

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:

Benthic surveys along a water quality gradient in Aua, American Samoa: benthic cover derived from analysis of benthic images collected in 2022

1.2. Summary description of the data:

This metadata record describes the benthic cover data of Aua Reef, American Samoa, produced from the benthic imagery analysis performed by the Ecosystem Sciences Division (ESD) of the Pacific Island Fisheries Science Center (PIFSC) and funded by the Coral Reef Conservation Program (CRCP). Benthic imagery was collected at 18 randomly-selected sites during coral demographic surveys by the NOAA ESD during the 2022 fly-in mission to American Samoa (MP2206). After processing and sorting site photos, imagery was qualitatively analyzed using the web-based CoralNet image annotation tool. CoralNet projects random points on each image, and the benthic elements falling directly underneath each point are identified by trained scientists. The source imagery analyzed to produce benthic cover estimates as well as coral demography data are described and archived separately, see 'Related Items' below.

Data from benthic surveys of Aua Reef establishes a comprehensive biological baseline for land-based sources of pollution impacts on benthic composition and coral demography. These efforts feed into the higher-level CRCP objectives by establishing an in-situ tracking system to assess the effects of management and mitigation strategies and activities in the target watersheds to reduce land-based sources of pollution impacts on coral reefs.

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:

2022-09-12 to 2022-09-22

1.5. Actual or planned geographic coverage of the data:

W: -170.669158, E: -170.66486, N: -14.271722, S: -14.288051

September 2022 fly-in mission to American Samoa (MP2206), location and date range of Rapid Ecological Assessment (REA) surveys at stratified-random Sites (StRS) on Aua reef.

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.)

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:**

Lori H Luers

2.2. Title:

Metadata Contact

2.3. Affiliation or facility:**2.4. E-mail address:**

lori.luers@noaa.gov

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:

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:

The methodology to analyze benthic imagery using CoralNet to derive benthic cover values. The data described here were derived from the analysis of benthic images collected along photoquadrat surveys by the NOAA Ecosystem Sciences Division (ESD):

Process Steps:

- Still photographs were collected during belt transect surveys of coral demography to record the benthic community composition at predetermined points along the transect line with a high-resolution digital camera mounted on a pole.

Photoquadrat surveys were conducted along one, 30 meter transect per site. Photos of the benthic substrate were taken at one meter intervals starting at meter 1, (30 images/transect; 30 images total). The benthic photoquadrat images were analyzed by using the web-based annotation tool CoralNet (Beijbom et al. 2016). CoralNet assigns 10 random points per photo and the benthic element falling directly underneath each point is identified to three functional group levels: Tier 1 (e.g. hard coral, macroalgae, etc.), Tier 2 (e.g. Hard coral by morphology = massive, branching, etc.), and Tier 3 (e.g. Hard coral by genus and morphology). The detailed list of each functional group level or tier is included in the benthic image analysis classification scheme. See the published standard operating procedures for further details. (Citation: Lamirand M, Lozada-Misa P, Vargas-Angel B, Couch C, Schumacher B, Winston M. 2022. Analysis of Benthic Survey Images via CoralNet: A Summary of Standard Operating Procedures and Guidelines (2022 update))

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. Training modules and standard operating procedures have also been developed and documented to ensure improved performance and consistent imagery analysis results produced by multiple analysts.

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)

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/67996>

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:

National Centers for Environmental Information - Silver Spring, Maryland (NCEI-MD)

7.2.1. If data hosting service is needed, please indicate:**7.2.2. URL of data access service, if known:**

<https://www.ncei.noaa.gov/archive/accession/0275987>

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

NOAA IRC and NOAA Fisheries ITS resources and assets.

9. Additional Line Office or Staff Office Questions

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