



# Cooperative Institute for Precipitation Systems

## **This Period in CIPS: April – June 2005**

### **Conferences and Presentations**

Dr. Moore and Dr. Graves traveled to Minneapolis, MN on June 7th to visit the local forecast office. Here they discussed research and forecasting issues with the forecasters and staff. They received a Weather Event Simulator case where there was a transformation from a severe weather threat to a flash flood threat. The following talks were presented:

Factors Affecting Mesoscale Convective Systems Propagation with Illustrations from Case Studies: James T. Moore and Charles E. Graves

Warm Season Elevated Thunderstorms: Results from Composite Analysis and Case Studies: James T. Moore and Charles E. Graves

### **Upcoming Conferences and Presentations**

CIPS team members are preparing abstracts and preprints for the 21st Conference on Weather Analysis and Forecasting/17th Conference on Numerical Weather Prediction, August 1st-5th 2005, Washington D.C.

COMET's Influence on Meteorological Education and Research within Universities: The Saint Louis University Experience: James T. Moore and Charles E. Graves

The Role of Conveyor Belts in Organizing Processes Associated with Heavy Banded Snowfall: James T. Moore, Sam Ng, and Charles E. Graves

### **Submitted Articles**

The following article has recently been published in Weather and Forecasting:

Baxter, M. A., C. E. Graves, and J. T. Moore, 2005: A climatology of snow-to-liquid ratio for the contiguous United States. *Wea. Forecasting*, **20**, 729–744.

The following article has been accepted to the National Weather Digest:

Baxter, M. A., C. E. Graves, and J. T. Moore, 2006: The Use of Climatology to Construct a Physically-Based Method for Diagnosing Snow to Liquid Ratio. Natl. Wea. Dig., **30**, 29-44.

## **CIPS Team Notes**

Dr. Moore and Dr. Graves are serving as co-chairs for the 2005 National Weather Association Annual Meeting at the Adam's Mark Hotel in Downtown St. Louis. The meeting will take place from October 15th through the 20th.

Dr. Bill Dannevik has been named the interim department chair, serving through June 2006. Dr. Dannevik is at SLU on leave from his position as Director of the Atmospheric Science Division at Lawrence-Livermore Laboratory.

CIPS is in the process of purchasing of a new laptop, which will make its debut at the 2005 National Weather Association Annual Meeting.

The CIPS team has begun loading numerous case studies for the Weather Event Simulation software and will begin to develop guided case studies for use by forecasters and students.

The department is currently hiring for one position: department chair. This position will likely be filled before summer.

The CIPS team is still preparing to host the 2005 National Weather Association Annual Meeting at the Adam's Mark Hotel in Downtown St. Louis. The meeting will take place in October 2005.

Drs. Moore and Graves will be traveling to Washington, D.C. for the 21st Conference on Weather Analysis and Forecasting/17th Conference on Numerical Weather Prediction, August 1st-5th 2005.

Marty Baxter will be traveling to HPC this summer for five weeks to serve as a volunteer. He will be further adapting his snow to liquid ratio diagnostic methods for use by the forecasters.

The collaboration between CIPS team members with Wes Junker, an HPC contractor, and Matt Kelsch of UCAR/COMET is continuing their investigation of the Kansas turnpike flash flood case of August 30-31 2004. CIPS Research Assistant Jeff Vitale is assisting with this project.

## **CIPS Team News**

Marty Baxter has wrapped up revising his second paper and is awaiting its publication. He has passed his PhD written and oral exams. Marty's work involves the role of convection in winter storms and the predictability of such systems. He will volunteer at

the Hydrometeorological Prediction Center conducting research on various snow to liquid ratio techniques.

Jaime Poole is continuing work on modeling elevated thunderstorms to identify factors that determine how far north of the boundary storms will initiate, as well as their subsequent propagation. She has completed her prospectus and is preparing for her PhD written exam during the fall semester.

Sam Ng continues his dissertation research. His dissertation research involves the development of an evolutionary conceptual model for banded heavy snowfall using the MM5 model. Sam is using the HYSPLIT trajectory model to aid in this endeavor. Sam anticipates graduating this by the end of the summer. The title of Sam's dissertation is "Development of a Dynamical Conceptual Model of Processes Producing Heavy Banded Snowfall Utilizing Numerical Simulation".

Mike Paddock continues to work with Ron Przybylinski (SOO, St. Louis NWS) on cases involving very narrow snow bands. Mike graduated in May with his Master of Science (Research) degree. The title of Mike's thesis is "A Diagnostic Analysis of Mesoscale Snowbands Accompanied by Weak Cyclogenesis". He plans to proceed on with his education by entering into the Ph.D. program.

Adam Pasch continues to work on model simulations of mini-snowbands.. He worked on MM5 simulations of mini-snowbands for his Master's thesis. Adam graduated in May with his Master of Science (Research) degree. The title of Adam's thesis is "Numerical Simulations of Mesoscale Snow Bands Associated with Weak Cyclogenesis". He also plans to proceed on with his education by entering into the Ph.D. program.

Jeff Vitale is continuing work on the August 30-31, 2004 Kansas turnpike flash flood case. He has successfully passed the Masters Comprehensive exam.