



## Commission on Weather and Climate Enterprise Report – August 2014

Submitted by

Mary M. Glackin  
Commissioner

### **Overview of the Commission and Leadership**

The Commission on the Weather and Climate Enterprise (CWCE) has had a very active period in 2014 to date performing for the first time under its recently approved [new organizational structure](#). This structure added the Board of Global Strategies; adjusted the scope of three previous Boards; converted three ad-hoc committees to standing committees; and added 5 new committees. The relative ease of this transition is a testament to the hard work of Past Commissioner Matt Parker and the dedication and engagement of all the Board and Committee members and chairs. Nearly 300 volunteers are now engaged in the Commission's work not counting many additional other members engaged in the Forecast Improvement Group. Matt and Future Commissioner Bill Mahoney, and I have worked closely in overseeing Board activities and I am very grateful for their assistance. We are also fortunate to have outstanding leadership in the Commission Boards and Committee; these individuals are identified below. Additionally 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 in August in conjunction with the Summer Community Meeting.

### **CWCE Website**

In May the Commission website migrated to the new content management system. This transition has allowed the website to better serve members of the Commission. Check it out at <http://www2.ametsoc.org/cwce/>. The next step will be to begin to take steps to better inform interested/casual visitors about the Commission and how it might meet their interests. Kudos to AMS staff for assistance with this transition. Because we now have an up to date website, this report does not include membership lists for Boards and Committees with a single exception as explained below.

### **Meetings**

The Board on Enterprise Strategic Topics led by Andrea Bleistein and Chris Strager organized the ***Second Symposium on the Weather and Climate Enterprise*** held in Atlanta, GA. This Symposium among other things allowed the Commission to highlight its new efforts as reflected by the expanded structure of the Commission. Planning is in full swing for the Third Symposium in Phoenix in 2015.

An ***AMS Short Course on Weather and Climate Financial Risk Management*** was conducted on February 2 in conjunction with the Annual Meeting by the Financial Weather and Climate Risk Management Committee under the leadership of Chair Kevin Stenson. There were over 20 attendees and the reactions were very positive.

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 with attendance estimated at between 75 and 150 people depending on the session.

Once again the Board on Enterprise Economic Development led by Shawn Miller organized a very successful **AMS Washington Forum**. It was held April 1-3, at the AAAS in Washington, D.C. The meeting theme was “Leveraging the Enterprise: Strengthening Our Value to Society.” Feedback on the event was resoundingly positive. The meeting report is available [here](#). Attendance including speakers and participants was 170, higher this year from previous years.

The Board on Enterprise Communication led by Betsy Weatherhead held a very successful **Summer Community Meeting** in State College, PA on August 11-13. The unifying theme of “*Improving Forecasts and Forecast Communication*” provided a rich discussions and an opportunity to hear from professionals outside our field. Attendance was one of the highest with nearly 180 people. A final report is forthcoming.

### **Notable CWCE Efforts**

**Water Strategy:** Based on Council’s discussion in February the Commission sought input on the proposal to rename the Commission to include the term “water”. A separate submission is provided recommending we take this action.

**Forecast Improvement Group:** Based on February’s Council’s discussion of the AMS Study Series, the Commission and its Board on Enterprise Communication led by Betsy Weatherhead developed a draft terms of reference for the Forecast Improvement Group to convert this effort to a standing committee of the Commission. We plan to submit this for Council approval. In the meantime, the FIG continues to be very busy engaging the sectors in needed steps to improve forecasting including hosting a webinar to educate members on the differences between OSE/OSSE.

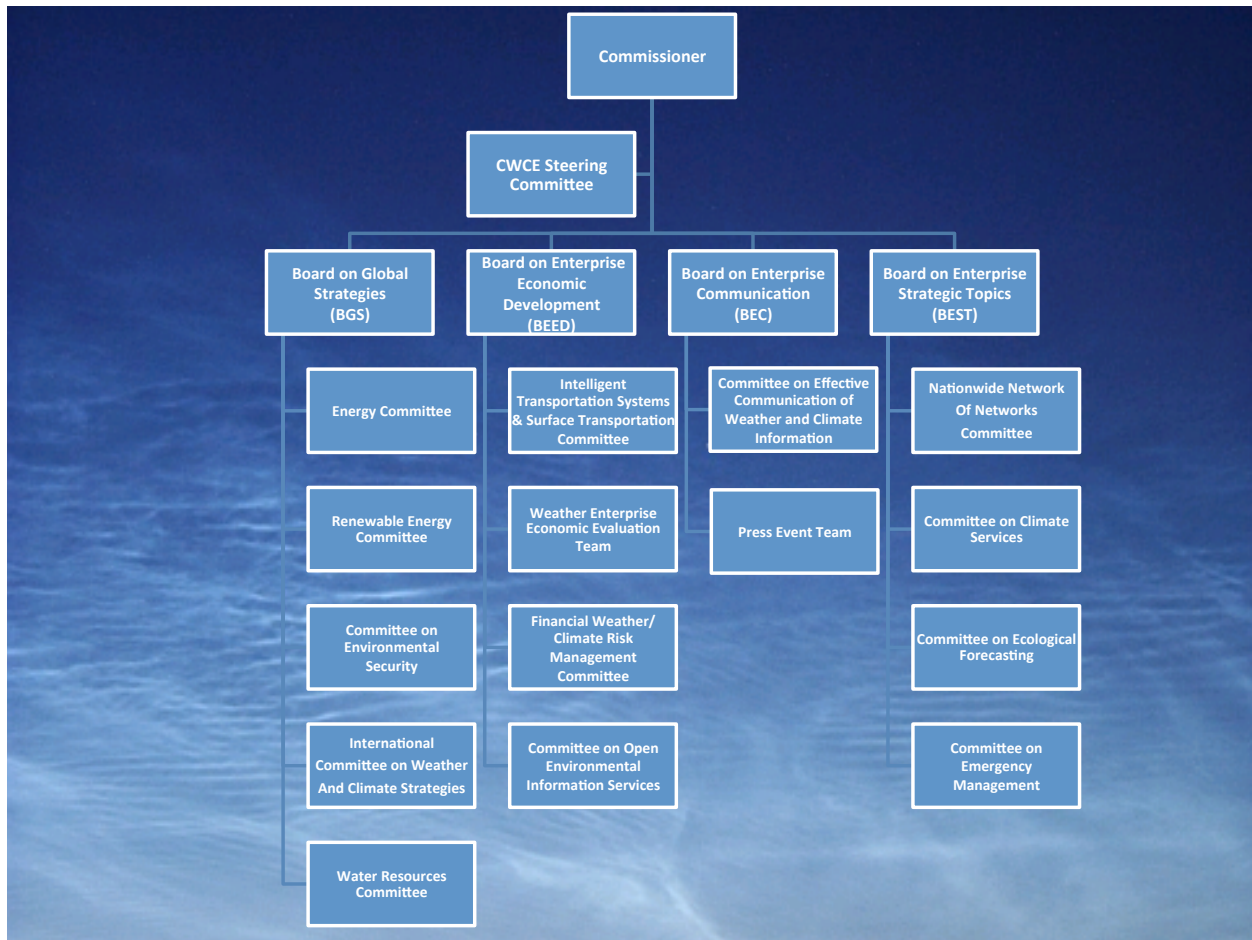
**Nationwide Network of Networks Committee:** The Nationwide Network of Networks (NNoN) Committee chair, James Stalker has been working very closely with the AMS President, CWCE Commissioner, BEST chairs and others since February 2014 to define a clear direction for the future of the Committee. They held a webinar in July and a panel discussion at the AMS Summer Community Meeting seeking community input on next steps. NNoN is considering the input they received on challenges facing the community regarding NNoN and suggestions toward maintaining sustained interest in the future of a NNoN.

**Board on Global Strategies:** This new Board chaired by Melinda Marquis held its first in-person meeting on August 14 at Penn State University the day after the AMS Summer Community Meeting. The purpose of this meeting was two-fold. The first part of the meeting included speakers from outside the Board, who shared their perspectives and suggestions for how the Board can be most useful. The second part of the meeting focused on the Board’s future priorities and activities, including discussion of the previous presentations and the proposal to prepare a climate information guidebook that will bridge the gap between existing climate science products and the kind of information needed by decision-makers. The Board will be developing its future agenda based on the rich input and discussions. One major discussion item was promoting the free and open exchange of weather, climate, and water information globally.

**Weather Enterprise Economic Evaluation Team (WEEET):** This team’s goal is to determine the size and impact of the weather enterprise. Phase 1 (data gathering) was completed in December 2012. Phase 2 (literature review) was completed in March 2013. Current efforts are focused on fund-raising to support the planned Request for Proposal (RFP) process. The AMS will execute the RFP process. The study will require two years, and will be updated every two years. Matt Parker who led the creation of the WEEET continues to drive this effort as Past Commissioner.

**Space Weather:** While the Commission doesn’t have a specific committee on Space Weather, Past Commissioner Matt Parker has worked with STAC’s Committee on Space Weather to engage with the space weather community to enhance the development of their enterprise and improve communication across sectors. A more complete report is given in the attached.

**Creative Outreach:** The Commission continues to seek ways to engage communities outside of the AMS community. For example, members of the Renewable Energy Committee under Andy Clifton’s leadership 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.



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

**Submitted by:  
Matthew J. Parker, CCM  
Past-Commissioner**

Over the past two-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 in 2014 to date.

A panel entitled, "Strengthening the U.S. Space Weather Enterprise" was held at the 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?*

Genevieve 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*
- *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 many instances, space weather activity reports submitted to the media tend to degenerate into worst-case scenarios (e.g., Carrington Event) that are misleading. The CWCE and Committee on Space are collaborating with the Board of Broadcast Meteorology are in discussion with OSTP about a possible workshop. The preliminary goal of this workshop will be to identify specific issues to address and to offer suggestions on how the media can make improvements. Besides the involvement of the CWCE's Past Commissioner, the leadership of the BEC's Committee on the Effective Communication of Weather and Climate Information and the Press Event Team will also represent the CWCE during this activity. A follow-on panel discussion will also be planned for the Third Symposium on the Weather and Climate Enterprise to be held at the 2015 AMS Annual Meeting.

## **BOARD ON ENTERPRISE STRATEGIC TOPICS (BEST)**

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

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 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 Board on Enterprise Strategic Topics is now focused on further defining the Enterprise Topic Exchange mechanism and will continue to make progress on the two newest committees formed focused on ecological forecasting and the emergency management community. BEST is also working closely with AMS to define sessions for the Third Symposium on the Weather and Climate Enterprise to be held in Phoenix, AZ in 2015.

**Climate Services Committee**  
**Chair, Stephanie Herring**

In 2013, there was minimal activity of the CCS due to a focus on the development of new terms of reference for the Climate Services Committee to account for the new CWCE restructure. 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. To date in 2014, the CCS has decided to engage in 2015 Annual AMS meeting in Phoenix, AZ and is planning a session within the 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.

## **Nationwide Network of Networks Committee Chair, James Stalker**

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. In late July, the NNoN Committee conducted a webinar open to the weather and climate community to seek input. In August 2014, the NNoN organized a panel discussion session at the AMS Summer Community Meeting covering each speaker's history with NNoN, challenges they specifically see and suggestions they offer toward maintaining sustained interest in the future of an NNoN. The NNoN is currently reviewing this input to formulate future actions.

## **Committee on Ecological Forecasting Co-Chairs: Paul Sandifer and Juli Trtanj**

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 AMS panel session and paper session in 2015. The Committee is still looking to recruit 2 additional members: one who has modeling experience and another who has small business expertise.

## **Committee on Emergency Management Co-Chairs: Michael Hudson and Bob Goldhammer**

The Committee met in person and by teleconference at the February 2014 AMS Annual Meeting. There are currently approximately ten (10) people on the Committee representing emergency management, NWS, and related professions including academia. The Committee plans on doing bi-monthly conference calls to identify projects for future activities and is working to define some potential activities for the 2015 Annual Meeting (i.e. panel or papers). They are still looking to recruit a member who is a meteorologist.

## **AMS Board on Global Strategies (BGS)**

### **Melinda Marquis, Chair**

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

- February 14, 2014 (telecon)
- March 20, 2014 (telecon)
- April 8, 2014 (telecon)
- May 8, 2014 (telecon)
- June 12, 2014 (telcon)
- August 14, 2014 in person

### **Accomplishments**

The Board has met monthly and initial efforts focused on only one of two proposed projects: the climate information guidebook and to postpone plans to draft curriculum training for expert “translators” of climate information.

The Board Chair has been soliciting sponsorship to fund preparation of the climate information guidebook. The Board Chair submitted a position listing to the NOAA Rotational Assignment Program (NRAP) for a project manager to conduct a literature review and coordinate contributions from expert contributors to create the guidebook. However, this effort wasn’t successful.

The Board has populated its new web site [here](#).

The Board held its first in-person meeting on August 14 at PSU, the day after the AMS Summer Community Meeting. The purpose of this meeting is two-fold. The first part of the meeting included speakers from outside the Board, who shared their perspectives and suggestions for how the Board can be most useful. The second part of the meeting focused on the Board’s future priorities and activities, including discussion of the previous presentations and the proposal to prepare a climate information guidebook that will bridge the gap between existing climate science products and the kind of information needed by decision-makers. This meeting resulted in numerous possibilities for future BGS efforts that the Board will evaluate.

### **Plans**

Possibilities of additional activities include organization of one of more panels at the AMS Annual Meeting. If the BGS chooses to organize panels on boundary studies, it will be helpful to coordinate with the AMS Committee on Climate Services (in CWCE) and the Committee on Applied Climatology (in STAC). A possible existing venue is the Symposium on Societal Applications: Policy, Research and Practice, which will be in its 10<sup>th</sup> year at the 2015 meeting.

The Board plans to schedule a call to brief the following representatives of the WMO on the BGS’ plans to prepare the guidebook: U.S. Permanent Representative to the WMO (Laura Furgione or her designee), President of the WMO Commission for Climatology (Tom Peterson), and Geoff



Love. While Geoff is no longer a representative of the WMO he has much relevant experience. Close coordination and engagement with the WMO is essential to the success of the proposed guidebook.

The Board Chair plans to continue to seek support for the climate information guidebook from WMO, the NOAA Climate Program Office, and foundations, etc.

The Board looks forward to adding content to its new web site to advance its mission.

### **Change in BGS Membership**

A student member, Valerie Rountree of the University of Arizona, has joined the Board. Also, Eileen Claussen of the Center for Climate and Energy Solutions (C2ES) has retired and Joe Casola, of C2ES will replace her on the Board.

### **Energy Committee Chair, Heidi Centola**

#### **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. The EC and REC also did 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 also 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**

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.

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. We modified the Call for Papers to encourage abstracts focused on utilities, as we would like to have specific sessions focused in this area. We are also in the process of organizing ideas around a Town Hall Meeting.
- 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 also planning a networking event and securing reception sponsors. The networking event will be immediately following the THM (preference is Monday evening) similar to previous years.
- 3.) Education – to engage the student conference and to evaluate whether the EC will hold a short-course at the 2015 meeting. In addition, we are looking to have a Weather Challenge in the summer of 2015, which we will promote throughout the AMS annual meeting, especially at the student conference.

6Energy is looking to do a joint session with the MJO Symposium and AI Committee during the AMS-PHX Annual meeting.

The EC is creating a new and improved 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.

## **Renewable Energy Committee Chair, Andrew Clifton**

### **Accomplishments**

The REC collaborated with the Energy Committee on many aspects of organizing and executing the 5Energy conference at the AMS Annual Meeting in Atlanta.

In addition, 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.

### **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.

### **Membership changes**

May 2014: Jennifer Newman elected to Co-chair

## **Water Resources Committee**

### **Chair Tim Schneider**

#### **Accomplishments**

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:

- A growing, 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.
- 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 40), participation by APT members has strengthened the discussion.
- We also began to plan a series of white papers on various water resources topics of interest. We are currently brainstorming and identifying topics to pursue, but topics identified as needs by the ASCE CACC paper are considered to be valuable topics for consideration.

#### **Plans**

In addition to the activities noted above, we are actively discussing how to best integrate the functions of APT and WRC, including how best to reduce the overall size of the Committee (now at over 40 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-Clark**

#### **Accomplishments**

As of October 2013, the new Terms of Reference were finalized along with the restructuring of the Committee.

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 Haiyan.” Panelists discussed communication of, impacts from and response to Typhoon Haiyan that struck the Philippines November 8, 2013. Curt Barrett, Consultant to USAID Office of Foreign Disaster Assistance, a Committee member, served on the panel. The panel was informative and included discussion on new approaches to communicating severe weather events such as the DisasterAWARE platform. Other panelists included Nicholas Behnken, Sr. Technical Representative Pacific Disaster Center; Fred Branski, President of Commission for Basic Systems, and NWS, International User Requirements Liaison; and David Robinson, Professor at Rutgers University and NJ State Climatologist.

2015 AMS Annual Meeting – Because the ICWCS missed the deadline to propose session topics for the annual meeting, the Committee has reached out to existing conferences in order to produce a mini one session “sub-conference” during the Annual Meeting. At present, the ICWCS is awaiting responses from the Program Chair contacts for the Sixth Conference on Weather, Climate, and the New Energy Economy and the Sixth Conference on Environment and Health. For 2016, the Committee will work with the Board Chair and Commissioner to determine the right venue to present international activities.

### **Plans**

Committee Vacancies – Vacancies remain in the Committee and the International Advisory Group. All vacancies are expected to be filled by October 2014.

2014 Strategy Document – Completion of the Strategy Document has been delayed, but work will resume shortly. The document will lay out the ICWCS framework for 2014 and the next two years. The document will be in the form of a white paper laying out the direction of the Committee based on US foreign policy objectives as well as AMS members’ international needs (community wide). This Strategy Document would be developed by conducting a survey of AMS members to determine how the Committee could support the Enterprise global needs.

Future Activities in 2014 and beyond:

- Develop workshop or activity on defining socioeconomic benefits to provide weather, water and climate services abroad, especially in developing countries
- Look for projects already funded by donors such as the World Bank that involve modernization of hydromet services of developing countries and develop a proposal to provide training & demonstration of US technology involving US Weather Enterprise partners

## **Committee on Environmental Security Chair, John Lancinni**

### **Accomplishments**

**CES Face-to-Face Meeting at AMS.** The CES had planned its fourth annual face-to-face meeting 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. The Committee Chair, Jon 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 took an action to talk to the current Committee members; to date he has contacted all but one.
- 2) Consider the possibility of creating an “ES Anthology” that would include a collection of articles relevant to the AMS membership in this area.
- 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 took an action to contact these individuals and discuss the Committee’s activities and ways that they could help.
- 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.

**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 finding lends credence to the idea of the ES Anthology suggested at the CES meeting on February 5<sup>th</sup>.

## **Plans**

In addition to the ideas noted above that were discussed during 2014 AMS Annual Meeting, plans include continuing work on the introductory textbook on Environmental Security that Dr. Jim Ramsay and Lanicci are working on with AMS Books. Publication is still projected to be sometime in 2015.

## **AMS Board on Enterprise Economic Development (BEED)**

### **Chair, Shawn Miller**

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)

The next BEED meeting will occur in Sept.

### **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 meeting report is available [here](#). Attendance including speakers and participants was 170, higher this year from previous years.

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

The planning of the 2015 AMS Washington Forum to be held again in the AAAS Building has begun. The event will be held on April 21-23.

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

#### Discussion Items

Water: Louis Uccellini (NWS Director) proposed at the Annual Meeting that we add “water” to the title of the CWCE – the Steering Committee and AMS Council talked about this after the 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. CWCE is due to go back to the AMS Council this summer with a recommendation and how it would manifest itself. We briefly returned to the topic of adding “Water” to the CWCE name/charter. There was agreement among a few BEED members that the careful approach being taken by the CWCE on this subject is the right way to go – in particular we need to be sure that bringing in new areas (whether water or other areas such as biological aspects as described in the 2016 draft theme), we are specific enough to give those communities strong motivation to work more closely with us, and also make sure we’re remaining committed to our core activities.

Shawn briefed the Committee on the latest status of the CWCE web pages (now live). All of the Committees under the BEED are now actively managing their own web pages as well.

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).

## **Committee on Open Environmental Information Services (COEIS) Chair, Warren Qualley Accomplishments and Plans**

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

- 3 February 2014 (Atlanta)
- 17 Apr 2014 (telecon)
- 6 August 2014 (telecon)

### ***Startup Activities***

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

- 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 is prepared to assist this Committee with such things as webinars.

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 and April telecon, Peter Neilley gave a presentation about the Open EIS prototype including partners, the CRADA being used, and schedule.

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.

Unfortunately, in early June, the EISWG members were informed by the EISWG Co-Chairs (passing information along from Louis Uccellini) that the NOAA 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. NOAA intended to make a public announcement concerning cancellation of the NCEP trial.

## **Intelligent Transportation Systems/Surface Transportation (ITS/ST) Committee: Chair, Jim Koermer**

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

- 4 February 2014 (Atlanta)
- 22 Apr 2014 (telecon)

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

February 2014 AMS Annual Meeting Transportation Sessions:

- 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>.
- 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.

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

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.

Just like the Annual Meeting above Jim Koermer is seeking a volunteer(s) for ideas or for helping to organize a transportation session.

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

Brenda and the Mobile Observations Subcommittee worked to include input for the Summer Community Meeting in State College, PA.

### ***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 continue to lead this project, with some progress being made.

### ***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,

### ***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 to be part of the ITS 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 is planning on some big demonstration activities as well.

### ***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 are now exploring surface transportation inputs for the upcoming AMS Summer Community.

### ***Miscellaneous Items***

Paul Pisano continues to provide updates from the U.S. Department of Transportation.

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 will take the inputs and send them to Brenda Boyce, who will send out a draft for final Committee review Jim sends them on to Ken Leonard, the director of the USDOT ITS JPO.

Jim Koermer is actively seeking suggestions for potential new members or whether current members would like to extend.

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

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

- 3 February 2014 (Atlanta)
- 10 Apr 2014 (telecon)
- 17 June 2014 (telecon)
- 14 August 2014 (telecon)

### ***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 explored creating and publishing a book in its topical area. The target audience was intended to be practitioners (meteorologists and financial people). Discussions were held with the CWCE Commissioner and AMS Executive Director to determine if AMS should publish the book. After careful deliberation the Committee decided not to pursue publication as a committee. Rather some members of the committee will pursue this.

### ***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.

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.

**Weather Enterprise Economic Evaluation Team (WEEET)**  
**Chair, Scott Rayder**

**Accomplishments and Plans**

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

- 29 May 2014 (telecon)

At the BEED meeting in Atlanta, Scott Rayder reported on the Committee's activities and status. Scott was recruited to lead this team after a discussion at the 2012 AMS Washington Forum. This team is determining the size and impact of the weather enterprise. Phase 1 (data gathering) was completed in December 2012. Phase 2 (literature review) was completed in March 2013. Scott said that the team hopes to release the RFP in the Fall. The AMS will execute the RFP process. The study will require two years, and will be updated every two years. Matt Parker led the creation of the WEEET and continue to drive this effort even though he is now the Past Commissioner.

At the March 31 CWCE Steering Committee Dinner, Matt Parker provided a brief of progress made to date by the WEEET. At that time, fund raising was categorized as a challenge and donors (firms) outside the AMS community were being sought. Only about 20% of the desired funds had been secured at that time. Some SC members suggested that the project may need to be scoped down to get the process going, however scoping down would also significantly reduce the weight of the activity, 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 status of fund-raising activities; progress is being made on that front.

## Board on Enterprise Communications

### **Betsy Weatherhead Chair**

The Board on Enterprise Communication (BEC) continues to focus its activities on bridging communication between public, private and academic sectors for communities that are either new or evolving. The BEC planned and held an outstanding AMS Summer Community Meeting at Penn State, August 11-13, 2014, with a singular focus on improving weather forecasts and forecast communication. The BEC's three primary subcommittees: the Committee on Effective Communication of Weather and Climate Information (CECWCI), the Press Action Team, and the Forecast Improvement Group continue to involve a broad set of AMS members. All three committees' efforts are reflected in their Terms of Reference (see website). Betsy Weatherhead, Eileen Shea and Doug Hilderbrand, incoming BEC co-chairs have spoken on how to transfer leadership gradually over this coming year. Both Eileen and Doug have joined Betsy in helping plan the AMS Summer Community Meeting.

**Sub-committees:** The BEC has three subcommittees: The Committee for Effective Communication of Weather and Climate Information (CECWCI) under the new leadership with Jennie Dissen, Bob Ryan and Cliff Mass; The Press Event Team, is a new committee and is being formulated and led by Veronica Johnson, past chair of the BEC and Jacob Wycoff. The Forecast Improvement Group, formulated in 2012, has focused their efforts on identifying areas of agreement for the making significant and continued improvements to improve forecasting capabilities. They have drafted a TOR which is being submitted to Council for approval.

### Committee on Effective Communication of Weather and Climate Information Co Chairs: Bob Ryan, Jenny Dissen and Cliff Mass

CECWCI met at the AMS annual meeting and also had an important panel at the AMS Annual Meeting on *Challenges and Opportunities in Communicating Weather and Climate Information*. The latter was moderated by Clifford F. Mass, University of Washington; and Jenny Dissen, NOAA/NESDIS/NCDC/CICS and included panelists: Barry Lee Myers, AccuWeather, Inc; Julie L. Demuth, NCAR; Jason Samenow, Washington Post; Eli Jacks, NOAA/NWS Office of Climate, Water, and Weather Services.

CECWCI held a meeting on winter storms on February 5 and they were actively involved in the planning of the Summer Community Meeting, especially in the Forecast Communication theme. Committee member Joe Witte is attending the Broadcast Community and will be updating the community on CECWCI efforts with a presentation provided by Bob and Jenny.

CECWCI is actively working on its activities at AMS 2015 Annual Conference. One key topic area of focus from CECWCI:

- o What is the role and responsibility of scientists and broadcast meteorologists to effectively represent the science from short term predictions to long-term projections to errors
- o What is the role and responsibility of scientists in communicating errors and uncertainty
- o What are effective modes of communications to help decision-making on the short term and long-term

Ideas being pursued are a few academic sessions and one large Town Hall Session. Also, a live interview between someone from NBC, science, and business / industry is being considered.

#### CECWCI Role in National Climate Assessment

The committee is exploring how it could be a helpful resource to the NCA on effective communications related to NCA.

#### Forecast Improvement Group

Efforts continued to promote communication across the public, private and academic communities to improve forecasting capabilities within the country. More than 200 weather professionals have volunteered to participate in these conversations. The committee still stands behind its original recommendations, which were developed and reviewed in 2013.

#### Key FIG Recommendations:

- Significantly improve the community's computing power for both development of new models and delivering accurate forecasts.
- Increase and focus efforts to both develop and run global models.
- Develop a coordinated national program to develop regional modeling techniques.
- Support active collaboration between public, private, and academic sectors with models particularly in their final stages of development.

- Embrace alternative data sets and alternative business models to acquire key measurements that can improve forecasting research and operations.
- Prioritize observational data and act on these prioritization efforts.
- Strengthen relationships within the public, private, academic, and user communities to assure economic and efficient development and use of forecasting capabilities.

The recommendations in their more full text were put on the AMS website for a comment period during the summer of 2013. The comments were all small and have been incorporated.

The FIG met face-to-face on April 4, 2014. The meeting summary is posted at <http://www2.ametsoc.org/cwce/index.cfm/boards/board-on-enterprise-communication/forecast-improvement-group/fig-documents/summary-of-april-4-2014-fig-meeting/>.

Betsy Weatherhead, as chair of the FIG, participated in the EISWG / Science Advisory Board on April 30. The following meeting summary was reviewed and approved by the EISWG/ SAB co-chairs Walt Dabberdt and Nancy Colleton:

1) There is a clear desire for the messages from NOAA's Science Advisory Board's Environmental Information Services Working Group (EISWG), UCAR Community Advisory Committee for NCEIP (UCACN) and AMS Forecast Improvement (FIG) to be coordinated when appropriate. Louis has requested this coordination, and we all see the value in it. However, this will not restrict or guide the content of any recommendations any one group may come up with.

2) The scope of EISWG, UCACN and FIG are each different. EISWG offers formal advice to NOAA as a sub-group of NOAA's Science Advisory Board; NOAA is obliged to respond to that advice. UCACN offers advice from the university community to NWS/NCEP; in the past the recommendations were taken seriously and tracked for NCEP's response. The FIG offers a forum for community discussions and has come up with recommendations for making significant forecast improvement; these recommendations are not solicited and do not require a response. The general goals of the three groups are in good agreement, even if the scope and details are significantly different.

3) The FIG has come up with seven recommendations for significant improvements in weather forecasting, including recommendations about computing, modeling, observations and coordination.

4) The FIG's future efforts will focus on examining alternative business models, refining the seven FIG recommendations to be more actionable, and clarifying issues that may be obstacles to significant improvements in forecasting.

5) The FIG has recently discussed the need for community-wide strategic planning. The value of such planning was discussed at the EISWG meeting, as well as the difficulty in finding an appropriate venue (SAB, FIG, OFCM, etc.) for those discussions. EISWG members were in agreement with the value of community-wide strategic planning, but offered no clear indication that leadership on this issue would be undertaken by the SAB, although participation of the SAB may be possible if another group took leadership. Walt and Nancy may bring this up at the next SAB meeting.

6) Suggestions were made to the FIG to consider writing a BAMS article on work done to date as well as writing an AMS Policy Statement.

7) Intentions for continued coordination of EISWG, UCACN and FIG were agreed by all.

The FIG has written its Terms of Reference with considerable input from its members and is awaiting approval by AMS. It is the sincere hope of the FIG members that the TOR will be adopted without alteration, out of respect to the FIG membership who worked on the TOR.

Summer Community Meeting 2014: The most visible effort of the BEC every year is the Summer Community Meeting (SCM) held each year. This year's SCM was held at Penn State on August 11-13. The theme of the meeting is Improving Weather Forecasts and Communication.

Key speakers were Joel Myers, Eric Barron, and Louis Uccellini. More complete information is available at <http://www.ametsoc.org/MEET/fainst/2014summercommunitymeeting.html>.

The organizing committee has been particularly active and productive Peter Ahnert, Drew Anderson, Don Berchoff, Fred Carr, Jenny Dissen, Tom Fahy, Doug Hilderbrand, Bob Goldhammer, David Green, Richard Grumm, Susan Jasko, Marshall Moss, Jon Nese, Jon Porter, Valerie Ritterbusch, Bob Ryan, Eileen Shea, Jen Sprague, James Stalker, Dave Titley, Betsy Weatherhead (Chair)

The students, as well, have been impressive and active in the meeting preparations including setting up twitter feeds and facebook pages for the meeting. The organizing committee is particularly grateful to The Penn State Department of Meteorology and AccuWeather for their support. Betsy Weatherhead reached out to a few key colleagues to look for student sponsorship and received funds to support student registrations which are already highly discounted to \$50 by AMS. Special thanks to UCAR, Sandy MacDonald, Earth Networks, WeatherCall, WeatherFlow and Vaisala for their sponsorship of students.

Summer Community Meeting 2015: Discussions are underway for the 2014 Summer Community

Meeting. Space has been requested by Betsy Weatherhead for the space at UCAR for the week of August 3-7, although no commitment was made for holding the meeting in Boulder. North Carolina has already expressed some interest in possibly holding the 2015 meeting there.