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:

2019 - 2020 USGS Lidar: Central Georgia

1.2. Summary description of the data:

Classified Point Cloud -- USGS task order 140G0219F0277 required Winter 2019/Spring 2020 LiDAR surveys to be collected over 20,320 square miles covering part or all of 60 counties in Georgia and 5 counties in Alabama in support of the USGS 3DEP Program. Aerial LiDAR data for this task order was planned, acquired, processed, and produced at an aggregate nominal pulse spacing (ANPS) of less than or equal to 0.71 meters and in compliance with USGS National Geospatial Program LiDAR Base Specification version 1. 3. Classes include: 1 - Unclassified, 2 - Ground, 3 - Low Vegetation (0.5 - 5 ft), 4 - Medium Vegetation (5 - 20 ft), 5 - High Vegetation (greater than 20 ft), 6 - Buildings, 7 - Low Noise, 9 - Water Surface, 17 - Bridge Decks, 18 - High Noise, 20- Ignored Ground (Breakline Proximity), 22 - Temporal Exclusion

Block 1 (Work Unit 183176) - covers approximately 4273 square miles

Counties included:

Baldwin, Bibb (partial), Franklin, Gwinnett, Hancock, Hart, Jasper (partial), Jones (partial), Madison, Morgan (partial), Newton (partial), Oconee, Oglethorpe, Putnam, Stephens, Walton (partial)

Block 2 (Work Unit 183296) - covers approximately 3057 square miles

Counties included:

Chatahoochee (partial), Crisp (partial), Dooly (partial), Harris, Houston (partial), Lee, Macon (partial), Marion (partial), Schley (partial), Stewart (partial), Sumter (partial), Taylor (partial), Terrell (partial), Webster

Block 3 (Work Unit 217457) - covers approximately 6360 square miles

Counties included:

Baker (partial), Barbour, (partial), Brooks (partial), Calhoun, Clay (partial), Colquitt (partial), Cook, Crisp (partial), Dougherty, Early (partial), Grady (partial), Henry, (AL,

partial), Houston, (partial), Lee, Lowndes, Mitchell (partial), Randolph (partial), Sumter (partial), Terrell, Thomas (partial), Tift, Turner (partial), Worth

Block 4 (Work Unit 223562) - covers approximately 2497 square miles

Counties included:

Baker (partial), Decatur, Early (partial), Geneva (partial), Grady (partial), Henry (AL, partial), Houston (partial), Miller, Mitchell (partial), Seminole

Block 5 (Work Unit 231249) - covers approximately 2391 square miles

Counties included:

Bibb (partial), Butts, Clayton, Fayette (partial), Henry (GA), Jasper (partial), Jones (partial) , Monroe, Morgan (partial), Newton (partial), Spalding (partial), Walton (partial),

Block 6 (Work Unit 300006) - covers approximately 1634 square miles

Counties included:

Carroll, Coweta, Douglas, Fayette (partial), Heard, Spalding (partial)

This metadata record supports the data entry in the NOAA Digital Coast Data Access Viewer (DAV). For this data set, the DAV is leveraging the Entwine Point Tiles (EPT) hosted by USGS on Amazon Web Services.

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:

2020-01-08 to 2020-01-29, 2020-01-25 to 2020-06-14, 2019-12-18 to 2020-02-02, 2020-02-14 to 2020-03-28, 2020-02-02 to 2020-03-28, 2019-12-31 to 2020-01-28

1.5. Actual or planned geographic coverage of the data:

W: -85.4171, E: -84.47, N: 33.8742, S: 33.0563
Block 6

W: -85.72, E: -83.63, N: 32.9, S: 31.9
Block 2

W: -84.51, E: -83.47, N: 33.7, S: 32.65
Block 5

W: -85.95, E: -84.21, N: 31.29, S: 30.68
Block 4

W: -85.43, E: -83, N: 31.93, S: 30.6
Block 3

W: -84.29, E: -82.72, N: 34.71, S: 32.82
Block 1

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):

Lineage Statement:

The NOAA Office for Coastal Management (OCM) ingested references to the USGS Entwine Point Tile (EPT) files hosted on Amazon Web Services (AWS) into the Digital Coast Data Access Viewer (DAV). The DAV accesses the point cloud as it resides on AWS under the usgs-lidar-public-container.

Process Steps:

- 2019-12-31 00:00:00 - Aircraft and Sensor Information and Flight Plan Execution -- Atlantic operated a PACDV (N750DV) outfitted with an Optech Galaxy Prime LiDAR system during the collection of the project area. Atlantic acquired passes of the AOI as a series of perpendicular and/or adjacent flight-lines executed in flight missions conducted between December 2019 and June 2020. Onboard differential Global Navigation Satellite System (GNSS) unit(s) recorded sample aircraft positions at 2 hertz (Hz) or more frequency. LiDAR data was only acquired when a minimum of six (6) satellites were in view. Twenty-three (23) Continuously Operating Reference Stations (CORS) were used to control the LiDAR acquisition for the defined project area.
- 2021-01-14 00:00:00 - LiDAR Point Cloud Generation -- Atlantic used Leica software products to download the IPAS ABGNSS/IMU data and raw laser scan files from the airborne system. Waypoint Inertial Explorer is used to extract the raw IPAS ABGNSS/IMU data, which is further processed in combination with controlled base stations to provide the final Smoothed Best Estimate Trajectory (SBET) for each mission. The SBETs are combined with the raw laser scan files to export the LiDAR ASCII Standard (*.las) formatted swath point clouds.
- 2021-05-28 00:00:00 - LiDAR Calibration -- Using a combination of GeoCue, TerraScan and TerraMatch; overlapping swath point clouds are corrected for any orientation or linear deviations to obtain the best fit swath-to-swath calibration. Relative calibration was evaluated using advanced plane-matching analysis and parameter corrections derived. This process was repeated interactively until residual errors between overlapping swaths, across all project missions, was reduced to ≤2cm. A final analysis of the calibrated lidar is performed using a TerraMatch tie line report for an overall statistical model of the project area. Individual control point assessments for this project can be found in Section VI of the report. Upon completion of the data calibration, a complete set of elevation difference intensity rasters (dZ Orthos) are produced. A user-defined color ramp is

applied depicting the offsets between overlapping swaths based on project specifications. The dZ orthos provide an opportunity to review the data calibration in a qualitative manner. Atlantic assigns green to all offset values that fall below the required RMSDz requirement of the project. A yellow color is assigned for offsets that fall between the RMSDz value and 1.5x of that value. Finally, red values are assigned to all values that fall beyond 1.5x of the RMSDz requirements of the project.
- 2022-05-12 00:00:00 - LiDAR Classification -- Multiple automated filtering routines are applied to the calibrated LiDAR point cloud identifying and extracting bare-earth and above ground features. GeoCue, TerraScan, and TerraModeler software was used for the initial batch processing, visual inspection and any manual editing of the LiDAR point clouds. Atlantic utilized collected breakline data to perform classification for class 9 (Water).
- Original point clouds in LAS/LAZ format were restructured as Entwine Point Tiles and stored on Amazon Web Services. The data were re-projected horizontally to WGS84 web mercator (EPSG 3857) and no changes were made to the vertical elevations in NAVD88 (GEOID12B).
- 2023-05-26 00:00:00 - The NOAA Office for Coastal Management (OCM) created references to the Entwine Point Tile (EPT) files that were ingested into the NOAA Digital Coast Data Access Viewer (DAV). No changes were made to the data. The DAV will access the point cloud as it resides on Amazon Web Services (AWS) under the usgs-lidar-public container. These are the AWS URLs being accessed: https://s3-us-west-2.amazonaws.com/usgs-lidar-public/GA_Central_1_2018/ept.json https://s3-us-west-2.amazonaws.com/usgs-lidar-public/GA_Central_2_2018/ept.json https://s3-us-west-2.amazonaws.com/usgs-lidar-public/GA_Central_3_2018/ept.json https://s3-us-west-2.amazonaws.com/usgs-lidar-public/GA_Central_4_2018/ept.json https://s3-us-west-2.amazonaws.com/usgs-lidar-public/GA_Central_5_2018/ept.json https://s3-us-west-2.amazonaws.com/usgs-lidar-public/GA_Central_6_2018/ept.json

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/70012

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=9840/details/9840
https://rockyweb.usgs.gov/vdelivery/Datasets/Staged/Elevation/LPC/Projects/GA_Central_2018_B19/
https://rockyweb.usgs.gov/vdelivery/Datasets/Staged/Elevation/LPC/Projects/GA_Central_2019_B19/

7.3. Data access methods or services offered:

Data is available online 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)

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.