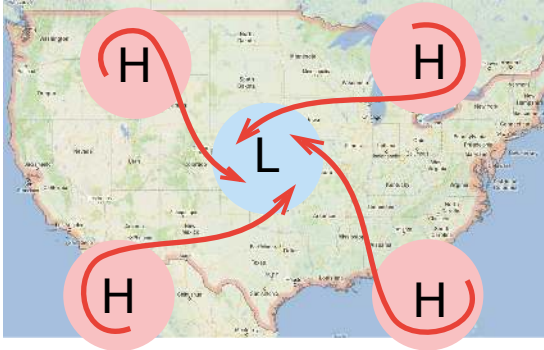


Chapter 6 - Weather (1)

Heating of the Earth

- Every process of weather is a result of heating of the Earth`s surface
- Development of Thermals depend on solar heating
- Variations in altimeter setting depend on solar heating.

Circulation and Wind



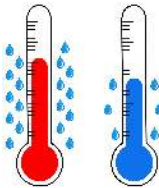
In the Northern Hemisphere:

- Clockwise around the High
- Counterclockwise direction around LOW
- Closer Isobars, stronger Wind
- Due to surface friction, surface Winds are not parallel to the Isobars (move outward from the center of High)

Temperature

- Standard Temperatur at Sea Level is 15°C (59°F)
- Temperatur increases with 2°/1000ft (Inversion)
- Inversion (good visibility in lower levels, poor visibility above)
- Inversion is produced by terrestrial radiation on clear still nights

Moisture



- Air has Moisture (Water Vapor) in it.
- Warm air can hold more Moisture in it than cold air
- Air with 100% relative humidity is said to be **saturated**
- Moisture can be added by evaporation or sublimation
- Moisture can be removed by condensation or sublim.

Air Masses and Fronts

Dew point - Temperature to which air must be cooled to be saturated
 If **Temperature/Dewpoint** spread small <5°F -> Fog and low clouds

Symbol	Description
	Cold front
	Cold front aloft
	Warm front
	Stationary front
	Occluded front
	Squall line
	Trough
	Ridge

- A frontal passage will be indicated by:
- Temperature change
 - Decrease in pressure followed by an increase as the front passed
 - Shift in wind direction and/or speed

A sea breeze front is suitable for soaring during afternoon