

Arctic Ocean

Geography

Location: body of water mostly north of the Arctic Circle

Map references: Arctic Region - click on filename:

Area:

total area: 14.056 million sq km.

comparative area: slightly more than 1.5 times the size of the US;
smallest of the world's four oceans (after Pacific Ocean, Atlantic Ocean, and Indian Ocean).

note: includes Baffin Bay, Barents Sea, Beaufort Sea, Chukchi Sea, East Siberian Sea, Greenland Sea, Hudson Bay, Hudson Strait, Kara Sea, Laptev Sea, Northwest Passage, and other tributary water bodies.

Coastline: 45,389 km.

International disputes: some maritime disputes (see littoral states); Svalbard is the focus of a maritime boundary dispute between Norway and Russia.

Climate: polar climate characterized by persistent cold and relatively narrow annual temperature ranges; winters characterized by continuous darkness, cold and stable weather conditions, and clear skies; summers characterized by continuous daylight, damp and foggy weather, and weak cyclones with rain or snow.

Terrain: central surface covered by a perennial drifting polar icepack that averages about 3 meters in thickness, although pressure ridges may be three times that size; clockwise drift pattern in the Beaufort Gyral Stream, but nearly straight line movement from the New Siberian Islands (Russia) to Denmark Strait (between Greenland and Iceland); the ice pack is surrounded by open seas during the summer, but more than doubles in size during the winter and extends to the encircling land masses; the ocean floor is about 50% continental shelf (highest percentage of any ocean) with the remainder a central basin interrupted by three submarine ridges (Alpha Cordillera, Nansen Cordillera, and Lomonsov Ridge); maximum depth is 4,665 meters in the Fram Basin.

Natural resources: sand and gravel aggregates, placer deposits, polymetallic nodules, oil and gas fields, fish, marine mammals (seals and whales).

Environment:

current issues: endangered marine species include walruses and whales; fragile ecosystem slow to change and slow to recover from disruptions or damage.

natural hazards: ice islands occasionally break away from northern Ellesmere Island; icebergs calved from glaciers in western Greenland and extreme northeastern Canada; permafrost in islands; virtually icelocked from October to June; ships subject to superstructure icing from October to May.

Note: major chokepoint is the southern Chukchi Sea (northern access to the Pacific Ocean via the Bering Strait); strategic location between North America and Russia; shortest marine link between the extremes of eastern and western Russia, floating research stations operated by the US and Russia; maximum snow cover in March or April about 20 to 50 centimeters over the frozen ocean and lasts about 10 months.

Economy

Overview: Economic activity is limited to the exploitation of natural resources, including petroleum, natural gas, fish, and seals.

Transportation

Ports: Churchill (Canada), Murmansk (Russia), Prudhoe Bay (US).

Note: sparse network of air, ocean, river, and land routes; the Northwest Passage (North America) and Northern Sea Route (Eurasia) are important seasonal waterways.