

SCCOOS News

August 2014

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August 2014 SCCOOS Activities

Date	Activity	Location
Monday, August 11	Presentation to Pasadena Dive Club	Pasadena, CA
Friday, August 15	Resilient San Diego Workshop	La Jolla, CA
August 25-29	IOOS Directors Retreat	Boulder, CO

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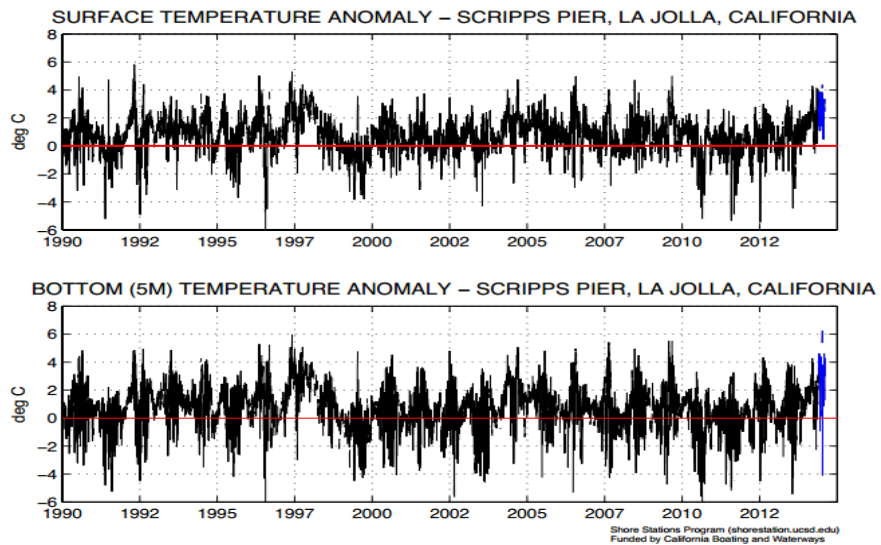
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Noted and Noteworthy - the warm WARM Coastal Waters

If you have gotten in the water lately, as the program staff with the SCCOOS have, you have reveled in the freedom of swimming without a wetsuit!! Even with years of experience and a whole host of expertise around SCCOOS wonders, “What is going on with all this warm water?”. In preparation for this article – SCCOOS compiled information from its’ partners in order to present information for the user (YOU!) to suss out what you think about the warm water.

“SCCOOS advocates for sustaining long-term observations to establish a baseline for evaluating, tracking and predicting change. For example, without a continued effort to collect sea surface temperature (SSTs) we wouldn’t be able to determine if the ocean is getting warmer and forget trying to understand why!”



Why are observations of the sea surface temperatures of interest?

Our colleagues at [NOAA’s Ocean Climate Observation Program](#) have information on this particular question. They state that SSTs are essential to understanding the state of the earth climate system because the ocean “communicates” with the atmosphere from its’ surface. SST’s are an important component in weather prediction and are collected by SCCOOS on different platforms.

1. [Automated and Manual Shore Stations](#): These platforms consist of a suite of near real-time sensors that are attached to piers at several locations along the California coast.
2. [Gliders](#): Spray gliders are robotic submarines that navigate underwater without a human crew onboard and without cables. Gliders transmit their data to satellites when they are on the surface and those data are available in the near real-time.
3. [Research Vessels](#): In 2004, SCCOOS added 9 [CalCOFI](#) stations to the standard 66 station pattern at the 20m isobath in the Southern California Bight.

Does warm water mean we are experiencing an El Niño?

In a word no - and this is a common misconception too. No matter what your level of expertise is El Niño is widely associated with warmer than normal waters and La Niña with colder than average waters, but it is more than just warm water that experts are keeping tabs on. An abbreviated summary of the atmospheric and oceanic indicators of an El Niño from [NOAA’s Pacific ENSO Applications Climate Center](#) are;

- A high number of early season tropical cyclones in the western North Pacific
- Extended periods of persistent westerly winds at equatorial latitudes
- An eastward displacement of westerly winds at equatorial latitudes
- An intense burst of typhoon activity from mid-September thru early November 2013 (a possible precursor to El Niño)
- A major warming of the subsurface ocean temperatures across a large swath of the equatorial central and eastern Pacific



What is our probability that an El Niño will occur?

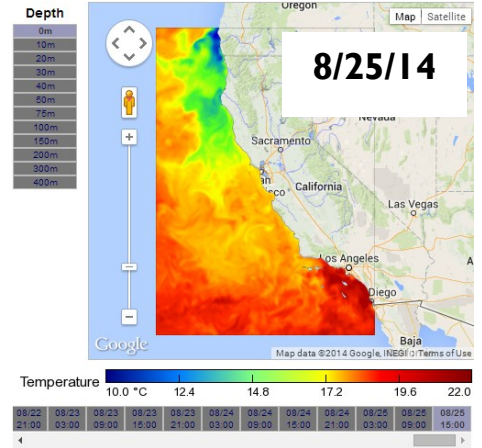
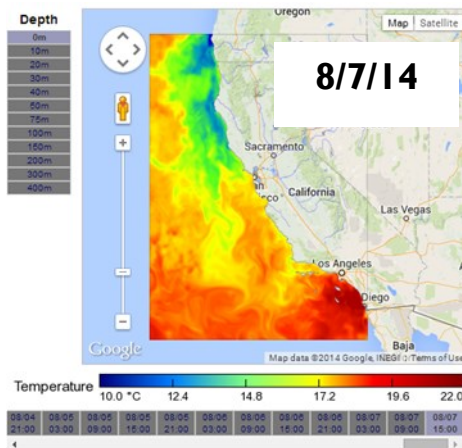
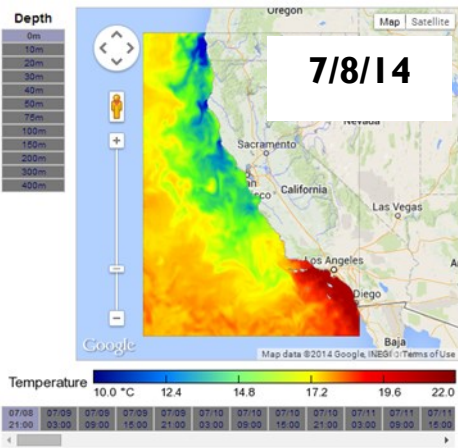
This has changed a bit as of late due to a slight decrease in SSTs over the western and central equatorial Pacific. Also the atmospheric responses (the winds) have been lagging. This is why the [prediction](#) of an El Niño has decreased from 80% to 65% during the fall and early winter. Experts are predicting that if conditions persist we will most likely experience a weak to moderate El Niño in the Northern Hemisphere.

What are the local factors that are contributing to our warm waters off the West Coast?

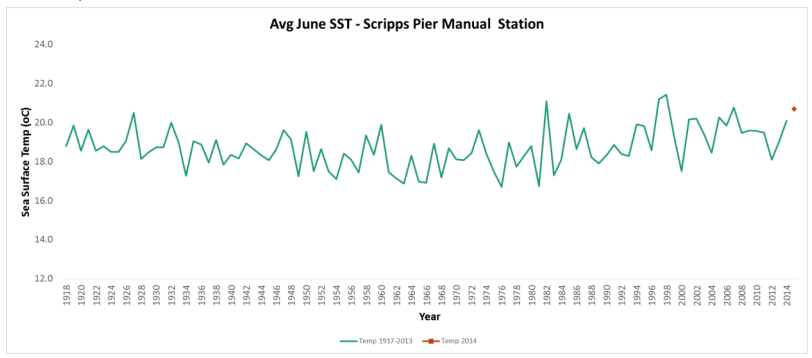
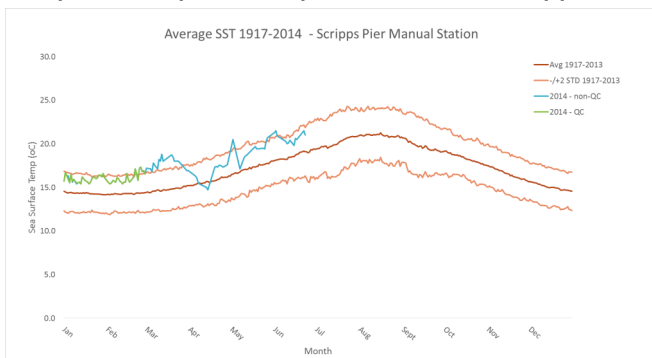
Our colleagues at [NOAA's Southwest Fisheries Science Center Fisheries Ecology Division](#) have recently posted an excellent explanation as to the source(s) of our warming trend. To summarize— they state that the warming was especially strong from July 15 to 23, which coincided with a period when the region's typically strong and persistent summertime northwesterly winds were very weak or absent. In addition to warming directly related to weaker winds, this greatly reduced coastal upwelling and allowed much warmer water that was offshore and to the south to move inshore and to the north. Coastal radar observations indicate very weak and even northward surface currents in the region of strong warming during this period.

Applicable Data

The [California 3km Regional Ocean Model System](#) hosted on both the SCCOOS and CeNCOOS websites which are provided by Dr. Yi Chao at UCLA are a great visual of our warm waters. The images show sea surface temperature in Celcius.



The Sea Grant fellow for the West Coast Ocean Observing Systems has written a [blog](#) on the subject as well as compiled temperature plots from the Scripps Pier (below).



Have you checked out the Coastal Data and Information Program mobile App?

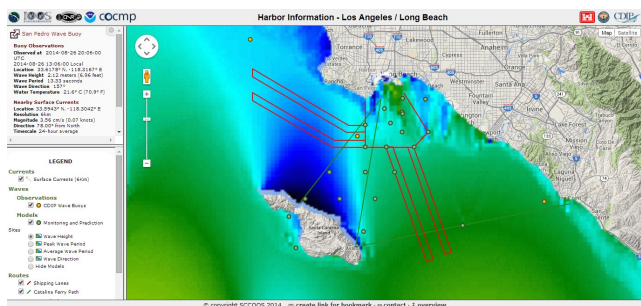
CDIP recently launched their mobile app that will allow you to easily access wave information. The app focuses on the latest buoy observations including nowcasts and forecasts, wave models including regional swell models, and sea surface temperatures. If you find yourself in, on, or near the ocean on a regular basis (and you know who you are) you will find this app both easy to understand and navigate.

cdip.ucsd.edu/m



National Ocean Service Coastal Intelligence—LA/LB Project

NOAA's National Ocean Service (NOS) and National Weather Service have begun an effort to improve the delivery of environmental information to support our nation's ports. NOS' Office of Coast Survey, Center for Operational Oceanographic Products and Services, and the IOOS Program Office have teamed up with Coastal Services Center/Office for Coastal Resource Management and NWS' environmental modeling center and local weather forecast office to analyze how we can bring charting, observations, and modeling with shipping data to improve the movement of commerce.



A higher resolution waves model is needed and the IOOS Program Office are working with NWS and SCCOOS to develop that model. IOOS[®] was able to use end of year funds to procure a wave buoy through SCCOOS. The buoy will be used to validate a wave model that will be used by Harbor Pilots to determine if harbor conditions are safe for transit of large vessels in and out of the Ports. This is possible to do cost effectively because the U.S. Army Corp. of Engineers and California State Boat and Recreation has made available to IOOS partners the CDIP infrastructure as part of their contribution to IOOS.



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Job Opportunity with the Australian Coastal Ocean Radar Network

ACORN, a facility of the Integrated Marine Observing System, IMOS, is moving from James Cook University (JCU) to The University of Western Australia (UWA) at the end of September. There are a number of positions now available. The details can be found on: <http://external.jobs.uwa.edu.au/cw/en/listing/>. It's a new start for ACORN in a vibrant oceanographic group in Perth on the West coast of Australia.

More information is also available on <http://imos.org.au/acorn.html>. For more specific information about UWA and the positions please follow the links/contact details on the UWA website.

