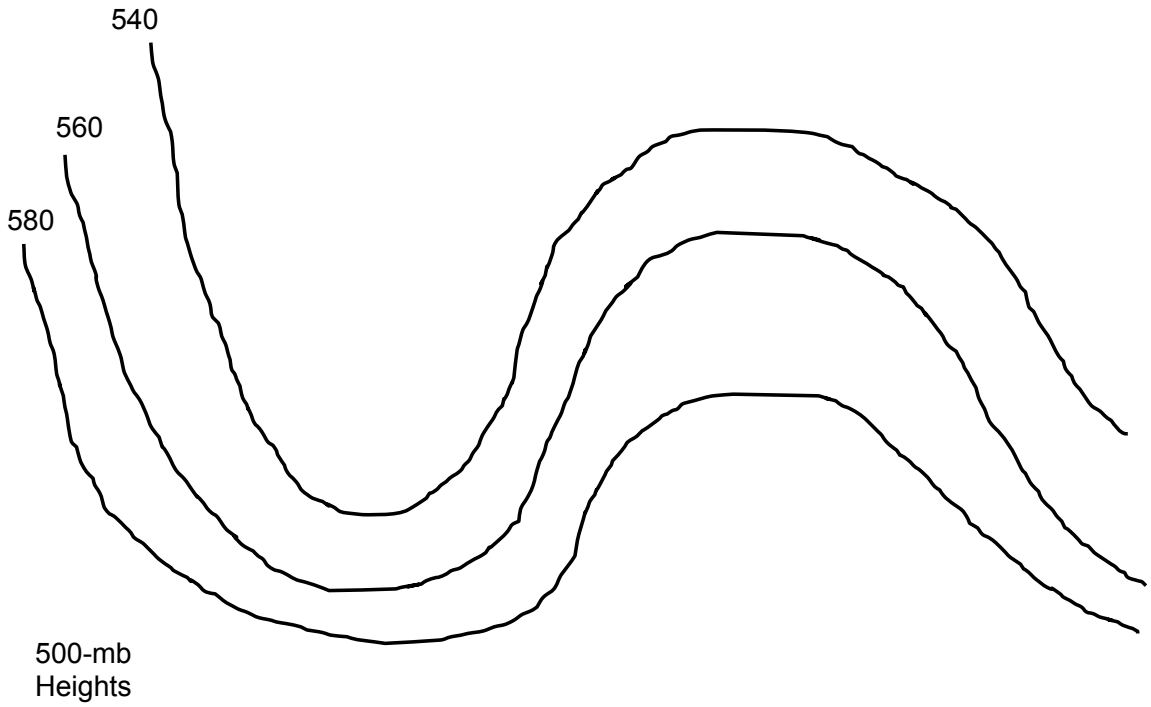
ATMO 1300 Section 001
In-class Worksheet #6
July 26th, 2017

1. What are the four lifecycle stages of an extratropical cyclone? Briefly describe the characteristics of each.

2. Where do the strongest winds in mature, northward moving hurricanes exist, relative to the central circulation? Why do they occur there?

3. Complete all following steps on the map below

    a. Draw where the troughs and ridges are located in the upper-level flow pattern.
    b. Draw an "L" where you might expect a surface cyclone to develop and strengthen.
    c. Illustrate where you expect the location of upper-level divergence and convergence.
    d. Draw a "+" or "-" where you expect cyclonic and anticyclonic absolute vorticity.
    e. Why is the vertical structure of pressure (i.e. position of troughs relative to lows at the surface) important for cyclone maturity? What wind process plays an important role in deepening of the surface cyclone?



4. a) What is *upwelling*?

b) How does upwelling impact local economies on the coasts where it occurs?

c) What ENSO signal would you expect to be present if you observed upwelling along the coast of California?

5. ENSO oscillations can have a direct impact on atmospheric patterns in West Texas.

a) What kind of weather anomalies would you expect during an El Nino in West Texas?

b) What about during a La Nina?