



**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: Friday, August 24, 2007  
Location: North Atlantic

**Weather Data from the Bridge**

Time: 1000  
Air temp: 19.9  
Water temp: 16.8  
Wind direction: 185  
Wind speed: 10 kts.  
Sea wave height: 1to2 ft.  
Visibility: 4

**Science and Technology Log**

Early this morning we were at the southeastern edge of George's Bank. Last night my team (Betsy and I) had collection stations at about 5:10 p.m., 7:30 p.m., 10:30 p.m., and 2:20 a.m. (today!). At 2:20 a.m. we were at a very deep location (305 meters depth) and about 200 miles offshore. I was surprised to come on deck and see 3 lights from other boats. Two were just small single lights. The other ship had bright lights on and was moving away from us, probably fishing. We first did a vertical drop of the CTD to get the temperature and salinity with depth all the way to the bottom. At 298 meters it was 6.7 degrees Celsius. One can look at the salinity and temperature here and predict if this continental slope water is coming from the north (Labrador Current) or from the continental shelf. It will be less salty and cooler if coming from Labrador. Betsy predicts it is coming from Labrador, based on the data. I go to sleep around 3 a.m. and wake several times, hearing foghorns from our ship. At 10:30 a.m. there is pretty dense fog, and while we are underway we must sound a foghorn once every 2 minutes. If we are limited in our movements (plankton tow) we must sound one long and two short sounds. It is quite humid (we are in a cloud!) and the air temperature at 1 p.m. is about 19 degrees Celsius. Our 75<sup>th</sup> station samples were loaded with gammarid amphipods that Betsy nicknamed clingons because they cling to the plankton net. This fog does make seeing whales more challenging. Hope it lifts soon!



**Teacher Amy Pearson and Kim Pratt dressing up as plankton**



**Jerry Prezioso, Amy Pearson, Kim Pratt, Joe Kane with 1 weeks worth of plankton samples collected during the southern leg of Ecosystem Cruise (from Wed. 8/22/07, Woods Hole)**

### **What Is the Mission of This NOAA Cruise?**

The primary objective of the cruise is to assess changing biological and physical properties which influence the sustainable productivity of the living marine resources of the mid-Atlantic Bight, southern New England, Gulf of Maine and Georges Bank portions of the northeast continental shelf ecosystem. The following items are being measured: water column temperature, salinity, and chlorophyll-a fluorescence, and ichthyoplankton and zooplankton composition, abundance and distribution. The teachers aboard will deploy a surface current drifter

buoy that will allow our students to track water movements and temperatures in near real-time on an Internet website. We will also collect *Pseudonitzschia* (a red-tide pinnate diatom) samples from the ship's flow-through seawater system for mapping the distribution of it in the Gulf of Maine and George's Bank. Zooplankton is also being collected for the Census of Marine Zooplankton Project (formerly called the Zooplankton Genome Project).

From my perspective, I never thought there would be such big differences in the type and amount of plankton we collect at different locations. The diversity is very interesting, from large jellies to small zooplankton. We have seen amphipods (tiny crustaceans), tiny crabs (still maturing), brownish phytoplankton, salps (clear jellies the size of a small walnut), to brownish creatures too small to see, krill, arrow worms...and many more. The scientists are quite knowledgeable and usually predict what we will be seeing at each spot. I've put a few photos here to illustrate the diversity.



**Small puffer fish and salps mixed w/ other plankton**



**Small fish, large jelly fish and other types of plankton**



**A plankton sample full of amphipods**