

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:

Guam and Commonwealth of the Northern Mariana Islands (CNMI) Benthic Habitat Maps Prepared by Visual Interpretation from IKONOS satellite imagery procured by NOAA

### 1.2. Summary description of the data:

This project is a cooperative effort among the National Ocean Service, National Centers for Coastal Ocean Science, Center for Coastal Monitoring and Assessment; the University of Hawaii; BAE Systems Spectral Solutions; and Analytical Laboratories of Hawaii, LLC. The goal of the work was to map the coral reef habitats of American Samoa, Guam and the Commonwealth of the Northern Mariana Islands by visual interpretation and manual delineation of IKONOS satellite imagery. A two tiered habitat classification system was tested and implemented in this work. It integrates geomorphologic reef structure and biological cover into a single scheme and subsets each into detail. It also includes thirteen zones. Benthic features were mapped that covered an area of 149.2 square kilometers of which 37 were unconsolidated sediment and 112 were coral reef and hard bottom.

### 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:

2002 to 2004

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

W: 144.599648, E: 146.075495, N: 20.568301, S: 13.22229

### 1.6. Type(s) of data:

(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)  
map

### 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?**

**4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "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:

- 2004-01-01 00:00:00 - Benthic habitat maps were digitized by delineating habitat boundaries from georeferenced orthorectified IKONOS satellite imagery loaded into ArcView 3.3 GIS software with the Image Analysis and NOAA Coral Reef Habitat Digitizing extensions both activated. Digitizing was conducted using heads-up on computer screen methods with the minimum mapping unit (MMU) set to 1 acre and the image scale at 1:6,000. All IKONOS imagery was processed by NOS prior to map production. The imagery was corrected for atmospheric and water column effects, pan sharpened and deglinted. During the digitizing process, images were stretched and contrast, brightness and color balance were modified using the Arc View Image Analysis Extension to enhance features in the processed imagery. A first draft map was completed and features in the imagery where uncertainties existed, due to confusing or difficult to interpret signatures, were identified for future ground validation effort. An ArcView GIS point theme was generated with points positioned on the features of uncertain habitat type or along transects through gradients between habitat types. The GIS points were converted to GPS waypoints using Trimble Pathfinder Software and were navigated to in the field using a Trimble GeoExplorer 3 GPS data logger. A benthic habitat characterization was conducted at each site by snorkeling, free diving, or where water depth and clarity permitted, by observation from the surface. GPS data were collected at each location and site ID, depth, habitat type, zone and the method used to make the assessment were recorded. A second draft of the map was generated incorporating these ground validation data.

**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):**

## **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)

- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
  - 7.1.1. If data are not available or has limitations, has a Waiver been filed?
  - 7.1.2. If there are limitations to data access, describe how data are protected
- 7.2. Name of organization of facility providing data access
  - 7.2.1. If data hosting service is needed, please indicate
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

**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/39285>

**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?**

**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://ccma.nos.noaa.gov/ecosystems/coralreef/us\\_pac\\_terr/data/habitats.aspx](http://ccma.nos.noaa.gov/ecosystems/coralreef/us_pac_terr/data/habitats.aspx)

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

Contact NOAA for distribution options (see Distributor). All maps of the Northern Mariana Archipelago prepared during this tenure are incorporated into this metadata summary.;

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

**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)*

**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:**

**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*

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

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