

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:

AFSC/NMML Location-only satellite telemetry data for gray whales in the Bering and Chukchi Sea, 2012-2013

1.2. Summary description of the data:

This dataset contains ARGOS location data (latitude and longitude in decimal format) and associated time (date and time) and location quality (as defined by Argos System, www.argos-system.org) information. Data were collected using Wildlife Computers PTT-only SPOT 5 and Archival Mk10A satellite transmitters and PTT identification is also provided with the data. Satellite transmitters were deployed on gray whales (*Eschrichtius robustus*) in the Chukchi Sea.

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:

2012-08 to 2013-10

1.5. Actual or planned geographic coverage of the data:

W: -175.14, E: -152.5, N: 71.157, S: 62.862
Chukchi Sea and northern Bering Sea continental shelf, slope and basin

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:

2.2. Title:

Metadata Contact

2.3. Affiliation or facility:

2.4. E-mail address:

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:

Amy Kennedy

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?

No

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:

- 2014-01-01 00:00:00 - Satellite transmitters were attached to the body of gray whales using a pneumatic delivery system. Whales were tagged with the

implantable configuration of the SPOT 5 and MK10A transmitters produced by Wildlife Computers (Redmond, WA). Transmitters were duty-cycled to optimize data collection in the feeding grounds and for maximizing tag longevity. Location-only tags (SPOT5) were programmed to transmit every day for 6 hours during daytime and 6 hours during night time. One archival tag (Mk10A) was programmed to sample and transmitter between 1 and 22hs every day from 1 September to 1 November and every second day afterwards. Histogram data sampling was enabled to sample maximum dive depth and time at depth in 14 bins (10, 20, 30, 40, 50, 75, 100, 125, 150, 200, 250, 300, 350 and >350m), and dive duration in 9 bins (2, 3, 5, 10, 15, 20, 25, 30 and >35 minutes). Time series messages were enabled with sampling intervals of 75 seconds every day for the first 30 days and every second day afterwards). Satellite tags were monitored by Argos Data Collection and Location Service receivers on NOAA TIROS-N weather satellites in sun-synchronous polar orbits. Locations were calculated by Argos from Doppler-shift data when multiple messages were received during a satellites passage overhead. Argos codes locations in quality classes (LQ) labeled B, A, 0, 1, 2, 3, in order of increasing accuracy. Argos locations were processed using the software R. The SDA Argos filter (Freitas et al., 2008) was applied to all location qualities in software R in order to remove locations that implied unlikely deviations from the tracks path as well as unrealistic travel rates. This filter requires two main parameters: turning angles and maximum speed of travel. The default value of turning angles (Freitas et al., 2008) was used and the maximum speed was assumed to be 18km/h. Distances between filtered locations were calculated assuming a great circle route.

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):

Attribute accuracy is provided in the Location Quality (LQ) field. The current dataset has 6 LQ levels. Tagging is the GPS location where a satellite transmitter was deployed and has GPS precision. The accuracy of remaining LQ levels are as defined by Argos Service and are classified in different classes of decreasing accuracy in the following order: 3, 2, 1, 0, A, B, and Z. LQs 3, 2, 1, and 0 have estimated accuracies of 150, 350, 1,000, and greater than;1,000 m. LQs A, B, and Z have no estimated location accuracy. LC Z are points for which the location process failed and were not included in the present dataset.

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)
- 2.1. Point of Contact Name
- 2.4. Point of Contact Email

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/28151>

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:**

NOAA National Centers for Environmental Information (NCEI)

7.2.1. If data hosting service is needed, please indicate:**7.2.2. URL of data access service, if known:**

<https://data.nodc.noaa.gov/cgi-bin/iso?id=gov.noaa.nodc:0139361>

7.3. Data access methods or services offered:

Data is available at NCEI: <http://data.nodc.noaa.gov/cgi-bin/iso?id=gov.noaa.nodc:0139361>

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):**

National Marine Mammal Laboratory - Seattle, WA

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

IT Security and Contingency Plan for the system establishes procedures and applies to the functions, operations, and resources necessary to recover and restore data as hosted in the Western Regional Support Center in Seattle, Washington, following a disruption.

9. Additional Line Office or Staff Office Questions

Line and Staff Offices may extend this template by inserting additional questions in this section.