

Irminger Sea: Oct 26

In the Name of Science by Dallas Murphy

It's funny how rumors bounce around the ship when the routine is broken. It's now 0900 Sunday, day three since we sought refuge in this fjord. During my morning visit to the bridge, the anemometer was reading 35 knots with gusts to 40, and it was still snowing. (Ben and Katie and their assistants built a snowman on the transom.) The seas outside are still running 30 feet and higher, according to the wave-model picture, which is based on satellite images.

"It'll be ugly out there," said one of the many visitors to the bridge. No one disagreed.

There had been conflicting rumors spreading over breakfast. We wouldn't get out until tomorrow. We'd be getting underway about noon. We'd spend Christmas looking at the little island off our bow. All we could say for sure was that we were standing by. Fresh visitors came onto the bridge.

"Well, what's going on?"

"We're standing by," said Second Mate Derek.

The bridge telephone rang every ten minutes. "No, we're standing by....Yeah, you'll be the first to know."

The latest rumor is that we'd extend the trip by a day to make up some lost time.

"I have a flight to catch on Friday morning."

"Forget it."

An engineer arrives on the bridge. "What's going on?"

"We're standing by."

Here's the problem: Dr. Bob's last mooring lies 110 miles due north, a 12-hour steam in good conditions. And he'd like to complete a CTD pattern in that general area. However, the wind and seas are coming down from the north right in our face. Under those conditions, Knorr would barely make good (speed over the bottom) five knots. And she would take a hardy beating at that. So do we wait another day, when presumably the storm will finally vacate these waters? Or do we pound into the head seas for some 24 hours and arrive at the mooring site along with better weather? These are the questions before Dr. Bob and Captain Kent, who are discussing their alternatives in the main lab right now. I'd like to eavesdrop, but I won't.

Every scientist studying these northern seas expects to lose a day here and there to rotten weather. They shrug and say, "What can you do?" But even by the standards of the Iceland Sea/Denmark Strait/Irminger Sea, this storm is special. Dr. Bob has never seen the like. And, still more surprising, October is early in the storm season. This is all very frustrating for Dr. Bob. He would never say that he was on the verge of answering the most pertinent questions among the many posed by this dizzyingly complex region. But he might say that he was looking, or beginning to look, in the "right" places to shed light on a few of the questions about the origin of the water flowing into the Denmark Strait from the north and the northeast.

Let's ask--and try to answer--in accessible terms this question: Why does it matter what kind of water flows into the Denmark Strait? On one hand the answer is simple. To figure out such things about how the ocean works is what physical oceanographers do. They are motivated by curiosity, the root impulse of all oceanographic inquiry, all scientific inquiry, for that matter. But there's matter important to us all. The Denmark Strait is the headwaters of the Deep Western Boundary Current.

It's 3:00 now (1500), but we haven't moved.

"Have you heard anything?"

Remember that water flowing north in the Gulf Stream? Remember that an equal quantity of water must flow south? The Deep Western Boundary Current is the main artery of southerly flow. But in order to sustain the flow, water must sink into the Irminger Sea at the foot of the "waterfall," or as scientists call it, the Denmark Strait Overflow. This section of the circulation is thought to be particularly vulnerable to "freshening" due to meltwater from the Greenland glaciers. If the salinity brought north in the Gulf Stream waters is diluted beyond some yet unknown point, then instead of sinking, the water will freeze on the surface. We won't be happy with the resulting impact on our climate. In a sense, we're "standing by" to learn the real degree of the threat. To learn something about that, it's important to know just

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what "kind" of water (temperature, salinity, etc.) flows into the Denmark Strait, how it grows cold enough to provoke the sinking, and by what route the water reaches the Denmark Strait. And that brings us back to Dr. Bob's study, now interrupted by the giant storm.

It has stopped snowing. The snow-plow man, who had been busy all day in the tiny village on the island, has finished his work. The clouds still hang low over the mountains away to starboard, but over those to port, I just saw a speck of blue. Soon perhaps we'll feel the two "bigs" fire up. Then we'll know.

Wait, there's the phone ringing. Dr. Bob answers, nods, nods again, says, "Thank you," and hangs up. We all know what that means.

Aallaqqinneq by Nick Møller

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