

CE 326 Principle of Environmental Engineering Air Pollution Meteorology

I. Atmospheric Engine

- atmospheric s_____ (and weather) is a function of t_____ and p_____
- wind flows from h_____ pressure areas to l_____ pressure areas
- in absence of earth's rotation, wind would be p_____ to constant pressure lines (i_____)
- earth's rotation creates C_____ effect

II. Atmospheric Stability

- tendency of atmosphere to r_____ or e_____
- vertical air movement is termed s_____
- there are three categories of stability depending on the l_____
- r_____ – rate of temperature change as a function of elevation
 - a. neutral – d_____ a_____ l_____ r_____
 - b. unstable – s_____ lapse rate
 - c. stable – s_____ lapse rate
 - i. isothermal – no change in t_____ with e_____
 - ii. i_____ – temperature increases with elevation

III. Terrain Effects

A. H_____ I_____ E_____

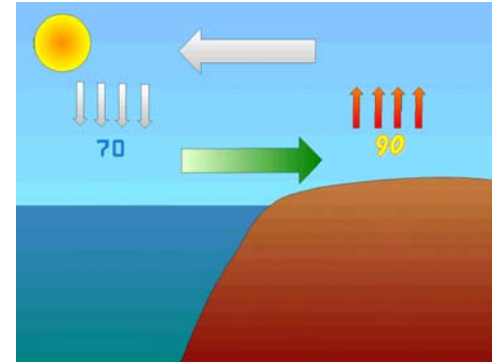
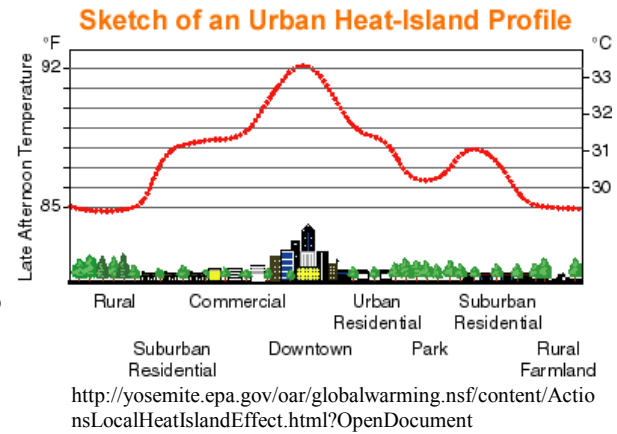
- mass of material that a_____ and e_____
- heat at a greater rate than surrounding area
 - stability over heat islands is l_____
 - good for g_____ l_____ sources
 - bad for t_____ s_____

B. Land/Sea Breeze

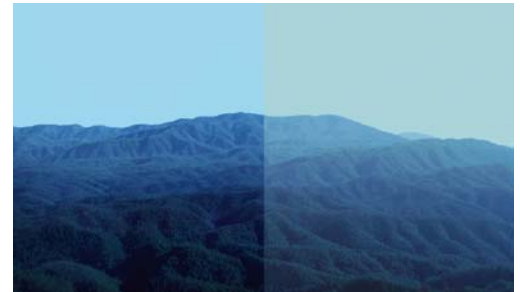
- land c_____ more rapidly at night than sea – l_____ breeze
- land h_____ faster during day – s_____ b_____

C. Valleys

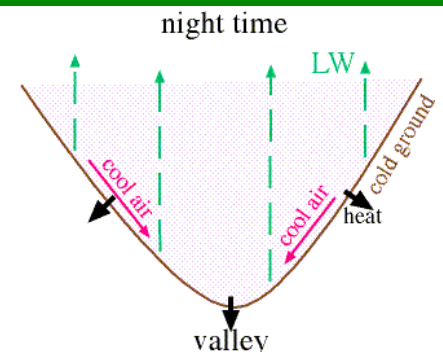
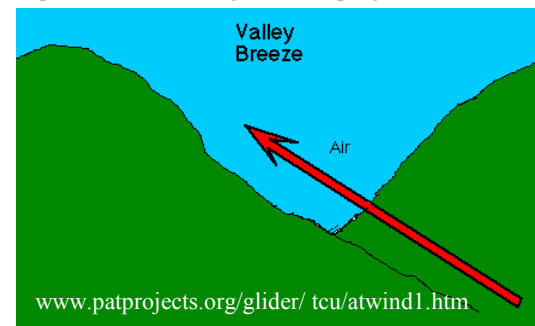
- valleys at an a_____ a_____ to the prevailing wind will direct a portion of wind into the valley
- valleys oriented in the n_____ -s_____ direction are more susceptible to inversions than east-west direction
- during daytime sun heats valley floor – v_____ breeze
- during night – h_____ breeze
- early day – i_____ possible



http://flame.fl-dof.com/fire_weather/info/misc/sb.html



<http://www.atdd.noaa.gov/ETOS/program.html>



<http://apollo.lsc.vsc.edu/classes/met130/notes/chapter10/mtn.html>