

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:

AIS data

### 1.2. Summary description of the data:

Automatic identification system (AIS) data are used to identify and track vessels for various purposes (primarily navigational safety). These data can be used to study vessel traffic, such as ship routing and speed over ground (SOG). Source data were obtained from the United States Coast Guard Navigation Center (USCG NAVCEN) for the period from June 2008 to December 2015. Derived data resulting from the processing of the source data are described here. This data set presents annual raster data (1 square kilometer grid size) off California from 2008-2015 for cumulative ship traffic density (kilometers/day) and mean SOG (knots; distance-weighted). The universe of data is limited to vessels with a length greater than or equal to 80 meters. The data are analyzed in three groups: freight vessels (container, general cargo, bulk carrier, refrigerated cargo, vehicle carrier, etc.), tanker vessels (crude oil, chemical/products, liquid petroleum gas, etc.) and all vessels (the previously noted vessels, plus passenger vessels and other vessel classes). The data are contained in a file geodatabase format as raster data sets. Metadata for the overall data set are contained at the level of the file geodatabase. The data were generated and used for a research article (Moore et al. 2018) :

Moore, T.J., Redfern, J.V., Carver, M., Hastings, S., Adams, J.D., Silber, G.K., 2018. Exploring Ship Traffic Variability off California. Ocean and Coastal Management. <https://doi.org/10.1016/j.ocecoaman.2018.03.010>

See this manuscript for more information on the data description, issues, and processing methods.

### 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:

2008 to 2015

**1.5. Actual or planned geographic coverage of the data:**

W: -128.9, E: -116.6, N: 42, S: 30.5

California coast within Exclusive Economic Zone (EEZ). Small area off the coast of northern Baja California in Mexico.

**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: Automatic Identification System (AIS)

Platform: Terrestrial AIS Receiver Network

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:**

Jessica V Redfern

**2.2. Title:**

Metadata Contact

**2.3. Affiliation or facility:****2.4. E-mail address:**

jessica.redfern@noaa.gov

**2.5. Phone number:**

(858) 546-7117

**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:**

Jessica V Redfern

**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):*

Lineage Statement:

Source data should be obtained from the data provider (USCG).

Process Steps:

- The data processing methods and quality control procedures are discussed in the following journal article and supplemental online information published with the article: Moore, T.J., Redfern, J.V., Carver, M., Hastings, S., Adams, J.D., Silber, G.K., 2018. Exploring ship traffic variability off California. *Ocean & Coastal Management* 163, 515-527. DOI: 10.1016/j.ocecoaman.2018.03.010

##### 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):

The data processing methods and quality control procedures are discussed in the following journal article and supplemental online information published with the article:

Moore, T.J., Redfern, J.V., Carver, M., Hastings, S., Adams, J.D., Silber, G.K., 2018. Exploring ship traffic variability off California. *Ocean & Coastal Management* 163, 515-527. DOI: 10.1016/j.ocecoaman.2018.03.010

#### 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?**

Yes

**6.1.1. If metadata are non-existent or non-compliant, please explain:****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/54048>

**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](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?**

No

**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?**

No

**7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:**

No constraints for access to data that are published in the Mendeley Data repository.

**7.2. Name of organization of facility providing data access:**

Southwest Fisheries Science Center (SWFSC)

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

<https://dx.doi.org/10.17632/4tgwv45bz8.1>

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

Downloadable data in the Mendeley Data repository.

**7.4. Approximate delay between data collection and dissemination:**

365

**7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:**

The source (raw) data from the USCG were collected from 2012 to 2016 and are not available for dissemination. The processing of the data occurred during the period of 2016-2017. The derived data were made available approximately one year after processing was completed.

**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)*

To Be Determined

**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:**

Derived data reside in the Mendeley Data repository but a copy can be archived at another resource as deemed suitable. Through Mendeley Data, however, the data are archived on the Data Archiving and Network Services (DANS; <https://dans.knaw.nl/en>) to preserve the data over the long term.

**8.2. Data storage facility prior to being sent to an archive facility (if any):**

Southwest Fisheries Science Center - La Jolla, CA

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

365

**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*

The derived data were disseminated and archived within approximately one year after the data processing was completed. Mendeley Data is the data repository and has received industry standard certification for this role. The data are stored on Amazon S3 servers to ensure the integrity and security of these data. The source data are secured and protected through encryption with multiple backup copies. Source data are backed up locally and offsite with data protections in place.

**9. Additional Line Office or Staff Office Questions**

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