



NOAA Teacher at Sea
Mary Anne Pella-Donnelly
Onboard NOAA Ship *David Starr Jordan*
September 8 – 22, 2008

NOAA Teacher at Sea: Mary Anne Pella-Donnelly

NOAA Ship: *David Starr Jordan*

Mission: LUTH Survey (Leatherback Use of Temperate Habitats)

Date: September 10, 2008

Geographical area of cruise: Pacific Ocean –San Francisco to San Diego

Weather Data from the Bridge

Latitude: 3737.3158 N

Longitude: 12337.1670 W

Wind Direction: 234 (compass reading) SW

Wind Speed: 9.7 knots

Surface Temperature: 14.638

Science and Technology Log

Two consistent methods of data collection on the survey include netting and collecting oceanographic data. Up to three times a day a mid-water net is carefully dropped off the back, and towed at the surface.

The last two times the net has been pulled in one or two moon jellies have been caught. Each specimen is weighed and measured, then tossed back. Every evening, two hours after sunset, a bongo net is deployed off the side of the boat. With weights added, it is designed to drop as far as 300 m below the surface. Since there are two nets collecting, the scientists are able to retrieve and preserve the contents of one, to be analyzed for species composition later, and examine the second here on the boat. This is done two hours after sunset since many organisms come much closer to the surface after dark, when their predators are less likely to find them.

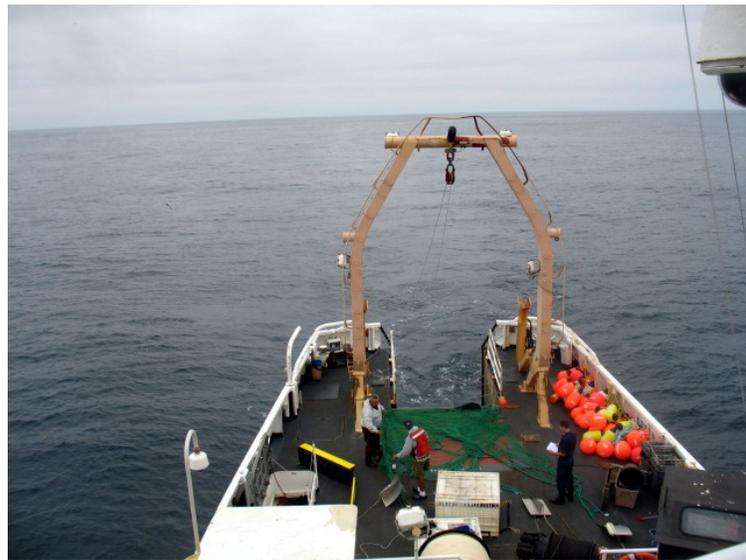


Photo 1. Deck crew setting up the mid-water net to be deployed off the back deck.

Another important tool that is used to collect oceanographic data is the CTD. This CTD has eight chambers and can collect samples from eight different water depths. It is carefully dropped

down to 500 m (or more if needed), and then a chamber is opened at intervals determined by the scientist collecting the samples.

Every waking hour the temperature of the ocean is sampled using a XBT “gun” that shoots out a 760 meter long copper wire. XBT stands for Expendable Bathy thermograph. The weighted wire is kept in the ocean until a stable reading is obtained. This gives an indication of the temperature gradient from the surface down to 760 meters in the immediate area.

Personal Log

The first 24 hours were smooth sailing through overcast but calm seas. We have had two visits by common dolphins who have seen the boat, told their 4 or 5 best buddies, and come over to ‘ride the bow.’



Photo 2. Two Dall's porpoise gliding next to the ship.

They glide under the surface, leap up through the waves and glide some more. They are having a blast. The second time was less convenient for the research, since the mid-water net could not be deployed with marine mammals in the area. And the dolphins wouldn't leave!! So deployments had to wait 45 minutes for the dolphins to get tired and go find another playground. Yesterday a net drop deployment was almost postponed again, for a large pod of white-sided dolphins spotted behind the boat. They swam perpendicular to the ship however, and stayed a good distance away. It was estimated that there were

180 of them! That was it for yesterday. The first afternoon, we saw one humpback whale spouting and then it showed its fluke as it went under. Another four were seen in the distance. We are all looking forward to more sightings. The primary job that I and another ship visitor have, is to act as observers up on the flying bridge, one half hour before the net is scheduled to be dropped, and stay until the net is retrieved. Because of the Marine Mammal Protection Act, all activity that could put these animals at risk must not be done if any marine mammals are in the area. So I sit up on the highest deck, and watch. There is a walkie-talkie next to me, a computer set to log any sightings of interest, including jellies that float by and high-powered binoculars to scan the surface. With snacks and beverages always handy in the mess hall, I can be quite cozy.

Animals Seen So Far

Humpback whale *Megaptera novaeangliae*

Common dolphin *Delphinus delphis*

Pacific white-sided dolphin *Lagenorhynchus obliquidens*

California Sea lion *Zalophus californianus*

Moon jelly *Aurelia labiata*

Egg yolk jelly *Phacellophora camtschatica*

Sooty shearwater *Puffinus griseus*

Buller's Shearwater *Puffinus bulleri*

We also have a few lost, confused song birds on board-who are happily eating up insects for us

Western tanager *Piranga ludoviciana*

Townsend's warbler *Dendroica townsendi*

Questions of the Day

1. What is the purpose of scientific names in international research?
2. To become a marine scientist, what fields of science are required as background?