

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-NJDEP Lidar: Salem County (Non-CAFRA Area)

1.2. Summary description of the data:

The following is a Project Report that details the technical parameters, procedures and results of Task Order G09PD00703 issued to Photo Science by the US Geological Survey (Contract #07CRCN0014) on March 16, 2009 to provide Light Detection and Ranging (LiDAR) collection and processing services for Salem County, NJ.

Photo Science provided professional mapping services necessary to collect and processes 2.0 points per square meter (0.7m GSD) LiDAR data for Salem County, New Jersey consisting of approximately 275 sq. miles. Photo Science was responsible for complete acquisition of the project area at the required data density and for the processing of data to bare earth as well as production of additional derivative products described herein. The lineage (metadata), positional, content (completeness), attribution, logical consistency, and accuracies of all digital elevation data produced in this Task Order conform to the specifications as stated in Task Order Sections C.1.a through C.1.f. The flight line layout is shown in the graphic below. A total of 68 flight lines totaling 755 flight line miles were required to cover the project area.

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:

2009-03-25 to 2009-03-31

1.5. Actual or planned geographic coverage of the data:

W: -75.573427, E: -75.056694, N: 39.790977, S: 39.460799

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:

- 2007-05-07 00:00:00 - Leica software was used in the post-processing of the airborne GPS and inertial data that is critical to the positioning of the sensor during all flights. This software suite includes Applanix's PosPac and Waypoint's GrafNav solutions. PosPac provides the smoothed best estimate of trajectory (SBET) that is necessary for Leica's post processor to develop the point cloud from the Lidar missions. The point cloud is the mathematical three dimensional collection of all returns from all laser pulses as determined from the aerial mission. At this point this data is ready for analysis, classification, and filtering to generate a bare earth surface model in which the above ground features are removed from the data set. The point cloud was created using Leica's ALS Post Processor software. GeoCue was used in the creation of some of the files needed in downstream processing, as well as in the tiling of the dataset into more manageable file sizes. The TerraScan and TerraModeler software packages are then used for the automated data classification, manual cleanup, and bare earth generation from this data. Project specific macros were used to classify the ground and to remove the side overlap between parallel flight lines. All data was manually reviewed and any remaining artifacts removed using functionality provided by TerraScan and TerraModeler. QT Modeler was used as a final check of the bare earth dataset. GeoCue was then used to create the deliverable LAS 1.1 files for both the All Point Cloud Data and the Bare Earth. In-house software was then used to perform final statistical analysis of the classes in the LAS files as a quality control measure. Hydro Enforcement Utilizing the provided 1:2,400-scale digital hydrography, the Photo Science Team developed 3-dimensional breaklines from lidargrammetry and the intensity images. The Team created LiDAR stereo-mates using GeoCue LiDAR Pak software, and then used Socet Set and lidargrammetry to stereo-compile the hydro breaklines. Lidargrammetry, described on pages 227-230 of "Digital Elevation Model Technologies and Applications: The DEM Users Manual," 2nd edition, is a new technology that we have found superior for 3D breakline generation from LiDAR data. The breaklines are topologically correct and maintain monotonicity to ensure the downward flow of water. These breaklines were also used to classify water features in the LAS data. Hydro Enforced DEM Development The bare-earth DEM was hydro-enforced utilizing the criteria stated in Task Order Items C.1.b(iii) and C.1.c (i) but was supplemented by the criteria in Appendix F - Data Dictionary and Hydro Breakline Stereo Compilation Rules to better match the final product of the 2-0 meter DEM. Due to the small grid size of 2 meters, criteria such as "Streams are considered Double line streams when the width of the stream measures 1/4 inch or more based on a 1:24,000 scale" would have produce a result whereby a single line stream would be 500 feet or less. Therefore a single line stream could only be represented by the width of one cell which would only be 2 meters, which would not have been

a good representation of the stream width. Appendix F defines the criteria for which all hydro lines were collected to ensure that streams flow downhill, that double line streams be flattened, that water course shall be connected through bridges and culverts and that puddling or false depressions be resolved.

- 2016-01-05 00:00:00 - The NOAA Office for Coastal Management (OCM) received files in 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 LAS files were corrected based on GPS time-week to adjusted-GPS standard time (week 1524) and outlier elevations were removed. Though this was later recognized to be incorrect, the GPS dates were left as is. To fix this week/date issue, data would have needed to be delivered as swath. Extensive work would be needed, as well as flightlines in a ingestable format. Please notice, some tile dates will be a GPS week off, though the report specifies by date the areas flown on specific dates. 2. The data were converted from New Jersey State Plane (ft) to geographic coordinates. 2. The data were converted from NAVD88 heights (ft) to ellipsoid heights using Geoid03. 3. 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:

- 1.7. 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/49859>

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=5002>

<https://noaa-nos-coastal-lidar-pds.s3.amazonaws.com/laz/geoid18/5002/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.