

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:

2011 FEMA Lidar: Modoc, California

### 1.2. Summary description of the data:

Digital Mapping Inc. collected lidar data for the Federal Emergency Management Agency (FEMA) in Region 9, Modoc, CA. The dataset encompasses 43 square miles, while the derived bare earth digital elevation model covers a 21 square mile subset of this area (linked in the Related Items section, below). Nominal pulse spacing of collection was <1 m.

### 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:

2011-05-04

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

W: -120.58570417, E: -120.44318533, N: 41.51813209, S: 41.3914362

### 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?**

Yes

**4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):**

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:

- 1-Acquisition: Modoc LIDAR acquisition consisted of 26 flight lines with 2 cross flights. Alturas Airport was flown for the airport calibration. Two base stations were used for the project. The LIDAR mission was flown in 05/04/2011. ALTM Gemini was used as the LIDAR scanner. LIDAR flight settings were: Altitude (m):

1200 System PRF (kHz): 70 Scan Freq (Hz): 39 Scan Angle +/-: 17 Desired Res (m): 0.804 PPM^2: 1.55 2-Processing: LIDAR data were processed and fit to the ground using DASHMap, GeoCue, TerraScan and TerraMatch softwares. All the data were calibrated to determine and eliminate systematic biases that might occur within the hardware of the ALTM Gemini system. A total of 11 aerial targets were surveyed and used to fit the LIDAR data to the ground. Ground points were removed from the top of bridges. LAS tiles that touch processing limit are classified however QA/QC of the ground points were done to the data which were within processing limit. LAS tiles are classified into 6 classes: 1 processed, but unclassified 2 bare-earth ground 7 noise 9 water 10 ignored 11 withheld 3-Breaklines: Breaklines were compiled for streams, lakes, ponds and man-made features - bridges, culverts- that constrict or control the flow of water in 3D data collection mode from LIDAR data. Breaklines were not collected for the areas outside the processing limit. Ponds and lakes are collected as polygons. They have constant elevation and they have elevation values less than the surrounding ground points. For dry streams and streams narrower than 50 feet single stream breaklines were collected. For streams wider than 50 feet edges of the streams were collected along with stream centerline. The project area was relatively flat which made it some of the streams having single elevation across. Stream breaklines were broken at culverts and not broken at bridges. Culvert breaklines snap to stream endpoints on both sides and have the same elevation as the stream breakline at the snapping location. Top and bottom of the bridge breaklines were collected. Breaklines are delivered as ESRI geodatabase file format. Topology rules were applied to the breaklines. Breaklines snap to each other, split at intersections, not self-intersect or overlap each other. 4-Low Confidence Areas: Areas that may not meet the data accuracy requirements due to heavy vegetation were compiled as 2D polygon. Special effort was given to minimize these areas. Ground points were tried to be classified from dense vegetation areas where possible using manual techniques. - NOAA Office for Coastal Management (OCM) received 92 lidar point cloud files in las format. The files contained lidar elevation and intensity measurements. The data were in California State Plane Zone 1 (NAD83), international feet coordinates and NAVD88 (Geoid03) elevations in international feet. The data were classified as: 1-Unclassified, 2-Ground, 7-Noise, 9-Water, 10-Ignored Ground & 11-Withheld. OCM processed all classifications of points to the Digital Coast Data Access Viewer (DAV). OCM performed the following processing on the data for Digital Coast storage and provisioning purposes: 1. An internal OCM script was run to check the number of points by classification and by flight ID and the gps and intensity ranges. 2. Internal OCM scripts were run on the laz files to convert from orthometric (NAVD88) elevations to ellipsoid elevations using the Geoid 03 model, to convert to geographic coordinates, to convert from vertical units feet to meters, to assign the geokeys, to sort the data by gps time, and zip the data to database and to http.

**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
- 5.2. Quality control procedures employed
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.4. Approximate delay between data collection and dissemination
- 8.3. Approximate delay between data collection and submission to an archive facility

**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/61263>

**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?**

Yes

**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=9162/details/9162>  
<https://noaa-nos-coastal-lidar-pds.s3.amazonaws.com/laz/geoid18/9162/index.html>

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

Data is available online for bulk or 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)*

NCEI\_CO

**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*

Data is backed up to tape and to cloud storage.

**9. Additional Line Office or Staff Office Questions**

*Line and Staff Offices may extend this template by inserting additional questions in this section.*