



**ABSTRACT**

The GK-12 OCEANS partnership between USF's College of Marine Science and East Lake High School in Pinellas County-Florida is bringing the ocean sciences into the classroom. GK-12 OCEANS provides hands-on, inquiry activities to enhance learning about the local marine environment by establishing comparisons with fresh water ponds. OCEANS provides a year-round link between Marine Science graduate students and educators by creating learning tools based on environmental research. Science-based inquiry, scientific equipment, data collection and problem solving skills provide high school students with the unique opportunity to monitor and research freshwater habitats adjacent to the school. The science concepts learned from monitoring fresh water settings is then compared via fieldtrips to marine settings. Data collected from fieldtrips is taken to establish comparisons and analogies between the different environments. All lessons are aligned with states standards and integrated as part of the school science learning goals (*i.e.*, life processes, ecosystem diversity, and energy). The GK-12 OCEANS Fellowships are funded by NSF, Progress Energy Foundation and the USGS Center for Coastal and Watershed Studies (St. Petersburg, FL).

**OBJECTIVES: GK-12 OCEANS PROGRAM**



- \* Improved communication and instructional skills for the fellows.
- \* Professional development opportunities and content gain for K-12 teachers.
- \* Enriched learning by K-12 students.
- \* Strengthened partnerships between institutions of higher education & school districts.

**METHODS: FELLOWSHIP TRAINING**

- SPRING TRAINING:** Scientist in the Classroom, graduate course
- SUMMER TRAINING:** Experiential Learning in Marine Science, graduate course  
Oceanography Camp for Girls, 3-week camp for teens
- FALL FELLOWSHIP:** Teaching Marine Science I (semester in K-12 classroom)
- SPRING FELLOWSHIP:** Teaching Marine Science II (semester in K-12 classroom)



**RESULTS**

**PROFESSIONAL DEVELOPMENT**

- \* Time management
- \* Interpersonal communication
- \* Patience
- \* Teamwork
- \* Teaching Skills
- \* Conference Presentations
- \* Journal publication
- \* New instructional tools
- \* Connecting science research to citizens

**CLASSROOM LEARNING**

Lessons Taught	Biology	Environmental Science
Facies Maps	X	X
Surveying Instrumentation	X	X
Beach Profiles	X	X
Water quality instrumentation	X	X
Aquatic Biome in a Bottle		X
Cell Membrane	X	
Laboratory Safety	X	X
Coral Reef Ecology		X
Coral Reef Cake Model		X
Water Cycle Demos		X
Fruit Flies Genetics	X	
Osmosis	X	



**DISCUSSION**

The fellowship experience thus far has had the following impacts for me as a graduate student scientist in a K-12 classroom: it has helped me to develop as a person and as a more effective scientist and teacher; it also broadened my perspective of the intricacies of science learning; and it has allowed me to re-connect with what is important to high school students today. These experiences will enrich my professional skills to teach and communicate ocean sciences more effectively within my career field and amongst 'citizen scientists'.

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