



The California State University

COUNCIL ON OCEAN AFFAIRS, SCIENCE AND TECHNOLOGY



California State University Council on
Ocean Affairs, Science and Technology

COAST

Semi-Annual Report #1

Period of Performance: July 1, 2008–December 31, 2008

Date of Report: February 2009

www.calstate.edu/coast

Overview

The California State University (CSU) Council on Ocean Affairs, Science and Technology (COAST) was established in 2008 in response to a need articulated by CSU faculty and administrators for coordination and focus of the marine- and coastal-related assets and expertise distributed throughout the CSU. This effort has been championed by the Chancellor's Office as well as the CSU presidents. COAST's mission is to provide vision, leadership, and support throughout the CSU system for education, policy, and research related to California's marine, estuarine, and coastal regions, and to promote the public dissemination of knowledge gained to foster stewardship and sustainable use of California's coastal resources. We envision that COAST will be a leader in coastal- and marine-related research and education throughout California, and will promote environmental literacy leading to a significant increase in public awareness and stewardship of our coastal and marine resources.

The COAST membership represents the coastal- and marine-related education, research, and policy interests of the CSU. It is composed of faculty, staff, and administrators working together to address coastal- and marine-related issues. These interests include, but are not limited to, topics such as global climate change, responsible natural resource management strategies, ocean and coastal policies, and the use of new and emerging technologies. Because coastal conditions are affected by both offshore processes and terrestrial inputs, COAST's diverse membership includes representatives from a variety of disciplines who study a wide range of environments and habitats from the tops of watersheds to the bottom of the ocean. COAST provides a platform to effectively communicate the expertise of the CSU to the government, private industry, and the public in all matters relating to the coast and ocean.

Individuals in the CSU with an interest in marine and coastal affairs are encouraged to actively participate in COAST.

2008 HIGHLIGHTS

- COAST was established at a CSU-wide meeting with representatives from 21 of the 23 CSU campuses and the Chancellor's Office (February 2008).
- COAST faculty received a "winner-take-all" award for more than \$600,000 from the California Ocean Protection Council (OPC) and California Sea Grant for an ocean acidification study (September 2008).
- COAST provided funding for assigned time to 11 faculty at eight different campuses to develop and submit collaborative proposals for external funding through the COAST Collaborative Incentive Awards Program.
- COAST established a dynamic informative website: www.calstate.edu/coast.
- COAST is the test group for the CSU Faculty Research Expertise, Scholarship, and Creative Activities system (FRESKA—<http://bssapps.sfsu.edu/fresca/groups/11>), with over 90 member profiles established.

COAST Leadership

With significant support from the Chancellor's Office and leadership from marine scientists throughout the CSU, COAST held its first official systemwide meeting February 22, 2008, at the Chancellor's Office in Long Beach. Representatives from 21 of the 23 campuses and the chancellor and members of his staff attended. Following the meeting, a group of 15 CSU faculty and administrators volunteered to serve on the Interim Working Group (IWG) to advance COAST's Year One goals:

- Develop a pilot program to integrate CSU faculty across campuses and promote collaboration and advancement of marine science;
- Develop a dynamic, informational website that facilitates collaboration and scholarly activity among CSU faculty and provides external stakeholders with relevant program information;
- Develop a strategic plan that creates a path for COAST priorities and implementation over the next five years;
- Convene a second CSU systemwide meeting of COAST faculty and administrators to present the strategic plan and adopt a governance model; and
- Convene a stakeholder meeting to promote the CSU "brand" identification as the preferred source of expertise.

In April 2008, members of the IWG met with the presidents and the chancellor to explain the need for COAST within the context of both the CSU and the needs of California, and the opportunities that COAST provides to CSU faculty and campuses. A request for three years of baseline funding from the CSU to develop the program was endorsed by the presidents and the chancellor. COAST's first year of funded operations began July 1, 2008.

In July 2008, the IWG elected the first COAST Executive Committee (EC). The EC is heavily involved in COAST's operations and decision-making processes. The EC oversees the COAST Collaborative Incentive Awards program (see page 4), participates in extramural funding opportunities, and provides guidance and vision in COAST's first year of operations.

The EC interacts frequently with Dr. Elizabeth Ambos, assistant vice chancellor for Research Initiatives and Partnerships at the Chancellor's Office, and Dr. Rollin Richmond, president of Humboldt State University and liaison to the CSU presidents. The support of the Chancellor's Office and Assistant Vice Chancellor Ambos and President Richmond has been invaluable to the development and success of COAST.

COAST ORGANIZATION

Interim Working Group

*Denotes a member of the Executive Committee

- Dr. Larry Allen
CSU Northridge
- Dr. Sean Anderson
CSU Channel Islands
- Dr. Todd Anderson
San Diego State University
- Dr. Kenneth Coale*
Moss Landing Marine
Laboratories, San José State
University
- Dr. Greg Crawford
Humboldt State University
- Dr. Kathy Dickson
CSU Fullerton
- Dr. Newell (Toby) Garfield*
San Francisco State University
- Dr. James Howard
Humboldt State University
- Dr. Rikk Kvitek*
CSU Monterey Bay
- Dr. Antje Lauer
CSU Bakersfield
- Dr. Andrew (Zed) Mason*
CSU Long Beach
- Dr. Steven Murray*
CSU Fullerton
- Dr. Susan Opava
Cal Poly San Luis Obispo
- Dr. Ashish Vaidya
CSU Channel Islands

Dr. Krista Kamer, COAST program coordinator, reports to the EC and communicates with the committee on a regular basis. Kamer worked with the CSU Center for Integrative Coastal Observation, Research and Education (CICORE) and the California Coastal Ocean Currents Monitoring Program (COCMP) and has five years of experience coordinating multicampus research initiatives and working with state and federal funding agencies. Kamer also manages the IWG and is responsible for maintaining regular communications within the COAST leadership. She coordinates meetings and communications; communicates with the larger COAST community via e-mail, the website, and personal contacts; and oversees the activities of the other COAST staff at San Francisco State University, namely the website manager and a data manager.

Faculty Engagement

- We have successfully established a COAST membership base with over 180 self-subscribed faculty and administrators representing every one of the 23 campuses. This membership base is growing constantly, with new members being added on a weekly basis as COAST and its mission are becoming more widely known and appreciated. Members of COAST receive electronic communications, primarily from Dr. Kamer, and may be called upon for input and participation as COAST continues to develop.
- Over 90 COAST members have established profiles in the CSU Faculty Research Expertise, Scholarship, and Creative Activities system (FRESCA) system, a Web-based database of CSU faculty (<http://bssapps.sfsu.edu/fresca>) sponsored by the Chancellor's Office. Faculty and lecturers are required to establish profiles with a minimum amount of information in order to be eligible for the COAST Collaborative Incentive Award Program. We anticipate that FRESCA will be a significant tool for promoting communication and collaboration among faculty in different departments and at different campuses as well as advertising the expertise and capabilities of CSU faculty to outside entities.
- Dr. Kamer is conducting visits to each of the 23 campuses to meet faculty and staff with interests in marine and coastal issues and introduce and answer any questions related to COAST and its mission. In November 2008, she visited CSU Long Beach and CSU Fullerton over a two-day period and met with interested faculty at each campus. Based upon the success of these initial visits, she will aim to visit all the remaining campuses by the end of July 2009.

COAST ORGANIZATION

COAST Coordinator

- Dr. Krista Kamer
San Francisco State University

Liaison to the Chancellor's Office

- Dr. Elizabeth Ambos,
Assistant Vice Chancellor for
Research Initiatives and
Partnerships, Chancellor's Office

Liaison to Presidents' Leadership Team

- Dr. Rollin Richmond, President
Humboldt State University

COAST Staff

- Dr. Dale Robinson
San Francisco State University
- Ms. Adria O'Dea
San Francisco State University

BUDGET AT A GLANCE

- Salaries and Benefits..... **\$134,925**
- Faculty Assigned Time..... **\$76,195**
- Travel and Meeting **\$48,073**
Logistics
- Public Affairs and Media.. **\$20,000**
- Indirect Costs **\$4,807**

TOTAL..... \$284,000

COAST Collaborative Incentive Awards

COAST established the Collaborative Incentive Award Program to stimulate the development of collaborative research and educational projects by providing assigned time to full-time tenured/tenure-track faculty and lecturers to develop and submit full proposals that promote interdisciplinary, integrative, multicampus research and/or educational initiatives to external funding agencies. Under the current guidelines, proposals on any fundable topic are considered eligible, providing that they are collaborative projects that either advance or promulgate knowledge of California's marine, coastal, and estuarine resources and the processes that affect them.

The first Request for Proposals (RFP) for this program was released in August 2008, and four proposals representing 11 faculty from eight campuses were received. The topics of the proposals spanned a variety of topics, including spiny lobsters in Marine Protected Areas (MPAs), harmful algal blooms (HABs) and ocean observing systems, geomorphology and community structure, and sustainability of commercial seafood. The awardees have until January 2010 to submit full proposals to external funding agencies. If successful, these proposals would bring in more than \$2 million in grant funding to the CSU in return for an initial investment of only \$76,000 in assigned time funding.

The awardees for spring 2009 are:

- Drs. Aiello (MLML-SJSU), Garza (CSUMB) and Robles (CSULA): Multiscale geomorphologic controls over littoral communities in California
- Drs. Anderson, Aloisio and Gillespie (all CSUCI): Development of a statewide evaluation of the sustainability of seafood options available to consumers
- Drs. Hovel (SDSU) and Lowe (CSULB): Assessing spiny lobster movement behavior: implications for California's Marine Life Protection Act
- Drs. McPhee-Shaw (MLML-SJSU), Nielsen (SSU) and Goldthwait (HSU): Developing indices for primary production and harmful algal bloom potential from coastal ocean observing systems data networks

COAST funds for assigned time were distributed as follows:

CAMPUS	AMOUNT	FACULTY AND UNITS ASSIGNED TIME*
Channel Islands	\$14,908	Sean Anderson, Simone Aloisio, and Blake Gillespie—3 units each
Humboldt	\$6,626	Sarah Goldthwait—4 units
Long Beach	\$4,969	Chris Lowe—3 units
Los Angeles	\$6,626	Carlos Robles—6 quarter units
Monterey Bay	\$9,938	Corey Garza—6 units
San Diego	\$4,969	Kevin Hovel—3 units
San José	\$19,877	Erika McPhee-Shaw and Ivano Aiello—6 units each
Sonoma	\$8,282	Karina Nielsen—5 units
TOTAL	\$76,195	

*Semester units unless otherwise noted

COAST is currently accepting applications for assigned time for fall 2009 (http://www.calstate.edu/coast/funding/internal_funding.shtml). Interest in this program has grown considerably over the last six months, and 18 additional faculty representing 11 different campuses have indicated that they plan to submit applications for the fall 2009 awards.

Extramural Funding

COAST has pursued a number of avenues to bring external funding to the CSU to support COAST and CSU goals.

- In June 2008, COAST submitted a proposal to the National Science Foundation (NSF) in response to the Research Coordination Networks in Biological Sciences (RCN) call for proposals. The COAST proposal, "Implementing a Comprehensive Marine Science Research Network throughout the California State University System," requested \$500,000 for cyber-infrastructure and CSU-wide workshops to increase communication and collaboration among CSU faculty. While the proposal was not selected for funding, the reviewers agreed that the project had the potential to positively impact undergraduate education. The constructive feedback received will improve the quality of the resubmittal in 2009.
- COAST submitted a \$3 million Budget Change Proposal (BCP) for Coastal Studies in September 2008 to the California State Department of Finance via the Chancellor's Office. The BCP requested funding specifically for monitoring of sensitive coastal areas, water and sediment quality analysis, capital equipment, online data access, and student training. While the state



California red sea urchin (*Strongylocentrotus franciscanus*)

budget shortfall precluded funding of the BCP, it was well-received by high-level administrators at the Chancellor's Office.

- In November 2008, COAST prepared a federal appropriations request for \$3 million for establishment of CSU Technology Resource Groups. These groups will focus on several key areas, such as applied geospatial technology, environmental quality and climate change, applied organism and ecosystem health, and marine and estuarine policy that, collectively, will help California address many critical marine and coastal issues. The CSU Federal Relations Office submitted the COAST request to Senator Dianne Feinstein's office in February 2009.
- COAST assisted Dr. Victoria Fabry (CSU San Marcos) in the development of a successful proposal to the 2008 California Ocean Protection Council/Sea Grant winner-take-all competition resulting in a \$600,000+ award. Out of nine initial preproposals, Dr. Fabry's full proposal, "Ocean acidification exacerbated by coastal upwelling: monitoring of CO₂ and O₂ on the California shelf and effects on red sea urchins, abalone, and oysters," was ultimately selected for full funding, including up to three years of funding for two Sea Grant trainees. This proposal brings together COAST faculty from CSU San Marcos and Humboldt State University who have not previously worked together; other collaborators include researchers from UC San Diego, UC Santa Barbara, NOAA Pacific Marine Environmental Laboratory, the Monterey Bay Aquarium Research Institute, and the California Department of Fish and Game.

COAST Website

With the aid of the Web Projects and Communications teams in the Chancellor's Office, a dynamic and informative website has been launched to serve the COAST community—www.calstate.edu/coast. The site serves two primary purposes: to communicate with the CSU COAST community about COAST activities and opportunities, and to be a clearinghouse for marine and coastal information such as news and events, funding opportunities, coastal organizations, and informational resources. Efforts are underway to add new pages to highlight data streams produced by CSU faculty such as the real-time coastal environmental data from the ocean observatory operated by seven CSU campuses, seafloor mapping and benthic habitat characterization by

Dr. Rikk Kvitek's group at CSU Monterey Bay, fish tracking and habitat use by Dr. Chris Lowe's lab at CSU Long Beach, vicarious oceanographic data collection by Moss Landing Marine Laboratories, and the Real-time Environmental Monitoring and Observation Technology (REMOT) program at San Diego State University.

Analytical tools that track visitors to the site indicate heavy use of the site, predominantly by CSU visitors. Since visitor tracking began November 19, 2008, there have been 562 visits to the site from 187 unique visitors, resulting in over 2,200 page views. Web traffic increased significantly following electronic communications via the COAST listserv announcing

major activities, such as the release of the RFP for assigned time for fall 2009: In the 48 hours after the announcement, there were 82 visits to the site by 57 different users; in the week after the announcement, there were 183 visits to the site by 88 different users (Figure 1). Many of the users were identified as being from CSU campuses, but a number of network locations were commercial Internet Service Providers such as AT&T or Comcast and probably indicate CSU personnel accessing the site through their home Internet connections.

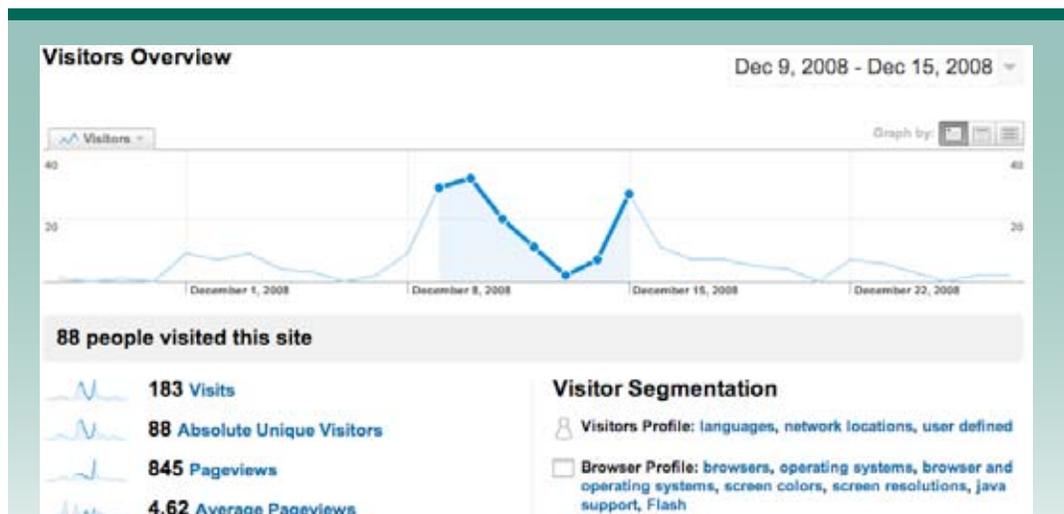


Figure 1. Google analytics tracking data following announcement of release of COAST RFP for assigned time for fall 2009 on 12/9/2008 (Tuesday).

Marine and Coastal Equipment and Asset Inventory

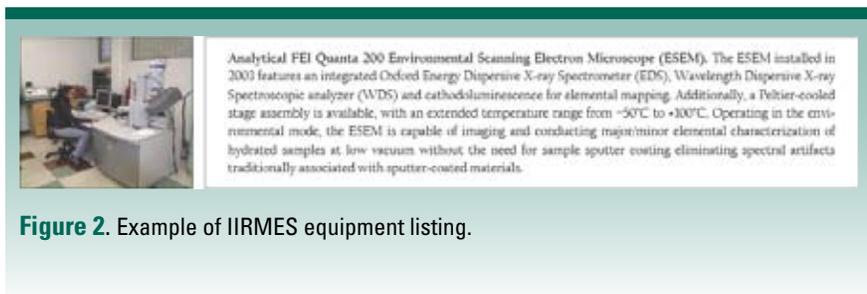
COAST has undertaken the massive task of inventorying marine- and coastal-related equipment and assets within the CSU. The inventory will include facilities, instrumentation and analytical capabilities, laboratory and field equipment, watercraft, and sample collections. Information provided for each item will include specifications if applicable, a short description, an image of the item, contact information, and any other pertinent information. The information will be stored in a Web-accessible database similar to Fresca where users can search by keyword (e.g., ICP-MS, fluorometer, seawater table) or campus to find resources. COAST will maintain the inventory and assist with discovery and sharing of assets. The concept is based in part on information produced by the Institute for Integrated Research in Materials, Environments & Society (IIRMES—<http://www.iirmes.org/equipment>) at CSU Long Beach that details equipment available for



Catalina Marine Semester students gain practical experience in research.

research, teaching, and contract analyses (Figure 2).

The inventory will make CSU personnel aware of the significant capabilities that exist on the many different campuses and at the marine facilities and will promote sharing among campuses. This will reduce costs and maximize resources while promoting collaboration and strengthening the research and education potential of the entire CSU.



Analytical FEI Quanta 200 Environmental Scanning Electron Microscope (ESEM). The ESEM installed in 2003 features an integrated Oxford Energy Dispersive X-ray Spectrometer (EDS), Wavelength Dispersive X-ray Spectroscopic analyzer (WDS) and cathodoluminescence for elemental mapping. Additionally, a Peltier-cooled stage assembly is available, with an extended temperature range from -50°C to +100°C. Operating in the environmental mode, the ESEM is capable of imaging and conducting major/minor elemental characterization of hydrated samples at low vacuum without the need for sample sputter coating eliminating spectral artifacts traditionally associated with sputter-coated materials.

Figure 2. Example of IIRMES equipment listing.

Coordination with Other CSU Affinity Groups and Non-CSU Entities

- There is considerable overlap between the CSUPERB and COAST memberships, including at the level of COAST leadership. Some elements of CSUPERB have served as models for the development of COAST, and the CSUPERB leadership has been very generous and forthcoming with helpful materials and lessons learned. COAST looks forward to working more with CSUPERB in the future to learn from the great success CSUPERB has had as a model for collaboration and innovation within the CSU and with industry.

- Members of the COAST leadership met with Dr. David Zoldoske, executive director of the new Water Resources and Policy Initiative. There will be considerable overlap with this group as COAST seeks to engage CSU faculty and staff who work in coastal watersheds. Dr. Kamer continues to be in contact with Dr. Zoldoske as these two affinity groups develop.

- COAST is beginning to interface with Dr. Keith Clement of the CSU Council for Emergency Management and Homeland Security (CEMHS). Port security and coastal hazards and mitigation will be critical areas of overlap between the two groups, and COAST looks forward to working with CEMHS as well.



COAST is working to ensure the sustainable use and enjoyment of California's coast for future generations.

- The UC Marine Council (UMC) requested a meeting with the COAST leadership in September 2008. Representatives of the UMC and COAST met at the UCOP offices to discuss the respective programs and future coordination and collaboration. Both organizations have the goal of serving as a resource for policy and decision makers. However, UMC's experience has demonstrated that this is not necessarily easy and that COAST will need to engage in active outreach to this target audience. The major result of the meeting was a decision to launch a series of joint briefings for legislators and their staffs in Sacramento. Experts from both the CSU and the UC will focus on a specific marine or coastal issue

during each briefing, with the goals of 1) educating them about critical environmental issues, and 2) reminding them of the wealth of resources and expertise available from the two state higher education systems. The legislative briefing series will launch after the state's budget crisis is resolved; COAST will work with the CSU Advocacy and Institutional Relations Office (AIR) and the California Ocean Protection Council (OPC), which has expressed considerable interest in this idea and may be instrumental in implementing regular legislative briefings.

Outlook for the Next Five Months

Over the next five months comprising the rest of Year 1 of COAST operations, COAST will:

- Review applications and reward assigned time funding for fall 2009 through the COAST Collaborative Incentive Awards Program.
- Convene a systemwide meeting in May 2009 with representatives from each of the campuses and the Chancellor's Office.
- Draft a strategic plan for review and adoption by the COAST community following the May 2009 systemwide meeting.
- Develop governance and campus representation policies for COAST.
- Hold elections for COAST leadership positions.
- Convene a meeting with stakeholders to raise awareness about COAST and engage outside participation.
- Reapply to the NSF RCN program for funds to improve connectivity and cyber-infrastructure within COAST.



University-National Oceanographic Laboratory System (UNOLS) R/V *Point Sur* housed at Moss Landing Marine Laboratories.

