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## Students Find Arctic on Thin Ice

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**Students Find Arctic on Thin Ice**

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Article By: *Kevin Howe*

Monterey Herald story originally posted on April 13, 2009  
By KEVIN HOWE Herald Staff Writer

Some years the polar icecap looks like it's growing, others that it's shrinking.

But one consistent trend over the past 12 years is that it's getting thinner, said Timothy Stanton, an oceanographer at the Naval Postgraduate School in Monterey.

New ice replaces melted ice each winter, he said, but the old, underlying ice has been melting away.

Over the past five years, he said, the Office of Naval Research has recorded "an unprecedented retreat" of arctic ice. The surface area may vary, but the total volume of ice is shrinking.

Two students from NPS returned this month from 17 days at the Applied Physics Lab Ice Station on the Arctic Ocean 200 miles north of the North Slope of Alaska, lowering sensors (pictured above) into the icy water to study levels of arctic sea ice, how these levels have been changing, and exploring some of the reasons why the changes have occurred.



That tour by Navy Lt. Steve Col, a student in the undersea warfare program, and Lt. Russ Ingersoll, a student in the NPS meteorology/oceanography program (pictured below), coincided with ICEX09, a two-week military exercise involving two nuclear attack submarines to test torpedo and sonar systems in the arctic environment.

The two camped in a plywood shack built over a hole bored through 11 feet of ice, into which they would lower a CTD (conductivity, temperature and depth) measuring probe to record water salinity and density at different depths. They also took readings from areas away from the camp, flying to different locations in a helicopter.

The thinning ice near the North Pole is making it harder to set up ice camps, Stanton commented, and the two students said the stiff winds at the top of the world pushed their ice floe along, causing the line holding the probe to veer away from center, much like a fishing line cast from a moving boat.

Ingersoll said they had to schedule their probes around the movements of the submarines under the icepack and to recalibrate the probe each time they used it.



The probes provided a series of profiles of the water below, providing data they will use for their master's theses during the coming year.

The Arctic Ocean has become a new sea route as ice melts and ships find passage back and forth through it between Asia and Europe.

That development was the subject of a conference in December in Monterey titled "On Thin Ice," organized by the Navy school's Center for Stabilization and Reconstruction Studies and the nonprofit Global Majority, based in Monterey.

Participants noted that the Arctic Ocean, a theater of operations during the Cold War between the United States and the Soviet Union, is still being patrolled by British, American and Russian submarines, as well as ships from those navies and from Denmark, Norway and Canada, and Russia has resumed reconnaissance flights over the Arctic, one of which overflowed the two students' ice camp during their stay.