1. DATA AND INFORMATION TYPES

A. Provide a contextual description of the data stream.

The Tuluwat Island shore station is maintained by the Wiyot Tribe's Natural Resources Department who share the data with California Polytechnic State University, Humboldt and CeNCOOS. The station has been operational since 2004 and consists of subsurface sensors mounted rigidly to a piling.

The sensors provide near-real-time observations of water salinity, conductivity, temperature, dissolved oxygen, turbidity, pH, depth, and chlorophyll fluorescence. Near real-time data from the sensor became available 2/19/16 and is available in 15 min increments.

For more information or to access archived water quality data since 12/2004 (chlorophyll fluorescence data since 10/2013) visit the Wiyot Tribe's website.

The stations can be accessed through the CeNCOOS data portal: http://l.axds.co/2EQihcu

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

There is 1 station location:
Tuluwat Island (40.81503N, 124.1572W)

C. What are the specific variables of the data.

The variables for the Island Island station include:
mass_concentration_of_chlorophyll_in_sea_water,sea_water_temperature,mass_concentration_of_oxygen_in_sea_water,fractional_saturation_of_oxygen_in_sea_water,sea_water_practical_salinity,sea_water_ph_reported_on_total_scale,turbidity

D. Provide information about the sampling platform or instrumentation.

A YSI 6600 V2 measuring salinity, temperature, dissolved oxygen, chlorophyll fluorescence, turbidity and pH is attached PVC still well 3.5 meters below MLLW, attached to a single pilling off the North-eastern corner of Indian Island, CA. The instrument is networked using a cellular network.

2. DATA PATHWAY

A. Is a data sharing agreement required?

The data may be used and redistributed for free but is not intended for legal use, since it may contain inaccuracies. Neither the data Contributor, ERD, NOAA, nor the United States Government, nor any of their employees or contractors, makes any warranty, express or implied, including warranties of merchantability and fitness for a particular purpose, or assumes any legal liability for the accuracy, completeness, or usefulness, of this information.

B. In which format(s) was data received by CeNCOOS?

Data are received by CeNCOOS as CSV files via FTP. Axiom gets this data directly from YSI Storm Central.

C. How can the information be accessed?

The data are available through the CeNCOOS 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 via the CeNCOOS data portal. Data are also available for exploration in the CeNCOOS portals via interactive, graphical visualizations. Data are available from web harvest via the CeNCOOS website to the originator's THREDDS site.

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

Data are downloaded from the source to the CeNCOOS 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 CeNCOOS 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 CeNCOOS 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.

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?

Metadata are shared in the CeNCOOS portals with descriptive narratives describing the data and linking back to the originator's site. Metadata are also available via ERDDAP:

Tuluwat Island: https://erddap.axds.co/erddap/info/64322/index.html

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?
Wiyot Tribe and CeNCOOS

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)
Tribal

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:
Tuluwat Island

C. If real-time, list the QARTOD procedures that are currently applied.
Two of the five required QARTOD tests for weather variables are being applied by AOOS: Syntax and Gross Range Tests. Refer to CeNCOOS Data Management System plan for details.

D. If real-time, list the QARTOD procedures that are planned for implementation.
Remaining required tests are planned for implementation by December 31, 2018.

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

F. Describe the data control procedures that were applied by the originator.
Contact the data provider for availability of QC information.

a. Provide a link to any documented procedures.
N/A

G. Describe the data control procedures that were applied by CeNCOOS.
N/A

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 was aggregated for visualization and exploration with other layers in the CeNCOOS data portal. If the data provider chooses to archive these data at a national archive in the future, they may do it directly, or using the CeNCOOS-facilitated pathway to NCEI.

B. Which long-term data storage facility will be used for preservation?
Real-time and near real-time data are automatically archived to NCEI from CeNCOOS. Archived datasets can be viewed at https://www.nodc.noaa.gov/ioos/

For more information about CeNCOOS archival practices see DMP Section 4.8 Data Archival

C. Describe any transformation necessary for data preservation.
Data are formatted to NCEI specifications for archival. See DMP Appendix H1.1 NCEI Archival Agreement for descriptions of NCEI archival methods.

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