Data Management Plan
Okeanos Explorer (EX1605L2): CAPSTONE CNMI & Mariana Trench MNM (Mapping)

OER Data Management Objectives
Ensure normal data pipelines are operational and data stewardship is completed in a timely manner.

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.

Operations will use the ship's deep water mapping systems (Kongsberg EM302 multibeam sonar, EK60 split-beam fisheries sonars, ADCPs, and Knudsen 3260 chirp sub-bottom profiler sonar), CTD rosette, and the ship's high-bandwidth satellite connection for periodic real-time ship to shore communications. Operations for this cruise will include 24 hour mapping, periodic telepresence-based remote participation, and CTD rosette operations. Multibeam and singlebeam mapping operations will be conducted 24 hours a day throughout the cruise. Sub-bottom profile mapping will be conducted 24 hours a day at the discretion of the CO. XBT and/or UnderwayCTD (UCTD) sound velocity casts in support of multibeam sonar mapping operations will be conducted at an interval defined by prevailing oceanographic conditions, but not to exceed 6 hours.

1.3 Keywords or phrases that could be used to enable users to find 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, Commonwealth of the Northern Marianas Islands, CNMI, Marianas Trench, Marianas Trench Marine National Monument, MTMNM, CAPSTONE, Guam, telepresence-enabled exploration, ECS Project, Extended Continental Shelf, mud volcano, Fryer Guyot, hydrothermal vents, Mariana Arc, West Mariana Ridge, Mariana Basin, morphology of the seafloor, crust, fault, tectonic plates, arc lavas, rift, seafloor spreading, NASA Maritime Aerosol Network

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

Okeanos Mapping Cruises

1.5 Planned or actual temporal coverage of the data.

Dates: 5/20/2016 to   6/11/2016

1.6 Planned or actual geographic coverage of the data.

Latitude Boundaries: 18.34   to   23.4

Longitude Boundaries: 141.36   to   147.31

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, ADCP, Bottom Backscatter, CTD (raw), EK60 Singlebeam Data, Multibeam (processed), Multibeam (product), Multibeam (raw), Mapping Summary, Multibeam (image), SCS Output (compressed), SCS Output (native), Side Scan Sonar (raw), Sub-Bottom Profile data, Temperature data, Water Column Backscatter, XBT (raw), GSF, NetCDF

1.8 What platforms will be employed during this mission?

NOAA Ship Okeanos Explorer

2. Point of Contact for this Data Producing Project

Overall POC:	Elizabeth Lobecker, Multibeam Mapping Expert, Contractor (ERT, Inc.), NOAA Office of Ocean Exploration and Research, elizabeth.lobecker@noaa.gov
Title:	Expedition Coordinator, Mapping Lead, Principal Investigator
Affiliation/Dept:	Contractor (ERT, Inc.), NOAA Office of Ocean Exploration and Research
E-Mail:	elizabeth.lobecker@noaa.gov
Phone:	603-862-1475

3. Point of Contact for Managing the Data

Data POC Name:	Operational Data Management, Andy O'Brien; Stewardship Data Management, Susan Gottfried
Title:	OER EX Data Managers
E-Mail:	andrewparsonobrien@gmail.com; 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 and are not quality controlled. CTDs are processed into profiles for display only on the Okeanos Atlas.

6. Data Documentation

6.1 Does the metadata comply with the Data Documentation Directive?   True

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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: 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: NOAA National Centers for Environmental Information

URL: https://explore.noaa.gov/digitalatlas

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

Hold Time: No, data from Okeanos Explorer are made publicly accessible as soon as possible.

Authority: Any data not made publicly accessible is protected by the National Historic Preservation Act of 1966

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 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?

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

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.