

ENVIRONMENTAL STUDIES PROGRAM: Ongoing Studies

Region: Atlantic

Planning Area(s): North, Mid and South Atlantic

Title: Atlantic Outer Continental Shelf (OCS) Cultural Resources Survey and Archaeological Inventory Geographic Information System

BOEM Cost: \$235,846

Period of Performance: FY 2013-2015

Conducting Organization(s): URS Group, Inc

BOEM Contact: [Brandi Carrier](#)

Description:

Background: A geographic information system focused on the results of cultural resources surveys and archaeological inventories conducted on the Atlantic OCS does not presently exist. There exist databases dedicated to identified shipwrecks and obstructions, many of which have been incorporated in the [Atlantic Shipwreck Database](#) (funded by BOEM in 2011), as well as databases that house cultural resources surveys and archaeological inventories conducted onshore, such as those owned by the State Historic Preservation Officers. However, there presently is not any system that indexes and/or geo-references data collected through cultural resources surveys and archaeological inventories undertaken on the Atlantic OCS. Furthermore, the Atlantic Shipwreck Database is only one particular set of data – the once-recorded locations of shipwrecks and other obstructions. It cannot accommodate survey data; nor can it accommodate the marine environment’s effects on archaeological sites; nor can it accommodate other identified cultural resources that BOEM must consider in its stewardship responsibilities. Currently, no geographic information system and/or database exists that stores these data, let alone integrates them, geo-references them, updates them, and efficiently automates their usefulness in informing future review, consultation, and research.

This geo-database will create a platform to integrate BOEM’s data with a number of widely-relevant and exponentially-growing datasets relating to other sources of cultural resources data, such as survey, inventory, and consultation, all of which BOEM has a responsibility to include in its environmental analyses. Given BOEM’s extensive permitting activities planned in this region in the 2013-2015 timeframe, and the geological and geophysical activities (including marine archaeological surveys) and NEPA review and consultations that will occur as a result, BOEM has both an immediate need and a responsibility to collect, organize, and store these digital data. Although this information should be gathered and organized in concert with other coordinated Coastal Marine Spatial Planning efforts (one of nine National Priority Objectives), because some of this information is sensitive and because BOEM has a responsibility to limit access to it, it cannot be made part of any larger or wider geographic information system.

Management of these data must remain with BOEM archaeologists and historic preservation staff.

Objectives: The objective of this project is to create OCSIRAS – (Atlantic) Outer Continental Shelf Interactive Registry of Archaeological Surveys – which will allow BOEM archaeologists to add, store, and use digital, geo-referenced cultural resources data collected in the course of BOEM-funded and BOEM-permitted activities. OCSIRAS will provide BOEM archaeologists the ability to conduct more efficient environmental analysis, including comparing the effectiveness of survey methods and results from future surveys conducted on the same portions of the OCS; refining future survey methods recommended by BOEM for plan approval; finding resources and conducting compliance work; and generating spatially-based statistical queries for reporting and environmental analyses.

The creation of OCSIRAS, a modular, scalable GIS platform to integrate, store, edit, analyze, share, and display geographic and associated, geo-referenced cultural resources data on the Atlantic OCS, will combine use of software containing an asset/feature of data repository central to computerized maintenance management systems (CMMS), such as the ESRI ArcGIS geo-database, with hardware – server space for BOEM-owned and -managed data. Initial “layers” or “datasets” will efficiently link to existing databases, both locally-housed as well as publically-available online, such as the National Oceanic Atmospheric Administration’s bathymetric data. OCSIRAS will allow BOEM archaeologists to efficiently:

- identify or update the geographic location, nature, manner, methods, and results of newly- and previously-conducted marine archaeological surveys;
- identify or update the presence (or absence) and locations of newly- and previously-identified cultural resources and update those locations when necessary;
- locate areas within future lease blocks that will – or will not – require future survey;
- access other, applicable databases both internal and external by links, without having to house externally-maintained data;
- access other forms of data and primary and secondary historic sources, such as photographs, newspaper clippings, bathymetric images, side-scan sonar images, etc.;
- overlay new information collected from surveys, studies, and other research with existing spatial data already in use by BOEM; and
- query data for research purposes.

Importance to BOEM: Essential to responsible stewardship and efficient use of data gathered in the course of BOEM-funded research and BOEM-permitted actions is the creation of a geo-referenced, digital storage database (or geo-database) in the form of a geographic information system. Digital data produced in the course of studies and collected as a result of permitting actions, National Environmental Policy Act reviews,

consultations under Section 106 of the National Historic Preservation Act (NHPA), and post-review discoveries should be centralized in a geographic information system and integrated with other, publically-available datasets, for the purposes of efficient management of resources BOEM oversees; informing future reviews and consultations; and sharing of non-sensitive information with other researchers and developers.

Current Status: Award made May 10, 2013. Post-award meeting held May 22, 2013. Working groups for IT integration and database/workflow design ongoing. BOEM anticipates delivery of system for review and testing December 2014.

Final Report Due: June 2015

Publications: None, to date.

Revised Date: December 1, 2014

ESPIS: Environmental Studies Program Information System

All *completed* ESP studies can be found here:

http://www.data.boem.gov/homepg/data_center/other/espis/espisfront.asp