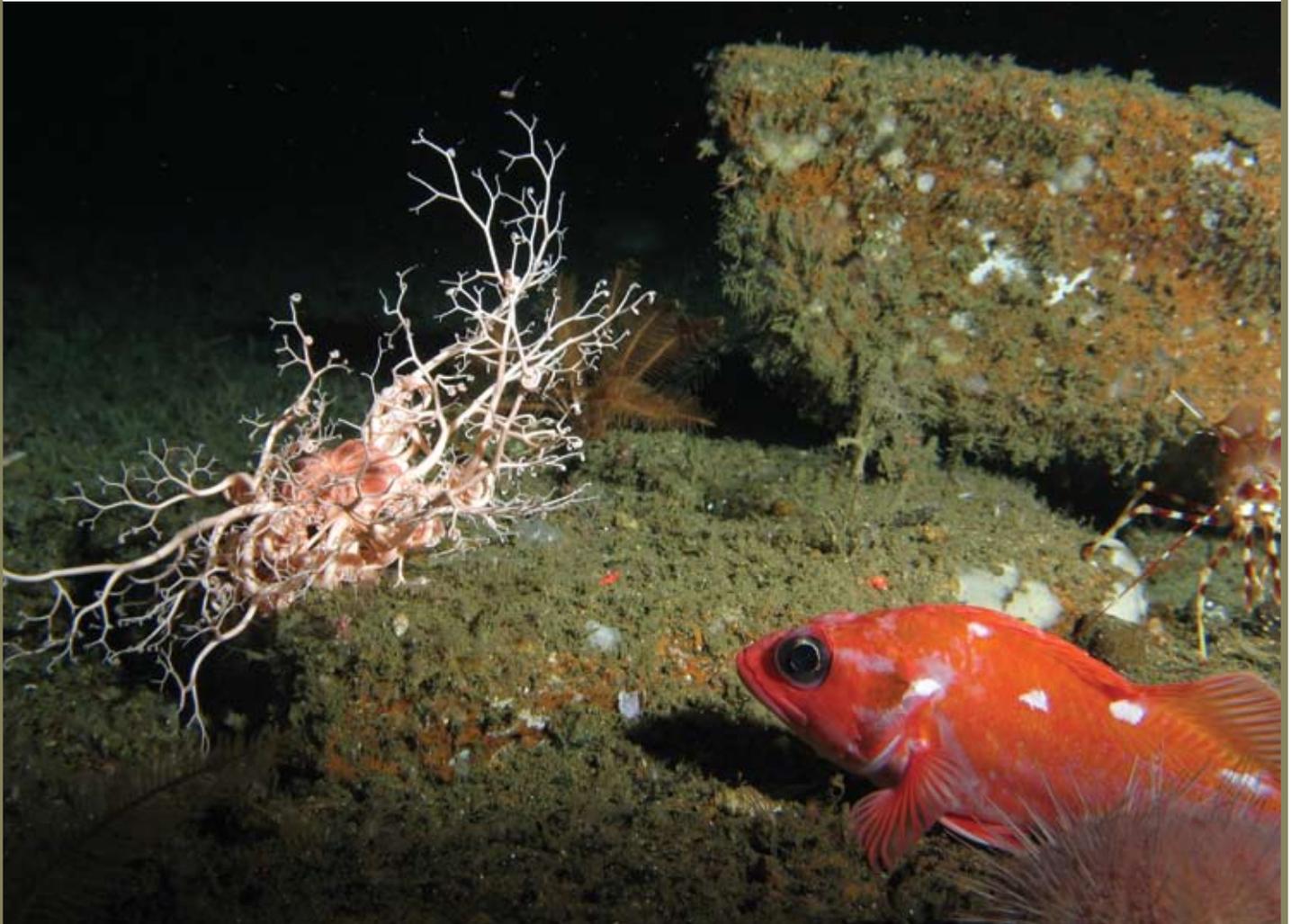




The California State University

COUNCIL ON OCEAN AFFAIRS, SCIENCE AND TECHNOLOGY



COAST

Semi-Annual Report

Covering Activities from January 1 2010 to June 30 2010

www.calstate.edu/coast

Thank You to Chancellor Reed and the CSU Presidents

On June 30, 2010 the CSU Council on Ocean Affairs, Science and Technology (COAST) concluded its second year of operations funded by generous support from the CSU Presidents and the Chancellor. Each campus provides an annual tithe based on its proximity to the coast and the Chancellor makes a complementary contribution. For FY 2010-2011 the Chancellor substantially increased his contribution to \$500,000, practically doubling COAST's budget and allowing significant program expansion.

COAST Contributions

	2009-2010	2010-2011
CSU Presidents	\$173,100	\$163,000
Chancellor	\$200,000	\$500,000
Total	\$373,100	\$663,000

The Chancellor's generous contribution will allow COAST to continue to support CSU faculty engaged in coastal and marine research as well as implement a number of new initiatives in the coming year, including student support, outreach in Sacramento and collaborative partnerships with external stakeholders, such as public aquaria. COAST sincerely thanks the Chancellor and the CSU Presidents for their continued support.



Pelicans at Crystal Cove State Park. Image courtesy of Dr. Scottie Y. Henderson.

Membership and Governance

The COAST membership base continues to expand and currently includes over 250 CSU faculty and staff representing each of the 23 campuses and a variety of disciplines. In addition, CSU administrators such as Associate Deans, Deans, Provosts and Presidents actively participate in COAST. To see a partial list of COAST members, please go to www.fresca.sfsu.edu/coast.

The expertise housed within COAST spans the following areas:

Anthropology	Geology
Biology	Geosciences
Chemistry and Biochemistry	Material Science
Earth Science	Mathematics
Economics	Natural Resource Science
Education	Oceanography
English and Creative Writing	Philosophy
Environmental Policy	Resource Management
Environmental Science	Sociology
Geography	Visual Arts

COAST is governed by Campus Representatives consisting of both faculty members and administrators. Each of the 23 CSU campuses has two Faculty Representatives and each marine consortia (Moss Landing Marine Laboratories and Ocean Studies Institute) has one representative. In addition there are five Administrative Representatives from throughout the CSU for a total of 52 Campus Representatives. A seven-member Executive Committee elected from the pool of Campus Representatives works closely with COAST staff, the Chancellor's Office and an eight-member Presidents' Council to reach to program's goals and objectives.

Annual System-wide Meeting

COAST held its third annual system-wide meeting at the Chancellor's Office in Long Beach on June 10, 2010. Representatives from 21 of the 23 CSU campuses were present and participated in discussions about the budget, priority activities, student support, online curricula, and the opportunity to incorporate science in the development of public policy. Several special guests representing external partner organizations attended as well:

- Dr. Jerry Schubel, President/CEO, Aquarium of the Pacific (AoP);
- Dr. Mike Schaadt, Director, Cabrillo Marine Aquarium (CMA);
- Mr. Isaac Kos-Read, Senior Director Government Affairs, Port of Los Angeles (POLA).

Drs. Schubel and Schaadt each spoke about the aquaria they oversee, their respective missions and opportunities for collaboration with COAST. Aquaria such as AoP and CMA are prime venues for COAST faculty to participate in informal science education efforts and to communicate the importance of their research to a non-scientific audience thereby enhancing environmental literacy and promoting responsible stewardship of our coastal resources. Mr. Kos-Read spoke about the history of POLA and their vision for the future City Dock 1 Project, specifically the plans for a new multi-institutional marine science complex in Los Angeles Harbor that will house the Southern California Marine Institute, of which the CSU Ocean Studies Institute (OSI) is a partner.



Chancellor Reed addressing the COAST meeting June 10, 2010, Long Beach, CA.
Image courtesy of Dr. Krista Kamer.

Promoting Faculty Research

COAST continues to promote and support faculty research through the Research Proposal Incentive Award Program, which provides support to CSU faculty to facilitate the development and submission of research proposals to external funding agencies. Since the program's inception in 2009, \$206,000 has been awarded to 32 faculty at 16 campuses.

In Spring 2010 four research teams received support:

- Drs. Gerald Simila (Geological Science, Northridge) and Daniel Francis (Geological Sciences, Long Beach): High Resolution Fault Kinetics, California Continental Borderland
- Drs. Michael Graham (MLML, San Jose) and Matthew Edwards (Biology, San Diego): Development of an Integrated Seaweed-Abalone Aquaculture System for Sustainable Resource Use and Bioremediation
- Drs. James Murray (Biological Science, East Bay), Taro Amagata (Chemistry and Biochemistry, San Francisco) and Monika Sommerhalter (Chemistry and Biochemistry, East Bay): Chemical Warfare In the Ocean: How *Tritonia diomedea* Preys Upon the Toxic Soft Coral *Ptilosarcus gurneyi*
- Drs. Brad Monsma (English, Channel Islands), Alison Purcell (Environmental and Natural Resources Sciences, Humboldt), Donald Rodriguez (Environmental Science and Resource Management, Channel Islands) and Corey Lewis (English, Humboldt): Interdisciplinary Student Research Along the California and Mexico Coasts

To date, award recipients have submitted proposals requesting over \$6.7 million to agencies such as NSF, NOAA and Sea Grant. Many of these proposals are still in review; the return on investment in this program should be realized in the coming months.

“The fall 2009 release time awarded to me and to Dr. Lars Tomanek of Cal Poly San Luis Obispo was instrumental in affording us the time to meet, discuss writing a NSF proposal, and for Lars to generate preliminary proteomics data using samples generated in my laboratory...The COAST program both facilitated and provided motivation for us to develop what will hopefully be a productive collaboration.”

-Dr. Jonathan Stillman, Associate Professor of Biology, SFSU, Fall 2009 Awardee

“It was very encouraging to receive the COAST award. This award not only initiated our collaboration, but also strengthened our team. The acceptance of the COAST award is clearly associated with a mandatory submission of a larger grant. I found it helpful to have such a clear mandate and a deadline to fully engage in the writing of our large grant proposal.”

-Dr. Monika Sommerhalter, Assistant Professor of Chemistry and Biochemistry, CSU East Bay, Spring 2010 Awardee

Award recipients for the 2010-2011 academic year are:

- Dr. Xianhui Bu (Chemistry and Biochemistry, Long Beach): Porous materials for carbon dioxide capture and prevention of ocean acidification
- Drs. Jennifer Burnaford (Biological Science, Fullerton) and Karina Nielsen (Biology, Sonoma): Understanding the effects of low tide exposure on intertidal kelps: geographic and species comparisons
- Drs. Chris Clark (Computer Science, Cal Poly SLO), Mark Moline (Biological Science, Cal Poly SLO) and Chris Lowe (Biological Science, Long Beach): Development of an Autonomous Underwater Vehicle based Mobile Marine Life Monitoring System (MMLMS)
- Ms. Judit Hersko (Visual and Performing Arts, San Marcos) and Drs. Victoria Fabry (Biological Science, San Marcos) and Krista Kamer (Romberg Tiburon Center, SFSU): Ocean Acidification and the Public: Communicating Research through Art and Science Projects
- Drs. Stephanie L. Molloy (Biological Science, East Bay) and Lubo Liu (Civil and Geomatics Engineering, Fresno): Ecology of Community-Acquired Methicillin-Resistant *Staphylococcus aureus* (CA-MRSA) in the United States Pacific Islands and Coastal Regions
- Dr. Mamta Rawat (Biology, Fresno): The role of low molecular weight thiols in Cyanobacteria
- Dr. Brian Tsukimura (Biology, Fresno): Supporting primary priorities for the development of management options for genus *Eriocheir* (mitten crabs)



Lined shore crab, *Pachygrapsus crassipes*, at Crystal Cove State Park. Image courtesy of Dr. Scottie Y. Henderson.

Outreach

COAST engaged a number of external partners during the spring of 2010 in an effort to raise awareness of COAST as the umbrella organizations for marine and coastal research and education within the CSU and to demonstrate support for the FY 2011 COAST federal request for \$3M. While the request was not successful, the foundation for continuing relationships with the following organizations was laid:

- Aquarium of the Pacific;
- Cabrillo Marine Aquarium;
- Central and Northern California Ocean Observing System (CeNCOOS);
- Port of Los Angeles;
- Port of Oakland;
- Southern California Coastal Ocean Observing System (SCCOOS);
- Tesoro Refining and Marketing Company.

COAST is continuing to engage many of these organizations and others to develop partnerships with the goals of enhancing COAST-related research and education opportunities within the CSU while helping the partner organizations achieve their goals and meet their mandates.



Container ship passing under Golden Gate Bridge. Image courtesy of Daniel Ramirez via flickr Creative Commons.

A number of COAST members will be participating in the California and World Oceans Conference (CWO) in San Francisco in September 2010. Topics on which CSU faculty will be presenting include fisheries management, collaborative fisheries, marine protected areas, aquaculture, sustainable seafood, ecosystem-based management, and science-policy partnerships. CWO provides an important opportunity for scientists and policy makers to connect and promote science-based decision-making processes.

Sacramento Connections

COAST is working with the CSU Office of Advocacy and State Relations (ASR) in Sacramento to:

- Raise awareness of COAST as a resource for State policy and decision makers;
- Build relationships between CSU scientists and public policy and decision makers to facilitate a direct exchange of information; and
- Promote research and education within the CSU.

In February 2010 COAST representatives met with the consultants from the following standing committees:

- Senate Environmental Quality;
- Senate Natural Resources & Water;
- Assembly Water, Parks & Wildlife;
- Assembly Environmental Safety & Toxic Materials;
- Assembly Natural Resources;
- Assembly Republican Caucus;

These meetings were extremely productive and there has been significant subsequent communication between COAST staff and committee consultants.



Fishing boats, Moro Bay, CA. Image courtesy of Dr. Krista Kamer.

COAST representatives returned to Sacramento over the summer and met with staffers serving the following legislators:

- Assembly Member Pedro Nava, chair of Assembly Coastal Caucus;
- Assembly Member Wes Chesbro, chair of Joint Committee on Fisheries and Aquaculture;
- Assembly Speaker John Perez.

Additionally, Dr. James Lindholm of CSU Monterey Bay has been laying the groundwork for a series of COAST briefings in the fall of 2010 on the topic of collaborative fisheries research. The briefings will feature CSU faculty and researchers, members of the fishing community and non-profit organizations. COAST will also have the opportunity to address the California Council on Science and Technology (CCST) in Sacramento in 2011. CCST offers expert advice to the state government and recommends solutions to science and technology-related policy issues. This will be another opportunity to raise awareness about COAST and the significant research capabilities of the CSU. COAST will work with CCST to ensure that CSU faculty members are included in its efforts.

Lastly, COAST will convene a faculty-student research poster reception in Sacramento in early 2011. This event will provide a networking opportunity for CSU faculty and students while showcasing the CSU's contributions to state and national marine and coastal issues for the California legislature.

New COAST Initiatives

Student Assistantship Program

To increase student participation in faculty-mentored marine and coastal research, COAST has developed a student award program that will provide assistantships to undergraduate and graduate students throughout the CSU. Beginning in Fall 2010, competitive assistantships will be available to students working with COAST faculty. Awards up to \$2500 each (\$2,000 for salary and \$500 for travel and/or supplies) will be provided to undergraduate students and awards up to \$3000 each (\$2,500 for salary and \$500 for travel and/or supplies) will be provided to graduate students for the 2010-2011 academic year. Summer research assistantship awards of up to \$1500 (\$1000 salary and \$500 travel and/or supplies) for undergraduate and graduate students will also be available. This will directly benefit both CSU faculty, who will be able to increase their groups' productivity, as well as the students themselves who will get hands-on experience and learn research and technical skills. Students can assist with data collection to supply preliminary data for new, collaborative proposal development as well as initiate new projects in their areas of interest that expand the scope of the faculty member's research.

Travel awards will also be provided to students to promote participation in conferences, which can often be transformative events for students. To qualify for travel awards, students will have to make either oral or poster presentations at the meeting.



SF State graduate student performing a zooplankton tow on San Francisco Bay. Image courtesy of SF State's Romberg Tiburon Center.

Collaborative Shared Resource Program

To increase intercampus collaboration in marine and coastal research and education, COAST will provide funding to support collaborative resource sharing across the CSU. Funds will be made available through a competitive process to enable faculty to engage CSU resources, facilities or services to facilitate collaborative research, technology transfer, or the generation of preliminary data sets that will lead to the submission of full proposals to external funding agencies and organizations. Examples of sharing activities include, but are not limited to, access to equipment, ship-time, specialized laboratories, expertise, and data acquisition. Awardees will be expected to submit full proposals to external funding agencies or organizations that were generated, in part, as a result of the funded collaborative resource sharing activities.



Moss Landing Marine Laboratories graduate students deploying an instrumented rosette. Image courtesy Dr. Erika McPhee-Shaw.

Outlook for the Next Six Months

Over the next six months COAST will:

- Convene a series of informational briefings in Sacramento to engage policy and lawmakers on the topic of collaborative fisheries research.
- Provide support for undergraduate and graduate students engaged in marine and coastal research.
- Provide funding to support resource sharing across the CSU to increase intercampus collaboration in marine and coastal research and education.
- Meet with potential external partners such as public aquaria, agencies and industry to determine their needs and how COAST may assist them with the long-term goal of forming lasting partnerships that enhance research and learning opportunities throughout the CSU. Meetings are planned specifically with:
 - Aquarium of the Pacific;
 - Cabrillo Marine Aquarium;
 - California Department of Fish and Game;
 - Southern California Edison.
- Convene a faculty-student research poster reception at the Chancellor's Office in Long Beach in conjunction with the November 2010 Board of Trustees meeting. Each campus will have the opportunity to send a representative faculty-student research team to present their work. This will provide an opportunity to engage the CSU Presidents in addition to the annual briefing the COAST leadership provides to the Presidents each spring.



Avila Beach, CA. Image courtesy of Dr. Krista Kamer.



COAST Semi-Annual Report, September 2010

Cover photograph: Rockfish, basket star, crinoid, and prawn in the Monterey Bay National Marine Sanctuary. Image courtesy of Dr. James Lindholm and IfAME/MBNMS/MARE.