

## Meeting

NOAA Needs and Plans for Climate and Ecosystem Studies in the California Current System

## Date

June 6, 2005

## Location

Martin Johnson House, Scripps Institution of Oceanography

## Objective

To discuss long term needs for observations, modeling and monitoring the effects of climate on the California Current, including the review and discussion of a draft plan for a NOAA demonstration project on California Current climate regimes and ecosystem productivity.

## Participants

Last	First	Organization
Clarke	Elizabeth	NOAA, NMFS
Cyr	Ned	NOAA, NMFS
Davis	Russ	UCSD, SIO
Dunnigan	Jack	NOAA, NMFS
Fox	William	NOAA, NMFS
Hewitt	Roger	NOAA, NMFS
Hunter	John	UCSD, SIO
Kahru	Mati	UCSD, SIO
Koblinsky	Chet	NOAA, EGT
Niiler	Peter	UCSD, SIO
Peterson	Bill	NOAA, NMFS
Schwing	Frank	NOAA, NMFS
Venrick	Elizabeth	UCSD, SIO
Wesson	Dolores	UCSD, SIO

## Presentations

- [Why we are here and why the CCS is the right place to study climate impacts on ecosystems? – Davis](#)
- Description of the PaCOOS plan. – Clarke

- Description of the demonstration project “Implementing a Climate and Ecosystem Approach to Management of Hake and Sardines in the California Current: a Demonstration Project” (April 2005 draft) – Peterson
- [Why NOAA needs a demonstration project in the California Current System \(CCS\)? - Schwing](#)
- Needs for basic research on modeling and physical processes in the CCS.  
- Niiler

### **Discussion Highlights**

- Koblinsky and Dunnigan concluded that the demonstration project was headed down the right path. However, the plan needs a section on socio-economic impacts of the work, and an estimate of the values of US fisheries in the CCS. The plan also needs to refer to President's Action Plan recommendations for NOAA.
- Koblinsky pointed out that global observations of atmosphere and climate are pretty well developed but how these forces affect eastern boundary currents such as the CCS are in needs more attention. A central issue is how to bring these global observations into the coastal zone, which is a central mission of PaCOOS
- Niiler pointed out that different circulation models yield substantively different results for mesoscale nearshore circulation in the CCS. He stressed the need for research on physical processes to overcome these difficulties, and taking CTD casts deeper than 500 m on survey vessels.
- Niiler also emphasized the key importance of altimeter data to model circulation of the CCS, and the failure of NESDIS to grasp the importance of sustaining this activity as satellites are replaced. Presently temporal coverage is inadequate due to loss of satellites without replacement.
- Niiler suggested that a modeling workshop be held to discuss research issues related to modeling the CCS. He pointed out parenthetically that a workshop on this matter was held some years back and was reported on in EOS but the recommendations have not been followed.
- Koblinsky offered to support a CCS modeling workshop.
- Fox suggested that PaCOOS has a modeling committee and that any such initiative in support of PaCOOS goals should come from this committee.

- Davis suggested convening a cross-discipline meeting where those who build stock assessment models could have an exchange with those that build circulation models and ecosystem models. This was suggested as a first step in developing the kinds of models needed by PaCOOS. It was also suggested that such a meeting could be held in conjunction with EPOC
- Hunter mentioned that, although needed by PaCOOS, the full costs of physical observations needed to accurately measure the dynamics of the CCS in response to climate is unlikely to be funded through NMFS because resources and ecosystems are NMFS' primary mandate. Other government entities, with climate and ocean dynamics responsibilities, are needed to take on this responsibility. He went on to point out that NMFS has little expertise in physical oceanography and modeling and depends upon its academic partners in PaCOOS for leadership in this area. Hence, support for the leading academic institutions to instrument the CCS and measure climate effects would be of greatly benefit to PaCOOS.
- Some discussion focused on linking watershed runoff to climate scenarios, an objective not considered in the PaCOOS plan; however, runoff is a focus of the regional associations (RAs).
- Koblinsky, Dunnigan and Cyr pointed out that large net increase in agency budgets are unlikely. As a result, any growth of large programs will probably require reprogramming of existing NOAA funds. They emphasized the need for PaCOOS to build a strong justification convincing to both lay and technical audiences. Support from users, particularly the Pacific Fishery Management Council, is key.
- Fox and Clarke both pointed out that awareness of climate effects by managers and industry representatives was growing. A case in point is the report on decadal changes in the ocean and stock productivity that PICES is working on.
- Fox, Peterson, Davis, and Schwing, all pointed out that one of the strong justifications for focus on the CCS was the strong climate signal present in the dynamics of most species, and fisheries. Sardine is the only managed species where the environment is actually used in yield calculations.
- Cyr pointed out that the Climate and Ecosystem Program has three criteria for prioritization of new projects: 1. they must be based in a region with a clear climate signal; 2. they must have demonstrated climate impacts on living resources for which NOAA has management responsibility; and 3. they must have a high likelihood of success. The PaCOOS plan appears to meet these criteria.

- Fox stated that both the SWFSC and the NWFSC, managed by Director Varanasi are prepared to contribute to the demonstration project but others need to contribute as well.
- Fox pointed out that all the major line offices in NOAA (NMFS, NESDIS, OAR and NOS including sanctuaries), the three RAs, key oceanographic institutions in the three states, all state conservation agencies, and private foundations, are all engaged in PaCOOS. The plan, in addition to its scientific objectives, can also be viewed as a test of the abilities of these diverse organizations to collaborate successfully in a regional context.

## **Conclusions**

Participants agreed that there is good justification for initiating climate and ecosystem studies in the California Current LME at this time. The PaCOOS demonstration project appears to be a useful framework that has support from the broader west coast Ocean observing community.

## **Next Steps**

- NOAA will consider appropriate steps to coordinate inclusion of California Current climate and ecosystem activities into its program.
- SIO will organize a workshop in spring 2006, under NOAA OGP sponsorship, to further explore priorities for California Current climate and ecosystem studies. A particular focus of the workshop will be modeling.