

Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed**1.1. Name of the Data, data collection Project, or data-producing Program:**

2010 Great Lakes Restoration Initiative Bathymetric Lidar: Lake Superior

1.2. Summary description of the data:

The data contained in this file contain hydrographic and topographic data collected by the Fugro LADS Mk II system along the Lake Superior coast

of Minnesota, Wisconsin and Michigan. FLI was contracted under Fugro Earth Data Inc (FEDI) by NOAA Office for Coastal Management (OCM) to collect

data under the Great Lakes Restoration Initiative.

All point data has delivered is in LAS 1.2 format

The file has been classified so that all points are classified as first return or bare earth

First return points include all vegetation, buildings or other feature with fixed position

Bare earth points exclude vegetation, buildings, piers, jetties, nav aids, bridges and any other fixed man made feature. Except for break waters

and retaining walls along the shore line.

Original contact information:

Contact Org: Fugro LADS Inc

Title: Project Manager

Phone: +1 228 818 8390

Email: ladsusa@fugrolads.com

1.3. Is this a one-time data collection, or an ongoing series of measurements?

One-time data collection

1.4. Actual or planned temporal coverage of the data:

2010-07-02 to 2010-08-12

1.5. Actual or planned geographic coverage of the data:

W: -92.094878, E: -87.655578, N: 47.966392, S: 46.561792

1.6. Type(s) of data:

(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)

Lidar survey

1.7. Data collection method(s):

(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)

1.8. If data are from a NOAA Observing System of Record, indicate name of system:**1.8.1. If data are from another observing system, please specify:****2. Point of Contact for this Data Management Plan (author or maintainer)****2.1. Name:**

NOAA Office for Coastal Management (NOAA/OCM)

2.2. Title:

Metadata Contact

2.3. Affiliation or facility:

NOAA Office for Coastal Management (NOAA/OCM)

2.4. E-mail address:

coastal.info@noaa.gov

2.5. Phone number:

(843) 740-1202

3. Responsible Party for Data Management

Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:**3.2. Title:**

Data Steward

4. Resources

Programs must identify resources within their own budget for managing the data they produce.

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

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

5. Data Lineage and Quality

NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible

(describe or provide URL of description):

Process Steps:

- 2010-12-01 00:00:00 - This data was collected using the LADS Mk II bathymetric Lidar survey system. It is owned by Fugro LADS Corp. and was operated by Fugro LADS, Inc. The system collects bathymetric/topographic data at 1kHz. The system also collects digital imagery at 1Hz. Aircraft position information is collected with Wide Area Differential (WADGPS) through Omistar and is logged with GrafNav. The LADS Mk II system operated on a stabilised platform. Raw data are copied from the LADS Air System (AS) to the LADS Ground System (GS) where post processed GPS is applied as the raw data is processed, producing a 3-D position for each waveform in the dataset. The data was reduced with the use of water level information downloaded from NOAA COOPS website to vertical datum IGLB85 minus a constant 183.2 meters (the LADS ground system allows tidal corrections less than +/- 100 meters due to usual operation in areas closer to mean sea level). 183.2 meters was added back to each sounding as data was exported out of the LADS Ground System to reference it to IDLG85. Data was then shifted by a constant 0.03m to reference the dataset to NAVD88. Fugro Earth Data Inc. then completed the final transformation to the NAD83 datum. First return and bare earth data sets were exported as LAS 1.2 format files and delivered to Fugro Earth Data Inc. for classification.
- 2011-01-01 00:00:00 - Both LAS files were merged, if the same data point existed in both data sets then it was assigned a bare earth classification in the first return data set; If a point existed in the first return dataset and not in the bare earth data set it was assigned a first return classification in the first return LAS data set. To maintain header information the single classified LAS file was then imported into ProjMap for transformation from IGLD85 to GRS80 heights. As ProjMap does not recognize IGLD85 an assumption was made that IGLD85 heights and NAVD88 heights are the same with an error of +/-0.01m. This was determined by transforming a sample of points across the data set with a height value of 183.2m (lake surface) and converting them to NAVD88 with NOAA's VDatum. The average difference across the sample set was < 1cm. GeoCoding in GeoCue was ran to assign the correct header information to the file. The classified LAS 1.2 format file was delivered back to Fugro LADS Inc.

- 2011-05-10 00:00:00 - The NOAA Office for Coastal Management (OCM) received files in LAS format. The files contained bathymetric Lidar depth measurements. OCM performed the following processing on the data for data storage purposes and Digital Coast provisioning: 1. The data were converted from projected UTM (NAD83, Zone 15 & 16) coordinates to geographic (NAD83) coordinates 2. The data were converted from NAVD88 heights to ellipsoid heights using Geoid09 3. The LAS header fields were sorted by latitude and updated

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):

6. Data Documentation

The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?

No

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

Missing/invalid information:

- 1.7. Data collection method(s)
- 3.1. Responsible Party for Data Management
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

6.2. Name of organization or facility providing metadata hosting:

NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:

<https://www.fisheries.noaa.gov/inport/item/48185>

6.4. Process for producing and maintaining metadata

(describe or provide URL of description):

Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf

7. Data Access

NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:

NOAA Office for Coastal Management (NOAA/OCM)

7.2.1. If data hosting service is needed, please indicate:**7.2.2. URL of data access service, if known:**

<https://coast.noaa.gov/dataviewer/#/lidar/search/where:ID=586>

<https://noaa-nos-coastal-lidar-pds.s3.amazonaws.com/laz/geoid18/586/index.html>

7.3. Data access methods or services offered:

This data can be obtained on-line at the following URL: <https://coast.noaa.gov/dataviewer/>;

7.4. Approximate delay between data collection and dissemination:

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:

8. Data Preservation and Protection

The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:

(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):

Office for Coastal Management - Charleston, SC

8.3. Approximate delay between data collection and submission to an archive facility:

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection

9. Additional Line Office or Staff Office Questions

Line and Staff Offices may extend this template by inserting additional questions in this section.