

November 2014



**Commission on the Weather, Water and Climate Enterprise**  
**Mary M Glackin, Commissioner**  
**Matthew Parker, Past Commissioner**  
**William Mahoney, Future Commissioner**

**Commission Leadership:** This report supplements the report to Council in September 2014 that can be found here: <http://www2.ametsoc.org/cwce/index.cfm/committees/cwce-executive-committee/reports-to-council/cwce-2014-mid-term-report/>. The Commission remains very active due to the tireless work of the board and committee chairs and the hundreds of volunteers on committees. The Commission recognizes the outstanding work of *Betsy Weatherhead* as her term as Chair of the Board on Enterprise Communications concludes. During her tenure the Forecast Improvement Group was established and she'll continue to lead that group in 2015. Four committee chairs are also completing their terms and deserve recognition for their service. As Chair of the Intelligent Transportation/Surface Transportation Committee, *James Koermer* has ensured an active dialog using both the annual meeting and the AMS Washington Forum. We will miss *Heidi Centola* as her term as Chair of the Energy Committee concludes but we're pleased she is remaining active in other areas of the Commission. Under *Tim Schneider's* leadership the Water Resources Committee has been established and a working relationship with the American Society of Civil Engineers has been forged. And finally but certainly not least, during her tenure *Angel McCoy* established the International Committee on Weather and Climate Services and set up an informal international advisory body to assist in steering the Committees efforts. Proposed replacements for these chairs and other committee and board members are given in the attachment.

The [Steering Committee](#) of the Commission met and provided input to the Commission's efforts at the Annual Meeting in April in conjunction with the AMS Washington Forum and again in conjunction with the Summer Community Meeting in August. They are scheduled to meet in Phoenix at the Annual Meeting. This meeting will mark the conclusion of the terms for *Barry Myers, Brian Bell, Nancy Colleton, Tom Karl, Walt Dabbert and Jeff Lazo*. We appreciate their thoughtful input to the work of the Commission. Proposed new members of the Steering Committee are given in the attachment as well.

**Commission Highlights:** The Commission very much appreciates Council's decision to add the term 'water' to the Commission's name. While this will not be formally rolled out until the Phoenix meeting the Commission is already engaging with the coastal community to see how to best meet some of their needs with a side meeting set up for Phoenix. Also the Commission continues to actively work with the Space Weather Community. Under Past Commissioner Matt Parker's leadership an ad-hoc workshop was held in October to improve communications to the public; see below for more details. At the Steering Committee meeting in Phoenix we will discuss how to best sustain this support to the community.

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The newly formed Board on Global Strategies under Melinda Marquis leadership has been working with the NOAA/National Weather Service on this year's International Workshop to be held in conjunction with the annual meeting in Phoenix. The Board will be represented in the panel discussions and side meetings are being planned as well. The goal is to better understand how the Board could be responsive to needs of the community and to gain support for the proposed Climate Guidebook. Typically approximately 50 participants from around the globe participate in the Workshop.

The Commission will have a strong presence in Phoenix with Third Symposium on the Weather and Climate Enterprise, the Sixth Conference on Weather, Climate, and the New Energy Economy (6Energy), and several town hall meetings. The planning for the 2015 AMS Washington Forum to be held April 21-23, 2015 in the AAAS Building is in full swing. The theme is "Applied Decision Support: Meeting User Needs" and is intended to reinvigorate participation from end users of weather, water and climate data, especially in the private sector. And, North Carolina State University in Raleigh has been selected as the site of the Summer Community Meeting targeted for the first week in August.

The National Network of Networks (NNoN) Committee has conducted extensive outreach in 2014 to ascertain the best approaches to advance the vision of a NNoN. It is currently working with NOAA's Office of Federal Coordinator for Meteorology to organize a national workshop in the spring to advance these efforts.

The Weather Enterprise Economic Evaluation Team (WEEET) has continued its efforts focusing on raising funds to support the conduct of the evaluation. To move us towards a routinely available statement of the economic impact of the enterprise the Team has completed data gathering (phase 1), a literature review (phase 2), and a final report (phase 3). A subset of the Team then developed of a draft Request for Proposal (RFP). The AMS would administer the RFP, conduct source selection and oversee the effort. The Steering Committee will have a report on these efforts at Phoenix on January 3.

Finally I would be remiss not to mention that Past Commissioner Matt Parker and Future Commissioner Bill Mahoney and I have worked closely in overseeing Board activities and I am very grateful for their assistance.

**Items for Council Approval:** In addition to new membership, the Commission is requesting approval of a Commission level award similar to that used by other Commissions.

## **CWCE Interactions with the Space Weather Enterprise**

Submitted by

Matthew J. Parker, CCM  
Past-Commissioner

Over the past three-years, the CWCE, in conjunction with the STAC's Committee on Space Weather, has been engaged with the space weather community to enhance the development of their enterprise. This report highlights the activities conducted in 2014.

A panel entitled, "Strengthening the U.S. Space Weather Enterprise" was held at the 2014 AMS Annual Meeting in Atlanta. The participants were as follows: Moderator: Matthew J. Parker, Savannah River National Laboratory and Panelists: David Chenette, NASA; Brent A. Gordon, NOAA/SWPC; Jon Kirchner, GeoOptics Inc.; Robert W. Schunk, Utah State Univ.; Tamara Dickinson, OSTP. The primary questions for the panelists were:

- ***What role should the government, academic and private/commercial sector take when interacting with customers of space weather information?***
- ***Is the NOAA Partnership Policy a good "model" for other agencies to enact?***

Gene Fisher (NOAA) of the Committee on Space Weather compiled detailed notes and worked with the panelists to issue the following information (to be posted on the Committee on Space Weather's website):

### **Summary of issues discussed at the AMS Space Weather Enterprise Session February 5, 2014**

#### **Importance of an effective partnership:**

- *Each sector--public, private, and academic--has areas of expertise and resources that strengthen the space weather enterprise*
- *Success hinges on each sector's abilities and missions being complimentary and not duplicative*
- *Ability of the space weather enterprise to adapt to customers' evolving needs*

#### **Recommendations for Government:**

- *Do not reproduce reliable space weather models or value-added products which would undermine universities and private companies*
- *Consider service buys for space weather model output and products and data buys for real-time data*
- *Devote a significant effort to building international partnerships to acquire ground-based and space-based data sets (continued)*
- *Use “open” and competitive funding opportunities (e.g., BAA, RFP, SBIR) so companies and universities can form extensive partnerships with the government, rather than having the government rely on long-standing contractors*

**Opportunities for commercial and academic communities:**

- *Mechanisms such as Broad Agency Announcements (BAA), Requests for Proposals (RFP), Small Business Innovation Research Program (SBIR), etc.*
- *NASA “Announcements of opportunity” solicit major investigations and “PI-class” missions*
- *NASA Research Announcements solicit research and enabling activities*
- *NASA Solicitation and Proposal Integrated Review and Evaluation System (NSPIRES) is the definitive source of information for opportunities to propose to NASA for support*

**Tools for cross-sector collaborations:**

- *Open Innovation (e.g., Challenge.gov is a platform for government’s prizes, Grand Challenges)*
- *Data Jams (brings together a mix of government, academic, and private industry experts in a specific field to brainstorm and see what applications they can build with the data sets provided)*
- *Data Paloozas (showcase event that brings together a host of participants, both public and private, to demonstrate applications or services created)*

**Next steps:**

- *Continue communication between the sectors, possibly in conjunction with the AMS, to exchange information and concerns as part of an organized and ongoing open dialogue (end)*

Another panel discussion to follow-up on these and other pressing enterprise issues is being planned for the Third Symposium on the Weather and Climate Enterprise to be held at the 2015 AMS Annual Meeting in Phoenix.

In the spring of 2014, Dr. Tammy Dickinson of OSTP suggested that the AMS provide assistance with a recurring problem. In many instances, space weather activity reports submitted to the media tend to degenerate into worst case scenarios (eg Carrington Event 1859), which are misleading. The CWCE, the Committee on Space Weather (STAC), and the AMS Policy Program hosted a workshop on October 23<sup>rd</sup>, 2014 at the AAAS in Washington, DC to discuss space weather communications via the media. Representatives from the broadcast media, weather blogs, and several CWCE committees attended, as did representatives from several federal government agencies. The results of the discussion were illuminating and will be the impetus for a follow-on panel discussion planned for the Third Symposium on the Weather and Climate Enterprise to be held at the 2015 AMS Annual Meeting.



## Communicating Space Weather Information through the Media

### *AMS Commission on the Climate and Weather Enterprise (CWCE)*

AMS Policy Program Office  
1200 New York Ave, NW, Room 207  
Washington, DC 20504

9 AM – 12 PM EDT, Thursday October 23, 2014

**Background:** Space weather information has become increasingly important to a variety of stakeholders and audiences. Space weather information is transmitted to the public via multiple platforms including television broadcasts both locally and nationally, social media platforms and numerous web resources. Given the magnitude of sources and communication platforms and the increasing need for the data by a growing set of users, challenges have arisen in the messaging, especially to the public. Additionally, many times regardless of the forecasted severity, the information can devolve into a doomsday scenario, with comparisons to the Carrington Event of 1859. This is essentially the equivalent of every 1-3 inch snowfall forecast in the DC area being hyped as a "Snowmageddon" event. In order to address this issue, the AMS has been asked by the space weather community to help improve these communications. A group of experts will convene and discuss topics in the agenda below. The results will be used to develop a plan for a panel discussion on the same topic at the 2015 AMS Annual Meeting in Phoenix, AZ.

#### **Goals:**

- To identify challenges associated with the complexities of space weather communications
- Determine effective modes to engage the media and the general public and obtain suggestions as to how to make improvements
- Discuss a path forward to addressing the challenges and activities that could be undertaken by AMS to improve space weather communications

#### **Agenda** (with leads listed)

1. Welcome / Overview & Goals / Introductions: **Hosts: Matt Parker, Past Commissioner, CWCE and Genene Fisher, Member, AMS Space Weather Committee (under the STAC)** [15min]
2. Describe the issues and challenges of communicating space weather information and impacts: **Fisher** [15min]
3. How do the media currently obtain information about space weather?  
**Parker** [45 min]
  - a. Who provides the information and why? Agencies responsible?
  - b. How are targeted industries informed as opposed to the general public?

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**BREAK** [20 min]

4. How does the public receive space weather information? How do we best get the information to the public? Media, list serves, social media, others? **Fisher** [30 min]
5. How do we ensure that the general public obtains the best and useable space weather information? What actions are needed to improve communication of space weather information to the public and/or targeted audiences through the media or other means? **Parker/Fisher** [30 min]
6. Thoughts about the panel in Phoenix. **Parker/Fisher** [20 min]
7. Closing comments. **Parker** [5 min]



## AMS Board on Enterprise Economic Development (BEED)

### Final Report for 2014

**Submitted by: Shawn Miller, Chair, AMS BEED**

#### BEED 2014 Membership

	BEED Member	Organization	Term Ends Jan.	Industry / Private	Agency / Gov't	Academia / Lab	Student
1	Shawn Miller, Chair	Raytheon	2017	X			
2	Tom Fahy	Capitol Meteorologics	2015	X			
3	Angel McCoy	DOI/BOEM	2015		X		
4	John Haynes	NASA	2015		X		
5	John Pine	Appalachian State University	2016			X	
6	Steve Bennett	EarthRisk Technologies	2016	X			
7	Michael Anderson	California Department of Water Resources	2016		X		
8	Renee Leduc Clarke	Narayan Strategy	2017	X			
9	Darien Davis	Case Consultants International	2017	X			
10	Justin Sharp	Sharply Focused	2017	X			
	Matt Hutchins [Graduate Student]	Univ. of North Carolina	2016				X
	Ex Officio, Chair, ITS/ST	Plymouth State	2015			X	

	Committee, Jim Koermer	University					
	Ex Officio, Chair, COEIS, Warren Qualley	Harris Corporation	2017	X			
	Ex Officio, Chair, FWCRM Committee, Kevin Stenson	MeteoGroup USA	2016	X			
	Ex Officio, Chair, WEEET, Scott Rayder	UCAR	2017			X	

**Primary Activities**

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

- 3 February 2014 (Atlanta)
- 24 March 2014 (telecon)
- 27 May 2014 (telecon)
- 30 July 2014 (telecon)
- 17 September 2014 (telecon)
- 20 November 2014 (telecon)

The next BEED meeting will occur at the AMS Annual Meeting in Phoenix, Ahwatukee A conference room of the Sheraton Hotel, Noon local time.

**Accomplishments: 2014 AMS Washington Forum (AWF)**

The 2014 AWF was held April 1-3, at the AAAS Building where AMS has offices in Washington, D.C. The meeting theme was “Leveraging the Enterprise: Strengthening Our Value to Society.” Feedback on the event was resoundingly positive. The BEED Chair drafted a meeting report and sent it to all meeting participants along with a thank-you letter. Attendance including speakers and participants was 170, higher this year from previous years.

**Plans: 2015 AMS Washington Forum (AWF)**

The BEED Chair is leading the planning of the 2015 AMS Washington Forum, which will be conducted on April 21-23, 2015, in the AAAS Building. The kickoff planning meeting occurred on June 24, 2014, at 10am Eastern Time. Subsequent planning meetings have occurred every month, to continue through March 2015. The 2015



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theme is “Applied Decision Support: Meeting User Needs”, which is geared toward reinvigorating participation from end users of weather, water and climate data, especially in the private sector. An invitation has been sent and received by the office of the Secretary of Commerce, the Honorable Penny Pritzker, to serve as the keynote speaker for the 2015 forum. Dinner speaker candidates are being discussed with the goal of sending invitation letters before the end of November 2014. Eight sessions have been established for the 2015 forum:

- 1) Theme Session
- 2) Congressional Staffers
- 3) Executive Staffers
- 4) Federal Agency Leads
- 5) Hospital Preparedness
- 6) Transportation (Rail and Trucking)
- 7) Transportation (Marine)
- 8) Water Resources

### **Other 2014 BEED Notes and Plans for 2015**

#### Discussion Items

Water: Louis Uccellini (NWS Director) proposed at the Annual Meeting that we add “water” to the title of the Commission on the Weather and Climate Enterprise (CWCE) – the Steering Committee and AMS Council talked about this after the 2014 Annual Meeting, but wanted to give more thought to what this change would mean. Clearly the hydrologic cycle is going to get more important, as are the linkages between salt and fresh water – IOOS would also like to see a home in the AMS. The CWCE flowed this discussion out to its boards and committees, and after careful deliberation among all stakeholders, it was determined that the change was beneficial. Moving forward, the CWCE is now the Commission on the Weather, Water and Climate Enterprise (CWWCE).

Shawn briefed the committee on the latest status of the CWWCE web pages (now live). All of the committees under the BEED are now actively managing their own web pages as well. They are also actively exploring new ways to leverage social media as an efficient form of communication within and outside the community.

The BEED Chair reached out to the newest BEED members to solicit new ideas for BEED activities moving forward (outside of the AWF planning and existing committee activities). No new activities have been identified as yet, but the BEED will continue to evaluate moving forward.

### **Committee on Open Environmental Information Services (COEIS)**

**Chair: Warren Qualley**

#### **2014 Membership**

	COEIS Member	Organization	Term Ends Jan.	Private Sector	Gov't	Academia	Student
1	Warren Qualley, Chair	Harris Corp.	2017	X			
2	Phil Ardanuy	Raytheon	2017	X			
3	John Crowe	USGS	2017		X		
4	John Horel	University of Utah	2017			X	
5	John Murphy	National Weather Service	2017		X		
6	Peter Neilley	The Weather Company	2017	X			
7	Paul Pisano	Federal Highway Administration	2017		X		
8	Mohan Ramamurthy	UCAR	2017			X	
9	Ricky Rood	University of Michigan	2017			X	
10	Chris Sloop	Earth Networks, Inc.	2017	X			

### **Accomplishments and Plans**

Committee Meetings: The COEIS conducted meetings on the following dates:

- 3 February 2014 (Atlanta)
- 17 April 2014 (telecon)
- 6 August 2014 (telecon)
- 3 September 2014 (telecon)
- 13 November 2014 (telecon)

The next COEIS meeting is scheduled to occur at the AMS Annual Meeting in Phoenix (room to be determined), from 7:30-8:30am on Monday, January 5, 2015. The COEIS will also conduct a Town Hall at the AMS Annual Meeting, from 7:00-8:15am on Tuesday, January 6, in Room 121BC.

### **Startup Activities**

At the meeting in February, it was agreed that the COEIS should:

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- 1) Focus on policy and coordination of environmental information across the enterprise, building on the work that has been/is being done by other groups
- 2) Coordinate with the AMS 2015 annual meeting organizers to conduct a one-half or full day joint session with the Environmental Information Processing Technologies (EIPT) committee on the topic of environmental information
- 3) Mary Glackin stated that the Commission can assist this committee with such things as webinars.

Warren Qualley took an action to contact the EIPT co-chairs to gauge their interest. Warren contacted Woody Roberts, chair of the AMS Board on Environmental Information Processing Technologies (EIPT) about the idea of a joint session at the 2015 AMS Annual meeting. Woody suggested that he contact Nazila Merati, the EIPT Program chair for the 2015 meeting, which he did. Nazila said that a Data Stewardship committee meeting was scheduled the following day and that she would get back to Warren. Peter Neilley was on that meeting teleconference and said that Nazila had mentioned it. Peter suggested that we consider a Town Hall Meeting with a focus on data policy (e.g. government-generated and -owned vs. government-purchased); Warren took another action to follow up with Nazila.

There was a discussion about what constituted U.S. government data (vice commercial and academic sector data). For example, government-generated data is paid for by taxpayers and therefore should be freely available to everyone, while data licensed to the government from commercial or academic organizations generally has specific scope(s) of use(s) and therefore can't be freely available to those not covered in the scope. This discussion led in part to the idea of having a Town Hall meeting with the EIPT at the 2015 AMS Annual meeting.

### ***Open EIS Prototype***

At the February telecon, Peter Neilley gave a presentation about the Open EIS prototype:

- 1) Six partners currently signed on (Northrop Grumman, The Weather Companies, Unidata, Unisys, Vaisala, Weather Decision Technologies (WDT); a partners' meeting was to be held on Feb. 11.
- 2) CRADA in process, but NOAA is concerned that they're showing favoritism toward a few commercial companies;
  - a. Exploring other ways to advertise the existence of the prototype, without soliciting additional organizations, so will try to get AMS to create a web page for the prototype that would be linked from the yet-to-be-created COEIS web page (an interim work-around will be for Peter N. to ask Gary Rasmussen to get the prototype website created, then send the link to his list server);
- 3) Phase 1 (six months): open pipe between NOAA and the Open EIS servers
- 4) Phase 2: get more "interesting" data that the partners desire.
- 5) Success will be measured by 1) getting the data flowing, and 2) access to the types of data desired by the partners

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At the April telecon, Peter provided an update on the prototype data center:

- 1) The next major milestone will be at the end of April when the NWS will open up the program for public comments. The results likely will be published two months late
- 2) He hopes to start the prototype in July or August.
- 3) Google and Amazon Web Services will bring different aspects to it. The latter has suggested that they host the data center within their ecosystem. The upside is that it would provide unlimited participation, but the challenge would be in transporting data over a longer distance (10 km vs. 50 m).

Peter suggested that the COEIS consider submitting comments when the request is issued by NOAA at the end of April. Since we were unsure if that was appropriate as an AMS group, Peter offered to contact Keith Seitter and Warren offered to contact Matt Parker and Mary Glackin. Even if it is appropriate, we'll need to consider if we want to issue a joint response and/or individual responses. The NOAA Big Data RFI threw a spotlight on the prototype data center.

In early June, the NOAA Science Advisory Board's Environmental Information Services Working Group (EISWG) members were informed by the EISWG Co-Chairs (passing information along from Louis Uccellini) that the NOAA attorneys had cancelled the efforts to establish a CRADA with The Weather Companies for the purpose of establishing a data portal trial at NCEP that would have provided open access to much of NWS' high-res model data. This was to have been a tangible step forward in response to EISWG's Open Weather and Climate Services (subsequently referred to as OpenEIS) recommendations. Upon receiving complaints from several companies, NOAA concurred that to establish a CRADA would have provided TWC with "privileged access." As an alternative, NWS will seek to expand access to model data through the existing NOMADS initiative. Ben Kyger and Ed Johnson will be the responsible NWS focal points. Ultimately, increased access to NOAA data will be the focus of DOC's so-called Big Data Initiative for which there was a recent RFI. The EISWG Co-Chairs also asked about the status of the symbiotic development recommendation (the second of the two recommendations within Open Weather and Climate Services), and were informed that NOAA's existing test beds (e.g. DTC, JCSDA, CASA) represent NOAA's response to the issue raised by the EISWG symbiotic development recommendation and that nothing additional was needed or planned.

### ***Town Hall at 2015 AMS Annual Meeting***

The COEIS decided to convene a Town Hall at the AMS Annual Meeting in Phoenix from 7:00 AM – 8:15 AM on Tuesday, January 6. The focus will be on gaps and paths forward for environmental information. Matt Parker, past commissioner of the CWCE will moderate a panel of four people: Ray Ban, Managing Director of Ban & Associates; Laura Furgione, Deputy Director of the NWS; Barbara Ryan, Secretariat Director, Group on Earth Observations (GEO); and Michael Seablom, Chief

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Technologist, Science Mission Directorate, NASA Headquarters. This group will not only be able to speak to Open Environmental Information issues within the U.S. government but also look at the opportunities in the international community.

Further information about the Town Hall and bios of the moderator and panelists can be found here: <http://annual.ametsoc.org/2015/index.cfm/programs-and-events/town-hall-meetings/town-hall-meeting-open-environmental-information-a-discussion-about-gaps-and-paths-forward/>

## **Intelligent Transportation Systems/Surface Transportation (ITS/ST) Committee**

**Chair, James Koermer**

**Committee: 2014 Membership**

	<b>Member</b>	<b>Organization</b>	<b>Term Ends Jan.</b>	<b>Private Sector</b>	<b>Gov't</b>	<b>Academia</b>
1	James Koermer, Chair	Plymouth State University	2015			X
2	Tina Greenfield	Iowa DOT	2015		X	
3	Brenda Boyce	Booz-Allen-Hamilton	2015	X		
4	Jeremy Duensing	TELVENTdtn	2015	X		
5	Curtis Marshall	NOAA/NWS	2015		X	
6	Mike Chapman	NCAR	2015			X
7	Paul Bridge	Vaisala	2016	X		
8	Leigh Sturges	Narwahl Group	2016	X		
9	Curtis Walker (graduate student)	Univ. Nebraska at Lincoln	2016			X
10	Rob Carolan	Hometown Forecast Services	2017	X		
11	Ben Hershey	Iteris, Inc.	2017	X		
12	Rob Moran	Weather Telematics, Inc.	2017	X		
13	Leon Osborne	Univ. of North Dakota	2017			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 – Kathy Ahlenius					
	<i>Ex Officio</i> , Federal Coordinator for Meteorology or designee – Daniel Melendez					
	<i>Ex Officio</i> , FHWA – Paul Pisano					

**Accomplishments and Plans**

Committee Meetings: The ITS/ST Committee conducted meetings on the following dates:

- 4 February 2014 (Atlanta)
- 22 Apr 2014 (telecon)
- 23 July 2014 (telecon)
- 31 October 2014 (telecon)

The next ITS/ST meeting is scheduled to occur at the AMS Annual Meeting in Phoenix (room to be determined), from 7:00-8:30am on Tuesday, January 6, 2015.

***AMS Annual Meeting***

February 2014 AMS Annual Meeting Transportation Sessions in Atlanta:

- 1) An EIPT Session, entitled “Road Weather Applications” was well attended with an average audience of over 80 people. Even though one paper had to be withdrawn, Paul Pisano was able to run an excellent discussion session during this time slot with a lot of the focus on the Atlanta traffic problems due to weather the previous week. To view presentations, see: <https://ams.confex.com/ams/94Annual/webprogram/Session35022.html>.

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- 2) An AMS Joint (EIPT & Policy) Session, entitled, “Observing Weather and Environment along the Nation's Transportation Corridors”, had about 40-50 attendees and covered more than road weather, but also topics like shipping outlooks for a melting Arctic Ocean. The time slot was not that favorable, since it was the last time session of the day to be followed shortly thereafter by the Meeting banquet. To view presentations, see:  
<https://ams.confex.com/ams/94Annual/webprogram/Session34796.html>.

The next AMS Annual Meeting will be held in Phoenix, AZ, from 4-8 January 2015. Jim Koermer asked if anyone from the Committee would be interested in being one of the session organizers for a surface transportation session(s) and to please let him know. Jim has already put in a place holder for an EIPT conference session and possible a joint EIPT-Policy session as there was this year.

For the upcoming 2015 AMS Annual Meeting Paul Pisano and Jim Koermer served on the AMS Environmental Information Processing Technology (EIPT) Conference Planning Committee and with Ralph Patterson from the Narwahl Group, set up a Road Weather Applications session for the Conference. The program is now set and many members of the ITS/ST Committee are authors and/or co-authors of papers to be presented. Paul and Jim also worked with Sheldon Drobot of NCAR on the Policy Symposium Planning Committee, but an insufficient number of papers were submitted to hold a separate session, although there are a few transportation-related papers interspersed among Policy Symposium sessions—again with ITS/ST Committee authors/co-authors.

### ***AMS Washington Forum***

April 2014 AWF: The surface transportation session was held on the morning of 3 April. The panel was moderated by Paul Pisano, and the panelists included Bob Moran from Weather Telematics, Ken Leonard from the USDOT ITS JPO, Andy Stern from the National Weather Service, and Jim Kolb, a staffer from the U.S. House of Representatives - Committee on Transportation and Infrastructure. Bob provided the audience with an excellent picture of where we now and the potential of connected vehicles, Ken provided the updated USDOT statistics on impact of road weather, the AMS ITS/ST Committee inputs to the 5-year USDOT ITS JPO Strategic Plan, and the USDOT vision, and Andy discussed items like the Clarus transition, the MADIS program, and other items relating to surface transportation. Jim related some information on the House Committee process, took copious notes, and expressed interest in what he had heard from the other panelists.

April 2015 AWF: Jim Koermer has been participating in the AWF Planning and there will be two surface transportation related sessions, one on rails and trucking and

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the other on marine transportation. Members of the ITS/ST Committee should be of assistance in setting up these sessions and recommending panelists.

### ***AMS Summer Community Meeting***

Brenda reported that she and the Mobile Observations Subcommittee are working on trying to have some input for this summer's meeting in State College, PA. However, no issues were addressed, primarily because transportation topics were covered in depth at the two previous summer meetings.

### ***BAMS Article***

There is a draft proposal to submit an article to the Bulletin of the AMS (BAMS) covering the history, current state, and projected future of road weather support. Mike Chapman and Curtis Walker have led this project, with some progress being made. Progress has slowed due to Mike's departure from NCAR and Curtis trying to finish his thesis. This will be a continuing project for the upcoming year.

### ***USDOT ITS Strategic Plan Inputs***

Jim Koermer sent the Committee inputs, primarily formulated by the Mobile Observations Subcommittee, to Ken Leonard, the director of the USDOT ITS JPO, in early March. Ken presented a slide at the AMS Washington Forum, which covered the main points of this submission. There was some lengthy discussion on how to better get the broader community and especially the National Weather Service (NWS) more involved and on board with connected vehicles, which was viewed as a problem by both Bob Moran and Paul Pisano. Bob indicated that it seems difficult for them to embrace new paradigms. Jim Koermer related that there has been a recent BAMS article on the AMS Partnership Topic on Mobile Observations and that there have been transportation session at the past few AMS Washington Forums and AMS Summer Community Meetings, conference sessions at the AMS Annual Meeting, and now the preparation of a new BAMS article on road weather meteorology. Jim also cited that things have also moved slow in the U.S. with AMDAR data in the aviation sector, where it is difficult to obtain until after the fact, compared to European countries that readily transmit the data in WMO format over regular transmissions,

Although road weather was not a direct line item in the final spending plan, Paul Pisano has indicated that it will be an issue under some of the main topics and that there should be some funding available for research in the road weather area.

### ***ITS World Congress in Detroit, 7-11 September 2014***

Mike Chapman from this Committee was able to propose three sessions on road weather for the ITS World Congress. The sessions were actually part of the ITS



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America Annual meeting portion of World Congress. The topics are on the following topics: 1. Connected Vehicles, 2. Road Weather Applications, and 3. Road Weather Research. Paul Pisano indicated USDOT planned and ran some big demonstration activities at this meeting, which drew a great deal of interest.

### ***Mobile Observations Subcommittee (MOS):***

The main MOS effort has been in formulating the Committee's superb inputs, which were submitted to Ken Leonard USDOT ITS Joint Program Office. Brenda Boyce acknowledged the primary contributions of Leigh Sturges in developing the inputs. Paul noted that the USDOT will probably not be able to address all of the inputs. Brenda and the MOS also explore 3d surface transportation inputs for the upcoming AMS Summer Community. Their next major project will be helping to update the road weather cost/benefit analyses in conjunction with the USDOT and this effort should be of great interest to the AMS for documenting the value of the weather enterprise.

Jim suggested that the Committee recommend inclusion of a Broad Agency Announcement (BAA) as a way to get some other institutions (e.g. universities) more involved in road weather research and interest students in this area to help expand the future professional base. Jim took this and another ITS/ST Committee member input, sent them to Brenda Boyce of the MOS, which reviewed and finalized the ITS/ST Committee response, which Jim then sent to Ken Leonard, the director of the USDOT ITS JPO.

### ***Miscellaneous Items***

Paul Pisano continued to provide updates from the U.S. Department of Transportation, which are of great interest to members of the Committee. Kathy Ahlenius, the new Chair of the Transportation Research Board (TRB) Weather Committee has also been active participant and has provided excellent information. Art Handman, another *ex officio* member of the committee has been keeping members of the Committee on ITS America's activities in the weather area. The Committee provides an excellent forum to cross-feed information between the various sectors and most *ex officio* members play an important role in that process.

The AMS Committee web site is now active and has the direct link:

<http://www2.ametsoc.org/cwce/index.cfm/committees/committee-on-intelligent-transportation-systemssurface-transportation/>

One addition, which will soon be added, is a fairly complete history of the AMS ITS/ST Committee, which should be completed and uploaded to the site by the end of 2014.

November 2014

Jim Koermer actively sought suggestions for potential new members or whether current members would like to extend and has recommended Brenda Boyce from Booz-Allen-Hamilton to be the new ITS/ST Committee Chair; Amanda Anderson (NCAR), Jason Shafer (Lyndon State College), and Jonathan Rutz (NWS Wester Region HQ); and Tina Greenfield (Iowa DOT) and Jeremy Duensing (Schneider Electric) for 1-year extensions. The proposed make-up of the Committee for 2015 is shown below the 2014 membership table.

**Financial Weather/Climate Risk Management Committee  
Chair, Kevin Stenson**

**Financial Weather/Climate Risk Management Committee: 2014 Membership**

	Member	Organization	Term Ends Jan.	Private Sector	Gov't	Academia
1	Kevin Stenson, Chair	MeteoGroup USA	2016	X		
2	Heidi Centola	CME Group	2016	X		
3	Stephen Bennett	EarthRisk Technologies	2016	X		
4	Judsen Bruzgul	ICF International	2016	X		
5	Anjelina Belakovskaia	University of Arizona	2016			X
6	Ian Giammanco	Texas Tech University	2016			X
7	Matt Coleman	Nephila Advisors LLC	2016	X		
8	Sean Wolinsky	(student member in 2013, recent graduate transitioning to gov't)	2017		X	
9	Thomas Duncan	Wholesale Banking Risk Management	2017	X		
10	Sylvie Lorsolo	Air Worldwide	2017	X		
11	Mark Crowell	NFIP	2017		X	
12	John Lormon	Procopio, Cory, Hargreaves & Savitch LLP	2017	X		
13	Edward Maibach	George Mason University	2017			X
14	John Paul or Meredith Fish	(student)	2017			X

**Accomplishments and Plans**

November 2014

Committee Meetings: The FWCRM Committee conducted meetings on the following dates:

- 3 February 2014 (Atlanta)
- 10 Apr 2014 (telecon)
- 10 Apr 2014 (telecon)
- 8 May 2014 (telecon)
- 10 July 2014 (telecon)
- 14 Aug 2014 (telecon)
- 25 Sep 2014 (telecon)
- 9 Oct 2014 (telecon)
- 20 Nov 2014 (telecon)

The next FWCRM Committee meeting is scheduled to occur at the AMS Annual Meeting in Phoenix (day/time and room pending confirmation). The FWCRM Committee is also running a Town Hall entitled “Weather Risk Management: What Does it Mean and Where is it Going?” The Town Hall is scheduled for 6:00-7:30pm on Tuesday, January 6, 2015 in Room 127ABC.

### ***AMS Annual Meeting***

An AMS Short Course was conducted on February 2. There were over 20 attendees and the reactions were very positive. The course started with a Weather Risk 101 presentation by Anjelina. Heidi then led an interview format (questions from Kevin, audience questions) which grew into an interactive discussion. Presentations were also given by Sylvie, Ian and Paul Walsh. The committee is looking to hold a Symposium or Town Hall for AMS 2015.

### ***Potential Book Deal***

The committee is exploring creating and publishing a book in its topical area. The target audience is practitioners (meteorologists and financial people). Discussions have been held with Mary Glackin and Keith Seitter to determine if AMS should publish the book. If published by AMS, the committee name could be used. If published by an outside publisher (e.g., Wiley) then we can't have the AMS name or logo on book. It isn't clear that AMS would accept the book for publishing but they would like an opportunity to review.

Sylvie and Matt took the action to create a sandbox in Google Drive for the committee to iterate on a final table of contents. That content was discussed in a May telecon. After many votes and much deliberation, it was decided that this is best addressed independently and not as a part of an official AMS committee collaboration. The bottom line is this was seen as too big of a project for a new committee to achieve our goals and thus we think we would help the organization better by addressing our shorter term goals (listed below) of education and outreach.

### ***Miscellaneous Items***

The FWCRM Committee is continuing efforts to network with other AMS teams/committees, and also on finding government candidates for the committee (FEMA may be a possibility there, as well as the Forest Service). Also considering doing what the Renewable Energy team members do: giving short presentations on something interesting in their respective fields/personal research.

The internal AMS outreach was relegated to a lower priority in 2014 but will be one of the top priorities of 2015.

Committee goals are being defined in the areas of education, outreach and a symposium.

The committee website will act as a repository for education and social media will be used for outreach. Progress against goals for the FWCRM Committee is summarized as follows:

- (Education Goal) Kevin Stenson & Tom Duncan are the Sub-team leads for the web site development. Information regarding the committee and weather/climate risk matters will be posted to the site.
  - <http://www2.ametsoc.org/cwce/index.cfm/committees/committee-on-financial-weatherclimate-risk-management-comm/news-and-noteworthy/>
  - <http://www2.ametsoc.org/cwce/index.cfm/committees/committee-on-financial-weatherclimate-risk-management-comm/other-sites-of-interest/>
- (Outreach goal) Sylvia/Ian are creating LinkedIn/Twitter/Facebook sites & links to create followers of the most 'up to date and interesting information' regarding the science of weather/climate risk mgmt.
- (Education and Outreach Goals) Town Hall Meeting at the 2015 AMS Annual Meeting "Weather Risk Management: What Does it Mean and Where is it Going". Lead by Stephen Bennett and John Nicola. We will likely be introducing a "two-panel" approach that would include 2-3 professionals and 2-3 students going "head-to-head" on stage to lead the discussion. We are structuring the program to be highly interactive with the audience.  
<http://annual.ametsoc.org/2015/index.cfm/programs-and-events/town-hall-meetings/town-hall-meeting-weather-risk-management-what-does-it-mean-and-where-is-it-going/>

### **Weather Enterprise Economic Evaluation Team (WEEET)**

**Chair, Scott Rayder**

**Weather Enterprise Economic Evaluation Team (WEEET): 2014 Membership**

	Member	Organization	Term Ends Jan.	Private Sector	Gov't	Academia
1	Scott Rayder, Chair	UCAR	2017			X
2	Glen Anderson	Engility	<b>2016</b>	X		
3	Somnath Baidya Roy	University of Illinois at Urbana- Champaign	<b>2016</b>			X
4	Stephen Bennett	EarthRisk Technologies	<b>2016</b>	X		
5	Donald Berchoff	Unisys	<b>2016</b>	X		
6	Louis Cantrell	Profitable Weather, LLC	<b>2016</b>	X		
7	Michael Douglas	NSSL/CIMSS	<b>2016</b>		X	
8	Tom Fahy	Capitol Meteorologics	<b>2016</b>	X		
9	Bryce Ford	SpectraSensors, Inc.	<b>2016</b>	X		
10	Stuart Foster	Western Kentucky University	<b>2016</b>			X
11	Margaret Fowke	National Weather Service	<b>2016</b>		X	
12	Joel Gratz	OpenSnow	<b>2016</b>	X		
13	Charles Hakkarinen		<b>2016</b>	X		
14	Jill Hasling	Weather Research Center	<b>2016</b>	X		
15	Gale Hoffnagle	TRC Environmental Corp.	<b>2016</b>	X		
16	Alessandra Jerolleman	Natural Hazard Mitigation Association	<b>2016</b>	X		
17	Douglas Kluck	National Weather Service	<b>2016</b>		X	
18	Kevin Knupp	University of Alabama in Huntsville	<b>2016</b>			X
19	Gerard Lettre		<b>2016</b>	X		
20	Buck Lyons	WeatherFlow Inc.	<b>2016</b>	X		
21	Mark McClellan		<b>2016</b>	X		

22	Joan O'Brien	IEDRO	<u>2016</u>	X		
23	Chris Orr	Chris Orr LLC	<u>2016</u>	X		
24	Richard Orville	Texas A&M University	<u>2016</u>			X

### Accomplishments and Plans

Committee Meetings: The WEEET conducted meetings on the following dates:

- 2 Feb 2014 (at Annual Meeting)
- 4 Mar 2014 (telecon)
- 29 May 2014 (telecon)
- 20 Jun 2014 (telecon)
- 30 Sep 2014 (telecon)

At the 2014 BEED meeting in Atlanta, Scott Rayder reported on this committee's activities and status. Scott was recruited to lead this team after a discussion at the 2012 AMS Washington Forum. Matt Parker led the creation of the WEEET and will continue to drive this effort for the BEED even after his term as CWCE Commissioner has ended. This team is developing the plans for a program to determine the size and economic impact of the U.S. weather enterprise. Phase 1 (data gathering) was completed in December 2012. Phase 2 (literature review) was completed in March 2013. Phase 3 (the final report) was completed in August 2013.

At that time the WEEET activity was reduced to a smaller team. A draft RFP was developed by the smaller team in November 2013. The draft RFP was driven by the goals and objectives of the final report developed by the larger team. The draft RFP established requirements and selection criteria to facilitate the selection of a contractor to perform the study.

The team's 2014 objective has been to secure commitments from prospective donors to fund the program execution. An independent source selection team has also been recruited from within AMS membership. When funding for the program has been established the AMS will execute the RFP, source selection, and program execution process. Once a contractor is selected, the study is expected to require two years to perform. A follow-up study is planned to update the results every two years, with U.S. Weather Enterprise Size and Economic Impact being evaluated on alternating years.

At the March 31 CWCE Steering Committee Dinner, Matt Parker provided an outbrief of the WEEET progress made to date. At that time, fund raising was categorized as "a challenge" and donors (firms, agencies, institutions, and individuals) inside and outside the AMS community were being sought. Some SC members suggested that the project scope may need to be reduced to get the process going, however scoping down would also significantly reduce the

November 2014

significance of the activity for the Enterprise. So the decision was made to continue with the fund-raising effort for several more months before deciding a different course of action. A follow-up meeting was conducted in May to review the progress of fund-raising activities. Fund raising efforts have continued through the summer and fall. A status update will be provided at the Third Symposium on the Weather and Climate Enterprise.



## AMS Board on Global Strategies (BGS)

### Annual Report 2014

**Submitted by: Melinda Marquis, Chair, AMS BGS**

This annual report is submitted by the chair of the Board on Global Strategies (BGS) in accordance with the Commission on the Weather and Climate Enterprise. The BGS houses the Energy Committee (EC), the Renewable Energy Committee (REC), the Water Resources Committee (WRC), the International Committee on Weather and Climate Strategies (ICWCS), and the Committee on Environmental Security (CES).

#### **Board of Global Strategies 2014 Membership**

	<b>BGS Member</b>	<b>Organization</b>	<b>Term Ends Jan.</b>	<b>Private Sector</b>	<b>Gov't</b>	<b>Academia</b>
1	Melinda Marquis, Chair	NOAA / ESRL	2016		X	
2	Jim Buizer	Univ. Arizona	2017			X
3	Joe Casola	Center for Climate and Energy Solutions and Strategies for the Global Environment	2017	X		
4	Kathy Jacobs	OSTP/Climate Assessment and Adaptation	2017		X	
5	Bryan Hannegan	National Renewable Energy Lab	2017	X		
6	Jack Hayes	Harris Government Communications Systems	2017	X		
7	Wayne Higgins	NOAA Climate Program Office	2017		X	
8	Linda Makuleni	South African Weather Services	2017		X	
7	Marjorie McGuirk	Case Consulting	2017	X		
8	Marjorie Shepherd	Environment Canada	2017		X	
9	Kevin Trenberth	National Center for Atmospheric	2017			X



		Research				
10	Vladimir Tsirkunov	World Bank	2017	X		
11	Kevin Werner	NOAA/NWS	2017		X	
12	Stephen Zebiak	International Research Institute for Climate and Society/ Columbia University	2017			X
13	Valerie Rountree	Univ. Arizona (Student Member)	2017			X
	<i>Ex Officio</i> , Chair, Environmental Security, John Lanicci	Embry-Riddle University				X
	<i>Ex Officio</i> , Chair, ICWCS, Renee LaDuc Clark	DOI/BOEM			X	
	<i>Ex Officio</i> , Chair, Energy Committee, Brian D'Agostino	CME Group		X		
	<i>Ex Officio</i> , Chair, Water Resources Committee, TBD	NOAA/OAR			X	
	<i>Ex Officio</i> , Chair, Renewable Energy Committee, Andy Clifton	NREL		X		

**Primary Activities**

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

- February 14, 2014 (Atlanta, GA)
- March 20, 2014 (telecon)
- April 8, 2014 (telecon)
- May 8, 2014 (telecon)
- June 12, 2014 (telecon)
- August 14, 2014 (State College, PA)
- September 2, 2014 (telecon)

**Accomplishments of the BGS**

The Board on Global Strategies has met nine times (twice in 2013 and seven times this year) to discuss how we can best serve the weather and climate enterprise (soon to be the weather, *water*, and climate enterprise). Early in the year, the BGS coalesced around the proposal to prepare a Climate Information Guidebook that would bridge the gap between existing climate products and the needs of decision makers. It would provide a decision-tree to walk users through the kinds of questions they need to consider in order to identify the more appropriate climate product to help them make decisions. The Climate Information Guidebook would contain case studies and best practices for practical use for weather-climate services, e.g., trade-offs, costs, and benefits of developing certain information products. The BGS determined that funding (\$160K at least) would be needed to fund a project manager and to cover honoraria and travel costs for volunteer writer-contributors. This effort has stalled due to lack of success in finding sponsors.

In conjunction with the August AMS Summer Community Meeting, the BGS met in person for the first time in State College, PA. A number of guest speakers presented their suggestions for topics on which the BGS could engage. Geoff Love suggested that the BGS could lead development of a document like the Climate Information Guide that the board has been discussing. The WMO's Guide to Climatological Practices would form the basis for a wiki document that could be incrementally updated by the volunteer community of interested climatologists and users of climate services. There would need to be in place an agreed management structure between the AMS and WMO, including; how postings would be edited and approved, how gender and geographic diversity would be maintained in the editorial group, how the editorial group would be constantly renewed, how volunteers would be rewarded for their efforts, how funding challenges would be managed, etc.

Other leaders in the field shared their suggestions on good roles for the BGS. Joel Myers suggested that the BGS promote open data sharing internationally, including via the WMO. AMS President Bill Gail echoed the idea that the BGS promote open data sharing. Wendy Marie Thomas then discussed the intersection of the WC Enterprise with the health sector and suggested that there could be great value in the AMS building a closer relationship with the American Medical Association. Additional ideas at this August meeting included tracking and reporting to the larger community threats and opportunities, and possibly identifying ways to turn the former into the latter. Providing content to a new newsletter or to the existing "AMS News You Can Use" was suggested. Also suggested was the idea of the BGS writing one or more white papers, e.g., on health, free and open data exchange, and climate services.

During the September BGS telecon, some members mentioned concerns about the board's potential for success in light of the lack of resources that may be required to accomplish some of the projects listed, as well as the challenge matching the collective interests/motivations/capacity of the committee members with the proposed activities. After this telecon, the board chair and the CWCE Commissioner

met with a few board members and Bill Hooke to strategize on maximizing the likelihood of success. Bill suggested that the BGS participate in the annual International Workshop organized by the NWS and WMO that is held in conjunction with the AMS Annual Meeting. At the time of drafting this annual report, the BGS chair – and hopefully many board members - intends to participate in this workshop and engage participants to solicit their ideas on what topics the BGS should engage in and to begin cultivating long-term relationships with workshop participants who represent weather service offices from around the world.

The BGS has populated its new web site at <http://www2.ametsoc.org/cwce/index.cfm/boards/board-on-global-strategies/>.

**Plans for the BGS**

The board will continue to identify one or more efforts to pursue. A meeting will be held Nov. 24 to discuss the board’s participation in the upcoming Jan. 8, 2015 International Workshop.

**Energy Committee (EC)**

**Chair, Heidi Centola**

**Energy Committee (EC) Membership in 2014**

	<b>Member</b>	<b>Organization</b>	<b>Term Ends Jan.</b>	<b>Private Sector</b>	<b>Gov't</b>	<b>Academia</b>
1	Heidi Centola, Outgoing chair	CME Group	2015	X		
2	Brandon Hertell	Con Edison - NY	2016	X		
3	Shane Motley	Xcel Energy	2015	X		
4	Jenny Dissen	Climate Literacy & Outreach, NOAA	2015		X	
5	Brian D’Agostino, Incoming chair	San Diego Gas & Electric	2017	X		
6	Manda Adams	UNC Charlotte	2015			X
7	Mitchell Baer	US DOE, Office of Policy & Int’l Affairs, Office of Oil & Gas Analysis	2015		X	
8	Chris Coleman	ERCOT	2017		X	
9	John Bosse	Earth Networks	2017	X		
10	Eric Wertz	MDA EarthSat Weather	2017	X		
11	Dr. Sue Haupt	NCAR	2017			X
12	Matthew Davey	Lyndon State College (student)	2015			X
13	Jason Cordeira	Plymouth State University	2016			X
14	Joe Woznicki	Purdue University	2015			X

		(student)				
15	Adam Turchioe	University of Albany (student)	2015			X
	<i>Ex Officio</i> , Past Chair, Jon Davis	N/A		X		
	<i>Ex Officio</i> , Past Chair, Energy Committee, Steve Bennett	EarthRisk Technologies		X		

**Accomplishments**

The Energy Committee (EC) and Renewable Energy Committee (REC) organized and hosted the 5<sup>th</sup> Conference on Weather, Climate, and the New Energy Economy (5Energy), at the AMS Annual Meeting in February 2014, Atlanta. 5Energy was a successful event for with attendance ranging from 75-150 people. We received very positive feedback from attendees and AMS staff regarding our conference. The MJO symposium was wrapped into 5Energy this year and it went very well. The MJO portion of the program was broken down into “operational” sessions and “academic” sessions. We also had a joint session with the Artificial Intelligence committee, which covered very interesting joint topics.

The Energy Committee, with some assistance from the Urban Environment Committee, organized and hosted a town hall meeting (THM) called “Planning for the future: Extreme weather, changing climate, and energy sustainability in large urban areas” at the AMS Annual Meeting-Atlanta. The THM had decent attendance but not as much as the previous year. We feel that is partially due to the location of the room and potentially related to another THM going on at the same time.

The Energy Committee participated in the Student Conference; members of our team were part of a professional panel on Sunday morning. There were over 100 students that attended each of the panel sessions. The feedback from the Student committee was very positive and the students seem to enjoy the panel discussion and engagement. The EC hosted a Happy Hour reception immediately following the THM, which had a great turnout! The event went very well and the venue was just the right size for the reception. We were able to secure 10 sponsors for the Happy Hour event.

The EC created a Facebook page that not only covers upcoming events we are putting together but also is a venue where folks can post meteorological maps and discussions around the energy and renewable sectors.

**Plans**

November 2014

The Energy committee (EC) and Renewable Energy Committee (REC) are organizing and will host the Sixth Conference on Weather, Climate, and the New Energy Economy (6Energy), January 2015, Phoenix. The conference will take place over a four-day period during the AMS Annual Meeting—6Energy will start at 11:00am local time on Monday, January 5<sup>th</sup>, 2015 and continue through Thursday, January 8<sup>th</sup>, 2015 midday.

The EC has elected to have three subcommittees to focus on specific goals for the 6Energy.

- 1.) Outreach to the Utility Community – to encourage more presentations that engage the utilities. This team is working on a Town Hall Meeting (THM) entitled “Weather, Climate, and the New Energy Economy – Applying Big Weather Data to Address Today’s Energy Challenges”. The THM will be held Monday, January 5<sup>th</sup> from 7:00pm to 8:30pm local time.
- 2.) Promote AMS Annual Meeting to the Broader Energy Community – to promote Annual Meeting energy community (and to recruit new members to AMS). The committee is planning a networking event that will be held immediately following the THM on Monday evening. We are in the process of securing sponsorship and have locked in approximately 5 sponsors.
- 3.) Education – to engage with the student conference and collaborate on an energy short course to be held during the student conference on Sunday afternoon and to help in the promotion of the THM being organized by the Ad- hoc Committee on Financial Weather/Climate Risk Management as well as the Energy THM. In addition, we are looking to have a Weather Challenge ’15 summer of which we will promote throughout the AMS annual meeting, especially the student conference.

During 6Energy we will be co-hosting joint sessions with the MJO Symposium (session to be held in the 6Energy room) as well as the Artificial Intelligence (AI) Committee (hosted in the AI room). In addition, we will be co-hosting a third set of joint sessions with the AMS Committee on Laser and Atmospheric Studies (hosted in “Lidar” room).

The EC is in the process of creating a new web page in conjunction with the AMS website project to make it more user-friendly and to update the site with resources for folks interested in the Energy sector as well as to promote our events and activities----anticipate completion Q1 2015.

**Renewable Energy Committee (REC)**  
**Chair, Andy Clifton**

**Renewable Energy Committee (REC) Membership in 2014**

	<b>Member</b>	<b>Organization</b>	<b>Term Ends</b>	<b>Private Sector</b>	<b>Gov’t</b>	<b>Academia</b>
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			Jan.			
1	Andy Clifton, Chair	National Renewable Energy Laboratory	2016		X	
2	Jennifer Newman, Co Chair	Oklahoma University	2016			X student
3	Kim Comstock	DNV Kema	2016	X		
4	Kristen Nicole		2016	X		
5	Yelena Pichugina	CIRES	2016			X
6	Carlos Coimbra	U. California San Diego	2016			X
7	Dennice Gaye	Johns Hopkins University	2016			X
8	Chris Hedge	NOAA-NWS	2015		X	
9	Sonia Wharton	Lawrence Livermore National Laboratory	2016			X
10	Paul Svenson		2016			X student
11	Chris Clack	University of Colorado at Boulder	2016			X
12	Inanc Senocak	Boise State University	2017			X
13	Branko Kosovic	National Center for Atmospheric Research	2017			X
14	Venkat Banunarayanan	Department of Energy	2017		X	
	<i>Ex Officio</i> , Past Chair, Renewable Energy Subcommittee, Melinda Marquis	NOAA/ESRL	2013		X	

### **Accomplishments**

The Renewable Energy Committee (REC) and the Energy Committee (EC) organized and hosted the Fifth Conference on Weather, Climate, and the New Energy Economy (5Energy) in February 2014. This was part of the AMS annual meeting in February in Atlanta, GA. All sessions over the five-day period were popular, with around 60 or more attendees in any given session.

Members of the REC wrote a white paper on the use of remote sensing at various stages of the life cycle of a wind plant. This was published in the trade journal, "North American Wind Power" and distributed in attendees' bags at the American Wind Energy Association (AWEA) "WINDPOWER" Expo, which is a major industry conference and exhibition.

The REC holds monthly conference calls to facilitate dialog between industry, government and academia. Calls include time for a presentation from a member of the committee, and an in depth discussion of current topics of interest.

**Plans**

Continuing the pattern set in previous years, the EC and REC are organizing and will host the Sixth Conference on Weather, Climate and the New Energy in January 2015. This will take place as part of the AMS Annual Meeting.

The REC will continue to work to connect industry, academia, and public agencies. This will be achieved through white papers and continued informal discussion within the REC, as well as strengthening our existing partnership with the Energy Committee. The REC will also examine other routes to enhance connections, such as engaging with AWEA to provide educational seminars at AWEA events. REC activities will require careful leverage of committee members’ time and energy in what continues to be a challenging economic climate for many members.

A key result for 2014 will be the drafting of a white paper investigating the potential contribution of meteorologists to operating wind plants. This white paper is being drafted by a REC sub group composed of meteorologists, equipment vendors, plant operators, and wind energy consultants.

**Water Resources Committee (WRC)**

**Chair, Tim Schneider**

**Membership Status**

All current members of the WRC, including members from the APT, have terms ending in January 2015. As discussed below, the WRC is developing a proposal to reduce the overall size of the WRC through selective recommendation of extension of terms for some members and the recruitment of new members, all with varying term lengths of 1 to 3 years.

<b>Name</b>	<b>Affiliation</b>	<b>Academia</b>	<b>Gov’t</b>	<b>Private Sector</b>
Timothy Schneider, chair	National Oceanic and Atmospheric Administration	x		
Jeanine Jones	California Department of Water Resources		x	
Dan Walker, vice chair	ClimateMonkeys			x
Jerad Bales	U.S Geological Survey		x	
Gregory Characklis	U. of North Carolina	x		
Jay Day	Riverside Technology			x
David Easterling	National Oceanic and Atmospheric Administration		x	
Ilse Gayl	One Rain			x

Ben Harding	AMEC			x
Renee McPherson	University of Oklahoma	x		
Miguel Medina	Duke University.	x		
Adam Parris	National Oceanic and Atmospheric Administration		x	
James Rufo Hill	Seattle Public Utilities		x	
Anna Wilson	Duke University	x		
David Yates	University Corporation for Atmospheric Research	x		
Golbahar Mirhosseini	Auburn University	x		
George Smith	Riverside Technology			x
Ana P. Barros	Duke University	x		
Thomas Graziano	National Oceanic and Atmospheric Administration		x	
Philip Bedient,	Rice University	x		
Levi D Brekke	U.S. Bureau of Reclamation		x	
William J Charley	U.S. Army Corps of Engineers		x	
Anthony Cox	Arizona Division of Emergency Management		x	
Dave Curtis	West Consultants			x
Michael Dettinger	U.S Geological Survey		x	
Aimee Devaris	National Oceanic and Atmospheric Administration		x	
Jim Forester	Telvent			x
Robert Mason	U.S Geological Survey		x	
Bill McDowell	U. New Hampshire	x		
Kathleen Miller	University Corporation for Atmospheric Research	x		
Alan L. Peeples	Southern Company			x
Donell Woods	National Oceanic and Atmospheric Administration		x	

### **Accomplishments: Water Resources Committee**

The AMS Water Resources Committee (WRC) was established in 2012, and we had our inaugural meeting on May 7, 2012. In January 2014 we merged with the Integrated Water Resources APT under the auspices of the Board on Global Strategies. Combined priorities for this committee continue to be: climate (climate change and adaptation); socio-economic impacts, risks, benefits and vulnerabilities; water resources planning and analysis; extreme events; meteorology and atmospheric (as relevant to hydrology); water quality; coastal issues; water resources management and uncertainty; how to better inform policy and politics; and supporting new integrated water resources sciences and services activities.



November 2014

The WRC attempts to meet on monthly basis, and after a brief lull in meeting activity fall of 2013, the frequency of meeting has returned to near monthly in 2014. We held our second annual meeting last January, and while it was a challenge to get everyone there, we were able to have substantial participation through people at the AMS meeting as well as via remote (virtual meeting presence + conference call).

Activities we pursued this year include:

- We developed a strong working relationship with the American Society of Civil Engineers' (ASCE) Committee on Adaptation to Climate Change (CACC). The WRC coordinated an expert review of the CACC white paper "Bridging the Gap between Climate Change Science and Civil Engineering Practice." The review comments (submitted in early May of 2014) were well received by CACC, and nearly all the suggested changes were adopted. CACC leadership (which includes two WRC members, Medina and Walker) would like to explore opportunities to continue interaction and collaboration with the WRC, including potential collaboration on establishment of climate data requirements to meet ASCE standards of practice.
- We have undertaken the merger with BEP-Annual Partnership Topic (APT) Committee on Integrated Water Resources. While this has resulted in a somewhat unwieldy number of committee members (over 30), participation by APT members has strengthened the discussion.
- In early 2013, the American Meteorological Society's (AMS) Integrated Water Resources (IWR) Annual Partnership Topic (APT) Committee undertook research to improve water resources information services and better inform water-related decisions in support of adaptive planning, management, use, operations, preparedness, and response activities. The committee developed a survey composed of 79 questions that fell into seven categories, including Information About You, Information Interests, Flood Information, Data/Information Services, Decision Support Services, Uncertainty, and Socioeconomic Benefits/Water Resources Services Valuation. The AMS administered the survey from the middle of July through the middle of November, 2013. Responses (~142) to the survey will help the committee form a vision and path forward for enhanced integrated water resources services and the science required to deliver them.

The results from this survey have been examined and reviewed by the committee, and in the light of other similar more extensive surveys (such as the NOAA Customer Service Satisfaction Survey) it was deemed sufficiently representative to be of value. The committee will now work towards making these results available to the AMS community.

### **Plans: Water Resources Committee**

November 2014

In addition to the activities noted above, we are now working to best posture the committee for the next 3 years, including how best to reduce the overall size of the committee (now at over 30 members). We feel a roster of 20 would be more appropriate and allow members who want to actively participate to feel their presence is having a visible impact. We still need to establish a fuller web presence for the WRC on the AMS web pages.

## **International Committee on Weather and Climate Strategies (ICWCS)**

**Co-Chairs, Angel McCoy and Renee Leduc Clarke**

### **ICWCS Members 2014**

	<b>Member</b>	<b>Organization</b>	<b>Term Ends Jan.</b>	<b>Private Sector</b>	<b>Gov't</b>	<b>Academia</b>
1	Angel McCoy, Co-Chair	Department of the Interior (DOI), Bureau of Ocean Energy Management (BOEM)	2016	X		
2	Renee Leduc Clarke, Chair	Narayan Strategy	2017	X		
3	Sharon Abbas	CSSI, Inc.	2016	X		
4	Curtis Barrett	United States Agency for International Development (USAID), Office of Foreign Disaster Assistance (OFDA)	2016		X	
5	Paul Downes	(Irish National)	2016	X		
6	Dr. David Green	National Aeronautics and Space Administration (NASA), Program Manager for Disaster Applications in the Earth Sciences Division	2016		X	
7	Brittany Kusniar	California University of Pennsylvania Meteorology (Student)	2016			X
8	Dr. Gerald Mulvey	Professor at the University of the Incarnate Word (Dual Citizen/US and Ireland)	2016			X
9	Wossenu	Ministry of Water and	2016		X	

	Areda Weldekiros	Energy of Ethiopia (Intl/Ethiopia)				
10	Eric Wolvovsky	DOI/BOEM	2016		X	

### **Accomplishments**

To further inform the work of the Committee, the ICWCS established an International Advisory Group. This uniquely identified group consists of six members. The members represent each of the six regions of the World Meteorological Organization. Vacancies remain in the group.

### **ICWCS International Advisory Group Members 2015**

	<b>Member</b>	<b>Organization</b>	<b>Term Ends Jan.</b>	<b>Private Sector</b>	<b>Gov't</b>	<b>Academia</b>
1	Lawrence Ang WMO Region II	- Energy Development Corporation - Ateneo School of Government (International/Philippines)	2016	X		X
2	Dr. Sue Barrell WMO Region V	Australia Bureau of Meteorology (International/Australia)	2017		X	
3	Dr. Zefi Dimadama WMO Region VI	International Centre for Black Sea Studies (Intl/Greece)	2016			X
4	Felix Wanjala WMO Region I	National Commission for Science, Technology and Innovation (Intl/Kenya)	2016		X	

### **2014 AMS Washington Forum**

The committee co-chair, Renee Leduc Clark, assumed the role of acting chair from January 2014 – April 2014. During this time Ms. Clark coordinated the inclusion of ICWCS in the 2014 AMS Washington Forum. The session was entitled, “Typhoon

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Haiyan.” Panelists discussed communication of, impacts from and response to Typhoon Haiyan that struck the Philippines November 8, 2013.

## **Plans**

### Strategy Document

The committee will finalize a strategy document that lays out the ICWCS framework for the next two years by December 2014. The document will be in the form of a white paper laying out the direction of the committee based on AMS foreign policy objectives without overlapping the mission and objectives of the Board on Global Strategies and the International Affairs Committee. The committee is planning to conduct a survey of AMS members to poll their thoughts on how the committee could support the Enterprise’s global needs.

### Webpage Development

The committee has established a sub-committee dedicated to webpage content development and maintenance. The webpage will be fully updated by December 1, 2014 and shared on social media prior to the January Annual Meeting.

<http://www2.ametsoc.org/cwce/index.cfm/committees/committee-on-international-comm-on-weather-and-climate-strategies/>

### 2015 AMS Annual Meeting

On Wednesday, January 7, 2015 from 7:00 am – 8:15 am the ICWCS is hosting a Town Hall during the 95<sup>th</sup> Annual American Meteorological Society Meeting. The theme is: Lessons learned about coping with high impact hydro-meteorological events in the US: “A stepping stone panel discussion for the 2015 DRR Summit on Lessons Learned about Lessons Learned”.

<http://annual.ametsoc.org/2015/index.cfm/programs-and-events/town-hall-meetings/town-hall-meeting-lessons-learned-about-coping-with-high-impact-hydro-meteorological-events-in-the-us-a-stepping-stone-panel-discussion-for-the-2015-drr-summit-on-lessons-learned-about-lessons-learned/>

The ICWCS will have its annual face-to-face meeting on Sunday, January 4, 2016 from 2:00 pm – 4:00 pm.

### 2016 Annual Meeting

The committee is organizing a sub-committee committed to planning our participation in the 2016 Annual Meeting. The sub-committee will commence their planning immediately following the 2015 Annual Meeting.

**Committee on Environmental Security**  
**Chair, John Lanicci**  
**2014 Membership**

	<b>Name</b>	<b>Status/Exp</b>	<b>Affiliation</b>	<b>Gov't</b>	<b>Academic</b>	<b>Private</b>
1	John Lanicci	Chair 1/16/2012 - 1/15/2017	Embry-Riddle Aeronautical University, Daytona Beach, FL		X	
2	Ken Carey*	Member 1/16/2012 - 1/15/2015	Earth Resources Technology (ERT), Inc., Laurel, MD			X
3	Jim Ramsay	Member 1/16/2012 - 1/15/2017	Embry-Riddle Aeronautical University, Daytona Beach, FL		X	
4	Joseph Brenner	Member 1/16/2013 - 1/15/2015	US Naval Academy, Annapolis, MD	X	X	
5	Susan Crate	Member 1/16/2012 - 1/15/2017	George Mason University, Fairfax, VA		X	
6	Genevieve Maricle	Member 1/16/2012 - 1/15/2015	US Agency for International Development, Washington, DC	X		
7	Shawn Miller	Member 1/16/2012 - 1/15/2017	Raytheon Corp., Aurora, CO			X
8	Michael Gremillion	Member 1/16/2014 - 1/15/2017	Deputy for National Intelligence Integration, Plans and Requirements Division AF Director of Weather	X		
9	Jada Garofalo	Member 1/16/2014 - 1/15/2017	Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases, Fort Collins, CO	X		

## **Accomplishments**

**CES Face-to-Face Meeting at AMS.** The CES had planned its fourth annual face-to-face meeting at AMS on February 5<sup>th</sup> in Atlanta, GA. There were a number of current committee members who were either unable to attend for various reasons, such as conflicts with other meetings, or were not able to travel to the AMS annual meeting altogether. This latter reason kept three members (Miller, and new members Gremillion and Garofalo) from attending. Lanicci met with Matt Parker and Gary Rasmussen to discuss the current status of the committee and possible “way ahead” strategies. Given the continuing austere fiscal environment that a lot of agencies and companies find themselves in, the thrust of our discussion was more on the “big picture” in terms of addressing questions such as “What would we like to accomplish?” and “What are we most passionate about?” The result of this discussion was the emergence of a couple of recommendations for action:

- 1) Re-engage with current committee members to ascertain their interest in continuing with the committee. This was particularly timely given that the committee recently changed from “ad-hoc” to a standing committee under the newly formed BGS. Lanicci has contacted all members and heard back from all but one. The updated status is shown in the Membership List at the end of this report.
- 2) Consider the possibility of creating an “ES Anthology” that would include a collection of articles relevant to the AMS membership in this area. No further action has been taken on this idea.
- 3) Consider making key contacts in the community for assistance with the committee’s activities. Some individuals who were suggested included Kris Ebi, Julie Winkler, Randy Pepler, Kim Klockow, Wendy Thomas, and Dave Titley. Lanicci has had an ongoing dialogue with three of these individuals (Pepler, Klockow, Thomas), and knows Winkler and Titley personally. Lanicci and Titley are tentatively scheduled to be part of a Forum 360 panel discussion on Climate Change and National Security on January 5, 2015 at the AIAA SciTech 2015 meeting in Kissimmee, FL.
- 4) Lanicci has had an ongoing dialogue with Betsy Weatherhead regarding the possibility of an “ES interview” that describes the big-picture aspects of ES and how it will impact the weather, water, and climate communities. Suggested publication for the interview would be BAMS. No further action has been taken on this idea as Lanicci’s efforts have been primarily focused on an ES concept piece that will either be submitted for publication or used as the introductory chapter to Lanicci and Ramsay’s ES textbook (see **Additional Activities** below).

**ES in the 2014 AMS Annual Meeting.** ES-type themes appeared throughout this year's annual meeting; several are highlighted here. On Monday, February 4<sup>th</sup>, Lanicci chaired a joint session between the Ninth Symposium on Policy and Socio-Economic Research, the Fifth Conference on Environment and Health, and the Stanley A. Changnon Symposium, entitled *Extreme Weather and Climate Change: Exploring Impacts at the Intersection of Population Change, Health, and National Security*. The link to the papers presented in this session can be found [here](#). On Tuesday, February 5<sup>th</sup>, Lanicci and Dr. Jennifer Thropp, a colleague from Embry-Riddle, presented a paper entitled *Guaranteed Access to Space: Kennedy Space Center/Cape Canaveral, and Climate Change* at the Fifth Conference on Environment and Health. The link to that paper can be found [here](#). While these two examples are directly related to CES activities, one can find quite a few papers that touch on some aspect of ES throughout the annual meeting program. This phenomenon is also being seen in the journals. Two recent examples from *Weather, Climate, and Society* are "Somali Piracy and the Monsoon" by Duncan Cook and Sally Garrett (October 2013 issue), and "Water, Drought, Climate Change, and Conflict in Syria", by Peter H. Gleick (July 2014 issue).

**Additional Activities.** Progress is continuing with the introductory textbook on Environmental Security that Dr. Jim Ramsay and Lanicci are working on with AMS Books. However, there have been delays in completing the book chapters, and we are in the process of revising our contributing author list and production/publication schedule.

## **Plans**

The CES is planning its fifth face-to-face meeting at AMS on Tuesday, January 6<sup>th</sup> at 3:30pm MST. Discussions with the CWCE, POLICY, and ENV & HEALTH conferences on featuring ES-themed sessions within various conferences and symposia have not taken place as in years past. Due to an increasing interest in the relationship between climate change and national security as reported in the Mid-Year Update, there may be a need to rethink the CES outreach strategy, not just within AMS, but beyond. It appears that it may not be necessary to develop sessions or focus groups on ES in order to ***generate interest and enthusiasm***; instead, it may become necessary to search out those individuals and groups who are ***already conducting research in this area***, in order to capture the amount of information being generated on this topic in a way that makes the most sense for the AMS and the professions that it services. This topic will likely lead off the face-to-face CES at AMS. Since much of this interest is happening at the policy-making level, perhaps a discussion with the AMS Policy Program may be most appropriate at this point in time.



## AMS Commission on the Weather and Climate Enterprise

### Activities of the BOARD ON ENTERPRISE STRATEGIC TOPICS (BEST)

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Submitted by: Christopher Strager and Andrea Bleistein  
Co-Chairs, BEST; NOAA's National Weather Service

Member	Position	Term	Email
Christopher Strager	NOAA/NWS	Chair 2012-2016	<a href="mailto:christopher.strager@noaa.gov">christopher.strager@noaa.gov</a>
Andrea Bleistein	NOAA/NWS	Chair 2012-2016	<a href="mailto:andrea.bleistein@noaa.gov">andrea.bleistein@noaa.gov</a>
Wendy Thomas	NOAA/NWS	2015	<a href="mailto:wendy.marie.thomas@noaa.gov">wendy.marie.thomas@noaa.gov</a>
Paul Sandifer	NOAA/NOS	2016	<a href="mailto:paul.sandifer@noaa.gov">paul.sandifer@noaa.gov</a>
Juli Trtanj	NOAA/NOS	2016	<a href="mailto:juli.trtanj@noaa.gov">juli.trtanj@noaa.gov</a>
Michael Hudson	NOAA/NWS	2016	<a href="mailto:Michael.hudson@noaa.gov">Michael.hudson@noaa.gov</a>
Bob Goldhammer	IAEM	2016	<a href="mailto:rggoldhamr@aol.com">rggoldhamr@aol.com</a>
James Stalker	RESPR, Inc.	2016	<a href="mailto:jrstalker@respr.com">jrstalker@respr.com</a>
Stephanie Herring	NOAA/NCDC	2017	<a href="mailto:Stephanie.herring@noaa.gov">Stephanie.herring@noaa.gov</a>

### Board on Enterprise Strategic Topics

With approval of the new CWCE organization by the AMS Council in February 2014, the BEST now manages four committees. They are:

- Committee on Ecological Forecasting
- Climate Services Committee
- Nationwide Network of Networks
- Emergency Management Committee

In February 2014, Andrea Bleistein and Chris Strager organized the Second Symposium on the Weather and Climate Enterprise held in Atlanta, GA. Panel discussions included the following topics:

- [Welcome and Overview, Commission Highlights](#) and Updates which included remarks from the CWCE incoming and outgoing commissioners, overview of



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- the Ecological Forecasting and Emergency Management committees under the BEST, and overview of the AMS Board on Global Strategies as part of the CWCE.
- Joint Presentation Session: Enterprise Topics around a Weather-Ready Nation (Joint with Symposium on Creating a Weather-Ready Nation)
  - Panel Discussion: [Challenges and Opportunities in Communicating Weather and Climate Information](#)
  - Presentation Session: [Emerging Services within the Weather and Climate Enterprise](#)
  - Joint Panel Discussion: [Strengthening the U.S. Space Weather Enterprise](#) (Joint with 11th Conference on Space Weather)

The BEST is now focused on further defining the Enterprise Topic Exchange mechanism and is continuing to make progress on the two newest committees formed focused on ecological forecasting and the emergency management community.

BEST has also developed a wide array of topical sessions for for the Third Symposium on the Weather and Climate Enterprise to be held in Phoenix, AZ in January 2015. These sessions are the following:

- Welcome Session with Keynote Speaker, Joel Myers, AccuWeather Inc
- Communicating the State of Understanding of Climate and Climate Change
- Mind the Gap – Building Bridges Between the Public and Private Sectors to Advance Climate Services
- Emerging Services Within Enterprise
- Making Climate Information Available to Decision Makers: Challenges, Risks, and Uncertainty
- Strengthening the Space Weather Enterprise
- Improving the Communication of Space Weather Information through the Media
- Streaming Media: The Choice Between "Movies" or Weather Products

## **Climate Services Committee**

Chair, Stephanie Herring

Committee membership in 2014 is given here:

<http://www2.ametsoc.org/cwce/index.cfm/committees/committee-on-climate-services/membership/>

In the summer of 2013, Hope Mizzell resigned as Chair of the Climate Services Committee and the CWCE commissioner recruited Stephanie Herring as the new Chair who started in January 2014. To date in 2014, the CCS has decided to engage in 2015 Annual AMS meeting in Phoenix, AZ and has prepared a session within the

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CWCE 3<sup>rd</sup> Symposium. The AMS session will focus on the intersection of public and private sector entities to support the development and delivery of climate services. The Committee is also pursuing opportunities for activities following the annual meeting, including a webinar or meeting focused on topics such as: Research to Applications between the public and private sector; a technical meeting to discuss current and future activities between the public and private sector.

## **Nationwide Network of Networks Committee**

Chair, James Stalker

Committee membership for 2014 is given here:

<http://www2.ametsoc.org/cwce/index.cfm/committees/nationwide-network-of-networks-committee/membership/>

The Nationwide Network of Networks (NNoN) Committee chair has been working very closely with the AMS President, CWCE commissioner, BEST chairs and others since February 2014 to define a clear direction for the future of the committee. On 31 July, the NNoN committee conducted a Webinar to receive input from the community. At the 2014 Summer Community Meeting (SCM) in August, the NNoN committee leadership briefed the community and obtained additional input. At the SCM, NNoN also hosted a panel discussion session, with panelists having been involved in the NNoN committee activity for many years. These panelists discussed what challenges they specifically saw and what suggestions they had to offer toward maintaining sustained interest in the future of an NNoN. Following the SCM, a summary report (draft) was produced and shared with many key participants. The NNoN plans to conduct a workshop in April 2015, to be supported by OFCM and other government agencies (e.g., NWS).

## **Committee on Ecological Forecasting**

Co-chairs: Paul Sandifer and Juli Trtanj

Committee membership in 2014 is given here:

<http://www2.ametsoc.org/cwce/index.cfm/committees/committee-on-ecological-forecasting/membership/>

The Committee on Ecological Forecasting had its first meeting with newly recruited members at the February AMS meeting in Atlanta. There has been an initial focus on two items: Long-term strategy for ecological forecasting that connects the 3 sectors and plans for identifying and strategically connecting with key AMS Boards and Committees. Plans are for the CEF co-chairs and members attending the AMS

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meeting in 2015 to meet with the chairs of at least three key Boards to plan joint sessions for the 2016 meeting. During the year the CEF, through the generous assistance of the AMS, participated in and supported a reception at the NOAA-led multi-agency Ecological Forecasting Roadmap meeting. This prompted more active engagement from other Federal agencies and facilitated greater connectivity with AMS on the topic. The CEF also began engaging the Board on Meteorology and private companies on communication about ecological forecasting. And finally, the World Health Organization CEF member has been working with the co-chairs to bring the vibrio forecasting capacity to fruition in the context of early warning systems for cholera, specifically in Bangladesh. This will be the core of a larger development effort to be launched by the Prime Minister of Bangladesh in the fall of 2015.

### **Committee on Emergency Management**

Co-chairs: Michael Hudson and Bob Goldhammer

Committee membership in 2014 is given here:

<http://www2.ametsoc.org/cwce/index.cfm/committees/committee-on-emergency-management/membership/>

The committee met in person and by teleconference at the February 2014 AMS Annual Meeting but has gotten off to a slow start in terms of setting their plans for the long term. There are currently approximately ten (10) people on the committee representing emergency management, NWS, and related professions including academia. The committee did work with CWCE Symposium Chairs and Societal Applications chairs to co-sponsor a joint session where several emergency-management themed presentations will be given at the AMS Annual Meeting in Phoenix. The committee will have more specific future plans after the upcoming Annual Meeting.