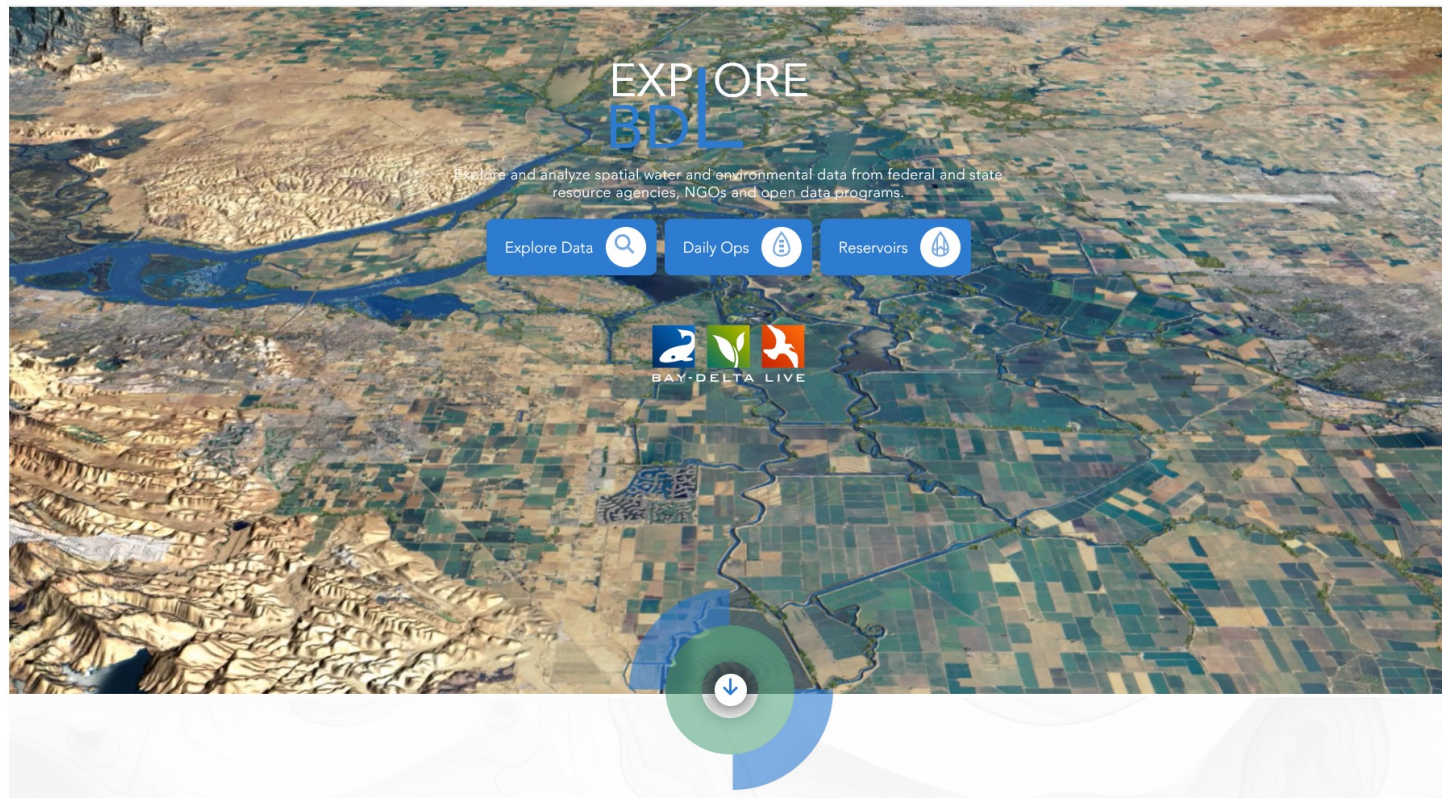




**Bay Delta Live Data Discovery and Analysis Presentation to the IEP**  
April 18, 2024



www.baydeltalive.com (BDL)


# Presentation Overview

- ✓ **User Community 2022-23**
- ✓ **BDL Overview**
- ✓ **Partners and Investments**
- ✓ **What is BDL?**
- ✓ **Review of Past Work**
- ✓ **2024 New Data and Tools**




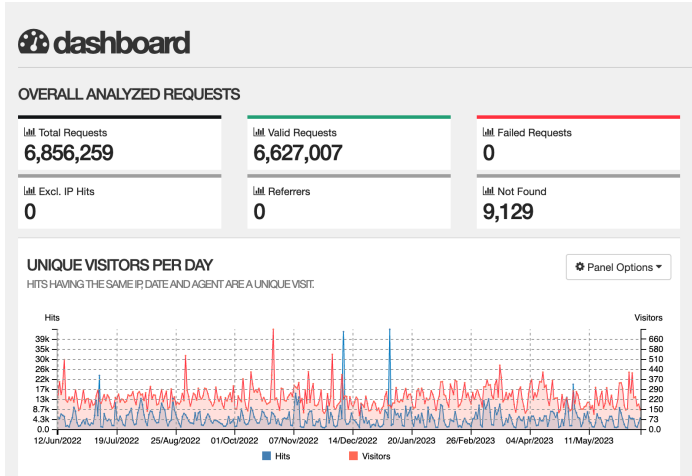
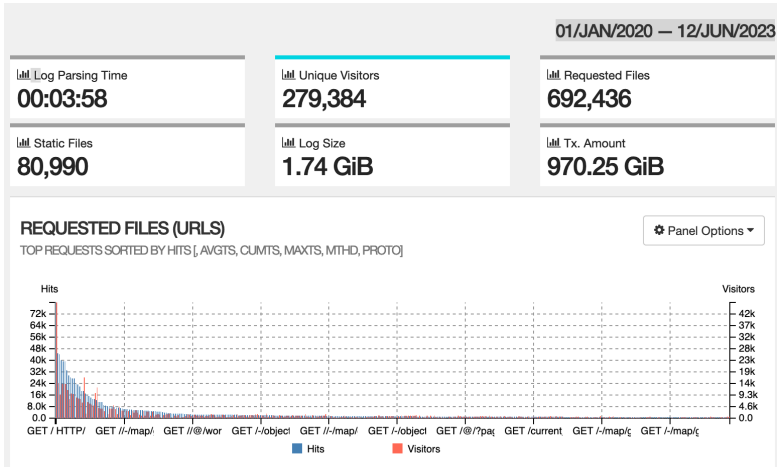


User Community 2020-2023

 Requested Files

**692,436**

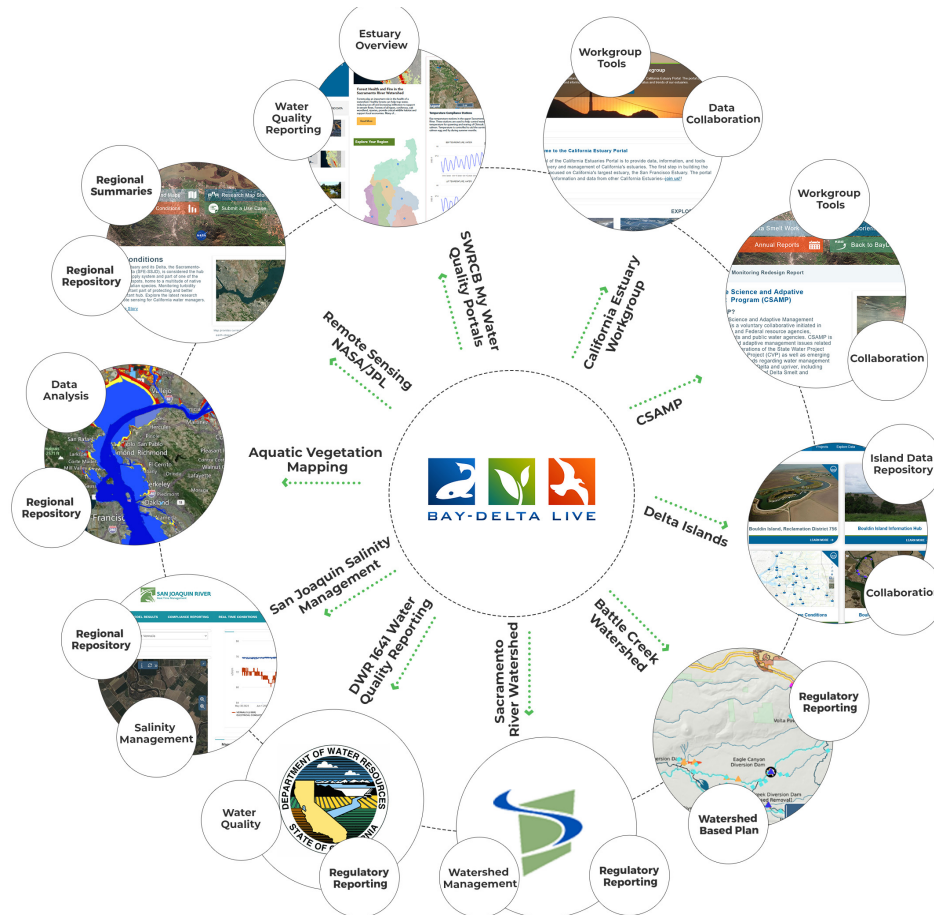
 Unique Visitors  
**279,384**



## Funding Partners & Regional Programs

## Community Investment

- ✓ **SFCWA**
- ✓ **USBR**
- ✓ **DWR Environmental Monitoring**
- ✓ **State Water Contractors**
- ✓ **MWD**
- ✓ **JPL/NASA**
- ✓ **CalFire**
- ✓ **Sierra Nevada Conservancy**
- ✓ **Battle Creek Conservancy**
- ✓ **SWRCB**
- ✓ **RCDs & FSCs**
- ✓ **Delta Science Council**





- ✓ **Open Data Access and Visualization Platform**
- ✓ **API Consumer- Data Federation that aggregates data from hundreds of sources. NWIS, CDEC, NOAA, DWR, USBR, USFWS, CADFWS, Academia, NGOs, NASA, OpenET, AGOL**
- ✓ **Creates a Common Operating Picture with current conditions**
- ✓ **Web application provides tools use federated data through custom templates, dashboards, maps**
- ✓ **Sensor network observations. View many monitoring programs in one location**
- ✓ **Map based/spatial data analytics**
- ✓ **Provides collaborative and special project workspaces (Forest Health, Battle Creek, Fisheries, CSAMP, Islands, Estuary Workgroup, Remote Sensing)**

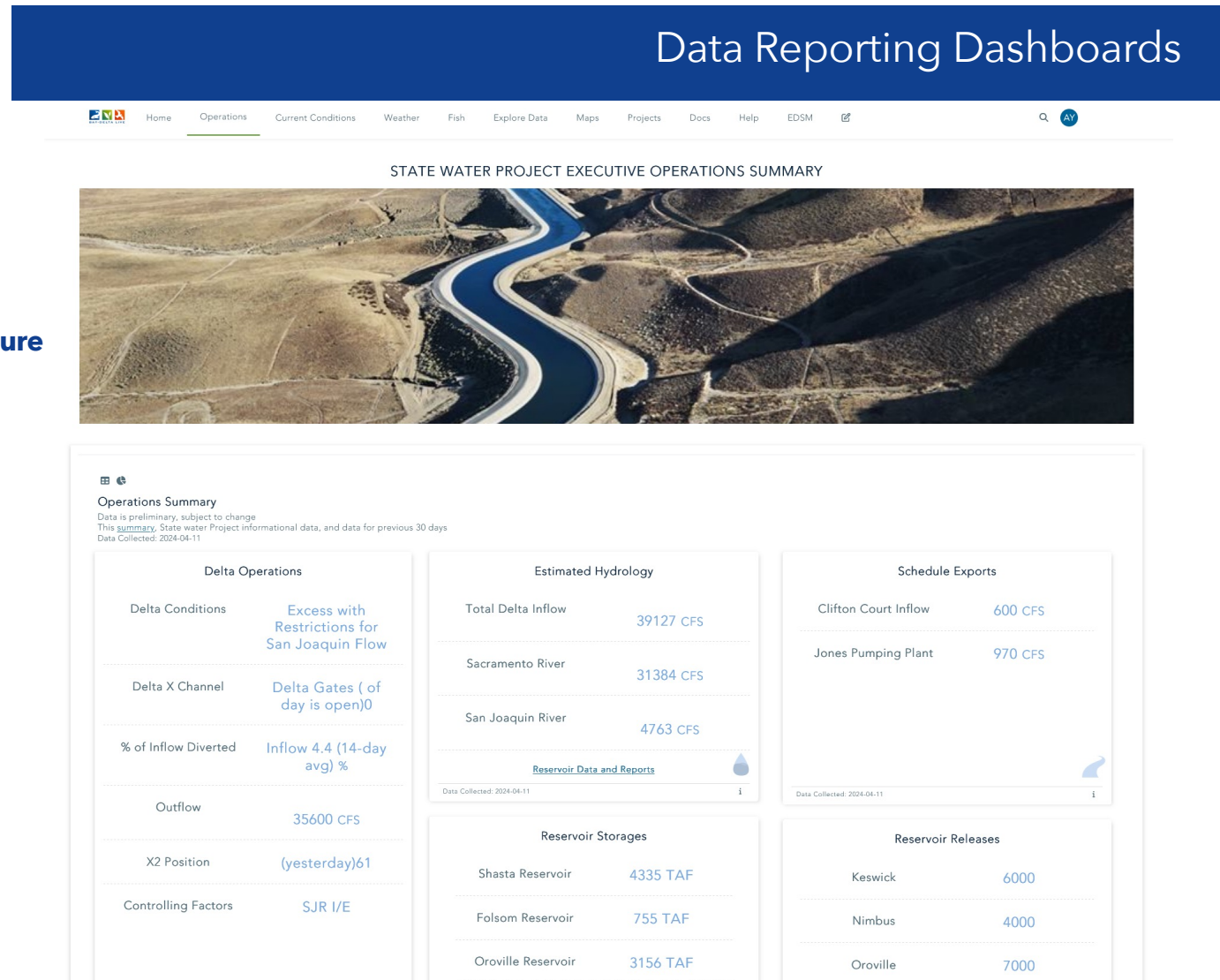
# Data Reporting Dashboards

## What Do They Do?

- ✓ Present disparate data in one UI
- ✓ Simplify Access to Important Data
- ✓ Present a Common Operating Picture
- ✓ Report on Delta Conditions
- ✓ Easy Reporting

## Who is Using it?

- ✓ Managers
- ✓ Mobile App Community
- ✓ Workgroups
- ✓ Operations






Environmental Indicators of Fish Migration <sup>i</sup>  
Key river flow and water temperature station data help managers better understand salmon migration.

<div>Wilkins Slough (WLK)</div> <div>Flow, Mean Daily</div> <div>13885.0 CFS</div> <div>Threshold: &gt; 7500 CFS</div> <div>Data Collected: 2024/04/11</div>	<div>Mill Creek (MLM)</div> <div>Flow, Mean Daily      % Change</div> <div>373.0 CFS              8.7</div> <div>Threshold: &gt; 95 CFS      Threshold: &gt; 50 %</div> <div>Data Collected: 2024-04-10</div>	<div>Deer Creek (DCV)</div> <div>Flow, Mean Daily      % Change</div> <div>446.75 CFS              0.8</div> <div>Threshold: &gt; 95 CFS      Threshold: &gt; 50 %</div> <div>Data Collected: 2024-04-10</div>	<div>Wilkins Slough (WLK)</div> <div>Water Temperature</div> <div>59.043 °F</div> <div>Threshold: &lt; 56.3 F (13.5 C)</div> <div>Data Collected: 2024-04-10</div>
--	---	--	--

Old and Middle River Operations

<div>-1807.0 CFS</div> <div>Data Collected: 2024/04/10</div>	<div>Old and Middle River (OMR)</div> <div>Tidally Filtered Estimate Flow, Mean Daily</div> <div>i</div>	<div>-871.0 CFS</div> <div>Data Collected: 2024/04/10</div>	<div>Old River at Bacon Island (OBI)</div> <div>Flow, Mean Daily</div> <div>i</div>	<div>-644.0 CFS</div> <div>Data Collected: 2024/04/10</div>	<div>Middle River at Middle River (MDM)</div> <div>Flow, Mean Daily</div> <div>i</div>
<div>-1010.0 CFS</div> <div>Data Collected: 2024/04/09</div>	<div>NWIS Old River at Bacon Island (OBI)</div> <div>Discharge, Tidally Filtered</div> <div>i</div>			<div>9261 CFS</div> <div>Data Collected: 2024-4-10</div>	<div>QWEST</div> <div>Discharge, Tidally Filtered</div> <div>Net Flow at Jersey Point</div> <div>i</div>

<div>Old Middle River Index Calculation Water Year 2024</div> <div>Preliminary Data - Subject to Change (*** Computed from available USGS Tidally Filtered Data)</div>		
<div>-2350 CFS</div> <div>Daily Average</div>	<div>-2460 CFS</div> <div>5-Day Average</div>	<div>-2500 CFS</div> <div>14-Day Average</div>
<div>Data Collected: 02/29/24</div>		

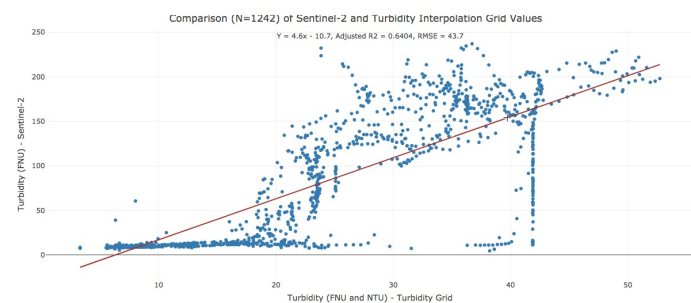
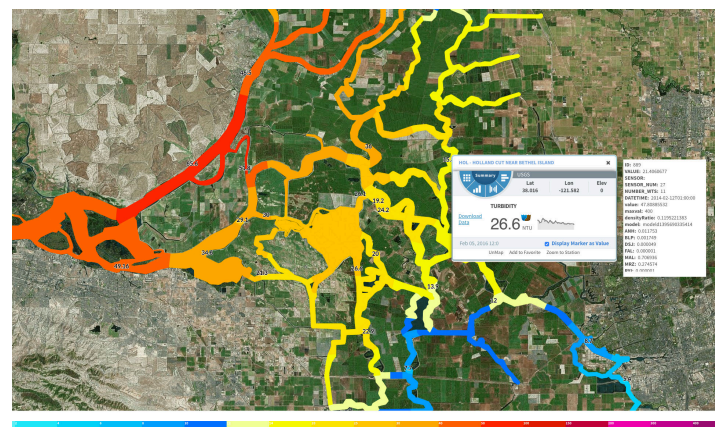
# Constituent Tracker – Drought Monitoring and First Flush

## What Does it Do?

- ✓ **Data Assimilation Model**
- ✓ **Animated Spatial Maps for Real Time Constituent Tracking**
- ✓ **View Data at both 15-minute intervals or a Constant Point in Tide**
- ✓ **Advance data modeling algorithms**
- ✓ **Collaboration with USGS**

## Who is Using it?

- ✓ **Drought Monitoring**
- ✓ **Trawl Managers**
- ✓ **Science Community**
- ✓ **Water Ops**





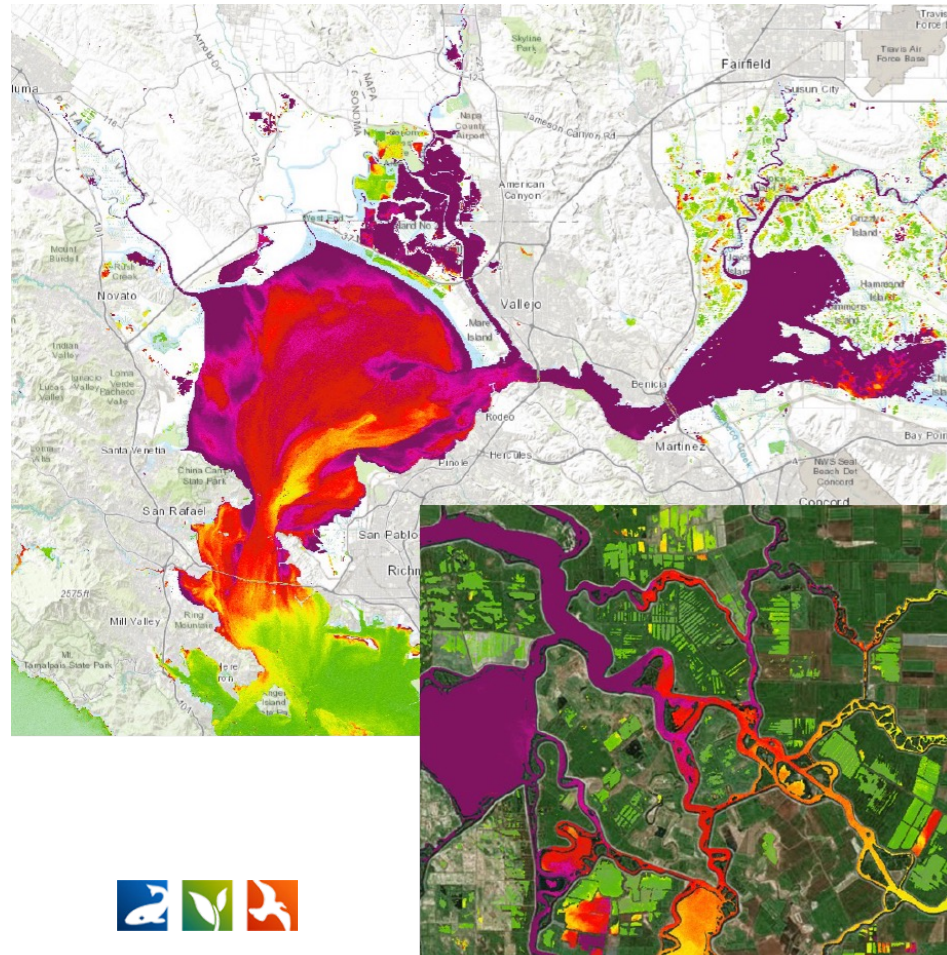
## Remote Sensing -NASA/JPL Collaboration

### What Does it Do?

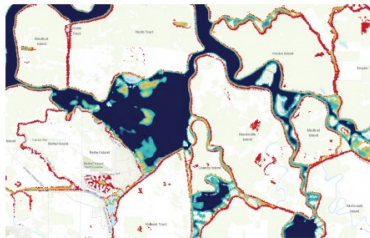
- ✓ Provides data and decision support tools to view and analyze current research in the remote sensing space
- ✓ Repository for Remote Sensing Data for and by the science community

### Who is Using it?

- ✓ Managers
- ✓ Science Community
- ✓ Water Ops

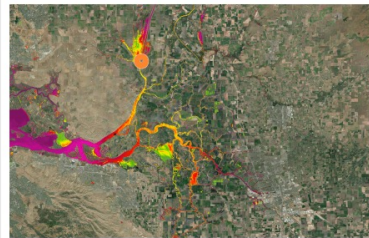


# Geospatial Resources from Open Data Portals



## San Francisco Bay Landsat Temperature & EDISM Fisheries...

Water surface temperature maps were derived from the Land 8 sat Level 2 Collection 2 dataset and validated using thermal radiometer data collected from 2008-2019 from a validation site on a platform in the Salton Sea (RMSE = 0.78, r...

[View](#)

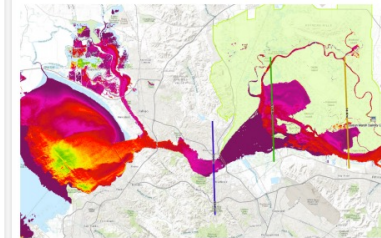
## EDSM and L8 Nechad Turbidity

San Francisco Bay L8 Nechad Turbidity paired with Enhanced Delta Smelt Monitoring program catch data for all species of concern. EDSM set to monthly summaries.

[View](#)

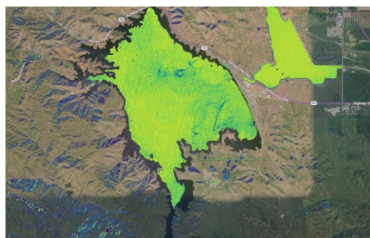
## San Francisco Bay Mishra Chlorophyll 2016-2021

Sentinel 2 Chlorophyll Data Products using Mishra algorithm combined with the Bay Area Aquatic Resource Inventory for Wetlands (2015) used to explore the area for potential habitat types required for species restoration.

[View](#)

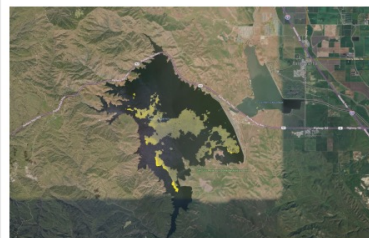
## Suisun Marsh Turbidity During 2018 Gate Actions

This map displays turbidity in the Suisun Marsh during the 2018 Suisun Marsh Salinity Control Gates Actions. For all seven acquisitions considered from June 29 to September 27, 2018, turbidity conditions in Bays and Sloughs sub-regions were consistently higher (and...

[View](#)

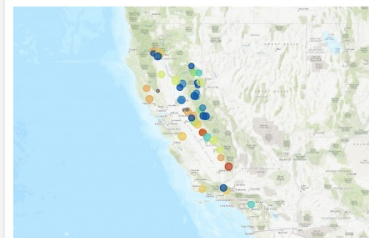
## San Luis Reservoir Mishra Chlorophyll Map

This map displays chlorophyll-a concentrations in San Luis Reservoir derived from Sentinel 2 Imagery. The imagery was processed using the Mishra algorithm. Imagery is time enabled and can be explored using the timeline.

[View](#)

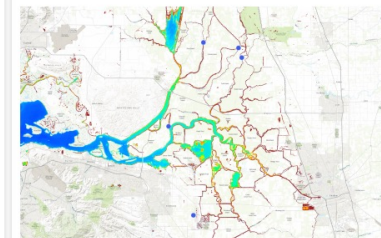
## San Luis Reservoir L8 OC3 Chlorophyll Map

This map displays chlorophyll-a concentrations in San Luis Reservoir derived from Landsat 8 Imagery. The imagery was processed using the OC3 algorithm. Imagery is time enabled and can be explored using the timeline.

[View](#)

## Reservoir Summary Conditions Map

This map shows near real time reservoir capacity at the major reservoirs across the state. Data retrieved daily from the California Data Exchange Center.

[View](#)

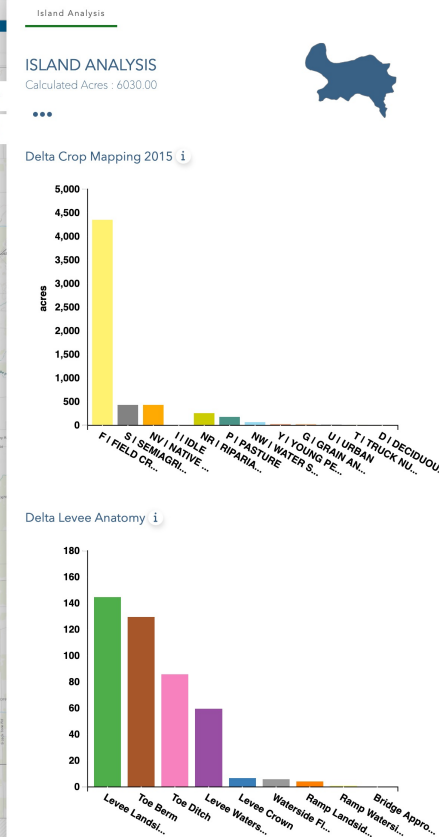
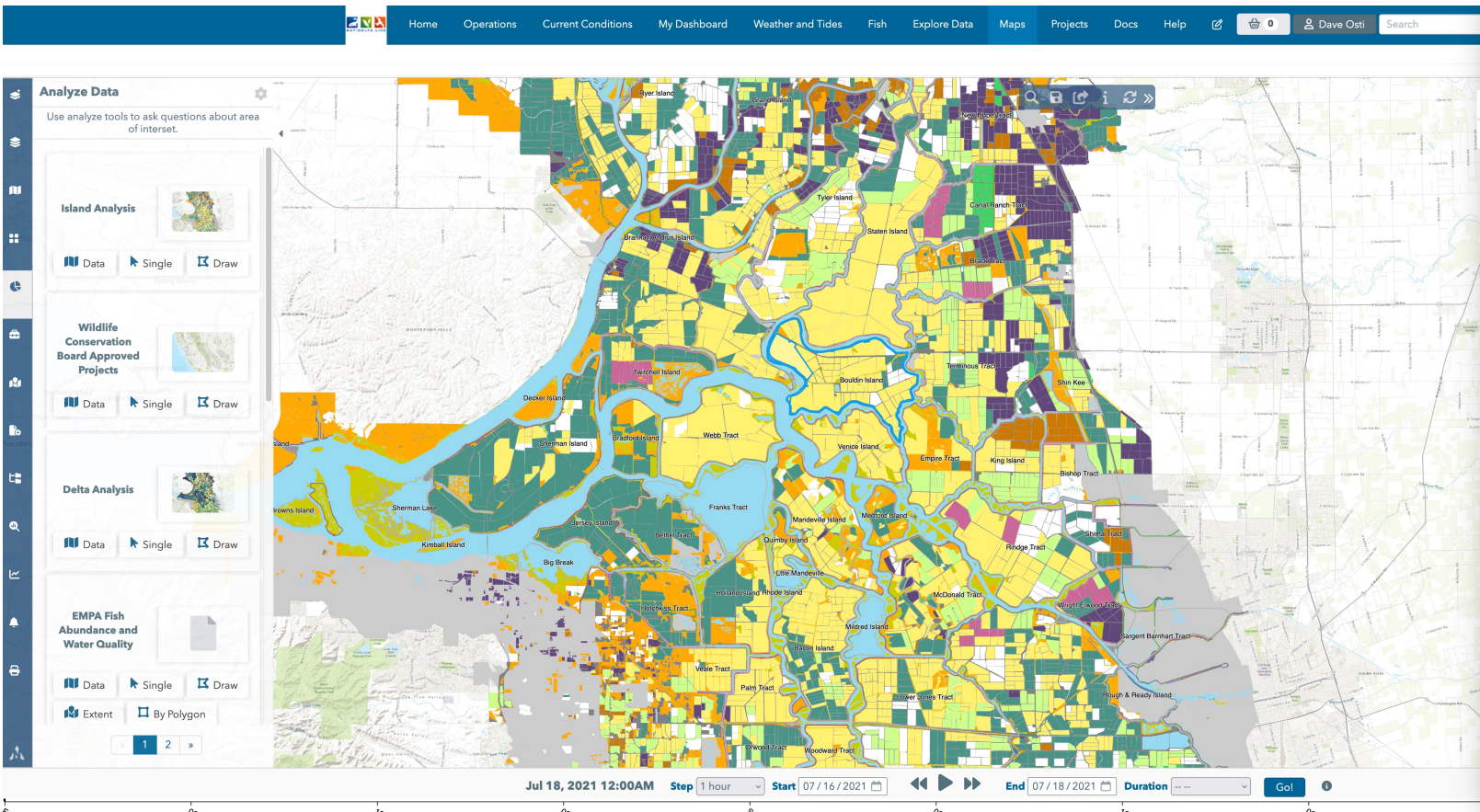
## Landsat and CDEC stations for Water Temperature Spring...

Landsat Temperature data paired with 5 Celsius real time stations in the Sacramento San Joaquin Bay Delta. Color scale ranges from 10-28.6 Degree Celsius.

[View](#)



# Geospatial Resources – GIS Reporting





Legend

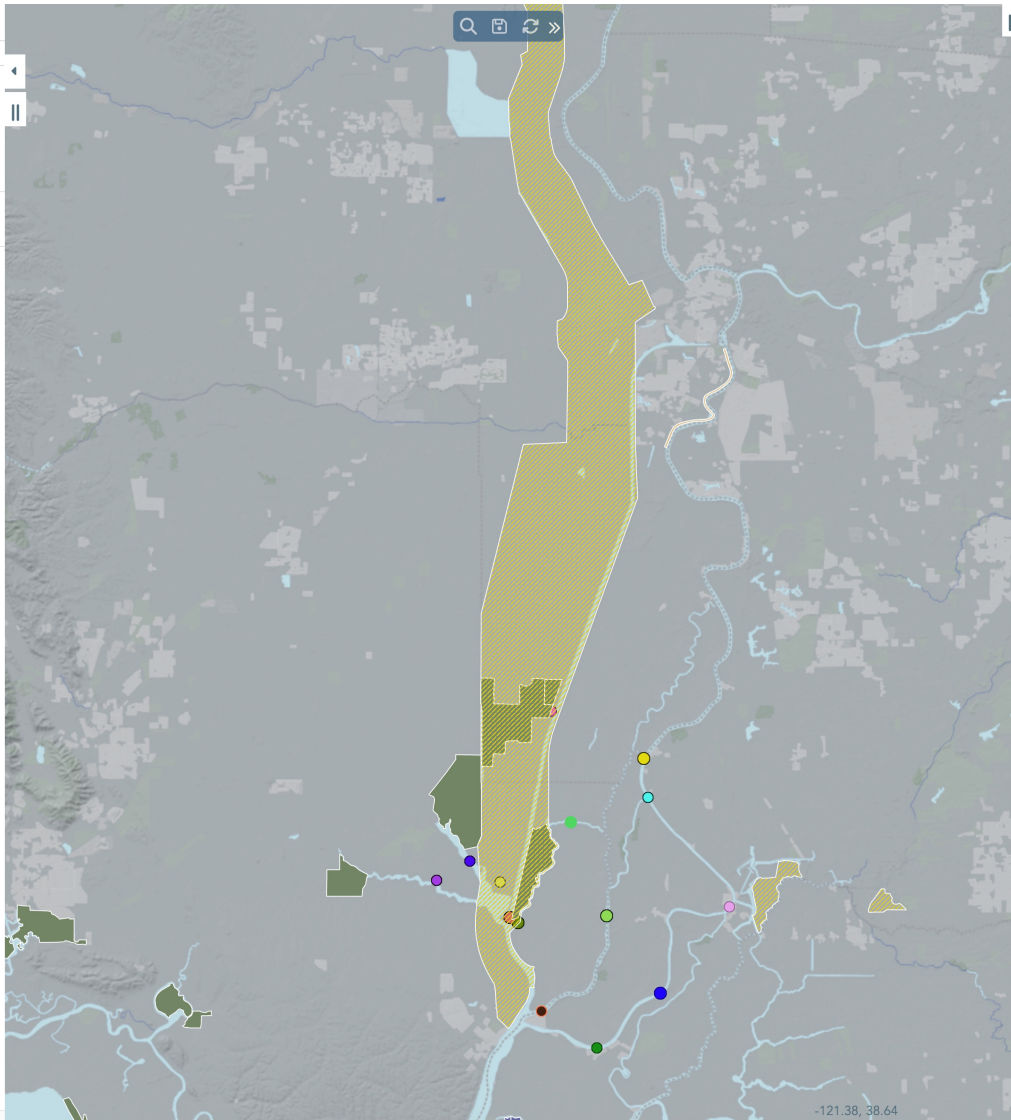
Description of of data and symbology

EcoRestore Polygons 2019/11/08

- Intertidal
- Floodplain
- Emergent Wetlands
- Levee Setback

USGS\_Pilot\_Studies\_Isotopes

Blue



EcoRestore Polygons 2019/11/08 x

Filter by Text

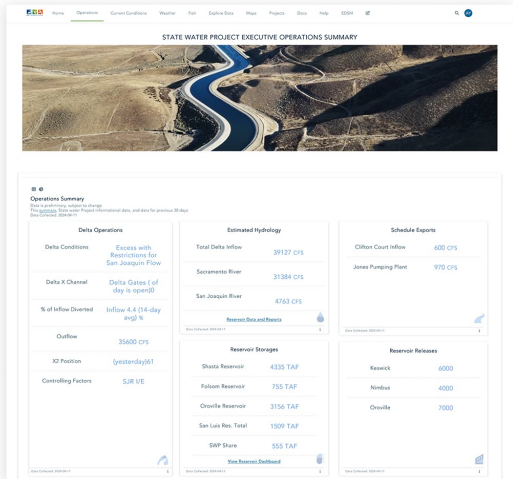
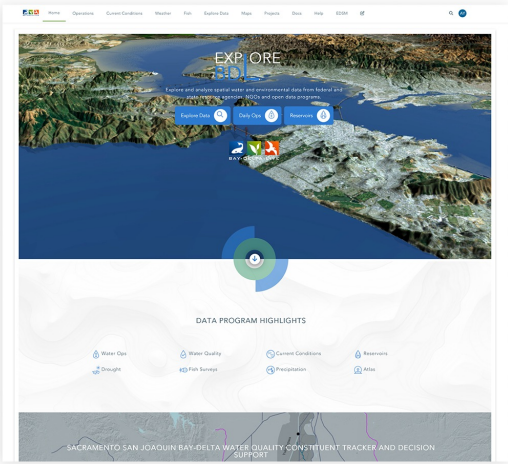
Name	Ownership	Restoratio	Project_St	Total_S
Decker Island Tidal Restoration	DWR	Intertidal	Complete	140
Yolo Bypass Floodplain Restoration	DWR	Floodplain	Permitting	17500
Twitchell Island - Setback Levee	DWR	Levee Setback	Permitting	0
Twitchell Island - West End Wetland	DWR	Emergent Wetlands	On-hold	0
Twitchell Island - East End Wetland	DWR	Emergent Wetlands	Complete	800
Southport Levee Setback and Floo...	West Sacramento Flood Control Ag...	Levee Setback	Construction	0
Sherman Island Belly Wetland	DWR	Emergent Wetlands	Permitting	1500
Sherman Island - Mayberry Farms ...	DWR	Emergent Wetlands	Complete	307
Sherman Island - Whale's Mouth W...	DWR and RD341	Emergent Wetlands	Complete	600
Chippis Island Tidal Restoration	DWR	Intertidal	Planning	909
Sherman Island - Mayberry Slough ...	DWR	Levee Setback	Complete	0
Winter Island Tidal Restoration	DWR	Intertidal	Construction	590
Dutch Slough Tidal Marsh Restorati...	DWR	Intertidal	Construction	1187
Hill Slough Tidal Restoration	CDFW	Intertidal	Permitting	950
McCormack Williamson Tract	DWR	Floodplain	Permitting	1600
Prospect Island Tidal Restoration	DWR	Intertidal	Permitting	1609
Grizzly Slough Floodplain Project	DWR	Floodplain	Permitting	400
Flyway Farms Tidal Restoration	Private	Intertidal	Complete	359
Lower Yolo Tidal Restoration	Westlands	Intertidal	Permitting	3408
Lookout Slough Tidal Restoration	Private	Intertidal	Permitting	3400
Lindsey Slough Enhancement Project	CDFW	Intertidal	Complete	228
Wings Landing Tidal Restoration	Private	Intertidal	Permitting	270
Tule Red Tidal Restoration	SFCWA	Intertidal	Construction	2000
Bradmoor Island Tidal Restoration	DWR	Intertidal	Permitting	749
Arnold Slough Tidal Restoration	DWR	Intertidal	Permitting	280



- ✓ **Explore.baydeltaalive.com**
- ✓ **Operationalize Water Data Library**
- ✓ **Operationalize ECOSTRESS NASA Remote Sensing**
- ✓ **Aquatic Vegetation Mapping**
- ✓ **Upgrade EDSM/DJFMP Daily and Weekly Reports**
- ✓ **Integrate OpenET Models**
- ✓ **LiDAR**
- ✓ **Upper Watersheds**

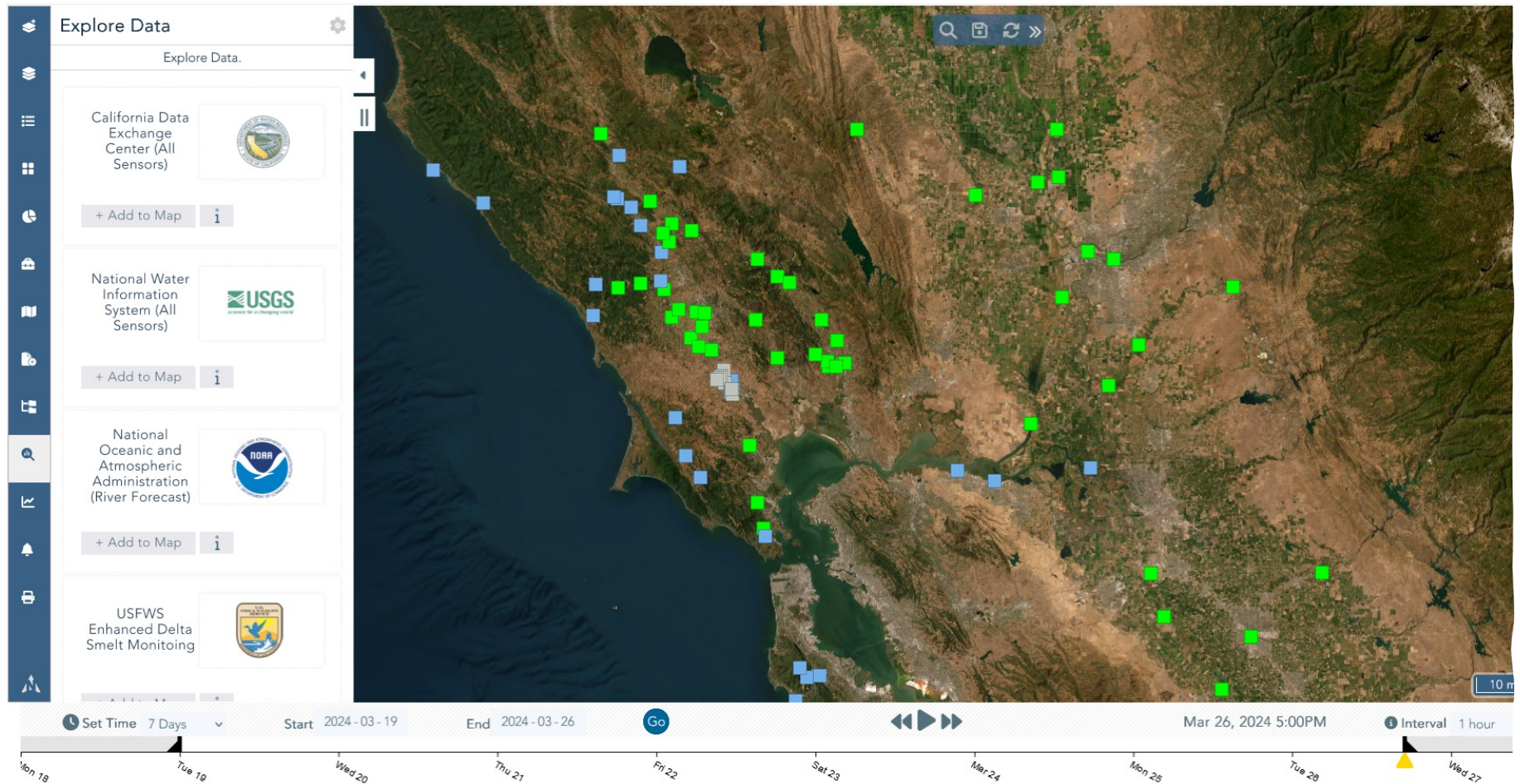


Explore BDL





## Explore BDL Data Access & Download Methods





# Current Data Access & Download Methods

Explore Data

Explore Data.

SELECT DATA SOURCE

Data Source

USGS (National Water Information System)

Go

Skip Data? ☐

By Region

Current Map Extent

Sensor

Reset Filter

32316 Chlorophyll fluorescence (fchl), water, in situ, (

32322 Dissolved organic matter relative fluorescence

63160 Stream water level elevation above NAVD 198

63680 Turbidity, water, unfiltered, monochrome near

72137 Discharge, tidally filtered, cubic feet per secor

72254 Water velocity reading from field sensor, feet p

72401 Salinity, water, in situ, tidally filtered, practical

80300 Suspended sediment concentration, water, un

90860 Salinity, water, unfiltered, practical salinity unit

99133 Nitrate plus nitrite, water, in situ, milligrams pe

Station Number (comma separated)

☒ Map it

☐ Clear Results

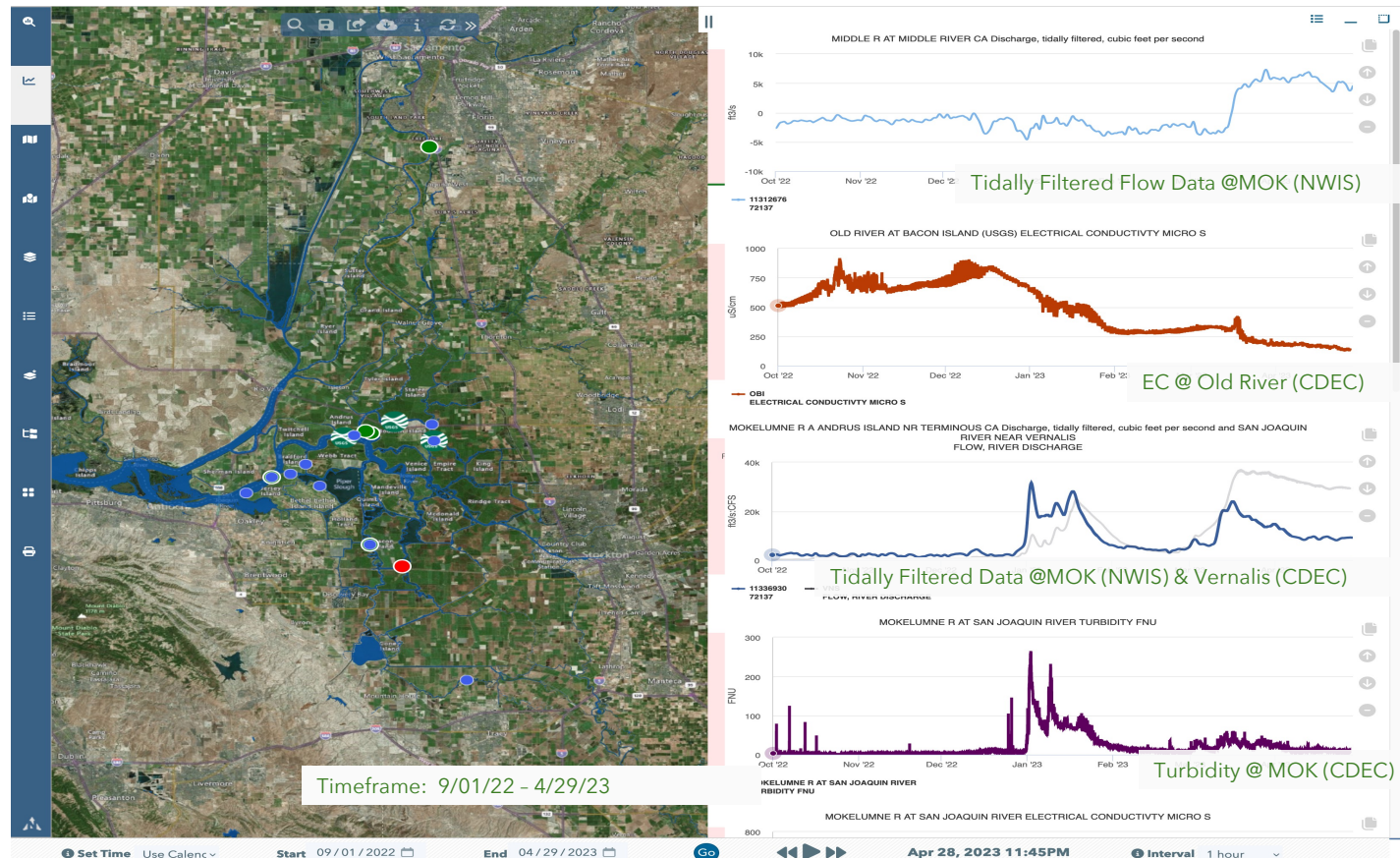
<

April 2024

>

Sun	Mon	Tue	Wed	Thu	Fri	Sat
31	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	1	2	3	4
5	6	7	8	9	10	11

# Current Data Access Methods



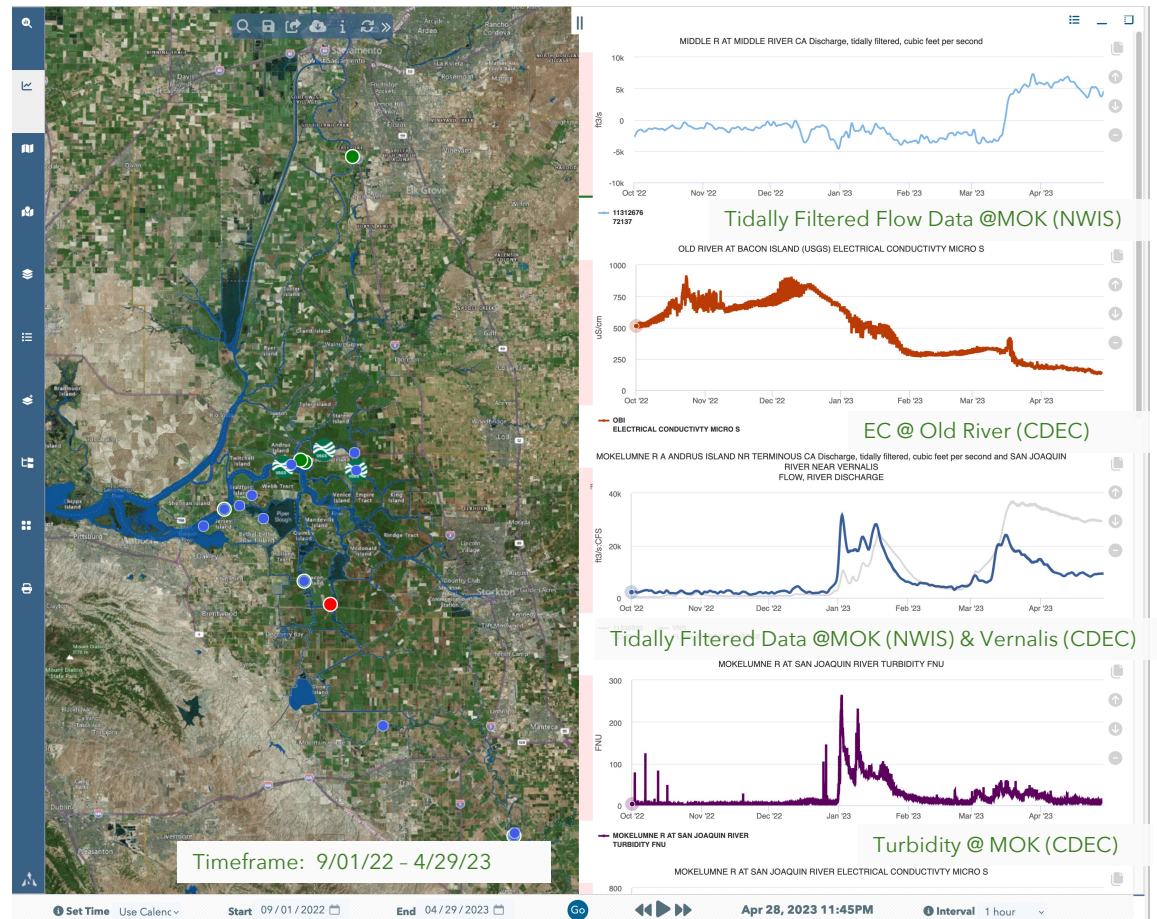


# Current Data Access Methods

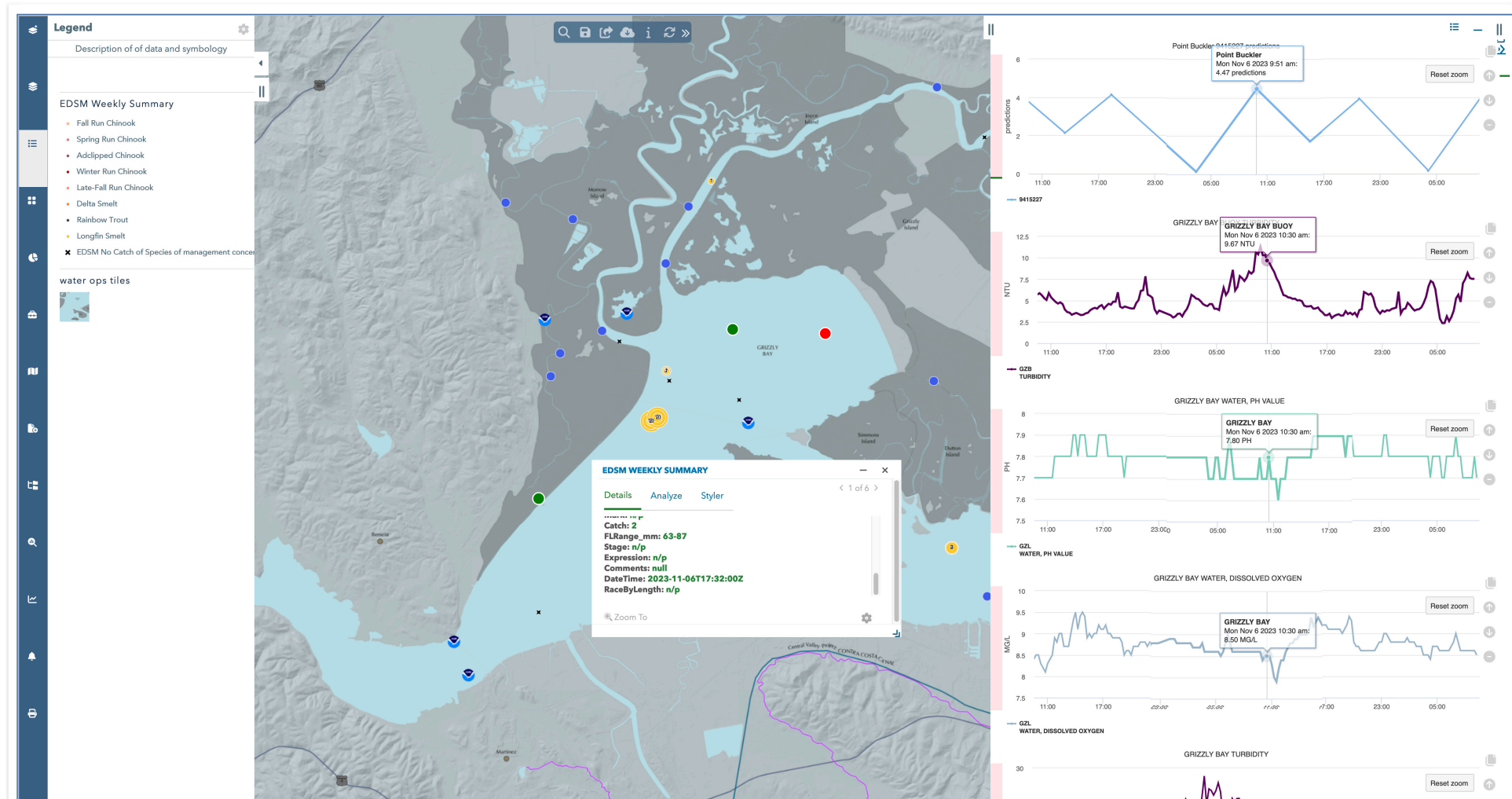
# ----- WARNING -----  
 # Some of the data that you have obtained from this U.S. Geological Survey database may not  
 # have received Director's approval. Any such data values are qualified as provisional and  
 # are subject to revision. Provisional data are released on the condition that neither the  
 # USGS nor the United States Government may be held liable for any damages resulting from its use.  
 # Go to <http://help.waterdata.usgs.gov/policies/provisional-data-statement> for more information.  
 #  
 # File-format description: <http://help.waterdata.usgs.gov/faq/about-tab-delimited-output>  
 # Automated-retrieval info: <http://help.waterdata.usgs.gov/faq/automated-retrievals>  
 #  
 # Contact: [gs-w\\_support\\_nwisweb@usgs.gov](mailto:gs-w_support_nwisweb@usgs.gov)  
 # retrieved: ; (nadww01)  
 #  
 # Data for the following 1 site(s) are contained in this file  
 # USGS 11312676 MIDDLE R AT MIDDLE RIVER CA  
 # -----  
 #  
 # TS\_ID - An internal number representing a time series.  
 #  
 # Data provided for site 11312676  
 # TS\_ID Parameter Description  
 # 15237 72137 Discharge tidally filtered cubic feet per second  
 #  
 # Data-value qualification codes included in this output:  
 # A Approved for publication -- Processing and review completed.  
 # P Provisional data subject to revision.  
 #  

agency_cd	site_no	datetime	tz_cd	15237_72137	15237_72137_cd
5s	15s	20d	6s	14n	10s
USGS	11312676	10/1/22 0:00 PST		-2660 A	
USGS	11312676	10/1/22 1:00 PST		-2650 A	
USGS	11312676	10/1/22 2:00 PST		-2650 A	
USGS	11312676	10/1/22 3:00 PST		-2640 A	
USGS	11312676	10/1/22 4:00 PST		-2630 A	
USGS	11312676	10/1/22 5:00 PST		-2610 A	
USGS	11312676	10/1/22 6:00 PST		-2600 A	
USGS	11312676	10/1/22 7:00 PST		-2580 A	
USGS	11312676	10/1/22 8:00 PST		-2560 A	
USGS	11312676	10/1/22 9:00 PST		-2540 A	
USGS	11312676	10/1/22 10:00 PST		-2510 A	
USGS	11312676	10/1/22 11:00 PST		-2490 A	
USGS	11312676	10/1/22 12:00 PST		-2460 A	
USGS	11312676	10/1/22 13:00 PST		-2430 A	
USGS	11312676	10/1/22 14:00 PST		-2400 A	
USGS	11312676	10/1/22 15:00 PST		-2370 A	
USGS	11312676	10/1/22 16:00 PST		-2340 A	
USGS	11312676	10/1/22 17:00 PST		-2310 A	
USGS	11312676	10/1/22 18:00 PST		-2270 A	
USGS	11312676	10/1/22 19:00 PST		-2240 A	
USGS	11312676	10/1/22 20:00 PST		-2210 A	
USGS	11312676	10/1/22 21:00 PST		-2170 A	
USGS	11312676	10/1/22 22:00 PST		-2140 A	
USGS	11312676	10/1/22 23:00 PST		-2110 A	
USGS	11312676	10/2/22 0:00 PST		-2070 A	
USGS	11312676	10/2/22 1:00 PST		-2040 A	
USGS	11312676	10/2/22 2:00 PST		-2010 A	
USGS	11312676	10/2/22 3:00 PST		-1980 A	
USGS	11312676	10/2/22 4:00 PST		-1950 A	
USGS	11312676	10/2/22 5:00 PST		-1920 A	
USGS	11312676	10/2/22 6:00 PST		-1900 A	
USGS	11312676	10/2/22 7:00 PST		-1870 A	

11312676-Discharge, tidally fil



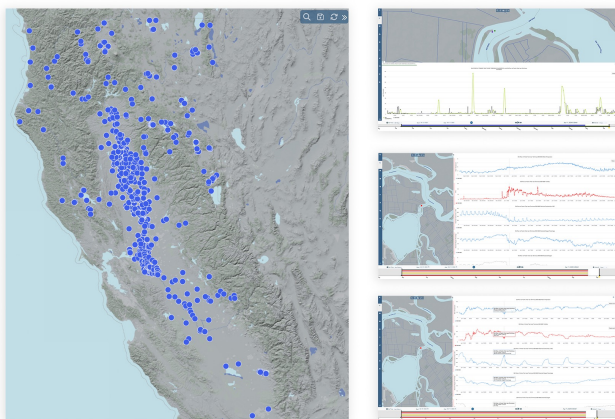
# Compare CDEC/NWIS/NOAA Data to EDSM/DJFMP

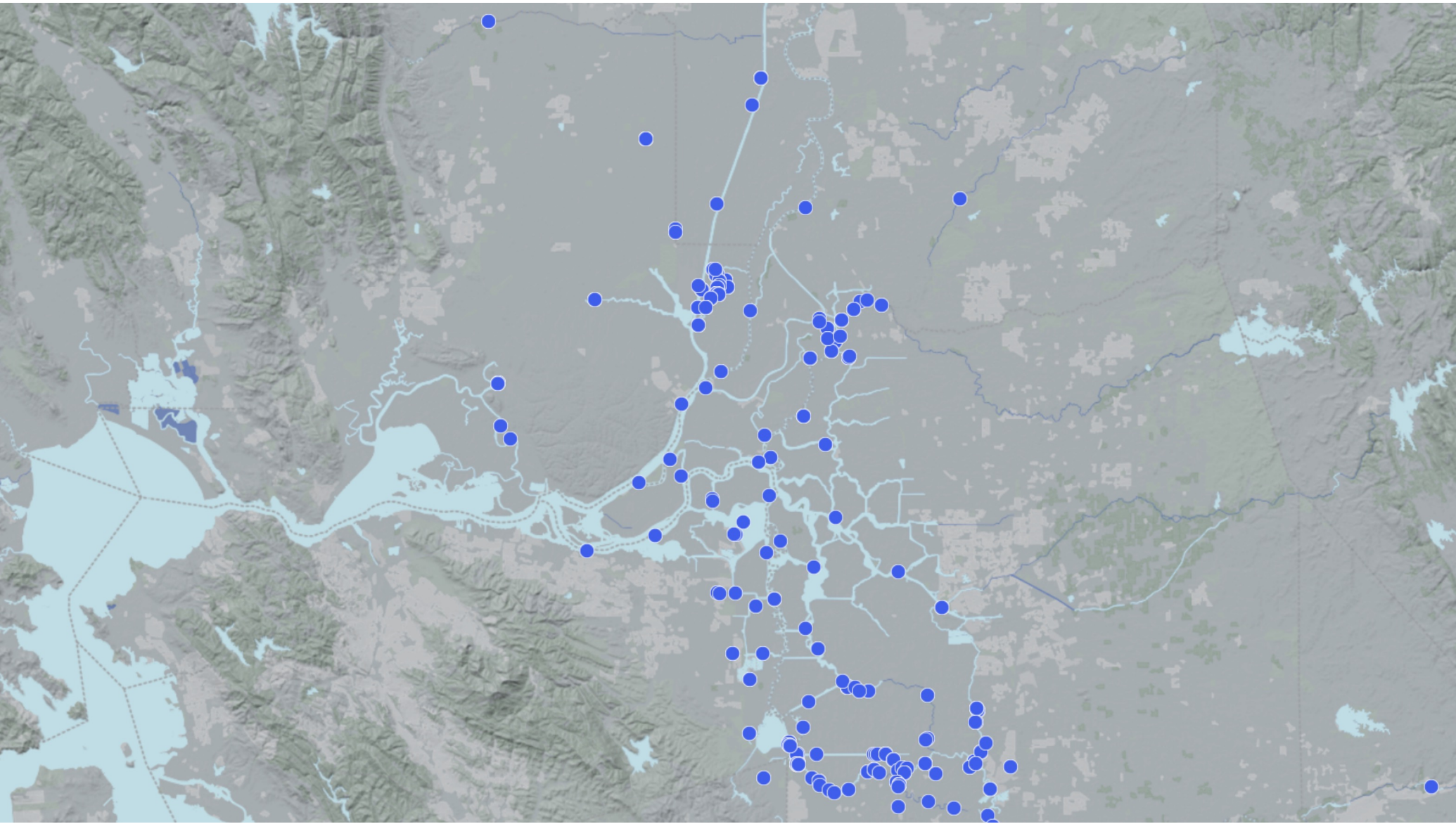


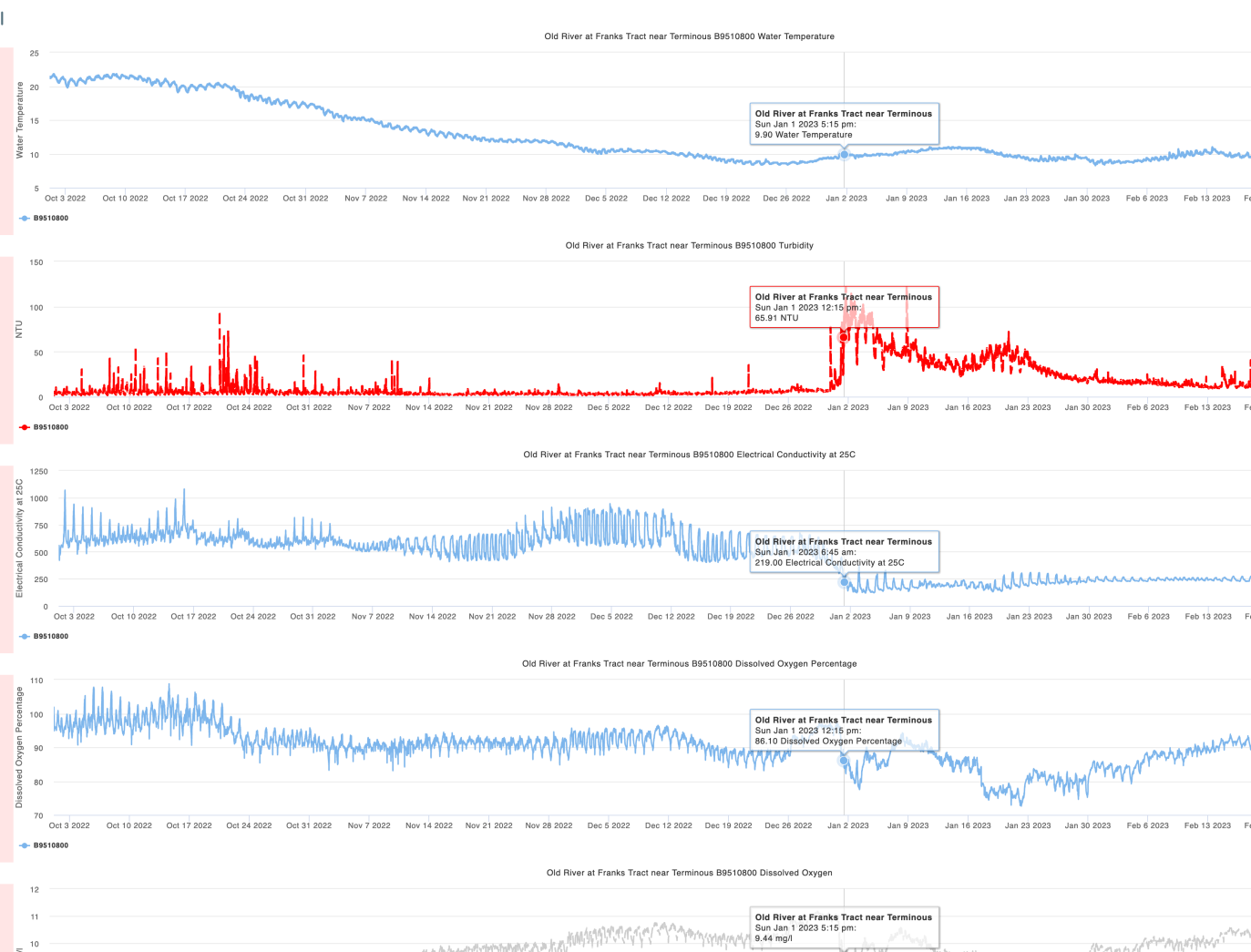
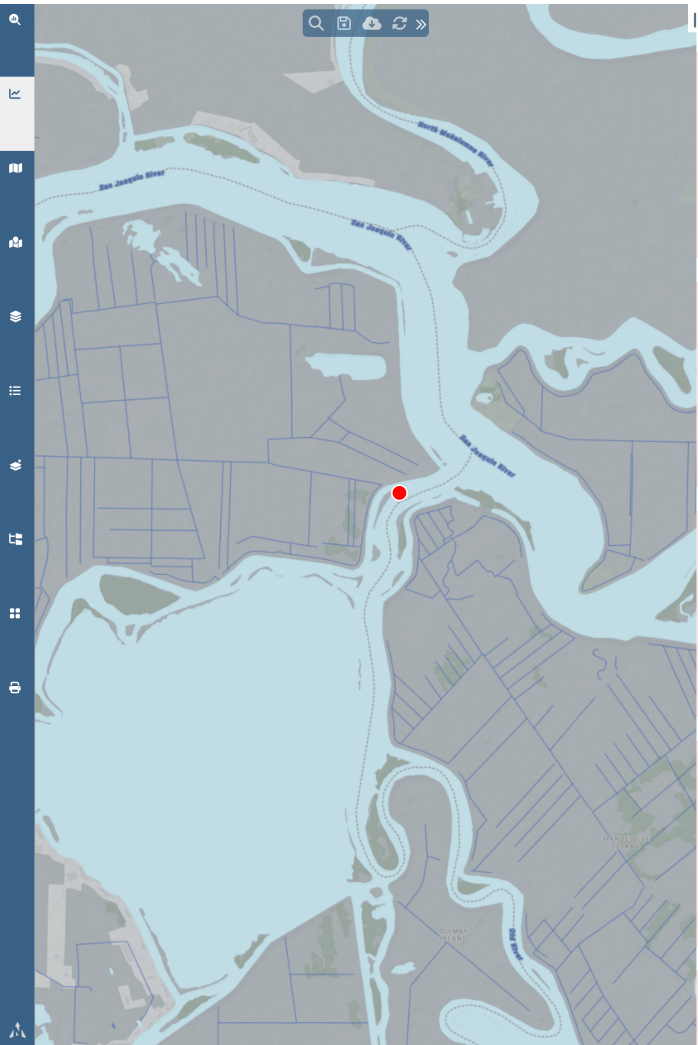




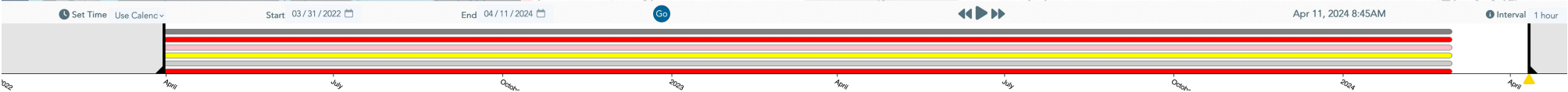
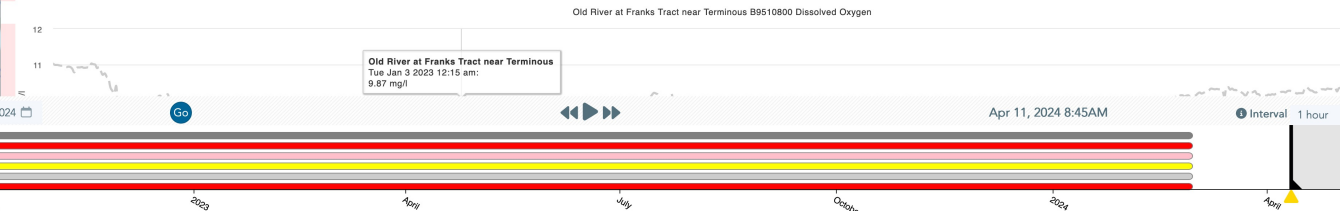
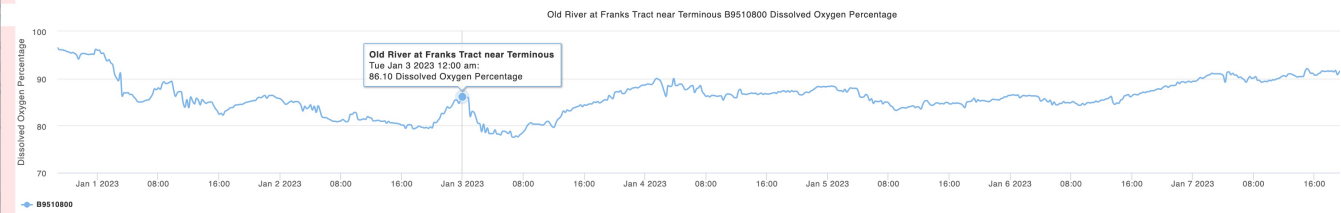
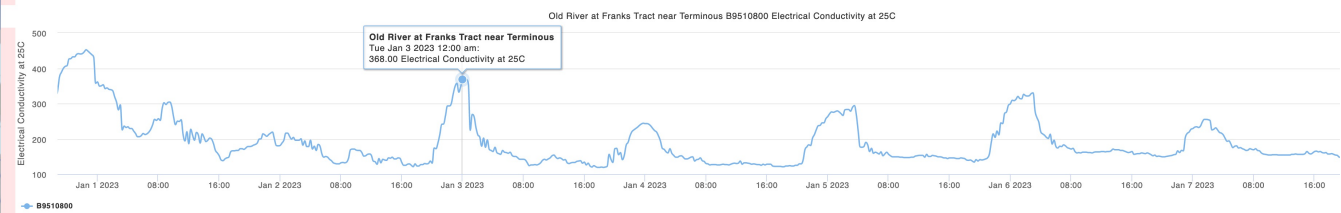
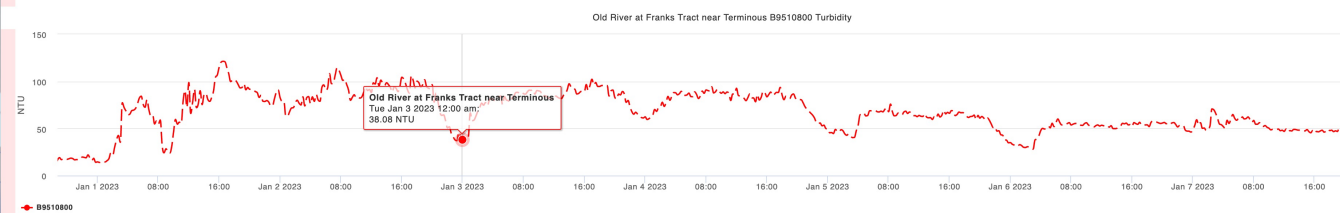
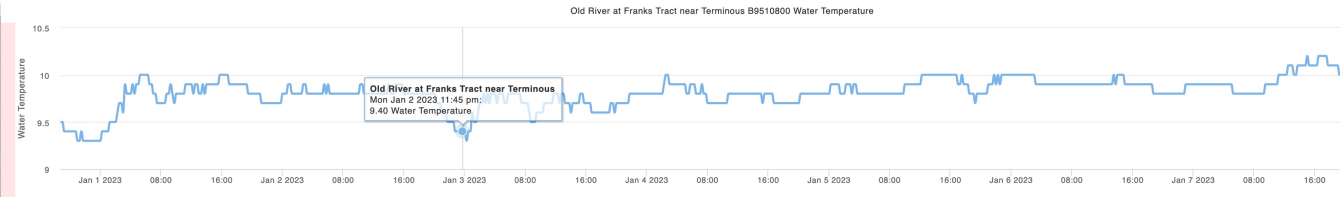
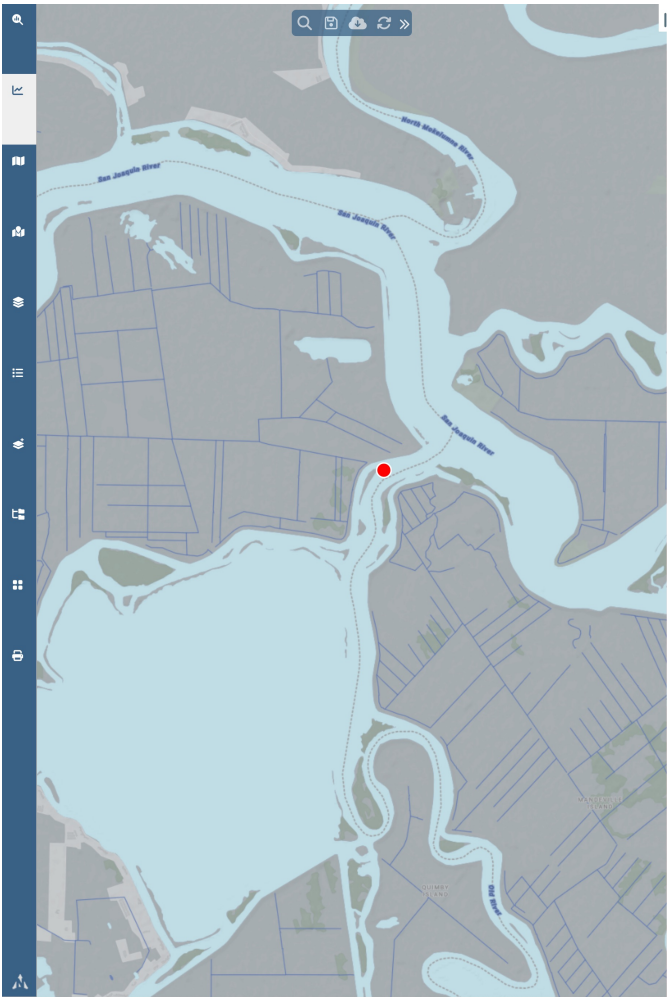
## Water Data Library

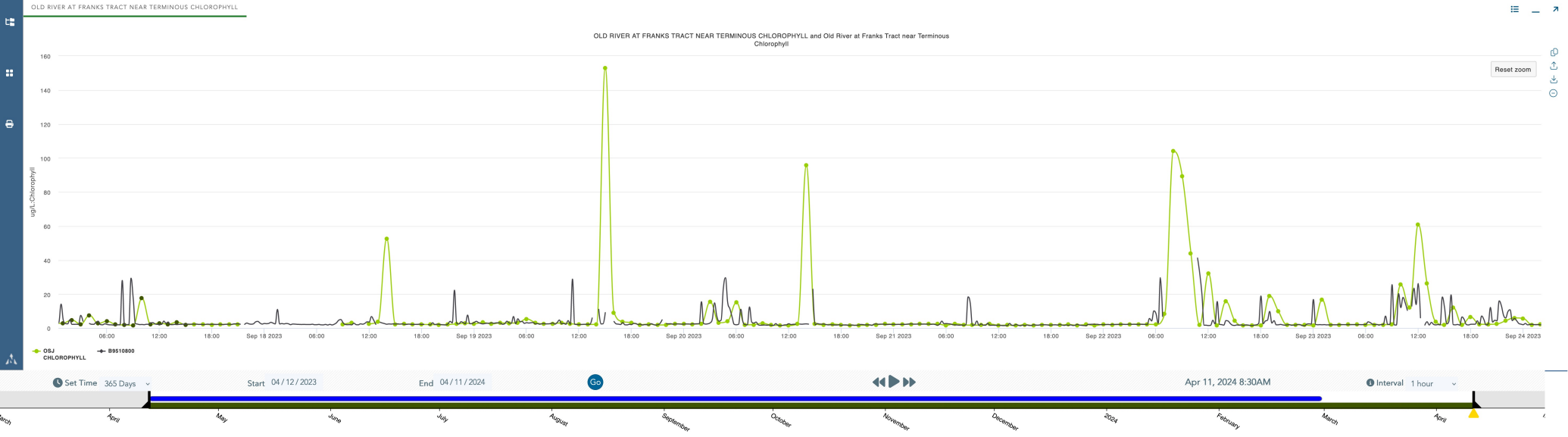
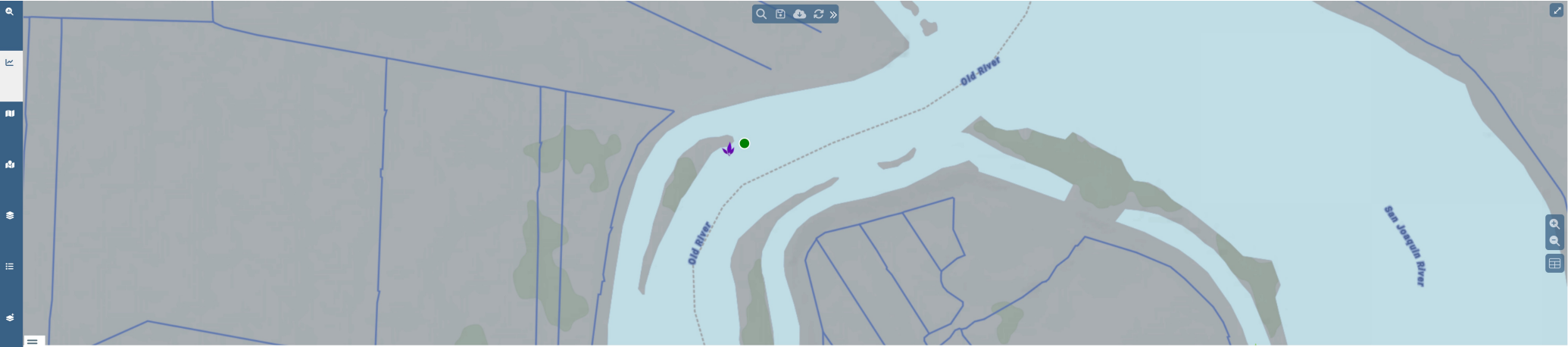








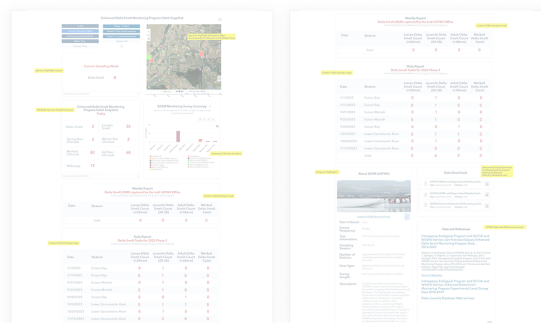




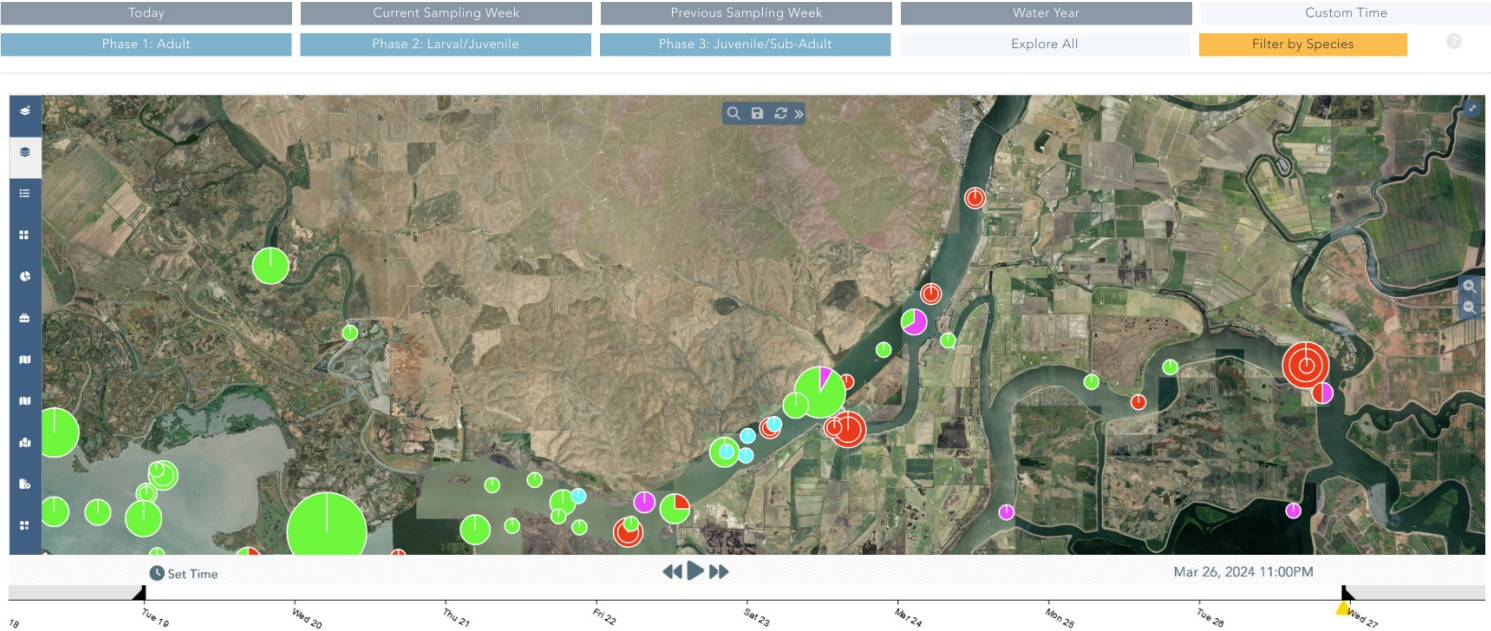




## USFWS EDSM Data Dashboard

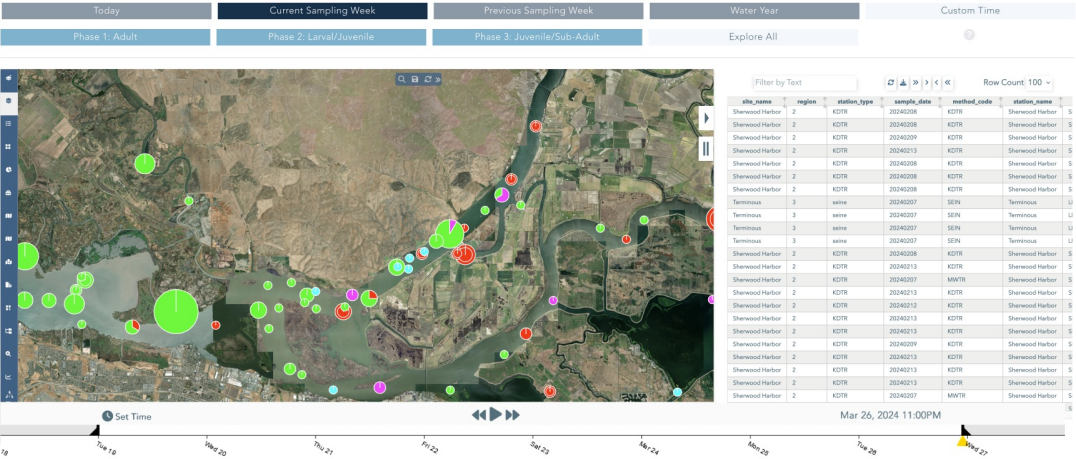


ENHANCED DELTA SMELT MONITORING PROGRAM CATCH SNAPSHOT



Daily Report					
Delta Smelt Totals for 2023 Phase 3					
Enhanced Delta Smelt Monitoring Program Catch Snapshot					
Data	Stratum	Larvae Delta Smelt Count (<20mm)	Juvenile Delta Smelt Count (20-58)	Adult Delta Smelt Count (>58mm)	Marked Delta Smelt Catch
1/1/2023	Suisun Bay	0	1	0	0
7/11/2023	Suisun Bay	0	1	0	0
9/21/2023	Suisun Marsh	0	1	0	0
9/25/2023	Suisun Marsh	0	1	0	0

ENHANCED DELTA SMELT MONITORING PROGRAM CATCH SNAPSHOT



Enhanced Delta Smelt Monitoring Program Catch Snapshot

Week

Delta Smelt	45	Longfin Smelt	12
Winter-Run Chinook	88	Spring-Run Chinook	74
Fall-Run Chinook	5	Marked Chinook	50
Wakasagi			200

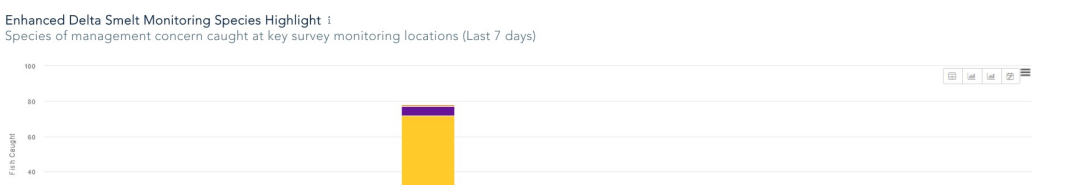
Data Collected: 03-18-2024

Enhanced Delta Smelt Monitoring Species Highlight

Week

Delta Smelt	45
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Data Collected: 03-18-2024



## ENHANCED DELTA SMELT MONITORING PROGRAM CATCH SNAPSHOT

Today

Client Sampling Week

Phase 2: Larval/Juvenile

Peacock Sampling Week

Phase 3: Juvenile/Sub-Adult

Water Year

Explore All

Filter by Species

Custom Time

Snapshot

Weekly

Station Survey

Smart Total

Data Table

Daily Report

Delta Smelt Totals for 2023 Phase 3

Sample 2

Date	Stratum	Larvae Delta Smelt Count (<20mm)	Juvenile Delta Smelt Count (20-58)	Adult Delta Smelt Count (>58mm)	Marked Delta Smelt Catch
1/1/2023	Suisun Bay	0	1	0	0
7/11/2023	Suisun Bay	0	1	0	0
9/21/2023	Suisun Marsh	0	1	0	0
9/25/2023	Suisun Marsh	0	1	0	0
9/28/2023	Suisun Bay	0	0	1	0
10/5/2023	Lower Sacramento River	0	1	1	0

Data Downloads

USFWS EDSM and Chippis Island Weekly Catch Report for Smelt Monitoring Team

Type:application/pdf

Subtype:pdf

USFWS EDSM and Chippis Island Weekly Catch Report for Smelt Monitoring Team

Type:application/pdf

Subtype:pdf

USFWS Enhanced Delta Smelt Monitoring 2023 Phase 3 preliminary Analysis (Draft)

Type:application/pdf

Subtype:pdf

Data and References

Interagency Ecological Program and US Fish and Wildlife Service: San Francisco Estuary Enhanced Delta Smelt Monitoring Program Data, 2016-2023

Interagency Ecological Program and US Fish and Wildlife Service: Enhanced Delta Smelt Monitoring Program Experimental Larval Survey Data 2018-2019

Delta Smelt Database Web services

About EDSM (USFWS)

Year Initiated:

2016

Survey Frequency

Weekly

Tow Information

2-4 10-minute tows at each location

Sampling Season

Year Round

Number of Stations

Approximately 36 (Kodiak) or 40 (20mm) randomly-generated stations sampled per week

Gear Type

Kodiak net (Phase 1 and 3) or 20mm net (Phase 2)

Survey Length

Each survey takes 4-5 days to complete

Description

The Enhanced Delta Smelt Monitoring (EDSM) is a year-round monitoring program focused on sampling Delta Smelt at nearly all life stages. The high frequency sampling conducted by the USFWS provides estimates of abundance, distribution, and, when sufficient data is available, risk of entrainment. From July through March, Kodiak trawling is conducted to collect juvenile through adult life stages. This data is reported in close to real time in the map to the right and table below. From April-June, EDSM conducts larval sampling. This data is not directly linked to Bay Delta Live. Learn more about the larval sampling and how to access data via the Lodi FWS website

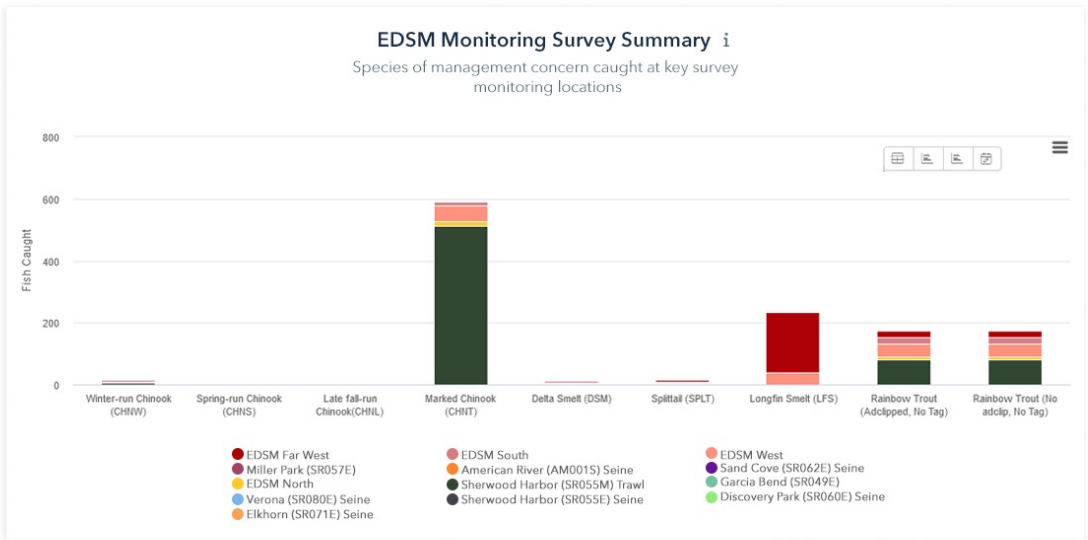
Image Caption Placeholder

Credit

The EDSM Monitoring Program Data is maintained by the U.S. Fish and Wildlife Service through the Lodi Fish and Wildlife Office. To learn more about the program please visit the [U.S. Fish and Wildlife Service website](#). Monitoring data is delivered via web services.



Enhanced Delta Smelt Monitoring Program Catch Snapshot Today					
Delta Smelt	2	Longfin Smelt	26	Spring-Run Chinook	2
Winter-Run Chinook	2	Fall-Run Chinook	68	Marked Chinook	82
Wakasagi	12				



### Data Downloads

 USFWS EDSM and Chipps Island Weekly Catch Report for Smelt Monitoring Team Type:application/pdf Subtype:pdf	
 USFWS EDSM and Chipps Island Weekly Catch Report for Smelt Monitoring Team Type:application/pdf Subtype:pdf	
 USFWS Enhanced Delta Smelt Monitoring 2023 Phase 3 preliminary Analysis (Draft) Type:application/pdf Subtype:pdf	

### Data and References

Interagency Ecological Program and US Fish and Wildlife Service: San Francisco Estuary Enhanced Delta Smelt Monitoring Program Data, 2016-2023

Interagency Ecological Program and US Fish and Wildlife Service: Enhanced Delta Smelt Monitoring Program Experimental Larval Survey Data 2018-2019

Delta Juvenile Database Web services



### About EDSM (USFWS)

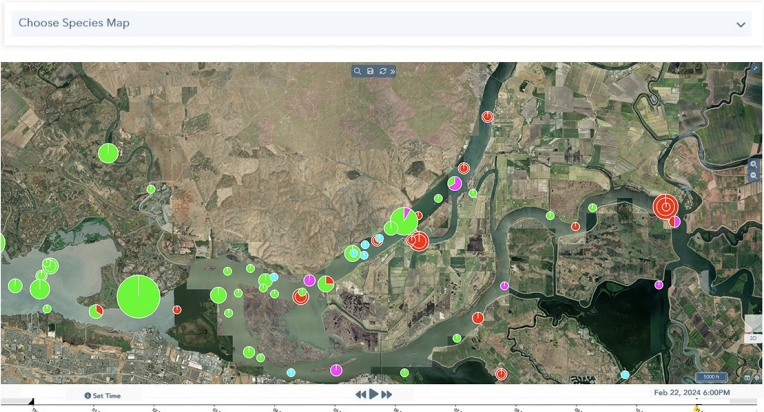


Image Caption Placeholder



Year Initiated:	2016
Survey Frequency	Weekly
Tow Information	2-4 10-minute tows at each location
Sampling Season	Year Round
Number of Stations	Approximately 36 (Kodiak) or 40 (20mm) randomly-generated stations sampled per week
Gear Type	Kodiak net (Phase 1 and 3) or 20mm net (Phase 2)
Survey Length	Each survey takes 4-5 days to complete
Description	The Enhanced Delta Smelt Monitoring (EDSM) is a year-round monitoring program focused on sampling Delta Smelt at nearly all life stages. The high frequency sampling conducted by the USFWS provides estimates of abundance, distribution, and, when sufficient data is available, risk of entrainment. From July through March, Kodiak trawling is conducted to collect juvenile through adult life stages. This data is reported in close to real time in the map to the right and table below. From April-June, EDSM conducts larval sampling. This data is not directly linked to Bay-Delta Live. Learn more about the larval sampling and how to access data via the Lodi FWS website
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USFWS EDSM AND CHIPPS ISLAND WEEKLY CATCH REPORT FOR SMELT MONITORING TEAM  
Report Date: May 22, 2023



Maps Spatially Display Delta Smelt (a) and Longfin Smelt (b) catch by station as of current processing levels for EDSM 2023 Phase 2 20mm trawls from survey week 41 (5/8-5/12/2023). Delta Smelt catch is differentiated between primary and confirmed ID status. Sites with no Delta Smelt or Longfin Smelt catch are indicated with squares.

Summary

Table 1. Summary of new detections of Delta Smelt (DSM) captured by the Lodi USFWS Office since the last Smelt Monitoring Team meeting. Further detail on each fish is included in the following tables depending on capture date. Fish that are crossed out are previously-reported fish that are no longer identified as DSM.

Summary of New Detections of Delta Smelt (DSM) Captured by the Lodi USFWS Office					
TBD					
Table 1					
Sampling Method	New DSM Detections	Date	Region	Stratum	Fork Length (mm)
EDSM 20mm	1	05/08/2023	West	Suisun Marsh	7.1
EDSM 20mm	1	05/08/2023	West	Suisun Marsh	9.5
EDSM 20mm	1	05/08/2023	West	Suisun Marsh	10.0

EDSM Delta Smelt Total

WY2023

Delta Smelt	40
-------------	----

Data Collator:

2024.01.26

5

### EDSM 2023 Phase 2

TBD

(20mm larval surface trawling) week numbers and corresponding sample dates

Survey Week	Survey Week Dates
36	April 3-7, 2023
37	April 10-14, 2023
38	April 17-21, 2023
39	April 24-28, 2023
40	May 1-5, 2023
41	May 8-12, 2023
42	May 15-19, 2023
43	May 22-26, 2023
44	May 29-June 2, 2023
45	June 5-9, 2023
46	June 12-16, 2023
47	June 19-23, 2023
48	June 26-30, 2023



### Interagency Ecological Program

TBD

Fork length ranges for life stages of Delta Smelt and Longfin Smelt as defined by the Interagency Ecological Program.

Species	Larvae	Juvenile	Adult
Delta Smelt	<20mm	20-58mm	>58mm
Longfin Smelt	<20mm	20-84mm	>84mm



Chippis Island

TRD



Enhanced Delta Smelt Monitoring

Explore spatial monitoring data

Quick Views (Catch by Site)  
Week 10 (September 4-8, 2023)

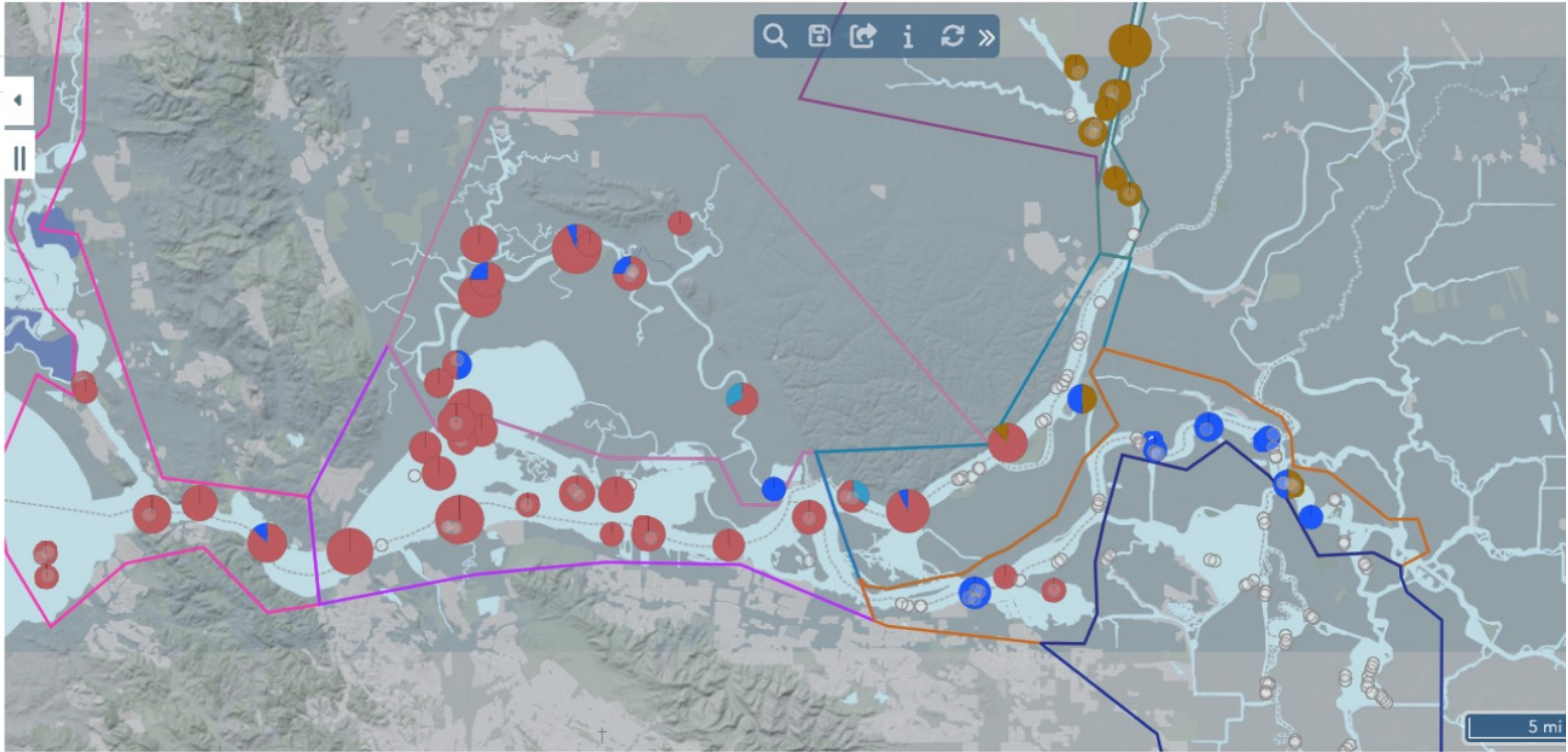
Load Map

OR

Select a Time Period  
Today

Choose a Species  
All

Get Data



Set Time



Feb 29, 2024 2:30PM

2019

2020

2021

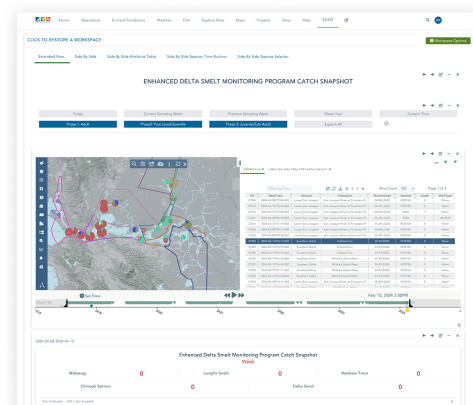
2022

2023

2024



## Build



EDIT WIDGET

Layout Type Content Advanced

Widget Title

Widget Size

Widget Class

Modify Layout

Modify Height

Update

EDIT WIDGET

Layout Type Content Advanced

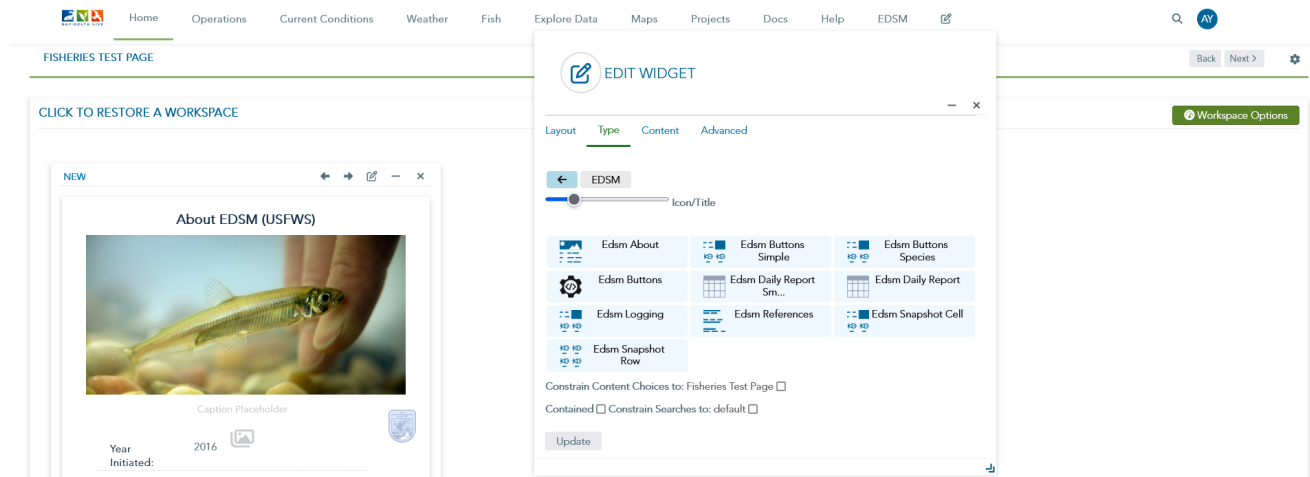
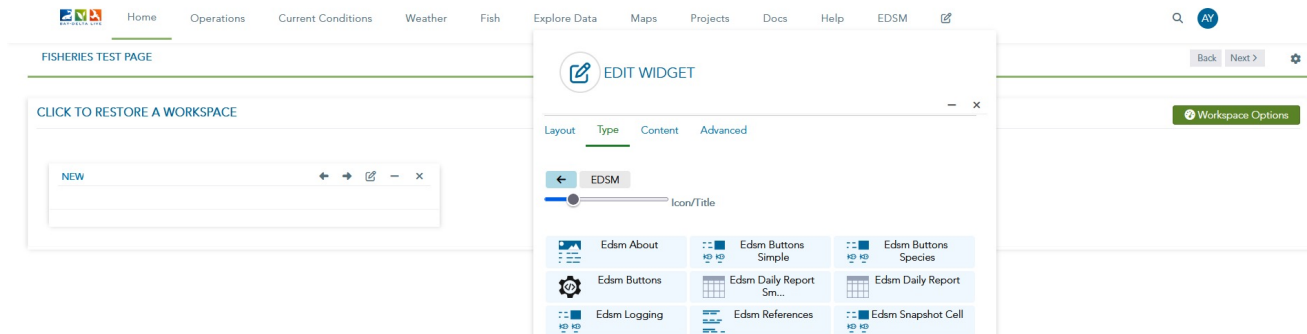
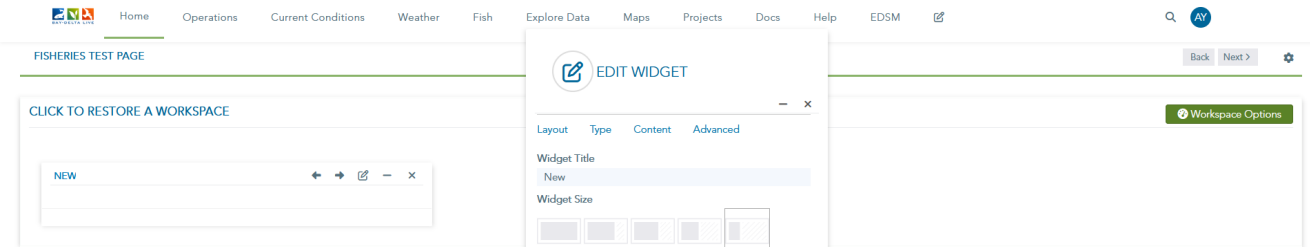
TEXT LIST / SEARCH MAPPING ADV. MAPPING MY DEFAULT

Edsm About Edsm Buttons Edsm Buttons Simple Edsm Buttons Species

Edsm Buttons Edsm Daily Report Sim Edsm Daily Report

Edsm Logging Edsm References Edsm Snapshot Row Edsm Snapshot Cell

Update





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THANK YOU!



# Constituent Tracker Drought Monitoring Oct. - Dec. 2022

