

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:

NCCOS Assessment: Biogeographic Surveys of Benthic and Fish Communities in the Caribbean and Gulf of Mexico from 2001-01-09 to 2012-11-02

1.2. Summary description of the data:

This data compilation includes benthic and fish survey data collected in St. Croix, St. John and St. Thomas, US Virgin Islands (USVI); La Parguera, Guanica, Jobos Bay, and Vieques, Puerto Rico; and Flower Garden Banks National Marine Sanctuary (FGBNMS) in the Gulf of Mexico. Data were collected on a biennial basis from 2001 through 2012 and in a consistent manner with established protocols by NOAA's NCCOS Biogeography Branch. In 2013, these long-term Caribbean and FGBNMS monitoring efforts merged with other monitoring programs funded by Coral Reef Conservation Program to form the National Coral Reef Monitoring Program (NCRMP), an ongoing program designed to monitor and assess changes in the composition of coral and reef fish communities.

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:

2001-01-09 to 2012-11-02

1.5. Actual or planned geographic coverage of the data:

W: -93.82449, E: -64.0324, N: 27.9265, S: 17.63764

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:**

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:

- We collected data on fish and benthic composition information across all nearshore habitat types. Sites were randomly selected and stratified by habitat types, and later location, using NOAA's benthic habitat maps of US Virgin Islands, Puerto Rico, and the Flower Garden Banks. Specific fish data included the abundance (counts) and size information of fish species at the lowest possible taxonomic level whereas benthic composition data included percent cover, relative abundance, size, and composition of benthic communities. At each site, fish and benthic divers were deployed, and they maintained contact with each other throughout the entire dive. One diver utilized the belt-transect visual census technique to collect data on the fish communities over an area of 100m² (25m length X 4m width), while the other diver used quadrats to estimate benthic composition over the same area. Benthic composition methods used (methodology varied by project): Two different benthic composition methods were used to collect these data sets. All projects/locations used a fine-scale (quadrat level) benthic composition methodology; in addition, a modified habitat survey - the Rapid Habitat Assessment (RHA) - was used in St. John, USVI at specific locations. For detailed descriptions of methodologies, see Hile et al. (2019). The habitat diver placed a 1m² quadrat divided into 100 (10 x 10cm) smaller squares (1 square equals 1 percent cover) at five separate positions in the Caribbean survey locations, and four in the Gulf of Mexico locations (FGB). Each quadrat position was randomly chosen before entering the water such that there was one random point within every 5m (Caribbean) or 6m (FGB), intervals along the transect. Percent cover was obtained as if looking at the quadrat in a two dimensional plane (i.e., a photograph) vs. three dimensions where percent cover could have added up to greater than 100%. Brief descriptions of information collected are listed below. For detailed information on the benthic methods, see Hile et al. (2019). Data were collected on the following: 1. Logistic information 2. Habitat structure 3. Proximity of structure (if softbottom site) 4. Transect depth profile (depth at each quadrat position) 5. Abiotic footprint within each quadrat position 6. Biotic footprint within each quadrat position 7. Coral (live, bleaching, diseased/dead) 8. Maximum canopy height for soft biota at the quadrat level 9. Number of individuals for sponges, gorgonians and "other" biota type (non-encrusting anemones and hydroids) at the quadrat level 10. Rugosity 11. Abundance and maturity of queen conch (*Strombus gigas*) within the 25 x 4m belt transect 12. Abundance of spiny lobsters (*Panilaurus argus*) within the 25 x 4m belt transect 13. Abundance of long-spined urchin (*Diadema antillarum*) within the 25 x 4m belt transect Although the 1m-square-quadrat remained the basic method of choice for habitat data collection, overtime, changes in data collection methods were made for some habitat variables, and several additional variables were added. These changes were deemed necessary to capture more precise information and as many variables as possible to explain better the observed variability in reef fish assemblage metrics. Fish sampling methods: Belt-transect method for all projects: The transect took 15 minutes regardless of habitat type or number of animals present. This allowed more mobile animals the opportunity to swim through the transect, and standardized the time

during which samples were collected to allow for comparisons. As soon as the belt transect diver passed the 5m mark, the point-count and habitat divers began their work. For detailed information on the fish methods, see Hile et al. (2019). Fish data were collected on the following: 1. Logistic information 2. Taxa presence 3. Abundance and size 4. Photos (Citation: 01. Hile, S.D., C.F.G. Jeffrey, C. Caldow, J.D. Christensen, M.E. Monaco, and J.A. Morgan. 2019. Protocols for Characterizing Fish and Associated Benthic Communities in the Caribbean and Gulf of Mexico: 2001-2012. NOAA Technical Memorandum NOS NCCOS 256. Silver Spring, MD. XX pp. <https://doi.org/10.25923/z3yt-sh37>)

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/57530>

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 - Stennis Space Center, Mississippi (NCEI-MS)

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

7.2.2. URL of data access service, if known:

https://ecowatch.ncddc.noaa.gov/erddap/tabledap/nccos_coralreefmon01_abiotic.html

https://ecowatch.ncddc.noaa.gov/erddap/tabledap/nccos_coralreefmon02_biotic.html

https://ecowatch.ncddc.noaa.gov/erddap/tabledap/nccos_coralreefmon03_rapidhabitatassessment.htm

https://ecowatch.ncddc.noaa.gov/erddap/tabledap/nccos_coralreefmon04_macroinverts.html

https://ecowatch.ncddc.noaa.gov/erddap/tabledap/nccos_coralreefmon05_fish.html

<https://products.coastalscience.noaa.gov/collections/biogeobenthic-fish-surveys-caribbean-gulf-of-m>

<https://doi.org/10.25921/rt0s-ty25>

7.3. Data access methods or services offered:

Download from website

7.4. Approximate delay between data collection and dissemination:

Four years

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_MS

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:

Four years

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.