

# Scientific and Technological Activities Commission (STAC) Report March 2016

**Bruce Telfeyan, STAC Commissioner**  
**David Stensrud, STAC Past-Commissioner**  
**Genee Fisher, STAC Future-Commissioner**



Front row: Kristie Ebi, Curtis Alexander, Glen Romine, Bruce Telfeyan, Genee Fisher, Dev Niyogi, Dale Durran, Cecilia Miner, Mohan Ramamurthy, April Hiscox

Second row: John Balbus, Jeff Collett, Chun-Chieh Wu, Jennifer Griswold, Sumant Nigam, Richard Behnke, Eric Bruning, James Renwick, Dave Stensrud, Woody Roberts, Ryan Fogt, Sara Tucker, Alexandria McCombs, Eric Gilleland

Back row: Daniel Nietfeld, John Eylander, Andre Van der Westhuysen, Ali Tokay (hidden behind Richard Behnke), Bruce Baker, Tom Galarneau

For the second year, we moved the STAC Annual Meeting to Sunday from 11 AM to 3 PM. We had adopted this schedule in New Orleans for the 96<sup>th</sup> Annual Meeting and it proved to be successful in enabling more boards and committees to be represented. In 2016, 20 of our 36 boards and committees were represented while this year in Seattle, 26 of the 36 were represented. We attribute this improvement to a greater push to get B/Cs represented even if the Chair was unavailable and also to a greater familiarity with the new Sunday format.

Preceding the STAC meeting, Claudia Gorski led a very successful training session for planning, developing, and running an AMS Conference or

Symposium. Her session targeted program chairs and assistants (current chairs or those wishing to chair in the future).

This year for the first time, STAC arranged for AMS to provide a note-taker (Douglas Hahn) for the meeting to help us record all activities. This proved to be extremely effective. The notes are attached in the appendix at the end of this report.

**Conference summaries were received and posted (or will be posted shortly) on the AMS STAC website for the following sessions held in Seattle:**

**13th Symposium on New Generation Operational Environmental Satellite Systems**

<https://www.ametsoc.org/stac/index.cfm/committees/committee-on-satellite-meteorology-oceanography-and-climatology/news-and-announcements/13th-annual-symposium-on-new-generation-operational-environmental-satellite-systems-summary/>

**15th Conference on Artificial and Computational Intelligence and its Application to the Environmental Sciences**

<https://www.ametsoc.org/stac/index.cfm/committees/committee-on-artificial-intelligence-applications-to-environmental-science/news-and-announcements1/15th-conference-on-artificial-and-computational-intelligence-and-its-application-to-the-environmental-sciences/>

**Special Symposium on Severe Local Storms**

<https://www.ametsoc.org/stac/index.cfm/committees/committee-on-severe-local-storms/news-and-announcements/summary-of-special-symposium-on-severe-local-storms-jan-2017/>

**Symposium on Meteorological Observations and Instrumentation**

<https://www.ametsoc.org/stac/index.cfm/committees/committee-on-measurements/news-and-announcements/symposium-on-meteorological-observations-and-instrumentation-jan-2017/>

**19th Conference on Atmospheric Chemistry**

<https://www.ametsoc.org/stac/index.cfm/committees/committee-on-atmospheric-chemistry/news-and-announcements/19th-conference-on-atmospheric-chemistry/>

**14<sup>th</sup> Conference on Space Weather**

<https://www.ametsoc.org/stac/index.cfm/committees/committee-on-space-weather/news-and-announcements/14th-conference-on-space-weather/>  
**8<sup>th</sup> Conference on the Meteorological Applications of Lightning Data:**

The Eighth Conference on Meteorological Applications of Lightning Data was held on 23-25 January at the 2017 AMS Annual Meeting in Seattle, Washington. Study of atmospheric electricity is traditionally observation driven, making this year's Annual Meeting theme especially appropriate. Presentations at the conference covered lightning detection, physical process studies linking lightning and meteorology from cloud to global scales, lightning safety, lightning's interaction with the built and natural environment, and risk modeling. Operational applications of each of these topics were discussed in each session. Highlights of the meeting included a session of invited talks discussing technological advances in charge transfer measurement and lightning mapping techniques. Two additional lightning-related talks were given in the Observations Symposium. Past successes in continental-scale ground stroke measurement are now routinely accompanied by global measurement of larger peak current strokes and, very soon, full-disc mapping of total lightning by the Geostationary Lightning Mapper on GOES-R. Regionally, detailed mapping of lightning channel structure with Lightning Mapping Arrays is now routine, with interferometric techniques further pushing the level of detail for individual flashes. These new measurements continue to deepen the possibilities for careful study of the cloud processes which give rise to lightning, and to broaden the range of applications in public safety, meteorology and space weather, as evidenced by the range of meteorological and human phenomena addressed during the conference. Student presentations were featured in sessions throughout the conference. Student award winners were:

- 1st place oral – Tyler Kranz (U. Arizona);
- 2nd place oral – Retha Matthee Mecikalski (U. Alabama - Huntsville);
- 1st place poster – Thomas Philippe Lavigne (Texas A&M – Corpus Christi);
- 2nd place poster – Brody Fuchs (Colorado State).

In summary, The Eighth Conference on Meteorological Applications of Lightning Data focused on observations leading to hypothesis, modeling,

inferences, and practical applications, serving to push forward the discussion of science and technology in the area of atmospheric electricity.

Additionally, a **Special Symposium on Multiscale Atmospheric Predictability** was held:

A special one-and-a-half-day symposium was held on 25-26 January 2016, as part of the 97th AMS Annual Meeting in Seattle, Washington. As a follow-up of last year's successful meeting on the same subject area, the symposium featured a mix of invited and contributed presentations covering intrinsic versus practical predictability of multiscale atmospheric phenomena ranging from severe tornadic storms, hurricanes, mid-latitude baroclinic jet-fronts, to MJOs, and monsoons that drew a wide audience. The symposium started with the core science keynote talk presented by Kerry Emanuel from Massachusetts Institute of Technology on the predictability of tropical cyclones who highlighted the importance of the initial inner-core moisture content and structure on the subsequent intensification of tropical cyclones, and the challenge in our current capacity to measure the inner-core moisture. A general consensus from the symposium is that the 2-week ultimate predictability limit is likely hold for mid-latitude day-to-day synoptic weather while it is clear that we have considerable room to improve our models and initial conditions to reach this ultimate deterministic predictability limit. Promising results have been reported in developing the next generation numerical weather prediction models highlighted by the US next-generation global prediction system (NGGPS) development led by Shian-Jian Lin at NOAA Geophysical Fluid Dynamic Laboratory. Fuqing Zhang (PSU) and Roberto Buizza (ECMWF), Symposium Co-Chairs.

#### **Named Session Requests:**

- The Committee on Climate Variability and Change requested a named session for Dr. Jay Fein who passed away in Nov 2016. Jay was an effective enabler of climate research throughout his tenure at the National Science Foundation. The session will be entitled "The Legacy of Jay Fein" and held in Austin with the 98<sup>th</sup> Annual Meeting.
- The Committee on Applied Climatology requested a named session honoring Kelly Richmond. Dr. Richmond (of the Desert Research Institute) passed away in Nov 2016 leaving behind a strong legacy of

leadership and research in the mountain and climate science community. The session will be named “Remembering and Building upon the Legacy of Dr. Kelly Richmond” and held at the 23<sup>rd</sup> Conference of Applied Climatology in Asheville, NC, June 26-29, 2017.

**The Commission received Council approval for Scientific and Technological Activities Commission Awards on February 27, 2017**

The ToR for these awards will be posted on the STAC website in the next few weeks and nominations will be processed later this year.

Respectfully submitted,



R. BRUCE TELFEYAN  
Commissioner,  
AMS Scientific and Technological Activities  
Commission

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## Appendix

### STAC Chair Annual Meeting at 97th AMS Annual Meeting January 22, 2017

**11:00 AM-3:00 PM Meeting minutes for STAC Chair Meeting**

**Sheraton Ballroom D**

#### STAC Leadership

Current Commissioner: David Stensrud, [david.stensrud@psu.edu](mailto:david.stensrud@psu.edu)

Past Commissioner: Ward Seguin (not present), [ward.met@gmail.com](mailto:ward.met@gmail.com)

Incoming Commissioner: R Bruce Telfeyan, [rbt48@cox.net](mailto:rbt48@cox.net)

Future Commissioner: Genene Fisher, [genene.fisher@noaa.gov](mailto:genene.fisher@noaa.gov)

#### AMS Staff

Specialty meeting focal point: Claudia Gorski, [cgorski@ametsoc.org](mailto:cgorski@ametsoc.org)

STAC membership and Awards focal point: Melissa Weston, [mweston@ametsoc.org](mailto:mweston@ametsoc.org)

Web focal point: Brian Mardirosian, [bmardirosian@ametsoc.org](mailto:bmardirosian@ametsoc.org)

IT focal point: Lee Gordon, [lgordon@ametsoc.org](mailto:lgordon@ametsoc.org)

Minutes recording for AMS Annual Meeting: Doug Hahn, [dhahn@ametsoc.org](mailto:dhahn@ametsoc.org)  
Policy program: Paul Higgins, [phiggins@ametsoc.org](mailto:phiggins@ametsoc.org)  
Policy program: Ya-el Seid-Green, [yseidgreen@ametsoc.org](mailto:yseidgreen@ametsoc.org)  
Communications Director: Tom Champoux, [tchampoux@ametsoc.org](mailto:tchampoux@ametsoc.org)

Attendees:

<u>Name</u>	<u>Board/Committee/Role/Affiliation</u>
Dale Durran	Mountain Meteorology
Bruce Baker	Measurements
Cecilia Miner	Aviation, Range, and Aerospace Meteorology
Eric Bruning	Atmospheric Electricity
Mohan Ramaurthy	Data Stewardship
Chun-Chieh Wu	Tropical Meteorology and Hurricanes
John Eylander	Hydrology
Mike Ek	Hydrology
Ryan Fogt	Polar Meteorology and Oceanography
James Renwick	Meteorology/Oceanography, Southern Hemisphere
Sara Tucker	Laser Atmospheric Studies
Alexandria McCombs	Measurements
April Hiscox	Agricultural and Forest Meteorology
Woody Roberts	Environmental Information Processing
Technologies	
Eric Gilleland	Probability and Statistics
Curtis Alexander	Severe Local Storms
Dev Niyogi	Urban Environment
Andre van der Westhuysen	Coastal Environment
Thomas Galarneau	Mesoscale Processes
Glenn Romine	Severe Local Storms
Jeff Collett	Atmospheric Chemistry
Kristie Eisi	Environment and Health
John Balbus	Environment and Health
Sumant Nigam	Climate Variability and Change
Daniel Nietfeld	Societal Impacts
Jennifer Small Griswold	Cloud Physics
Richard Behnke	Space Weather
Ali Tokay	Radar Meteorology
Becky Adams-Selin	Weather and Forecasting
Erik Kabela	Meteorological Aspects on Air Pollution
Sue Haupt	Artificial Intelligence

**STAC and STAC B/C Duties** – Dave Stensrud

- <https://www.ametsoc.org/stac/index.cfm/terms-of-reference/>
- <https://www.ametsoc.org/stac/index.cfm/chair-member-information/membership/>

**STAC B/C Best Practices** – Bruce Telfeyan

- <https://www.ametsoc.org/stac/index.cfm/chair-member-information/stac-board-committee-best-practices1/>

**Remarks from incoming AMS president Roger Wakimoto:** Discussion of upcoming themes for AMS Annual Meetings.

- STAC to identify new talent/ideas to give presentations on recent events/ideas at the Annual Meeting (AM).
- Raise the involvement/quality in the AM, currently an exploratory committee to address this.
- Woody Roberts, “2018 Annual Meeting (AM) is probably already ‘in the can’” can these become more agile. Roger mentioned Xubin Zeng’s report on how to build the AM.
- John Eylander mentioned the number of sites/locations and whether attendance is dependent on it (cost, experience, etc.).
- Claudia mentioned that these should be centers of interest and based on travel budgets and AMS staff costs.
- Dale Durran voiced concern over planning the session/topic process takes longer than necessary (cumbersome, AMS vs AGU). Claudia says it depends on the program chairs how fast can respond to call for proposals and it is being streamlined for 2018. Dave says it needs to be more “visible.”

### **STAC Committee Awards Discussion – Dave Stensrud**

- Why are these lower-level awards given less frequently than the annual awards from AMS (Glen Romine). Dave S. mentioned that we don’t want to dilute the awards, this is more in line with the Publications editorial awards. One award per committee every two years, to include a new mid-career award. Not all STAC B/Cs meet regularly (Dave S. noted).
- Dale Durran suggested that it should also depend on the size of the technical community within each committee, so that a few years later everyone gets the award from that B/C.
- There was general agreement for STAC to present the EC with the new terms of reference (TOR) for STAC awards. With a good nomination, it is possible that all the B/C could get an award (up to 18 awards every two years). Take out “for many years” as suggested by April Hiscox.

**STAC B/C Chair Input form AMS conferences/symposiums.** Share your thoughts on what works well, what needs improvement, and what is missing with respect to AMS conferences (Facilitator: Dave Stensrud)

- Write down input on post-it notes
- Place post-it notes in one of the three categories
- Groups will sort through input, collect common themes, and discuss

### **AMS conferences/symposium discussions**

1. What’s working?
  - a. Specialty conferences –building the community... (see Dave Stensrud’s notes)
2. What needs improvement?
  - a. Diversity and student involvement (student feedback)
  - b. Funding for travel support and social events
  - c. Better communications within communities (email, etc.)
  - d. Better support from AMS in terms of documentation, consistency across rooms for capabilities
  - e. Poster sessions too short
  - f. Timing of AMS AM (too close to AGU in December)
  - g. Flexibility to have session proposals

- h. Audio recording – expensive and tedious
  - i. Feedback for student awards and more involvement for student conference
  - j. Marketing of presentations to media (Side discussion: Communications of talks to the press. Tom Champoux addressed press releases and dedicated press room at AM)
  - k. Engaging industry and the user community
  - l. Bring back preprints?
3. What is missing?
- a. Program planning and discussion sessions at the end of the plenary sessions, alternative ways to discuss presentations
  - b. Carbon offsets (remote access to sessions)
  - c. More interactive activities to meet more of our communities
  - d. Communicating by advertising, information, to the public
  - e. Students and travel- can't get funding if they are not presenting at the conference.
    - 1) Committees do fund students themselves
  - f. Histories of previous meetings
  - g. Communication between STAC B/Cs
  - h. Better logistics for the meetings.
  - i. Cost of conferences-ways to motivate decreasing costs and thereby lowering registration fees (consider worth of stored presentation audio-how often are they accessed?) Other groups have complete video posted within a few days of their conferences.
  - j. Register for online access to be able to view talks in realtime. Claudia: This has been done for a few special sessions in the past.
  - k. Conference call capability during STAC B/C meetings at AMS AM-communicate to STAC B/Cs needs to be part of the meeting room request. Claudia: It needs to be conveyed at request since it is usually provided for a few rooms at the AM.
  - l. Survey to find out what is the cost/benefit of conferences and the AM.

**Remarks from outgoing AMS president Fred Carr:** Session creation/organization. Harvesting information and investment into observation systems. Special sessions on Wednesday afternoon for high-impact/hard-hitting topics

**Remarks from current AMS president Matt Parker:** Transforming Weather, Water, and Climate Enterprise. Communicating the problems to society and address societal needs. Make the call for sessions on par with the call for papers for the AM.

**Brief remarks from AMS council member Adam Sobel.**

**Discussions with AMS Staff** (Moderator: Dave Stensrud)

- Conferences/Symposia (Claudia Gorski, Jen Ives)
- Glossary of Meteorology (Mary Cairns)
- B/C Meetings (Melissa Weston)
- STAC B/C Web Pages (Brian Mardirosian)
  - Web editing and updating the web pages (content management system will be upgraded this spring). Better email management and using Twitter handles. John Eylander suggested the STAC web page be better advertised on the main pages,



it's very difficult to find the STAC page through the options on the main AMS page.

- Communications (Tom Champoux)
  - Improving the management of social media. Opportunities to inform everyone, intercommunication between all of AMS, not just STAC B/Cs. Educate the community about opportunities to get involved with the AMS (webinars, Google hangouts, etc.)
- Student Awards (Donna Fernandez, Stephanie Armstrong)
  -
- Policy Program (Paul Higgins, Bill Hooke, Ya-el Seid-Green)
  - Policy program has been updated and encourages STAC to review and to reach out for any interest in policy issues.

### **Closing remarks by Incoming Commissioner, Bruce Telfeyan**

- Expressed appreciation to all chairs and members for their volunteer efforts
- Special thanks to Dave Stensrud for his superb leadership the past two years and efforts (successful) to redefine the prime goal of each STAC board and committee to advocate for the advancement of our piece of the science. Also, he obtained AMS Council approval for this!
- Sincere thanks to Ward Seguin for his mentorship for me personally the past 6 years and for outstanding service as STAC Commissioner
- Pledged to reach out to each board and committee chair and to strive to meet the great variety of needs and concerns
- Will plan for the next STAC teleconference in August and perhaps one or two others during the year.

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### **STAC Program Chair Meeting Planning, Developing, and Conducting an AMS Scientific Meetings (Conference or Symposium) Sunday, 22 January 2017 10:00 – 11:00 AM, Seattle Sheraton, Grand D Ballroom**

- Selection of a Program Chair

- Assignment of a Meetings Coordinator

Meeting Staff Contact Page: <https://www2.ametsoc.org/ams/index.cfm/ams-staff-email-and-phonecontacts/#Meetings>

○ Role of Lead Meeting Planner

○ Venue or Meeting

○ Signing of Contracts

○ Program Chair Funding Form Review Process

○ Logistics from start to finish

- Web page for Program Chairs ○ <http://www2.ametsoc.org/ams/index.cfm/chair-member-information/meetings>

- Named Symposia and Named Sessions ○ <http://www2.ametsoc.org/ams/index.cfm/ams-awards-fellows-and-honorary-members/>

- Short Courses o <https://www2.ametsoc.org/ams/index.cfm/meetings-events/short-courses/>

- Some attendees noted some challenges for meeting organizers using the CONFEX system. It is confusing, especially planning for meetings for the AMS Annual Meeting during August prior to the annual meeting.

o John Eylander suggested a “sandbox” type of environment to not be too rigid as a planning tool.

o Claudia provides Session Chair tips to use and she and her staff are always accessible: - Claudia Gorski; telephone: 617-227-2426 ext. 3967; e-mail: [cgorski@ametsoc.org](mailto:cgorski@ametsoc.org)