

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:

2012 MDEQ-FEMA Madison-Yazoo Lidar Survey

1.2. Summary description of the data:

The project entails the acquisition and processing of LiDAR for approximately 1,265 square miles covering areas of Madison and Eastern Yazoo Counties. Collect and deliver high-density elevation point data derived from multiple-return light detection and ranging (LiDAR) measurements for use in supporting topographic analysis, including applications such as flood plain mapping. Hydro enforced breaklines were collected within the identified Special Flood Hazard Area for Madison County, MS including an additional 221sq. miles in the heavily developed areas in Madison County, and 112 sq. miles in a buffered area along the Big Black River in Yazoo County, MS. The data will be delivered as LiDAR Bare Earth within the areas designated in areas of Madison and Eastern Yazoo Counties to aid in visual interpretation of Flood Basin elevations and for addition to the MDEM elevation dataset. Also included in the delivery was LiDAR Intensity data in Tiff format. The intensity values are a measure of the return signal strength. It measures the peak amplitude of return pulses as they are reflected back from the target to the detector of the LiDAR system. These intensity images are a very useful tool to clients and can be used as a substitute for orthophotos. All data will comply with mapping guidelines and specifications as stated in the FEMA Procedure Memorandum No.61.

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:

2012-02-19, 2012-02-20, 2012-02-21, 2012-02-22, 2012-02-23, 2012-02-24

1.5. Actual or planned geographic coverage of the data:

W: -90.666399, E: -89.726054, N: 32.992774, S: 32.392363

1.6. Type(s) of data:

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

las

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:

- 2012-01-01 00:00:00 - The flight path will be planned as a series of parallel flight lines with cross flight lines for the purposes of quality control. In addition, the flight plan will include flight line distances of 45 kilometers or less and zigzag flight line collection as a result of the inherent IMU drift associated with IMU systems. A digital flight line layout using OPTECH ALTM NAV flight design software for direct integration into the aircraft flight navigation system was created and used.
- LiDAR Sensor Calibration and LiDAR Processing. LIDAR calibrations are performed to determine and eliminate systematic bias that may occur within the hardware of the ALTM system. The systematic bias that are corrected involve scale, roll, and pitch. In addition to the calibration process regarding sensor installation, for every mission, the runway is kinematically surveyed by making three passes. The LiDAR system is flown at right angles over the runway several times and residuals are generated from the processed data.
- Breaklines were captured within the identified SFHA for Madison County, MS, including a buffered 112 sq. mile area along the Big Black River in Yazoo County, MS. The breaklines are significant hydrological features that are appropriate to support the future development of 2-foot contours meeting a 1.19-foot absolute vertical accuracy at the 95% confidence level. Horizontal accuracy is computed using the formula $RMSE(z) \times 1.7308$: 1-inch = 100 feet equivalent (Accuracy = 2.2 feet or 0.67 meters) as defined by the ASPRS Guidelines: Accuracy Reporting for topographic Data. This guideline implements the National Standard for Spatial Data Accuracy (NSSDA) for testing of topographic data.
- Digital Elevation Models (DEMs) are generated in spatial software and have a final cell size of 4 feet. Each DEM is a 32-bit floating point GeoTiff.
- 2013-09-16 00:00:00 - The NOAA Office for Coastal Management (OCM) received topographic files in .laz format from the Mississippi Department of Environmental Quality (MDEQ). The files contained lidar elevation measurements. The data were received in Mississippi State Plane West 2300, NAD83 coordinates and were vertically referenced to NAVD88 using the Geoid09 model. The vertical units of the data were feet. OCM performed the following processing for data storage and Digital Coast provisioning purposes: 1. The topographic laz files were converted from a Projected Coordinate System (Mississippi State Plane West 2300) to a Geographic Coordinate system (NAD 83). 2. The topographic laz files' horizontal units were converted from feet to decimal degrees. 3. The topographic laz files were cleaned of error points above 492 ft and below 114 ft. 4. The topographic laz files' were converted from NAVD88 elevations to NAD83 ellipsoidal elevations using Geoid03 5. Classification 11 was moved to classification 12 due to OCM system

requirements (class 11 is reserved for bathymetric points, though these points are overlap points, Class 12).

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/49821>

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=2561>

<https://noaa-nos-coastal-lidar-pds.s3.amazonaws.com/laz/geoid18/2561/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/#/lidar/search/where:ID=2561>

;

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.