

Beaufort Gyre Exploration Project: Dispatch 13: Shake, Rattle, and Roll

Chris Linder
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The rumbling, shaking, and jostling grew stronger today as we moved through patches of multi-year ice. Despite the damp, foggy weather, I spent a lot of time on deck watching the *Louis* smash through the ice. Even with the *Louis*' considerable horsepower (27,000 maximum shaft horsepower), a few particularly impressive floes the size of small parking lots stopped us cold today. In those cases the bridge crew either backed the ship up and rammed the ice again, or chose an alternate route around the floe. As the floes are pushed to the side, they roll in the water like huge ice cubes in a glass. Watching those broken floe bits is hypnotic, and I'm not the only one who is fascinated--at any time of the day people can often be seen at the rail, watching ice blocks the size of SUVs tumble by.

This afternoon I stopped by Linda White's lab to talk to her about her work on the *Louis*. Linda is analyzing water samples from the rosette for their nutrient concentrations. "Think of the ocean like a big garden" she tells me. "And nutrients are the fertilizer--except instead of your common home garden fertilizers such nitrogen, phosphate, and potassium, in the ocean we have silicate, phosphate, and nitrate. The levels of nutrients in the water column can tell us where that water originated. For example, water that has come from the Pacific has distinctively high nutrient levels compared to water from the Atlantic. Nutrient analysis is another one of the tools we are using to study circulation in the Arctic."

In honor of the weekend, we enjoyed a little break from the shipboard routine tonight. Chief Cook Paul Devlin fried up some spicy chicken wings for "Wing Night" in the ship's lounge. It was an opportunity to relax and unwind after the long hard hours both ship's crew and science party have been putting in on this expedition.

Yet, while some of us were in the lounge others were sleeping in anticipation of their night watch. CTD and XCTD science stations continue through the night as we power our way north to the site of Beaufort Gyre Observing System Mooring B. We hope to be on station and ready to pop the mooring release right after breakfast. Then the search is on to find a floe big and strong enough to make a home for our first ice-tethered profiler buoy.

Last updated: October 19, 2015



Oceanographic art--take styrofoam cup, add decoration, compress with 400 atmospheres of pressure. Cup in the middle is original size for scale.



David Cisco is ready to launch an XCTD.



Linda White analyzes water samples for nutrient content.



Chunks of broken multi-year ice slide alongside the hull.

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