

**GREATER ST. LOUIS CHAPTER  
AMERICAN METEOROLOGICAL SOCIETY  
MINUTES OF 21 OCTOBER, 2003**

The October meeting of the Greater St. Louis Chapter of the American Meteorological Society was held on Tuesday, October 21, at Favazza's restaurant on the Hill in midtown St. Louis. 20 members were treated to a superb Italian menu and a comfortable lower level meeting area. Chairperson, Marty Baxter, began the Business meeting at 7:15 PM.

**Reports**

Lou Hull read the minutes of the June meeting and studio tour at the new facilities of Warner Brothers Channel 11 in northwest St. Louis county. They were accepted as read.

Ron Przybylinski, the new Treasurer, was unable to present a new balance since monthly statements from the summer were lost in transition. This will be resolved by our next meeting. Our last balance was in excess of \$700.

16 new member signed up during the meeting, bringing our total to 18, including our 2 Life members.

**Old Business**

Ron gave a BAMEX summary, hoping for many case studies from the 18 Weather Days. He anticipated a BAMEX session in future national conferences.

Conferences at Champaign IL and Jaxsonville FL were well represented by SLU's faculty and graduate students.

**New Business**

Lou urged the members to look ahead to the Post Dispatch and SW Illinois Science Fairs. We are sorely in need of judges. Ron indicated that he will try to contact the local teachers in November to keep Meteorology as a focus for Science Fair projects.

Several speaker options are being pursued for the Spring AMS meetings. Dr. Rao indicated that Roger Edwards has confirmed his promise to speak to the membership on Wednesday Nov. 19th. He also indicated Tom Schlatter, a SLU alumnus, has agreed to speak on Thursday Feb 19th.

Mark Britt put a plug in for the Winter Weather workshop Saturday Nov 9th in the SLU underground lecture hall, Kelly auditorium.

### **Speaker**

\Marty introduced the speaker Dr. Brian Jewett. Brian is a research scientist for the Department of Atmospheric Sciences and National Center for Supercomputing Applications at the University of Illinois Urbana-Champaign. He received his MS at the University of Oklahoma and PhD at the University of Illinois in 1996. He spent 2 year at FSL in Boulder CO. His expertise is in Modeling and Field Research.

Dr. Jewett's talk was entitled "Cell initiation, Interaction, and Morphology in the April 19, 1996 Tornado Outbreak".

Brian described the synoptic situation. The prior day a tornado struck near Decatur, indicating substantial moisture and dynamics already in place. A warm front stretched from western Illinois southeastward to western Kentucky. On the 19th 36 tornadoes developed along this front.

Some cells split and merged. Others diverged. Low F3 tornadoes occurred and seemed to develop during the cell merging process.

Dr. Jewett's study is comprised of radar imagery, modeling, and an idealization of the merging process.

Brian's modeling was done with the MM5 3km and 1km resolutions. His model used 4 inner model domains, boxes within boxes, to resolve the mesoscale interactions.

His vertical results showed a 600mb Potential Temperature gradient due to a dry intrusion aloft. This front aloft interacted with the warm front at the time of afternoon heating, setting of the supercell formation. His WRF 3-D model showed a substantial increase of helicity from Missouri into Illinois.

When he followed the cells with a moving grid, cells were found to interact at their boundaries. This interaction changed dramatically as the amount of vertical directional shear was altered.

With 90 degrees of shear, cells tended to diverge and be mostly windstorms. At 45 degrees supercells were most common. And at 0 degrees of shear cells followed cells, causing training and heavy rain.

Dr. Jewett's modeling with multiple moving cells showed some cells interfered with the growth of another and others grew at the expense of others, similar to what we see in reality. Cold outflow seems to diminish the trailing storm while the one out ahead increases in intensity.

The duration of the cells is also affected by proximity of other cells. Cell age and variability of cell ages seem to play a role in differential propagation directions.

Marty thanked Brian after a few questions and ended the business meeting at 9:15.

Louis Hull, Secretary