Review for Examination 2

Remember that the main emphasis in the course is understanding how/why mesoscale features exist in the atmosphere. The examination will involve essay questions. Trivial details will not be needed in the answers (e.g., exact magnitudes of composited average terms for MCSs, mathematical derivations for equations). Everything will boil down to explaining the phenomena we've discussed in class in a logical manner with enough specifics to be clear. Your notes from class and the powerpoints, along with portions of the book relating to these phenomena, should help you to formulate your own mental pictures of how these phenomena occur.

The following is a list of phenomena that have been discussed in class so far which could appear on Test 2, along with details to know.

- Gravity waves and bores - what conditions allow them, what do they look like?
- Convection and influence of wind shear - what storm types exist and why, how do they look and move, why do supercells behave the way they do, what processes contribute to their behavior?
- Tornadoes - what are possible mechanisms for formation and evidence supporting and not supporting these, how are tornadoes related to supercell behavior, what is their structure?
- Mesoscale Convective Complexes (or systems) - how do LLJs affect these, conditions typical for formation, how do they evolve, what is precipitation evolution like?
- Mesoscale Convective Vortices (ONLY IF WE COVER IN CLASS 3/24) - when do these form, how do they form, what is their importance?

Remember that because of relatively poor performance on the first exam, I will also consider it fair game to ask questions related to:

- Dry lines and EMLs