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:
2015 SEWRPC Lidar: Southeast WI (Milwaukee, Ozaukee, Walworth, Washington, Waukesha Counties)

1.2. Summary description of the data:
Geographical Extent:

Milwaukee, Ozaukee, Walworth, Washington, and Waukesha Counties in southeastern Wisconsin, covering approximately 2,071 square miles.

Dataset Description:

The SEWRPC 2015 LiDAR project called for the Planning, Acquisition, processing and derivative products of LIDAR data to be collected at a nominal pulse spacing (NPS) of 0.7 meters. Project specifications are based on the U.S. Geological Survey National Geospatial Program Base LIDAR Specification, Version 1.2.

The deliverable data is referenced to the following horizontal projection/datum system as specified in the contract: NAD83 (2011) State Plane Wisconsin South Zone, US survey feet; NAVD88, US survey feet.

LiDAR data was delivered in RAW flight line swath format, classifed LAS 1.4 files formated using a 10,000 feet by 10,000 feet tile system, hydro flattened breaklines in shapefile and geodatabase format, and raster 2 feet Digital Elevation Models (DEM) also using the same individual 10,000-feet x 10,000-feet tiles.

Ground Conditions:

LiDAR collection began in Spring 2015, while no snow was on the ground and rivers were at or below normal levels. In order to post process the LiDAR data to meet task order specifications, Quantum Spatial established a total of 227 QC points that were used to verify the accuracy of the LIDAR to known ground locations established throughout the project area.

The NOAA Office for Coastal Management (OCM) downloaded the laz files from this USGS site

ftp://rockyftp.cr.usgs.gov/vdelivery/Datasets/Staged/Elevation/LPC/Projects/ and processed the data to the Data Access Viewer (DAV) and to https.

USGS_LPC_WI_SEWRPC_2017_LAS_2019

OCM also downloaded the Hydro breaklines and they 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:
2015-03-24 to 2015-04-03

1.5. Actual or planned geographic coverage of the data:
W: -88.780091, E: -87.777429, N: 43.544427, S: 42.491014

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:
- 2016-07-18 00:00:00 - Quantum Spatial Classified LAS Processing: The bare earth surface is then manually reviewed to ensure correct classification on the Class 2 (Ground) points.   After the bare-earth surface is finalized, it is then used to generate all hydro-breaklines through heads-up digitization.   Initially, all ground (ASPRS Class 2) LiDAR data inside of the Lake Pond and Double Line Drain hydro flattened breaklines were then classified to water (ASPRS Class 9) using TerraScan macro functionality. A buffer of 3 feet was also used around each hydro-flattened feature to classify these ground (ASPRS Class 2) points to Ignored ground (ASPRS Class 10). All Lake Pond Island and Double Line Drain Island features were checked to ensure that the ground (ASPRS Class 2) points were reclassified to the correct classification after the automated classification was completed. All bridge decks were classified to Class 14.   All Overlap and Model Keypoint data was processed through automated functionality provided by TerraScan to classify the overlapping data to both ground (Class 18) and non-ground (Class 17) and the model keypoints (Class 8) data based flight line data   All data was manually reviewed by Quantum Spatial reviewed and any remaining artifacts were removed using functionality provided by TerraScan and TerraModeler. Global Mapper was used as a final check

of the bare earth datase and provided to the Commission.   Upon the delivery of the LiDAR data sets, the Southeastern Wisconsin Regional Planning Commission inspected the data for quality assurance. After a number of iterations, the data was approved in July of 2016.   The Commission in support of the 3DEP project reprocessed the approved LiDAR data set to not only reproject and transform a number of counties to meet the NAD83(2011) datum requirements but also deliver the data in full compliance of the USGS Base LiDAR Specification for LAS version 1.4 format. This process utilized LP360 to create a macro filter to reclassify the overlap non-ground and ground to Class 1 and Class 2, respectively, and assign an overlap flag to the overlapping data and also reclassify the model keypoints to Class 2 with a model keypoint flag assigned. As part of the macro filter, also took into account the movement of the bridge points from Class 14 to Class 17.   Also, the Southeastern Wisconsin Regional Planning Commission transformed and reprojected the breakline data. Upon inspection of the transformed lakes and ponds, it was discovered that these flattened surfaces were not exactly flat due to the dynamic changes between NGVD29 and NAVD88. This required that each lake pond be individually set to the lowest elevation of the vertices found supporting that individual lake elevation so it could pass the flatness test. All rivers were not addressed since these features are not flat.   LP360 was then used to take the transformed LAS files with the correct classification and flags along with the final hydro flattened breaklines to generate 2-feet raster digital elevation models based on the same 10,000-feet by 10,000-feet tiling system used for the LAS files. The final tiles were inspected using Global Mapper to ensure proper triangulation and enforcement along with the vertical testing of the digital elevation models.   Lastly, LP360 was used to perform final statistical analysis of the classification of the LAS files, on a per tile level to verify final classification metrics and full LAS header information and the vertical accuracy of the ground points.

- 2020-02-12 00:00:00 - The NOAA Office for Coastal Management (OCM) downloaded: 655 laz files from ftp://rockyftp.cr.usgs.gov/vdelivery/Datasets/Staged/Elevation/LPC/Projects/USGS_LPC_WI_SEWRPC_2017_LAS_2019 The 655 files contained elevation and intensity measurements for the southeast Wisconsin project area. The data were in WI State Plane South NAD83 2011, US survey feet coordinates and NAVD88 (Geoid12B) elevations in feet. The data were classified as: 1 - Unclassified, 2 - Ground, 7 - Noise, 9 - Water, 10 - Ignored Ground, 17 - Bridge Decks. The NOAA Office for Coastal Management processed all classifications of points to the Digital Coast Data Access Viewer (DAV). Classes available on the DAV are: 1, 2, 7, 9, 10, 17. OCM performed the following processing on the data for Digital Coast storage and provisioning purposes 1. An internal OCM script was run to check the number of points by classification and by flight ID and the gps and intensity ranges. 2. Internal OCM scripts were run on the laz files to convert from orthometric (NAVD88) elevations to ellipsoid elevations using the Geoid12B model, to convert from WI State Plane South NAD 1983 2011,US survey feet coordinates to geographic coordinates, to convert from vertical units of 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/58870

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=9016
https://noaa-nos-coastal-lidar-pds.s3.amazonaws.com/laz/geoid18/9016/index.html

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.