

2004

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

January 3-8: Strub (and Barth and Abbott) attended ORION meeting for NSF OOI. Strub gathered a fare amount of outreach materials.

Jan 13-March 1: Janine, Ted and Dusanka Zupanski determined dates for a rescheduled visit by Dusanka and other CIRA people to be April 27-28. Janine began scheduling the details of the visit and travel arrangements.

January 13: Fran Holt asked to reschedule our coordination meeting and Eric said the first or last week in March. Strub responded that we needed to talk about this more and might have to postpone until mid-June or later due to teaching.

January 14: Fran didn't respond to Strub's request to talk. Instead she reminded him that our year 2 proposal is due Jan 30. Eric responded that it is due Jan 23.

January 14: Strub offered his thoughts on what could make a productive meeting in March, preparing for the NPP and NPOESS eras. Strub included participation by Dick Reynolds, NASA, NRL and Pete Strutton. Fran responded that, **“External (NASA, NRL) participants are not being considered for this meeting. We have many internal (ORAD and CIOSS) topics and issues to discuss. Right now, getting the year 2 proposal package completed is the highest priority.”**

January 14: Worked a bit with Craig Risien on the web site. Strub will look for words for the vision, strategy, etc. statements.

January 14-15: Strub decided to knock out a progress report and proposal using as much boiler plating as possible. He sent a rough copy of some and template of the rest to Marilyn. Marilyn, Janine and Strub had two conference calls and worked on the “background” and “progress” parts.

January 14: Young-Heon Jo was informed he is on the short list.

***** Explanation for the Firedrill on **Jan 15-23** to complete the first “semi-annual” report for CIOSS immediately and the year-2 omnibus proposals by next week:

- * The nominal Start Date for the overall 5-year project was set by ORA (in January 2003) to be April 1, 2003.
- * NOAA lawyers signed the legal documents for CIOSS around April 28 (Withee call Tim White to congratulate him, etc.) Funds for the administrative aspects of the proposal were received on May 14, 2003.
- * The start and end dates for year 1 research activities were set by ORA to be June 1, 2003 to September 30, 2004.
- * The research proposal paperwork was signed at NOAA on September 30. Funds for the post-doctoral positions and the GIS work were received around October 15, 2003.
- * When it received its first amendment (starting research funding) on October 15, 2003, CIOSS was informed that semi-annual progress reports were expected, starting from April 1, 2003,

2004

making CIOSS almost 1-2 months late for the first report submission at the time it was informed of the requirement. In fact, the need for semi-annual reports and the use of the April 1 start date for those reports was contained in foot notes to the award (dated October 21 from OSU) and was not brought to the attention of the Director of CIOSS until December 30, 2003.

* The same April 1, 2003 is used to set the clock for the second year proposals, due at GMD 60-90 days before the anniversary, i.e. February 1. On January 14, 2004, ORAD informed the CIOSS Director that the second year proposals (Administration and Research) were, in fact, needed by January 23, 2004. Others in NOAA reminded him that the progress report was expected immediately.

* On 14-16 January, Strub, Kobel and Moll worked on the proposal/progress report.

January 16: Mike F. talked to both Colton and Bayler at AMS. They need more feedback, they are being pinged on by “matrix mgt” or something and they are passing it on to us. Send them “reports” every ~2 months and schedule weekly phone calls.

January 21: Sent draft of proposal and progress report, prior to Ocean Sciences meeting in Portland.

January 27: Met Young-Heon Jo (post-doc candidate from U. Delaware). He seems ok but is committed to stay at U. Del with Yan until December 2004. Strub asked him to see if he could be freed sooner and he will talk to Yan.

January 28: Dinner with Bayler in Portland. He made changes to the progress report and proposal. Discussed March 4 plans (no real resolution). He first mentioned the need to respond to a new call for proposals on Oceans and Human Health (OHH).

January 29: Met with Bayler, Mark Abbott, Peter Minnett about the OHH proposal. Decided to go forward. \$500K each for RSMAS and COAS, \$250 each for “downlink” (really people’s salary). \$100K for ORAD. Entrain Peter Strutton (satellite color and biology), who will be joining COAS as a tenure track assistant prof in July.

February 2: Began OHH proposal. Strutton, Letelier, Michelle Wood say yes.

February 3: Chris Brown also worked on this proposal. He wanted to collate a bunch of detection algorithms on the web.

February 4: Young-Heon Jo informed us that he must stay at Delaware until the end of the year (December) but to keep him in mind after that.

February 5: Strub had a long talk with Bayler and moved plans for March 3-5 forward. Chelton, Egbert and Strub will visit. Letelier and Clark (and Abbott) can discuss coastal collaborations while in Hawaii.

February 6: Started Year 2 Proposal through OSU (can change text). Money amount of \$519K is ok’d by Bayler and he puts that number in his overall spreadsheet. Sent to Bayler, Moll and LeFevre.

2004

February 7-11: Worked on OHH proposal. On February 11, Bayler gave it to Marie Colton. Strub suggested it was still a hodge-podge and that Bayler should cancel Hawaii. Strub stayed up until 4AM working on sections 1, 2, 3a-3d. Mark sent CIOSS admin capabilities.

February 11: Sent **Year 2 Proposal** to Kathy LeFevre (original + 4 copies). She will have Bayler sign. It arrived Feb 12 while Janine was on the phone with Kathy. Emailed **Year 1 Progress Report** to Bayler, Moll.

February 12: Bayler cancelled Hawaii and will send schedule for working on the OHH proposal. He said Strub could take charge of integrating the work statement. Marie Colton sent her thoughts about the work statement restructuring. Marie and Eric will work on this until next Tues.

February 12: Mailed **Year 1 Progress Report** to Bayler – Original + 4 copies.

February 13: Chelton paper appeared in Science: Chelton, D. B., M. G. Schlax, M. H. Freilich and R. F. Milliff, 2004: Satellite measurements reveal persistent small-scale features in ocean winds. Science, 303, 978-983.

February 17: The OHH proposal was mailed by Bayler. Over the last weekend, Marie and Eric joined Peter, Ted and Michelle in working on it non-stop. Marie drastically chopped the project descriptions Sunday February 15. Peter and Chris Brown added some material back on February 16-17 and the final draft still had to be chopped by Eric to fit the requirements.

February 18: Eric Bayler said he signed the Year 2 proposal and sent it to GMD either Feb 18 or Feb 19.

February 19: Fran sent info about a call for proposals for “Minority-Serving-Institutes” (MSI). Strub forwarded to SMILE and NAMSS. Judith Vergun eventually said that they were an MSI in Hawaii and might partner with others. Strub sent Eda Davis-Butts an email suggesting that SMILE partner with NAMSS.

February 24: Fran Holt sent draft agenda for the March 3-5 meeting at ORA HQ. Dudley, Gary Egbert and Ted will attend with multiple purposes. John Allen added himself, since he was going to be at an MMS meeting anyway.

February 24: Janine made and sent to me a skeleton 5-year plan, with the year-2 proposal material added at the front.

February 24: Marilyn Moll faxed a copy of the approval for the year-1 progress report, signed by her in Eric’s absence.

February 24-March 1: Fran, Bob Cheney, Stan Wilson, others continued to hone agenda for CIOSS visit to ORA HQ March 2-5.

February 25: Fran wanted to start to discuss CI Directors’ mtg agenda. Strub suggested NPOESS reviews and status.

2004

February 26: Ted Strub convened a meeting that included Melissa Feldberg of OSU's The SMILE (Science and Math Investigative Learning Experience) Program, CIOSS Fellow Jon Luke of OSU's Hatfield Marine Science Center (HMSC) public wing, CIOSS Administrative Specialist Janine Kobel, and himself, to allow Melissa and Jon to share possible collaborations for CIOSS outreach. Melissa explained The SMILE program and Jon told of an upcoming meeting he plans to attend (IOOS Education Workshop) that Melissa might be interested in hearing about later.

February 26-27: Pete Strutton and Michelle Wood discussed and submitted a letter of intent for an OHH follow-up proposal (follow-up to the "Center" OHH proposal submitted by E. Bayler).

March 1: Janine also worked with Andrew Bennett on details of hosting a workshop at COAS in early June for his data-assimilation project.

March 1: Post-doc Jianglong Zhang was hired by Jim Coakley to create a long-term climatology of the surface radiation budget in the NE Pacific. Zhang later decided to go elsewhere.

March 3-5: Visit by CIOSS scientists (Strub, Chelton, Allen and Egbert) to ORA/ORAD and NCEP. During this visit:

- Dudley Chelton presented a seminar on the characteristics of small scale wind variability as resolved by scatterometer data: "Scatterometer-Based Assessment of Surface Wind Analyses from the NCEP and ECMWF Models."
- Dudley Chelton presented a second seminar on the effect of changing the SST fields used as boundary conditions for global atmospheric weather forecast models. "The Impact of SST Specification on ECMWF Surface Wind Stress Fields in the Eastern Tropical Pacific." Ted Strub and Dudley Chelton met with Marie Colton, Fran Holt and Eric Bayler to discuss plans for CIOSS activities over the next year and to coordinate those plans with activities within ORA/ORAD.
- Ted Strub met with Kent Hughes to discuss COASTWATCH PLANS for moving into the IOOS era over the next few years.
- Dudley Chelton met with Dick Reynolds to discuss research plans that will improve the spatial resolution of the Reynolds weekly SST fields
- Dudley Chelton and Ted Strub met with Joe Sienkiewicz, who demonstrated how the ocean forecasters use QuickSCAT data in their marine forecasts of winds and waves.
- Dudley Chelton and Ted Strub met with Steve Lord, Dave Behringer and Yan Xue to discuss plans at the Environmental Modeling Center over the near future, for analyses of the new coupled model (GODAS) results.
- John Allen, Gary Egbert, Ted Strub and Dudley Chelton met with Carlos Lozano, Dave Behringer, Yan Xue, Eric Bayler, Bob Cheney and Laurie Miller to discuss coastal ocean modeling in NCEP.
- Ted Strub met with Eric Bayler to review the outcomes of the above meetings and discuss the 5-year umbrella proposal further.

March 8: Efrain Rodriguez informed us that he is working back in Colombia and withdrew his application from the Strub/Kosro post-doc consideration. All candidates are now rejected or withdrawn and we must start over. Strub asked Janine to make a list of what we have to do to start over (what we can re-use and what we have to do from scratch).

2004

March 9-10: Mike Laurs (Director, PFEL) and Dave Foley (COASTWATCH, West Coast Node) visited CIOSS and discussed the future plans for COASTWATCH along the west coast of the U.S., within the context of the developing IOOS coastal observing plans and the expected CIOSS activities. The COASTWATCH program has expanded from SST and color to include altimeter SSH and scatterometer winds. CIOSS efforts to evaluate and develop better surface fields of fluxes and other parameters fits into the need for improved COASTWATCH products. Scientists involved in the plans for a Pacific Northwest IOOS observing/modeling system discussed their needs with Laurs and Foley.

March 9: Mike Laurs presented a seminar at CIOSS, "The NOAA COASTWATCH West Coast Node: Present and Future Satellite Ocean-Products Along the Western USA".

March 10: The following three manuscripts were submitted for publication in the past couple of weeks:

Chelton, D. B., and M. H. Freilich, 2004: Scatterometer-based assessment of 10-m wind analyses from the operational ECMWF and NCEP numerical weather prediction models. *Mon Wea. Rev.*, submitted.

O'Neill, L. W., D. B. Chelton, S. K. Esbensen and F. J. Wentz, 2004: High-resolution satellite observations of SST modification of the marine atmospheric boundary layer over the Agulhas Return Current. *J. Climate*, submitted.

Chelton, D. B. 2004: The impact of SST specification on ECMWF surface wind stress fields in the eastern tropical Pacific. *J. Climate*, submitted.

March 12: A proposal was submitted to NOAA/NOS/CSC, "NOAA SCS: Technical Assistance for Coastal Managers Program: Minority Fellowships for Education and Research Opportunities in Applying GIS and Remote Sensing in Coastal Resource Management," by CIOSS investigators Dawn Wright and Jim Good. If funded, this proposal would initiate a new minority graduate fellowship program in which students' degrees would focus on coastal resource management, GIS, and remote sensing. Students will also participate in intensive research partnerships with faculty and hands-on workplace experiences in geospatial information technology, leading to a three-month internship resulting in possible permanent employment. This proposed work builds on present collaborations between Drs. Wright and Good within CIOSS and colleagues at the Coastal Services Center (CSC), funded by CIOSS during its first year of operation. This proposal is now funded. Grad students in 2nd year.

March 16: Janine and Ted met and reviewed current projects Janine is working on (new "weekly reports" to NESDIS, keeping chronology up to date, beginning a new postdoc search for Strub/Kosro, ITR meeting arrangements for Bennett, coordinating CIRA visit) and new assignments (making suggestions to Marilyn for Dir/Adm meeting in June, coordinating a conference call with the Council of Fellows, beginning to make arrangements for the summer wind workshop, sending an outreach and education report to Fran, Eric and Marie to forward to the NOAA Ed Council (Maureen Kaplan?), bugging Eric B. once a week about the special funds that could be used for the SMILE program, coordinating a display for SeaFest at HMSC June 19).

2004

- March 16:** Dawn Wright, CIOSS, presented “Diversity Among GIS and Cartography Professionals,” at the Association of American Geographers Centennial Meeting, Philadelphia, PA (Dawn Wright, Invited Panelist).
- March 17:** Dawn Wright, CIOSS, presented “A New Object-Oriented Data Model for Oceans, Coasts, Seas, and Lakes,” at the Association of American Geographers Centennial Meeting, Philadelphia, PA.
- March 17:** Dawn Wright, CIOSS, discussed “GIS in Marine and Coastal Environments I, II, III, and IV,” at the Association of American Geographers Centennial Meeting, Philadelphia, PA (Dawn Wright, Sessions Organizer, Chair, and Discussant)
- March 17:** Petr Chylek, Space and Remote Sensing Sciences, Los Alamos National Laboratory, presented a seminar at CIOSS, “Aerosols, Water Vapor, Remote Sensing, and Climate.” Hosted by Atmospheric Sciences/CIOSS/Space Grant.
- March 18:** Ted and Eric began their weekly phone calls. Marilyn Moll confirmed with Ted that it would be very helpful for COAS’s new business manager, Matt Wahl, to attend the June Dir/Adm meeting in Fort Collins with Janine and Ted.
- March 22-24:** CIOSS Fellow Jon Luke, OSU Hatfield Marine Science Center (HMSC) visitor center director, attended the Ocean.US/Integrated Ocean Observing Systems (IOOS) Education Workshop in Charleston, SC. Nearly 65 scientists, data managers, and educators attended the workshop. Outcomes of the workshop: 1) a resolution was drafted to create an education network with IOOS to continue promoting IOOS Education; 2) a set of recommendations was developed that will be incorporated into a report and into the IOOS implementation plan. Jon Luke, Dudley Chelton, and Ted Strub have been looking for ways to fund new public exhibits at both HMSC and the Oregon Museum of Science and Industry (OMSI). These exhibits will highlight research in oceanography and remote sensing, carried out by CIOSS Fellows.
- March 23:** CIOSS amendment for \$519,414 was signed by the Grants Office.
- March 24:** Ted and Janine met with the new COAS Fiscal Services Manager Matt Wahl. Before the meeting, Matt read the MoA, Year 2 Proposal, Overview, Progress Report, and Chronology. During the meeting, Ted provided Matt with an overview of CIOSS.
- March 25:** Ted and Eric had their bi-weekly phone call.
- March 29:** Janine began attending the spring term course OC 331, Introduction to Oceanography, as professional development.
- March 31:** Ted and Janine met with SMILE Programs Coordinator Melissa Feldberg and grad student Peter Bower. A general theme of “mapping” has been chosen for this new curriculum Melissa is developing as outreach for CIOSS. The material will lead to exercises in first mapping terrestrial areas around the students’ home town, then will move to the coast, to ocean bottom topography, and then to sequential maps of changing conditions in the coastal

2004

ocean. We are thinking of using the GLOBEC cruise data and satellite imagery from 2000, which includes 3-D “maps” of water properties, plankton, fish, bird, and mammal distributions during June and August. Maps of surface monthly climatologies (currents from the radar, satellite SST, chlorophyll, SSH, winds) should also be used. At the end of the high school year, the students from the 12 school districts come together for a High School Challenge – in which teams are formed and then compete to solve an integrative problem posed during a one-day period.

April 5: Ricardo Letelier accepted his nomination to the CIOSS Council of Fellows. Roger Samelson nominated him at the 12/11/03 Council meeting. The Council plays a leadership role in the maintenance of high standards of CIOSS’ research.

April 7-9: The National Research Council (NRC) Climate Research Committee (CRC) met April 7 and then held a two-day joint workshop with the Coordinating Committee on Global Change. At the CRC meeting, CIOSS Fellow Jim Coakley was assigned to serve as the CRC Liaison for the ongoing NRC study of NOAA Climate Data Records from Operational Satellites. The joint workshop focused on aspects of implementing the U.S. Climate Change Science Plan and the development of a future Academy study of Earth Observations from Space.

April 9: Ted and Janine worked on budget projections in preparation for upcoming Council of Fellows meeting.

April: Janine continued to coordinate logistics and calendars for the second Council of Fellows meeting on 4/14; the visit by CIRA colleagues Dusanka Zupanski and Ken Eis on 4/27-4/28; the visit by William Skirving and Al Strong, both of NOAA/NESDIS/ORAD, on 5/9-5/10; Andrew Bennett’s ITR workshop 6/3-6/4; and the summer wind workshop on 7/26-7/28.

April 14: Ted and Eric had their bi-weekly phone call.

April 14: The CIOSS Council of Fellows met (Mark Abbott, Dudley Chelton (chair), Michael Freilich, Roger Samelson, Ted Strub), with Ricardo Letelier, and ORAD’s Eric Bayler, and Paul Chang joining by phone. Topics included: the Year 1 Progress Report, which Eric liked; the Year 2 core Proposal; the 5 Year Plan; outreach (SMILE and OMSI/HMSC—Eric asked for OMSI paragraph by 4/16); the Vector Wind workshop (Eric has no funds; advised Paul and Mike F to go ahead with workshop even without Windsat data; deal with Windsat in second workshop?); Bennett’s ITR workshop (Eric doesn’t have anyone doing DA); visits by personnel from CIRA and COASTWATCH; weak DA at NCEP coastal modeling and lack of support for SST CDRs, GOES-R SWT for CWI (Letelier); CREST workshop on aerosols; research by present postdocs. Ted asked for reciprocal progress report from Eric along with proactive searches for sources of outreach funds and research opportunities.

April 14-16: CIOSS Fellow Ricardo Letelier attended the NASA Ocean Color Research Team (OCRT) Meeting at the Marriott Metro Center in Washington, DC. This was the first meeting since the OES re-competition for MODIS ocean science, and algorithm validation took place. The discussions and presentations were centered around: 1) the future of Ocean Color as an operational product; 2) new possible NASA multispectral, hyperspectral, and Lidar missions; 3) the funding status of SeaWiFS; and 4) the selection of core MODIS ocean products to be

2004

made available routinely to the community through what was known as the SeaWiFS/Simbios Project (<http://oceancolor.gsfc.nasa.gov/>). Ricardo Letelier will be involved with work groups to define the Ocean Color Products selection and with Calibration/Validation.

April 19: CIOSS Fellow Yvette Spitz was invited to become an editorial board member for the journal *Dynamics of Atmospheres and Oceans*, to “share her expertise and insights in interdisciplinary ocean dynamics and data assimilation.” She will serve until March 2007. The journal exists for the publication of research articles on the fluid dynamics of atmospheres and oceans and their interactions, on related basic dynamical processes, and on climatic and biogeochemical problems in which the fluid dynamics play an essential role. Theoretical, numerical, observational, and laboratory studies are published.

April 27-28: Research Scientist Dusanka Zupanski and Deputy Director Ken Eis from the Cooperative Institute for Research in the Atmosphere (CIRA) at Colorado State University visited CIOSS to discuss possible collaborations on data assimilation and other topics of mutual interest with colleagues at CIOSS. Zupanski presented the seminar “Data Assimilation and Model Error Estimation,” and Eis presented “Overview of CIRA’s Research and Possible Collaborations with CIOSS.” One topic of possible collaboration is the simulation of Top of the Atmosphere (TOA) radiation in bands proposed for future satellite sensors. The TOA radiances in the visible and IR bands on the GOES-R Coastal Waters Imager would be of strong interest.

April 27-28: CIOSS Fellow Jack Barth attended the first meeting of the National Science Foundation’s (NSF) Ocean Research Interactive Observatory Network (ORION) Executive Steering Committee in Washington, DC. The committee will play the lead role in generating the Science Plan and the Project Execution Plan for NSF's Ocean Observatories Initiative. He will help communicate opportunities for coordination between CIOSS activities and NSF's observatory science plans.

April 28: Ted and Eric had their bi-weekly phone call.

May 3: CIOSS Fellow Dudley Chelton, Oregon State University faculty member since 1983, was named “distinguished professor” at Oregon State University, a title he will carry as long as he remains at OSU, and the highest honor the university gives to its faculty. Chelton's use of satellite imagery to analyze the world's oceans has brought him international acclaim and helped OSU land the new Cooperative Institute for Oceanographic Satellite Studies (CIOSS), funded by the National Oceanic and Atmospheric Administration. Chelton helped revolutionize the study of oceans through the use of satellite data and he is a principal architect of the U.S. microwave ocean observing satellite constellation. His studies focus primarily on air-sea interactions and his models and multi-satellite assessment techniques are widely used by scientists throughout the world. He was instrumental in launching the World Ocean Circulation Experiment, and has chaired or served on two dozen working groups involving World Ocean Circulation Experiment (WOCE) and NASA scientists. Full news story can be found at <http://oregonstate.edu/dept/ncs/newsarch/2004/May04/disprof.htm>.

May 3-5: Jim Coakley attended the CALIPSO Science Team meeting in Nice, France. CALIPSO is a joint U.S.-French satellite mission flying a LIDAR and imaging infrared radiometer for

2004

characterizing the properties of aerosols and clouds, particularly thin cirrus. CALIPSO is scheduled to be launched jointly with CloudSat April 15, 2005. The two satellites will fly on formation with Aqua, creating what is referred to as the A-train.

- May 3-7:** CIOSS Fellow Eric Maloney attended the 26th Conference on Hurricanes and Tropical Meteorology in Miami, Florida. Maloney and A. H. Sobel made the presentation, “Ocean-atmosphere interaction and intraseasonal oscillations in the modified CAM2.0.1 coupled to slab oceans of varying depths.” Maloney also presented “The influence of wind-induced atmosphere-ocean exchange on summertime east Pacific intraseasonal oscillations in the modified NCAR CAM2.0.1.”
- May 4:** Larry O’Neill, Ph.D. candidate in Physical Oceanography advised by CIOSS Fellow Dudley Chelton, presented a seminar, “Regional and Global Satellite Observations of Surface Wind Modification by Sea Surface Temperature Fronts.”
- May 5-7:** CIOSS Fellows Jack Barth and Mike Kosro attended the second organizational meeting of the Northwest Association of Networked Ocean Observing Systems (NANOOS) (<http://www.nanoos.org>) in Portland, Oregon. NANOOS is one of the regional efforts of the Integrated Ocean Observing System (IOOS) currently being organized by Ocean.US. NANOOS continues to evolve a governance structure that will be able to receive federal funds and spend them on Pacific Northwest ocean observing system components. The group included "better access to satellite data and products, delivery and distribution" as one of its priorities for the national IOOS backbone.
- May 5-7:** CIOSS Director Ted Strub attended the U.S. GLOBEC Science Steering Committee meeting in La Jolla, CA, representing the GLOBEC North East Pacific project. All of the three GLOBEC regional projects are moving into their “synthesis” phases at this point (NEP, NW Atlantic, and Southern Ocean). NSF and NOAA/NOS/COP have received 14 proposals for synthesis activities in the California Current and will review those proposals over the next several months.
- May 7:** Bayler informed Strub the first OHH proposal was not successful. He will discuss details with OHH program director and summarize results.
- May 7-8:** CIOSS Fellow Chris Goldfinger and Faculty Research Assistant Chris Romsos presented a paper, “Development of a Regional Seafloor Surficial Geologic (Habitat) Map for the Continental Margins of Oregon and Washington, USA,” at the GEOHAB meeting in Galway, Ireland.
- May 10:** Eric Bayler, Satellite Oceanography (SO), contributed to CIOSS half the funds needed to allow Oregon State University’s Science & Math Investigative Learning Experience (SMILE) Program to implement a high school curriculum during the 2004-05 school year. These funds will allow SMILE to hold a teacher training workshop in August to train teachers in the use of material used in their after-school SMILE clubs. CIOSS continues to seek funds to allow SMILE to hold the culminating “High School Challenge” event, during which teams of high school students solve an integrated environmental problem, using skills in mapping, oceanography, and remote sensing—skills developed throughout the year in the SMILE club activities.

2004

- May 10:** Alan Strong and William Skirving, NOAA/NESDIS/STAR/SO, visited CIOSS to discuss their Coral Reef Watch (CRW) project. They discussed the use of scatterometer winds and coastal radar surface currents in improved monitoring and prediction of coral bleaching. They presented the seminars: “Corals and Climate: Beyond Natural Variability?” and “The Interaction of Coral Bleaching and the Hydrodynamics of a Reef.”
- May 10-12:** Chris Romsos and Emily Lundblad represented Oregon State University at the Alliance for Coastal Technologies (ACT)-sponsored Workshop on “Acoustic Remote Sensing Technologies for Coastal Imaging and Resource Assessment” at Moss Landing Marine Laboratories in Moss Landing, California.
- May 10-14:** CIOSS Fellow and Deputy Director Mike Freilich and CIOSS Fellow Jim Richman attended the International Science and Engineering Fair, an Intel-sponsored science fair for high school students worldwide, held in Portland, Oregon. Both served as judges. Freilich served as Grand Prize Judge in the category “Earth and Space Sciences,” which included 64 projects. The judging lasted two days.
- May 11-13:** Ricardo Letelier co-chaired (with John Pereira) a session on “Ecosystem-Based Management” at the GOES-R User Conference. Ricardo will also serve on the newly established Science Working Group for the Coastal Waters Imager on the GOES-R satellite.
- May 17:** CIOSS Fellow and Deputy Director Michael Freilich was chosen by NASA to chair the upcoming Windsat Project’s vector winds cal/val analysis to be conducted jointly by NASA and Navy investigators, starting in July.
- May 17:** CIOSS news stories from our weekly report to Fran continued to appear in Fran’s weekly report. This week, 13 of the 28 stories in Fran’s report were CIOSS items.
- May 18:** CIOSS Fellow Roger Samelson presented the Physical Oceanography/CIOSS/Space Grant seminar, “The Ventilated Pool: A Model of Subtropical Mode Water.”
- May 18:** Janine announced the new CIOSS website via email to Eric Bayler, Marie Colton, Fran Holt, Steve Ackerman, Tony Busalacchi, Reza Khanbilvardi, Tom Vonder Harr, and Marilyn Moll.
- May 18-21:** CIOSS Deputy Director Mike Freilich lectured on satellite wind measurements at the annual National Weather Service Western Region Marine Forecasters’ Training Workshop at the Naval Postgraduate School, Monterey, California. This was the fifth year that he has presented at this workshop for new and veteran Marine Forecasters from the Western Region, Alaska, and Hawaii.
- May 19:** Ted and Eric had their bi-weekly phone call.
- May 20:** Mark Matheson, College of Oceanic & Atmospheric Sciences, OSU, presented the Atmospheric Sciences/CIOSS/Space Grant seminar, "AVHRR Observations of the Aerosol Indirect Effect for Summertime Stratiform Clouds in the Northeastern Atlantic."

2004

May 21: CIOSS Fellow Eric Maloney submitted the following papers.

Maloney, E. D., and A. H. Sobel, 2004: Surface fluxes and ocean coupling in the tropical intraseasonal oscillation. *Journal of Climate*, accepted pending minor revisions.

Maloney, E. D., and S. K. Esbensen, 2004: A modeling study of summertime east Pacific wind-induced ocean-atmosphere exchange in the intraseasonal oscillation. *Journal of Climate*, submitted 03/04.

Anderson, B. T., and E. D. Maloney, 2004: Interannual tropical Pacific sea-surface temperature anomalies and preceding subtropical North Pacific sea level pressure anomalies in the NCAR CCSM2.0. *Journal of Climate*, submitted 04/04.

May 24: Janine continued to compile a “Periodic Report to NESDIS” on an almost-weekly basis. She emails it to NESDIS’s Fran Holt, Eric Bayler, Marie Colton, and Marilyn Moll; HMSC Director George Boehlert and Sea Grant Director Bob Malouf; Cooperative Institute Directors Ackerman, Busalacchi, Khanbilvardi, and Vonder Harr; all 31 CIOSS Fellows; and outreach partners Eda Davis-Butts, Melissa Feldberg, Melora Halaj, Judith Vergun, and Doug Caldwell. Response from Fran Holt has been excellent, as well as from Marilyn Moll and a couple cooperative institute directors. The current report is posted to the new CIOSS web site as soon as it’s completed.

May 25: Janine reviewed NESDIS’s proposed streamlined annual reporting forms for all federal agencies and sent the feedback to Marilyn Moll. At the June Dir/Adm meeting in Fort Collins (6/9/04), Al Powell mentioned the feedback from reviewers was very negative and helpful. He said, “Keep up the negative feedback!” Eventually, GMD will have all federal agencies submit everything online. For CIOSS, that includes proposals, amendments, progress reports, and financial reports (Strub believes Sponsored Programs submits our financial reports.) Mike Nelson and Kathy LeFevre said extensive training is to come, starting in Silver Springs in July. They would like the online process up and running by November 2004.

May 26: Janine helped Andy Thomas and Dave Mackas plan their travel to Corvallis the week of 6/14.

May 27: CIOSS’s second Annual Progress Report was FedEx’d to Eric and to Marilyn.

June 2: Janine created a CIOSS master task list, including the categories Administration, Research, and Outreach, to keep track of what we need to focus on in the near future.

June 3: Janine wrote a draft of an Outreach Summary to send to Marlene Kaplan at NOAA, and sent it to Ted for review.

June 3-4: Andrew Bennett hosted a modular ocean data assimilation workshop (Information Technology Research or ITR) at COAS. Activity in this project is designed to rationalize software development in oceanography, specifically software that combines computer models of the ocean with observations of the ocean. Models that survive testing will have credibility for the analysis and forecasting of the state of the ocean, and for the design and

2004

assessment of observing systems. Janine helped coordinate logistics and workshop materials, communicated with participants, and set up participant lodging.

June 4: Janine asked Matt Wahl for help in getting a CIOSS budget process improved. Matt's first question to Janine was, "What are you not getting from us that compels keeping a separate accounting of the CIOSS budget?"

June 6-10: CIOSS Fellow Michelle Wood served as discussion leader for the picophytoplankton ecology sessions at the first Gordon Research Conference on Marine Microbes in Roscoff, France. The topic of the conference was "Marine Picophytoplankton: from ecology to genomics." The complete conference program can be viewed at http://www.sb-roscoff.fr/Phyto/Meeting_GRC_2004/.

June 7-9: Ted attended the NESDIS Cooperative Institutes Directors' meeting in Fort Collins, Colorado. After the meeting, Ted met with these folks at CIRA: Manajit Singupta, Stan Kidder, Mark DeMaria, Bill Cotton and his group, a group of CIRA/ATS scientists (lunch), Don Hillger, Tomi Vukicevic, Ken Eis and Dusanka Zupanski.

June 8-9: Janine and Matt Wahl attended the NESDIS Cooperative Institutes Administrators' meeting in Fort Collins, Colorado. Marilyn Moll facilitated the meeting. Met all the administrators of the other four cooperative institutes (CICS, CIMSS, CIRA, CREST).

June 14: CIOSS Fellow Dawn Wright began hosting two undergraduate students, affiliated with the Native Americans in Marine and Space Sciences (NAMSS) and Indian Education Office, in her lab on summer internships related to CIOSS activities. Interns Craig Graham and Lisa Reily will be documenting and integrating new additions to the Oregon Coastal Atlas, including Landsat, MODIS, and AVHRR satellite imagery, as well as working with graduate student Peter Bower on setting up an Open GIS Consortium (OGC)-standard Web Map Service (WMS) interface to metadata served from the Atlas in its capacity as a node of the National Spatial Data Infrastructure. In addition, two more undergraduates will be sent to the NOAA Coastal Services Center in Charleston, SC to work on various GIS and remote sensing projects as paid interns. The NOAA CSC interns are Geography undergraduate John Robinson, and Computer Science undergraduate Kidus Yared. They leave on June 19th and will return at the end of August (airfare and summer stipend paid for by the NOAA NESDIS grant). Both are African-American. They will receive additional training at the center and will be plugged in to various projects, assisting staffers there in the GIS Integration & Development and Coastal Remote Sensing program areas of the Center.

June 14-16: Mark Matheson represented CIOSS at the NOAA/NESDIS "Science Colloquium on Measuring and Modeling Aerosols" at the University of Maryland, Baltimore County, hosted by the Cooperative Remote Sensing Science and Technology center (CREST). Participants will include representatives from NESDIS and a number of its cooperative institutes: CIRA, CIMSS, CICS, CREST, and CIOSS. Mark will present findings from his work on the indirect effect of aerosols on the summertime marine stratus in the North Atlantic.

June 16: Ted, Matt and Janine met to go over what we learned in our respective Directors'/Administrators' meetings in Fort Collins. Also discussed creating a new NA108_index to split the admin portion from the research portion of the CIOSS budget. Matt will

2004

assign a new index to the research funds, and each month CIOSS will receive three monthly grant ledger summary reports: one for admin (NA108B), one for research (NA108_), and one that combines both indexes.

June 16-19: Andy Thomas and Dave Mackas visited COAS to work with Ted on a textbook chapter on satellite data.

June 17: Janine went through all monthly “Grant Ledger Summary Reports” back to April 2003 to make sure all spending was tracked correctly. Followed up with questions to Carol, Terry, and Matt.

June 18: Dudley and Mike Freilich decided with Paul Chang to postpone the Wind Workshop previously planned for July. Janine canceled rooms at LaSells Stewart Center, Burt 193, 176 and 152, plus Gilfillan Auditorium. Blurb from previous weekly reports to NESDIS—July 26-28: A workshop on “Remote Sensing of Ocean Vector Winds” is being planned, to be held at Oregon State University, Corvallis, supported jointly by CIOSS, NESDIS, and NASA. (Michael Freilich, CIOSS, 541-737-2748; Dudley Chelton, CIOSS, 541-737-4017; Paul Chang, NOAA/NESDIS/ORAD, 301-763-8231 x167). Re-dated this item on weekly report to “Fall 04 or winter 05.”

June 28: Travel reimbursement forms were submitted to reimburse Andy Thomas for his trip to COAS the week of June 14.

June 28: Janine prepared the CIOSS postdoc position opening packets for three positions under PI’s John Allen, Mike Freilich, and Ted Strub/Mike Kosro.

July: Fran Holt was working on the Cooperative Research Programs (CoRP) Program Plan. CIOSS submitted a summary of CIOSS to appear in the Plan’s appendix.

July 2: Janine asked Dave Reinert for help in developing a CIOSS logo for use on the website and in print materials.

July 7: Ted and Janine met with Melissa Feldberg and Peter Bower about CIOSS outreach through The SMILE Program. Melissa is getting ready to host the New Teachers’ Workshop August 9 (SMILE Program framework and overview) and the Summer Teachers’ Workshop August 10-12 (Math/science curriculum enhancement and planning for academic-year activities and trips). The CIOSS oceanography material will introduce the 20 high school teachers to the subject through discussions on oceanography and activities led by Melissa. Peter will cover mapping, and Ted (or Bob Duncan?) will talk about real world applications, the coastal observing system plans, and putting oceanography and mapping together. The activities Melissa will share are activities the teachers can then take home to share with their students in the after school club meetings. Another New Teachers’ Workshop will be held on September 17; the pre-challenge workshop will take place January 28-29, 2005; and the High School Challenge will take place April 14-15, 2005. Schedule leading up to the August teacher workshops: 7/23, Curricular material sent to SueAnn Bottoms (associate director of SMILE) and Ted for editing; 7/30, Return material to Melissa; 8/2, Dry run with students.

2004

July 8: Postdoc position opening packets were submitted to Barb Ketchum for Human Resources approval and for ad placement. Advertisements will be placed with AMS for 1 month, AGU for 2 issues, and the Earthworks website for 1 month. Closing date for applications will be September 15. Positions are for PI's John Allen, Mike Freilich, and Ted Strub/Mike Kosro.

July 8: Planning began for the Coastal Ocean Applications and Science Team (COAST) GOES-R workshop in Corvallis this October. Ted, Mark Abbott, Ricardo Letelier, Peter Strutton, and Janine met to share some background, introduce Peter to the politics of the situation, and to begin the planning. Mark is chair of COAST. Janine will work on logistics such as rooms, catering, and guest travel. Ted and Mark see this as an opportunity for CIOSS to work with the satellite developer folks the way CIMSS (Wisconsin) works with the atmospheric folks. New products and new prototypes can be developed. This meeting is the first of four planned right now.

July 22: GOES-R planning meeting held with Abbott, Letelier, Strutton, Ted, and Curt Davis and Stan Wilson on the phone.

July 26: Postdoc ads went out in no-charge avenues.

July 26: Web site updated: Fellows list, created Council of Fellows and Executive Board list, posted postdoc position announcements, updated news & notes, updated Research Themes & Tasks

August: COAST Meeting planning continued

Week of August 2: Space Grant Consortium meeting w/Ted, Jack H, Catherine Lanier, JK

August 9: Submitted postdoc display ad to Eos for publication on 8/17 and 9/7.

August 10: The first workshop for the high school teachers involved with the OSU Science and Math Investigative Learning Experience (SMILE) program was held with Melissa Feldberg and Peter Bower. At this workshop, teachers were trained in the use of curriculum material presently under development by SMILE, with CIOSS support. SMILE works with school districts in Oregon which have large proportions of students who are traditionally under-represented in universities, especially in math and science programs. CIOSS is funding the development of the curriculum material during the present year and is presently looking for funding to support the use of that material in the SMILE schools during the next two years (FY04-05 and FY05-06).

August 16-20: CIOSS Fellow and Atmospheric Scientist Eric Maloney co-convended a special session, The Madden-Julian Oscillation, at the 2004 AGU Western Pacific Geophysics Meeting in Honolulu, HI. The Madden-Julian Oscillation (MJO) is one of the most important modes of variability in the tropical atmosphere. Maloney and co-convener Kenneth Sperber discussed recent developments in the study of the MJO. Emphasis was placed on integrating observations, theories, and numerical simulations to advance understanding of the MJO.

Aug 17-20: Melissa Feldberg of the OSU Science and Math Investigative Learning Experience (SMILE) Program attended the Annual Northwest Aquatic and Marine Educators (NAME) Conference in Olympia, Washington. Melissa presented a poster showcasing the

2004

collaboration between CIOSS and SMILE to bring ocean science to educationally disadvantaged students in Oregon. The NAME membership is made up of educators from Oregon, Washington, British Columbia, and Alaska.

August 18: Ted Strub went to THORPEX meeting.

August 25-26: Al Powell visited CIOSS.

September: VOCALS meeting planning.

September: NA108G, transferred year 1 balance to this new research index.

September 1: SMILE meeting w/Eda, Ted, JK. Melissa accepted a new job with Sea Grant.

September 22: Ted Strub went to EPOC meeting in BC. (Those working in the GLOBEC, CoOP and other California Current programs to attend.)

September 29-30: Coastal Applications and Science Team (COAST) meeting #1, Corvallis, Oregon, hosted by CIOSS.

Meeting Objectives:

- Learn about GOES-R Project, HES studies, and threshold requirements and goals for imaging coastal waters.
- Learn about potential applications to be addressed by imaging coastal waters.
- Start addressing relationships between applications and requirements; are the threshold requirements adequate? How do we prioritize the goal requirements?
- Prepare outline of brochure; start drafting text and collecting illustrations.

Week of October 4: Ted visited CICESE, Ensenada

Week of October 4: COAST proposal submitted

October 8: Meeting with SMILE: Molly Phipps, Peter Bower, Melissa Feldberg (now with SG), Ted, Janine. Next meeting: November 22. Molly Phipps is now working with the SMILE Program (.375 FTE fall term, .49 FTE winter term), to bridge the gap between Melissa Feldberg's leaving and the hiring of the replacement. Molly is finishing up a masters degree with Alan Mix, and will begin a PhD program in Science Education, specifically free choice science education. Melissa said SMILE has downgraded the coordinator position a bit to not require subject matter expertise, so Molly's expertise will be very valuable to this CIOSS/SMILE effort. The new SMILE coordinator will begin around the end of November. The winter teachers' workshop will be Friday & Saturday, January 28 & 29, 2005. Topics to cover: oil spill on coast, mapping. Molly may invite an expert to this teachers' workshop—a New Carissa expert? Oil Spill expert? Other ideas of Ted's: Coast Guard search and rescue person talking about responding to disabled vessels, persons overboard. We may help with a stipend for bringing in an expert.

Giving this effort as good a chance as possible is important to later determine if it was a good investment of CIOSS funds for outreach. We'll have an end-of-project debrief with Molly.

2004

Melissa's advice: 1) Go to work now recruiting mentors. For the challenge, it's important to have at least one college student mentor per high school team. Ryan Collay, SMILE teacher of BIO 405, may be able to help with recruiting mentors from his class. It's more important for these mentors to be a general positive role model than to have extensive knowledge of the topic. 2) Plan for February and March to be very busy with challenge prep.

There will be a 2-hour workshop for mentors, pre-challenge. The challenge will be Thursday & Friday, 4/14 and 4/15.

Cory Hall is a CSSA grad student in SMILE who is researching service learning. She will be looking into how college students and the SMILE Program interact.

Oct 14: CIOSS Fellow Dudley Chelton visited the Cooperative Institute for Research in the Atmosphere (CIARA) at Colorado State University Fort Collins and presented the seminar "Global Evidence for Air-Sea Interaction from Satellite Observations and Operational Numerical Weather Prediction Models."

Abstract:

Satellite observations of surface wind stress and sea-surface temperature (SST) reveal a remarkably strong influence of SST on low-level winds throughout the world ocean wherever there are strong SST fronts. The same relationship is evident in the surface wind fields from the operational NCEP and ECMWF numerical weather prediction models, though with much weaker signatures than in the satellite observations. From a detailed analysis of ECMWF wind fields in the eastern tropical Pacific region, it becomes apparent that the under-representation of ocean-atmosphere coupling in the ECMWF model is attributable partly to under-representation of SST gradients in the surface boundary condition of the model, and partly to inadequacies in the ECMWF model (e.g., errors in the parameterization of vertical turbulent mixing or insufficient horizontal or vertical resolution in the model).

Week of October 18: Ted Strub went to PICES, Hawaii; Janine participated in conference call w/COAST outreach team (brochure, FTP site, white paper, etc.); Janine wrapped up receiving postdoc applications.

October 20: First CI Administrators' conference call since the summer CI Directors/Administrators meeting in Fort Collins, led by Marilyn Moll.

Week of October 25: Gave Mike Kosro and Mike Freilich the postdoc application files.

October 28: All-COAS faculty retreat.

November: Ted Strub went to OSTST meeting.

November 1: OrCOOS planning meeting: reviewed plans for OrCOOS and for updating our Federal Request to the Research Office.

Week of November 1: Ted went to GLOBEC steering committee Boulder; NASA Ocean Surface topography (Altimetry) meeting, St Petersburg FL; Janine coordinated VOCALS meeting;

2004

Janine attended Training Days: conference planning; Janine secured rooms for Wind workshop, Miami Feb 05.

November 8: Matt Wahl turned over the role of CIOSS fiscal officer to Carol Wallace.

Week of November 15: GLOBEC NEP CCS meeting, Corvallis

November 17-18: VOCALS meeting in Corvallis. Bob Weller, WHOI, called the meeting.

November 22: SMILE meeting w/Ryan Collay, Ted, Molly, Pete, Janine. Reviewed Winter Teacher Workshop set for January 28-29, 2005. Reviewed High School Challenge 2005, "Reaction, Action and Remediation of an Oil Spill." There will be 5 activities in the WTW: oil & water (weather basics, mapping), weather station with barometers, surface weather map analysis with contour maps, climatologies/SST/wind, and Pete didn't cover the fifth activity.

November 29: Ted Strub went to PORSEC, Chile.

December 1: CI Administrators' conference call #2, led by Marilyn Moll. Carol Wallace attended, her first conference call with us as CIOSS fiscal manager. Covered upcoming Silver Spring NOAA Grants Administrators Workshop and a bit about Grants Online. Confusing dates: After 12/10 everything must be submitted electronically, but NESDIS rollout will be January 31. ? Attending the Grants workshop will be Suzanne Martin and Keith McBean (business manager) from CICS, Carol Wallace, Janine Kobel, and Christine Brown. Next call will be end of January or beginning of February.

December: COAST Meeting #2 and Wind Workshop planning continued.

December 8-9: Janine Kobel and Carol Wallace traveled to DC for NOAA Grants Administration workshop.

December 13: Ted Strub traveled to IAI meeting in Mexico City.

December 13: Ted Strub sent draft of 5-year Plan text to Janine Kobel, Marilyn Moll, and Eric Bayler for review.

December 14: Connected Mary Culver, CSC, and Linda Lamb, Pubs & Outreach Office to coordinate production of COAST/GOES-R brochure.