

Chapter 9 Review: Size of weather

- Is there one particular size for weather phenomena?
- How is the lifetime of a weather event related to its size?
- What is turbulence?
- What is the rough size of microscale features? How long do they last? Give example of microscale phenomena.
- Repeat for mesoscale.
- Repeat for synoptic scale.
- What two factors associated with the Earth's surface generate turbulence?

Shear, Waves, & Wind Observations

- What is wind shear?
- Where near jet streams is turbulence most likely to occur?
- What is a windbreak or shelterbelt?
- What 3 wind factors determine the size of water waves?
- At what height above the ground are "surface" winds measured?
- What is an anemometer? Wind vane?
- What device measures both speed and direction in one package? What does it look like?

Wind Observations above the Surface

- How can you determine the position of a weather balloon (besides having a GPS system on the balloon)?
- How can you measure wind speed and direction using satellite pictures?
- How are commercial aircraft involved in taking wind observations?
- What is a profiler?

Thermal Circulations

- What is a sea breeze? Land breeze?
- Why do they occur?
- How often does a sea breeze switch to a land breeze and vice versa?
- What effect does the sea breeze have on coastal temperature?
- Where do thunderstorms occur in relation to a sea breeze? In relation to a land breeze?
- What is special about the sea breeze and the Florida peninsula as opposed to the Florida panhandle?
- Suppose Florida experiences an easterly wind. How would that add to or take away from the sea breeze on the Florida peninsula?
- What is a monsoon? Where is it most prominent?

Miscellaneous Wind Information

- What happens to wind speed as air leaves land, blows over a lake, and goes on land again? Where does air sink and rise as a result of the speed changes? Why?
- What is a chinook? Discuss the workings of a chinook with rain and a chinook without rain.
- Explain how a chinook can be associated with rapid changes in temperature.
- What is a Santa Ana wind? How are they involved in fires?
- What is a dust devil? How does it form?
- What are the characteristics of a good place for wind power?
- What is a wind farm? What are some drawbacks about wind farms?