



Cooperative Institute for Precipitation Systems

This Period in CIPS: January – March 2005

Conferences and Presentations

Dr. Moore and Dr. Graves traveled to Washington D.C. on March 14th and 15th to visit HPC. Here they discussed research and forecasting issues with the forecasters and staff. The following talks were presented:

An Overview of Research Activities at CIPS: James T. Moore and Charles E. Graves

CIPS Research of Heavy Snow Bands and Heavy Convective Rainfall Events: James T. Moore and Charles E. Graves

Omaha-Offutt Chapter of the American Meteorological Society: 19 January 2005, Omaha, NE

The Use of Climatology to Construct a Physically-Based Method for Diagnosing Snow to Liquid Ratio: Martin A. Baxter

Creighton University Department Seminar: 19 January 2005, Omaha, NE

An Overview of Research Activities at CIPS: Martin A. Baxter

Upcoming Conferences and Presentations

CIPS team members are preparing abstracts and preprints for the Missouri Academy of Science, April 16th 2005, Jefferson City, MO

A Case Study of a Surprise Elevated Convection Event over Eastern Missouri: 24-25 July 2004: Michelle L. Keast-Nachtrab, Martin A. Baxter, and James T. Moore

Mesoscale Convective System Initiation and Propagation Characteristics During the 18-19 May 2004 Kansas City Flash Flood: Adam N. Pasch, Michael J. Paddock, James T. Moore, and Charles E. Graves

A Diagnostic Analysis of Mesoscale Snowbands, Which Occurred on 26 February 2003: Michael J. Paddock, Adam N. Pasch, James T. Moore, and Charles E. Graves

Anatomy of an Extreme Snowfall Event: The Pre-Christmas Snowstorm of 22-23 December 2004: James T. Moore and Charles E. Graves

A Discussion of Meteorological and Warning Issues Associated with the Kansas Turnpike Flash Flood of 30 August 2003: Jeff D. Vitale, Charles E. Graves, Matt Kelsch, and James T. Moore

Numerical Investigation of the Christmas Eve Snowstorm of 23-24 December 2002: The Spatial and Temporal Evolutions of the Mesoscale Processes: Sam Ng, James T. Moore, and Charles E. Graves

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 been accepted pending minor revisions 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. Graves has served as primary dissertation advisor to Joshua Scheck and Krishnaraj Santhanum, Joshua graduated from SLU with his PhD in December 2004, while Krishna completed his PhD in February 2005. Krishna is employed as an atmospheric scientist at EQUecat, a risk-management company. Josh is employed as a Day 1 and 2 forecaster at HPC. Congratulations Josh and Krishna!

Dr. Bill Dannevik has been named the interim department chair, serving through June 2005. Dr. Dannevik is at SLU on leave from his position as Director of the Atmospheric Science Division at Lawrence-Livermore Laboratory.

CIPS is ready to upgrade computer hardware once again. We have purchased a DVD burner and are considering the purchase of a new laptop.

The Weather Event Simulation software is up and running on a Linux computer in the lab, thanks to Dr. Graves and Eric Lenning (the information technology officer at the St. Louis Weather Service Office). The CIPS team will begin to develop guided case studies for use by forecasters and students.

The department is currently hiring for two positions: department chair and a 9-month meteorology teaching position. These positions will likely be filled before summer.

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.

The CIPS team is beginning to prepare for hosting 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 a NWS Forecast Office in the North Central part of the NWS Central Region in June 2005, possibly Chicago or Minneapolis.

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.

Drs. Moore and Graves will be attending the Storm Prediction Center and National Severe Storms Laboratory Hazardous Weather Testbed experiment in Norman, OK during late May. This experiment involves combining the expertise of both operational forecasters and researchers to improve operational forecasting.

Jeff Vitale and Mike Paddock will be presenting posters in the annual SLU Graduate Student Research Day competition. Jeff will be presenting research on the Kansas turnpike flood and Mike will be presenting research on mini snow bands. Best of luck to both!

Beginning in January, the Presentations web page will feature powerpoints and avi files in an easily downloadable zip format, rather than in html format.

A new web page featuring CIPS publications is now available. It can be seen at <http://www.eas.slu.edu/CIPS/Publications.html>.

A new collaboration between CIPS team members with Wes Junker, formerly of HPC, and Matt Kelsch of UCAR/COMET is in the works. The group plans to study the Kansas turnpike flash flood of August 30-31 2004. CIPS Research Assistant Jeff Vitale will be assisting with this project.

CIPS Team News

Marty Baxter is working on revising two papers for publication. He has passed his PhD written exam and will take the oral exam before summer. His work involves the role of convection in winter storms and the predictability of such systems.

Jaime Poole is beginning 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.

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 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 has been working with Ron Przybylinski (SOO, St. Louis NWS) on cases involving very narrow snow bands. The diagnosis of these mini-snowbands will be the focus of Mike's Master's Thesis. Mike anticipates graduating in May. The title of Mike's thesis is "A Diagnostic Analysis of Mesoscale Snowbands Accompanied by Weak Cyclogenesis".

Adam Pasch is taking the lead in setting up and running the new WRF model, paving the way for future users. He will be working on WRF simulations of mini-snowbands for his Master's thesis. Adam anticipates graduating in May. The title of Adam's thesis is "Numerical Simulations of Mesoscale Snow Bands Associated with Weak Cyclogenesis".

Jeff Vitale is beginning work on the August 30-31, 2004 Kansas turnpike flash flood case. He will take the Masters Comprehensive exam in the spring.