April 11: Algae, Krill and the Big Chill

Post and Photos by Carin Ashjian

We've had a busy last few days. We are now working in the northern part of our study area, south of St. Lawrence Island. The ice is quite extensive here -- although not very thick -- and we've spent the last two days cutting through the ice at a speed of 10 knots. It seems impossible, given that the ice covers the ocean solidly. But in most places, we just charge along, merrily crunching the ice and flipping over slabs the size of Volkswagens as we go.

We just stopped to conduct a station. The ice here seems somewhat more tough, being under greater pressure, and so we spent some time making a hole with a great rumbling and clattering and banging as we turned and backed and crunched to get a good position. The ice has increasing amounts of ice algae growing in and on the underside of the slabs so that when the ice is turned over as we pass, the bottom is brown with algae.

Yesterday we sent two of our colleagues off by helicopter to St. Lawrence Island to start their trek home. It was a lovely day, with clear blue skies and snow covered ice as far as the eye could see. It is hard to believe that they have left -- it seems as though we just started yesterday! After we dropped them off, we traversed back to our line of stations along the international date line. That was quite a trip, thinking that one side was today and the other side was yesterday.

We have been doing plankton net tows every day to collect copepods and krill. Our tows yesterday were done in the early morning when it was quite cold outside (5F). Once we capture the plankton, we pour them carefully into jars in coolers and then take them inside the ship and keep them in the "cold room" -– an environmental chamber set at -1.8C (the temperature of the seawater from which the plankton were collected). One of our both dreaded and anticipated activities is sorting the plankton in the cold room. Each net tow is a new surprise -– what will we find here? What species are present? Which life stages?

But at the same time, sitting in the cold room with one's eyes pressed up to the cold metal of the microscope eyepieces is not a eagerly anticipated pleasure. We wear lots of clothes and gloves but nonetheless, the cold gets into our bones and into our brains and sets a chill into us that is difficult to shake, even with hot chocolate! Today we collected copepods and krill with which to conduct a grazing experiment – we want to see how much phytoplankton (plants) and microzooplankton (smaller animal plankton) our critters are eating. We put them in jars with the naturally occurring food and incubate them for 24 hours on a plankton wheel on the deck. Tomorrow, we will take down the experiment.

As the light waned, I conducted a final Video Plankton Recorder cast before heading to bed. I am looking forward to an uninterrupted stretch of at least six hours for sleep!