

U.S. Coast Guard Icebreaker Healy on a research cruise in the Chukchi Sea of the Arctic Ocean in 2018. Credit: Devin Powell/NOAA



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Ocean Issues in Alaska:

From Fisheries Management to Public Safety and Security

Fran Ulmer

Alaska is an important region for the Department of Homeland Security (DHS), given the Department's statutory authority and responsibilities. This reality applies with particular force to the U.S. Coast Guard (USCG), with its jurisdiction over fisheries enforcement, drug interdiction, marine safety, oil spill response, search and rescue, and more. Challenges facing the USCG in its domains of operation around Alaska—the Arctic Ocean, the North Pacific Ocean, the Bering Sea, the Chukchi Sea, and the adjacent communities—include the following:

1. Climate Change

The Arctic Ocean and surrounding seas are experiencing dramatic changes: atmospheric and ocean warming, significant reduction in sea ice coverage and thickness, ocean acidification, declining salinity, changes in the distribution and abundance of marine life, and increasing storm damage impacting the long coast and communities in western Alaska. Increasing our understanding of the pace of these changes and their impacts on biological and human systems depends in substantial part on research programs supported by NSF, NOAA, NASA, ONR, and many other agencies and institutions, many of which rely on access facilitated by the USCG icebreaker/polar security cutter *Healy*.

2. Fisheries

Demand for fish protein is increasing globally at the same time the world is facing the growing impacts of climate change and ocean acidification on marine biodiversity and ocean health. The Alaskan fishing industry, with its significant exports to Japan and South Korea, is critically important to the economy of Alaska as well as that of the nation. Not only is the industry the largest employer in Alaska, but fishing is the foundation of the subsistence way of life for Indigenous people throughout Alaska. Dutch Harbor is the nation's top fishing port in landings by volume of seafood. DHS and the USCG are important in this connection not only because these waters are shared with Russia, but so are the fish (particularly pollock). The Donut Hole in the North Pacific (an area beyond national jurisdictions) appears to be an area where fish populations are increasing, which may create more direct fishery competition and potential conflict. Both Russia and China have expanded their harvest effort in the fisheries around Alaska (Western Bering Sea as well as the Chukchi). The primary responsibility for enforcing U.S. fisheries laws in the federal waters in these areas rests with the USCG. Fortunately, the U.S. government closed its waters north of the Bering Strait to commercial fishing over a decade ago, recognizing the lack of information needed to sustainably manage a fishery there. Similarly, the United States, nine other Arctic and non-Arctic nations, and the European Union agreed in 2021 to close the Central Arctic Ocean to commercial fishing for at least 16 years to allow time to collect and analyze the information needed to manage fisheries in the region. The Agreement requires the signatories to devise a shared research agenda for this purpose. Effective U.S. participation will require support from several federal agencies including the USCG's research platform, the polar security cutter *Healy*, and the funded replacement polar security cutters.

3. Search and Rescue, Marine Safety

The USCG has been doing an outstanding job in emergency response and rescue in Alaska, despite the daunting scale of the region and the frequently challenging conditions there. Nonetheless, today's need for these services already exceeds the level of support, and under continuing climate change the gap is destined to grow. Increased land, air, and sea resources, facilities, equipment, and personnel are imperative as shipping, tourism, fishing, and extreme weather all increase. An expanded joint effort by DHS/USCG, NOAA, and others will be needed to cope.

4. Oil Spill Response

The 1989 Exxon Valdez oil spill and the 2010 Deepwater Horizon oil spill demonstrated the importance of USCG's capabilities for reducing harmful effects of spills. They also illustrated that prevention is essential, as it is impossible to remove all the spilled oil from the ocean even under the best conditions. If Russian oil and gas development continues to expand in the Arctic, and if shipments through the Bering Strait increase, the risk of collisions, spills, and accidents will grow and require increased preparedness and response capacity.

5. Governance Challenges

The legal framework for global ocean governance is the United Nations Convention on the Law of the Sea (UNCLOS). The United States has not ratified the treaty but follows international customary law with respect to establishing its Exclusive Economic Zone and territorial waters, enabling the principles of freedom of navigation, and enforcing domestic laws and international treaties within U.S. waters. The Coast Guard has broad responsibilities implementing and enforcing the rules and regulations for commercial ships that are promulgated by the International Maritime Organization (IMO). (The IMO Code for Ships Operating in Polar Waters has specific regulations for commercial ships operating in Arctic and Antarctic waters, and this code applies to waters north of 60 degrees north latitude in the Bering Sea.) The Coast Guard also has broad authority and responsibilities implementing the elements of two Arctic treaties: the Arctic Search and Rescue (SAR) Agreement (2011) and the Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic (2013).

6. Infrastructure Challenges

Unfortunately, very little marine infrastructure exists in the region from the Aleutian Islands to the U.S.-Canada border in the Beaufort Sea. The DHS, Coast Guard, and a host of other federal departments and agencies have responsibilities for closing this enormous gap in U.S. capability to respond to expanded use of Alaskan and Arctic waters. Recent progress has been made in establishing Nome as a U.S. Arctic deep-water port with the help of federal funding, but contracts have not yet been issued for dredging and constructing an outer breakwater to moor large ships. Other missing infrastructure in the region includes: robust communications systems; expanded physical and electronic aids to navigation; expanded icebreaking capacity for winter operations; hydrography and charting (much less than 50% of the U.S. maritime Arctic is charted to international standards); increased USCG capability for SAR (search and rescue) and environmental response; and, expanded and more robust marine observations.

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Belfer Center for Science and International Affairs

Arctic Initiative

Harvard Kennedy School

79 JFK Street

Cambridge, MA 02138