

# Monitor National Marine Sanctuary

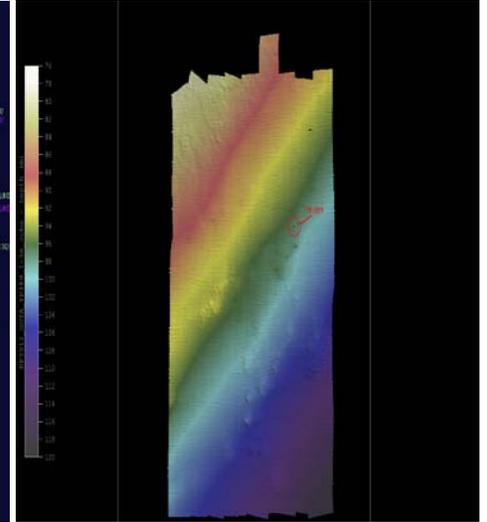
## Exploration, Mapping, Characterization

### Management Issue

The inventory of cultural resources off the coast of North Carolina is unquantified and there is a need to conduct systematic remote sensing surveys to locate, identify and characterize maritime cultural resources in the area. Surveys are also needed to aid in our overall knowledge and understanding of the bathymetry of the Sanctuary and the adjacent seafloor.



Map showing the distribution of potential sites off North Carolina. Green lettering represents 'unknown.' Targets are approximate. Map Credit: NOAA



Multibeam sonar image of YP-389. Image Credit: NOAA

### Description

A quantitative analysis to define and characterize the area off the coast of NC and the associated cultural resources has not been undertaken. While some mapping of the region was done for the purpose of oil and gas exploration, the practice has been relatively stagnant since 2000. Remote sensing will not only increase knowledge of the environment off the coast of NC, but will enable managers to make informed decisions regarding prioritization of survey work and stabilization efforts concerning the cultural resources in the area.

### Questions and Information Needs

- 1) Is it possible to set up a long term systematic remote sensing survey that will yield results in an economical way?
- 2) What is the geologic makeup of the seafloor off the coast of NC?
- 3) What is the accuracy percentage of reported losses in the historic record?
- 4) Does the addition of new discoveries have an economic benefit to local user groups?
- 5) Can predictive modeling be used to maximize the potential of locating new sites?

### Scientific Approach and Actions

- Accumulate data by conducting remote sensing surveys
- Ground truth targets with ROV's/video collection and when possible use SCUBA to characterize and identify material
- Conduct historical and archival research to create survey areas which have a high likelihood of producing results
- Attempt to use a range of remote sensing equipment to increase the potential of site discovery, such as: side-scan sonar, multibeam sonar, magnetometers, ROV's, AUV's, LIDAR, etc.
- Establishment of interagency relationships for research purposes

### Key Partners and Information Sources

University of Rhode Island, Institute for Ocean Exploration, East Carolina University Program in Maritime Studies, University of North Carolina Coastal Studies Institute, North Carolina Underwater Archaeology Branch

Updated: 5/1/2010

For More Information -- <http://www.sanctuaries.noaa.gov/science/assessment>

## Management Support Products

- Scientific papers and reports
- Maps and GIS distribution models
- Site surveys and archaeological interpretation

## Planned Use of Products and Actions

- Interpretation of data will be used to prioritize management actions and aid consideration of zoning based on significance assessments.
- Data has the potential to illustrate the significance of the resource collection through education and outreach products.
- Appropriate management actions based on findings
- Engage the fishing and diving communities along the coast.

## Program References

### MNMS Management Plan,

- The MNMS is currently going through Management Plan Review

### MNMS Condition Report

- What is the integrity of known maritime archaeological resources and how is it changing?
- Do known maritime archaeological resources pose an environmental hazard and how is this threat changing?

### ONMS Performance Measures

- 3.4: Measuring Characterization Performance
- 3.7: Measuring Maritime Heritage Resources Performance

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