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:

2014 UIUC Lidar: Will County, IL

1.2. Summary description of the data:

This dataset is 1 ppsm lidar point cloud data and derivative models of Will County, Illinois. Will County is approximately 840 square miles (2175 square kilometers) in north eastern Illinois. Data was collected at a nominal pulse spacing (NPS) of 1 meter.

Data acquisition, processing and assessment is compliant with procedures and methods stated in U.S. Geological Survey National Geospatial Program Lidar Base Specification Version 1.0 and Federal Emergency Management Agency Procedure Memorandum 61.

This dataset consists of lidar LAS swath files and tiled LAS files. Tiled LAS files contain lidar point information which has been calibrated, controlled, and classified.

Quantum Spatial Project No: 1140310.02

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:

2014-04-05 to 2014-04-19

1.5. Actual or planned geographic coverage of the data:

W: -88.155, E: -87.512, N: 41.744, S: 41.204

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:

- 2014-06-26 00:00:00 - Ground based survey points are collected to be compared as check points with airborne data points. Measurements are recorded by Quantum Spatial for use in establishment of the lidar point set to ground elevations (indexing) . Additional ground survey points are made in representative ground cover categories to provide for vertical accuracy assessment of lidar data or derivative models.
- 2014-04-19 00:00:00 - Airborne lidar collection survey is conducted using fixed wing aircraft equipped with a lidar scanning system following specifications of the flight plan. Acquisition flights are planned to assure full coverage of the project area in consideration of local surface terrains. Flight plan is accessed by the aircraft navigation system to achieve predetermined flight specifications. The lidar sensor is calibrated prior to each mission. GPS and IMU data are collected during lidar acquisition to aid in lidar swath calibration.
- 2014-04-19 00:00:00 - Airborne GPS and IMU data are merged to develop a Single Best Estimate Trajectory for each swath. Lidar data are calibrated using previous best parameters for this instrument and aircraft. Relative calibration is evaluated using plane-matching analysis and parameter corrections are derived. This is repeated iteratively until residual errors between overlapping swaths, across all project lifts, is reduced to acceptable levels. Data are block adjusted to surveyed control points. Raw FVA is checked using surveyed ground checkpoints. The raw points are applied to a 5000 x 5000 foot grid. The unclassified points are output and named as per a client supplied 5000 foot grid tile.
- 2014-04-19 00:00:00 - Points in the calibrated swaths are classified using analysis routines and proprietary software. The routines analyze information on all points to establish appropriate Class designations. Classified lidar is inspected on a per tile basis for local classification, manual editing, and peer-based QC checks. The bare earth surface is manually reviewed to ensure correct classification of Class 2 (Ground) points. After the bare-earth surface is finalized, it is used to guide hydro-breaklines generation through heads-up digitization. All overlap data is processed through automated functionality provided by TerraScan to classify the overlapping flight line data to approved classes by USGS. The overlap data is classified to Class 17 (Overlap Default) and Class 18 (Overlap Ground). These classes are created through automated processes only and are not verified for classification accuracy. Due to software limitations within TerraScan, these classes are used to trip the withheld bit within various software packages. These processes were reviewed and accepted by USGS. All data was manually reviewed and any remaining artifacts removed using controls and tools in TerraScan and TerraModeler. Global Mapper is used as a final check of the bare earth dataset. GeoCue creates the deliverable industry-standard LAS files for both the All Point Cloud Data and the Bare Earth. All classification tags are stored in the original swath files. Classifications follow ASPRS guidelines: Non-ground (Class 1), Ground (Class 2), Low Vegetation (Class 3). Medium Vegetation (Class 4), High

Vegetation (Class 5), Buildings (Class 6), Noise/Low Points (Class 7), Model Keypoints (Class 8), Water (Class 9), Ignored Ground/Breakline proximity (Class 10) After completion of classification and final QC approval, the FVA, SVAs, and CVA for the project are calculated. Vertical accuracy is determined by comparison of elevation of the ground survey check points to elevations of DEMs derived from the lidar Ground points. Differences are calculated to establish a RSME, FVA, CVA and SVA.
- 2024-01-03 00:00:00 - USGS converted the data to Entwine Point Tiles format. NOAA is leveraging the data in EPT format to generate custom lidar products. This metadata was created to support that usage. (Citation: Entwine Point Tiles for Will County, IL)

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/71777

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?

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=10026/details/10026

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_NC

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 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.