



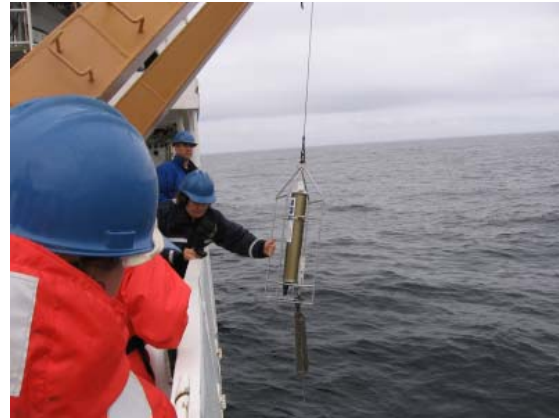
**NOAA Teacher at Sea
Kimberly Wolke
Onboard NOAA ship RAINIER
July 24-August 11, 2006**

**Mission: Hydrographic Surveys of the
Shumagin Islands, Alaska**

Day: Tuesday, July 25, 2006

Science and Technology Log

The purpose of the hydrography work that the RAINIER is doing is to collect data using sonar readings of the ocean floor to provide a picture of the topography of what's under the water, otherwise known as bathymetry. Are there volcanic pinnacles or other underwater hazards that we are unaware of? Updated NOAA charts need to be made to show more detail and the complexities of the waterways due to a large increase in Pacific Rim ship traffic between Asia and North America.



ENS Olivia Hauser retrieves the CTD, which contains data that will provide a baseline reading of the speed of sound through the water. This information will assist in the sonar readings that will be taken of the sea floor.



The area inside the square being pointed to is where the NOAA ship RAINIER is surveying to take measurements of water depth as well as to locate any underwater features such as rocks and volcanic pinnacles.

We began surveying the Semedi Islands area from the ship today. At 0800 a crew went on to the fantail (back deck) of the ship to lower a device called a CTD. This canister-like apparatus takes measurements of Conductivity, water Temperature, and Depth, from which the speed of sound through the water can be calculated. These measurements are taken every 4-6 hours and are used to calibrate the readings taken by the ship's multi-beam sonar mapping system. For a few days we will continue to do these ship surveys since the water's depth is greater in this area. The ship's sonar can cover a wider area at a lower resolution than the smaller launches that we will use to survey the shallower waters in the Shumagin Islands.

ENS Sam Greenaway, who is a Navigational Officer, spent time showing me nautical charts of the areas that we will be working in. There is a lot of very important information found on these charts, which are used by anyone operating a vessel on the

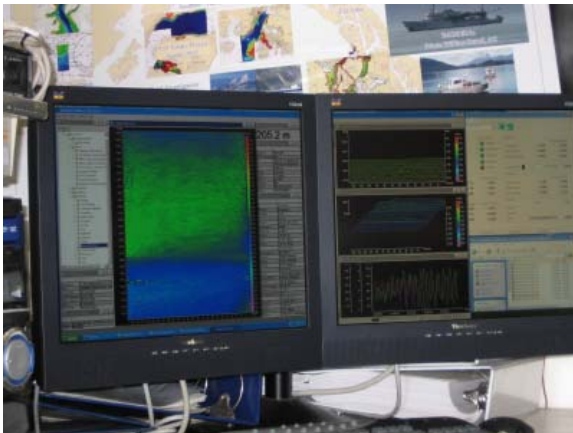
water (fisherman, Navy ships, Coast Guard ships, cargo ships, etc.). In addition to showing water depths, these charts show where there are lighthouses, rocks, ledges, buoys, coastlines, and other potential hazards or physical locations. A ship like the RAINIER relies on these charts as a means of planning a route to follow.

Personal Log

I had a good night's sleep last night. I think the gentle rolling motion had something to do with it as well as the sound of the water lapping up against the ship. I only wish the



ENS Sam Greenaway works on a nautical chart.



Computer showing data being acquired from the RAINIER ship sonar. The blue color means deeper water. The green color is shallower water.

we're going that there were a lot of humpback whales. I'm keeping my fingers crossed.

We had our first fire and abandon ship drills today. Safety has definitely been emphasized by the location of safety gear around the ship, the requirement for wearing hardhats and float jackets when on deck, and the safety drills. We all have these papers called bunk cards that we must hang on our bunk beds in the stateroom. The cards tell each person where they should muster (meet) on the ship for each type of

rolling and swaying motion I feel was so comforting during the day! After getting sick this afternoon, I finally gave in and took some seasickness medicine. I might have to take it everyday if I'm getting sick in rather calm seas. I did find out that once we get to the Shumagin Islands in a few days we will be anchored. I'm definitely looking forward to that. ☺

Earlier today there were three Dall's porpoise riding the bow of the ship. They like to play and swim along the wake of the ship as we move forward. Yesterday there were some sea otters spotted as well as several clusters of puffins. We've been told on the RAINIER's last trip to the area



TAS Kim Wolke showing off her float jacket and hardhat after a fire drill.

drill as well as what type of extra gear they are responsible for bringing. I needed to photocopy my card to carry around with me since I can't remember exactly where I'm supposed to be for which drill. ☺

The sun broke through this afternoon....very exciting. It's been very cloudy and drizzly ever since I arrived on Saturday.

Keep shining sunshine!

Kim Wolke
Teacher at Sea