

**Outreach at the Cooperative Institute for Oceanographic Satellite Studies**  
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Outreach is an integral activity at the Cooperative Institute for Oceanographic Satellite Studies (CIOSS), the newest cooperative institute sponsored by NOAA/NESDIS.

Located in the College of Oceanic and Atmospheric Sciences (COAS) at Oregon State University (OSU), CIOSS addresses *outreach to the scientific community* through workshops related to its four Research Themes: **Satellite Sensors and Techniques**, **Ocean-Atmosphere Fields and Fluxes**, **Ocean-Atmosphere Models and Data Assimilation**, and **Ocean-Atmosphere Analyses**. Workshops that have been held or are planned focus on: planning for future ocean color sensors; ocean vector wind measurements; climate data records for ocean color; Cal/Val for ocean color; design of a pilot observation/modeling system in the California Current; and data assimilation in coastal circulation models.

CIOSS addresses *outreach to the general public* through its fifth theme, **Outreach**, consisting of: **Formal Education**; **Informal Education**; and **Data Products and Access**. Improved data products and data access are primarily accomplished through collaborations with the NOAA CoastWatch/OceanWatch program.

**Formal Education in the SMILE Program:** CIOSS is helping the Science and Math Investigative Learning Experiences (SMILE) program to develop its high school curriculum and activities in the thematic areas of Oceanography and Remote Sensing.

The SMILE Program works to address issues of higher education readiness, access and diversity through academic enrichment and outreach in science and mathematics for pre-college students in grades 4-12. The work of SMILE is intended to significantly improve the educational outcomes of underrepresented and underserved students.

The High School SMILE Program culminates in an annual High School Challenge Event, where SMILE club members work in teams of students from around the state on a community-based scenario. The 2005 Challenge featured a realistic oil spill scenario. Students examined data to learn the extent of the spill, the direction of coastal currents, weather impacts, and the marine and coastal ecology of the area involved. Students collected data pertinent to the developing situation, examined options for oil recovery or remediation, developed a plan informed by the data, and implemented strategies to communicate that plan. They had to defend that plan to “community members, experts and other stakeholders,” as played by teachers, OSU students and faculty.



**Students at the 2005 High School Challenge**



**An existing interactive exhibit**

**Informal Education at Hatfield Marine Science Center (HMSC):** CIOSS is helping HMSC to build an interactive public display that will highlight the use of remote sensing to monitor the coastal ocean off Oregon and in other coastal locations.

Located on the coast, approximately 75 minutes from OSU, the Hatfield Marine Science Center houses marine science laboratories from OSU, NOAA, EPA and the State Department of Fish and Wildlife. It also houses the OSU Hatfield Marine Science Visitor Center – a unique, dynamic environment for lifelong exploration and discovery. The Visitor Center encourages adults and children to enjoy marine science.

The Visitor Center also provides opportunities for conducting research on devices, methods, and concepts for informal science education that will advance the art of public education. It effectively provides a “laboratory” for informal education.

CIOSS is supporting the development of an interactive display on oceanography and remote sensing. This activity forms the research for the PhD thesis of OSU student Molly Phipps. An interactive, touchscreen display will allow visitors to explore satellite data sets showing the surface of the ocean, as well as in situ data sets that allow the visitor to fly through the ocean underneath the surface.

For more information, please visit the following websites:

Cooperative Institute for Oceanographic Satellite Studies (CIOSS)

<http://cioss.coas.oregonstate.edu/>

College of Oceanic and Atmospheric Sciences (COAS)

<http://www.coas.oregonstate.edu/>

Center for Satellite Applications and Research (STAR)

<http://www.orbit.nesdis.noaa.gov/star/>

Science and Math Investigative Learning Experiences (SMILE) Program

<http://smile.oregonstate.edu/>

Hatfield Marine Science Center (HMSC)

<http://hmsc.oregonstate.edu/>