Open Choice Option Coming Soon for Authors Publishing in AMS Journals

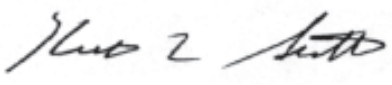
Authors publishing research results in AMS journals will soon be able to make their articles freely available online to the entire community at the time of publication. This "Open Choice" option, available as of early spring of this year, reflects the desire of many authors to have their work accessible to everyone immediately rather than only those who subscribe (or whose institutions subscribe) to the journals. The Society's policy of making all AMS journal content older than two years freely available on the AMS journal website (http://journals.ametsoc.org/) is not changing, so this new option represents an expansion in the Society's efforts to provide open access to the research results of the community.

To take advantage of the Open Choice option, an author need only provide an $800 publication fee in addition to the regular author charges associated with publication. This fee is lower than that charged by many publishers for opening access to an article, and reflects the desire of the AMS to make this approach an affordable and attractive option for authors. Articles that are freely available have, for several years, been identified in search result lists or tables of contents by a special icon (shown above), so you will begin seeing that icon associated with some journal articles at the time of publication (as has been the case for all *BAMS* articles).

The Open Choice fees collected under this initiative will be used to reduce the burden on institutions subscribing to the journals online. With ever-tighter library budgets but also ever-increasing subscription prices to scientific journals, these institutions have had difficulty providing the publications their constituents need. As authors increasingly take advantage of Open Choice in the journals, the AMS can use the revenue generated to lower the price per article for the journal subscriptions, hopefully containing—or even reversing—the spiral of increasing cost of journal subscriptions.

Articles that are freely available online are often referred to as "open access" articles. While the AMS will use this term informally as convenient shorthand for being available without subscription, it is worth noting that for some, "open access" has a formal definition that includes specific levels of copyright protection. I want to be clear that in implementing this new Open Choice option—and, indeed, in any use of the term "open access" in relation to AMS publications—the AMS will continue to take seriously its role as the steward of the authors' intellectual property as outlined in the Society's Copyright Policy.

I am very excited about the implementation of this new option for authors and want to thank the AMS Council for approving its implementation. The AMS journals are internationally recognized as the leaders in their fields, and this is another important step toward insuring that they continue to be recognized as such.



Keith L. Seitter, CCM
Executive Director

LOUIS W. UCCELLINI
2012 AMS President

Louis Uccellini has always been curious about the weather. From a very early age, he would ask his parents many questions about the weather affecting his hometown of Bethpage, Long Island, New York. He was especially curious about snow (surprise!) and why it would snow on one side of New York City and rain over Long Island, as well as why the forecasts often were wrong. In grammar school, his parents bought him his first weather station and allowed him to get up and watch weather updates at 11:00 p.m. if there was any chance of a snow event affecting the New York City–Long Island area.

"They allowed me to live the excitement that always came along with whatever snow we got," Louis comments, "and also to learn to deal with the crushing disappointment when it didn't snow."

The passage of Hurricane Donna near his hometown in September 1960—and the major snowstorms in March 1960, December 1960, January 1961, and the snowstorm on 3–4 February 1961 after two weeks of below-freezing temperatures—locked Louis into meteorology.

"There was the associated appreciation that this was a science that seemed to matter, for better or for worse, to the general population," Louis explains. "I was completely taken in by the mysteries of the atmosphere, the storms it could generate, and the reaction that these events—or nonevents, as forecasts went off track—could produce among family members, friends, and neighbors."

As an undergraduate in the Meteorology Department at the University of Wisconsin—Madison, Louis quickly saw the research world open up to him at a time when that department was increasingly active and leading the way in many areas, including satellite meteorology, climate studies, synoptic/dynamic meteorology, and physical meteorology. Professor Charles Anderson was interested in mentoring Louis as an undergraduate student, and subsequently became his Master's adviser.

"He suggested I join the AMS," Louis says. "Along with Anderson, Professors Donald R. Johnson, Lyle Horn, John A. Young, and others in the department made it clear that AMS, and especially the publication process and related journals, should become an important part of my career path. I joined the AMS as an undergraduate and can say that the advice from them was absolutely correct."

He received his B.S. in 1971, his Master's in 1972, and Ph.D. in 1977, all in meteorology from the University of Wisconsin (UW), and spent an additional year at the Space Science and Engineering Center, also located at UW.

Louis is currently the director of the NWS's National Centers for Environmental Prediction (NCEP) in Camp Springs, Maryland. He is responsible for directing and planning the science, technology, and operations related to NCEP's nine centers. Prior to joining NCEP, he was the director of the NWS's Office of Meteorology from 1994 to 1999, chief of the Meteorological Operations Division at the National Meteorological Center from 1989 to 1994, and section head for the Mesoscale Analysis and Modeling Section at the Goddard Space Flight Center's Laboratory for Atmospheres from 1978 to 1989.

Louis's involvement with AMS has been diverse over the years. Along with serving on the Council, he was the cochief editor of *Weather and Forecasting* with Paul Kocin from the second year to the fifth year of the journal. He helped spin the journal up within the forecast and applied research communities as envisioned by Joanne Simpson and Dick Hallgren (AMS executive director at the time), and he organized the 1984 Weather Analysis and Forecasting conference held in Clearwater, Florida. Louis and Kocin also teamed up to produce two monographs for AMS, publishing the first "white book" on northeast snowstorms in 1991 and then the two-volume set, *Northeast Snowstorms*, in 2004.

"There has always been tremendous support for this effort from the executive directors, especially Ken Spengler," Louis says. "He told us to publish these books in the AMS and not even consider other publishers. Hallgren's letter to us in 1994 inspired us to work from the first white book in 1991 to produce *Northeast Snowstorms*, which took over 10 years to complete."

Both monographs have been through two printings and both have proven to be a valuable resource for the AMS community. Louis was elected as an AMS Fellow in 1987 and was also the recipient of the Father James B. Macelwane Award (first prize) in 1973 and the Clarence Leroy Meisinger Award in 1985.

Louis has served on many national and international research and field experiment programs, and has published more than 60 peer-reviewed papers, 3 AMS book chapters, and 2 monographs. He has received many awards in recognition of his research and operational achievements, including the Maryland Academy of Sciences Distinguished Young Scientist Award (1981), the NASA Medal for Exceptional Scientific Achievement (1985), and the National Weather Association's Research Achievement Award for Significant Contributions to Operational Meteorology (1996).

As AMS president, Louis plans to promote the theme of "taking predictions to the next level: expanding beyond today's weather forecasts and projections," with an emphasis on using this as a unifying concept for the 2013 Annual Meeting and the associated scientific, international, and student conferences.

"The improvements in forecasting the weather over the past 60 years with a confidence level that now provides decision-support services days in advance of extreme events have been absolutely remarkable," Louis says. "The introduction of numerical prediction models in these forecasts, the expansion of these models to include the atmosphere, land, ocean and cryosphere, and the increased understanding of the entire Earth system has brought 'prediction' firmly into our scientific discipline and allowed meteorology to connect with decision support activities on nearly a day-to-day basis."

Nevertheless, as emphasized in recent reports from the National Research Council—the most recent being "When Weather Matters" and "Completing the Forecast"—Louis notes there is now much more to do in linking this predictive capability into decision-support services for the protection of life, preparing to minimize damage, and also supporting the commerce of this nation. In addition, there is a developing effort to extend the prediction capability into other disciplines and to address important food security, health, alternative energy, national infrastructure, security, space weather, air and water quality, climate change, and ecological challenges.

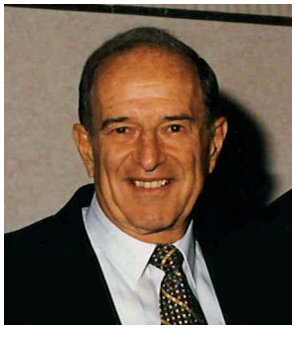
Louis concludes: "We expect that the theme will 1) serve as a catalyst for the 2013 AMS Annual Meeting by focusing attention of the research and operations/service communities on the exciting possibilities related to advancing predictive capabilities across more disciplines and applications, and 2) attract an incredibly diverse scientific community to the AMS as a go-to professional society for addressing these larger issues."

—Rachel S. Thomas-Medwid

ABOUT OUR MEMBERS

The National Academy of Engineering (NAE) named **David Atlas** the 2011 recipient of its Founders Award, which is presented for an individual's extraordinary impact through work in the engineering profession. Atlas, who is referred to as the "Father of Radar Meteorology," is being honored by NAE for his developments in radar technology for storm detection and warning. Atlas received the award in October at the NAE's Annual Meeting in Washington, D.C.

The NAE Founders Award recognizes Atlas's "five decades of research, innovation and development, leading to operational weather radar systems that have improved aviation safety and weather-related safety for millions worldwide." The award recognizes outstanding professional, educational, and personal achievements to the benefit of society, and it includes $2,500 and a gold medallion.



David Atlas

Atlas is a pioneer in the use of Doppler radar in a wide array of meteorological problems. These include the measurements of winds in ordinary storms as well as hurricanes and tornadoes. His research and that of his collaborators played a major role in the adoption of the national network of NEXRAD Doppler radars used by the NWS. These radars and copies of them throughout the world have provided remarkable insights into the nature of storm

systems, thus leading to advanced methodologies for prediction and warning.

Atlas's professional career began in 1945 as a radar weather officer in the All Weather Flying Division in Ohio, where he invented the method for measuring the intensity of storms. That technique was quickly adopted by the aviation industry, so that virtually every commercial aircraft is equipped with airborne radar. He then spent 18 years at the Air Force Cambridge Research Laboratory, after which he became a professor and lab director at the University of Chicago. In 1972, he joined the National Center for Atmospheric Research and served as director of both the Atmospheric Technology Division and the National Hail Research Experiment.

In 1977, Atlas became the founding director of the Laboratory for Atmospheric Sciences at the NASA Goddard Space Flight Center, where he stimulated the development the first meteorological radar in space, the Tropical Rainfall Measuring Mission (TRMM). TRMM, launched in 1997, continues to provide measurements of rainfall amount over the tropical oceans that are essential to a better understanding of the Earth's water cycle and climate system.

In addition to being elected to the NAE, Atlas has received the AMS Rossby Medal, the Symons Medal of the Royal Meteorological Society, the Losey Medal of the American Institute of Aeronautics and Astronautics, and the Dennis Picard Medal of the Institute of Electrical and Electronic Engineers. He holds 23 patents and has published more than 200 papers, continuing to work actively in the field.

In recognition of his exceptional work as a climate communicator, the American Geophysical Union (AGU) has selected **Gavin Schmidt** as the recipient of its inaugural Climate Communications Prize.

Schmidt is a climate scientist at the NASA Goddard Institute for Space Studies and cofounder of RealClimate.org, a blog that covers areas of science related to climate—from present-day measurements to paleoclimate proxies, from natural climate variation to anthropogenic change.

Schmidt has also worked with photographers on a popular science book, museum exhibits, and online courses, and has often appeared on television and radio and in print.

The award, which was established by AGU earlier this year, recognizes excellence in climate communication as well as the promotion of scientific literacy, clarity of messaging, and efforts to foster respect and understanding for science-based values related to climate change.

The prize, which comes with a $25,000 cash award, is sponsored by Nature's Own, a Boulder, Colorado-based company specializing in the sale of minerals, fossils, and decorative stone specimens.

The award was presented to Schmidt during the honors celebration at AGU's Fall Meeting in San Francisco.

Thomas J. Bogdan was named the next president of the University Corporation for Atmospheric Research (UCAR), following an extensive international search. He joins UCAR from the NOAA's Space Weather Prediction Center (SWPC), where he was director. Bogdan took over the reins at UCAR early this year.

UCAR is a not-for-profit consortium made up of 77 universities that grant doctoral degrees in atmospheric or related science, as well as other academic and international affiliates. It manages the National Center for Atmospheric Research (NCAR) on behalf of the National Science Foundation, NCAR's sponsor. UCAR also oversees a variety of education and scientific support activities under the umbrella of the UCAR Community Programs.

Thomas J. Bogdan

Bogdan assumes the presidency of UCAR as it prepares for the opening of a new supercomputing center in Wyoming that will provide substantial new capabilities to geoscience researchers in the United States and around the world. Colleagues familiar with him and his work point to his many skills that are so complementary to his new role.

"Tom has a rich intellect that spans the physical domain, from the solar system and space weather to terrestrial weather and related Earth system sciences," says Louis Uccellini, director of NOAA's National Centers for Environmental Prediction, which oversees the SWPC, and 2012 AMS President. "I am excited for UCAR and know Tom will provide the leadership, intellect, and strategic foresight that the community needs for this important position."

Prior to joining the SWPC in 2006, Bogdan was a senior scientist at NCAR, where he had begun work as a postdoctoral scientist in 1983, researching solar magnetic activity.

He took the helm as UCAR president from Richard Anthes, who retired after serving as president for 23 years and guiding UCAR during a period of substantial programmatic growth and new research directions.

Bogdan earned his Ph.D. (1984) and master's degree (1981) in physics from the University of Chicago and his bachelor's in mathematics and physics from the University at Buffalo, the State University of New York, in 1979. He is the author or coauthor of more than 100 papers in solar-terrestrial research.

Bogdan is a Fellow of AMS and serves on its Council. He works closely with the World Meteorological Organization as the U.S. point of contact for space weather issues. Bogdan has chaired and served on numerous National Science Foundation, NASA, and National Research Council committees and panels that provide advice to federal agencies and policymakers. He also serves on the Advisory Council for the College of Arts and Sciences at the University at Buffalo.

CERTIFIED CONSULTING METEOROLOGISTS (CCM)

The following individual was recently granted the Certified Consulting Meteorologist (CCM) designation. For more information on the AMS CCM program, go to www.ametsoc.org/amscert/index.html#ccm.

678	**Stephen Pellettiere**	**2011**

LIVING ON THE REAL WORLD

[Editor's Note: The following post is excerpted from William Hooke's blog, Living on the Real World (www.livingontherealworld.org/). Hooke is director of the AMS Policy Program.]

Weather-Ready Nation (al Pastime) *(Originally posted on 27 October 2011 by William Hooke)*

Google the expression "Weather-Ready Nation" and you'll see a rich set of offerings. That's because the National Weather Service is using this label to describe a comprehensive initiative to make America safer in the face of weather hazards. Recall that America is "host" if that's the right word to what is arguably the most hazardous weather on the planet—as many winter storms as Canada, China, or Russia; as many hurricanes as southeast Asia, Japan, etc.; and a virtual lock on the world's store of tornadoes. Nine separate weather disasters each totaling over a billion dollars in losses this year alone. So a Weather-Ready Nation? No trivial ambition.

Here's a short list of the components of the NWS initiative, taken verbatim from a press release:

"In partnership with other government agencies, researchers, and the private sector, the National Weather Service is charting a path to a weather-ready nation through:

- Improved precision of weather and water forecasts and effective communication of risk to local authorities;
- Improved weather decision support services with new initiatives such as the development of mobile-ready emergency response specialist teams;
- Innovative science and technological solutions such as the nationwide implementation of Dual Pol radar technology, Integrated Water Resources Science and Services, and the Joint Polar Satellite System;
- Strengthening joint partnerships to enhance community preparedness;
- Working with weather enterprise partners and the emergency management community to enhance safety and economic output and effectively manage environmental resources."

We all wish the NWS success! And many of us are collaborating in whatever ways we can to make America safer.

But weather doesn't have to be severe to be high-stakes.

The latest example? Yesterday's decision by Major League Baseball to postpone the sixth (and possibly deciding) game of the World Series, originally scheduled for last night in St. Louis, until tonight.

Baseball games—even World Series games—have been called on account of rain before. What makes last night's call unusual was that it was made sev-

eral hours before game time, while the field was still dry—based on a forecast, rather than an unplayable field per se.

The sports press has been full of this story. Discussion of the possible consequences, and the range of implications, has been extensive. Here's a sample.

Some saw the decision to postpone this way: as diverting a potential disaster for Fox, the network carrying the game. A rain delay, and a game which might possibly decide the Series (the Texas Rangers are ahead of the Cardinals 3-2 in games) being concluded late, with trophies awarded only in the wee hours of the morning, after viewers had gone to bed, would not be Fox's preferred outcome. Others noted that the one day delay expands the pitching options available to both managers; their starters have all gotten an additional day's rest. Cardinals have had one more day to brood about the miscommunication between dugout and bullpen that hurt their chances in Game 5. The Texas Rangers, undoubtedly eager to wrap things up, have had to pace their hotel rooms an extra day.

It'll be difficult to assess the impact of the decision; the World Series is not part of a controlled experiment. [We didn't get to clone the teams and explore alternative universes, one in which they tried to play the game last night, and another when they played this evening.] But this Series has been so close that a one-day delay may well be seen to matter in hindsight.

And the funds at stake are substantial. The difference to individual players on the winning and losing teams amounts to something like $100,000 apiece. Team revenues for the Series also vary. But the real stakes become apparent the following year. The winners can look forward to increased season ticket sales, higher advertising revenues, a larger fan base and other economic plus-ups.

What's striking in all this press coverage? No negativity about the NWS role. In fact, here's a quote attributed to MLB executive vice president Joe Torre: "It really wasn't difficult because every single weather report that we've had for about three days has predicted rain during the game," he said on MLB Network, adding that a good forecast for the next two days helped influence the move. "If we're not right (with the early postponement), we wanted to make sure we were doing it on the safety side," he said. "That's why we called it so early."

This takes us back to all that discussion over the summer about the importance of NOAA's polar orbiting satellites to the day-to-day consistency in forecasts of approaching weather for decision-making. Note that baseball executives made the call based not just on the forecast for last night's weather, but the outlook for St. Louis tonight and tomorrow night, in case a Game 7 is required.

This particular forecast was relatively visible nationally, but the fact is that our country uses National Weather Service forecasts to place multi-million-dollar bets every day. The smart money doesn't wait for the weather to change. They're acting on the forecasts of that change. Utilities forecast energy demand, not just for the country as a whole but region by region and metropolis by metropolis. Airlines are cancelling and rerouting flights based on weather predictions. Water resource managers are looking ahead to demands and stresses on their watersheds. Agribusiness is constantly adjusting its decisions on when, what, and where to plant, the application of pesticides, herbicides, and fertilizers, and how to hedge against sudden changes in international market supply and demand. The lists and the stakes are growing. The Nation grows more weather-ready by the day.

Play ball!

NANCY CHASE KNIGHT
1922–2011

Nancy Chase Knight was born in Boston on 5 December 1922. Although she attended Wellesley College, most of the knowledge gained during her 49-year career in the atmospheric sciences was accomplished through learning on the job. She took great pride in her lack of formal education.

Nancy's original dream was to become a physician. She applied for medical school at the University of Washington but was denied entrance because of the perception that training women was not worth the investment. Her introduction to atmospheric science—and to her future husband, Charles Knight—resulted from an invitation from the late Ed Danielson to apply for a job at the then Department of Meteorology at the University of Washington. While there, Nancy worked for Project Husky, taking observations of the Arctic from encampments on the ice, and she eventually became assistant director.

She and Charlie were married in Big Bend, Texas, in 1962, after which they moved to Morrison, Colorado, where Charlie worked at the U.S. Geological Service (USGS).

It was a connection with Jim Deardorff, who had been a graduate student at the Meteorology Department when Charlie and Nancy were there, that brought them to the National Center for Atmospheric Research (NCAR) in 1962. While Charlie was seeking a job more suited to his interests and talents, he and Nancy went to visit Deardorff at NCAR. In a short time, Charlie was working at NCAR, with Nancy following not long thereafter. However, because of nepotism rules, she could only be hired on as a casual employee.

Not long thereafter, Walter Orr Roberts informed them that there was money available to support scientists to make extended visits to Japan, through the U.S.–Japan Scientific Cooperation Committee. Charlie welcomed the opportunity to visit and work with Akira Higashi at the University of Hokkaido in Sapporo. While Charlie worked on ice crystals, Nancy taught conversational English to faculty, people in the community, and children, and also helped professors write their papers in English.

By the time they returned to the United States in 1965, discussions of an American hail-modification program were gaining momentum. A delegation of Americans visiting the Soviet Union had been led to believe that the Soviets had succeeded in suppressing hail; it was important to verify these results, and if valid, to replicate and even improve on their success. Even though there was little enthusiasm for the project, NCAR and the Knights became quickly involved in a series of hail experiments: Hailswath (1966), The Northeast Colorado Hail Experiment (1969–70), and the National Hail Research Experiment (1971–76). With Charlie's interest in ice, hail was a natural topic to pursue.

Nancy Chase Knight

Nancy's job evolved into hail collection, first with Charlie and then independently, both through chasing storms to collect hail in real- or near-real time and collecting hail from farmers and ranchers afterward. Once back in the laboratory, Nancy would thin-section and take photographs of the stones, both in natural and cross-polarized light to highlight the crystal structure. These studies took her not only to northeast Colorado, but to South Dakota, Montana, Oklahoma, Canada, Bulgaria, Italy, Switzerland, and South Africa. Particularly overseas, it was a challenge to find a cold room appropriate for storing and analyzing the hailstones she collected; often Nancy shared space with vegetables, ice cream, and dead animals.

During the 1960s and 1970s, Nancy assisted Charlie on several studies of hail behavior as revealed from the stones collected, dealing with hail embryos, conical graupel, spongy hail, and the origin of hailstone lobes. Each of these papers represented hundreds of hailstones, from many different storms, necessary to make reasonable conclusions.

By the late 1970s, Knight was writing some articles as lead author, building on the previous papers with Charlie as well as statistics on an ever larger collection of hailstones. She synthesized data from previously collected hailstones from many parts of the world in a climatology of hail embryos (1983), which shows some tantalizing relationships between embryo type (frozen drop vs. graupel) and hailstone size or cloud-base temperature (in average sense), but concluded, in the careful style that characterized the earlier papers, that firm generalizations are hard to come by and the only firm—but important—conclusion was

that one hail-suppression strategy cannot be applied to all regions.

Starting in the late 1980s, Nancy started working on cirrus ice crystals as well as hail. Her primary duty was to photograph samples collected from aircraft in a preserving material, an effort that took her to Wisconsin, Kansas, TOGA COARE, and CEPEX, working with Andrew Heymsfield of NCAR.

Nancy had many passions. She loved the sea and sailed before moving to inland Boulder. Her love of birds and the ocean led to the purchase of a second house in the prime birding territory of Padre Island, Texas. She loved fine food and was an outstanding cook. Nancy read voraciously and loved a good turn of phrase. She had a collection of stories and sayings, one of the most memorable being: "I change my mind often because I keep it clean that way." Nancy would also lend her blue pencil to both Japanese and American scientists in need of editing help, something she kept up to the end of her career.

Nancy was a mentor to many younger scientists and an inspiration to women at NCAR and elsewhere. Among those who accompanied her on hail chasing/gathering excursions were Stephan Nelson of the National Science Foundation and Bob Scholes, who, inspired by Nancy to go into science, became a systems ecologist at CSIR in South Africa. She taught by example a healthy skepticism. She shared her passions with those she inspired, introducing us to good literature, birds, and good food. She and Charlie opened their home to visitors; and their lab in the NCAR Mesa building was a good place to stop for a cup of strong coffee and good conversation before starting the workday. That she worked for several years on student wages and for no salary for a year after being laid off to enforce the nepotism rule testifies to her dedication. Her layoff galvanized the women employees at NCAR, whose efforts resulted in liberalization of the rules: Nancy was reinstated and later given a regular staff appointment.

Her character is best painted in bright colors rather than pastels. When she was present, meals were often rapid-fire exchanges punctuated by gales of laughter when Nancy drove a point to its target. Lively discussions about books resulted in trades or trips to the bookstore. Those who knew Nancy can quickly summon up a story on her driving habits (sudden stops for an interesting bird; driving at speeds associated more with catching up with storms than with road conditions or speed limits and the resulting exchanges with the Highway Patrol), her dislike of flying, and holding court at meals during field programs.

That she commanded respect is illustrated by a story Charlie tells. During NHRE, Ron Rinehart asked all the participants to estimate the height of their colleagues to compare to their actual height. Nancy's estimated height was much greater than her actual height—a tribute to her stature in the eyes of her friends and colleagues. We remember her with affection as well.

—Peggy LeMone, with contributions from Stephan Nelson, Bob Scholes, Karyn Sawyer, and Charles Knight

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Editor's Note: The following tribute originally appeared in the 11 October issue of Eos. *Reprinted with minor edits with permission from the American Geophysical Union.*

JARVIS L. MOYERS
1943–2011

Jarvis L. Moyers, former director of the Division of Atmospheric and Geospace Sciences at the U.S. National Science Foundation (NSF) and long-term supporter and mentor for atmospheric scientists and, in particular, atmospheric chemists, passed away in Silver Spring, Maryland, on 22 June 2011.

Jarvis was born in Houston, Texas, and grew up largely in West Virginia, where he graduated with a B.S. in chemistry from Marshall University in 1965. His graduate work was conducted in the Department of Chemistry at the University of Hawaii at Manoa, where he earned a Ph.D. in atmospheric chemistry in 1970. From the beginning, it was clear that Jarvis was someone special. Unlike many students at the University of Hawaii during those days, he did not come for the sun and surf, being a very serious and industrious student. From the outset, more than 45 years ago, his approach to scientific research was characterized by a cooperative spirit and a very self-effacing manner. He pioneered investigations of reactive halogen species in the marine atmosphere long before the more recent interest in their role in ozone cycling, oxidation processes, and new particle formation. He published a paper in the *Journal of Geophysical*

Research on halogens in the Antarctic atmosphere many years before the discovery of the ozone hole. He was among the very first scientists to use cascade impactors to study the composition of atmospheric particles as a function of size. While subsequently a postdoctoral fellow at the University of Rhode Island and then director of the University Analytical Center at the University of Arizona, he continued to publish extensively and contribute significantly to scientific understanding of aerosol chemistry.

Jarvis L. Moyers

Along with being a member of the AMS, Moyers was a long-time member of the American Geophysical Union (AGU) and was presented posthumously with the 2011 AGU Edward A. Flinn III Award for "unselfish cooperation in research through facilitating, coordinating, and implementing activities." No one could be more deserving of such an award. His long and distinguished tenure at the NSF began as a rotator in the Research Applied to National Needs program in 1976, and he returned to the NSF permanently in 1983 as program director for Atmospheric Chemistry. Later he served as section head of the Lower Atmosphere Research section, head of the National Center for Atmospheric Research/Facilities section, director of the Division of Atmospheric and Geospace Sciences, and acting assistant director for Geosciences at NSF. In 2006, he received the Presidential Distinguished Rank Award "for his outstanding leadership and exemplary record of achievement in service to the nation's science and engineering enterprise."

During his tenure at the NSF, Jarvis was instrumental in fostering the rapid development of the field of atmospheric chemistry. Through his selfless approach, his quiet and persistent common sense, and his understanding of the needs of the community, he was able to bring together a widely divergent group of scientists and NSF administrators to build the atmospheric chemistry discipline into one of the most exciting and relevant areas of the atmospheric sciences today. As part of this effort, he worked effectively with managers in other agencies both within the United States and internationally to develop joint programs and facilitate joint support for atmospheric chemistry, a task that was sometimes quite challenging. Particularly critical was his support for the development of the Global Tropospheric Chemistry Program, which began in the mid-1980s. This effort involved many international partners and was the first attempt to initiate comprehensive investigations of tropospheric chemical processes and cycles on a truly global scale. His strong support and leadership were critical in getting that program under way and establishing a research agenda that has driven regional- to global-scale investigations of tropospheric chemistry for decades.

After the discovery of the ozone hole, Jarvis played a key role in enabling the rapid response by the scientific community to this new challenge. Critical ozone layer research and field programs in Antarctica were launched with interagency support in a very short time. Similarly, he made possible a rapid response deployment to Kuwait following the massive oil fires in 1991.

During his tenure as division director, Jarvis oversaw the development of the High-Performance Instrumented Airborne Platform for Environmental Research, an instrumented Gulfstream-V aircraft that has become a much-utilized platform for airborne atmospheric research in recent years. Expanding research budgets in the 1990s enabled strong investments in academic research and facilities, as well as healthy growth of the atmospheric science community. Jarvis was strongly committed to supporting early-career scientists through grants, personal mentoring, and targeted programs such as the biannual Atmospheric Chemistry Colloquium for Emerging Senior Scientists meetings. Jarvis was always completely committed to the betterment of the atmospheric sciences and to the scientists who carried out its research, particularly the younger ones. He was quiet and unassuming yet had a great sense of humor. In his selfless manner, he always considered the success and advancement of others, not himself. He had broad vision and was not averse to investing in high-risk research that offered the prospect of high returns, to the great advantage of the atmospheric sciences. His special mix of common sense, dedication, and integrity allowed him to get things done without getting encumbered by bureaucracy. Jarvis Moyers was the right person in the right place at the right time. He will be sorely missed.

Jarvis is survived by Joan, his wife of 44 years, and his son, Kevin.

—Robert A. Duce and Ann-Marie Schmoltner