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:
2017 SC DNR Lidar: Georgetown County

1.2. Summary description of the data:
Precision Aerial Reconnaissance (PAR) collected 902 square miles in the South Carolina county of Georgetown. The nominal pulse spacing for this project was 1 point every 0.7 meters. Dewberry used proprietary procedures to classify the LAS according to project specifications: 1-Unclassified, 2-Ground, 7-Low Noise, 8-Model Keypoints, 9-Water, 10-Ignored Ground due to breakline proximity, 13-Culverts, 17- Bridge Decks, 18-High Noise. Dewberry produced 3D breaklines and combined these with the final lidar data to produce seamless hydro flattened DEMs for the project area. The data was formatted according to the SC DNR tile naming convention with each tile covering an area of 5,000 feet by 5,000 ft. A total of 1100 LAS tiles and 1100 DEM tiles were produced for the entire project.

The NOAA Office for Coastal Management (OCM) received 1100 las files from the South Carolina DNR and processed the data to the Data Access Viewer (DAV) and https. In addition to the lidar point data, bare earth Digital Elevation Models (DEMs), at a 2.5 foot grid spacing, created from the lidar point data, are available for download at the link in the Related Items section of this metadata record. Breakline data 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:
2016-12-16 to 2017-03-09

1.5. Actual or planned geographic coverage of the data:
W: -79.687357, E: -78.99431, N: 33.787475, S: 33.101837
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 (
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):

- 2017-12-01 00:00:00 - Dewberry utilizes a variety of software suites for inventory management, classification, and data processing. All lidar related processes begin...
by importing the data into the GeoCue task management software. The swath data
is tiled according to project specifications (5,000 ft x 5,000 ft). The tiled data is then
opened in Terrascan where Dewberry identifies edge of flight line points that may
be geometrically unusable with the withheld bit. These points are separated from
the main point cloud so that they are not used in the ground algorithms. Overage
points are then identified with the overlap bit. Dewberry then uses proprietary
ground classification routines to remove any non-ground points and generate an
accurate ground surface. The ground routine consists of three main parameters (building size, iteration angle, and iteration distance); by adjusting these parameters
and running several iterations of this routine an initial ground surface is developed.
The building size parameter sets a roaming window size. Each tile is loaded with
neighboring points from adjacent tiles and the routine classifies the data section by
section based on this roaming window size. The second most important parameter
is the maximum terrain angle, which sets the highest allowed terrain angle within
the model. As part of the ground routine, low noise points are classified to class 7
and high noise points are classified to class 18. Once the ground routine has been
completed, bridge decks are classified to class 17 using bridge breaklines compiled
by Dewberry. A manual quality control routine is then performed using hillshades,
cross-sections, and profiles within the Terrasolid software suite. After this QC step, a
peer review is performed on all tiles and a supervisor manual inspection is
completed on a percentage of the classified tiles based on the project size and
variability of the terrain. After the ground classification and bridge deck
corrections are completed, the dataset is processed through a water classification
routine that utilizes breaklines compiled by Dewberry to automatically classify
hydrographic features. The water classification routine selects ground points
within the breakline polygons and automatically classifies them as class 9, water.
During this water classification routine, points that are within 1x NPS or less of the
hydrographic features are moved to class 10, an ignored ground due to breakline
proximity. A final QC is performed on the data. All headers, appropriate point data
records, and variable length records, including spatial reference information, are
updated in GeoCue software and then verified using proprietary Dewberry tools.
The data was classified as follows: Class 1 = Unclassified. This class includes
vegetation, buildings, noise etc. Class 2 = Ground Class 7= Low Noise Class 8 = Model
Keypoints Class 9 = Water Class 10 = Ignored Ground due to breakline proximity
Class 13 = Culverts Class 17 = Bridge Decks Class 18 = High Noise  The LAS header
information was verified to contain the following: Class (Integer) Adjusted GPS
Time (0.0001 seconds) Easting (0.003 m) Northing (0.003 m) Elevation (0.003 m) Echo
Number (Integer) Echo (Integer) Intensity (16 bit integer) Flight Line (Integer) Scan
Angle (degree)
- 2019-07-31 00:00:00 - The NOAA Office for Coastal Management (OCM) received
1100 las files from the SC DNR. The lidar data had elevation and intensity
measurements. The data were in State Plane South Carolina (NAD83 2011)
coordinates (Int Feet) and NAVD88 (Geoid12B) elevations in feet. The data were
classified as: 1-Unclassified, 2-Ground, 7-Low Noise, 8-Model Keypoints, 9-Water, 10-
Ignored Ground due to breakline proximity, 13-Culverts, 17-Bridge Decks, 18-High Noise. OCM processed all classifications of points to the Digital Coast Data Access Viewer (DAV). Classes available on the DAV are: 1, 2, 6, 7, 8, 9, 10, 13, 17, 18. OCM performed the following processing on the data for Digital Coast storage and provisioning purposes: 1. The las files were converted from las to laz format using LASTools laszip. 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. Internal OCM scripts were run on the laz files to convert from orthometric (NAVD88) elevations to ellipsoid elevations using the Geoid 12B model, to convert from State Plane South Carolina (NAD83 2011) coordinates in international feet to geographic coordinates, to convert vertical units from feet to meters, 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
- 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/57114
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=8794
https://coast.noaa.gov/htdata/lidar3_z/geoid12b/data/8794

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.