

Scientific and Technological Activities (STAC) 2019 Mid-Year Report to the AMS Council

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Photo from STAC Chairs Annual Meeting, January 6, 2019, Phoenix, AZ



1. Introduction

STAC is responsible to the Society and the Council for advancing science and technology by promoting the open exchange of ideas, strengthening our disciplinary communities, enhancing collaboration and dialog among these communities, embracing diversity, celebrating and fostering excellence, and cultivating the next generation of scientists and leaders. STAC has continued to carry out these primary roles by planning conferences, symposia, maintaining an active membership and web site (both of which are updated at least annually); recognizing outstanding members via Society Award and Fellow nominations; informing the AMS Council of concerns and suggestions for improvement; and providing a brief summary to the Council/Commissioners after each conference, symposium, or other meeting(s).

2. Items for Council

STAC does not have any items requiring AMS Council discussion.

The only area of concern since January involved awards. AMS needs to emphasize that the AMS Lectureships are now targeted to mid-career scientists and professionals. This was still not widely known and resulted in very few nominations for consideration.

There was also some miscommunication regarding the location where the Haurwitz Lecture is presented. It should be announced to all relevant STAC Committees as early as possible where the Lecture will be presented (i.e., which Specialty Meeting or the Annual Meeting).

STAC proposed some word change in the AMS Lectureships and that was approved by the AMS Awards Oversight Committee: “family leaves” was changed to “family and career circumstances.”

3. Conferences and Symposia

STAC consists of thirty science committees and six inter-disciplinary boards. Twenty eight STAC-led conferences/symposia were held in Phoenix during the 2019 Annual Meeting. Seven additional conferences have taken place or are being planned since January 2019 at various locations. Here is a listing of all the STAC conferences and symposia through 2019:

| Conference Name (2019 Annual Meeting) | Board / Committee |
|---|--|
| 35th Conference on EIPT | Board on Environmental Information Processing Technologies |
| 33rd Conference on Hydrology | Committee on Hydrology |
| 32nd Conference on Climate Variability and Change | Committee on Climate Variability and Change |
| 24th Conference on Applied Climatology | Committee on Applied Climatology |
| 21st Conf. on Atmospheric Chemistry | Committee on Atmospheric Chemistry |
| 20th Conference on Middle Atmosphere | Committee on Middle Atmosphere |
| 19th Conference on Aviation, Range, and Aerospace Meteorology | Committee on Aviation, Range, and Aerospace Meteorology |
| 18th Conf on Artificial and Computational Intelligence and its Applications to the Environmental Sciences | Committee on Artificial Intelligence Applications to Environmental Science |
| 17th Symposium on the Coastal Environment | Committee on Coastal Environment |
| 16 th Conference on Space Weather | Committee on Space Weather |
| 15th Annual Symposium on New Generation Operational Environmental Satellite Systems | Committee on Satellite Meteorology, Oceanography, and Climatology |
| 15IMPACTS: Major Weather Events and Impacts of 2018 | Board on Societal Impacts |
| 14th Symposium on Societal Applications: Policy, Research and Practice | Board on Societal Impacts |
| 11th Symposium on Aerosol–Cloud–Climate Interactions | Committee on Atmospheric Chemistry |
| 10th Conference on Environment and Health | Board on Environment and Health |
| Ninth Conference on Transition of Research to Operations | Committee on Satellite Meteorology, Oceanography, and Climatology |

| | |
|--|---|
| Ninth Symposium. on Lidar Atmospheric Applications | Committee on Laser Atmospheric Studies |
| Ninth Conference on the Meteorological Application of Lightning Data | Committee on Atmospheric Electricity |
| Ninth Symposium on Advances in Modeling and Analysis Using Python | Board on Environmental Information Processing Technologies |
| Seventh Symposium on Building a Weather-Ready Nation: Enhancing Our Nation's Readiness, Responsiveness, and Resilience to High Impact Weather Events | Board on Societal Impacts |
| Seventh AMS Symposium on the Joint Center for Satellite Data Assimilation (JCSDA) | Committee on Satellite Meteorology, Oceanography, and Climatology |
| Seventh Symposium on the Madden-Julian Oscillation and Sub-Seasonal Monsoon Variability | Committee on Tropical Meteorology and Tropical Cyclones |
| Fifth Symposium on High Performance Computing for Weather, Water, and Climate | Board on Environmental Information Processing Technologies |
| Second Conference on Earth Observing SmallSats | Committee on Satellite Meteorology, Oceanography, and Climatology |
| Tropical Cyclones and Extreme Monsoon Precipitation: Prediction, Impacts, and Communication | Committee on Tropical Meteorology and Tropical Cyclones |
| Special Symposium on Mesoscale Meteorological Extremes: Understanding, Prediction, and Projection | Committee on Mesoscale Processes |
| Phased Array Radar Symposium | Committee on Radar Meteorology |
| Special Symposium on Meteorological Observations and Instrumentation | Committee on Measurements |

| Specialty Meetings | Board/Committee |
|--|---|
| Polar Meteorology | Committee on Polar Meteorology and Oceanography |
| Weather Warnings and Communication | Board on Societal Impacts |
| Atmospheric and Oceanic Fluid Dynamics | Committee on Atmospheric and Oceanic Fluid Dynamics |
| Mesoscale Processes | Committee on Mesoscale Processes |
| Radar | Committee on Radar Meteorology |
| SatMet | Committee on Satellite Meteorology, Oceanography, and Climatology |
| EUMETSAT | |

4. STAC Board and Committee Awards

STAC is offering the second instance of its biennial award opportunity for its STAC-level awards in accordance with the terms of reference approved in 2017 by the AMS Council:

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

In 2018, ten STAC boards and committees took advantage of this opportunity and their nominations were approved by the STAC Commissioner. October 1, 2019 is the deadline for the 2020 nominations.

These awards recognize individuals whose outstanding contributions further the goals of the STAC. The process can be found on the STAC webpage, under the “Chair & Member Information” tab or at STAC Level Awards

There are three types of awards for which each B/C can submit a nomination:

- Outstanding Early Career,
- Distinguished Scientific/Technological Accomplishment, and
- Outstanding Service

5. STAC Best Practices

The [STAC Best Practices Document](#) is in its fifth year of existence and we continue to update and expand it. We combined our past experiences with those of other successful STAC committees and created a living document that helps STAC board and committee chairs and members. Its main purpose is aid STAC volunteers to understand their responsibilities and what they can do to help build their science community. We mention this document every chance we get and it continues to have a very positive impact. The vast majority of STAC members want to make a difference, but some simply do not know how to contribute in the most effective ways. This provides guidance to be fully involved.

6. Named Sessions

STAC has played an increasingly larger role with named sessions at conferences and symposia. Named sessions are discussed in The Guidelines for Society and Commission Awards and described as follows:

"A named session honoring an individual may be held within an existing specialty conference or symposium on the recommendation of the STAC Commissioner and approval by the Executive Committee. Except for extraordinary circumstances, there should be a limit of two special sessions per specialty conference."

In the past, named sessions were uncommon and not frequently used. In recent years, STAC has been highlighting them as a way to recognize outstanding members of the various science communities.

The named session requires a Proposal for Named Session form submitted to the STAC Commissioner who then endorses (if appropriate) and forwards the nomination to the AMS Executive Committee for approval.

So far this year, 5 named sessions have been approved by the Executive Committee for the Annual Meeting and 1 named session during a specialty conference. They are as follows:

| Conference | Meeting Dates | Location | Named Session | Status |
|--|--------------------|---------------|------------------------------|----------|
| 20th Conference on Aviation, Range and Aerospace Meteorological | 12-16 January 2020 | Boston, MA | John T. Madura | Approved |
| 18th Symposium on the Coastal Environment | 12-16 January 2020 | Boston, MA | Dr. Vincent J. Cardone | Approved |
| 17th Conference on Space Weather | 12-16 January 2020 | Boston, MA | Louis J. Lanzerotti | Approved |
| Fourth Symposium on Multiscale Predictability: Data-Model Integration and Uncertainty Quantification for Weather, Climate and Earth System Monitoring and Prediction | 12-16 January 2020 | Boston, MA | Fuqing Zhang | Approved |
| Special Symposium on the Future of Weather, Forecasting, and Practice | 12-16 January 2020 | Boston, MA | Ronald (Ron) W. Przybylinski | Approved |
| 19th Conference on Mountain Meteorology | 13-18 July 2020 | Park City, UT | Vanda Grubišić | Approved |

7. Named Symposia

STAC is aware of three named symposia for the 2020 Annual Meeting. Three symposia are proposed for 2021 and proposals have been submitted and forwarded to the AMS Executive Committee. They are as follows:

| 2020 Planned Symposia | | |
|----------------------------|-------------|--|
| Name, Current Position | Year/Site | Theme |
| Robert Dickinson Symposium | 2020/Boston | Earth system modeling and climate change, land surface modeling and remote sensing, and large scale atmospheric dynamics |
| Wayne Schubert Symposium | 2020/Boston | Atmospheric dynamics, tropical meteorology |
| Susan Solomon Symposium | 2020/Boston | Ozone, Climate, and Policy: Susan's Contributions Then and Now |

| 2021 Proposed Symposia | | |
|------------------------|------------------|---|
| Name, Current Position | Year/Site | Theme |
| Richard H. Johnson | 2021/New Orleans | Organized convection; collection of unprecedented datasets during field campaigns; international collaborations |

| | | |
|------------------------------|------------------|--|
| Gerald North Symposium | 2021/New Orleans | Climate, Statistics, and Satellite - Integration between Research, Service, and Policy |
| Kevin E. Trenberth Symposium | 2021/New Orleans | Empirical Analysis of Global Climate Change |

Note that the Named Symposium is a higher and more distinctive level of recognition than the Named Session. It is normally a one-day event comprised of three or four sessions (it can have a poster session in addition to oral presentations). It requires the full 18-month planning time-frame accorded to a specialty conference. Nominations ([Proposal for Named Symposium](#)) are due to Claudia Gorski by May 1 of the year prior to the next Annual Meeting, or at least 18 months before the proposed event.

8. STAC Board and Committee Chairs Conference Calls

The first of two STAC B/C teleconferences this year was held April 30, 2019.

The minutes to the call are at this link:

<https://www.ametsoc.org/index.cfm/stac/news-reports/monthly-stac-newsletter/april-2019-stac-teleconference/>

We plan to hold the second teleconference in October after the Councilors/Commissioners meeting in Boston.

9. STAC Support to the Editor of the Glossary of Meteorology

The *GoM* continues to be an important reference for our Society and with our global community. STAC Boards and Committees are actively involved in supporting the *GoM* by providing expert input on requests for new or updated glossary terms. Ward Seguin works closely with STAC Chairs as requests for new or revised terms need attention. For the period of January 1 through June 30, 2019, Ward reports that he had 21 actions: 9 carried over from 2018 and 12 new requests in 2019. The chart below shows the current status.

| Glossary of Meteorology Actions for 1 Jan-30 June 2019 | | | |
|--|--|-------|----------|
| | Action | Count | Comments |
| Request Summary | Total | 21 | |
| | Received in 2018 but had actions in 2019 ("carryover") | 9 | |
| | Total received in 2019 | 12 | |
| | Revision requests | 4 | |
| | New terms | 8 | |
| Decision Summary | Revised terms | 6 | |
| | New terms added | 6 | |
| | Rejected terms | 4 | |
| | Withdrawn terms | 2 | |
| | Terms in review | 3 | |

10. Membership Breakdown of STAC Boards and Committees

2019 Membership Breakdown of STAC Boards and Committees

| Sector of the Weather Enterprise | Number | Percent | State of Residence | Number | Percent | Decade of Birth | Number | Percent |
|--|---------------|----------------|----------------------|--------|---------|----------------------------|---------------|----------------|
| Academia (including Students) | 227 | 51.9 | Alabama | 9 | 2.2 | 1930s | 1 | 0.2 |
| Government (including FFRDC) | 160 | 36.6 | Alaska | 2 | 0.5 | 1940s | 9 | 2.1 |
| Private | 30 | 6.9 | Arizona | 7 | 1.7 | 1950s | 32 | 7.3 |
| Not Specified | 20 | 4.6 | Arkansas | 0 | 0.0 | 1960s | 65 | 14.9 |
| Retired | 0 | 0.0 | California | 47 | 11.5 | 1970s | 118 | 27.0 |
| Total | 437 | 100 | Colorado | 73 | 17.9 | 1980s | 129 | 29.5 |
| | | | Connecticut | 0 | 0.0 | 1990s | 40 | 9.2 |
| Gender | Number | Percent | Delaware | 3 | 0.7 | Not reported | 43 | 9.8 |
| Male | 281 | 64.3 | District of Columbia | 7 | 1.7 | Total | 437 | 100 |
| Female | 156 | 35.7 | Florida | 10 | 2.5 | Median birthdate | January 1979 | |
| Total | 437 | 100 | Georgia | 6 | 1.5 | Student Member Data | | |
| | | | Hawaii | 2 | 0.5 | Gender | Number | Percent |
| AMS Member Category | Number | Percent | Idaho | 0 | 0.0 | Male | 26 | 54.2 |
| Members | 267 | 61.1 | Illinois | 11 | 2.7 | Female | 22 | 45.8 |
| Student Members | 48 | 11.0 | Indiana | 5 | 1.2 | Decade of Birth | | |
| Associate Members | 0 | 0.0 | Iowa | 2 | 0.5 | 1980s | 15 | 31.3 |
| Non-Members of the AMS | 122 | 27.9 | Kansas | 3 | 0.7 | 1990s | 29 | 60.4 |
| Total | 437 | 100 | Kentucky | 0 | 0.0 | 2000 and later | 0 | 0.0 |
| | | | Louisiana | 1 | 0.2 | Not reported | 4 | 8.3 |
| | | | Maine | 0 | 0.0 | Total | 48 | 100 |
| STAC Board/Committee Roles | Number | Percent | Maryland | 44 | 10.8 | Median birthdate | October 1991 | |
| B/C Chairs | 34 | 7.8 | Massachusetts | 6 | 1.5 | State | Number | Percent |
| B/C Co-Chairs | 4 | 0.9 | Michigan | 7 | 1.7 | Alabama | 3 | 6.7 |
| B/C Vice Chairs | 22 | 5.0 | Minnesota | 5 | 1.2 | Arizona | 3 | 6.7 |
| Chair Emeritus | 5 | 1.1 | Mississippi | 1 | 0.2 | California | 5 | 11.1 |
| B/C Ex Officio Members | 1 | 0.2 | Missouri | 2 | 0.5 | Colorado | 7 | 15.6 |
| B/C Members | 319 | 73.0 | Montana | 4 | 1.0 | Delaware | 1 | 2.2 |
| B/C Student Members | 48 | 11.0 | Nebraska | 6 | 1.5 | Florida | 2 | 4.4 |
| Board Member at Large | 1 | 0.2 | Nevada | 3 | 0.7 | Hawaii | 1 | 2.2 |
| STAC Commissioners (Past/Current/Incoming) | 3 | 0.7 | New Hampshire | 3 | 0.7 | Illinois | 1 | 2.2 |
| Total | 437 | 100.0 | New Jersey | 10 | 2.5 | Louisiana | 1 | 2.2 |
| | | | New Mexico | 4 | 1.0 | Maryland | 2 | 4.4 |
| | | | New York | 17 | 4.2 | Massachusetts | 1 | 2.2 |
| Country of Residence | Number | Percent | North Carolina | 13 | 3.2 | Michigan | 1 | 2.2 |
| Australia | 4 | 0.9 | North Dakota | 1 | 0.2 | Montana | 1 | 2.2 |
| Austria | 1 | 0.2 | Ohio | 2 | 0.5 | Minnesota | 1 | 2.2 |
| Canada | 7 | 1.6 | Oklahoma | 23 | 5.7 | New Jersey | 3 | 6.7 |
| China | 2 | 0.5 | Oregon | 2 | 0.5 | New Mexico | 1 | 2.2 |
| Croatia | 1 | 0.2 | Pennsylvania | 2 | 0.5 | North Carolina | 1 | 2.2 |
| France | 2 | 0.5 | Rhode Island | 0 | 0.0 | New York | 2 | 4.4 |
| Germany | 1 | 0.2 | South Carolina | 2 | 0.5 | North Carolina | 1 | 2.2 |
| Ireland | 1 | 0.2 | South Dakota | 1 | 0.2 | Oklahoma | 4 | 8.9 |
| Israel | 1 | 0.2 | Tennessee | 3 | 0.7 | Pennsylvania | 1 | 2.2 |
| Japan | 2 | 0.5 | Texas | 12 | 2.9 | Vermont | 1 | 2.2 |
| New Zealand | 1 | 0.2 | Utah | 4 | 1.0 | Virginia | 1 | 2.2 |
| Norway | 1 | 0.2 | Virginia | 19 | 4.7 | Total | 45 | 100 |
| Singapore | 1 | 0.2 | Vermont | 1 | 0.2 | Country | Number | Percent |
| Spain | 1 | 0.2 | Washington | 15 | 3.7 | Canada | 2 | 4.2 |
| Taiwan | 1 | 0.2 | West Virginia | 0 | 0.0 | United Kingdom | 1 | 2.1 |
| United Kingdom | 3 | 0.7 | Wisconsin | 5 | 1.2 | United States | 45 | 93.8 |
| United States | 407 | 93.1 | Wyoming | 2 | 0.5 | Total | 48 | 100 |
| Total | 437 | 100.0 | Total | 407 | 100 | | | |

| 2019 Membership Breakdown of STAC Board and Committee Chairs and Vice-Chairs | | | | | | | | |
|--|---------------|----------------|---------------------------|---------------|----------------|------------------------|---------------|----------------|
| Sector of the Weather Enterprise | Number | Percent | State of Residence | Number | Percent | Decade of Birth | Number | Percent |
| Academia | 34 | 52.3 | Alabama | 2 | 3.3 | 1930s | 0 | 0.0 |
| Government (including FFRDC) | 27 | 41.5 | California | 4 | 6.7 | 1940s | 1 | 1.5 |
| Private | 4 | 6.2 | Colorado | 8 | 13.3 | 1950s | 9 | 13.8 |
| Total | 65 | 100 | DC | 1 | 1.7 | 1960s | 13 | 20.0 |
| Gender | Number | Percent | Georgia | 1 | 1.7 | 1970s | 25 | 38.5 |
| Male | 44 | 67.7 | Illinois | 3 | 5.0 | 1980s | 14 | 21.5 |
| Female | 21 | 32.3 | Indiana | 2 | 3.3 | 1990s | 0 | 0.0 |
| Total | 65 | 100 | Iowa | 1 | 1.7 | Not reported | 3 | 4.6 |
| AMS Member Category | Number | Percent | Maryland | 9 | 15.0 | Total | 65 | 100 |
| Members | 53 | 81.5 | Michigan | 1 | 1.7 | Median birthdate | July 1974 | |
| Associate Members | 0 | 0.0 | Minnesota | 1 | 1.7 | | | |
| Non-Members of the AMS | 12 | 18.5 | Mississippi | 1 | 1.7 | | | |
| Total | 65 | 100 | Nebraska | 1 | 1.7 | | | |
| Country of Residence | Number | Percent | New Mexico | 1 | 1.7 | | | |
| Australia | 1 | 1.5 | New York | 4 | 6.7 | | | |
| Germany | 1 | 1.5 | North Carolina | 2 | 3.3 | | | |
| Israel | 1 | 1.5 | North Dakota | 1 | 1.7 | | | |
| New Zealand | 1 | 1.5 | Ohio | 1 | 1.7 | | | |
| Norway | 1 | 1.5 | Oklahoma | 4 | 6.7 | | | |
| United States | 60 | 92.3 | Tennessee | 1 | 1.7 | | | |
| Total | 65 | 100 | Texas | 3 | 5.0 | | | |
| | | | Virginia | 2 | 3.3 | | | |
| | | | Washington | 4 | 6.7 | | | |
| | | | Wisconsin | 1 | 1.7 | | | |
| | | | Wyoming | 1 | 1.7 | | | |
| | | | Total | 60 | 100 | | | |

The membership analysis for 2019, including comparison with previous years, is still pending and will be available for the January Council meeting.

11. Request for Meeting Funds (Program Chair Funds)

The Program Chair of each AMS sponsored conference or symposium can request up to \$1,500 to support student awards, student presenter travel allowance, abstract fees for guest speakers, invited speaker travel support, and special activities. In September 2018, the AMS Council approved increased funds availability for conferences that kicks in for events with more than 300 participants (based upon number of abstracts received or on attendance at last event). There will be an additional allocation of \$5 for each attendee above 300.

A quick look at the requests indicates that the most common use of the program chair funds is for student awards which can be up to a maximum of \$200 per award, followed by invited speaker abstract awards. STAC handles these fund requests for all AMS conferences whether within STAC or from other Commissions (as per agreement through the AMS Meetings Coordinator). Routine requests are approved by the AMS Meetings Coordinator while those requests requiring closer examination are reviewed by the STAC Commissioner.

12. Annual Awards

STAC was involved with the AMS Annual Awards again this year under the guidance of the AOC. We successfully met the new, accelerated schedule to determine the results of the judging. This table covers the awards with STAC involvement:

| Award | Responsible B/C (and Commission) |
|--|---|
| The Charles L. Mitchell Award | WAF (STAC) |
| The Award for an Exceptional Specific Prediction | WAF(STAC) |
| The Francis W. Reichelderfer Award | WAF, BOGM, Coastal Environment, Hydrology (STAC and Professional Affairs) |
| The Helmut E. Landsberg Award | Board on Urban Environment (STAC) |
| The Award for Outstanding Achievement in Biometeorology | Board on Atmospheric Biogeosciences (STAC) |
| The Robert E. Horton Lecturer in Hydrology | Committee on Hydrology (STAC) |
| The Bernard Haurwitz Memorial Lecturer | STAC |
| The Walter Orr Roberts Lecturer in Interdisciplinary Sciences | STAC |
| The AMS Journalism Award | STAC Commissioner Review |
| Outstanding Contribution to the Advance of Applied Meteorology | Professional Affairs Commission with input from Applied Climatology |
| The Banner I. Miller Award | Committee on Tropical Cyclones and Tropical Meteorology (STAC) |

13. STAC Newsletter

The STAC Newsletter (issued every other month) has continued to be a success as it keeps the STAC members better informed. The newsletters are sent to all 437 STAC members, the Council, Commissioners, and AMS Staff through the AMS Community. Refer to: <https://www.ametsoc.org/stac/index.cfm/news-reports/monthly-stac-newsletter/>

14. As always, STAC appreciates the support of the AMS Staff and values our collaborative efforts with and support from the AMS Council and the other Commissioners.