

## **American Meteorological Society – St. Louis Chapter Meeting**

### **September 4, 2008 Meeting.**

- The September meeting was held at Squires Restaurant in Lafayette Square.

1) There was discussion at length about future pricing of meals at various restaurants. Ron mentioned that some restaurants will handle over 40 people, however they will charge every for every meal if we do not meet or exceed 40 people. There are other restaurants that could only handle no more than 35 people. With our attendance running about 37 to 40 people per meeting, we are at that borderline. Therefore, we have been going the buffet route for the last two meetings and the membership suggested that we go this route for future meetings.

This route may at times cut into the local chapter budget. The officers are doing their best to keep prices down as low as possible for buffets.

The officers have found out that the limit for ordering off the menu is about 35 people at most restaurants.

2) Membership approves to raise dues to \$20.00 beginning in September 2009. Current dues are \$10.00. Student members will remain at \$5.00 per year.

3) Questions about dinner costs for members vs non-members – Officers were going to discuss this issue and report back to the members. These discussions have been delayed until our officers meeting during the middle of December (Dec 16<sup>th</sup>).

### **Dr. Paul Markowski:**

Dr. Paul Markowski was our guest speaker for the September meeting. The title of his talk was “Tornadogenesis – Our current understanding, Operational Considerations, and Questions to Guide Future Research.”

The first part of Paul’s presentation keyed upon what we know today about tornadogenesis – supercells acquire net cyclonic rotation aloft by tilting streamwise (horizontal vorticity). He also showed that significant tornadoes are associated with supercell storms, however most supercells are NOT tornadic. The most intense mesocyclones are not necessarily the ones most likely to be associated with tornadogenesis. He emphasized that tornadogenesis involves rearranging, twisting, and stretching of vortex lines so that they become vertically oriented and packed closely

together at the ground. Tornadogenesis, if it occurs, is associated with the development of the rear flank downdraft (RFD). The temperature of the RFD seems to be important to tornadogenesis. RFDs that are excessively cold apparently are unfavorable for tornadogenesis.

The best operational means for discriminating between significant tornadoes (e.g. F2 and stronger) and non-tornadic supercells is the use of Doppler radar data in conjunction with information about the near storm environment. Parameters such as – low-level shear (0 – 1 km shear vector) and low-level relative humidity (e.g. LCL height).

Some issues **we don't know** include:

a) Outstanding RFD issues--What are its forcings as a function of location within a given supercell, evolutionary stages, and supercell types (e.g. tornadic vs non-tornadic). Does this matter?

b) Mesoscale variability: What effect does it have on storms if any?

c) Role of storm-scale baroclinicity. How important is it to tornadogenesis? Thermodynamic fields above the surface? Has the importance of the forward-flank baroclinic zone been overemphasized?

Then Paul spent about 5 minutes about the "VORTEX project."

Ron Przybylinski for Ben Sipprell (Secretary)