

# Department of Atmospheric and Environmental Sciences

## The Chair's Corner



It gives me great pleasure to introduce this 2<sup>nd</sup> edition of our Departmental newsletter and again to share with you the news and exciting developments that have taken place in the past year. It's been another excellent year for the Department – there is much to share!

First, we have had another extremely successful recruitment season that has resulted in six new members of faculty: Aiguo Dai, Roberta Johnson, Jiping Liu, Justin Minder, Brian Tang, and June Wang. As reported last year, Andrea Lang has also joined our faculty this past fall. All new faculty are introduced later in the newsletter. The Department now has 16 tenured or tenure-track faculty – historically the largest the Department has ever been! We are currently seeking to recruit two more faculty through our “Weather-Climate Interactions and Society” initiative and we expect to recruit even more in the coming years.

Also exciting are the implications for the Department in the University's NYSUNY 2020 plan presented to the Governor on September 20th 2012. At the center of this plan is the construction of a \$165 million Emerging Technology and Entrepreneurship Complex (E-TEC). Included in this R&D Complex will be the establishment of the Environmental Prediction and Innovation Center (EPIC) consisting of the Department, the Atmospheric Science Research Center as well as (hopefully) the local office of the National Weather Service (NWS). This will be a dream come true for many of us and I am thrilled at the prospects. In addition to carrying out fundamental weather and climate research, EPIC will also be building collaborative partnerships with many private sector companies in key strategic areas such as energy (including renewables) and insurance. We will soon be developing web pages to keep people informed of these new and important developments for the Department. For updates I also encourage you to friend us on our Facebook site (reachable from our front webpage).

As always, we are very proud of the students who graduated in our majors in Atmospheric Sciences and Environmental Sciences including our award winners: Hannah Attard, Jeffrey Dzwonkowski, Stephen Ellis, Timothy Humphrey, Dana Kamens, Adrian Mitchell and Nicholas Schiraldi. I would also like to congratulate our Narayan R. Gokhale Distinguished Research Award recipient Heather Archambault (PhD, '11), Bernard Vonnegut Teaching Award recipients Kyle MacRitchie and Daniel Thompson (M.S., '12), and the Winthrop D. Means Award for Excellence recipient Kyle Iterly (M.S., '12). Congratulations to all! I would also like to share with you the happy news that Professors Paul Roundy and Mathias Vuille were both promoted to the rank of Associate Professor with tenure during this past year. I would like to publically congratulate them both here!

While we have much to celebrate we also have some very sad news to share. Former faculty member Arthur Loesch passed away on April 5, 2012 after a long and courageous battle with cancer. He joined the faculty in 1973 where he worked until his retirement in 2007. Arthur was an internationally recognized expert in geophysical fluid dynamics and a brilliant educator. Those of us who knew him will miss the wonderful life-loving person that he was. There will be a fund established in Arthur's honor and any alumni and friends may contribute to it. More details will be forthcoming, or you can contact our development officer, Michael Boots at 518.225.1229 for more information.

In conclusion here let me say that I have only covered a small fraction of the exciting news and activities taking place in the Department. I hope you enjoy the rest of the newsletter which covers even more.

Cheers,

Chris Thorncroft  
*Professor and Chair*



## Dr. Mathias Vuille Leads Hemispheric Efforts to Study Climate Change in the Andes

Associate Professor and climate change expert **Mathias Vuille** has had a busy year of research and travel in South America. As a Senior Fellow in the Energy and Climate Partnership of the Americas (ECPA), Mathias traveled to Ecuador this past November to participate in meetings and events relating to climate change. The Senior ECPA Fellows program brings together a network of high-level technical experts in the fields of climate change and energy who travel between countries in the Western Hemisphere to consult with governments or other institutions. The program is sponsored by the U.S. Department of State's Bureau of Western Hemisphere Affairs and is administered by Partners of the Americas. There are currently 20 Senior ECPA Fellows who participate in these international exchanges. The main areas of focus for the program are: energy efficiency, renewable energy, energy infrastructure, energy poverty and access, sustainable forestry and land use, and climate change adaptation.

In addition, Mathias will lead a related effort to study the effect of glacier retreat in the Andean nations of Colombia, Ecuador, Peru, and Chile. The Andean Climate Change Interamerican Observatory Network (ACCION), which Dr. Vuille will helm, aims to build a sustainable network of local scientists and stakeholders who can translate and implement the latest scientific results into on-the-ground adaptation measures in the four countries. ACCION is being funded by a \$990,000 grant, also from the U. S. Department of State's Bureau of Western Hemisphere Affairs. Two of Dr. Vuille's graduate students, Oscar Chimborazo (Ecuador), and Juan Sulca (Peru), come to us from this quartet of South American nations.

### Weather & Climate Blog



Several DAES faculty, staff and graduate students continue to run this active blog through the Albany Times Union website. A multitude of topics are covered in the blog, including climate change, tropical cyclones, and major northeast weather systems. This fall, DAES bloggers frequently provided detailed forecasts of Hurricane Sandy beginning several days before the storm made landfall in New Jersey.

The blog can be found at:

<http://www.timesunion.com/blogs/>

### Weather and Forecasting Conference

The American Meteorological Society (AMS) conferences on Numerical Weather Prediction, and Weather and Forecasting, were jointly held May 2012 in Montreal, Quebec, with the 46th Congress of the Canadian Meteorological and Oceanographic Society.

Fifteen DAES faculty, staff, and students presented at the conference, with the University at Albany making up the largest contingent of any American atmospheric science department at the conference.

### Thank You Donors!

David J. Allard, Teresa M. Bals-Elsholz, Luke A. Barbalich, Mary A. Bedrick, Jeanine M. Broughel, Amanda C. Carpenter, Lisa C. Corsetti, Ann A. Fickenwirth, Sheila Ganetis, Joseph Gentile, Amy Griffin, Richard H. Grumm, Michael S. Hauser, Vincent P. Idone, Christophe B. Kemnah, Wendy J. Keyser, Robert J. Kupec, Gary Lamb, Douglas M. LeComte, Sarah Mallia, Mary-Elizabeth O. McDowell, John E. Molinari, Gerald J. Mulvey, Kenneth E. Pickering, Allan J. Porreca, Matthew J. Rosencrans, Evan P. Roz, Laura S. Smith, Kevin R. Tyle, UAlbany Alumni Association, David J. Vollaro, Wei-Chyung C. Wang, Kathy E. Webber, Loren W. Weinheimer, Gary S. Wojcik, Daniel & Patricia E. Zelinski and Liming Zhou.

September 1, 2011 - June 30, 2012



### D.A.E.S. Facebook

DAES maintains a Facebook page, where members can learn about upcoming departmental seminars, new faculty hires, and other noteworthy events.

A link can be found at:

<http://www.atmos.albany.edu>



## Featured Alumnus: Josh Darr, Chesapeake Energy Meteorologist

(M.S., UAlbany, 2002; 1844 Society Donor)

Josh came to our department in 2000 to do his Master's research under the tutelage of Distinguished Research Professor Dr. Lance Bosart. Prior to UAlbany, Josh received his B.S. in Meteorology from Cornell University. Upon completion of his work, Josh has pursued a career in the private sector. Since 2007, he has been employed as a meteorologist at the Chicago, Illinois office of Chesapeake Energy Corporation.

**How did you become interested in meteorology?** I was fascinated with weather at a very early age. There are two examples early in my life that foreshadowed my eventual career as a meteorologist. In kindergarten, I drew pictures that had a huge sun and massive clouds, with the ground being very small in relation to the sky. In elementary school, all I ever watched was the Weather Channel. I would read every word of the forecast to see if it changed. Those two early life examples grew into more notable interests as I grew older and spent many of my summers at the Delaware shore. Seeing weather take place in a coastal environment escalated my initial curiosity about the weather, and by high school I knew I wanted to be a meteorologist.

**What made you choose the University at Albany to pursue your studies in the field?** While I gained a solid footing on the theoretical side of the field during my undergrad years at Cornell, I wanted to more deeply understand synoptic/dynamic concepts and how to best apply this knowledge in a weather forecasting and applied framework. I attended several talks by UAlbany grad students at the Northeastern Storms Conference in Saratoga Springs, and it was clear that UAlbany's program was second-to-none. My summers at the shore buoyed my interest in tropical hurricane forecasting. The mix of synoptic/dynamics with a strong tropical meteorology presence made attending Albany an easy decision.

**What did your Master's thesis focus on?** My MS thesis examined the extratropical transitions (ET) of hurricanes in the Atlantic basin. I'm fortunate that this research combined all of my interests in synoptics, dynamics, and tropics. Working under Lance, the results of my research were to use basic synoptic principles developed in the 1930s through 1950s to understand whether an Atlantic tropical system was in a favorable environment to undergo ET or if the storm was more likely to decay without merging into the jet stream.

**Who were your most memorable professors?** One of the classes I commonly think back to and still find so useful was the late Dr. Arthur Loesch's Fluid Dynamics class. This class was very difficult, but Arthur's teaching manner helped me view the atmosphere as a continuous fluid. I fondly remember classes with Arthur, Lance, John Molinari, and Chris Thorncroft, which all had a common trait: taking the atmosphere's mathematical and dynamical properties and boiling these concepts down into rather simple physically-based conceptual models. This mode of thinking has been incredibly useful in my work in the field since obtaining my Master's.

**What advice do you have for students interested in private sector opportunities in atmospheric science?** The real edge a meteorologist can provide in the commodities arena is to not just regurgitate the forecast models, but also to understand when models are right, and when they are wrong, and for what reasons. Speed to market is also critical as prices can move quickly on new weather information. Thus, our group spends much time conducting and reviewing published research that provides leading indicators and conceptual frameworks of weather patterns outside of any specific model.

Particularly early in your career, be as flexible as possible to move to different areas of the country for a job if this is possible in your situation. This will maximize your opportunities and potential experiences that are available and also make finding a job a lot easier. My first job post-Master's was in the greater NYC area; next I relocated to the San Francisco Bay Area, before heading to Chicago in 2007.

It's tough to get the 'dream job' directly out of school. Commonly, you'll see a job you like and it requires a minimum of 3-5 years experience. Don't be afraid to step outside your comfort zone to try something you find interesting but takes you in a different path than you envision. Later in your career you'll find the skills you acquired will be useful and help you get that 'dream job'.

Build, maintain, and actively pursue a network of contacts in the industries that interest you. This will help lead to opportunities later on. Although some jobs are posted on job boards such as the AMS career website, most jobs seem to come via word of mouth and references; thus, having contacts in the industry is of great importance.

Pursue any and all opportunities to present in front of an audience of people, as well as one-on-one. The most successful meteorologists in private industry are not the ones who can only make a good forecast or develop the best techniques, but can clearly communicate to those users who make the final business decision. Clear, effective, and concise communication skills, be they verbal, written, or graphical, are key to delivering a succinct message that can be efficiently used.

Finally, most private sector jobs are not a typical 40 hour work week Monday through Friday. Since the weather never stops, be prepared to have a work schedule that will require some work on nights, weekends, holidays, and early mornings. Going the extra mile and taking on additional/optional responsibilities when possible will also help to differentiate your contributions and drive success within your organization.

## 2012 Undergraduate Awards

Presidential Award for Undergraduate Research:  
**Hannah Attard, Timothy Humphrey and Nicholas Schiraldi**

Outstanding Atmospheric Science Student:  
**Timothy Humphrey**

Outstanding Environmental Science Student:  
**Jeffrey Dzwonkowski**

Best Undergraduate Weather Forecaster:  
**Adrian Mitchell**

Presidential Award for Leadership:  
**Stephan Ellis - Sustainability Leadership Award**  
**Dana Kamens - Great Dane Award**

## 2012 Annual Atmospheric Sciences at Albany Seminar Series



**TAKING PREDICTION  
TO THE NEXT LEVEL:**

**EXPANDING BEYOND  
TODAY'S WEATHER, WATER  
AND CLIMATE FORECASTS  
AND PROJECTIONS**

**Dr. Louis Uccellini.** Director of the National Centers for Environmental Prediction (NCEP), the National Weather Service (NWS), and The National Oceanic and Atmospheric Administration (NOAA), was our guest speaker Sunday, November 11th.

Dr. Uccellini reviewed the advancements that have been made in weather prediction. He traced the revolutionary transformation of forecasting from a subjective "art" in the 1940's, to the applied physical science that it is today. Dr. Uccellini described how climate, weather and water predictions are being linked to decision makers, including the emergency management, water resource communities, health officials and others, and discuss how these developing requirements are helping to shape a forecast system that can be extended to such areas as water resources and health vectors.

The talk concluded with a summary of the various improvements required to meet the growing demands and increasing expectations placed on the forecast community. Improving the "Earth-System" components of the prediction systems is only one of the challenges. The increasing need for an ensemble model approach to define forecast uncertainty as we push the limits of predictability is another. Finally, as those involved in making critical life-saving decisions (based, in part, on these prediction capabilities) become more dependent on weather forecasts for decision support services, the way forecasts are disseminated and uncertainty conveyed in critical life-threatening situations will also need to be addressed.

## 2012 Graduate Awards

*Narayan R. Gokhale*  
**Distinguished Research Scholarship Award:**  
**Heather Archambault**

*Bernard Vonnegut Teaching Award:*  
**Kyle MacRitchie and Daniel Thompson**

*Winthrop D. Means Award for Excellence:*  
**Kyle Itterly**



L-R: Dan Keyser, Lance Bosart, Heather Archambault, Sunanda Gokhale, Nita Chicatelli & Chris Thorncroft  
*Narayan R. Gokhale Grandchildren:* Lou and Nina Chicatelli



L-R: Dan Keyser, Kyle MacRitchie, Alex Vonnegut, Kurt Vonnegut and Chris Thorncroft



L-R: Kyle Itterly, Winthrop D. Means and Chris Thorncroft

## Welcome New Faculty



**Dr. Aiguo Dai** joins the Department as an Associate Professor from his former position with the Climate and Global Dynamics Division of the National Center for Atmospheric Research. He received his doctorate in Atmospheric Sciences from Columbia University. In his distinguished career he has improved our understanding of the global water cycle, atmospheric convection and precipitation processes, atmospheric tides, climate model diagnostics and evaluation, long-term climate change, climate data analysis, hydrometeorology, and drought.



**Dr. Roberta Johnson** joins the Department as a clinical professor from her former positions at the University Corporation for Atmospheric Research and the National Earth Science Teachers Association (NESTA). She received her doctorate in Earth & Space Science from University of California at Los Angeles. In addition to her scientific interests in the geosciences and climate change, her activities will focus on the area of science education and outreach. She will continue her role as Executive Director of NESTA, as a component of her activities at UAlbany.



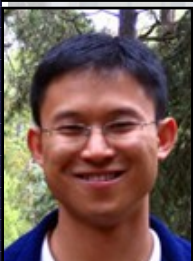
**Dr. Andrea Lang** joins the Department as an Assistant Professor after a postdoctoral position in the department. She received her doctorate in Atmospheric and Oceanic Sciences from the University of Wisconsin at Madison. Her research focuses on synoptic dynamics, dynamics of the jets, the tropopause and lower stratosphere regions, and the impact of convection on those regions. She works on changes to midlatitude jet circulations during the extra-tropical transition of tropical cyclones in the western North Pacific.



**Dr. Jiping Liu** joins the Department as an Assistant Professor in January 2013 from his former position in the School of Earth and Atmospheric Sciences at the Georgia Institute of Technology. Dr. Liu received his doctorate in Atmospheric Sciences from Columbia University. His research is focused on climate dynamics, particularly on sea ice, polar climates, and air/sea interactions. His work involves climate modeling, conducting climate model experiments, and integrating satellite data sets.



**Dr. Justin Minder** joins the Department as an Assistant Professor from his previous position at Yale University. He received his doctorate in Atmospheric Sciences from the University of Washington. Dr. Minder's research has extended the relatively new field of mesoscale climate dynamics by deploying observational networks and employing regional climate models to understand precipitation processes near mountain ranges. He studies hydrological cycles, climate dynamics, rain-triggered landslides, and snowpacks.



**Dr. Brian Tang** joins the Department as an Assistant Professor from his previous position at the Advanced Study Program of the National Center for Atmospheric Research. He received his doctorate in Atmospheric Sciences from the Massachusetts Institute of Technology. His research program addresses the climatology of tropical disturbances that might have potential to become tropical cyclones, and effects of moisture in the lower atmosphere on tropical cyclone development. His work has improved understanding of the interactions between extreme weather events and the broader climate system.



**Dr. Junhong ("June") Wang** joins the Department as Research Associate Professor from her current position at the National Center for Atmospheric Research in Boulder, Colorado. She earned her doctoral degree in atmospheric science from Columbia University. Her research interests include the global water cycle, in-situ sounding data quality and technology, Global Navigation Satellite Systems (GNSS), climate observations, climate datasets, cloud vertical structure observations and variability, and long term climate changes in water vapor.

# GRADUATES

## 2012 BACHELOR'S DEGREES

### Bachelor of Science in Atmospheric Science

Hannah E. Attard (*Magna Cum Laude & Honors Degree*)

Kaitlin G. Cooley

Rachel S. Goldstein (*Cum Laude*)

Timothy W. Humphrey (*Summa Cum Laude & Honors Degree*)

Jason H. Keefer (*Summa Cum Laude & Honors Degree*)

Luigi F. Meccariello

Adrian N. Mitchell

Nicholas J. Schiraldi (*Magna Cum Laude & Honors Degree*)

Marc B. Sedor (*Cum Laude*)

Steven Welch

### Bachelor of Science in Earth Science

Richard J. Heames

Tara Laneville

Kaylee J. Schartner

Christina M. Torres

### Bachelor of Arts in Earth and Atmospheric Sciences

Stephen W. Hassard

Jan C. Nova

### Bachelor of Science in Environmental Science

Chelsea L. Baker

Donald B. Bonville

Philip J. Canale

Daniel J. D'Arcy

Jeffrey D. Dzwonkowski (*Summa Cum Laude*)

Clare B. Gaffey (*Magna Cum Laude*)

Chenyong Han

Evan H. Hogan (*Cum Laude*)

Lauren R. Holland (*Summa Cum Laude*)

Kyle F. Hussey

Diane M. Macdowell (*Cum Laude*)

Robert J. Moretto (*Cum Laude*)

James P. Mulligan

Joseph E. Pennisi (*Magna Cum Laude*)

Brian A. Philipps

Trevor J. Powhida

Andrew C. Preston

John Puglia

Meghan A. Sickles (*Cum Laude*)

Zachary M. Smith (*Magna Cum Laude*)

Primo R. Stropoli

Andrew J. Stummer

Laura D. Varble (*Magna Cum Laude*)

Danielle E. Wilkens



DAES Class of 2012

## MASTER'S DEGREES

### Summer 2012

**Christopher Castellano** "Synoptic and mesoscale aspects of ice storms in the northeastern U.S."

**Jeffrey Cerrato** "Analysis of intraseasonal convective variability modes over West Africa during the monsoon season"

**Brian Crandall** "An analysis of the formation and evolution of the 1989 western North Pacific subtropical gyre"

**Kyle Griffin** "Large-scale influences on the genesis of Tropical Cyclone Karl (2010)"

**Gavin Lemley** "Assessing  $\delta^{18}O$  in the coral genus *Isopora* for reconstructing Indo-Pacific regional and seasonal climate variability"

**Matthew Potter** "Multiscale analyses of inland tropical cyclone-midlatitude jet interactions: Camille (1969) and Danny (1997)"

**Daniel Thompson** "Appalachian lee troughs and their association with severe convective storms"

### Fall 2012

**Kyle Itterly** "Evaluation of SUNY satellite-to-irradiance model performance using ECMWF GEMS daily aerosol optical depth reanalysis data"

**David-Anthony Murray** "An application of CAMx process analysis tools: Exploring process contributions to extreme O<sub>3</sub>, NO<sub>x</sub> and SO<sub>2</sub> conditions over New York City"

## DOCTORAL DEGREES

### Spring 2012

**Emilie Dassie** "Assessing the reproducibility of coral oxygen and carbon isotope time series from Fiji and Tonga and their application to the reconstruction of South Pacific Convergence Zone movements since the mid-1800s"

**Siwei Li** "Remote sensing of cloud properties using oxygen A-band spectral measurements"

### Summer 2012

**Chowdhury Moniruzzaman** "Detailed modeling of soot size distribution evolution and pollutant formation inside aircraft and diesel engines"

**Michael Tanu** "Rainfall and streamflow variability in Ghana"

### Fall 2012

**Michael Ventrice** "Convectively-coupled Kelvin waves over the tropical Atlantic and African regions and their influence on Atlantic tropical cyclogenesis"

## NEW POSTDOCTORAL FELLOW



Dr. Benjamin Schenkel joins us from Florida State University (FSU) where he recently completed his PhD under the guidance of Dr. Robert Hart. Ben's dissertation was entitled "An Analysis of the Impacts of Western North Pacific Tropical Cyclones on Their Local and Large Scale Environment." Ben graduated with honors from Northwestern University in 2006 with a B.A. in Environmental Science. Following undergrad, Ben enrolled at FSU where he received his M.S. in 2009 under the supervision of Dr. T.N. Krishnamurti. Currently, Ben's research involves tropical cyclones, convectively-coupled equatorial waves, and the interaction between the two. Ben will be working with Dr. Lance Bosart and Dr. Dan Keyser as a postdoctoral research associate beginning January 2013 where his research will take on a more extratropical flavor.



### 2012-13 Incoming Graduate Students

*Back (L-R):* Travis Elless, Kyle Meier, Ron Harris, Adrian Mitchell, Paul Slaski, Nick Schiraldi, Bill Lamberson, Steven Fuhrman, Juan Sulca, Corey Guastini, and Oscar Chimborazo.

*Front (L-R):* Adam Turchioe, Patrick Duran, Brian Butterworth, Chip Helms, Hannah Attard, Stephanie Stevenson, Rosimar Rios-Berrios, Cristina Carrasco, Lauren Slawsky and Jennifer Gahtan.

*(Absent from photo: Hesham Hassan)*

### DAES Hosts Third Annual Alumni Reception

Join us for our annual DAES alumni reception at the American Meteorological Society (AMS) annual meeting Tuesday, January 8th 6:30-9pm, Room 415 at the downtown Austin Texas Hilton.

Many department faculty, staff and graduate students will be in attendance.

Alumni and friends of the department are welcome to attend!

## Alumni News

**Jonas Asuma** (MS '10) is working as a Technical Engineering Analyst at GL Garrad Hassan in Melbourne, Australia.

**Chris Castellano** (MS '12) accepted a position as a Research Support Specialist at the Northeast Regional Climate Center in Ithaca, NY.

**Jason Cordeira** (PhD '11) has joined EarthRisk Technologies, a probabilistic medium-range forecasting company based in San Diego, CA.

**Emilie Dassié** (PhD '12) is a Postdoctoral Research Scientist at Columbia University's Lamont-Doherty Earth Observatory in Palisades, NY.

**Eric Fisher** (BS '06) is an on-camera meteorologist at The Weather Channel, and has done a great deal of field reporting during major weather events, including Hurricane Irene in 2011.

**Jason Krekeler** (BS '10) is a surface analyst at the Hydrometeorological Prediction Center (HPC).

**Matt Potter** (MS '12), **Daniel Thompson** (MS '12), **Brian Silviotti** (MS '10), **Nick Troiano** (BS '08) and **Ken Elliott** (BS '05) are operational meteorologists at WeatherWorks in Hackettstown, NJ.

**Alan Srock** (PhD '11) is a Postdoctoral Research Scientist at Michigan State University, studying mesoscale aspects of fire weather prediction.

**SUPPORT the Department of Atmospheric and Environmental Sciences by making a gift to the UAlbany Fund**

Name(s): \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Phone(s) \_\_\_\_\_ Email \_\_\_\_\_

**Method of Payment:**

Enclosed is a **check** in the amount of \$ \_\_\_\_\_ (Please make all checks payable to: *The University at Albany Foundation, and indicate on the check that the gift is to be directed to the Department of Atmospheric and Environmental Sciences. Thank you!*)

**Charge** my gift to:  VISA  MC  DISCOVER  AMEX Card # \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Exp. \_\_\_\_ / \_\_\_\_

**Signature** (if using credit card) \_\_\_\_\_

Mail this form along with your gift to: ***The University at Albany Foundation***, UAB 226, 1400 Washington Ave., Albany, NY 12222

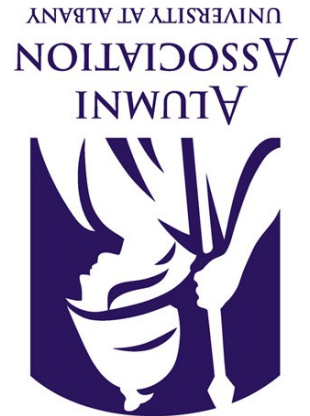
**For more information about ways to become involved with the department, please contact:**

Michael A. Boots, Development Officer, at 518-225-1229 or mboots@albany.edu

*The University at Albany Foundation is a 501(c)(3) not-for-profit corporation, established in 1967 for the purpose of encouraging philanthropic contributions in support of the activities and programs of the University at Albany. A copy of the Foundation's annual report is available by contacting The University at Albany Foundation, UAB 226, 1400 Washington Ave., Albany, NY 12222 or from the NYS Attorney General's Charities Bureau, 120 Broadway, New York, NY 10271 or at [www.albany.edu/uafoundation](http://www.albany.edu/uafoundation).*

**Gifts are tax deductible to the extent permitted by law.**

*Thank you!*



TEL: 518-442-4556  
Email: daeschah@albany.edu  
Website: <http://www.atmos.albany.edu>  
Chair: Chris Thomcroft  
Editor, Design & Photography: Maria Moon  
Editorial Assistants: Kevin Tyle & Ross Lazear

Department of Atmospheric and Environmental Sciences  
Earth Science 351  
1400 Washington Avenue, Albany, New York 12222-0001



Non-Profit  
Organization  
U.S. Postage  
PAID  
Albany, New York  
Permit No. 205