

Proposal Number: P-19

Proposal Title: Implementation of Regional Integrated Ocean Observing System: Southern California Regional Coastal Ocean Observing System

Principal Investigator: Eric Terrill

Institution: Regents of the University of California

Scores	Proposal Score
1. Importance (max 30 pts.)	_25_____
2. Technical and Scientific merit (max 25 pts.)	_25_____
3. Qualifications (max 15 pts.)	_12_____
4. Project cost (max 15 pts.)	_12_____
5. Outreach and Education (max 15 pts.)	_14_____
 TOTAL SCORE	 _88_____

Please provide an overall rating for the proposal:

Excellent ___ Very good X Good _____ Fair _____ Poor _____

Excellent: Probably will fall among the top 10% of proposals in the subfield; highest priority for support. This category should be used only for truly outstanding proposals.

Very Good: Probably will fall among the top 1/3 of proposals in the subfield; should be supported

Good: Probably will fall among the middle 1/3 of proposals in the subfield; worthy of support.

Fair: Probably will fall among the lowest 1/3 of proposals in the subfield; should not be supported without serious revision.

Poor: Proposal has serious deficiencies; should not be supported.

Comments:

This is a very comprehensive proposal that focuses on four main task areas 1) Water Quality Mgmt (HABs), 2) Ecosystem (climatic) Variability, 3) Oil Spills, SAR and Marine Safety, and 4) Public Uses. While each area is identified as a “priority” focus with attached Letters of Support (22) there is no clear delineation of the priorities for the RA especially in the event that the proposal is partially funded. The proposal does provide a helpful chart that indicates what observing activities/products support each task area which could be used to prioritize. There is also a statement that the HAB (\$200K) and Plume (\$105K) surveillance activities could be scaled back. The effort clearly addresses focus areas that are of concern to a wide variety of Federal (EPA, USGS, NMFS, USCG), State (DEH, Fish & Game), Local (County/City Health agencies, Water Qual Boards, Sanitation Districts), NGO (Heal the Bay, Coastal Conservancy) and Industry (SoCal Marine Exchange, Port of LA/LB) stakeholders. Curiously, there was no mention of collaboration with the local WFO’s (especially for the MM5/WRF modeling) or NCEP (ROMS modeling). There is demonstrated support to National IOOS (QARTOD, Natl Waves Plan, PaCOOS) and Regional (CeNCOOS MOU) efforts. While there are a number of new observing components (CALCOFI inshore sampling-9, Glider & AUV Plume Surveys, HAB Moorings-2) there are

also some enhancements to existing activities (Auto Shore Monitoring Stations, CDIP Nowcasts/Forecasts) and some basic infrastructure Operations and Maintenance (HF Radar, Glider Tracks, Underway CTD). Of course there has been considerable investment through COTS (since 2004) and Coastal Ocean Currents Monitoring Program (\$21M).

The approach appears to be very technically sound, in many cases building upon efforts that are already in place and have been proven. Some of the past support efforts (Hyperion Treatment Plant outfall diversion-2006) were very successful and gained National attention. There is a clear breakdown of the key activities for each task area including data management, however, the specific details are not in the main proposal, but hopefully included in the partner work plans. The high level milestone timeline chart does not provide enough detail to allow for meaningful tracking.

The lead PI and all of the partners (15) are well qualified and represent the preeminent academic and research institutions in the region (SIO, UCLA, UCSB, USC, JPL, Cal Poly). The collaboration could have been expanded to include some proposal partners from the other sectors (Federal, State, Local, etc.) to build better buy-in.

The project cost approaches the upper limit of the funding award, especially in the second year (\$3.15M). It appears that the majority of the funding is for personnel (\$1.5M) at the main and partner institutions; however, a significant portion of the second year funds (\$1M) is for O&M.

The proposal states that outreach will primarily be accomplished through established RA efforts. Letters from the Aquarium of the Pacific and the Center for Ocean Science Education Excellence (COSEE) indicated their support for such efforts. The proposal specifically mentioned four targeted user workshops for product outreach and user training. The delivery of the data and products is primarily web-based.

Signature and Date

NOAA Coastal Services Center
FY2008 Implementation of Regional Integrated Ocean Observing Systems
Proposal Evaluation Form

Note to Reviewer: Rate the application according to the evaluation criteria and rating classifications provided. Please be sure that the application number appears on any additional page(s). Your comments may be forwarded to the applicant. If this occurs, your name will be removed from all documentation prior to mailing.

When saving this form digitally, save as proposal_number.yourlastname (e.g., P-08.Smith.doc). If using a digital signature, return this form to Mary.Culver@noaa.gov. If a digital signature is unavailable, please e-mail this form and fax a signed form to Mary Culver at (843) 740-1298 or (843) 740-1290.

Please score and provide comments in the following five (5) categories;

- 1. Importance/relevance and applicability of proposal to the goals:** This criterion ascertains whether there is intrinsic value in the proposed work and/or relevance to NOAA, federal, regional, state, or local activities and objectives for designing and implementing the regional component of the IOOS. Proposals will be evaluated on how well the proposed project will achieve the specific goals of the announcement.

The proposed effort is aligned with the RFP's general goals for the development of regional elements of the national IOOS. The project, as described, is focused on a wide variety of goals and objectives, but does not clearly describe the existing array and modeling efforts, their shortcomings/gaps, and specific needs for key expansions, information products, and system redundancies. Stakeholder input is implied in several instances with respect to system development and priorities, but in some cases this was not well described. The proposal seeks to integrate historical and regional datasets toward the development of climatologies and improved data discovery and access via a web portal. SCCOOS staff will continue to support regional and national IOOS data integration plans and efforts. Several information products are described, but their specific applications were somewhat unclear.

- 2. Technical and scientific merit:** This criterion assesses whether the approach is technically sound and/or innovative, if the methods are appropriate, and whether there are clear project goals and objectives. Questions relevant to this criterion include: Is the approach appropriate for the stated goals and objectives? Are the project goals and objectives achievable within the proposed time-frame? Do the proposed approaches incorporate current guidance, scientific, and/or technical advancements in the development and implementation of the Integrated Ocean Observing System? Does the proposal promote interoperability with other components of a regional and national ocean observing system?

The proposal did not discuss the importance of nested spatial scales for ocean circulation modeling and related applications (e.g. residence time of plankton, flushing rates). In fact, there were only 3 sentences devoted to the modeling approach. The proposal would have benefited from a general description of the existing system, lessons learned, and the strategic placement of new assets to meet evolving needs. For example, the general gap analysis described on p. 25 should probably have been considered for the purposes of this proposal. The proposal would have benefited from the identification and prioritization of a few central objectives and information products in relation to past activities.

- 3. Overall qualifications of applicant:** This criterion ascertains whether the applicant possesses the necessary education, experience, training, facilities, and administrative resources to accomplish the project. Questions relevant to this criterion include: Does the proposal demonstrate regional and institutional support for the project? Are the investigators qualified and is the organizational framework appropriate to conduct a project of the nature and scope proposed? Are investigators from other agencies and institutions within the region included as key personnel on the project to capitalize on available expertise and promote a regional approach?

The PIs have considerable expertise and experience in both the academic and observing aspects of this project. The PI list is lacking representation from federal and state agencies, and/or other “users” or stakeholder organizations. The SCCOOS does benefit from guidance from its Senior Advisory Committee.

- 4. Project costs:** This criterion evaluates the budget to determine if it is realistic and commensurate with the project needs and time-frame. Questions relevant to this criterion include: Does the proposal demonstrate that the budget is commensurate with project needs? Is the cost effectiveness of the project optimized through strategic partnerships with collaborating institutions, agencies, or private sector partners?

The proposal seeks to “preserve regional observing components.” While this is an important component, it is not well described or justified in the proposal. Funds are requested to expand NOAA funding of existing state programs, which could represent strong leveraging of federal and state funds; however, it is difficult to evaluate priorities for spending in the proposal. There are no discussions of needed system redundancies and maintenance contingency plans, etc. Equipment costs are only 95K total over the two-year period.

- 5. Outreach and education:** This criterion assesses whether the project provides a focused and effective education and outreach strategy regarding NOAA’s mission to protect the Nation’s natural resources. Questions relevant to this criterion include: Does the proposed project demonstrate that the target user community has been fully engaged in development of the desired project outcomes? Does the proposal demonstrate that information generated by the project will reach its target audience and have a positive impact on the development of regional and national observing system infrastructure?

The proposal includes a comprehensive listing of general user groups and information needs in relation to ocean observing data, but none appear specifically tied to or prioritized for this proposed regional effort. Training and education activities are stronger.

Proposal Number: 19

**Proposal Title: Implementation of Regional Integrated Ocean Observing System:
Southern California Regional Coastal Ocean Observing System.**

Principal Investigator: Eric J. Terrill

Institution: University of California

Scores**Proposal Score**

1. Importance (max 30 pts.)	_____25_____
2. Technical and Scientific merit (max 25 pts.)	_____18_____
3. Qualifications (max 15 pts.)	_____12_____
4. Project cost (max 15 pts.)	_____10_____
5. Outreach and Education (max 15 pts.)	_____10_____
 TOTAL SCORE	 _____75_____

Please provide an overall rating for the proposal:

Excellent _____ Very good _____ Good X Fair _____ Poor _____

Excellent: Probably will fall among the top 10% of proposals in the subfield; highest priority for support. This category should be used only for truly outstanding proposals.

Very Good: Probably will fall among the top 1/3 of proposals in the subfield; should be supported

Good: Probably will fall among the middle 1/3 of proposals in the subfield; worthy of support.

Fair: Probably will fall among the lowest 1/3 of proposals in the subfield; should not be supported without serious revision.

Poor: Proposal has serious deficiencies; should not be supported.

Comments:

Signature and Date

**NOAA Coastal Services Center
FY2008 Implementation of Regional Integrated Ocean Observing Systems
Proposal Evaluation Form**

Proposal Number: P-19

Proposal Title: Implementation of Regional Integrated Ocean Observing System: Southern California Regional Coastal Ocean Observing System

Principal Investigator: Eric Terrill

Institution: SIO University of California San Diego

Scores	Proposal Score
1. Importance (max 30 pts.)	____30____
2. Technical and Scientific merit (max 25 pts.)	____20____
3. Qualifications (max 15 pts.)	____10____
4. Project cost (max 15 pts.)	____15____
5. Outreach and Education (max 15 pts.)	____8____
 TOTAL SCORE	 ____83____

Please provide an overall rating for the proposal:

Excellent _____ Very good X Good _____ Fair _____ Poor _____

Comments:

This proposal is for funds to sustain and enhance elements of the SCCOOS that address 4 objectives: (i) monitoring and forecasting the transport, fate and impact of land-based inputs of contaminants (plume tracking); (ii) monitoring and forecasting HABs; (iii) monitoring long-term environmental changes (related to climate change) that affect the management of fisheries and endangered species; and (iv) the provision of data and information for use by the public and required for marine safety, SAR and mitigating the impacts of oil spills.

1. Importance/relevance and applicability of proposal to the goals:

In terms of developing a user driven system, SCCOOS has developed good working relations with key organizations including federal, state, county and city agencies responsible for safe and efficient marine operations, public health, environmental protection and living marine resources (including MPAs); the Marine Exchange of Southern California, LA Regional Water Quality Control Board, SCCWRP, NGOs, public Aquariums, COSEE-CA, and the Tijuana NERR (see the composition of the SCCOOS Senior Advisory Committee and letter of support). Combined with the scientific and technical capabilities of the ocean research community in the region, this is leading to the provision of data and information that are being used by the public and operational organizations in the region.

2. Technical and scientific merit:

- Is the approach appropriate for the stated goals and objectives? Are the project goals and objectives achievable within the proposed time-frame?

Yes, it requests funds to sustain and enhance selected observing systems assets (which are considerable) to address the 4 objectives (tasks) more effectively (see p. 26 and Appendix A, p. 1-2).

However, there are some problems and aspects of this proposal that I could not understand:

- 1) Surf zone waves and currents (p. 19) – It is not clear what is meant by “...funds to extend CDIP’s capability to...” How will this be done – through additional observations, modeling, or both?
- 2) It is not clear how HAB glider operations (p. 20) and FlowCAM data will be used to detect HABs and monitor their distributions. The sensors that will be used on gliders will not provide data specific to HABs – nor are FlowCAM data. How will measurements be validated?
- 3) The discharges of 4 POTWs and 4 rivers will be surveyed and mapped over the 2 yr grant period (p. 22-23). How will the data from these surveys and associate model runs be used to improve operational capabilities for predicting the fate and impacts of land-based inputs of contaminants?
- 4) The modeling effort appears to rely on ROMS exclusively. In terms of the transport, concentration and dispersal of particles (from sediments to phytoplankton and larvae), the lack of any discussion of the use of nested and coupled modeling approaches is noteworthy.
 - Do the proposed approaches incorporate current guidance, scientific, and/or technical advancements in the development and implementation of the Integrated Ocean Observing System?

Yes, in terms of engaging users and overall system development. No, in terms of science and technical issues as indicated above.

- Does the proposal promote interoperability with other components of a regional and national ocean observing system?

Yes, collaboration with CenCOOS (which is expected to be extended to NANOOS) on HF radar surface current operating procedures and display tools, wave observations (with CDIP), and ocean gliders.

Members of the SCCOOS data management team are working with NDBC and NOS in designing the national HF radar network and are collaborating with the UCSD team that received an NSF award to develop the cyberinfrastructure for OOI. The latter promotes cross fertilization between IOOS and OOI that will benefit both efforts and will promote synergy between the two.

3. Overall qualifications of applicant:

- Does the proposal demonstrate regional and institutional support for the project?

Yes, see letters of support and membership of their Senior Advisory Committee.

- Are the investigators qualified and is the organizational framework appropriate to conduct a project of the nature and scope proposed?

The SCCOOS team has the expertise and is well qualified, and the organizational framework is appropriate – and has been up and running for a couple of years.

- Are investigators from other agencies and institutions within the region included as key personnel on the project to capitalize on available expertise and promote a regional approach?

Yes, in terms of the academic institutions in the region. No, in terms of investigators from agencies and institutions outside of academia, i.e., the lack of involvement of expertise from government agencies and/or industry.

4. Project costs:

- Does the proposal demonstrate that the budget is commensurate with project needs?

Yes

- Is the cost effectiveness of the project optimized through strategic partnerships with collaborating institutions, agencies, or private sector partners?

Yes, the SCCOOS effort leverages the considerable investments of the State in HF radar (State Coastal Conservancy) and other activities (CA Ocean Protection Council, Ocean Science Applications Program, Ocean Science Trust, etc.); NOAA and USGS investments in the NB (water level and stream gauging programs); and NPDES monitoring.

5. Outreach and education:

- Does the proposed project demonstrate that the target user community has been fully engaged in development of the desired project outcomes?

Yes, see 1 above.

- Does the proposal demonstrate that information generated by the project will reach its target audience and have a positive impact on the development of regional and national observing system infrastructure?

Outreach and training is supported via the RA support grant. SCCOOS is working with the EPA, USCG, DoD, DHS, the International Boundary and Water Commission, local-state governments, and NGOs to inform them of the benefits of IOOS and gain their support for a sustained observing system.

Signature and Date