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:

National Coral Reef Monitoring Program: Benthic Cover Derived from Analysis of Benthic Images Collected for Climate Stations across the Hawaiian Archipelago since 2013

1.2. Summary description of the data:

The data described here result from benthic photo-quadrat surveys conducted along transects at climate stations and permanent sites identified by the Ocean and Climate Change team across the Hawaiian archipelago since 2013 . Benthic habitat imagery were quantitatively analyzed using Coral Point Count with Excel extensions (CPCe; Kohler and Gill, 2006) software from 2010-2014 and a web-based annotation tool called CoralNet (Beijbom et al. 2016) from 2015 to present. In general, images are analyzed to produce three functional group levels of benthic cover: Tier 1 (e.g., hard coral, soft coral, macroalgae, turf algae, etc.), Tier 2 (e.g., Hard Coral = massive, branching, foliose, encrusting, etc.; Macroalgae = upright macroalgae, encrusting macroalgae, bluegreen macroalgae, and Halimeda, etc.), and Tier 3 (e.g., Hard Coral = Astreopora sp, Favia sp, Pocillopora, etc.; Macroalgae = Caulerpa sp, Dictyosphaeria sp, Padina sp, etc.).

Climate stations are 3-4 sites per island that were selected in a stratified random fashion to be roughly equally spaced around the island, along the 15 m contour, on hard bottom, and at least 1 km away from a river mouth or embayment. Once selected we assess multiple features of the coral reef environment including in-situ temperature (STR), seawater carbonate, net carbonate accretion (CAU), bioerosion (BMU), and cryptobiota diversity (ARMS).

These data can be accessed online via the NOAA National Centers for Environmental Information (NCEI) Ocean Archive.

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:

2013-08-03 to 2013-08-23, 2013-09-18, 2013-10-22 to 2013-10-30, 2013-07-12 to 2013-07-14, 2013-09-05 to 2013-09-13, 2016-07-17 to 2017-08-23, 2016-09-21

1.5. Actual or planned geographic coverage of the data:

W: -178.378433, E: -166.11682, N: 28.4529, S: 23.627917
Northwestern Hawaiian Islands (NWHI), including French Frigate, Kure, Lisianski, and Pearl & Hermes.

W: -160.23392, E: -154.8176, N: 22.16841, S: 18.968567
Main Hawaiian Islands (MHI), including Hawaii, Kauai, Maui, Oahu, Molokai, Niihau, and Lanai.

1.6. Type(s) of data:

(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
Table (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.)
Instrument: Not applicable
Platform: Not applicable
Physical Collection / Fishing Gear: Not applicable

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:

Annette M DesRochers

2.2. Title:

Metadata Contact

2.3. Affiliation or facility:

2.4. E-mail address:

annette.desrochers@noaa.gov

2.5. Phone number:

(808)725-5461

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:
Bernardo Vargas-Angel

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:
Benthic imagery is collected at climate stations and permanent sites. The imagery is analyzed using Coral Point Count with Excel Extentions (CPCe) or CoralNet to derive benthic cover values.

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):
Quality control is enforced by means of point-to-point, inter-observer calibration exercises that are conducted before each image analysis production series.

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:

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

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/36146

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:

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

7.2.2. URL of data access service, if known:
http://accession.nodc.noaa.gov/0157720
http://accession.nodc.noaa.gov/0164294

7.3. Data access methods or services offered:
Data can be accessed online via the NOAA National Centers for Environmental

Information (NCEI) Ocean Archive.

7.4. Approximate delay between data collection and dissemination:
Unknown

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_MD

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):
Pacific Islands Fisheries Science Center - Honolulu, HI

8.3. Approximate delay between data collection and submission to an archive facility:
Unknown

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
The image analysis data is captured in two different locations: exported files from CPCe that reside on a file server, which are ingested into a table in the PIFSC Oracle database. Both the file server and PIFSC Oracle database is maintained and regularly backed up by PIFSC ITS.

9. Additional Line Office or Staff Office Questions

Line and Staff Offices may extend this template by inserting additional questions in this section.