

THE EMERGING ARCTIC FRONTIER

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The world may seem to be growing smaller, but its seas are growing bigger—particularly in the great North, where a widening water-highway beckons both with resources and challenges.



U.S. COAST GUARD / PATRICK KELLEY

The Arctic is one area of U.S. Coast Guard responsibility that is, quite literally, expanding. Here, the author of this article (foreground) surveys the scene in Barrow, Alaska, in late 2011.

As a maritime nation, the United States relies on the sea for our prosperity, trade, transportation, and security. We are also an Arctic nation. The Arctic region—the Barents, Beaufort, and Chukchi seas and the Arctic Ocean—is the emerging maritime frontier, vital to our national interests, economy and security.¹

The Arctic Ocean, in the northern region of the Arctic Circle, is changing from a solid expanse of inaccessible ice fields into a growing navigable sea, attracting increased human activity and unlocking access to vast economic potential and energy resources. In the 35 years since I first saw Kotzebue, Alaska, on the Chukchi Sea as a junior officer, the sea ice has receded from the coast so much that when I returned last year the coastal area was ice-free. The shipping, oil-and-gas, and tourism industries continue to expand with the promise of opportunity and fortune in previously inaccessible areas. Experts estimate that in another 25 years the Arctic Ocean could be ice-free during the summer months.²

This change from “hard” to “soft” water, growing economic interests and energy demands, and increasing use of the seas for maritime activities by commercial, native, and recreational users demands a persistent, capable U.S. Coast Guard presence in the Arctic region. Our mandate to protect people on the sea, protect people from threats delivered by sea, and protect the sea itself applies in the Arctic equally as in the Atlantic and Pacific oceans and Gulf of Mexico and Caribbean Sea.

The difference is that in the rest of the maritime domain, we have an established presence of shore-based forces, small boats, cutters, and aircraft supported by permanent infrastructure and significant operating experience. Although the Coast Guard has operated in southern Alaska, the Gulf of Alaska, and Bering Sea for much of our history, in the higher latitudes we have little infrastructure and limited operating experience, other than ice-breaking. Historically, such capabilities were not needed. Year-round ice, extreme weather, and the vast distances to logistical support, prevented all but icebreakers or ice-strengthened ships from operating there. As a result, commercial enterprise on any significant scale was nonexistent. But the Arctic is emerging as the new maritime frontier, and the Coast Guard is challenged in responding to the current and emerging demands.

Resource-Rich Realm

The economic promise of oil and gas production in the Arctic is increasingly attractive as supply of energy resources from traditional sources will struggle to meet demand without significant price increases. The Arctic today holds potentially 90 billion barrels of oil, 1.6 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids, 84 percent of which is expected to be found in offshore areas. This is estimated to be 15 percent of the world’s undiscovered oil reserves and 30 percent of natural gas reserves. Oil companies are bidding hundreds of millions of dollars to lease U.S. mineral rights in these waters and continue to invest in developing commercial infrastructure in preparation for exploration and production, and readiness to respond to potential oil spills or other emergencies.³ In August, the Department of the Interior granted Royal Dutch Shell conditional approval to begin drilling exploratory wells

in the Beaufort Sea north of Alaska starting next summer. ConocoPhillips may begin drilling in the Chukchi Sea in the next few years. Also, Russia has announced plans for two oil giants to begin drilling as early as 2015, and Canada has granted exploration permits for Arctic drilling.⁴

Icebreaker essential to resolve Nome fuel crisis

As this article went to print, the Coast Guard cutter *Healy* (left) had just cleared a path through hundreds of miles of Arctic ice to allow the commercial tanker *Renda* to deliver gasoline and diesel fuel to Nome, Alaska, which is currently inaccessible by road. The fuel will replenish Nome's scarce supplies and sustain the residents through the winter freeze. The situation arose after a regularly scheduled shipment was delayed in November by severe storms in the Bering Strait. The *Healy* was completing a scheduled science mission when it diverted to assist. The Coast Guard is responsible for providing U.S. domestic and polar icebreaking capability.



seabeds of the Arctic. Alaska has more than 1,000 miles of coastline above the Arctic Circle on the Beaufort and Chukchi seas.⁷ Our territorial waters extend 12 nautical miles from the coast, and the exclusive economic zone extends to 200 nautical miles from shore (just as along the rest of the U.S. coastline). That's more than 200,000 square miles of water over which the Coast Guard has jurisdiction.

Below the surface, the United States also may assert sovereign rights over natural resources on its continental shelf out to 200 nautical miles. However, with accession to the Law of the Sea Convention, the United States has the potential to exercise additional sovereign rights over resources on an extended outer continental shelf, which might reach as far as 600 nautical miles into the

The fisheries and seafood industry in the southern Arctic region (the Bering Sea and Gulf of Alaska) sustains thousands of jobs and annually produces approximately 1.8 million metric tons' worth of catch valued at more than \$1.3 billion.⁵ Although subsistence-hunting has occurred in the higher latitudes for centuries, as waters warm, fish and other commercial stocks may migrate north, luring the commercial fishing industry with them.

As the Arctic Ocean becomes increasingly navigable it will offer new routes for global maritime trade from Russia and Europe to Asia and the Americas, saving substantial transit time and fuel costs from traditional trade routes. In summer 2011, two Neste oil tankers transited the Northeast Passage from Murmansk to the Pacific Ocean and onward to South Korea, and Russian Prime Minister Vladimir V. Putin pledged to turn it into an important shipping route.⁶

Resolving an Old Liability on the Rule of Law

Because of these opportunities and the clamor of activities they bring, a legally certain and predictable set of rights and obligations addressing activity in the Arctic is paramount. The United States must be part of such a legal regime to protect and advance our security and economic interests.

In particular, for the past several years there has been a race by countries other than the United States to file internationally recognized claims on the maritime regions and

Arctic from the Alaskan coast. Last summer, the Coast Guard cutter USCGC *Healy* (WAGB-20) was under way in the Arctic Ocean, working with the Canadian icebreaker *Louis S. St-Laurent* to continue efforts to map the extent of the continental shelf.

The United States is not a party to the Law of the Sea Convention. While this country stands by, other nations are moving ahead in perfecting rights over resources on an extended continental shelf. Russia, Canada, Denmark (through Greenland), and Norway—also Arctic nations—have filed extended continental-shelf claims under the Law of the Sea Convention that would give them exclusive rights to oil and gas resources on that shelf. They are making their case publicly in the media, in construction of vessels to patrol these waters, and in infrastructure along their Arctic coastline. Even China, which has no land-mass connectivity with the Arctic Ocean, has raised interest by conducting research in the region and building icebreakers.⁸ The United States should accede to the Law of the Sea Convention without delay to protect our national security interests: sovereignty, economy, and energy.

Arctic Responsibility

Wherever human activity thrives, government has a responsibility to uphold the rule of law and ensure the safety and security of the people. The Coast Guard is responsible for performing this mission on the nation's waters, as we have done in parts of Alaska over our 221-year history.

Coast Guard operations in the Arctic region are not new. Nearly 150 years ago, we were the federal presence in the “District of Alaska,” administering justice, settling disputes, providing medical care, enforcing sovereignty, and rescuing people in distress. Our heritage is filled with passages of Coast Guardsmen who braved the sea and ice in sailing ships and early steam ships to rescue mariners, quash illegal poaching, and explore the great North. World War II ushered in the service’s first icebreakers. In 1957, three Coast Guard cutters made headlines by becoming the first American vessels to circumnavigate the North American continent through the Northwest Passage. That mission was in support of an early Arctic imperative to establish the Distant Early Warning Line radar stations to detect ballistic-missile launches targeting the United States during the Cold War.

The Coast Guard presence in southern Alaska, the Bering Sea, and Gulf of Alaska continues to be persistent and capable, matching the major population and economic concentrations and focus of maritime activities. The 17th Coast Guard District is responsible for directing the service’s operations in Alaska with:

- two sectors
- two air stations
- twelve permanently stationed cutters and normally one major cutter forward-deployed from another area
- three small-boat stations
- six marine safety units or detachments

- one regional-fisheries training center
- five other major mission-support commands.⁹

We ensure maritime safety, security, and stewardship in the region by conducting search and rescue, fisheries enforcement, inspection and certification of ships and marine facilities to ensure compliance with U.S. and international safety and security laws and regulations, and preventing and responding to oil spills and other water pollution.

The Coast Guard strengthens U.S. leadership in the Arctic region by relying on effective partnerships with other federal, state, local, and tribal governments and industry members. We are working with other federal partners within the Department of Homeland Security, the military services and combatant commanders within the Department of Defense, the National Oceanic and Atmospheric Administration, and the Bureau of Safety and Environmental Enforcement within the departments of Interior, State, and Justice to achieve unity of effort within the interagency team at the port and regional level. And we rely on cooperation from international partners, be they permanent close allies such as Canada or our maritime counterparts in Russia and China, with whom we are developing ties.

Although we have lived and served in southern Alaska for most of the Coast Guard’s existence, our access to and operations in northern Alaska on the North Slope have been only temporary and occasional, with no permanent infrastructure or operating forces along the Beaufort or Chukchi seas. There are no deepwater ports there.



U.S. COAST GUARD (PATRICK KELLEY)

Throughout the history of the region, the Coast Guard’s presence in the North was often the *only* federal presence. Today, the USCGC *Healy* is a salient element of the service’s profile there, keeping busy on missions ranging from scientific surveys to icebreaking.



U.S. COAST GUARD (WALTER SHINN)

“The Coast Guard strengthens U.S. leadership in the Arctic region,” notes the author, “by relying on effective partnerships. . . .” Here, a Coast Guard MH-60 Jayhawk rescue helicopter lands on the tarmac at Kotzebue, Alaska, with an Army National Guard UH-60 Blackhawk and Air Force National Guard HH-60 Pavehawk coming in close behind during a joint outreach mission to remote Alaskan villages.

However, the acceleration of human activity in the northern Arctic region, the opening of the seas, and the inevitable increase in maritime activity mean increased risk: of maritime accidents, oil spills, illegal fishing and harvesting of other natural resources from U.S. waters, and threats to U.S. sovereignty. Those growing risks—inevitable with growth of human activity—demand the Coast Guard’s attention and commitment to meet our responsibilities to the nation.

Preparing to Lead

Our first challenge is simply to better understand the Arctic operating environment and its risks, including knowing which Coast Guard capabilities and operations will be needed to meet our mission requirements. Operating in the Arctic region presents challenges to personnel, equipment, and tactics. What would be normal cutter, boat, or aircraft operations almost anywhere else become more risky and complex. The climate can be one of extremes many months of the year, with continuous sub-zero temperatures and more hurricane-force storms each year than in the Caribbean. It’s hard on equipment: Industrial fluids freeze, metal becomes brittle, and electronic parts fail. It’s also hard on people, who must acclimate to exaggerated daylight and darkness, harsh weather conditions, limited services, and isolation from family.

One of the most significant challenges is the lack of Coast Guard infrastructure in key locations along the northern Alaskan coastline that will be needed to sustain

even basic shore-based operations. Today we rely on partner agencies and industry to support any sustained operations. Cutters, aircraft, boats, vehicles, and people require constant mission support and logistics. We are already exploring requirements to establish temporary forward-operating bases on the North Slope to support shore-based operations, enabling temporary crews and equipment to deploy to support a specific operation, and then return to home station when complete.

We have been improving our understanding by increasing operations. We conduct regular Arctic Domain Awareness flights by long-range maritime-patrol aircraft along the North Slope and over the Arctic Ocean, assessing aircraft endurance and performance and monitoring maritime activity. Since 2008, we have conducted Operation Arctic Crossroads, deploying personnel, boats, and aircraft to small villages on the Arctic coast such as Barrow, Kotzebue, and Nome. While there, we test boats for usability at these high latitudes and conduct flight operations. We also work closely with the Army and Air National Guard and the Public Health Service to provide medical, dental, and veterinary care to outlying villages. In return, we learn from their expertise about living and operating in this environment. These services invest in deepening our partnerships with and understanding of local peoples.

Next, we must prepare by ensuring that Coast Guard men and women have the policy, doctrine, and training to operate safely and effectively in the northern Arctic

region. We have relearned fundamental lessons in recent years about the need to be prepared when taking on new operational challenges. We will train personnel beyond qualification to proficiency to live and work for extended periods in the extreme cold and other harsh conditions there. We will ensure cutters, aircraft, boats, deployable specialized forces, and mission-support personnel have the equipment, training, and support they require to succeed.

Finally, we are working closely with other key federal partners to lead the interagency effort in the Arctic. The Coast Guard has significant experience and success with speaking the interagency language, bridging the traditional divides between military and law enforcement at the federal level, and synchronizing efforts between federal, state, local, tribal, and private-sector stakeholders. Simultaneously a military service, a law-enforcement and regulatory agency, and an intelligence-community member that is part of the Department of Homeland Security, the Coast Guard is in a unique position to exercise leadership in this emerging maritime frontier.

Prevention and Response

Coast Guard missions rely on the twin pillars of prevention and response. We will take actions to prevent maritime safety, security, and pollution incidents in the Arctic. In our regulatory role, we are working with the Department of the Interior to review oil-spill response plans and preparedness by the oil-and-gas and maritime industries prior to exploration activities, especially on the outer continental shelf. We are taking the lessons from the 2010 *Deepwater Horizon* disaster to ensure that type of incident does not happen again, especially in the Arctic. We regulate U.S. mariners and inspect vessel- and facility-security plans. When a marine casualty does occur, we will investigate and take appropriate action to prevent it from happening again.

As a law-enforcement agency, we will provide security in the ports, coastal areas, and exclusive economic zone to enforce U.S. laws governing fisheries and pollution, while ensuring the security of lawfully permitted activities, including energy exploration, in the region. We will deploy cutters, boats, aircraft, and deployable specialized forces—maritime safety-and-security teams, strike teams, dive teams—when the mission demands.

As a military service, we will enforce U.S. sovereignty where necessary, ensuring freedom of navigation and maritime homeland security. The *Healy*—our only operational icebreaker—and other ice-strengthened cutters will patrol where they can safely operate to provide persistent presence on the high seas and maritime approaches to the United States.

We are developing and will execute starting summer 2012 an Arctic Maritime Campaign with the objective of establishing a path forward for the Coast Guard to meet our responsibilities to the nation in the Arctic. This campaign will:

- define the required mission activities for the Coast Guard in the northern Arctic region
- determine capabilities (personnel, equipment, facilities) necessary to plan, execute, and support operations there
- identify available resources for the mission and resource gaps
- fully prepare our service and Coast Guard personnel to safely and effectively operate there.

Initially, the Arctic Maritime Campaign will be a Coast Guard plan for service operations in coordination with other partners—a basic first step for any mission. From there, we will work to improve interagency coordination as activities and operations increase.

My years at sea taught me many life lessons; chief among those is vigilance, the art of keeping a weather eye on emerging challenges so that the service can adequately prepare and take early and effective action to prevent and respond to trouble. As I scan the horizon, one area demanding our immediate attention is the Arctic. America is a maritime nation and an Arctic nation. We must recognize this reality and act accordingly. The Coast Guard is working to do its part. For more than 221 years, we have overseen the safety, security, and stewardship of our nation's waters. Our challenge today is to ensure we are prepared with a Coast Guard capable and ready to meet our responsibilities in the emerging maritime frontier of the Arctic. ❄️

1. U.S. Code, Section 4111, "'Arctic' defined," <http://codes.lp.findlaw.com/us-code/15/67/4111>.
2. RADM David W. Titley, USN, and Courtney C. St. John, "Arctic Security Considerations and the U.S. Navy's Roadmap for the Arctic," *Naval War College Review*, vol. 63, no. 2 (Spring 2010), pp. 35–48.
3. U.S. Geological Survey Circum-Arctic Resource Appraisal, <http://pubs.usgs.gov/fs/2008/3049/fs2008-3049.pdf>. "Climate Change in the Arctic: Beating a Retreat," *The Economist*, 24 September 2011, p. 100. "U.S. to Offer Oil Leases in the Gulf," *The New York Times*, 19 August 2011.
4. "Shell Gets Tentative Approval to Drill in Arctic," *The New York Times*, 4 August 2011. Arctic Economic Development Summit, Chukchi Exploration Activities, ConocoPhillips Alaska, 5 August 2011, www.nwabor.org/AEDSdocs/22-35ConocoPhillips.pdf. "Russia Embraces Offshore Arctic Drilling," *The New York Times*, 15 February 2011. "Russia, Exxon Mobil strike deal for Arctic offshore oil drilling," *Anchorage Daily News*, 30 August 2011. "PEW Study urges Canada to suspend Arctic oil exploration," *TerraWire*, 9 September 2011, www.terradaily.com/atp/110909155430.fnr4r8w9.html.
5. "The Seafood Industry in Alaska's Economy," 2011 update of the Executive Summary, www.marineconservationalliance.org/wp-content/uploads/2011/02/SIAE_Feb2011a.pdf.
6. "Breaking the Ice: Arctic Development and Maritime Transportation," Iceland Ministry for Foreign Affairs conference, 27–28 March 2007, www.mfa.is/media/Utgafa/Breaking_The_Ice_Conference_Report.pdf. "Neste oil ships operate successfully along the Northeast Passage," Neste Oil Corporation press release, 30 September 2011, www.reuters.com/article/2011/09/30/idUS136183+30-Sep-2011+HUG20110930. "On Our Radar: Putin Covets Northeast Passage," *The New York Times Green Blog*, 23 September 2011, <http://green.blogs.nytimes.com/2011/09/23/on-our-radar-putin-covets-northeast-passage/>.
7. Department of Defense, *Report to Congress on Arctic Operations and the Northwest Passage*, May 2011, www.defense.gov/pubs/pdfs/Tab_A_Arctic_Report_Public.pdf.
8. "Group: China preparing for Arctic melt commercial opportunities," *USA Today*, 1 March 2010. "China to launch 8 Antarctic, Arctic expeditions," *ChinaDaily.com*, 25 September 2011, www.chinadaily.com.cn/china/2011-09/25/content_13788608.htm.
9. U.S. Coast Guard, "Protecting the Last Frontier," www.uscg.mil/d17.

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