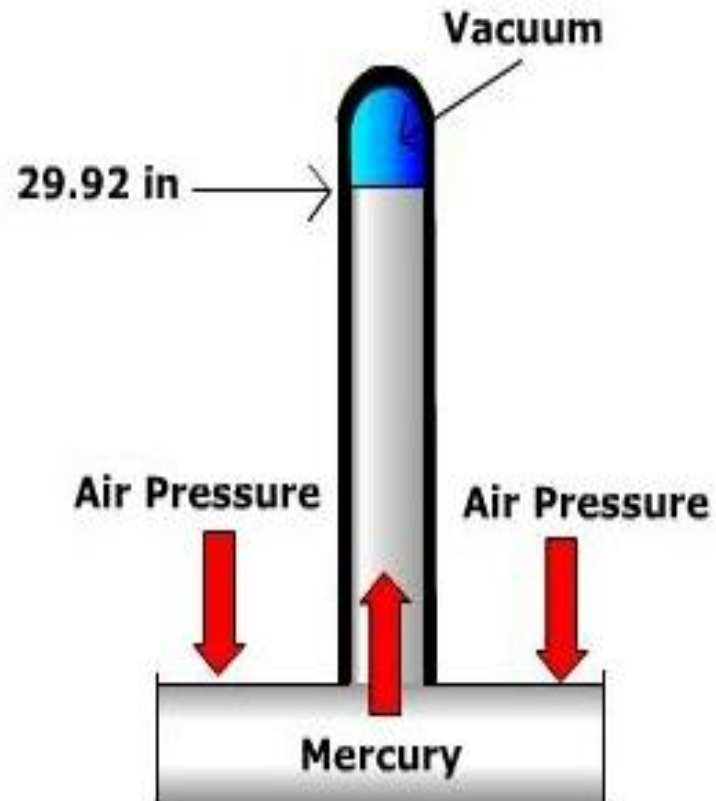
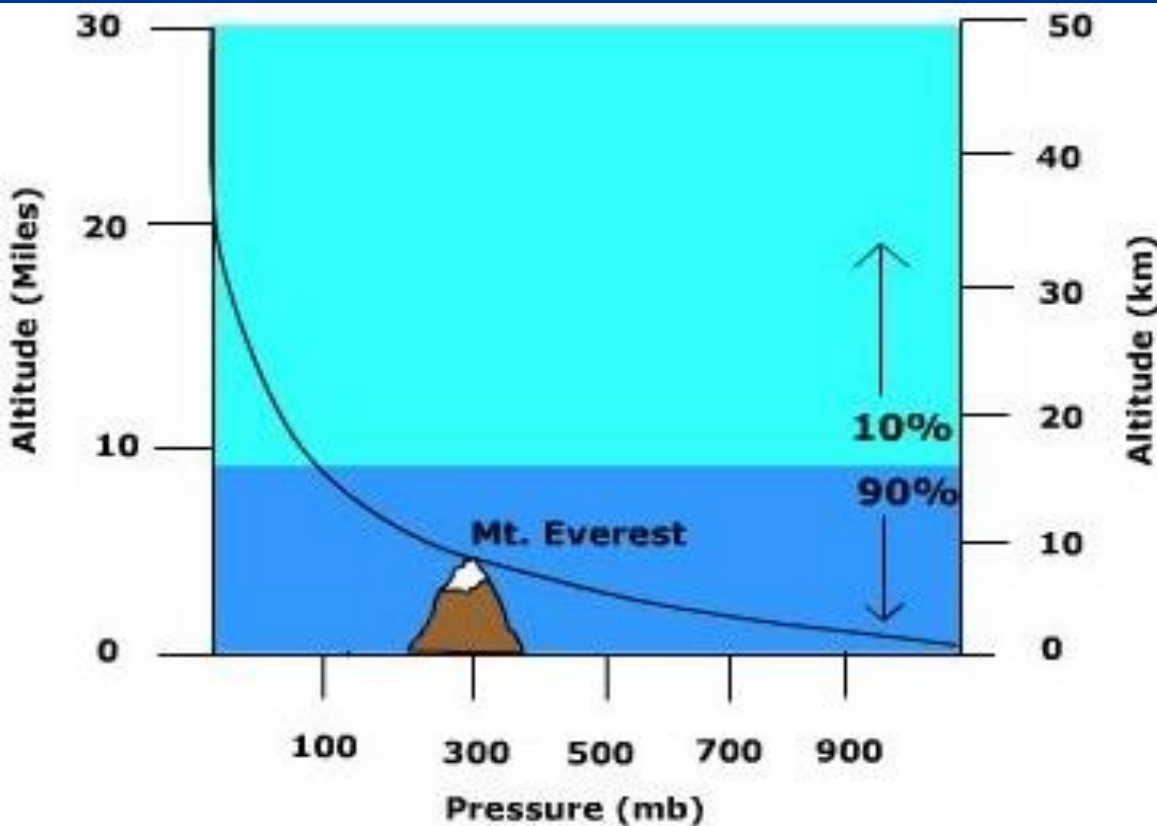


# *Air Pressure Intro & Wind Systems*

Unit 6 - Ch 19.3

# Air Pressure

- DEF: – *Force* exerted by *weight* of air above in *ALL* directions



# Air Pressure on *Wind*

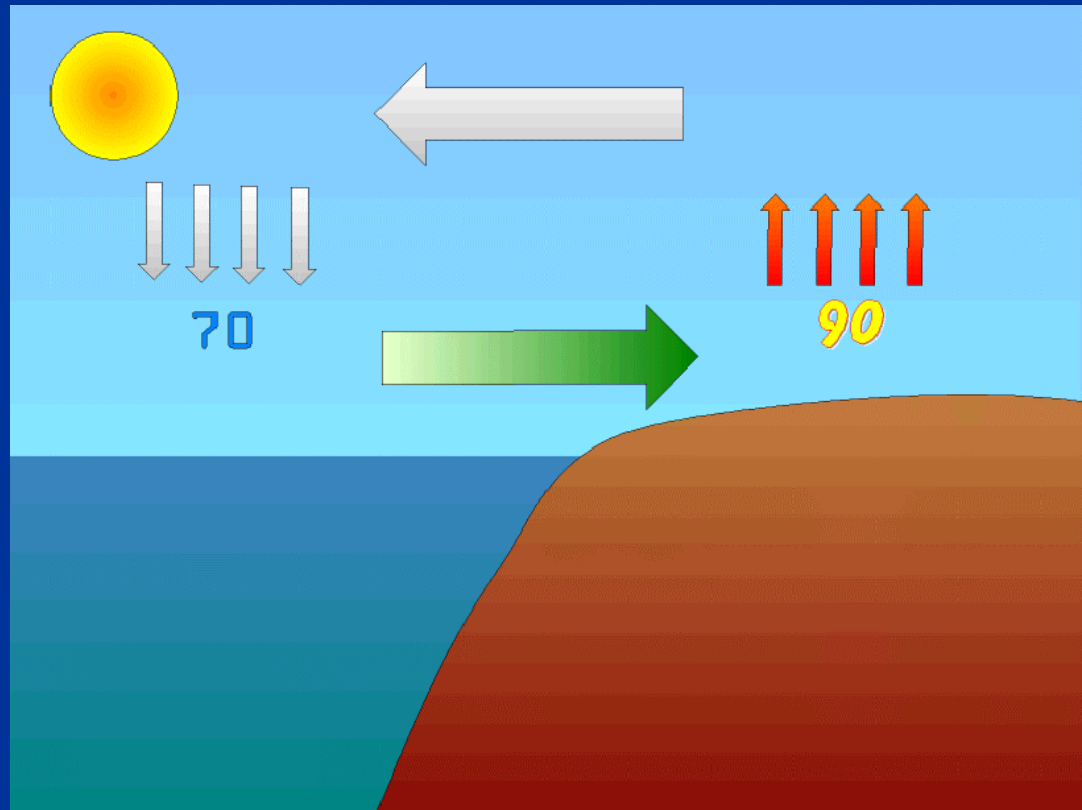
- Wind – Horizontal differences in *air pressure* due to UNEQUAL heating of Earth



- Winds flow from high to low pressure areas
- Greater pressure difference = Faster wind speed

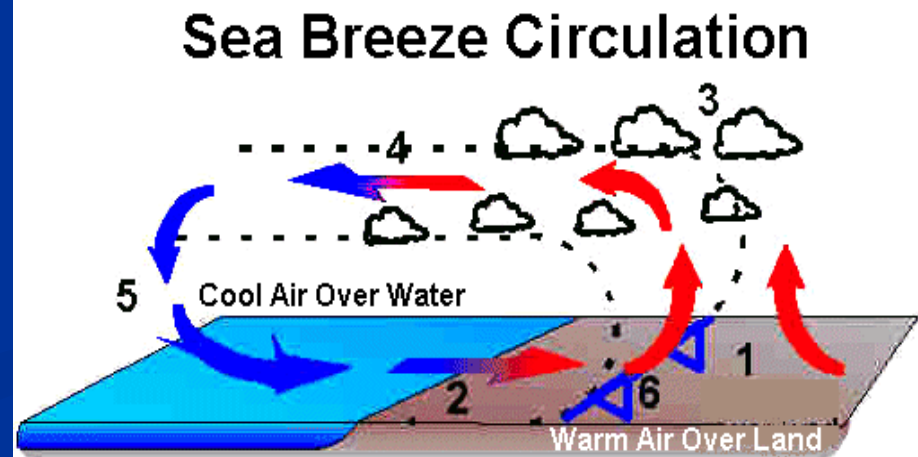
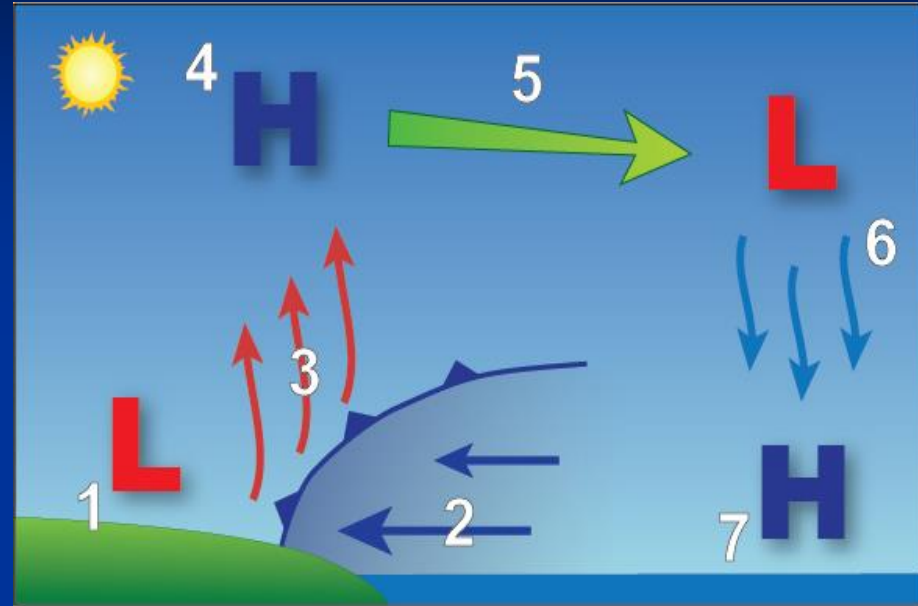
# Local Winds

- Produced by *topographic* effects or **variations** in surface composition

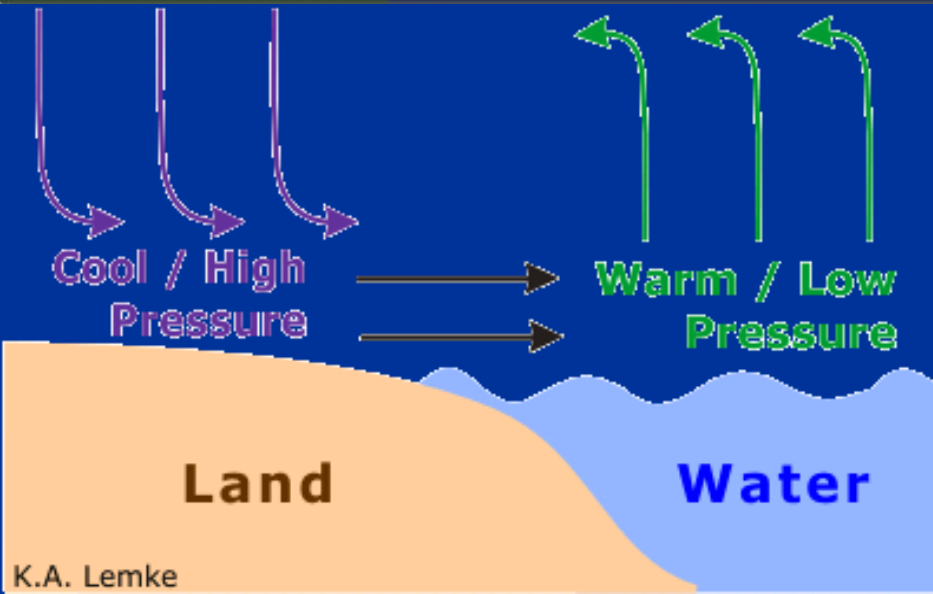
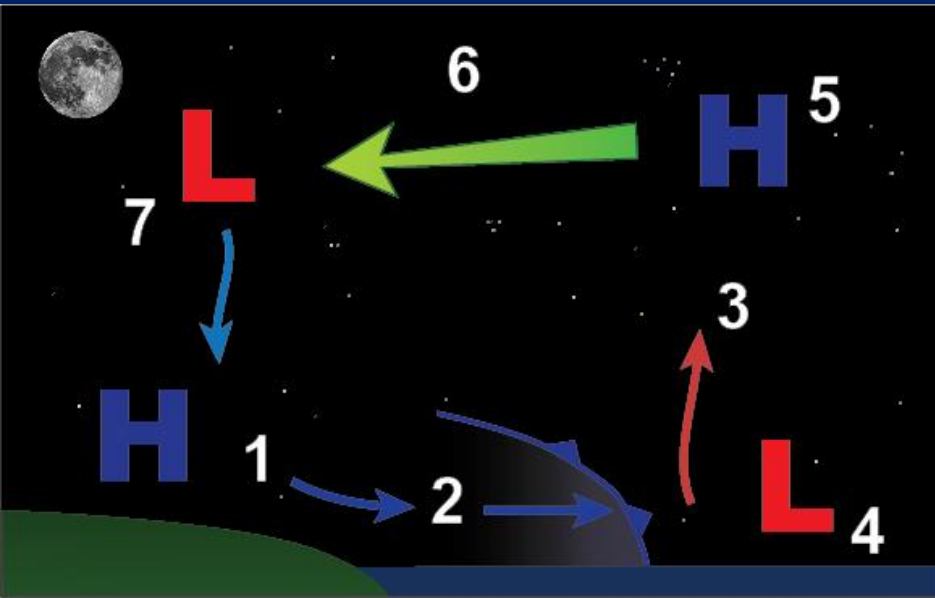


# Sea Breeze

- Land heats more rapidly during day than water (*land's low specific heat*)
- Creates LOW pressure over **LAND**
- **Cooler** air over *water* moves onto **land** (*High → Low*)



# Land Breeze



■ Land cools more rapidly during night than water

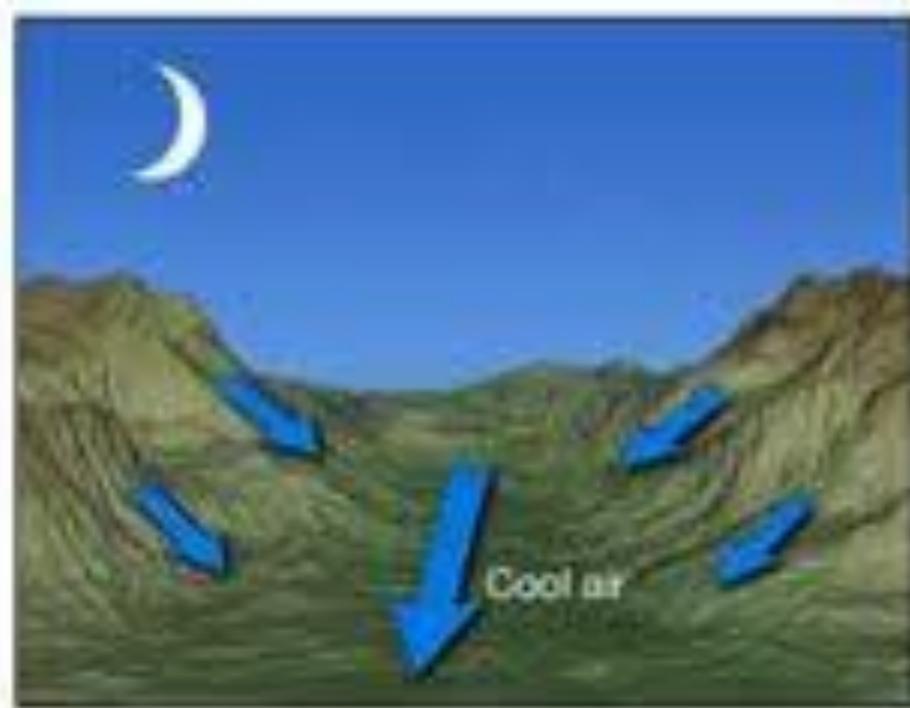
■ LOW air pressure over *water* moves toward **ocean**

■ (*High* → *Low*)



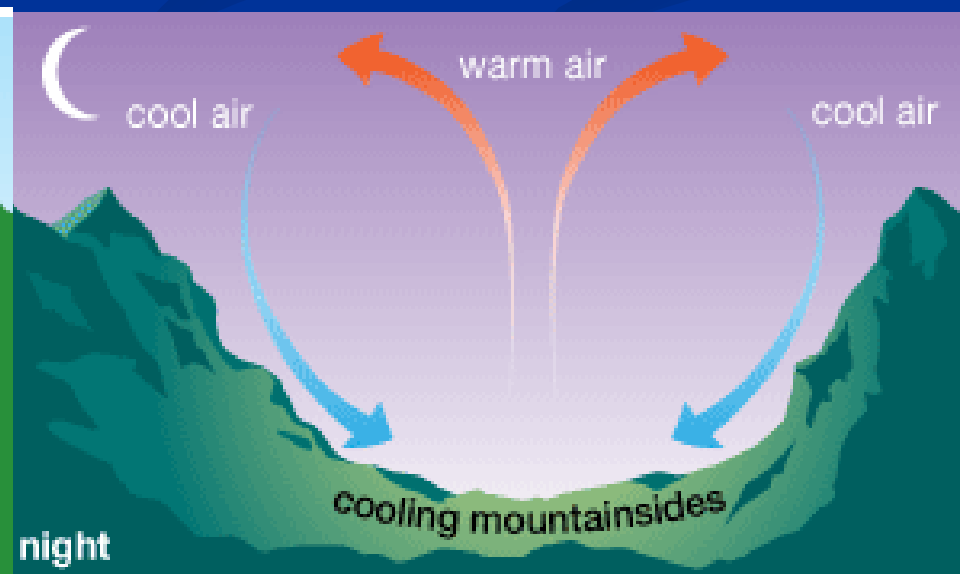
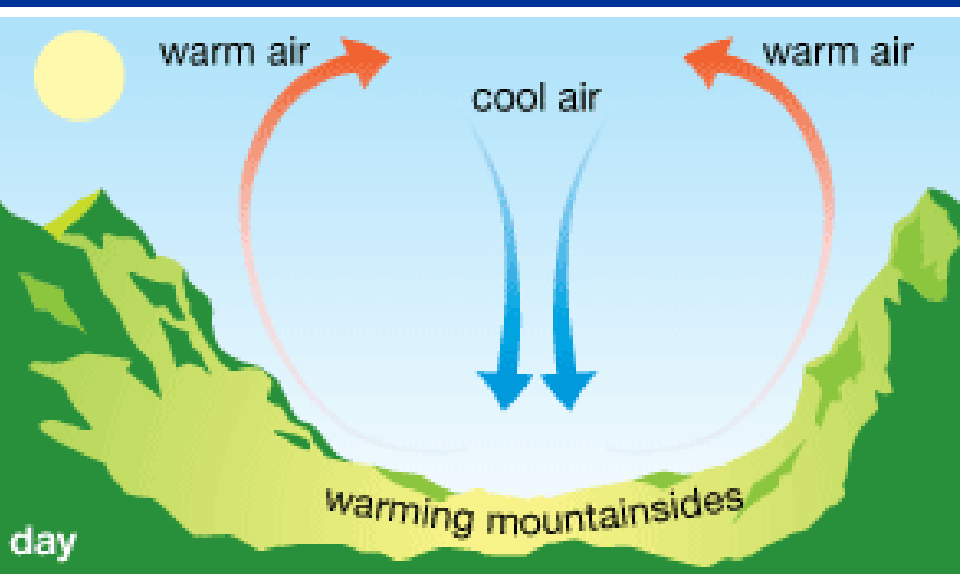
# *Valley/Mtn Breeze*

- During the day, air along *slopes* of mountains is heated more **intensely**



# Valley/Mtn Breeze

- After sunset, rapid *cooling* air along slopes produces layer of *cooler* air on ground





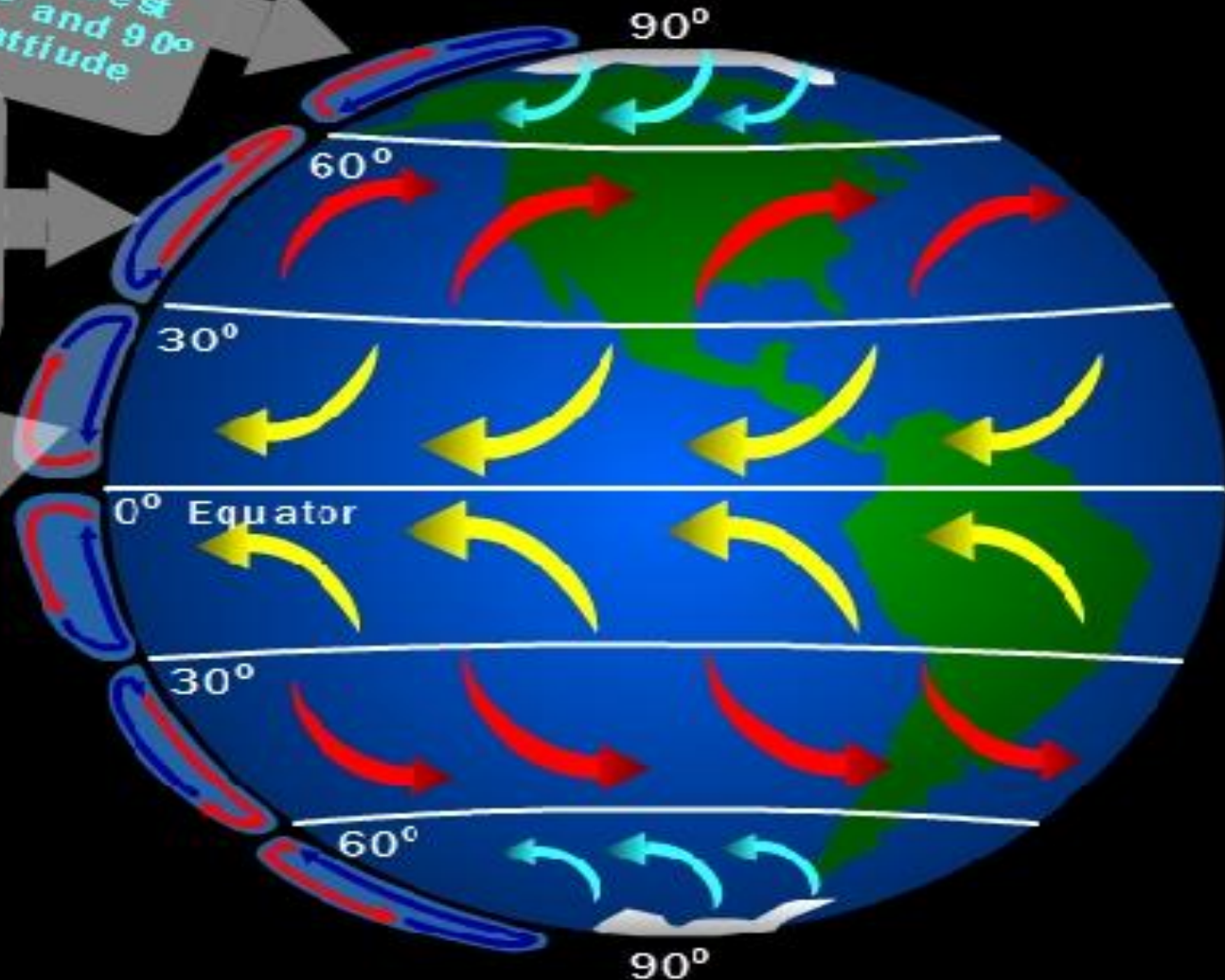
# GLOBAL WINDS

**EASTERLIES**  
Winds that blow  
from east to west  
between 60° and 90°  
degrees latitude

**WESTERLIES**  
Winds that blow  
from west to east  
between 30° and  
60° degrees latitude

**TRADEWINDS**  
Winds that blow  
from east to west  
between 0° and  
30° degrees  
latitude

- = Warm Air
- = Cold Air
- ↖ = Tradewinds
- ↗ = Westerlies
- ↖ = Polar Easterlies



# *Global Temperature Zones*

