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:
2017 OLC FEMA Lidar DEM: Grass Valley, OR

1.2. Summary description of the data:
This bare earth hydro flattened digital elevation model (DEM) represents the earth's surface with all vegetation and human-made structures removed and hydro flattening performed within the OLC Grass Valley FEMA buffered project area. Bare Earth Hydro Flattened DEMs were derived from LiDAR data using TIN processing of the ground point returns. The DEM grid cell size is 1 meter. The data were developed based on the Universal Transverse Mercator (UTM) 10N projection; horizontal datum of NAD83 (2011), meters and vertical datum of NAVD88 Geoid 12B, meters. See Process Steps for derivation of raster data sets.

In addition to these bare earth Digital Elevation Model (DEM) data, the lidar point data that these DEM data were created from and the breakline data are also available. These data are available for download at the link provided in the URL section of this metadata record.

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:
2017-04-28 to 2017-05-04

1.5. Actual or planned geographic coverage of the data:
W: -120.795613, E: -120.388552, N: 45.665774, S: 45.296337

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?

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:

- 2017-04-22 00:00:00 - Acquisition. LiDAR data acquisition was conducted from 4/28/2017 to 5/4/2017. The survey utilized a Leica ALS80 sensor mounted in a Cessna Caravan. Near nadir scan angles were used to increase penetration of vegetation to ground surfaces. Ground level GPS and aircraft IMU were collected during the flight.
- 2017-08-04 00:00:00 - Processing. 1. TRAJECTORY: Aircraft trajectory (position and attitude) were calculated based on on-board GPS and IMU data with post-processing refinement through coincident static GPS collection. 2. POST-PROCESSING: Laser point return coordinates (x,y,z) were computed using sensor-specific post processing software, combining LiDAR return range and intensity information with aircraft trajectory information. 3. INITIAL QAQC: The post-processed LiDAR files were assembled into flight lines and reviewed for gaps and consistency, as well as systematic noise. 4. CALIBRATION: Custom algorithms evaluated individual swaths for misalignments based on IMU configuration as well as aircraft attitude variability. Offsets were resolved through surface and linear matching algorithms that minimize variability in elevation and slope. Descriptive statistics, thresholds, and specifications providing transparency for data calibration are discussed in the accompanying Data Report. 5. GROUND MODELING: Ground classified point cloud was generated through proprietary data processing tools, with settings and thresholds appropriate to landscape and vegetation condition. 6. ARTIFACT FILTRATION: Noise and processing artifacts were filtered using post-processing software and proprietary quality control methods. 7. ACCURACY ASSESSMENT: Vertical accuracy for the LiDAR dataset was assessed against reserved Quality Assurance Points (QAPs) distributed throughout the study area and not used during calibration processes. See the accompanying Data Report for methodology, descriptive statistics, and relevant standards and reporting language. 8. DATA PRODUCT: LiDAR points classified as 'ground' were output as a digital elevation model (DEM). 9. Hydro Flattening Breakline Processing: Class 2 LiDAR was used to create a bare earth surface model. ArcMap tools utilized rasters created within Bentley Microstation to auto-generate breaklines of inland streams and rivers with a 100 foot nominal width and manually edited where necessary. Breaklines for Lakes with surface area greater than 2 acres were generated using heads-up digitization. Elevation values were assigned to all Inland Ponds and Lakes within ESRI ArcMap; Inland Pond and Lake Islands, Inland Stream and River Islands were assigned elevation values from within ESRI ArcMap. All ground (ASPRS Class 2) LiDAR data inside of the collected inland breaklines were then classified to water (ASPRS Class 9) using TerraScan macro functionality. A buffer of 0.7 meters was also used around each hydro-flattened stream. These points were moved from ground (ASPRS Class 2) to Ignored Ground (ASPRS Class 10). The breakline files were then translated to ESRI File-Geodatabase format using ESRI conversion tools.
- 2019-11-06 00:00:00 - The NOAA Office for Coastal Management (OCM) received

795 bare earth DEM files in Arc Grid format from DOGAMI. The data were in UTM Zone 10N, NAD83 (2011), meters, coordinates and NAVD88 (Geoid12B) elevations in meters. The EPSG codes (Horizontal - 6339, Vertical - 5703), were assigned. The data were converted to GeoTIFF format for ingest into the Digital Coast Data Access Viewer and to adhere to the Open Data Policy.

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/58162

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=8902
https://noaa-nos-coastal-lidar-pds.s3.us-east-1.amazonaws.com/dem/OLC_Grass_Valley_FEMA_DEM_

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)

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.