

July 2018 Newsletter

SOUTHERN CALIFORNIA COASTAL OCEAN OBSERVING SYSTEM: A Science-Based Decision Support System

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Laboratory of Subaquatic Systems and Technology

Principal Investigator João Tasso de Figueiredo Borges de Sousa of the [LSTS from Porto University](#) and his team met with SCCOOS and CDIP to learn about our technologies and ocean observing systems.

LSTS planned course of action builds on innovative open-source communication and autonomy software that enables networked vehicle systems to operate independently while still working towards a common goal.



Left: Laboratory of Subaquatic Systems and Technology team; Right: Clarissa Anderson, SCCOOS Director.

Ocean Protection Council (OPC) Meeting

On June 20th, Clarissa Anderson and Megan Hepner debriefed Jennifer Philips from California OPC on Harmful Algae Bloom observations, predictions, and response.

With support from the California OPC SCCOOS hopes to help build a

California HAB network to lead the charge in HAB monitoring and management. Local partners also attended including CCCIA, CDIP, CORDC, and CalCOFI.



Left to Right: Lisa Hazard, Julie Thomas, Clarissa Anderson, Jennifer Philips and Brice Semmens. Photo credit: Megan Hepner, SCCOOS.

Welcome Megan Hepner

Megan Hepner joined the SCCOOS team on June 20th as the new Program Coordinator.

Megan Hepner communicated complex science and policy concepts to a diverse audience, including the public, stakeholders, and partners while working at the Office of National Marine Sanctuaries. Her breadth of knowledge on the sanctuaries marine resources led her to work as a graduate assistant for three years under the guidance of Dr. Frank Muller-Karger on the [Marine Biodiversity Observation Network](#) (MBON). She has since applied her knowledge of marine resource management to help design a model that indicates the status and trends of biodiversity and environmental variables in a sanctuary to improve our capacity for science-based decision-making. We are excited to have Megan on board as the new Program Coordinator!



GOOS Plankton Workshop

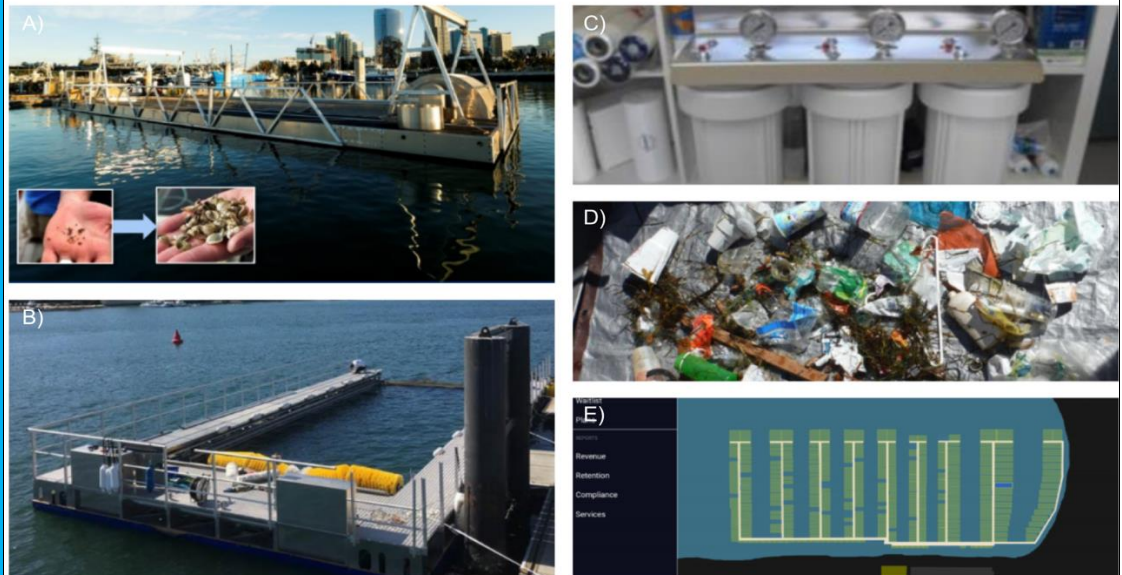
Clarissa Anderson and Dan Rudnick attended the Global Ocean Observing System (GOOS) Phytoplankton-MOB workshop at the Seymour Science Center in Santa Cruz, CA.

The team was tasked with 1) drafting an implementation plan to develop the Phytoplankton Diversity and Biomass and Zooplankton Diversity and Biomass Essential Ocean Variables (EOVs) from a multidisciplinary perspective; 2) developing a pilot project to test this multidisciplinary approach; and 3) drafting an outline for a global plankton observation community paper for OceanObs19.

Blue Economy Incubator

SCCOOS attended an information session on June 13th of the Blue Economy and Aquaculture Incubator at the Port of San Diego.

Program Managers, Paula Sylvia and Phil LeBlanc, featured five pilot projects funded by the Blue Economy.



A) FLUPSY by SDBA is a floating barge that circulates water through compartments holding shellfish, in this case oysters, as they grow from seeds to juvenile stages.

B) Drive-in Boatwash by Rentunder is a new approach for in-water haul cleaning, to help reduce copper particulates released into the Bay.

C) Copper Remediation by Red Lion Chem Tech aims to remove soluble copper in seawater through active and passive filtration systems.

D) Marine Debris Removal by Zephyr uses skimming technology and is designed to remove marine debris, such as plastic bottles and other trash, as well as the removal of small debris, such as microplastics.

E) Smart Marina App by Swell Advantage automates and optimizes the management of the marina and improve revenues.

SCCWRP CTAG-OAH Workshop

Megan Hepner attended the Commission Technology Advisory Group (CTAG) meeting on Modeling to Assess the Effect of Local Pollution Sources on Ocean Acidification and Hypoxia (OAH) on June 26th at Southern California Coastal Water Research Project (SCCWRP).

Martha Sutula and Faycal Kessouri presented the background and context for the [ROMS-BEC \(Regional Ocean Model System and the Biogeochemical Elemental Cycles\)](#) modeling project, the component steps to develop, refine and validate the model, before applying the model to its intended management. Nina Bednarsek led the discussion of an approach to developing Ocean Acidification assessment endpoints using

pteropods as an example, and Evan Howard led the discussion of an approach for developing Dissolved Oxygen assessment endpoints using anchovies as an example.



Upcoming Activities

[UC ESRI Conference](#)

[Statewide Area Planning Committee Meeting](#)

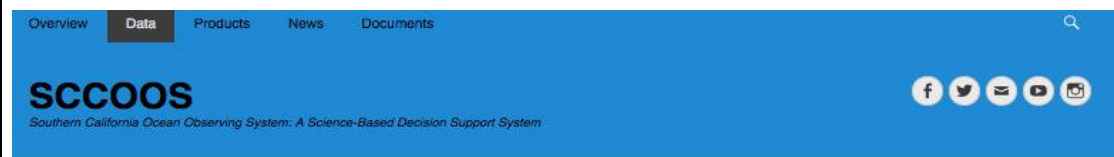
[Strengthening Coasts for a Resilient Future](#)

[Unified Modeling SIP Team Meeting](#)

Continued Website Development

SCCOOS added a new [Products](#), [Technologies](#), and [Observations](#) page.

SCCOOS new Products page directs you to a list of our current Products including our new monthly [California Harmful Algal Bloom Bulletin](#). The new [Technologies](#) page highlights the variety of technologies SCCOOS employs to measure ocean observations (e.g., automated shore stations, gliders, High Frequency Radar, etc.). You can click on each Technology to learn more about the type of observations it collects as well as spatial and temporal information. We are currently working on developing an [Observations](#) page which will complement the Technologies page. The Observations page lists ocean parameters (e.g., oxygen, nutrients, wave data, etc.) and when you click on the parameter it provides a list of which technologies collect the observation and where to access the data.



Technologies

SCCOOS employs a variety of *in situ* and remote sensing technologies to measure physical, chemical, biological, and geological parameters as well as supports ocean models and provides forecasts of future conditions.



Since 2005, SCCOOS automated shore stations provide real-time temperature, salinity, and chlorophyll at four pier locations along the California coast.



Spray glider surveys collect data on temperature, salinity, pressure, chlorophyll, depth-averaged velocity, and acoustic and optical backscatter. Dissolved oxygen is currently being added to this parameter suite.



Data collected from over 60 high-frequency (HF) radars in Southern California are processed and displayed as surface current maps in near real-time.



SCCOOS helps support a 3-km quasi-operational



SCCOOS supports weekly water samples at our



SCCOOS supports weekly net tows to monitor the

SCCOOS

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