

Report to Congress on Changes in the Arctic

The diminishment of Arctic sea ice has led to increased human activities in the Arctic, and has heightened interest in, and concerns about, the region's future. The United States, by virtue of Alaska, is an Arctic country and has substantial interests in the region.

Record low extents of Arctic sea ice over the past decade have focused scientific and policy attention on links to global climate change and projected ice-free seasons in the Arctic within decades. These changes have potential consequences for weather in the United States, access to mineral and biological resources in the Arctic, the economies and cultures of peoples in the region, and national security.

The five Arctic coastal states—the United States, Canada, Russia, Norway, and Denmark (of which Greenland is a territory)—have made or are in the process of preparing submissions to the Commission on the Limits of the Continental Shelf regarding the outer limits of their extended continental shelves. The Russian submission includes the underwater Lomonosov Ridge, a feature that spans a considerable distance across the center of the Arctic Ocean.

The diminishment of Arctic ice could lead in coming years to increased commercial shipping on two trans-Arctic sea routes—the Northern Sea Route close to Russia, and the Northwest Passage—though the rate of increase in the use of these routes might not be as great as sometimes anticipated in press accounts. International guidelines for ships operating in Arctic waters have been recently updated.

Changes to the Arctic brought about by warming temperatures will likely allow more exploration for oil, gas, and minerals. Warming that causes permafrost to melt could pose challenges to onshore exploration activities. Increased oil and gas exploration and tourism (cruise ships) in the Arctic increase the risk of pollution in the region. Cleaning up oil spills in ice-covered waters will be more difficult than in other areas, primarily because effective strategies for cleaning up oil spills in ice-covered waters have yet to be developed.

Large commercial fisheries exist in the Arctic. The United States is currently meeting with other countries regarding the management of Arctic fish stocks. Changes in the Arctic could affect threatened and endangered species and could result in migration of fish stocks to new waters. Under the Endangered Species Act, the polar bear was listed as threatened on May 15, 2008. Arctic climate change is also expected to affect the economies, health, and cultures of Arctic indigenous peoples.

Two of the Coast Guard's three polar icebreakers—Polar Star and Polar Sea—have exceeded their intended 30-year service lives, and Polar Sea is not operational. The Coast Guard has initiated a project to build up to three new heavy polar icebreakers. On May 12, 2011, representatives from the member states of the Arctic Council signed an agreement on cooperation on search and rescue in the Arctic.

Although there is significant international cooperation on Arctic issues, the Arctic is increasingly being viewed by some observers as a potential emerging security issue. Some of the Arctic coastal states, particularly Russia, have announced an intention or taken actions to enhance their military presences in the high north. U.S. military forces, particularly the Navy and Coast Guard, have begun to pay more attention to the region in their planning and operations.