

Southern California Coastal Ocean Observing System (SCCOOS):  
*Regional Observation System Coordination Project*



A proposal submitted to NOAA to continue the Regional Association development and outreach program underway in Southern California.

The Southern California Coastal Ocean Observing System (SCCOOS), in collaboration with the California Coastal Coalition (Cal Coast), California Sea Grant, NOAA, and State and regional partners proposes to design and implement a stakeholder-driven organizational development strategy to enhance and promote the organization, implementation, and application of a regional coastal ocean observing system in Southern California. The proposal is designed to:

- a) formally engage recognized bodies of regional associations and agency end-users as advisors
- b) actively participate with end-users to develop new customers, products, services, and partnering opportunities, including the engagement of market sectors which may be unique to Southern California
- c) develop a viable business plan for the regional observation system that allows for sustainable operation through the engagement of local, regional, state, and federal partners and delivery of useful products to end users
- d) create a sensible governance structure that is consistent with the business plan and meets criteria for certifying the regional association.

While an established consortium exists to provide observations, translate data to information using sound science, integrate regional data and increase data management capacity, and centralize operations and communications, this three-year strategic effort will further develop an organizational framework for building capacity and partnerships among existing regional associations and agency end-users, and encourage and enhance collaboration among

data collectors, data managers, and users of data and information. This will be accomplished through the establishment of an active user/provider working group network, and the development of an innovative and responsive organizational framework to support the successful management and operations of the Southern California Coastal Ocean Observing System. These data provider/user working groups will be active participants in developing the governance, communication, implementation, data management, and product development structures that will support an operational SCCOOS. While significant State and local funds have been invested in the initial organization of SCCOOS, regional coordination funds from NOAA only recently became available in September 2004 through the FY04 Regional Association (RA) coordination grants program (See Appendix 1 for Regional Association Members and Participants to date). This three-year proposal is a renewal and expansion of that award.

## **I. APPROACH**

One attribute of Southern California is the large number of organized coastal constituents who have a diverse (and potentially conflicting) set of needs from an observing system. As such, it is important to define end-user goals based upon the varying needs determined by each end-user community. We must therefore strive to: 1) define the needs of the management community 2) define the needs of mission driven agencies or compliance based monitoring communities 3) identify the potential sources of operational support through delivery of data products based upon these needs 4) communicate the capacity/vision of the utility of an integrated observing approach 5) integrate science education using the observing system and 6) generate advocates for federally supported IOOS activities. As a result of these broad classes of outreach, we attempt to recognize the distinction between defining/creating the pull for SCCOOS, general marketing activities, and the communication/translation of data to meaningful information to aide decision making. SCCOOS remains conservative in distinguishing between active/proactive engagement of users, and the creation of an organizational structure which provides for efficient operations and removes conflict of interest between the implementation of the observing system and its regional financial support, which will be necessary for sustained operations.

In Year 1, we will continue to focus on developing an outreach program that focuses on developing a regional network of issue-driven data user/provider working groups in the areas of water quality, coastal hazards/erosion/sediment transport, and coastal ecology/living marine resources. These groups will be tasked with defining those management needs that will benefit from enhanced coastal observations and data integration/management, building on existing collaborations, and articulating the benefits of such a system to science and society. These groups will also serve as cornerstones for the two-way communication of information, with the premise that their engagement will not only provide meaningful use of the products generated by SCCOOS, but also that the assimilation and integration of their data collection activities into the SCCOOS data system will provide for a bottom-up pull for SCCOOS.

Due to the strong need for these activities, we will leverage the SCCOOS NOAA COTS and other programs (state, regional, federal) to enable these data integration efforts to take place, with focused efforts directed towards assessing and integrating data from historical and ongoing data collection efforts which are suitable for inclusion to a SCCOOS data system. The SCCOOS data system is intended to be compliant and have interoperability with the Data Management and Communications (DMAC) plan. Data aggregation efforts are considered central to building advocacy and users within the technical user community.

SCCOOS benefits from a number of programs which provide expertise in data management, including real-time data networking developments sponsored by the NSF, the San Diego Supercomputer Center, whose Storage Resource Broker is identified within the DMAC plan, the Army Corp of Engineers sponsored CDIP program which focuses on wave measurements and modeling, HF radar and satellite remote sensing data archiving and delivery through State sponsorship, and JPL's expertise in maintaining an operational version of a Regional Ocean Model System (ROMS). The SCCOOS support for ROMS is significant through both the NOAA COTS program and the State of California sponsored Coastal Ocean Currents Monitoring Program (COCMP). ROMS is also in use by many of the other regional observatories around the country. As the ocean modeling programs mature in their ability to assimilate data and generate accurate forecasts/hindcasts, we anticipate a growth in model-derived products to the end-user community. Connection between the technical developments of data gathering, data archiving, data assimilation, and data delivery with outreach activities will also provide a basis for the iterative development of new products.

The SCCOOS consortium will continue to work with Cal Coast (see <http://CalCoast.org> for details) to identify constituencies, needs and capabilities in the Southern California region. This effort will place a strong emphasis on integrating and engaging the constituencies of existing end-user regional associations such as: the Southern California Coastal Water Research Project (<http://sccwrp.org>), the Southern California Wetlands Recovery Project (<http://coastalconservancy.ca.gov/scwrp/>), the California Shore and Beach Preservation Association (<http://csbpa.org>), and the very capable oceanographic research community in the Southern California Bight. Year One's efforts will culminate in the formalization of the working groups, and the development of a data needs inventory and integration plan.

In Year 2, we will develop organizational capacity to meet the operational needs of the data user/provider working groups. Efforts will be directed toward formalizing an organizational structure. Outcomes will include establishing and adopting an official interagency needs and evaluation body to serve as the SCCOOS Board of Advisors, initiating the development of a SCCOOS master operations plan, an organizational structure, a governance model and business plan development, as well as initiating a science plan in response to the data needs inventory and integration plan.

In Year 3, we will complete the Strategic and Business plans for SCCOOS, solicit feedback from the SCCOOS constituency, and interface SCCOOS development efforts with appropriate local, state, and federal bodies to ensure interoperability. The business plan will be used for obtaining certification from a national certification body when that is defined.

## **II. BACKGROUND**

### *Agency Support*

The federal and California State governments have initiated a significant investment in SCCOOS specific infrastructure that collectively amounts to close to \$20 million. The common goal of the Federal and State Governments is to establish a working regional ocean observing system that provides efficiency and benefits for the users and stakeholders within the community. To this end, NOAA manages a Congressionally directed award for a pilot program (COTS) that establishes the initial means for data collection for a range of disciplines which aligns with the seven initial societal goals outlined for an Integrated Ocean Observing System

(IOOS). The State of California, through Propositions 40 and 50, are investing in infrastructure for the Coastal Ocean Currents Monitoring Program--a program focused on the measurement and modeling of coastal circulation. Approximately \$15M of resources from this program are directed toward a statewide HF radar array (Figure 2, located in Appendix 2). The regional coordination grants are both timely and complementary to these programs, as they provide the opportunity to ensure coordination of these investments with the planning efforts of IOOS, and examine avenues for long term, sustained operational support. The latter will only be accomplished with significant engagement of users, data providers, local marine environmental policy groups, local interest groups concerned with coastal development and safety, and the management community.

SCCOOS will provide the framework for a collaborative network of southern California's observing system related projects. These represent tens of millions of dollars of research that is essential to support several coastal resource management initiatives with a focus on improving water quality (NPDES permit based monitoring) and fisheries management (the CALCOFI and PACOOS) programs, protect marine life, and predict and mitigate coastal hazards (e.g. Army Corp Sponsored CDIP) programs. These activities are relevant to the broader goals of both State initiatives (e.g., The Clean Beaches Initiative, the California Coastal Nonpoint Source Pollution Control Program, and COCMP), and national initiatives (e.g., IOOS, the NSF Ocean Observatories Initiative (OOI), and the Oceans & Human Health Initiative). This proposal will facilitate the relationships and definitions of roles of the members of the SCCOOS Regional Association that spans the RCOOS, a multi-representative advisory board, and data provider/user groups (Figure 3 located in Appendix 2).

#### *Stakeholder and Participant Support and Operation*

SCCOOS has engaged in an organizing effort in recent years to develop stakeholder support at state, regional, and local levels as encouraged by the US IOOS initiative. A chronology of these activities, including the steps taken towards partnering with nearby regional associations and the State of California, can be found in Appendix 3. We have already begun to engage the coastal water quality in data sharing activities, integration of their data with regional observing system data, the usage of SCCOOS data within their permit reports, mandates to work with SCCOOS in their 5 year EPA permits, and the direction of fine moneys towards SCCOOS operational support. Wastewater and stormwater permitholders have indicated a willingness to

begin examining new methods of monitoring that would provide greater benefit to SCCOOS and to the community at large.

### Observing System

The observational and data management components of SCCOOS are managed by a consortium of eleven Southern California universities and laboratories, with institutional representatives serving as the Board of Governors. Consortium members include the California Polytechnic State University, San Luis Obispo (CalPoly), the University of California campuses at Santa Barbara (UCSB), Los Angeles (UCLA) and Irvine (UCI), The Jet Propulsion Laboratory, University of Southern California, Cal State Los Angeles, the Southern California Coastal Water Research Project (SCCWRP), Scripps Institution of Oceanography, the Universidad Autonoma Baja California (UABC), and Centro de Invesigacion Cientifica y de Educacion Superior de Ensenada(CICESE). Each institution has a history of coastal observing, monitoring, and modeling and a reputation for developing novel environmental sensors, platforms, and data management techniques. The consortium (<http://www.sccoos.org>), which extends from Northern Baja CA in Mexico to Morro Bay at the southern edge of central California, aims to streamline, coordinate, and further develop individual institutional efforts to create an integrated, multidisciplinary, coastal observatory for the Southern California Bight (see Figure 1 located in Appendix 2). SCCOOS is committed to leveraging current infrastructure, partnerships, and other resources to develop a fully operational regional coastal ocean observing system (RCOOS) to address a variety of policy, monitoring, and management needs.

### End User Outreach and Education

Education and outreach at all levels are vital to SCCOOS. The proposed outreach initiative seeks to expand, integrate and formalize this commitment through a two-tier organizational development strategy to be implemented over three years focusing on the establishment of a data provider/user working group network, targeted analyses and outreach that develops markets for SCCOOS, and formalization of an operational and governance structure. In the second year of this proposed work, SCCOOS and the California Center for Ocean Sciences Education Excellence (COSEE), in concert with the greater public ocean education entities in the region, plan to formalize an education and outreach plan. At present, public

education activities are supported via the NOAA COTS program, including the generation of a 5<sup>th</sup> grade science curriculum based upon SCCOOS assets. The curriculum is consistent with State mandated science education requirements which are in place at this grade level. The eight-week program is being designed by the Ocean Institute in Dana Point and California COSEE to meet 5th grade Earth Science standards on the water cycle and weather; it will include new classroom activities, science kits, CD-ROMs, web-based materials, field trips, teacher professional development and will incorporate SCCOOS science and scientists as a link to research being done in the field. Curriculum development for this program will occur over a three-year period, and will include teacher focus groups and training sessions in order to develop a program that effectively helps prepare students for California science standards and rigorous new assessments. The program will be piloted with approximately 500 students in three school districts in the coming year, and will be distributed via the Beckman Program to approximately 16,000 students in Orange County after the three year testing phase of the program.

SCCOOS maintains on a daily basis a website which serves as a vehicle for communicating activities. An end-user survey has also been generated to principally identify those constituents who willing to be engage in the observing system design, and secondarily, to survey for needs in the region.

### **III. MILESTONES**

#### **Year One: (Continue the Establishment of Data/Provider Working Groups Toward Formalization of a Strategic Plan & Governance Structure)**

##### **1. Broaden, formalize, and continue the SCCOOS Outreach Implementation Team:**

- California Coastal Coalition
- California Shore and Beach Preservation Association
- Southern California Coastal Water Research Project
- Southern California Wetlands Recovery Project
- California and USC Sea Grant
- Centers for Ocean Sciences Education Excellence (COSEE)
- Ocean Institute, Dana Point
- Southern California marine safety community

2. Convene regular meetings of the Outreach Implementation Team to design an Outreach Implementation Strategy.
3. Develop and publish an official outreach implementation plan.
4. Define needs of stakeholders for Water Quality, Hazards Management/Shoreline Erosion Sediment Transport, Coastal Ecology/Living Marine Resources, and Marine Safety Data/Provider User groups.
5. Develop sub-regional (county) key contacts for each working group issues area/outreach team.
6. Design, organize and convene a series of four sub-regional Data/Provider User Group workshops (San Diego County, Orange County, Los Angeles County, Santa Barbara/Ventura Counties).
7. Produce draft document of results of each workshop.
8. Formalize data integration plan, outline user needs/capabilities, present outline for SCCOOS strategic plan for discussion by regional user/provider forum.
9. Establish a Board of Advisors responsible for providing formal, annually updated research needs inventory and evaluation of SCCOOS performance and delivery.
10. Present results of forum and draft outline of SCCOOS strategic plan to SCCOOS Board of Governors and SCCOOS Board of Advisors for review and comment.
11. Initiate the Development of a formal SCCOOS strategic plan to include business plan, outline of agency partners, local needs, supporters, potential infrastructure, and science and data management plan.
12. Communicate with new and existing partners regarding status of SCCOOS network.
13. Generation of a white paper on the proposed uses of SCCOOS for coastal and ocean recreation based upon workshop input. Initiate targeted market and economic analyses for the value of a SCCOOS to local, regional, and State users.
14. Begin data aggregation and tailored product development efforts.

**Year Two: (Formalization of Strategic Plan & Governing Structure)**

1. Complete the development of a formal SCCOOS strategic plan to include business plan, outline of agency partners, local needs, supporters, potential infrastructure and science and data management plan.

2. Present final SCCOOS strategic plan/needs document to Board of Governors for adoption.
3. Continue communication with new partners regarding status of SCCOOS network, build SCCOOS constituency.
4. Reconvene sub-regional data/provider user workgroups in San Diego County, Orange County, Los Angeles County, Santa Barbara County and Ventura County for update on status of SCCOOS, cultivation of official members, discussion of governance, interface, and related activities.
5. Collect data on the economic value of beach recreation, recreational boating and fishing, and private and public search and rescue efforts. These have been previously identified as the 'major non-consumptive users' of the Southern California marine environment.
6. Continue data aggregation and tailored product development efforts with data provider/user groups.
7. Establish an education and outreach plan to be executed by California Center for Ocean Sciences Education Excellence (COSEE), the Ocean Institute, local aquaria, and regional public education entities.

**Year Three: (Present SCCOOS Strategic Plan & Governance Structure to certification council)**

1. Strategic plan and governance structure will formalize relationships between all participants. Establish responsibilities that will accurately reflect participants' desired involvement and capabilities.
2. Work with federal certification council to ratify SCCOOS business and governance plans.
3. Development of information models (including data generation, decision, outcome, and economic sub-models) linking SCCOOS modifications and improvements with potential economic outcomes as function of market sector. Create a white paper on the potential benefits and costs of investing and operating SCCOOS in the context of various selected scenarios.
4. Continue to grow data aggregation, data delivery, and tailored product development efforts with data provider/user groups.

**IV. BENEFITS**

**YEAR ONE OUTCOMES:**  
**CONSTITUENCY BUILDING, EVALUATION OF NEEDS AND CAPACITY**

Constituency Building Effort: SCCOOS consortium members have identified and/or made initial contact with the organizations included below. Relationships will be formalized through both the workshops and through data integration efforts (see Figure 3—the DPUGs (data providers/user groups). Participants having similar interests and expertise will be brought together and concentrated in order to achieve the most well planned data products. This arrangement of grouping users and data collectors according to topic will increase efficiency and facilitate meaningful communication. Please see Appendix 1 for a list and detailed description of the (A.) Water Quality, (B.) Coastal Ecology/Living Marine Resources and (C.) Hazards Management/Shoreline Erosion and Sediment Transport Data Providers/User Working Groups.

1. Evaluation of Needs and Capacity: The data provider/user workshops will develop a product needs/capacity assessment on a sub-region and regional basis. Additionally the workshops will:

- A. Educate agency/end users of the need and benefit for expanded and integrated observational networks, improved data management and synthesis systems, and integrated approaches to resources management.
- B. Develop consensus management approaches that incorporate information from new technologies and continuous observations that reflect improved understanding of complex processes.
- C. Identify the steps necessary to integrate operational coastal observing products into management decisions.
- D. Define opportunities that the deployment of an operational system provides, and prioritize capabilities for implementation.
- E. Expand interactions between participants through the interactive website.
- F. Encourage participants to work together in expanding public awareness of SCCOOS through public forums and presentations, and formalizing an education and outreach plan.
- G. Encouraging feedback from the broad market sectors for SCCOOS within the region.

**YEAR TWO OUTCOMES:**  
**STRUCTURAL DEVELOPMENT of SCCOOS**

The proposed structure to include:

- 1. Body 1: SCCOOS Board of Governors: Charged with the Oversight of the Operations and Management of the Southern California Coastal Ocean Observation System.**

The present SCCOOS organization is based on a Memorandum of Understanding between consortium members, and is directed by a Board of Governors consisting of an institutional head or person of similar administrative stature from each member institution. While the Board exists, the role of the corporation, for the time being, is filled by the NOAA/SIO Joint Institute for Marine Observations (JIMO), and its home business office under the Marine Physical Laboratory (MPL), which is submitting this proposal and a companion proposal for a pilot project. MPL is also the lead business office for the State of California COCMP program and has demonstrated a capability to handle all business activities for SCCOOS, including the issuing of subawards to industry, private, and public partners, invoicing, and reporting for complex and large programs.

*SCCOOS' Business Identity*

Presently, SCCOOS operates as a system of contractual partnerships between the implementers of observing system components through collaborative agreements and/or subcontracts. SCCOOS has experienced a number of advantages in having contractual relationships between the participants and members including a) the responsibilities and entitlements of every party are carefully laid out in work orders and proposals. b) liabilities can be imparted or limited openly and by mutual agreement, and c) individual implementers of components of the observing system have individual business needs that are specific to their affiliation or employer organization. SCCOOS is able to provide unique agreements tailored specifically to meet the needs of each of its participants or members individually and may be modified with ease. SCCOOS' approach eliminates the need for arduous modifications to by-laws or to convene a corporation and its policies in order to meet the needs of its participants.

SCCOOS finds that a system of contractual agreements does not thwart interest in SCCOOS, but may actually be more agreeable to industry, state and federal participants. As a

result of easy participation, participants who are a part or represent larger business entities also help SCCOOS by broadening the SCCOOS community through a wider base of networking.

SCCOOS has researched the necessary steps required to form its own non-profit organization and to apply for tax exemption status under Internal Revenue Code 501(c)(3). While the background research is in place, there is no driver to move the business office functions of SCCOOS to a 501(c)3, due to the administration, insurance, liability, government relations, and indemnification advantages, and institutional history/experience advantages JIMO/MPL retains as an entity of the University of California.

**2. Body 2: Board of Advisors: charged with recommendation of Agency Operational and Research Needs in Southern California--evaluation of SCCOOS performance in meeting agency objectives.**

At present, SCCOOS has established a Board of Governors, a Board Executive Committee, and an Executive Steering Committee to provide operational oversight, assist with project/opportunity development, long range planning and vision development, and to provide an organized interface with local, state, and federal politics. A Board of Advisors will be developed to define and address the objectives and interests of agencies, stakeholders, and users. For practicality, we anticipate that the Board may in itself be part of a larger council of stakeholders as part of development activities presently taking place within the State of California to provide efficiency in both needs assessments and to provide follow through on the various Ocean Action Plans.

The membership and specific authority of the Board of Advisors will be determined as part of this proposal.

With the development of every Board, the Regional Association is advanced.

The Board of Advisors is expected to assist in the development of the Regional Association and provide guidance and opportunities toward new SCCOOS projects as well as securing operational support for existing and planned infrastructure. We anticipate that the Board will also evaluate the need for new data sets that will better support marine management needs.

It has been noted that, currently, there are no state agencies members on the SCCOOS governing structure. Unlike other Regional Associations, SCCOOS also receives state funds

through a grant with the State Conservancy. This money is mandated through Proposition 40, which was approved by popular majority in 2003. A state representative serving in governance of a program that the state funds may be in violation of Conflict of Interest doctrines and state statute. In this light, the Board of Advisors may be the best mechanism for State interests. These conflicts are consistent with recent discussions of the inability for federal agencies, even those who have local offices, to be signatories on MOAs which attach them to the governance of the RA.

- 3. Body 3: Outreach and Membership Development, End-User interface and Needs Assessment: charged with cultivation of a coalition of private, civic and agency participants, partnerships, and members in support of SCCOOS. Convene and organize workshops. Facilitate the identification of end-users, and their needs, to produce a regional research needs assessment.**

#### *Outreach & Membership Development I: Cal Coast Efforts*

SCCOOS recognizes the critical need for including outreach and membership development to ensure that the observing system both addresses end-user needs, and allows SCCOOS to mature into a regional, sustainable entity. SCCOOS will subcontract with the California Coastal Coalition to facilitate this development (Figure 3 located in Appendix 3). Cal Coast (<http://CalCoast.org>) is a non-profit advocacy group comprising 35 coastal cities; five counties; and three metropolitan planning organizations: BEACON, SANDAG and SCAG; along with business associations and allied groups committed to restoring California's coast through sand replenishment, increasing the flow of natural sediment, wetlands recovery, and improved water quality.

Cal Coast acts as the local government representative on the Coastal Sediment Management Workgroup (CSMW), formed in 2000 by the California Resources Agency and the U.S. Army Corps of Engineers to facilitate regional approaches to protecting, enhancing and restoring California's coastal beaches and watersheds through federal, state and local cooperative efforts. Cal Coast was the co-sponsor, with the CA Shore and Beach Preservation Association, of the CA Public Beach Restoration Act (AB 64-Ducheny), which was signed into law in October, 1999. Cal Coast was also involved in the campaigns to pass environmental bond measures in California, including Propositions 12, 13, 40 and 50. Cal Coast would be responsible for convening the series of five sub-regional needs assessment workshops that will be integrated into a region-wide assessment and final symposium. Cal Coast will assist in the

oversight of the development of regional research needs assessment, and the presentation of assessments to the SCCOOS Board of Governors and Board of Advisors. This series of workshops and the final symposium will serve as a framework for a proposed annual SCCOOS user network conference.

Cal Coast will bring coastal stakeholders together to discuss science and policy at well-attended conferences. Cal Coast proposes to act as the primary convener in the development of an end-user outreach effort designed to engage stakeholders in Southern California in developing collaborative partnerships among data collectors, data managers, and users of data and information from coastal ocean observing systems. This outreach effort will result in a user network and operational framework to support a master plan for the Southern California Coastal Ocean Observing System, which will be based on innovative and responsive strategies for governance, communication, implementation, data management, and product development.

#### *Outreach & Membership Development II: Sea Grant Efforts*

NOAA California Sea Grant will facilitate interaction between SCCOOS and end-users. They will work in collaboration with Cal Coast and SCCOOS scientists to identify end-users and write a regional research needs assessment to be presented by Cal Coast to the SCCOOS Board of Governors and their Board of Advisors.

The California Sea Grant College Program (<http://www-csgc.ucsd.edu/home.html>) is dedicated to enhancing the understanding, conservation, and sustainable use of California's coastal and marine resources. Sea Grant programs are focused on making California the world leader in marine research and the sustainable development of marine and coastal resources. Through its Extension and Communications components, California Sea Grant transfers information and technology developed in its research efforts to industry, government, and the public. In the context of the observing system, they will assist in communicating mature products to end users, as well as be an avenue for communicating user needs to product development teams.

The California Sea Grant College Program is the largest of the 30 Sea Grant programs and draws on the talents of scientists and engineers at public and private universities throughout the state. It is administered by the University of California and is based at Scripps Institution of Oceanography in San Diego

### Outreach & Membership Development to the Marine Safety Community

Michael Bateman of Bateman Productions and the LA County Fire Department will work with the SCCOOS team in year 2 to prepare and distribute presentation materials tailored to marine safety communities, perhaps including CD-ROMs and DVDs. He will conduct site visits and meetings with representatives from six of the largest communities including Ventura County, the City of San Diego, the City of Santa Barbara Parks, and will act as liaison to the County of Los Angeles. Additional effort will include representing SCCOOS at the Spring California Surf Lifesaving Association meeting and at the Fall United States Lifesaving Association (USLA) Conferences. Michael Bateman is the lead for the highly successful NTIA sponsored Watch the Water program (<http://www.watchthewater.org>), which communicates real-time observations to the beach going and marine safety community in LA County. Watch the Water already has an established relationship with SCCOOS; IT infrastructure and real-time observations enabled by SCCOOS are fed to their public data delivery system.

Goals will be to: 1) ascertain the needs of the above mentioned communities with regard to coastal observation systems, and communicate these needs back to the SCCOOS team; and 2) inform these communities of what products or services are available and within the limits of schedule and budget, and provide advice on how to apply these tools to further their public safety mission.

#### **4. Body 4: Outreach and Education: charged with linking SCCOOS researchers and educators**

California Center for Ocean Sciences Education Excellence (COSEE) is an outreach initiative funded by the National Science Foundation (NSF) network created to foster scientists' involvement in ocean science education (see [www.cacosee.net](http://www.cacosee.net)). COSEE receives support from the pilot program (COTS), and will partner with the SCCOOS Board of Governors, SCCOOS operational and product development efforts, and other members of the outreach team to develop a coordinated set of initiatives that will facilitate scientist/educator collaborations and bring the latest developments in ocean science into science centers and classrooms throughout the state. COSEE will play a vital role in promoting student understanding of science and scientific research generated through the SCCOOS collaborative. The California COSEE, one of seven

centers nationwide, represents a powerful collaboration between the Lawrence Hall of Science at UC Berkeley, the Marine Advanced Technology Education (MATE) Center in Monterey, Scripps Institution of Oceanography and the Birch Aquarium at Scripps, and California Sea Grant. The SCCOOS/California COSEE partnership will serve as a regional link to a national collection of ideas, information, and resources that connect teaching, learning, and scientific discovery at all levels.

### **YEAR THREE OUTCOMES:**

#### **IMPLEMENTATION OF ORGANIZATIONAL AND OPERATIONS PLAN**

Year 3 outcomes will result in the formal acceptance of SCCOOS strategic and business plans (which serves the organizational and operational plan) by the SCCOOS Board of Governors, and an endorsement by the Board of Advisors. The sub-region workshops will reconvene and continue to define up-to-date products and services for Data Provider User Groups. A formal review process by the SCCOOS Board of Advisors will be put in place. Advisors will be tasked with setting official agency agenda and evaluating delivery.

### **V. GOALS AND OBJECTIVES**

The successful implementation of the above outreach and organizational development plan will link new and existing science, technology and observational techniques with defined local and federal needs. These include:

- Developing new capabilities in water quality, hazards, and living marine resources and habitat management.
- Increasing efficiencies of agency monitoring, existing observational systems, and existing research projects in Southern California.
- Further implementing integrated approaches to addressing interagency and end-user research needs.
- Enhancing utility of ocean observing activities for resource managers, first-responders, policy makers, researchers, industry, and educators.

- Responding to public, societal, and educational needs as identified by knowledgeable participants in the various SCCOOS focus workgroups.
- Improving local and statewide awareness of the SCCOOS operations and opportunities for interested persons to follow and participate in SCCOOS activities.

## **VI. NEPA REQUIREMENTS**

There are no foreseeable requirements needed to satisfy the National Environmental Policy Act via either an Environmental Impact Study or Assessment. No categorical exclusion from such environmental studies will be required. This research grant is entirely to establish a working community that promotes and operates the infrastructure to disseminate research or data products that have a societal, educational, or research value. As such, there is no proposed activity under this grant that may effect the human environment. There will be no significant changes or affects to the natural, working or social conditions, such as increased traffic or any change in population as a result of this grant. All research that may involve work in the environment is currently being funded under another grant and has adhered to all requirements under NEPA and all related environmental policies upheld by NOAA and other applicable state and federal regulations. Accordingly, it is requested that NOAA find that NEPA documentation be deemed inapplicable and thus satisfied under the conditions of this grant.

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