Strategy Research Project

U.S. Arctic Policy: Climate Change, UNCLOS and Strategic Opportunity

by

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U.S. ARCTIC POLICY: CLIMATE CHANGE, UNCLOS AND STRATEGIC OPPORTUNITY

by

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ABSTRACT

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The changing Arctic environment holds significant implications for U.S. national security interests. A measurable increase in average annual temperature in the Arctic region has resulted in icecap melting. As this trend continues, U.S. national interests in the Arctic will become increasingly important. The strategic implications of this environmental change include access to previously inaccessible natural resources. Additionally, this environmental change holds the possibility for the opening of previously un-navigable trade routes that could significantly reduce transit times and shipping costs for global maritime commerce. Finally, the changing Arctic environment is opening the region to increased levels of human activity which has revealed significant gaps in key national capabilities required to support U.S. interests there. This SRP examines U.S. Arctic policy and offers recommendations for achieving the U.S. desired strategic end-state for the Arctic Region.: a stable and secure Arctic where U.S. national interests are safeguarded and the U.S. homeland is protected.

U.S ARCTIC POLICY: CLIMATE CHANGE, UNCLOS, AND STRATEGIC OPPORTUNITY

A scientifically measurable increase in average annual temperature in the Arctic region has resulted in local environmental warming at a rate twice that of the rest of the planet. This change in temperature has caused the polar icecap to recede by a significant amount. During the summer months, Arctic ice has been melting at approximately 8 percent per decade.[1] In 2012, the polar icecap is 25 percent smaller than it was in 1978. Not only is Arctic ice diminishing, the thickness of the ice is also decreasing at a notable rate. Ice thinning has a cumulative effect because the thinner ice melts more quickly the following summer, further reducing the icecap. Snow-covered ice reflects the sun's rays and thus preserves the ice. But as Arctic ice coverage decreases, an increasing amount of the sun's energy is absorbed by the darker ocean, thereby warming the water. This process also contributes to warmer atmospheric and water temperatures which only melts more ice. Scientists claim that this warming trend could yield an ice-diminished Arctic summer within 30 years.[2] For the rest of this century, the Arctic will remain ice-covered to some extent during the winter months, and the amount of ice reduction will vary from year to year. Some degree of residual ice will remain during the summer months. The term "ice-diminished" refers to sea ice concentrations of up to 15% in a given area.[3]

An ice-diminished Arctic opens shorter maritime transportation routes while providing greater access to prime fishing areas, to large deposits of natural resources, and to increased tourism opportunities. All of these will have significant economic implications in the foreseeable future and will significantly increase human activity in the

region. This Arctic transformation has raised both latent and emerging sovereignty and security issues such as disputed national boundaries, rights to exploit or obligations to protect natural resources, and freedom of navigation through international shipping lanes. This SRP examines U.S. Arctic policy, identifies relevant capability gaps, and offers recommendations for achieving national strategic objectives in this evolving region.

U.S. Arctic Policy

In April 2011, President Obama signed the most recent revision of the Unified Command Plan (UCP), which includes significant changes in Department of Defense (DoD) Arctic region responsibilities. The 2006 version of the UCP assigned responsibility for the Arctic jointly among U.S. Pacific Command (USPACOM), U.S. Northern Command (USNORTHCOM), and U.S. European Command (USEUCOM). The current version now assigns this responsibility to USPACOM and USNORTHCOM. The Combatant Command boundaries were previously drawn simply along meridians of longitude; the updated boundaries now reflect a more geopolitical approach that better supports U.S. strategic interests within the region. Figures 1 and 2 depict this change in Combatant Command boundaries. Additionally, the UCP specifically designates USNORTHCOM as the joint advocate for Arctic capabilities which further signals recognition of how the changing Arctic climate is likely to affect U.S. national security interests and objectives over time.

Figure 1: 2006 UCP[4]

Figure 2: 2011 UCP[5]

U.S. strategic guidance for the Arctic region is found in the 2010 National Security Strategy (NSS) and National Security Presidential Directive 66/Homeland Security Presidential Directive 25, Arctic Region Policy (NSPD-66/HSPD-25). The NSS specifies Arctic interests as:

> The United States is an Arctic nation with broad and fundamental interests in the Arctic region where we seek to meet our national security needs, protect the environment, responsibly manage resources, account for indigenous communities, support scientific research, and strengthen international cooperation on a wide range of issues.[6]

NSPD-66/HSPD-25 lists the following U.S. Arctic policy objectives:

- Meet national security and homeland security needs relevant to the Arctic region;
- Protect the Arctic environment and conserve its biological resources;
- Ensure that natural resource management and economic development in the region are environmentally sustainable;
- Strengthen institutions for cooperation among the eight Arctic nations (the United States, Canada, Denmark, Finland, Iceland, Norway, the Russian Federation, and Sweden);
- Involve the Arctic's indigenous communities in decisions that affect them; and
- Enhance scientific monitoring and research into local, regional, and global environmental issues.[7]

The 2010 Quadrennial Defense Review (QDR) cites several Arctic capability shortfalls such as communications, domain awareness, search and rescue, and environmental observation. Additionally, the QDR identifies shortfalls in capabilities needed to support both current and future planning and operations. One way to address these shortfalls is to leverage multinational and interagency cooperation.[8] NSPD-66/HSPD-25 clearly identifies "freedom of the seas", regarding surface navigation and overflight in the Arctic region, as a top national priority. The directive also points out that both the Northwest Passage and Northern Sea Route include international straits.[9] The United States can assure future access to these straits as they become increasingly navigable by fulfilling relevant international obligations and responsibilities. An important first step in this direction is for the United States to ratify the United Nations Convention on the Law of the Sea (UNCLOS).[10]

UNCLOS and Implications for Sovereignty

Recent trends strongly indicate that human activity in the Arctic region will continue to increase for the foreseeable future. This raises certain national and global security concerns. UNCLOS represents the international consensus on rules governing the use of the planet's oceans. This treaty was developed between 1973 and 1982; it was implemented on 16 November 1994. It combined several treaties governing laws of the sea that were previously separate. So, UNCLOS is a comprehensive treaty that codifies international law for the vast global commons of the world's oceans, which make up nearly three-quarters of the earth's surface. Notably, UNCLOS is an internationally accepted — and therefore a legitimate — means of defining sovereignty over the world's oceans. It is particularly important in the Arctic, where several nations — including the United States — have conflicting claims. Articles within UNCLOS offer

a framework for a peaceful resolution of sovereignty disputes. UNCLOS clearly specifies state and international rights as they pertain to the world's oceans.

The United States is the only Arctic nation that has not ratified UNCLOS. As of August 2011, 162 sovereign States and the European Union have ratified or acceded to the UNCLOS treaty.[11] The fundamental purpose of UNCLOS is to provide a set of international rules that govern the use of the world's oceans. These rules are designed to protect the economic, environmental, and national security interests of coastal states while safeguarding marine habitats and clarifying sovereign rights to natural resources. The treaty clearly defines several important geographical terms. Some of these physical domains defined in UNCLOS are internal waters, territorial waters, archipelagic waters, international waters, exclusive economic zones, and continental shelves.

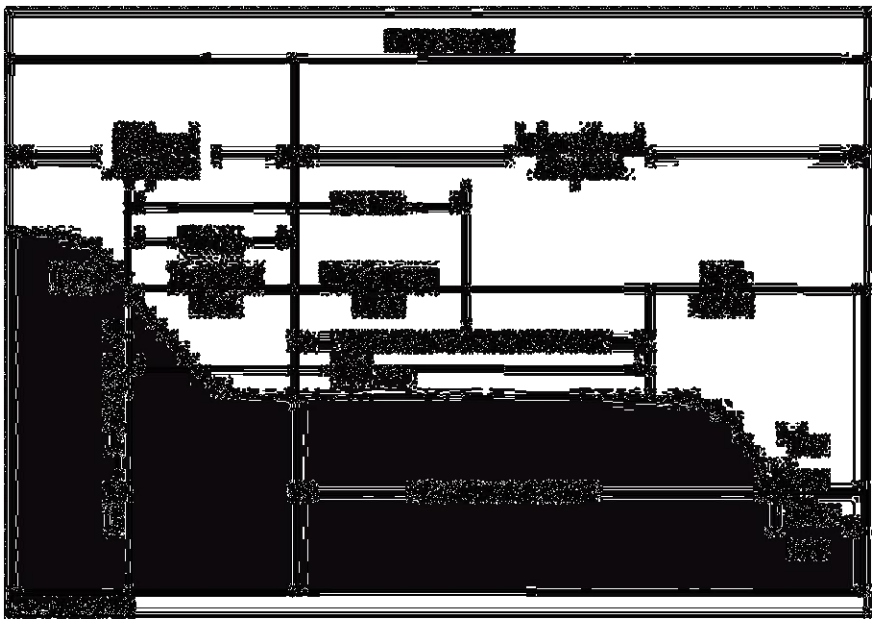


Figure 3: UNCLOS Physical Geography Legend[12]

Using these precise definitions, UNCLOS established an internationally recognized set of guidelines to prevent or resolve sovereign, economic, environmental and/or right of passage issues pertaining to the world's oceans. Regarding navigation,

UNCLOS defines territorial waters as the area from a state's coastal baseline out to 12 nautical miles. This area constitutes the sovereign territory of the costal state. However, within this area, foreign vessels maintain the Right of Innocent Passage under certain precise circumstances.[13] The Right of Innocent Passage does not require prior notification. It is extended to surface transit of any ship or submarine through territorial waters so long as their transit is not prejudicial to the peace, good order, or security of the coastal state.[14] The next demarcated area is called the Contiguous Zone, which includes territorial waters and extends out 24 nautical miles from the baseline. Beyond territorial waters, the Contiguous Zone constitutes international waters for the purpose of navigation; however the coastal state maintains the right to enforce customs and immigration laws in the Contiguous Zone.[15] Beyond 12 nautical miles from the baseline lie international waters where vessels are entitled to Freedom of the High Seas. In this capacity, foreign vessels (surface vessels and submerged submarines) maintain the Right of Transit Passage in their normal modes.

The Right of Transit Passage also applies to unconstrained transit of such vessels "in their normal modes through and over straits used for international navigation, and approaches to those straits".[16] UNCLOS also specifies how territorial boundaries of an archipelagic state are to be drawn and defines the Right of Archipelagic Sea Lanes Passage. Waters within an archipelago are considered sovereign internal waters. Nonetheless, ships, aircraft, and submerged submarines in their normal mode may transit through and over straits used for international navigation.[17] UNCLOS provides a legal basis for international vessels to legitimately transit international straits that lie within archipelagic sea lanes. In July 2011, during

testimony before the Department of Homeland Security, the Commandant of the U.S. Coast Guard, Admiral Robert Papp, recommended

> As a matter of policy and stewardship, we encourage the Senate to ratify the Law of the Sea Treaty. Law of the Sea has become the framework for governance in the Arctic. Every Arctic Nation except the United States is a party. As our responsibilities continue to increase in direct proportion to the Arctic's emerging waters, it is more vital than ever that the U.S. ratifies the Law of the Sea.[18]

The waters off Canada's northern coast between the Beaufort Sea and Baffin Bay are considered archipelagic waters by the U.S. and the European Union (EU). These waters include the Northwest Passge. Canada views these waters as strictly internal. Internal waters lie inland from the coastal baseline. The state maintains complete jurisdiction of internal waters. Foreign vessels transit internal waters only with the explicit consent of the sovereign nation that owns such waters.

UNCLOS and Implications for Access to Natural Resources

The U.S. Geological Survey released a report in 2008 that indicated approximately 13 percent of the world's untapped oil reserves reside in the Arctic region. One-third of these reserves lie inside the U.S. Exclusive Economic Zone (EEZ) off the northern slope of Alaska. The report also estimated that approximately 30 percent of the world's remaining natural gas reserves reside within the Arctic region.[19] In recent years, icecap melting, along with advances in technology, has rendered retrieval of natural resources in the Arctic both feasible and acceptable in terms of environmental risk.

In an effort conserve and responsibly exploit ocean and deep sea bed natural resources, UNCLOS defines an area called the Exclusive Economic Zone (EEZ). The EEZ extends out to 200 nautical miles from a state's coastal baseline. Within its EEZ, a

coastal state possesses sovereign rights to all natural resources from fishing to deep seabed resources. Additionally, a provision within Article 76 of UNCLOS allows a nation to claim exclusive seabed mineral rights up to 350 nautical miles from its coastal baseline if it can be proved the continental shelf extends beyond the standard 200-nautical mile EEZ. Extended EEZ claims must be approved by the Commission on the Limits of the Continental Shelf (CLCS) within 10 years of a state ratifying UNCLOS. The CLCS "consists of twenty-one technical experts who review a country's claims to ensure that the bathymetric and geological evidence submitted meets the convention's criteria."[20] This UNCLOS provision is particularly important for protecting U.S. claims in the Arctic. Among the five contiguous Arctic states, (United States, Canada, Russia, Denmark, Norway), the U.S. stands to gain tremendous mineral and oil extraction rights should the EEZ off the coast of Alaska be extended. The U.S. Government intends to continue to collect information required to support a claim that would extend the EEZ within the Arctic. However, as a non-member of UNCLOS, the U.S. is not eligible to submit a claim to the CLCS.[21] Representing the Council on Foreign Relations (CFR), Scott G. Borgerson argues the following:

> By not joining [UNCLOS], the United States is actually giving up sovereign rights—missing an opportunity for international recognition or a massive expansion of U.S. resources jurisdiction over as much as one million square kilometers of ocean, an area half the size of the Louisiana Purchase. Remaining outside the convention prevents the United States from participating in the process of overseeing the claims of other countries to the extended continental shelf and from formally making its own.[22]

As a non-member of UNCLOS, the U.S. "cannot fill its permanent seat on the International Seabed Authority (ISA) and is thus unable to exercise its special veto power over decisions on certain specified matters."[23] Ratifying UNCLOS allows the U.S.

to apply for licenses through the ISA, which under the Convention, manages claims to resources in the deep seabed.

Shell Oil is currently the leading U.S. industry in offshore resource development within Alaska's EEZ, which extends into the Chukchi Sea. In May 2011, Shell Oil submitted its plan for oil exploration to the Bureau of Ocean Energy Management Regulation and Enforcement (BOEMRE). Shell intends to begin exploratory drilling in the Chukchi Sea in 2012 using the Kulluk, a recently retrofitted mobile offshore drilling unit (MODU) specifically designed for offshore operations in the harsh Arctic environment.[24]

U.S. Arctic Sovereignty Disputes

UNCLOS is commonly referred to as the constitution of the sea. It offers an internationally recognized and legitimate framework to settle boundary and resource disputes between coastal nations. This is particularly important in the Arctic, where the United States has ongoing maritime boundary disagreements with both Russia and Canada. The United States and Canada have an unresolved boundary dispute in the Beaufort Sea, an area believed to be rich in oil, natural gas, and other resources. This dispute originates from the 1825 treaty between Britain and Russia that established the boundary between Alaska and the Yukon. The Treaty adequately addressed land boundaries; however it did not determine maritime boundaries, so an area of 6,250 square nautical miles remains in dispute.[25] Additionally, the United States and Russia continue to abide by the terms of a maritime boundary agreement concluded in 1990. However, this bilateral agreement has yet to be ratified by the Russian Federation.[26] As a non-member of UNCLOS, the United States must attempt to resolve these disputes in another international forum.

Freedom of Navigation in the Arctic

With the receding ice, both the Northwest Passage and the Northern Sea route (north of Russia) offer the potential for significantly shorter maritime trade routes. The efficiencies offered by dramatic reductions in distance, will most likely encourage a shift in maritime traffic to the Arctic routes.

The Northern Sea route instead of the Malacca Strait-Suez Canal route reduces the current trade route distance from Murmansk, Russia, to Yokahama, Japan by 7,700 miles, or 55%[27]. Similarly, the voyage from Rotterdam to Yokahama is reduced by 3,900 miles, or 35%[28]. The transit from Vancouver, Canada, to Rotterdam is shortened by 22 percent[29].

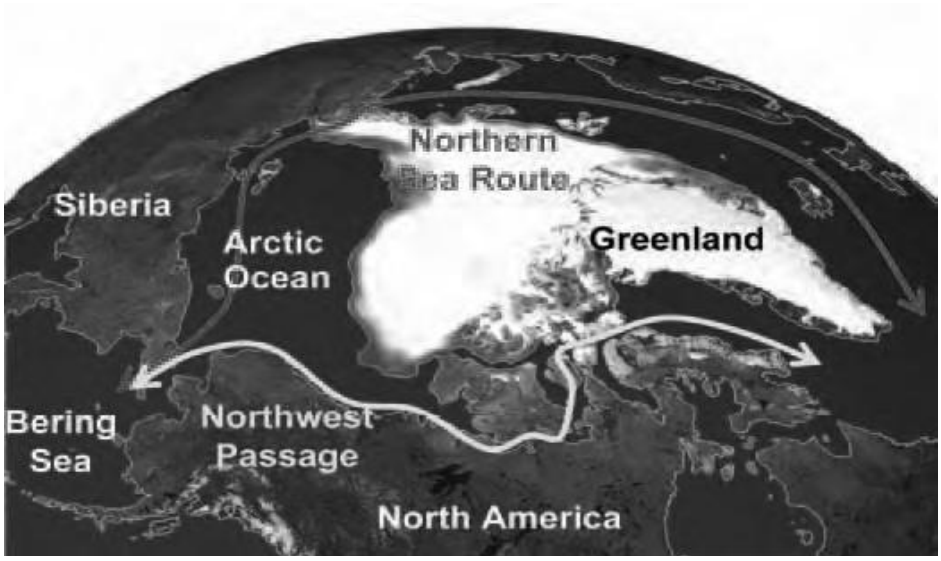


Figure 4: Northern Sea Route and Northwest Passage[30]

Shortening the voyage by 3,900 miles and proceeding at a 15-knott speed of advance equates to a savings in transit time of approximately 11 days. Escalating fuel costs increases the economic benefits of these shorter routes. The average Panamax containership costs $50,000 per day to operate; most of the expenses are for fuel and

port charges[31]. Reducing the voyage by 11 days yields savings for that single voyage of $550,000.

Port	Port	Via NSR (miles)	Via Canal (miles)	Percentage difference
Murmansk	Yokohama	5,770	12,840	55%
Rotterdam	Yokohama	7,350	11,250	35%
Murmansk	Vancouver	5,400	7,350	27%
Rotterdam	Vancouver	6,920	8,920	22%

Table 1: Northern Sea Route Distances[32]

In 2011 alone, 18 ships completed the voyage from northern Europe to northern Asia via the Northern Sea Route. The *Tschudi*, a Norwegian commercial ship, set the record in the summer of 2011 on her voyage from Norway to China. This route took only 21 days, 16 days less than required when taking the traditional route through the Suez Canal. The shipping company claims this shortcut saved an estimated $300,000 — with the added benefit of avoiding the pirate-infested waters off the coast of Somalia.[33]

Like the U.S., the EU has a significant interests in ensuring that its member states' naval, and commercial vessels maintain freedom of navigation throughout the world, particularly in the Arctic. The EU views the Arctic as a potential major shipping route. The European Commission reported in 2008:

> EU Member States have the world's largest merchant fleet and many of those ships use transoceanic routes. The melting of sea ice…could considerably shorten trips from Europe to the Pacific, save energy, reduce emissions, promote trade and diminish pressure on the main trans-continental navigation channels. Member States and the Community should defend the principle of freedom of navigation and the right of innocent passage in the newly opened routes and areas.[34]

U.S. Arctic Capabilities

As other nations prepare to define and defend their sovereign jurisdictions in the Arctic, the capabilities required to protect and promote national interests there become more important. Russia is expanding its 20-vessel icebreaker fleet with the construction of additional nuclear-powered icebreakers. China, although not an Arctic nation, is building a state of the art icebreaker to conduct research and advance Chinese interests in the Arctic[35]. The EU and Canada have recently released new Arctic policy specifying their strategic objectives in the region. Additionally, the EU and Canada are fully utilizing their own icebreaking fleets (Canada with 6 vessels, EU nations with 19 vessels) to capitalize on new opportunities.[36]

Well before Alaska was admitted to the United States as the 49th state on 3 January 1959, the U.S. Coast Guard (USCG) was assisting Arctic scientific exploration, charting Arctic waters, providing humanitarian assistance to native tribes, conducting search and rescue, and exercising law enforcement activities in the region.[37] According to Admiral Robert Papp, Commandant of the U.S. Coast Guard, "We need to determine our nation's vessel shipping requirements for transiting ice-laden waters, consider establishing seasonal bases for air and boat operations, and develop a force structure that can operate in extreme cold and ice."[38]

Although the U.S. has a long history of Arctic operations, we are finding ourselves increasingly disadvantaged in terms of modern Arctic capabilities. One area in particular is U.S. icebreaking capability. In comparison to the other Arctic nations and key stakeholders to include China and the EU, the United States has fallen way behind. The entire inventory of U.S. icebreakers resides exclusively within the USCG; it consists of only three ships (two heavy icebreakers and one medium icebreaker). The *POLAR*

SEA and *POLAR STAR* make up the heavy icebreaker fleet. Neither ship is currently in operational status. Each of these ships, operate with 134 crewmembers; they can break through ice up to 6 feet thick while moving at 3 knots.[39] On 14 October 2011, the USCG placed *POLAR SEA* in commissioned, inactive status, planning to fully retire the ship in fiscal year 2012. The *POLAR STAR* is currently out of service undergoing a complex overhaul until 2013. Once this overhaul is complete, the *POLAR STAR's* service life will be extended to 2023.[40] In the meantime, the *HEALY*, a medium icebreaker with an estimated service life to 2029 is the only operational U.S. icebreaking capability. With its reduced icebreaking capability compared to that of *POLAR STAR* and *POLAR SEA*, *HEALY* was designed to be used primarily for supporting scientific research in the Arctic.[41] *HEALY* is capable of breaking through ice up to 4½ feet thick at a speed of 3 knots.[42] As the sole operational U.S. icebreaker, the *HEALY* is overworked. It is incapable of breaking the heavy ice that covers the Arctic surface most of any given year. Further complicating matters is the fact that the U.S. commercial fleet does not possess any heavy icebreaking capability. So DoD and commercial shipping companies must rely upon foreign-flagged commercial icebreakers or an ally such as Canada to provide this capability.[43]

Although the U.S. Navy does possess one ice-strengthened tanker for the purpose of resupplying the U.S. military installation in Thule, Greenland, it relies on foreign-flagged icebreakers and contracted shipping to accomplish the mission. The U.S. Navy's inventory of surface ships does not include any vessels outfitted with ice-strengthened hulls that allow for safe passage in first-year ice or marginal ice zones.[44] So, the U.S. Navy has only marginal – at best – capability to conduct forward-presence

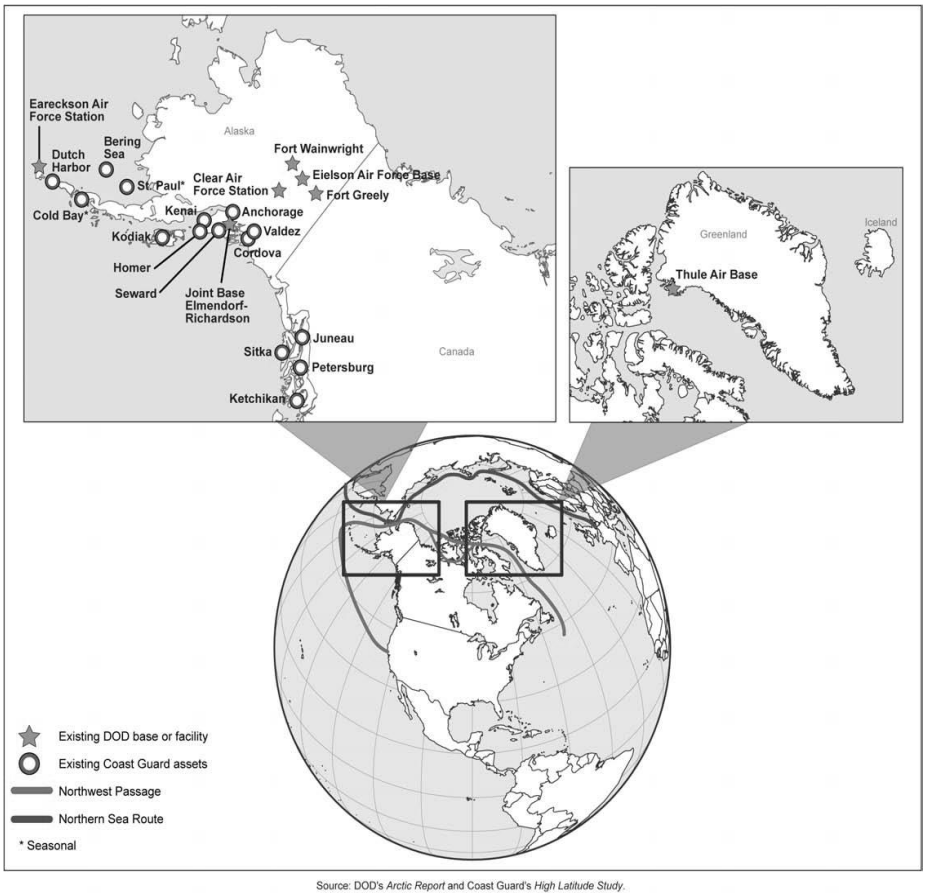
and freedom of navigation operations in the Arctic. Although the Navy's submarine fleet has a rich history of Arctic operations, it is ill prepared to take advantage of the rapidly increasing surface navigability of Arctic waters.

Capability Gaps

In a DoD report to Congress, several Arctic capability gaps were highlighted. These gaps ranged from communications to infrastructure shortfalls. Specifically, U.S. communications capabilities within the Arctic were reportedly both limited and degraded. For example, due to solar and magnetic phenomena associated with latitudes above 70°N, high-frequency (HF) radio signals are significantly hampered.[45] In addition, the lack of surface-based relay stations throughout the region further complicates communications. Although suitable for surface navigation, Global Positioning System (GPS) in the region lacks the capability required for certain mission sets such as Search and Rescue (SAR) and precision weapons guidance. This limitation is due in part to "poor satellite geometry, ionospheric effects, and multipath interference."[46] Because GPS satellites do not pass over the North Pole, the ones that are visible to an Arctic GPS receiver appear low on the horizon. This reduces necessary satellite geometry and increases potential for a multipath environment.

Current U.S. infrastructure in the Arctic region (bases, airfields, ports, roads, railways, lodging and utilities) does not support the NSS or U.S. Arctic policy, NSPD-66/HSPD-25, or the QDR. This lack of infrastructure means the United States lacks maritime domain awareness and in some cases, cannot perform successful Search and Rescue (SAR) missions. There are small U.S. military bases and ports in Alaska and the Aleutian Islands, however there are no facilities on the northern slope.[47] Figure 4

depicts current U.S. installations in the Arctic, including bases in Alaska and Thule Air Base, Greenland.



Source: DOD's *Arctic Report* and Coast Guard's *High Latitude Study*.

Figure 4: Current U.S. Bases and Facilities in Alaska and the Arctic[48]

Bases such as Elmendorf, Eielson, and Thule provide some SAR capabilities. However, the United States lacks the infrastructure and proximity of equipment to provide effective SAR support for most of the Arctic region, especially for the northern slope. As human activity in the Arctic region increases, so do the importance of Maritime Domain Awareness (MDA) and the supporting infrastructure.

Land-based as well as maritime capabilities used in support of Arctic MDA will require an appropriate infrastructure to support this evolving national requirement. In

testimony before the Senate Commerce, Science and Transportation Subcommittee, Dr. Andrew Metzger, an expert on Arctic Marine Civil Infrastructure, reported:

> The norm for Arctic coastal communities is that existing housing, water, wastewater and power utilities only marginally meet community needs. …[and] escalating maritime activities, as well as development of any new marine infrastructure, will likely overwhelm these communities. [In addition], roadways are generally undeveloped and not connected to the contiguous highway system [and] there is no rail system. Transportation consists of annual barge service along with air service that is more frequent. Since barge traffic is sporadic during the one or two months of ice free seas, all materials must be carefully scheduled as much as a year in advance. Any missing materials must be either flown in or sent via barge the following year.[49]

In January 2012, Metzger's assessment of limited Arctic infrastructure was validated when the USCG's only operational icebreaker, *HEALEY*, escorted the Russian-flagged oil tanker *Renda* through the frozen Bering Sea off the coast of Nome, Alaska. The fall barge shipments of fuel had failed to reach Nome, leaving the town of 3,600 people without winter fuel reserves. Since Nome was inaccessible by road, the option for delivery of 1.3 million gallons of oil by the *HEALY/Renda* team was chosen over the cost-prohibitive air-land option.[50] This was not the first time the people of Nome had faced disaster. During the winter of 1925, diphtheria ran rampant throughout the town, posing an immediate threat to the population of 1,400 as medicine to treat the disease ran perilously low. Then the air and sea method of resupply was not an option, so medicine was delivered by dog sled.[51] Today, the population of Nome has more than doubled. Nome's U.S. citizens rely on oil and gas to heat homes and power modern machinery and vehicles. In this most recent scenario, the *HEALY/Renda* team was able to break through the ice and disaster was averted.

Building and maintaining infrastructure in the harsh Arctic environment is very expensive. Skilled labor and materials are scarce. The construction season is short.

Structures must be specially designed for the Arctic environment. Without adequate infrastructure to support increasing human activity in the Arctic, the demand for accessible and effective SAR and MDA will only increase.

International Cooperation

A cooperative approach among international partners is key to ensuring U.S. interests are met within the Arctic region. A multinational effort is essential to ensure both human safety and appropriate environmental stewardship. A unilateral U.S. approach is simply not feasible. However, as the world's sole superpower and as a contiguous Arctic nation, it is imperative that the U.S. assumes an Arctic leadership role within the international community.

Perhaps the most important step for the U.S. is to ratify UNCLOS in order to establish the legitimacy of U.S. leadership among the other stakeholders who have interests in the Arctic. This would partner the United States with the seven other Arctic nations (Russia, Canada, Denmark, Finland, Sweden, Norway, and Iceland), along with six indigenous organizations that are permanent members of the Arctic Council.[52] This multinational assembly meets semiannually and "provides the greatest potential for a comprehensive resolution of environmental and governance issues in the Arctic."[53] NSPD-66/HSPD-25 clearly acknowledges that the "Arctic Council has produced positive results for the United States by working within its limited mandate of environmental protection and sustainable development."[54] U.S. representation on the Arctic Council has slowly increased since its first meeting in 1996. In fact, in March 2010 Secretary of State Hillary Clinton met with her counterparts from Canada, Russia, Denmark, and Norway in Chelsea, Quebec, as part of the Arctic Ocean Foreign Ministers' Meeting. This meeting affirmed the importance of the Arctic Council, its membership, and the

need for “new thinking on economic development and environmental protection.”[55] However, the Arctic Council is hindered by its “lack of regulatory authority and the mandate to enact or enforce cooperative security-driven initiatives.”[56] Although very useful for “scientific assessments” and “policy-relevant knowledge”, the Council does not address military concerns.[57]

The International Maritime Organization (IMO) is yet another important international organization identified by NSPD-66/HSPD-25. It fosters both international cooperation and promotes U.S. interests in the Arctic. The IMO was formed in 1948 to “maintain a comprehensive framework for shipping” and regulation of “ocean carriers in terms of safety, pollution prevention, and security.”[58] Within the UNCLOS framework, IMO provides a forum for settling the dispute between the United States and Canada concerning determination of international and internal waters along the Northwest Passage.

Security in the Arctic region is another critical issue that should be addressed through international cooperation. Given the U.S. infrastructure shortfalls and capability gaps discussed in this paper, international partnership is perhaps the most efficient, timely, and feasible means for achieving U.S. security objectives. Search and Rescue (SAR), icebreaker support, environmental disaster response, and logistical support are just a few examples of activities that all stakeholders should conduct cooperatively to sustain regional security and assure regional stability. Military exercises conducted jointly among other Arctic nations such as Operation Nanook (USN/Canada), Operation Cold Response (U.S. Marine Corps/Norway), and Operation Arctic Care (U.S. Army

Reserve/U.S. Air National Guard) can enhance regional security and promote sharing of capabilities and multilateral infrastructure development.[59]

Recommendations

First and foremost, the United States should ratify the United Nations Convention on the Law of the Sea. To date, 162 sovereign states, all of the Arctic nations, every major U.S. ally, and the E.U. have acceded to the UNCLOS treaty. The list of nations who have not ratified UNCLOS is short. It includes Iran, North Korea, and Syria.[60] As the world's sole superpower and as a contiguous Arctic Nation, the U.S. must join UNCLOS in order to have a legitimate voice in the region. UNCLOS is the internationally recognized instrument for peacefully resolving boundary and resource disputes, for extending EEZs where applicable, and for assuring freedom of navigation along the Northwest Passage and Northern Sea Route. The Obama Administration should aggressively pursue Senate ratification of UNCLOS. U.S membership in UNCLOS is essential for advancing national security and for assuring economic and environmental interests in the Arctic and throughout the rest of the world.

As the U.S. assesses both its short-term and long-term capability gaps, it should carefully pursue planned and coordinated solutions that address the requirements of the Department of Defense, Department of Homeland Security, Department of State, Department of the Interior, Department of Transportation, Department of Commerce's National Oceanic and Atmospheric Administration, and other federal stakeholders — such as the National Science Foundation. A risk-based investment strategy for the Arctic should be developed that 1) identifies and prioritizes short-term and long-term Arctic capability shortfalls, 2) develops a timeline for addressing the identified shortfalls, and 3) incorporates a process that ensures assessments are updated as appropriate.[61]

At a minimum, the U.S. government should sustain the current polar icebreaking fleet (*POLAR STAR* and *HEALY*) and initiate the programming, appropriation, design, and construction of two new USCG heavy icebreakers with appropriate support aircraft. They should be delivered no later than 2020 in order to replace *POLAR STAR* (forecast decommission: 2023) and *HEALY* (forecast decommission: 2029).

A joint, interagency airport and seaport facility – open to multi-national use – should be established on the north slope of Alaska. This installation should serve as Forward Operating Base (FOB) for all appropriate stakeholders within the U.S. government. Basic capabilities of the FOB should include:

- Personnel support facilities (billeting, dining, etc.);
- Suitable aircraft and surface vessel servicing and maintenance capability;
- Appropriate communications infrastructure to support to the full range of governmental operations within the Arctic.

Conclusion

Fundamental pillars of U.S. Arctic policy should be assured U.S. sovereignty, strong national and regional security, freedom of the seas, stewardship, and international cooperation. Global climate change is dramatically affecting the Arctic region. The receding Arctic icecap has brought with it the lure of vast deposits of exploitable natural resources, commercial fishing opportunities, shorter sea lanes, and increased tourism. Human activity is quickly increasing in the region. How the Arctic community's leaders react to these emerging issues may very well be one of the defining moments of the 21st century. As the icecaps continue to recede, U.S. interests in the Arctic region become more important. Compared to the other Arctic nations, the

United States is slow in preparing for an ice-diminished or ice-free Arctic. U.S. inaction risks the nation's ability to influence the region as articulated in the *National Security Strategy* and more specific Arctic policy. This SRP has identified some short-term and long-term Arctic capabilities gaps which are impediments for assuring U.S. strategic interests in the region. The uncertainty surrounding the rate and long-term forecasts of icecap recession requires deliberative preparation, especially in a period of fiscal austerity. The United States cannot afford to further delay its investments in the Arctic. U.S. leaders must invest in the Arctic infrastructure and in icebreakers, despite their considerable expense and long lead time. The Arctic is clearly a region that requires a joint, interagency and multilateral effort to support U.S. – and global – security interests.

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