Chapter 11 Review: Air masses

- What is an air mass?
- What conditions are needed for an air mass to form?
- Where are the source regions for air masses, i.e., where do they form?
- What two characteristics are used to catalog air masses?
- What 3 names characterize air mass temperature as warm, cold, or very cold?
- What 2 names characterize air mass humidity as dry or moist?

Air Masses

- Is high or low pressure typically at the center of air masses?
- What kind of air mass usually affects Florida?
- What kind of air mass usually affects Michigan?
- Why don’t air masses typically form in mid-latitudes?
- What is air mass modification?
- Give an example of air mass modification.
- What is “lake effect snow”? Where in the US is it most common?

Question for Review #11, p. 306

11. What type of air mass would be responsible for:
   - Heavy snow showers & low temps at Buffalo, NY?
   - Hot, muggy weather in the Midwest and East?
   - Daily afternoon thunderstorms along the Gulf Coast?
   - Heavy snow showers along the W slope of the Rockies?

   Question for Thought 2 (p. 307). Explain how an anticyclone (region of high pressure) during autumn can bring record breaking low temperatures and cP air to the SE states, and, only a few days later, it can bring very high temperatures and mT air to the same area.

Fronts

- What is a front?
- What is a
  - Stationary front? Cold front? Warm front?
  - “Back door” cold front?
  - Occluded front?
- What is the typical slope of a front?
- Which is typically steeper, a cold front or a warm front?
- Are cumulonimbus clouds more common at cold fronts or warm fronts? Why?
- Are nimbostratus clouds more common at cold fronts or warm fronts? Why?

Frontal Passage

- Imagine you are in warm air and a cold front approaches. What weather changes do you expect in winds, temperature, pressure, clouds, precipitation, and dew point? (See table 11.2 on p. 300.)
- Imagine you are in cold air and a warm front approaches. What weather changes do you expect in winds, temperature, pressure, clouds, precipitation, and dew point? (See table 11.3 on p. 302.)
15. Based on the following weather forecasts, what type of front will most likely pass the area? (See map, p. 297, for c, d, & a.)

(c) Increasing cloudiness and warm today, with possibility of showers by evening. Turning much colder tonight. Winds SW, becoming gusty and shifting to NW by tonight.

(d) Increasing high cloudiness and cold this morning. Clouds increasing and lowering this afternoon, with a chance of snow or rain tonight. Precipitation ending tomorrow morning. Turning much warmer. Winds light easterly today, becoming SE tonight and SW tomorrow.

(a) Light rain and cold today, with temperatures just above freezing. SE winds shifting to W tonight. Turning colder with rain heavy and possibly changing to snow. (Cold occluded.)

(b) Cool today with rain becoming heavy at times by this afternoon. Warmer tomorrow. Winds SE becoming W by tomorrow morning. (A warm occluded front is more likely than a warm front because precip is heavy and winds shift to W. For a warm front, precip is light to moderate and winds shift to S or SW. See tables 11.3 (p. 302) and 11.4 (p. 305).)