

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:

1950 - 2023 NOAA Seamless Topobathy DEM (Compiled 2023): Kachemak, Point Hope, Teller, AK

1.2. Summary description of the data:

NOAA Seamless Topobathy Digital Elevation Model Pilot Incorporating Satellite-Derived Bathymetry - Kachemak, Teller, Point Hope, Alaska, project number 1305M223FNCNP0283DPR. Seamless topographic-bathymetry models were produced for three AOIs along the Alaskan coast, integrating multiple source datasets including bathymetric lidar, topographic lidar, multibeam and singlebeam echosounder, IFSAR, and satellite-derived bathymetry (SDB). Satellite-derived bathymetry was produced using empirical and physics-based radiative transfer models, derived from Maxar and Planet Labs multispectral imagery. All data sources were adjusted from MLLW to NAVD88 before integrating to a weighted grid, with weights assigned based on quality and data currency. The weighted grid was then interpolated utilizing Generic Mapping Tools (GMT) surface module, leveraging a spline-in-tension interpolation. DEMs were delivered at 2m resolution. Each DEM delivery includes ancillary files including an in situ source map raster, a known issue polygon feature class, source imagery utilized for SDB production, the individual SDB rasters integrated with the topographic-bathymetry model.

Kachemak AOI covers approximately 1012 km²

Point Hope AOI covers approximately 2329 km²

Teller AOI covers approximately 1160 km²

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:

1961-07-22 to 2023-09-23, 1980-05-06 to 2022-05-28, 1950-01-01 to 2022-08-02

1.5. Actual or planned geographic coverage of the data:

W: -167.39811989563, E: -165.94523956925, N: 68.51960420703, S: 68.02897429398

Point Hope

W: -151.8, E: -150.88, N: 59.83, S: 59.39

Kachemak

W: -167.13, E: -166, N: 65.39, S: 65.01

Teller

1.6. Type(s) of data:

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

Model (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?

Yes

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

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):

Lineage Statement:

TCarta/Axim created seamless topographic-bathymetry models for three AOIs along the Alaskan coast, integrating multiple source datasets including bathymetric lidar, topographic lidar, multibeam and singlebeam echosounder, IFSAR, and satellite-derived bathymetry (SDB) for the NOAA Office for Coastal Management (OCM). OCM processed the DEMs to make them available for custom and bulk download from the NOAA Digital Coast Data Access Viewer (DAV).

Process Steps:

- All source data contributing to the topographic bathymetry models were, when necessary, corrected to NAVD88 vertical datum utilizing an internal Ellipsoidally Referenced Tide Datum Model (ERTDM) to perform the VDatum transformation from MLLW to NAVD88 (GEOID12). A MLLW - NAVD88 (GEOID 12) triangulated mesh covering all the Alaska tidal benchmarks was the basis for this model, provided by NOAA's Coast Survey Development Lab.
- Seamless topographic-bathymetry models were produced for three AOIs along the Alaskan coast, integrating multiple source datasets including bathymetric lidar, topographic lidar, multibeam and singlebeam echosounder, IFSAR, and satellite-derived bathymetry (SDB). Satellite-derived bathymetry was produced using empirical and physics-based radiative transfer models, derived from Maxar and Planet Labs multispectral imagery. All data sources were adjusted from MLLW to NAVD88 before integrating to a weighted grid, with weights assigned based on quality and data currency. The weighted grid was then interpolated utilizing Generic Mapping Tools (GMT) surface module, leveraging a spline-in-tension interpolation. DEMs were delivered at 2m resolution. For more details about the processing to create the DEMs, refer to the TCarta report which is accessible via the lidar report link in the URL section of this metadata record.
- 2024-01-22 00:00:00 - The NOAA Office for Coastal Management (OCM) received 3

GeoTiff files for the Kachemak, Point Hope and Teller AOIs from TCarta/Axim. The raster files were at a 2 m grid spacing. The data were in UTM Zone 3N (Point Hope, Teller) and UTM Zone 5N (Kachemak) NAD83 (2011), meters coordinates and NAVD88 elevations in meters. OCM assigned the appropriate EPSG codes (Horiz - 6332, 6334, Vert - 5703) and copied the raster files to AWS S3 for Digital Coast storage and provisioning purposes.

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
- 5.2. Quality control procedures employed
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.4. Approximate delay between data collection and dissemination
- 8.3. Approximate delay between data collection and submission to an archive facility

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/71901>

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?

Yes

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=10032/details/10032>

https://noaa-nos-coastal-lidar-pds.s3.us-east-1.amazonaws.com/dem/OCM_Kach_Teller_PtHope_AK_D

7.3. Data access methods or services offered:

Data is available online for bulk and custom downloads.

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)

NCEI_NC

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

Data is backed up to cloud storage.

9. Additional Line Office or Staff Office Questions

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