

Data Management Plan

Okeanos Explorer (EX1605L3): CAPSTONE CNMI & Mariana Trench MNM (ROV & Mapping)



OER Data Management Objectives

Standard Operating Procedures onboard the ship and throughout the ship's established data pipelines will be followed to ensure the data from this mission is organized, documented and archived within 30-90 days of cruise end.

09-Jun-16

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1. General Description of Data to be Managed

1.1 Name and Purpose of the Data Collection Project

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1.2 Summary description of the data to be collected.

The ship will conduct 24 hour operations consisting of daytime ROV dives and evening/nighttime mapping operations including during transit. During this cruise we will conduct primarily 8 hour ROV dives with occasional 10 or 12 hour dives on particularly interesting or deep water dive sites, as staffing allows. ROV operations will focus in depths between 250 and 6,000 meters and will include high-resolution visual surveys and limited sample collection. Mapping operations will be conducted in 250m of water and deeper, and include transit and overnight multibeam, water column backscatter, and sub-bottom data collection. CTD rosette operations are requested at several sites to inform ROV dives, and may be requested opportunistically at selected sites where collecting the data is considered important to understanding the physical or chemical properties of the overlying water column.

1.3 Keywords or phrases that could be used to enable users to find the data.

expedition, deep sea corals, coral communities, hydrothermal vent communities, mud volcanoes, trench habitats, subduction zone habitats, Prime Crust Zone, telepresence enabled exploration, Pacific seamounts, 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, oceans, Commonwealth of the Northern Marianas Islands, CNMI, Marianas Trench Marine National Monument, MTMNM, benthic habitats, bottom fish habitats

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

Okeanos ROV Cruises

1.5 Planned or actual temporal coverage of the data.

Dates: 6/17/2016 to 7/10/2016

1.6 Planned or actual geographic coverage of the data.

Latitude Boundaries: 11.63 to 17.51

Longitude Boundaries: 143.2 to 149.5

1.7 What data types will you be creating or capturing and submitting for archive?

Cruise Plan, Cruise Summary, Data Management Plan, Highlight Images, Quick Look Report, CTD (processed), CTD (product), CTD (raw), Dive Summaries, EK60 Singlebeam Data, Expedition Cruise Report, Highlight Video, Images, Multibeam (image), Multibeam (processed), Multibeam (product), Multibeam (raw), NetCDF, Raw Video (digital), Sample Analysis Reports, Sample Logs, SCS Output (compressed), SCS Output (native), Selected Raw Video, Sub-Bottom Profile data, Water Column Backscatter, XBT (raw)

1.8 What platforms will be employed during this mission?

NOAA Ship Okeanos Explorer, Deep Discoverer ROV, SEIRIOS Camera Sled

2. Point of Contact for this Data Producing Project

Overall POC: Ms. Kasey Cantwell, Field Operations Specialist, NOAA Office of Ocean Exploration and Research, kasey.cantwell@noaa.gov
 Title: Field Operations Specialist
 Affiliation/Dept: NOAA Office of Ocean Exploration and Research
 E-Mail: kasey.cantwell@noaa.gov
 Phone: 301-734-1050

3. Point of Contact for Managing the Data

Data POC Name: Joshua Carlson, Andy O'Brien, Matt Dornback, Susan Gottfried
 Title: Onboard operational data management, shoreside data management, sampling operations data management, data stewardship and archive
 E-Mail: joshocar@gmail.com, andrew.parson.obrien@gmail.com, matt.dornback@noaa.gov, susan.gottfried@noaa.gov

4. Resources

4.1 Have resources for management of these data been identified? True

4.2 Approximate percentage of the budget devoted to data management. (specify % or "unknown")
 unknown

5. Data Lineage and Quality

5.1 What is the processing workflow from collection to public release?

SCS data shall be delivered in its native format as well as an archive-ready, documented, and compressed NetCDF3 format to NCEI-MD; multibeam data and metadata will be compressed and delivered in a bagit format to NCEI-CO

5.2 What quality control procedures will be employed?

Quality control procedures for the data from the Kongsberg EM302 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 CTD casts and XBT firings are archived in their native format. CTDs are post-processed by the data

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management team as a quality control measure and customized CTD profiles are generated for display on the Okeanos Atlas (explore.noaa.gov/okeanosatlas).

6. Data Documentation

6.1 Does the metadata comply with the Data Documentation Directive?

True

6.1.1 If metadata are non-existent or non-compliant, please explain:

6.2 Where will the metadata be hosted?

Organization: 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 NCEI-MS for public discovery and access. The record will be harvested by data.gov.

URL: <http://www.ncddc.noaa.gov/oer-waf/ISO/Resolved/2016/>

Meta Std: ISO 19115-2 Geographic Information with Extensions for Imagery and Gridded Data will be the metadata standard employed; a NetCDF3 standard for oceanographic data will be employed for the SCS data; the Library of Congress standard, MACHINE READABLE CATALOG (MARC), will be employed for NOAA Central Library records.

6.3 Process for producing and maintaining metadata:

Metadata will be generated via xml editors or metadata generation tools.

7. Data Access

7.1 Do the data comply with the Data Access Directive?

True

7.1.1 If the data will not be available to the public, or with limitations, provide a valid reason.

Not Applicable

7.1.2 If there are limitations, describe how data are protected from unauthorized access.

Account access to mission systems are maintained and controlled by the Program. Data access prior to public accessibility is documented through the use of Data Request forms and standard operating procedures.

7.2 Name and URL of organization or facility providing data access.

Org: National Centers for Environmental Information (NCEI)

URL: <http://explore.noaa.gov/digitalatlas>

7.3 Approximate delay between data collection and dissemination. By what authority?

Hold Time: no

Authority: not applicable

7.4 Prepare a Data Access Statement

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

8. Data Preservation and Protection

8.1 Actual or planned long-term data archive location:

Data from this mission will be preserved and stewarded through the NOAA National Centers for Environmental

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Information. Refer to the Okeanos Explorer FY16 Data Management Plan at NOAA's EDMC DMP Repository (EX_FY16_DMP_Final.pdf) for detailed descriptions of the processes, procedures, and partners involved in this collaborative effort.

8.2 If no archive planned, why?

not applicable

8.3 If any delay between data collection and submission to an archive facility, please explain.

30-90 days

8.4 How will data be protected from accidental or malicious modification or deletion?

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

8.5 Prepare a Data Use Statement

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