

## Beaufort Gyre Exploration Project: Dispatch 10: Heading South

Rick Krishfield  
August 26-27, 2004

Though we've successfully recovered and redeployed all 3 of the BGFE moorings, there is still more work to be accomplished this cruise. CTD/Rosette sampling continues in earnest, as well as XCTD (expendable CTD) sampling. XCTDs acquire temperature and salinity data from the upper ocean (down to about 1000 m) which is relayed back to the ship via a thin wire. When the wire runs out it breaks so the sensor is not recovered, hence expendable. Altogether, about 30 CTD stations will be taken, and over 100 XCTDs will be deployed. The CTD casts are performed jointly by IOS (Institute of Ocean Sciences, Canada) and JAMSTEC (Japan Marine Science and Technology Center, Yokosuka), and the XCTDs primarily by JAMSTEC scientists Motoyo Itoh and Masuo Hosono.

In addition, another mooring which had been deployed two years ago by IOS and JAMSTEC scientists was recovered yesterday. This mooring goes by the acronym PITSA, and included an upward looking sonar for ice draft measurements, an ADCP current profiler, and an underwater thermistor string. Unlike the WHOI moorings which use wire rope, the PITSA mooring used Kevlar cable to be lightweight in case it would be recovered from an ice camp instead of a ship. The drawback to the Kevlar cable is that it can be broken by sharp ice, so Doug Sieberg and the Deck Crew used extra care when retrieving the PITSA mooring.

Fortuitously, we also found an ice mass balance buoy that was deployed last year but stopped signaling. The system was laying sideways in a melt pond with the antenna underwater which explains why it could not communicate. Designed to be expendable, this is the first time that one of these systems will be brought for the scientists at CRREL to examine.

But it's not all work. Last weekend, when the Chief Scientist and Captain deemed that we had a little extra time, the ship pulled up next to a large icefloe, the gangplank was lowered, and everyone who wanted to was allowed to walk on the ice for a few hours. There was also a celebration on the 22nd to commemorate the 10th anniversary of the cruise that this ship took to the North Pole along with the US Coast Guard Icebreaker *Polar Sea*. In addition, another polar bear was spotted, and the cribbage tournament continues.

*Last updated: October 1, 2014*



Motoyo Itoh recording data from a CTD cast.



Doug Sieberg hauling in the ADCP from the PITSA mooring.



An excursion on the ice.



A group photo opportunity. Kneeling left to right: Larry Sweeney, Amanda Byrd, Sarah Zimmermann, Ida Martin, Motoyo Itoh, and Linda White. Standing left to right: Janet Barwell-Clarke, Bill Williams, Masuo Hosono, Mary Steel, Doug Sieberg, Kris Newhall, John Kemp, Waldeck Walczowski, Rick Krishfield, and Andrew Hamilton.

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