



California State University Systemwide Priority Projects for FY 2010

CSU COAST Equipment and Infrastructure

The California State University's Council on Ocean Affairs, Science and Technology (COAST) seeks equipment and infrastructure funding to upgrade technological capacity and launch six Technology Resource Groups to address critical national environmental issues. By linking these Groups and sharing CSU equipment and data using high-speed networks, COAST will create an unparalleled, robust statewide resource that maximizes the use of coastal research and education capabilities throughout the 23-campus CSU system. COAST has the capacity and expertise to conduct applied research studies to address California's critical environmental challenges, establish more cost-effective and sustainable equipment and facilities usage, provide state agencies, government, and the general public with accurate coastal management information, and accelerate the training of the next generation of scientists, engineers, and policy makers equipped to build the coastal economy while protecting its environmental quality.

The California State University is requesting \$3 million in NOAA funds, which would support marine research and education at **CSU Bakersfield, CSU Channel Islands, CSU Chico, CSU Dominguez Hills, CSU East Bay, CSU Fresno, CSU Fullerton, Humboldt State University, CSU Long Beach, CSU Los Angeles, California Maritime Academy, CSU Monterey Bay, CSU Northridge, Cal Poly Pomona, CSU Sacramento, CSU San Bernardino, San Diego State University, San Francisco State University, San Jose State University, Cal Poly San Luis Obispo, CSU San Marcos, Sonoma State University, and CSU Stanislaus.** The funds would be utilized for six Technology Resource Groups:

- **Applied Geospatial Technology**—This Group will build upon existing expertise and infrastructure to provide training in the acquisition, visualization and application of high-resolution geospatial data to coastal policy and management issues, thus providing solutions for the state. **Funds will be used to purchase and support additional seafloor and coastline imaging equipment that will enhance the CSU's ability to collect valuable data to determine environmental change in these areas.**

CSU Campuses

Bakersfield • Channel Islands • Chico • Dominguez Hills • East Bay • Fresno • Fullerton • Humboldt • Long Beach • Los Angeles • Maritime Academy • Monterey Bay
Northridge • Pomona • Sacramento • San Bernardino • San Diego • San Francisco • San José • San Luis Obispo • San Marcos • Sonoma • Stanislaus

- **Environmental Quality Technology**—This Group will build upon existing infrastructure to continue to provide high-quality environmental monitoring data that will be critical for addressing local and regional environmental issues and developing climate change adaptation strategies. **Funds will be used to replace old equipment, refurbish and upgrade instruments and purchase and support new instrumentation for new locations with added capabilities.**
- **Climate Change Analysis**—This Group will identify large, long-term data sets and promote collaboration among researchers to develop integrated studies of climate variation that will yield decision-making tools. **Funds will be used to provide necessary electronic infrastructure for analysis of large data sets.**
- **Applied Organism Health Technology**—This Group will develop techniques to monitor the degree to which manmade changes negatively impact marine organisms, including native and introduced species. A library of samples will be created as a reference for identifying deleterious changes at cellular and molecular levels. This will assist managers in their efforts to minimize stress to biological marine resources and maximize their ecological and economic value. **Funds will be used to purchase and support equipment to investigate cellular- and molecular-level indicators of stress and adaptation.**
- **Marine Ecosystem Dynamics**—This Group will engage in research and monitoring to assess how organisms use and interact with their environment and how human activity impacts ecosystems. The results will help resource managers develop and implement ecosystem-based management strategies for sustainable use of natural marine resources. **Funds will be used to purchase and support equipment to measure and visualize coastal marine environments and organisms, and to perform laboratory studies.**
- **Marine and Estuarine Policy**—This Group will promote the development of holistic solutions that can be accepted by all segments of society. **Funds will be used to engage in outreach to build awareness of the critical issues and engage stakeholders in formation of comprehensive solutions to critical environmental problems.**

Electronic Networking Infrastructure—In addition, in order for these Groups to succeed and flourish, it will be necessary to provide significant electronic infrastructure to promote communication and collaboration within and among these Groups. Not only will each Group involve faculty at geographically separated campuses throughout the CSU, but the Groups will interact with each other to develop synergies and produce highly informed, practical solutions to environmental challenges. **Funds will be used to augment existing cyber infrastructure to provide video-conferencing, remote access to instrumentation and sharing of large data sets.**

Additional information: <http://www.calstate.edu/coast/>

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