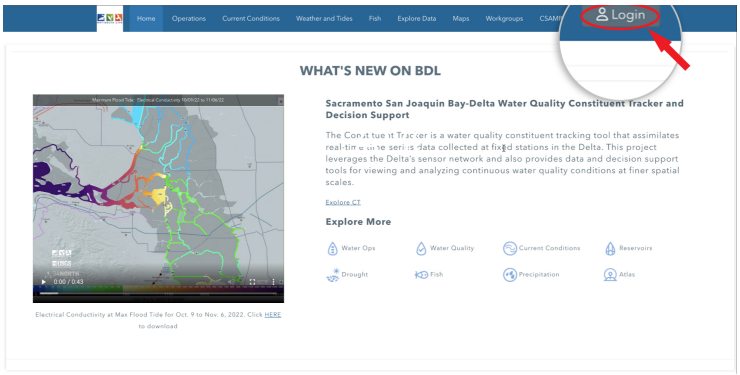
1 Explore Data and Graphing

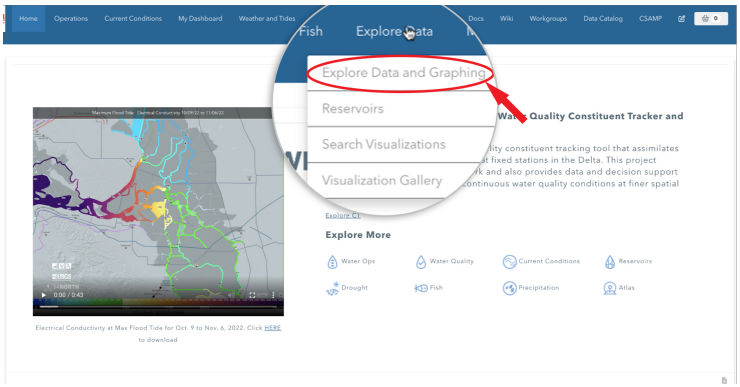
introduction

Login: https://www.baydeltalive.com/login - It will be helpful to login and/or create a free account to access the advanced features of Bay Delta Live. You will be able to save to your maps and graphs when logged in.



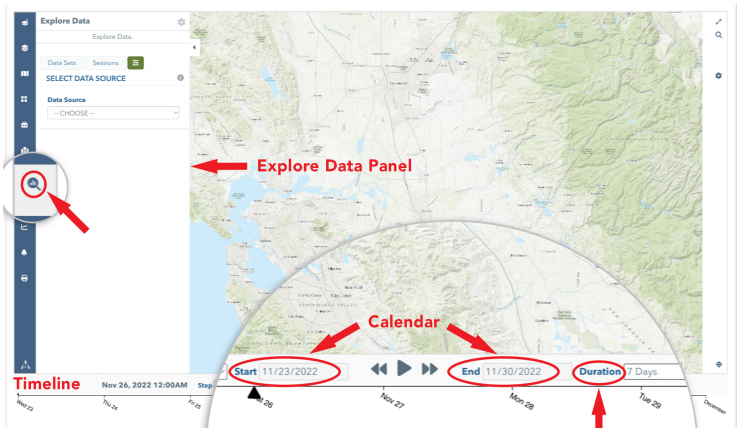
Homepage

Navigate to the Explore Data section from the main BDL tool bar and selection "Explore Data and Graphing"



Explore Data Dropdown

The Explore Data Panel is open.



Explore Data Page

Here you will be able to:

- Explore Data Sets
- Filter sensors
- Graph Data
- Download data

The Explore Data Interface is designed to fit your browser height. Scroll down to view the Timeline.
Timeline: Used to view data points across the time duration/start and end dates.
Time Duration Dropdown: Preset Time Duration

- "– –" Select this option to Configure specific start and end dates using the calendar at the "Start" and "End" window.
- Today (retrieves data for the last 24 hours)
- 3 Days (retrieves data from current day back 3 days)
- 7 Days (retrieves data from current day back 7 days)
- 14 Days (retrieves data from current day back 14 days)
- 21 Days (retrieves data from current day back 21 days)
- 30 Days (retrieves data from current day back 30 days)
- 60 Days (retrieves data from current day back 60 days)
- 365 Days (retrieves data from current day back 365 days)

- Next 7 Days (retrieves forecast data (NOAA Services) from current day forward 7 days)
- Next 14 Days (retrieves forecast data (NOAA Services) from current day forward 14 days)
- Next 21 Days (retrieves forecast data (NOAA Services) from current day forward 21 days)
- Next 30 Days (retrieves forecast data (NOAA Services) from current day forward 30 days)
- Fixed Start Date: Use this setting for a saved map using the Calendar Start Date to Current Day

A 7 Day Duration is the default. You can choose fixed durations or select specific start and end dates.

2 EXPLORE DATA

introduction

Time Controls Use the "Duration" drop down to set a Duration or Specific Start and End Dates. *Note: After data is loaded you can always change the time extents and click "GO". The system will load all previous data with the new time extents.
Use the Map: The Explore Data tools uses the map extents to filter data spatially. To start exploring data, use your mouse to pan and zoom (using your mouse wheel or double clicking on the map). You can also Shift + Click to draw a zoom box on the map. **DATA SOURCE Drop:** Use the Data Source drop down menu to select from

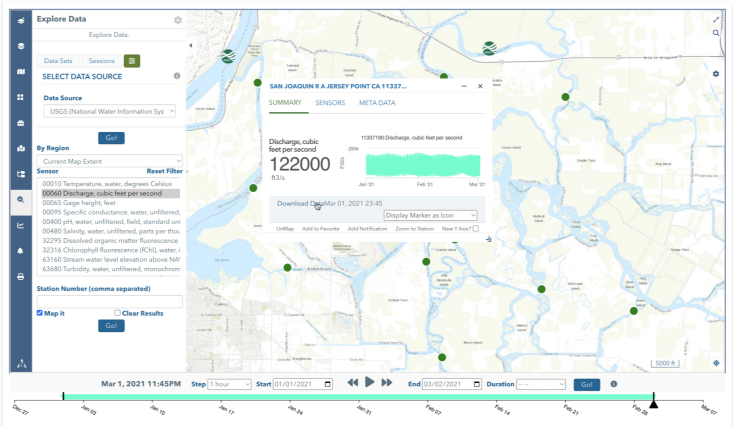
- CDEC (California Data Exchange Center). https://cdec.water.ca.gov
- NOAA Weather Service
- NOAA River Forecast
- NOAA Tide Predictions
- USGS (National Water Information Service)

There are slight variations in how to fetch data based on which dataset you choose.

USGS (National Information Systems):

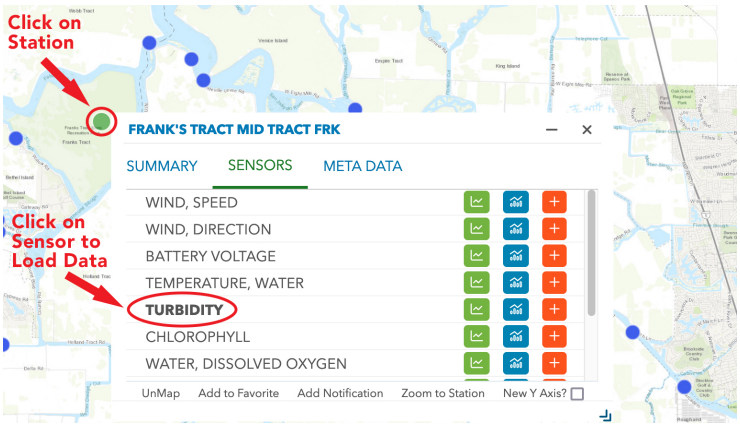
The Sensor List shows the all the data sensors collected by USGS across the United States. To filter the types of sensors that are located within your area of interest, zoom and pan the map to your area of interest and click "**GO**". This maps the stations within your map extent. Now, click the "Filter by Map Extent". This will filter the Sensor list to the sensors that are within your map extent. textbfYou can now collect data one of two ways.

1. Option 1: Find a senor in the sensor list. Select the sensor and click GO. The stations that collect your selected sensor will turn to a sold green icon. You can click on each station to view the data loaded for your selected timeframe.



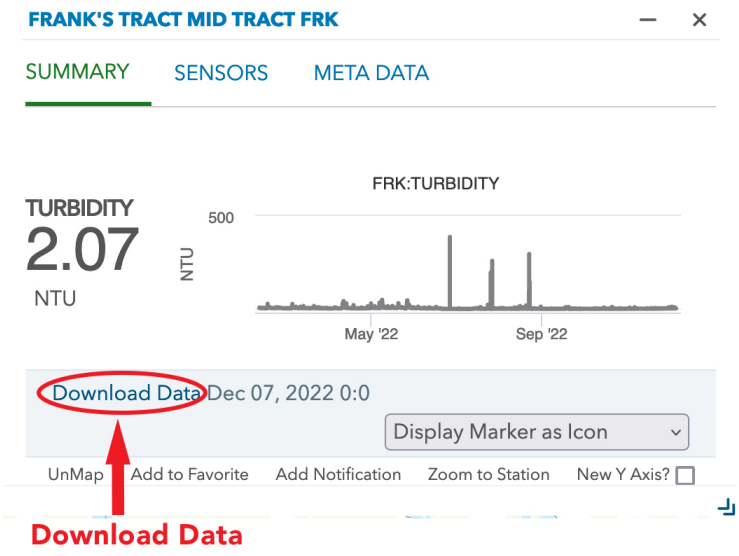
NWIS data 1

2. Option 2: From the mapped stations, click on the station icon on the map. The station badge will open, and you will see a list of sensors in the list. Click on the sensor title and load the data.



Badge Load Data

When the data is loaded, the Summary tab opens to review the data. A Download Data button is available.



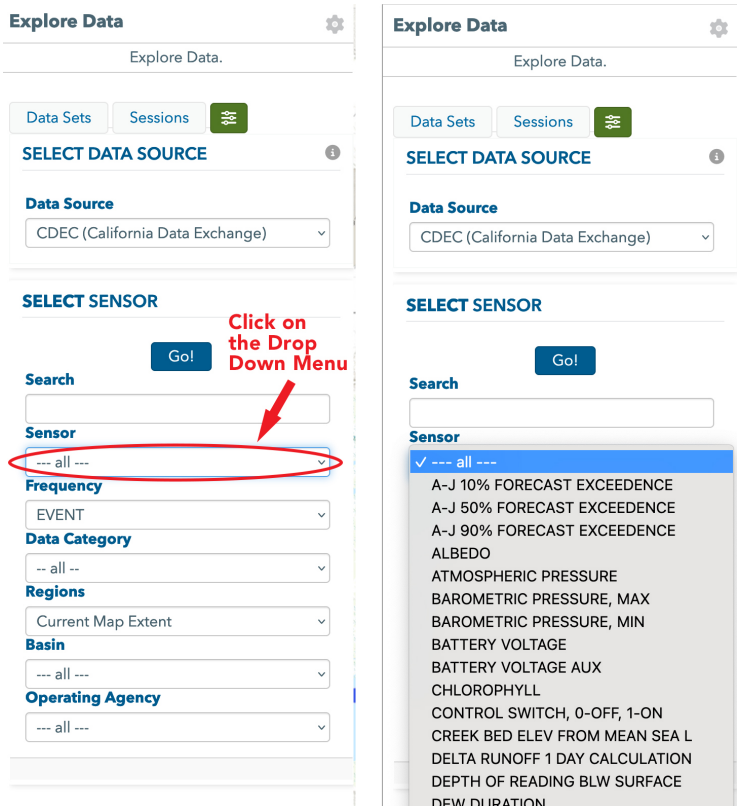
Badge Summary

CDEC (California Data Exchange Center):
Select CDEC (California Data Exchange) from the Data Source menu drop down
Geographic Search: Zoom/pan the map to your area of interest.

1. Option 1: Click "**GO**". This maps the stations within your map extent. From the mapped stations, click on the blue station icon from the map.

The station badge will open, and you will see a list of sensors. Click on the sensor title to load the data. This loads the selected sensor for ONLY the station selected. This is useful for individually selecting different stations and different sensors. The stations have loaded the selected sensor and will turn to a sold green icon.

2. Option 2: Load a specific sensor for all the stations in the map extent. Zoom/pan the map to your area of interest. Find a senor in the sensor list drop down list.



Explore Data tab

Select the sensor and click "**GO**". The stations that collect your selected sensor will turn to a sold green icon, OR they will load a predefined unique icon. You can click on each station to view the data loaded for your selected timeframe.

NOAA (National Weather Service):

The NOAA data services offer current and forecast data. Select a Duration option such as Next 7 Days. Select a sensor from the sensor list. You can select multiple sensors by Command + Clicking sensor (Mac) or Option + Clicking sensor (PC). Once your senor(s) are selected you have two options.

1. Click “Single Point” - you will be prompted to click a location on the map and add a unique title.
2. Select “Whole Grid”. This will plot a point grid across the map extents.

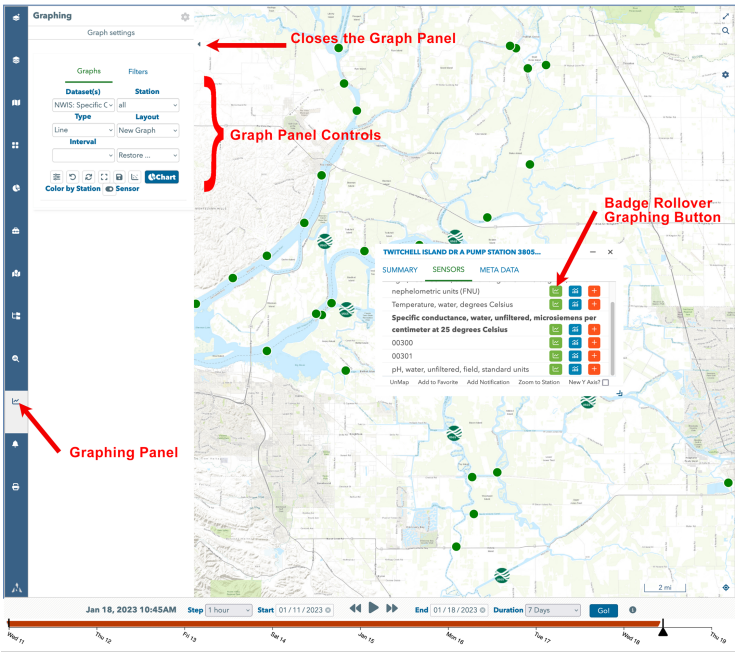
Click on the station icon to view the data.
NOAA (River Forecast):
Geographic Search: Zoom/pan the map to your area of interest. Select a sensor from the list: 2 Options: 1. River Stage (primary). 2. Flow (Secondary) Click “**GO**”.
NOAA (Tide Predictions): Geographic Search: Zoom/pan the map to your area of interest. Select a sensor from the list. The “6 minute predictions water level data for the nation” loads the tidal prediction data. Select a Datum Click “**GO**”.

3 GRAPHING DATA

Step 3

There are 2 ways to graph data:

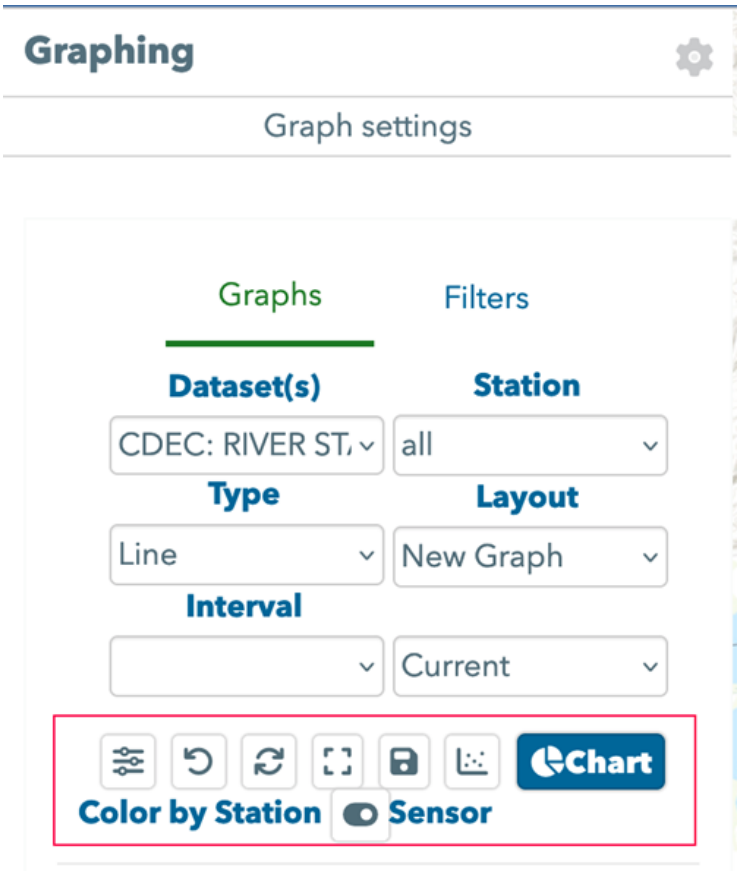
1. Option 1: From the Graphing Panel Controls
2. Option 2: From the Station Badge Rollover



1. Graphing Panel Controls

    - Datasets Dropdown Menu: Select the Dataset to graph.
    - Station Dropdown Menu: Select ALL to graph all the stations or select individual stations
    - Type Dropdown: Select from various types of graph options:
        - Line, Spline, Point, Column, Column (Stacked), Area, Area (Stacked), Pie, Detail, Scatter.
    - Layout Dropdown: Select from layout types:
        - New Graph, Overlay, Dual (overlays dual axis for different sensors), Tiles (used for the Station Dropdown = All. Graphs each station of the same sensor in individual graph panels).
    - Interval Dropdown: Defaults to All
    - Restore Dropdown: This option pertains to saved graph configurations. If you have an existing saved graph (typically loaded from a saved map), it will show up in this dropdown as an option.

There are a series of icons below the dropdown options:



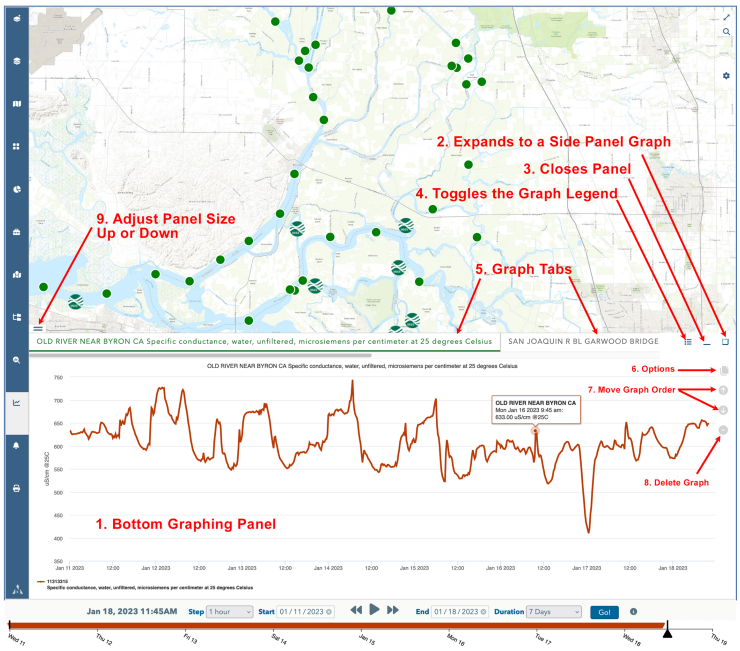
Icons below Dropdowns

- Plotlines: Add plotlines on the active graph
- Undo Last: Undo last graph drawn.
- Clear Charts: Clears all graphed charts in the session.
- Save Map/Graph: This option saves the graph configuration along with saving the map with the loaded stations/sensors. *Must be logged in.
- Regression Mode: This option is for building regression graphs (dataset dependent).
- Chart: This draws the graph.
- Color by Station or Sensor Toggle: Toggles graph colors per sensor color (preset sensor type color scheme) or station (each sensor graphed will be colored the same per station).

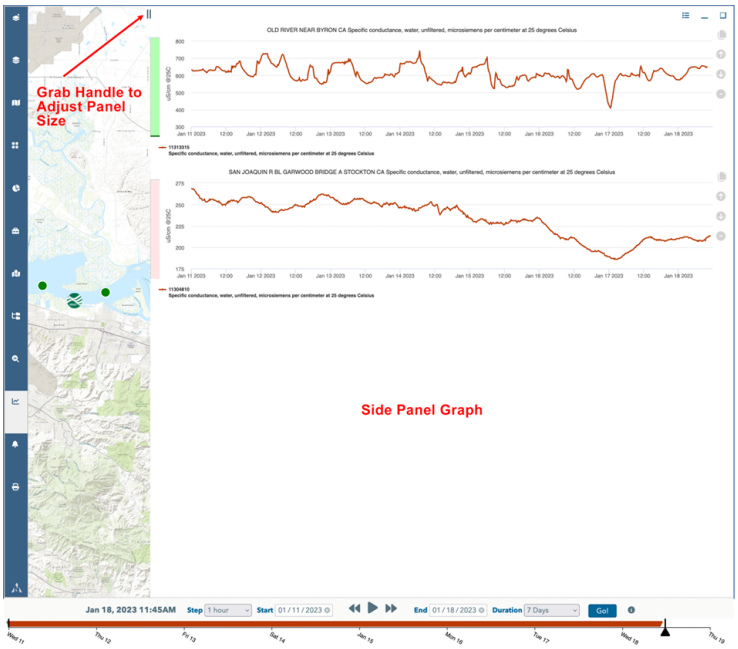
Graph Panel Graphing Methods:

1. Load Data
2. Select a Dataset from the “Dataset(s)” dropdown menu.
3. Select a station or select all from the “Station” drop down menu.
4. Select a Graph type using the “Type” dropdown menu.
5. Select a layout type from the “Layout” dropdown menu.
6. Click “CHART” - this draws the graph and a Graph Panel appears at the bottom of the map. Close the Graph Panel using the Arrow (See above graphic) to view the entire Graph Panel.

Graph Panel:



1. Bottom Graphing Panel: This panel can be viewed on the bottom of the map (default).
2. The Graph Panel can be toggled between bottom and side panel by clicking on button 2.

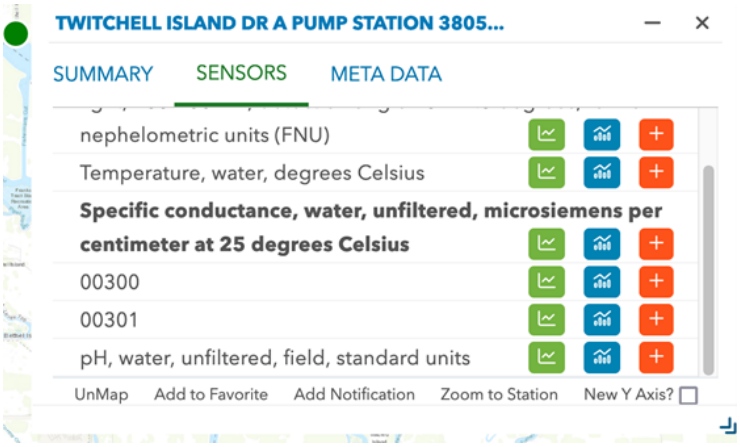


3. Closes the Panel to either the bottom or side of the map. You will see a gray bar signifying the panel has been minimized. Click on the gray bar to expand.
4. Toggles the graph legend on or off
5. Toggles between Graph Tabs. Use the light grey bar below the graph tab titles to scroll through multiple graph tabs.
6. Options: Mouse over this window to view graph options:
   (a) General Options:
      i. Change Graph Title, Graph Size, Graph Type, Switch between single or dual axis.
      ii. Properties: Change the Max Y and Min Y scale (good for outliers).
      iii. Click on Graphed Sensor to change Series Type, Series Style, Graph Color.
   (b) Print
   (c) **Download:** JPG, PNG or CSV
7. Move Graph Order.
8. Delete the Graph .

9. Adjusts the Graph Panel size.

Zoom Graph: Mouse over the graph, find an area to zoom in click and drag the mouse over the area of interest to zoom in. Click Reset Zoom to view extents.

Station Roll Over and Graphing Options

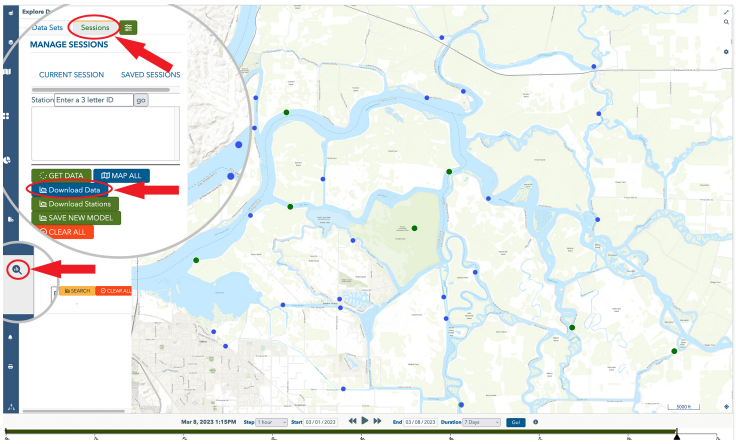


4 DOWNLOAD DATA

Step 4

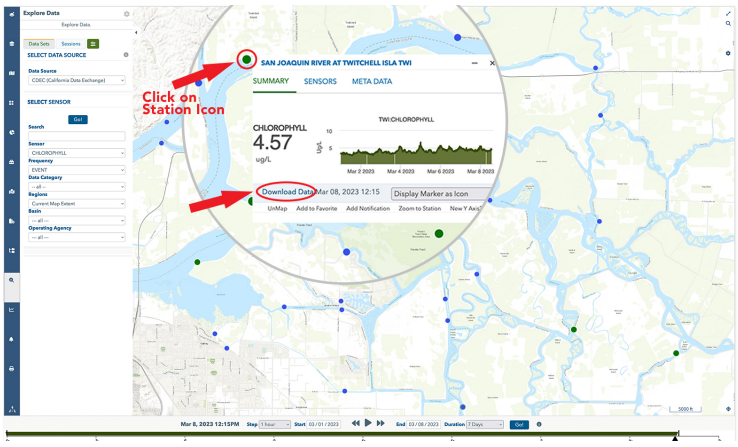
There are multiple ways to download your loaded data.

1. From the Explore Data Panel: Click on the "Sessions" tab. Click Download. This option downloads all data loaded.



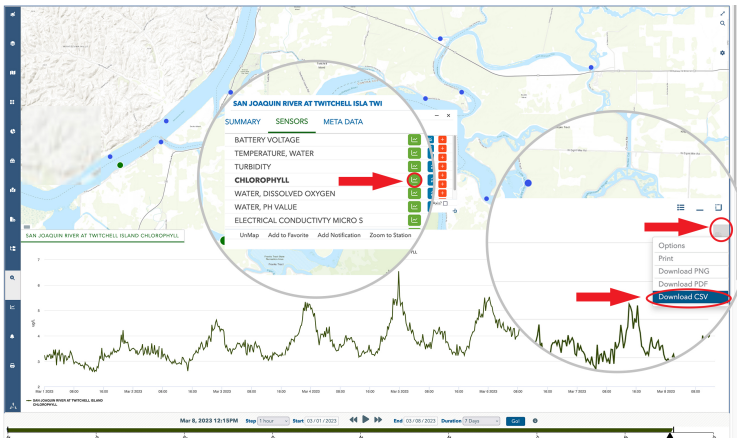
Explore Data Sessions

2. From the Station Rollover - Summary Tab. Click the “Download Data”. This option downloads data for sensor selected.



Badge Rollover Download Data

3. From the Graphing Window, Click on the Options Icon and select your download file type. This options downloads all the data that is in the selected graph panel.



Graph Download Option