

1. DATA AND INFORMATION TYPES

A. Provide a contextual description of the data stream.

The Marine Exchange of Alaska (MXAK) hosts a vessel tracking system that records information emitted from shipboard Automatic Identification System (AIS) transmitters. AIS transmits vessel information such as position, course, and speed on regular intervals to shore-based receivers and satellites. In most cases AIS information is transmitted every few seconds, or virtually “real-time”. Long-range satellite tracking for vessels traveling offshore are generally programmed to report once every few hours. According to Navigation Safety Regulations, self-propelled vessels of 65 feet or more in length engaged in commercial service are required to have an AIS system properly installed. More information about these vessel types and AIS specifications can be referred to in 33 CFR 164.46 - Automatic Identification System (AIS).

This is provided as a data stream because data from the product can generate a ship location. The Marine Exchange of Alaska (MXAK) follows a different model than other United States marine exchanges, and does not make real-time vessel tracking data available to AOOS, nor have they permitted historical data to be archived. This is because MXAK is a private, non-profit organization that has brought AIS capability to Alaska independently of the US Coast Guard. Their work is supported by fees for providing real-time ship tracking data to the shipping community and subscriber members.

AOOS currently provides only summary data products from the AIS vessel tracking collected during the Bering Strait Port Route Study (BSPARS) during July 2013.

Website URL: Arctic Portal:

<http://portal.aos.org/arctic#module-metadata/f55d2fae-aa4e-11e3-a825-00219bfe5678/880268a2-aa3a-11e3-ae60-00219bfe5678>

B. How many station locations are there for this data stream?

N/A

C. What are the specific parameters of the data.

AOOS reports historical data only. It is not a real-time asset.

The parameters of this data include: date, time, ship location (GPS, latitude and longitude), type of vessel, and velocity.

D. Provide information about the sampling platform or instrumentation.

Automatic Information System (AIS) equipment

2. DATA PATHWAY

A. Is a data sharing agreement required?

Yes. MXAK is an AOOS Member. Data Sharing is agreed to as part of membership, as stated in the MOA Section V.(H)

<http://www.aos.org/wp-content/uploads/2011/05/AOOS-MOA-approved-by-AOOS-Founding-Members-Nov-10-2009-1.pdf>

B. In which format(s) were data received by AOOS?

Data were received in CSV file format directly from the originator.

C. How can the information be accessed?

The data are available through the AOOS data portal, where it can be downloaded or explored through interactive visualizations. Specifically the data are available from three unique access points:

- Web Mapping Service (WMS)
- Web Feature Service (WFS)
- File Downloads (PNG, Shapefile, CSV)

D. What file formats will be used for sharing data, if different from original?

Data are shared as CSV, shapefile, and PNG. Data are also available for exploration in the AOOS portals via interactive visualizations.

E. Describe how the data are ingested(e.g. the flow of data from source to AOOS data portals) and any transformations or modifications made to share data in the AOOS data portal.

The data are delivered directly to AOOS from the originator, the Marine Exchange of Alaska (MXAK). To create interactive visualizations: the flat tables were restructured into relational database and then a geometry was created from latitude and longitude values. Lookup tables were generated for users to explore attributes of interest. The ship_type codes were mapped to labels, and hexagonal coverages were created at 15 zoom levels. These coverages summarized the number of AIS 'pings' within each hexagon per zoom level.

F. What metadata or contextual information is provided with the data?

None provided with the data from MXAK. Data are shared in the AOOS portals with descriptive narratives describing the data and linking back to the originator's site.

G. Are there ethical restrictions to data sharing?

No

a. If so, how will these be resolved?

N/A

H. Who holds intellectual property rights (IPR) to the data?

The Marine Exchange of Alaska (acronym: MXAK)

I. Describe any effect of IPR on data access.

None

3. DATA SOURCE AND QUALITY CONTROL

A. Indicate the data source type (i.e. Federal, Non-Federal, University, State Agency, Local Municipality, Military Establishment (branch), private industry, NGO, non-Profit, Citizen Science, Private individual)

NGO (Marine Exchange of Alaska), Private

a. If Federal data source, were changes applied to the data?

N/A

b. If Yes, describe any changes to the data that require documentation?

N/A

B. Indicate the data reporting type (e.g. real-time, historical).

Historical

C. If real-time, list the QARTOD procedures that are currently applied.

Not required.

D. If real-time, list the QARTOD procedures that are planned for implementation.

N/A

E. What is the status of the reported data? (e.g. raw, some QC, incomplete, delayed mode processed but not QC'd)

Some QC as delivered from MXAK.

The computing software does editing.

If vessel transmits data incorrectly, AIS is not corrected. If data are not in 183 standard, the data are rejected. Real-time data are monitored by Marine Exchange staff for background noise levels, condition of antenna, etc.

The US Coast Guard (USCG) requires 96% operational availability, and all protocols follow USCG.

F. Describe the data control procedures that were applied by the originator.

Follows USCG protocols.

Contact the data provider for availability of additional QC information.

a. Provide a link to any documented procedures.

N/A

G. Describe the data control procedures that were applied by AOOS.

No applied AOOS QC. This is a synthesis product made from existing data sources.

a. Provide a link to any documented procedures.

N/A

H. List the procedures taken for data that could not be QC'd as directed.

N/A

4. STEWARDSHIP AND PRESERVATION POLICIES

A. Who is responsible for long-term data archiving?

Data are aggregated for visualization and exploration with other layers in the AOOS data portal. AOOS stores the real-time and historical data internally using the AOOS data servers. AOOS will facilitate data archival with NCEI if requested and with permission of the data originator (private). NCEI has not expressed interest in this data stream.

B. Which long-term data storage facility will be used for preservation?

N/A

C. Describe any transformation necessary for data preservation.

N/A

D. List the metadata or other documentation that will be archived with the data.

N/A