

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:

Klawock Lagoon, Alaska Benthic Habitats 2011 Substrate

1.2. Summary description of the data:

The Klawock River on Alaska's Prince of Wales Island drains a 29,061 acre watershed with 132 miles of streambed habitat supporting seven salmon and trout species. Traditionally the river and lagoon supported salmon harvests exceeding 30,000 fish annually. The salmon fishery is an important economic factor and food source in the Klawock area. It is also an important cultural resource to local inhabitants. In 1964 a causeway was constructed blocking access to the lagoon from adjacent Klawock Bay. This has resulted in dramatic decreases in salmon harvests. The Nature Conservancy has lead a broad partnership to construct a culvert through the causeway thus re-establishing free passage between the river and Klawock Bay which is expected to help restore a full use of the river as spawning habitat by salmon and generally improve the quality of the lagoon. Benthic habitats in the lagoon and adjacent Klawock Bay and Klawock Harbor were mapped in spring 2011 to establish a baseline of benthic communities in the area with emphasis on eelgrass beds which are essential to the early survival of salmon fry. The habitat map will guide ongoing monitoring activities in the lagoon and form the basis of future change detection efforts.

Aerial multi-spectral imagery was collected over the lagoon, bay, and harbor during the week of April 19, 2011. The mission was timed to coincide with the breaching of the causeway. The environmental considerations important to successful benthic mapping were incorporated into the mission planning. These included, imagery to be collected within 1.5 hours of a zero or negative tide, clear water conditions (no algal blooms, or sediment plumes from runoff), low winds to avoid surface waves, and sufficient solar illumination to image submerged areas. These collection parameters were defined by the Office for Coastal Management prior to collection of the imagery. Despite weather and water conditions which were not ideal, imagery adequate to map most of the habitats in the lagoon was successfully collected on April 19, 2011.

Eelgrass habitats in the Lagoon did not have sufficient biomass or illumination through the water column at the time of the aerial mission to be mapped from that source so

eelgrass habitats were determined by two field-digitizing processes, one in August 2010 and one in September 2011. The final hybrid map captures habitats 10m x 10m or larger and has the same positional accuracy as the source imagery.

Field data to guide the mapping was supplied by several project partners. A comparison between the field data and the map shows high levels of agreement, although no traditional quantitative accuracy assessment was conducted.

Original contact information:

Contact Org: NOAA Office for Coastal Management

Phone: 843-740-1202

Email: coastal.info@noaa.gov

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:

2011-04-19

1.5. Actual or planned geographic coverage of the data:

W: -133.105445, E: -133.074666, N: 55.558106, S: 55.542561

1.6. Type(s) of data:

(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)

Map (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?**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:

- 2011-04-01 00:00:00 - The imagery was flown on 4/19/2011 between 9:35 and 10:24 A.M. by Geovantage Inc. The horizontal spatial accuracy of the imagery reported by the vendor is within +/- 3 meters CE95 of position on the ground. The radiometric resolution of the 4 band image composites is 12-bit. The imagery was processed to remove atmospheric effects such as haze and to highlight the spectral response of submerged areas. The imagery has some exposure variation between adjacent flight lines and between sunlit and cloud shaded areas. The 4 band imagery is provided in GeoTIFF format. The imagery was captured at a spatial resolution (pixel size) of 0.25m x 0.25m and was delivered in a Universal Transverse Mercator - Zone 8 projection using the NAD1983 datum.
- 2011-10-01 00:00:00 - The benthic habitat map was developed through image segmentation using the Trimble eCognition Developer software. Image segments representing spectrally homogenous area in the source imagery were generated

using a scale factor 20-25. A draft map was generated by classifying the image segments into one of 5 habitat classes (coastal marsh, unconsolidated sediments, unconsolidated bottom, macroalgae, and eelgrass) using the Nearest Neighbor classifier in Trimble eCognition Developer. Training data was derived through photo interpretation using available provided field information as a reference. The resulting draft map was reviewed by the project team through visual inspection and comparison to ground photos. Additional edits were made through manual labeling of the segments. Due to poor water clarity in Klawock Lagoon eelgrass habitat boundaries in the lagoon were generated by staff kayaking along the perimeter of the beds with a GPS logging their position every second. Two of these kayak-digitized polygons (one collected in August 2010 and one in September 2011) were merged to create a maximum extent of eelgrass polygon which was incorporated into the final benthic habitat map.

- 2015-01-01 00:00:00 - The data were converted from a single ESRI polygon shapefile classified according to the System for Classifying Habitats in Estuarine and Marine Environments (SCHEME) to the Coastal and Marine Ecological Classification Standard (CMECS) 2012 format (which can be found at <https://coast.noaa.gov/digitalcoast/tools/cmecs-crosswalk>) which produces separate geofom, substrate, and substrate feature layers from the original input benthic habitat dataset. This substrate feature layer contains CMECS substrate component attributes where an "Equal" or "Nearly Equal" SCHEME value was present in the original data. Polygons for which no substrate information was present have been removed. No other changes to the original polygon boundaries or any other alterations of the original SCHEME data were made during this process.

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
- 7.3. Data access methods or services offered
- 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/47849>

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:**

ftp://ftp.coast.noaa.gov/pub/benthic/Benthic_Cover_Data/AK_KlawockLagoon.zip

7.3. Data access methods or services offered:**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.