

Monitoring Estuarine Water Quality with Data in the Classroom

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SCED 530

Lessons from the Ocean: Science on the Water Planet

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One of the mini labs that I decided to complete was the “Monitoring Estuarine Water Quality with Data in the Classroom”. This activity leads students through learning about how the quality of water is measured and then for them to conduct their own research and study. This was probably one of my favorite activities. One of the reasons being is that I love story maps. I really believe that story maps are a great way to make learning fun and exciting. I love the incorporation of the assessment right after the readings. I have been wanting to do something like this for students to go through, and this model is so easy to follow.

Reference

NOAA. The Incredible Journey. Monitoring [Estuarine Water Quality with Data in the Classroom](#) ([arcgis.com](#))

Monitoring Estuarine Water Quality with Data in the Classroom

- Introduction
- Level 1
- Level 2
- Level 3
- Level 4
- Level 5
- Get Data
- Teachers Guide

How to Use Get Data

The data tool allows you access to water quality and weather data from National Estuarine Research Reserves all over the country. Both real time and historical data are available. Instructions to use the tool are below:

- To begin, select a location by clicking a circular green icon.
- There may be multiple stations within a location that take water quality or meteorological (weather) data. Choose the station that best meets your needs, also pay attention to the Active Dates - some stations have longer histories of data than others.
- After clicking the station, in the popup box, click the blue link at the top to select the station.
- On the Choose Data tab, you will mostly select the Graph Data option for these activities, but you can also download the data with the other selections.
- Graphing the data - choose the parameter of interest and the date range. Click Graph.
- All graphs are interactive.
- You can optionally download the graph as an image.

NATIONAL ESTUARINE RESEARCH RESERVE SYSTEM
 Centralized Data Management Office

[Home](#)
[About CDMO](#)
[About Data](#)
[Get Data](#)
[Web Services](#)
[Science Collaborative](#)

1. Choose Reserve
Elkhorn Slough
2. Choose Station
3. Choose Data
Export Data
4. Get Data

Enter station code [Go >](#)

Department of Commerce | NOAA | National Ocean Service | Office for Coastal Management | NMFS | Technical Support provided by NOAA's National Estuarine Research Reserve System, Centralized Data Management Office.

Analyzing Temperature Data in Estuaries

Water quality conditions are monitored in each of five National Estuarine Research Reserves using instruments called **data loggers**. These loggers continuously track water quality conditions in an estuary like the Chesapeake Bay and help scientists to understand how water quality conditions change over time. If oxygen, temperature or other conditions fall outside of what's normal for a given time period, the health of animals and plants living within the estuary could be at risk.

Explore the estuaries within the National Estuarine Research Reserve System (in right), locate an estuary that is close to where you live. If possible, click to view details about this estuary.

Question 1 Which of the following water quality parameters is continuously monitored at each of the reserves?

- Air Temperature
- Water Temperature
- Leaf
- Humidity

Check my answer

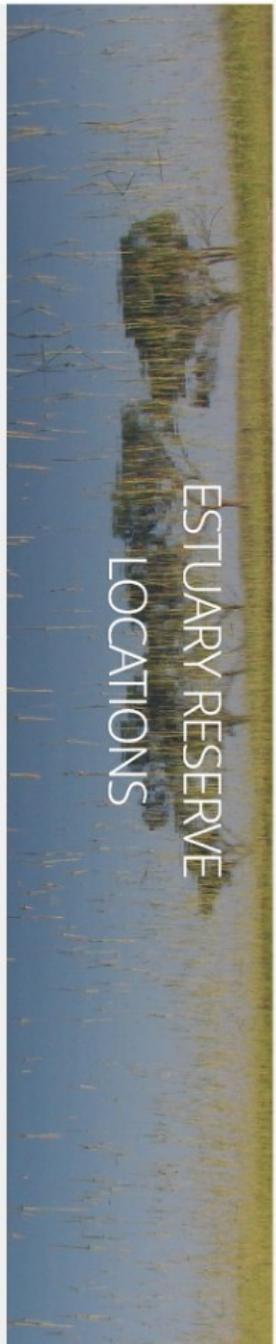
Right answer!
Try Again

Analyzing Seasonal Water Temperature Data

Water temperature is one important indicator of habitat quality for many estuarine species. The temperature of the water not only determines what types of plants and animals are able to live in the estuary, it also affects how quickly things grow, reproduce and move around. If the water in the estuary is outside the normal range for which the local organisms are adapted, it could be an indication that something is seriously affecting the health of the estuary.

Let's take a virtual trip to the San Francisco Bay estuary to investigate water temperature. The red scores show the locations of each of the four real-time data loggers that collect continuous water quality data.

Click here to view water temperature data from one of these data loggers. Hover your mouse or click on the data points to view the temperature data for each data logger.



Twenty-nine coastal sites make up the National Estuarine Research Reserve System. Explore your local reserve to learn about weather and water data, volunteer opportunities, education programs, and so much more. Use the reserve map below or contact an Education Coordinator.

