

SEASONS & CLOUD FORMATION

Unit 6 - Ch 18.2

SOLSTICES

June 21-22

- First day of **SUMMER**

- ***Northern Hemis***
leans 23.5° **towards**
Sun

Dec 21-22

- First day of **WINTER**

- ***Northern Hemis***
leans 23.5° **away**
from Sun

EQUINOXES

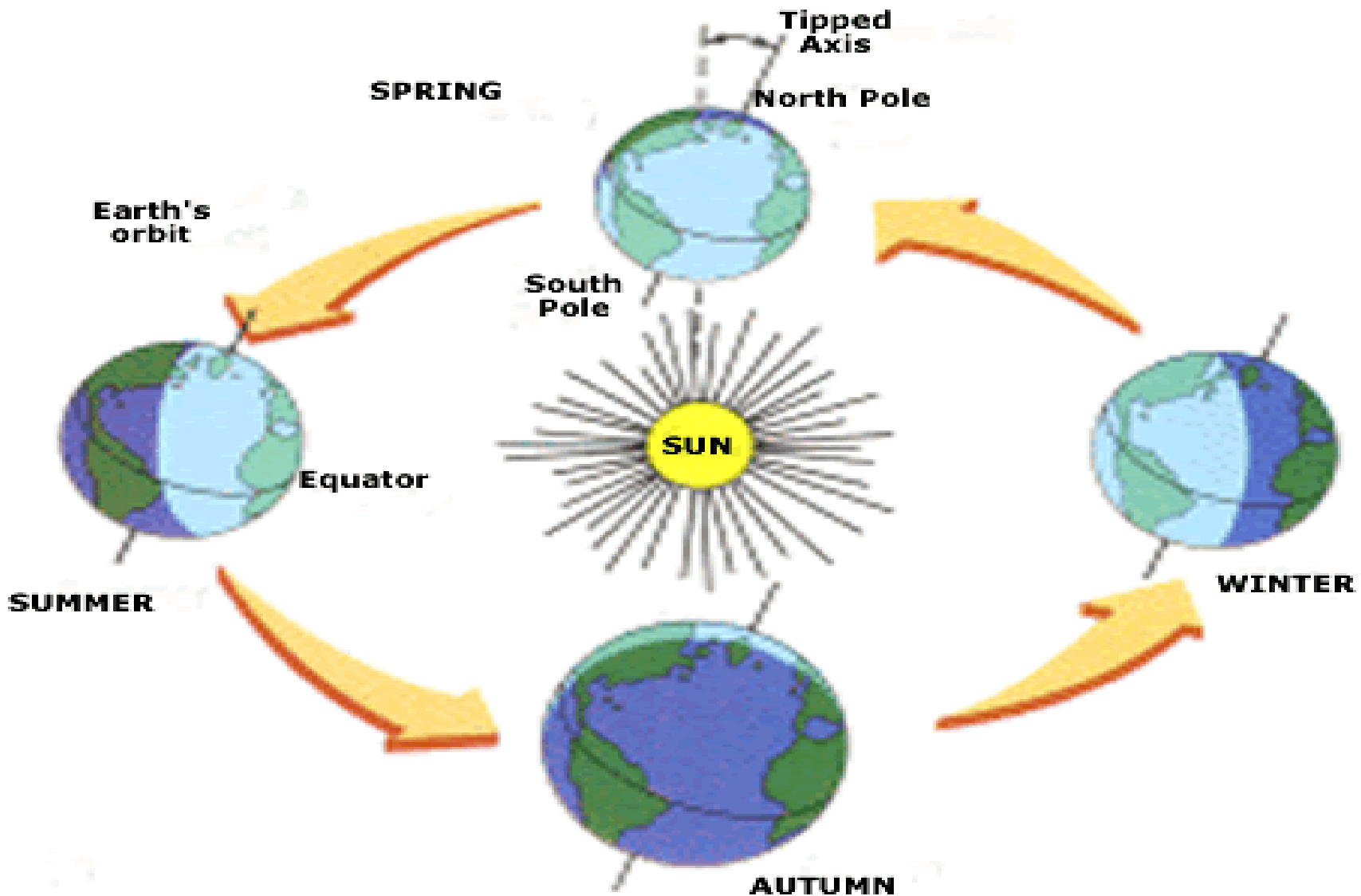
Sept 22-23

- ◉ First day of **FALL** in ***Northern Hemis***
- ◉ **Vertical** solar rays strike **Equator**

March 20-21

- ◉ First day of **SPRING** in ***Northern Hemis***
- ◉ **Vertical** solar rays strike **Equator**

Earth's Axial Tilt & Seasons



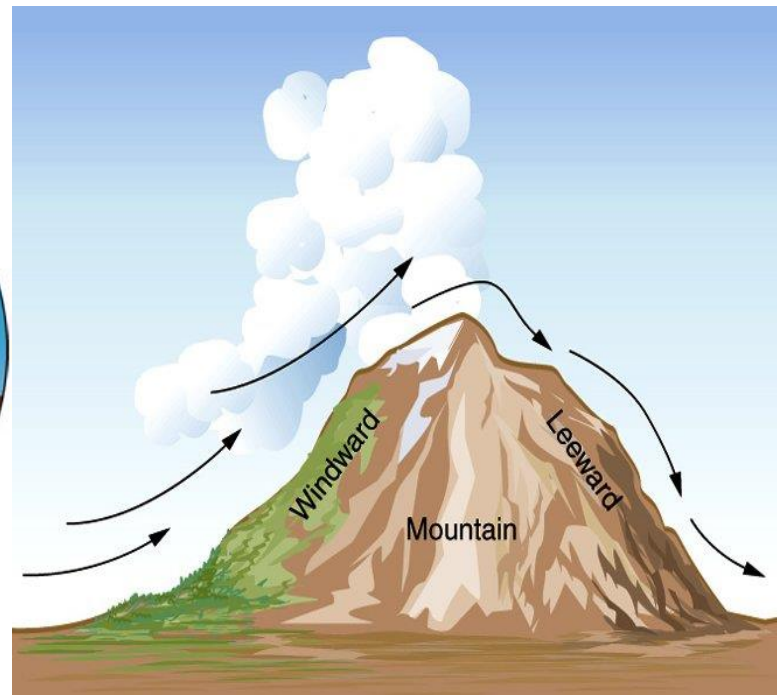
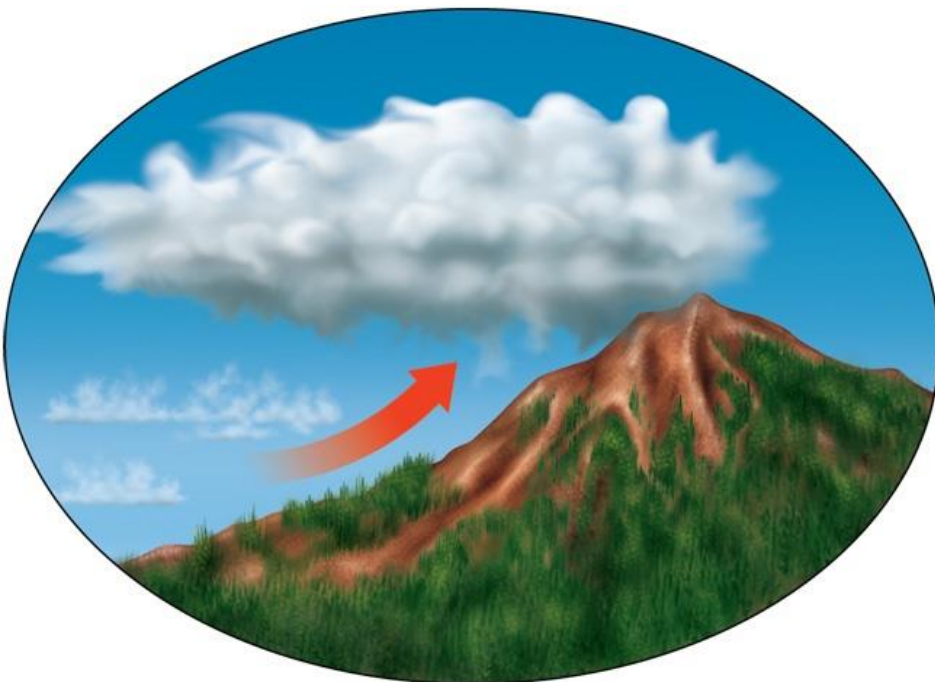
CLOUD FORMATION & TYPES

Unit 6 - Ch 18.2

PROCESSES THAT LIFT AIR

◉ Orographic Lifting - **Wind** encounters a *mountain* and forced UP its side

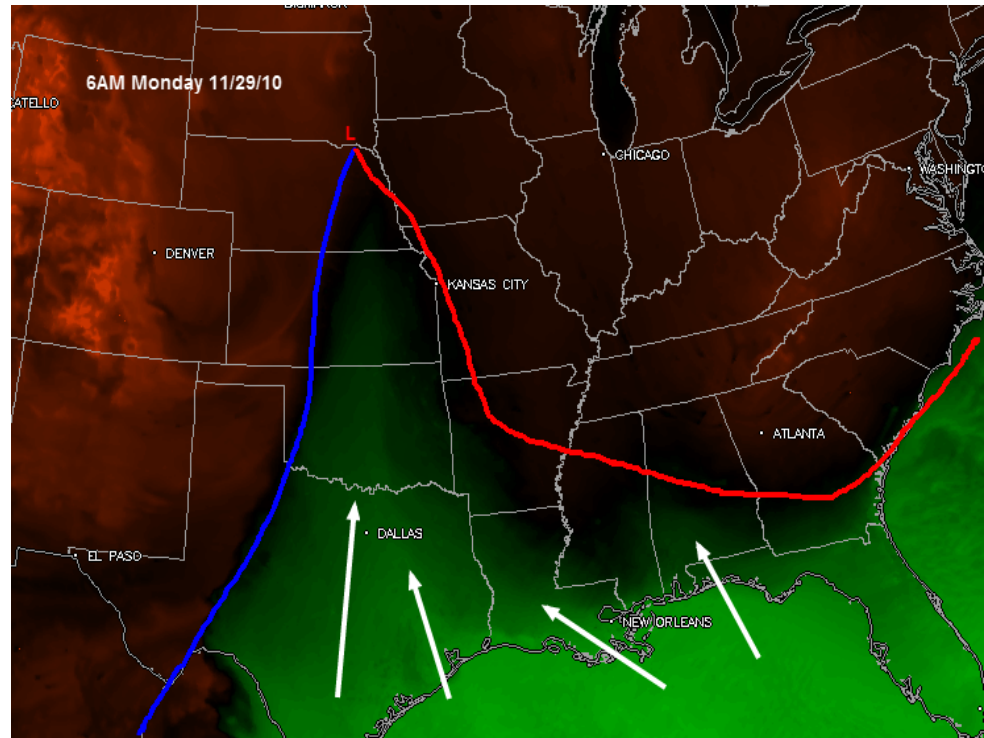
- Air cools & expands producing **clouds** (precip) on **windward** & clear on **leeward**



PROCESSES THAT LIFT AIR

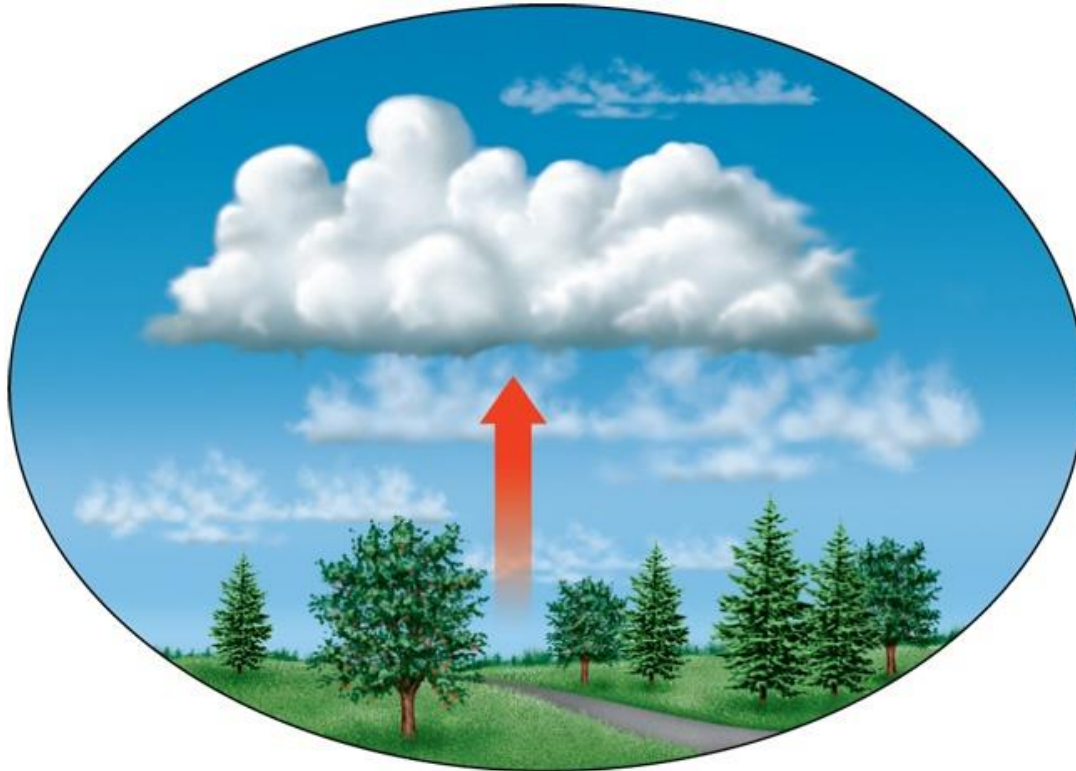
- ◉ Frontal Wedging - **Warm** & **cold** air collide → Produces a **front**

- **Warmer** (less dense) air rises above **cool** (**denser**) air



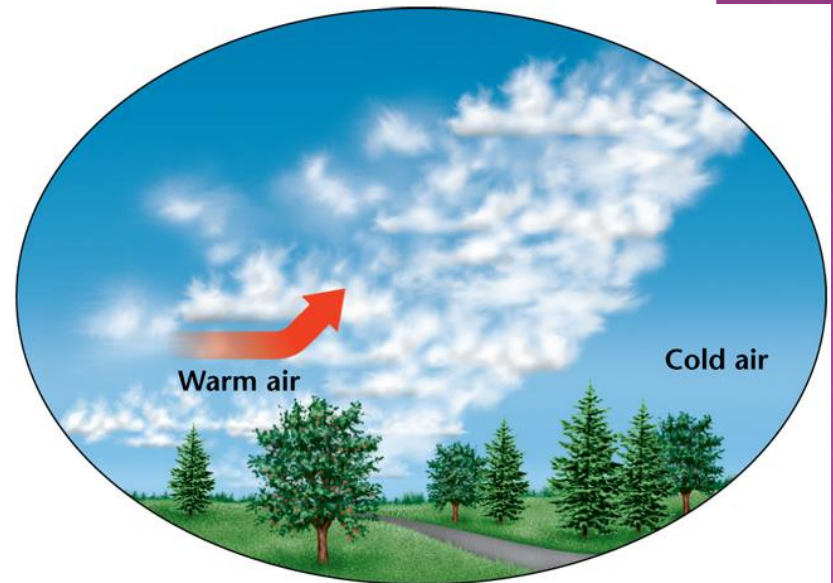
CLOUD FORMATION

- 1) **Warm** (less dense), **moist** air rises



CLOUD FORMATION

- 2) **Warm** and **cold** air masses collide
 - During collision, **warm** air **forced** to rise over denser, **cold** air
- 3) Rising air **cools** & **expands** around air particles & water vapor **condenses** (clouds)



STRATUS CLOUDS

- “*Layer*”
- Low clouds
- ***Sheets/layers*** covering much of sky
- Light precip



CUMULUS CLOUDS

- “**Pile**”
- Rising **domes** or **towers**
- Small or large
- **Precip/storm** clouds



CIRRUS CLOUDS

- ***“Curl of Hair”***
- ***High, wispy,***
and ***thin***
- ***Feathery***
appearance
- ***NO precip, but***
warning



THE BOTTOM LINE

- Cloud Stability – Ability of air to *resist rising*
 - Determined by *temp of air* versus *temp of surrounding* air
- Sinking air = **STABLE**
- Rising air = **UNSTABLE**

