

2011

## **Internal Chronology: Activities of CIOSS Fellows at the College of Oceanic and Atmospheric Sciences, Oregon State University**

updated January 30, 2012

\*CIOSS Fellows are in bold.

**January-December:** CIOSS was asked to provide monthly project milestones to show progress throughout the year instead of only once in our annual technical report. All of the [Milestone PowerPoint slides](#) can be found on the CIOSS website.

**January:** **Mark Abbott** has been elected president-elect of the Oceanography Society Council. The council is the governing body for The Oceanography Society, which disseminates knowledge of oceanography, enhances research and education, promotes communication among oceanographers and brings together different disciplines.

**January 20:** **Curt Davis** gave a seminar entitled, "The Hyperspectral Imager for the Coastal Ocean" for the COAS Chemical/Biological Oceanography Seminar series.

**January:** **Angel White** has been featured in the news talking about the amount of plastic in the ocean based on cruise data taken in 2008.

**January 28:** The Winter SMILE Highschool Teacher Workshop was held at LaSells Stewart Center on the OSU campus. Amy Vandehey helped develop and present an activity on finding salmon using physical habitat characteristics.

**February 2:** The [CIOSS Year 8 Annual Progress Report](#) was completed and turned in through NOAA Grants Online.

**February 8:** **Alexander Kurapov** and Peng Yu gave a seminar entitled, "Data Assimilation Component of the Real-Time Oregon Coastal Ocean Forecast System" as part of the COAS Physics of Oceans & Atmospheres Seminar series.

**March:** A new [CIOSS Brochure](#) was published with up-to-date research by CIOSS scientists.

**March:** **Curt Davis** and HICO have been featured in several recent news releases. Here is one from a local news station published 3-31-11:  
CORVALLIS, Ore. -- New images taken every day from space are helping OSU researchers get a better understanding of our coastal regions and how certain events might affect them.

HICO, or the Hyperspectral Imager for the Coastal Ocean, is the first space-borne sensor designed to allow scientists to better analyze the impact of climate change and human activity on the world's coastal regions.

"Oil spills, plankton blooms, river plumes, particularly how they effect the productivity of the coastal ocean," said Curtiss Davis, HICO Project Scientist and OSU Oceanographer.

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From space, HICO sends a high-resolution picture of a section of the coastline. And with that higher resolution, researchers can see more specific details that weren't visible before.

"This is the map you can get of Pusan from Google Earth. Overlay a HICO image over that, we see similar detail about the land side but much more information about what's in the ocean," said Davis.

Zoom in even more and you can see the complexity of the coastal ocean.

"Now you can see all these small eddies and features, of course there's boats," said Davis.

Useful images that scientists say haven't been available until recently.

"We understand what is going on in U.S. coastal waters, how can we apply that to other areas around the world?" said Davis.

The information might also be useful to fishermen.

"HICO, together with other things, tell us that we need to manage the fisheries this way, different than what we thought before. And so when we do that, there's more crabs, there's more fish," said Davis.

The website not only allows the general public to take a peek at the unique images, but it also allows researchers all over the world to sign up and utilize the information.

"We want people to work with the data and find out different things about the different areas in the world and do their own projects," said Jasmine Nahorniak, Developer of the HICO Project website.

Scientists say they hope to have more of these instruments up and running in space in the future. And that will allow them to view even more images every day.

Photo courtesy: <http://hico.coas.oregonstate.edu/>

**March 22-24: All-NOAA CI Directors and Administrators Meeting: Ted Strub** and Amy Vandehey attended the all NOAA CI Director and Administrator's Meeting that was held in Silver Spring, MD. Presentations and notes from the meeting can be found on the CIOSS website: <http://cioss.coas.oregonstate.edu/CIOSS/meetings.html>.

**March 23-25: NOAA Ocean Satellite Data Course:** This annual 3 day course, organized by Cara Wilson and Dave Foley, (NOAA/NMFS/SWFSC - Environmental Research Division) provides an overview of the types of environmental satellite data available, where and how to access the data, and methods of working with the data, including importing into GIS applications and the use of OPeNDAP. CIOSS associate Nick Tuffillaro presented a lecture on "MERIS data and products."

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**April 7: NOAA Regional Team Visit:** CIOSS was encouraged by John Cortinas (NOAA) to contact our local NOAA Regional Initiative Team to introduce them to the scope of our NESDIS Cooperative Institute, and discuss possible collaborations. This resulted in a visit in April from Timi Vann (NWS, Seattle - Office of ASST, Regional Coordinator) and John Stein (NOAA NMFS/Acting Science Director, Northwest Fisheries Science Center). Michelle Schmidt (NWS-Western Region - Salt Lake) was unable to attend at the last minute. Timi and John were interested in talking with CIOSS about some of NOAA's collaborative activities in the region and to give an update on agency priorities, and how those priorities are being executed regionally. They also wanted to take the opportunity to meet with other groups on the OSU campus, such as Oregon Sea Grant and the regional integrated sciences and assessments (RISA) program, funded by NOAA.

### AGENDA

9:00 AM - Welcome by COAS Dean **Mark Abbott**; Initial discussion of the visit objectives. NOAA team, CIOSS Director **Ted Strub** and CIOSS Admin Specialist Amy Vandehey

9:40 AM - Meet with Phil Mote and Josh Foster, Director and Program Manager of RISA and the CSC

10:40 AM - Meet with Stephen Brandt, Director of OSU Sea Grant

1:30-3:00 PM - 15-Minute Presentations to the Regional Team

1:30 PM - CIOSS Intro, **Ted Strub**

1:40 PM - **Curt Davis**: CIOSS Theme 1, Satellite Sensors and Techniques: Ocean Color (Bio-Optics) Sensor Development

1:55 PM - **Angelicque White**: CIOSS Theme 2, Ocean-Atmosphere Fields and Fluxes: Harmful Algal Blooms in the Pacific Northwest

2:10 PM - **Hal Batchelder**: CIOSS Theme 3, Models and Data Assimilation: Ecosystem Models off Oregon and Washington

2:25 PM - **Dudley Chelton**: CIOSS Theme 4, Ocean-Atmosphere Analysis: Multi-Sensor Investigation of Mesoscale Eddy Characteristics

2:40 PM - **Ryan Collay**: CIOSS Theme 5, Outreach and Education: The OSU SMILE Program

3:30 PM - Timi Van, John Stein: NOAA's Western Regional Collaboration: Regionally-Tailored Implementation of NOAA-Wide Programmatic Priorities

**April 14-15: The SMILE High School Challenge:** The event took place at Western Oregon University and Oregon State University. In this year's challenge, students used remote sensing data (satellite, rover, buoy, array) to determine the location and habitat characteristics that support various fisheries (including Salmon), in order to make informed decisions that helped

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their community catch and market healthy, sustainable, and economically viable seafood. Based on ocean conditions and habitat, students located possible fisheries and decided if they are sustainable, economically viable, and healthy for human consumption.

**April 28: Dudley Chelton** contributed to a news article published in ScienceNOW, an online science magazine, regarding surface eddies and their effect on ocean bottom conditions (<http://news.sciencemag.org/sciencenow/2011/04/deep-waters-may-not-run-still.html>).

**May 9:** Catalina Aguirre, visiting **Ted Strub** from the University of Concepcion, Chile, gave a seminar entitled, “Seasonal Dynamics of the Alongshore Flow off Central Chile” for the COAS Physical Oceanography Seminar series. This was part of a visit by Catalina and Oscar Pizarro to continue collaborations on a paper with **Ted Strub** and **Jack Barth** on seasonal ocean variability off Chile.

**May 12-13: Spring High School Teachers Workshop:** Workshops provide professional development learning opportunities for high school teachers serving as SMILE Club advisors and help teachers gain ocean science content knowledge, as well as enhance pedagogical skills that foster engagement. Teachers have a chance to evaluate the programs presented during the year for aid future curriculum development.

**June 7-8: NESDIS CI Directors Meeting, August 17-18 – NESDIS Administrators Meeting:** CICS-NC hosted this year’s NESDIS CI Directors and separate Administrators meetings in Asheville, NC. Ted Strub and Amy Vandehey attended their respective meetings. Notes from the Admin meeting can be found [here](#).

**July 12:** Amy Vandehey met with Alicia Christensen (SMILE) and Laura Dover (PhD student in Science and Math Education) to brainstorm about the overall SMILE highschool theme, including afterschool club activities and the 2-day challenge event in April 2012. Alicia was trying to build on past synergies with educators in the Suitland, MD school district and coordinate an East coast/West coast type of challenge event.

**July – August:** Dick Reynolds (CICS-NC) visited Dudley **Chelton** to support CIOSS’ collaboration with CICS.

**August 9-11: Summer High School Teachers Workshop:** SMILE held their Summer Teacher Workshop at La Sells Stewart Center in Corvallis. The theme for the 2011-12 SMILE High school after school activities and Challenge Event is climate change, microbes and oceans and human health.

**August 16-17: Annual NESDIS CoRP Science Symposium:** CIOSS sponsored the travel costs for 6 students and staff to attend the annual STAR Science Symposium at NCDC in Asheville, NC: **Dudley Chelton** (Professor), **Alex Kurapov** (Professor), Peng Yu (post-doc), Roberto Venegas (faculty research assistant), John Osborne (physical oceanography PhD student), Meredith Payne (PhD student). This year's theme was using satellite observations and models to understand and communicate information on climate variability and change. Meredith Payne received an award for the best oral presentation.

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**August-September:** Ted Strub attended various NOAA meetings to present CIOSS projects and seek additional funding, including a Climate Data Records meeting in Asheville, NC (August), and a GOES-R meeting in Huntsville, AL (September).

**October 16-21:** [Coastal Altimetry Workshop – 5](#): Support was provided for workshop costs and travel to allow graduate students and other early career scientists to attend the Fifth Coastal Altimetry Workshop and Ocean Surface Topography Science Team Meeting in San Diego, CA (October). Supporting the workshop and participation by graduate students increases the future use (and number of users) of altimeter data in coastal regions, addressing a wider range of applications with societal benefits.

The following people were supported to attend this meeting, along with their presentation titles:  
M. Le Henaff, I. Androulidakis and Prof. V. Kourafalou, RSMAS, Miami: “Modeling and in Situ Observations around the Florida Keys Coral Reefs: Potential Applications of Coastal Altimetry”  
M. Nienhaus and Prof. S. Bulusu, U. N. Carolina: “Altimetry Observations of Coastal Kelvin Waves in the Bay of Bengal”  
K. Tseng, Ohio State U: “Radar Altimetry Waveform Retracking Applied to Coastal Ocean and Narrow Inland-Water Bodies”  
R. Venegas, J. Van Wakeman, P. Mazzini, P. Gaube Oregon State U: “Altimeter Analysis of Seasonal Circulation Over the Patagonian Shelf”

**November 1 – Local Council of Fellows Meeting:** A meeting was held with the local CIOSS Council of Fellows and OSU’s Vice President for Research, Rick Spinrad. The meeting was primarily to discuss CIOSS’ future and the present timeline for NOAA to decide if they want to fund an Ocean Remote Sensing CI. One outcome of this meeting was a [statement](#) from CIOSS Director Ted Strub (with Rick Spinrad’s support) affirming NOAA’s continuing need for a CI with this type of research focus.

**November 14-15:** Amy MacFadyen, from NOAA's Office of Response and Restoration, visited CIOSS. She gave a seminar entitled, "Use of Model Fields for Trajectory Predictions at NOAA's Office of Response and Restoration." The purpose of her visit was to let her know the range of activities in the CEOAS department related to ocean modeling and observing

**November 17-18:** Clive Dorman, from Scripps Institution of Oceanography, visited CIOSS. He met with several groups to discuss scatterometer projects.