

## Coastal Observation Technology System Project Summary – 2004

**Project Name/Title:** Center for Integrated Coastal Observation, Research, and Education (CI-CORE)

**Date Project Initiated:** August 1, 2002

**Recipient Institution:** San Jose State University for a California State University Consortium

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**Project Web Site:** <http://cicore.mlml.calstate.edu/>

**Brief Project Summary:** CI-CORE is dedicated, through a combined program of research, education, and public outreach, to addressing California coastal regulatory and management issues to ensure sustainable use of the coastal zone. Taking advantage of the statewide distribution of California State University (CSU) campuses, CI-CORE promotes three core technologies to develop a distributed, yet integrated, coastal monitoring observatory focused on the critically impacted region from the 100-meter isobath into, and onto, the shore and estuaries. In situ monitoring at fixed locations provides a statewide observatory of time-varying water quality parameters. High-resolution seafloor bathymetry, habitat mapping, and hyperspectral imaging of benthic, shallow-water, and coastal environments improve resource management in critical coastal and wetlands areas. Besides serving the state needs, CI-CORE is integrated with other observatory programs locally, regionally, and nationally to help satisfy the mandate of the U.S. Integrated and Sustained Ocean Observing System (IOOS) as articulated by Ocean.US and other state and federal programs. This program ensures that California provides national leadership promoting these mandates.

**Accomplishments to Date:**

- In situ monitoring
  - Long-term statewide time-series of water quality and meteorology parameters including
    - temperature, salinity, density and pressure,
    - optically monitored parameters (fluorescence, sediment load, turbidity),
    - automated monitoring of dissolved nutrients, phytoplankton, and zooplankton,
    - meteorology
- Hyperspectral imagery of the nearshore and coast
  - Coastal waters optical properties
  - Bloom detection, including harmful algal blooms (HABs)

- Nearshore bathymetry
- Kelp forest coverage and change
- Wetlands characterization
- High-resolution seafloor bathymetry and habitat maps
  - Baseline bathymetry and bottom characterization, including hyperspectral validation
  - Environmental change detection

**Current Year Objectives:** CI-CORE year-two objectives have concentrated on extending the hyperspectral coverage into estuarine and wetlands areas and implementing more in situ monitoring. All data and derived products are available through the Web sites hosted by each partner. In addition, the program has solicited new members and will continue to expand as funding allows. There are five more CSU campuses that have expressed interest in joining CI-CORE.

**Partners:**

- CSU Campus
- California State Polytechnic University, San Luis Obispo
- California State University, Hayward
- California State University, Monterey Bay
- Humboldt State University
- Moss Landing Marine Laboratories
- San Francisco State University/Romberg Tiburon Center
- San Jose State University: coordinating institution
- New CSU campuses (1 August 2004)
  - California State University, Long Beach
  - San Diego State University

**Other Consortium Members:** Florida Environmental Research Institution, Old Dominion University

**Strategic Partners:** California Department of Fish and Game, Central and Northern California Ocean Observing System (CeNCOOS), Monterey Bay National Marine Sanctuary, San Francisco Bay National Estuarine Research Reserve.