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:
Coastal Wetlands

1.2. Summary description of the data:
This data set represents the extent, approximate location and type of estuarine and marine wetland habitats in the United States and its Territories. These data delineate the areal extent of wetlands and surface waters as defined by Cowardin et al. (1979), which represents a biological definition of wetlands and deepwater habitats. There is no attempt to define the limits of proprietary jurisdiction of any Federal, State, or local government, or to establish the geographical scope of the regulatory programs of government agencies. Some wetland habitats may be under represented or excluded in certain areas because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and near shore coastal waters and also some deepwater reef communities (coral or tuberficid worm reefs). These habitats, because of their depth and water clarity, go undetected by most aerial imagery. By policy, the Service also excludes certain types of "farmed wetlands" as may be defined by the Food Security Act or that do not coincide with the Cowardin et al. definition. Contact the Service's Regional Wetland Coordinator for additional information on what types of farmed wetlands are included on wetland maps. This dataset should be used in conjunction with the Wetlands_Project_Metadata layer, which contains project boundaries, specific wetlands mapping procedures and information on dates, scales and emulsion of imagery used to map the wetlands within specific project boundaries.

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:
2017-12

1.5. Actual or planned geographic coverage of the data:
W: -170.847065, E: 145.830768, N: 71.390922, S: -14.373719

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:

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:

2.4. E-mail address:

2.5. Phone number:

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:

- 2021-12-22 00:00:00 - Data Download, Preparation, and Filtering Data was downloaded from the NWI (https://www.fws.gov/wetlands/Data/State-Downloads.html) for each state encompassing the coastal United States. Data for a total of 25 states were downloaded. Each File Geodatabase of raw data from NWI inherently contains 4 feature classes including all wetlands data for that state, historical mapping information, metadata documentation as spatial data describing data compilation information for different regions, or projects within a state, and a dataset extent boundary. The NWI feature class containing wetlands data was extracted for each state and reviewed separately for each step of the data preparation process, until final data compilation. A number of the raw datasets contained errors within the spatial index. The spatial index for every dataset was reset as an initial processing step. Coastal wetlands included in this dataset were defined by the NWI classification codes of system Marine (M) and system Estuarine (E). All sub-classifications below these two systems were included. Other systems were excluded from the coastal wetlands dataset. In order to accommodate XY tolerances in meters as part of the geometry review, filtered data was projected to North_America_Albers_Equal_Area_Conic, EPSG 102008. This projection also ensured adherence to the NOAA standard of using GRS_1980. Prepared data was saved in a new File Geodatabase, as a feature dataset by state. Data was stored as such in order to build topology as part of the geometry review.
- 2021-12-22 00:00:00 - Geometry Review Topology was built within ArcGIS Pro version 2.8.3 for each state feature dataset separately, in order to identify and repair errors. A series of tests was conducted to determine the optimal topology XY resolution parameter. Generally, this parameter should be no less than 0.001 meters. It was determined that resolutions tested that were greater than 0.1 meters (0.5 meters, 1 meter, 4 meters) significantly altered the data when validated. A resolution of 0.1 meters was found to be optimal for these data and used consistently across all project topologies. Appropriate topologic rules for evaluating a single polygon dataset were applied to all state datasets. These rules were a) features must not overlap, and b) features must not contain gaps. Errors were then evaluated and repaired. All overlaps were removed across all states. A large number of gaps were identified for each state, as any portion of a feature that did not touch another feature was identified as a gap. Non-adjacent features are inherently a valid part of NWI wetlands, and are permitted, however smaller gaps

and slivers as errors do also exist. Assessment of gaps was conducted initially to mark the vast majority of the large gaps as exceptions. This allowed smaller, gap errors to be more visible. Gap errors were scanned at a scale of 1:12,000 and fixed where possible. Given the number of errors and the scope of this project, best efforts to resolve gap errors were made, but some remain in the final data compilation. Self-intersecting polygons are another geometry error that was assessed. These are instances where a single polygon intersects itself. Checks for these geometry errors was first conducted using the ESRI Check Geometry and Repair Geometry tools and the ESRI validation rule. The OGC validation rule was evaluated, but not used in all cases, as it requires that no non-linear features exist. Non-linear features do exist in NWI data, and eliminating these features resulted in drastic changes to the raw data, causing additional overlapping polygons, gaps, and slivers. It was determined that conducting Check Geometry with the OGC validation rule resulted in more errors than it resolved, and under the scope of this project additional clean-up to mitigate these created errors was not possible. QGIS software was also used to locate self-intersecting polygons by checking validation. The GEOS option was set to on, and the option to Ignore Ring Self Intersections was not checked. Errors were identified in QGIS, but resolved in ArcGIS Pro. Given the magnitude of the number of these errors best efforts were made to clean up the majority of errors, however some still remain. Finally, the extent of the feature class was reset using the ArcGIS Pro function, RecalculateFeatureClassExtent
- 2021-12-22 00:00:00 - Attribution Attribution was based on information in the NWI classification scheme. NWI classifications were also cross-walked with CMECS codes, and these coded domains and descriptions were also included in the attribution. The raw NWI data contains a field titled ATTRIBUTE that defines the NWI classification code. These alphanumeric classification codes correspond to nomenclature, defined by NWI, that best describes a particular wetland habitat. NWI provides a lookup table for each code that defines each portion of the classification code. Attribution was applied to the coastal wetlands dataset that broke out each classification code and described the system, subsystem, class, subclass, and any modifiers including water regime, special modifiers, water chemistry, and soil for each wetland feature. These definitions were derived directly from NWI. Wetland classifications were broadly reviewed, and in some cases suggested edits were provided by NOAA OCM to fix incorrect classifications. A crosswalk of NWI classification codes and CMECS codes was provided by NOAA OCM. This crosswalk was used to define the CMECS biotic definition, biotic code, substrate definition, and substrate code for each wetland feature.
- 2021-12-22 00:00:00 - Data Compilation Following geometry review and attribution, projects were merged together based on region. Regions include: the Atlantic coast, the Gulf coast, the Pacific coast, Alaska, and U.S. territories and islands. Data was compiled at these scales instead of the national scale to make viewing and using the data more manageable. Adjacent NWI state datasets overlap each other. Overlapping state datasets share identical features except at the boundaries of the dataset, where features are cut-off at a hard boundary line. For

this reason, adjacent state datasets could not simply be merged together, as merged products would contain duplicate and overlapping non-identical features. This overlapping needed to be handled first: Using state dataset extents overlapping data between states was clipped out of neighboring datasets. State datasets were then merged together and it was confirmed that data along the created stitch line met perfectly without overlaps or gaps created. Data between the now adjacent, but not overlapping, state datasets were merged together to create a single polygon spanning both state datasets where applicable. In instances where NWI classifications differed between adjacent polygons, the differentiation between the polygons remained.
- 2023-07-21 00:00:00 - Data Integration and Tuning All regions were projected to NAD83 All regions were combined using the ArcGIS Pro function MERGE The estuarine and marine subtidal features were removed Field size settings were reduced to approximate field size values The ArcGIS Pro function REPAIR GEOMETRY with the OGC parameter was executed The ArcGIS Pro functions RECALCULATE FEATURE CLASS EXTENT was executed

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)
- 2.1. Point of Contact Name
- 2.4. Point of Contact Email
- 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

- 7.2. Name of organization of facility providing data access
- 7.2.1. If data hosting service is needed, please indicate
- 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/50447

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:

7.2.1. If data hosting service is needed, please indicate:

7.2.2. URL of data access service, if known:
https://marinecadastre.gov/downloads/data/mc/CoastalWetland.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.