

# Data Management Plan

## Okeanos Explorer (EX1603): Hohonu Moana: Exploring the Deep Waters off Hawai`i



### *OER Data Management Objectives*

*Continue integration and testing of telestream pipeline capture system; work with Telestream developers to resolve abortive captures; integrate audio into telestream video capture; transfer functionality from the old data warehouse to the new one; ensure successful transfer of data warehouse functionality (public hosting, dashboard, data consolidation, data processing) from legacy dell system to new replacement.*

16-Feb-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. Opportunistic CTD rosette operations may be requested to collect more information about the environmental parameters at ROV dives sites, or opportunistically at selected sites where collecting the data is considered important to understanding the physical or chemical properties of the overlying water column. ROV and mapping operations will not be conducted in state waters.

Dive(s) will also be devoted to searching for ship's lost during the World War II Battle of Midway with an emphasis on finding the main wreck of the Japanese Aircraft Carriers Kaga. Data collected by OER that is considered sensitive will be protected from direct public release until such time as a final determination can be made as to permanent protection. If data are found to be sensitive because they reveal the location of a historically significant cultural resource, Section 304 of the National Historic Preservation Act provides that the head of a Federal agency or other public official shall withhold from public disclosure information about the location, character, or ownership of a historic property when disclosure may cause a significant invasion of privacy; risk harm to the historic property; or impede the use of a traditional religious site by practitioners. Data collected by the EX that is considered sensitive will be archived in a location where it can be withheld from public disclosure.

### **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

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sonar, singlebeam sonar, single-beam sonar, sub-bottom profile, water column backscatter, archaeological, archaeology, conservation, conserve, crm, cultural resource management, historic, marine archaeology, maritime, maritime archaeology, nautical, nautical archaeology, preserve, protect, protection, submerged cultural heritage, submerged cultural resource, uch, underwater cultural heritage, oceans, Battle of Midway, World War II, Japanese Aircraft Carrier Kaga, Kwajalein, Marshall Islands, Midway Islands, Papahānaumokuākea Marine National Monument, PMNM, Hawaiian Archipelago, Northwest Hawaiian Islands, CAPSTONE, Middle Bank, deepwater corals, deepwater sponges, manganese crust 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: 2/23/2016 to 3/18/2016

#### 1.6 Planned or actual geographic coverage of the data.

Latitude Boundaries: 8.26 to 30.83

Longitude Boundaries: 167.4 to -157.9

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

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

#### 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: Brian Kennedy, Commissioned Officer, NOAA Office of Ocean Exploration and Research, brian.kennedy@noaa.gov  
 Title: Expedition Coordinator  
 Affiliation/Dept: NOAA Office of Ocean Exploration and Research  
 E-Mail: brian.kennedy@noaa.gov  
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## 3. Point of Contact for Managing the Data

Data POC Name: Susan Gottfried  
 Title: OER Data Management Coordinator  
 E-Mail: 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 NODC; multibeam data and metadata will be compressed and delivered in a bagit format to NGDC.

**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

**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 NCDDC for public discovery and access. The record will be harvested by data.gov.

URL: [www.ncddc.noaa.gov/oer-waf/ISO/Resolved/2016/](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 NetCDF-4 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.**

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Org: National Centers for Environmental Information  
URL: explore.noaa.gov/digitalatlas

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

Hold Time: no, data are made available as soon as possible after the mission end

Authority:

**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.**

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.