

BIOGEOGRAPHY BRANCH

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



Sea Floor Characterization of the U.S. Caribbean 2011 Field Season Day 9: April 5, 2011

Calibrating the Fish Sonar System

Will Sautter here, today was pretty choppy. The winds were blowing from the east and whitecaps were picking up all along the southeast harbors of St. Thomas. Stormy weather was heading our way. We had to calibrate Chris Taylor's split-beam echo sounder fast before the weather turned on us.

We were tucked into a little bay about 500 yards from the black igneous cliffs where we had to get all of the survey team on the deck for Taylor's orders. Calibrating the split beam is a very tricky task without having divers. It required placing three large hand reels on the railings of the ship, two forward on the port and starboard sides and one aft on the port side. We used them to position a tungsten carbide sphere directly under the sonar transducer mounted to the bottom of the ship. All of us were linked by radio to Taylor in the survey room where he directed us and tuned the sonar. It was very tricky positioning this sphere connected by wires from the three reels to be exactly underneath the sensor. Taylor gave commands to let out or pull in the hand reels individually one foot at a time until the sphere was precisely beneath the sonar.

Once the sphere was in place, the pings of the sonar bounced off of the metal sphere and could be tuned to the exact known calibration settings of the metal. Then the split beams would be set for the rest of the mission, and our data would be consistent with the sonar work that Taylor has been doing his research on. It only took about 20 minutes for all the settings to be configured, and then we reeled the metal sphere back up and we headed into port.

As soon as we stepped onto the docks, we were hit with a ten minute downpour! Not quite a warm sunny welcome, but our hard work was paid off by some R and R on St. Thomas.



Stormy weather ahead!



Chris Taylor lowers the tungsten carbide sphere over the side of the ship.



It was almost all hands on deck to help calibrate the system.