



# FY2013: Regional Integrated Ocean Observing System (IOOS®) Development

U.S. IOOS is an operational system and a network of regional partners responsible for regional observations, data management, modeling and analysis, education and outreach, and research and development. The overarching purpose of U.S. IOOS is to address regional and national needs for ocean data and information. NOAA continued to provide merit-based funding in 2013 to further develop the IOOS regional network. IOOS regional partners provide coordination with regional stakeholders while contributing data and other outputs to the national system – supporting regional priorities while advancing national objectives.

## CENTRAL & NORTHERN CALIFORNIA REGION

The Central and Northern California Ocean Observing System (CeNCOOS) spans the coastal ocean from the California/Oregon border south to Point Conception, CA. The CeNCOOS approach is to develop long-term monitoring and prediction of water quality, surface currents, and other oceanographic conditions in support of natural resource management, marine operations, coastal hazard mitigation and response, and climate change planning in central and northern California.

### NOAA Funding:

Prior to FY 2011, IOOS regional partners received two awards – one for development of the Regional Coastal Ocean Observing System (RCOOS), and one for planning and stakeholder engagement by a Regional Association (RA). Starting in FY 2011, IOOS made a single multi-year award to each region for management of these activities. Funds awarded by NOAA since establishment of the U.S. IOOS Program Office are as follows:

FY 2013 - \$2,323,054  
FY 2012 - \$2,089,916  
FY 2011 - \$1,739,000  
FY 2010 - \$1,402,000 RCOOS, \$399,619 RA  
FY 2009 - \$1,281,529 RCOOS, \$397,308 RA  
FY 2008 - \$1,000,000 RCOOS, \$395,763 RA



### Regional Priorities:

For the period 2011-2016, CeNCOOS has established a multi-purpose observational scheme to collectively address user needs in the general categories of climate and ecosystem health, water quality, marine operations, and coastal hazards. A sampling of CeNCOOS products to address these issues includes:

- Long-time series of temperature and coastal sea level data to address global warming and sea level rise
- Sustained observations of carbon variables (e.g. pH) to monitor ocean acidification
- Observations to monitor and help predict the occurrence of harmful algal blooms (HABs)
- Real-time measurements and model forecasts of surface currents for search and rescue and tracking of spills
- Water quality data to support mariculture operations

- Real-time measured and modeled winds for marine recreation and other uses

The core observation suite used to address these issues includes automated water quality shore stations, coastal buoys, the High Frequency (HF) radar surface current mapping network, and autonomous profiling gliders. The data from these systems are collected and distributed in near real-time by the CeNCOOS Data Management and Communications (DMAC) system. Atmospheric and ocean models produce estimates of present and future conditions in and over the ocean in the CeNCOOS region.

The CeNCOOS work plan for 2013 will focus on the following activities:

- Maintain automated coastal shore stations and one near-shore mooring for: water quality, long term trends in temperature, salinity, sea level, chlorophyll fluorescence, ocean acidification and HABs monitoring and forecasting.
- Operate a cross-shore glider transect on a 24/7 basis to monitor temperature, salinity, chlorophyll fluorescence, dissolved oxygen, currents, and acoustic properties. These data will be used to track El Niño events and climate change, and to feed ocean observations into ocean circulation models. Short-term glider deployments to support instrument development will also be made.
- Maintain and operate the HF radar surface current mapping network used to support search and rescue, marine operations, oil spill response, and ecosystem forecasting.
- Operate an atmospheric model covering the CeNCOOS region, and both state-wide and west coast-wide numerical ocean models to forecast currents, oceanographic variables, and eventually ecosystem variables.
- Enhance the DMAC system to facilitate easy data access and use by researchers, modelers, product developers, managers, and the general public. Expand the DMAC system to integrate other data types together with fixed point time series.
- Implement a tool for users to access high-resolution bathymetric data for just their area of interest from California's Seafloor Mapping Project.
- Work with the Tagging of Pacific Predators (TOPP) program and the national IOOS office to establish a portal for broad access to and use of satellite animal telemetry data as part of the larger U.S. IOOS strategy to establish a national Animal Telemetry Network.

#### **Regional Contact Information:**

Leslie Rosenfeld, Program Director ([role@mbari.org](mailto:role@mbari.org))  
[www.cencoos.org](http://www.cencoos.org)

#### **U.S. IOOS Program Office Contact:**

Jenifer Rhoades, Regional Coordinator ([Jenifer.Rhoades@noaa.gov](mailto:Jenifer.Rhoades@noaa.gov))