

*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:**

2007 Bureau of Land Management (BLM) Lidar: Panther Creek Watershed, Yamhill County

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

The dataset represents LiDAR elevations acquired during a leaf-off and a leaf-on vegetative condition for the Upper Panther

Creek Watershed in the Yamhill County study area in Oregon. The date of collection for the leaf off data is 20071208.

The date of collection for the leaf on data is 20070903. The area of interest covers ~5577 acres (~8.71 sq miles).

The LiDAR survey utilized a Leica ALS50 Phase II laser mounted in a Cessna Caravan 208B set to acquire greater than or

equal to 105,000 pulses per second (i.e. 105 kHz pulse rate). The scan angle was plus or minus 14 degrees from nadir.

These settings are designed to yield an average native density (number of pulses emitted by the laser system) of greater

than or equal to 8 points per square meter over terrestrial surfaces. LiDAR intensity values were also collected. In some

areas of heavy vegetation or forest cover, there may be relatively few ground points in the LiDAR data. Elevation values

for open water surfaces are not valid elevation values because few LiDAR points are returned from water surfaces.

Watershed Sciences, Inc. collected the LiDAR and created this data set for the Bureau of Land Management.

Original contact information:

Contact Name: Ian Madin

Contact Org: Oregon Department of Geology and Mineral Industries (DOGAMI)

Phone: 971-673-1542

Email: ian.madin@dogami.state.or.us

**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:**

2007-09-03, 2007-12-08

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

W: -123.402927, E: -123.318967, N: 45.319222, S: 45.273033

**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:

- 2007-01-01 00:00:00 - Acquisition. The LiDAR data was collected on December 8, and September 3, 2007. A Leica ALS50 Phase II LiDAR system was mounted in a fixed-wing aircraft. 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.

- 2007-01-01 00:00:00 - Processing. 1. Flight lines and data were reviewed to ensure complete coverage of the study area and positional accuracy of the laser points. 2. Laser point return coordinates were computed using the ALS Post Processing software suite and IPAS Pro software based on independent data from the LiDAR system, IMU, and aircraft. 3. The raw LiDAR file was assembled into flight lines per return with each point having an associated x, y, and z coordinate. 4. Visual inspection of swath to swath laser point consistencies within the study area were used to perform manual refinements of system alignment. 5. Custom algorithms were designed to evaluate points between adjacent flight lines. Automated system alignment was computed based upon randomly selected swath to swath accuracy measurements that consider elevation, slope, and intensities. Specifically, refinement in the combination of system pitch, roll and yaw offset parameters optimize internal consistency. 6. Noise (e.g., pits and birds) was filtered using ALS postprocessing software, based on known elevation ranges and included the removal of any cycle slips. 7. Using TerraScan and Microstation, ground classifications utilized custom settings appropriate to the study area. 8. The

corrected and filtered return points were compared to the RTK ground survey points collected to verify the vertical and horizontal accuracies. 9. Points were exported as laser points, TINed and GRIDed surfaces.

- 2008-07-17 00:00:00 - The NOAA Office for Coastal Management (OCM) received the files in las format. The files contained Lidar elevation and intensity measurements. The data was in UTM Projection, Zone 10N and NAVD88 Geoid 03 vertical datum. OCM performed the following processing to the data to make it available within the LDART Retrieval Tool (LDART): 1. The data were converted from UTM coordinates to geographic coordinates. 2. The data were converted from NAVD88 (orthometric) heights to GRS80 (ellipsoid) heights using Geoid 03. 3. The LAS data were sorted by latitude and the headers were updated.

**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/49897>

**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=538>

<https://noaa-nos-coastal-lidar-pds.s3.amazonaws.com/laz/geoid18/538/index.html>

<https://noaa-nos-coastal-lidar-pds.s3.amazonaws.com/laz/geoid18/81/index.html>

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

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

The data set is dynamically generated based on user-specified parameters.

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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.*