1. DATA AND INFORMATION TYPES

A. Provide a contextual description of the data stream.

Data collection was supported by multiple awards to University of California at Santa Cruz and an award from NOAA's Integrated Observing System to the Central and Northern California Ocean Observing System at the Monterey Bay Aquarium Research Institute (NA21NOS0120090).

The Santa Cruz shore station is maintained by University of California at Santa Cruz and is part of the Santa Cruz Ocean Observing Platform (SCOOP) located at the Santa Cruz Wharf. Seawater is pumped from approximately 1 m below the water surface as part of a flow through system of instruments that analyze the data and report values every 5 minutes. The site has been operational since 2011 and consists of both in-water an meteorological sensors. These sensors provide near-real-time observations of ocean water salinity, temperature, dissolved oxygen, chlorophyll fluorescence, turbidity and pH. For more information visit the SCOOP site.

The station can be accessed through the CeNCOOS data portal: http://l.axds.co/2CHn91u

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

There is 1 locations:
Santa Cruz, Santa Cruz, CA (36.960646N, 122.020263W)

C. What are the specific variables of the data.

The variables for Santa Cruz include:
sea_water_pressure,mass_concentration_of_chlorophyll_in_sea_water,sea_water_temperature,sea_water_electrical_conductivity,mass_concentration_of_oxygen_in_sea_water,fractional_saturation_of_oxygen_in_sea_water,sea_water_ph_reported_on_total_scale,turbidity

D. Provide information about the sampling platform or instrumentation.

The Santa Cruz shore station consists of a pump which pumps water up from 1 meter below MLLW into a flow cell that contains the YSI 6600V2 sonde. The site is located at the Santa Cruz Municipal Wharf in Santa Cruz. A Weatherhawk Met station located on the roof of the SCW Municipal Offices, 40m above sea level.

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 retrieved and archived instruments using the instrument manufacturers (YSI) proprietary software and subscription service, Storm Central (formerly ECONet). Data retrieved by CeNCOOS as CSV files via FTP. CeNCOOS creates NetCDF files from these and posts them on the legacy THREDDS server for Axiom to harvest for ingestion into the data portal. http://legacy.cencoos.org:8080/thredds/dodsC/shorestations/

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:

Santa Cruz: https://erddap.axds.co/erddap/info/48323/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?
University of California, Santa Cruz 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)
University

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:
Santa Cruz

C. If real-time, list the QARTOD procedures that are currently applied.
Two of the five required tests are currently applied: 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