

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:

HCBC 2019 Hawaii Bleaching Analysis Ready Clustered Data

1.2. Summary description of the data:

The analysis-ready data described here result from performing hierarchical clustering of individual coral bleaching surveys conducted across the Hawaiian Archipelago in 2014, 2015, and 2019. In order to resolve issues of spatial autocorrelation, the surveys were grouped into distinct clusters with a spatial resolution of 1km. The data was stratified across depths to generate metrics for up to three depth bins per cluster: shallow (0-6m), mid (>6-18m), and deep (>18m). This dataset contains environmental data paired for all 2019 observations, used to analyze drivers of the coral bleaching event. No environmental drivers data is included for 2015 and 2014 observations, as the data from these bleaching events was solely used in a temporal analysis comparing the 2014/2015 events to the 2019 event. This dataset also contains weights assigned to each observation (all years) for use in the drivers, temporal and spatial analyses.

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:

2019, 2015, 2014

1.5. Actual or planned geographic coverage of the data:

W: -178.383718, E: -155.0174893, N: 28.459215, S: 19.07672

Main Hawaiian Islands (MHI), including Hawaii, Maui, Molokai, Lanai, Oahu, and Kauai, and the Northwestern Hawaiian Islands (NWHI), including French Frigate Shoals, Lisianski Island, Pearl & Hermes Reef, and Kure Atoll.

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:

Brooke Olenski

2.2. Title:

Metadata Contact

2.3. Affiliation or facility:

2.4. E-mail address:

brooke.olenski@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:

Morgan S Winston

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:

Coral bleaching surveys were conducted during the 2014/2015 and 2019 thermal stress events in the Hawaiian Archipelago. In order to avoid spatial autocorrelation in subsequent analyses, hierarchical clustering was performed to group survey data into distinct clusters with a spatial resolution of 1km. The data was stratified across depths to generate metrics for up to three depth bins per cluster: shallow (0-6m), mid (>6-18m), and deep (>18m). Transformed and scaled weights were assigned per cluster based upon the inverse of the standard error of mean percent bleaching.

Process Steps:

- This record contains analysis-ready data for use in identifying temporal (2014/2015 vs 2019) and spatial (2019 only) patterns in bleaching across the Hawaiian Archipelago. Environmental parameters have been paired with all 2019 observations for use in investigating drivers of the 2019 bleaching event. The environmental parameters used in the drivers analysis are as follows: - Acute Thermal Stress - Historical Thermal Stress - Sea Surface Temperature (SST) Variability - Surface Light (PAR) - Light Attenuation (kdPAR) - Historical Bleaching - Taxonomic Susceptibility - Sewage Effluent - Agricultural Run-off - Urban Run-off - Tourism & Recreation See Child Item for description and original data source of parameter. Full citations for these data sources can be found under Sources. Each parameter was assigned to the 2019 survey data (pre-clustering). The mean value of each parameter was then calculated per cluster. To learn more about the survey approaches and to access the survey data from 2015 and 2019, see Related Items. For 2014 data, see Couch et al. (2017) under Sources.

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 of the data occurred at a few stages from initial data entry per institution, to data compilation into a single Excel spreadsheet. Observations, including species identification, were periodically checked during expeditions for consistency between and among divers. Data entry was usually conducted on the same day as the surveys using a data entry interface with several data controls employed, and were quality controlled by individual divers checking entry errors at a separate time. Following a mission, the data was run through rigorous quality control checks. The data was quality controlled against the physical data sheets following data entry.

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/64324>

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:

NOAA National Centers for Environmental Information (NCEI)

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

7.2.2. URL of data access service, if known:

<https://accession.nodc.noaa.gov/0239862>

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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 data is captured in both physical data sheets, an external hard drive, and a NOAA Fisheries server at the Pacific Islands Fisheries Science Center (PIFSC). The physical data sheets are housed at PIFSC. PIFSC servers are 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.