

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 NYC Topobathy Lidar DEM: New York City

1.2. Summary description of the data:

Product: The bare earth digital elevation model (DEM) represents the earth's surface with all vegetation and anthropogenic features removed. It is derived from Green and NIR LiDAR data using TIN processing of the ground and bathymetric bottom point returns.

Geographic Extent: New York, Bronx, Kings, Queens, and Richmond Counties in New York plus an additional 100 m buffer.

Dataset Description: In May 2017, Quantum Spatial (QSI) was contracted by Applied Geographics (AppGeo) to collect topographic and topobathymetric Light Detection and Ranging (LiDAR) data for the City of New York (NYC). QSI collected and processed traditional (near infrared wavelength, Leica ALS80 sensor) LiDAR over the topographic AOI, and spliced together NIR and bathymetric LiDAR (green wavelength, Riegl VQ-880-G sensor) for the topobathymetric AOI.

Ground Conditions: Topographic LiDAR was collected in May 2017 with approximately 50% leaf-off conditions. Bathymetric data was collected in July 2017 during low tide time windows. Ground control data were used to geospatially correct the LiDAR point cloud and used to perform quality assurance checks on the final products. In addition, Continuously Operating Reference Stations (CORS) from the New York State Spatial Reference Network (NYSNet) were used to geospatially correct the aircraft positional coordinate data and as base stations for GSP collection. All ground survey work to support the topobathymetric LiDAR acquisition was conducted during the NIR LiDAR collection window. Land cover class check points were also collected throughout the study area to evaluate vertical accuracy.

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:

2017-05-03 to 2017-07-26

1.5. Actual or planned geographic coverage of the data:

W: -74.257499, E: -73.69803, N: 40.916459, S: 40.491252

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:

Data were collected and processed by Quantum Spatial, Inc. for the New York City Department of Information Technology and Telecommunications. The data were retrieved from the New York State GIS FTP website [address: ftp://ftp.gis.ny.gov/elevation/LIDAR/NYC_TopoBathymetric2017/] by the NOAA Office for Coastal Management (OCM), where the data were processed to make it available for custom download from the Data Access Viewer (DAV) and bulk download from <https://www.gis.ny.gov/>

Process Steps:

- 2018-01-01 00:00:00 - The following outlines the processing of the point cloud data:

1. Flightlines and data were reviewed to ensure complete coverage of the study area and positional accuracy of the laser points.
2. Laser point return coordinates were computed using Waypoint Inertial Explorer and Leica Cloudpro software based on independent data from the LiDAR system, IMU, and aircraft.
3. The raw LiDAR file was assembled into flight lines per return with each point having an associated x, y, and z coordinate.
4. Visual inspection of swath to swath laser point consistencies within the study area were used to perform manual refinements of system alignment.
5. Custom algorithms were designed to evaluate points between adjacent flight lines. Automated system alignment was computed based upon randomly selected swath to swath accuracy measurements that consider elevation, slope, and intensities. Specifically, refinement in the combination of system pitch, roll, and yaw offset parameters optimize internal consistency.
6. Noise (e.g., pits and birds) was filtered using post-processing software, based on known elevation ranges and included the removal of any cycle slips.
7. Using TerraScan and Microstation, ground classifications utilized custom settings appropriate to the study area.
8. The corrected and filtered return points were compared to the ground survey points collected to verify the vertical accuracy.
9. TIN processing of the ground point returns with water's edge breaklines enforced was used to create this hydro-flattened bare earth DEM. (Citation: Lidar Data)

- 2021-06-02 00:00:00 - The NOAA Office for Coastal Management (OCM) retrieved 31 DEM files in geoTIFF format from the New York State GIS website. The data were in NAD83 (2011) State Plane New York Long Island (FIPS 3104) in US Feet, and NAVD88

(Geoid12B) elevations in feet. The bare earth raster files were at a 1 foot grid spacing. OCM assigned the appropriate EPSG codes (Horiz - 6539, Vert - 6360) and copied the raster files to https for Digital Coast storage and provisioning purposes.

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/64732>

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=9307/details/9307>

https://noaa-nos-coastal-lidar-pds.s3.us-east-1.amazonaws.com/dem/NYC_topobathy_BE_DEM_2017_9

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_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.