



**NOAA Teacher at Sea
Jill Stephens
Onboard NOAA Ship *Rainier*
June 15 – July 2, 2009**

NOAA Teacher at Sea: Jill Stephens

NOAA Ship *Rainier*

Mission: Hydrographic Survey

Geographic Area of Cruise: Pavlof Islands, AK

Date: June 17, 2009

Weather Data from the Bridge

Position: Anchored, Bluff Point, AK; 53° 10.087' N, 161° 52.801' W

Broken sky

Visibility 10 nautical miles

Wind 060 at 6 knots

Temperature 8.3° C dry bulb, 7.8° C wet bulb

Barometric pressure 995.7

Sea Temperature 5.6° C

Science and Technology Log

This morning everyone was abuzz with excitement because today we were to send out the launches and begin to survey the area in the Pavlof Islands that has not yet been charted! The data that we will be collecting during this survey, such as depths and hazards to navigation, will eventually end up on nautical charts.

Deploying the launches is a fascinating thing to watch. The davits on our ship rely upon gravity, (Newton's Laws in action...). The boats are attached with cables and the weight of the launch is used to lower it to the water. As the cable is slowly released, deckhands man lines to assist in guiding the launches slowly toward the water. The crew and their gear are loaded from one of the lower decks and then the launch is lowered the rest of the way to the cold Alaskan water. Once the launch is in the water, the cables are released from the launch.



Here I am driving the launch. It is essential to hold a steady course while collecting data for the surveys and tests.

The launch that I went out on was running patch tests and collecting Reson data. The patch tests are necessary to calibrate the multibeam sonar and measure any physical offsets that may induce errors into the acquired data. In order to accomplish this test, we collected data with the sonar by running lines over an area that was surveyed last year. The sonar that is used to collect information about the depth and underwater objects can be either high or low frequency. It was important for our boat to test both frequencies. The frequency used depends upon factors such as the depth of the water.

Personal Log

Having been on board ship for two days already, I am getting the feel for where everything is located and how meals work. Now, I have also been introduced to the routine of launching and conducting surveys. Our coxswain allowed me to pilot the boat for one of the runs during our testing. My time on boats at home and on sailing excursions is paying off.

When I visited the bridge to write down the weather information, the officer on bridge watch, Ensign Andvick, was preparing to collect the hourly weather information. I assisted in the collection of the required data and was excited to be able to learn where the weather instruments are located on the bridge. I enjoy data collection, so I will time my visits to coincide with the hourly check of the weather, which becomes a part of the ship's log. While on the bridge, I also learned that there is some difficulty communicating by radio from the ship to launches in this area. The islands in this area are very high and mountainous, but in similar areas this difficulty has not been noticed. One possibility for the communications issue is that the mountains here have a higher concentration of iron that interferes with the signal. (Sounds like an idea for a science fair project...). The launches have other methods to communicate with the ship and other launches such as satellite phones.

I had the opportunity to spend time in the plot room with fellow teacher at sea, Mary Patterson while the night processors were working on the data collected during the day. We continue to meet and work with interesting and fabulous people.

New Vocabulary

Coxswain: boat driver/operator -- The coxswain is responsible for the operation of the boat and the safety of all occupants and equipment.