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:
Gridded multibeam bathymetry of Guam Island, Guam U.S. Territory

1.2. Summary description of the data:
Gridded bathymetry at 60m resolution surrounding Guam Island, Guam U.S. Territory. Bottom coverage was achieved in depths between 0 and ~3500 meters. The Arc ASCII grids and floating point geotifs include multibeam bathymetry data acquired over multiple surveys by the NOAA Pacific Islands Fisheries Science Center, Ecosystem Sciences Division (as of May 2017). The data were acquired using the Simrad EM300, and Reson 8101 multibeam sonars, with sonar frequencies of 30 and 240 kHz respectively. The 60m grid is mosaiced from data sets acquired in 2003, 2007, 2010 and 2017.

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:
2017, 2007, 2010, 2003

1.5. Actual or planned geographic coverage of the data:
W: 144.326, E: 145.116, N: 13.913, S: 12.761

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.)
Instrument: RESON 8101ER and Kongsberg 30 kHz EM300 multibeam sonars
Platform: Hi'ialakai, R/V AHI, and Oscar Elton Sette
Physical Collection / Fishing Gear: Not applicable

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:
Annette M DesRochers

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:

2.4. E-mail address:
annette.desrochers@noaa.gov

2.5. Phone number:
(808)725-5461

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:
Frances Lichowski

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):
Lineage Statement:

Process to produce bathymetry grid from source multibeam bathymetry data.

Process Steps:

- 2017-09-10 00:00:00 - As multibeam bathymetry data contributing to grid were acquired over multiple surveys/years, there have been different methods employed to process the data. Generally speaking, data acquired prior to 2015 were treated according to protocol #1, whereas data acquired after 2015 were processed using protocol #2. Protocol 1: Multibeam swath files are acquired in the Generic Sensor Format (GSF) and are edited on a swath by swath basis using SAIC's SABER editing software. The edited swath files are then combined into a Pure File Magic (PFM) format in SABER and area based editing is performed. The edited PFM is then exported as X,Y,Z. The resulting X,Y,Z data are then gridded using xyz2grd, a Generic Mapping Tools (GMT) algorithm that converts an ASCII or binary table to a netCDF grid file format. GMT is an open source collection of tools for manipulating geographic data sets. Grid nodes with more than one value are set to the average value and unconstrained nodes are set to NaN. Finally, the netCDF grid is clipped at a depth that minimizes data gaps for the specified grid cell size and then converted to an ArcGIS ASCII file format using LINUX/UNIX commands in combination with GMT. Protocol 2: Multibeam bathymetry data were acquired in Kongsberg *.all format, and imported into SABER editing software as converted *gsf. Within SABER, relevant offset, sound velocity, and tidal corrections are made prior to exporting *gsf files to QPS Quimera for swath editing. Within Quimera *gsf files are combined to form 60m resolution 'Dynamic Surface'. A medium-tension spline filter is applied to the data, and the Dynamic Surface is progressively corrected as final 2D and 3D direct swath edits are made. The final cleaned surface is exported as a floating point geotif, where in ArcGIS it is merged with the pre-existing 60m resolution grid using the 'Mosaic to new Raster' function. This final combined grid is exported as both ArcGIS ASCII grid and a floating point raster grid. Further information about the multibeam data processing is recorded in the cruise metadata.

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):

New data collected in 2017 were evaluated against pre-existing data before the data were deemed usable and appended to the pre-existing grids.

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:
- 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/47577

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/cnmi-guam/bathymetry/guam_60m.asc.zip

7.3. Data access methods or services offered:

Data can be accessed online via the Pacific Islands Benthic Habitat Mapping Center website at http://www.soest.hawaii.edu/pibhmc/cms/data-by-location/cnmi-guam/guam-island/bathymetry/

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)

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):

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

University of Hawaii School of Ocean and Earth Science and Technology, 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.