

AOS 453 Lab #0

Due at the beginning of lab, Thursday, 25 January

Objective: To become comfortable with the idea of a conceptual model; to understand both the advantages and limitations of this method.

Consider the conceptual model of the sea-breeze presented in today's lab and do the following:

1. Construct conceptual models of two mesoscale phenomena that interest you. (Possibilities include thunderstorms, tornadoes, tropical cyclones, lake effect snowstorms, etc.). Make sure you capture what you believe to be the important features, both large- and small-scale, that contribute to the existence of these phenomena. Remember, this is not an exercise aimed at factual accuracy (all conceptual models are subject to revision anyway!), so just work with what you know and have fun getting used to the idea of thinking "holistically." After all, weather does not occur in a vacuum!
2. What problems would you imagine these phenomena present to the weather observer and forecaster from the standpoint of data availability? What sorts of data would you need to have a better understanding and/or make a better forecast?
3. Do you consider that either or both of the phenomena are more or less completely understood (and thus have conceptual models that won't change anytime soon)? This is a matter of opinion so don't be shy!