

Use of Basic Observational Buoys (BOBs) in Partnership with High School Faculty and Students

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Lundie Spence–

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Marine Science Research Institute

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In 2009, Lex, Dan and I attended a workshop at Skidaway Institute of Oceanography in Georgia with Lundie and Doug to learn about BOB

That gave us the concept:

Basic Observational Buoy (BOB) that could be constructed and modified by its users to partner with high school faculty and students to gather water quality and physical oceanographic data on the St. Johns River (SJR) Florida



Plan was for Jacksonville University faculty to work with Duval County teachers and students to construct a set of six buoys, deploy them in three different salinity regimes and retrieve associated data.



Actually built 10 buoys in a contest to see which survived a 3-day Float Test!



Some survived-
some didn't



Some were BAD

Some didn't work
as planned





Combination of JU MSC 101
and ACES students did the
construction and field work

Then we deployed our buoy!

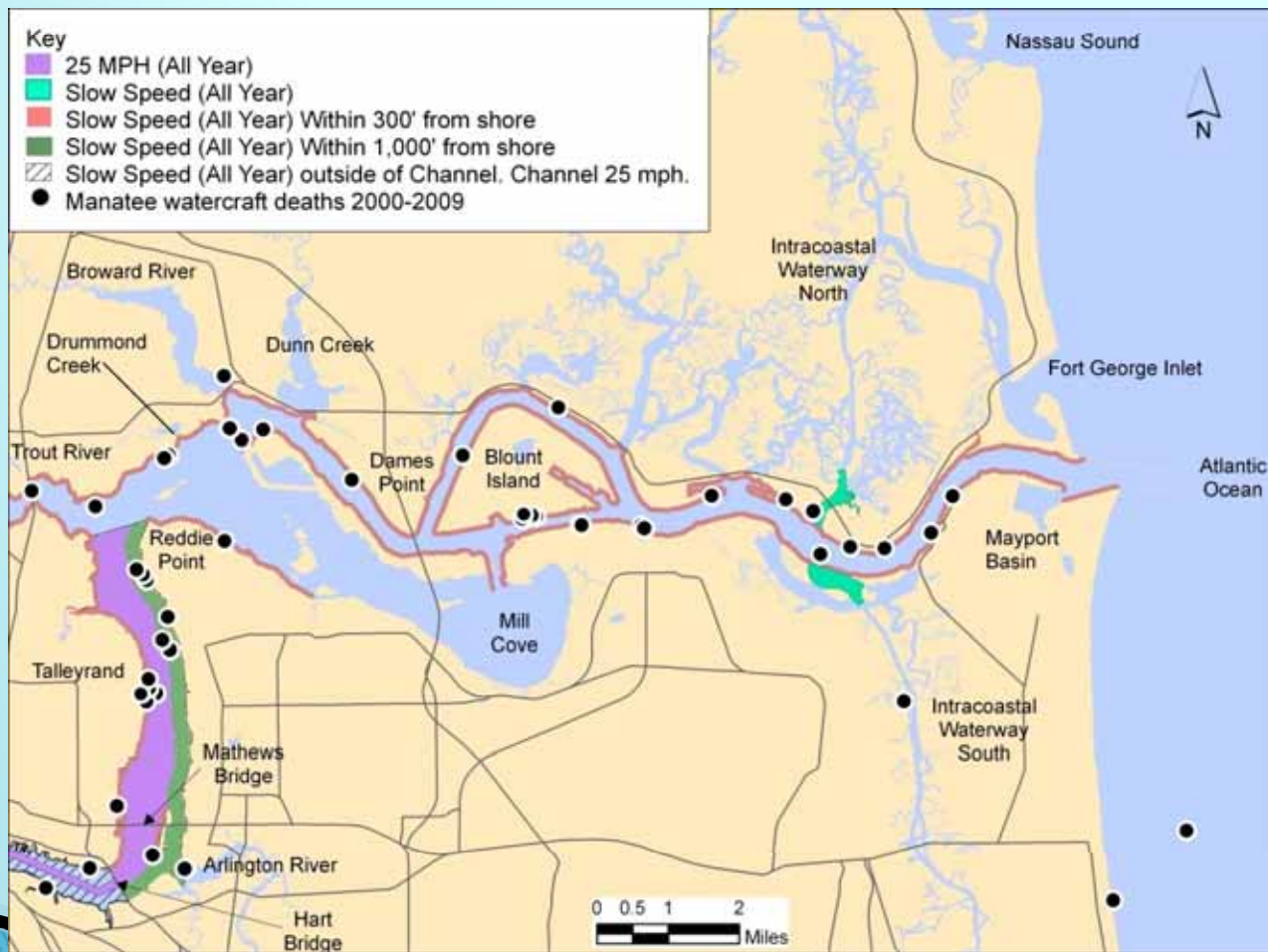


Environmental Sensors Deployed

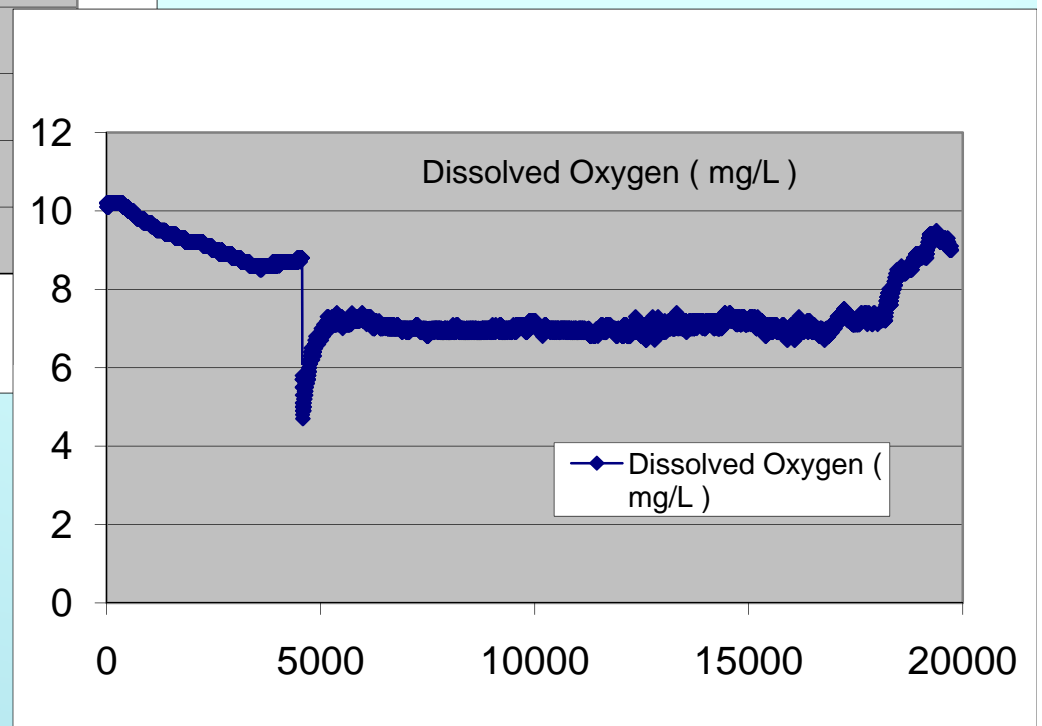
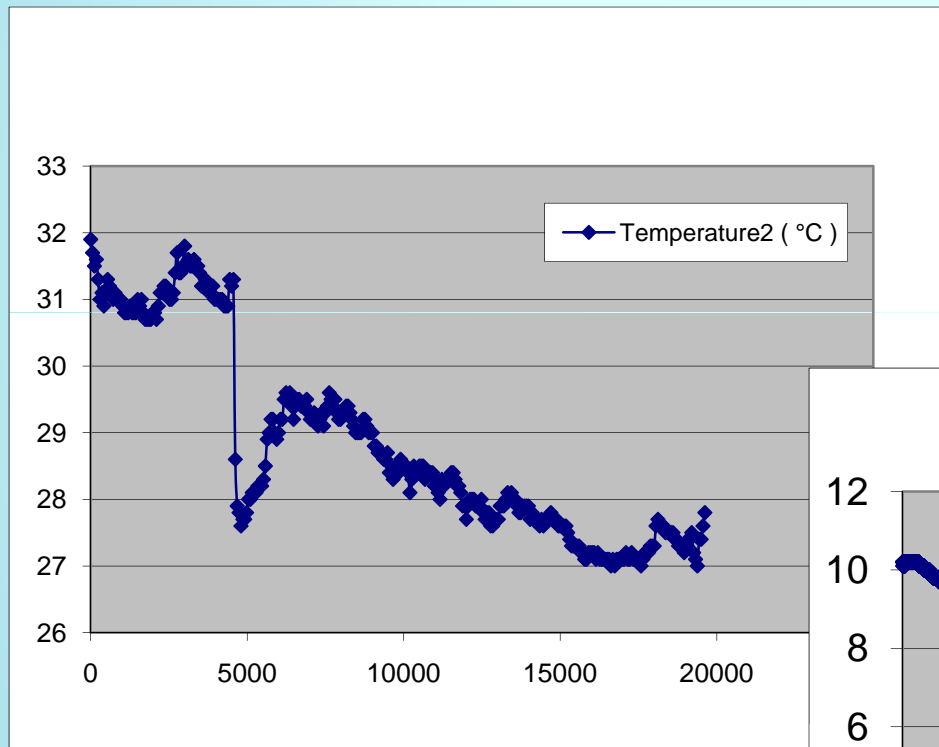
- Dissolved Oxygen
- Air Temperature
- Water Temperature
- Conductivity (Salinity)
- Thermocline
- Wind Velocity
- Water Velocity- Flow rate
- Light

Why deploy BOB?

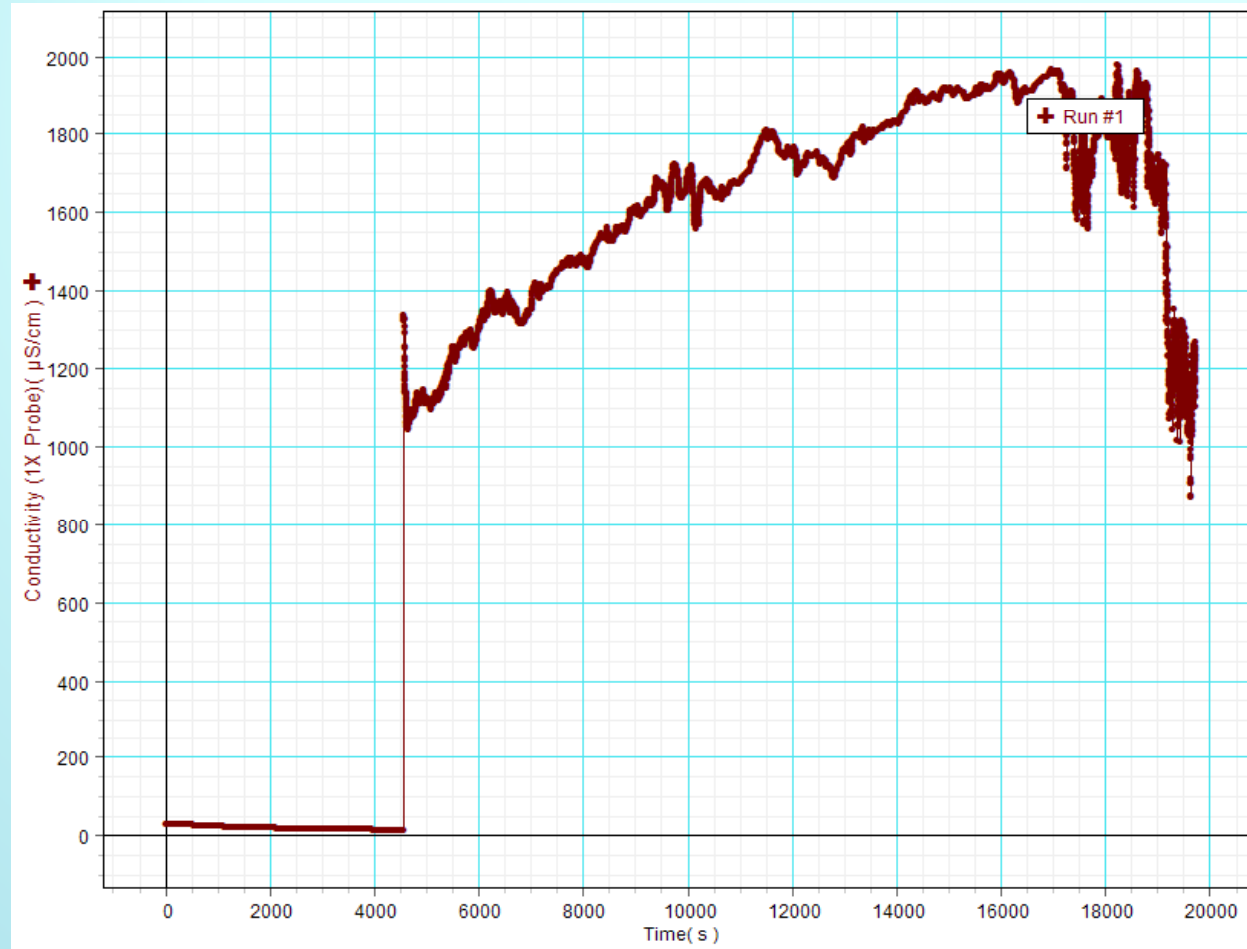
Manatees, Water withdrawal and dredging to 50 feet



Results-



Results- Conductivity



Positives–

▶ Student Engagement

- High level of participation
- Innovative Design- almost a problem
- Able to use at multiple educational levels
 - High school
 - Undergraduate
 - Graduate
- Relatively low cost
- Flexible platform for an array of sensors

Challenges–

- ▶ Everything takes longer than expected when working with groups of students!
- ▶ Short battery life on data-logger
 - Pasco Explorer- GLX
- ▶ Difficult to download data–
 - Problem solved by giving unit to students, along with the promise of a pizza, when they figured out to transfer data.

THANKS



Questions?

