

1. DATA AND INFORMATION TYPES

A. Provide a contextual description of the data stream.

These sensors provide stream height observations taken from gauges stationed at various rivers across Alaska to provide information on water levels. With AOOS funding, AK DNR's Division of Geological & Geophysical Surveys (DGGS), in cooperation with the National Weather Service, has instrumented two bridges near communities along the Bering Sea (Unalakleet and Tununak) with sensors to monitor water levels in brackish areas near the open ocean. These gauges are intended to enhance the NWS storm surge forecasts in this region. In addition to these gauges, the National Weather Service maintains sensor service and prepares its forecasts in collaboration with agencies like the US Geological Survey, US Bureau of Reclamation, US Army Corps of Engineers, Natural Resource Conservation Service, National Park Service, ALERT Users Group, Bureau of Indian Affairs, and many state and local emergency managers across the country.

Website URL: Real-Time Sensors: Sensor: Stream Height: (may not be active in Winter)
<http://portal.aos.org/#module-metadata/5da59d98-59ad-11e1-a1da-0019b9dae22b/8c5dd704-59ad-11e1-bb67-0019b9dae22b>

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

116 Total water level stations from all sources.

9 of these are AKDNR stations: With support from AOOS, the Alaska Department of Natural Resources (AKDNR) is maintaining six and installing three new stations (2016-17) over tidal rivers in nine remote Alaska communities.

C. What are the specific parameters of the data.

The parameters include date, time, GPS (latitude and longitude), and stream height.

D. Provide information about the sampling platform or instrumentation.

The platforms include real-time water level gauges.

The AKDNR stations documented for this data stream are all bridge-mounted, Iridium satellite telemetered ultrasonic gages (iGages), built and tested by the NWS.

2. DATA PATHWAY

A. Is a data sharing agreement required?

No. Data are available publically.

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

Data are received by web harvest from the NOAA Water Resources Region, National Weather Service website.

C. How can the information be accessed?

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

- File Downloads (CSV)
- ERDDAP

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

Data are shared as CSV and through ERDDAP. Data are also available for exploration in the AOOS portals 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 downloaded from the source to the AOOS storage. Custom Java, Scala, and Python scripts are used to convert data formats suitable for internal and external interoperability services. Data are made available in the AOOS portals through the access points and via graphic displays generated through internal JSON-format data requests from these services.

Graphic displays include a mapping service, customized interactive visualizations, and time-series plots of the unit values wherein each parameter is graphed independently. Back-end scripts handle the conversion of visualized data from CF standards to other, non-CF units that may be requested by the user. Data files may be downloaded by the user from the AOOS data portal. A user request for a CSV file request pulls the data from the server cache. A user request for ERDDAP pulls data from the ERDDAP service using the same cache. For this data, no CF-standard names or units exist, therefore custom names of abundance_of_{scientific_name} are used. Refer to Appendix I for CF standards.

Summary statistics generated within the interactive graphical displays may be requested by the user. Summary statistics may include minimum, maximum and mean values. Seasonal statistics, available on time series longer than 3 years, include mean, and 10th and 90th percentiles. Note: the number of points visually available to interactive users from the source data are limited when necessary using temporal binning, such as daily, weekly, monthly, seasonally and yearly.

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

Data are shared in the AOOS portals with descriptive narratives describing the data and linking back to the NOAA National Weather Station metadata page for each sensor.

Example: http://water.weather.gov/ahps2/hydrograph_to_xml.php?gage=UNAA2

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?

NOAA Water Resources Region, National Weather Service

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)

Federal sourced data, though iGages are installed by a state agency.

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).

Real-time

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

Data quality control (QC) checks are performed by the NOAA Water Resources, NWS, and no further QC is required by AOOS.

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)

Quality controls fully implemented by originator.

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

Procedures by NOAA National Water Resources, NWS.

a. Provide a link to any documented procedures.

N/A

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

AOOS implements three additional QC checks on all real-time data, regardless of the source (i.e., Federal or non-Federal), including syntax, gross range, and timing gap tests. The AOOS Timing Gap Test changes the station color to a grey shade (“shade-flags”) on

the real-time sensors map display after 4 hours of missed data reports, and removes the station from the map (though not the archive) after a week of missed reports.

The gross range test currently does not address water level data, but will be incorporating a gross range test for non-federal real-time water level reported on the AOOS data portals within 12 months of certification (target June 2017).

a. Provide a link to any documented procedures.

AOOS Data Assembly Center and Data Management Plan, Section 4.4.4 (2016).

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 is aggregated for visualization and exploration with other layers in the AOOS data portal. AOOS stores the real-time and historical data on the AOOS data servers.

Archive for federally-sourced data follows NOAA National Weather Service guidelines and federal archiving is completed by the NOAA NWS.

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