

1. DATA AND INFORMATION TYPES

A. Provide a contextual description of the data stream.

WMO 46109 - Coastal Data Information Program (CDIP) station 204 data stream consists of coastal environment measurements taken in the vicinity of Lower Cook Inlet, Alaska. The station is operated by AOOS, and funded by AOOS/USACE. These data complement CDIP's core mission: measuring, analyzing, archiving, and disseminating coastal environment data for use by coastal engineers, planners, and managers, as well as scientists and mariners.

Website URL: Real-Time Sensor: Source: Alaska Ocean Observing System:

<http://portal.aos.org/#map?page=1&tagId=&q=&tags=&lg=8c5dd704-59ad-11e1-bb67-0019b9dae22b>

Website URL: Historical Sensor: Source: Alaska Ocean Observing System:

<http://portal.aos.org/#module-metadata/0cbe63ce-87aa-11e3-acbf-00219bfe5678/467dd946-87aa-11e3-9eb2-00219bfe5678>

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

1

C. What are the specific parameters of the data.

The parameters include GPS, date, time, wave height, peak period, wave direction, wave periodicity, air temperature, and sea surface temperature.

D. Provide information about the sampling platform or instrumentation.

The platform is a Wave buoy (Datawell Mark 3 directional buoy).

2. DATA PATHWAY

A. Is a data sharing agreement required?

Data are available publically.

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

Data available from web harvest to the originator's site:

<http://cdip.ucsd.edu/?nav=recent&stn=204&units=english&tz=UTC&xitem=pm>

C. How can the information be accessed?

The data are made available through the AOOS data portal, where it 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} were 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 CDIP website where FGDC-compliant metadata is available.

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?

Alaska Ocean Observing System

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 Sourced data from CDIP Program (Coastal Data Information Program-University of California, San Diego). CDIP is operated by the Ocean Engineering Research Group (OERG), part of the Integrative Oceanography Division (IOD) at Scripps Institution of Oceanography (SIO).

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.

CDIP is an active member of the QARTOD (Quality Assurance of Real-Time Ocean Data) effort. All CDIP data served by the AOOS Data System, including the AOOS owned lower Cook Inlet CDIP buoy, are all managed by CDIP network through Scripps/UCSD, where extensive buoy validations and other QC tests are performed on the real-time data. Wave measurements checks include: extreme values test, spike test, mean shift test, flat episodes test, mean crossing test, equal peaks test, acceleration test, and period distribution test.

Details on these QC procedures can be found in the linked [CDIP QC Documentation](#). Summary tables of quality control measures that have been developed for both waves and in-situ currents can be accessed at the following link:
http://cdip.ucsd.edu/documents/index/product_docs/qc_summaries/waves/waves_table.php

The QC procedures provided by CDIP preclude AOOS from any additional QC implementation or documentation. Regardless, as with all data ingested by AOOS, the standard syntax, gross range and time gap checks are applied to these data (3G).

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 CDIP Program.

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

Extensive buoy validations and other QC tests are performed by CDIP. Wave measurement checks include: extreme values test, spike test, mean shift test, flat episodes test, mean crossing test, equal peaks test, acceleration test, and period distribution test.

a. Provide a link to any documented procedures.

[http://cdip.ucsd.edu/?nav=documents&sub=index&units=metric&tz=UTC&pub=public&map_stati=1,2,3&xitem=proc&xtxt=data_QC\(http://cdip.ucsd.edu/?nav=documents&sub=index&units=metric&tz=UTC&pub=public&map_stati=1,2,3&xitem=proc&xtxt=data_QC\)](http://cdip.ucsd.edu/?nav=documents&sub=index&units=metric&tz=UTC&pub=public&map_stati=1,2,3&xitem=proc&xtxt=data_QC(http://cdip.ucsd.edu/?nav=documents&sub=index&units=metric&tz=UTC&pub=public&map_stati=1,2,3&xitem=proc&xtxt=data_QC))

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

After data are ingested, AOOS applies 3 standard QC tests regardless of the source:

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 the following parameters (Appendix H): Wave height range (0 and 20 meters); wave direction range (-360 and 360 degrees); surface water temperature (20 and 135 deg F). Wave Period is currently not gross range tested by AOOS. A gross range tests is completed for air temperature range (-130 to 135 deg F). 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?

Data are 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.

The CDIP program, which is the source of the data, archives the data and submits all CDIP data to NCEI for long-term preservation.

AOOS will be capable of archiving data with NCEI via a planned, automated pathway, but will not redundantly submit CDIP data to NCEI, unless requested.

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

NCEI, submitted by CDIP.

C. Describe any transformation necessary for data preservation.

NetCDF

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

FGDC-compliant metadata is currently available through CDIP with a link provided through the AOOS data portal.