

*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:**

La Parguera Accuracy Assessment Point Data for Benthic Habitats of Puerto Rico and the U.S. Virgin Islands

### **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 United States Geological Survey; the National Park Service; and the National Geophysical Data Center. The goal of this work was to develop coral reef mapping methods and compare the accuracy of benthic habitat maps generated from on-screen digitizing off of georeferenced color aerial photography, with maps digitized directly from hard copy photographs using a stereoplotter. Thematic accuracy of the Puerto Rico and U.S. Virgin Islands habitat maps was evaluated for the three most general habitat categories: unconsolidated sediment, submerged vegetation, and coral reef/hard bottom. Accuracy was estimated at two locations within the project area that included the full complement of habitat types, depth ranges, and water conditions representative of Puerto Rico and the U.S. Virgin Islands. For this reason, the accuracy of maps measured at these two locations is assumed to be representative of map accuracy elsewhere in the project area. This approach, which focused in two small areas, enabled a statistically robust evaluation of thematic accuracy to be conducted without the logistic difficulty of collecting data for accuracy assessment over the entire project area. Comparison with the accuracy assessment data revealed very similar levels of thematic accuracy between the two maps. Overall accuracy was 93.6 percent (Kappa 0.93). Maps produced from on-screen digitizing were almost 100 percent accurate for the submerged vegetation and unconsolidated sediment categories but misclassified a small percentage of hardbottom sites as unconsolidated sediment. Similarly, the maps produced using the stereoplotter were 100 percent accurate at classifying submerged vegetation but misclassified a small percentage of hardbottom and unconsolidated sediment sites. These findings suggest that both of these mapping techniques result in acceptable levels of thematic accuracy for maps produced at this scale with this type of classification scheme.

### **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:**

1999-11

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

W: -68.01, E: -65.22, N: 18.59, S: 17.82

**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?

##### 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:

- 1999-11-01 00:00:00 - La Parguera, Puerto Rico was selected as a site for comparing thematic accuracy resulting from on-screen vs. stereoplotter digitizing due to several factors. First, almost all habitat types in the Puerto Rico/Virgin Islands project area are present at this site (except mud and mangroves). In addition, there is a long history of research focused on the habitat in and around La Parguera resulting in a variety of historical data with which to compare NOAA map products. Finally, there is excellent logistic support for field activities through the University of Puerto Rico. While map production was underway, habitat type at 200 sites was evaluated in the La Parguera test area to compare with habitat delineations derived from each mapping technique. A stratified sampling protocol was used during which sample sites were pre-selected so that overall thematic accuracy of the three major habitat types across the range of depths and water conditions found in the field could be evaluated. A datasheet was created based on the categories in the habitat classification scheme to facilitate assessment of habitat type at each site in the field. Each preselected site was navigated to using real time DGPS. Data recorded at each site included habitat type, depth, and other descriptive information. Depth was determined using a hand-held depth sounder. Habitat type(s) were recorded within an approximately 5-7 meter radius around each pre-selected site. Habitat type directly at the DGPS coordinates was recorded first followed by any secondary habitat types observed within the 5-7m radius of the DGPS point. In most cases, habitat type was the same for the DGPS point and area around each site since we preselected grid cells encompassing areas of uniform tone and texture in the imagery. Data recorded at each site was overlaid onto the habitat maps and compared against the classification assigned by the photointerpreters. After comparing the map classification to each ground truth site, an error matrix was produced displaying both errors of inclusion and exclusion. In addition, overall accuracy, users and producer's accuracy, and Kappa Statistic (measure of map accuracy relative to a map with classifications randomly assigned

expressed as a percent) were reported.

**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
- 7.3. Data access methods or services offered
- 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/39360>

**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://coastalscience.noaa.gov/datasets/ccma/biogeo/benthic/aap/rico\\_aap.txt](http://coastalscience.noaa.gov/datasets/ccma/biogeo/benthic/aap/rico_aap.txt)

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

### **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.*