

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:

Water Stratification Raster Images for the Gulf of Maine

1.2. Summary description of the data:

This geodatabase contains seasonal water stratification raster images for the Gulf of Maine. They were created by interpolating water density (σ_t) values at 0 meters and 50 meters binned by season, and subtracting the water density surface at 0 meters from the water density surface at 50 m. This subtraction (as denoted by the raster value) indicates the differences in water density throughout the Gulf of Maine during the year. The more positive or negative the raster value, the larger the difference between the water density raster at 0 m and the water density raster at 50 m and thus, the more stratified the water. Similarly, the closer the raster value is to 0, the smaller the difference between the water density raster at 0 m and the water density raster at 50 m and thus, the less stratified the water. We tried this density difference calculation with 0 and 10 meters as well as 0 and 30 meters. We chose to use 50 meters as the lower water density depth because water less than 10 meters may have been subject to wind and convective mixing, and water less than 30 meters may have been influenced by internal waves. Water at 50 meters, however, illustrated the greatest difference in stratification strength (buoyancy frequency squared) between layers in the water column (Brown and Irish, 1993). The naming convention of the raster includes the year (or years) included in the the interpolation, the season, and the depth (in meters). So for example, the name: ws_1997_2004_Fall would indicate that this water stratification raster was created by subtracting water density rasters that were interpolated using data from 1997-2004 for the fall. The seasons were defined using the same months as the remote sensing data--namely, fall = September, October, November; winter = December, January, February; Spring = March, April, May and Summer = June, July, August.

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:

1912 to 2004

1.5. Actual or planned geographic coverage of the data:

W: -72.477168, E: -59.441365, N: 46.530855, S: 36.667053

1.6. Type(s) of data:

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

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:

- 2005-12-01 00:00:00 - Water density rasters were interpolated for each season (winter, spring, summer, fall) from water density (sigma t) point data using a Radial Basis Function (spline with tension) at 0 and 50 meters. The 0 m water density rasters for each season were then subtracted (using the raster calculator in ESRI's Spatial Analyst Extension) from the 50m water density raster. This subtraction (as denoted by the raster value) indicates the differences in water density throughout the Gulf of Maine during the year. The more positive or negative the raster value, the larger the difference between the water density raster at 0 m and the water density raster at 50 m and thus, the more stratified the water. Similarly, the closer the raster value is to 0, the smaller the difference between the water density raster at 0 m and the water density raster at 50 m and thus, the less stratified the water.

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/39621>

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

Please contact the Stellwagen Banks NMS Research Coordinator for additional information on data access (david.wiley@noaa.gov);

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.