

BIOGEOGRAPHY BRANCH

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

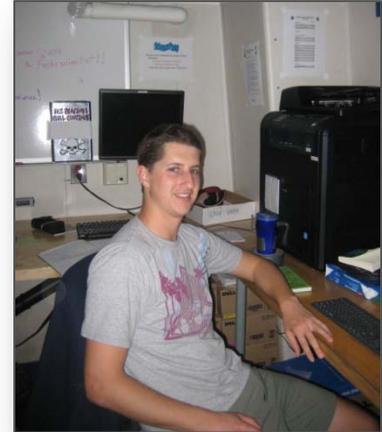


Sea Floor Characterization of the U.S. Caribbean 2011 Field Season Day 3: March 30, 2011

Meet Will

This is Will Sautter writing today. I am 23 years old and I have a degree in geology with a background in geographic information systems and environmental sciences. I specialize in habitat classification of the sea floor. This is my first year on the NOAA Biogeography team and this is my first mission on the NOAA Ship *Nancy Foster*. I have had experience surveying on other NOAA ships for hydrographic surveys and habitat classification.

My role is to process multibeam sonar data into backscatter imagery. Backscatter imagery is basically the reflective intensity of the sea floor, or the energy of the sound waves from sonar pings that return to the ship. The imagery is in black and white; the brighter the values, the more intense the acoustic energy received, the harder the bottom is. The darker values indicate less intense acoustic returns, meaning that the bottom is softer. We can then analyze the imagery and actually see sand ripples, scattered rock fragments and coral reefs.

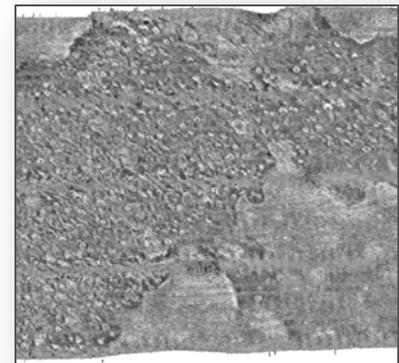


Sautter at work in the dry lab.

ROV Ops In & Around the Virgin Islands Coral Reef National Monument, St. John

Today, we mainly did ROV operations to look for old fishing traps. We found several traps by going back to the coordinate locations from a previous AUV pilot study. Many of the traps we spotted were Chevron traps, which have a large mouth opening that fish can go in but is hard for them to get out.

Most of the traps were covered with algae growth and were falling apart. Small fish can use these traps as a good hiding place from predators, like an artificial reef, but that is bad news for larger fish like snappers and groupers that will try and eat the little guys and may get caught in the old gear. The good news was that we actually found an invasive red lionfish stuck in an old trap! Later on we found another lionfish with the ROV swimming freely. Not so good.



Example backscatter image

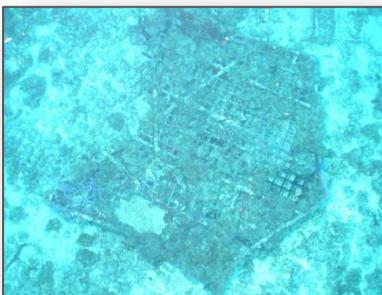


Image of a derelict chevron fish trap (left); a derelict trap now colonized with marine life (center); the third lionfish spotted in as many days (right).

Cultural Artifacts on the Sea Floor

We also worked with Ken Wild, a marine archaeologist from the National Park Service on St. John. Again, we were revisiting objects of interest identified during the AUV pilot study. We saw what appeared to be a sunken sailboat, a cultural artifact (possibly an old cannon) and several objects we just couldn't determine what they were.

Tonight we are going to do more sweeping of the bottom with multibeam echo sounders (MBES) using two different models: the EMK 10002 and the Reson 7125, as well as a single beam echo sounder for fisheries acoustics. I will talk more about the multibeam work and the fisheries acoustics later. Hopefully we will have smooth seas so our data comes out clean. Thanks for checking us out and good bye!



An old sailboat turned on its side.

Today's Underwater Shots



A hermit crab kicking up sand on the sea floor.



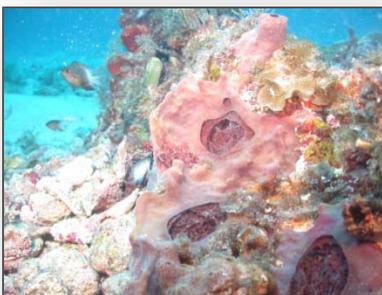
A pile of traps colonized by marine life serves as an artificial habitat for fish.



Ironically, this derelict lobster trap now acts as a refuge for these lobsters.



A ray gliding through the water.



Colorful sponges, algae and fish.



An impressive sponge.