

# Arctic Standards

## Recommendations on Oil Spill Prevention, Response, and Safety in the U.S. Arctic Ocean

### Overview

The search for oil is reaching into ever more remote corners of the world, including the U.S. Arctic Ocean. Industrial development in these waters brings a new set of challenges and a large set of risks because people and equipment must work in some of the harshest and most remote conditions on the planet. The Arctic Ocean is ice-covered for eight to nine months of the year, with almost complete darkness for nearly three of those months. Even during the summer when the pack ice has mostly receded, the Arctic still experiences high seas, wind, freezing temperatures, dense fog, and floating ice hazards. In the event of an oil spill or other incident, inadequate infrastructure and punishing weather could seriously delay the arrival of vessels, equipment, and people. Major highways, airports, and ports, which most Americans take for granted, do not exist in the Arctic.

Oil spilled in Arctic waters would be particularly difficult to remove. Currently, there is no proven technology that effectively cleans up oil, especially when it is mixed with broken ice or trapped under ice. An oil spill could seriously harm a rich, complex, and irreplaceable ecosystem found nowhere else in the United States.

The Pew Charitable Trusts is not opposed to offshore drilling, but a balance must be achieved between responsible energy development and protection of the environment. World-leading Arctic standards should be put in place for safety and for oil spill prevention and response in this extreme, remote, and vulnerable ecosystem.

## What are Arctic standards?

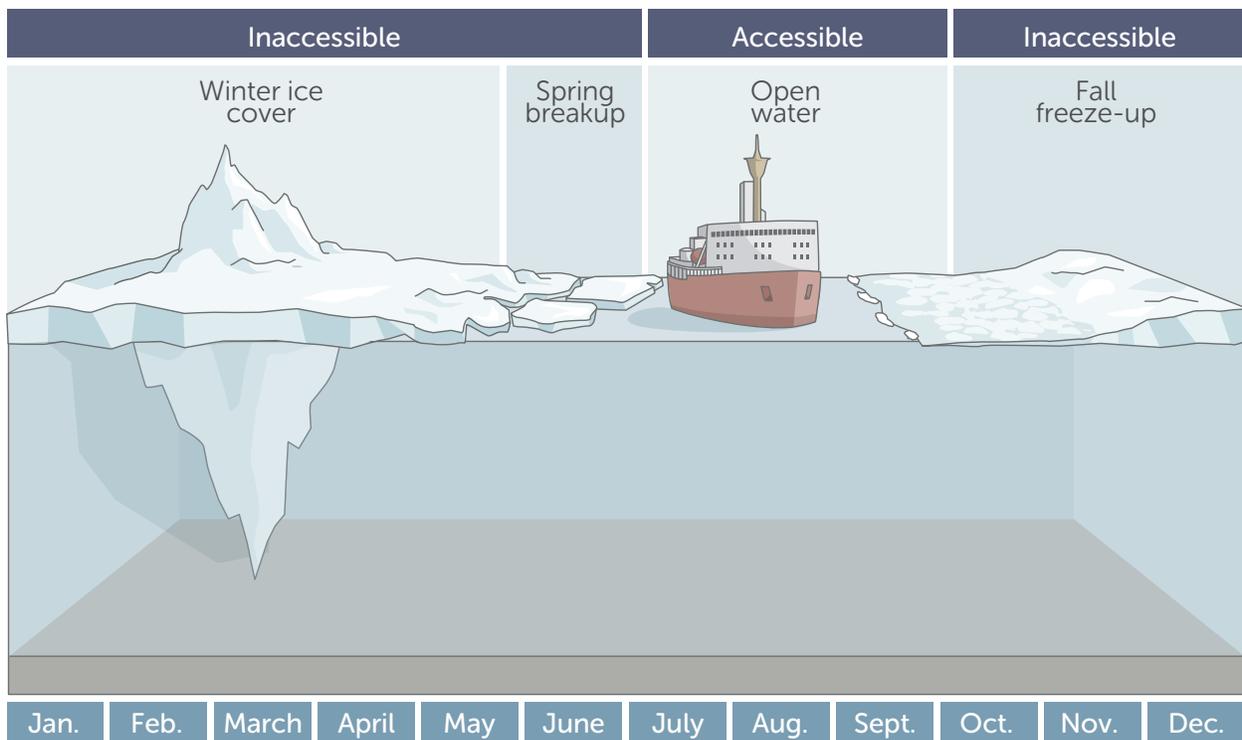
Arctic drilling standards would provide consistent requirements for all companies operating in the U.S. Arctic on how to design, build, install, and operate equipment to safely explore and develop oil and gas resources and respond to accidents in the region using the best Arctic science, technology, and practices. Arctic standards should account for the area's remote location, lack of infrastructure, and extreme operating conditions. These standards should include the following:

### Seasonal drilling limits

Arctic offshore drilling operations in hydrocarbon-bearing zones should be limited to periods when the drilling rig and its spill response systems are capable of working and cleaning up a spill in Arctic conditions. Drilling should be limited to periods when little to no ice is present (usually July to early October), and time should be factored in to drill a relief well, to add a margin of safety to stop a blowout, and remove oil prior to ice forming. Oil spill response techniques are substantially less efficient during periods of broken ice, during fall ice freeze-up, and when oil is trapped under ice, as well as during times of the year with 24-hour darkness.

### Arctic Seasonal Drilling Limits

Icy conditions reduce the efficacy of oil spill response most of the year



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## Arctic-ready vessels and facilities

Vessels, drilling rigs, and facilities should be built to withstand maximum ice forces and sea states that may be encountered. Even in the summer drilling season, vessels may encounter waves, fog, icing conditions, and ice, including thick multiyear ice floes that could damage equipment or make it unsafe.

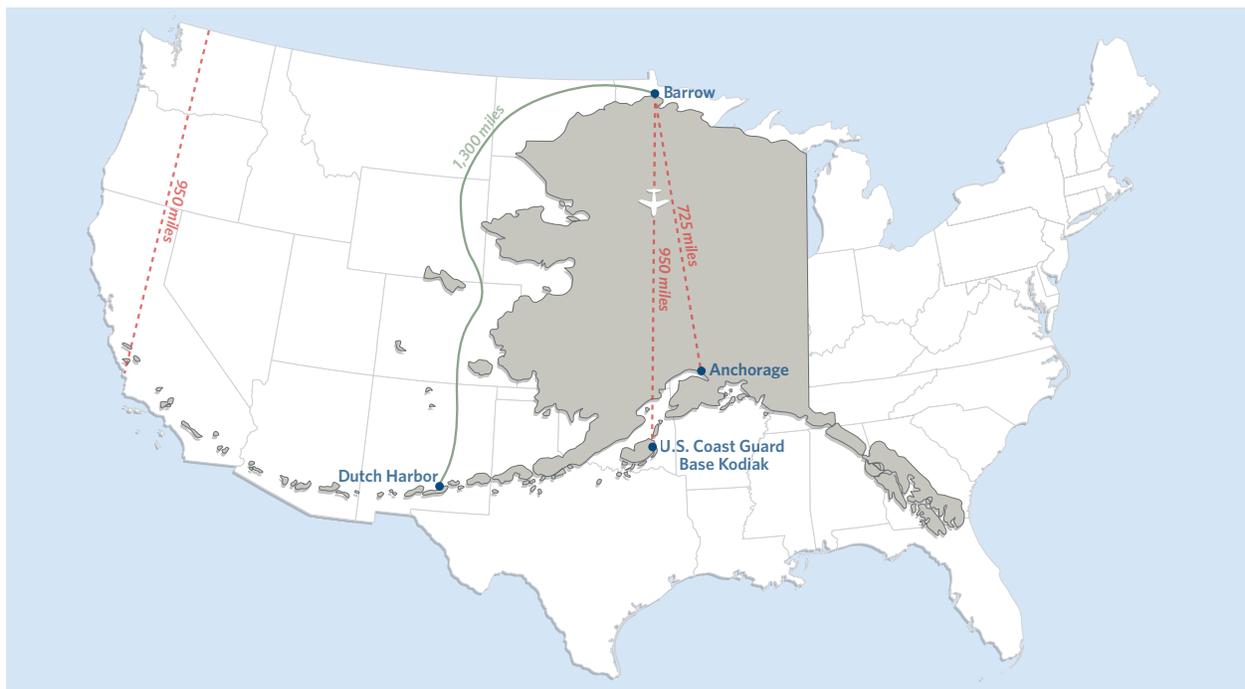
## Sufficient Arctic spill response equipment and well control tools located in region

Equipment needed to control a spill, such as relief rigs, containment systems, and spill response equipment, should be located in Alaska's Arctic. This well control equipment should be ready to deploy in 24 hours, and adequate spill response equipment should be pre-staged near ecologically sensitive areas that have been identified by Arctic communities. Unlike the Gulf of Mexico, where significant shore-based infrastructure and ready access to additional spill response equipment exist, the Arctic's remoteness could delay shipment of additional equipment from Alaskan ports and areas outside Alaska.

To avoid spill response delays, adequate equipment and trained personnel should be located in the region. Spill response equipment should be sufficiently robust to remove oil caught in icy waters and trapped under ice. Equipment should be tested and proved to work in Arctic conditions.

## Alaska's Size, Compared With the Lower 48 States

### Distances by sea and air between key southern Alaskan cities and Arctic shores



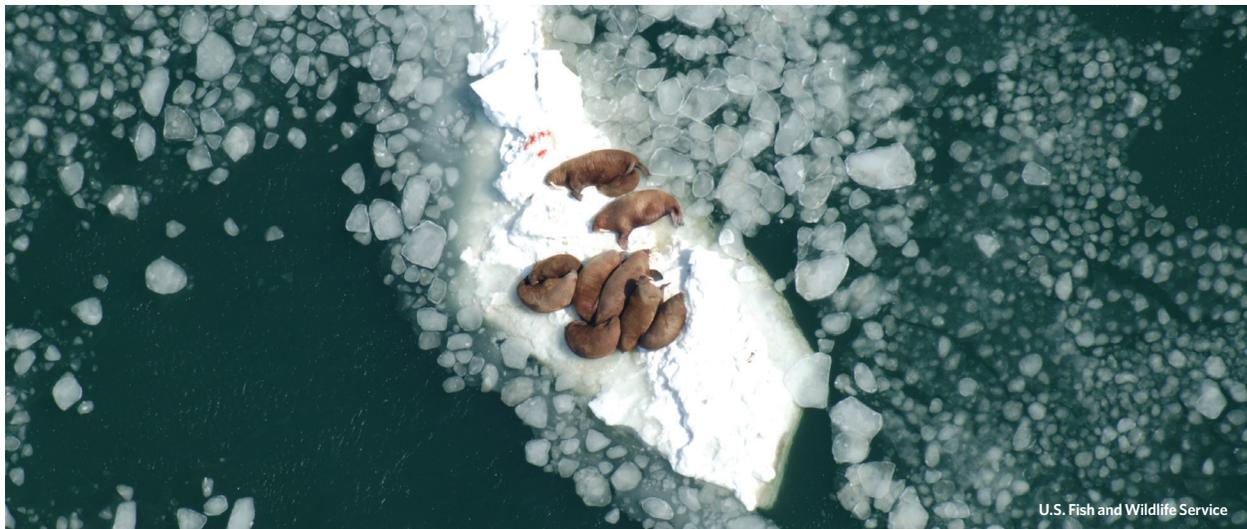
Source: Nuka Research and Planning Group  
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- Nearest U.S. Coast Guard base is 950 air miles from Barrow.
- Nearest major port, Dutch Harbor, is more than 1,000 miles away from Arctic Ocean drilling sites.

## Backup systems and redundancies

Redundant systems—including backup blowout preventers, double blind shear rams for cutting and sealing a drill pipe, and remotely operated controls—should be installed, because harsh weather and ice cover prevent equipment and logistical access for large parts of the year. An independent third party review of critical equipment should be required. Because of the remote nature of Arctic operations and the associated difficulties of oil spill response, these extra measures should be taken to prevent oil spills.

The Arctic Ocean is home to bowhead, beluga, and gray whales; walrus; polar bears; and other magnificent marine mammals, as well as millions of migratory birds. A healthy ocean is important for these species and integral to the continuation of hunting and fishing traditions practiced by Alaska Native communities for thousands of years.



## For further information, please visit:

[pewenvironment.org/Arctic](http://pewenvironment.org/Arctic)

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