

FLOAT-E

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SENIOR DESIGN PROJECT EEE 193B/CPE 191

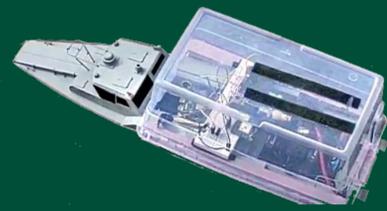
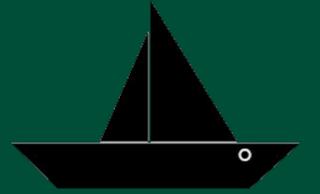


Figure 4: FLOAT-E

Problem Statement

The general health of California's waterways has become a great concern to many different people and groups, and presents multiple and different water quality challenges.

Background

We want to make a floatable device that will detect dissolved Oxygen as well as the temperature, and pH. This information can help analyze and lead to a better understanding the health of California's local waters.



Figure 3: Folsom Lake [3]

References

- [1] Deployable Prototype Picture Taken by Team 2
- [2] GUI Screenshot Taken by Team 2
- [3] Folsom Lake Taken by Team 2
- [4] FLOAT-E Taken by Team 2

Summary of Work

Over the course of senior design, the team worked hard to create a device that is able to collect temperature, pH, dissolved oxygen, and locational data in real time and even store that data for future analysis. The device can be moved via remote control, transmit data within a certain range, and is adequately powered thanks to its battery powered system.



Figure 1: Deployable Prototype [1]

FLOAT-E Control Center

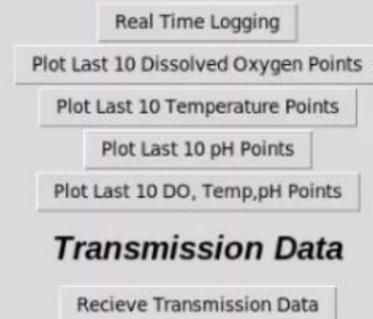


Figure 2: GUI [2]

Analysis

FLOAT-E is capable of measuring pH with +/- 0.1 pH, temperature with +/-0.5 °C, and Dissolved Oxygen with +/-0.5 mg/L. FLOAT-E is capable of sending data within 500 meters. The Measurements can be obtain from FLOAT-E Control Center which is in Figure 2.

Impact on Community

By determining what analytes to measure in our waterways, we will be able to focus on the data collection of those analytes to be analyzed by professionals. With the collection of this data, we will be able to help maximize the efficiency in which this data is collected.