

# Climate Systems

Chapter 20.3 & 21.1

## CLIMATE

- Uses **ANNUAL average** of **precip** & **temp** patterns over **LONG** period of time
  - Usually **~111 years** of data are used



Just as weather differs *daily*, climate also differs from *place to place*

Seattle, WA  
Cool  
Moist

Houston, TX  
Warm  
Moist

Phoenix, AZ  
Hot  
Dry

Barrow, AK  
Cold  
Dry

**YOU CONTROL CLIMATE CHANGE.**



TURN DOWN. SWITCH OFF. RECYCLE. WALK. **CHANGE**

## CLIMATE

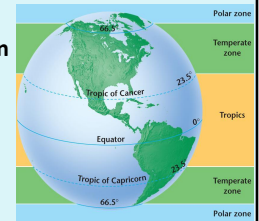
- Climate characteristics can influence **vegetation, wildlife, cultural landscapes, & lifestyles**

### What causes CLIMATE?

- An area's climate is caused by a combination of three factors:
  - Latitude
  - Topographic Effects
  - Air masses

### 1<sup>st</sup> Cause of Climate: Latitude

- Most important cause!
- The latitude determines how much solar radiation an area receives due to **Earth's tilt**.
  - Equator = little tilt = high solar radiation
  - Poles = high tilt = little solar radiation



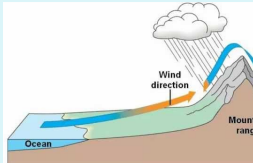
## 2<sup>nd</sup> Cause of Climate: Topographic Effects

### • Land vs. Water

- Coastal areas = wetter and moderate temperatures
- Inland areas = drier and more extreme temperatures

### • Elevation

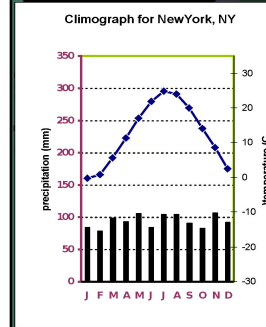
- Mountains = cooler
- Lower elevations = warmer



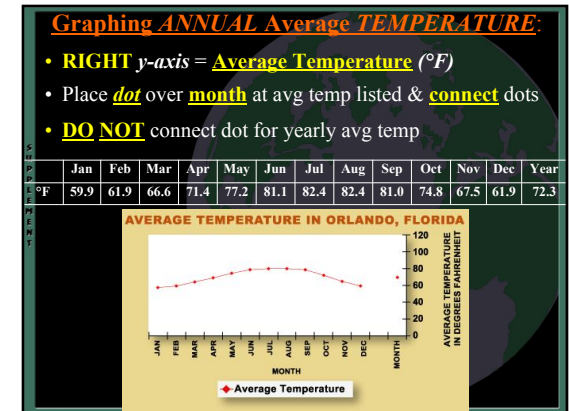
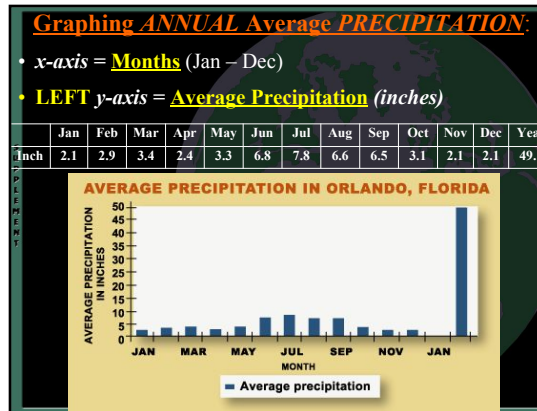
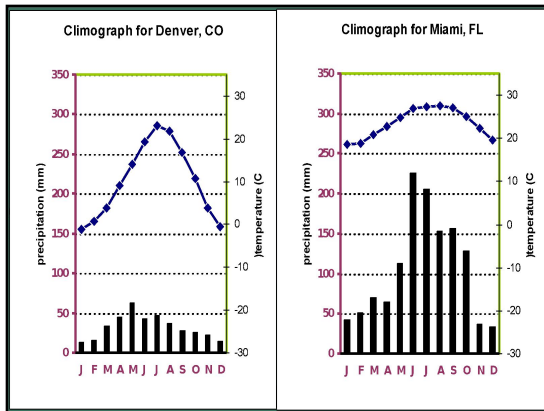
## 3<sup>rd</sup> Cause of Climate: Air Masses

- Same types of air masses move into the same area at the same time each year.
- Air masses bring the characteristics of their source regions (cP, mT, etc).
- Air masses moving in interact with the air masses present to influence climate.

# CLIMATOGRAMS



- Displays **annual average precip & temp** for any area
- Used to **compare** climate in different places



## Putting It Together...

- Include title & symbols key that represents avg precip and avg temp

