

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:**

2018 AK DGGS Lidar DEM: Sitka, Alaska

1.2. Summary description of the data:

The State of Alaska Division of Geological & Geophysical Surveys (DGGS) produced airborne lidar-derived elevation data for Sitka, Alaska. Airborne and ground surveys occurred between the 27th and 30th of April, 2018. These data were produced to assess bare earth slope conditions as part of an overarching, multi-hazard risk analysis for the study area, coordinated through the Federal Emergency Management Agency (FEMA) Cooperating Technical Partners (CTP) program. The project was initiated in response to a tragic debris flow incident that took three Alaskans' lives in 2015. This data collection is released as a Raw Data File with an open end-user license. All files can be downloaded free of charge from the Alaska Division of Geological & Geophysical Surveys website (<http://doi.org/10.14509/30531>).

The NOAA Office for Coastal Management (OCM) downloaded this data set from this AK DGGS site:

<https://elevation.alaska.gov/>

These files were processed to make the data available for custom and bulk download from the NOAA Digital Coast Data Access Viewer (DAV) . The total number of files downloaded and processed was 1.

In addition to these bare earth Digital Elevation Model (DEM) data, the lidar point data that these DEM data were created from, are also available. These data are available for custom download at the link provided in the URL section of this metadata record.

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:

2018-04-27 to 2018-04-30

1.5. Actual or planned geographic coverage of the data:

W: -135.427523, E: -135.088487, N: 57.208853, S: 56.978668

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 data were collected for the Alaska Division of Geological and Geophysical Surveys (DGGs) and made available on the AK DGGs Elevation Portal (<https://elevation.alaska.gov/>). The NOAA Office for Coastal Management (OCM) downloaded the data from this site to make the data available for custom downloads from the NOAA Digital Coast Data Access Viewer and for bulk downloads from [https](https://).

Process Steps:

- 2018-04-30 00:00:00 - Airborne survey - The lidar survey was conducted with a Riegl VUX1-LR lidar scanner with an integrated GNSS and Northrop Grumman IMU system. The integration was designed by Phoenix LiDAR systems. This survey was flown with a pulse rate between 200,000-400,000 pulses/second and at a scan rate between 80 and 150 revolutions/second. This survey was flown with an average elevation of 400 m above ground level and a ground speed of approximately 40 m/s with a fixed-wing Cessna 185 aircraft. The scan angle was set from 55 to 305 degrees, centered normal to the aircraft's bottom. The accompanying report provides additional detail regarding flight conditions.
- 2018-04-30 00:00:00 - Ground survey - Trimble R8 and R9 RTK GPS systems were used to collect 195 survey points, 100 of which were used as control points and 95 of which were used as checkpoints. Points were gathered by vehicle along the road system and by boat along the coastline. Points were adjusted for accuracy according to OPUS corrections in Trimble Business Center.
- 2019-01-01 00:00:00 - Lidar dataset processing - SDCImport software was used to apply range thresholding, reflectance thresholding, and missed-time-around (MTA) disambiguation for preliminary point cloud noise filtering. In-flight IMU and GNSS data were coupled using Inertial Explorer software to produce the trajectory data. Spatial Explorer software was used to couple the trajectory data with the point cloud. The point cloud data were calibrated using tielines for roll, pitch, and yaw of the aircraft during the survey. This process was first run using all points, then on a per-flightline basis for additional accuracy. Interswath fluctuations in ground points were identified using overlapping tielines to further calibrate the data. The point cloud was classified in accordance with American Society for Photogrammetry and Remote Sensing (ASPRS) guidelines using project-tailored macros. Misclassified points were manually reclassified in post-processing QA/QC.

The point cloud was converted from ellipsoidal to orthometric heights using geoid 12B, then uniformly adjusted to maintain a mean offset of 0 with collected ground control. Calibration, classification, and height adjustments were all executed in TerraSolid. Derived products were processed in ArcMap. DTM and DSM were produced using point triangulation with nearest-neighbor interpolation. The DTM was derived from all returns for ground classified points, while the DSM used first returns for all non-noise classes. The CHM was created by subtracting DTM height values from DSM height values. A lidar intensity image was created from first returns of all classes using mean binning.

- 2022-10-14 00:00:00 - The NOAA Office for Coastal Management (OCM) downloaded 1 raster DEM file in GeoTiff format from the Alaska DGGs Elevation Portal. The data were in UTM Zone 8 NAD83 (2011), meters coordinates and NAVD88 (Geoid12B) elevations in meters. The bare earth raster file was at a 1 meter grid spacing. OCM performed the following processing on the data for Digital Coast storage and provisioning purposes: 1. Used internal script to assign the EPSG codes (Horizontal EPSG: 6337 and Vertical EPSG: 5703) to the GeoTiff formatted files. 2. Copied the files to https.

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/67932>

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=9612/details/9612>

https://noaa-nos-coastal-lidar-pds.s3.us-east-1.amazonaws.com/dem/AK_Sitka_DEM_2018_9612/index

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.