

## **ENVIRONMENTAL STUDIES PROGRAM: Ongoing Studies**

**Region:** Headquarters

**Planning Area(s):** All Planning Areas

**Title:** Continued Support for the Development and Maintenance of a Marine Biological Data Archive NT-11-12

**BOEM Cost:** \$160,000

**Period of Performance:** FY 2011-2014

**Conducting Organization(s):** U. S. Geological Survey ( M11PG00040 )

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### **Description:**

**Background:** A great many scientific projects and monitoring efforts involve observing marine mammals and other marine organisms in all aspects of their lives. Many research institutions and governmental agencies have accumulated this information, but, to date, there is no one repository for these observations from which interested groups could obtain the information for their needs. A report of the Joint Subcommittee on Ocean Science & Technology, an interagency task force on anthropogenic sound and the marine environment states "...agencies often have common science and technology needs on this issue that could be most quickly and economically accessed through a coordinated program of effort." . Further, the report recommends that government agencies "support the development, standardization, and integration of online data archives of marine mammal distribution, abundance, and movement for use in assessing potential risk to marine mammals from sound-producing activities" (Southall, et al., 2009).

Given the recognized usefulness of an archive of marine biological observations analogous to that of the National Oceanographic Data Center's (NODC's) physical oceanographic data archive, the Interagency Coordinating Group on the Impact of Noise on Marine Mammals (ICG) has conducted many discussions, investigations, and one workshop sponsored by the National Oceanic and Atmospheric Administration (NOAA) for the purpose of creating such an archive. After more than two years of cooperative effort, the Office of the Assistant Secretary of the Navy (Installations and Environment), the Marine Mammal Commission, the Office of Naval Research, and BOEM have decided to build the archive as part of the U. S. A. node of OBIS (Ocean Biogeographic Information System), (OBIS-USA), a component of the long-established U. S. Geological Survey's (USGS's) National Biological Information Infrastructure (NBII). OBIS-USA was born out of the successful OBIS demonstration project at Duke University. (OBIS is now an international effort, and the USGS hosts the U. S. A. node of the international effort.) This archive is in a mature state with well developed, dedicated hardware, user software, and full-time, knowledgeable personnel maintaining and further developing the system. The management of OBIS-USA is enthusiastic about taking on the role of the

federal government's marine biological data archive and expanding the effort to include all marine biological data. The NBII already has a wealth of terrestrial biological data. OBIS-USA was conceived to be the marine biological companion to the terrestrial data archive.

NOAA's National Marine Fisheries Service and the U. S. Navy have committed to contributing their extensive marine biological data to the archive. The NODC has a much more modest collection of marine biological data but is willing to add that to the data archive as well, and data archived in OBIS (international) from foreign sources will be made available to OBIS-USA. There are plans in the future to solicit data contributions from ocean industries and university investigators. The cooperating federal agencies agreed to require all future research efforts funded by them and collecting marine biological data to contribute the data to the new archive. BOEM will need to devote some personnel time to gather marine biological data from the many research efforts BOEM has funded in past years in order to add its considerable data sets to the archive.

The USGS is currently funding OBIS-USA at a modest level (approximately \$250,000 per year), which has enabled the development of the hardware, software, and personnel infrastructure it now has. In FY 2010, BOEM added \$40,000 (from NT-10-12) to begin the preparation for a large influx of data from the above-mentioned federal agencies. With this study, BOEM will partially fund the expected major data-gathering effort to begin, hopefully, in late 2010 or early 2011. Other federal agencies will co-fund the effort as well, hopefully at a level comparable to or greater than BOEM's funding. In addition, the OBIS-USA management will be asking the USGS for an increased rate of funding to sustain the effort.

Finally, the establishment of a common data format and a quality control method for marine biological observations will need to be worked out. The NODC has independently begun an effort to produce these and has offered to work with the OBIS-USA effort to generate a research-community-wide set of data and meta-data formats.

Objectives: The objectives of this study are as follows.

- partially fund the continued development and maintenance of a marine biological data archive within OBIS-USA at the USGS
- develop a common data and meta-data format for observations of marine mammals
- add BOEM's marine biological data to the archive .

**Importance to BOEM:** This study will enhance all of BOEM's environmental impact assessments and consultations involving living marine organisms as well as marine spatial planning efforts by helping to significantly improve the accessibility to a great many marine biological observations now widely distributed among many organizations and existing in a variety of different formats.

**Current Status:** Awarded June 30, 2011; extensive dialog has taken place among NODC, OBIS-USA, and OBIS-Seamap to merge their data archiving activities and user software developments to be complimentary and not duplicative; the discussions have included scientists working to develop IOOS and major data holders and data generators at NOAA, ONR, BOEM, FWS, and NSF-funded university research groups to help develop data and metadata standards for marine biological data and a process for the data to be assimilated into a permanent archive with sufficient documentation to make subsequent use reasonably easy for future investigators.

**Final Report Due:** June 29, 2014

**Publications:** none

**Affiliated Web Sites:** <http://www.usgs.gov/obis-usa/>

**Revised Date:** May 17, 2012

**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](http://www.data.boem.gov/homepg/data_center/other/espis/espisfront.asp)