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:
2015-2017 C-CAP Derived 10 meter Land Cover - BETA

1.2. Summary description of the data:
The NOAA Coastal Change Analysis Program (C-CAP) produces national standardized land cover and change products for the coastal regions of the U.S. C-CAP products inventory coastal intertidal areas, wetlands, and adjacent uplands with the goal of monitoring changes in these habitats. The timeframe for this data is 2015, 2016, or 2017 (depending on the exact date of imagery used). These maps are developed through the automated classification of high resolution National Agriculture Imagery Program (NAIP) imagery, available Lidar digital elevation data, and assorted ancillary information.

While produced as part of the Coastal Change Analysis Program (C-CAP), these products should not be compared directly to past dates of 30-meter C-CAP to identify change, as there will be vast differences caused by the different methods and the classes mapped.

These data should be considered to be BETA-level or draft products. They are based on 1-meter land cover mapping that were entirely automated and the relationship of those data to existing wetlands data. As such, there may be issues that result from the different vintages of these products, as well as the errors included in each. While not perfect, the data should provide an example of what level of detail would be possible through such higher-resolution mapping.

These data are not jurisdictional or intended for use in litigation. NOAA does not assume liability for any damages or misrepresentations caused by inaccuracies in the data, or as a result of the data used on a particular system. NOAA makes no warranty, expressed or implied, nor does the fact of distribution constitute such a warranty.

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:
2015 to 2017

1.5. Actual or planned geographic coverage of the data:
W: -125.479, E: -66.933, N: 49.689, S: 29.153

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

- 2018-11-01 00:00:00 - This dataset was created by NOAA's Ocean Service, Office for Coastal Management (OCM).   Process_Description: This dataset was created by the NOAA National Ocean Service (NOS), Office for Coastal Management (OCM). It was based on a 6 category land cover that was produced using a random forest classifier and Geographic Object-Based Image Analysis (GEOBIA) processing framework. That classification was performed by EarthDefine LLC (under contract to NOAA OCM), as part of NOAA's Coastal Change Analysis Program (C-CAP) efforts. This classification is based on high resolution National Agriculture Imagery Program (NAIP) imagery, available Lidar digital elevation data, and assorted ancillary information. The resulting land cover was then combined with U.S. Fish and Wildlife Servie's (USFWS) National Wetland Inventory (NWI) data, using a logic based rule set. The final classification includes up to 15 categories.   Random Forest Classification:

The initial 1m spatial resolution 6 class high resolution land cover product was developed using a Geographic Object-Based Image Analysis (GEOBIA) processing framework. This involves taking each image to be classified and grouping the pixels based on spectral and spatial properties into regions of homogeneity called objects. The resulting objects are the primary units for analysis. Additionally, these objects introduce additional spectral, shape, textural and contextual information into the mapping process and are utilized as independent variables in a supervised classification. Each object is labeled using a Random Forest Classifier which is ensemble version of a Decision Tree. Training data for the initial 6 classes (Herbaceous, Bare, Impervious, Water, Forest and Shrub) were generated through photo interpretation. The resulting Random Forest model was applied to the input data sets to create the initial automated map. Resampling: The resulting 1-meter land cover was then resampled to a 10-meter raster. This was done using a 10x10 focal pixel window to compute the percent value for each land cover type in the 100 pixel neighborhood around each target pixel, and subsequently performing a nearest neighbor resampling of the resulting values. Land cover was then assembled based on the land cover category that represented the largest overall percentage of the output 10-meter cell (i.e. the majority cover type), except where

values of impervious exceeded 20% in which case Impervious Developed would be forced into the classification (even if not the majority for that cell).   Wetlands: Wetlands were derived through a modeling process which used the National Wetlands Inventory (NWI), exported to a 10-meter raster grid to a classification that matched the wetland categories typically included within C-CAP land cover products. A logic based rule set was then applied. This rule set accounted for changes in condition of wetland features, since the NWI mapping occurred. This was based on how those features were mapped in the 6 category land cover described above, as compared to the NWI class. Forest, shrub and grassland objects within the initial land cover that exhibited hydric characteristics based on the input ancillary layers were designated to their appropriate wetland category. The process relied mainly on the NWI to determine palustrine and estuarine distinctions.

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/57099

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:

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.