

Reading Guide for October 8

from Henson, *Rough Guide to Weather*

Chapter 1: Ingredients

pp. 25–29. “*A frontal assault.*” Read the first three paragraphs quickly. Then slow down when you get to the last paragraph on p. 25, which continues into p. 26. There is a lot of important information here. Try to understand:

- What makes a high-pressure center high pressure?
- What makes a low-pressure center low pressure?
- Why do winds swirl into lows and out of highs?

The diagram at the top of p. 26 may help somewhat.

Further on p. 26, follow the discussion of fronts and air masses. It is fairly straightforward. Look at the diagram at the bottom of p. 26, but don’t fret over it. We will address it in more detail in class.

Read the box at the top of p. 27 just for your own education.

pp. 27–29. “*Weather at altitude.*” The atmosphere has thickness, and to understand how it behaves we must understand its motion vertically as well as horizontally. The description of the jet streams in this section is fairly confusing, because it attempts to explain what happens without appealing to the physics. Key points to catch are:

- Where are the **polar jets** found?
- Where are the **sub-tropical jets** found?
- What is a **trough** in the jet stream?
- What is the effect of a jet stream trough on the conditions at the surface below it?

Chapter 2: The wild stuff

pp. 92–96. *Coastal Storms.* These are frontal storms, sometimes given extra power by the ocean waters they contact.

pp. 92–94. “*A product of contrasts.*” This describes the behavior of coastal mid-latitude cyclones, but does not belabor the physics. Read it through once, then go back and re-read the second paragraph on p. 93.

pp. 94–95. “*Europe’s big ones.*” While this does not tell you much science, it does describe the very human effects of coastal mid-latitude cyclones.

p. 96. “*High points of US coastal lows.*” Just like the previous section, but now describing the United States.