

1. DATA AND INFORMATION TYPES

A. Provide a contextual description of the data stream.

Monitoring at three fixed stations is supported by multiple awards to Moss Landing Marine Laboratory 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 Moss Landing Shore Station is owned and operated by Moss Landing Marine Labs (MLML), a consortium facility of seven California State University campuses. The station is located in the MLML pump house in Moss Landing, CA. Water from offshore is pumped up to a facility on land where the water flows through sensors. These sensors provide near-real time observations of ocean water salinity, temperature, dissolved oxygen, chlorophyll fluorescence, turbidity and pH. The offshore intake pipe draws water from a depth of 17 meters. The Moss Landing shore station data is collected and provided by [Moss Landing Marine Lab](#). For more information on their coastal monitoring programs visit <http://seawater.mlml.calstate.edu>. Data can be accessed through the CeNCOOS data portal at: <http://l.axds.co/2ERja4l>

The Moss Landing Marine Laboratories Weather Station is owned and operated by Moss Landing Marine Labs (MLML), a consortium facility of seven California State University campuses. The station is located at the pump house facility at MLML in Moss Landing, CA and has been in operation from 2000 to the present. This site provides near-real time meteorological measurements of the following variables: air temperature, Wind speed and direction, wind gust, barometric pressure, precipitation, dew point, relative humidity, and solar radiation. Data is sampled at 1 second intervals and then averaged over an entire minute and recorded. All data is collected using a Zeno 3200 Data Acquisitioner and provided through Moss Landing Marine Labs. For more information visit <http://pubdata.mlml.calstate.edu/>. Data can be accessed through the CeNCOOS data portal at: <http://l.axds.co/2BN6Hjn>

The Monterey Wharf Shore Station is owned and operated by Moss Landing Marine Labs (MLML), a consortium facility of seven California State University campuses. The station is located underneath the end of the commercial wharf (wharf II) in Monterey, CA. The wharf station currently consists of a mpHOx sensor and a ECO-FLNTU sensor. These sensors have replaced the YSI sensor that had been deployed at the wharf. T. Data can be accessed through the CeNCOOS data portal at: <https://l.axds.co/3KWv4h2>

All stations can be accessed through the CeNCOOS data portal: <http://l.axds.co/2ChPG1V>

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

There are 3 station locations:

(MLSC1) Moss Landing Marine Laboratories Shore Station, 36.801248, -121.790539

Moss Landing Marine Laboratories Weather Station, 36.800358, -121.788462

Monterey Commercial Wharf Shore Station, 36.6051, -121.8894

C. What are the specific variables of the data.

The variables for (MLSC1) Moss Landing Marine Laboratories Shore Station include:

sea_water_temperature,sea_water_electrical_conductivity,mass_concentration_of_oxygen_in_sea_water,fluorescence,sea_water_practical_salinity,sea_water_ph_reported_on_total_scale

The variables for Moss Landing Marine Laboratories Weather Station include:

wind_speed,air_pressure,wind_from_direction,photosynthetically_active_radiation,lwe_thickness_of_precipitation_amount,wind_speed_of_gust,air_temperature,dew_point_temperature,relative_humidity

The variables for Monterey Shore Station include:

mass_concentration_of_chlorophyll_in_sea_water,sea_water_temperature,sea_water_electrical_conductivity,mass_concentration_of_oxygen_in_sea_water,mass_concentration_of_oxygen_in_sea_water_optical,sea_water_practical_salinity,sea_water_ph_reported_on_total_scale,turbidity

D. Provide information about the sampling platform or instrumentation.

The instrumentation for the (MLSC1) Moss Landing Marine Laboratories Shore Station includes:

Seabird SBE19 CTD

AADI Oxygen Optode 3835

C-Star Transmissometer, 10 cm

WETStar Fluorometer

Honeywell Durafet III

The instrumentation for the Moss Landing Marine Laboratories Weather Station can be found on the provider's website under the sensor descriptions:

http://pubdata.mlml.calstate.edu/weather/Descriptions/Sensors_home.html

All data is collected using a Zeno 3200 Data Acquisitioner.

The Monterey Wharf station includes:

mpHOx

ECO-FLNTU

See CeNCOOS shorestation Standard Operating Procedure (SOP) for more information:

https://www.cencoos.org/wp-content/uploads/2020/03/cencoos_Standard_Operating_Procedures.pdf

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?

Moss Landing Shore Station and Met Station data are retrieved from the source web site as csv files. For more information see the originator's website:

<http://pubdata.mlml.calstate.edu/weather/index.html>

Monterey Shore Station data are retrieved from the source web site as csv files.

http://pubdata.mlml.calstate.edu/mlml_last/Monterey_wharf/

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:

(MLSC1) Moss Landing Marine Laboratories Sea Water Station:

https://erddap.cencoos.org/erddap/tabledap/mlml_mlml_sea.html

Moss Landing Marine Laboratories Weather Station:

https://erddap.cencoos.org/erddap/tabledap/mlml_mlml_met.html

Monterey Shore Station:

<https://erddap.cencoos.org/erddap/tabledap/monterey-wharf-real-time-samplin.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?

Moss Landing Marine Laboratories 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:

(MLSC1) Moss Landing Marine Laboratories Sea Water Station

Moss Landing Marine Laboratories Weather Station

Monterey Shore Station

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

Moss Landing Marine Laboratory has decided that they will QC the data using their own versions of QARTOD. Data is screened for sensor manufacturer range, site specific range, data gaps, spikes, and flatlining data.

The QARTOD methods are described here:

http://pubdata.mlml.calstate.edu/mlml_last/seawater/1_README.txt

D. If real-time, list the QARTOD procedures that are planned for implementation.

No further QARTOD tests are planned.

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.

For more information: http://pubdata.mlml.calstate.edu/mlml_last/seawater/1_README.txt

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.

http://pubdata.mlml.calstate.edu/mlml_last/seawater/1_README.txt

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.ncei.noaa.gov/access/integrated-ocean-observing-system/>

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