



NOAA Teacher at Sea
Rebecca Bell
Onboard NOAA Ship DELAWARE II
August 13 – 28, 2008

NOAA Teacher at Sea: Rebecca Bell
NOAA Ship DELAWARE II
Mission: Ecosystems Monitoring Survey
Geographical area of cruise: North Atlantic
Date: August 15, 2008

Weather Data from the Bridge

Latitude: 3846.7
Longitude: 7302.1
Temp 25.4 C

Science and Technology Log

In the last post, I explained WHY we are collecting zooplankton. This post will illustrate HOW the samples are taken.

The samples are collected using a device called a bongo net (Yes, like the musical instrument). You can see the metal rings and the nets hang from the metal rings. One net is marked with red and the other green. This allows you to tell the two nets apart. The samples from the red side will be used for the ichthyoplankton study. The samples from the green side will be used for the zooplankton study.



Left: The bongo nets; Above: The CTD

The white device is the CTD (Conductivity, Temperature, Depth). You attach it to the bongo net frame and turn it on. The CTD takes measurements on the way into the water and on the way out of the water.

When the bridge clears you, the computer operator (inside) tells the hydraulics operator to start letting out the line and at what speed to let it out and bring it in. You calculate the amount of time in and out using a chart that is based on changing depth. You have to calculate it so you get at least a 5-minute tow.

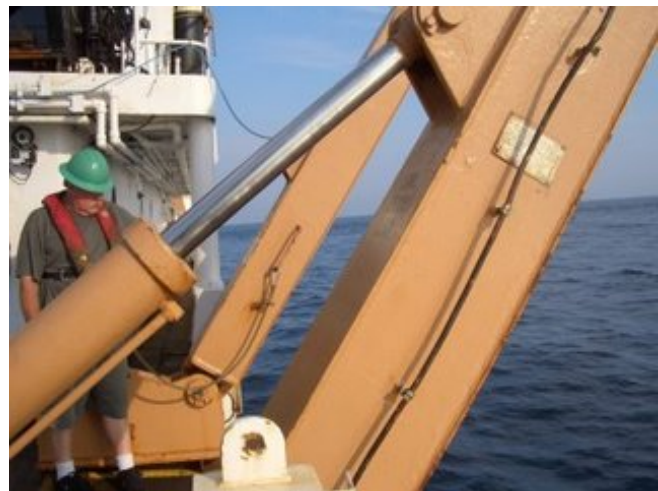


NOAA Teacher at Sea, Becky Bell, assists in deploying the bongo nets.

Now the bongo nets are raised on the A-frame. You can see the CTD above the bongos (right picture) and there is a lead weight beneath and between the nets.

Next, the A-frame moves the nets over the side of the ship and they are lowered into the water. You cruise for at least 5 minutes. The idea is to get within 5 meters of the bottom, then start bringing the nets back in. The computer operator keeps track of where the bottom is. The idea is to stop the line going out in time so the nets don't hit the bottom and pull up a bunch of sand.

Then you just have to wait for the tow, and eventually for the nets to come back up.



The A-frame



Left: Becky waits for the nets to come back up after the tow. Above: The nets begin to emerge from the water.

The bongos are removed from the A-frame and brought into the wet lab. You use the hose to wash the plankton down to the bottom of the net. The bottom of the net is put into the sieve. When the net is hosed down to the sieve end, you untie the bottom of the net and let the plankton wash into the sieves. The mesh captures zooplankton, but lets smaller phytoplankton through.



Becky rinses down the bongo nets.



Then she puts the plankton into a jar for preservation.

Finally you rinse the plankton from the sieves into a jar with 5% formalin for preservation. A label is put into the jar as well as on top of the jar, stating station number, date and time.

Personal Log

We had a fire drill and an "abandon ship" safety drill. In the picture to the right, I am wearing a survival suit, lovingly known as a "Gumby suit". If you abandon ship, you have to run to the deck and put on this suit. It is one piece, with inflatable neck rest, whistle and flashing pocket light so you can be spotted. You have to lay the suit out on deck, and sit down in it. Feet go in first, then you stand up and pull the rest over your head, find the arms etc. Look at the look on my face. Not too sure about this! The front flap closes to show only your eyes--on me a little higher. You should try zipping the front zipper with thick rubber gloves that are too big for you. It reminds me of the astronauts trying to fix the space station. I have a new appreciation for how difficult it is too, like, HOLD anything. The best news yet--we get to practice next week again.



Becky dons her survival suit during a safety drill.