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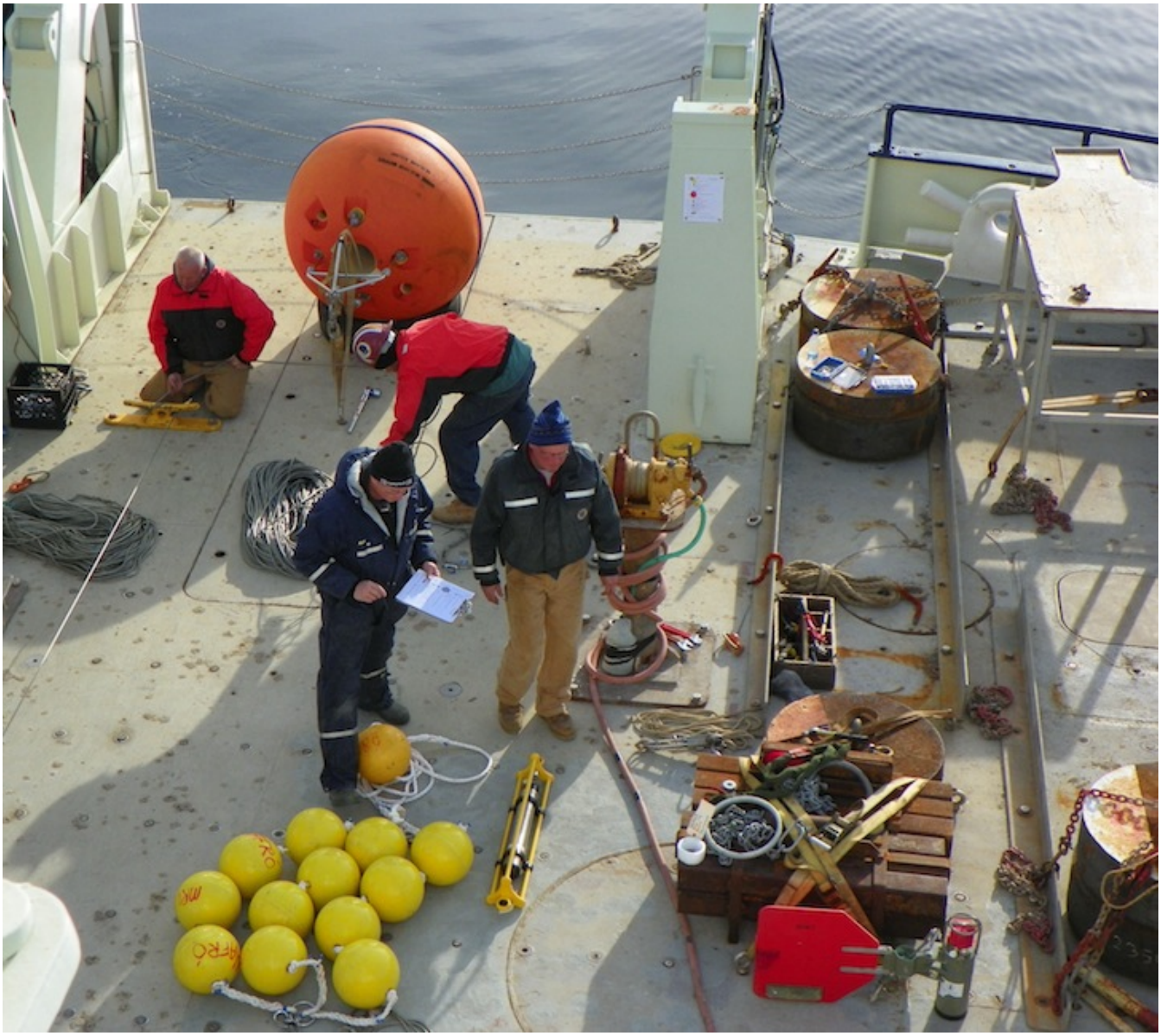
Denmark Strait: 1: Happy Hollow School, USA

A special thank you to teacher Diannna Rathert and her 5th grade students in Happy Hollow School, Indiana for sending questions for our mooring crew before they went ashore in Iceland, August 31st.

Question 1: What are all the things you have to take into consideration in order to make the instruments that go inside of the mooring? Would you use different instruments, make them out of different material, set the moorings at different depths for different water conditions? How did they feel as they placed the first mooring in the Denmark Strait?

Answer: There are many things to consider when putting instruments on a mooring. The pressure rating of the instrument determines how deep it can be deployed. Some instruments made of delrin or other plastics generally can only be deployed at 500 meters or less. Some of our instruments made of thick aluminum can be deployed as deep as 6000 meters. The deepest depths we will be deploying moorings on this project is about 1800 meters. Another consideration is how the instruments get mounted. Some have custom cages built just for that instrument. Others get clamped directly onto the mooring wire. A very important consideration is also the battery capacity. We need to make sure the instruments have enough batteries to last a full year. That is often a limiting factor.

The mooring team felt the importance of the first mooring and relief that it went in correctly.
Question answered by Daniel Torres, Physical Oceanography Research Associate



All the instruments, floats, anchor, etc. needed for this Icelandic mooring deployment is laid out on the deck. © Pat Keoughan

Question 2: How is the data received from the moorings? Is all of the information gathered and then the data retrieved or do the scientists get constant feedback from the instruments?

Answer: All of the instruments being deployed on this project will be recording their data "internally". This means the information is stored within the instruments, and we will not be able to look at the data until we recover the moorings a year from now. Only moorings that reach the surface can transmit data via satellite back home. But we dared not deploy such surface moorings here because of the potential for pack-ice and icebergs to destroy them. So we will have to be patient for a year and hope that our moorings survive this harsh environment of the Denmark Strait. And of course we will be very excited (and nervous) when we return next summer to see what information the

moorings gathered.
Question answered by Chief Scientist Dr. Bob

This Icelandic mooring was just pulled out of the Denmark Strait where it has been collecting data for a year. The data will be retrieved by the scientists using computers. © Pat Keoughan

Last updated: December 27, 2011

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Mail: Woods Hole Oceanographic Institution, 266 Woods Hole Road, Woods Hole, MA 02543, USA.
E-Contact: info@whoi.edu; press relations: media@whoi.edu, tel. (508) 457-2000
Problems or questions about the site, please contact webdev@whoi.edu