

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 Forestry Lidar DEM: Northwest OR

1.2. Summary description of the data:

GeoTerra, Inc. was selected by Oregon Department of Forestry to provide Lidar remote sensing data including LAZ files of the classified Lidar points and surface models for approximately 591 square miles over five (5) sites in Northwest Oregon. Airborne Lidar mapping technology provides 3D information for the surface of the Earth which includes terrain surface models, vegetation characteristics and man-made features. Lidar technology is capable of penetrating gaps in forest canopies and to reach the ground below allowing for creation of accurate bare earth and vegetation surfaces.

Lidar point clouds were projected back to geographic coordinates for storage in the Digital Coast Data Access Viewer.

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:

2015-04-19 to 2016-03-30

1.5. Actual or planned geographic coverage of the data:

W: -123.905, E: -122.393, N: 46.237, S: 44.818

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 - GeoTerra, Inc. acquired Lidar sensor data with Optech Orion H300 mounted in Cessna 180 on following dates: - Salmonberry site - April 19th and April 20th 2015 - Wilkerson/Wilark site - May 30th, June 5th and June 6th 2015 - McGregor site - June 6th, June 8th 2015 - Columbia site - June 8th, June 9th 2015 For the Abiqua site, GeoTerra Inc. used the Optech Galaxy Lidar system to acquire the areas. The Optech Galaxy emits higher pulse rate of 35 - 550 kHz and can record up to 8 range measurements per laser pulse emitted. A pulse rate of 450KHz was used and data was collected on March 30, 2016.
- 2016-01-01 00:00:00 - Processing. Relative and absolute adjustment of all strips was accomplished using Optech LMS software and TerraMatch. Optech LMS performs automated extraction of planar surfaces from the cloud of points according to specified parameters per project. Tie plane determination then establishes the correspondence between planes in overlapping flight lines. All plane centers of all lines that form a block are sorted into a grid. Plane surfaces from overlapping flight lines are used, co-located to within an acceptable tolerance, and are then tested for correspondence. A set of appropriate tie planes is selected for the self-calibration. Selection criteria are size and shape, number of laser points, slope, orientation with respect to flight direction, location within the flight line and fitting error. All these criteria have an effect as they determine the geometry of the adjustment. Self-Calibration parameters are then calculated and used to re-calculate the laser point coordinates (X,Y,Z). The planar surfaces are re-calculated as well for a final adjustment. Additionally each mission was further reviewed and adjusted in TerraMatch using tie lines approach. The software measures the difference between lines (observations) in overlapping strips. These observed differences are translated into correction values for the system orientation - easting, northing, elevation, heading, roll, pitch and mirror scale.
- 2016-01-01 00:00:00 - Point Classification: Once the point cloud adjustment was achieved with desired relative accuracy, all strips were exported from Optech LMS into LAS format. Data in LAS format was first automatically classified followed by strict QC procedures. Each site was evaluated for size and was cut into working tiles of a manageable size and manually checked and edited using TerraSolid and LP360. Following classes were delineated in the process of classification: - 01_Unclassified (temporary) - 02_Ground - 03_Low Vegetation - 04_Medium Vegetation - 05_High Vegetation - 06_Buildings and Associated Structures - 09_Water - points reflected off water bodies - 10_Unclassified (Permanent)
- 2016-01-01 00:00:00 - DEM creation: Three-foot floating point Ground and First Return ESRI raster grids were generated using the Lidar points as input to the LAS

Dataset to Raster tool and converting an ESRI terrain dataset of the Lidar ground surface into File Geodatabase raster. Class 2 lidar points were used.

- 2017-09-01 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.

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/49459>

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=7381>

https://coast.noaa.gov/htdata/raster2/elevation/ODF_northwest_2015_7381

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.