

*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:**

NOAA NCCOS Assessment: Agency priorities for mapping coral reef ecosystems in Hawaii, 2022-07-08 to 2022-08-01

**1.2. Summary description of the data:**

NOAA's Coral Reef Conservation Program (CRCP) has identified a need for priority locations based on emerging management requirements in shallow coral reef areas (up to 40 meters) surrounding the main Hawaiian Islands. The priorities provided by participating agencies will inform research and monitoring activities, address current and future management needs, and maximize opportunities to leverage and complement existing regional efforts.

To meet this need, NOAA's National Centers for Coastal Ocean Science (NCCOS) developed a systematic, quantitative approach and online GIS application to gather seafloor mapping priorities from researchers and coral reef managers. Participants placed virtual coins into a grid overlaid on the project area to express the location of their mapping priorities. They also used pull-down menus to indicate specific mapping data needs and the rationale for their selections. Participants inputs were compiled and analyzed to identify high priority areas along with their justifications and requirements. A total of 17 participant groups entered their mapping priorities into the online tool. Identifying these high priority areas provide a critical spatial framework for prioritizing mapping efforts in shallow coral reef ecosystems in Hawaii.

**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:**

2022-07-08 to 2022-08-01

**1.5. Actual or planned geographic coverage of the data:**

W: -160.271, E: -154.798, N: 22.266, S: 18.89

**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:**

NCCOS Scientific Data Coordinator

**2.2. Title:**

Metadata Contact

**2.3. Affiliation or facility:**

**2.4. E-mail address:**

NCCOS.data@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:**

NCCOS Scientific Data Coordinator

**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?**

No

**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):*

Process Steps:

- An advisory group was established which included individuals from NOAA CRCP and NOAA Fisheries. This advisory team customized the prioritization process specifically to meet the needs of CRCP and local coral reef manager priorities. In the online prioritization tool, the study area was divided into 1786 hexagonal grid cells 2.6 km<sup>2</sup> in size. Existing relevant spatial datasets (e.g., bathymetry, protected areas, etc.) were provided as a digital atlas to help participants understand information and data gaps within the project area and to identify locations they wanted to prioritize for future data collections. Each participant was provided with 540 virtual coins to place into grid cells to denote their mapping needs. They were instructed to place more coins in grid cells that were higher priority. A maximum of 54 coins could be placed into an individual grid cell by each respondent.

Participants also selected from a drop-down list of predefined management uses from the following list: endangered species management (e.g.), habitat restoration, monitoring, coastal vulnerability planning, watershed management, fisheries management, consultations and permitting, emergency response, and spatial protection and management. Respondents also selected what map product requirements were needed in priority cells by selecting a minimum of one, to a maximum of two choices from the following list: delineations of large topographic features, delineations of hard vs. soft bottom, models of habitat suitability for key taxa or communities, delineations of substrate type (e.g. sand, mud, coral, rock), models of presence/absence or density of corals, identification of coral species and their local environments, documentation of individual specimen condition. Coin values were summarized and mapped to identify high priority areas, reasons for those priorities, and information needs. This ESRI shapefile contains the 2.6 km<sup>2</sup> grid cells used in this prioritization and their associated coin values overall, as well as by management use and map product requirement. Other summary values include the number of participants, number of participating groups, number of management uses, and number of map product requirements. Additionally, coins for microscale (identification of coral species and their local environments and documentation of individual specimen condition), mesoscale (delineations of substrate type, models of presence/absence/density of corals), and regional (delineations of topographic features, delineations of hard vs. soft bottom, models of habitat suitability) requirements were summarized. Also included is a ranking of each grid cell based on the total number of coins, management uses, and participating groups allocating coins in the respective cell. For a complete description of the process and analysis see: Kraus et al. 2023, in prep. (Citation:

Kraus, J., C.A. Buckel, B. Williams, K. Urqhart, D. Dorfman, F. Pagan, E.K. Towle, and S.D. Hile. 2022. Agency Priorities for Mapping Coral Reef Ecosystems in Hawaii. NOAA Technical Memorandum NOS NCCOS 311. Silver Spring, MD. <https://doi.org/10.25923/csw1-xw45>

**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):**

For details of data quality control methods, see Lineage Sources. All users should independently analyze the datasets according to their own needs and standards to determine data usability.

**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/69455>

**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](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:**

Zenodo

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

**7.2.2. URL of data access service, if known:**

<https://doi.org/10.5281/zenodo.7615964>

<https://us-shallow-coral-reef-mapping-priorities-noaa.hub.arcgis.com/>

**7.3. Data access methods or services offered:**

Download from website

**7.4. Approximate delay between data collection and dissemination:**

Three months

**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)*

OTHER

**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):**

National Centers for Coastal Ocean Science - Silver Spring, MD

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

Six months

**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*

NCCOS IT Policy

**9. Additional Line Office or Staff Office Questions**

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