

A National Oceanographic Partnership Program Award

***Enhancing K-12 Science Education Via Satellite-televised Interactive Technologies***

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<http://www.marine.usf.edu/pjocean>

Long-term goals

To support of the goals of the NOPP Education, Outreach, and Training activities by providing a telepresence for science education and developing K-12 marine science curriculum and supplemental activities.

Objectives

The immediate goals of this project are to expand and enhance the impact of Project Oceanography by increasing participation of scientists, teachers, students, and the community, and by improving production quality and format.

Approach and work plan

Our approach is to upgrade our program format to produce a more marketable product while maintaining and expanding our existing viewership by re-broadcasting the best of our past programs during the 2002-2003 school year. We proposed to rebroadcast past programming while producing a demonstration video for marketing future Project Oceanography series.

Work Completed

We have hired a media consultant to assist in development of a marketing plan and brochure which will allow us to expand our viewership to new sites, thus building our network while new programming is developed and new sponsors solicited. The preliminary plan is completed, and we are beginning the implementation phase.

Production of a newly formatted demo program is on schedule for broadcast on Feb. 14, 2003. This will be a full 27.5 min video on hydrothermal vent science which will air as the 13th (and only new) program of our 2002-2003 series. Along with Project Oceanography Producer Robin Cooper (Future Vision), our partners in this endeavor are Kristen Kusek (USF Science Journalism Center), and Alex Low (Stephen Low Distribution Inc.), who are jointly working on an NSF-supported educational outreach program affiliated with the IMAX film Voyage into the Abyss (Informal Science Education, NSF Proposal #0087679, \$2+ million). Voyage into the Abyss was filmed in HD (high definition) format and will be shown to audiences around the world in IMAX theatres. The high-fidelity images have amazed even those scientists who have visited the deep in the submersibles. Stephen Low Distribution, Inc. will provide access to the high-fidelity images/video and deep ocean science experts involved in the film effort. The Project Oceanography television broadcast will provide them with an ideal educational tool to

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“fill in the gaps” and provide standards-based educational context for the host of vent science topics introduced during the 43-minute IMAX film.

### Results

We have now rebroadcast 9 past programs and have found no net decrease in the number of sites using Project Oceanography. While this is not surprising, in that we know teachers continue to use programs from year to year, as the students in their classes are different each year, we had thought that the ITV stations might choose to play taped programs rather than downlink our satellite feeds. It appears that most stations find it more convenient to program their broadcast in advance, hence our continued airing of programs appears to be successful.

### Impact and applications

#### Science Education and Communication

We anticipate that this project will lead to improved scientific literacy of a broad audience in both formal and informal learning situations, resulting in a well-informed citizenry better able and prepared to make sound personal and political decisions regarding science and society. Because access to our programs is free and low-tech, we also anticipate greater interest in the global environment, especially in young students who might be inspired to become future scientists and environmental stewards, and increased commitment by underrepresented students towards careers in science related fields.

### Transitions

#### Science Education and Communication

Our intention is to capitalize on our association with Stephen Low Distribution Inc. and the Voyage into the Abyss: Education outreach Project to provide a major marketing and publicity tool for Project Oceanography. We intend to use this program to launch a new series of 13 programs for the 2003-2004 year, and subsequent years as well. We anticipate that this project will lead to strengthened partnerships among all parties interested in marine science, including universities, schools, government agencies, museums, research laboratories, and communities across the country.

### Related projects

Two new NSF funded projects at the College of Marine Science, USF were initiated in 2002. A Florida Center for Ocean Science Excellence (FCOSEE) and a GK-12 award for training science graduate students for participation in classroom teaching. Project Oceanography adds value to both of these new projects by providing materials and examples of marine science curriculum suitable for use in the middle school classroom. Other collaborative projects are in association with an NSF Biocomplexity Award (J. Paul, USF) for viromics and an autonomous microbial geosensor; and two pending proposals on Carbon cycling in the Gulf of Mexico (C. Del Castillo, NASA) and acoustics and molecular genetics in fish and dolphins (D. Mann, USF). The intent is to produce and broadcast one or more programs on each topic for future Project Oceanography series.

## A National Oceanographic Partnership Program Award

### Publications

1. Walker, S.H., P. Coble, and F.L. Larkin, 2000: Ocean sciences education for the 21st Century. *Oceanography*, 13, 32-39.
2. Coble, P.C., T. Greely, M. Hewitt, and C. Leard. 2001. Project Oceanography: Enhancing Middle School Science Education Nationwide Via Instructional Television. American Meteorological Society, 2002 Meeting Extended Abstracts.
3. Tebbens, S.F., P.G. Coble, and T. Greely, 1998. "Teaching Marine Science to the Next Generation: from summer camps to weekly nationwide distance learning broadcasts" *EOS* Vol. 79:11.
4. Coble, P.G. and J.A. Rasure. 1999. Project Oceanography: bringing Oceanography from the ocean, the laboratory, and space to students in the Middle School classroom. *Oceans '99 MTS/IEEE Conference Proceedings* p. 1267-1269.