

U.S. Coast Guard Cutter Healy completes mission with U.S. National Science Foundation in East Siberian Sea



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EAST SIBERIAN SEA – U.S. Coast Guard Cutter Healy (WAGB 20) crew and embarked researchers completed the 2023 U.S. National Science Foundation (NSF) mission, Saturday, servicing the Nansen and Amundsen Basins Observational System (NABOS).

The month-long mission's objective was to recover, service, and replace an array of nine long-term subsurface moorings that encircled the Siberian shelf from the Eurasian Basin to the East Siberian Sea.

These moorings provide insight into how warm water from the Atlantic Ocean enters the Arctic, impacting the deep basin interior, upper ocean, and sea ice as it circulates in the region and beyond.

In addition, Healy is specially equipped to execute Conductivity, Temperature, and Depth (CTD) casts, sampling the water column in areas normally inaccessible due to pack ice. During this month-long mission, the cutter conducted 41 such casts.

Since its beginning in 2002, the primary goal of the NSF-funded NABOS project has been to gain a better understanding of the circulation and transformation of Atlantic waters in the Arctic Ocean. Missions from 2021 to 2025 aim to quantify the role of freshwater as a regulator of heat transfer from Atlantic waters to the sea ice, according to project leader Igor Polyakov at the University of Alaska, Fairbanks.

With these observations, NABOS looks to inform the scientific community and public on the potential impacts to Arctic sea-ice coverage and marine ecosystems, and the expanding effect on the mid-latitudes. The success of NABOS since its earliest days has always been reliant on international partnerships, researchers of diverse backgrounds, and assets such as Healy achieving the results for which the project is known.

Healy is the Coast Guard's only research icebreaker, as well as the nation's sole surface presence routinely operating in the Arctic Ocean. The platform is ideally specialized for projects like NABOS; providing access to the most remote reaches of the Arctic Ocean; areas barricaded by pack ice and insurmountable by most research vessels.

Commissioned in 1999, the Healy is one of two active polar icebreakers and is the largest and most technologically advanced icebreaker in the Coast Guard. The Healy's crew compliment of 84 supports the ship's primary mission of

scientific support.