

	OFFICE OF MARINE AND AVIATION OPERATIONS	PROCEDURE 1102-25	VERSION 1.0
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	AUTHORIZED BY: /s/ Rear Admiral Philip M. Kenul, NOAA <hr/> RDML Philip M. Kenul, NOAA Director, Marine and Aviation Operations Centers	REVIEW DATE January 18, 2014	
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SHIPBOARD GEOPHYSICAL DATA STEWARDSHIP

1. PURPOSE

- 1.1 This procedure establishes new data stewardship responsibilities and prescribes related procedures to prevent the inadvertent loss of non-nautical charting specific geophysical data acquired aboard all National Oceanic and Atmospheric Administration (NOAA) ships, and to ensure these data are archived and made available to the public in a timely manner at NOAA's National Geophysical Data Center (NGDC).
- 1.2 The only exception to this procedure is a ship that satisfies the purpose of this procedure to ensure proper and timely data stewardship from acquisition to national archive such as a Cruise Information Management System (CIMS). The *Okeanos Explorer* is the only ship exempt due to its CIMS system. All data submission timelines, as detailed in this procedure, still apply.

2. SCOPE

- 2.1 This procedure addresses non-nautical charting specific, geophysical data stewardship procedures and responsibilities aboard NOAA ships to be followed by Commanding Officers/Masters (CO), Chief Scientists (CS), Principal Investigators (PI), Project Managers (PM), and Data Managers (DM).

3. PROCEDURES AND RESPONSIBILITIES

3.1 Project Manager – Draft Cruise/Project Instructions

- 3.1.1 The PM shall include a section entitled “Disposition of Data and Reports” in the cruise/project instructions. This section shall state that the CS/PI is responsible for the collection, management, and archiving of all mission data in accordance with NOAA's Administrative Order (NAO) 216-101, Ocean Data Acquisitions. The PM shall clearly identify in the cruise/project instructions all data that will be publicly released and all data that will not be publicly released (see section 3.4.3). Geophysical data having homeland/national security, cultural heritage, or protected resources value shall be assigned an indefinite date for public release by the proper authorities. The PM shall document in the cruise/project instructions the specific justification for non-release of data, as well as the authority responsible for the non-release decision.
- 3.1.2 Prior to the cruise/project, the PM shall coordinate with the CO, expedition coordinator, and/or survey technicians to ensure that a copy of all raw geophysical data and corresponding cruise metadata is submitted to NGDC following the completion of the cruise/project.

3.2 Chief Scientist/Principal Investigator – Collect Data, Define Metadata, and Submit Processed Data

- 3.2.1 The CS/PI shall work with shipboard personnel to collect data of the highest possible quality and to create cruise metadata. The cruise metadata shall include a date for public release of data not to exceed 1 year after collection of data (NAO 216-101).

- 3.2.2 As soon as practical and not to exceed 15 days following the completion of the cruise/project, the CS/PI shall obtain a copy of raw data collected with shipboard instrumentation on his/her transfer media and, if applicable, provide the CO a copy of all raw data collected with scientific party-provided instrumentation.
- 3.2.3 The CS/PI shall provide all project-specific processed geophysical data and accurate project metadata to NGDC within 1 year of completion of data collection. In addition to the project metadata, the following documentation is of high utility and, when available, shall be submitted by the CS/PI to NGDC:
- Data Event Logs
 - Cruise/Project Instructions, and
 - Survey Reports.

Future opportunities to participate in data collection activities as CS/PI aboard a NOAA ship will require verification from NGDC that project-specific processed geophysical data with project metadata were delivered to NGDC within 1 year of collection.

3.3 Commanding Officer/Master – Submit Raw Data to NGDC and Data Disposition

- 3.3.1 As soon as practical and not to exceed 30 days following the completion of each cruise/project, the CO shall ensure all collected geophysical data (including cruise/project instructions and all other supporting raw data) and appropriate cruise metadata are submitted on digital media to NGDC, including all raw geophysical data collected with scientific party-provided instrumentation and any processed data available at time of submission. The CO shall submit NOAA Form (NF) 61-29 (Letter Transmitting Data) electronically with these data and cruise metadata to NGDC and provide a copy to the CS/PI. This procedure does not relieve the CS/PI from his/her responsibility to provide all project-specific processed geophysical data and project metadata to NGDC within 1 year of data collection.

NGDC supports the following data transfer methods: .ftp (must notify NGDC first), CD, DVD, and external hard drive. The one exception is high definition DVD (aka: Blu-ray discs-BD) which are not supported.

- 3.3.2 Upon receiving the NF 61-29 from NGDC acknowledging receipt of valid raw geophysical data and cruise metadata, the CO's responsibility for holding the data is complete.

3.4 Data Manager – Archive and Distribute Data at NGDC and Public Release of Data

- 3.4.1 After confirming that the raw geophysical data and cruise metadata received from the CO are valid, the DM at NGDC will return signed copies of NF 61-29 to both the CO and the CS/PI. When applicable, the DM will also notify all NOAA hydrographic data processing offices (Atlantic Hydrographic Branch/Pacific Hydrographic Branch, Integrated Ocean and Coastal Mapping Processing Center) of the availability of bathymetry and side scan sonar data for evaluation for charting and other applications.
- 3.4.2 The DM will validate and publish metadata, archive appropriate data in accordance with data archival best practices, make the data publicly available by the agreed date of public release, safeguard non-public, restricted data (i.e., data with homeland/national security, cultural heritage, or protected resources value), and maintain current digital inventories of all public data. Upon receipt and verification of the project-specific processed data and project metadata from the CS/PI, the DM will notify the CS/PI and PM acknowledging that the PI's archive responsibilities have been met.
- 3.4.3 NGDC will make publically available all unrestricted raw and processed geophysical data (i.e., data with no homeland/national security, cultural heritage, or protected resources value) as soon as possible and not later than 1 year after collection, allowing 30 days after receipt for administrative in-processing.
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4. GUIDANCE

- 4.1 The NAO 216-101 establishes policies to ensure NOAA data collection activities support multiple uses of data for purposes other than what they were originally intended. Additionally, the NAO identifies PMs, CSs, and PIs as the individuals accountable for collected data and establishes procedures to ensure raw data and data of high utility are submitted to one of NOAA's National Data Centers within 1 year of data acquisition. The NAO 212-15, Management of Environmental and Geospatial Data and Information, and Public Law 111-11 (Title XII, Subtitle B), Ocean and Coastal Mapping Integration Act, both require proper stewardship of the Nation's environmental and geophysical data.
- 4.2 Spatial data are considered a national capital asset, and to that end, the National Spatial Data Infrastructure described in Office of Management and Budget (OMB) Circular No. A-16 facilitates efficient collection, integration, sharing, and dissemination of spatial data among all levels of government institutions, academia, and the private sector. Geophysical data collected with public funds not having homeland/national security or cultural heritage value shall be made available to the public within 1 year of data collection.

5. RECORDS AND REPORTS

NF 61-29, Letter Transmitting Data

- A copy of the signed form is to be maintained on NOAA ships.
Disposition: Destroy after 3 years.

6. DEFINITIONS

Geophysical Data	Digital data that describe the seafloor and subsurface including, but not limited to, single beam and multibeam echosounder data; side scan sonar data; acoustic backscatter and water column data; sound velocity data; sub-bottom profile data; magnetic, gravity and processed seismic reflection/refraction trackline data; and data pertaining to seafloor and lacustrine geologic samples and sample descriptions and analysis.
Cruise Metadata	Data documentation relevant to the cruise as a whole, typically based on the project/cruise instructions. Cruise metadata includes but is not limited to the cruise identifier, ship name, name of the CO, PM, and PI/CS; ports and dates of call, general area of operation, data collection instrumentation, types of data collected (e.g., multibeam bathymetry), and data sensitivity (public/non-public).
Project Metadata	Data documentation that includes information sufficient to fully describe the physical recording technique, data format, recording mode, date for public release (not to exceed one (1) year from collection), and other items necessary to ensure proper processing and use of all the project-specific data as defined in Federal Geographic Data Committee or International Organization for Standardization metadata standards and accepted best practice formats.
Raw Data	Data from sensor output including all necessary data for processing (e.g., Global Positioning System locations and ship orientation information) that have not been subjected to processing or any other form of manipulation.
Processed Data	Project-specific data submitted by the CS/PI that have been minimally cleaned and quality assessed for GPS and navigation errors, signal to noise ratios issues, instrument anomalies, etc., but have not been developed into derived products (e.g., grids).
Project-Specific Data	Data collected during the cruise/project used by the CS/PI to conduct research and/or develop derivative products.

7. REFERENCES

Public Law 111-11 (Title XII, Subtitle B), Ocean and Coastal Mapping Integration Act
http://www.nauticalcharts.noaa.gov/ocs/hsrp/archive/sept2009/2009_PL111-11_SubtitleB_OCMIA.pdf

OMB Circular A-16, Coordination of Surveying, Mapping, and Related Spatial Data Activities
http://www.whitehouse.gov/omb/circulars_a016/

OMAO Marine Operations Center Cruise/Project Instructions
http://www.moc.noaa.gov/all_ships/instruction.htm

NAO 212-15, Management of Environmental and Geospatial Data and Information
http://www.corporateservices.noaa.gov/~ames/NAOs/Chap_212/naos_212_15.html

NAO 216-101, Ocean Data Acquisitions
http://www.corporateservices.noaa.gov/~ames/NAOs/Chap_216/naos_216_101.html

9. NOTES

Effect on Other Documents: None

Distribution: MAOC, MOC-A/P, NOAA Ships

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