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Beaufort Gyre Exploration Project: Dispatch 6: Boy-O-Buoy!

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Today we had the opportunity to recover some instrumentation that was installed on an ice floe during the 2012 JOIS program. One of the instruments installed in this array is called an O-Buoy, an instrument package that measures atmospheric carbon dioxide, ozone, and other natural atmospheric constituents such bromine oxide. The O-Buoy monitors changes in ozone within the lowest few hundred meters of the atmosphere above the land/ocean - termed the boundary layer. In the spring time when the Polar sun reappears, ozone in the boundary layer can be depleted to near zero, often for days at a time. This ozone depletion is thought to be closely associated with the release of bromine as salts at the sea ice surface, left from the previous winters freeze-up, are exposed to light the following spring.

Peter Peterson, a PhD Student from the University of Alaska Fairbanks, has been part of a team deploying O-Buoys in the Canada Basin since 2009. He has joined our group again this year to recover two O-Buoys and deploy another. Each O-Buoy is deployed into a sea ice floe during the summer LSSL cruises and will transmit data throughout the following year. This allows it to measure changing ozone conditions over the yearly ice cycle. Young sea ice is chemically more active than older, perennial ice cover, which has lost much of its salt. The O-Buoy program will monitor how the chemistry of the Arctic is changing with changing sea ice conditions, as the Arctic Ocean transitions from perennial to predominantly seasonal sea ice cover.

Day 2 of the Beaufort Gyre Newbie Games!

This afternoon's coffee break was accompanied by a message from the Louis Broadcast system, "Attention all Beaufort Gyre Newbies! Today's challenge involves repeating a traditional Newfoundland rhyme when you encounter the official sheriffs: *Mari Mac's mother's making Mari Mac marry me, My mother's making me marry Mari Mac."* Later in the evening the newbies had another challenge: build a boat for their potato side-kick. Scientist Sarah-Ann Quesnel won the boat-float challenge, constructing the most sea-worthy vessel for her potato head named George.

We also celebrated some birthdays on the ship today - Happy Birthday to Scientist Michiyo Yamaoto-Kawai and Electrical Cadet Jordan Mitchelmore! Both were treated to some birthday surprises...

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