Education Action Plan
Ocean Observatories Initiative

OOI Preliminary Design Review
December 4-7, 2007
Arlington, VA

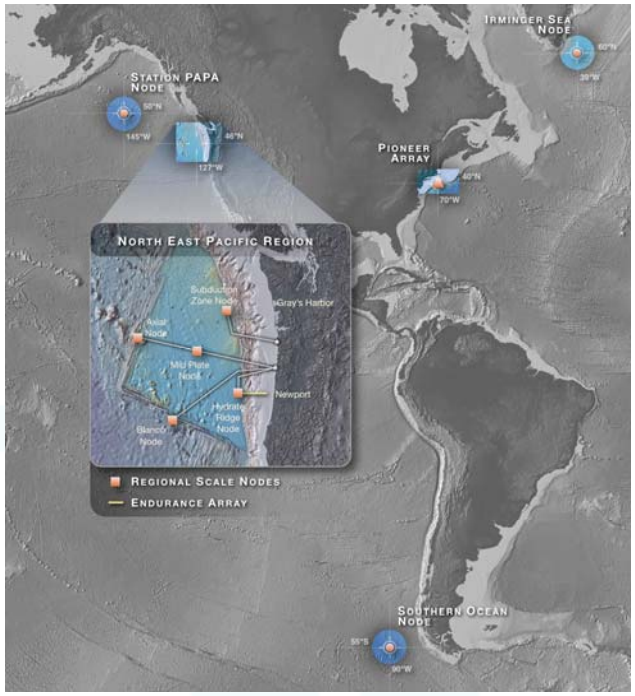
OCEAN OBSERVATORIES INITIATIVE

- Overview and Background
- Goals and Strategies
- Implementation
- Integration with IOs
- Timeline

Expectations

OOI EPA program will:

- have an impact on a nation-wide scale
- enhance the size, intellectual scope, diversity and sophistication of the ocean education user community
- emphasize the creative opportunities enabled by the transformative aspects of the OOI
- develop partnerships between scientists, formal and informal science educators, and technology specialists in ways that will extend the impact of OOI accomplishments most effectively
- promote a culture of open access to OOI assets for the broadest set of audiences and partnerships.



Background

- $5M of the projected $331M of capital investment for the OOI focused on an education and public awareness effort.
- MREFC restrictions on how funds can be spent are the same as those for the IOs.
- NSF/OCE Education Program Officers anticipate significant support for competitive education awards separate from the MREFC funding (~600K/yr).
- The present plan is based on the Puerto Rico Workshop report, the EPAC Plan, the Blue Ribbon Panel report and input from the OOI steering committee and members of the ocean education community.

Common Education Infrastructure: The foundation for long-term OOI EPA efforts

- essential infrastructure needed to build the capacity for engaging non-scientist users
- suite of data visualization, analysis and modeling tools and products, and audience appropriate user interfaces
- enabling technology that provides open access to OOI educational and scientific content and services

Goals:

- Increase public awareness, appreciation and understanding of the ocean's role in the Earth system.

- Increase participation and diversity in science, engineering and technology careers, particularly those related to ocean sciences.

Strategies:

- Support "free choice" ocean science learning in a variety of both physical and virtual settings

- Support online post-secondary career, technical and educator training programs

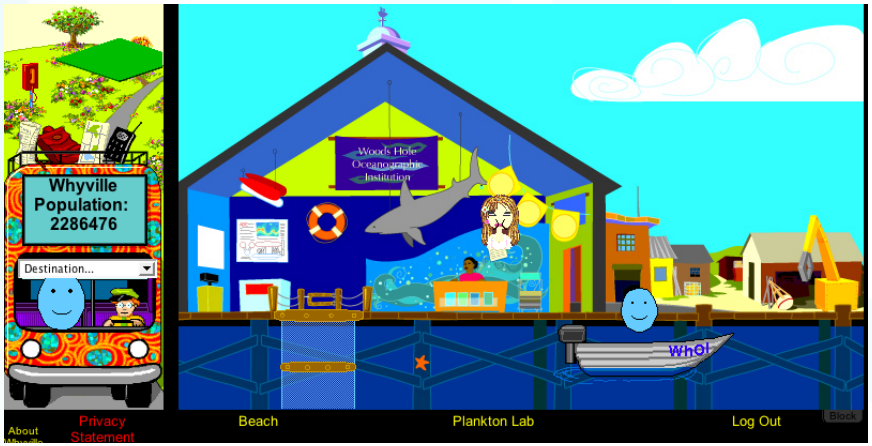
These strategies:

- directly support EPA goals.
- complement and leverage, rather than duplicate, existing ocean education activities and programs.
- allow for the creation of education infrastructure that can be adopted and adapted for different audiences.
- leverage and build on the OOI cyberinfrastructure.
- align with national strategies for the future of STEM education.

Free choice learning environments

- Science centers, aquariums and museums
- Online virtual environments
- Broadcast and internet media

The pervasiveness of technology and media has dramatically influenced where and how individuals learn. OOI must be responsive to this change.



http://cosee.umaine.edu/cfuser/demo

Online training programs

- Graduate and undergraduate training and course work
- Community college technical training programs
- Educator training programs

The OOI must build capacity for OOI data, tools and services to be used by a broad spectrum of users.

Constructing a Common Educational Infrastructure

- Open competition for an Education Infrastructure Facility (EIF)
- Comprise a group of partners with the requisite knowledge, skill, and experience to create the robust, pedagogically sound infrastructure for prototype educational products and future education programs
- Follow rigorous user requirements assessment, design and engineering processes (similar to CI)
- Collaborate closely with CI IO design and EPA teams

The Education Infrastructure Facility will:

- develop the management structure and staffing necessary for a coordinated and coherent program that is aligned with the OOI science and technology research objectives and consistent with EPA goals.
- Establish collaborations with the IOs.
- proactively seeks external science and EPA partners and funding.

Leveraging IO EPA investments

- Each IO has made a commitment to support OOI EPA through a combination of institutional matching funds, in-kind contributions and personnel time, as well as through existing EPA programs and partnerships.
- The IOs have strong connections within the ocean education community, science centers and aquariums, and with groups or initiatives that already have audiences in the tens of millions (e.g., university cable TV channels; virtual world web sites).
- By working collaboratively with the IO education teams, the EIF will leverage the OOI investment in cyberinfrastructure, have natural test beds for education infrastructure components and prototype products and will be able to capitalize on existing IO education partnerships and resources.

It is through the IOs, that education and public awareness efforts are most firmly integrated into the OOI's science mission and cyberinfrastructure planning.

Example EPA Management Strategy

- Management Team comprising education representatives from each of the IOs, at least one member of the EIF team, and the OOI EPA Program Manager
- Responsible for establishing communication, planning and coordination activities for the OOI EPA Program
- Responsible for identifying and prioritizing opportunities for collaboration/partnership
- Respond to recommendations of an external advisory board

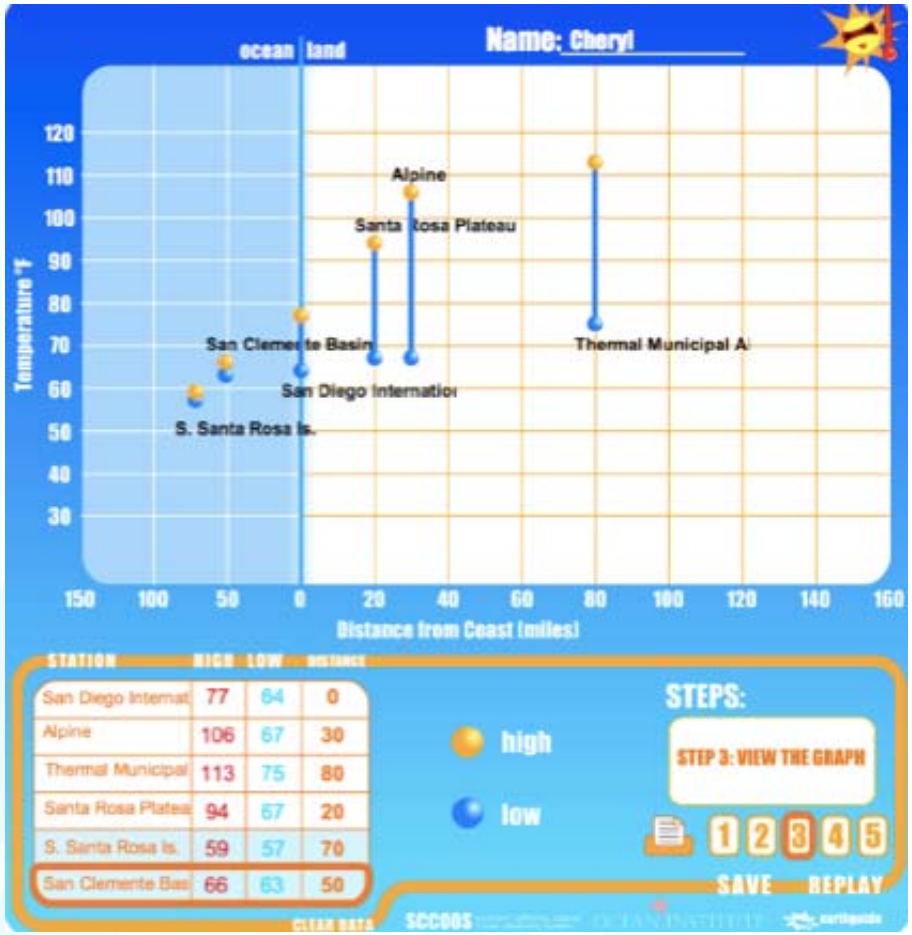
Education infrastructure schedule baseline milestones:

Year 1	Release RFP for education 03/09
Year 1	Contract Award Education Infrastructure Facility - 06/09
Year 2	Education infrastructure requirements workshop - 11/09
Year 2	Issue Infrastructure System Engineering Plan - 05/10
Year 3	Complete design free choice learning and post-secondary training - 05/11
Year 4	Beta Test Free choice learning and post-secondary training environments - 05/12
Year 5	Education Infrastructure Operational - 06/13

IO and Program Office Contributions

CI IO	RSN IO	C/GSN IO	Program Office
Scientist training	Education oriented research cruise(s)	Visualizations and animations	Communications
Visualizations and animations	Partnerships for education modules	Outreach to Policy Community	EPA Program Management and Coordination
Educational Prototypes	Partnerships for TV documentaries	K-12 Online learning environments	
OOI CI Education Web Portal	Science center and museum partnerships	Science center and museum partnerships	

Simple Graphing and Modeling Tools



User Interface Prototypes

- Informed by user needs assessment
- Complementary collaborators will be COSEE Networked Ocean World and COSEE Ocean Systems
- Based on use case scenarios for variety of non-scientist audiences