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Irminger Sea: Oct 24 - Morse Pond School

Questions from the students at Morse Pond School; Answers by Dr. Bob, both Melissas, Second Mate Derek, and Dallas.

Thanks to you guys at Morse Pond for asking such keen questions.

Did you bring anything to make you feel more comfortable away from home?
Lots of people like to take creature comforts when they go away; little things that remind them of home. We spoke to the scientists to find out what they took with them to make their trip more comfortable. Some took Ipods so they could still listen to their favourite music. Many of the science party brought knitting needles and crochet hooks with them to make hats and scarves. A couple of the scientists brought cuddly toys with them; for example a toy Goofy can be found swinging from one of the desks in the science lab and 'little ducky' has joined in many of our little parties. Besides this, if you go into people's cabins you will often find secret stashes of their favourite snacks and junk food.
The permanent crew on the boat are away for longer periods; typically four months at a time. We asked some of them the same question, and found they brought things like guitars, their favourite quilt and their favourite music with them, as well as photos from home and their favourite movies to watch.

How will Bob and Dallas feel about the cruise coming to an end?
I (Dallas) will feel sad to leave this fine old ship and my new friends. It is one of those experiences, sort of like a summer day, that seems to go on a long time, but is over in the blink of an eye. I imagine that the crew feel rather different, this being their full time jobs, when for me it is a sometime experience. I'm interested in everything about the ocean and ships and boats. I've learned a lot about the study of the ocean and about the way of a research ship. It was particularly interesting for me to see this wild sea and the Greenland coast. Few people get to see the waves we had during that storm early in the trip; I consider it a privilege.

Dr. BOB: I have mixed feelings about the cruise coming to an end. I've spent many months preparing for this expedition, from coming up with the original idea, to obtaining government money for it, to figuring out a sampling strategy. A huge number of people have worked hard to make it happen (for which I am most thankful). Because of all the time and effort involved in such a cruise, it means that we can't go to sea that often---so in this regard, any time on the water is precious. Furthermore, it is always exciting to collect new data and learn new things about the ocean. It is thrilling to be the first one to figure out some aspect about how the ocean works by being there and taking measurements.
Because our time at sea is so short, it is also important that we make the best of that time and collect as much information as possible. This is another reason why part of me wants the cruise to keep going. I know that with every hour, and every CTD cast, we are learning that much more. Being "trapped" on the ship is also a great time to make progress towards processing your data, and discussing the results with fellow members of the science party. I've had untold hours of conversation with my graduate student Kjetil during the course of the month, trying to make sense of the data we're collecting. It has also been fun getting to know the crew members and the rest of the science party. And it will be sad not to read Dallas' compelling dispatches about our adventures each day.
But there is of course a part of me that is looking forward to wrapping things up so that I can be with my family again and enjoy the comforts of home. (It gets tiring being on a rolling ship...I don't know how the crew does it month in and month out). I hope I'm back in time to see Greg's last soccer game!

How will it feel to walk on dry land again?
That's always a funny feeling, the solid land moving under foot. You sort of stagger at first, but it doesn't last very long, and pretty soon, there you are, back on land. Finally, that's what we are—land creatures. Though I've never experienced it, I've read about people who experience landsickness, but I'm not sure whether to believe the stories or not.

How do you retract the bow thruster?
The bow thruster retracts into the bottom of the hull on a long round shaft. You can't see the thruster itself from inside the ship, but you can see the shaft, which looks sort of like the one in auto-repair shops when a car is lifted overhead. When the bridge is ready to retract the thruster, the officer moves it to a fore-and-aft position so it will fit into its housing under the ship. Meanwhile, a crewman climbs down into the "thruster room" ready to make sure things are in working order. The officer notifies the engine room that he wants to raise the thruster. If he receives the okay from the engine room and the crewmen watching from the thruster room, the officer presses a button on the bridge. As it comes up, all three people remain in radio contact, and if everything looks good to each, then up comes the thruster.

Have you seen any jellyfish?
I asked around, and no one has actually seen a jellyfish. Perhaps we would have had it not been so rough through most of the cruise. But Melissa P. has seen tiny members of the jellyfish family in photos taken by her VPR, and traces of larger, more familiar ones in the form of tentacles. There is no reason to think that these waters aren't rich in jellyfish and their close relations.

How much plankton is in the water compared to off Woods Hole?
Woods Hole is a coastal area with large phytoplankton blooms, which lead to high zooplankton concentrations, in the winter and spring. Coastal waters have high nutrient inputs due to run-off from land. These allow for lots of plankton to grow. The area we are working in, the Irminger Sea, is characterized by large plankton blooms in the spring only, when the water warms and becomes stable, and very low growth in the winter, due to the cold water temperatures. Overall, the annual production between the two areas is about the same. The time of year in which plankton abundance is highest, however, differs because of the difference in latitude between the two locations and their proximity to land. For the month of October (the month we are sampling in the Irminger Sea), I would expect to see higher concentrations of plankton in the waters in Woods Hole than I am seeing out here in the vicinity of the Denmark Strait.

Has Dr. Bob answered the questions he was seeking to answer, or will the answers have to wait for all the data to be reviewed?
A lot of the detailed answers will have to wait months, even years to sort out. As you know, part of the mission of the cruise was to retrieve the moorings that we put in the water last fall. After transferring the information from the mooring instruments to our computers, it takes a lot of hard work to process the data and remove the "noisy" parts (the parts that are no good). Believe it or not, this task alone will take close to a year to complete!
However, we were already able to take a quick look at the data from the moorings and have learned some neat things. For example, we have discovered that the currents flowing near the edge of the East Greenland shelf were incredibly fast and powerful. In fact, often times the flow was so strong that it bent the moorings over. We also discovered that this happens in bursts, and these bursts of flow are probably related to the powerful storms in the region. But it will take a while to sort out the details, and I need to work with the meteorologists to better understand the atmosphere-ocean connection.
One of the big questions before we began the cruise concerned the source of the dense water that flows past the mooring array . We wondered if this water sank nearby and then went past the moorings, or if the water originated far to the north and then traveled a long way to get to the moorings. This is partly why we worked our way to the north during the cruise (with some big interruptions from storms!). I think we have determined that the dense water did not sink locally, but instead was "steered" past the moorings by the bottom topography. This is an exciting result and will change the way we think about how the dense water goes from the north to the south.
But, believe it or not, with the new information that we have obtained on the cruise I now have many more questions than answers! One of the exciting things about oceanography is that we always discover unexpected things each time we go out on a ship.

Is it possible to see a video of the Aurora Borealis?
I don’t think anyone aboard tried to video the Aurora. The trip is not over yet, so perhaps someone will. I Googled “Aurora Borealis” and found dozens of sites with hundreds of photographs, some spectacular, but I didn’t see any video.

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