



External Review of the Cooperative Institute for Marine Ecosystems and Climate (CIMEC)

A Presentation to the
NOAA Science Advisory Board

Dawn J. Wright
Review Panel Chair

April 15, 2014





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Science Review Panel

Dawn J. Wright, Ph.D., Chair
Environmental Systems Research Institute (Esri, Inc.)

Paulinus Chigbu, Ph.D.
University of Maryland Eastern Shore

Sonya Legg, Ph.D.
Princeton University

Mark Merrifield, Ph.D.
University of Hawai'i at Manoa

Gil Sylvia, Ph.D.
Oregon State University



CIMEC



- **1991-2010:** Joint Institute for Marine Obs at Scripps
 - California Cooperative Fisheries Investigations (CalCOFI) w/ NOAA SWFSC, CalFish & Wildlife
 - Argo, global array of drifting, profiling floats
- **2010:** CIMEC established as 7-member CI-consortium
 - **Scripps (lead)**
 - UC-Santa Cruz
 - UC-Davis
 - Humboldt State
 - UCLA (unfunded)
 - UC-Santa Barbara (unfunded)
 - Cal State LA (unfunded)



CIMEC Themes



- Climate and Coastal Observations, Analysis, and Prediction
- Climate Research and Impacts
- Marine Ecosystems
- Ecosystem-Based Management

- NOAA Southwest Fisheries Science Center's (SWFSC) facilities at Scripps, and near UC-Santa Cruz



Findings and Recommendations: Strategic Plan



CIMEC does not yet have a strategic plan.

CIMEC Executive Board and Council of Fellows appear to have little influence on the strategic direction of CIMEC research.

Eight major goals of CIMEC are appropriate and relevant but not linked very strongly to metrics.

Develop an integrative strategic plan, merging in broader “vertical integrative” concepts including ecosystem-based management and policy.

Engage Council of Fellows and all partners in strategic directions.

Build metrics around eight goals and designing CIMEC annual reports around these metrics.

NOAA’s western regional collaboration team should **include** the CIMEC director and co-director in their meetings.



Findings and Recommendations: Science Review



NOAA sponsors expressed a high level of appreciation for CIMEC scientific accomplishments and capabilities.

In-house development and manufacturing of observing systems helps in managing costs, ensures higher-quality data, and enables development focused on science needs.

Social science integration could be improved.

Encourage more collaborative research projects involving the full breadth of CIMEC's capabilities (e.g., coordinated California Current ecosystem study).

Integrate observing, climate, and ecology work with social science, especially in making science relevant to management and policy.

Create more connections between four research themes.



Findings and Recommendations: Education/Outreach



CIMEC has an impressive record of training postdoctoral, graduate, and undergraduate students.

CSTAR and CAPAM are excellent examples of educational programs that help NOAA to meet its stock assessment needs and mission.

At UC Santa Cruz, the current system of students and postdocs funded by CIMEC and working with NOAA scientists leads to a large burden on a single UC Santa Cruz faculty member.

Develop new plan for using and distributing education and outreach funds anticipated through the new Task 1B formula when available.

Support, where possible, the expansion of long-distance learning opportunities that have proven successful under the CAPAM project.

Consider NOT placing lead PI duties in the joint fisheries ecology program between the SWFSC and UC Santa Cruz on a *junior* faculty member.

Partner with any new cooperative science center (CSC) in California – use partners Cal State LA, UCLA, UCSB.



Findings and Recommendations: Science Management



The CI and the CI director have few resources available to support innovative ideas, to seed pilot projects, or support partner institution communication.

Lack of participation of all the partner institutions (due to lack of funding) is a major problem.

Workshops have strong support, provide great opportunities to focus partners on topics of mutual interest and to initiate new collaborations.

Consider ways to improve links between NOAA labs and academic partners (especially those not currently funded).

CIMEC should sponsor forums for new PIs to share ideas and inform NOAA of their capabilities.

NOAA could coordinate visits of unfunded partners and young PIs to NOAA HQ to learn of NOAA opportunities and, conversely, help NOAA learn about and recognize their work

(Importance again of strategic plan and workshops.)



Overall Assessment



- Excellent accomplishments in ocean observing, informing stakeholders, educating next generation of fisheries scientists
- Open acknowledgment of challenges
 - Strategic planning
 - Constrained budgets, lack of funds for all 7 partners
 - Education and outreach needs
 - Integration of science with policy
- Seeking opportunities
 - Better networking, research coordination (workshops)
 - Better education/outreach (CSC collaboration)
 - Linkage of climate change with ecosystem dynamics
 - Concepts of ecosystem mgmt for fisheries
 - Leading regional, national, international consortia in ocean observing



Overall Rating

“Outstanding”



Specifically for NOAA - 1



- NOAA should use CIMEC and other CIs to systematically identify cutting edge science issues, develop new integrative approaches, sponsor pilot projects, and support leadership in outreach and education.
- In response to NOAA's workforce and research needs, CIMEC brought new institutional partners into the organization but has been unable to fund them. NOAA must develop approaches that align the RFPs with the actual financial resources provided by the supporting NOAA agencies.
- NOAA should support actions and strategies that encourage participation and networking of CIMEC unfunded and/or young PIs with NOAA programs, scientists, and research networks.



Specifically for NOAA - 2



- NOAA must work with the collaborating California universities and provide incentives that encourage their partnership in ways that also advance NOAA's mission.
- NOAA's western regional collaboration team should include the CIMEC director and co-director in their meetings. Informing NOAA of CIMEC's evolving strategic plans will enhance alignment with NOAA's strategic plan, as well as allowing for possible transformation of NOAA's plans by input from CIMEC.