



Making Waves

Fall 2008



SSEC

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Greetings from the Chair

Jonathan Martin



In what appears to be a reprise of the late autumn last year, we are settling into an extended period of relatively cold weather here in Madison as the fall term passes the midway point. Of course, one of the easier forecast challenges in history presents itself this fall as many in the area are wondering if we will receive as much snow this winter as we did last year when the all-time seasonal record of 103.1" was set. My answer to questions such as "What will the winter be like this year?" has been, "Not as much snow!" We shall see.

This fall the department greeted the new academic year without Professor Reid Bryson for the first time in over 60 years. As many of you know, Reid passed away on June 11 of this year. Many of us were able to attend a memorial service for him on August 23, details of which are included in this newsletter. Reid Bryson was not only a central figure in the history of our own department but also a giant in the history of the University of Wisconsin and we are, in collaboration with the Nelson Institute for Environmental Studies (which he also founded), in the process of exploring a variety of means to memorialize Reid's many contributions to our campus.



The state of Wisconsin is in difficult economic circumstances as it has just been announced that we may be facing a \$5 billion budget deficit in the next biennium. Such a budgetary hole cannot be filled without severe consequences for the University and the department. We are currently conducting a search for at least one new faculty member who will help us meet the challenges of the future. We are also challenged to continue funding outstanding graduate students as federal research dollars become increasingly difficult to obtain. Through these challenges, we retain our commitment to giving our undergraduates the very best, broadest, education in this science that is offered anywhere. It is in the face of these challenges that we appeal to you, our cherished alumni, for your continued support of our exceptional department and its research, teaching and outreach missions that have influenced so many lives throughout these many years.

In this edition of our alumni newsletter we will report on our faculty search, news from the department, an invitation to our annual Alumni Reception at the Annual AMS Meeting in Phoenix, and news about some of our recent graduates. In spite of the many challenges we face, we find ourselves, as always, looking forward to an exciting future from the perspective of an illustrious past. We are pleased to include you in that future as we stay updated with you; our Past, our Future, our Alumni.



Faculty News

Steve Ackerman Spends Sabbatical Year in Washington DC



Professor Steve Ackerman spent his 9 month sabbatical in the Washington DC area working with the Center for Satellite Applications and Research (STAR) to further strengthen our connection to NOAA research. This NOAA center is the science arm of the National Environmental Satellite, Data and Information Service (NESDIS), which acquires and manages the nation's operational Earth-observing satellites. During his sabbatical he worked on a NESIDS team that developed NOAA's Satellite Observations Strategic Plan. This plan outlined the weather observation needs from satellites for the next 20 years. He also continued his collaborations with NASA Goddard scientists. In the end, these activities lead to 8 publications. He also read books and current articles on e-learning. Based upon what he learned from these readings, he began development of activities for a range of classes so that he can further explore how these e-teaching methods impact student learning. Of course, Steve and his wife Anne also enjoyed many DC activities, and you can read about them at a blog they kept called "A Year in DC." (URL is <http://ackandanne.blogspot.com/>)

Introducing Don Moskowitz

Mr. Don Moskowitz joined our department staff in January 2008 as our Graduate and Undergraduate Coordinator. Don has had many different experiences on campus including working as a mathematics and CS tutor and TA and is a PhD student in Philosophy (with only his dissertation yet to complete). Unfortunately, Don is a Yankees fan having grown up in New York City but we have managed to get along anyway. He has already been very active in renovating some of our graduate and undergraduate descriptions and has quickly climbed the daunting learning curve of a very important position in our department. Welcome, Don!

Steve Ackerman Wins 2009 AMS Teaching Excellence Award

Professor Steve Ackerman has won the 2009 AMS Teaching Excellence Award in honor of his excellence and innovation as an outstanding lecturer, curriculum designer, award winning textbook author, and productive graduate mentor. This is a very prestigious award and it will be conferred on Steve at the AMS Annual Meeting in Phoenix in January 2009. Steve has, for many years, enriched the Department with the comprehensive excellence that has led to this award. Congratulations, Steve! We will be sure to celebrate this great honor with Steve at our Alumni Reunion at Phoenix this January!

Staff Retirements

After many years of faithful service to our department, a number of our classified staff have recently retired. *Ms. Marilyn Wolff* retired in November 2007 after nearly 20 years as a valuable point person in the Curriculum Committee and was the savior of students trying to register for courses under duress, especially those dozens each fall and spring who were trying to get into AOS 100 during the first couple of weeks of each term.

Ms. Connie Linehan also retired in November 2007 after 14 years as the Graduate and Undergraduate secretary and nearly single-handedly organized both programs to the point where their respective chairs (and I am speaking from personal experience) could find anything they needed with nearly instantaneous speed. Generations of graduate students will fondly recall Connie making sure they submitted various pieces of paperwork on time and to the right person in order that administrative issues did not hold up their celebrations of graduation.

Ms. Jan Richmond resigned in March 2008 after 8 years as our Budget Specialist. In a department with as many active grants as ours, this is an extremely important job and requires a "can do" attitude. Jan more than exemplified this job attribute and was always a knowledgeable and pleasant person from whom to seek expert advise (and sometimes consent). Her many contacts on campus made even the most thorny budget issues relatively soluble – again, speaking from personal experience.

Finally, at the end of this calendar year we will bid farewell to *Ms. Betty Rhyner* who has served as our Department Administrator for nearly 8.5 years. The old joke on campus is that the Department Administrators wield more power than the Chair! I can't testify to the veracity of that statement but I can tell you that the Chair in this department has, over the last ten years, had the great privilege to work with such an outstanding professional and fine human being. I am never caught by surprise about important deadlines, programs, or meetings by virtue of Betty's constant attention to detail and clear exposition. We may, if we are very lucky, find a replacement who is nearly as good, but we surely won't find one who is better.

May you all enjoy your retirements, you have certainly earned them. And please accept our sincerest thank yous for your efforts on the behalf of the success of our department, its faculty, its staff, and its students.

New Faculty Search Begins

This fall we have been authorized by the Dean to search for a new colleague. We are particularly interested in hiring someone with demonstrated strength in 1) large-scale/climate dynamics and climate processes, 2) physical oceanography, and 3) the dynamics of tropical circulation systems though we are also entertaining strong applications from candidates with expertise in our traditional areas of strength. Thus far, we have received 45 applications from a strong field of candidates making the task of selecting just one a significant challenge, but a challenge we are happy to have. We hope to have our new colleague on board by Fall 2009.

Reid Bryson Farewell



Reid in a 1981 file photo.

Professor Emeritus Reid Bryson, founder of our Department, the Center for Climatic Research and the Institute for Environmental Studies (now the Gaylord Nelson Institute for Environmental Studies) and a towering figure in climatology and interdisciplinary studies of climate, people and the environment, died in his sleep early June 11 at his home in Madison. He was 88.

Reid was one of the pioneers of modern climatology and was among the first to explore the influence of climate on humans and human culture and, in turn, some of the human impacts on climate. He was an early developer of simple computer models to study the causes of past climate change, comparing those simulations with records of paleoclimate and human culture.

A polymath, Bryson's scholarly interests ranged from studies of archaeology and geography to geology and limnology, and he tied them together through an abiding interest in weather and climate. His first appointment at the University of Wisconsin in 1946 was in geology. In 1948, he founded our Department and was its first faculty member and chair. In collaboration with the late Verner Suomi, another pioneering Wisconsin meteorologist and the father of weather satellites, Reid helped build the department into one of the largest and most prestigious in the country.

An innovative researcher and influential teacher, Bryson excelled at work in the field, studying climate on every continent, and was especially interested in the influence of climate on human history and culture.

Reid Allen Bryson was born in Detroit on June 7, 1920. He earned a bachelor's degree in geology from Denison University in 1941 and his doctorate in meteorology from the University of Chicago in 1948, the same year he founded the University of Wisconsin's meteorology department.

During World War II, Bryson was a major in the Weather Service of the U.S. Army Air Corps, making forecasts from Guam for the B-29 air crews on the first high-altitude bombing missions over Tokyo. Forecasting the weather at 30,000 to 35,000 feet, an altitude where few aviators had been before, Bryson and colleague William Plumley calculated 168-knot winds over Tokyo, a "fantastic forecast" disbelieved by the commanding general. Their forecast was correct, the mission failed and the commanding officer apologized. The high-altitude winds measured by Bryson and Plumley later came to be known as the jet stream.

At Wisconsin, Bryson, who was also a published poet and a weaver, indulged his many scholarly interests and in doing so forged a model of interdisciplinary research that was decades ahead of a trend now firmly established in higher education.

The UW-Madison Center for Climatic Research was founded by Bryson in 1963. He analyzed ancient tree rings to deduce past climate and studied fossil pollen to learn that arid parts of India were once much wetter environments. He went on to devise a system of land use to help reduce the overgrazing that had made the Indian landscape drier.

A thoughtful critic of the use of complex computer models to estimate future climate, Bryson himself employed their early use in climate science. He used his models to isolate single factors – volcanic eruptions, the slow wobble of the Earth on its axis – to see if and how they influenced past climates, and how climate might act in the future.

Those who knew him, worked with him, and argued with him (one of his greatest pleasures) will always remember him as a masterful synthesizer and communicator of information. Reid was the consummate story teller and the stories he told about the influence of climate on the history of human societies made him a legendary figure, a true Renaissance man, in our field. We will miss his gracious, generous, mischievous, and sparkling soul. Reid is survived by his wife, Francis, of Madison, and four children.



Reid in a 2007 file photo.

Foley to Leave UW-AOS



Sadly, Professor Jonathan A. Foley, a leading figure in the study of the climate system, sustainability and their interface with public policy left our department at the end of the summer to build the new Center for Sustainability and the Global Environment at the University of Minnesota. Jon received all of his degrees from the University of Wisconsin-Madison and joined the faculty in 1993 as the first CPEP Professor. Later he founded the Center for Sustainability in the Global Environment (SAGE) in the Nelson Institute and attracted a collection of excellent scientists in that endeavor. Jon continued, and expanded, the rich history of interdisciplinary science within our department while he was here and will be sorely missed.

Holloway Named New SAGE Director



Professor Tracey Holloway, an Affiliate Assistant Professor in AOS, was named the new Director of the SAGE upon the departure of Professor Foley. Tracey has been on campus for nearly 6 years and is another multi-disciplinary scientist with expertise in air quality and atmospheric chemistry, atmospheric modeling, energy policy, and global change to mention a few. This was an inspired choice as Tracey clearly has the expertise, the vision, and the seemingly boundless energy required to take on this daunting task. Congratulations and good luck in your new position, Tracey!

Pao K. Wang elected as a Fellow of Taiwan's Meteorological Society



Mr. Chiang-Lin Hsin, Director-General of the Central Weather Bureau of Taiwan, also the President of the Meteorological Society, presents the certificate of Fellow to Professor Pao Wang on March 28, 2008.

Professor Pao K. Wang was recently elected as a Fellow of Taiwan's Meteorological Society, the highest honor the society bestows upon its members. Pao is the only fellow elected this year. The citation states that the honor is to recognize Pao's outstanding contributions to the fields of cloud dynamics, physics, chemistry and model simulations, and the influence of aerosol on clouds.

Mr. Chiang-Lin Hsin, Director-General of the Central Weather Bureau of

Martin and Morgan Among Nine UW-AOS Scientists Attending 14th Annual Cyclone Workshop

Professors Jon Martin and Michael Morgan headed a group of 9 UW-AOS scientists who attended the 14th Cyclone Workshop in Sainte Adele, Quebec from September 21-26, 2008. Martin's research group presented three papers; one by Andrea Lang, one by Daniel Hartung, and one by Sharon Jaffe, while Morgan's group presented four; one by Diana Nelson, one by Nick Bassill, one by Brett Hoover and one by Daniel Chavas who is now a Ph.D. student of Kerry Emanuel at MIT. A talented group of Wisconsin alumni also made contributions at the conference. Among the other presenters with past Wisconsin connections were Dr. Chuck Doswell (B.S. 1967), Dr. Peter Knippertz (post-doc at UW from 2003-2005). The conference was a great success and made clear that Wisconsin retains a major presence in the extratropical cyclone research community.



Department Events

Student Awards Day – April, 2008

Our annual Department Student Awards Day was held on Wednesday April 23, 2008. We gathered to honor excellence in both our undergraduate and graduate student's performances.



Ben Sulman (above) received the Schwerdtfeger Award for best performance as a first year graduate student.



Mark Kulie (above) was honored with the Wabl Award for outstanding performance as a teaching assistant in our program.



David Ulman (above) received the Lettau Award for the best M. S. thesis for his thesis "North Atlantic Carbon Cycle Response to Climate Variability" under the guidance of Professor Galen McKinley.



Sarah Monette and Neil Berg (above) received the Horn Award for comprehensive excellence as a junior undergraduate.



Finally, Mark Kulie and Gijs deBoer (above) received the Colloquium Student Service Award for their outstanding contributions to the organization and execution of our weekly departmental Colloquium.

Congratulations to all of our award winners!



Graduate Program Report

Lang Awarded Ford Foundation Pre-Doctoral Fellowship

Ms. Andrea Lang was awarded an extremely competitive Ford Foundation Pre-doctoral Fellowship (from the National Academies) in April 2008 for her on-going research into the structure, evolution and dynamics of frontal zones in the lower stratosphere. The Fellowship, designed to produce the next generation of university faculty from underrepresented groups, is for three years and covers tuition, fees, and a stipend during that time. It also encourages the recipient to pursue enrichment activities that help to refine the skills necessary to pursue an academic life. Toward that end, Andrea has continued as a teaching assistant in AOS 452 and has taken DELTA courses on curriculum development and effective communication of science issues. Congratulations to you, Andrea!



Andrew Field and Rebecca Westby (above) received the Lettau-Wahl Award for excellent performance as junior undergraduates.

AOS Graduate Students Receive Campus-Wide Awards



AOS graduate student Mark Kulie received the UW Madison Exceptional Service Teaching Award. Mark is a Ph.D. student studying under Professor Ralf Bennartz. AOS graduate student Chian-Yi Liu received a Graduate Student Peer Mentor award. Chian-Yi is a Ph.D. student studying under Professor Steve Ackerman. We believe these are the first such awards bestowed upon members of our graduate student community and represent major accomplishments. Congratulations Mark and Chian-Yi!

Master of Science Degrees

December 2007 Master of Science Degrees

Fontaine, Abigail B., "The Role of the Pacific Meridional Mode and the WES Feedback on the Onset of ENSO." (Vimont)

Harrington, Alex J., Nonthesis. (Ackerman)

Hulme, Andrew L., "Tropical Transition in the Subtropical Atlantic." (Martin)

Maddux, Brent C., "Variability Within the Global Cloud Field as Seen by MODIS." (Ackerman)

Parker, Andrew C., "Interannual Variability of Polar Stratospheric Clouds Over Antarctica." (Hitchman)

Zhou, Wei, Nonthesis. (Bennartz)

May 2008 Master of Science Degrees

Hassenzahl, Holly C., "The Effects of Vorticity Confinement on a Numerically Simulated Tornado Funnel." (Tripoli)

Hoover, Brett T., "Tropical Cyclone Steering as a Potential Vorticity Advection Process: The Role of Cumulus Parameterization in the Definition of an Optimal Steering Column." (Morgan)

Lazear, Ross A., "The Effects of Diabatic Heating on Upper-Tropospheric Anticyclogenesis." (Morgan)

Ullman, David J., "North Atlantic Carbon Cycle Response to Climate Variability." (McKinley)

Summer 2008 Master of Science Degrees

Bagley, Justin E., "Data Assimilation in the NCAR Community Atmosphere Model." (DeWeaver)

He, Feng, "The Nature of the Decadal Variability of Surface Climate Over the North Atlantic Ocean: Coupled Ocean-Atmosphere-Sea Ice Interaction Organized by Damped Ocean Mode." (Liu)

PhD Degrees

PhD Theses Since December 2007

Hasbino, Tempei, "Explicit Simulation of Ice Particle Habits in a Numerical Weather Prediction Model," December 2007. (Tripoli)

Johnson, Benjamin T., "Multi-frequency Passive Microwave and Dual-frequency Radar Remote Sensing of Snowfall," December 2007. (Petty)

Lazzara, Matthew A., "A Diagnostic Study of Antarctic Fog," May 2008. (Ackerman)

Tjiputra, Jerry F., "Sensitivity Studies of a Global Ocean Carbon-cycle Model," December 2007. (Winguth)

Zhong, Yafang, "On the Origin and Mechanism of the Pacific Multidecadal Climate Variability in CCSM3: A Combined Statistical and Dynamical Study," May 2008. (Liu)



Undergraduate Program Report

Rebecca Westby Awarded Phi Beta Kappa Membership

Ms. Rebecca Westby (Class of 2009) was awarded membership in Phi Beta Kappa on April 12, 2008. This is an unusual honor for an AOS undergraduate and she may be the first in many years to have achieved it. The requirements are stringent as only those students with junior standing possessing a cumulative GPA of over 3.75 and demonstrated breadth in the liberal arts are considered for nomination. Congratulations, Rebecca!

Undergraduate Degrees

December 2007 Bachelor of Science Degrees

Jason Anderson, David DeMeuse, Charles Koch, Andrew Mankowski

May 2008 Bachelor of Science Degrees

Jonas Asuma, Tanya Bruskevitz, Keith Harding, Matthew Hines, Alexander Kirchner, Jennifer Koch, Annelise Lenz, Michael Leto, Theodore Lyons, Jeffrey Makowski, Benjamin Moore, Jeffrey Nelson, Shellie Rowe, Amy Schmidt, Joshua Schub, Daniel Thompson, Lee Wellhouse, Brandon Wlodarczyk

August 2008 Bachelor of Science Degrees

Amy Ronnei



Alumni News

AOS Alumni Reunion Reception

The second annual UW-Madison Alumni Reception was attended by nearly 100 people at the Annual Meeting in New Orleans in January 2008. The next installment of this fabulous event will take place at the AMS Annual Meeting in Phoenix, Arizona on Tuesday January 13 from 6:30 – 9 PM. As you may know, Tuesday night is reception night at the AMS meeting where a number of schools host reunions for their alums. Ours has been, by far, the most heartily attended affair of all for two years running. We hope to see you on January 13 and don't forget to pick up your Bucky Badger pin when you stop by for food, drinks, and reminiscing with old friends or current colleagues.



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❖ Alumni Contributors ❖

❖ Received October 2007 through October 2008.

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Thank You!



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