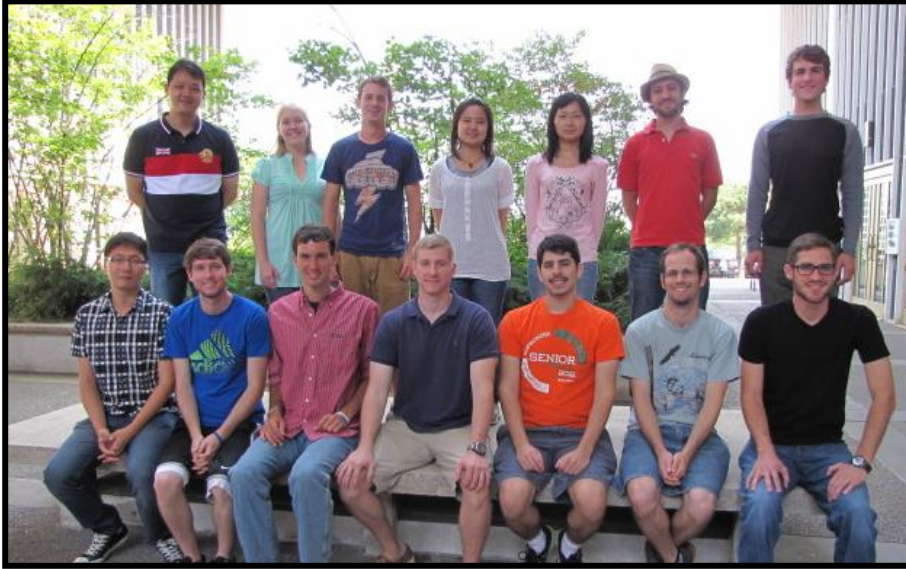


August 22, 2013



Department of Atmospheric and  
Environmental Sciences  
2013-14 Incoming Graduate Students

Back (L-R): Chao-Yuan Yang, Hannah Huelsing,  
Casey Peirano, Chu-Chun Huang, Yang-Yang Song,  
Adrian Santiago and Ben Moore

Front (L-R): Geng Xia, Joshua Alland, Matt  
Vaughan, Eric Adamchick, Jeremy Berman, Ted  
Letcher and Michael Fischer

*Missing from photo: Chris Selca & Paul Slaski*

July 29, 2013

National Geographic Daily News

# Why Predicting Sea Ice Cover Is So Difficult

**It's hard to pinpoint when the Arctic will be sea ice free in the summer.**



Meltwater streams from ice near Svalbard, Norway.  
- Photograph by Ralph Lee Hopkins, *National Geographic*

Jane J. Lee

[National Geographic](#)

Published July 16, 2013

**Predicting Mother Nature is never an exact science. Weather forecasters can get it**

**wrong, leaving people dressed for a rainy day high and dry. And the further out researchers try to predict things like air temperature or [sea ice cover](#), the more uncertainty there is.**

But knowing how Earth's climate will react to natural and human-induced changes is important for governments and industry.

(Related: "[As Arctic Ice Melts, Rush Is on for Shipping Lanes, More.](#)")

Perhaps nowhere are the stakes as high as in the Arctic. The mineral, gas, and biological bounties are powerful economic attractions, drawing countries into a modern-age gold rush fueled by disappearing sea ice. (Related: "[Russia Plants Underwater Flag, Claims Arctic Seafloor.](#)")

Predicting when the Arctic will be [sea ice free](#) in the summer months has occupied researchers for years. Estimates under high greenhouse gas emissions range from the year 2011 to 2098.

The complexity of Earth's atmosphere and oceans, and our limited understanding of those processes, are the main drivers of that uncertainty, said [Jiping Liu](#), **a sea ice researcher at the University of Albany in New York.**

Liu [recently published a study](#) that narrowed down the range, predicting an ice-free Arctic summer by 2054 to 2058, based on current climate models.

"We know the climate models are not perfect," he said. "[But] we have to rely on them to make predictions."

## **Unknowns**

There are several unknowns in sea ice modeling, Liu explained. First, researchers don't know how the ice reacts to inputs of warm water from the Pacific and Atlantic Oceans. There is an increased flow of warmer water into the Arctic, but we don't know how much of it is transferred to sea ice, he said.

"The bottom of sea ice is very sensitive to temperature changes," even to changes as little as 0.1 to 0.2 degrees, Liu noted.

Current models may therefore be underestimating the decline of Arctic sea ice during the summers, Liu said. "[And in] this sense, maybe the Arctic will be ice-free earlier."

We also don't know how sunlight penetrates sea ice to reach the water below, he explained. Thicker ice prevents sunlight from reaching seawater, stopping it from warming. But thinner ice lets the light through. Current climate models do not describe this process accurately, said Liu.

Finally, it's hard to determine how much of the change in sea ice cover is due to natural variability and how much is due to external forcing such as global warming.

"From my stance, 50 to 70 percent of sea ice decline is probably due to the increase of greenhouse gases [in the atmosphere]," said Liu. But that's a large range of uncertainty that needs to be narrowed down further, he added.

## **Still Robust**

[Julienne Stroeve](#), a sea ice scientist at the National Snow and Ice Data Center, agrees that not all the models are perfect. But they still give us a good idea of how areas will change under various emissions scenarios, she said.

"They all say the Arctic will warm more than any other place," Stroeve added. But their estimates of ice loss are lower than what scientists have observed.

The models that Liu used in his study were global climate models, which operate at very coarse scales, she said. Finer details like the ocean circulation in the Beaufort Sea—which controls the motion of sea ice in the Beaufort region—aren't incorporated.

Neither are smaller scale processes such as the prevalence of openings in the sea ice, or the presence of melt ponds, Stroeve added. Both can accelerate the melting of sea ice. (Related:

["Study Links Arctic Sea Ice Loss With Changes in Atmospheric Circulation."\)](#)

Weather also plays an important role in the presence of Arctic sea ice, "[and] we can't predict the weather," she said.

It could be quite possible to get an ice-free summer in the Arctic, Stroeve said. But if we swing into a period of colder weather, "these models do show that the ice can recover."

"I think these models are useful at looking at what's happening in the future," she said. "But they're not really useful for [figuring out] an exact date" for an ice-free summer in the Arctic.

More info:

<http://news.nationalgeographic.com/news/2013/07/130716-arctic-sea-ice-free-ocean-climate-change-science/>

July 2, 2013

## Is global warming behind flooding?



Updated: Tuesday, July 2 2013, 07:21 AM EDT

So what's the deal with all this wet weather? The Governor says he knows, and he's blaming global climate change!

Often it's an answer given to the claim that we're experiencing more floods than we used to. We asked if that theory holds any water.

"Asking the question 'if climate change has anything to do with this' is a good question to ask but right now the jury's still out," said **Andrea Lang**, **UAlbany Assistant Professor of Atmospheric and**

## **Environmental Science.**

Still, if you think the phrase for the 'hundred year flood' is out of style, you may be on to something. "There's definitely been shifts in regions, that may last on the order of decades," Lang said.

Lang watches the map for trends and pushes through the clouds for answers, but there are years of cloudy days to examine.

"This was only the third wettest June that we've ever had and records have been kept for the last 190 years in Albany," Lang said.

No single event can point to global warming, Lang believes. But with every inch of precipitation in the historical rain gauge, a better explanation.

"We're just now getting to the point where we have enough data to actually say something significant about the events that we're seeing," Lang said.

Families in the Mohawk Valley are still fearful that mother nature's anger will be unfairly lost on them again, and the maps are drawn towards a rainy trend over the short-term.

"It's the type of pattern you would associate with flooding in our region," Lang said. "There's a lot of natural variability that is present in our atmosphere."

But the most accurate forecast goes for seven days. "We might see an increase in flooding associated with climate change but actually saying this specific flooding event is the result of climate change is something that we can't do," Lang said.

Info:

<http://www.cbs6albany.com/news/features/top-story/stories/is-global-warming-behind-flooding-9368.shtml>

May 18, 2013

**Class of 2013**



**Bachelor of Science in Environmental  
Science**

**Michael R. Antidormi**

**Brian Bond**

**John J. Brock**

**Sam J. Corey**

**Arnold Cruz**

**Daniel D'Arcy**

**Cathy L. Del Gaudio**

**Adam J. Donaghy**

**Stephen R. Ellis**

**Stephen N. Fuller**

**Jalisa E. Gilmore** (*Magna Cum Laude*)

**Jenna M. Larkin** (*Magna Cum Laude*)

**Nicole Litras**

**Isaiah I. Machiz**

**Danielle Mallon** (*Cum Laude*)

**Danielle N. Marconi** (*Cum Laude*)

**Melissa I. McCulley** (*Magna Cum Laude*)

**Elizabeth A. Moran**

**Osaretin P. Omorodion**

**Nicholas J. Osenni** (*Magna Cum Laude*)

**Nicolas J. Santos**

**Michelle Tran** (*Magna Cum Laude*)

**Samantha M. Young** (*Cum Laude*)

**Bachelor of Science in Atmospheric  
Science**

**Eric M. Adamchick** (*Magna Cum Laude*)

**Samantha Basile** (*Cum Laude*)

**Brittany Bennett**

**Greg A. Diamond**

**Rebecca M. Eidelman**

**Jared S. Scharmett**

**STUDENT AWARDS**

**Atmospheric Science Program**

Outstanding Student: **Eric M.  
Adamchick**

**Atmospheric Science Program**

Best Forecaster: **Eric M. Adamchick**

**Environmental Science Program**

Outstanding Student: **Nicholas J.  
Osenni**

April 29, 2013

**Associate Professor Liming Zhou Presents  
Research About Potential Wind Farm  
Impacts on Climate Using Satellite Data at**



## **the European Geosciences Union General Assembly**

Associate Professor **Liming Zhou** was invited to present his recent research titled “Assessing Possible Climatic Impacts of Large Wind Farms Using Satellite Data” at the European Geosciences Union General Assembly 2013, Vienna, Austria, April 7-12, 2013. After his presentation, Prof. Zhou was interviewed by Holger Kroker, science-writers for the German public radio station Deutschlandfunk and the national newspaper Die Welt, and Liz Kalaugher, Editor of Environmentalresearchweb, a site backed by the UK's Institute of Physics that covers topics such as climate change, renewable energy, pollution and sustainability for an audience of researchers.

Prof. Zhou's presentation was chosen as “Papers of Special Interest in ERE4.1: Ecosystem Resilience and Adaptation to Energy Technologies”

[http://meetingorganizer.copernicus.org/EGU2013/special\\_interests/ERE4/12915](http://meetingorganizer.copernicus.org/EGU2013/special_interests/ERE4/12915)

Abstract of Prof. Zhou's EGU presentation:

<http://meetingorganizer.copernicus.org/EGU2013/EGU2013-2615.pdf>

More information about Prof. Zhou's wind farms research:

[http://www.atmos.albany.edu/facstaff/zhou/pres\\_release\\_wind\\_farm.htm](http://www.atmos.albany.edu/facstaff/zhou/pres_release_wind_farm.htm)

April 26, 2013

**Team DAES finishes 2nd overall out of 52 eligible teams in the 2013 National Collegiate Weather Forecasting Competition (WxChallenge)**

-Individually DAES had a number of top ten finishes. Assistant Professor **Brian Tang**

finished 1<sup>st</sup>, and Instructional Support Specialist **Ross Lazear** finished 7th in the faculty division. **Leon Nguyen** finished 4th and **Corey Guastini** finished 9th in the graduate student division. **Ernesto Findlay** finished 9th in the undergraduate student division.

-DAES had 11 individuals qualify for the year-end tournament. Three forecasters have advanced to the sweet-16 round (Leon Nguyen, Ernesto Findlay, and Ross Lazear).

-DAES also took home 9 individual city forecast awards (**Brian Tang** - 4, **Leon Nguyen** - 2, **Katie Towey** - 1, **Patrick Duran** - 1, **Zach Szumloz** - 1).

Wednesday, February 6, 2013

**Jiping Liu elected a member of the Scientific Steering Committee of the Southern Ocean Observing System (SOOS)**

Assistant Professor Jiping Liu has been elected a member of the Scientific Steering Committee of the Southern Ocean Observing System (SOOS), sponsored by the Scientific Committee on Antarctic Research (SCAR) and the Scientific Committee on Oceanic Research (SCOR). The appointment is from 2012 to 2014. The SOOS is an international initiative with the mission to coordinate and expand the efforts of all nations and programmes that gather data from the Southern Ocean, with the specific aim of developing a coherent and efficient observing system that will deliver the observations required to address key scientific and societal challenges (<http://www.soos.aq>).

Wednesday, January 9, 2013

**“Thaw Followed By Cold”**

Updated: Wednesday, January 9 2013, 06:12  
PM EST

ALBANY -- "Traditionally this time of year it is generally when you have your coldest temperatures. After the Winter Solstice and you have had time to cool the air through January," said **U-Albany Assistant Professor, Andrea Lang**.

Last year we didn't really have a chance to have a thaw, but our first thaw of 2013 will be here by the weekend.

"The atmospheric flow is sort of a wavy pattern and you can have the atmospheric flow ridge up so the jet stream moves northward into Canada. You get this big bubble of warm air moving along the east coast and that bubble of warm air can bring our air into the 50's, 60's and 70's," said Lang.

If the Capital Region were to see this weather pattern during the summer we would see temperatures in to the 80's or 90's. This time of year that's not going to happen, one of the key reasons why - is that this time of year we have a lot of snow that is left on the ground.

"If you have snow on the ground the sun's energy will go into melting the snow rather than warming the air itself," said Lang.

The limited amount of daylight is also a key factor in why our temperatures won't get much above 70 during the winter. After this weekend it will feel much more like winter.

"The jet stream is going to move even further to the south over the Rockies and further north over the east coast and as that happens you are going to get really, really strong cold air from northern Canada dipping down over the Rockies. It is slowly going to progress from the west to the east," said Lang.

So what is going to help turn us cold?

"Sudden stratospheric warming, it has been in the works since December," said Lang.

That warming means it could get really cold.

"The Troposphere can actually communicate with what is going on in the Stratosphere and this generally only happens during the winter time," said Lang.

This is important because the Troposphere is where our weather happens.

"The blob of warmer temperature that appears over Asia is working its way northward toward the north pole and that is our sudden stratospheric warming," said Lang.

When this occurs the normally west to east flow is disrupted and there becomes a more north to south flow, allowing this cold air to move into the lower 48. Last year there was sudden stratospheric warming and there was record cold and snow, but it wasn't in this part of the Northern Hemisphere it was in Europe. This year this arctic high might set up in the right spot to turn us very cold by the end of the month.

"This year we have had one of the largest extents of snow cover over North America than we have had over recent year. So the fact you have snow cover and long night, you will be able to produce a lot of cold air," said Lang.

Currently the frigid air is over Siberia where temperatures dropped to 50 degrees below zero. It won't get that cold since the airmass will moderate, but it could last awhile.

"That warm air that builds itself over the Atlantic, it will trap the cold air over the eastern half of the United States," said Lang

CBS 6 Video: <http://cbs6albany.com/news/top-stories/stories/thaw-followed-cold-5399.shtml>

Friday, November 16, 2012

**Climate Change Expert Mathias Vuille to Visit Ecuador**  
**On Behalf of ECPA Senior Fellows**



**Mathias Vuille**, a Senior Fellow in the Energy and Climate Partnership of the Americas (ECPA), will be traveling November 11 through November 17, 2012 to participate in meetings and events in Ecuador relating to climate

change. **ECPA Senior Fellow Mathias Vuille is an Associate Professor in the Department of Atmospheric and Environmental Sciences at the University at Albany, State University of New York (SUNY).** The Senior ECPA Fellows program is 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 Hemispheric 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.

One of Dr. Vuille's areas of expertise is the impact of climate change on glaciation and water resources in the tropical Andes. During his exchange to Ecuador, Dr. Vuille will visit the University of San Francisco in Quito to meet with the University rector, Dean of International Affairs, professors, and students. At USFQ, Dr. Vuille will present on Climate Variability and the Impacts of Global Warming on Ecuador. As part of his trip, he will also meet with staff from the Fund for the Protection of Water (FONAG) and

CARE in Ecuador. Additionally, Dr. Vuille will visit the Gordillo Research Center as well as a glacial degradation zone and Antisana de-icing zone at the Escuela Politécnica Nacional. Following his time in Quito, Dr. Vuille will travel to Guayaquil where he will meet with PAO Mark Kendrick, CG David Lindwall as well as conduct presentations at Casa Grande University, Ecotec University, and Interagua. Lastly, Dr. Vuille will meet with staff from Guayaquil's Environment Municipality.

# #

**Partners of the Americas** is an international network that promotes social and economic development in the Americas through leadership, voluntary service, and development programs. Its mission is to connect individuals, volunteers, institutions, businesses, and communities to serve and to change lives through lasting partnerships. Partners envisions an interconnected hemisphere that maximizes the social and economic potential, and leverages the full diversity, of the Americas.

**Sunday, November 11<sup>th</sup> at 7:00pm**  
**Life Science Research Building,**  
**D'Ambra Auditorium**

**DR. LOUIS W. UCCELLINI**, Director, National Centers for Environmental Prediction (NCEP), National Weather Service (NWS) and The National Oceanic and Atmospheric Administration (NOAA), will give a special public seminar “**Taking Prediction to the Next Level: Expanding Beyond Today’s Weather, Water and Climate Forecasts and Projections**”



***“NCEP - From the Sun to the Sea:  
Where America’s Climate, Weather,  
Ocean & Space Weather Services  
Begin”***

Over the past 60+ years, the research and operational weather enterprise has made revolutionary advances in the prediction of weather. Remarkably, even greater progress has been made in the prediction of extreme weather events including hurricanes, tornado outbreaks, snowstorms, heat waves and heavy rainfall out to 7 days in advance (in some cases). In this presentation, Dr. Louis W. Uccellini, Director of the National Weather Service’s National Centers for Environmental Prediction, will review the advancements that have been made in weather prediction. He will then trace the revolutionary transformation of forecasting from a subjective “art” in the 1940’s to the applied

physical science that it is today. Today's forecast process is based on 1) an integrated global observing system, 2) numerical weather, climate and hydrologic prediction models and 3) the world's fastest computers. He will also describe 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 will conclude 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 in critical life-threatening situations and uncertainty conveyed will also need to be addressed. As will be discussed, the links between science and social sciences and related challenges associated with advancing the use of improved weather forecasts will provide a fundamental basis for taking predictions to the next level.

Monday, October 29, 2012

**NEWSCENTER**  
THE WORLD WITHIN REACH

**NEWS RELEASE**

Contact: [Media Relations Office](#) (518) 956-8150



# Climate Change Research, Student Sustainability Experiences

## Showcased at UAlbany



Students and scientists from the ACCION project, including **UAlbany Associate Professor Mathias Vuille** (front right, wearing blue cap) conducted research this summer in South America on glacier melt.

ALBANY, N.Y. (October 29, 2012) – From tropical glacier melt in the Andes to flood-ravaged New Orleans, changing climate patterns have had a dramatic impact on communities all over the world. Recently, scientists and students at the University at Albany presented "a virtual field trip" to highlight their research and studies on climate change and sustainability.

"Our goal is to heighten campus awareness about the issue of climate change and its impact in other parts of the world through the eyes of our own faculty and students," said Mary Ellen Mallia,

director of the Office of Environmental Sustainability at UAlbany.

UAlbany students engaged in service learning experiences all over the world have had a first-person perspective on the effects of climate change. Mallia hopes their experiences inspire other students into action, whether it be a high engagement activity, like joining a service learning trip, or making changes in their daily routines that are more environmentally friendly, and to have a thought provoking dialogue on the importance of undertaking meaningful experiences while travelling.

Highlighting the virtual fieldtrip were slides documenting glacier retreat in the Andes. **UAlbany Associate Professor of Atmospheric and Environmental Sciences Mathias Vuille** shared the slides and described his current project, partnering with the Andean Climate Change Interamerican Observatory Network (ACCION) to conduct capacity building for climate change adaption in South America.

This past summer, Vuille worked in the field discussing various measurement techniques with students and glaciologists from all Andean countries: Venezuela, Colombia, Ecuador, Peru, Bolivia, Chile and Argentina. The goal is to study aspects of current and future climate change and glacier retreat in the Andes, which has a direct impact on the water resources of communities throughout the region.

Vuille was accompanied by UAlbany Ph.D. student **Oscar Chimborazo** at Tuesday's presentation. Chimborazo, who is originally from Ecuador, came to the U.S. to work with Vuille on the project. Ph.D. student **Juan Sulca** from Peru, is also working with Vuille on the ACCION Project. With Vuille's guidance, the students will work on issues related to climate change impacts in their home countries, related to glaciers or water resources.

UAlbany students have also engaged in study abroad opportunities where they have gained greater insight into the global impact of climate change, including:

- Clare Gaffey, a junior at UAlbany from Albany, N.Y., spent spring 2012 semester at the Danish Institute for Study Abroad (DIS) in Copenhagen, Demark. Gaffey also spent time in Greenland, home to 10 percent of the world's total reserves of fresh water through its 1,500-mile long ice sheet. Scientists remained concerned about impact of rising global temperatures on the massive ice sheet, second only to the Antarctic Ice Sheet.
- Elizabeth Maxwell, a junior from Buffalo, N.Y., studied at the Paris-Sorbonne University in France during the spring 2012 semester. Maxwell spent her time learning about environmental sustainability resources abroad.
- Christine Preble, a Ph.D. candidate in cultural anthropology from Clifton Park, N.Y., is conducting dissertation research about the social and economic sustainability of cruise ship mass tourism in Cozumel, Mexico.
- Stephen Oby, Jr., from Niskayuna N.Y., who received his MSW from UAlbany's School of Social Welfare in May 2012, recently completed a service learning experience in New Orleans, which is still dealing with the fallout from Hurricane Katrina in 2005.

Friday, October 19, 2012

## **VIRTUAL FIELD TRIP on CLIMATE CHANGE**

**Tuesday, October 23, 2012 - 8pm — 9:30pm, LC6**



Come hear about **innovative research** in **climate change** and student experiences with **sustainability** and **service learning** around the world!

Information on the latest research on climate change will be presented by **Department of Atmospheric and Environmental Sciences Associate Professor Mathias Vuille**. Additionally, information about students engaged in sustainability and service learning will be shown.

[www.albany.edu/studyabroad](http://www.albany.edu/studyabroad)  
[studyabroad@albany.edu](mailto:studyabroad@albany.edu)  
International Education  
Science Library G40  
Phone: (518) 591-8170

Co-sponsored by the Office of Environmental Sustainability

Monday, October 15, 2012

**Dr. Roberta Johnson** has been appointed to the American Meteorological Society Board on Outreach and Pre-College Education. Dr. Johnson's appointment begins on 10 January 2013 and extends for 3 years.

Thursday, October 11, 2012

**DAES Graduate Students  
Archambault, MacRitchie, Thompson  
and Itterly Receive Awards**

**Heather Archambault**

**Recipient of the Narayan R. Gokhale  
Distinguished Research Scholarship Award**

*In recognition of demonstrated excellence,  
achievement, and originality in atmospheric  
science research by a graduate student.  
Students who receive this award have been  
recommended by the faculty in the department  
for their demonstrated excellence,  
achievement, and originality in research  
consistent with the legacy of Professor  
Narayan R. Gokhale.*



BR L-R: Dan Keyser, Lance Bosart, Heather Archambault,  
Sunanda Gokhale, Nita Chicatelli & Chris Thorncroft  
FR L-R: Lou Chicatelli and Nina Chicatelli

Heather Archambault is the recipient of the 2012 Narayan R. Gokhale Distinguished Research Scholarship Award in the Department of Atmospheric and Environmental Sciences based on her distinguished doctoral dissertation entitled "The Downstream Flow Response

to Recurring Tropical cyclones in the Western North Pacific." Heather graduated from UAlbany in December 2011. Her graduate record is distinguished by a broad background and extensive experience in synoptic-dynamic meteorology, with emphasis on the dynamics and predictability of atmospheric phenomena and processes that lead to extreme weather events. Heather is a talented communicator of her research, equally skilled as a technical writer and graphic artist. To place this comment into perspective, her co-advisers (Lance and Dan) can only recall several other graduate-student advisees during their faculty careers at UAlbany, which collectively span almost 70 years, whose scientific communication skills were as advanced as those of Heather. She presently holds a National Research Council postdoctoral fellowship at the Naval Postgraduate School in Monterey, CA. Her postdoctoral research on tropical cyclone-induced downstream Rossby wave trains over the North Pacific is important from two perspectives: First, these wave trains can incite extreme weather events over North America that also can coincide with episodes of reduced forecast skill in operational global weather prediction models. Second, these extreme weather events can contribute significantly to intraseasonal variations in temperature and rainfall, which are a topic of interest to climate scientists.

*Previous Recipients: Thomas Galarneau ('11), Gareth Berry ('09), Kristen Corbosiero ('05), Anantha Aiyyer ('04), Rolf Staebler ('03), Gary Wojcik ('02), Christian Hofgreffe ('01), Jeffrey M. Freedman ('00), Philip Cunningham ('99), Matthew E. Pyle ('98), Richard K. Sakai and Stephen J. Cox ('97)*

**Kyle MacRitchie**

**Recipient of the Bernard Vonnegut Teaching Award**

*In recognition of extraordinary dedication to teaching by an atmospheric science graduate student, consistent with the gentle but probing instructional legacy of Distinguished Professor Bernard Vonnegut.*



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

Kyle MacRitchie is also a recipient of the 2012 Bernard Vonnegut Teaching Award in recognition of his outstanding contributions as a teaching assistant to instructional programs in the Department of Atmospheric and Environmental Sciences during the 2009-10, 2010-11, and 2011-12 academic years. Kyle's contributions as a TA include the general education program, where he was a TA for Geo 110 (The Search for Life Beyond Earth); the atmospheric science B.S. program, where he was

a TA for Atm 305 (Global Physical Climatology) and 320 (Atmospheric Thermodynamics); and the atmospheric science graduate program, where he was a TA for Atm 510 (Synoptic-Dynamic Meteorology I). Kyle also was the instructor of record for Atm 100 (The Atmosphere) during the 2011 and 2012 summer sessions. Kyle's nominator for the Vonnegut Award, Dan Keyser, and Dan's students in Atm 320 and Atm 510 benefited immensely from Kyle's gentle, patient, and effective style in helping students

understand the course material, complete problem sets, and prepare for exams. Kyle's contributions to Atm 320 and Atm 510 were consistently recognized and appreciated by students through often-repeated comments to Dan that Kyle helped them develop the confidence and strategies not only to do dynamics but to do well in it. Finally, Kyle has expressed interest in university teaching as a postgraduate career objective, making this award all the more fitting and appropriate.

*Previous recipients: Jason Cordeira ('11), Jonas Asuma & Nicholas Metz ('10), Patrick H. Wilson ('09), Thomas Galarneau ('08), Keith Wagner ('06), Alan Srock ('05), Alicia Wasula ('04), David Thomas ('03), Matthew Novak ('02), Joshua Darr ('01), Eyad Atallah ('00), Olga Sharoichenko ('99) and Teresa Bals-Elscholz ('98).*

### **Daniel Thompson**

#### **Recipient of the Bernard Vonnegut Teaching Award**

*In recognition of extraordinary dedication to teaching by an atmospheric science graduate student, consistent with the gentle but probing instructional legacy of Distinguished Professor Bernard Vonnegut.*

Dan Thompson served as the teaching assistant for Ross Lazear's courses in 'Weather Analysis and Forecasting' and 'Severe and Hazardous Weather'. From the start, Dan was extremely enthusiastic and able in his TA duties. He was successfully able to give in-depth weather discussions in front of class, while always making sure to tie in the latest lecture material into his discussions. Many students in ATM 311 are nervous to lead their first weather and forecasting discussions, and Dan served as an excellent mentor and tutor to these students, always making them feel comfortable beforehand, and helping them come to their own analysis of the data in front of them. Without prompting, Dan came up with a



detailed grading rubric for these discussions, which Ross plans on using for future classes. Without question, Dan was an excellent teaching assistant. As the instructor of the courses he assisted, Ross was always fully confident that he would perform his duties up to the highest level, while contributing to a relaxed, enjoyable learning environment in class.

*Previous recipients: Jason Cordeira ('11), Jonas Asuma & Nicholas Metz ('10), Patrick H. Wilson ('09), Thomas Galarneau ('08), Keith Wagner ('06), Alan Srock ('05), Alicia Wasula ('04), David Thomas ('03), Matthew Novak ('02), Joshua Darr ('01), Eyad Atallah ('00), Olga Sharoichenko ('99) and Teresa Bals-Elscholz ('98).*

### **Kyle Itterly**

#### **Recipient of the Winthrop D. Means Award for Excellence**

*In recognition of consistently demonstrating effectiveness and dedication in teaching, and in promoting the essential qualities of critical thinking among students representative of the distinguished academic career of Professor Winthrop D. Means.*



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

Kyle Itterly is receiving this award for his initiative, reliability, and readiness to help

instructor and students alike, in his duties as a teaching assistant for ENV105 Intro to Environmental Science and ENV250 Sustainable Development. He additionally gave two lectures, standing in for Prof. Delano, that were extremely well-received by the students. Kyle's Master's thesis research involves validating Aerosol Optical Depth (AOD) measurements for the ASRC solar radiation model produced and maintained by Dr. Perez and his research team. An extremely challenging but important area of research for many reasons including the solar energy industry. It is worth mentioning that Kyle spent 10 weeks at NASA's Langley Research Center in Hampton, Va. This past summer, as an intern in the Langley Aerospace Research Student Scholars program. Kyle was working in the Science Directorate in the Climate Science Branch gaining hands-on experience while working side by side with NASA scientists, engineers and technicians who serve as mentors. Kyle plans to graduate in December this year and hopes to go on to do a PhD after.

*Previous recipients: Jennifer Gillen ('09), Samantha Langton ('06), Matthew Montario ('05), Lucas Benedict ('04'), Adam Schoonmaker ('03), James MacDonald ('02), Barbara Fletcher ('01) and Heather Short ('00).*

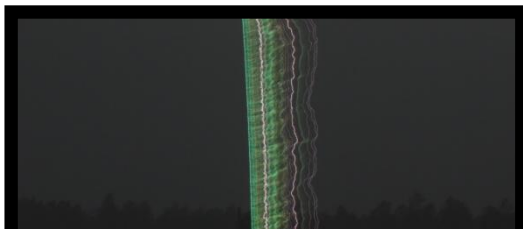
Monday, September 24, 2012

**Nick Schiraldi and Eric Adamchick  
Participated in a Lightning Research  
Project at the International Center for  
Lightning Research and Testing (ICLRT)**

DAES Graduate Student **Nick Schiraldi** ('12)  
and DAES Undergraduate Student **Eric**

**Adamchick**, participated in a major lightning research project at the International Center for Lightning Research and Testing (ICLRT) in Camp Blanding, Florida for the past two summers. The ICLRT facility is run by Dr. Martin Uman and associates of the University of Florida, and is the world's most advanced such facility for research on the essential physics of lightning.

The funding for this work derives from a major DARPA award to the UF group, with a subcontract to DAES Associate Professor, **Dr. Vincent Idone** to perform advanced high-speed or "streak" photography of "artificially initiated" or triggered lightning events generated during thunderstorms at the site. (Small rockets trailing a thin, grounded wire are launched during the electrified conditions during a thunderstorm; once initiated, the lightning attaches to a predetermined terminus at ground, allowing optimal study of the many fast and complex processes involved.) To do this type of photography, a rather exotic camera system is used. Upon launch of the trigger rocket, the camera is started manually; it then rapidly pulls 400 feet of film through in only about 3.5 seconds, yielding a time resolution of better than a millionth of a second in the recording. However, changing the film and reloading is no trivial task for such a camera. Nick and Eric did this flawlessly, and were on site at ICLRT for two months each, operating the camera during the recent summers of 2011 and 2012, respectively. Thanks to their outstanding efforts, there is a solid dataset for subsequent analysis. In addition, Nick and Eric used their atmospheric science backgrounds to provide invaluable convective forecasting for the site. This was much appreciated, as almost all the other participants were not meteorologists, but electrical engineers! As noted by Dr. Uman, Nick and Eric made a serious impression in this regard as well.



"Triggered" Flash



Eric Adamchick



Nick Schiraldi

Monday, September 10, 2012

**Dr. Elinor Martin**, a postdoctoral fellow working with **Professor Chris Thorncroft** in DAES, will be attending the "International workshop on interdecadal variability of the global monsoons" at the Nanjing University of Information Science and Technology (NUIST), Nanjing, China on the September 10-12. Dr. Martin was awarded funding from UCAR to attend the workshop, which is sponsored in part by the World Climate Research Program.

The major objectives of this workshop are to:

- (a) Review evidence of monsoon interdecadal variability collectively and regionally;
- (b) Discuss how these variations are linked to each other and other major modes of interdecadal variability in the global oceans such as the PDO, IPO, or AMO, and to climate change;
- (c) Examine possible mechanisms underlying these interdecadal variations, including in simulations and numerical experiments that address driving physical processes with the goal of assessing the predictability of monsoon interdecadal variations.

Dr. Martin will be presenting a poster at the workshop entitled "Multi-Decadal Variability of West African Rainfall and Atlantic SSTs in CMIP5 Simulations".

Friday, August 31, 2012

**Susan D. Phillips, Ph.D., Provost and VP for Academic Affairs  
Welcomes New Department of Atmospheric and Environmental Sciences Faculty**



Dr. Aiguo Dai joins the department of Atmospheric and Environmental Studies 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 faculty of the Department of Atmospheric Environmental Sciences 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.



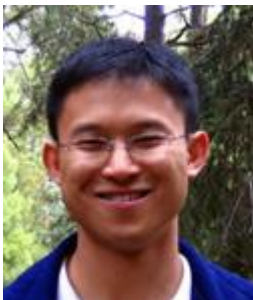
Dr. Andrea Angela Lopez Lang joins the Department of Atmospheric and Environmental Sciences as an assistant professor after a postdoctoral position in the department. She received her doctorate in Atmospheric and Oceanic Sciences from the University of Wisconsin at Madison. Her research focuses on synoptic 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 will join the Department of Atmospheric and Environmental Sciences in January 2013 from his current position in the School of Earth and Atmospheric Sciences at the Georgia Institute of Technology. He received his doctorate in Atmospheric Sciences from Columbia University. Dr. Liu's 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 faculty in the Department of Atmospheric and Environmental Sciences 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 is joining the Department of Atmospheric and Environmental Sciences 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 MIT. 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 Wang joins the Department of Atmospheric and Environmental Sciences 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.

Monday, June 18, 2012

## University at Albany Appoints New Faculty in Atmospheric and Environmental Science

ALBANY, N.Y. (June 14, 2012) — Provost Susan Phillips announced today the appointment of six new faculty members in atmospheric and environmental science, a center of excellence for research and education in weather and climate, including data analysis, modeling and prediction. The Department of Atmospheric and Environmental Sciences and the Atmospheric Sciences Research Center constitute the largest, single group of scientists in New York State with expertise in meteorology, atmospheric chemistry, earth atmosphere interactions, climate study, prediction and forecasting.

“These new faculty members build on a recognized area of strength,” Provost Phillips observed, “and position the University at Albany for even greater visibility and impact in New York State, nationally, and internationally as we seek to bring systematic knowledge about weather and climate into service on behalf of societal needs and economic development.”

**Among those joining the faculty in the coming year are:**

**Dr. Aiguo Dai** – Dr. Dai will join the faculty in September as an associate professor. He is currently a Scientist III with the Climate and Global Dynamics Division of the National Center for Atmospheric Research. Dr. Dai has developed a distinguished career improving 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. He has also published papers on the variability and changes of the thermohaline (or overturning) circulation in the oceans as well as the global carbon cycle. His research areas cover much of the Earth's climate system, including interactions of different components of the system.

**Dr. Roberta Johnson** – Dr. Johnson will join the faculty in August as a clinical professor. She is the Executive Director for the National Earth Science Teachers Association (NESTA), the nation's largest association of Earth and space science educators at the K-12 level. Dr. Johnson's research program has focused on the dynamics of the Earth's upper atmosphere and solar-terrestrial coupling. She has also been centrally involved in highly successful efforts to develop education and outreach programs associated with multiple sponsors, including the National Science Foundation (NSF), NASA, the Hewlett Foundation, and other organizations. She is the director of the Windows to the Universe project. Dr. Johnson will continue her educational efforts, including her role at NESTA, as a component of her activities at UAlbany.

**Dr. Andrea Angela Lopez Lang** – Dr. Lang will join the faculty in September as an assistant professor. For this past year she was a postdoctoral research associate in the Department of Atmospheric and Environmental Sciences. Dr. Lang's research interests include synoptic dynamics, dynamics of the jets, the tropopause, and the upper troposphere/lower stratosphere (UTLS) region, stratosphere-troposphere coupling, and the impact of convection on the UTLS. Her work is focused presently on the structure, evolution, and dynamics of mid-latitude jet-front systems, with implications for increasing understanding of the role of synoptic



processes in troposphere-stratosphere coupling. She is currently working on a project focusing on the changes to midlatitude jet circulations during the extra-tropical transition of tropical cyclones in the western North Pacific.

**Dr. Jiping Liu** – Dr. Liu will join the faculty in January as an assistant professor. He is currently a Senior Research Scientist in the School of Earth and Atmospheric Sciences at the Georgia Institute of Technology. Dr. Liu's research is focused on climate dynamics, particularly on sea ice, polar climates, and air/sea interactions. He has developed a particular expertise in atmosphere and ocean dynamics, and ocean surface fluxes. His work involves climate modeling, conducting climate model experiments, and integrating satellite data sets in his research. He is principal investigator for an NSF grant entitled "A High Resolution Analysis of Ocean Surface Turbulent Fluxes for the Southern Ocean."

**Dr. Justin Minder** – Dr. Minder will join the faculty in September as an assistant professor. He is currently a Richard Foster Flint Post-Doctoral Fellow in the Department of Geology and Geophysics at Yale University. Dr. Minder's research has extended the relatively new field of mesoscale climate dynamics. He has deployed observational networks and employed regional climate models to enrich understanding of precipitation processes near mountain ranges. His work also incorporates studies of hydrological cycles, climate dynamics, rain-triggered landslides, and snowpacks. He received the ICAM Young Scientist Presentation Award in 2009, and the AMS Mountain Meteorology Young Scientist Presentation Award in 2010.

**Dr. Brian Tang** – Dr. Tang will join the faculty in September as an assistant professor. He is currently a Postdoctoral Fellow in the Advanced Study Program of the National Center for Atmospheric Research. Dr. Tang's research program addresses topics related to the climatology of tropical disturbances that might have potential to become tropical cyclones. He also studies 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. He received the Max A. Eaton Prize at the AMS Tropical Meteorology and Hurricane Conference in 2008.

Faculty appointed to the Department of Atmospheric and Environmental Sciences and the Atmospheric Sciences Research Center have attracted \$60 million in competitive research grants and sponsored funds over the past ten years. The Department serves undergraduate majors as well as masters and doctoral students in addition to offering highly popular courses on the oceans, the atmosphere, and environmental science.

Monday, May 21, 2012

The Department of Atmospheric and Environmental Science is proud to announce that **Heather M. Archambault** (PhD '11, MS '05) has been selected to receive **the University at Albany's 2012 Distinguished Doctoral Dissertation Award**. This prize is awarded to the best dissertation in any field in the College. Dr. Archambault's dissertation, "**The Downstream Flow Response to Recurving Tropical Cyclones in the Western North Pacific**" was advised by Professor Daniel Keyser, and Distinguished Professor Lance Bosart.

Friday, March 30, 2012

### **UAlbany Undergraduate Research Conference Accepts Attard and Keefer Proposals**

The 2012 Undergraduate Research Conference which celebrates the research, scholarly work, and creative work of UAlbany undergraduates, has accepted proposals from Department of Atmospheric and Environmental Sciences students **Hannah Attard** and **Jason Keefer**. The

Undergraduate Research Conference will be held Friday, April 27 and Saturday, April 28 in the UAlbany Lecture Center.

**Hannah Attard:**

“Large-Scale Precursors to Major Lake-  
Effect  
Snowstorms Lee of Lake Erie”

**Jason Keefer:**

“The Rapid Intensification of Hurricane  
Gustav (2008)”

Monday, March 26, 2012

UAlbany Climate Scientist  
Leads International Effort  
to Address Impact of  
Shrinking Andes Glaciers  
on Water Supplies



**This photo indicates severe glacial retreat on the Andes Mountains in Colombia.**

ALBANY, N.Y. (March 23, 2012) – University at Albany climate scientist, Mathias Vuille, will lead the development of a network of local scientists and stakeholders in four South American countries to address the impact on water supplies of shrinking glaciers in the Andes. A number of studies in recent years have documented the general retreat of glaciers in the Andes. As a result, water managers and decision makers are increasingly asking the scientific community for quantitative projections regarding future water supply.

According to Vuille, an assistant professor in the Department of Atmospheric and Environmental Sciences at UAlbany, the four countries – Colombia, Ecuador, Peru, and Chile – all rely to a great extent on water released by glaciers. Warming temperatures, however, have resulted in significant glacial retreat, shrinkage and thinning, and the situation suggests the potential for a severe future water crisis in the region.

"We plan to create the Andean Climate Change Interamerican Observatory Network (ACCION) with the aim of increasing the capacity in the Andean region and to deal with this crisis in an anticipatory manner. The goal is 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," said Vuille.

The project team includes scientists from several European institutions and universities, research centers and NGOs in South America. The team will coordinate its activities with related efforts by international organizations, such as UNESCO, the Inter-American Development Bank and the Swiss Agency for Development and Cooperation. In each of the four countries, training workshops for local scientists, water managers and related stakeholders, and outreach activities are also planned to help close the gap between scientific research and local planning and adaptation.

Vuille said the plan is to "leverage the variety of already existing but seldom coordinated and somewhat disconnected initiatives and efforts ongoing in the Andes."

The project is funded by a \$990,000 grant from the U.S. Department of State's Bureau of Western Hemisphere Affairs.

The project will also bring several students from South American countries to UAlbany to work toward doctoral degrees in the Department of Atmospheric and Environmental Sciences. Their areas of study will be related to climate change, glaciers and water resources as they pertain directly to their home countries.

"When these students return to their home countries, they will be able to apply their expertise to better understand and project climate-related changes in glacial runoff and stream discharges. Their information and analyses will, in turn, inform policy making," said Vuille.

The Andes are relatively moist compared with extremely arid coastal deserts to the west or the semi-arid pampas to the east. Much of the snow falling in the Andes is stored as ice in mountain glaciers, before being gradually released over time.

"Glaciers therefore act as critical buffers against seasonal precipitation and provide water for domestic, agricultural or industrial use during periods when rainfall is absent," said Vuille. "By bringing together communities from natural, engineering, social and economic sciences with affected populations and decision makers we hope to establish a predictive understanding of future Andean water supply and demand. It is in this context that adaptation and mitigation strategies regarding a sustainable future water supply in the region need to be discussed and evaluated."

Vuille has more than 20 years of experience working in all Andean countries on climate change, glacier retreat and water resources and has collaborated for several years with the organizations participating in this project. He has published more than 50 peer-reviewed articles on topics of climate change, glacier mass and energy balance and serves as a contributing author to the Intergovernmental Panel on Climate Change. He is a senior fellow in the Energy and Climate Partnership of the Americas.

Media Relations Office News Release:  
<http://www.albany.edu/news/22600.php?WT.eml=nc>

Friday, March 23, 2012

### **SUNY-Oswego Meteorology Students Visit the University at Albany Department of Atmospheric and Environmental Sciences (DAES)**

Twenty-four students from SUNY-Oswego's Meteorology 302 class traveled to the University at Albany, Department of Atmospheric Sciences (DAES) March 8<sup>th</sup> to tour the facilities, and attend a

presentation about the principles of surface meteorological analysis.

SUNY-Oswego Professor Scott Steiger, faculty colleague Professor Robert Ballentine and accompanying undergraduate students visited the National Weather Service (NWS) in Albany, attended an overview of the DAES maproom, including a weather briefing from **Instructional Support Specialist Ross Lazear**, followed by a presentation by **Distinguished Professor Lance Bosart** on the principles of surface meteorological analysis. Professor Steiger's Met 302 students joined Professor Bosart's ATM 401/501 students in a collective assignment to analyze and discuss a surface weather map (sea level pressure and surface potential temperature) followed by small group forecast exercises and team presentations. University at Albany Department of Atmospheric and Environmental Sciences seniors **Nick Schiraldi** and **Jason Keefer** assisted. Pizza and sandwiches were generously provided by **the Albany American Meteorological Society (AMS)** student chapter for everyone before the SUNY-Oswego students returned home.

Friday, March 9, 2012

## **Knight Receives 2012 DeSouza Unidata Community Service Award**

**David Knight** Research Associate at the University at Albany, Department of Atmospheric and Environmental Sciences has been named recipient of the 2012 Russell L. DeSouza Award. "This award honors individuals whose energy, expertise, and active involvement enable the Unidata Program to better serve geoscience. Honorees personify Unidata's ideal of a community that shares data, software, and ideas through computing and networking technologies. Since its inception in June 1983, the Unidata Program has benefited from the

commitment of a number of individuals. This award is named after Russell L. DeSouza, whose involvement with and contributions to Unidata were exemplary.”

David is being honored for his many contributions over the years, explicitly for helping education and research communities gain access to lightning data. David will give an invited presentation at the Users Committee Meeting in Boulder, Colorado, April 2-3, 2012 on his work with Unidata, as well as the data, software and tools involved.

Additional information about the DeSouza Award can be seen at:

<http://www.unidata.ucar.edu/community/desouza/>

Friday, January 27, 2012

On January 24, the Department of Atmospheric and Environmental Sciences held its second annual alumni reception at the 92nd American Meteorological Society annual meeting in New Orleans, Louisiana. Nearly 100 guests made up of alumni, current faculty, staff, students and friends of the department conversed over hors d'oeuvres and drinks. Next January, the reception will take place in Austin, Texas.

Photo link:

<http://www.facebook.com/media/set/?set=a.284109014982656.66387.108638635863029&type=3>

Thursday, January 12, 2012

**Distinguished Professor Lance Bosart** has been appointed to the National Academy of



Sciences (NAS)/National Research Council (NRC), Board of Atmospheric Sciences and Climate (BASC) for a three-year term through 31 July 2014. Lance previously served a three-year term on BASC almost 20 years ago. The NAS was established by President Abraham Lincoln on 3 March 1863 with the charge that "...the Academy shall whenever called upon by any department of the government, investigate, examine, experiment, and report upon any subject of science or art..." Our scientific disciplines are much bigger and broader than they were in 1863 in the middle of the Civil War. The NRC-BASC is charged with the reporting responsibility for the atmospheric sciences and climate.

Monday, November 14, 2011

**Climate Change Expert Mathias Vuille to Visit Colombia on Behalf of the Energy and Climate Partnership of the Americas**

**Washington, D.C., November 14, 2011** – Mathias Vuille, a Senior Fellow in the Energy and Climate Partnership of the Americas (ECPA), will be traveling to Colombia November 15, 2011 through November 18, 2011 to participate in meetings and events regarding how climate change will affect glacier conditions and water availability in the high Andes. Vuille is an Assistant Professor in the Department of Atmospheric and Environmental Sciences at the University at Albany, State University of New York (SUNY) who specializes in climate change and glacier mass and energy balance. The Senior ECPA Fellows program is a network of high-level technical experts in the fields of climate change and energy who travel to countries in the Western Hemisphere to consult with governments and share best practices and is administered by Partners of the Americas.

Dr. Vuille has published over 50 peer-reviewed articles on topics of climate change and glacier mass and energy balance and serves as a contributing author to the Intergovernmental Panel on Climate Change (IPCC). During his stay in Colombia, Vuille

will be participating in discussions with the Institute of Hydrology, Meteorology, and Environmental Studies, the Ministry of the Environment, and the National University. Vuille will also be a keynote speaker at the 7<sup>th</sup> Inter-American Dialogue on Water Management.

**Partners of the Americas** is an international network that promotes social and economic development in the Americas through leadership, voluntary service, and development programs. Its mission is to connect individuals, volunteers, institutions, businesses, and communities to serve and to change lives through lasting partnerships. Partners envisions an interconnected hemisphere that maximizes the social and economic potential, and leverages the full diversity, of the Americas. For more information, visit [www.partners.net](http://www.partners.net).

Thursday, November 17, 2011

Assistant Professor **Paul Roundy** was awarded a \$504,951 grant from the National Science Foundation for support of the project “Analysis of the Influence of Convectively Coupled Atmospheric Waves and Extratropical Rossby Waves on the Structure and Evolution of the Observed Madden Julian Oscillation (MJO).” November 15, 2011 - October 31, 2014.

Friday, November 11, 2011

**JOINT COLLOQUIUM SERIES**

**DEPARTMENT OF ATMOSPHERIC &  
ENVIRONMENTAL SCIENCES & ATMOSPHERIC  
SCIENCES RESEARCH CENTER**

**Tropical Cyclogenesis in Wind Shear:  
Climatological Relationships and Physical  
Processes**

**David S. Nolan**

**Rosenstiel School of Marine and Atmospheric  
Science University of Miami**

**Friday, Nov. 11, 2011, 11:00 am**

**Earth Science, Room 232**

The formation of tropical cyclones remains a topic of great interest in the field of tropical meteorology. A number of influential studies have considered the process of tropical cyclone formation (also known as TC genesis) from a pre-existing, weak tropical disturbance in a quiescent atmosphere from theoretical perspectives and using numerical simulations. However, it is shown that the large majority of TC genesis events occur under the influence of significant vertical wind shear. The effects of wind shear on TC genesis is explored from both a climatological perspective and from the statistics of wind shear in environments around individual TC genesis events. While earlier studies suggested that moderate wind shear values, in the range of 5 to 10  $\text{ms}^{-1}$ , were the most favorable states for genesis, it is shown that small values of wind shear in the range of 1.25 to 5  $\text{ms}^{-1}$  are the most favorable, and very little shear (less than 1.25  $\text{ms}^{-1}$ ) is not unfavorable. Statistically, easterly shear appears to be more favorable than westerly shear.

The physical process of TC genesis in wind shear is explored with high-resolution numerical simulations using a mesoscale model in an idealized framework. The transformation of a weak, mid-level vortex into a warm-cored tropical cyclone is simulated in environments with no flow, with mean flow and no wind shear, and with mean flow and wind shear. The simulations show that in terms of the formation of a closed, low-level circulation, moderate wind shear is indeed more conducive

to genesis, but is also prohibitive to further development. However, in contrast to the statistical findings and some previous results, westerly shear is found to be significantly more favorable for TC genesis than easterly shear. The reasons for the greater favorableness of wind shear versus no wind shear, and of westerly shear versus easterly shear, are discussed within the context of the numerical simulations. Further statistical analysis suggests that the greater favorableness for easterly shear in the real atmosphere may be due to a correlation between easterly shear and more favorable thermodynamic conditions.

Monday, October 24, 2011

**JOINT COLLOQUIUM SERIES  
DEPARTMENT OF ATMOSPHERIC &  
ENVIRONMENTAL SCIENCES & ATMOSPHERIC  
SCIENCES RESEARCH CENTER**

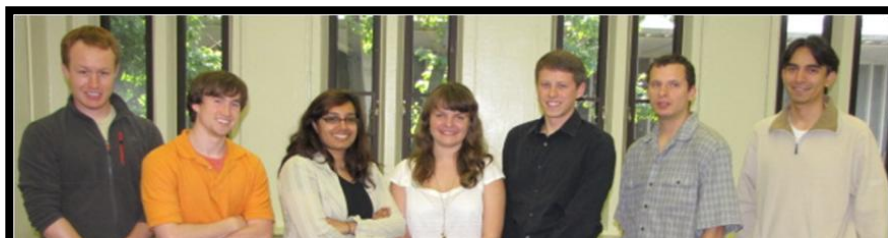
**Chris Walcek, Atmospheric Science Research  
Center**

**Monday, October 24, 2011, 4:15 pm**

**Earth Science, Room 232**

**"Cloud-Top Entrainment Instability and its  
Possible Role in the Famous  
Langmuir/Schaefer Albany-Area Cloud Seeding  
Experiments"**

**Friday, September 23, 2011**



**Department of Atmospheric and Environmental Sciences  
Incoming Graduate Students 2011-2012**

*L-R:* James Kenyon, Philippe Papin, Hanisha Hirani,  
Alicia Bentley, Larry Gloeckler, Chris Colose and Victor Torres.

Absent: Sergey Kivalov

**Tuesday, September 6, 2011**

Tornado near Amsterdam, filmed by UAlbany  
ATM grad Lindsay Phillips:

<http://www.timesunion.com/local/article/Was-that-a-tornado-Indeed-it-was-2156034.php>

**Wednesday, July 27, 2011**

Three graduate students from the  
Department of Atmospheric and  
Environmental Sciences successfully  
defended their Ph.D. dissertations  
this month:

**Heather M. Archambault** - Monday,  
July 25th, 2011

"The Downstream Extratropical Flow  
Response to Recurving Western  
North Pacific Tropical Cyclones"

**Nicholas Metz** - Monday, July 25th,  
2011

"Persistence and Dissipation of Lake  
Michigan-Crossing Mesoscale  
Convective Systems"

**Kay Shelton** - Wednesday, July 20th,  
2011

"EASTERLY WAVES AND TROPICAL  
CYCLOGENESIS IN THE CARIBBEAN"

**Tuesday, July 20, 2011**

**UAlbany's Atmospheric Sciences Program  
finds Success on Many Fronts**

<http://www.albany.edu/news/15103.php?WT.eml=nc>

For UAlbany graduates with a degree in Atmospheric Science, not even the sky is the limit. A wealth of weather-related career opportunities are within reach – including federal posts, top flight graduate programs, and positions within major corporations.

Josh Darr, '02, is a meteorologist for Chesapeake Energy. "We figure out, 'Are there weather-based opportunities from a pricing standpoint of how we sell our gas into the national pipeline network,' " said Darr. He adds that the world-class education he received at UAlbany was invaluable to his success working in the commodities sector.

Kimberly McMahon, '05, a meteorologist with the National Weather Service (NWS), highlighted the benefit of having the agency's Albany office strategically located within walking distance of UAlbany's uptown campus. "Because of my ability to do an internship with the National Weather Service - when I graduated – I was their No. 1 pick," said McMahon. She now provides real-time weather data to everyone from emergency managers to the media and public.

For more information, visit the Department of Atmospheric and Environmental Sciences.

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

### **Thursday, June 23, 2011**

Albany, NY (WAMC) – In today's Academic Minute, Dr. James Schwab of the University at Albany discusses the complexity and mysteries of cloud formation.

[http://www.publicbroadcasting.net/wamc/news.newsmain?action=article&ARTICLE\\_ID=1815995](http://www.publicbroadcasting.net/wamc/news.newsmain?action=article&ARTICLE_ID=1815995)

### **Tuesday, May 24, 2011**

Kalin Kochnev is so fascinated with weather and meteorology, ("he reads all the books he can get his hands on about weather!" said his Mom Annie) that in celebration of this 8<sup>th</sup> birthday on May 24<sup>th</sup>, Kalin's parents surprised him with a visit to the University at Albany Department of Atmospheric and Environmental Sciences Map Room, for a tour and a chat with in-house Meteorologist Ross Lazear.

