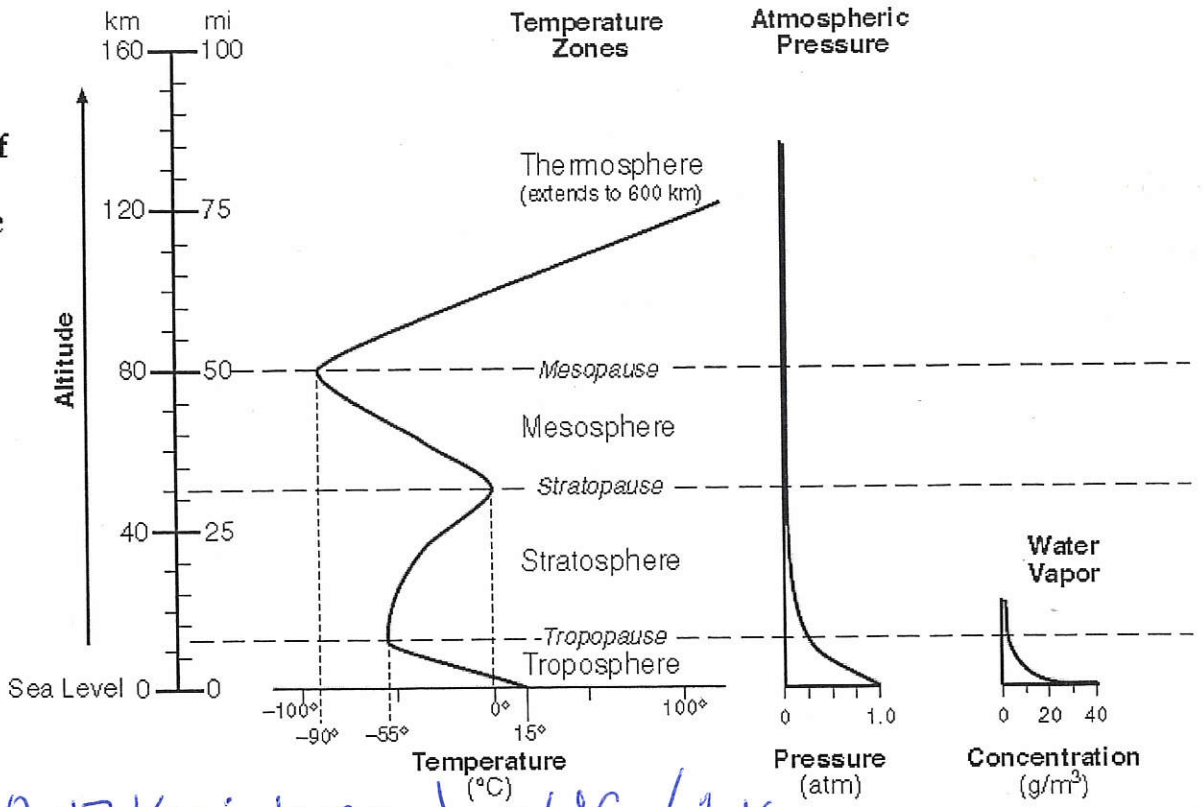
Selected Properties of Earth's Atmosphere



Troposphere: 0-17 Km; temp ↓ ~ 6°C / 1 Km experience huge drops in pressure as ↑ elevation > 80% of atmosphere

Stratosphere: 17-48 Km; temp ↑ as ↑ elevation, very low pressure; ozone layer is at the bottom of this layer releases heat

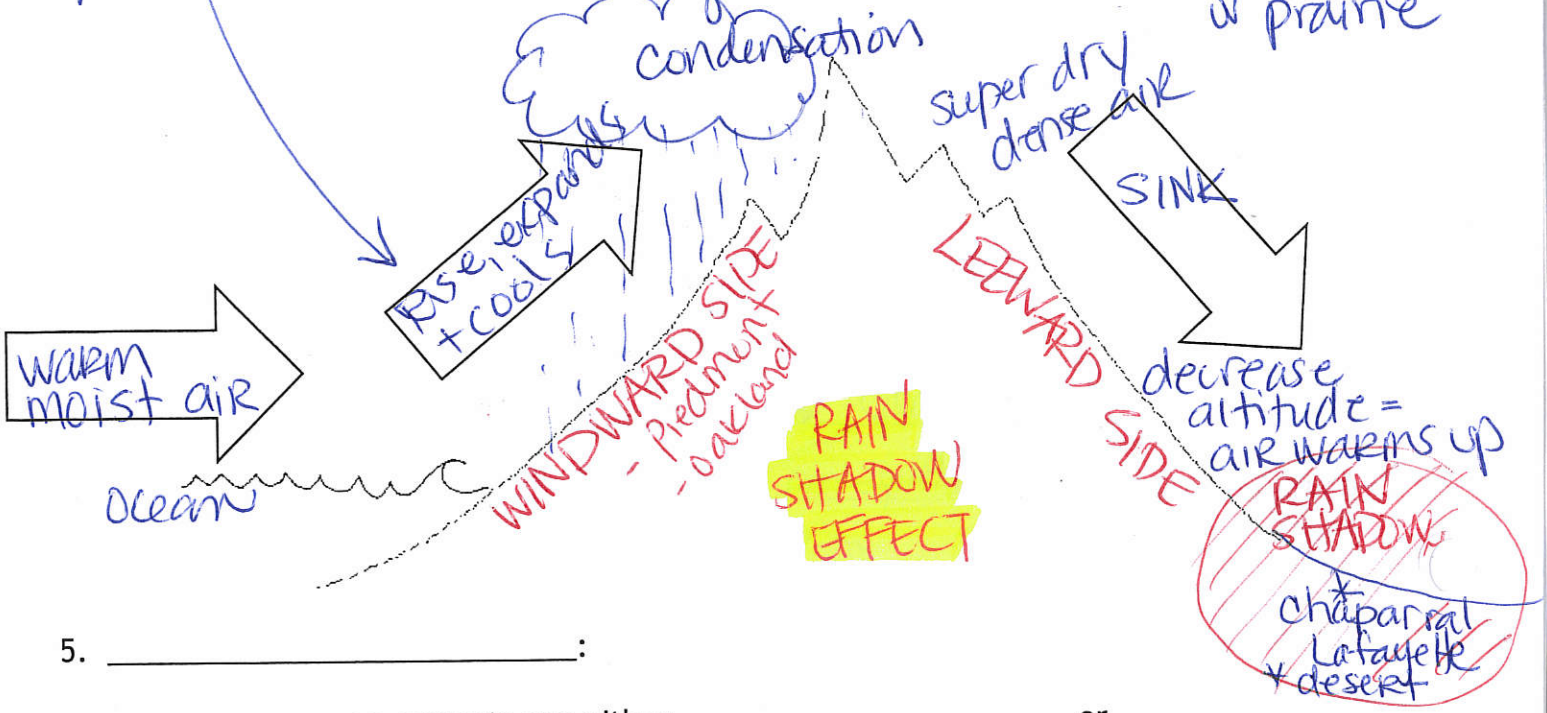
3. Proximity to Water:

- Water has a high specific heat (energy required to raise the temperature of 1 gram 1°C).
- Land warms up and cools down quickly because it has a lower specific heat.
- The closer you are to a large body of water the smaller the annual/daily temp range (SF = 11°C) (Singapore 1°C)
- The continental interiors (ex Kansas City 28°C (-1°C → 27°C)) have larger annual temp ranges

4. Topography:

- Climates often differ on either side of a mountain range (or large hills) because...
  1. As air rises over a mountain it expands/cools as it cools water vapor condenses and it forms fog, wispy clouds, rain...
  2. As air (that is now dry) flows down the other side it warms up and creates a dry climate (ex. desert, chaparral or prairie)

adiabatic cooling - cools due to expansion



5. _____:

- ocean currents can either _____ or _____ the areas nearby.
- Depending on where the ocean current comes from it may be considerably warmer (ex. _____) or cooler (ex. _____).
- Currents from the poles _____ and create cool relatively _____ climates.