

**NOAA Science Advisory Board
26th Meeting
25-26 July 2006, Monterey, California**

Presentations for this meeting will be posted on the SAB website at <http://www.sab.noaa.gov/Meetings/meetings.html>

Meeting Attendees

SAB members in attendance: Dr. Len Pietrafesa, Chair, and Director of External Affairs, College of Physical and Mathematical Sciences, North Carolina State University; Mr. David Blaskovich, Sales and Marketing Executive, High Performance Computing, IBM; Dr. Otis Brown, Dean, Rosenstiel School of Marine and Atmospheric Science, University of Miami; Dr. David Fluharty, Associate Professor, School of Marine Affairs, University of Washington; Mr. Michael Keebaugh, Vice President, Raytheon Company; Dr. Geraldine Knatz, Director, Port of Los Angeles; Dr. Frank Kudrna, Kurdrna and Associates; Mr. William D. Ruckleshaus, Madrona Venture Group; Dr. John T. Snow, Dean, College of Atmospheric and Geographic Sciences, University of Oklahoma; Dr. Gerry Wheeler, Executive Director, National Science Teachers Association.

NOAA senior management and line office representatives in attendance: Vice Admiral Conrad C. Lautenbacher, Jr., U.S. Navy (Ret.), Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator; Brigadier General John (Jack) J. Kelly, Jr., USAF (ret.), Deputy Undersecretary for Oceans and Atmosphere; Dr. Richard Spinrad, Assistant Administrator for Oceanic and Atmospheric Research; Mr. Gregory W. Withee, Assistant Administrator, National Environmental Satellite, Data and Information Service; Dr. Steven Murawski, Director of Scientific Programs and Chief Science Advisor, National Marine Fisheries Service; Mr. John Jones, Deputy Assistant Administrator, National Weather Service; Ms. Mary Glackin, Assistant Administrator, Office of Program Planning and Administration; Mr. John H. Dunnigan, Assistant Administrator, National Ocean Service; Rear Admiral Samuel P. DeBow, Jr., Director, NOAA Marine and Aviation Operations.

Staff for the Science Advisory Board in attendance: Dr. Cynthia J. Decker, Executive Director; Kristen R. Laursen; Mary Anne Whitcomb.

Tuesday, 25 July 2006

Official Call to Order and Welcome

Dr. Len Pietrafesa, Chair of the Science Advisory Board (SAB), called the meeting to order. The members of the SAB members introduced themselves. The minutes from the 25th meeting (March 2006) were considered and approved without changes.

Vice Admiral Conrad C. Lautenbacher, Jr., U.S. Navy (Ret.), Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator welcomed the Science Advisory Board member and meeting attendees. He noted that three current members of the Board will be rotating off and this will be their last meeting – Otis Brown, Susan Hanna, and Len Pietrafesa.

He thanked them for their participation and emphasized the considerable contributions that the SAB has made to NOAA during their time on the Board.

Presentations

Discussion of the Final Report of the External Review of NOAA's Ecosystem Research and Science Enterprise - *Dr. David Fluharty – Chair, Ecosystem Research and Science Enterprise Review & Professor of Marine Affairs, University of Washington and SAB Member*
Dr. Jake Rice – Coordinator, Canadian Science Advisory Secretariat, Department of Fisheries and Oceans and SAB Member Emeritus

Presentation:

Dr. David Fluharty and Dr. Jake Rice presented the final report of the External Review of NOAA's Ecosystem Research and Science Enterprise, conducted by the External Ecosystem Task Team (EETT). The desired outcome of the presentation was to obtain approval by SAB of the final report and to forward the report to NOAA. Preliminary recommendations were presented to the SAB at the March 2006 meeting. Subsequent to that, the Preliminary Draft Report was put out for a 30-day public comment period. The EETT met in June 2006 to review the public comments, revise the report accordingly and provide an overall response to the comments. The Final Report was completed just before the July SAB meeting, entitled "Evolving an Ecosystem Approach to Science and Management Throughout NOAA and Its Partners."

The Final Report contains 17 recommendations for strengthening both the common and regional foci for NOAA's ecosystem science enterprise, executive oversight, national core capabilities, forecasting and risk assessment, and both national and regional resource management. The overall conclusion and recommendation was that NOAA must make integrated assessment the normal mode of business for assessing the status of marine ecosystems and the components, and for evaluating options for human uses of ecosystems. The Integrated Ecosystem Assessments require structured, accountable collaboration among multiple line offices, with science partners and with clients of ecosystem products and services. Some parts of this transition in science and management are underway; some will require changes of emphasis; and some even changes in direction. All require greater resources because the greater demands for science support for ecosystem-based approaches to managing multiple activities.

Discussion:

VADM Lautenbacher said NOAA values this SAB report. NOAA will set up an internal review process and report back to SAB on where they are and what will be done in the future. VADM said he plans to assign this report to NOAA Research Council to make recommendations to the NOAA Executive Panel and Executive Council. The NEP and NEC will determine how and if to implement these recommendations and will report back to the SAB. In response to an SAB comment about reconciling the Ecosystem Report recommendations with those for terrestrial ecosystems, VADM Lautenbacher stated that NOAA is working with other agencies in a number of interagency fora where these issues will be addressed. Several members of the SAB also

recommended that NOAA set up pilot projects to implement the approach outlined in the report as a way to start to achieve this kind of management.

A motion to accept the Final Report was passed unanimously by the SAB.

Actions:

- SAB accepts the Final Report on the External Review of NOAA's Ecosystem Research and Science Enterprise and will transmit the report to NOAA.
- NOAA will provide a response to the SAB on the Final Report on the External Review of NOAA's Ecosystem Research and Science Enterprise.

Presentation of the Final Report of the Physical and Social Sciences Research Task Team (PSTT) - Dr. Alexander MacDonald - Acting Director, NOAA Earth Systems Research Laboratory & Chair of the PSTT

Presentation:

The purpose of this briefing was to provide the SAB with a summary of the final report of the PSTT and inform them of the next actions by NOAA management. The PSTT was charged with developing recommendations to improve NOAA's research and operations in the physical and social sciences in accordance with the recommendations of the NOAA Research Review Team.

The PSTT developed an overarching view of NOAA's research and development that assessed research location based on a number of criteria – time scale to fruition, mission and discipline-critical mass, infrastructure requirements, internal vs external capabilities, linkage to NOAA and its constituents, balance of high and low risk, and leveraging of external resources.

The PSTT found that NOAA has strengthened corporate management of its research enterprise, decreasing the necessity for organizational moves. In addition, NOAA is in the process of a significant restructuring of its research enterprise, which addresses a number of issues raised originally by the Research Review Team.

The PSTT made a number of recommendations in several categories that are listed below.

In terms of organizational change, the PSTT recommended that NOAA should move the U.S. Weather Research Program (including THORPEX, The Observing System and Predictability Experiment - a major long-term international program aimed at improving the accuracy and utility of operational global numerical weather predictions on time scales out to two weeks) from NOAA's National Weather Service (NWS) to NOAA's Oceanic and Atmospheric Research (OAR) and that NOAA should move the suggested meteorological components of the Volunteer Observing Ships (VOS) program from OAR to NWS and start, as stated in the Request for Proposals from the National Oceanographic Partnership Program (NOPP), the process of planning for the transition of the Argo float program. In addition, NOAA should establish both

research and operational execution programs for its ocean observing, land-based observing, air quality, and tsunami programs.

In terms of geographic change, NWS should consolidate its operational system development, including National Centers for Environmental Prediction (NCEP)/Environmental Modeling Center, part of the Office of Science and Technology (OST)/Meteorological Development Laboratory, and the Office of Hydrologic Development (OHD) Hydrology Laboratory in the move to the new building housing the NOAA Center for Weather and Climate Prediction

General recommendations from the report include that the NOAA Research Council should establish a more formal and comprehensive program for test beds. The Research Council should also assure that social science is formally integrated into the research and development portfolios of each Line Office through the development of a social science strategic plan

Discussion:

Dr. MacDonald was asked when these proposed changes will take place. He answered that some will be in the next budget cycle. He also indicated that NOAA would like to transfer programs in 2008. He was also asked if there is any feedback to Congress on the report; he stated that the report was not briefed to Congress. The SAB Chair said that a report on actions in response to the Research Review Team report was made last fall to Congress and said that perhaps an update to Congress could be made on additional actions taken from RRT. Mr. John Jones (DAA for NWS) commented that the NWS is still considering the PSTT recommendation that the Meteorological Development Lab (MDL) move to College Park.

Discussion of the Near Final Report of the Hurricane Intensity Research Working Group -
Dr. John Snow - Chair, Hurricane Intensity Research Working Group & Dean, College of Geosciences, University of Oklahoma, and SAB member

Presentation:

Dr. John Snow presented a summary of the near final report. Over the last three decades, research and development has resulted in substantial improvements in skill in forecasting of hurricane track. Unfortunately, parallel improvements in forecasting skill for hurricane intensity and structure have been limited. In particular, rapid intensification and decay of hurricane-strength storms remain poorly forecast. Following the close of the 2004 hurricane season, NOAA management discussed with the NOAA Science Advisory Board (SAB) the need to improve National Weather Service forecasters' skill in forecasting intensity and structure, and in particular, rapid changes in intensity in hurricane-strength storms.

The SAB subsequently constituted the Hurricane Intensity Research Working Group (HIRWG) and charged it with independently assessing the "state of the science" and current research and development (R&D) activities in NOAA and elsewhere with respect to hurricane intensity. Further, the HIRWG was to recommend an agenda of R&D activities that will lead to an improved understanding of the processes that determine hurricane intensity and the timely transfer of that understanding to operations.

In responding to this charge, over ten months, the HIRWG met or talked by telephone with a broad cross-section of individuals active in hurricane forecasting and research, many of whom provided scientific and technical materials for the HIRWG's consideration. It also solicited input from the SAB and public comment on a preliminary draft of this report. All input was considered in preparing the HIRWG's report. In this Near Final Report, the HIRWG has made 29 recommendations that are discussed in detail in the body of the report. These cover a wide range of activities that would improve our ability to forecast hurricane intensity and utilize that ability for societal benefits.

The presentation highlighted ten recommendations that the majority of HIRWG considers to be of the highest priority and to which it has assigned short or medium timeframes for accomplishment of the recommended action.

As the report was nearing completion, two members of the HRWG decided to withdraw and complete a minority report. The Minority Report is currently out for public comment after which these members will review comments received and respond as appropriate. In mid-September the HIRWG expects the Minority Report will be finalized and then the Final Report will be completed and transmitted to NOAA.

The HIRWG recommends that the overarching goal for NOAA R&D in improving the skill for intensity forecasting should be *“to reduce the error in 48-hour intensity forecasts for hurricane-strength storms by at least 10 knots (approximately one half of a Saffir-Simpson category) within the next five years, with an emphasis on improved forecasting of rapid intensification and decay, and decay and reintensification cycles.”* It recommended that a pilot project be undertaken to work on this problem and that this will take at least five years. It will take longer for full operational implementation of a system that can incorporate the results of such research.

Discussion:

VADM Lautenbacher said we haven't made much progress in intensity forecasts even though track forecasts have become better. He said there is not national attention on this. The bottom line is that we could accomplish a lot by knowing more about intensity, particularly with more and more people moving to the coasts. Part of this issue is trying to get more attention to this problem. Requirements are going up, for example, on time needed to evacuate coasts. He thinks we can make the overarching goal to reduce the error in 48 hour intensity forecasts for hurricanes by at least ten knots (kts) within the next five years, with an emphasis on improved forecasting of rapid intensification and decay. The National Science Board (NSB) also has a group addressing the issue of hurricane research needs; he would like to review both the HIRWG and NSB reports and then decide how to react to them.

A comment was made that we need the National Science Board report to see what it says about needs and greatest payoffs. Dr. Snow indicated that the members of the two groups were in touch with each other and attended each other's meetings. The NSB report will be much broader and shallower than the HIRWG report since it is focused on overall needs in hurricane research not just intensity forecasting.

SAB members and NOAA personnel discussed other phenomena that also should be studied as part of this problem, including prediction of storm surge and wave fields.

A motion was made to accept the majority report; it was seconded and passed unanimously. A motion made to accept minority report subject to response to public comments; it was seconded and passed unanimously.

Actions:

- SAB accepts the Final (Majority) Report on Hurricane Intensity Research and will transmit the report to NOAA.
- SAB accepts the Minority Report on Hurricane Intensity Research, pending completion of the public comments process and will transmit the report to NOAA as part of the Final Majority Report
 - Minority members will review public comments and determine need to revise this report
 - HIRWG and SAB Chairs will work with Minority members to define “substantive” revisions to determine if it needs to return to the SAB for review.
- NOAA will provide a response to the SAB on the Final Report on Hurricane Intensity Research when received and will respond as appropriate.

Extension, Outreach, and Education Working Group – Proposal for Discussion -

Dr. Frank Kudrna – President and CEO, Kudrna & Associates, Ltd. and SAB member and Dr. Gerald Wheeler – Executive Director, National Science Teachers Association and SAB member

Presentation:

The purpose of the briefing was to request the SAB to: review the draft Terms of Reference for an Extension, Outreach and Education Working Group (EOEWG), to provide guidance on the charge to the group and the timeframe for the report, to propose possible members and to approve the revised Terms of Reference.

The rationale/background for creating the working group came from an SAB recommendation which stated that “the purpose of the working group will be to support the SAB in providing advice to NOAA; to strengthen, coordinate, organize and improve its extension, outreach and education activities to fully engage its constituents.”

The terms of reference were presented and the overall timeframe for the group was discussed. The working group will be established by November 2006 with a draft report to the SAB due November 2007 and a final report presented at the March 2008 meeting. The working group will be disbanded following the transmittal of the report by the SAB to the Under Secretary.

NOAA’s Education Council provided comments to the terms of reference document which have been incorporated into the current version.

Discussion:

The larger challenge is extension and outreach on the atmospheric side. There is nothing on the atmospheric side except Regional Climate Councils to compare to the Sea Grant extension activity. We need one or two people on the working group who can bring ideas on the atmospheric side. A member asked if there is an understanding of who the constituents are. The NOAA constituents may need to be more formally defined in this process. Congress should not be defined as a constituent for this purpose. An SAB member further commented that extension has worked well for Land Grant; Space Grant has worked for NASA. That SAB member recommended that a Land Grant expert be asked to join the EOEWG.

A motion was made to approve the terms of reference. The motion was seconded with proviso to look more broadly than just basic research and was approved unanimously.

Actions:

- SAB accepts the Draft Terms of Reference for the Extension, Outreach and Education Working Group, considering comments made during the meeting discussions, and will continue the process of establishing this WG aiming for a first meeting in the fall of 2006.
- SAB Office will re-distribute Extension, Outreach and Education WG nomination list and solicit additional names from the SAB.

Climate Working Group Update - *Dr. Otis Brown, Chair, Climate Working Group & Dean, Rosenstiel School of Marine and Atmospheric Science, University of Miami and SAB Member*

Dr. Otis Brown, Chair of the Climate Working Group (CWG), discussed the vacancies on the working group including the Chair. The Executive Committee of the CWG has discussed this and provided recommendations for the SAB to consider. He proposed that the SAB reappoint Dr. Joyce Penner, and Dr. Antonio Busalacchi and that Dr. Busalacchi be nominated as Chair. The Executive Committee has also recommended six new members, who will be appointed for three year terms in different specialties. Dr. Brown presented this list of recommendations.

Discussion:

A motion was made to approve the appointment of six recommended new members but look at diversity of additional members in the future; the motion was seconded and approved unanimously. A motion was made to reappoint members and appoint Busalacchi as Chair; it was seconded and approved unanimously

There was further discussion of who would serve as the SAB liaison to CWG now that Dr. Brown is leaving the SAB. This is a pending action, awaiting selection of additional SAB members.

Actions:

- SAB reappoints Joyce Penner and Antonio Busalacchi to the Climate Working Group, and designates Antonio Busalacchi as Chair of the CWG.
- SAB will offer appointment to six new members to the CWG, with designated alternates if primary nominee is not willing to serve.

Other Items for Discussion

Social Sciences Working Group initiative update:

The formation of a Social Sciences Working Group is an action approved at the last SAB meeting. A Terms of Reference document was drafted and sent to SAB members for review. No comments have yet been received from the SAB on the Terms of Reference or possible working group members. This request will be resent to SAB members for their comments.

Status of new members to SAB:

Dr. Cynthia Decker reported that a list of potential members has been compiled and includes more than 100 names. A spreadsheet that summarized candidates was provided to SAB members to make a quick cut. The SAB has three vacancies. The SAB should plan to submit 10-12 candidates to VADM Lautenbacher for consideration in filling the vacancies. The SAB agreed to review the list and provide their recommendations to the SAB Chair.

Wednesday, 26 July 2006

Official Call to Order

Dr. Len Pietrafesa, Chair of the SAB, called the meeting to order. VADM Lautenbacher welcomed everyone. He stated that he was happy to be able to stay at the meeting for two days. NOAA's mission is critical for the future and its work is extremely important and thanked the SAB. He was pleased with reception on Tuesday night (a separate, sponsored, invitation-only event for the SAB) and opportunity to talk with people in Monterey Bay area – representing partners and NOAA programs. He said he appreciated that Leon Panetta attended the event and his support of NOAA. The coming together of the two Ocean Commissions is very important. He thanked the sponsors of the reception.

Presentations

Integrated Ocean Observing System (IOOS) Update: Status and NOAA Contributions -
Mr. Dave Zilkoski – Director, NOAA National Geodetic Survey & NOAA IOOS Project Manager

Presentation:

Mr. Zilkoski requested that the SAB provide guidance on how best to leverage existing and future regional systems and capabilities, connectivity between global and coastal components and how can modeling be best incorporated and support IOOS.

IOOS is the US ocean component of GEOSS and works to ensure coordination with GOOS internationally. IOOS is designed to share and optimize data to meet multiple missions, to ensure data interoperability in near real time, and to use consistent standards for operations. IOOS is a federally-led, NOAA-managed partnership that is web-based. It integrates data sets, addresses a wide range of applications, and enables improved decisions making through national and regional modes.

Discussion:

There is an SAB Data Archive and Access Requirements Working Group being created and one SAB member asked if IOOS is associated with the Data Management Council and if there will be a formal liaison to the DAARWG. Mr. Zilkoski responded that NOAA will ensure that there will be an IOOS rep on the SAB working group on Data Archive and Access Requirements. Mr. Zilkoski was asked where the IOOS data reside and how long observations are saved. He answered that data are archived in many locations including data centers. The IOOS system would ensure knowledge of what is archived and where: this is currently not the case.

A comment was made that NOAA should view this as an opportunity to build marine buoy networks to create forecasts over ocean and land that can improve ensemble forecasts. It is essential to build national observing marine/coastal network. If a marine observing system is deployed, we also need observations of atmosphere. Observing System Simulation Experiments (OSSEs) are essential to optimizing the observing network. One thing that is overlooked is adaptive observing systems: OSSEs develop control for the adaptive array. Observing platforms adapt themselves to phenomena occurring and can focus resources to capture observations in a key event. A comment was made that we also need smart sensors that can trigger collection of data.

A member asked about the status of regional networks/associations. Eleven regional associations (RAs) are being developed. They are in different stages but each has a board identified and a charter and is in the first phase of finishing a business plan. This is the second year of a granting program for the first phase that helps the regional associations do this. Regional coastal observing systems are groups that have created their systems, year by year producing things with money received. The RAs are working with them. A follow-up question was asked on how to link regional associations to the decision-making process. Regional Coastal Ocean Observing Systems (RCOOS) data comes into NOAA, user needs are identified in interoperability plans which are coordinated through Ocean.US and are coordinated through one web feed.

A member asked how fisheries management councils can get that information and would they be defined as users. Mr. Zilkoski responded that regional fisheries groups can be both on the boards of RAs as well as users. This is the concept being worked on although it has not been completely implemented yet.

A question was asked about where is the linkage to systems at universities e.g., Scripps, University of Washington. Mr. Zilkoski responded that the links are made through Ocean.US

and that this regional information is linked through a virtual system. The concept is to have an IOOS portal that can be used for data query.

Another SAB member wanted to know who runs modeling and analysis subsystem; is it in NOAA in the environmental modeling program? That subsystem will evolve out of the architectures and the architecture doesn't exist yet. This is the reason for the RFP that NOAA put out earlier this year - to define what the architecture will look like. However, the effort in NOAA to push this would have to be done with partners until the authorization was given. Now there is an interagency working group on ocean observations through which these efforts can be worked. In addition, Ocean.US will become an interagency program office.

A motion was made, seconded and passed to request NOAA to find the best way to link the SAB Data Archive and Access Requirements Working Group to the IOOS Office and report back to SAB on progress with this.

VADM Lautenbacher said IOOS and interagency coordination is important. He sees NOAA as having the lead. Everyone has different ideas on the backbone of system but this needs to be defined in the community. The term architecture similarly needs to be defined. It does not mean that there is a blueprint; it is having what is needed to make the blueprint. To sell this NOAA must be able to explain the value of integration (data, sensors, platforms) and must determine how to convince people that it is necessary to have it. He encouraged the group to think about that. With respect to the data buoy discussion, that issue is being debated inside NOAA.

A member asked what the obstacles are to IOOS when this is being sold. Is the obstacle the idea of needing data to manage the coasts or is the issue whether this proposed system is the way to do it? VADM Lautenbacher responded that people do want to hear the detail on IOOS. He can convince people that oceans are good but can't convince them to spend money on IOOS versus more police, for example. A comment was made that the way to sell it may be to identify potential users. Another challenge to IOOS is the integration: who is user for a complicated map of observations? When integrated assessments are discussed, a challenge is finding the people who are going to make decisions using these data.

Many of arguments are aesthetics arguments with people making financial decisions. On a cultural basis, we have to understand complex systems. Most people don't think that way, however, they want simple solutions. The key is to identify major products that demonstrate impacts that people care about - in Great Lakes, Gulf of Mexico, etc.

VADM Lautenbacher asked SAB members to each develop a list of top three products that their regions could use that would help to convince someone of the importance of the IOOS system in a 30-second "elevator speech."

Actions:

- SAB members will each develop a list of top three products that their regions could use that would help to sell the IOOS system in a 30-second elevator speech and provide this to NOAA.

- NOAA will provide a liaison mechanism between the SAB Data Archiving and Access Requirements Working Group and IOOS Office and report back to SAB on progress.

Pacific Coast Ocean Observing System (PaCOOS): A Regional Ecosystem Science Board -
Dr. William Fox - Director, NOAA Southwest Fisheries Science Center, La Jolla, California

Presentation:

The purpose of briefing is to provide an overview of PaCOOS, explain its role in IOOS and to obtain SAB guidance for PaCOOS as a potential model for a Regional Ecosystem Science Board. Dr. Fox stated that he needs IOOS to advise fisheries management councils and policy makers. PaCOOS supports IOOS by serving as the Ecosystem Component of the IOOS National Backbone for the California Current Large Marine Ecosystem (LME). PaCOOS is also serving as the living marine resources component of the west coast Regional Associations: Southern California Coastal Ocean Observing System (SCCOOS), Central and Northern California Ocean Observing System (CeNCOOS) and Northwest Association of Networked Ocean Observing Systems (NANOOS). He summarized the status of the observing system and planned activities of PaCOOS.

Discussion:

A Board member noted that there is a buoy near the California coast but no information coming in South of San Francisco. Is that correct? Dr. Fox responded that there is no buoy currently providing data south of San Francisco.

There are lots of data sets available in the state of Washington in response to regulatory requirements and as a result of research grants. These data are not integrated. Is there recognition of this problem and is there a plan to do something about it? Dr. Fox responded that the board of governors is considering this, that this data integration process is an ongoing one.

A member asked who other stakeholders are and if they can use this system. Dr. Fox responded that as other users want to be part of the system, they can plug into it. Another member asked whether NOAA can make a case to access the harbor maintenance trust fund for some of this work; it contains billions of dollars of surplus. The response was that NOAA is not included in law, which gives the funds to the U.S. Army Corps of Engineers.

The question was asked if there is a mechanism for coordinating regional efforts. For IOOS, Mr. Zilkoski is in charge at NOAA level and this is much more broadly a NOAA effort. The NOAA NEP is deliberating next steps on regional coordination and collaboration.

A member asked if members if the PaCOOS Board of Governors is typical of governance in other regions. There are many regional organizations being formed around ecosystems, particularly on East coast and the governance of these organizations varies among the regions. In the case of California, the RAs are organized on political lines and PaCOOS provides the ecosystem integration.

Building the Scientific Foundation for an Effective Regional System of Marine Protected Areas: NOAA's West Coast Pilot Project - Dr. Charles Wahle – Director, NOAA National Marine Protected Areas Center's Science Institute, Santa Cruz, California

Presentation:

The purpose of the briefing was to request SAB input on the overall project design and outcomes of west coast pilot project and identify opportunities to integrate and leverage NOAA and external science on ecosystem management

The pilot project in West Coast is a demonstration for the national system development process. Lessons learned here will be transferred to other regions. The purpose of project is to support development of a regionally based national system of marine protected areas (MPAs). Developing tools for regional MPA planning and providing a regional forum for agencies and stakeholders to discuss, evaluate and plan MPAs are first steps. There are three states and the coverage is the coast to 200 nautical miles, the exclusive economic zone (EEZ). The kickoff meeting for this was held in June 2006.

Discussion:

MPAs have potential for political upheaval. A member asked who has the role to help use MPAs in a way that avoids political upheaval. Dr. Wahle said that the West Coast Pilot Project was created to help this. Dr. Wahle was asked how he has used knowledge of how best to locate these protected areas. He answered that the MPA Center is doing an analysis of when problems occurred in the process. They are also developing a decision support tool for stakeholders and policy makers. The goal is to rationalize all of MPAs and this plan is a tool for doing that.

VADM Lautenbacher thanked the presenters for their work on the Pacific coast system. In the matter of the MPAs, he noted that NOAA must make this process consistent with other ecosystem efforts.

Other Topics for Discussion:

A member asked that NOAA review other methods of getting input for the Partnership Policy Advisory Committee that had been presented to the SAB earlier and not rely just on a new FACA advisory group. A comment was made that something needs to be done quickly on this matter by the SAB. Another member commented that the issue was trying to understand how to form a group to be inclusive in the right way. The only way to get consensus advice is through a FACA committee.

Dr. Edward Johnson, National Weather Service lead on the Partnership Policy effort, said that there is already a lot of information provided on the proposed Partnership Policy Advisory Committee but that NOAA could provide additional information to the working group as needed. A member wondered if the SAB should ask NOAA to look more closely at how federal advisory

committees are used. Another member stated that there should be an active liaison between the SAB and whatever advisory body is eventually created.

There was additional discussion about periodic briefings to Congressional committees on follow-up actions from the NOAA Research Review Team report, a topic discussed the previous day of the meeting.

Actions:

- The SAB chair and representation from the NOAA Research Review Team with help from NOAA will report to the Congressional committees on a regular basis on the status of implementation of the Research Review Report.
- SAB will create an ad hoc working group to examine advisory options for improving communications among NOAA's various partners in the public, private and academic sectors who are engaged in environmental information matters. This WG should provide specific recommendations on the charter, membership and needed relationships with the SAB for a new FACA independent advisory committee, the Partnership Advisory Committee (PAC), which would provide ongoing advice to NOAA on environmental information matters. The purview of the proposed PAC would include issues relevant to the public, private, and academic sectors as well as to the set of players as a group, such as (but not limited to): improving communication among the sectors, creating or discontinuing products, enhancing scientific and technical capabilities that support the NOAA mission, improving data quality and timeliness, and disseminating data and information. It is expected that the ad hoc WG would provide a recommendation to the SAB in the next 3-6 months.

The Ocean Exploration Advisory Working Group - *Dr. Larry Mayer - Co-Chair, Ocean Exploration Advisory Working Group & Professor and Director of the Center for Coastal & Ocean Mapping, University of New Hampshire*

Presentation:

The purpose of the briefing was to provide an update on results of first meeting of the Ocean Exploration Advisory Working Group (OEAWG) and to solicit feedback and guidance on the approach the working group is taking.

Discussion:

One SAB member asked if NOAA has a stated mission of ocean exploration. VADM Lautenbacher said Ocean Exploration doesn't currently have an organic act. There is pending legislation for Ocean Exploration; NOAA will check to see if the proposed NOAA organic act has a section on Ocean Exploration. NOAA is the only agency carrying out ocean exploration activities; both the Ocean Exploration program and the National Undersea Research program were cut in the 2006 appropriation. House appropriations staff have indicated that NOAA should not be involved in ocean exploration but Ocean Exploration has continued to be funded in

Congressional appropriations. There are more than 2600 line items in the NOAA appropriation bill; the agency is trying for larger aggregations of programs to generate blocks of support.

A member asked if the SAB should be looking at the Request for Proposals (RFP) process. VADM Lautenbacher said grants processing is improving and getting money out in the same fiscal year due to automated processes. Dr. Spinrad said part of the Ocean Exploration funding is also going through the National Oceanographic Partnership Program (NOPP) process.

A comment was made that perhaps we should look into public/private partnerships that look like they are funding themselves. We need to think of a non-traditional approach. VADM Lautenbacher said it would be useful to get Ocean Exploration authorization legislation passed by Congress.

A member asked if the Ocean Exploration Working Group has looked at relationship between Ocean Exploration and NURP. Dr. Mayer responded that he has seen blending of relationships in these programs.

Actions:

- OEAWG will work with the Extension, Outreach and Education Working Group as appropriate on common issues.
- NOAA will provide SAB with information on whether Ocean Exploration is mentioned in the current House version of the NOAA Organic Act.
- NOAA will provide SAB with more detailed information on the OE grants process, especially with respect to RFP-to-funding timeline

External Review of the NOAA Coral Reef Conservation Program - *Ms. Barbara Moore, NOAA's Office of Oceanic and Atmospheric Research Representative to the NOAA Coral Program Council & Director, NOAA's National Undersea Research Program*

Presentation:

The purpose of the briefing was to seek input from the SAB on the desired program review. The Coral Reef Conservation Program would like to begin discussion on design, content and conduct of review and a possible SAB role. Ms. Moore said they would appreciate guidance on how to focus the review.

Discussion:

A member commented that this sounds like very complicated issue. One of ways to focus is to do a return on investment (ROI) type of analysis. The program could pick some modest number of programs in the corals area and follow the money, looking at program objectives, accomplishments, and lessons learned. SAB might provide some criteria for this. For example,

the NOAA constituency may ask how many coral reefs preserved, how effective has it been in doing this.

A member suggested the program ask: why are we doing this? Look at each goal of the program. The goal would be to move from a reactive mode, i.e., fixing problems caused, to a proactive mode, i.e., managing the resources before there are problems. This is the key in tying past to future, and the CRCP must decide where it is in this spectrum.

VADM Lautenbacher suggested building in the OMB Program Assessment and Review Tool (PART) criteria. Corals have not gone through this PART review. The CRCP program should get info for PART analysis (www.expectmore.gov) and suggestions made on measuring effectiveness of program. A member suggested that the CRCP program come back to the SAB with a draft review plan and the SAB will provide comments on that plan.

Ms. Moore said that the suggestions were helpful. The program will come back to SAB with a plan for review.

Action:

- NOAA Coral Reef Conservation Program to provide detailed, written documentation for SAB consideration on the CRCP Review scope, including the role of the OMB PART process.

SAB Review of the Cooperative Institute for Climate Science (CICS) at Princeton University - *Dr. Wade McGillis (by phone) – Chair, SAB Review Panel for CICS & Columbia University*

Presentation:

The purpose of the briefing is to request the SAB to view the process of the external review of CICS, approve the review document, provide guidance and engage in a discussion on review results and consider recommendations of the review.

The CICS Review is part of an ongoing science review process for Cooperative Institutes conducted under the oversight of the SAB, which approves the science reviewers and makes recommendations regarding the quality of science and management of the CI to the Under Secretary and the responsible Assistant Administrator (AA) after the review is completed. In this case, NOAA's Office of Oceanic and Atmospheric Research is the responsible Line Office and requested the review of CICS.

The CICS review team included Dr. Wade McGillis, Chair, Columbia University; Dr. Phillip Arkin, University of Maryland; Dr. Rong Fu, Georgia Institute of Technology; Dr. Robert Webb, Earth System Research Laboratory, NOAA; and Dr. Paul Sperry, Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado. Dr. McGillis presented highlights of the review findings by telephone. Dr. Sarmiento, Director of CICS, and Dr. Ants

Leetma, Director of NOAA's Geophysical Fluid Dynamics Laboratory at Princeton, were also on the telephone.

Discussion:

A member asked about the level of annual funding from NOAA to CICS. Dr. Sarmiento, CICS Director, answered that in 2006, the funding was \$3.9M, for 2007, it is \$1.5M

A member commented that CICS has a broad vision; perhaps the vision should be more focused. Dr. Jorge Sarmiento, Director of CICS, responded that Princeton has resources to address issues broadly; he wants to engage the university in an interdisciplinary/integrated approach and bring in various elements and does not want to limit the vision.

One member asked what the Task One (management, general education and outreach) funds are and if they can be used to expand the program. Dr. Sarmiento said that the Task One funds for Cooperative Institutes are very modest. In FY07, the funding will be \$90K, to be used for one month of salary support and outreach. In other Institutes, Task One usually provides post-doc support but in CICS, there is separate post-doc funding.

There was a comment from a member that he said would like to see more specificity and focus and that it was hard to pick up the alignment of the CI with NOAA from the presentation. Dr. McGillis answered that the presentation was an overview and the full report has the detail on CICS alignment with NOAA programs.

A motion to accept the CICS review report was passed unanimously. The SAB discussed CI reviews in general and agreed that it would like a different process for making CI reviews more useful. The Board agreed to spend some time at the next meeting to discuss their role in these reviews.

Actions:

- SAB accepts the Report on the Review of the Princeton University Cooperative Institute for Climate Science (CICS) and will transmit the Report to NOAA.
- The SAB at their next meeting will hold a discussion about how the SAB Cooperative Institute review process should be adjusted to reflect the NOAA Cooperative Institute policy
- NOAA will provide the schedule of upcoming CI reviews and recompletions to the SAB.

Public Comment Period

There were no public comments.

Summary of Actions

1. SAB accepts the Final Report on the External Review of NOAA's Ecosystem Research and Science Enterprise and will transmit the report to NOAA.
2. NOAA will provide a response to the SAB on the Final Report on the External Review of NOAA's Ecosystem Research and Science Enterprise.
3. The SAB chair and representation from the NOAA Research Review Team will work with NOAA to report to the Congressional committees on a regular basis on the status of implementation of the Research Review Report recommendations.
4. SAB accepts the Final (Majority) Report on Hurricane Intensity Research and will transmit the report to NOAA.
5. SAB accepts the Minority Report on Hurricane Intensity Research, pending completion of the public comments process and will transmit the report to NOAA as part of the Final Majority Report (see action #4)
 - Minority members will review public comments and determine need to revise this report
 - HIRWG and SAB Chairs will work with Minority members to define "substantive" revisions to determine if it needs to return to the SAB for review.
6. NOAA will provide a response to the SAB on the Final Report on Hurricane Intensity Research.
7. SAB accepts the Draft Terms of Reference for the Extension, Outreach and Education Working Group, considering comments made during the meeting discussions, and will continue the process of establishing this WG aiming for a first meeting in the fall 2006.
8. SAB Office will re-distribute Extension, Outreach and Education WG nomination list and solicit additional names from the SAB.
9. SAB reappoints Joyce Penner and Antonio Busalacchi to the Climate Working Group, and designates Antonio Busalacchi as Chair of the CWG.
10. SAB will offer appointment to six new members to the CWG, with designated alternates if primary nominee is not willing to serve
11. SAB members will develop a list of top three products that their regions could use that would help to sell the IOOS system in a 30-second elevator speech.
12. NOAA will provide a liaison mechanism between the SAB Data Archiving and Access Requirements Working Group and IOOS Office and report back to SAB on progress.
13. SAB will create an ad hoc working group to examine advisory options for improving communications among NOAA's various partners in the public, private and academic sectors who are engaged in environmental information matters. This WG should provide specific recommendations on the charter, membership and needed relationships with the

SAB for a new FACA independent advisory committee, the Partnership Advisory Committee (PAC), which would provide ongoing advice to NOAA on environmental information matters. The purview of the proposed PAC would include issues relevant to the public, private, and academic sectors as well as to the set of players as a group, such as (but not limited to): improving communication among the sectors, creating or discontinuing products, enhancing scientific and technical capabilities that support the NOAA mission, improving data quality and timeliness, and disseminating data and information. It is expected that the ad hoc WG would provide a recommendation to the SAB in the next 3-6 months.

14. Ocean Exploration WG will work with the Extension, Outreach and Education WG as appropriate on common issues.
15. NOAA will provide SAB with information on whether ocean exploration is mentioned in the current House version of the NOAA organic act.
16. NOAA will provide SAB with more detailed information on the OE grants process, especially with respect to RFP-to-funding timeline
17. NOAA Coral Reef Conservation Program to provide detailed, written documentation for SAB consideration on the CRCP Review scope, including the role of the OMB PART process.
18. SAB accepts the Report on the Review of the Princeton University Cooperative Institute for Climate Science (CICS)
19. The SAB at their next meeting will hold a discussion about how the SAB Cooperative Institute review process should be adjusted to reflect the NOAA Cooperative Institute policy
20. NOAA will provide the schedule of upcoming CI reviews and recompetitions to the SAB