Long Term Continuous Monitoring in the Sacramento-San Joaquin Delta

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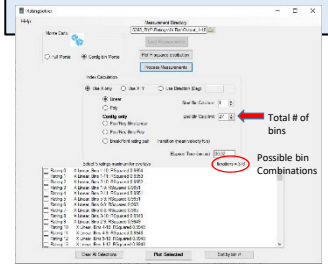
NETWORK IMPROVEMENTS

Our goal is to continually improve our ability provide accurate and complete data sets. Our project has been working to identify opportunities to improve our results. Highlighted are several of the efforts being presented in detail by colleagues in other posters. Please check them out!

NAVD 88 – Datum Consistency: Norman Soeder

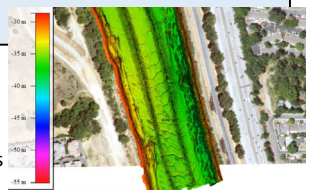
Ensuring a consistent datum across the network is a high priority for the USGS and our cooperators. In March 2020 we began testing equipment to provide elevation data that we will roll out to all of our stations in 2020 and 2021.

Index Velocity Rating Improvements: Joseph Hatfield



Joseph presents a program developed by Mike Simpson that he has successfully implemented at several stations across the network. This program quickly identifies the optimal index region based on r-squared values.

Area Rating Improvements: Not Presented at IEP

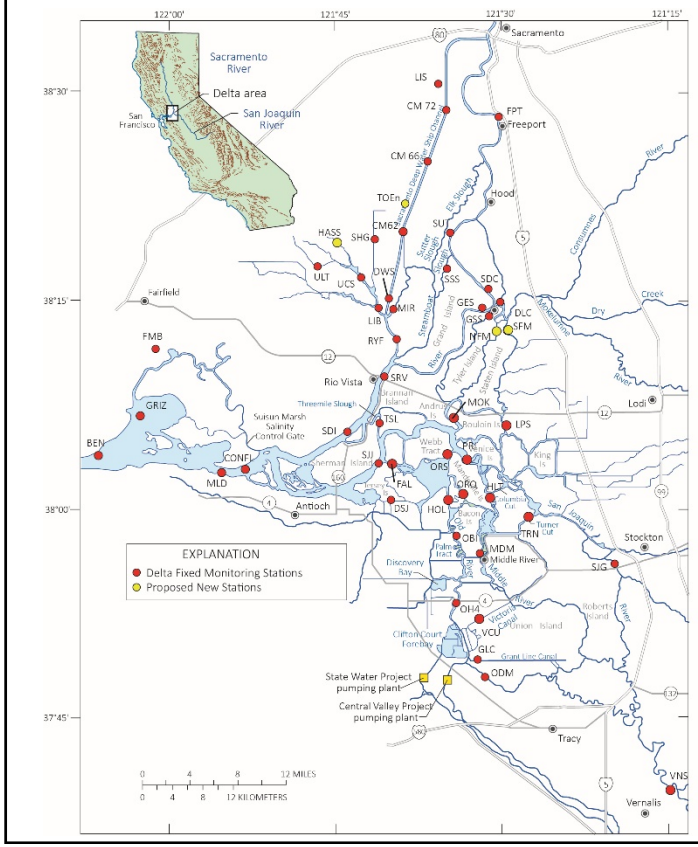


The USGS, California Water Science Center recently purchased multi-beam sonar with LiDAR. We plan to use this system as well as the data collected by Shawn Mayr and his team at DWR, Central District, to more accurately compute area at our standard cross-sections.

BACKGROUND

The US Geological Survey has been collecting continuous data in the Sacramento-San Joaquin River Delta (Delta) for decades. The network has expanded from several experimental stations in the 1970's and 1980's to a robust and integrated monitoring network. Today over 40 stations are collecting a range of water-level, discharge, and water-quality data that support critical real-time water management decisions as well as in-depth analyses. Our group collaborates with stakeholders to increase the power of the data being collected across the monitoring network. The data are transformed into information in a variety of ways, including: constituent mapping; salmon out-migration survival studies; interdisciplinary tidal-marsh function studies; hydrodynamic model calibration and validation.

STATION LOCATIONS

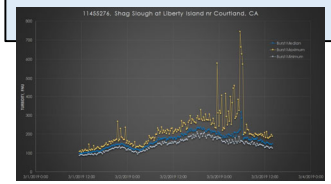


NETWORK IMPROVEMENTS

Unmanned Surface Vessels (USVs): Mark Inc

A USV can be programmed to travel between waypoints at a specified rate. This repeatability will improve ratings at our gages across the network.

Burst Sampling and Program Updates: Trevor Violette



By using the 30-second burst in the data-logger, we have control over how the data are being collected and reported. All data is retained for analysis.

DATA AVAILABILITY

Real Time and Finalized Data:
USGS NWIS-Web: https://waterdata.usgs.gov/nwis?
Real Time Data Only:
California Data Exchange (CDEC): https://cdec.water.ca.gov/

THANK YOU

This program has been strongly supported by the IEP, DWR, USBR, State Water Resources Control Board, Sacramento County, the City of Stockton, and Contra Costa Water District over a period of decades. Without the ongoing support of our collaborators and cooperators this monitoring network would not be possible and their support is gratefully acknowledged.

Equally important are the team members that we've had the opportunity to work with over the years. Our current team is 18 members strong and without their hard work and dedication, none of this data would be available.