



Data Management Objectives

Specific objectives by the Okeanos Explorer Data Management Team for this cruise are to initialize the shoreside repository server for the current cruise; monitor existing data pipelines already installed on the Okeanos Explorer; and address any issues post-mission and during the first leg of the next cruise.

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1. General Description of Data to be Managed

1.1 Name of the Dataset of Data Collection Project

Ship Shakedown and Patch Test (EX1401)

To assess ship's essential operational equipment and procedures; to conduct emergency drills; to assess ship's equipment necessary to support operations; to test ship's ROV support systems; to conduct multibeam system testing in the vicinity of Veatch Canyon, to conduct sound velocity comparison cast between CTD and XBT; to collect deep-water multibeam sonar, subbottom and singlebeam sonar data; to train new personnel in all mapping data collection processes and procedures; to assess affect of subbottom noise mitigation measures; to verify inventory of spares of all mapping sensors, to test telepresence operations, and to prepare the 2014 readiness report.

1.2 If this mission is part of a series of missions, what is the series name?

Okeanos Explorer

1.2 Keywords that could be used to characterize the data.

expedition, exploration, explorer, marine education, noaa, ocean, ocean discovery, ocean education, ocean exploration, ocean exploration and research, ocean literacy, ocean research, OER, science, scientific mission, scientific research, sea, stewardship, systematic exploration, technology, transformational research, undersea, underwater, Davisville, mapping survey, multibeam, multibeam backscatter, multibeam sonar, multi-beam sonar, noaa fleet, okeanos, okeanos explorer, R337, Rhode Island, scientific computing system, SCS, single beam sonar, singlebeam sonar, single-beam sonar, sub-bottom profile, water column backscatter, Veatch Canyon, Northeast U.S. Deepwater Canyons, Continental Shelf, oceans

1.4 Summary description of the data to be generated.

Multibeam and singlebeam mapping operations will be conducted 24 hours a day throughout the cruise. Sub-bottom profile mapping will be conducted each day between the hours of 1000 and 2200 throughout the cruise.

1.5 Anticipated temporal coverage of the data.

Cruise Dates: 2/6/2014 to 2/9/2014

1.6 Anticipated geographic coverage of the data.

Latitude Boundaries: 41 to 40

Longitude Boundaries: -72 to -69

1.7 What platforms will be employed during this mission?

NOAA Ship Okeanos Explorer

1.8 What data types will you be creating or capturing?

Cruise Plan, Cruise Summary, Data Management Plan, Multibeam (raw), XBT (raw), Sub-Bottom Profile data, Water Column Backscatter, SCS Output (native), Multibeam (processed), Multibeam (product), Mapping Summary, EK60 Singlebeam Data, CTD (processed), CTD (product), CTD (raw)

1.8 What data types will you be submitting for archive?

Cruise Plan, Cruise Summary, Data Management Plan, Multibeam (raw), XBT (raw), Sub-Bottom Profile data, Water Column Backscatter, SCS Output (native), Multibeam (processed), Multibeam (product), Mapping Summary, EK60 Singlebeam Data, CTD (processed), CTD (product), CTD (raw)

1.9 What volume of data is anticipated to be collected in the Project Time Frame?

not known at this time

2. Points of Contact

2.1 Who is the overall point of contact for the data collection?

Elizabeth Lobecker, Multibeam Mapping Expert, NOAA Office of Ocean Exploration and Research

2.2 Who is responsible for verifying the quality of the data?

Elizabeth Lobecker, OER, Expedition Coordinator and Mapping Team Lead, elizabeth.lobecker@noaa.gov

2.3 Who is responsible for data documentation and metadata activities?

OER Data Management Coordinator, National Coastal Data Development Center, Stennis Space Center, MS 228-688-2936, oer.info.mgmt@noaa.gov

2.4 Who is responsible for data storage and data disaster recovery activities?

NOAA National Data Centers (National Geophysical Data Center for geophysical data; National Oceanographic Data Center for oceanographic, navigational data; NOAA Central Library for products/reports)

3. Data Stewardship

3.1 What quality control procedures will be employed?

Quality control procedures for the data from the Kongsberg EM202 is handled at UNH CCOM/JHC. Raw (level-0) bathymetry files are cleaned/edited into new data files (level-1) and converted to a variety of products (level-2). Data from sensors monitored through the SCS are archived in their native format and are not quality controlled. Data from XBT firings are archived in their native format and are not quality controlled.

4. Data Documentation

4.1 Which metadata repository will be used to document this data collection?

An ISO format collection-level metadata record will be generated during pre-cruise planning and published in an OER catalog and Web Accessible Folder (WAF) hosted at NCDDC for public discovery and access. The record will be harvested by data.gov

4.2 What additional metadata or other documentation is necessary to fully describe the data and ensure its long-term usefulness?

Additional metadata includes: Multibeam metadata to file level; Scientific Computing System (SCS) metadata; MARC metadata for Library items

4.3 What standards will be used to represent data and metadata elements in this data collection?

ISO 19115-2 Geographic Information with Extensions for Imagery and Gridded Data will be the metadata standard employed; A NetCDF-4 standard for oceanographic data will be employed for the SCS data.

5. Data Sharing

5.1 What date will the data be made available to the public?

All ship data from this mission is expected to be archived and accessible within 60-90 days post-mission. METOC data from the SCS and CTD data are converted in a post-mission model into archive ready compressed NetCDF4 format and stored within the NCCDC THREDDS open-access server.

5.2 If the data are not to be made publicly available, under what authority are the data restricted?

not applicable

5.2a Access Constraints Statement?

No data access constraints, unless data are protected under the National Historic Preservation Act of 1966.

5.2b Use Constraints Statement?

Data use shall be credited to NOAA Office of Ocean Exploration and Research.

6. Initial Data Storage and Protection

6.1 Where and how will the data be stored initially (prior to archive submission)?

Data are recorded and stored on NOAA shipboard systems compliant with NOAA IT procedures. Data are moved from ship to shore using a variety of standard, documented data custody transfer procedures. Data are transferred to NOAA Data Centers using digital and physical data transfer models depending upon the data volume.

6.2 Discuss data back-up, disaster recovery, contingency planning and off-site storage relevant to this data collection.

Data management standard operating procedures minimizing accidental or malicious modification or deletion are in place aboard the Okeanos Explorer and will be enforced.

6.3 Describe how the data will be protected from unauthorized access, how permissions will be managed and what process will be followed in the event of unauthorized access.

7. Long-Term Archiving and Preservation

7.1 In what NOAA Data Center(s) will the data be archived and preserved?

Data from this mission will be preserved and stewarded through the NOAA National Data Centers. Refer to the Okeanos Explorer FY14 Data Management Plan (EX_FY14_DMP.pdf) for detailed descriptions of the processes, procedures, and partners involved in this collaborative process.

7.1a If you do not plan to archive in the NOAA Data Centers, what is your long-term strategy for maintaining, curating, and archiving the data?

7.2 What transformations or procedures will be necessary to prepare data for preservation or sharing?

SCS data shall be delivered in archive-ready compressed NetCDF-4 format to NODC; multibeam data and metadata will be compressed and delivered in a bagit format to NGDC.

