

*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:**

2009 USGS/NPS Experimental Advanced Airborne Research Lidar (EAARL): Cape Hatteras National Seashore - Post-Nor'easter Ida

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

This is a bare-earth data lidar data set that was collected on November 27, 29 and December 1, 2009 along the shoreline of the Cape

Hatteras National Seashore in Dare and Hyde Counties in North Carolina, after Nor'easter Ida.

Binary point-cloud data were produced from remotely sensed, geographically referenced elevation measurements cooperatively by the U.S. Geological

Survey (USGS) and the National Park Service (NPS). Elevation measurements were collected over the area using the Experimental Advanced Airborne

Research Lidar (EAARL), a pulsed laser ranging system mounted onboard an aircraft to measure ground elevation, vegetation canopy, and coastal

topography. The system uses high-frequency laser beams directed at the Earth's surface through an opening in the bottom of the aircraft's fuselage.

The laser system records the time difference between emission of the laser beam and the reception of the reflected laser signal in the aircraft. The

plane travels over the target area at approximately 50 meters per second at an elevation of approximately 300 meters, resulting in a laser swath of

approximately 240 meters with an average point spacing of 2-3 meters. The EAARL, developed originally by NASA at Wallops Flight Facility in Virginia,

measures ground elevation with a vertical resolution of 15 centimeters. A sampling rate of 3 kilohertz or higher, results in an extremely dense spatial

elevation dataset. Over 100 kilometers of coastline can be easily surveyed within a 3- to 4-hour mission. When subsequent elevation maps for an area

are analyzed, they provide a useful tool to make management decisions regarding land development.

Original contact information:

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Contact Org: Jacobs Technology, U.S. Geological Survey, St. Petersburg Coastal and Marine Science Center, St. Petersburg, FL

Title: Remote Sensing Specialist/Project Manager

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**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:**

2009-11-27, 2009-11-29, 2009-12-01

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

W: -76.02462, E: -75.455316, N: 35.963517, S: 35.064837

**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:

- 2010-11-02 00:00:00 - The data were collected using a Pilatus PC-6 aircraft. The Experimental Advanced Airborne Research Lidar (EAARL) laser scanner collects the data using a green-wavelength (532-nanometer) raster scanning laser, while a digital camera acquires a visual record of the flight. The data are stored on hard drives and archived at the U.S. Geological Survey office in St. Petersburg, Florida. The navigational data are processed and then, along with the raw data, are downloaded into ALPS, or the Airborne Lidar Processing System (20091231 - 20101019). Data are converted from units of time to x,y,z points for elevation and formatted into .las and .xyz files. The derived surface data can then also be converted into raster data (GeoTIFFs). This process took place 20091127 through 20101102.
- 2010-12-23 00:00:00 - Metadata imported into ArcCatalog from XML file.
- 2011-09-01 00:00:00 - The NOAA Office for Coastal Management (OCM) received

files in unclassified LAS format. The files contained LiDAR intensity and elevation measurements. OCM performed the following processing on the data to make it available within Digital Coast: 1. The unclassified data were processed to provide a bare earth surface. 2. The data were converted from UTM, Zone 18 coordinates to geographic coordinates. 3. The data were converted from NAVD88 heights to ellipsoid heights using Geoid09. 4. The LAS header fields were sorted by latitude and 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/50111>

**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=1071>

<https://noaa-nos-coastal-lidar-pds.s3.amazonaws.com/laz/geoid18/1071/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>;

**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.*