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 AK DGGS Lidar DEM: Speel Arm, Alaska

1.2. Summary description of the data:
This metadata record describes the Speel Arm, Alaska digital elevation model hosted on the Digital Coast by NOAA OCM. This data was retrieved from the Alaska Elevation portal, and the following information accompanied the dataset and is left for greater context.

The Alaska Division of Geological & Geophysical Surveys (DGGS) used aerial lidar to produce a classified point cloud, digital surface model (DSM), digital terrain model (DTM), and intensity model of a mountain slope adjacent to Speel Arm near Port Snettisham, Southeast Alaska, during near snow-free ground conditions on September 7, 2019. The survey provides snow-free surface elevations for deriving snow depth distribution models with repeat surveys during snow-covered conditions. Aerial lidar and ground control data were collected on September 7, 2019, and subsequently processed in a suite of geospatial processing software. These products are released as a Raw Data File with an open end-user license. All files can be downloaded from the Alaska Division of Geological & Geophysical Surveys website (http://doi.org/10.14509/ 30730).

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:
2019-09-07

1.5. Actual or planned geographic coverage of the data:
W: -133.808498, E: -133.753641, N: 58.108885, S: 58.067564

1.6. Type(s) of data:
(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
digital, elevation, model

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?

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "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:
- 2019-09-06 00:00:00 - Aerial photogrammetric survey - DGGS used a Riegl VUX1-LR laser scanner integrated with a global navigation satellite system (GNSS) and Northrop Grumman LN-200C inertial measurement unit (IMU). The lidar integration system was designed by Phoenix LiDAR Systems. The sensor can collect up to 820,000 points per second at a range of up to 150 m. The scanner operated with a pulse refresh rate of 50,000 pulses per second in the alpine areas and 400,000 pulses per second over forested areas at a scan rate between 80 and 220 lines per second. We used a Bell 206 JetRanger aircraft to survey from an elevation of ~130 m above ground level, at a ground speed of approximately 30 m/s, and with a scan angle set from 80 to 280 degrees. The total surveyed area covers ~6 km2. We flew the aerial survey on September 7, 2019, with departure at 3:20 pm from Speel Arm Balcony weather station and landed back at the same location at 4:45 pm. The weather throughout the survey was clear with no wind.
- 2019-01-01 00:00:00 - Lidar dataset processing - We processed point data in SDCimport software for initial filtering and multiple-time-around (MTA) disambiguation. MTA errors, corrected in this process, are the result of ambiguous interpretations of received pulse time intervals and occur more frequently with higher pulse refresh rates. We processed Inertial Measurement Unit (IMU) and Global Navigation Satellite System (GNSS) data in Inertial Explorer and we used Spatial Explorer software to integrate flightline information with the point cloud. We calibrated the point data at an incrementally precise scale of sensor movement and behavior, incorporating sensor velocity, roll, pitch, and yaw fluctuations throughout the survey. We created macros in Terrasolid software and classified points in accordance with American Society for Photogrammetry and Remote Sensing (ASPRS) 2014 guidelines. We gave careful attention to the interpolation of the project's ground surface to compensate for inconsistent penetration through low vegetation as a function of the scan angle. Once classified, we applied a geometric transformation and converted the points from ellipsoidal heights to GEOID12B (Alaska) orthometric heights. We used ArcMap to derive raster products from the point cloud. The DSM was interpolated from maximum return values from the ground, vegetation and building classes using a binning method. The DTM was interpolated from all ground class returns also using a binning method and minimum values. In ArcMap, we produced an intensity image using closest-to-mean binning. (Citation: Digital Elevation Model)
- 2022-10-03 00:00:00 - NOAA OCM downloaded the single geotiff file from the Alaksa Elevation Portal and processed it to the digital coast.

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
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 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?

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/67982

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?

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=9613/details/9613
https://noaa-nos-coastal-lidar-pds.s3.us-east-1.amazonaws.com/dem/AK_SpeelArm_DEM_2019_9613/i

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)

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

9. Additional Line Office or Staff Office Questions
Line and Staff Offices may extend this template by inserting additional questions in this section.