

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:

2013 USGS Lidar: Jean Lafitte and Barataria, LA

1.2. Summary description of the data:

Digital Aerial Solutions, LLC (DAS) was tasked to collect and process a Light Detection And Ranging (LiDAR) derived elevation dataset for Jean Lafitte and Barataria area located in South of New Orleans, Louisiana. The Jean Lafitte LiDAR survey encompasses 77 square miles and Barataria LiDAR survey encompasses approximately 1408 square miles. Aerial LiDAR data was collected utilizing an ALS60 Sensor. The ALS60 is a discrete return topographic LiDAR mapping system manufactured by Leica Geosystems. LiDAR data collected for the Jean Lafitte survey area has a nominal pulse spacing of 1m and Barataria has a nominal pulse spacing of 2 meters, and includes up to 4 discrete returns per pulse, along with intensity values for each return. The acquisition mission for the Jean Lafitte and Barataria LiDAR survey was coordinated to be acquired in 1 week. Collection began on March 5th 2013 and was completed on March 8th, 2013.

LiDAR datasets were post processed to generate elevation point cloud swaths for each flight line. Deliverables include the point cloud swaths, tiled point clouds classified by land cover type, breaklines to support hydro-flattening of digital elevation models (DEM)s, and bare-earth DEM tiles. Point cloud deliverables are stored in the LAS version 1.2 format, point data record format 1. The tiling scheme for tiled deliverables is a 1500 meter x 1500 meter grid aligned and named according the US National Grid conventions. All deliverables were generated in conformance with the U.S. Geological Survey National Geospatial Program Guidelines and Base Specifications, Version 1.

The NOAA Office for Coastal Management (OCM) downloaded 125 LA_Jean-Lafitte_2013/laz files and 1791 USGS_LPC_LA_Barataria_2013_LAS_2015/laz files from this USGS site: <ftp://rockyftp.cr.usgs.gov/vdelivery/Datasets/Staged/Elevation/LPC/Projects/> and processed the data to the Data Access Viewer (DAV) and https. The two project areas were downloaded and processed at different times.

Hydro breaklines are also available. These data are available for download at the link provided in the URL section of this metadata record. Please note that these products have not been reviewed by the NOAA Office for Coastal Management (OCM) and any

conclusions drawn from the analysis of this information are not the responsibility of NOAA or OCM.

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:

2013-03-05, 2013-03-06 to 2013-03-08

1.5. Actual or planned geographic coverage of the data:

W: -90.376756, E: -89.318443, N: 29.886015, S: 29.079681

1.6. Type(s) of data:

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

Lidar Point Cloud

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:

- 2013-03-07 00:00:00 - The ABGPS, inertial measurement unit (IMU), and raw scans are collected during the LiDAR aerial survey. The ABGPS monitors the xyz position of the sensor and the IMU monitors the orientation. During the aerial survey, laser pulses reflected from features on the ground surface are detected by the receiver optics and collected by the data logger. GPS locations are based on data collected by receivers on the aircraft and base stations on the ground. The ground base stations are placed no more than 40 km radius from the flight survey area.
- 2013-03-25 00:00:00 - The ABGPS, IMU, and raw scans are integrated using proprietary software developed by Leica Geosystems called IPAS Pro (Version 1.35). These LiDAR data are then output to a ASPRS Version 1.2 LAS binary format using Leica Geosystems ALSPP post-processing software (Release 2.74 Build #9) The LAS version 1.2 file format can be easily transferred from one file format to another. It is a binary file format that maintains information specific to the LiDAR data (return number, intensity value, xyz, etc.). The header file for each dataset is complete as defined by the LAS 1.2 specification.
- 2013-06-20 00:00:00 - The unedited data are classified to facilitate the application of the appropriate feature extraction filters. Combinations of proprietary filters are applied as appropriate for the production of bare earth digital elevation models (DEMs). Interactive editing methods are applied to those areas where it is inappropriate or impossible to use the feature extraction filters, based upon the design criteria and/or limitations of the relevant filters. These same feature extraction filters are used to produce elevation height surfaces.
- 2013-07-08 00:00:00 - Filtered and edited data are subjected to rigorous QA/QC, A

series of quantitative and visual procedures are employed to validate the accuracy and consistency of the filtered and edited data. Ground control is established by DAS and GPS-derived ground control points (GCPs) in various areas of dominant and prescribed land cover. These points are coded according to land cover, surface material, and ground control suitability. A suitable number of points are selected for calculation of a statistically significant accuracy assessment, as per the requirements of the National Standard for Spatial Data Accuracy. A spatial proximity analysis is used to select edited LiDAR data points within a specified distance of the relevant GCPs. A search radius decision rule is applied with consideration of terrain complexity, cumulative error, and adequate sample size. Accuracy validation and evaluation is accomplished using proprietary software to apply relevant statistical routines for calculation of Root Mean Square Error (RMSE) and the National Standard for Spatial Data Accuracy (NSSDA), according to Federal Geographic Data Committee (FGDC) specifications.

- 2015-01-26 00:00:00 - The NOAA Office for Coastal Management (OCM) downloaded the laz format files for the Jean Lafitte project area from USGS via an FTP online repository. The files contained lidar elevation and intensity measurements. The data were in UTM Zone 15, NAVD88 (orthometric) heights in meters. OCM performed the following processing for data storage and Digital Coast provisioning purposes: 1. The data were converted from UTM coordinates to geographic coordinates. 2. The data were converted from NAVD88 (orthometric) heights in meters to GRS80 (ellipsoid) heights in meters using Geoid 09. 3. Erroneous elevations were removed. 4. Class 11 points (withheld) were reclassified to Class 15 (as needed). 5. The LAS data were sorted by latitude and the headers were updated.

- 2018-10-05 00:00:00 - The NOAA Office for Coastal Management (OCM) downloaded 1791 USGS_LPC_LA_Barataria_2013_LAS_2015/ laz files from this USGS site: ftp://rockyftp.cr.usgs.gov/vdelivery/Datasets/Staged/Elevation/LPC/Projects/USGS_LPC_LA_Barataria_2013_LAS_2015/. The data were in UTM Zone 15 North coordinates and NAVD88 (Geoid09) elevations in meters. The data were classified as: 1 - Unclassified, 2 - Ground, 7 - Low Noise, 9 - Water, 10 - Ignored Ground, 17 - Overlap Ground, 18 - Overlap Default. OCM processed all classifications of points to the Digital Coast Data Access Viewer (DAV). Classes 17 and 18 for the entire project area were switched to match the USGS classification guidelines for overlap default (Class 17) and overlap ground (Class 18). Classes available on the DAV are: 1, 2, 7, 9, 10, 17, 18. OCM performed the following processing on the data for Digital Coast storage and provisioning purposes: 1. The LAStools software scripts lasinfo and lasvalidate were run on the laz files to check for errors. 2. An internal OCM script was run to check the number of points by classification and by flight ID and the gps and intensity ranges. 3. The LAStools software script las2las was run to convert the gps time from gps seconds of the week (week 1730) to adjusted gps time. 4. The LAStools software script las2las was run on the files for the entire project area to switch the classifications of points that were classified as 17 to 18 and those that were classified as 18 to 17 to match the USGS classification guidelines for overlap default (Class 17) and overlap ground (Class 18). 5. Internal OCM scripts were run

on the laz files to convert from orthometric (NAVD88) elevations to ellipsoid elevations using the Geoid 09 model, to convert from UTM Zone 15 North coordinates in meters to geographic coordinates, 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
- 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/49766>

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=4746>

https://coast.noaa.gov/htdata/lidar2_z/geoid18/data/4746

7.3. Data access methods or services offered:

Data is available for bulk and 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)

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.