

# AMERICAN METEOROLOGICAL SOCIETY

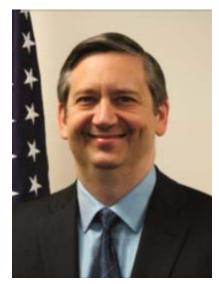
**Annual Report 2021** 



American Meteorological Society, 45 Beacon Street, Boston, MA 02108-3693

#### MICHAEL FARRAR: PRESIDENT'S MESSAGE

After Covid-19 required the 2021 annual meeting to be moved fully online in lieu of an in-person meeting in New Orleans, the planning committee and AMS staff had high hopes we would be able to move forward with an in-person component for the 2022 annual meeting in Houston. In addition to seeing our friends and colleagues again, we were also excited to be coming to Houston for the first time ever. Things were looking good until... a new variant – Omicron – emerged in December, just in time to peak as the conference was to begin in January. Fortunately, we had planned for this contingency with a hybrid meeting, and were able to smoothly transition to an all remote meeting based on the hard work from the AMS staff (led by Jen Ives) and our planning committee (led by Gina Eosco and John Lanicci). Enough cannot be said about this group, who excelled despite extremely challenging circumstances.



While we were all disappointed at the loss of the in-person component of the annual meeting, one bit of sunshine emerged in the form of the student conference, which were still able to hold as fully hybrid with an in-person component in Houston. It was a true joy to interact with about 200 students in Houston and another 150 online, along with the AMS staff and mentors.

The theme of the annual meeting was <u>Environmental Security: weather, water and climate for a more secure world</u>, and brought together an amazing set of experts in areas such as energy security, health security, water security, environmental diplomacy, and environmental justice. This was kicked off on Sunday night with the <u>Presidential Forum</u>, where we were joined by Houston mayor Sylvester Turner in-person with the student conference, along with four other word class panelists assembled by session organizer Roger Pulwarty. The remainder of the annual meeting was fully remote and included over 40 conferences and symposia, including named symposia in honor of Richard Johnson and Kevin Trenberth.

There were many other highlights during the year, such as the launch of the first new AMS journal in several years: Artificial Intelligence for the Earth Systems (AIES). We also brought on two new senior members to the AMS staff: Stella Kafka, the new Executive Director who replaced the retiring Keith Seitter; and Katy Putsavage, our first ever Director of Diversity, Equity and Inclusion (DEI). But most of all, 2021 was a remarkable year for the AMS for same reason that it has been for the prior 100 years – the expertise and tireless efforts of the AMS professional staff and literally hundreds of volunteer AMS members that make the AMS fulfill its mission. My thanks to all of you for your dedication and the impact you have on our science, our members, and society at large!

Michael Farrar 2021 AMS President



#### **NEW EXECUTIVE DIRECTOR FOR AMS**

The AMS Council completed a successful search for a new Executive Director, who assumed the position in early January 2022, just before the 102nd AMS Annual Meeting. Dr. Stella Kafka comes to AMS from the American Association of Variable Star Observers (AAVSO), a nonprofit worldwide scientific and educational organization of amateur and professional astronomers, where she was Executive Director. She grew up in Greece, obtaining her B.S. degree at the University of Athens, Greece, and a master's and Ph.D. in astronomy, with a double minor in physics and geophysical sciences, from Indiana University. There she received the Hollis and Grete Johnson Award for Excellence in Graduate Student Research. After

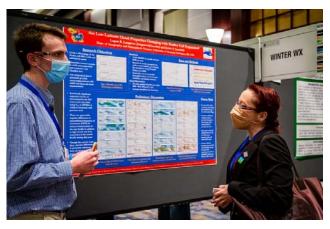


completing her Ph.D., Stella held a series of prestigious postdoctoral positions and fellowships, first at the Cerro Tololo Inter-American Observatory in Chile, where she received the National Optical Astronomy Observatory Excellence Award, then at Caltech, and finally as a NASA Astrobiology Institute Fellow at the Carnegie Institution of Washington.

The AMS Council, and all AMS members, appreciate the leadership provided by Dr. Keith Seitter in his role as Executive Director for over 17 years.







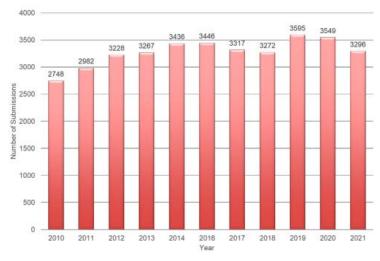
AMS journals are known for rigorous peer review and for publishing high impact papers. AMS provides above-average levels of customer service for authors, and staff support for volunteer editors that allows AMS to attract highly regarded members of the community to serve on our editorial boards.



Following Council approval of the new journal Artificial Intelligence for the Earth Systems (AIES) in July 2021, the journals began accepting submissions for peer review by late October.



- AMS received 3296 submissions in 2021 (a drop from the number of submissions received in the prior two years), and published a total of 31,783 pages (not counting BAMS).
- BAMS published 3867 pages (2591 online, 1276 in the print edition).
- Data availability statements are now required for all papers, and AMS staff is working with authors and editors to make sure the Society's publications evolve to adhere to the standards developed in the wider research communities.



Submissions for all journals









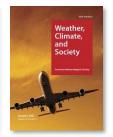




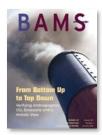














After the very successful fully virtual 101st Annual Meeting (originally scheduled to be held in New Orleans) in January, planning continued throughout 2021 for what was intended to be a fully hybrid 102nd Annual Meeting in Houston in January, 2022.

AMERICAN METEOROLOGICAL SOCIETY













LO2nd ANNUAL MEETING I HOUSTON

The meeting was built around the theme "Environmental Security: weather, water and climate for a more secure world." A few months before the meeting, continuing concerns related to the covid pandemic resulted in the conversion of the meeting to a fully virtual event. Despite the switch to being a virtually meeting, the meeting was a great success with 638 sessions that provided for 2454 oral presentations and 976 poster presentations.

The organizing committee of the Student Conference, which occurs on the weekend prior to the annual meeting, decided to move forward as a hybrid meeting with an in-person presence in Houston as originally planned, but with strict safety protocols in place. This student conference was extremely successful, with a great line-up of speakers and vibrant sessions.

There were six specialty conferences during the year, all of which were held virtually due to the pandemic.









#### **EDUCATION PROGRAM**

The Education Program staff was quite busy throughout 2021. The program successfully conducted two semesters of the online DataStreme: Atmosphere, DataStreme Ocean, and DataStreme Earth's Climate System professional development (PD) courses for K-12 educators, thereby reaching 200 teachers. As a part of implementation, we continued our needs-based fee waiver program, and leveraged several funding sources, including residual NOAA funds from the pandemic-forced movement of summer courses online, to provide no-cost PD to 168 of the 2021 DataStreme course participants. These actions supported teachers and kept our programs strong during an admittedly difficult and stressful time for educators to be participating in PD programs.

Survey feedback confirms that our summer 2021 teacher PD courses were both offered very successfully to a total of 34 participants. The pandemic led us to conduct the NOAA and NASA-supported Project Atmosphere course fully virtually for the second time due to the unavailability of the host facility. In contrast, the first full offering of ONR-funded, Project Ocean was conducted in its full 5-week format with one week of residence instruction and field work with our new partners at Washington College in Chestertown, MD.



We worked throughout the year to update and adapt our digital undergraduate curriculum materials (texts, investigations manuals, and weekly current studies) in weather, ocean, and climate science. Our materials are well-suited for implementation in community colleges which have been particularly negatively impacted during the pandemic.

This fall, AMS was notified that a major NSF proposal for the COLDEX STC, on which we are a subawardee, was successful. We have begun the work to develop a new climate/Antarctic ice core-focused teacher PD summer course, that will be called Project Ice. Interest among our vast teacher network in this new course is very high!

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#### **Certified AMS Teacher (CAT) Program**

AMS began awarding certifications to K-12 teachers in 2020. The Certified AMS Teacher (CAT) Program was established by the AMS to recognize and support educators actively engaged in raising Earth science literacy. CAT specifically connects K-12 educators to AMS, which strengthens their connection to the atmospheric science community and its resources.

CAT

Phys TEACHER

There were 24 teachers awarded their CAT certification in 2021.



The AMS Policy Program has three primary goals: 1) to help ensure that policy choices take full advantage of information & services relating to weather, water, & climate, 2) to increase awareness of how society's welfare depends on Earth system observations, science, & services, and 3) to facilitate collaboration across the enterprise to most effectively serve public interest.

The work toward those goals, the Policy Program uses three primary approaches: 1) we develop the capacity within the scientific community to contribute to the policy process (e.g., the Summer Policy Colloquium), 2) we inform policy makers about well-established scientific understanding and new advances (e.g. memos and Hill briefings), and 3) we synthesize knowledge at the interface of science and policy through workshops and studies. We also help advance and defend science.



The program released several studies in 2021:

- Policy and innovation: Fair Weather; legislation; and WMO Resolution 42
- Technology Change and Workforce Needs Study
- Science assessment to support coastal resilience
- The Arctic: science and policy needs
- Options for enhancing NOAA's Weather Ready Nation initiative
- Weather-water-climate value chains: The economic benefits of hydro-met services
- Socioeconomic inequality and climate change hazards
- A community synthesis of climate solutions
- Societal benefits in weather, water, and climate

The 21st Sumer Policy Colloquium offered as a fully virtual event. About 25 participants and 50 speakers took part in what was ultimately a very successful Colloquium.





There has been a gradual decline in membership numbers across non-profit societies, including AMS, for a number of years. We have been actively working with the Board on Membership to review our overall membership strategy and associated membership revenue model. Our discussions in 2021 focused primarily on the following:

- Tiered dues: Implemented for the 2020 membership year, the tiered dues structure was created in order to reduce the financial barriers to membership for those in the lower salary ranges, such as recent graduates and retirees.
- Member demographics: Research done by staff shows that since the tiered dues structure was implemented, the percentage of younger members has increased, while the number of older members has decreased.
- Member benefits: A staff audit of program offerings seems to indicate that AMS provides many of the same benefits that other similar professional orgs offer to their memberships.

#### 2021 Highlights

- The total number of individual members in 2021 was 11,161. The year-end total for 2020 was 11,336.
- In 2021, 28% of members selected to auto-renew their membership for 2022. The percentage of members who chose to auto-renew their membership for 2021 was 22%.
- Just over 35% of members chose to receive print BAMS by mail vs. 39% of members in 2020.
- Staff implemented a renewed effort to recruit lapsed AMS members by providing them
  with information on recent improvements and additions to AMS's products and/or
  services, such as our tiered-dues structure, career development resources, online
  community, CAT, virtual meetings, etc.

#### Membership by the numbers

Member Type	2021
Member (includes Fellow, Honorary, Graduate Student)	8630
Associate (includes Voting Associate & Teacher)	769
Student Member	1613
Corp & Inst Members	131
Total	11,161



The AMS Online Community platform continues to provide valuable content to AMS members. Virtual events and conferences were supported by new community pages.



#### **COMMUNITY ENGAGEMENT**

For 2021, a number of AMS activities were reorganized under the umbrella of community engagement programs. These included longstanding activities such as support for local chapters and staff support for the many boards and committees that provide for volunteer service in the Society, but also some of the newer initiatives, such as the AMS Weather Band. New initiatives coming out of the AMS Centennial will expand opportunities for members to volunteer their time and talent toward community-based activities, including service to developing world countries. A new volunteer portal is being launched on the AMS website to facilitate volunteering for these new opportunities as well as all the other ways to serve AMS as a volunteer.

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#### **AMS Weather Band**



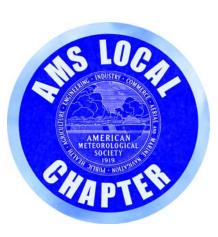
AMS launched a new offering for weather enthusiasts called the AMS Weather Band in November 2020. Throughout 2021, new content was added to the Weather Band website, a series of webinars was produced (about one per month), and traffic on the community discussion pages increased. By the end of the year there were over 500 Weather Band members.

#### **Local Chapters**

The chapter web site was updated to include documents and links to help local chapters with basic administration and planning tasks, as well as social media, yearly programming, fundraising, citizen science and volunteer initiatives.

There are currently 136 active local chapters: 71 student, 56 local, and 8 precollege. Two chapters were approved and/or reactivated in 2021.

- Ohio State University Student Chapter
- Farthest North Chapter (reactivation)





#### **CAREER DEVELOPMENT**

AMS offers a range of professional development opportunities including certification programs, short courses, and webinars. We also provide career resources such as podcasts, career profiles, job and internship opportunities, mentoring programs, career guides and tools, and more.

With the pandemic leading to meetings being in a virtual format, several short course organizers opted to offer their courses virtually outside of the meeting dates. In 2021, seven short courses were offered virtually, and another eight that were originally scheduled to be held in Houston with the 102nd Annual Meeting were also converted to virtual format.

A special website was created specifically for career activities happening at the Annual Meeting. The information curated for this page made it easier for attendees to find career related information and events happening at the meeting.



The Department of Career Development was awarded a grant from the American Institute of Physics to create an AMS Online Career Counseling Portal.

In 2021, 26 new webinars were produced, and in addition, 26 new podcasts were released. The statistics for these career offerings are impressive:

- 6,890 Career Podcast Downloads
- 2,046 Webinar Registrants
- 535 Short Course Registrants
- 970 New Jobs Posted to the Job Board
- 618 New Job Seekers Registered



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#### **AMS Certification Programs**

The AMS Certified Consulting Meteorologist (CCM) Program and the AMS Certified Broadcast Meteorologist (CBM) Programs remain an important part of the AMS community. These widely respected programs continue to recognize meteorologists who have met the high standards of AMS certification. We received 88 certification applications in 2021 (48 CBM; 17 CCM; 23 CAT).

- In 2021, 15 individuals earned the Certified Consulting Meteorologist designation, bringing the total number of active CCMs to 284.
- In 2021, 38 broadcast meteorologists earned the CBM certification, bringing the total number of active CBMs to 585.
- In 2021, 24 teachers awarded their CAT certification.











#### **EXTRAMURAL SUPPORT**

Thanks to member support, AMS received donations over \$500K, to include a gift that will support the recently approved Shukla Prize. A majority of donations typically come in with dues renewals, but for 2021, we also saw an increase of donations made through the online donation app as well. Contributions received include gifts to the unrestricted fund and to the named funds we have available for support. Member contributions allow AMS to implement activities and programs that rely on external support of this kind, many of which are student related.

We had another successful year in securing sponsorship for the annual meeting in Houston with 25 corporations and 12 universities partnering with AMS for a total financial commitment of just over \$200K. When the annual meeting switched to being fully virtual, all but two sponsoring corporations chose to transition their support online or selected the option to rollover their support to the 103<sup>rd</sup> annual meeting in Denver, thus allowing AMS to retain the substantial financial support secured.

The support for student scholarships, fellowships, and travel grants remains very strong. A final list of Campaign contributors will be provided online later this year.

Lockheed Martin continued its ongoing support as AMS Corporate Patron.



#### **FINANCES**

The Society completed the 2021 budget year with a significantly positive bottom line in the overall budget, allowing some restoration of the Society's reserve funds after the challenging budgets of a few years ago. This very positive overall outcome does require some additional explanation, however. The Council had approved an operating budget with a \$600K deficit based on the anticipated ongoing challenges posed by the covid pandemic. Careful management of programs by the AMS staff was able to keep the actual operating budget deficit close to half what had been budgeted, with the net positive outcome being due to two additional factors.

First, in 2020, AMS applied for, and received, a Payroll Protection Program loan from the federal government under the CARES Act covid relief programs. This funding was used, as prescribed, to maintain full pay for all AMS staff positions even as some operational areas (such as AMS meetings) needed to ramp down in response to the pandemic. Given the successful execution of the relief funding, the government forgave the loan, which allowed the funding to be recognized as income in the 2021 budget year. Further, the Society's investments saw excellent returns in 2021 and ended the year with significant gains of over \$1 million, further restoring reserves that had needed to be drawn from in some recent prior years.



## **THANK YOU**

### AMS Boards and Committees in 2021



AMS advances the atmospheric and related sciences, technologies, applications, and services for the benefit of society.



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The following list provides the membership of all AMS boards and committees in 2020. Current board and committee membership can be found on the AMS website.

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#### AMS CONSTITUTION AND BYLAWS

The AMS Constitution and Bylaws is a multipage PDF document that is easily accessed on the AMS website. Please click on ametsoc.org/constitution to view the entire document. In accordance with the requirements in the AMS Constitution, Article XII is reproduced here.



#### **ARTICLE XII. Guidelines for Professional Conduct**

To enhance the benefits of the meteorological and related professions to humanity, to uphold the dignity and honor of the profession, and to provide guidance for individual members, institutional members, or for members in association with other professionals, the American Meteorological Society has adopted the following Guidelines for Professional Conduct. Only individuals and organizations who intend to abide by these Guidelines should seek admission or continuing membership in the Society; therefore, these Guidelines will appear on the membership application form and will be published at least annually in the official organ of the Society.

- 1. Relationship of members to the profession as a whole.
  - A. Members should conduct themselves in an ethical manner and reflect dignity and honor on their profession.
  - B. Members who are professionally active should endeavor to keep abreast of relevant scientific and technical developments; they should continuously strive to improve their professional abilities.
  - C. Members engaged in the development of new knowledge should make known to the scientific world their significant results through the media of technical or scientific publications or meetings.
- 2. Relationship of members to colleagues.
  - Members should not take credit knowingly for work done by others; in publications or meetings, members should attempt to give credit where due.
- 3. Relationship of members to clients and the general public.
  - A. Members should base their practice on sound scientific principles applied in a scientific manner.
  - B. Members should not direct their professional activities into practices generally recognized as being detrimental to, or incompatible with, the general public welfare.
  - C. Members undertaking work for a client should fully advise him or her as to the likelihood of success.
  - D. Members should refrain from making exaggerated or unwarranted claims and statements.
  - E. Members should refer requests for service that are beyond their professional capabilities or their scope of service to those properly qualified.
  - F. Members shall not use or display the official seal of the American Meteorological Society, the Radio Seal of Approval, the Television Seal of Approval, or the designation Certified Consulting Meteorologist or Certified Broadcast Meteorologist unless duly authorized by the Society.

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