

BIOGEOGRAPHY BRANCH

CENTER FOR COASTAL MONITORING & ASSESSMENT
NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE

Seafloor Characterization of the U.S. Caribbean 2010 Field Season March 18-April 6, 2010

Day 9: March 26, 2010

Today the ship is headed back to Charlotte Amalie, St. Thomas where it will be docked for the weekend. On the way there the scientists and crew stopped to calibrate the fish acoustic transducer. Over the next few days a number of outreach and education events are planned, starting with a group of local fishermen touring the NOAA Ship Nancy Foster.

Calibration of the Fish Acoustics System

Just like a scale needs to be calibrated periodically to make sure it provides the correct weight, the fish acoustic transducer must be calibrated so the scientists know it is working properly and providing accurate data.

To calibrate the system divers attached a high precision sphere made of tungsten carbide (below) that has a known echo return to downrigger lines located at three different positions on the ship, creating a triangle. Divers hang the ball roughly 7-10 m below the transducer.

"Positioning the downriggers to create a triangle helps control the position of the ball and lets us move it around so we can observe it at many points in the transducer beam," Chris Taylor, a NOAA ecologist studying fish during the first leg of the mission, explains.

Because the scientists know how far below the ship the ball is placed and they know its exact echo return, they can adjust the parameters of the system so that the results are consistent for every survey that is conducted.



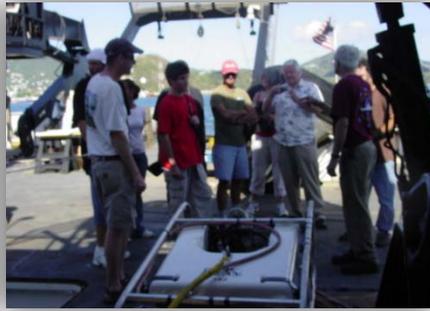
The tungsten carbide ball used to calibrate the system (left). Diver Kevin Adams prepares to assist with calibrating the fish acoustic transducer (center). Chris Taylor and Matt Wilson adjust one of the downriggers (right).

Local Fishermen Tour the NOAA Ship Nancy Foster

Shortly after the ship docked at the pier in Charlotte Amalie, a small group of fishermen and representatives with the St. Thomas Fishermen's Association visited the ship and met with the scientists and crew on the ship.

Executive Officer LCDR Dan Simon gave the group a tour of the ship, taking showing them the bridge, the decks and the state rooms where the crew and science teams live while on board.

Next, it was time to explore the science done aboard the NOAA Ship Nancy Foster. Tim Battista gave the fishermen a brief overview of how the multibeam system works and how researchers use the data it to understand the features and habitats of the seafloor. Then ROV technician and operator Glenn Taylor explained how the ROV works and how the video data is used to verify what is seen on the backscatter and bathymetric images generated by the multibeam unit.



Tim Battista welcomes the fishermen on board (top left). Glenn Taylor explains how the ROV works on the back deck (top right). The group stops for a quick photo as they leave the ship (bottom left).

DID YOU KNOW ...

- Mesophotic coral ecosystems are characterized by the presence of light-dependent corals and associated communities found at water depths where light penetration is low.
- Mesophotic coral ecosystems are typically found at depths ranging from 30-40 m.
- The fact that they contain zooxanthellae and require light distinguishes these corals from true deep-sea corals, though their depth ranges may overlap
- Mesophotic coral ecosystems may be regarded as extensions of shallow coral ecosystems and often share common species.
- To learn more about coral reef ecosystems, visit

<http://coralreef.noaa.gov/>



CDR Ralph Rogers



Commanding Officer Rogers is responsible for all ship activities. The biggest parts of his job is navigating the ship, managing personnel and making sure science groups get the most out of their missions.

C. Mica Alex



Mica Alex, ENS, is a junior officer aboard the NOAA Ship Nancy Foster. In addition to being responsible for the safe navigation of passengers and property, Mica is also learning how to drive the ship.