

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:

NOAA Office for Coastal Management Coastal Digital Elevation Model: Lake Huron

1.2. Summary description of the data:

These data were created as part of the National Oceanic and Atmospheric Administration Office for Coastal Management's efforts to create an online mapping viewer called the NOAA Lake Level Viewer. It depicts potential lake level rise and fall and its associated impacts on the nation's coastal areas. The purpose of the mapping viewer is to provide coastal managers and scientists with a preliminary look at lake level change, coastal flooding impacts, and exposed lakeshore. The viewer is a screening-level tool that uses nationally consistent data sets and analyses. Data and maps provided can be used at several scales to help gauge trends and prioritize actions for different scenarios. The NOAA Lake Level Viewer may be accessed at: <https://coast.noaa.gov/llv>.

This metadata record describes the Lake Huron digital elevation model (DEM), which is a part of a series of DEMs produced for the National Oceanic and Atmospheric Administration Office for Coastal Management's Lake Level Viewer described above. This DEM includes the best available lidar and US Army Corps of Engineer dredge surveys known to exist at the time of DEM creation that met project specifications. This DEM includes data for Alcona, Alpena, Arenac, Bay, Cheboygan, Chippewa, Huron, Iosco, Mackinac, Presque Isle, Sanilac, St. Clair, and Tuscola counties in Michigan.

The DEM was produced from the following lidar data sets:

1. 2013-2015 USACE NCMP Topobathy Lidar: Lake Huron (MI)
2. 2013 USACE NCMP Topobathy Lidar: Lake Michigan South (MI)
3. 2010 ARRA Lidar: 4 Southeast Counties (MI)
4. 2008 USACE NCMP Topobathy Lidar: Lake Huron (MI)
5. 2007 USACE NCMP Topobathy Lidar: Lake Huron (MI)

6. 2007 USACE NCMP Topobathy BE Lidar: Lake Michigan (MI), Lake Erie (PA), Lake Huron (MI)

7. 2006 USACE NCMP Topobathy Lidar: Lake Michigan (IN), Lake Erie (OH,PA), Lake Huron (MI)

The DEM was produced from the following sonar data sets:

8. 2015 USACE Detroit District, Point Lookout Harbor, MI

9. 2015 USACE Detroit District, Au Sable Harbor, MI

10. 2015 USACE Detroit District, Hammand Bay Harbor, MI

11. 2014 USACE Detroit District, St. Mary's River, MI, West Neebish Channel

12. 2014 USACE Detroit District, St. Mary's River, MI, Middle Neebish Channel

The DEM is referenced vertically to the North American Vertical Datum of 1988 (NAVD88) with vertical units of meters and horizontally to the North American Datum of 1983 (NAD83). The resolution of the DEM is approximately 3 meters.

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:

2006 to 2015

1.5. Actual or planned geographic coverage of the data:

W: -84.769408, E: -82.350713, N: 46.287776, S: 42.963412

1.6. Type(s) of data:

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

Image (digital)

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:

- 2017-01-01 00:00:00 - The source elevation datasets listed above were identified, downloaded, edited, and finalized.
- 2017-01-01 00:00:00 - Source elevation data and their associated hydro-breaklines,

where available, were downloaded. Data were then reviewed and edited to meet the project's requirements. The major requirements were delineating data extent for topography and bathymetry; removing areas less than 0.01 square kilometers; creating separate terrain datasets for topography and bathymetry; converting to rasters; and mosaicing the topography and bathymetry together for the final product. NOAA's VDatum datum conversion tool was used to convert geoids.

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
- 7.3. Data access methods or services offered
- 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/48079>

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:

7.3. Data access methods or services offered:**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.