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:
Hyperspectral Imagery for the Main Eight Hawaiian Islands:Lanai (320-0612-332211)

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; and Analytical Laboratories of Hawaii, LLC. The goal of the work was to develop coral reef mapping methods and compare benthic habitat maps generated by photointerpreting georeferenced color aerial photography, hyperspectral and IKONOS satellite imagery. The enhanced spectral resolution of hyperspectral and control of bandwidths of multispectral data yield an advantage over color aerial photography particularly when coral health and time series analysis of coral reef community structure are of interest. Depending on the type of instrument, a spectral imaging system can be utilized to see multiple colors from ultraviolet through the far infrared range. The AURORA hyperspectral imaging system collected 72 ten nm bands in the visible and near infrared spectral range with a 3 meter pixel resolution. The data was processed to select band widths, which optimized feature detection in shallow and deep water. Photointerpreters can accurately and reliably delineate boundaries of features in the imagery as they appear on the computer monitor using a software interface such as the Habitat Digitizer.

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:
2000

1.5. Actual or planned geographic coverage of the data:
W: -157.0349, E: -156.9359, N: 20.8871, S: 20.7039

1.6. Type(s) of data:
(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
remote sensing image

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:

- 2000-06-20 00:00:00 - The hyperspectral image data were collected using the AURORA Hyperspectral Imaging data acquisition system (Advanced Power Technologies, Inc). Navigation data were incorporated using the Applanix inertial navigation system. The imaging system was used to collect 72 ten nm bands in the visible and near infrared spectral range at a three meter pixel resolution. Process Date Range is 20000516 - 20000620
- 2002-01-01 00:00:00 - The raw data were processed by the Analytical Laboratories of Hawaii, LLC using Research Systems, Inc. ENVI software. Band combinations were selected which optimized benthic habitat information in shallow and deep water and the scenes were converted into RGB composites. The hyperspectral images were georeferenced and mosaicked using Scene Stitcher, a stand-alone software program produced by Advanced Power Technologies, Inc.

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/38693

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?

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/hawaii/mosaics/320-0612-HSI.zip

7.3. Data access methods or services offered:

A flightline containing hyperspectral imagery will have two separate image files representing a subset of 6 bands from the 72 original bands collected. File naming convention is as follows 'flightline number-date(s) acquired-hyperspectral or airphoto imagery'. Hyperspectral flightline files will end in either 272217 or 332211 representing the band number in the respective file. Band numbers equate to the following spectral wavelength in nanometers: 27 - 605.51991, 22 - 556.918030, 17 - 508.319000, 33 - 663. 835022, and 11 - 450.001007. These approximate true-color band combinations were chosen to highlight shallow (272217) and deep (332211) water benthic features. Note that the resolution of the georeferenced imagery has been degraded significantly to reduce file size and facilitate internet viewing.;

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.