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SUBCOMMITTEE ON OCEANS,  
ATMOSPHERE, FISHERIES, AND COAST GUARD

**STATEMENT OF**  
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**BEFORE THE**  
**SENATE COMMERCE, SCIENCE, AND TRANSPORTATION**  
**SUBCOMMITTEE ON OCEANS, ATMOSPHERE, FISHERIES, AND COAST GUARD**  
**ON**  
**DEFENDING U.S. ECONOMIC INTERESTS IN THE CHANGING ARCTIC**  
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Mr. Chairman, members of the subcommittee and distinguished colleagues, I want to thank you for the opportunity to address you today regarding the Navy's interests, capabilities, and responsibilities with respect to the changing Arctic. My name is Rear Admiral David Titley and I am the Director of Navy's Oceanography, Space, and Maritime Domain Awareness programs, Oceanographer of the Navy and the Director of Navy's Task Force Climate Change. The Chief of Naval Operations, Admiral Gary Roughead, established Task Force Climate Change in May of 2009 to address implications of climate change for national security and naval operations with a near-term focus on the Arctic. Today I am speaking about the Navy's strategic Arctic vision and Arctic Roadmap.

The U.S. is a maritime nation, and the Arctic is a maritime environment. The Navy is watching with great interest the changing environment in the Arctic. September 2007 saw a record low in sea ice extent and the declining trend has continued -- September 2010 was the third lowest extent on record and the overall trend has shown an 11.2 percent decline per decade in seasonal ice coverage since satellites were first used to measure the Arctic sea ice in 1979. Perhaps more significantly, estimates from the University of Washington's Applied Physics Lab show that the volume of sea ice continues to decrease dramatically. In September 2010, the ice volume was the lowest recorded at 78 percent below its 1979 maximum and 70 percent below the mean for the 1979-2009 period. Despite these changes to sea ice, the Arctic will remain ice covered in the winter through this century and will remain a very challenging operating environment. The changing Arctic has important national security implications for the Navy.

Strategic guidance on the Arctic is articulated in National Security Presidential Directive (NSPD) 66 / Homeland Security Presidential Directive (HSPD) 25, Arctic Region Policy.<sup>1</sup> NSPD-66 requires that naval forces be prepared to execute missions in the Arctic, including missile defense, strategic sealift, maritime presence and security, and freedom of navigation and overflight. The 2010 National Security Strategy (NSS) and the 2010 Quadrennial Defense Review (QDR) provide additional strategic guidance on the Arctic. The QDR identifies the Arctic as the region where the influence of climate change is most evident in shaping the operating environment and directs DoD to work with the Coast Guard and Department of Homeland Security to address gaps in Arctic communications, domain awareness, search and rescue, and environmental observation and forecasting capabilities.

The Navy's Maritime Strategy identifies that new shipping routes within the Arctic have the potential to reshape the global transportation system. For example, the Bering Strait has the potential to increase in strategic significance over the next few decades as the ice melts and the shipping season lengthens, and the private sector begins to ship goods across the Arctic rather than through the Panama Canal. The Office of the Secretary of Defense recently released an "Arctic Report to Congress" on Arctic operations that addresses strategic national security objectives, needed mission capabilities, an assessment of changing the Unified Command Plan (UCP), needed basing infrastructure, and the status of and need for icebreakers. This report states "the overarching strategic national security objective is a stable and secure region where U.S. national interests are safeguarded and the U.S. homeland is protected." This objective is consistent with a regional policy that reflects the relatively low level of threat in a region

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<sup>1</sup> Department of Defense, Office of the Undersecretary of Defense for Policy. "Report to Congress on Arctic Operations and the Northwest Passage." 19 May 2011.

bounded by nation states that have not only publicly committed to working within a common framework of international law and diplomatic engagement, but also demonstrated ability and commitment to doing so over the last fifty years.”

The potential impacts of a changing Arctic require adaptation efforts that are informed by the best possible science, and initiated at the right time and cost. The Arctic Report to Congress also states:

“Existing DoD posture in the region is adequate to meet near- to mid-term U.S. defense needs. DoD does not currently anticipate a need for the construction of a deep-draft port in Alaska between now and 2020. Given the long lead times for construction of major infrastructure in the region, DoD will periodically re-evaluate this assessment as the Combatant Commanders update their regional plans on a regular basis.

The United States needs assured Arctic access to support national interests in the Arctic. This access can be provided by a variety of proven capabilities, including submarines and aircraft, but only U.S.-flagged ice-capable ships provide visible U.S. sovereign maritime presence throughout the Arctic region. Significant uncertainty remains about the rate and extent of climate change in the Arctic and the pace at which human activity will increase. The challenge is to balance the risk of being late-to-need with the opportunity cost of making premature Arctic investments. Not only does early investment take resources from other pressing needs, but the capabilities would be later in their lifecycle when finally employed. Given the many competing demands on DoD’s resources in the current fiscal environment, the Department believes that further evaluation of the future

operating environment is required before entertaining significant investments in infrastructure or capabilities.”

The Navy is already conducting further evaluation, guided by its “Arctic Roadmap” that was released in November 2009. This Roadmap is a five-year plan that details specific action items related to assessing current readiness for Arctic operations, increasing operational experience through Arctic and sub-Arctic training exercises, increasing collaborative efforts with joint, interagency, and international stakeholders for operations and training, and improved environmental understanding. The Navy Arctic Strategic Objectives, released in May 2010, specify the objectives required to ensure the Arctic remains a stable and secure region where U.S. national and maritime interests are safeguarded and the homeland is protected.

In the summer of 2010, the Navy participated in the national security portion of Canada’s largest annual Arctic exercise, Operation NANOOK/NATSIQ, which provided our sailors valuable operating experiencing in the region. In March 2011 the Navy conducted its biennial ice exercise ICEX organized by the Navy’s Arctic Submarine Lab, which allows the collection of valuable scientific data used by the Navy, federal government, and academic researchers to understand and better predict changing conditions in the region. The Navy has gathered experts at the Naval War College and other institutions to think through future scenarios, specifically focused on the Arctic region. The Navy is currently conducting a Capabilities Based Assessment for the Arctic to identify capabilities required for future operations in the region and possible capability gaps, shortfalls, and redundancies. Assessments such as these will inform Navy strategy, policy, and plans to guide future investments.

Furthermore, the Navy is actively leveraging interagency, international, and academic partnerships to ensure it has access to the best science and information and to avoid duplication of efforts. We are participating, in coordination with appropriate DoD offices and the Coast Guard, in many of the interagency efforts focused on the Arctic, including the Interagency Arctic Research Policy Committee chaired by the National Science Foundation, the National Ocean Council's Arctic Strategic Action Plan, and the Arctic Policy Group coordinated by the State Department. As an example, the Office of Naval Research has developed initiatives that will improve monitoring and prediction of critical environmental changes in the Arctic, including the marginal ice zone in which the Navy and Coast Guard may be required to operate. The President requested funding for these initiatives in his FY12 budgets. Finally, the Navy engages regularly with and has friendly relations with all Arctic nations.

International relations are enhanced immeasurably by the rule of law. This is especially true in an austere environment like the Arctic, where access by U.S. forces in times of need is more challenging. The Law of the Sea Convention provides that rule of law which would help our forces best protect US interests in the Arctic. However, our nation has still not acceded to this important treaty. As stated by the Chief of Naval Operations before Congress several months ago in his FY12 posture statement:

“The Law of the Sea Convention provides a regime with robust global mobility rules. I believe it essential that the United States become a full Party to the treaty. The Convention promotes our strategic goal of free access to and public order on the oceans under the rule of law. It also has strategic effects for global maritime partnerships and American maritime leadership and influence. Creating partnerships that are in the strategic interests of our nation must be based on relationships of mutual respect,

understanding, and trust. For the 160 nations who are parties to the Law of the Sea Convention, a basis for trust and mutual understanding is codified in that document. The treaty provides a solid foundation for the U.S. to assert its sovereign rights to the natural resources of the sea floor out to 200 nautical miles and on the extended continental shelf beyond 200 nautical miles, which in the Arctic Ocean is likely to extend at least 600 nautical miles north of Alaska. As a non-Party to the treaty, the U.S. undermines its ability to influence the future direction of the law of the sea. As the only permanent member of the UN Security Council outside the Convention, and one of the few nations still remaining outside one of the most widely subscribed international agreements, our non-Party status hinders our ability to lead in this important area and could, over time, reduce the United States' influence in shaping global maritime law and policy. The Law of the Sea Convention provides the norms our Sailors need to do their jobs around the world every day. It is in the best interest of our nation and our Navy to ratify the Law of the Sea Convention. We must demonstrate leadership and provide to the men and women who serve in our Navy the most solid legal footing possible to carry out the missions that our nation requires of them.”

In conclusion, I will borrow a quote from Dr. John Holdren, Assistant to the President for Science and Technology, who says, “We must avoid the unmanageable, and manage the unavoidable.” The Arctic is an ocean in the midst of rapid change, which is likely to change the nature of human maritime activity in that region. The Navy’s job is to maintain readiness to operate in every ocean as required. The Navy understands the challenges and opportunities that a changing Arctic environment presents to its missions. We are conducting the assessments necessary to inform future investments and are initiating adaptation activities in areas where we

have enough certainty with which to proceed. Thank you Mr. Chairman and I look forward to answering any questions the Subcommittee may have.