

45 BEACON

LETTER FROM HEADQUARTERS

Why Faculty Members Should Attend the Summer Community Meeting

For several years, the AMS Commission on the Weather and Climate Enterprise (often referred to more simply as the Enterprise Commission) has been tackling issues relating to the ways the academic, government, and private sectors can work together more effectively. They have developed several venues for open dialogue on issues critical to the success of our community. In addition to a symposium and other events at the AMS Annual Meeting, they organize the AMS Washington Forum each spring and the AMS Summer Community Meeting each summer. The candid—and sometime heated—dialogue at these meetings has been instrumental in fostering progress on several contentious issues over the past few years and has most notably led to better working relationships between government agencies (particularly NOAA's National Weather Service) and those in the private sector.

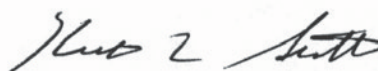
Several members of the academic community have been key players in the work of the Enterprise Commission, and there are several universities that established creative relationships with private sector companies in ways that benefit both the department and its students. Despite this, I have heard some in the academic community suggest that the work of the Enterprise Commission has little value to them and little impact on what they do. It is unfortunate that some faculty members feel this way, because by keeping up with, and taking advantage of, the activities of the Enterprise Commission, they could be doing a huge service to their students. Many students will be entering the workforce in either government or private sector positions, and even if they remain in an academic environment, most will be interacting with other components of the community making up the Enterprise. Faculty members can better prepare students for those roles by having a deeper appreciation for the issues they will face as they begin their careers. They can also learn about the emerging roles for those trained in the atmospheric and related sciences that are

often discussed in depth at these Enterprise Commission meetings, and that represent new career paths.

The AMS Summer Community Meeting is coming up on 13–17 August 2012, in Norman, Oklahoma. This meeting has become a truly outstanding one in the annual lineup of AMS meetings, and one of the primary events organized by the Board on Enterprise Communications under the Enterprise Commission. The meeting coming up this August will be built around the theme of communication and partnerships, with a special emphasis on social media and severe weather communication, and in general making the United States a weather-ready nation.

The AMS is nearly unique among scientific and professional societies in bringing together a community made up of members of the academic, government, and private sectors who are engaged in a broad array of activities spanning research to operations. Our natural inclination is to concentrate on those components of the Society that serve our particular needs and pay little attention to the others, or worse, to suggest that the Society's engagement in the others takes resources and focus from activities we feel should be more important. The Enterprise Commission has been demonstrating how that view sells the Society short in its potential to positively impact all aspects of the community we serve. If you have not been following this success story over the past few years, I sincerely hope you will begin doing so now.

I look forward to seeing many of you in Norman this August. I can say with confidence that you will find it worth the time and effort to be there.



KEITH L. SEITTER, CCM
EXECUTIVE DIRECTOR

KIRA NUGNES

Education Program Managing Editor/Content Specialist

Kira Nugnes first learned about the AMS as a freshman in college when she joined the Millersville University's local chapter. She remembers faculty emphasizing the importance of joining the organization to meet people and network to better prepare to find a job upon graduation.

"The chapter would bring in speakers to talk about different aspects of meteorology, including forecasting, which I've always had a passion for," Kira comments. "I had a goal of becoming an on-air meteorologist, because it was the perfect combination of forecasting and teaching people about the weather."

Kira admits that at the time she wasn't aware of other opportunities available outside of research. Attending the student conference at the AMS Annual Meeting in 2006 changed all of that.

"That conference literally opened my eyes up to so many more possibilities that by the time I left the conference, I didn't know what type of meteorology career I wanted to pursue," Kira remembers.

After graduating from Millersville in 2006 with a B.S. in meteorology, she moved to Salisbury, Maryland, to be an on-air meteorologist with the ABC affiliate. Kira loved to forecast and especially enjoyed the opportunities to travel to local schools to teach kids, and teachers, about the weather. She also got to live out a dream of reporting live from a professional sports game by giving a forecast before the opening pitch of a minor league baseball game.

When Kira saw the opening for a position in the AMS Education Program in May 2010, she felt it would be the perfect fit. Initially, she was hired to manage the Education Program's meetings' logistics, which included preparing and submitting abstracts and presentations, planning proper booth layout, and submitting the appropriate paperwork. Since then, she has found herself involved with many new projects, including conducting weather-related workshops at national conferences with kids and teachers.

As a managing editor/content specialist, Kira is now part of the team that edits and revises textbooks for AMS Education Program undergraduate courses. She helps the team meet deadlines, searches for new imagery, and contributes to the writing of new sec-

tions of text. So far, she has helped with the *Weather Studies: Introduction to Atmospheric Science* textbook, and plans to work on revisions for *Climate Studies: Introduction to Climate Science*.

"I've really enjoyed this new opportunity because of everything I've learned about creating a top-quality textbook—not only confirming that content is accurate but also making sure that imagery is of adequate resolution and, what may seem obvious but sometimes is quite a daunting task, making sure that everything fits on each page while still looking appealing," Kira explains.

The process has also provided her with the opportunity to share her passion of teaching people about the weather—this time by working with a great team to create a top-notch textbook that will reach thousands of teachers and students.

In her position, Kira also assists in developing weekly activities for the undergraduate-level meteorology course. These Current Weather Studies, as they're called, use real-world, real-time data to investigate the atmosphere.

"I, along with a few others, review drafts of these activities Monday and Wednesday mornings and then meet to discuss and improve the activities before they're released to anxiously awaiting teachers and students," Kira says. "Again, here, I get to use my meteorological knowledge to confirm accuracy in the activities."

She also works with K–12 teachers during Project Atmosphere, a two-week summer residency workshop on the fundamentals of meteorology. The Education Department brings about 20 teachers each year to the National Weather Service Training Center in Kansas City, Missouri, to participate in a course on the fundamentals of meteorology. They also invite experts within the field to teach participants about hurricanes, forecasting, severe weather, and other aspects of meteorology.



“During this amazing two-week adventure, I walk teachers through the teaching modules that we provide to them, which they later use to train fellow teachers in their local areas,” Kira notes. “Whether we’re doing an activity about high and low pressure centers or investigating El Niño/La Niña, I get to directly impact teachers’ knowledge and passion for meteorology. Teachers have commented that they love my passion for the weather.”

AMS has not only been rewarding to Kira professionally, but personally as well. It was at her first

AMS Annual Meeting in 2006 that she met Anthony Nugnes, who is now her husband.

“The AMS amazes me,” Kira concludes. “Many people think the AMS is made up of hundreds of employees, but it’s not. It’s a small staff made up of a tremendous group of people who have a passion for science. I have found an organization that not only shares my excitement for meteorology but also seeks to educate and share that passion.”

—RACHEL S. THOMAS-MEDWID

PROFESSIONAL PRACTICES

This is the first in a series of articles encouraged by the Board of Certified Consulting Meteorologists and the National Council of Industrial Meteorologists to explore the ethical issues that can be encountered conducting business in the meteorological community. The purpose is to initiate a discussion within the broader membership about how the professional guidelines section of the AMS constitution comes to life in the conduct of everyday life of professional meteorologists. Comments are welcome and should be addressed to the authors. More formal responses can also be made to the editor of BAMS.

BUSINESS ETHICS FOR PROFESSIONAL METEOROLOGY

Expectations and Satisfied Customers

BY JERRY D. HILL, CCM, AND GERALD J. MULVEY, CCM

Many professional societies and boards have an ethics statement or code of conduct to which they expect their members to adhere. Our society has chosen not to have a separate ethics code, but has embedded clear guidelines for professional conduct into the organization’s constitution. These guidelines pertain to all of us as members, but are particularly meaningful to meteorologists in private practice, who strive to meet the expectations of a variety of customers.

THE PRIVATE METEOROLOGY SECTOR.

An article published in *BAMS* in 2007 estimated that private-sector meteorologists generally number

about 4,000–5,000 persons, of whom about 1,600 were characterized as media meteorologists. The market value for the sector was estimated to be from \$1.65 to \$1.8 billion and possibly as much as \$2 billion.

Private-sector meteorology involves traditional day-to-day work typical of most businesses, such as delivering products, billing, charging, and contract fulfillment. Some of these normal elements of conducting business are the very things that can become contentious between a company and their clients, leading to lawsuits and/or charges of unethical business practices.

AMERICAN BUSINESS ETHICS. In the United States, we can’t fail to be aware of the news about ethics and questionable corporate practices that have plagued the business community during the past several years. Although not particularly notable in the private meteorology sector, allegations of fraud and misrepresentation, mostly in the finance community, have caused the U.S. Congress to pass new legislation and regulations. An example is the Sarbanes-Oxley Act of 2002 (available at www.gpo.gov/fdsys/pkg/PLAW-107publ204/content-detail.html), which was passed in the wake of a multitude of corporate scandals. One of the out-

AFFILIATIONS: HILL—Consulting Meteorologist, Houston, Texas; Mulvey—Northrop Grumman, Redondo Beach, California
CORRESPONDING AUTHOR: Jerry D. Hill, Consulting Meteorologist, 7518 Chevy Chase, Houston, TX 77063
 E-mail: Jerryd_hill@sbcglobal.net

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growths of Sarbanes-Oxley was a requirement that a code of ethics be adopted for senior financial officers.

All of this has raised consciousness about ethics in business. Certain state licensing boards and authorities have started to require people in professions that involve the public trust to take annual ethics training courses as a condition of license renewal. Universities have developed ethics courses in their business and engineering departments; students can now actually earn an academic degree in the subject. Meanwhile, many professional organizations have updated or revised their codes of conduct.

Most U.S. companies and governmental entities promote ethical behavior as a standard business practice. This is sensible from both a business and legal perspective. To survive, our organizations must retain the trust of customers over a wide range of issues, from correct project charging to the quality of our products and services. Like any other business, those of us working in private meteorology have an ethical responsibility to provide diligent and competent work for our customers.

CONDUCTING BUSINESS AS A METEOROLOGIST. Any arrangement for meteorological services, whether for a long-term business relationship or a single, short-term task, involves the expectation of three fundamentals: price, schedule, and performance to a standard. The service agreement may be a detailed contract or a loose accord, but those three elements are still the same. Beyond those expectations are several basic things about the business arrangement that anyone anticipates when they engage a contractor or consultant.

Many consulting arrangements for meteorologists are made on a time and materials basis. Receipts confirm the cost of materials and other expenses, but the customer is seldom in a position to verify when and for how long the meteorologist works on a project. A customer is entitled to an honest accounting of this time. Misrepresenting that work, or falsely claiming services have been performed, can violate the deceptive practices statutes in a state Business and Commerce Code (e.g., California Business and Professional Code, Division 7, Part 2: Preservation and Regulation of Competition; and Part 4: Unfair Trade Practices, available at www.leginfo.ca.gov/html/bpc_table_of_contents.html).

The expectation of schedule means that a business agreement not only calls for the service provider to meet an established deadline, but also to communicate about impending delays or late deliveries. Failure

to do so can lead to significant business opportunity loss for that client. There is an ethical responsibility to maintain a current schedule for any deliverable and to make an honest accounting for any schedule delays.

Not every employee in an organization has the skills to accomplish every job. Each of us has certain core capabilities, but we must sometimes recuse ourselves from tasks for which we lack training or experience. In the regulated professions, such as professional engineering, it is actually a violation of the law to accept work outside the range of one's capabilities.

Clients expect that people we assign to their work will be competent in the relevant tasks. Meteorological consultants or contractors may be inclined to accept work with the belief that they can learn the necessary skills or substitute similar capabilities. Accepting work in an area outside one's competence can lead to a failure to perform the work on time or perform work that reflects current scientific standards. Not only can this ruin a business relationship, but it can also be the basis for litigation over nonperformance of a contract.

AVOIDING CONFLICTS OF INTEREST. Conflicts may arise between the competing private and professional interests of an individual or organization and their responsibilities to perform work for someone else. Potential conflicts of interest may be difficult to recognize and are easy to ignore. Some simple conflicts may appear to be insignificant, but the mere appearance of a conflict can lead to accusations of unethical conduct. We need to avoid conflicts of commitment, conflicts over proper use of institution/company resources, use of one's position, or conflicting relationships between company organizations.

Even when nothing improper happens, the appearance that a person can act for unmerited personal gain can cause doubt about the reliability of his or her performance. Any possibility of a conflict of interest must be examined closely before embarking on a business arrangement. The ramifications must be fully known by all parties. A third party can even be engaged to assess the situation prior to finalizing a business arrangement.

CONFIDENTIALITY. A company wise enough to recognize the influence of weather on their business will engage meteorologists to identify hidden business opportunities. This often involves the exchange of confidential business information. If confidential information is shared with, or even allowed to fall inadvertently into the hands of, competitors then the

advantage of obtaining the meteorological services can be diluted or eliminated.

Some clients may require that a confidentiality agreement (such as a nondisclosure agreement, or NDA) be signed so that they have recourse if a breach of confidentiality occurs. In many cases, though, once the breach has occurred, no recourse can mitigate the business impact that may follow.

Confidentiality is disclosing information only to those who need to know, and protecting a client's proprietary data from outright theft. The computer age has led to a rapid growth in the collection of all manner of commercial information, such as sales trends and consumer behavior. Companies go to great effort and expense to create such databases, but this intellectual property is easily transported or transferred if not protected properly.

Consider the case where a company that makes household insect pest control products believed there was a correlation between the timing of their product's spring sales peak and the antecedent weather. They engaged a consulting meteorology firm to review their sales data for 10 major metropolitan markets in the United States and quantify a relationship if one could be found. Success would help them schedule advertising and product deliveries to stores so as to coincide with the year-to-year variations in the peak sales times. To facilitate the study, the company provided the weather consultants with confidential multiyear sales data.

The consultants matched the historical sales data with concurrent weather data for the various locations and determined that there was a correlation with a particular degree-day function. (Appearance of pests in people's homes was driven by temperature.) The consultants developed a system for the company so it could use extended temperature forecasts and outlooks as input to a model that predicted when the spring sales volume would peak.

After the contract was complete, the owner of the consulting company thought the study could generate an informative technical paper. Without discussing his notion with the client, he wrote and subsequently published a paper in a biometeorology journal describing the apparent relationship between temperature and the development of the insect populations that had been studied. None of the client's sales data were tabled in the paper, and the precise prediction model was not given, but scatterplots showed the relationships. Was it ethical to publish the paper based on the client's sales data and without their knowledge,

even though the exact data were not divulged? Clearly, it would have been more appropriate to consult with the client about publishing a technical paper before submitting a manuscript.

OTHER POTENTIAL PITFALLS. The private practice of meteorology produces some unique possibilities for exceeding the boundaries or capabilities of our science. Typical areas for concern are

- making of extravagant claims (statements beyond established scientific fact that are represented as fact) to enhance the probability of acquiring or fulfilling a contract;
- overstating professional forecasting capabilities and skills;
- exaggerating weather modification skill to give clients a false sense of the probability of success;
- procuring contracts for goods and services through bribes (involving money, gifts, or services to a client);
- misrepresenting qualifications to properly provide services or render scientific opinions;
- making unfounded attacks on the abilities or practices of peers and competitors in order to harm their reputation or influence customers;
- accepting work beyond the scope or depth of one's expertise;
- allowing attorneys or clients to influence or alter the scientifically supported results of investigations or opinions rendered;
- acquiring, storing, or using information about competitors that is obtained illegally or is confidential or a trade secret as defined by Restatement of Torts (1939) or the Uniform Trade Secrets Act.

MEETING THE CUSTOMER'S EXPECTATIONS. Whatever our customers expect of the services we provide, their satisfaction is essential if we want to retain a business relationship. Having a strong sense of professional behavior and ethical conduct with regard to both business practices and application of the science will help us meet our customer's requirements and expectations, which is the definition of quality.

FOR FURTHER READING

- Kahaner, L., 1996: *Competitive Intelligence*. Simon & Schuster, 300 pages.
- Spiegler, D., 2007: The private sector In meteorology: An update. *Bull. Amer. Meteor. Soc.*, **88**, 1272–1275.

REAL-WORLD METEOROLOGY

A series of profiles celebrating a half-century of Certified Consulting Meteorologists



Who: Gerald J. "Gerry" Mulvey

What: Senior systems engineer for Northrop Grumman Aerospace Company

When: CCM since 1997

Where: Los Angeles, California

Why: Increase recognition of his capabilities and afford an independent validation of the capability to apply meteorological principals and solve engineering problems.



How: Gerry Mulvey has provided in-house environmental consulting on a wide variety of aerospace and high-technology programs. He has successfully integrated his knowledge of meteorology with emerging engineering designs through classical aerospace systems engineering. This classical systems engineering approach is through trade studies, specification, and interface control document development as well as more general development process definition. He has been involved in many projects over a wide span of technologies, including weather radar data processing, airframe icing, weather data interface definitions for data processing systems, remote-sensing sea ice thickness measurement systems, satellite ground antenna siting, environmental satellite ground data processing algorithms, and humidity measurement in rocket launch pad blast ducts. Along the way, he has managed to satisfy his desire to teach by instructing for Colorado State University, San Francisco State University, Lockheed Martin, and Northrop Grumman, as well as for the International Society of Automation and the AMS.

In His Own Words: "The path to becoming a Certified Consulting Meteorologist was a long time starting. After working in the commercial sector for almost 20 years, the job prospects became uncertain. The question arose on how to distinguish yourself among those competing with you for jobs. In the commercial world, publications are not always encouraged or allowed, and you may not be able to tell others what you have done. Without a publication list, no reportable research projects, and not being allowed to describe your projects, how do you describe your capability/track record? In short, it is difficult. I realized the best alternative was to be recognized by a state licensing board or professional organization through a certification program. The next step was choosing which certification best suits the meteorological field. Having worked as a systems engineer for aerospace companies employing my meteorological background to solve engineering problems, it boiled down to a system engineering certification or a consulting meteorologist certification. It had to be a rigorous program that would testify to education/training, experience, problem solving ability, and ethics.

"I selected the CCM as the best route, feeling that the program was, and still is, the most rigorous certification program, both to achieve the certification and to maintain it through continuing professional development. Besides the purple badge of identification as a CCM at the Annual Meeting, the CCM provides a level of recognition of both achievement and sustained currency in the state of the art for meteorology. Was it worth it? The short answer is yes. CCM certification has given me the ability to internally market myself as a meteorologist with real-world experience, high ethical standards, and a dedication to maintaining technical expertise as tested and reviewed by my peers. It added the designation of subject matter expert in weather to my aerospace system engineer record. It may seem that working for major aerospace corporations has nothing to do with consulting, but a system engineer changes projects often. You are interviewing frequently for a new job and presenting your credentials to another group. The recognition in the commercial sector is slow in coming, but the recognition in the meteorological community is significant. In particular, the ability to identify experts, network with them, and work with them to solve problems is significant. The process of vetting a consultant or selecting a teammate is simplified with the CCM after the name, and I would encourage all meteorologists to explore the AMS CCM program and see if it is right for you."

For more information on the Certified Consulting Meteorologist (CCM) Program, please visit the AMS Web site at www.ametsoc.org/amscert/index.html.

Making Our Meetings More Environmentally Responsible

If you've attended an AMS Annual Meeting or specialty conference in the past few years, you may have noticed some of the many ways—big and small—that AMS and our partners are trying to make our gatherings greener. Last month in this space we introduced the AMS Committee on Environmental Responsibility and promised more details on the committee's work in this and future "45 Beacon" features. This month we focus on how we are trying to reduce the environmental impact of our conferences.

The AMS Meetings Department works with AMS member volunteers to make sure that our meetings are not just scientifically stimulating and professionally rewarding, but that they also make responsible use of natural resources and keep waste, pollution, and greenhouse gas emissions to a minimum. Since these efforts began (with the Council's 2007 adoption of the AMS Green Conference Guidelines; see www.ametsoc.org/MEET/greenconferenceguidelines.html), the whole meetings industry has gradually developed a similar focus. Vendors of meeting services—hotels, convention centers, caterers, and exhibitors—are marketing more environmentally friendly products and services. The AMS meetings staff often signs contracts with convention centers that are certified for their Leadership in Energy and Environmental Design (LEED), such as the Austin Convention Center, site of the 2013 AMS Annual Meeting (www.austinconventioncenter.com/sustainable/process.htm). Some examples of the center's sustainable design include LED lighting in all meeting rooms; carpet made from recycled materials, generating zero emissions, and installed without using glue; wind-generated electrical power; and a 93% reduction in its carbon footprint since 2007.

You've probably noticed that we rely much less on disposable food and drink containers, that the hotels we visit offer environmentally friendly housekeeping options, and that our exhibitors are distributing a lot fewer give-away (often really throw-away) souvenirs and tchotchkes. Other efforts may be less visible to the average meeting attendee. For example, we try to ensure that our caterers send leftover food to local food banks rather than waste it, and that they compost food scraps rather than send them to

a landfill. Meetings Department Director Claudia Gorski notes, "The meetings staff is trying to cut back on the amount of paper used during meetings; this includes electronic signage for meeting rooms and an electronic 'Conference-at-a-Glance.' We are also working on a phone app for our program for future Annual Meetings."

And it's not just big AMS meetings that are going green. AMS is also trying to help its members in their own meeting planning efforts. Building on the Green Conference Guidelines, in 2011 the Council adopted the AMS Professional Guidance Statement on Green Meetings (www.ametsoc.org/policy/2011green_meetings_amsstatement.html). From choosing a meeting venue that minimizes participant travel and offers good public transportation, to planning menus with locally sourced foods, to limiting printed material, the statement offers dozens of suggestions for environmentally responsible meetings of any size. If you have suggestions for additional ways to "meet green", please share them with your colleagues at the committee's website (www.ametsoc.org/committeepges/envres/index.html).

Watch this space next month to learn how environmental responsibility informs the AMS financial investment portfolio.

CERTIFIED BROADCAST METEOROLOGISTS (CBM)

The following individuals were recently granted the Certified Broadcast Meteorologist (CBM) designation. For more information on the AMS CBM program, go to www.ametsoc.org/amscert/index.html#cbm.

565	Andrew Tuma	2012
566	Brad Hlozek	2012
567	Christopher S. Smith	2012
568	Benjamin Burkel	2012
569	Matthew Elwell	2012
570	Kaitlin Parker	2012
571	Charles Lopresti	2012
572	Charlene Malin	2012
573	Gannon Medwick	2012
574	Stephen Pellettieri	2012

Ken Reeves served for 29 years as a prominent meteorologist, media figure, executive, and an integral part of the AccuWeather team and the American Weather Enterprise.

Ken was hired by AccuWeather upon graduation in 1983 from Penn State with a degree in meteorology. He quickly moved from working as a forecast meteorologist to various positions of increased responsibility due to his outstanding work ethic and get-it-done approach. These positions included director of Systems Operations, director of Forecasting Operations, vice president and general manager of AccuWeather Television Network, and, just a few weeks before his death, he was appointed vice president of Emerging Digital Media.

Ken's excellence and professional intensity—coupled with his compassion for others, his winning personality, sense of humor, infectious smile, and engaging laugh—allowed him to impact the lives of the thousands of people with whom he came in contact.

He was an effective spokesperson and media personality for AccuWeather, having conducted literally thousands of interviews and broadcasts on every major television network, radio station, and newspaper in the United States.

Ken served on the AMS Energy Committee and worked closely with many in the weather enterprise, including at NOAA/NWS, and in academia and the weather industry. Ken was an active part of the AMS

Annual Meetings and worked closely with the AMS Career Fair. He also volunteered extensively to help local community organizations.

He visited meteorology departments and lectured at universities all over the country. He was especially liked by the many students whose careers he assisted.

In memory of his many contributions to the help and support of undergraduate students in atmospheric sciences, AccuWeather is establishing a scholarship with AMS in Reeves's name to which all in the weather enterprise may contribute.

Ken died as a result of a tragic accident, which occurred at his home in Lemont, Pennsylvania, Sunday afternoon, 25 March 2012. He is survived by his wife Raychel; his parents; a brother and a sister; other family members; his AccuWeather family; and many, many friends around the country. Ken and Raychel were recently married, in October 2011.

Following his death, AccuWeather received hundreds of notes of condolence from those across the weather enterprise. Ken will be greatly missed.



Ken Reeves

—BARRY LEE MYERS

THE KEN REEVES ACCUWEATHER MEMORIAL SCHOLARSHIP

In memory of Kenneth W. Reeves and his many contributions as an advocate and in support of undergraduate students and careers in the atmospheric sciences, the AMS is currently accepting contributions in an effort to endow a scholarship in his name and establish a permanent tribute to a truly inspirational man who impacted so many. The scholarship will assist outstanding students pursuing undergraduate degrees in the atmospheric sciences looking to apply their skills to operational meteorology, as Ken did throughout his rich and successful career.

Contributions may be sent to:

AMS
attn: Ken Reeves Fund
45 Beacon Street
Boston, MA 02108

Any questions regarding the Ken Reeves AccuWeather Memorial Scholarship Fund may be directed to Stephanie Armstrong, Director of Development, AMS Headquarters, 617-226-3906; armstrong@ametsoc.org

Masao Kanamitsu, well known to his friends and well-wishers as “Kana,” passed away on 17 August 2011 after a prolonged illness. He was an icon in numerical weather and climate modeling and idolized by many young scientists.

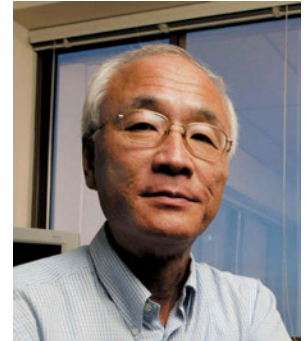
Kanamitsu completed his early graduate education from Hokkaido University in 1968 and decided to do his Ph.D. work at The Florida State University (FSU) starting in 1969. Kana met T.N. Krishnamurti at an international conference on numerical weather prediction in Tokyo in 1968 and the decision to study at Tallahassee for his Ph.D. was made at that time.

Kana received his Ph.D. in meteorology in 1975 from FSU under the guidance of Krishnamurti. His Ph.D. dissertation was on the topic “On Numerical Prediction over a Global Tropical Belt.” This was a start of a lifelong career on numerical weather prediction that he continued diligently. After his Ph.D., he worked at the Japan Meteorological Agency (JMA) for 10 years as a forecaster, followed by a 3-year stint as a visiting scientist at the European Center for Medium-Range Weather Forecast (ECMWF). Kanamitsu had unique abilities for numerical modeling. He developed many diagnostic tools to extend the forecast results. He was very adept in calculations of energetics in the wave number domain, an area that had been initiated in the late 1950s by Barry Saltzman (of MIT and later Yale).

Kana worked with Krishnamurti on the interpretation of the planetary-scale monsoon as an energy source for other scales of motion of the tropics, such as the Hadley and the synoptic scales. Kanamitsu made use of these diagnostic tools toward the validation of the ECMWF model output, using the scale interactions approach when he was visiting FSU. Kanamitsu also examined in detail the systematic errors of the ECMWF model forecasts over the tropical latitudes. Upon his return to Japan, he carried out the same exercise for the JMA model, thus giving a picture of the differences in systematic errors of two global models.

Kanamitsu then accepted an assignment in Washington, D.C., and served as the chief of the Weather and Climate Modeling Branch at the National Meteorological Center (now National Centers for Environmental Prediction) for 15 years before he moved to the Scripps Institution of Oceanog-

raphy as a meteorologist in 2001. While at FSU, Kana worked with Krishnamurti on a first formal study on the scale interactions of the planetary-scale monsoon, where it was shown that the large planetary-scale monsoon was a major energy source for other smaller scales of the tropics. The NCAR/NCEP Reanalysis effort went through several versions, and Kanamitsu was a part of all of these efforts. Knowing the inner details of the EMC’s GFS model, he provided great assistance in the completion of these efforts, which was clearly a large group undertaking.



Masao Kanamitsu

Eugenia Kalnay of the University of Maryland wrote of Kanamitsu: “I had the privilege to be his division chief when he became the branch head of the Global Modeling Branch. When we decided to create a 40-year NCEP/NCAR Reanalysis, he was the natural leader for the project. Our first paper on the reanalysis in 1996 has been cited over 8,000 times, more than any other paper in geophysics, and Kana deserved a large portion of the credit for this immensely useful project. After that, Kana created the NCEP-DOE Reanalysis 2, where he made several important corrections and improvements, and that has also been a very highly cited paper.”

Kana was a leader in spectral modeling. His contribution to the development of the operational numerical weather prediction model at NMC is another highlight of his career. Around this time, he was also associated with the development of the regional spectral model (RSM), which was again a novel concept of using spectral decomposition for regional models when gridpoint regional models were in vogue. The RSM rapidly became popular with a wide network of users distributed all over the world with its reasonably high fidelity. Kana was very meticulous and paid attention to details. He was the first of the few in our field to adopt formal source code management software to develop numerical models to avoid the vexing issues of developing undocumented versions of the model. This is another reason why RSM, which was developed under the concurrent version system for source code management, was appealing to many users.

MASAO KANAMITSU
1943–2011

Innovation and intelligent maneuvering to solutions of long-standing problems was another forte of Kana's. This, compounded with his uncanny habit of pursuing a problem to its legitimate end even if it took several years to complete, was admirable. For a very long time, he was confounded with the ill-posed problem of the lateral boundary conditions for regional models. In recent years, he developed the novel concept of "global downscaling" to skirt this issue. This is a very simple but effective idea of spectral nudging a high-resolution global model at the smallest wave numbers to the driving coarser global model, while generating the finescale features from it. Global downscaling from coarse coupled ocean-atmosphere models will be particularly advantageous from traditional time-slice experiments of the high-resolution global models that drift in the absence of coupled air-sea interactions.

Kana had a polite and an accommodating demeanor. He was easily approachable and his didactic lectures in the periodically held RSM workshops were something that the participants would constantly yearn to hear. He was a recipient of the NOAA Gold Medal in 1997, where his contributions to the reanalysis project were recognized. To the very last days of his illness, he was working to complete some of his papers that speak of his well-known adherence to the 3 D's: determination, dedication, and discipline. Kana has left a large void in numerical modeling and a lasting legacy in the field. A large coterie of admirers will forever miss his pleasant smile and ever-positive attitude on life. Kanamitsu is survived by his wife, Mariko, and daughter, Tomoko.

—T.N. KRISHNAMURTI, AKIRA KASAHARA,
TSING C. CHEN, AND VASU MISRA

Owen Rhea passed away on 11 February 2012 in Auburn, California, at the age of 74. Owen is best known for his seminal work in quantitative precipitation forecasting in the mountainous terrain of the western United States. His orographic precipitation "aid," as he liked to call it,

J. OWEN RHEA
1938–2012

was developed as part of his Ph.D. dissertation while attending Colorado State University. To most of us who used it, we would call it a model. From the late 1970s until the present day, this model has been used operationally by not only National Weather Service river forecast centers such as the California Nevada River Forecast Center (CNRFC), but also the avalanche forecast center in Colorado, who had funded his work and where it had its first application back in the mid-to-late 1970s.

Owen was not only an excellent meteorologist, but also a skilled statistician and programmer. His meteorological interest started as a boy growing up in Texas, where he and his dad would watch the wild west Texas thunderstorms forming along the dryline. He took this interest, and working with such experts as Bob Beebe, provided severe-weather forecasts while in the private sector in Kansas. From there, he moved to Colorado to begin what would be his lifelong effort to improve quantita-

tive precipitation forecasts in complex terrain. His rather simple orographic model, applied at first using a 10-km and later a 5-km topographic grid over the particular area of interest (the first being Colorado), calculated the condensate supply rate over each grid using an upwind sounding. His work was instrumental in identifying a Type I statistical error in the Climax winter cloud seeding experiment that had shown statistical significance. His model showed that for the seeding cases, more snowfall would have been expected (anyway) due to stronger upslope flow into the target area. As stated earlier, Owen's model was quickly adapted by the U.S. Forest and Range Experiment Station in Ft. Collins to improve avalanche forecasts. Knowing that heavy snowfall can trigger avalanches, his model was evaluated and shown to produce better snowfall forecasts at much higher resolution than numerical models of that time running at closer to 80-km resolution.

In 1979, Owen and his wife, Rosemary, moved to Auburn as the primary contract forecaster for the Bureau of Reclamation Project Skywater's Sierra Cooperative Pilot Project (SCPP). SCPP was a large-scale research project identifying the potential for winter snowpack enhancement over the central Sierra Nevada to help fill Auburn Dam, which was then under construction. His professionalism and application of his orographic aid provided excellent forecast guidance in the conduct of this 10-year research project. In

1992, Owen was hired by the Bureau's Pacific Regional Office to help them improve reservoir operations for their Central Valley Project (CVP). He again adapted his orographic precipitation aid to all the CVP reservoir watersheds. This included Shasta, Oroville, and Folsom reservoirs. Since the main responsibility for river forecasts was with the NWS's CNRFC, and they had an opening for a senior hydrometeorological analysis and support (HAS) forecaster, in 1994 Owen applied and was chosen for this position, where he continued until his retirement in 2000. He was instrumental in improving river forecast predictions and long lead-time guidance by adapting his orographic aid to run for all of the California and Nevada watersheds with input from the medium-range forecast model, which constituted an excellent downscaling technique. Owen's leadership of the newly formed HAS unit was an essential component of the success they continue to enjoy today. The CNRFC continues to run and consider Owen's orographic aid to this day, nearly 12 years after his retirement.

In July of 2004, Owen was honored at the California Extreme Precipitation Symposium as the recipient



J. Owen Rhea

of their annual award "for his original and innovative contributions to the field of quantitative precipitation forecasting in mountainous terrain." Owen's work not only impacted those in Colorado and California, but his orographic aid was applied in the states of Washington, Alaska, and Arizona. It can be said that until numerical models began to run operationally at scales under 10 km, Owen's model usually outperformed numerical guidance. Owen continued to monitor the weather daily, and maintained his interest in improving precipitation forecasts until his passing.

Owen was the consummate professional and a true gentleman. He loved fishing and hiking down to the American River below his home in Auburn. He was a gentle man as well as a loving father and husband. He leaves behind his wife of 40 years, Rosemary; his son, Rick; his daughter, Michelle; and his grandson, Aidan. Those of us still trying to forecast the amount of precipitation here in the West owe a great deal of gratitude to Owen and his expertise, his willingness to educate, and his enthusiasm. He will be greatly missed.

—DAVID REYNOLDS AND ROBERT HARTMAN

AMS STATEMENT

FREEDOM OF SCIENTIFIC EXPRESSION

(Adopted by the AMS Council on 22 January 2012)

Advances in science and the benefits of science to policy, technological progress, and society as a whole depend upon the free exchange of scientific data and information as well as on open debate. The ability of scientists to present their findings to the scientific community, policy makers, the media, and the public without censorship, intimidation, or political interference is imperative. With the specific limited exception of proprietary information or constraints arising from national security, scientists must be permitted unfettered communication of scientific results. In return, it is incumbent upon scientists to communicate their findings in ways that portray their results and the results of others, objectively, professionally, and without sensationalizing or politicizing the associated impacts.

These principles matter most — and at the same time are most vulnerable to violation — precisely when science has its greatest bearing on society. Earth sciences and their applications have growing implications for public health and safety, economic development, protection of the environment and ecosystems, and national security. Thus, scientists, policy makers, and their supporting institutions share a special responsibility at this time for guarding and promoting the freedom of responsible scientific expression.

[This statement is considered in force until September 2017 unless superseded by a new statement issued by the AMS Council before this date.]

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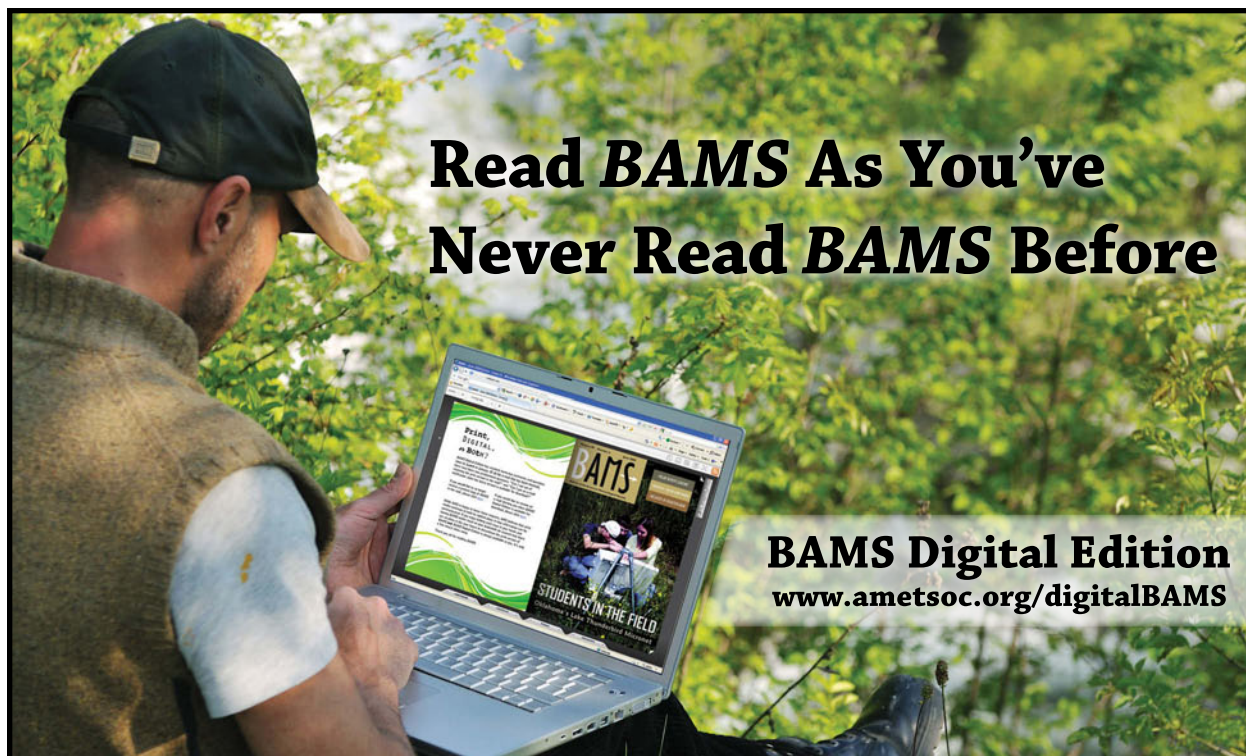
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MEMBERSHIP. The membership of the Society as of 31 December 2011:

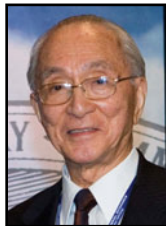
Honorary Members	33
Fellows	627
Members	8906
Members with Student Privileges	240
Associate Members, Voting	34
Associate Members, Nonvoting	994
Associate Members, Precollege	142
Associate Members, K–12 Teacher	100
Student Members	2421
Corporation Members*	175
Total	13,672

*Includes 9 Sustaining, 75 Regular, 12 Small Business, and 79 Publications

Election of Honorary Members. The Council elected Wilfried Brutsaert, Yoshi K. Sasaki, and John M. Wallace as Honorary Members of the Society.



Brutsaert



Sasaki



Wallace

Fellows elected in 2011. See sidebar.

Certified Broadcast Meteorologist Certificates Awarded in 2011. Thirty-eight (38) persons were approved as Certified Broadcast Meteorologists. Their names can be found at www.ametsoc.org/memdir/seallist/get_listofcbm.cfm (numbers 527–564) There are 493 active CBMs.

Consulting Certified Meteorologist Designations Granted in 2011. Ten (10) persons were approved as Certified Consulting Meteorologists. Their names can be found at www.ametsoc.org/memdir/seallist/get_listofccm.cfm (numbers 669–678). There are 306 active CCMs.

MEETINGS OF THE COUNCIL AND EXECUTIVE COMMITTEE. The Council met by teleconference, on 3 January, in Seattle, Washington, on 23 January; and in Boston, Massachusetts, on 22–23 September.

The Executive Committee met in Seattle, Washington, on 22 January; in Washington, D.C., 30–31 March; by teleconference 18 & 19 July and 2 August, and in Boston, Massachusetts, on 21 September.

ELECTION RESULTS—PRESIDENT-ELECT AND NEW COUNCILORS

President-Elect:	J. Marshall Shepherd
Councilors:	Jose D. Fuentes
	Richard H. Johnson
	Christa D. Peters-Lidard
	*Wassila Thiaw
	Chidong Zhang

* In addition to those elected by the membership, the Council selected a “Fifth Councilor” as per Article VII of the Society’s Constitution.

PUBLICATIONS. AMS publication activities produced the following output during 2011:

	<u>Pages</u>
<i>Bulletin of the American Meteorological Society</i>	1732
<i>Journal of the Atmospheric Sciences</i>	3144
<i>Journal of Applied Meteorology and Climatology</i>	2560
<i>Journal of Physical Oceanography</i>	2416
<i>Monthly Weather Review</i>	4000
<i>Journal of Climate</i>	6584
<i>Journal of Atmospheric and Oceanic Technology</i>	1680
<i>Weather and Forecasting</i>	1092
<i>Journal of Hydrometeorology</i>	1620
<i>Earth Interactions</i>	761
<i>Weather, Climate, and Society</i>	292
<i>Meteorological and Geostrophysical Abstracts</i>	2706
Books	656
Total Pages	29,243

BOOKS, CD-ROMS, LECTURE NOTES, AND VIDEOTAPES.

- *Economic and Societal Impacts of Tornadoes* by Kevin M. Simmons and Daniel Sutter, 296 pp.
- *Midlatitude Synoptic Meteorology: Dynamics, Analysis, and Forecasting* by Gary Lackmann, 360 pp.

MEETINGS AND CONFERENCES UNDER SPONSORSHIP OR COSPONSORSHIP OF THE SOCIETY. See table. Program abstracts, extended abstracts, and recorded presentations are, in many cases, available on line at <http://ams.confex.com/ams/htsearch.cgi>.

DECEASED MEMBERS. With deep regret we list below the members of the Society who died in 2011:

- | | |
|------------------|--------------------|
| Franklin Badgley | Charles Gordon |
| Joseph Balsama | Donald Harman |
| Richard Banks | Harold Harshbarger |
| Celso Barrientos | Joshua Holland |
| M. I. Budyko | J. Leith Holloway |
| Daewon Byun | Lloyd Hughes |
| Moustafa Chahine | Donald Hyde |
| Lowell Cooke | Masao Kanamitsu |
| Maurice Danard | Robert Karpovich |
| William Finnegan | Gerald Keeler |
| Paul Frenzen | Paul Kintner |
| Andrew Garcia | Nancy Knight |

FELLOWS ELECTED IN 2011

The 30 individuals pictured below were elected as Fellows of the AMS in 2011 for their outstanding contributions to the atmospheric or related oceanic or hydrologic sciences or their application. The newly elected Fellows were honored with a reception during the 92nd AMS Annual Meeting in New Orleans, Louisiana.

First row (l-r): Philip E. Ardanuy, Anthony J. Broccoli, Richard D. Clark, Timothy J. Dunkerton, Chris Elfring, Charles W. French, and Richard H. Grumm. Second row: Fiona Horsfall, Christian D. Kummerow, Francois-Xavier Le Dimet, Zhengyu Liu, Donald R. MacGorman, Frank J. Misciasei Jr., Paul A. Newman, and Edward A. O’Lenic. Third row: Harry Otten, David J. Pace, Chista D. Peters-Lidard, Robert Pinkel, Gerald L. Potter, Mark D. Powell, CCM, Bill Read, and David A. Robinson. Fourth row: Steven A. Root, CCM, Lynn Keith Shay, Roland B. Stull, CCM, Eugene S. Takle, CCM, H. Joe Witte, Marilyn M. Wolfson, and Donald J. Wuebbles.

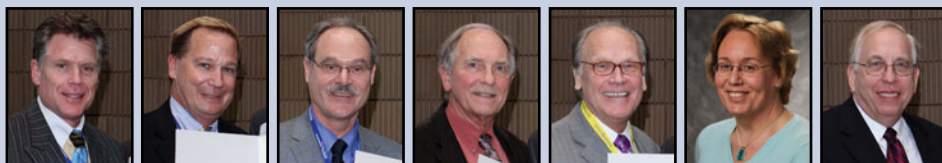
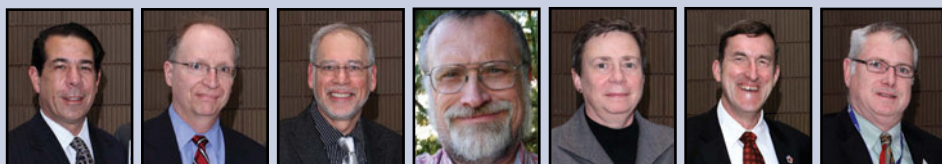


TABLE 1. Meetings, conferences, short courses, and exhibit programs sponsored or cosponsored by AMS during 2011.*AMS 2011 Annual Meeting, 23–27 January 2011, Seattle, Washington*

11th Presidential Forum; 27th International Conference on Interactive Information Processing Systems for Meteorology, Oceanography, and Hydrology; 25th Conference on Hydrology; 24th Conference on Weather Analysis and Forecasting; 23rd Conference on Climate Variability and Change; 20th Symposium on Education; 20th Numerical Weather Prediction; 18th Conference on Planned and Inadvertent Weather Modification; 16th Conference on Middle Atmosphere; 15th Symposium on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAS-AOLS); 14th Conference of Atmospheric Science Librarians International; 13th Conf. on Atmospheric Chemistry; 10th Annual Student Conference; Ninth History Symposium; Ninth Conference on Artificial Intelligence Applications to Environmental Science; Eighth Conference on Space Weather; Seventh Annual Symposium on Future National Operational Environmental Satellite Systems-JPSS and GOES-R; Sixth Symposium on Policy and Socio-Economic Research; Fifth Conference on the Meteorological Application of Lightning Data; Fifth Symposium on Lidar Atmospheric Applications; Fourth Annual CCM Forum; Third Symposium on Aerosol–Cloud–Climate Interactions; Second Aviation, Range and Aerospace Meteorology Special Symposium on Weather–Air Traffic Management Integration; Second Conference on Weather, Climate, and the New Energy Economy; Second Symposium on Environment and Health; First Conference on Transition of Research to Operations: Successes, Plans, and Challenges; Special Symposium on Applications of Air Pollution Meteorology; Special Symposium on More Effectively Communicating the Science of Tropical Climate and Tropical Cyclones; Special Symposium on Advances in Modeling and Analysis Using Python; IMPACTS: Weather 2010; WeatherFest

2011 Specialty Meetings

AMS 2011 AMS Washington Forum, 26–28 April, Washington D.C.

11th Conference on Polar Meteorology, 2–5 May, Boston, Massachusetts

18th Conference on Atmospheric and Oceanic Fluid Dynamics, 13–17 June, Spokane, Washington

39th Conference on Broadcast Meteorology, 22–24 June, Oklahoma City, Oklahoma

Conference on Weather Warnings and Communication, 22–24 June, Oklahoma City, Oklahoma

19th Conference on Applied Climatology (Joint with the American Association of State Climatologists), 18–20 July, Asheville, North Carolina

Practical Solutions for a Warming World: AMS Conference on Climate Adaptation 18–20 July, Asheville, North Carolina

15th Conference on Aviation, Range, and Aerospace Meteorology, 1–4 August, Los Angeles, California

14th Conference on Mesoscale Processes, 1–4 August, Los Angeles, California

2011 AMS Summer Community Meeting, 8–11 August, Boulder, Colorado

35th Conference on Radar Meteorology, 26–30 September, Pittsburgh, Pennsylvania

Ninth Symposium on Fire and Forest Meteorology, 18–20 October, Palm Springs, California

2011 Exhibit Programs

AMS Annual Meeting, 23–27 January 2011, Seattle, Washington

39th Conference on Broadcast Meteorology, 22–24 June, Oklahoma City, Oklahoma

35th Conference on Radar Meteorology, 26–30 September, Pittsburgh, Pennsylvania

2011 Short Courses, Workshops, and Educational Forums

Using Python in Climate and Meteorology

Short Course for Energy Meteorology

Hydrologic Predictions and Verification Techniques with Focus on Water Supply

Computational Intelligence Techniques for Data Analysis and Knowledge Discovery

Specialty Meeting Short Courses

Real World Use of Dual Polarization in the Media, 25 June, Oklahoma City, Oklahoma

Millimeter Wavelength Radars, 25 September, Pittsburgh, Pennsylvania

Joachim Kuettner
Richard Lyle
George McLean
Jarvis Moyers
Harold Orville
Owen Phillips
George Reid
Yukimasa Saito
Thomas Scanlon

David Staelin
Glenn Stout
Kyle Tietze
John Townsend
Paul Waite
Harry Wappler
Thomas Warner
Xiao Xiao

CHAPTERS AUTHORIZED IN 2011. The following chapter was authorized in 2011, bringing the total number of active chapters to 126. There are currently 67 student chapters and 59 regular chapters. A full list of AMS chapters may be found on the AMS Web site at www.ametsoc.org/amschaps/newdirec/

Everett High School Pre-College, Everett, MA

AMS/INDUSTRY/GOVERNMENT GRADUATE FELLOWSHIP AND SCHOLARSHIP PROGRAM. Since its inception in 1991, the Fellowship and Scholarship Program has awarded 964 fellowships and undergraduate scholarships with a value exceeding \$9.1 million. We are extremely fortunate to have so many wonderful partners that see the enormous value in supporting the next generation of scientists. Many of the fellowship and scholarship sponsors will be exhibiting in New Orleans, afford-

ing members the opportunity to thank them for their continued support. A listing of organizations that are currently sponsoring a fellowship or scholarship is shown in Table 2.

MEMBER DONATIONS. AMS members continue to generously support the Society's activities through their contributions to the AMS 21st Century Campaign. Contributions received between December 1, 2010–December 31, 2011 totaled approximately \$300,000. As in past years, nearly half of these donations were designated for named scholarships. The remainder will continue to support programs like graduate fellowships, minority scholarships, travel grants, and the AMS student conference. See the attachment for a list of donors that contributed between December 1, 2010–December 31, 2011.

AMS gratefully recognizes the individuals who supported the AMS 21st Century Campaign from December 1, 2010 through December 31, 2011. According to the structure of the Campaign the lists will be composed of the levels established: Friends of AMS: up to \$99; Contributor: \$100–\$299; Sponsor: \$300–\$999; Benefactor: \$1000–\$2999; Patron: \$3000–\$9999; Leadership Circle: \$1000 or more annually; Founder: \$10,000 or more.

For the list of contributors, see page 898 of this issue.



FINANCES. Provided below are budget summaries for 2011 and 2012:

Summary of 2011 Budget

	Income	Expense	Net Income (expense)
Member Services (incl. BAMS)	\$1,873,000	\$1,892,200	\$(19,200)
Publications—Journals	6,705,000	6,464,400	240,600
Publications—Books	157,500	191,200	(33,700)
Meetings/Exhibits	2,848,000	2,719,800	128,200
K–13 Education Program	2,885,000	2,885,000	0
Policy Program	1,134,600	1,134,600	0
Development (incl. scholarships)	716,000	716,000	0
Totals	\$16,319,100	\$16,003,200	\$315,900

Summary of 2012 Budget

	Income	Expense	Net Income (expense)
Member Services (incl. BAMS)	\$1,865,000	\$1,870,400	\$(5,400)
Publications—Journals	6,785,000	6,416,800	368,200
Publications—Books	162,000	191,900	(29,900)
Meetings/Exhibits	2,791,000	2,721,200	69,800
K–13 Education Program	2,950,000	2,950,000	0
Policy Program	1,082,200	1,082,200	0
Development (incl. scholarships)	716,000	716,000	0
Totals	\$16,351,200	\$15,948,500	\$402,700

We have 2011 behind us now, and even though the books on that year are not yet closed, we know that we did not do as well as the budget above projected. Significantly fluctuating economic conditions made it a difficult year for the Society's major programs. While our Journals and Meetings activities did well, advertising revenues, book sales, education textbook sales and licensing, and Policy Program sponsorships and grant funding activity fell below our budgeted expectations. Given the economic picture nationwide, we are pleased we will still be able to close the books on 2011 with a positive bottom-line. There is, of course, great uncertainty for the future given the Federal budget situation and its impact on the agencies from which much of our revenue comes. Uncertainty is also a concern as regards the investment of the Society's reserves. Returns on our investment portfolio were only slightly positive in 2011, and given economic forecasts, these could remain flat for the next couple of years. The Society will end the year with unrestricted net assets of approximately \$9.4 million and restricted net assets of \$2.2 million, both slightly above last year.

The numbers presented above are budget estimates only. Our audited financial statements and the final Secretary-Treasurer's Report will be published in the *Bulletin* later this year.

TABLE 2. AMS/Industry/Government Graduate Fellowship and Scholarship Program sponsors. AMS Corporate Patrons are noted with an asterisk.

FELLOWSHIP SPONSORS

AMS 21st Century Campaign
 ITT*
 Lockheed Martin Corporation*
 NASA's Earth Science Enterprise
 NOAA's National Weather Service
 NOAA's Climate Program Office
 SAIC

FRESHMAN UNDERGRADUATE SCHOLARSHIP SPONSORS

Baron Radar Services
 Baron Advanced Meteorological Systems
 The Boeing Company
 CLS America, Inc.
 Earth Resources Technology, Inc.
 Harris Corporation
 Lockheed Martin MS2
 Naval Weather Service Association
 NOAA's Office of the Federal Coordinator for Meteorology
 Raytheon Information Services
 Riverside Technologies inc.
 R. M. Young Company
 Science and Technology Corporation
 Vaisala, Inc.
 Jerome Namias Memorial Endowed Scholarship
 Edgar J. Saltsman Endowed Scholarship
 Bernard Vonnegut and Vincent Schaefer Endowed Scholarship
 Percival D. Wark and Clara B. (Mackey) Wark Endowed Scholarship

MINORITY SCHOLARSHIP SPONSORS

AMS 21st Century Campaign
 Baron Services
 ERT

SENIOR UNDERGRADUATE SCHOLARSHIPS (SUPPORTED BY MEMBERS AND FRIENDS OF AMS)

AMS 75th Anniversary Endowed Scholarship
 Bhanwar Lal Bahethi Scholarship
 Om and Saraswati Bahethi Scholarship
 Saraswati (Sara) Bahethi Scholarship
 Werner A. Baum Undergraduate Endowed Scholarship
 Loren W. Crow Memorial Scholarship
 Karen Hauschild Friday Endowed Scholarship
 Bob Glahn Endowed Scholarship in Statistical Meteorology
 Dr. Pedro Grau Undergraduate Scholarship
 Richard and Helen Hagemeyer Scholarship
 John R. Hope Endowed Scholarship in Atmospheric Sciences
 David S. Johnson Endowed Scholarship
 Larry R. Johnson Scholarship
 Dr. Yoram Kaufman Scholarship
 Carl W. Kreitzberg Endowed Scholarship
 Max Mayfield Scholarship in Weather Forecasting
 Ethan and Allan Murphy Endowed Memorial Scholarship
 K. Vic Ooyama Endowed Scholarship
 Howard T. Orville Endowed Scholarship in Meteorology
 Guillermo Salazar Rodriguez Undergraduate Scholarship
 Mark J. Schroeder Endowed Scholarship in Meteorology
 The Dr. Robert Fraser Scholarship
 Michael J. Roberts, Jr. Scholarship
 Naval Weather Service Association Scholarship

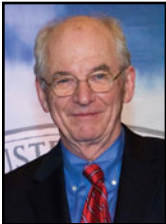


2012 AMS ANNUAL AWARDS

The Society recognizes those who make outstanding contributions to the atmospheric, oceanic, hydrologic, and related sciences with awards. Awardees are recognized every year at the AMS Annual Meeting Awards Banquet, held this past year on 25 January 2012 in New Orleans, Louisiana.

Specifications for all AMS awards, along with nomination forms, are posted on the AMS Web site.

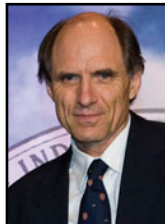
THE CARL-GUSTAF ROSSBY RESEARCH MEDAL



Wyngaard

John C. Wyngaard, for outstanding contributions to measuring, simulating, and understanding atmospheric turbulence.

THE SVERDRUP GOLD MEDAL AWARD



Clarke

Allan J. Clarke, for fundamental contributions to the dynamics of ocean currents and air-sea interaction with particular emphasis on the El Niño–Southern Oscillation.

THE JULE G. CHARNEY AWARD



Bretherton

Christopher S. Bretherton, For fundamental contributions to our understanding of atmospheric moist convection, particularly the discovery of mechanisms governing the transition from stratocumulus to shallow cumulus convection.

THE HENRY STOMMEL RESEARCH AWARD



Pinkel

Robert Pinkel, for developing outstanding instrumentation, using it widely, and interpreting the results to advance understanding of numerous small-scale processes in the upper ocean.

THE VERNER E. SUOMI AWARD



Thompson

Anne M. Thompson, for exceptional vision and leadership in deploying technologies that have significantly advanced the understanding of ozone dynamics in the atmosphere.

THE REMOTE SENSING PRIZE



Bringi

V. N. Bringi, for outstanding contributions to the advancement of polarimetric Doppler weather radar.

THE CHARLES FRANKLIN BROOKS AWARD FOR OUTSTANDING SERVICES TO THE SOCIETY



McVehil

George E. McVehil, for conscientious and thoughtful service to the Society through many leadership roles including Councilor and Planning Commissioner.

THE JOANNE SIMPSON MENTORSHIP AWARD



Willis

Mark C. Willis, for aiding NWS volunteer interns in gaining experience valuable to their future careers through dedicated mentorship, and sustained encouragement and guidance.

THE CLEVELAND ABBE AWARD FOR DISTINGUISHED SERVICE TO ATMOSPHERIC SCIENCES BY AN INDIVIDUAL



Elfring

Chris Elfring, for contributions across the atmospheric sciences and their application through leadership of the National Academies' Board on Atmospheric Sciences and Climate.

THE TEACHING EXCELLENCE AWARD



Fovell

Robert G. Fovell, for demonstrating there is no replacement for passion, commitment, organization, and mastery of the subject matter when it comes to excellent teaching.

THE CHARLES E. ANDERSON AWARD



Murillo

Shirley Murillo, for outstanding support of minorities and women to promote a more diverse workforce through mentoring, education, and community service.

THE CLARENCE LEROY MEISINGER AWARD



Kuang

Zhiming Kuang, for fundamental contributions to understanding tropical convection and its interaction with larger-scale circulations in the tropical atmosphere.

THE KENNETH C. SPENGLER AWARD



AMS President Jon Malay (far left) presents the Kenneth C. Spengler Award to members of the NOAA Hazardous Weather Testbed Team: (l-r) Russell Schneider, Steven Weiss, Jack Kain, Jason Levit, and David Bright. Inset: Gregory Carbin, Michael Coniglio, and Jay Liang.

NOAA Hazardous Weather Testbed Team—**David R. Bright, Gregory W. Carbin, Michael C. Coniglio, Jack Kain, Jason J. Levit, Jay Liang, Russell S. Schneider, Steven J. Weiss**, for bringing the government, academic, and private sectors together in a visionary, proactive, and exemplary manner to deal with the challenges posed by hazardous weather.

THE HENRY G. HOUGHTON AWARD



Morrison

Hugh Morrison, for wide-ranging contributions to improving the understanding and modeling of cloud microphysical processes.

THE AWARD FOR BROADCAST METEOROLOGY



Ryan

Robert Ryan, in recognition of a career based on personal integrity and dedication to advancing the science of meteorology through broadcasting, education, promotion of safety, and support of colleagues.

THE NICHOLAS P. FOFONOFF AWARD



St. Laurent

Louis St. Laurent, for fundamental contributions to our understanding of small-scale mixing processes in the ocean and the different dynamical processes involved.

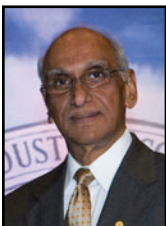
THE AWARD FOR EXCELLENCE IN SCIENCE REPORTING BY A BROADCAST METEOROLOGIST



Mayeda

Rob Mayeda, for work as photographer, editor, and reporter of “On Thin Ice,” highlighting the dramatic effects of Earth’s warming climate in Alaska and its future impacts on the San Francisco Bay area.

THE AWARD FOR OUTSTANDING CONTRIBUTION TO THE ADVANCE OF APPLIED METEOROLOGY



Rao

S. Trivikrama Rao, for extraordinary leadership and contributions to the field of air pollution meteorology through broad and proactive engagement regionally, nationally, and internationally.

THE CHARLES L. MITCHELL AWARD



Przybylinski

Ronald W. Przybylinski, for improving NWS warnings through collaborative research and training in recognizing Doppler radar signatures associated with high wind events in quasi-linear convective systems.

THE AWARD FOR OUTSTANDING ACHIEVEMENT IN BIOMETEOROLOGY



Kustas

William P. Kustas, for tireless leadership and unparalleled contributions to the science-based application of remote sensing to estimate evapotranspiration and vegetation stress.

THE AWARD FOR AN EXCEPTIONAL SPECIFIC PREDICTION



Garner

Tim Garner, for highly accurate forecasts and superior briefings and decision support to the NASA Mission Control Center for Space Shuttle Endeavor’s landing operations on the STS-123 mission.

THE HELMUT E. LANDSBERG AWARD



Ostos

Ernesto Jáuregui Ostos, for pioneering work on the climates of tropical cities, especially Mexico City, demonstrating great scientific insight through observations and analyses.

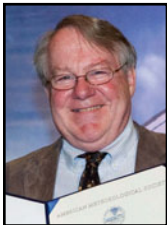
THE AWARD FOR DISTINGUISHED SCIENCE JOURNALISM IN THE ATMOSPHERIC AND RELATED SCIENCES



Schiermeier

Quirin Schiermeier, for *The Real Holes in Climate Science*, an insightful and candid article on key remaining gaps in understanding climate change.

THE LOUIS J. BATTAN AUTHOR'S AWARD



Fleming

James Rodger Fleming, for *Fixing the Sky: The Checkered History of Weather and Climate Control*, a comprehensive review of the history of weather modification, which culminates in a critical consideration of geo-engineering approaches to climate change.

SPECIAL AWARD



Gibson

Michael S. Gibson, for developing powerful but affordable and accessible software, widely used by researchers, forecasters, broadcasters, and amateurs to display and analyze convective storms and their environment.

THE LOUIS J. BATTAN AUTHOR'S AWARD

K-12 CATEGORY

Christiane Dorion and Beverley Young, uniquely interactive and visually stimulating, their stunning and informative book, *How the Weather Works: A hands-on guide to our changing climate*, engages readers of all ages in a variety of atmospheric science topics.



Dorion



Young

SPECIAL AWARD

William Rison, Paul Krehbiel, and Ronald J. Thomas, for the development and implementation of Lightning Mapping Array technology and its transfer to the operational and research communities.



Special Award recipients (l-r) Paul Krehbiel, William Rison, and Ronald Thomas.

THE ROBERT LEVITON STUDENT PRIZE



Munchak

S. Joseph Munchak, for his paper, “A Modular Optimal Estimation Method for Combined Radar-Radiometer Precipitation Profiling.”

EDITOR'S AWARD

JOURNAL OF THE ATMOSPHERIC SCIENCES



Grabowski

Wojciech Grabowski, for frequent, timely, and in-depth reviews and re-reviews.

THE SPIROS G. GEOTIS STUDENT PRIZE

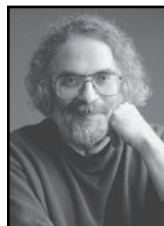


Orzeł

Krzysztof Orzeł, for his paper, “Mobile X-band Dual Polarization Phased-Array Radar: System Requirements and Development.”

EDITOR'S AWARD

JOURNAL OF THE ATMOSPHERIC SCIENCES



Held

Isaac M. Held, for high-level and insightful reviews for a number of editors.

EDITOR'S AWARD

JOURNAL OF APPLIED METEOROLOGY AND CLIMATOLOGY



Feliks

Yizhak Feliks, for consistently thorough scientific reviews that assist authors in improving their manuscripts.

EDITOR'S AWARD

JOURNAL OF CLIMATE



Doi

Takeshi Doi, for providing a thoughtful and decisive review of a difficult paper on short notice.

EDITOR'S AWARD

JOURNAL OF ATMOSPHERIC AND OCEANIC TECHNOLOGY



Matrosov

Sergey Y. Matrosov, for several thorough and detailed reviews that greatly improved a number of manuscripts.

EDITOR'S AWARD

JOURNAL OF CLIMATE



Sinclair

Mark R. Sinclair, for reviews that are thoughtful, courteous, and written in a careful and constructive way.

EDITOR'S AWARD
JOURNAL OF HYDROMETEOROLOGY



Fekete

Balázs M. Fekete, for timely, rigorous, comprehensive, and objective reviews.

EDITOR'S AWARD
WEATHER AND FORECASTING



Clark

Adam J. Clark, for a large number of thorough and timely reviews that were helpful and fair.

EDITOR'S AWARD
JOURNAL OF HYDROMETEOROLOGY



Santanello

Joseph A. Santanello, Jr., for timely, rigorous, and constructive reviews, and commitment to the review process.

EDITOR'S AWARD
WEATHER AND FORECASTING



Du

Jun Du, for completing several prompt reviews that were beneficial, constructive, and of high quality.

EDITOR'S AWARD
JOURNAL OF PHYSICAL OCEANOGRAPHY



Garrett

Chris Garrett, for thorough and constructive reviews over a breadth of topics, and for fast and decisive resolution of conflicting reviews.

EDITOR'S AWARD
WEATHER, CLIMATE, AND SOCIETY



Hoffman

Ross N. Hoffman, for his careful, wide-ranging, and thoughtful reviews of difficult manuscripts.

EDITOR'S AWARD
MONTHLY WEATHER REVIEW



Kepert

Jeffrey D. Kepert, for providing thorough and constructive reviews of a large number of manuscripts on a broad range of topics.

EDITOR'S AWARD
BULLETIN OF THE AMERICAN METEOROLOGICAL SOCIETY



Hulme

Mike Hulme, for insightful and constructive comments that helped to better articulate and support the manuscript's primary argument.

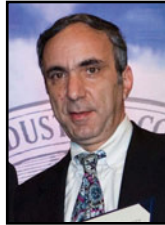
EDITOR'S AWARD BULLETIN OF THE AMERICAN METEOROLOGICAL SOCIETY



Snover

Amy K. Snover, for a detailed and thoughtful review that helped the authors restructure and strengthen their manuscript.

THE ROBERT E. HORTON LECTURER IN HYDROLOGY FOR 2012



Entekhabi

Dara Entekhabi, for innovative and insightful contributions in hydroclimatology and its role in regional and global climate, **and for pioneering achievements in the remote sensing of the hydrosphere.**

THE BERNHARD HAURWITZ MEMORIAL LECTURER FOR 2012



Bony

Sandrine Bony, for her analyses of cloud feedbacks and to advancing our understanding of moist processes and clouds in the tropics.



THE AWARD FOR OUTSTANDING CHAPTER OF THE YEAR

Omaha-Offutt, Omaha, Nebraska, for increasing membership diversity, communicating membership information in unique ways, and continuing community outreach with a myriad of activities, including the support of student research.



Omaha-Offutt chapter officers accept the Chapter of the Year Award from AMS President Jonathan Malay (far right).

THE AWARD FOR OUTSTANDING STUDENT CHAPTER OF THE YEAR

University of Puerto Rico at Mayaguez, Mayaguez, Puerto Rico, for building a regional community of weather awareness through communication with educators, contributing to a variety of local charities, and instituting novel approaches to membership integration.



AMS President Jonathan Malay (second from right) presents the Student Chapter of the Year Award to members of the University of Puerto Rico at Mayaguez chapter.