



**NOAA Teacher at Sea
Amy Pearson
Onboard NOAA Ship DELAWARE II
August 13-30, 2007**

NOAA Teacher at Sea: Amy Pearson
NOAA Ship: DELAWARE II
Mission: Ecosystems Monitoring Survey
Date: Tuesday, August 14, 2007
Location: Woods Hole Dock

Weather Data from the Bridge

Time: 11:00 p.m.
Air temp: 18.2
Water temp: 19.0
Wind direction: 160
Wind speed: 13 kts.
Sea wave height: 2 ft.
Visibility: 10+

Personal Log

I got up around 7 a.m. and had some breakfast, a delicious egg sandwich on a bagel w/ bacon on the side. The ship is supposed to depart at 1 p.m., but due to some mechanical problems the time is bumped to 5:30 p.m. Kim Pratt, an ARMADA Teacher at Sea, and I helped Jerry with organization of jars, labels, supplies and received a second lesson in CTD data acquisition from Tamara. We had time to squeeze in another walk through Woods Hole, a great village, devoted to marine science study. The town is perfectly developed for working with the sea—many places for boats to tie up, great research facilities (MBL, WHOI, and National Marine Fisheries with NOAA), and just the right amount of shops and restaurants.



NOAA Teacher at Sea, Amy Pearson, dons her survival suit during a drill on NOAA Ship DELAWARE II

We departed Woods Hole at 5:45 p.m. It was very exciting to pull away from the dock. We looked back at a village devoted to science and saw the majestic Knorr that had just arrived yesterday and is tied up at the WHOI dock. We had drills to insure all are prepared for fires, abandoning ship, and man overboard. The photo shows me in a

survival suit (nicknamed a Gumby suit) that we had to bring to deck in the event of having to abandon ship. We also had to bring along a long-sleeve shirt, hat and blanket, and were assigned life rafts.

We headed out passing Martha's Vineyard on our port (left) side and the Elizabeth Islands on our starboard (right). Dinner was a pork roast in mango sauce or fish. Great veggies. Our first station to sample was at about 10:00 p.m.

Science and Technology Log

Lots of science to learn and experience today. One goal of this trip is to collect plankton samples at over 100 stations ranging from Cape Hatteras to the Gulf of Maine and east to Georges Bank. Some stations are offshore, over 200 miles offshore. Others are closer to the coastline called inshore stations. This plankton will be preserved for identification and counted at a later date.

We collected the plankton in Bongo Nets – two round metal frames (look like bongo drums) that have fine netting attached. As we traveled slowly through the water, the nets collected plankton of a certain size, letting smaller plankton (phytoplankton) through. We are collecting large zooplankton (animal-like creatures-many crustaceans) and ichthyoplankton (fish larva).

As we head south from Woods Hole we will start doing offshore stations as the weather is good and if it deteriorates, we will move in-shore. For our first sample, my job was to man the computer, recording the data collected. At this station, there were 3 monitors to watch, one that has basic navigational info such as latitude, longitude, water and air temperatures, wind speed and direction, depth and more. The other monitor has the software that I am to input data on the cast. A third showed real time views of the stern deck where the scientific equipment was being deployed. Here I watched what was happening on deck and communicated with the winch operator who was lowering the equipment.

Another role here is to monitor the depth of the scientific equipment being lowered. Besides the Bongo Nets, a CTD is lowered. There is also a large lead weight at the end of this equipment to make it go down. The CTD unit (costing about \$14,000) collects data on Conductivity, Depth, and Temperature. The conductivity reading produces data for ocean salinity. If this scientific equipment hits bottom it may be destroyed so I had to watch the depth reading to insure safety for the equipment. Based on the depth of the ocean, I check a chart to determine the rate of output wire release and input wire return, telling this to the winch operator.

All of this data is recorded on paper logs and the computer. Once the plankton is brought to the surface, the cod end of the net (tied end) is opened and the plankton is washed out of the net into a sieve that retains this plankton. This is then rinsed into a collection jar and formalin is added to preserve this. Labels are marked to identify its station location. All of this takes about thirty to forty minutes depending on the depth of the cast.