




# Marine Archaeology

James D. Moore III, Ph.D.


December 13, 2011

Bureau of Ocean Energy Management  
Division of Environmental Sciences  
Environmental Studies Program  
Office Phone: 703-787-1651  
E-mail: [James.Moore@boem.gov](mailto:James.Moore@boem.gov)

# Importance of Archaeology

- ◆ The surveying of artifacts allows researchers to determine past cultural behavior in the absence of historical information
  - ◆ Artifacts are non-renewable resources that are physical representations of our past
  - ◆ Material remains are indicative of specific cultural, technological, and economic changes through history
- 

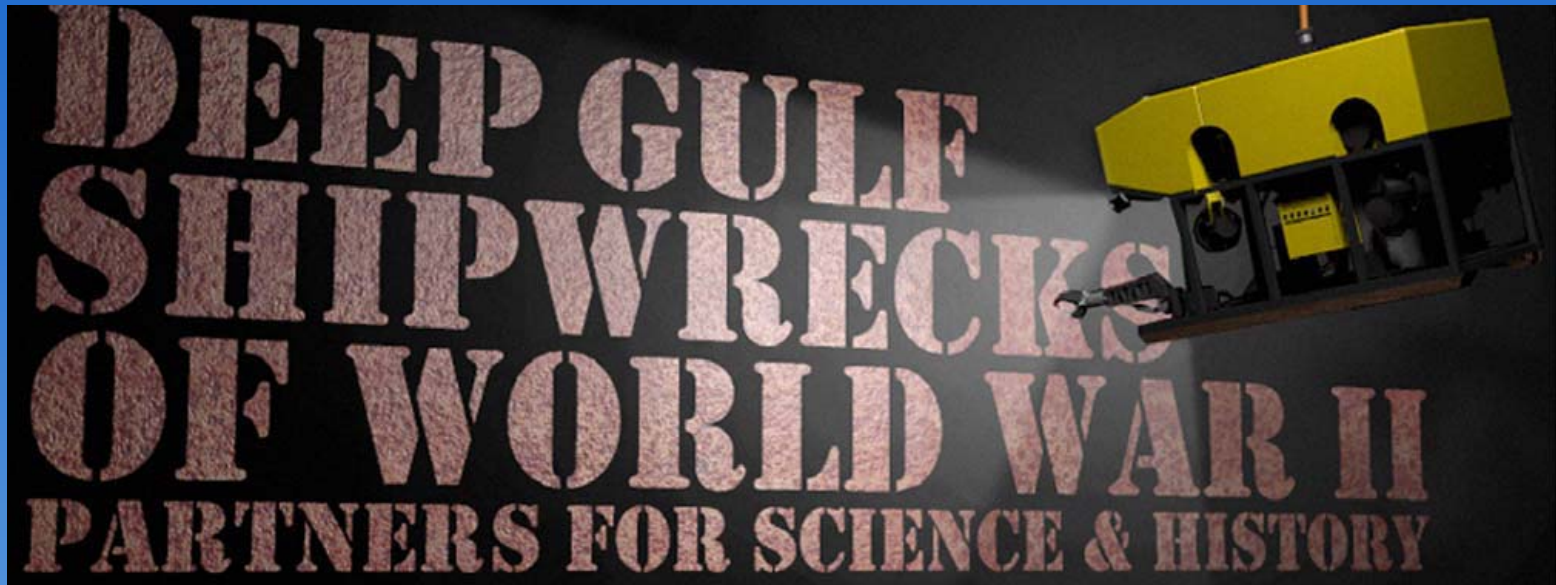
# BOEM's Responsibility for Protecting Submerged Cultural Resources

- ◆ National Historic Preservation Act (NHPA), Section 106
  - ◆ Executive Order 11593
  - ◆ Notice to Lessees (NTL) stipulating areas of avoidance due to cultural sensitivity
  - ◆ Lessees required to survey and report findings
- 

# Interdisciplinary Collaboration for Understanding Underwater Site-Formation Processes

- ◆ Technological advances are allowing access to sites in deeper waters
- ◆ Time-dependent mechanisms transfer artifacts into spatial contexts that must be interpreted
  - ◆ Marine environments affect the perception of archaeological contexts
  - ◆ Materials degrade at variable rates

# The Gulf of Mexico



- ◆ Collaborative effort with BOEM, NOPP, NOAA OE, state universities, private companies, and the PAST Foundation (non-profit)
- ◆ Recipient of DOI's Cooperative Conservation Award in 2006
- ◆ Recipient of the 2006 NOPP Award



# Deep Wrecks Project Survey Area: The Depicted Region Contains ~500 Oil and Gas Rigs

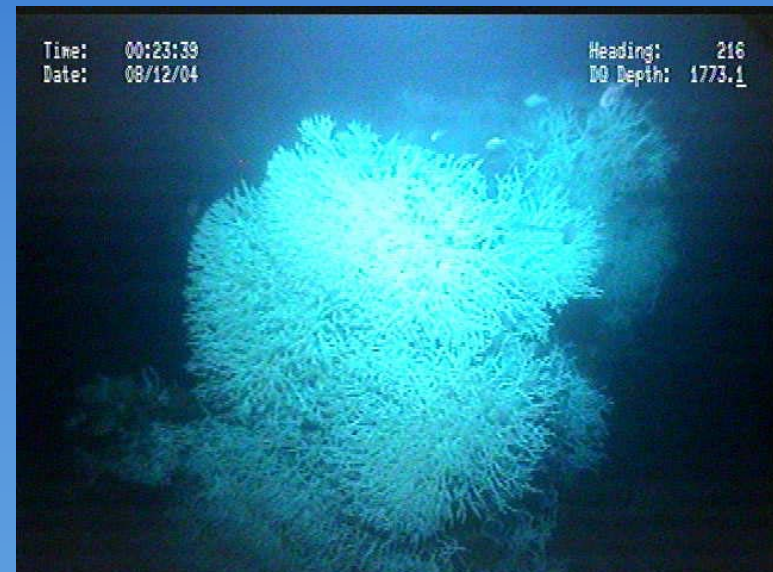
The map shows the survey area in the Gulf of Mexico, bounded by a red rectangle. Key locations marked include New Orleans, Houma, Grand Isle, Fourchon, Buras, Bay St. Louis, Gulfport, Biloxi, Pascagoula, Mobile, and Gulf Shores. The map also shows various sound and bay areas, such as Lake Pontchartrain, Lake Borgne, and the Mississippi Sound. A red rectangle highlights the survey area, which includes the Mississippi Canyon and the Upper Fan. Several wrecks are marked with red stars and labeled: Halo, Virginia, Gulfpenn, Robert E. Lee, U-166, Alcoa Puritan, and Anona. The map also shows the locations of oil and gas rigs, indicated by small black dots.



# M/V *Gulfpenn*



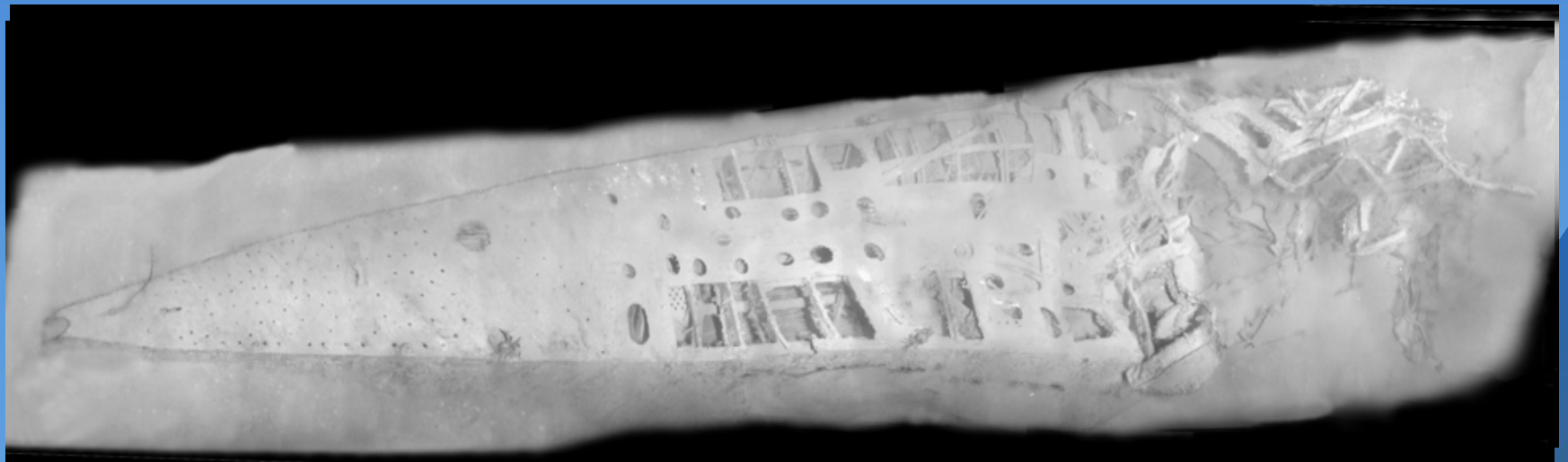
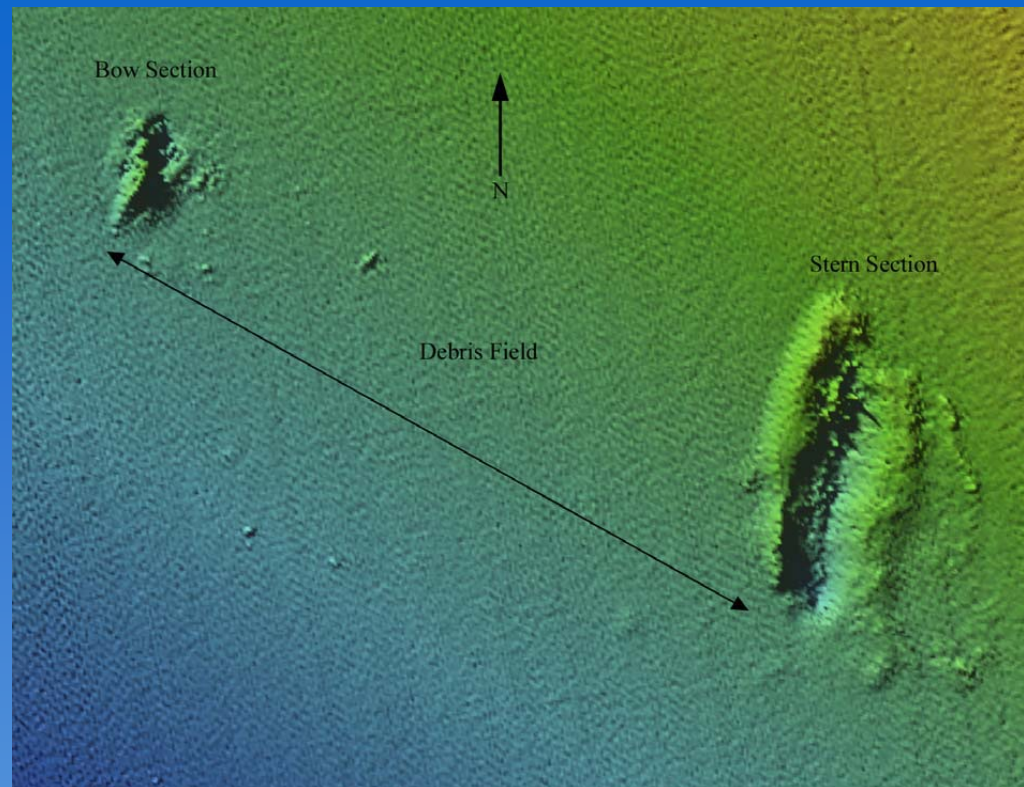
*Gulfpenn's* Bow



Main Deck

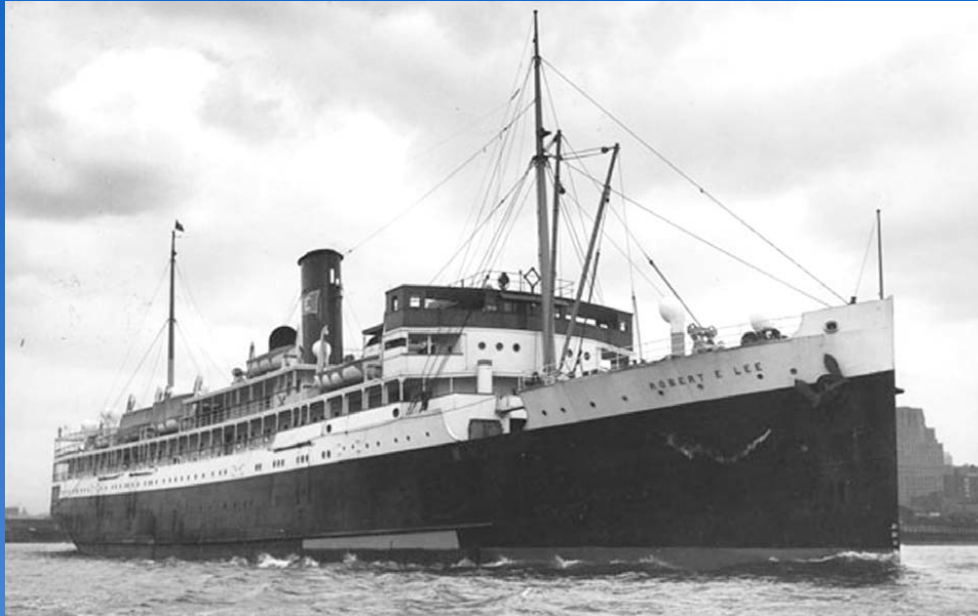


# U-166

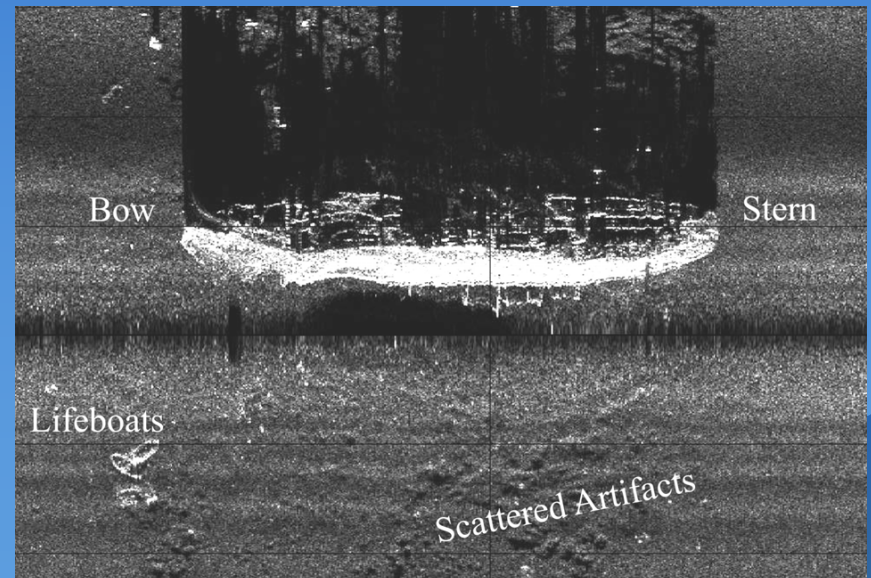




# *SS Robert E. Lee*



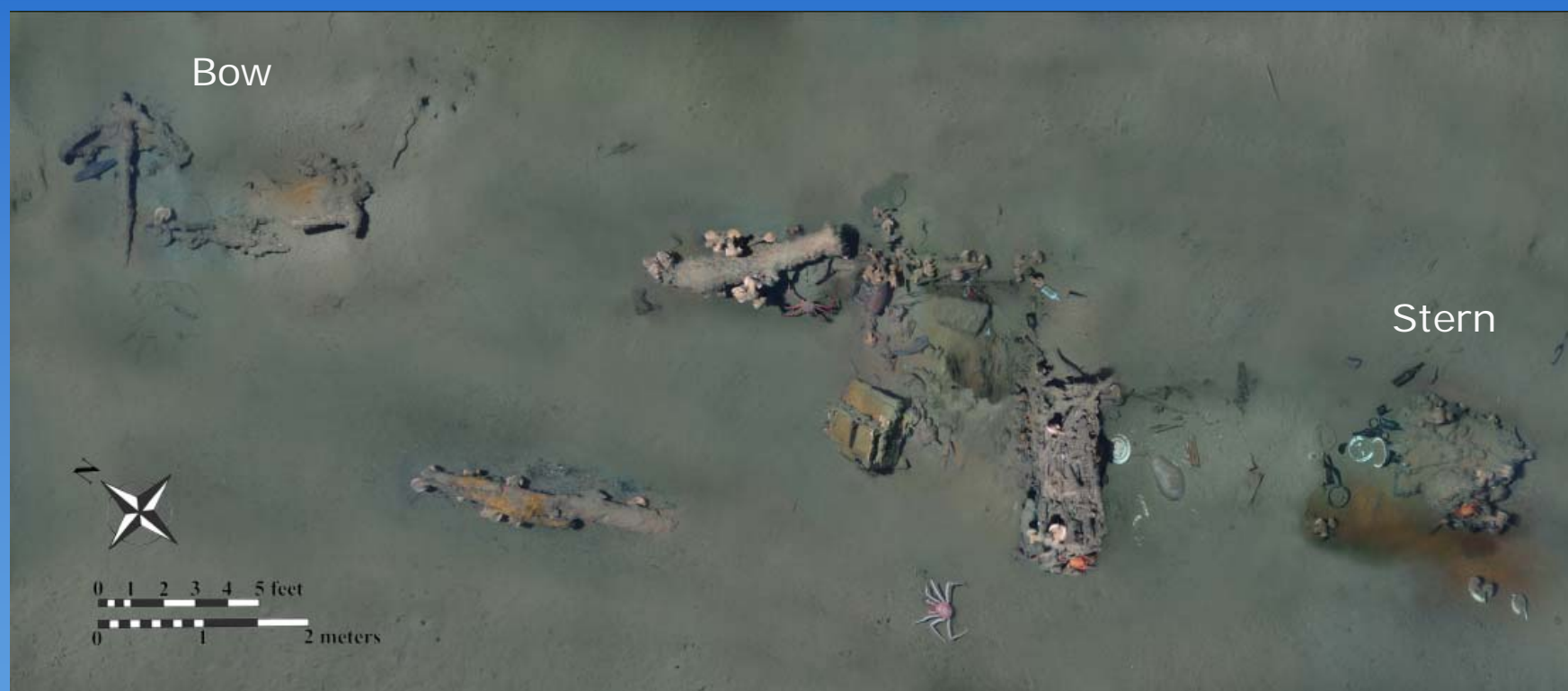
Aft Deck Gun



Side-Scan Sonar Image

# The Gulf of Mexico (cont.)

Mardi Gras Shipwreck Site  
(Located in the Vicinity of the U-166 and *Robert E. Lee*)



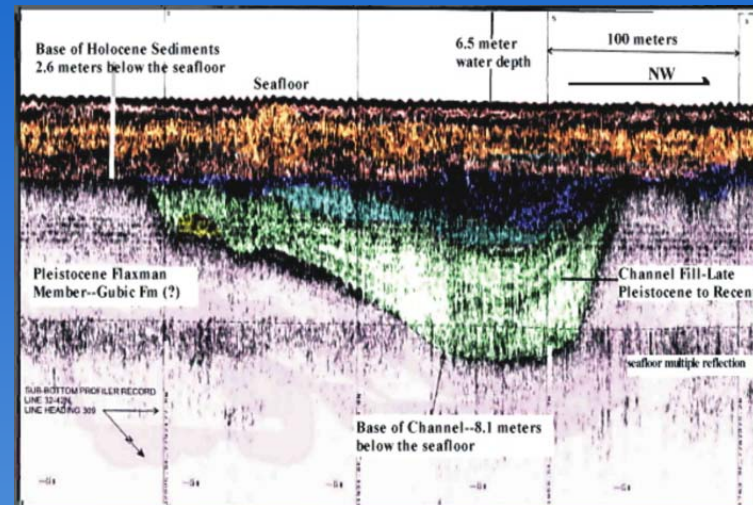


# The Gulf of Mexico (cont.)

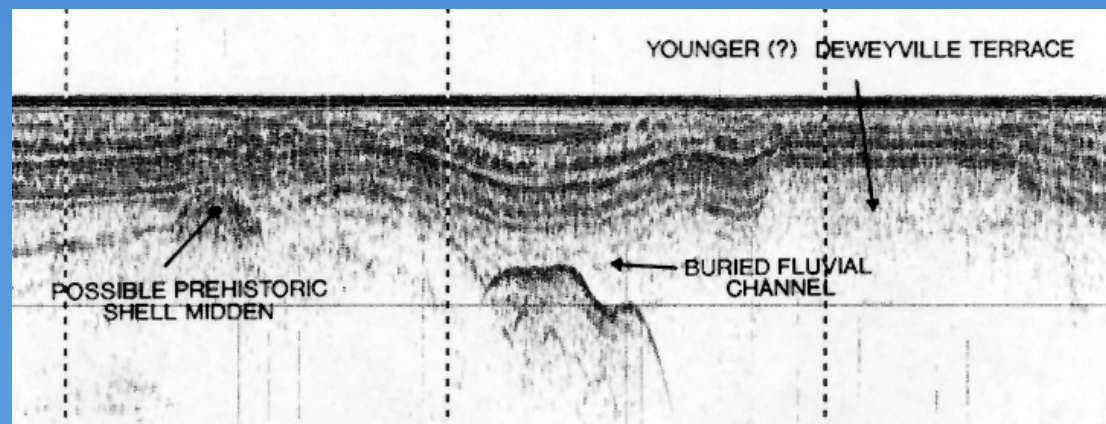
## Surveying for Prospective Prehistoric Native American Sites



Sub-bottom profiler



Sub-bottom profiler data (example)



Sub-bottom profiler data (example)

# Atlantic



Recipient of the Secretary of Interior's Partners in Conservation Award Winner in 2009



BOEM's Chris Horrell diving on the *Kassandra Louloudis*



Mosaic of the U-85, sunk April 13, 1942



# Pacific Inventory Study

- ◆ Develop a database of known, reported and prospective submerged sites
  - ◆ Requires an effective remote sensing survey strategy
  - ◆ Develop a model for prehistoric site locations
- ◆ Adapt future energy development plans to avoid sensitive areas

# Assessing Visual Impacts from Coastal Historic Properties



Shoreline view of a wind facility  
(closest turbine is 7.1 miles)



Shoreline view of a wind facility  
(closest turbine is 4.6 miles)

# Management for Potentially Polluting Wrecks



USS Mississinnewa



*SS Jacob Luckenbach*

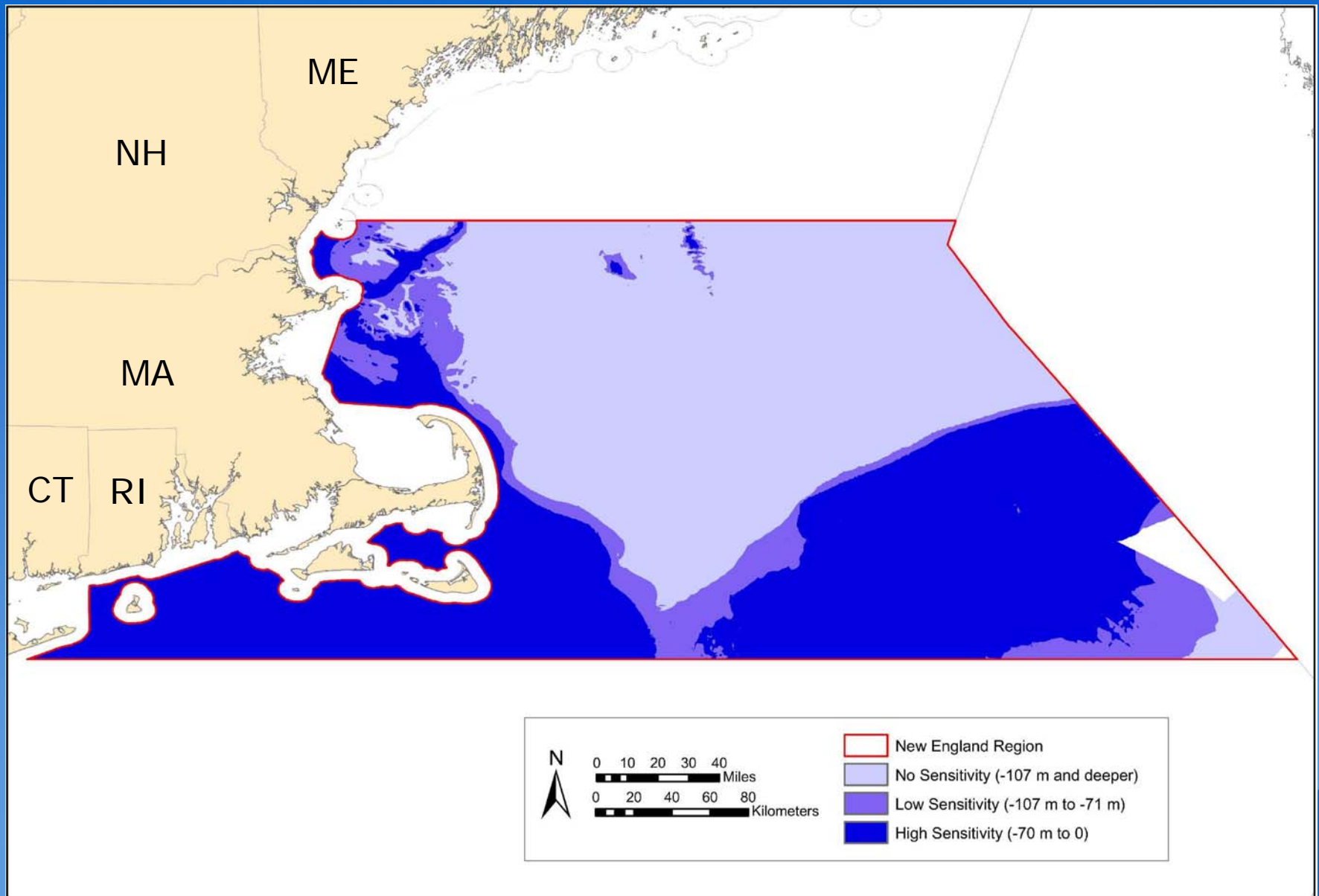
# Future Project: Identification of Submerged Prehistoric Native American Sites off Southern New England

- ◆ Incorporate local tribal knowledge and oral traditions to create a Paleo-cultural landscape model
- ◆ Train tribal representatives in offshore geophysical and archaeological survey techniques
- ◆ Refine protocols for the identification of potential cultural sites





# Archaeological Resource Sensitivity Map for Southern New England



Thank You