

Some important points for Chapter 5

The following is a list of points that you should pay particular attention to studying. This is not a complete list of things that will be covered on the test, so be prepared to answer questions that this list doesn't cover. By in large, however, if you have a good understanding on the definitions, facts, concepts and processes below, you will do well on the test.

IV. Water and Atmospheric Moisture

- Water and Precipitation
 - Forms and properties of water: covalent vs. hydrogen bond (Fig 5-4)
 - Compartments (e.g., lakes, glaciers, etc.) where majority of fresh water is. (Fig 5-3)
 - Unique characteristics of water (News Report 5.1)
- Moisture in the atmosphere:
 - Changes of state and gain/loss of energy (Fig 5-6)
 - Humidity: relative vs. specific humidity (Fig 5-7, 5-12), influence of temperature
 - Cloud influence on RH
 - Adiabatic lapse rates (Fig 5-15, 5-16, 5-17) need to know ###.

II. Weather

- Weather vs. climate (Climograph)
- Global scale heat transfer mechanisms
- Temperature Controls and Variations
 - Processes for atmospheric lifting mechanisms (Fig 5-26)
 - Rain shadows and what causes them (Fig 5-29)
- Air mass types and characteristics (Fig 5-24)
 - Need to know the classification systems, what all letters mean, origin
- Weather fronts:
 - Types and characteristics (clouds, temperature, precipitation, winds)
 - Warm fronts (Fig 5-31)
 - Cold fronts (Fig 5-30)
 - Occluded fronts
 - Need to know differences of warm and cold fronts (see the table we discussed in class)
 - Evolution of a mid-latitude cyclone (Fig 5-32)
 - What is the dominant weather situation in Portland?
- Violent Weather:
 - Tornadoes (Fig 5-38) when, where, and why?
 - Tropical cyclones (Fig 5-40) What happens in the eye and the eye wall of cyclones, respectively??