PROJECT TITLE: SACRAMENTO-SAN JOAQUIN CONTINUOUS WATER QUALITY MONITORING

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Discipline: Field Mapping; Water Quality;

PROJECT DESCRIPTION

BACKGROUND

Our work includes continuous monitoring of water quality (including nutrients, carbon, and phytoplankton) at fixed stations, high speed mapping of water quality using a boat-based flow-through system, along with other process-based studies of biogeochemical and hydrologic factors that affect habitat and water quality. Additionally, we are pushing boundaries in developing new tools and new ways of sharing USGS science out to the world through automated real-time data processing and visualizations.

INTERN TASKS

The successful candidates will, depending on skill set, help run our continuous monitoring stations and support our special studies. This includes calibrating instruments, gathering field gear, building site infrastructure, maintaining data records, troubleshooting mechanical and electrical systems, collecting samples (mainly water, sometimes sediment and plant), processing samples in a lab, reviewing and correcting data, improving our data processing and visualization efforts, etc..

BENEFITS TO INTERN

Intern will get an understanding of how the USGS maintains and operates continuous water quality stations, and how to collect and processes water samples. They will become skilled in the techniques and methods used by the USGS to collect water samples, calibrate instruments and process sample. Interns will also have the opportunity to learn how to safety operate powered boats and why they are mission critical items for our project. The intern will also learn about our high speed mapping campaign and how it is used to track water quality trends throughout the California Delta.

MENTORING PLAN

Intern will work closely with senior field staff until they are able to independently understand and implement sampling and field methods. The intern will then be part of our regular field crew and help service our sites as well as help with special projects. Intern will meet with senior staff once a week to discuss progression and to make sure they are getting the most out of this intern program. At the beginning of the internship, benchmarks will be set to make sure the intern will learn the core work associated with our project needs. Once the intern has shown the ability to work on their own the candidate will then take part in more technical aspects such as optical instrument measurements, QA/QC checks and laboratory work.
ADDITIONAL DETAILS

STUDENT SKILLS AND INTERESTS

The BioGeoChemistry group is looking for candidates that enjoy working outdoors in a scientific setting. Intern must be able to work independently and within a team setting. Having experience working on boats to collect scientific measurements is preferred but not necessary. Any working experience with in-situ monitors is also preferred. Interests included working outdoors, scientific approach to field work and enjoy tinkering with electronics.

LOCATION: Sacramento/ California

ACTIVITY LEVEL:

Level 8-2: The work requires some physical exertion such as long periods of standing, walking over rough, uneven, or rocky surfaces; recurring bending, crouching, stooping, stretching, reaching, or similar activities; or recurring lifting of moderately heavy items. The work may require specific, but common, physical characteristics and abilities such as above-average agility and dexterity.

| Field Work | 50-75% |
| Lab Work   | 0-25%  |
| Office Work| 0-25%  |
| Other      | 0-25%  |

Virtual? No

Projected Start Date 4/1/2022

Expected Duration 4 months