruisers, destroyers, and patrol coastals (PCs); and torpedoes from aircraft, surface ships and submarines. An ASUW module has been developed and deployed on the new LCS seaframes. US Air Force aircraft have a certain ASUW capability as well.<sup>98</sup>

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<sup>96</sup> For a recommended new approach to US Navy anti-air warfare, see Bryan Clark, *Commanding the Seas: A Plan to Reinvigorate U.S. Navy Surface Warfare* (Washington DC: Center for Strategic and Budgetary Assessments (CSBA), November 2014)

<sup>97</sup> On naval Ballistic Missile Defense, see CAPT George Galdorisi USN (Ret) and Dr. Scott Truver, "Leading the Way in Ballistic Missile Defense," U.S. Naval Institute *Proceedings* (December 2013), 32-38. On the future of U.S. naval Ballistic Missile Defense see, for example, U.S. 7<sup>th</sup> Fleet Public Affairs, "7th Fleet Tests Innovative Missile Defense System," *Navy News* NNS 140626-30 (July 1, 2014)

<sup>98</sup> For an example of a recent forward Navy-Air Force anti-surface exercise involving Air Force F-15 and JSTARS aircraft, see MC3 Billy Ho USN, "Monterey Conducts Exercise with US Air Force," *Navy News* (August 1, 2013)

Anti-surface warfare can also be conducted against civilian merchant ship, and include blockade and anti-commerce warfare on the high seas.<sup>99</sup>

## Blockade

In blockade operations, naval commanders seek to close down an enemy's ports and at-sea commercial shipping activity through the threatened and actual use of force at sea.<sup>100</sup> Against small hostile nations with few ports and little merchant shipping, mounting these operations does not present an onerous problem. For enemy nations with extensive coastlines, large merchant fleets, and powerful naval forces of their own, the problem is much more difficult and complex. The U.S. Navy participated in a "quarantine" – a form of blockade – around Cuba during the Cuban Missile Crisis with the Soviet Union in 1962.

During the Vietnam War, United States Navy carrier aircraft sowed thousands of sea mines to blockade North Vietnamese ports in 1972. Blockade to enforce international sanctions was also an element in Operations Odyssey Dawn and Unified Protector against the Ghaddafi regime in Libya in 2011. There is now a burgeoning open literature debating the virtues of blockade in a hypothetical future U.S. war with China.<sup>101</sup>

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<sup>99</sup> Anti-commerce warfare was once a central feature of naval warfare. For an argument that its importance may well return, see Douglas C. Peifer, "Maritime Commerce Warfare: The Coercive Response of the Weak?" *Naval War College Review* 66 (Spring 2013), 83-109.

<sup>100</sup> On the efficacy of blockades, especially nine post-World War II examples, see Bruce A. Elleman and S.C.M. Paine, *Naval Blockades and Seapower: Strategies and Counter-Strategies, 1805-2005*, (London and New York: Routledge, 2006).

<sup>101</sup> See, for example, Gabriel B. Collins, and William S. Murray, "No Oil for the Lamps of China," *Naval War College Review* 61 (Spring 2008), 79-95; Sean Mirski, "Stranglehold: The Context, Conduct and Consequences of an American Naval Blockade of China," *Journal of Strategic Studies* 36 (June 2013) 385-421; Evan Braden Montgomery, "Reconsidering a Naval Blockade of China: A Response to Mirski," *Journal of Strategic Studies* 36 (August 2013); and Col T.X. Hammes USMC (Ret), *Offshore Control: A Proposed Strategy for an Unlikely Conflict* (Washington DC: National Defense University (NDU) Institute for Strategic Studies (ISS) (28 June 2012)., and Michael Haas, "Shipping as a Repository of Strategic Vulnerability," (*Center for International Maritime Security (CIMSEC)*, August 16, 2013).

## Mine warfare

Mine warfare includes the laying of mines in the sea, as well as detecting and neutralizing, sweeping or destroying them (i.e.: mine countermeasures). The U.S. Navy has the capability of sowing mines from its aircraft, surface ships, and submarines, and the U.S. Air Force can use its bomber aircraft for this purpose as well. Mine countermeasures are conducted by specialized Avenger-class mine countermeasures (MCM) ships. A mine warfare module is under development for the new LCS seaframes, and the U.S. Navy's large fleet of sea-based MH-60S helicopters has an airborne MCM capability.<sup>102</sup> Because America's allies often have superb mine countermeasures capabilities, in coalition operations the U.S. Navy often cedes much of the responsibility for this warfare area to them.<sup>103</sup>

## Navy expeditionary combat

Navy expeditionary combat – as discussed earlier -- comprises a variety of naval capabilities, including combat construction, mobile dive and salvage, riverine, coastal, and harbor patrol and combat operations afloat; explosive ordnance demolition; force protection operations, expeditionary logistics support, and theater security cooperation.<sup>104</sup> These capabilities are routinely applied in peacetime during forward Maritime Security Operations to enhance theater security cooperation and stability. They can also be, however, of great utility in wartime, especially where the combat area includes major coastal or riverine geography – as was the case historically during the American Civil War in the West, the Philippine Insurrection, and the Vietnam War. It can be expected that

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<sup>102</sup> See Joshua J. Edwards and CAPT Dennis M. Gallagher USN, "Mine and Undersea Warfare for the Future," U.S. Naval Institute Proceedings (August 2014), 70-75).

<sup>103</sup> For a critique of U.S. navy mine warfare policy, strategy and acquisition, see Scott c. Truver, "Wanted: U.S. Navy Mine Warfare Champion," *Naval War College Review* (Spring 2015), 116-127.

<sup>104</sup> For one of the few analyses in the open literature, see Ronald O'Rourke, *Navy Irregular Warfare and Counterterrorism Operations: Background and Issues for Congress*, RS22373 (Washington DC: Congressional Research Service (CRS), July 31, 2014 and subsequent editions).

Navy expeditionary combat capabilities would be deployed and sent into battle as ancillary naval forces, should the situation call for them.<sup>105</sup>

## Naval electronic warfare

Naval electronic warfare is used to jam, deceive, blind, spoof enemy electronic systems, rendering ineffective any weapons they control.<sup>106</sup> Virtually every ship and aircraft in the U.S. Navy deploys with some form of electronic warfare capability. Without it, offensive strike warfare and other warfare areas would be difficult or impossible to implement, given the sophistication of current and expected hostile weapons systems.<sup>107</sup> In particular, the U.S. Navy deploys new EA-18G Growler airborne electronic attack (AEA) aircraft as integral components of its carrier air wings.<sup>108</sup> As the EA-18Gs enter the fleet, the Navy is retiring its venerable EA-6B Prowler AEA aircraft. U.S. commanders used the EA-6B heavily in U.S. operations over Iraq and Afghanistan throughout the past decade.<sup>109</sup>

## Ship protection

Sea control and power projection cannot be achieved if warships cannot protect themselves from hostile action. U.S. Navy warships are built to demanding naval architectural standards and incorporate numerous features to enable damage control in the event they are hit. U.S. Navy damage control training is

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<sup>105</sup> For an analysis and recommendations on U.S. Navy riverine operations, see LT J.A. Cummings Jr., "A Riverine Approach to Irregular Warfare," U.S. Naval Institute *Proceedings* CXL (Jan 2014), 52-57.

<sup>106</sup> For recent developments in this warfare area, see Sidney J. Freedberg, "Navy Forges New EW Strategy: Electronic Maneuver Warfare" (*Breaking Defense*, October 10, 2014).

<sup>107</sup> See Jonathan F. Solomon, "Maritime Deception and Concealment: Concepts for Defeating Wide-Area Oceanic Surveillance-Reconnaissance-Strike Networks," *Naval War College Review* LXVI (Autumn 2013), 87-116

<sup>108</sup> On air electronic warfare, see M. Thomas Davis, David Barno and Nora Bensahel, *The Enduring Need for Electronic Attack in Air Operations*, (Washington DC: Center for a New American Security, January 2014)

<sup>109</sup> On EA18G Growler operations, see CDR Dave Kurtz USN, "Dawn of the Expeditionary Growler," U.S. Naval institute *Proceedings* 139 (September 2013), 22-26.



demanding, frequent and sophisticated.<sup>110</sup> Numerous combat systems are installed on board Navy warships to protect against incoming torpedoes, cruise missiles, fast attack craft, and other threats.<sup>111</sup> The U.S. Army and U.S. Navy periodically experiment with using U.S. Army attack helicopters to protect U.S. Navy ships from enemy fast-attack craft.<sup>112</sup> The Navy has also begun to protect its ships against cyber attack.<sup>113</sup>

## Strategic sealift

Through its Military Sealift Command (MSC), the Navy maintains, contracts for, and deploys the nation's strategic sealift and forward maritime prepositioning forces, to help support the rapid and effective projection of U.S. ground and land-based air power in a combat theater. Army and other services' combat equipment can be rapidly transported forward from the U.S. on government-owned, civilian-manned Large Medium-Speed Roll-on/Roll-off ships (LMSR), other Roll-on/Roll-off ships (RO/RO), and container ships, as well as domestic and foreign commercial ships chartered for the purpose. The MSC also maintains the nation's fleet of Maritime Prepositioning Ships, which store U.S. Marine Corps, Army, Air Force and some Navy cargoes in far forward locations in the Western Pacific and at Diego Garcia.

The U.S. Air Force provides a similar service for U.S. all-service military airlift, through its Air Mobility Command (AMC). American troops fly to forward theaters from the United States on military or civilian-chartered aircraft to meet up with equipment that has been prepositioned or transported there by sea.

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<sup>110</sup> For an example of the successful application of U.S. Navy damage control techniques and procedures in a modern combat environment, see Bradley Peniston, *No Higher Honor: Saving the USS Samuel B. Roberts in the Persian Gulf* (Naval Institute Press, 2006).

<sup>111</sup> See, for example, RADM Edward Masso USN (Ret), "Our Aircraft Carriers are not Sitting Ducks," *Forbes* (August 4, 2014).

<sup>112</sup> See, for example, "Army Aviators, Sailors Team up in 5<sup>th</sup> Fleet," *Navy Times* (September 9, 2013).

<sup>113</sup> See Sandra Erwin, "Navy to Begin Preparations for Cyber Warfare," *National Defense*, 1 Nov 2014)

## Combat logistics support

Operating routinely tens of thousands of miles from North America, for months on end under demanding conditions, in peacetime and combat, has been a hallmark of the U.S. Navy. This is accomplished through building robust sustainability into American warships, as well as provision of a naval logistics support system capable of providing routine supply, maintenance, repair services, as well as surges for crises and wars. The U.S. Navy is also well served by a large and sophisticated private and public naval industrial base at home, and a network of vital forward bases and “places,” as well as the transportation services of the Military Sealift and Air Mobility Commands.<sup>114</sup>

### *Underway replenishment (UNREP)*

Particularly important is the Navy’s large fleet of government-owned, civilian-crewed Combat Logistics Force (CLF) ships, capable of underway replenishment of U.S. Navy warships alongside, at sea. This fleet includes Dry Cargo/Ammunition Ships (T-AKE), Fast Combat Support Ships (T-AOE), and Fleet Replenishment Oilers (T-AO). It provides the fuel, food, ordnance, spare parts, mail and other critical supplies that keep U.S. Navy warships combat –ready -- or in combat -- for extended periods of time.

The Navy also forward deploys two submarine tenders (AS), normally based in peacetime at Guam and Diego Garcia, but periodically deploying to ports in the Philippines, Malaysia, the United Arab Emirates (UAE), Bahrain, India and elsewhere, to provide resupply, maintenance and repair services to forward deployed U.S. Navy submarines and sometimes other types of warships.<sup>115</sup> They too would have wartime support roles.

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<sup>114</sup> For a discussion of the effect that fuel constraints may have on future U.S. naval operations, see CDR Gregory Knepper USN, *Access Assured: Addressing Air Power Reach, Persistence and Fueling Limitations for Contested and Permissive Air Operations* (Washington DC: Brookings Institution, September 2014).

<sup>115</sup> On the U.S. Navy’s forward operational use of its tenders, see MC2(SW) Carey Hensley, “Submarine Tenders Continue to support Critical Operations in Pacific Fleet,” *Undersea Warfare* (Spring 2013), 14-19; and LTJG Heather Hutchinson USN, “USS *Frank Cable* (AS 40):

## “Navy information dominance” support

This is a new U.S. Navy term that includes Intelligence, Surveillance, Reconnaissance (ISR), as well as the rapidly expanding area of cyber warfare.<sup>116</sup> Classically, often the hardest part of naval combat was finding the enemy, and prowess (and luck) in “scouting” was as important as firepower in determining the outcome of sea battles. The Navy has recently created an “Information Dominance Corps,” comprising its specialists in naval intelligence, cryptology, cyber warfare, information systems, information operations, and related specialties, to try to improve the synergies among them and deliver their outputs faster and clearer to naval combat commanders.<sup>117</sup>

## Combat phases

It is useful to discuss U.S. naval forces engaged in combat at the behest of the President and under joint and combined operational commanders as proceeding through three phases: “Transition to War,” “Seizing the Initiative,” and “Carrying the Fight to the Enemy.”<sup>118</sup>

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Ready and Able . . . Supporting Mission Readiness,” *The Navy Supply Corps Newsletter* (July/August 2013), 15-17.

<sup>116</sup> On the Navy’s vision for Information Dominance, see *U.S. Navy Information Dominance Roadmap, 2013-2028* (Washington DC: U.S. Navy, 2013). See also Peter Dombrowski and Chris C. Demchak, “Cyber War, Cybered Conflict, and the Maritime Domain,” *Naval War College Review* LXVII (Spring 2014), 71-96.

<sup>117</sup> On the Information Dominance corps, see VADM Ted N. Branch, “A New Era in Naval Warfare,” U.S. Naval Institute *Proceedings* (July 2014), 18-23. On the competence of U.S. Naval Intelligence, see RADM Paul Becker USN, “What Are We Doing Right?” U.S. Naval Institute *Proceedings* (February 2015), 80-181. For a discussion of the role open-source literature can play in U.S. naval intelligence, see Peter M. Swartz with Michael Connell, *Understanding an Adversary’s Strategic and Operational Calculus: A Late Cold War Case Study with 21<sup>st</sup> Century Applicability*, COP-2013-U-005622-Final (Alexandria VA: CNA, August 2013)

<sup>118</sup> This construct was used to great positive effect in explaining the U.S. Navy’s “Maritime Strategy” of the 1980s. It also corresponds well to the three central phases of the current U.S. joint operational phasing model: “Deter” (Phase I), “Seize Initiative” (Phase II), and “Dominate” (Phase III). See John B. Hattendorf and Peter M. Swartz (eds.), *U.S. Naval Strategy in the 1980s: Selected Documents* (Newport RI: Naval War College Press, Newport Paper # 33, December 2008) and *Joint Publication 5-0: Joint Operation Planning*, II-42 – III-43. For how naval operations map

## Transition to war

During the transition to war, naval forces already forward in the potential combat theater(s) maneuver into advantageous positions and increase their combat readiness. Ready naval forces in or near U.S. ports will surge forward to join them, as may other U.S. forward forces from unaffected theaters. whose governments have joined in the military effort with the United States will surge forward as well, in consultation with their own governments, any multinational command structures that may be involved (e.g.: NATO), and U.S. naval commanders. Consultations to de-conflict Rules of Engagement (ROE) will be intense. Forward Intelligence, Surveillance and Reconnaissance (ISR) operations – especially in the affected theater -- will intensify, including forward re-positioning of land-based Navy maritime patrol aircraft.

U.S. Navy Military Sealift Command maritime prepositioning and strategic sealift ships in support of U.S. Marine Corps, Army and Air Force forward deployments would also move toward the affected theater. Navy demands on U.S. Air Force satellite, strategic airlift, and tanker aircraft support are bound to increase, as well as inter-service co-ordination on anti-air warfare and missile defense.

## Seize the initiative

To seize the initiative, U.S. naval forces – in conjunction with other joint and allied forces -- will strive to establish sea control as quickly as possible, seeking to identify and neutralize or destroy enemy aircraft, surface ships, submarines and land-based anti-access/area denial (A2/AD) systems – at the direction of higher U.S. political and military authority, within any constraints that those authorities might set, using kinetic and non-kinetic means.<sup>119</sup> Naval electronic warfare systems will play a vital enabling role during this phase. Joint tactics and systems

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to contemporary joint U.S. military phases, see *Naval Doctrine Publication 1: Naval Warfare* (NDP 1), 49-57

<sup>119</sup> For a comprehensive discussion of anti-access warfare operations and ways to overcome them, see CAPT Samuel Tangredi USN (Ret), *Anti-Access Warfare: Countering A2/AD Strategies* (Annapolis MD: Naval Institute Press, 2013)

developed to implement the Air-Sea Battle concept – especially in conjunction with the U.S. Air Force -- will be used during this phase as necessary.<sup>120</sup>

Anti-ballistic missile ships will maneuver into optimum intercept position and seek to destroy any incoming hostile missiles. Surge forces will continue to flow into the theater, bolstering the forces already present and engaged in combat. Should circumstances so dictate, a blockade against enemy ports and shipping may be instituted. Information dominance operations—including cyber operations -- will play an important role.

## Carry the fight to the enemy

In carrying the fight to the enemy, U.S. naval forces—under joint or combined direction and alongside other U.S. services and the forces of allied nations – will seek to carry out the ultimate neutralization and destruction of enemy forces in all domains – on land, at sea, in the air, and in space and cyberspace – so as to achieve the goals of the war as set by the President and political allied leaders. Sea control operations will continue as necessary. U.S. naval forces will assist in the success of the ground campaign primarily through powerful power projection operations, including carrier air strikes, surface combatant and submarine missile strikes, offshore naval gunfire, and landings of potent amphibious and special operations ground forces. If these operations are successful, all hostile forces will be defeated and war termination will be achieved on terms favorable to the United States and its allies.

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<sup>120</sup> The Air-Sea Battle concept has been the subject of enormous public discussion, much of it uninformed and inaccurate. Authoritative public statements include Terry S. Morris, Martha VanDriel, Bill Dries, Jason C. Perdew, Richard H. Schulz, and Kristen E. Jacobsen, “Securing Operational Access: Evolving the Air-Sea Battle Concept,” *The National Interest* (March-April 2015); and (U.S. Department of Defense) Air-Sea Battle Office, *Air-Sea Battle: Service Collaboration to Address Anti-Access & Area Denial Challenges* (Washington DC: May 2013). For a recent debate on some of the issues involved, see Col T.X. Hammes USMC (Ret), “Offshore Control vs. AirSea Battle: Who Wins?” (*National Interest* website, August 21, 2013) and previous articles by Col Hammes and Elbridge Colby cited therein. See CNO ADM Jonathan Greenert’s remarks in, “Charting the Navy’s Future in a Changing Maritime Domain” (Washington DC: Brookings Institution, November 4, 2014)

Note that the sequencing of these notional phases, while useful to deconstruct and explain the thinking behind U.S. naval combat operations, is not etched in stone. In some cases, they might even need to be executed simultaneously.

## Post-combat

When war is terminated, U.S. naval forces typically are reduced in strength and return to some variant of their pre-war peacetime posture and activities.<sup>121</sup> But this seldom happens cleanly and without unanticipated significant post-war follow-on operations. In short, “when it’s over, it’s not over.”<sup>122</sup> It can be anticipated that following any future combat operations, the same phenomenon will hold, and that the Navy will have to be ready to flex in unanticipated ways before regaining any semblance of a peacetime posture.<sup>123</sup> The Navy’s recently

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<sup>121</sup> For example, following World War II, the great forward fleets that had helped defeat Germany, Italy and Japan were called home, and re-constituted in American ports and waters as (greatly reduced) surge fleets akin to the Navy’s pre-war deployment posture. Small forward stations were kept on in the Mediterranean, Northern Europe, and Northeast Asia, akin to the pre-war U.S. Asiatic Fleet and Squadron 40-T. Following the Vietnam War, the Navy stripped the 7<sup>th</sup> Fleet of much of its wartime strength, and rebalanced its global force again in favor of the Mediterranean and North Atlantic, as had been the case before the Vietnam War.

<sup>122</sup> Examples abound: Immediately following the American Civil War, in 1865, U.S. naval combat forces had to immediately but briefly deploy off Texas in the face of the Imperial French attempt to sustain the Emperor Maximilian on his Mexican throne against the wishes of the vast majority of the Mexican people. No sooner was the Spanish-American War ended in 1898—and the Spanish Philippines ceded to the United States -- than the Navy was directed to support the U.S. Army in counter-insurgency operations quashing the Philippine Insurrection. Following the end of World War I, U.S. Navy commanders found themselves conducting operations in the Adriatic in support of the newly-constituted Yugoslav government; in the Eastern Mediterranean and the Black Sea as the Russian and Turkish revolutions and the Greco-Turkish War unfolded; and in Murmansk and Vladivostok in support of short American interventions in the Russian Civil War. Following Japan’s surrender and the ending of hostilities after World War II, the U.S. Navy was directed to use its warships to repatriate thousands of U.S. and allied prisoners of war; to bring home millions of forward U.S. Army troops; to repatriate thousands of Japanese troops from all over Asia and the Pacific (and German and Italian prisoners from the United States); to transport hundreds of thousands of Nationalist Chinese troops to North China to fight the Communist Chinese; and to provide naval combat support for two divisions of U.S. Marines assigned ashore in North China. U.S. military withdrawal from Vietnam in 1973 was followed two years later by operations to evacuate U.S. embassy personnel and others from South Vietnam and Cambodia in 1975.

<sup>123</sup> The current U.S. joint operational phasing construct recognizes the existence of post-combat phases as well, including a “Stabilize” (Phase IV) and “Enable Civil Authority” (Phase V), but the discussion is informed largely by the American experience in ground warfare and counter-

organized Navy Expeditionary Warfare Forces – adept at riverine, coastal and harbor patrol; civil affairs; construction; psychological operations; and related skills -- should prove useful in this phase.

## Future combat: Why and where

The U.S. Navy is prepared to apply these ways and means globally, wherever tasked by the President, under joint or combined operational command, in furtherance of United Nations resolutions and/or U.S. defense commitments to its allies and partners, as well as in defense of its own national interests.<sup>124</sup> But in particular, the Navy is poised to help defeat any North Korean aggression on South Korea; to ensure that the Strait of Hormuz remains open to commerce, especially oil shipments, in the face of potential hostile Iranian actions; and to defend its forces and allied and partner nations from North Korean or Iranian ballistic missile attack.<sup>125</sup> Should the President so direct, in accordance with the U.S. Taiwan Relations Act (TRA) of 1979, the Navy must also be able to provide him with options to help resist should China attempt to use force to take over Taiwan.<sup>126</sup>

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insurgency during the past decade, and not by many of the types of post-combat naval operations cited above. See *Joint Publication 5-0: Joint Operation Planning*, III-43-III-44.

<sup>124</sup> For an argument that the United States is actually threatened by very little, see Christopher Preble and John Mueller (eds.), *A Dangerous World? Threat Perception and National Security* (Washington DC: Cato Institute, 2014).

<sup>125</sup> On potential combat operations in the Gulf, see Daniel Whiteneck, "Conducting Naval Operations in the Arabian Gulf: An Essential Mission Capability," *Information Dissemination* blog (January 7, 2015). For recent papers analyzing the North Korean and Iranian threats, see Ken E. Gause, *North Korean Calculus in the Maritime Environment: Covert Versus Overt Provocations* COP-2013-U-005210-Final (Alexandria VA: CNA, July 16, 2013); *Military and Security Developments Involving the Democratic People's Republic of Korea 2012: A Report to Congress* (Washington DC: Office of the Secretary of Defense, 2013); Michael Connell, *Iranian Operational Decision Making*, COP-2013-U-00529-1-Final (Alexandria VA: CNA, July 12, 2013); Christopher Harmer, *Iranian Naval and Maritime Strategy*, Middle East Security Report 12 (Washington DC: Institute for the Study of War, June 2013); and Michael Connell, "Iran's Power at Sea: What You Need to Know about Iran's Navy," (Washington DC: U.S. Institute of Peace, *Real Clear World*, March 28, 2013)

<sup>126</sup> On interpreting the Taiwan Relations Act, see Shirley A. Kan, *China/Taiwan: Evolution of the 'One China' Policy - Key Statements from Washington, Beijing, and Taipei*, RL 30341

The Navy also must plan to participate in operations against terrorists hostile to the United States and its friends and allies, – state-supported and non-state actors – and to conduct armed Non-Combatant Evacuations (NEOs) and counter-piracy operations.

These contingencies differ from those of the Cold War and prior decades, and may well differ from those of the future. The inherent range of capabilities, flexibility, mobility and scalability of U.S. naval forces enable them to adapt to changing national requirements as they evolve.

The Navy has no particular desire to participate in war, and expends a great deal of effort in engagement, deterrence, crisis response, and other activities designed to reduce the likelihood of war. But should the President decide the country must go to war, the U.S. Navy has a responsibility to be ready – a responsibility it takes most seriously.

The political leaders of the United States do not hunger for war. Neither do most men and women of the U.S. Navy – officers and enlisted. What they do hunger for is a world at peace, with increasing political freedom, economic prosperity, and social stability for all. They are grateful that they have been joined in this quest for decades by the nations and navies of their allies and partners, in Europe, the Americas and the Indo-Pacific. They hope this partnership at sea will continue, even during the inevitable stresses of war.

Since the end of the Cold War, The U.S. Navy's combat capabilities have been honed in battle. Recent significant combat operations have included the ongoing Operations Enduring Freedom against Al Qaeda and the Taliban in Afghanistan (since 2001); Iraqi Freedom and New Dawn against the Saddam Hussein regime and insurgents in Iraq (2003-11); Operation Odyssey Dawn against the Gaddafi

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(Washington DC: Congressional Research Service (CRS), August 26, 2013 and subsequent editions). On U.S.-Taiwan relations, see Shirley A. Kan and Wayne M. Morrison, *U.S.-Taiwan Relationship: Overview of Policy Issues*, R 41952 (Washington DC: Congressional Research Service (CRS), August 21, 2013). For views on how the U.S. might combat China at sea, should the situation arise, see CAPT Jeffrey E. Kline USN (Ret) and CAPT Wayne P. Hughes Jr. USN (Ret), "Between Peace and the Air-Sea Battle: A War at Sea Strategy," *Naval War College Review* 65 (Autumn 2012), 34-40. See also the notes to the section on "blockade" above.



regime's attacks on its own people in Libya (2011); participation in the follow-on NATO operation Unified Protector (Mar-Oct 2011); and Operation Inherent Resolve against the Islamic State of Iraq and the Levant (ISIL) (since 2014). In all of these instances, the U.S. Navy has fought alongside its sister U.S. services under joint command, and alongside coalition forces with which it had previously closely engaged and trained. Should that coalition fray and should those forces dissipate, both America and the international order that most nations depend on for their security and prosperity will be the loser.

# More on the Means: U.S. Naval Forces<sup>127</sup>

## Ship numbers

The U.S. Navy fleet includes ships assigned to and not assigned to the Ship Battle Force, both civilian and military-manned. The number of ships in the Ship Battle Force is often used in discussing the size and composition of the fleet, and in comparing it to foreign fleets and those of past U.S. Navy eras. The Ship Battle Force, however, represents only a portion of U.S. naval power.<sup>128</sup> In November 2014, the Ship Battle Force stood at some 289 ships, including 10 aircraft carriers, 94 surface combatants, 73 submarines, 31 amphibious warfare ships, 8 mine warfare ships, 30 civilian-manned combat logistics ships, 26 fleet support ships, 3 auxiliary support ships, 10 combatant craft, and 4 Naval Reserve Force frigates.<sup>129</sup>

The number of Battle Force ships has been greatly reduced from Cold War force levels, although the capabilities of the individual warships have been markedly improved.<sup>130</sup>

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<sup>127</sup> The basic unofficial but comprehensive reference on the composition of the U.S. Navy is Norman Polmar, *Ships and Aircraft of the U.S. Fleet*, 19<sup>th</sup> Edition (Annapolis MD: Naval Institute Press, 2013).

<sup>128</sup> The U.S. Navy modified its battle force counting rules slightly in March 2014, making comparisons of fleet size before and after that date somewhat difficult (under the new rules, the future Battle Force will be larger by 5-10 ships. See SECNAVINST 5030.8B of 7 March 2014, "General Guidance for the Classification of Naval Vessels and Battle Force Ship Counting Procedures," (Washington DC: Office of the Secretary of the Navy, posted on 26 March 2014)

<sup>129</sup> On any given day, the size of the U.S. Navy's Ship Battle Forces can be found on the website of the Naval Vessel Register (NVR), published by the U.S. Navy's Naval Sea Systems Command.

<sup>130</sup> For an analysis of the negative implications of the decline in U.S. Navy ship numbers, see Seth Cropsey, *Mayday: The Decline of American Naval Supremacy* (New York: Overlook: 2013).

U.S. Navy ships not assigned to the Ship Battle Force include dozens of civilian-manned Military Sealift Command ships for service support, special missions, sealift, and afloat forward prepositioning of military equipment.

The Navy forms only one part, however, of the U.S. “National Fleet,” which also includes some 90 or so U.S. Coast Guard cutters, as well as ships in the U.S. Maritime Administration’s National Defense Reserve Fleet (NDRF).<sup>131</sup>

The U.S. Navy also comprises more than 3700 manned aircraft, with capabilities across all the Navy’s warfare areas. These aircraft include F/A-18 sea-based strike fighters, a large number of various types of helicopters, land-based P-3C and new P-8A maritime patrol aircraft, and other aircraft types. Recently, a variety of new types of unmanned aircraft have also been introduced into the fleet, including the X-47B Unmanned Aircraft demonstrator.<sup>132</sup>

## Aggregation and dis-aggregation

Many types of U.S. Navy warships routinely combine to form task forces comprised of more than one ship and more than one ship type, the better to achieve synergies necessary to conduct combat operations forward at sea. Should combat operations not occur, those task forces can disaggregate, to enable joint force commanders to conduct peacetime forward presence operations in more than one place at a time, albeit with reduced combat capability.

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For an analysis of the ameliorating effects of the improvement in individual ship capabilities, see Robert Work, *The Challenge of Maritime Transformation: Is Bigger Better?* (Washington DC: Center for Strategic and Budgetary Assessments, 2002)

<sup>131</sup> For a discussion of the National Fleet concept, and further references, see Bryan Clark, *Commanding the Seas: A Plan to Reinvalidate U.S. Navy Surface Warfare* (Washington DC: Center for Strategic and Budgetary Assessments (CSBA), November 2014), 39.

<sup>132</sup> The Navy deployed the RQ-2A *Pioneer*, its first modern unmanned aircraft, for reconnaissance and surveillance operation in the 1980s.

## Numbered fleets

Numbered fleets exist in the Eastern Pacific (3<sup>rd</sup> Fleet); Latin American waters (4<sup>th</sup> Fleet); the Arabian and Red Seas and the Gulf (5<sup>th</sup> Fleet); European and African waters (6<sup>th</sup> Fleet); and the Western Pacific and Indian Oceans (7<sup>th</sup> Fleet). The commander of the U.S. 10<sup>th</sup> Fleet conducts global cyber operations. Geographic numbered fleet commanders command naval forces in peacetime, crises and war as part of a joint regional command structure, utilizing Maritime Operations Centers (MOCs), and responsive to geographical combatant commanders.<sup>133</sup> Fleet units are allocated to the numbered fleet commanders by various management mechanisms in the Pentagon, at the direction of the Secretary of Defense and with the advice of the Joint Chiefs of Staff and the joint combatant commanders.

## Carrier strike groups

Carrier Strike Groups (CSGs) typically consist of a nuclear-powered aircraft carrier (CVN), a carrier air wing (CVW), a guided missile cruiser (CG), and three or four guided missile destroyers (DDG).<sup>134</sup> The air wing includes squadrons of

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<sup>133</sup> For an example of how this U.S. naval command structure functions in wartime, see RADM James G. Foggo III USN and LT Michael Beer USN, "The New Operational Paradigm: Operation *Odyssey Dawn* and the Maritime Operations Center," *Joint Forces Quarterly*, 3<sup>rd</sup> qtr 2013, 91-93; and RDML James G. Foggo USN, LT Michael Beer USN, and CDR Patrick Moynihan USN, "Operating Forward at the Ready: The 6<sup>F</sup> MOC in Action during Operation *Odyssey Dawn*," *MOC Warfighter*, Issue #1 (April 2013). For a history of the development of the MOC concept, see CAPT William Lawler USN and CAPT Jonathan Will USN (Ret), "Moving Forward: Evolution of the Maritime Operations Center," *MOC Warfighter*, Issue #1 (April 2013). See also OPNAV Instruction 3500.42 Maritime Operations Center Standardization (Washington DC: Office of the Chief of Naval Operations: 16 December 2014)

<sup>134</sup> For an short useful summary analysis of past Carrier Strike Group (CSG) operations, see Christine H. Fox, *Carrier Operations: Looking Toward the Future—Learning from the Past*, D0020669.A1/Final (Alexandria VA: CNA, 27 May 2009). For differing views on the future efficacy of the Carrier Strike Group (CSG) and its centerpiece, the nuclear-powered aircraft carrier, see VADM David H. Buss USN, RADM William F. Moran USN, and RADM Thomas J. Moore USN, "Why America Still Needs Aircraft Carriers," (posted on *Foreign Policy*, April 26, 2013); Scott Truver, "Why America Needs Aircraft Carriers" (posted on *Breaking Defense*, 2 October 2013); and Col T.X. Hammes USMC (Ret), "Beyond Carriers: Rapid Technological Change Sinks the Case for Big, Costly Platforms," *Armed Forces Journal* (August 2013).

strike fighter, electronic warfare, airborne early warning and logistics airplanes, as well as anti-submarine, anti-surface, and mine warfare helicopters.

## Amphibious forces

Amphibious Ready Groups and Marine Expeditionary Units (ARG/MEUs) typically consist of three U.S. Navy amphibious warships in the ARG (an amphibious assault ship (LHD), an amphibious transport dock (LPD), and a landing ship dock (LSD)); and about 2200 Marines in the MEU, including command, ground combat, air and logistics elements, armed with combat airplanes, helicopters, tanks, artillery and small arms.

## Surface forces

Surface combatants (cruisers and destroyers) can also be aggregated as **Surface Action Groups** (SAGs). CSGs, ARG/MEUs and SAGs work up off the East and West Coasts of the United States to acquire the capability of operating as cohesive combat units. Then they deploy forward to joint theaters of operations where they are often disaggregated, but retain the capability to coalesce again if required to do so.<sup>135</sup>

## Command and control constructs

When CSGs coalesce, they can simultaneously conduct combat strike, AAW, ASUW, ASW, EW and other operations using a command and control construct called the Composite Warfare Concept (CWC).<sup>136</sup> When ARG/MEUs coalesce,

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<sup>135</sup> For the most recent U.S. Navy policy on the composition and capabilities of CSGs, ARG/MEUs, ESGs and SAGs, see OPNAVINST 3501.316B “Policy of Baseline Composition and Basic Mission Capabilities of Major Afloat Navy and Naval Groups” (Washington DC: Office of the Chief of Naval Operations, Oct 21, 2010).

<sup>136</sup> For the Composite Warfare Commander concept, see *Joint Publication 3-32: Command and Control for Joint Maritime Operations* (Washington DC: Joint Chiefs of Staff, 07 August 2013)

they conduct combat and other amphibious operations using a different command and control construct.<sup>137</sup>

## Deployments

In calendar year 2013, the Navy worked up and deployed five CSGs and three ARG/MEUs to the Western Pacific, Arabian Gulf, North Arabian Sea, and Mediterranean Sea.<sup>138</sup> For most of the year, the Navy kept two or three of those CSGs deployed forward, and one or two ARG/MEUs. The calendar year 2013 deployment pattern had involved an additional CVBG and an additional ARG/MEU.

## Allied integration

Since 1995, U.S. Navy CSGs occasionally have included allied surface combatants, which have worked up and deployed as integral units of the CSG. Canada, Spain, Argentina, the United Kingdom, Germany and Australia have each provided surface combatants to CSGs at various times. In the spring and summer of 2013, the German frigate *Hamburg* (F220) fully integrated and deployed with the USS *Dwight D. Eisenhower* (CVN69) carrier strike group, primarily providing important air defense capabilities.<sup>139</sup>

## Submarines

Submarines typically work up and deploy forward alone, but nuclear-powered attack and cruise missile submarines (SSNs and SSGNs) can operate to

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<sup>137</sup> For U.S. doctrine on amphibious operations, including command and control, see *Joint Publication 3-02: Amphibious Operations* (Washington DC: Joint Chiefs of Staff, 18 July 2014).

<sup>138</sup> *Naval Aviation News* 96 (Summer 2014) 26, 32-33.

<sup>139</sup> See LT. Timothy Gorman, "Hamburg First German Ship to Deploy in U.S. Carrier Strike Group," *Navy News Service*: Story Number NNS130403-06 (April 3, 2013)

complement or supplement CSGs or SAGs.<sup>140</sup> Some destroyers deploy forward alone as well.

## Maritime patrol and surveillance aircraft

The Navy also deploys rotating detachments of its land-based Maritime Patrol and Surveillance Aircraft squadrons (VP) forward. In 2013, detachments rotated through airfields in Italy, Spain, Djibouti, Qatar, Bahrain, Japan, El Salvador, and elsewhere.<sup>141</sup>

## Platform and force package issues

The forces and force packages just discussed are the product of a considered U.S. Navy predilection for building large, robust, multi-capable ships and deploying them forward in even larger and more robust force packages.<sup>142</sup> Several critics, however, have questioned this focus on “big ships” and instead have advocated “flotilla” concepts of forward-deployed warships that might prove –in varying degrees – lighter, faster, cheaper, more expendable, and less vulnerable – with their lethal power distributed among many very small ships rather than a small number of large, robust vessels.<sup>143</sup>

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<sup>140</sup> On SSGN forward operations and logistic support, see “*Trident* Support: The Guided Missile Submarine Fleet,” *The Navy Supply Corps Newsletter* (July/August 2013), 7-8.

<sup>141</sup> “Major Land-Based Deployments,” *Naval Aviation News* 96 (Summer 2014), 28-29.

<sup>142</sup> For a defense of the traditional approach, see CDR Steve “Lazarus” Wills USN (Ret), “Naval Supremacy Cannot be ‘piggybacked’ on Small Ships,” posted on *Information Dissemination* blog (September 30, 2013).

<sup>143</sup> For arguments favoring a change to a “flotilla” approach, see the September 2013 issue of the U.S. Naval Institute *Proceedings*; “and CAPT Jeffrey E. Kline USN (Ret) and CAPT Wayne P. Hughes, Jr. USN (Ret), “Between Peace and the Air-Sea Battle,” *Naval War College Review* 65 (Autumn 2012) 36-40. See also CAPT Wayne P. Hughes, Jr., USN (Ret), “A Business Strategy for Shipbuilders,” *Seapower* (Nov 2014), 6-7.

## Ongoing and anticipated introduction of new platforms within the next decade or less<sup>144</sup>

- Beginning to replace the Ohio-class Trident strategic nuclear SSBN force<sup>145</sup>
- F-35 Joint Strike fighter “Lightning II” variants: (F-35B US Marine Corps LHD- and shore-based short takeoff and landing (STOL) variant; and F-35C U.S. Navy and U.S. Marine Corps carrier-based variant)<sup>146</sup>
- EA-18G “Growler” electronic warfare aircraft
- E-2D Advanced “Hawkeye” early warning aircraft<sup>147</sup>

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<sup>144</sup> For the U.S. Navy’s most recent detailed annual explanations to the U.S. Congress of its current status and near-term plans, see *U.S. Navy Program Guide 2015* (Washington DC: Department of the Navy, 2015); and *Highlights of the Department of the Navy FY 2016 Budget* (Washington DC: Department of the Navy Office of Budget, 2015). For an analysis of those plans, and much else, see Ronald O’Rourke, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, 7-5700 (Washington DC: Congressional Research Service (CRS), August 1, 2014 and subsequent editions). For a brief update of the Navy’s goals, see Chief of Naval Operations Admiral Jonathan Greenert USN, *CNO’s Navigation Plan, 2015-2019* (Washington DC: 2014). For the Navy’s current longer-range vision, see Deputy Chief of Naval Operations (Integration of Capabilities and Resources) (N8), *Report to Congress on the Annual Long-Range Plan for Construction of Naval Vessels for FY 2015* (Washington DC: Office of the Chief of Naval Operations: June 2014). For an alternative analysis of the plan, see Eric J. Labs, *An Analysis of the Navy’s Fiscal Year 2015 Shipbuilding Plan* (Washington DC: Congressional Budget Office, December 2014). For current Navy interest in future technologies, see CNO ADM Jonathan Greenert USN, “Remarks at the Naval Future Force Science and Technology Expo,” (Washington DC: office of the Chief of Naval Operations, 4 February 2015); and *Naval Science and Technology Strategy* (4<sup>th</sup> edition), (Arlington VA: Office of Naval Research, 2015).

<sup>145</sup> On plans to replace the U.S. Navy SSBN force, see RADM Richard Breckenridge USN, “A History of Sea-Based Strategic Deterrence Optimization, Platform Versatility, Cost Efficiency,” (posted on *Navy Live Blog*, 26 August 2013); and Ronald O’Rourke, *Navy Ohio Replacement (SSBN(X) Ballistic Missile Submarine Program: Background and Issues for Congress* RL 33640 (Washington DC: Library of Congress Congressional Research Service (CRS), July 31, 2014 and subsequent editions). See also Eric j. Labs, “Finding Funding for the New boomer,” U.S. Naval institute proceedings (February 2015), 63-

<sup>146</sup> For the status of the F-35C in November 2014, see Commander, Naval Air Forces Public Affairs, “F-35C Completes Initial Sea Trials aboard Aircraft Carrier,” *Navy News Service* #NNS141117-13 (November 17, 2014). The Navy is just beginning to examine the possibilities of a “sixth-generation” tactical aircraft, to follow the F-35 and replace the F/A-18. See Aaron Mehta, “Strategy to Acquire Sixth-Gen Fighter Set,” *Navy Times* (February 16, 2015), 18.

<sup>147</sup> On the E-2D, see Sidney J. Freedberg, “E-2D Hits IOC; Navy Hawkeye gets Larger, Lethal Role,” *Breaking Defense* (17 October 2014)



- P-8A “Poseidon” land-based maritime patrol and surveillance aircraft<sup>148</sup>
- CVN-78 Ford-class carriers<sup>149</sup>
- DDG-1000 Zumwalt-class destroyers<sup>150</sup>
- Unmanned systems<sup>151</sup>
  - Airborne
  - Surface
  - Sub-surface<sup>152</sup>
- Independence- and Freedom-class Littoral Combat Ship (LCS) seaframes, with mine countermeasures, ASW, ASUW modules<sup>153</sup>
- Spearhead-class Joint High-Speed Vessels (JHSV)<sup>154</sup>
- New LX(R) amphibious ships<sup>155</sup>
- Mobile Landing Platforms (MLP) and Afloat Forward Staging Bases (AFSB)<sup>156</sup>

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<sup>148</sup> See “Poseidon’s First Adventure,” *Seapower* (May/June 2014), 40-42.

<sup>149</sup> For analyses, see CAPT (Ret) J. Talbot Manvel, Jr. and David Perin, “Christened by Champagne, Challenged by Cost,” U.S. Naval Institute *Proceedings* CXL (May 2014), 42-47; and Ronald O’Rourke, *Navy Ford (CVN-78) Class Aircraft Carrier Program: Background and Issues for Congress*, RS20643 (Washington DC: Congressional Research Service (CRS), September 16, 2014 and subsequent editions).

<sup>150</sup> Ronald O’Rourke, *Navy DDG-51 and DDG-1000 Destroyer Programs: Background and Issues for Congress*, RL 32109 (Washington DC: Library of Congress Congressional Research Service (CRS), July 31, 2014 and subsequent editions). Also Richard R. Burgess, “Big Ship, Small complement,” *Seapower* LVII (December 2014), 30-33.

<sup>151</sup> On unmanned vehicles, see CAPT George Galdorisi USN (Ret), “Keeping Humans in the Loop,” U.S. Naval Institute *Proceedings* (February 2015), 36-41).

<sup>152</sup> See MC2 Justin Johndro USN, “Development Squadron 5 Receives First Unmanned Undersea Vehicle,” *Navy News Service* NNS140828-17 (August 29, 2014).

<sup>153</sup> For an analysis, see Ronald O’Rourke, *Navy Littoral Combat ship (LCS) Program: Background and Issues for Congress*, RL33741 (Washington DC: Congressional Research Service (CRS), August 4, 2014 and subsequent editions). See also Gregory V. Cox, “Lessons Learned from the LCS,” U.S. Naval Institute *Proceedings* (January 2015), 36-40. For an argument that the US Navy requires a dedicated mine countermeasures ship, see Peter von Bleichart, “It’s time for the MCM (X),” U.S. Naval Institute *Proceedings* (February 2015), 1. Note that the Navy has recently announced that it will re-designate its Littoral Combat Ships (LCS) as Frigates (FF). See Leigh Munsil, “Mabus: LCS to be Re-designated a Frigate,” *Politico* (15 January 2015).

<sup>154</sup> For a discussion of the JHSV, see Daniel P. Taylor, “New Ship on the Block,” *Seapower* 56 (August 2013), 38-39

<sup>155</sup> Ronald O’Rourke, *Navy LX(R) Amphibious Ship Program: Program: Background and Issues for Congress*, R43543 (Washington DC: Library of Congress Congressional Research Service (CRS), October 22, 2014 and subsequent editions)

- Mark VI Patrol Boats
- Ship to Shore Connectors: The next generation landing craft<sup>157</sup>
- T-AO(X) fleet oilers and other combat logistics ships<sup>158</sup>
- Carrier On-board Delivery aircraft<sup>159</sup>
- Laser weapons<sup>160</sup>
- Rail guns<sup>161</sup>
- Continued procurement of Virginia-class attack submarines and Arleigh Burke-class destroyers, and modernization of existing ships and aircraft<sup>162</sup>
- Small Surface Combatants (SSC), based on upgraded variants of the LCS<sup>163</sup>

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<sup>156</sup> On the MLP, see Gidget Fuentes, “Proof of Concept,” *Seapower* LVII (December 2014), 42-44.

<sup>157</sup> See Team Ships Public Affairs, “Fabrication Begins on the Navy’s First Ship to Shore Connector,” *Navy News Service* #NNS14117-14 (Nov 17, 2014); and Otto Kreisher, “Moving Ship to Shore,” *Seapower* (May/June 2014), 12-14.

<sup>158</sup> See Hunter Keeter, “Gas, Guns and Groceries,” *Seapower* (May/June 2014), 16-18; and Ronald O’Rourke, *Navy TAO(X) Oiler Shipbuilding Program: Background and Issues for Congress* R43546 (Washington DC: Library of Congress Congressional Research Service (CRS), August 1, 2014 and subsequent editions)

<sup>159</sup> See Richard Whittle, “Navy Decides to Buy V-22 Ospreys for Carrier Delivery,” *Breaking Defense* (January 13, 2015). See also Daniel Goure, “The Great COD Debate,” *U.S. Naval Institute Proceedings* (September 2014), 36-41.

<sup>160</sup> See Ronald O’Rourke, *Navy Shipboard Lasers for Surface, Air, and Missile Defense: Background and Issues for Congress* (Washington DC: Congressional Research Service (CRS): July 31, 2014 and subsequent editions). See also David Smalley, “Historic Leap: Navy Shipboard Laser Operates in Arabian Gulf,” *NNS141210-02, Navy News Service* (10 December 2014)

<sup>161</sup> On the rail gun, see Dan Goure, *U.S. Navy Pursuing its Own Offset Strategy led by the Rail Gun*, (Washington DC: Lexington Institute, February 9, 2015)

<sup>162</sup> See Ronald O’Rourke, *Virginia (SSN-774) Class Attack Submarine Procurement: Background and Issues for Congress* RL 32418 (Washington DC: Library of Congress Congressional Research Service (CRS), July 31, 2014 and subsequent editions); and Ronald O’Rourke, *Navy DDG-51 and DDG-1000 Destroyer Programs: Background and Issues for Congress*, RL 32109 (Washington DC: Library of Congress Congressional Research Service (CRS), July 31, 2014 and subsequent editions). For concern that the future submarine program is nowhere near robust enough, See Seth Cropsey, “A Naval Disaster in the Making: The Misbegotten Plan to Shrink the U.S. Submarine Fleet,” *The Weekly Standard* (Oct 6, 2014). For a study of U.S. Navy amphibious warfare ships and alternatives, see Maren Leed, *Amphibious Shipping Shortfalls: Risks and Opportunities to Bridge the Gap* (Washington DC: Center for Strategic and International Studies (CSIS), September 8, 2014)

<sup>163</sup> On the SSC, see “Statement by Secretary Hagel on the Littoral Combat ship” (Washington DC: Department of Defense, 11 Dec 2014).

## Funding

The U.S. Navy's budget has been robust, in both absolute and relative terms.<sup>164</sup> It could not have been otherwise, in order to deploy the ships, aircraft weapons systems and personnel enumerated and discussed above.

Due to U.S. government funding constraints imposed in 2011, however, the service had to temper its future plans. In September 2013, the Chief of Naval Operations Admiral John Greenert noted that the Navy's Fiscal Year (FY) 2013 budget reduction had been \$11 billion, causing cancellations of five ship forward deployments and a reduction in surge capacity by about two thirds.<sup>165</sup> In March 2014, he noted that his budget submission for FY 15 was \$31 billion dollars less than he had earlier anticipated asking for.<sup>166</sup> Nevertheless, the U.S. naval arsenal will remain formidable for the foreseeable future.

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<sup>164</sup> For recent scholarship on American defense spending, see Rebecca U. Thorpe, *The American Warfare State: The Domestic Politics of Military Spending* (Chicago: University of Chicago Press, 2014).

<sup>165</sup> See Jim Garamone, "Greenert Details Navy's Fiscal 2014 Budget Realities," (Washington DC: American Forces Press Service: September 5, 2013).

<sup>166</sup> Admiral Greenert described the U.S. Navy's budget submission for Fiscal Year (FY) 2015, as well as the Navy's situation following the budget uncertainty in FY 2013, the Bipartisan Budget Act of 2013 (BBA) and the National Defense Authorization Act (NDAA) for FY 2014 in *Statement of Admiral Jonathan Greenert, U.S. Navy, Chief of Naval Operations before the House Armed Services Committee, on FY 2015 Department of the Navy Posture, 12 March 2014* (Washington DC: Office of the Chief of Naval Information, 12 March 2014). He discussed the budget several months later in, "Charting the Navy's Future in a Changing Maritime Domain" (Washington DC: Brookings Institution, November 4, 2014). For subsequent Department of Defense views on the state of the U.S. defense budget, see Deputy Secretary of Defense Robert O. Work, "Remarks delivered at the CSIS Global Security Forum 2014," (Washington DC: Center for Strategic and International Studies (CSIS), November 12, 2014). For the concerns of several retired U.S. Navy admirals and two retired U.S. Marine Corps generals that the U.S. Navy is now underfunded and overextended, see "Letter from Flag/General Officers to Congress from 'NavyNow,'" *Information Dissemination* blog (November 12, 2014). A dispassionate analysis is in *Long-Term Implications of the 2015 Future Years Defense Program* (Washington DC: Congressional Budget Office, November 2014). See also *Growth in DoD's Budget from 2000 to 2014* (Washington DC: Congressional Budget Office, November 2014).

## Force design and balance

Given all that the U.S. Navy has to do in peacetime, crises and war, the nation and the Navy struggle with the issue of balance: Given finite resources and a changing global environment, what is the proper balance to be achieved among the Navy's various warfare tasks, platforms and systems? Where should emphasis be placed? Where can more risk be accepted? The Navy's programming and budgeting processes – embedded in the larger Defense Department Planning, Programming, Budgeting and Execution (PPBE) system are the mechanism whereby the Navy Department seeks to achieve appropriate balance and trade-offs in its acquisition programs and deployment policies.<sup>167</sup>

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<sup>167</sup> For an argument that the U.S. Navy must reconsider its over-arching design strategy for new ships and aircraft-- or risk drastic reduction in both -- see CAPT (Ret) Arthur H. Barber III, "Rethinking the Future Fleet," U.S. Naval Institute *Proceedings* CXL (May 2014) 48-53.

## Conclusion

Again, to remind, this prodigious inventory of naval forces does not exist in a vacuum. It has been bought and deployed by the American government, on behalf of the American people, to ensure the country's economic prosperity, military security, and political freedom -- and that of its friends and allies -- through maintenance and defense of a mutually beneficial global system.

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