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

Day 13: March 29, 2010

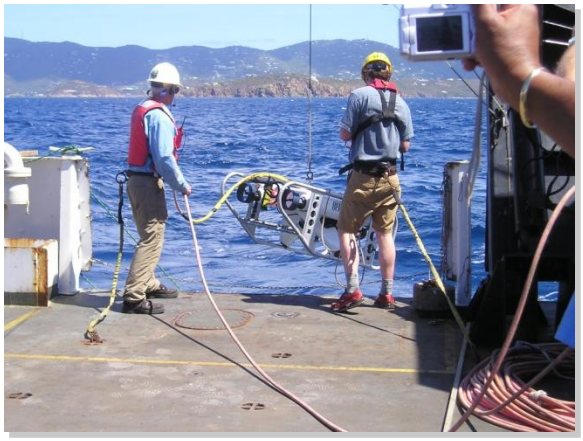
Today the scientists and crew hosted the 2010 Seafloor Characterization VIP Day aboard the R/V Nancy Foster. Several VIPs from around USVI and Puerto Rico joined the ship for a short cruise off of St. Thomas where they were introduced to some of the high-tech tools used to collect underwater data, and learned more about the mission and work involved in this cruise.

NOAA scientists Tim Battista and Mark Monaco from introduced the group to the goals and objectives of the Biogeography Branch's work in USVI, and how this work is helpful in informing managers and the decisions they make to protect coral reef resources. VIPs then spent time with NOAA scientists Edward Owens and Bryan Costa as they discussed their efforts in collecting data about the seafloor surrounding St. Thomas and St. John. Edward emphasized the importance of collecting data that provides information for multiple uses, or in his words,

"Ping once, and use many times." For example, data should be able to inform activities including nautical charting, archeology, marine geology, tsunami modeling, etc.

With the assistance of NOAA Scientist Sam Tormey, Lance Horn and Glen Taylor, from UNC-Wilmington, deployed the ROV over an area thought to contain corals south of St. Thomas. Though the expected coral was not present, visitors were able to watch as Lance navigated the ROV over a low relief area of seabed that contained algae, sponges, small rock outcroppings, and several small fish including red hinds, damsel fish, and squirrel fish. The ROV also flew by an old fishing trap and some of its associated fishing line.

Lastly, the group met with NOAA Scientist Laura Kracker, who talked about her upcoming fish bio-acoustics work she will be conducting on this leg of the cruise. The group finished with a tour of the ship led by LCDR Dan Simon and LT Abigail Higgins.



Glen Taylor and Sam Tormey demonstrate how the ROV is deployed.

Glen Taylor chats with volunteers from the Virgin Islands Environmental Research Station (VIERS) located on St. John.

Charlie Menza explains how the ROV will be instrumental in validating where fish and corals occur on the seafloor.

Mapping the Shelf's Edge

The ship spent the night mapping the edge of the shelf off of St. Thomas. We learned from some of the scientists that attended VIP day that the Virgin Islands are particularly excited about the mapping we are doing, as the shelf's edge is known to attract large schools of fish which are likely spawning aggregations. Information about important spawning aggregations can help them to inform decision makers about areas that may be needed to protect coral reef resources.

Charles Menza explained that until now, this part of the shelf is only mapped at a low resolution, whereas the high resolution mapping they are conducting will provide more accurate information about the presence of fish. They can then verify this information with acoustic surveys to ascertain more specific information about the location and density of the fish.
Furthermore, he states,
"Not only are we going to assess the aggregations that we know to exist, but we may even find new ones." This information is a high priority for coral reef managers.

Once the initial mapping of the shelf's edge is finished, the scientists will work together to determine the most effective areas to revisit and ground truth with the ROV.

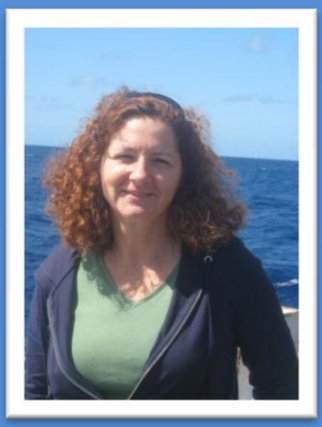
DID YOU KNOW …

• Species such as stony corals require free space to settle and grow. While this may sound easy in principle, free space – whether on the ocean floor or on top of another organism – is an extremely limited resource in the marine environment. As a result, species often compete with each other or exhibit aggressive behavior to secure or maintain a given plot of substrate.

• Sweeper tentacles are the most common defense mechanisms in the hard corals, and also occur in some soft corals. Specialized stinging cells called nematocysts are present in these tentacles and can attack a competing coral and literally burn it to the point of either killing it or severely damaging it.

•http://coralreef.noaa.gov/

MEET THE SCIENTISTS …



Laura Kracker
Laura works for NCCOS's Center for Coastal Environmental Health and Biomolecular Research in Charleston, SC. Laura will be running the fishery acoustic surveys on this cruise in order find out more about fish distribution within coral reef ecosystems and to find out more about spawning aggregations in St. Thomas and St John.

Charles Menza
Charles works for NOAA's Biogeography Branch in Silver Spring, MD. He is the chief scientist on this leg of the cruise and will be coordinating all of the science operations on board throughout the week. He is excited to learn more about the spawning aggregations off of St. Thomas' shelf edge through the mapping and fish acoustics work planned for this week.

For more information about NOAA's Center for Coastal Monitoring and Assessment Biogeography Branch visit, http://ccma.nos.noaa.gov/about/biogeography/welcome.html