

33rd Meeting of the NOAA Science Advisory Board
Silver Spring, MD
15-16 October 2008

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

Meetings Attendees

SAB members in attendance: Dr. David Fluharty, Chair, and Wakefield Professor of Ocean and Fishery Sciences, School of Marine Affairs, University of Washington; Dr. William Ballhaus, Past President and CEO, The Aerospace Corporation; Mr. David Blaskovich, Sales & Marketing Executive, Weather & Environmental Market, High Performance Computing, IBM Corporation; Mr. Michael Keebaugh, Vice President, Raytheon Company; Dr. Frank Kudrna, Kudrna & Associates Ltd.; Dr. James Mahoney, Environmental Consultant; Dr. John Snow, Dean, College of Atmospheric and Geographic Sciences, University of Oklahoma; Dr. Carolyn Thoroughgood, Vice Provost for Research, University of Delaware, Dr. Gerald Wheeler, Former Executive Director, National Science Teacher 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; Dr. William Brennan, Assistant Secretary of Commerce for Oceans and Atmosphere and NOAA Deputy Administrator; Ms. Mary Glackin, Deputy Undersecretary for Oceans and Atmosphere; Dr. James Turner, Deputy Assistant Secretary of Commerce for International Affairs; Ms. Carla Sullivan, Chief of Staff; Ms. Laura K. Furgione, Assistant Administrator, Office of Program Planning and Integration; Dr. Richard Spinrad, Assistant Administrator, Office of Oceanic and Atmospheric Research; Ms. Mary Kicza, Assistant Administrator, National Environmental Satellite, Data and Information Service; Dr. Stan Wilson, Senior Scientist, National Environmental Satellite, Data and Information Service; Dr. James Balsiger, Acting Assistant Administrator, National Marine Fisheries Service; Dr. Steven Murawski, Director of Scientific Programs and Chief Science Advisor, National Marine Fisheries Service; Dr. John Hayes, Assistant Administrator, National Weather Service; Mr. John Dunnigan, Assistant Administrator, National Ocean Service; CAPT Raymond C. Slagle, Executive Director, Office of Marine and Aviation Operations representing RADM Jonathan Bailey.

Staff for the Science Advisory Board in attendance: Dr. Cynthia J. Decker, Executive Director; Mary Anne Whitcomb and Donavan Wilson;

Wednesday October 15, 2008

Welcoming Remarks - Vice Admiral Conrad C. Lautenbacher, Jr., U.S. Navy (Ret.) – Under Secretary of Commerce for Oceans and Atmosphere & NOAA Administrator

VADM Lautenbacher conveyed his appreciation for the work of the SAB in assisting NOAA in meeting its mission to the public. He thanked NOAA management for their attendance and support. He indicated that he will present updates since the July 2008 SAB meeting, which he unfortunately was unable to attend.

He discussed major additions to NOAA leadership which include Karl Anderson, Director, NOAA Office of Legislative Affairs, Laura Furigone, Assistant Administrator, Program Planning and Integration, and Dr. James Turner, Deputy Assistant Secretary of Commerce for International Affairs. He also displayed NOAA's current corporate structure and identified the political appointments that will be vacant on January 20, 2009. Currently, there are career deputies in those offices.

The presentation focused on the transition in management structure during the past seven years, from stovepipes to matrix. NOAA's management structure now consist of four dimensions that incorporate goals team, councils, regions and a support system. He believes including regions are the most important element of this system.

During the presentation, he addressed priorities for the public in the context of the NOAA budget. The NOAA budget has showed study increases despite economic stress and demands across the board. The President asked for more money for NOAA in FY 2009 and Congress allocated more funding than in FY 2008. NOAA's budget grew from \$3 billion to \$4.1 billion from FY 2001 to the FY 2009 budget request. The NOAA budget includes \$17 million for hurricane forecast improvement, and \$75 million for fishery disaster assistance. Outstanding issues in the CR include funding for the NPOOESS climate Sensors and GOES_R spacecraft and ground system contracts. Also, there will be a 3.9 percent pay raise that does not include money to cover cost of living adjustments. NOAA's facilities in Galveston need restructuring funding to rebuild because of Hurricane Ike.

In December 2007, polls indicated that the environment was a low priority issue in the public's interest. In the most recent polls, economy and jobs are the most important issues. The environment dropped off the public's radar. NOAA directly impacts the economy and we must get this message to the public.

The Deputy Under Secretary is leading the preparation for the new administration through the Program Coordination Office and Program Planning and Integration. NOAA's issues are both national and international and the agency has been developing many partnerships in these areas. NOAA has been working very hard and must maintain its leadership role and momentum in these areas.

Satellites take up 25 percent of NOAA's budget and have an impact on all activities. GOES-R five instruments are under contract; the spacecraft and ground segment are in the source selection. Also, the current budget contains an allocation for procurement options for two additional satellites.

NOAA's fleet is undergoing a recapitalization effort because the ages of the ships are still unacceptably high. The *John Cobb* was decommissioned after 60 years of service. The average age of the fleet decreased 6.7 years since 2003. The FY 2010-2024 Ship Recapitalization Plan has just been cleared by the Office of Management and Budget (OMB). This is a major milestone for NOAA. Recent acquisitions for the fleet include *Pisces* and *Bell M. Shirmda*; FSV5 and FSV6 are in the capitalization plan. The *Ferdinand R. Hassler* will be delivered in a year.

NOAA is still working on the MOC Pacific Relocation. The process has been slowed down by rising fuel costs of operations. Rising fuel costs are generally effecting the fleet's ability to conduct survey work. Aircraft recapitalization plan for FY2011-2025 is undergoing an internal review by NOAA. Recent acquisitions include third WP-3D aircraft, King air damage assessment aircraft and Tail Doppler radar on G-IV issue but coming along and will be operational next hurricane season

Dr. Susan Solomon was recognized by *Time Magazine* as one of 100 most influential people in the country. Dr. Eddie Bernard received the Service to America Medal. The Department of Energy and NOAA recently signed a Memorandum of Understanding (MOU) for a High Performance Computing System.

The John Smith Water Trail recently opened and celebrated the 400th anniversary of Jamestown. It is the first water trail in the National Park Service. NOAA is placing six buoys along the Chesapeake which will provide information to the public. The public can download information provided by the buoys to both their computers and cell phones.

NOAA is involved with the California toll road project. There are issues of roads versus environmental concerns. Some proponents of the toll road believe it will alleviate congestion on Highway I-5. There are concerns regarding bringing a toll road near Pendleton Marine Corps base, because it may disturb the surf life. The Secretary of Commerce will have to make a decision regarding this issue.

The President asked NOAA to study several new potential marine conservation areas in the Pacific and an expansion of the Monterey Bay Sanctuary to include the Davidson Seamount.

NOAA is working on a new provision in the Endangered Species Act which will address the impacts of climate change. Also, NOAA is working on a rule regarding the National Environmental Protection Act (NEPA) and the Fisheries Management Councils.

The Saint Ocean Hall is now open as part of the Smithsonian National Museum of Natural History . NOAA played a strong role in the development of this exhibit from the right whale model to Science on a Sphere. Lautenbacher encouraged everyone to visit this permanent exhibit. Ocean Hall is also connected to kiosks that will broadcast to many public aquariums across the nation. These broadcasts will reach 30 million people a year through kiosks.

Lautenbacher closed by thanking everyone who assisted him in his tenure. Also, He noted that this was his last SAB meeting. On October 31, he will resign from office.

Dr. Fluharty thanked VADM Lautenbacher for his service, stating that he believed the Under Secretary had made NOAA stronger.

NOAA Transition to the Next Administration –Strategic Messages- *Laura Furgione, Assistant Administrator, Program Planning and Integration*

Summary of Presentation:

Ms. Furgione provided the Board with an update on transition planning since the July 2008 SAB meeting. She reviewed the content of mission, vision and strategy section of the current transition briefing. The SAB had been provided with the 2-page summaries of the theme strategies [N.B. these were only provided to the SAB the day before the start of the meeting].

At July SAB meeting, there were seven critical themes presented with a summary of how the presentation of these would be organized. The SAB suggested at that time that content and organization should be adjusted for a more general audience and societal benefits should be clear and persuasive. They also had suggested that the range of interests in transition need to be more narrowly focused.

Since the July meeting, the strategy papers for the critical themes have been finalized, with some reduction. Integrated Water Services was merged into High Impact Weather to reduce the number of themes to six. These may have to be further modified as the transition progresses.

With respect to the timeline, program development will be done during September 2008 – January 2009. The transition package is being finalized with a request for SAB comments. Transition team discussions will be held between November 2008 and January 2009.

The transition package includes the mission and vision, with a description of NOAA operating units. Regarding the operating unit/goal crosscut matrix diagram, a member asked the significance of the size of the “bubble.” The answer is that the bubble represents the size of the budget in that line office for that goal, i.e. the larger the bubble, the bigger the budget.

On National Challenges or critical themes, the six are Climate, Coasts, Oceans and Marine Life, High-Impact Weather and Water, Transportation, and Continuity of Service, including satellites, fleet, information technology, facilities and workforce. Ms. Furgione reviewed each of these themes in detail in terms of the challenge, solution and impact for each.

In looking ahead NOAA may need to reconfigure the policy and fiscal context based on the latest economic crises. There is a premium on flexibility and responsiveness in transition phase and the SAB role is essential to help with this.

Discussion:

A member commented that most of the transition team work will be done in November and December so NOAA really only has three weeks to complete the story. He suggested that there is a need to substantiate the economic value of NOAA. Every impact listed on the slides has a socio-economic implication. We need to illustrate that and capitalize on the predominance of the economic issue on people's minds. Another member agreed on the need to emphasize economic impact. On the continuity of service, a substantial segment of the U.S. economy depends on the environmental information NOAA provides. . In addition, NOAA is the direct underpinning for some sectors of the economy such as private weather services. NOAA may also be able to make similar arguments with fisheries and insurance industry use of climate forecasts. Another member suggested that impact should be shown first, what is needed as input (the proposed solution) second. Continuity of service is a key input. NOAA may want to focus on outcomes of continuity of service. He said this has a "Christmas tree" appearance and NOAA should pick out several key messages.

One member suggested that the presentation should start with outputs and what would happen if the nation didn't have information. Another member said a major challenge is sorting out the satellite business. The costs to fix the problems with the satellites need to be highlighted and fixed in the next Administration, once and for all.

Mary Glackin stated that she thinks it is risky to discuss NPOESS. The "elevator speech" the transition team should be working towards: "America need NOAA every day."

A member said that people do not necessarily understand the value of NOAA. With respect to satellites, what happened to NOAA on NPOESS is similar to what happened to other agencies in the 1990s and it became a standard process to back away from how we should handle programs. Mary Kicza noted that the agency caught the GOES program in time but NPOESS was further down the road before the problems with it were realized.

A member asked if it was a reasonable idea to talk about satellites as a national infrastructure issue that needs to be addressed.

Another member suggested adding figures on national impacts – blue-collar implications. NOAA’s value must be tied to economic return.

Mary Glackin stated that the Office of Science and Technology Policy (OSTP) is the right federal structure to work in. We have the blueprint; we need really good national leaders who understand environmental issues to implement it.

VADM Lautenbacher said the transition presentation is an overview of issues NOAA is working on, not an elevator speech that needs to include economic impact. He also pointed out to the SAB that there are limitations on NOAA as to what can be said, depending on audiences, particularly through the federal government. The SAB members, however, have no such restrictions on where they go, who they talk to, and what they say.

A member said Congress and President are responding to issues from constituents. NOAA needs to tie issues to constituents. The agency should speak to them in terms of their constituents.

One member pointed out that there is another side to strategize about, i.e. what questions to expect from the transition team. The team may ask NOAA for a five percent budget cut given the federal deficit and need to fund economic recovery. NOAA should be prepared to discuss zero-based budgeting.

A member said if we want to entrain the transition team we need to alert them on NOAA’s eight Regional Collaboration teams and even include a geographic slide within the transition presentation. Finding NOAA’s connection to energy and security may be a way to get the attention of the transition team. The agency must manage fisheries better, i.e. fisheries may have to close in the face of climate change.

VADM Lautenbacher said that NOAA will be prepared to respond to transition team questions about its budget. The agency has been through these exercises with the current administration and expects to do so under a new administration as well.

Steve Murawski pointed out that NOAA can make the case that being straight-lined on our budget in the past few years, the agency has squeezed out the excess and eliminated any major new acquisitions. Due to mandated pay raises, increasing operating costs, and inflation the budget has actually decreased.

Action 1: A summary of the SAB thoughts regarding the NOAA Transition package will be provided to NOAA.

Action 2: A summary of SAB thoughts on how to present itself to the Administration Transition Team will be crafted. The SAB will craft a brief message to provide to the Transition Team.

Action 3: A letter to the winning Presidential campaign will be crafted and sent with the message about the importance of NOAA to the nation.

SAB Strategic Planning Transition and Beyond by *David Fluharty, University of Washington and Chair, NOAA SAB*

Dr. Fluharty initiated a discussion with the members of the SAB on transition planning. He noted that the SAB has two objectives with respect to the transition: to comment on NOAA's transition plan and to evaluate its own transition plan. Also, David Fluharty wants to establish the utility of the advice SAB provides, by establishing a set of priorities as the SAB did prior to the last transition in 2000. With that idea in mind, Cynthia Decker had sent a message to SAB members after the 10 September conference call, requesting ideas for priorities and received four responses. These responses were provided to the members at this meeting by Dr. Decker.

Discussion

Members agreed that NOAA's value to the economy must be described in a crisp and clear manner in whatever document they produce. Members suggested that Rodney Weiher, NOAA's Chief Economist, must have data on this subject.

One member suggested that one hour at this meeting is not enough time to resolve this issue. The Board needs 4-5 hours, possible in a retreat setting, to focus on this issue. There are several topics that could be covered at such a meeting: SAB's advice to NOAA regarding its transition documents, the status of SAB's own transition including how it functions; and some of the results of the advice SAB provides to NOAA.

There is a segment of research focused on translational research focusing on how research transition into operations. NOAA has a contribution to make but has problems making the connection to end users and fundamental research. For example, universities are making significant contribution to climate science. NOAA needs to link itself with this research.

Richard Spinrad wants to make sure that the Research Council's documents are developed in conjunction with anything that the SAB is doing, for example on translational research. There needs to be more internal consistency with what is going on in the working groups and pull recommendations from previous reports. The Social Science Working Group (SSWG) has a recommendation to start with the end user to determine the type of research that needs to be done. The SAB should offer to meet with the transition team and identify key issues that are crucial and should drive NOAA in the next administration. Cynthia Decker mentioned that there were 100 recommendations from the SAB alone this year so the SAB should be selective in what it provides to the transition team, not just a list of all the recommendations from all the reports. Bill Brennan noted that there will be two transition phases: one will be immediate and may be from the campaign team which may not know NOAA; the second will occur when a new NOAA Administrator is appointed. The Board should prepare themselves via a retreat for the new Administrator.

VADM Conrad Lautenbacher believes the Board needs to target dialogues for different audiences. The SAB represents all sectors of the public. It is important to establish some key messages on the science role of NOAA is and the significance of NOAA in the Department of Commerce. This discussion will be NOAA-centric. There are other messages about organizing around larger issues, for example oceans and satellites. Carla Sullivan said there is a subcommittee on the National Science and Technology Council (NSTC) that looks at the social sciences. There are overarching issues like disaster reduction where NOAA is in a leadership role. There was a meeting of all the NSTC groups in which NOAA plays a leadership role and discussion of the overlaps even within the subcommittees. Richard Spinrad said interagency collaboration is centered on the Office of Science and Technology Policy (OSTP) and there is no need to make wholesale reconstructions. The environmental sciences agencies are collaborating together toward solutions more than at any time in the past and can not afford to lose momentum because of a new administration.

Action 4: SAB will hold a half-day retreat in conjunction with the March 2009 meeting to develop a strategy for the new NOAA Administrator and to develop future priorities.

Climate Working Group Development and Options for a National Climate Service *Dr. James Mahoney, Environmental Consultant and SAB member*

Dr. Mahoney provided an update on the next steps in the process of developing a strategy for the formation of a National Climate Service in the U.S. The Climate Services Development Team was created over a year ago in NOAA. In six months, it created a strategic plan for the National Climate Service as a partnership with NOAA in a key position. There was an external review of experts to examine this strategy and provide a long-range view of what climate services should be and expectations for this. The Climate Working Group (CWG) led this external review and made recommendations in a report to the SAB. The report from the review identified four options for organizing a National Climate Service and recommended an analysis of the pros and cons for each. These are being developed through four “tiger teams” overseen by a Coordinating Committee. The tiger teams will be reporting back before the end of the year and the target is to have the report finished by January. There are two problems: the SAB does not meet before January and the transition team will not likely be finished before the report is. The report more likely be released in March.

Discussion

The SAB discussed the issue of user requirements and how this issue can be addressed given the large number of users, some of whom are unknown. Bill Brennan suggested that The Climate Change Science Program is conducting listening sessions around the country to identify user needs, although this is just a small way of dealing with this. The Nation’s need for climate information is very broad and diverse. NOAA needs to be strategic about where it can make a difference. This can be done through partnerships.

For example, the United States Department of Agriculture (USDA) will have questions on forests. NOAA needs to match its approach to these problems and provide a response to these issues.

One member asked if there is a way to evaluate the recommendations of the tiger teams? NOAA responded that no standard process exists yet. There is a lot of experience available to evaluate the results. There will be strengths and weakness identified for all approaches. The final decision on an evaluation approach may include a blend of several options. The Climate Service is like a Weather Service said VADM Lautenbacher. This may be the approach in explaining the Climate Service. The Climate Service will serve as a central place that produces the best data science can provide. NOAA needs to have an operational center for climate that does not impinge on the research of other kinds.

Preliminary Draft Report from the Social Sciences Working Group, *Susan Hanna, Oregon State University and Chair, Social Sciences Working Group*

Susan Hanna, Chair of the SAB Social Sciences Working Group (SSWG), presented the results of the draft report of the SSWG. Social science is the process describing and explaining human behavior. The SAB issued an earlier report regarding the social sciences in 2003 and this report is a follow-up to that report. The earlier report noted that NOAA's capacity to meet its mission is diminished because it does not incorporate enough of the social sciences. Social science language underscores the words of both NOAA and line office mission statements.

Progress has been made since the 2003 report, including the establishment of a Social Sciences Committee of the Research Council, the inclusion of social sciences in NOAA's strategic plan and in climate planning. NOAA has improved marginally in social science literacy.

However, in other ways, NOAA has not made progress. NOAA lacks enough social sciences expertise to meet its mission and objectives. Despite progress, problems in both budgeting and staffing emerged. NOAA still faces problems with including the social sciences to meet its core mission objectives. For FY2008, the social sciences share of NOAA's budget was 0.6 percent, compared to 2005 when it was 0.7 percent. As the total NOAA budget increased by 13 percent from 2005 thru 2008, the social sciences portion of NOAA's budget decreased by 10 percent. To address this issue, NOAA must incorporate metrics that are relevant to society and social sciences capacity must be included in both corporate planning and program development. The social sciences must be institutionalized in NOAA. NOAA can create a leadership role for social science coordination, integration and implementation by establishing an Office of Societal Impacts that reports directly to the Deputy Under Secretary.

Discussion

A member asked Susan Hanna about the part of NOAA's budget allocated to the social sciences. The numbers make sense if the staffing budget is included, but not with NESDIS, for example, since that is externally-driven. Susan Hanna agreed and reiterated the need for assessments. Assessments are invaluable tools to use to know your constituents and how they process information. Also, assessments will assist in planning and corporate investment. VADM Lautenbacher said we have made progress, particularly in how we think about social sciences. He wondered if the SAB was comfortable with the current definition of social sciences. Susan Hanna indicated that the definition in the report is a general description of the social sciences.

In addressing a question regarding NOAA's progress since the first report, Susan Hanna mentioned that the new report summarizes the 2003 recommendations and progress.

Action 5: The SAB members will provide comments on the Preliminary Draft Report from the Social Sciences Working Group.

Action 6: The Social Sciences Working Group will revise its Preliminary Draft Report as per SAB comments; put the Draft Report out for public comment and internal NOAA review; revise report as per public and NOAA comments, as appropriate; and provide the Final Report to the Science Advisory Board

Thursday, October 16, 2008

Official Call to Order and Review of Agency-Cynthia Decker-Executive Director, NOAA SAB

Fluharty welcomed everyone to the second day of the meeting and reviewed the agenda for today.

Terms of Reference and Membership of the Oceans and Health Working Group, David Fluharty, Chair, University of Washington and Chair, Science Advisory Board

David Fluharty reviewed the action to date regarding the establishment of the working group. He reminded the SAB members that they had agreed on the 10 September conference call to establish this working group. This group is to complete its work within twelve months and

issue a preliminary report within six months, preferably by the Spring of 2009. The deadline for the final report is October 2009. The Oceans and Health Working Group will be dissolved upon the presentation of the final report. David Fluharty reviewed the six questions to be evaluated in the terms of reference for the members.

Discussion

During the July briefing, the NOAA presentation identified a strong connection between oceans and human health. The name of the committee should reflect the breadth and depth of this work. This group should include both positive and negative aspects of this scope of research. A member suggested a wording change in the name to include human health benefits. VADM Lautenbacher suggested that Oceans and Human Health was a Congressional add-on to the NOAA budget and was never accepted by NOAA scientists. He suggested that the SAB broaden the topic to get people to work better together within NOAA.

Jack Dunnigan suggested that the Board should incorporate a broader definition for this working group to differentiate this from the Oceans and Human Health Initiative (OHHI) earmark. NOAA did receive approval from OMB to work on this topic. Jack Dunnigan wants the SAB to consider the idea of connecting oceans to human health, however, since NOAA will not get more funding for examining animal health. NOAA should engage Congress regarding this issue. In the Great Lakes, there has been a huge issue of pharmaceuticals in the water. The Board needs to be involved in such issues and this involvement can turn into an earmark or a program. VADM Latenbacher suggested Oceans and Health, instead of Ocean Health for the name of the committee. This will allow the working group a license to study broader issues.

There is no mention of products such as seafood in the working group's name or scope of work. One member recommended adding the phrase ocean products and seafood. David Fluharty asked NOAA's opinion on adding seafood. Dr. Balsiger said there is no contention between the Federal Drug Administration (FDA) and NOAA on this issue. He does not find any difficulty in the wording. Carla Sullivan likes the idea of ocean products, instead of seafood. The call for motion to accept the terms of reference as modified was approved.

Potential members have been identified in several areas of expertise: marine microbiology, harmful algal blooms (HABs) and toxins, contaminants, marine organism health and disease, socioeconomics, public health, ecology, and end users. David Fluharty asked if the areas of expertise cover the terms of reference. Mary Glackin suggested end users should consist of individuals looking for information such as water management areas. David Fluharty suggested the SAB identify people with a breadth of expertise rather than specialists. A member asked the SAB to bring in someone to examine Great Lakes water supply issues. David Fluharty said the end user representative would be someone the Great Lakes and also an expert in fresh water issues. David Fluharty asked the SAB to approve a selection committee to consider nominees for the working group. This motion was made, seconded and approved.

Action 7: The SAB accepts the Oceans and Health Working Group terms of reference with agreed revisions to the text.

Action 8: SAB approves the selection committee to establish the Oceans and Health Working Group as per the terms of reference. The selection committee will select appropriate members and convene the working group.

Membership of the Ecosystem Sciences and Management Working Group-*David Fluharty, University of Washington and Chair, Science Advisory Board*

Dr. Fluharty provided an update on the status of the establishment of this standing working group of the SAB. There were 82 people identified through a Federal Register Notice solicitation. The selection committee narrowed this down to a group of experts and is now asking for SAB approval of this group. SAB accepted the terms of reference for this new standing working group at the March 2008 SAB meeting. This committee will insure the integration of NOAA's ecosystem sciences capabilities for effective delivery and expansion of resources. David Fluharty and James Sanchirico will serve on this committee. There are ten primary candidates and four alternates. David Fluharty presented the names and discussed their areas of expertise.

One member noted that there is no Southern Atlantic coast representation for this committee, except for one of the alternates. He suggested that the alternate William Lindberg be considered early in the process. Fluharty said he would take this into consideration.

A member asked about who will chair this committee. Dr. Fluharty responded that the first objective will be getting people to serve and then identifying a Chair. Steve Murawski said NOAA will be looking for people who have multiple talents. Currently, there are four academic deans on the list who have broad expertise. Fluharty asked if there were additional names for consideration or advice. Steve Murawski is encouraged with the large number of nominations; people want to become involved with NOAA. A motion was made to approve the list of candidates and authorize the SAB Chair to invite them to serve on the working group. This motion was seconded and approved.

Action 9: The SAB accepts the list of candidates and alternates for the Ecosystem Sciences and Management Working Group and will move forward to establish the group

Final Report from the Fire Weather Research Working Group-*John Snow, University of Oklahoma and Chair, Fire Weather Research Working Group*

John Snow reviewed the purpose of the presentation, membership and charge to this working group. The cost of wildland fire to the federal government is around \$3 billion per year and is increasing over time.

There is a significant impact of fire on human health, particularly from smoke. Dr. Snow cited recent examples from the fires in California. The Fire Weather Research Working Group has developed eleven priority recommendations. SAB members offered a number of comments regarding the preliminary report at the Board's July 2008 meeting. The comments were included before the report was published for public comment. Based on comments received from the public comment period and an internal review by NOAA staff, the FWRWG made numerous changes to the last version of the report seen by the SAB and these are reflected in the Final Report. Recommendation 3.1 is the key finding and has been revised significantly from that presented in the preliminary report previously reviewed by SAB members. Twenty-four groups and individuals sent comments regarding the Draft Report. Dr. Stephen Pyne, University of Arizona, who specializes in the history of fire, was specifically asked to review the report and provided lengthy comments.

John Snow categorized the comments and discussed the type of changes made to the report. Health effects are a big issue that John Snow and Fire Weather Research Working Group did not anticipate and did not address in detail. Smoke and health problems are national issues. The Fire Weather Research Working Group also did not pursue the private sector's approach to fire research and operations support. The focus of the report is to examine what federal agencies are doing regarding this issue. For example, the firefighting community reached out to the United States Air Force to learn about rapid response. The United States Department of Agriculture (USDA) has a fire research program and has expertise on how fire behaves. James Turner mentioned that the National Institute of Standards and Technology (NIST) is building a fire laboratory to look at those issues as well.

VADM Lautenbacher thanked the working group for its report. He agrees with John Snow's list of issues and finding boundaries with other agencies. He also praised the Incident Meteorologists (IMETs). "If we put IMETS out there, we want to make sure they understand the science; as we improve computing facilities and bring in partners this will help."

The motion was made to accept the report; this was seconded and approved. John Snow will help draft a cover letter and will send the Final Report to David Fluharty in a week.

Action 10: The SAB accepts the Final Report from the Fire Weather Research Working Group, pending minor revisions, and will transmit it to NOAA.

Action 11: The SAB will include in the transmittal letter to NOAA of the Fire Weather Research Working Group report recommendations to NOAA that it send letters to relevant US agencies, the Western Governors Association, and relevant Congressional members and committees to inform them of the report and indicate that NOAA is ready to work with its partners on this issue.

Action 12: NOAA will provide a response to the SAB on the recommendations contained in the Fire Weather Research Working Group Report.

David Fluharty suggested that the transmittal letter a recommendation that NOAA communicate results to the relevant agencies. This report could be sent to relevant committees on Capitol Hill as well. Another idea included a press release that might garner a little more attention and coverage for this report. Jack Hayes suggested that words be included in this that would allay fears about NOAA taking over other agencies' responsibilities. VADM Lautenbacher expressed his concerns regarding the lack of interest by the National Science Foundation in fire weather research. John Snow responded that the National Science Foundation does not fund applied science, but encouraged NOAA to open a discussion with NSF on what might be done with respect to the relevant fundamental science.

NOAA Response to the Report from the SAB on Examining the Advisory Options for Improving Communications among NOAA's Partners-*Jack Hayes, Assistant Administrator, NOAA National Weather Service, Ed Johnson, NOAA National Weather Service*

Jack Hayes introduced this topic, stating that the National Weather Service can not do its job alone; it needs to partner with other organizations. Edward Johnson provided some background information, including the recommendations from the Final SAB Partnerships Report. Edward Johnson indicated that NOAA has accepted the recommendation from the Partnerships Report to create the permanent Environmental Information Services Work Group (EISWG) and will assist the SAB in establishment of this group. He asked the SAB to confirm that transmittal of the Partnerships Report to NOAA could be taken as agreement with EISWG Terms of Reference as included in the Partnerships Report; SAB agreed. The next steps include soliciting membership, creating a selection committee, getting a virtual SAB approval of the selected members, and holding the first meeting before the SAB spring meeting in March 2009.

Discussion

Mary Glackin said NOAA is working on the response to the SAB Extension, Outreach and Education Final Report and noted there are intersections with the recommendations provided with the Partnerships Report; namely how NOAA is interacting with stakeholders and partners. Ms. Glackin further stated the EISWG Terms of Reference are appropriate in scope and breadth and expressed the need for clear expectations regarding advice and an implementation strategy within NOAA to be sure NOAA's interactions with EISWG capture the breadth of NOAA's interests appropriately. NOAA's

participants on the EISWG selection committee were charged with addressing this issue. The clearer NOAA can be on how this issue is addressed, the easier it will be to tell how well it is working.

VADM Lautenbacher asked about the terms of the members. The term for each member consist of three years rotating terms with an option for one three-year renewal.

VADM Lautenbacher thanked Jack Hayes, Edward Johnson and Mary Glackin for improvements in relationships with NOAA's partners over the last few years.

Action 13: The SAB and NWS will continue to work with each other to establish the Environmental Information Services Working Group (EISWG) with a goal to having its first meeting early in 2009.

At this point VADM Lautenbacher needed to leave the meeting and expressed his appreciation to the SAB.

Working Group Updates

Census of Marine Life-SAB Joint Subcommittee Update-*David Fluharty, University and Chair, NOAA SAB*

David Fluharty provided a status report on this subcommittee, which was formed as a result of an action at the March 2008 SAB meeting. It includes members of the SAB and the U.S. National Committee for the Census of Marine Life. The Census of Marine Life (CoML) is a decadal survey, partly supported by the Alfred P. Sloan Foundation to 2010. This project includes the work of two thousand scientists in 80 different countries across the globe. The project is beginning to synthesize results of the first ten years of work but would like to continue beyond 2010. The purpose of this subcommittee is to explore the areas where CoML and NOAA science intersect.

Steve Murawski said the Census of Marine Life is a world-wide program and other countries are making larger investments than the U.S. in the science. NOAA's investments in this project are modest and in the operational research area. The challenge is in understanding what part of the large CoML portfolio overlaps with NOAA's mission. The Sloan Foundation has indicated that it is interested in funding a study by the National Academy of Science on Census of Marine Life but is seeking additional partners for this. There is some interest in this in NOAA but no commitment has been made. The NOAA Ecosystem Goal Team examined the CoML projects in terms of the 20011 budget and has tried to identify which pieces of the CoML are relevant.

NOAA can not take the whole CoML enterprise on its own. A member said the issue is whether NOAA should be funding the Secretariat of Census of Marine Life for the next five years. You may not have needed umbrella of Census of Marine Life for all the projects. The December meeting will happen and generate some ideas but there is much

different meeting when there are sponsors in the room. There should be substantial interest shared across the research community for this project.

Paul Sandifer worked on the Census of Marine Life before his tenure at NOAA. He maintains that if NOAA is not involved in all of the ocean's life who is? David Fluharty hopes to have a teleconference to check the progress of the Census of Marine Life in the near future. There will be a breakout session for input on a biodiversity program for the next Administration during the National Council for Science and the Environment Meeting (Washington DC, 8-12 December 2008). This breakout session will cover the Census of Marine Life.

Other Working Groups (CWG, OEAWG) *David Fluharty, University of Washington and Chair, NOAA SAB*

The Climate Working Group will meet 24-25 November 2008 at University of Maryland. The Federal Register Notice soliciting new members for the CWG will close on 27 October. The Ocean Exploration Advisory Working Group meeting is from 12-13 November 2008 at the NOAA Pacific Marine Environmental Laboratory, Seattle, WA. .

Recap of Meeting Decisions and Actions

Dr. Decker reviewed the actions from the meeting. She will send out the draft July 2008 and 10 September meeting minutes for approval.

Meeting Adjourn

Meeting Actions

Action 1: A summary of the SAB thoughts regarding the NOAA Transition package will be provided to NOAA.

Action 2: A summary of SAB thoughts on how to present itself to the Administration Transition Team will be crafted. The SAB will craft a brief message to provide to the Transition Team.

Action 3: A letter to the winning Presidential campaign will be crafted and sent with the message about the importance of NOAA to the nation.

Action 4: SAB will hold a half-day retreat in conjunction with the March 2009 meeting to develop a strategy for the new NOAA Administrator and to develop future priorities.

Action 5: The SAB members will provide comments on the Preliminary Draft Report from the Social Sciences Working Group.

Action 6: The Social Sciences Working Group will revise its Preliminary Draft Report as per SAB comments; put the Draft Report out for public comment and internal NOAA review; revise report as per public and NOAA comments, as appropriate; and provide the Final Report to the Science Advisory Board.

Action 7: The SAB accepts the Oceans and Health Working Group terms of reference with agreed revisions to the text.

Action 8: SAB approves the selection committee to establish the Oceans and Health Working Group as per the terms of reference. The selection committee will select appropriate members and convene the working group.

Action 9: The SAB accepts the list of candidates and alternates for the Ecosystem Sciences and Management Working Group and will move forward to establish the group.

Action 10: The SAB accepts the Final Report from the Fire Weather Research Working Group, pending minor revisions, and will transmit it to NOAA.

Action 11: The SAB will include in the transmittal letter to NOAA of the Fire Weather Research Working Group report recommendations to NOAA that it send letters to relevant US agencies, the Western Governors Association, and relevant Congressional members and committees to inform them of the report and indicate that NOAA is ready to work with its partners on this issue.

Action 12: NOAA will provide a response to the SAB on the recommendations contained in the Fire Weather Research Working Group Report.

Action 13: The SAB and NWS will continue to work with each other to establish the Environmental Information Services Working Group (EISWG) with a goal to having its first meeting early in 2009.