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:
   Derived bathymetry from IKONOS satellite imagery of nearshore benthic habitats

   1.2. Summary description of the data:
   Methods used were adapted from a "cookbook" of instructions developed by Kyle Hogref

   for using IKONOS imagery data to derive seafloor elevations in optically clear

   water. This dataset was derived from high-resolution (2 m) imagery from DigitalGlobe's

   WorldView-2 sensor of the Kaanapali area of Maui, Hawaii. Sensor bands 1,2

   and 5 (coastal, blue and near IR respectively) were used to derive depth information.

   The method assumes uniform water clarity but deviations from that condition

   made extraction difficult in water greater than 30 m depth in the Kaanapali scene

   used. Results show that biotic material or sediment in the water column skewed results

   shallower if the material has a high albedo and deeper if the material has a low

   albedo. Nearshore areas were significantly less impacted in the Kaanapali area,

   due to the geomorphology of the area and the hi resolution and quality of the imagery,

   allowing visual descrimination of apparent sediment in the water column.

   For presentation purposes the map product shows an Inverse Distance Weighted
   interpolated

   bathymetry surface, restricted to data within 600 m of the shoreline.

   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:
   2010-04-06 to 2010-04-06

   1.5. Actual or planned geographic coverage of the data:

W: -156.776, E: -156.647, N: 20.9839, S: 20.8357

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:
Michael W Akridge

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:

2.4. E-mail address:
michael.akridge@noaa.gov

2.5. Phone number:
(808)725-5483

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:
Julia Ehses

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?
Yes

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:

- 2011-10-12 00:00:00 - Multiple tools in ENVI 4.8 were used to complete the following processing steps: Data conversion from digital number to radiance, correction for atmosphere and water surface reflection, linearization of spectral decay as function of depth, masking of non-applicable values, and bathymetric derivation using variables from multiple linear regression analysis. Multiple tools in ArcGIS 10.0 were used for dataset integration and to extract values for the multiple linear regression analysis and subsequent error analyses. The statisitcs program Matlab was used for the multiple linear regression analysis to provide original variables for depth derivation. The multivariate slope intercept formula used to derive depth was $D = a + (b_i)(x_i) + (b_j)(x_j)$ Where: D = depth a = intercept b = slope x = the linearized spectral value resulted in $7.8491 - 2.8696(b1) + 7.9593(b2)$ b1 is the output masked linearized pictral value of each pixel of Coastal band b2 is the output masked linearized pictral value of each pixel of Blue band More information on this integration process is provided in the product error analysis, availble from PIBHMC upon request. This mosaiced derived bathymetry product (JohDBall3) was then integrated with the multibeam sonar data, with sonar data prioritized over derived data, to create the final product (JohDB3MB). A detailed description of all processing steps is available at: ftp://ftp.soest.hawaii.edu/pibhmc/website/webdocs/documentation/Cookbook_042108.pdf An error analysis of each derived bathymetry grid used is available from PIBHMC upon request. To produce the interpolated surface shown in the map, the floating point grid was converted to a point shapefile in Arc GIS 9.3 using the 'float to raster' and 'raster to point' tools in the Arc Toolbox. A buffer of 600m from the shoreline was created and the derived bathymetry points were clipped to exclude data outside this buffer. This distance was chosen to exclude areas of deeper water that were erroneously returning shallow depth values, due to characteristics of the water column. An Inverse Distance Weighted interpolation was run using 3D Analyst, to produce an interpolated surface, with a grid cell size of 10 m, a variable search radius with a maximum distance of 60 m, and using the coastline as a barrier. All other settings used were default. The interpolated surface was clipped using the coastline and a small number of isolated cells were manually deleted.

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):
REQUIRED

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)
- 7.2. Name of organization of facility providing data access
- 7.2.1. If data hosting service is needed, please indicate

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/25280

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:

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

7.2.2. URL of data access service, if known:
ftp://ftp.soest.hawaii.edu/pibhmc/website/data/mhi/bathymetry/DD2_Depth2_filtermin4x4_10m.zip

7.3. Data access methods or services offered:
Data can be accessed online via the NOAA National Centers for Environmental Information (NCEI) Ocean Archive, accession #.

ADD ACCESSION ONCE ASSIGNED

7.4. Approximate delay between data collection and dissemination:
Unknown

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_MD

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):
Pacific Islands Fisheries Science Center - Honolulu, HI

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

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
NOAA IRC and NOAA Fisheries ITS resources and assets.

9. Additional Line Office or Staff Office Questions
Line and Staff Offices may extend this template by inserting additional questions in this section.