

Developing an Integrated Web-Based Delta Data Exploration and Analytics Portal through Community Feedback and Contributions

Brendan F. Wakefield*¹, Jeffrey A. Hansen¹, Jeniffer Soto Perez¹, Brian Bergamaschi¹

¹U.S. Geological Survey, CA Water Science Center, 6000 J Street, Sacramento, CA 95819



Interagency Ecological Program
COOPERATIVE ECOLOGICAL INVESTIGATIONS SINCE 1970

Abstract

Valuable water-quality and habitat condition data are being collected every day in the Sacramento- San Joaquin Delta by researchers, water managers, federal, state and regional agencies, as well as other stakeholders. We think that integration of these varied data sets into a single access point -- an interactive web-based data exploration portal -- will facilitate a greater understanding of the Delta's complex aquatic habitats by democratizing data access and thus enabling creative exploration of data linkages. The identification of available data relevant to the Delta will play a critical role in the utility of the portal, as will a thorough understanding of the analytics most useful and informative to help researchers and decision makers overcome the many challenges facing the system. The USGS has recently received funding to develop such a portal and we are asking for your input.

The data portal will integrate many data types, including: biogeochemical, hydrologic, geospatial, time-series, discrete/project-based, and others, in order to provide a more thorough analytical platform than is possible through analysis of the data separately. Through this poster, we are interested in meeting with parties with an interest in the health of the Delta ecosystem and hydrology to help identify data sources that should be included, as well as the analytical tools that will contribute to the success of the platform. A short survey will be available to initiate the process of collecting this information and contact information will be shared to form a network of contributing parties. We will also be conducting appointment-based interviews with community members during and after the conference.

We are focusing on the Bay-Delta and Suisun ecosystems at this time and will expand the effort to include data from the contributing watershed over the next several years. Talk to us and help us brainstorm on how to best use and synthesize the Interagency Ecological Program's diverse datasets.

We Need Your Help

- We have found that the greatest hurdles to cross-cutting analysis in the Bay-Delta is that data sets are spread across multiple sources.
- We would like to build a data repository that holds most Bay-Delta data; a data repository based on the needs of the user, which is you!
- We are eager to talk about how we can effectively build tools to help you efficiently access the data you need.
 - How do you feel about your ability to access inter-agency Bay-Delta data and use it in your cross-cutting analyses?
 - Which data sets do you use most frequently? What data do you like to use but have a difficult time accessing? How would you like your data sets structured?
 - Would a web-based data portal be a helpful "playground" to assist you with integrating data outside your current sources with your analyses?

Please contact us to discuss further! Or, if you don't have the time, take our online survey (link and QR code below).

Data Sources Currently Consolidated

- USGS NWIS (Aquarius)
- USGS ScienceBase
- USGS BGC rapid mapping
- CDEC TS and Precipitation
- IEP and EDI datasets (fish, clam, plankton, etc.)
- Water Services Discharge
- GAMA/NAWQA Groundwater
- NWS Weather
- SFEI database
- CIMIS
- CEDEN
- Landsat/sentinel
- And more to come!

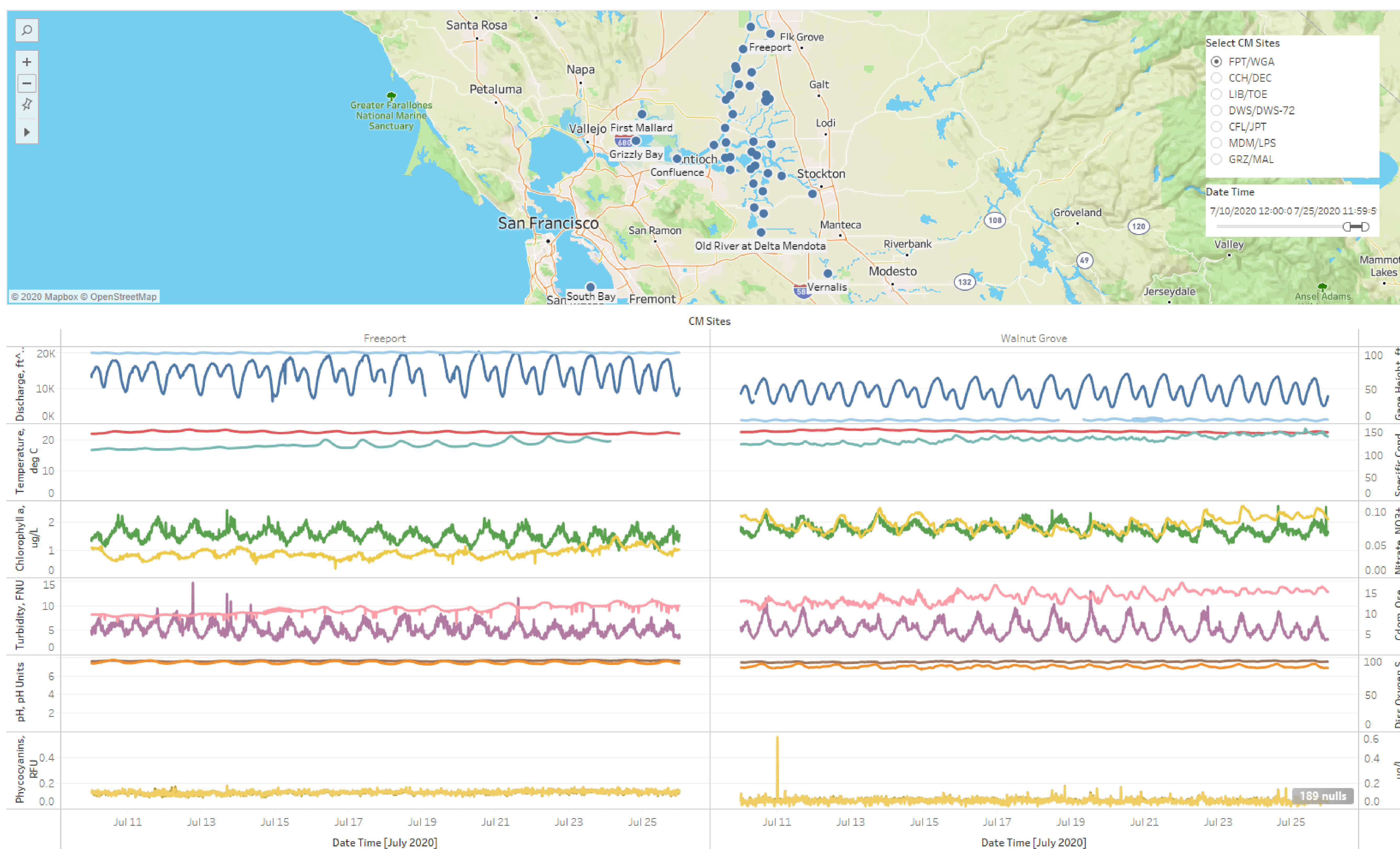


Figure 1: One possible dashboard of many, to provide users with methods to filter Bay-Delta data in space and time and prepare data sets for download. Data sets can be searched and filtered by agency, site location, geospatial polygons, date range, specific project, data quality, and many other factors. Summary statistics and other statistical analyses can be performed on-the-fly and reported in-dashboards.

See a real-time Bay-Delta data portal in action:

<https://go.usa.gov/xfAWx>

Please take our online survey, follow the URL or use the QR code:

<https://www.surveymonkey.com/r/BG237NN>

Please contact us if you would like to talk more:

bwakefield@usgs.gov*

(916) 278-3082

