



**NOAA Teacher at Sea**  
**Allison Schaffer**  
**Onboard NOAA Ship GORDON GUNTER**  
**September 14 – 25, 2007**

**NOAA Teacher at Sea: Allison Schaffer**  
NOAA Ship GORDON GUNTER  
Mission: Ichthyoplankton Survey  
Day 7: Friday, September 21, 2007

**Weather Data from Bridge**

Visibility: 12 nautical miles  
Wind direction: E  
Wind speed: 12 kts.  
Sea wave height: 1 – 2 feet  
Swell wave height: 2 – 3 feet  
Seawater temperature: 29.0 degrees  
Present Weather: Partly Cloudy

**Science and Technology Log**

Today we had the opportunity to try out two new sample methods. One method is along the same lines as the bongo and Neuston sample but this one is called a methot. A methot is 2.32 X 2.24 m frame with 1/8" mesh netting. The total length of the methot net is 43 feet. It's huge! It works just like regular plankton net where it has a large opening and then as it moves towards the end it becomes more and more narrow and eventually ends at a collection container. The reason this is my first time doing one is because they are usually done only at night and since the net is so large they must be done in fairly deep water. The deck personnel helped us put the net in the water and then we waited. As the net was brought back on deck, we rinsed it down and collected samples the same way we would a bongo or Neuston sample. Of course with such a large net we collect bigger animals that we would with the other two. We did collect some fairly large fish along with smaller larvae. Our collection wasn't the most excited some of the scientists have seen but to me, it was very exciting.

The second collection we took wasn't a plankton collection but a water sample. It is important to know the physical and biological parameters of different areas when collecting. For this, we used a very large (and expensive) piece of technology: a CTD which stands for conductivity, temperature and depth. The CTD also measures dissolved oxygen and can do all of these measurements without actually collecting any water. We do however collect water to look at chlorophyll levels. The CTD frame has three bottles attached to the frame to collect water throughout the water column. Once we open the bottles on deck and set them, the lab scientist has the capability to fire the bottles shut at different depths. All measurements and water collection happen at three areas in the water column. One data and water collection is done at maximum depth, the second at mid depth at the third just a few feet from the surface. After all of the data has been

collected, the CTD is brought back on deck where we bring the water samples up to the lab to test. It was definitely an exciting day on deck today.

### **Personal Log**

It has one week since we left port in Pascagoula and I am having such a great time! I forgot how much fun field work is and how excited I get over the smallest things when it comes to animals. I am so fortunate to have such an experience and I can not wait to get some samples home to share with our students. I already have started making some lesson plans!

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### **Addendum: Glossary of Terms**

- **Visibility** is how far ahead you can see from the ship. On a very foggy day you may only have a visibility of 10 ft whereas on a clear day you can see all the way to the horizon, or 12 nautical miles.
- **Wind** direction tells you which way the wind is blowing from: 0° is north, 90° is east, 180° is south, and 270° is west.
- **Sea wave height** is the height of the smaller ripples
- **Swell height** is the estimates larger waves
- **Sea level pressure (or Barometric Pressure)** indicates what the trend of the weather has been. High barometric pressure usually means sunny weather and rain can not build up in clouds if they are being squeezed together by high pressure. Low barometric pressure means rainy or stormy weather is on the way.
- **Present Weather** is a description of what the day's weather is.  
- Courtesy of Thomas Nassif, NOAA Teacher at Sea, 2005 Field Season
  
- **Field Party Chief** or FPC is in charge of the team of scientists on board the ship. This person oversees all activities having to do with collection of samples and is the go to person in case anything goes wrong that the scientists can't handle. They also act as an extra set of hands when needed.
- **Bongo Net** is two circular frames 60 cm in diameter sitting side by side with two 333 micron nets and a weight in the center to help it sink. At the base of each net is a plastic container used to collect all the plankton that can be easily removed so we can retrieve the samples
- **Lab Scientist** is the scientist that stays in the lab to work the computers recording the data on sample time, sample depth and is the one that relays information to the deck personnel about when the nets have hit maximum depth. They keep watch in case anything goes wrong underwater.
- **Deck Scientist** is the scientist out on deck getting the nets ready, rinsing the nets, collecting and preserving samples. They are the eyes on deck in case anything goes wrong at the surface or on deck.
- **Neuston Net** is one net 1 X 2 meters with a 947 micron net. Neuston samples are done only at the surface and placed in the water for ten minutes.
- **CTD**
- **Photic Zone**