Beaufort Gyre Exploration Project: Dispatch 7: You Down With ITPs? Yeah You Know Me

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One of the main goals of the Beaufort Gyre expedition is to recover ocean profilers that have been documenting the conditions of the Beaufort S suspends a line in the water that a profiler climbs up and down to monitor ocean water at various depths.

WHOI's own Ice-Tethered Profiler (ITP) serves a dual purpose. In addition to monitoring ocean conditions, the ITP is frozen directly into a thick s twice daily to analysts at WHOI. ITPs help scientists understand the movement of ice throughout the Beaufort Sea during melting and freezing s

Though they are precise, costly instruments, retrieving ITPs requires more elbow grease and power than finesse and delicacy. Today WHOI scie from the ship's crew. This particular mooring interested WHOI because earlier this year, it stopped transmitting ocean profiles. The device still tra happened to their beloved ITP.

Crew members look over the side of the ship hoping to spot the ITP hiding in a sea of ice.

Though we could spot the ITP, we soon discovered that the device had fallen from its original mounting and was stuck in the ice. When a costly solve the problem: ram the floes with your ice-breaking ship. The ship made an initial charge toward the ITP to break up the surrounding ice, but up and ram the area yet again to knock the device from its hiding place, most likely from under a floe.

Success! After several attempts to break up the floes covering the ITP, the profiler emerged among battered ice cubes. With the ITP freed, crew members and WHOI scientists could begin the mooring retrieval.

Once the ship was positioned nex gatling hook. The hook keeps the a crane into position.

Crew members stand ready to guide the ITP to the deck. While ramming ice to break up floes, the hull of the ship scraped against the float, leaving a red stripe on its side.

Looking like a vandalized Rothko painting, the ITP float showed signs o attack.. Some polar bear in the Beaufort Sea is probably very disappoi mooring float is not made of beluga meat.

With the mooring on deck, scientists could begin determining why the ITP stopped functioning. Early hypotheses were that it had suffered some evident. A spring meant to hold the profiler's motor against the 700 meter line had snapped, causing the profiler to sink to the bottom of the line a

The right picture shows a fully functional wheel portion of the ITP with its spring intact. The left photo colliding with a floe. WHOI engineers will account for this design flaw while developing the next gene

For more information on ITPs, visit http://www.whoi.edu/itp.

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