

1. DATA AND INFORMATION TYPES**A. Provide a contextual description of the data stream.**

Temperature and salinity profiles in relation to depth have been taken at the oceanographic station GAK1 beginning in December, 1970. This multi-decade time series of oceanographic data is one of the longest in the North Pacific for any location. This data stream contains a 46-year time series of temperature and salinity measurements at hydrographic station GAK1, sampled over the years using multiple platforms (via ship and moorings). The data set starts in 1970, and now consists of monthly CTDs and a year-round mooring with 6 - 7 temperature/conductivity recorders distributed throughout the water column. The project provides CTD data (conductivity, temperature, depth), discharge data, and moored temperature and salinity data at the GAK1 station. The GAK1 mooring is located at 59 degrees 51' North and 149 degrees 30' West. Water depth is 261 m.

Website URL:

<http://portal.aos.org/gulf-of-alaska#metadata/3c4ecb88-6436-4312-8281-ed584e020b0e/project>

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

1

C. What are the specific parameters of the data.

Parameters include date, time, conductivity, temperature, depth, discharge, pressure, and moored temperature and salinity.

D. Provide information about the sampling platform or instrumentation.

The more recent data were collected from multiple ship-based observations, monthly CTD profiles (since 1990), and time-series data from the GAK1, year-round, non-real-time mooring.

<http://www.ims.uaf.edu/gak1/>

<http://www.gulfwatchalaska.org/monitoring/environmental-drivers/gulf-of-alaska-mooring-gak1-monitoring/>

2. DATA PATHWAY**A. Is a data sharing agreement required?**

Yes. Ongoing data are managed and made public by AOOS through a grant from the Exxon Valdez Oil Spill Trustee Council.

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

Data are provided as ASCII files directly from originator. The originator submits data to the AOOS Research Workspace and then uses an auto-publication pathway to make the data available through the AOOS Gulf of Alaska data portal.

C. How can the information be accessed?

This project-specific data are available through the AOOS data portal in the native file formats (ASCII) provided by the data owner.

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

Data are shared in the same format as submitted by the originator. Data are available for download in the AOOS portal but not by exploration via interactive, graphical 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.

Data are uploaded by the originator to the AOOS Research Workspace using their secure user account. Data files are stored on servers in the AOOS data management system. The user elects data files to push from the Workspace to the AOOS Gulf of Alaska data portal for public-access. Data are available in the AOOS Gulf of Alaska portal through the access point but not via graphic display. Data files may be downloaded by the user from the AOOS data portal. A user request for CSV file pulls the data from the server cache.

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

Data are shared in the AOOS portals with descriptive project and file metadata describing the data and accompanying fields.

G. Are there ethical restrictions to data sharing?

No

a. If so, how will these be resolved?

These data may be freely used, but user is requested to please contact the originator with user information about data application and publications that result so the principals can keep their website updated and so they can continue keeping this time series funded.

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

The most recent data were provided by Dr. Tom Weingartner of the Institute of Marine Science, School of Fisheries and Ocean Sciences, University of Alaska Fairbanks in support of long-term monitoring at Gulf of Alaska oceanographic station GAK1. University of Alaska Fairbanks

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)

University, Researcher

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

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.

N/A

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 the originator(s), and some QC by AOOS (3G).

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

Detailed processing and QC procedures are available from the project PIs and some is documented on the project websites:

<http://www.ims.uaf.edu/gak1/>

<http://www.gulfwatchalaska.org/monitoring/environmental-drivers/gulf-of-alaska-mooring-gak1-monitoring/>

The mooring is serviced annually and all instruments (SBE 37 microcats) are calibrated at the manufacturer's facility following recovery. Typical expected temperature and salinity accuracies are +/- 0.02 in degrees C and PSU. Dates and times are listed in GMT. Data files are self-documented with the manufacturer's header records and additional notes as necessary.

After data conversion using the most recent calibrations, post processing followed by data corrections based on drift from post-recovery calibrations are completed, and the final step in the QC is hand-editing (manually) to remove data spikes and other "bad" measurements (not-automated). Only Pressure, Depth, Temperature, and Salinity fields are de-spiked.

Bad data points are replaced with delimiter 'NaN' in the data file.

a. Provide a link to any documented procedures.

N/A (These data were supplied as Metadata with the datastream)

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

AOOS applied 2 standard QC tests to the temperature and salinity data, both of which qualify as QARTOD tests.:

1. Syntax Test: checks for parity errors by testing if data can be extracted from the downloaded or scraped data. If no data can be extracted, the test fails, and no data are accessed, served or stored for that record.
2. Gross Range Test: This test checks data values against minimum and maximum values defined for each parameter. Water temperature range: 20-135 deg F; practical salinity 0-50; Values outside of the prescribed parameter ranges are rejected and replaced with missing value flags in data storage connected to access points and the graphic displays.
3. Time-Gap Check: AOOS implements a "time-gap check" that informs observational assets (e.g., weather stations) displayed on its "Real-Time Sensor Map". If no data are received from an existing observational station for four hours, the icon on the map changes from a scaled color to a small grey-shade dot. If no data are received from an existing observational station for one week, the asset is automatically removed from the map, although assets are still made available on a historical sensor map.

a. Provide a link to any documented procedures.

AOOS Data Assembly Center and Data Management Subsystem Plan, Section 4.4.4.

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?

Through an agreement with the Exxon Valdez Oil Spill Gulf Watch Program, AOOS is taking responsibility for archiving these Gulf Watch data with NCEI via a planned, automated pathway.

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

NCEI

C. Describe any transformation necessary for data preservation.

None

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

ISO-19115 metadata will be provided by data collector prior to archive.

