

*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:**

2015 Oregon Department of Geology and Mineral Industries (DOGAMI) Oregon Lidar DEM: Upper Umpqua

### **1.2. Summary description of the data:**

The dataset encompasses 2209.5 square miles in southwestern Oregon. The highest hit digital surface models (DSM) represent the earth's surface with all vegetation and human-made structures included. The highest hit DSMs were derived from lidar data using TIN processing of the all-return point cloud. The bare earth digital elevation model (DEM) represents the earth's surface with all vegetation and human-made structures removed. The bare earth DEMs were derived from lidar data using TIN processing of the ground point returns. The DSM and DEM grid cell size is 3 feet. The projection is Oregon Statewide Lambert Conformal Conic, units are in International Feet. The horizontal datum is NAD 83 (2011) and vertical datum is NAVD88 (Geoid 12A). Some elevation values have been interpolated across areas in the models where there is no elevation data (e.g. over water, over dense vegetation). Watershed Sciences, Inc. collected the lidar and created this data set for the Oregon Department of Geology and Mineral Industries (DOGAMI).

This data set was ingested into the Digital Coast Data Access Viewer. If obtained through that system, the projection and datums may have been changed by user request. See the spatial reference section.

Original contact information:

Contact Name: Jacob Edwards

Contact Org: DOGAMI

Phone: 971-673-1557

Email: jacob.edwards@oregon.gov

### **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:**

2015-02-04 to 2015-11-12

**1.5. Actual or planned geographic coverage of the data:**

W: -124, E: -122.421, N: 43.83, S: 42.94

**1.6. Type(s) of data:**

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

**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:

- 2015-01-01 00:00:00 - Acquisition. LiDAR data acquisition was conducted from Feb 14, 2015 to Nov 12, 2015. The survey utilized a Leica ALS 80 laser system mounted in a Cessna 208. Scan angles near nadir were used to increase penetration of vegetation to ground surfaces. Ground level GPS and aircraft IMU were collected during the flight.

- 2015-11-12 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 Ground Check Points (GCP) distributed throughout the study area. 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).

- 2017-06-01 00:00:00 - The NOAA Office for Coastal Management (OCM) received the files in the proprietary ESRI grid format. The files were converted to floating point

GeoTIFF format in vertical meters using gdal\_translate from GDAL version 2.1.1. (Citation: DEM files)

- 2023-08-17 00:00:00 - Files were converted to cloud optimized geotiff format to support streaming and the vertical units were reverted to feet to match the horizontal units.

**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:

- 1.6. Type(s) of data
- 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/49460>

**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](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=8384>

[https://noaa-nos-coastal-lidar-pds.s3.us-east-1.amazonaws.com/dem/OLC\\_upper\\_umpqua\\_2015\\_8384](https://noaa-nos-coastal-lidar-pds.s3.us-east-1.amazonaws.com/dem/OLC_upper_umpqua_2015_8384)

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

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

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**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.*