

Weather & Climate Enterprise Commission Report to the AMS Council January 2012

Submitted 20 December 2011

Commissioner: Len Pietrafesa

Items that require AMS Council Approval are noted with a Star (*)

A. Mary Glackin (presently NOAA Deputy Under Secretary) has accepted the appointment of Commissioner – Elect of the WCE Commission. Her term will commence at the end of the AMS Annual Meeting 2012, extend to January 2014, whence she will become the Commissioner until the end of the AMS Annual Meeting January 2016, and then become the Past Commissioner until the end of the AMS Annual in January 2018. She will represent the “private sector”.

B. (*) Revisit Organizational Procedures for the Commission on the Weather and Climate Enterprise. These minor changes are included (in color) as a part of the updated “AMS Organizational Procedures” in Rick Rosen’s presentation.

[Previously Approved by AMS Council, 24 September 2011] (Revisions for January 2012)

Commission on the Weather and Climate Enterprise (CWCE)

i. *Membership*

- a Commissioner
- a Future Commissioner, and the immediate Past Commissioner. Commissioners serve two full years in each role, constitution six full years of service.
- the Chairpersons of the constituent Boards, who shall serve three years as chairs.

ii. *Authority and Responsibilities:* a) Develop and implement programs that address the needs and concerns of all sectors of the weather and climate enterprise; b) promote a sense of community among government entities, private sector organizations, and universities; c) foster synergistic linkages between and among the sectors; d) entrain and educate user communities on the value of weather and climate information; e) provide appropriate venues and opportunities for communications that foster frank, open, and balanced discussions of points of contention and concern; f) plan, organize, and conduct community meetings; and g) recommend annual recipients for the Kenneth C. Spengler Award. The Commission and its Boards may establish ad hoc committees as needed.

iii. *Constituent Boards and Standing Committees*

The Commission has established two standing committees and three Boards with names, memberships, terms of service, and responsibilities as follows:

- a. *Commission Executive Committee (CEC):* The six members of the Commission constitute its Executive Committee. In addition to the responsibilities identified above, the CEC is charged to bring issues and opportunities to, and work with, the Commission Steering Committee to broaden the base of and ensure inclusiveness of the activities of the

Enterprise broadly defined; and to nominate members of the Commission Steering Committee.

- b. Commission Steering Committee (CSC):* consists of the six members of the CEC, plus 16 leaders from the community and up to 11 non-voting members, chaired by the current Commissioner. The 16 community members serve three-year terms, which may be renewed for additional terms and shall be staggered to allow approximately 1/3 membership change each year. The 16 community members shall consist of *seven* senior members from the three provider sectors of the membership, including representation from one or more of the following: NOAA's National Weather Service, Office of the Federal Coordinator for Meteorology, National Weather Association, American Weather and Climate Industry Association, and National Council of Industrial Meteorologists; *five* senior members from the user community; and *four* members-at-large selected to ensure balance and diversity. The 16 community members are nominated by the CEC and are appointed by the Council. The non-voting members consist of the President of the Society and up to the following ten *ex-officio* members: the Executive Director; the Commissioners for Professional Affairs, STAC, and Education and Human Resources; and the Future and Past Chairs (if serving) of the Commissions Boards.

Responsibilities: In addition to supporting the responsibilities listed in item ii above, CSC members will serve as emissaries to foster synergistic linkages between and among the sectors, be missionaries to entrain and educate user communities on the value of weather and climate information, and bring issues and opportunities to the attention of, and work with, the CEC to broaden the base of and ensure inclusiveness of the activities of the Enterprise broadly defined. The CEC and CSC shall approve, as necessary, all Commission initiatives.

- c. Board on Enterprise Communications (BEC):* To provide appropriate venues to bring together the provider and user communities to learn about, discuss, and provide input concerning issues of a short-term nature identified by the CSC. The BEC plans and hosts the annual AMS Summer Community Meeting held annually at selected venues. To consist of a Chair and nine members-at-large, with three appointed each year for a three-year term, with the goal of maintaining a balance of members from each of the three provider sectors. One year prior to the completion of the term of the current Chair the Commissioner will appoint a Future Chair who, after serving one year in that capacity, will then become the current Chair for the next three years, and will then become the Past Chair for one additional year, for a total term of service of five years.
- *Committee on Climate Services (CCS)*—comprising six members to represent the three main sectors of the Society. Members will serve three-year terms and will be

nominated by the BEC and CCS chairs for approval by the Commissioner. In some cases, an extension may be granted to a member to ensure sufficient continuity of the CCS is maintained between successive years. One or two BEC members will be appointed by the BEC Chair and approved by the Commissioner to serve as the CCS chair or co-chairs.

Responsibilities: To promote the climate service enterprise through a partnership among government, private sector, and academic sectors with a community focus on improving climate services to the nation.

- *Committee on Improving Climate Change Communication (CICCC)* – comprising three Co-Chairs and members from the private, federal agency and academic sectors of the Society. Membership is open to all interested in advancing the goals of the Committee.

Responsibilities: To promote and facilitate communication among members of the weather, water, and climate community so as to foster greater understanding about strongly held but divergent views on climate change. This will be accomplished through various forums, including face-to-face meetings, for open, professional, collegial, and respectful dialogue of all perspectives and even diverging views.

d. *Board on Enterprise Planning (BEP):* To review issues identified by the CSC that are of a long-term strategic nature with importance to the enterprise as a whole. To consist of 13 members-at-large, along with the Chair, Past Chair, and Future Chair, and the chairs of Advanced Planning Topic (APT) committees. The APTs, which focus on strategic topics, contain one member from each of the three sectors and a fourth from the user community. APT reports are presented to the Commission and the Council and may be published as appropriate. One year prior to the completion of the term of the current Chair, the Commissioner will appoint a Future Chair who, after serving one year in that capacity, will then become the current Chair for the next three years, and will then become the Past Chair for one additional year, for a total term of service of five years.

- *APT Committee on Mobile Observations:* To focus on the application and utilization of future vehicle-based surface weather and road condition observations. The U.S. Department of Transportation wireless vehicle technology development program is now called IntelliDriveSM. This APT will discuss mobile weather datasets associated with IntelliDriveSM and those that may become available outside of that program.
- *APT Committee on Offshore Wind:* To define the need and recommend expansion of meteorological and oceanographic data required to support studies of the wind resource and conditions relevant to wind farm development in offshore locations.

- *APT Committee on Integrated Water Resources:* To review the generation, application, and benefits of new and enhanced water resources information.

e. *Board on Enterprise Economic Development (BEED):* To grow the economic base of the weather and climate enterprise by reaching out to the meteorological community as a whole and helping providers meet user needs identified by the CSC of importance to the enterprise as a whole. The BEED hosts the AMS Washington Forum held in Washington, D.C. To consist of a Chair, Future Chair, Past Chair, and Committee chairs, plus 12 members-at-large, four of whom are appointed each year for three-year terms. One year prior to the completion of the term of the current Chair, the Commissioner will appoint a Future Chair who, after serving one year in that capacity, will then become the current Chair for the next three years, and will then become the Past Chair for one additional year, for a total term of service of five years.

- *Committee on Intelligent Transportation System/Surface Transportation* — comprising 12 members including the chair to hold office for a term of three years with 1/3 rotating off the Committee each year. Membership shall represent all three community sectors. At the discretion of the chair and in consultation with the BEED Chair, terms may be shorter than three years or extended beyond three years, and membership may temporarily include fewer than three community sectors. In addition to the 12 members, *ex-officio* nonvoting members of the Committee shall be: the chair of the Intelligent Transportation Society of America (ITSA), the chair of the Weather Information and Applications Special Interest Group (WIA-SIG), the chair of the Transportation Research Board Task Force on Surface Transportation Weather, and the Federal Coordinator for Meteorology.

Responsibilities: To strengthen the bridge between the meteorological and surface transportation communities in order to support investments in interdisciplinary solutions involving design, development, deployment, operations, and technology transfer.

- *Energy Committee* — comprising 12 members including the chair, to hold office for a term of three years, with 1/3 rotating off the Committee each year. Membership shall represent all three sectors. Committee members will be nominated by the Committee chair and approved by the BEED chair and Commissioner. At the discretion of the Committee chair and in consultation with the BEED chair, terms may be shorter than three years or extended beyond three years, and membership may temporarily include fewer than three community sectors. Subcommittees may be established by the Committee to address specific topics of interest, as in the case, for example, of the Renewable Energy Subcommittee.

Responsibilities: To bring together the weather, climate, and energy communities in order to better understand their respective needs, discuss current

and future technologies and trends, identify solutions and services, and explore opportunities to expand the growth of this business sector.

- *Water Resources Committee* — comprising 12 members including the chair, to hold office for a term of three years, with 1/3 rotating off the Committee each year. Membership shall represent all three sectors. Committee members will be nominated by the Committee chair and approved by the BEED Chair and Commissioner.

Responsibilities: To promote growth in the economic base of the weather and climate community by closely interacting with the water resources community toward the mutual benefit of all parties. The water resources community includes but is not limited to public, private, and academic organizations involved in water resource management, storage, energy generation, purification, research, policy, and education.

C. Reminder on outcome of the Spengler Award 2011 (approved by AMS Council 9/23/11):

1. Summary

The Commission on the Weather & Climate Enterprise Kenneth C. Spengler Award Committee for 2011 has made its decision on the recommended individual, team or organization for this year's recipient of the award. The Committee consisted of Warren Qualley, Todd Glickman, Veronica Johnson, Melinda Marquis, Laura Furgione, Louis Uccellini, Jon Malay and Len Pietrafesa. Len Pietrafesa served as the Chair. The following describes the terms of reference for this award:

"The 2011 Kenneth C. Spengler Award is presented annually to the individual, team or organization to have contributed to the growth of the weather and climate enterprise while materially fostering a sense of community and creating synergistic linkages between the public, private, and government sectors as well as the user community. Nominations are considered by a committee of the Weather and Climate Enterprise Commission, which makes recommendations for final approval by AMS Council."

The Committee's discussion was focused on the key phrase in the Spengler Award description: "...whose efforts have contributed to the growth of the weather and climate enterprise." As such, the Committee decided *The Hazardous Test-Bed Team* was the overall first choice for this honor because it has carried the spirit of the CWCE's charge in a visionary, proactive, and exemplary manner. It has brought three major sectors of government, academia and industry together each providing their expertise for the benefit of the 'collective enterprise' and has thus benefited the private sector in a significant way.

The Committee was unanimous in its choice. However, two members of the Committee had to recuse themselves as they had professional job-related conflicts of interests with regard to the Test-bed Team. The Committee conducted its discussions via e-mails and conference calls.

2. Citation

The Hazardous Test-Bed Team is acknowledged as the recipient of the 2011 Spengler Award for bringing to reality the spirit of the charge of the Commission on the Weather & Climate Enterprise in a visionary, proactive, and exemplary manner. The HTB Team has brought the major sectors of government, academia and industry together, each providing their expertise for the benefit of the ‘collective enterprise’, and has thus benefited the private sector in a significant way.

D. Weather & Climate Enterprise Commission Participation in new STAC Board on Data Stewardship (SB-DS)

If the proposed SB-DS is approved by the AMS Council, the WCE will be represented on the new Board by: 1) Dr. Brian Bell, GST, Member, Private Sector – 3 years; 2) Dr. Walt Dabberdt, Vaisala, Member, Private Sector – 3 years; and 3) Dr. George Frederick, Falcon Assoc., Liason Designee-3 years

E. The WCE will address the issue of “Open Weather & Climate Services” at the 2012 AMS Annual Commission Steering Committee Meeting 21 January 2012. The Open Weather and Climate Services concept is described in a white paper prepared by the Environmental Information Services Working Group (EISWG) of the NOAA Science Advisory Board (November 2011). The Executive Summary of the white paper reads as follows:

Our nation enjoys one of the most robust, modern and accessible weather and climate services in the world through the National Weather Service (NWS) and other line offices of NOAA. However, the Nation has yet to realize the full value of NOAA’s weather and climate services for two principal reasons. First, various barriers inhibit the ability of NOAA to distribute or otherwise make available all of its weather and climate information, particularly high-resolution datasets such as numerical weather prediction model output, satellite and radar data. Second, new technology and services are not developed within NOAA in a sufficiently symbiotic manner with the broader community such that optimized value from that new service or technology to society is quickly realized. An Open Weather and Climate Services (“Open WCS”) is proposed in which both NOAA and the community share equal and full access to NOAA information and development. Although it may be difficult to achieve a fully Open WCS paradigm, it is recommended that NOAA adopt a core philosophy of instituting this concept whenever and wherever possible. Recognizing that numerous challenges exist (including security, cost, development efficiency, and fair access), it is believed that none of these issues are significant enough or without reasonable solutions to prevent NOAA from moving forward on this concept. NOAA should quickly develop approaches to implementing Open WCS incrementally in areas where the paradigm can quickly and easily be employed such that the Weather and Climate Enterprise can begin to derive value from the paradigm soon. Previous endeavors and actions that have opened information services have proven to be enormously successful and beneficial to society and that is expected to be the case here too.

The presentation and ensuing discussion of the Concept will be led by: Ray Ban, Chair of the NOAA SAB, Jack Hays, Director of the NWS, Walt Dabberdt, Co-Chair of EISWG and Mary Glacken, former NOAA DUS.

F. Report for 2011: Board on Enterprise Communication (the BEC)

Another busy year for the BEC. The Summer Community Meeting this past August in Boulder, Colorado was quite successful. Speakers, session chairs and attendees stayed engaged providing session summaries and anecdotes. This material was typed up on the spot and posted for attendees to read and foster further discussion. Shortly thereafter, materials were packaged in a glossy packet to further engage our community and for outreach. The BEC is seeing more post meeting activities than ever before. Planning has started on the 2012 Summer Meeting to be held in Oklahoma City, Ok.

This year the BEC and all subcommittees have been working on continued coordination of issues between the AMS Annual Meeting, The Washington Forum and The Summer Community Meeting.

BEC Membership Summary

The BEC will have 3 members rotating off in 2012. We have replacements for 2 positions and still need 1, potentially 2 other members for balanced representation.

AMS BOARD ON ENTERPRISE COMMUNICATION

Member	Affiliation and location	Term Ends	Academic	Government	Private
1. Veronica Johnson	NBC in Washington, DC	2013			X
2. Betsy Weatherhead	U. Colorado, Boulder	2014	X		
3. Heather Lazrus	National Weather Center, OU	2013	X		
4. Ken Reeves	Accuweather, PSU	2013			X
5. Eric Webster	ITT Corporation	2013			X
6. Joel Cline	NOAA, Washington, DC	2013		X	
7. Ellen L. Mecray	NOAA/NESDIS/NCDC	2015		X	
8. Sharon Abbas	ITT Corporation	2015			X

Summer Community Meeting August 2011 Boulder, Colorado

The following summarizes the AMS Summer Community Meeting held in Boulder, Colorado and hosted at Center Green. The meeting had 200 attendees and was held August 8-11th. This year's theme was Building a Stronger Weather and Climate Enterprise: Keeping the Economy Moving. Betsy Weatherhead, University of Colorado and George Frederick, Vaisala Inc. served as co-chairs.

Areas of interest included our economy, meteorological data needs, transportation, renewable energy with emphasis on offshore wind and solar energy, environmental information services, carbon and greenhouse gas information products, human health, and water resources with emphasis on drought and floods. The meeting provided insight toward the next steps of coordinated, effective action and cooperation across all sectors of the enterprise to address these issues. The primary message that came out of this meeting was that all sectors must work efficiently and effectively together to meet our current needs and demands. The ability of the enterprise to meet these demands will have a direct impact on the economic health, environmental growth, and appropriate environmental stewardship of the nation.

George Frederick and Betsy Weatherhead, incoming BEC Chair, wrote up the summary of the meeting as well as conclusions. This summary was submitted to the AMS BAMS for publication

and will be presented at the January AMS Annual Meeting. It was suggested that we discuss progress on these conclusions and recommendations at the next AMS Summer Community Meeting.

New this year was the direct communication with leaders of industry and government about the outcomes of the meeting. Conversations with leaders led to the decision to have concise session summaries along with statements of what could be done in the next one, three and five year time frames. These documents were prepared by the co-chairs as well as the session leads for the meeting.

Additionally, small stories which illustrate how the enterprise is working were gathered in near real-time at the meeting by Annie Reiser and Rhonda Lange of NOAA. These individual vignettes offer a colorful and easy-to-understand explanation of the range and value of the current enterprise activities. Forty two vignettes were gathered, of which a few will be used in BAMS to help illustrate the success of the enterprise.

The full meeting summaries were distributed within three weeks of the end of the meeting to all participants by mail. Additional copies were supplied to those who asked, including Jack Hayes and Sandy MacDonald, who jointly paid for the preparation and printing of the information. An electronic version of the meeting information including recommendations and vignettes are available on-line at: <http://cires.colorado.edu/science/groups/weatherhead>

Climate Services Committee (CSC)

Chair Ed O’Lenic of NOAA and his committee have been very active in 2011. He has 3 new members rotating on: Andrea Ray, Mark Brooks, and Phil Pasteris. Andrea Ray will be taking over as Chair of the CSC until 2015.

AMS Climate Services Committee Membership

Member	Affiliation and location	Term Ends	Academic	Government	Private
1. Ed O’Lenic	NOAA Washington, DC	2014		X	
2. Holly Hartmann	Invest.Hydrology Univ. of AZ	2014	X		
3. John Dutton	CEO Prescient WX Services	2014			X
5 Paul Llanso	Head World Climate Data Monitor.	2013		X	
4. Andrea Ray	NOAA	2015		X	
5. Phil Pasteris	NIDIS	2015		X	
6. Mark Brooks	State Climatologist NCSU	2015	X		
7. Ken Hubbard	Director Climate Ctr Univ.Neb-Lincoln	2015	X		
8. Kelly Redmond	Western Regional Climate Ctr.	2015		X	

The CSC has been working hard on the Statement on Climate Services. Discussion is ongoing as this statement/AMS precis is drafted out. CSC believes it may be desirable for an AMS policy person to help with the precis. Topics to cover in the draft would include, but not be limited to: current status, importance, urgency, need for collaboration and recommendations. For planning purposes, a webinar is in the works and will cover the role of climate information. It will present what climate services really are and not concentrate on climate change so much.

Ad Hoc Committee to Improve Climate Change Communication (CICCC)

Co -chair: Ray Ban, The Weather Channel, Inc.
Co-chair: Dr. Paul J. Croft, Kean University
Co-chair: Andrea Bleistein, NOAA

The CICCC most recently met in August 2011 via telecon and in-person at the AMS Summer Community Meeting where discussion centered on two avenues for moving forward as a committee. The first avenue is through two CICCC Working Groups (Energy and Professional Affairs) and the other through a partnership with GMU focused on conflict resolution.

The CICCC Co-chairs have since actively pursued a partnership with GMU and are developing 2 workshops for the AMS Annual Meeting and a survey of AMS members. The intent is to better discern and understand the thoughts, concerns, and opinions of AMS members with regard to climate change communications as per the CICCC charter to fulfill the goals of the committee. This activity has involved numerous conference calls between CICCC co-chairs, AMS HQ, and GMU since August 2011 for appropriate coordination for success at the AMS Annual Meeting. Such planning has allowed for detailed discussion on capabilities and expectations from the work that GMU can provide and how we can pursue outcomes from the Annual Meeting as the CICCC.

There has not been a lot of recent activity with the two Working Groups but expectation is that will pick up as after the AMS Annual Meeting, pending the outcomes with the GMU partnership.

Upcoming Events

AMS 2012 Annual Meeting

Julie Demuth and Joe Friday are working on the AMS Policy Symposium. It will focus on using weather and climate information and the economy.

George Frederick and Betsy Weatherhead will be holding a Town Hall at the annual meeting on Monday with as many session leads as are able to participate. They will summarize the primary results from the 2011 Summer Community Meeting.

AMS Washington Forum in April 2012

The BEC is a participant and not in charge of planning. However the BEC is responsible for three items at the meeting.

First, Matt Parker will be the lead for a press conference for the DC Forum. Organizers include Joe Witte NASA, Jason Samenow ABC7, Bob Ryan ABC7, Jana Goldman NOAA, Chris Vaccaro NOAA, Gary Rasmussen AMS, Ken Reeves AccuWeather, and Veronica Johnson NBC4. The vision is to have AMS past President, President, and President elect, representing all sectors of our enterprise as spokespersons at the press conference. Organizers are working on a press contact list, crafting of the press release, speakers for the event, and venue.

Second, Wendy Marie Thomas will plan a session on the Health for Humans. Chris Vaccaro of the NWS/NOAA is helping with the contacts.

Third, Betsy Weatherhead will give a summary of the 2011 Summer Community Meeting in order to help build continuity between the meetings.

AMS Summer Community Meeting 2012

The Summer Community Meeting will be held August 13-16, in Oklahoma, with Barrien Moore and Joe Friday serving as the local hosts. Betsy Weatherhead is the contact person for the meeting planning.

First Annual Symposium on the Weather and Climate Enterprise beginning at the 2013 AMS Annual

This may be a half day or full day session.

In keeping with the 2013 Annual Meeting theme of “Taking Predictions to the Next Level: Expanding Beyond Today’s Weather and Climate Forecasts and Projections”, the Commission on the Weather and Climate (CWCE) invites presentations on a broad range of topics of interest to the government, private, academic, and other communities. Possible areas of interest , but not limited to, are the following: Renewable energy, water resources, national mesonets, climate services, climate and human health, transportation and weather, weather and resilient ecosystems, dissemination services, and federal budget impacts and strategies. Emphasis will be placed on providing information that highlights outcomes and strategic vision on topics that are relevant to today’s evolving scientific, budgetary or societal community issues. Topics and themes will incorporate interactions between sectors, lessons learned, success stories and areas of concern through our profession like general AMS membership. The BEC would like to continue with an evolving dialogue on priorities through the Annual Meeting, the Washington Forum and the Summer Community Meeting.

AMS Summer Community Meeting 2013

The Summer Community Meeting will be held August 12-15, in Boulder, Colorado, at UCAR facilities. There is some discussion that all future Summer Community Meetings will be held in Boulder, if facilities are available.

G. Board on Enterprise Economic Development (the BEED)

Membership Status

The Board membership for 2011 is listed below:

	BEED Member	Organization	Term Ends Jan.	Commercial / Private	Agency / Gov’t	Academia / Lab
1	Melinda Marquis, Chair	NOAA / ESRL	2014		X	
2	DeWayne Cecil	NOAA	2012		X	
3	Richard Eckman	NASA LaRC	2012		X	

4	Dave Jones	StormCenter	2012	X		
5	John Lasley	SAIC	2013	X		
6	John Snow	The University of Oklahoma	2013			X
7	Shawn Miller	Raytheon Corp.	2013	X		
8	Jim Hansen	Naval Research Lab	2014		X	X
9	Mary Hayden	NCAR	2014			X
10	Sue Haupt	NCAR / RAL	2014			X
11	Sara Pryor	Indiana University	2014			X
12	Marjorie McGuirk	NOAA/NCDC	2014		X	
	<i>Ex Officio</i> , Post Chair, BEED, Pam Emch	Northrop Grumman	2012	X		
	<i>Ex Officio</i> , Chair, ITS & Surface Transportation Committee, Ed Boselly	Weather Solutions Group	2012	X		
	<i>Ex Officio</i> , Chair, Energy Committee, Steve Bennett	Scripps Institution of Oceanography	2013			X

Red font indicates terms ending in 2012.

Proposed BEED Membership in 2012 (Commissioner Pietrafesa has approved the proposed new Board Members, highlighted below)

	BEED Member	Organization	Term Ends Jan.	Commercial / Private	Agency / Gov't	Academia / Lab
1	Melinda Marquis, Chair	NOAA / ESRL	2014		X	
2	John Lasley	SAIC	2013	X		

3	John Snow	The University of Oklahoma	2013			X
4	Shawn Miller	Raytheon Corp.	2013	X		
5	Jim Hansen	Naval Research Lab	2014		X	X
6	Mary Hayden	NCAR	2014			X
7	Sue Haupt	NCAR / RAL	2014			X
8	Sara Pryor	Indiana University	2014			X
9	Marjorie McGuirk	NOAA/NCDC	2014		X	
10	<i>Tom Fahy</i>	<i>Capitol Gr</i>	2015	X		
11	<i>Paul Pisano</i>	<i>FHWA</i>	2015		X	
12	<i>John Haynes</i>	<i>NASA</i>	2015		X	
	<i>Ex Officio, Chair, Energy Committee, Steve Bennett</i>	Scripps Institution of Oceanography	2013			X

Primary Activities

Board Meetings: The BEED conducted meetings on the following dates:

- 24 January 2011 (Seattle)
- 14 March 2011 (telecon)
- 4 May 2011 (telecon)
- 7 July 2011 (telecon)
- 11 October 2011 (telecon)
- 12 December 2011 (scheduled) (telecon)

2011 9th Users Forum

The AMS Users Forum, which previously was held at the AMS Annual Meetings, was held as part of the 2011 AMS Washington Forum. The AMS Users Forum provides an opportunity for dialogue among sources, distributors, and users of weather, water, and climate data. This year's Users Forum consisted of two parts. In Part One, we convened a panel whose members are climate science and services stakeholders. In Part Two, we focused on stakeholders for a Nationwide Network of Networks (NNoN), as identified in the National Research Council's report on *Observing Weather and Climate from the Ground Up*.

2011 AMS Washington Forum (AWF)

The BEED organized and successfully conducted the 2011 AWF at the University of California Washing Center in Washington, D.C., from 26-28 April 2011. This year, the agenda consisted of two sessions:

- Congress Staff Panel Discussion
- National Climate Assessment
- Federal Agency Leadership Panel Discussion (NOAA, NASA, NSF, FAA, and USGCRP)
- The FAA NextGen Weather Program and NWS 4-D Weather Data Cube
- Executive Branch
- New Cross-Sectors Models for Innovation, Incubation, and Intellectual Property
- Offshore Renewable Energy – A New Pathway for the Nation
- Users Forum Part One: Climate Science and Services for Stakeholders
- Users Forum Part Two: Nationwide Network of Networks Stakeholders
- AMS Committee to Improve Climate Change Communication Update
- Responding to the Needs of Climate Science and Services Users
- Forum Summary and Next Steps

Marcia McNutt, Director of the USGS, was the dinner speaker. Pam Emch, Ray Ban, and John Snow of the Weather Coalition were lunch speakers who gave an update on plans for a Congressional Weather Caucus. The 2011 AWF went very well. We received many positive comments. Participants appreciate the ample time allowed at breaks for networking. We had 153 people register in 2011, and 106 in 2010. Pam Emch and Melinda Marquis wrote a meeting summary, "Metrics and Collaborations are Key to Creating and Preserving New Observation Records," which has been accepted for publication in BAMS (planned for the February 2012 issue).

2012 AMS Washington Forum (AWF)

An organizing committee to plan the 2012 AWF was formed in May 2011. It has been meeting monthly since then to plan the 2012 AWF. The University of California Washington Center has been reserved April 10-12 as the venue. The theme of the Forum will be the "Weather-, Water-, and Climate-Ready Nation." New in 2012 will be a press conference, being led by Matt Parker, who has assembled a team to work on this. Also, Bill Hooke is likely to lead a Hill briefing to be held in conjunction with the 2012 AWF. Tom Fahy is working to confirm President Bill Clinton as a dinner speaker. We will have another dinner speaker, who will make a shorter presentation before President Clinton; alternatively, this speaker would give a longer presentation in the event that President Clinton had to cancel at the last minute. A brief report on highlights from the AMS Summer Community Meeting held in Boulder in August of 2011 is planned, in an attempt to provide continuity among the AWF, Summer and Annual meetings. An ad for the 2012 AWF has been submitted for publication in the November issue of BAMS.

The following sessions are being planned for the 2012 AWF:

- Weather-, Water-, and Climate-Ready Nation
- Science Congress
- Economic Benefits of the Enterprise

- Environmental Security
- Health – Users Forum
- Military Uses, Providers, and Users of Data
- Executive Branch
- Training the New Workforce – Academic
- Current Events -- Big Federal Funding Changes
- Space Weather
- Federal Agency Leadership
- International Perspectives on Global Climate Change

Energy Committee (EC) and Renewable Energy Subcommittee (RES)

The EC membership for 2011 is listed below:

	Member	Organization	Term Ends Jan.	Commercial / Private	Agency / Gov't	Academia / Lab
1	Steve Bennett, Chair	Scripps Institution of Oceanography	2013			X
2	Heidi Centola	AWS – Weatherbug	2012	X		
3	Russ Bigley	Xcel Energy	2012	X		
4	Anthony Arguez	NCDC	2012		X	
5	Jerry Crescenti	Iberdrola Renewables	2012	X		
6	Manda Adams	UNC Charlotte	2013			X
7	Mitchell Baer	US DOE, Office of Policy & Int'l Affairs, Office of Oil & Gas Analysis	2013		X	
8	Mark Russo	Chesapeake Energy	2013	X		
9	Kevin Stenson	Stenson and Associates, LLC	2013	X		
10	Travis Hartman	MDA EarthSat Weather	2014	X		
11	Jason “Jay” Shafer	Lyndon State College	2014			X
12	DJ Rasmussen	NOAA Geophysical Dynamics Lab	2014			X
	<i>Ex Officio</i> , Co-Chair, Renewable Energy Subcommittee,	NOAA/ESRL	2013		X	

	Melinda Marquis					
	<i>Ex Officio</i> , Past Chair, Energy Committee, Jon Davis	Chesapeake Energy		X		

The RES membership for 2011 is listed below:

	Member	Organization	Term Ends Jan.	Commercial / Private	Agency / Gov't	Academia / Lab
1	<i>Jerry Crescenti</i> , Co-Chair	Iberdrola Renewables	2014	X		
2	Cathy Finley	Windlogics	2013	X		
3	Justin Sharp	Iberdrola Renewables	2012	X		
4	John Manobianco	- In Transition-	2013			
5	Andrew Stern	NOAA	2012		X	
6	Julie Lundquist	University of Colorado	2013			X
7	Jason Day	NSF/Division Atmospheric & Geospace Sciences	2013			X
8	Jennifer States	DOE/PNNL	2013			
9	Earle Buckley	Buckley Environmental Research & Services	2012	X		
10	Kathy Moore	Integrated Environmental Data LLC	2013	X		
11	Cegeon Chan	First Wind	2013	X		
12	<i>Paul Gayes</i>	Coastal Carolina University	2014			X
	<i>Ex Officio</i> , Chair, Energy Committee, Stephen Bennett	Scripps Institution				X
	<i>Ex Officio</i> , Co-Chair RES, BEED Chair, <i>Melinda</i>	NOAA / ESRL	2013		X	

	<i>Marquis</i>					
	<i>Ex Officio</i> , Energy Committee Liaison, TBD					

The Energy Committee (EC) and Renewable Energy Subcommittee (RES) organized and hosted the Second Conference on Weather, Climate, and the New Energy Economy (2Energy), January 23-27, 2011, Seattle, WA. All sessions over a two-day period were well attended with at least 75 to 150 folks in any given session.

The Energy Committee (EC) and Renewable Energy Subcommittee (RES) organized and hosted the Short Course on Meteorological Applications in the Traditional and Renewable Energy Sectors, January 23, 2011, Seattle, WA. Approximately 55 people registered and attended this short course.

The Renewable Energy Subcommittee (RES) organized and hosted a town hall meeting entitled “What Do Meteorologists Need to Know About the Energy Industry”, January 24, 2011, Seattle, WA. Approximately 75 to 100 people attended this forum.

An AMS Position Statement with respect to supporting the U.S. renewable energy industry was proposed to the AMS Executive Committee. The Committee approved of the idea to request volunteers to draft such a statement. AMS advertised for experts to volunteer to help draft the statement. Several dozen volunteers responded. Keith Seitter has recruited Paul Higgins to lead the drafting team. The AMS will select a team to draft the statement. Keith Seitter has the action on this.

The Energy Committee (EC) and Renewable Energy Subcommittee (RES) is organizing and will host the Third Conference on Weather, Climate, and the New Energy Economy (3Energy), January 22-26, 2012, New Orleans, LA. Approximately 90 abstracts have been submitted for both oral and poster presentations. This conference will held over a three-day period during the AMS Annual Meeting.

The Renewable Energy Subcommittee (RES) is organizing and will host a town hall meeting entitled “Best Standards and Practices for Quality Data in the Renewable Energy Industry – What Can You Take to the Bank?”, January 24, 2012, New Orleans, LA. The objective of the meeting is to (1) provide the AMS community with a better understanding of what “bankable data” are (2) to discuss a common language surrounding “bankable data” for financiers and scientists through uncertainty analysis; (3) to propose continued cooperation amongst scientists, engineers, and financiers to set best standards and practices, including information about strengths, limitations, and uncertainty of various types of data sets; and (4) to open a discussion amongst the industry panelists and attendees on “bankable data.”

The Renewable Energy Subcommittee (RES) will explore how best to connect students with internships that may be available with private sector companies, laboratories and other organizations.

Intelligent Transportation System (ITS) and Surface Transportation Committee (ST)

The ITS/ST membership for 2011 is listed below:

	Member	Organization	Term Ends Jan.	Commercial / Private	Agency / Gov't	Academia / Lab
1	Ed Boselly, Chair	Weather Solutions Group	2012	X		
2	Tina Greenfield	Iowa DOT	2012		X	
3	Sheldon Drobot	UCAR	2012			X
4	Mark Askelson	University of North Dakota	2012			X
5	Chaz Harris	Noblis	2013		X	
6	Kevin Petty	Vaisala	2013	X		
7	James Koermer	Plymouth State University	2013			X
8	Elliot Abrams	AccuWeather	2013	X		
9	Brenda Boyce	Mixon-Hill	2013	X		
10	Jeremy Duensing	TELVENTdtn	2014	X		
11	Steve Conger	AvaTerra Services/Iteris, Inc.	2014	X		
12	Kathy Osborne	Meridian Environ. Tech., Inc.	2014	X		
	<i>Ex Officio</i> , Chair, ITS America Weather Information and Applications Special Interest Group - Art Handman					
	<i>Ex Officio</i> , Chair, Transportation Research Board Task Force on Surface Transportation Weather -					

	Wilf Nixon					
	<i>Ex Officio</i> , Federal Coordinator for Meteorology or designee – Judson Stailey					
	<i>Ex Officio</i> , FHWA – Paul Pisano					

The ITS/ST Committee meetings for 2011 took place 25 Jan at the AMS Annual Meeting in Seattle, an 18 May Teleconference, and a Joint AMS ITS/ST and ITSA Surface Weather Committee meeting at the ITS World Congress in Orlando in October. Nine Committee members and two Ex-Officio members attended the Annual Meeting Committee Meeting. Other attendees included the Co-Chair of the AMS Mobile Observations APT Committee, the departing Chair of the BEED and an AMS representative. The Committee Website was up on the AMS Web page but needs substance. The Chair asked for volunteers to assist in updating and populating the site.

Through these meetings, the ITS/ST Committee discussed issues related to membership in various committees. For example, the IIPS is under the STAC while this Committee is under the BEED, which reports to the CWCE. The Committee recommended getting the issue clarified with assistance from the BEED, the CWCE and AMS. The result is that the Committee remains under the BEED.

The ITS/ST Committee also discussed doing a standalone conference. However, the AWF, Summer Meeting, the 2012 TRB conference on winter maintenance, and ITS America all provide venues; and people and agencies have limited travel resources. The Chair forwarded a Call for Papers for the TRB conference to the BEED, CWCE, Mobile Observations APT Committee and the NoN Committee to make them aware of the conference.

The Committee continues to follow the FHWA *Clarus* and MDSS initiatives, Road Weather evolution, the former IntelliDriveSM Initiative, which is now generally referred to as the Vehicle Infrastructure Integration (VII) Initiative, and the Mobile Observation APT activities. The Committee's goal in all of these endeavors is to get connected to transportation professionals to ensure mutual understanding of needs and capabilities and will work in 2012 to do this.

Because of the downstream importance of the mobile observations and networks of networks, the Committee discussed forming a subcommittee to focus on these issues. The committee also suggested engaging other surface transportation sectors and the need for interacting with APWA, ITE, AASHTO, and perhaps other professional groups. The Committee drafted a Terms of Reference (TOR) for a Mobile Observations Subcommittee and this will be discussed at the December CWCE Board telecon. The Committee is also working on revising the Committee TOR and will have a final draft for review at the 2012 Annual Meeting in New Orleans.

The Committee noted that there was no NOAA representation in the 2011 membership list. The Chair assured that one (at a minimum) would be sought for 2012 membership. Also, the Committee Chair recommended James Koermer, a current Committee member, to become the

Committee Chair in 2012. Dr. Koermer was approved and will be participating in the December CWCE telecon.

*ITS/ST Sub-Committee on Mobile Observations.

The ITS/ST proposed to create a new subcommittee on mobile observations. They have drafted a Terms of Reference, it was submitted it to the Commissioner for approval and Commissioner Pietrafesa approved the TOR. The TOR is provided below.

Terms of Reference (TOR)

ITS & Surface Transportation Committee (ITS/STC) Mobile Observations Subcommittee

Purpose: Weather can adversely affect the surface transportation system by increasing crashes, causing delays and thereby increasing societal and delivery costs. There is a need to improve the operational performance of weather support to surface transportation system (i.e., mobility and safety under adverse weather conditions).

Goal: The goal of the ITS/STC Mobile Observations Subcommittee is to monitor and promote the development of vehicle mobile observations, connected vehicle information technology, and the assessment of data gap issues in order to provide meteorological providers the ability to enhance the weather support for road safety and other affected communities, as well as improve highway throughput through better information to operators and weather-related decision support.

Activities: The ITS/STC Mobile Observations Subcommittee will develop and participate in the following activities:

- Participate in meteorological, surface transportation, and other weather-related community-sponsored activities to increase stakeholder awareness regarding the potential of mobile observations in improving the quality and timeliness of weather information, thus, enhancing weather-based decision making
- Stimulate and support information exchange and foster mobile observation and technology transfer, especially through education of the sectors that each member represents
- Develop white papers and/or other products designed to reach key stakeholders

Subcommittee Structure: The ITS/STC Mobile Observations Subcommittee will be structured as follows:

- The Subcommittee will report to the ITS/ST Committee
- Membership terms will begin each year at the AMS Annual Meeting.
- The Subcommittee will consist of at least five members which includes a Subcommittee chair
- The Chair of the ITS/ST Committee will assess the need and purpose of the Subcommittee at the end of each calendar year.
- Subcommittee members will serve up to three years depending on the needs assessment.
- Membership at a minimum shall represent all three (3) community sectors (e.g., academic, public and private sector)

- Candidate committee members will be nominated by the ITS/STC Chair and approved by the BEED chair and the Commissioner of the Climate and Weather Enterprise Commission.
 - AMS members will be given preference for Subcommittee membership. However, AMS membership is not a prerequisite for ITS/STC membership
 - The majority of Subcommittee membership shall be AMS members
- The Leader of the Federal Highway Administration Road Weather Management Team may recommend an *ex officio* member of the Subcommittee.
- The Chair of the Intelligent Transportation Society of America (ITSA) Surface Transportation Weather Committee of the Cross Cutting Issues Forum may recommend an *ex officio* member of the Subcommittee.

End ITS/ST TOR

Plans for 2012

AMS Washington Forum: The BEED will organize and conduct the 2012 AMS Washington Forum, scheduled for 10-12 April 2012, in the University of California Washington Center.

10th Users Forum: The BEED will organize and conduct the Users Forum at the 2012 AMS Washington Forum in April. The topic will be on health as it relates to weather and climate.

Energy and ITS/ST Committees, and Renewable Energy Subcommittee: The BEED will continue to provide oversight to the Energy Committee and the Renewable Energy Subcommittee, and to the ITS/ST Committees.

Water Resources Committee: The BEED has recruited a proposed Chair (Tim Schneider) of this new committee and about five members. The BEED Chair is working with Dr. Schneider to recruit the remaining members. A Terms of Reference for this committee has already been approved by Commissioner Pietrafesa. The BEED will work to get this committee active in the coming year.

New ITS/ST Subcommittee on Mobile Observations: The ITS/ST proposes to create a new subcommittee on mobile observations. They have drafted a Terms of Reference and submitted it to the Commissioner for approval.

A new Finance-Meteorology (Market-Driven Weather Derivatives) Committee: The BEED plans to develop a new committee that addresses the nexus of financial markets and meteorology. The BEED Chair has identified a possible Chair for this proposed new committee: Mr. Tom Fahy.

H. Report for 2011 of the Board on Enterprise Planning (the BEP)

Board membership

Member	Position	Term	Email
Laura Furgione	NOAA, NWS	Chair 2011-2013	laura.furgione@noaa.gov
Tim Spangler	UCAR, COMET	Outgoing Chair	tspang@comet.ucar.edu
Bill Mahoney	NCAR	2011*	mahoney@ucar.edu
Jim O'Sullivan	NOAA, NWS	2011*	Jim.osullivan@noaa.gov
John Egentowich	DOD, AFW	2012	John.Egentowich@pentagon.af.mil
Tom Paylor	RenaissanceRe Corporation	2012	tcp@renreim.com
Bruce Bailey	AWS Truepower	2013*	BBailey@awstruepower.com
David Green	NOAA, NWS	2013*	david.green@noaa.gov
Bruce Jones	Midland Radio	2013	bjones@midlandradio.com
George Smith	Riverside	2014*	george.smith@riverside.com
Ana Barros	Duke University	2014*	barros@duke.edu
Don Winter	CSC	2013	dwinter9@csc.com

* note – these members serve as co-chairs of an APT and have agreed to serve on the Board until the APT has been finalized.

The AMS BEP has three active annual partnership topics committees; 1) mobile observations, 2) offshore wind, and 3) integrated water resources. The committee on mobile observations is the most mature and celebrating the finalization of their report. The committee on offshore wind has is progressing with new leadership and has delegated their tasking among team members. The newest committee on integrated water resources is in the organizing phase with membership pending.

APT Committee on Mobile Observations

The Committee on Mobile Observations final report was approved by the AMC Council during their September meeting. The committee activities were briefed at the AMS Summer Community Meeting in Boulder and also at the Intelligent Transportation System World Congress/Intelligent Transportation Society of America (ITSA) conference in Orlando.

One of our recommendations was to build a closer relationship with the Vehicle Infrastructure

Integration Consortium (VIIC). In Orlando, we had the President of the VIIC (Tom Schaffnit) attend the joint AMS/ITSA weather committee meeting. He expressed interest in working with the weather community as our connected vehicle weather activities move forward. The AMS ITS/ST committee is discussing the creation of a standing subcommittee focused on mobile observations. This will provide an ongoing forum to move ahead with our recommendations, such as publishing our report in BAMS and selected transportation journals.

Per the APT process, the committee has concluded its responsibilities with the delivery and approval the final report.

APT Committee on Offshore Wind

The Committee has grown in size to 22 members (second attachment), with a good cross-section of representatives from the public, private and academic sectors. Bruce Bailey and David Green, co-chairs, will be updating the draft APT report in December. The next team meeting will be in January. The last team meeting was held during the American Wind Energy Association (AWEA) Offshore Wind Expo October 12, 2011, in Baltimore, Maryland. Approximately half of the committee members attended and non-members invited to provide input through informal discussions during the Expo. The APT's draft report was discussed and additional gaps/models were identified. Consideration was given to increased reliance on models without onsite data, need to identify model strengths/confidence, model comparisons and wake modeling

Observational data includes lidar and sodar as "bankable data". Input from AWEA meeting confirmed data sets needed (wind speed correlations, significant wave height, period, surface fluxes, wakes...) and status of models and need for validation protocol; severe storm data and downscaling.

Other related meetings and activities attended by co-chairs include:

- AMS Earth Observations, Science and Services, November 1-3, 2011, Washington DC
- European Wind Energy Association (EWEA) Offshore Conference, November 29-December 1, in Amsterdam
- BOEM-FAA-DOD-DHS-NOAA Meeting on Offshore Energy November 8,
- Bruce Bailey and David Green among reviewers of DOE draft report Offshore Resource Assessment and Design Conditions: A Data Requirements and Gaps Analysis for Offshore Renewable Energy Systems. Review being conducted early December.
- Bruce Bailey and David Green to participate in the IOOS/ MARACOOS meeting December 15-16 in Washington DC to engage with regional stakeholders in ocean related observations and data integration
- David Green to present a poster at the Annual American Geophysical Union Meeting, San Francisco December 8 on the AMS APT and use the renewable energy session for opportunities to discuss report.

Status Report on the Offshore Wind APT, December 3, 2011 Prepared by: David Green and Bruce Bailey, APT Co-Leads

APT Committee Meeting: Face to face meeting during the American Wind Energy Association (AWEA) *Offshore Wind Expo* October 12th in Baltimore MD.

- Approximately half of the committee members attended and non-members invited to provide input through informal discussions during the Expo.
 - Draft report was discussed and additional gaps/model identified
 - Consideration given to increased reliance on models without onsite data, need to identify model strengths/confidence, model comparisons and wake modeling
 - Observational data includes lidar and sodar as “bankable data”;
 - Input from AWEA meeting confirmed data sets needed (wind speed correlations, significant wave height, period, surface fluxes, wakes...) and status of models and need for validation protocol; severe storm data and downscaling
- Bruce Bailey and Dave Green to update draft in December
- Next team meeting in January.

AWEA follow up discussions thru November:

- It was determined that both progress and content will benefit from parallel efforts by DOE, DOI/BOEM and state development projects if the material can be shared.
 - DOE provided preliminary report *Offshore Resource Assessment and Design Conditions Public Meeting* on renewable development and “bankable” characterization based from June 2011 workshop (updated draft provided for review at end of month (see below))
 - DOE funded public-private projects related to met-ocean data work and plans discussed but too early to expect results in timeframe of the APT
 - BOEM reported synthesis analysis met-ocean data and modeling working being supported but no new material provided
 - Virginia state and VA-Tech representative provided additional input from recent application; challenge identified to determine how to maintain and operate new offshore observation platforms including buoy-based lidar and met towers (role of IOOS and NDBC) and who would be responsible for the data management and stewardship (NOAA, DOE, other), working being conducted on resource models and climatology
 - DOE and State of Virginia evaluating Chesapeake Light tower as reference platform for offshore wind and related data sensing

AMS Earth Observations, Science and Services, November 1-3, 2011, Washington DC

- Invited group of experts from providers and users of earth observations discussed sector-relevant applications including renewable energy. Relevant topics emphasized included:
 - Input from Energy Power Research Institute (EPRI) raised issues of data sharing for better grid integration and risk management require improved high-resolution wind and solar resource data and forecasting of variability.

- Emphasis on boundary layer and improved modeling for decision support, all scales in space and time
- USACE emphasized need for bathymetric data, model sensitivity analysis and links to risk based engineering models, little relevance of general circulation models/bias correction

European Wind Energy Association (EWEA) Offshore Conference, November 29-Dec 1, Amsterdam attended by Bruce Bailey:

- Conference well attended and contained a lot of technical substance on met-ocean...more met than ocean. Topics that were emphasized:
 - Model validations of wind shear and turbine wake predictions with observed offshore data. Results are reasonable but improvements still needed of course.
 - Model comparison showed different relative performance according to weather regime or flow direction relative to turbine row orientation.
 - Comparisons of vertical lidar measurements on fixed and buoy platforms with conventional masts. R-squared regressions are generally >0.98, with a speed bias of up to 4% which is partly attributable to tower effects on the mast anemometry. Motion compensation algorithms for the non-stable measurements appear to be working surprisingly well.
 - Importance of measurements of atmospheric stability and depth of inversion layers. Boundary layer NWP models work best in neutral and unstable conditions...better characterization of 3-D structure during stable conditions is needed.
 - Wind-wave coupling - model validation and impacts on designing foundations.
 - Large-area wind resource mapping and validation, using NWP and satellite approaches. Not much new here.
 - Experimental simulations (numerical, wind tunnel/wave facility) of floating turbines and accurate characterization of wave- and wind-induced loads and frequencies.
 - The key organizations presenting the material were universities and research organizations, consultancies, lidar manufacturers, and the technical depts. of wind development companies.
 - The key 'lesson learned' here was that the availability of offshore met-ocean and wind plant performance data in Europe is enabling a large body of research on marine atmospheric boundary layer (MABL) model performance and sensitivity analysis, new measurement technologies (particularly lidar), and on atmospheric turbulence and turbine wakes. There appear to be NO major measurement/model gap issues that are significantly impacting wind project performance or financeability. Measurement/research efforts in the US are being delayed by the lack of new met-ocean data collection tailored to offshore wind projects. Developers are awaiting the award of lease blocks from BOEM before investing in expensive measurement programs. The granting of approvals for met-ocean measurement programs at specific sites is insufficient motivation for developers to make measurement investments...they need approvals for project areas as well.

BOEM-FAA-DOD-DHS-NOAA Meeting on Offshore Energy November 8, 2011,

- Small invited group of stakeholders to discuss competing use and mission compatibility risks: Radar and Lighting
 - Note: DOE not at the table because they are only interested in research and development, not operational issues
- Call for establishing a notional wind farm for scenario modeling
- Data needed for surveillance and tracking impact assessments
- Integrated environmental, infrastructure and security data are being integrated into geospatial models to assess interference with radars and other observing systems, including coastal and sea-borne radars. Additional data risks addressed included interferences from light towers and coastal infrastructure.
- DOD contractors leading efforts on site clearinghouse, integrated risk/avoidance/impact models and assessment tools

In related activities:

Bruce Bailey and David Green among reviewers of DOE draft report *Offshore Resource Assessment and Design Conditions: A Data Requirements and Gaps Analysis for Offshore Renewable Energy Systems*. Review being conducted early December.

Bruce Bailey and David Green to participate in the IOOS/ MARACOOS meeting December 15-16 in Washington DC to engage with regional stakeholders in ocean related observations and data integration

David Green to present a poster at the Annual American Geophysical Union Meeting, San Francisco December 8th on the AMS APT and use the renewable energy session for opportunities to discuss report.

APT Committee on Integrated Water Resources

Ana Barros; Duke University, George Smith; Riverside, and Tom Graziano; NWS, have finalized the APT charge and plan to have their team membership finalized prior to the annual conference. The APT will emphasize a broad enterprise component that includes the White House Council on Environmental Quality (CEQ) recommendations found in the [National Action Plan \(NAP\): Priorities for Managing Freshwater Resources in a Changing Climate](#) as well as the collaborative partnership called the Integrated Water Resources Science and Services (IWRSS) Consortium through National Oceanic and Atmospheric Administration (NOAA), the U.S. Geological Survey (USGS), and the U.S. Army Corps of Engineers (USACE). The APT is also integrated with the AMS BEED Water Resources committee.

Committee Charge Summary

The “Integrated Water Resources Annual Partnership Topic (IWR APT) Committee” has the overarching charge to review the generation, application and benefits of new and enhanced water resources information through diverse sector involvement. In October 2011 the White House Council on Environmental Quality (CEQ) released the [National Action Plan \(NAP\): Priorities for](#)

[Managing Freshwater Resources in a Changing Climate](#) to help Federal agencies assure adequate water supplies, safeguard water quality, and protect public health and property. Two of the recommendations in the draft NAP relate directly to the IWR APT: Recommendation # 2: Improve Water Resources and Climate Change Information for Decision-Making and Recommendation # 5: Support Integrated Water Resources Management. Consistent with these recommendations, and to address the Nation's growing water resources challenges, the National Oceanic and Atmospheric Administration (NOAA), the U.S. Geological Survey (USGS), and the U.S. Army Corps of Engineers (USACE) have established a collaborative partnership, called the Integrated Water Resources Science and Services (IWRSS) Consortium. The [IWRSS Roadmap](#) and the NAP analysis should be a valuable input to IWR APT activities.

Water resource decision makers require additional and more integrated services to adapt to the uncertainty of future climate, land-use changes, an aging water delivery infrastructure, and an increasing demand on limited resources. These services consist of new and enhanced data and information, including a quantification of uncertainty for all forecast ranges, forecasts of water resources parameters (e.g., soil moisture, evapotranspiration, snow water equivalent, runoff, groundwater), and flood inundation maps. Extreme floods and prolonged droughts are threatening economic stability at the local, regional, and national level; and negatively impacting the quality of water in our rivers and estuaries.

To fully address the growing needs of water resources stakeholders, a vision which includes, supports and leverages the private sector and academia is needed. The IWR APT will help enhance the vision and a path forward for enhanced integrated water resources services and the science required to deliver them. Specific issues to be discussed will include, but are not limited to:

- New and enhanced integrated water resources services
- Scientific advances required to deliver these services
- Potential benefits of new and enhanced water resources data and information
- Barriers to the use of water resources data and information by the weather and water communities
- Commercial products and applications enabled by water resources services
- Business models (public-private-academic partnerships) needed to enable and accelerate the generation and use of water resources data and information

The committee will be asked to provide recommendations on how to:

- Leverage the objectives, recommendations, and actions from the CEQ NAP and the IWRSS Roadmap to further define research needs which support enhanced services and full development of the water enterprise
- Develop strategies to fully leverage the academic community and the public/private partnership
- Engage the weather, water and climate communities (and perhaps policy makers) to minimize implementation barriers and maximize partnership opportunities

