

# NOAA Explores Underwater Habitats of Southwest Puerto Rico

*In partnership with the Caribbean Fisheries Management Council, the University of Puerto Rico (Mayagüez), and the Caribbean Coral Reef Institute*

## Overview

NOAA's Center for Coastal Monitoring and Assessment (CCMA) will be conducting the fifth year of an ongoing scientific research mission onboard the NOAA Ship NANCY FOSTER funded by NOAA's Coral Reef Conservation Program and CCMA. The cruise will start on February 25, 2008 and end on March 8, 2008.

The purpose of the cruise will be to explore and characterize seafloor habitats in high priority conservation areas off the west coast of Puerto Rico (Fig. 1). This is a collaborative mission with the Caribbean Fishery Management Council, Puerto Rico territorial governments, the University of Puerto Rico (Mayagüez), and the Caribbean Coral Reef Institute to collect data to support local marine management and monitoring strategies.

## Project Details

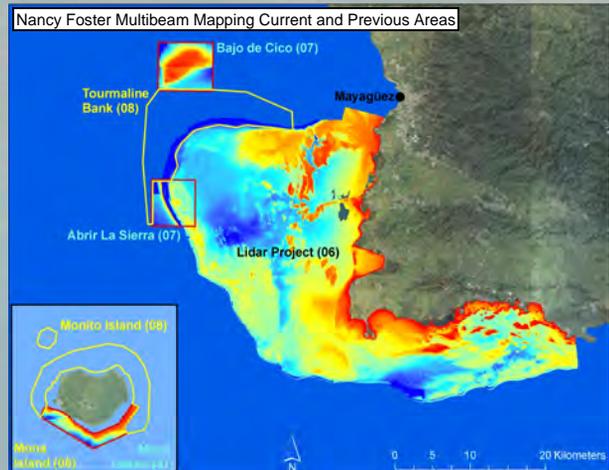
The primary objective of the research mission is to collect and integrate data obtained from a multibeam acoustic sonar system and data obtained from underwater imagery systems (Fig. 2 and 3) to create the first comprehensive map of coral ecosystems. Other project objectives are to image and document the spatial distribution, abundance, and condition of fish, coral reefs and fishery resources. The mission's intended outcome is to support more effective marine conservation and monitoring efforts.

Data generated during this mission will support natural resource management in Federal and State waters of Puerto Rico, as well as help NOAA continue to meet its commitment to the U.S. Coral Reef Task Force to map moderate depth (20-1000m) coral reef ecosystems. Data will be used to support management and understanding of fishery closure areas (e.g., Bajo de Cico, Tourmaline Bank, Abrir la Sierra), and important fish spawning aggregation sites.

To date, NOAA has completed mapping projects for eight jurisdictions (Main Hawaiian Islands, Northwest Hawaiian Islands, Guam, Commonwealth of the Northern Mariana Islands, American Samoa, Republic of Palau, US Virgin Islands, and Puerto Rico).

Local coastal managers can use the data from these field missions for a variety of applications including:

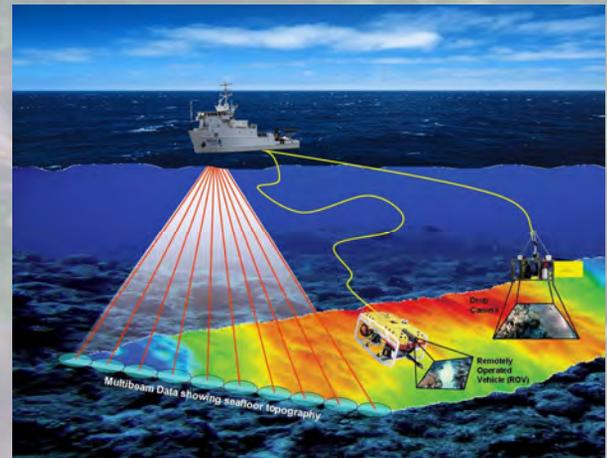
- selection of sites for future biological monitoring,
- identification of boundaries for marine protected areas
- assessment of land use impacts on habitats and biological communities
- identification of special protection areas



**Figure 1.** Project areas for the 2008 and earlier mapping efforts in southwest Puerto Rico. Priority areas for 2008 include Mona Island, Monito Island and Tourmaline Bank.



**Figure 2. a & b.** a) 3-D bathymetric model of El Hoyo in SW Puerto Rico. b) ROV underwater imagery collected in southwest Puerto Rico (NF-06-04).



**Figure 3.** Multibeam data collection and ground truthing diagram.

## Project Outcome

Data completed from previous missions are available online at

[http://ccma.nos.noaa.gov/products/biogeography/usvi\\_nps/data.html](http://ccma.nos.noaa.gov/products/biogeography/usvi_nps/data.html)

The information for this February/March 2008 cruise will be at

[http://ccma.nos.noaa.gov/products/biogeography/usvi\\_nps/details.html](http://ccma.nos.noaa.gov/products/biogeography/usvi_nps/details.html)