

FILE:CF/45-0-1 GENERAL
CF/46-9-1 SONOMA COAST HYDROKINETIC ENERGY PROJECT
GENERAL CORRESPONDENCE

February 1, 2010

Heather Kerkerling
Program Coordinator
Central and Northern California Ocean Observing System
7700 Sandholdt Road
Moss Landing, California 95039

RE: Letter of Support for CeNCOOS/IOOS

Dear Ms Kerkerling:

The Sonoma County Water Agency (Agency) is a State Special District that conducts activities, maintains and operates facilities related to water supply, flood control and sanitation. The Agency is responsible for providing a reliable water supply from the Russian River Watershed to over 600,000 people in Sonoma and Marin counties. Among the many factors that potentially impact the reliability of providing water service is operating within the range of three salmon and steelhead species that are protected under the state and federal endangered species acts, (central California coastal steelhead, California coastal Chinook salmon and central California coast coho salmon).

The Agency supports the Central and Northern California Ocean Observing System (CeNCOOS) and the national Integrated Ocean Observing System (IOOS) in their efforts to provide timely and reliable oceanographic information. Real-time detailed observations of the effects of oceanic conditions on salmon productivity help inform Russian River Water Management and facilities operations.

The Agency intends to utilize data collected through CeNCOOS to support sustainable water supply and flood control management efforts. Specifically, ocean monitoring provides data documenting biological benefits to fisheries management; evaluating the effect of ocean currents on fish distribution; evaluating food availability (productivity); modeling ocean survival; and facilitates differentiating terrestrial effects from ocean conditions to anadromous fish populations. In addition, ocean monitoring provides water management benefits which allow weather prediction and long and short-range water supply planning, to support timed release of reservoir flows to benefit spawning salmon. The Agency's scientists, managers and engineers all rely on this type of information to effectively manage water supply, water conservation, and fisheries resources.

Additionally, as part of our sustainability program the Agency is engaged in offshore wave energy projects along the Sonoma coast. CeNCOOS is able to provide ocean information that aids in understanding salmon population dynamics and in siting for new wave energy technologies. The information provided, such as surface current speed and direction, wave dynamics, upwelling centers, and trends in oceanographic conditions and phenomena are packaged to provide user-friendly decision-



California Natural Resources Agency
DEPARTMENT OF FISH AND GAME
Office of Spill Prevention and Response
1700 K. Street, Ste 250
Sacramento, California 95811
Telephone: (916) 445-9338
www.dfg.ca.gov

ARNOLD SCHWARZENEGGER, Governor
John McCamman, Director



January 28, 2010

To Whom It May Concern:

The California Department of Fish and Game, Office of Spill Prevention and Response (OSPR) supports the Central and Northern California Ocean Observing System (CeNCOOS) and the national IOOS in their efforts to provide timely and reliable oceanographic information.

OSPR has benefited greatly from its partnership with CeNCOOS. In particular, surface currents from high-frequency radar technology have proven extremely useful in oil spill response. Products provided by CeNCOOS using real-time surface current speed and direction, such as particle trajectory models, aid OSPR greatly in our responsibility to effectively address human, habitat and wildlife concerns during an oil spill response. The products are user-friendly, compatible with the OSPR system, and easily interpreted.

The potential benefits of the Integrated Ocean Observing System are endless. We would like to see CeNCOOS expand and have the capacity to provide more information and products. We strongly endorse the need for a fully developed IOOS that builds on existing federal, regional and local partnerships for the benefit of our health, wildlife, economy and oceans.

Sincerely,

Judd Muskat, GISP

Staff Environmental Scientist, GIS Coordinator
Office of Spill Prevention and Response
CA Dept. of Fish and Game
1700 "K" Street
Sacramento, CA 95814
(916) 324-3411

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September 11, 2009

Dr. Eric Terrill
Southern California Coastal Ocean Observing System (SCCOOS)
Scripps Institution of Oceanography
University of California, San Diego
9500 Gilman Drive
La Jolla, CA 92093

Dear Dr. Terrill:

**LETTER OF SUPPORT FOR THE SOUTHERN CALIFORNIA COASTAL OCEAN OBSERVING SYSTEM
(SCCOOS AND THE REGIONAL COASTAL OCEAN OBSERVING SYSTEM)**

The City of Los Angeles, Bureau of Sanitation's Environmental Monitoring Division (EMD) is supportive of the Southern California Coastal Ocean Observing System efforts to develop the Regional Coastal Ocean Observing System (RCOOS) for Southern California. SCCOOS provides badly needed coastal and ocean observations and generates extremely useful products for environmental managers, regulators, and nongovernmental agencies (e.g., environmental groups). The City conducts extensive monitoring in the coastal ocean of Southern California, primarily in Santa Monica Bay. A significant portion of this effort involves tracking the Hyperion Treatment Plant's effluent plume as it is discharged from the 5-Mile Outfall pipe into Santa Monica Bay and estimating bacterial concentrations at ankle depth in the surfzone due to the potential for pathogens to adversely impact public health. The effluent plume has the potential for traveling considerable distances and depositing organic particles, metals, and organic pollutants into the sediment within the Bay. Storm drains are the major source of bacteria and other pollutants to these waters, and they mostly discharge into the surfzone.

Southern California beaches and near-shore waters are world famous, and nearly 80 million people engage in water contact recreational activities at Los Angeles and Orange County beaches every year. This is not only an important component of the Southern California life style, but also an important economic engine for the region. Unfortunately, it has been estimated that between 627,800 and 1,479,200 "excess" cases of gastrointestinal illness occur at these beaches each year with estimated healthcare costs of \$21 million to \$414 million annually; therefore, ensuring good, safe water quality along our coast is an extremely high priority. In addition, the deposition of pollutants and their subsequent accumulation have adverse impacts on the benthic macrofaunal and demersal fish and invertebrate communities. Some of the seafood, e.g., white croakers, have been issued fish advisory notices and may not be safe for consumption.



Knowledge of circulation patterns in the coastal region is meager, especially from a regional perspective. A better understanding of circulation in the shallow and near-shore regions could be extremely valuable because it holds the potential to forecast the fate of surfzone and near-shore pollutants, which would increase our ability to protect public health and the environment.

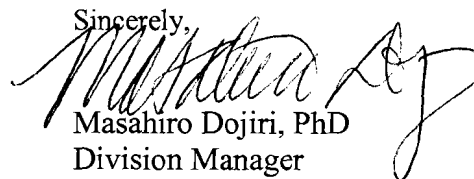
The work conducted by SCCOOS is important because it is focused on improving our understanding and potential for modeling dispersion within a few hundred meters of the shoreline, which is where most water-contact recreation occurs, as well as the near-shore waters. This information will be useful in studying stormwater dispersion and fate, as well as discharges from wastewater treatment plants. I believe this will greatly benefit monitoring efforts aimed at protecting public health and the environment.

The City of Los Angeles' Hyperion Treatment Plant recently diverted the flow of its wastewater from a pipe with an outfall that is five miles from the shoreline to one that is only one mile from the shoreline in order to inspect the 5-mile pipe. The diversion lasted approximately three days and about 800 million gallons of secondary-treated effluent was discharged through the 1-mile pipe. EMD in conjunction with other researchers conducted an extensive monitoring effort during this diversion. Our monitoring effort greatly benefited from surface current information provided through the Southern California Coastal Ocean Observing System (SCCOOS). The real-time current information provided by SCCOOS enabled us to adaptively modify our sampling grid to better track the discharge plume and to predict the dispersion of the surface plume by the use of a trajectory model developed by SCCOOS researchers using high frequency radar data. If the winds had blown onshore, EMD would have utilized the surfzone model developed by Scripps Institution of Oceanography through SCCOOS to predict the dispersion of the effluent in the surfzone. We believe improved understanding of dispersion in the surfzone may similarly benefit our monitoring efforts in the future, as well as those of other monitoring agencies in southern California, for example the Los Angeles County Sanitation Districts (LACSD), Orange County Sanitation Districts, and the Southern California Coastal Water Research Project, among several others. Both Los Angeles County and the City of Los Angeles are very interested in the near-shore current data and surfzone model of SCCOOS to help shed light on the dispersion of legacy pollutants, i.e., DDT and PCBs that were discharged from the LACSD outfall at White's Point and onto the Palos Verdes shelf.

Also, within the next few years, the Hyperion Treatment Plant in Playa del Rey will need to repair the portion of the 5-mile outfall pipe that was identified as problematic during its internal outfall inspection in November 2006. During this repair period, the City of Los Angeles' Bureau of Sanitation will call upon and work closely with SCCOOS scientists to design and conduct a monitoring program tailored for the diversion of the secondary-treated effluent from the 5-mile to the 1-mile outfall as the City did in 2006.

In summary, the City of Los Angeles shares an interest in better understanding the dynamics of water transport in the surfzone and near-shore waters, which may increase our understanding of the fate of flow from storm drains and other sources into the surfzone as well as the flow from offshore sources into near-shore waters. Because of this, the City believes it will continue to directly benefit from the ocean observing activities proposed by SCCOOS; the City wholeheartedly endorses the proposal and recommends it be funded.

Sincerely,



Masahiro Dojiri, PhD
Division Manager



**COUNTY OF ORANGE
HEALTH CARE AGENCY**

**PUBLIC HEALTH SERVICES
ENVIRONMENTAL HEALTH**

DAVID L. RILEY
DIRECTOR

DAVID M. SOULELES, MPH
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September 25, 2009

Dr. Eric Terrill, COO
Southern California Coastal Ocean Observing System (SCCOOS)
Scripps Institution of Oceanography
University of California, San Diego
9500 Gilman Drive, #0213
La Jolla, CA 92093

Dear Eric,

As a representative of a Southern California public health agency and beach water quality manager, I would like to take this opportunity to voice our continued support for the Southern California Coastal Ocean Observing System (www.sccoos.org). SCCOOS has evolved into a comprehensive and accurate observing system providing partners, stakeholders and the public with an extensive array of useful ocean observation data and products, much of it real time.

We continue to support SCCOOS by providing shoreline bacteriological water quality monitoring data to SCCOOS on a regular basis. The user-friendly web site provides consumers with recent and historical monitoring site data, GIS reference maps, and compliance analysis with state marine bathing water standards. Site navigation is extremely easy and intuitive. In addition to water quality data, SCCOOS has coordinated the development of a high frequency radar current monitoring system. **This real time surface current monitoring system has allowed the San Diego County Environmental Health Agency to predict when contaminated water from the Tijuana River will impact the southern beaches of San Diego County. They are able to preemptively prevent swimmers from being exposed to contaminated ocean waters. This system can also be used to predict where sewage spills or urban runoff will impact when they reach ocean receiving waters.**

The use of predictive models, coupled with existing and enhanced water quality monitoring methodologies and real or near real time ocean observing systems, will allow better prediction of potential public health risks associated with the recreational use of California's marine waters. It is important that SCCOOS continues to be an integral part of the solution to these challenges. We strongly support your efforts and look forward to continued and future collaborations with SCCOOS.

If you have any questions, please feel free to call me at (714) 433-6015.

Very truly yours,

Larry Honeybourne
Program Manager
County of Orange, Health Care Agency
Environmental Health



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL WEATHER SERVICE

Weather Forecast Office
520 North Elevar St.
Oxnard, CA 93030

October 6, 2009

Julie Thomas
SCCOOS Executive Director
Scripps Institution of Oceanography
University of California at San Diego
9500 Gilman Drive, Mail Code 0214
La Jolla, CA 92093-0214

RE: Federal Funding Opportunity – FY2010 Integrated Ocean Observing System Implementation

Dear Julie,

I strongly endorse this SCCOOS project as proposed to NOAA and greatly look forward to coordinating with your group.

As you are aware, we serve a very complex – and highly traveled – marine area that requires specific and accurate marine observation and prediction information to best serve the marine community. The results of this project can directly benefit multiple areas of our marine services program, plus through the project's goal of building a long term data collection of waves, currents and wind observations, it can benefit NOAA's role in better understanding and communicating climate change and its impacts across our coastal communities.

This project can have tremendous benefits on our overall marine program responsibility to help better ensure safe and efficient marine transportation across our waters. More specifically, the work to develop detailed ocean current data and surface wind analyses will benefit our support of oil spill response, and marine area search and rescue efforts. We also look forward to working with you in integrating coastal wave height and alongshore current information for an improved rip current warning and advisory program. This, along with the proposed web page designed to provide important rip current information for lifeguards, will ultimately help mitigate a hazard that can impact a very large population of beachgoers across southern California.

I am committed to help ensure the success of this SCCOOS project and look forward to future project collaborations that can benefit our marine and climate services.

Sincerely,

Mark E. Jackson

Meteorologist in Charge
WFO Los Angeles/Oxnard



United States Department of the Interior

U. S. GEOLOGICAL SURVEY

Western Coastal and Marine Geology Team
400 Natural Bridges Drive
Santa Cruz, CA 95060
(831-427-4746); sjohnson@usgs.gov

September 4, 2009

Dr. Eric Terrill
Southern California Coastal Ocean Observing System (SCCOOS)
Scripps Institution of Oceanography
9500 Gilman Drive, 0214
La Jolla, CA 92093

Dear Dr. Terrill,

I am writing to provide a letter of support for the proposal submitted by the Southern California Coastal Ocean Observing System (SCCOOS) for the NOAA funding opportunity: FY 2010 Implementation of Regional Integrated Ocean Observing System. I am a Research Geologist for the U.S. Geological Survey's Western Coastal and Marine Geology Team (WCMG), also Chair of the USGS Western Region Ocean Science Coordination (WROC) group. WCMG works across the western U.S. with a focus on coastal geologic hazards (e.g., erosion, tsunamis, earthquakes), seafloor and habitat mapping, environmental quality and monitoring, natural resources, and communication/outreach on these topics. The WROC attempts to coordinate and integrate multidisciplinary (geology, biology, geography, hydrology) ocean science conducted across ten science centers in the western U.S., including Alaska and Hawaii. I also serve as a member of the SCCOOS Science Advisory Committee. Through these roles, I've become familiar with the history and development of SCCOOS. I've been continually impressed with the range of data products and services provided by SCCOOS and with their commitment to provide these to the public through an excellent, easy-to-use web portal.

WCMG hosts one large effort, the "California Urban Ocean Project" that focuses largely on sediment "source-to-sink" issues in southern California. Project members commonly rely on SCCOOS for real time and archived information on wave climate, surface currents, and other ocean conditions to provide the framework for understanding sediment and contaminant budgets and transport. As one example, we're presently conducting an important ecosystem restoration and sediment transport experiment ("fate and transport of fines") for the Tijuana Estuary and offshore area that has relevance for much of the urban California coast and involves numerous important stakeholders (e.g., California Coastal Conservancy, California State Parks, National Estuary Research Reserve, Southern California Wetlands Recovery Project, California Sediment Management Workgroup). SCCOOS "plume tracking" data offshore of the Tijuana River was important to the design of this investigation and is being relied on as an important data set as work continues and analysis begins. As another example, we are using SCCOOS data for our work in the USGS Southern California Multihazards Demonstration Project, building an inundation and physical effects scenario for a large (i.e., 100 yr) winter storm – this work also has obvious importance for evaluating sea level rise impacts. More generally, SCCOOS data are and will continue to be essential for monitoring both short- and long-term environmental change, a critical regional need during this highly dynamic period of changing climate.

My understanding is that SCCOOS is funded entirely by grants from NOAA National Ocean Service and by the State of California. I think continued support of SCCOOS from these sources is very important to the regional ocean science community. There is a clear continuing need to operate, maintain, and improve the regional observing system. I hope this letter will be helpful in obtaining continuing support for SCCOOS. Please do not hesitate to contact me directly if you need additional information.

Sincerely,

Samuel Y. Johnson
Research Geologist
Western Region Oceans Coordinator



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
SAN DIEGO BORDER LIAISON OFFICE
610 West Ash Street
Suite 905
San Diego, CA 92101

September 24, 2009

Eric J. Terrill, Ph.D.
Director, Coastal Observing Research and Development Center
Marine Physical Laboratory
Scripps Institution of Oceanography
La Jolla, CA 92093-0213

Dear Dr. Terrill:

EPA wishes to thank you for the work you performed for us using the Southern California Coastal Ocean Observing System (www.sccoos.org). The products you generated for us in the past are currently being used to assess the impact of the effluent from the Mexican wastewater treatment plant on U.S. coastal waters. Such an assessment is required by the National Environmental Policy Act (NEPA) in order to document the environmental impacts resulting from the proposed Tijuana wastewater infrastructure projects that EPA hopes to help finance through the Border Environmental Infrastructure Fund.

EPA also anticipates using past and future SCCOOS data to determine if there is a correlation between ocean-current direction and beach water quality in Tijuana and Rosarito as a means of predicting exceedances in water quality standards for bacteria. Such forecasting would allow Mexican authorities to post beach warnings and thereby protect public without having to wait for results from weekly (or monthly) water quality sampling. We look forward to your help in this effort as well.

Thank you again for your assistance.

Sincerely,

A handwritten signature in black ink that reads "Doug Liden". The signature is written in a cursive, flowing style.

Doug Liden
U.S.-Mexico Border Coordinator
Water Division, USEPA Region 9



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Dr. Eric Terrill
COO

*A non-profit organization providing Vessel Traffic Service
(VTS) and Maritime Information for Southern California*

Southern California Coastal Ocean Observing System (SCCOOS)
Scripps Institution of Oceanography University of California, San Diego
9500 Gilman Drive #0213 La Jolla, CA 92093

30 September, 2009

Dear Dr. Terrill:

As a participant in the Southern California Coastal Ocean Observing System (SCCOOS), I wanted to affirm your ongoing efforts in our behalf. With CDIP as the keystone, we have benefited greatly from your present products and your ongoing initiatives.

In the busy Port Complex of Los Angeles-Long Beach Harbor, CDIP has proven itself as a useful tool to many of the commercial waterways operators. Wave model predictions are helpful for trip planning of ferries engaged in the open ocean transits between the Harbor and Catalina Island, particularly during the winter months. Both Ports' pilot organizations board arriving ships outside the Harbor breakwater and must be aware of the expected height and direction of swell. The knowledge it provides of conditions at the breakwater entrances can also be of value to them. The San Pedro Vessel Traffic Service also uses it as a forecaster of conditions in the outer anchorages to guard against dragging and to promote general anchorage safety.

The recent introduction by SCCOOS of an high frequency radar at Point Fermin is providing a real time picture of surface currents in the San Pedro Bay, an additional positive element to the Coast Guard's search and rescue posture. Detracting from its utility is its presentation on a separate website. I look at your effort to combine this with CDIP as a start towards the ultimate goal of integration all oceanographic products into a comprehensive, one site portrayal of oceanographic and atmospheric conditions in a given area of interest. As you know, we sponsored a workshop in September toward that purpose, and we are looking forward to the results of that effort with Ms. Julie Thomas' presentation before our Harbor Safety Committee next week.

I wish you success in your efforts and look forward to the new product. Please let me know if we may help in this unique and exciting project.

Sincerely,

Captain R.B. McKenna
Executive Director
Marine Exchange of Southern California.



CITY OF SOLANA BEACH FAX (858) 792-6513 / (858) 755-1782
635 SOUTH HIGHWAY 101 • SOLANA BEACH • CALIFORNIA 92075-2215 • (858) 720-2400

October 8, 2009

Ms. Julie Thomas
Executive Director, Scripps Institution of Oceanography
Southern California Coastal Ocean Observing System
University of California San Diego
9500 Gilman Drive #0214
San Diego, CA 92093

Re: Implementation of Regional Integrated Ocean Observing Systems -
The Southern California Coastal Ocean Observing System (SCCOOS)

Dear Ms. Thomas:

On behalf of the City of Solana Beach, I would like to express our support for the Southern California Coastal Ocean Observing System (SCCOOS).

Funding for this program is of critical importance to Solana Beach and other coastal cities in the San Diego region. Currently we are in the planning stages for several beach restoration programs and are participating with SANDAG and other cities to implement a second Regional Beach Sand Project (RBSP) in 2012. This project is intended to be similar in size and scope to the successful 2001 RBSP which placed more than 2 million cubic yards of sand on beaches through the County. The City of Solana Beach also participates in a Regional Shoreline Monitoring Program which has been ongoing since 1996 which is essential for understanding the health of the local shoreline and management of local beach nourishment programs. Solana Beach will be able to utilize SCCOOS data to implement and monitor future efforts to replenish our beaches and will be used by SANDAG to manage the region's shoreline. We are especially interested in obtaining information that will improve coastal hazard planning and management tools and other data products made available by SCCOOS, especially those related to inundation and shoreline change.

If El Nino materializes as projected, energetic sea conditions this winter will challenge coastal management efforts and threaten the safety of coastal residents. Detailed wave, current, and inundation information for our coast will be invaluable. Given the importance of the information SCCOOS provides, additional funding is needed.

I appreciate your attention to this request. If you have any questions, please contact me at (858) 720-2400.

Sincerely,

David Ott
City Manager



United States Department of the Interior

MINERALS MANAGEMENT SERVICE

Pacific OCS Region
770 Paseo Camarillo
Camarillo, California 93010-6064

IN REPLY REFER TO:

September 10, 2009

Sirs,

I write this letter in support of the Southern California Coastal Ocean Observing System (SCCOOS) program receiving further funds from the National Oceanic and Atmospheric Administration (NOAA). The Minerals Management Service (MMS) understands that SCCOOS is funded by grants from NOAA and the State of California, and we strongly encourage continued support for SCCOOS to maintain, operate, and improve the regional observing system. It is important that SCCOOS retain the ability to generate information and maintain the ability to disseminate it to the public, academia, and government agencies. As we discuss below, the information and data gathered during the grant period will assist MMS in our mission. We strongly endorse SCCOOS's overall efforts and, in particular, this proposal.

The MMS regulates Federal oil and gas operations on the outer continental shelf. In order to fulfill our mission to secure ocean energy in a safe and environmentally sound manner, we use information about the marine environment in making management decisions and during day-to-day operations. Off the Pacific coast, offshore oil and gas operations are concentrated in the Southern California Bight. The SCCOOS provides a valued source of detailed information that improves our ability to perform our mission.

In addition, we anticipate that the Renewable Energy program will become an increasingly important part of our mission. We have developed renewable energy/alternative use regulations and guidance according to the requirements of the Energy Policy Act of 2005 (see 30 CFR 285). The SCCOOS and the Central California Coastal Ocean Observing System (CenCOOS), as well as the Pacific Ocean Observing System, data will be highly valuable since this program will be active over the entire west coast of the U.S.

We are pleased that SCCOOS can provide timely and accurate oceanographic information and data products that are useful to us, including current direction and speed, meteorological data, river plume locations, pollutant sources, and other marine information. We have used SCCOOS data as listed below:

- Response to oil spills – We use near-shore oceanic currents on a small scale as well as wind speeds and directions. The SCCOOS data products such as the Coastal Ocean Dynamics Applications Radar (CODAR), buoy information, and related links greatly enhances our ability to determine spilled oil trajectories. It is also a valuable training tool for drills.
- River plume and pollutant tracking – The use of SCCOOS data products, such as CODAR and buoy information, enable us to follow these episodic events.
- Sea surface temperature and chlorophyll from satellites – The SCCOOS provides a continuous series of information on these critical oceanographic parameters.

- Fish and fisheries – The SCCOOS oceanographic data (current speed and direction) is used to help elucidate patterns of larval fish transport. The MMS will use this kind of information to understand the contribution of offshore structures (such as oil platforms) to fish populations at a regional scale.

It is evident that SCCOOS is providing a one-stop shopping venue through its website and publications. This is unprecedented and is highly beneficial in that MMS scientists can go to one location (the website) and gather either mission-critical data or gain access to web links that provide this information.

Sincerely,

A handwritten signature in black ink, appearing to read 'D. E. Panzer', with a stylized, flowing script.

David E. Panzer

George Robertson
20112 Riverside Drive
Santa Ana Heights, CA 92707

Dr. Eric Terrill
Southern California Coastal Ocean Observing System
Scripps Institution of Oceanography
University of California, San Diego
9500 Gilman Drive #0213
La Jolla, CA 92093

September 24, 2009

Subject: SCCOOS 2010 NOAA Proposal – Letter of Support

This letter is to support your request to the National Oceanographic and Atmospheric Administration (NOAA) for operational funding for the Southern California Coastal Ocean Observing System (SCCOOS). With over 20 years of professional experience in coastal monitoring and research off Orange County, I believe that the four program components laid out in the SCCOOS 2010 funding request are relevant to better management of this heavily utilized resource.

In particular, information provided by SCCOOS on large-scale spatial and long-term temporal patterns has enhanced my evaluations of potential impacts from a submerged discharge plume on the San Pedro Shelf. Currently the work being done under Ecosystem and Climate Trends allows me to look at local results in the context of regional changes. The Water Quality element, especially the glider work, would allow me to evaluate adopting this technology for routine monitoring work as well as begin to validate the use of models in my analyses (e.g., a coupled initial dilution/ROMS model). I currently use wave data from the CDIP program for my survey work and envision using some of the new products when they are developed, such as the near-real time integration of winds, surface currents and wave models. Finally, the knowledge of extreme events, such as large waves, is important to our ability to sample in shallow water along the open coast.

While local dischargers have mandated long-term monitoring programs, these are usually limited in space and time. Overlaying regional monitoring information, such as that generated and maintained by SCCOOS, on-top of these established programs allows scientists, managers and regulators to place individual discharge findings into the larger environmental context of the Southern California Bight. NOAA's funding will help ensure that the work SCCOOS has begun continues and improves. In closing, I provide my strong support for this funding proposal and for NOAA's continued funding. If you have any questions, please do not hesitate to contact me.

Sincerely,



George L. Robertson, QEP, CSE

Tel: (714) 557-4604
E-mail: g_robertson@roadrunner.com



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October 2, 2009

3200200

Julie Thomas
Southern California Coastal Ocean Observing System,
Executive Director, Scripps Institution of Oceanography
University of California San Diego
9500 Gilman Drive, #0214
San Diego, CA 92093

MEMBER AGENCIES

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San Diego County
Water Authority
Southern California
Tribal Chairmen's Association
Mexico

Dear Ms. Thomas:

SUBJECT: Implementation of Regional Integrated Ocean Observing
Systems: The Southern California Coastal Ocean Observing
System (SCCOOS)

On behalf of the San Diego Association of Governments (SANDAG), I would
like to express our support for the Southern California Coastal Ocean
Observing System (SCCOOS).

Funding for this program is of critical importance to California coastal
constituents, specifically those in the San Diego region. In 2001, SANDAG
managed the Regional Beach Sand Project (RBSP), which placed 2.1 million
cubic yards of sand on the region's beaches. SANDAG's Regional Shoreline
Monitoring Program, which was initiated in 1996 and continues today, was
essential to the design and evaluation of the RBSP. SANDAG can utilize
SCCOOS data to implement and monitor future efforts to replenish beaches
and manage the region's shoreline. In fact, SANDAG has begun the planning
phase for the RBSP II, scheduled for completion by 2012, and will continue to
make use of improved coastal hazards data products made available by
SCCOOS, especially those related to inundation and shoreline change.

If El Nino materializes as projected, energetic sea conditions this winter will
challenge coastal management efforts and threaten the safety of coastal
residents. Detailed wave, current, and inundation information for our coast
will be invaluable. Given the importance of the information SCCOOS provides,
additional funding is needed.

I appreciate your attention to this request. If you have any questions, please
contact me at (619) 699-6949 or rru@sandag.org.

Sincerely,

ROB RUNDLE
Principal Regional Planner



City of Encinitas

October 12, 2009

Julie Thomas
Southern California Coastal Ocean Observing System
Executive Director, Scripps Institution of Oceanography
University of California San Diego
9500 Gilman Drive #0214
San Diego, CA 92093

Dear Ms. Thomas,

SUBJECT: Implementation of Regional Integrated Ocean Observing
Systems: The Southern California Coastal Ocean Observing System (SCCOOS)

On behalf of the City of Encinitas, I would like to express our support for the Southern California Coastal Ocean Observing System (SCCOOS).

Funding for this program is of critical importance to California coastal constituents, specifically those in the San Diego region. The City of Encinitas utilizes this data on a daily basis for program planning, monitoring, sea level rise and monitoring the affects from El Nino. Every key project along the coast relies on this data for baseline project planning for sediment transport modeling and nearshore habitat assessments. The wave and buoy data is critical for wave forecasting during program planning. The City utilizes the monitoring data for critical analysis on beach width changes due to seasonal and storm changes and predictions how waves will impact our beaches in the future. The data has been utilized by consultants to predict sea level rise over the next 50 years and how it affects the US Army Corps of Engineers studies in Encinitas and Solana Beach. The wave data is critical while analyzing the affect from the El Nino and how our beaches change and by how much. The City is also participating in the inundation and shoreline change project which will be very helpful in prediction of overtopping the Coast Hwy 101 and how that will affect traffic and public resources during high surf advisory.

If El Nino materializes as projected, energetic sea conditions this winter will challenge coastal management efforts and threaten the safety of coastal residents. Detailed wave, current, and inundation information for our coast will be invaluable. Given the importance of the information SCCOOS provides, additional funding is needed.

I appreciate your attention to this request. If you have any questions, please contact me at (760) 633-2632 or kweldon@ci.encinitas.ca.us.

Sincerely,

Katherine Weldon
Coastal Program Manager



November 9, 2009

Ms. Giselle Creeser
Lockheed Martin Corp
1550 Crystal Drive Suite 300
Arlington, VA 22202

Dear Ms. Creeser:

We are writing in support of the Integrated Ocean Observing System (IOOS), an interagency effort composed of Federal, state and local stakeholders. IOOS enables the nation's first opportunity to comprehensively form ocean and climate-related policy based on credible, real-time, three-dimensional views of our oceans, coastal watersheds and Great Lakes, sustained across time.

President Obama signed the Omnibus Public Lands Bill (PL 111-11) in March of this year, thereby codifying Congressional and Administration support for IOOS and giving NOAA federal lead agency authority for its implementation.

One of the key components of IOOS is the need for a national ocean surface current mapping network composed of high frequency (HF) coastal oceanographic radars. The data provided by these radars is being used by numerous state, local and commercial interests throughout US coastal waters. The applications include: oil spill and point source pollution tracking and prediction, Search and Rescue, commercial and recreational marine navigation, harmful algal bloom forecasts, marine protected area and ecosystem management, commercial and recreational fishing, and coastal zone management.

The U.S. Department of Commerce is seeking to obtain frequency allocations within the HF band at WRC-12 so that the oceanographic radars, now operating in a demonstration mode on a not-to-interfere basis, can transition to a fully operational mode to provide products and services for the benefit of coastal stakeholders.

As representatives of the IOOS user community, who care deeply about the ecological, social and economic benefits of healthy ocean and coastal ecosystems, we urge the IWG to seek a positive solution to this World Radiocommunication Conference agenda item (Item 1.15), allowing U.S. coastal oceanographic radar to transition from demonstration mode to operational status. Once the technical studies near completion, NFRA will provide the IWG a draft proposal for WRC-12 Agenda Item 1.15. In the meantime, feel free to contact us.

Sincerely,

A handwritten signature in cursive script, reading 'Josie Quintrell', is positioned above the typed name.

Josie Quintrell, Director, National Federation of Regional Associations for Coastal and Ocean Observing

cc: Alex Roytblat, Federal Communications Commission



Mark R. Abbott, Dean, College of Oceanic & Atmospheric Sciences, Oregon State University (OSU)
Jonathan Allan, Coastal Section Leader, Oregon State Department of Geology and Mineral Industries
Larry Atkinson, Slover Professor of Oceanography, Old Dominion University
Fred Bahr, Central and Northern California Ocean Observing System (CeNCOOS)
Antonio Baptista, Director, Center for Coastal Margin Observation and Prediction
Luis Aponte Bermudez, Professor at the University of Puerto Rico Mayaguez (UPRM)
Brock B. Bernstein, Consultant
Nancy Bird, President of Prince William Sound (PWS) Science Center and Executive Director of PWS
Sound Oil Spill Recovery
John D Boon Ph.D, Professor Emeritus, Virginia Institute of Marine Science
Louis Botsford, University of California, Davis
Michael S. Bruno, ScD, PE Dean
Janet W. Campbell, Research Professor and Interim Director, Institute for the Study of the Earth,
Oceans and Space, University of New Hampshire
Miguel Canals, Professor at the UPRM
Jorge E. Capella, Caribbean Regional Association for Coastal Ocean Observing (CaRA)
Kenneth Coale, Moss Landing Marine Laboratories
Dan Codiga, Associate Marine Research Scientist and Adjunct Professor, University of Rhode Island
(URI)
John D. Conway, EH&S Compliance Manager, Sikorsky Aircraft Corporation
Paul R. Cooper, Vice President, Caris
Jorge Corredor, Professor at the UPRM
Greg Crawford, Professor of Oceanography and Interim Associate Dean for Marine Sciences,
Humboldt State University
Yasmin Detris, CaRA
Dr. John Dindo, Assistant Director of Dauphin Island Sea Lab
Dr. Michele Dionne, Wells National Estuarine Reserve
Mas Dojiri, City of Los Angeles, Environmental Monitoring Division
Ian Dutton, President and CEO, Alaska SeaLife Center
Chris Edwards, University of California, Santa Cruz
John W. Farrington, Interim Dean, School of Marine Science and Technology, University of
Massachusetts Dartmouth (UMASSD)
Dr. George Z. Forristall, President of Forristall Ocean Engineering, Inc.
Avijit Gangopadhyay, UMASSD
Wilford D. Gardner, Professor at Texas A&M University (TAMU)
Toby Garfield, San Francisco State University
Steve Gennrich, San Francisco Exploratorium
Doug George, California Ocean Protection Council
Merrick Haller, Associate Professor of Ocean Engineering at OSU
Dan Hannafious, Assistant Executive Director, Hood Canal Salmon Enhancement Group
Alfred Hanson, Professor in Residence and Marine Research Scientist, URI
David Heil, Ph.D., M.P.H., Florida Department of Agriculture and Consumer Services and Gulf Coast
Ocean Observing System Observing Systems Committee (GCOOSOSC)
J. Michael Hemsley, Retired Ocean Scientist and GCOOSOSC
Alfred Hochstaedter, Monterey Peninsula College/Marine Advanced Technology Education
Stephan D. Howden, Associate Professor at University of Southern Mississippi and Chair, GCOOSOSC
Eoin Howlett, CEO, Applied Science Associates



Cal Hunziker, National President, Council of American Master Mariners
Jody Kennedy, Washington State Policy Coordinator, Surfrider Foundation
Ann E. Jochens, Ph.D., J.D., TAMU, and GCOOS Regional Coordinator
Robert Jones, Coastal Programs Coordinator, Northwest Indian Fisheries Commission
Burton Jones, University of Southern California Los Angeles
Pete Jumars, Director, School of Marine Sciences, University of Maine (UMe)
Mitsuhiro Kawase, Associate Professor of Physical Oceanography, University of Washington
Michael Kellogg, San Francisco Public Utilities Commission
Ed Kelly, Executive Director, Maritime Association of the Port of NY/NJ
Heather Kerker, CeNCOOS
Captain R. J. Klein, President, Seattle/Pacific NW Chapter, on behalf of the Council of American Master Mariners (15 Members approved support)
Michael Kosro, Professor of Oceanography, OSU
Michael Koterba, PhD, MD-DC-DE Water Science Center, USGS
Judith T. Krauthamer, Executive Director, Mid-Atlantic Coastal Ocean Observing Regional Association
Raphael Kudela, University of California, Santa Cruz
Alexander Kurapov, Assistant Professor of Oceanography, OSU
John Largier, Bodega Marine Laboratories
Murray Levine, Professor of Oceanography and co-Director, Center for Coastal Margin Observation and Prediction, OSU
Carol B. Lutken, Interim Director of Mississippi Mineral Resources Institute, Center for Marine Resources and Environmental Technology, and Seabed Technology Research Center
Laurence Madin, Woods Hole Oceanographic Institute
Carol Maloy, Marine Monitoring Unit Supervisor, Environmental Assessment Program, Washington State Department of Ecology
David Martin, Associate Director, Applied Physics Laboratory, University of Washington and President of Northwest Alliance for Networked Ocean Observing (NANOOS)
Molly McCammon, Director, Alaska Ocean Observing System
Vicki S. McConnell, State Geologist and Director of Oregon Department of Geology and Mineral Industries
Erika McPhee-Shaw, Moss Landing Marine Laboratories
Terry McPherson, Senior Program Manager of STG, Inc.
Jim McWilliams, University of California, Los Angeles
Linda Mercer, Maine State Department of Marine Resources
Dr. Clifford R. Merz, P.E., Program Director of Coastal Ocean Monitoring and Prediction System, University of South Florida (USF)
Christopher N. K. Mooers, Research Professor of Civil and Environmental Engineering, Portland State University
Normand Morel, Club Deportivo del Oeste, Cabo Rojo, Puerto Rico
Julio M. Morell, Professor at the UPRM
John R. Morrison, Northeastern Regional Association of Coastal Ocean Observing Systems (NERACOOS)
Mike Munger, Executive Director, Cook Inlet Regional Citizens Advisory Council
Judd Muskat, California Oil Spill Prevention and Response



Chris Nash, NH Department of Environmental Services (Watershed Management Bureau) and Oil Remediation and Compliance Bureau (Spill Response and Compliant Investigation Section)
Jan Newton, Executive Director of NANOOS
Worth D. Nowlin, Jr., Distinguished Professor Emeritus at TAMU
Kevin O'Brien, Environmental Analyst at Connecticut Department of Environmental Protection
James O'Donnell, Professor, University of Connecticut
Joan Oltman-Shay, President, Northwest Research Associates
John Oram, San Francisco Estuary Institute
Laura Pederson, Director of Marketing, CODAR Ocean Sensors
Emil Petruncio, Assistant Professor, United States Naval Academy
Neal Pettigrew, Director of UMe Ocean Observing, and Professor of Oceanography at UMe
Eugenio Piero, Caribbean Fishery Management Council
Mark Plunkett, Conservation Curator, Seattle Aquarium
Dr. Alfredo E. Prelat, Terralliance
Nancy N. Rabalais, Executive Director and Professor, Louisiana Universities Marine Consortium
Steve Ramp, Program Director, CeNCOOS
Jennifer Read, Executive Director of the Great Lakes Observing System (on behalf of the GLOS Board of Directors)
Mary Jo Richardson, Regents Professor at TAMU
Jack Ringelberg, President/CEO of JMS Naval Architects
George Robertson, Qualified Environmental Professional and Certified Senior Ecologist
Don Roman, Retired Ocean Scientist
Paul Rudden, Canadian Coast Guard (on behalf of CG Maritimes Region Search and Rescue)
John Ryan, Monterey Bay Aquarium Research Institute
Charles V. Schaefer Jr., School of Engineering and Science, Stevens Institute of Technology
Sam Schuchat, California Coastal Conservancy
Joe Schumacker, Marine Resources Specialist, Department of Fisheries, Quinault Indian Nation
Frank Shaughnessy, California State University Humboldt
Elizabeth Smith, Executive Director, Chesapeake Bay Observing System
Marjorie Smith, Smith's Ferries, US Virgin Islands
Peter C. Smith, Manager of Ocean Sciences Division, Department of Fisheries and Oceans, Bedford Institute of Oceanography (on behalf of Department of Fisheries and Oceans, Maritimes Region)
Malcolm Spaulding, President of NERACOOS and Professor at URI
Dr. Mike Spranger, Associate Dean for Environment and Natural Resources and Professor, University of Florida IFAS Extension, Associate Director of Extension and Education at Florida Sea Grant College Program
Fritz Stahr, President, Ocean Inquiry Project
P. Ted Strub, Professor and Director, Cooperative Institute for Oceanographic Satellite Studies, OSU
William Sydeman, Farallon Institute for Advanced Ecosystem Research
Michael Szemerda, Vice President of Saltwater Operations, Cooke Aquaculture, Inc.
Dr. Brian Taylor, Dean, School of Ocean and Earth Science and Technology, Univ. of Hawaii Manoa
Carolyn Thoroughgood, Assist. Provost, University of Delaware
Christine Tilburg, Gulf of Maine Council on the Marine Environment
Gary Toledo, California Oil Spill Prevention and Response
Ray Toll, Science Applications International Corporation
Jan van Smirren, President of Fugro GEOS Inc.
Peter von Langen, Central Coast California Water Board



Tom Wadsworth, CeNCOOS

Roy Watlington, CaRA

Robert H. Weisberg, Distinguished University Professor at the College of Marine Science, USF

Denis Wiesenburg, Dean, University of Alaska School of Fisheries and Ocean Science

Neil Werner, Executive Director, Pacific Northwest Salmon Center

Senator Patricia Wiggins, State of California, Joint Committee on Fisheries and Aquaculture

Dr. Fred Whoriskey, Vice President of Research and Environment and Chairman of the Board,
Huntsman Marine Science Center

Brian Zelenke, California Polytechnic Institute

Cheryl M. Zimmerman, Chief Executive Officer of FarSounder, Inc.



SAN FRANCISCO PUBLIC UTILITIES COMMISSION



WATER ENTERPRISE NATURAL RESOURCES AND LANDS MANAGEMENT DIVISION Marine Biology Section

3500 Great Highway, San Francisco, CA 94132 ♦ Tel: (415) 242-2200 ♦ Fax: (415) 242-2285

February 2, 2010

To Whom It May Concern:

GAVIN NEWSOM
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ANN MOLLER CAEN
PRESIDENT

F.X. CROWLEY
VICE PRESIDENT

FRANCESCA VIETOR
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COMMISSIONER

ED HARRINGTON
GENERAL MANAGER

The San Francisco Public Utilities Commission (SFPUC) enthusiastically supports the Central and Northern California Ocean Observing System (CeNCOOS) and the national IOOS in their efforts to provide timely and reliable oceanographic information.

The SFPUC provides drinking water, power, and wastewater services to the citizens of San Francisco and other Bay Area customers. In October 2007 while divers were performing an outfall inspection, the end gate fell off of the SFPUC's ocean outfall approximately 6.5 Km from shore allowing the buoyant freshwater effluent to discharge without passing through diffuser ports designed to provide dilution and mixing. There was immediate concern that the undiluted discharge plume might affect nearshore water quality. Accelerated shoreline bacteria monitoring eventually indicated that was not the case, however, it was the HF Radar surface-current monitoring data provided by CeNCOOS that really provided the conclusive evidence that the effluent plume did not move shoreward. The rapidity with which CeNCOOS was able to respond to our request for help was truly impressive. Within hours they were able to begin simulating the path of imaginary particles released hourly from the outfall location. Within 24 hours they provided us with an animation showing the effluent plume path over the first day. They continued to supply daily and cumulative animations as the event progressed. The information provided by CeNCOOS provided greater confidence for decision making and allowed the responding agencies to make appropriate decisions regarding beach closures, water quality monitoring, and outfall repair.

Data provided by CeNCOOS also has the potential to support and inform two green energy pilot projects being pursued by the SFPUC – wave energy (offshore) and tidal energy (at the Golden Gate). CeNCOOS capabilities could prove invaluable for siting the projects and for helping to determine environmental impacts.

The potential benefits of the IOOS seem endless. We would like to see CeNCOOS expand and have the capacity to provide more information and products. We strongly endorse the need for a fully developed Integrated Ocean Observing System that builds on existing federal, regional, and local partnerships for the benefit of our health, wildlife, economy, and the oceans.

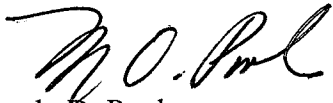
Sincerely,

Michael G. Kellogg
Supervising Biologist

Heather Kerker
Program Coordinator
Central and Northern California Ocean Observing System
February 1, 2010
Page 2

making tools. The Agency would like to see CeNCOOS expand and build the capacity to provide more information and products that support sustainable resource use and conservation. The Agency ~~strongly endorses the need for a fully developed IOOS that builds on existing federal, regional and local partnerships for the benefit of our health, wildlife, economy and oceans.~~

Sincerely,



Randy D. Poole
General Manager/Chief Engineer

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