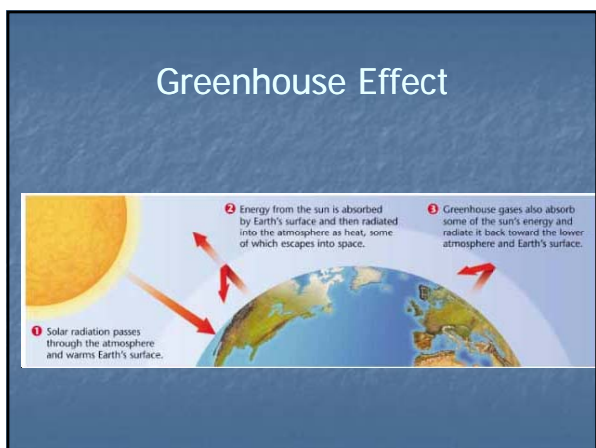


Global Warming

From Section 13.3

- ## Greenhouse Effect
- gases in the atmosphere allow light energy to enter the atmosphere but do not allow the heat to escape
 - The gases act like the glass of a green house
 - These gases hold on to the heat and re-radiate heat back to earth



Greenhouse gases

- Carbon Dioxide
- Water Vapor
- CFC's
- Methane
- Nitrous Oxide

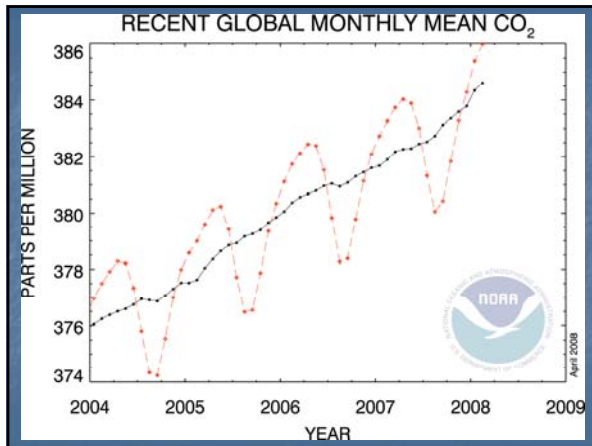
- Water and CO₂ are most responsible for trapping heat

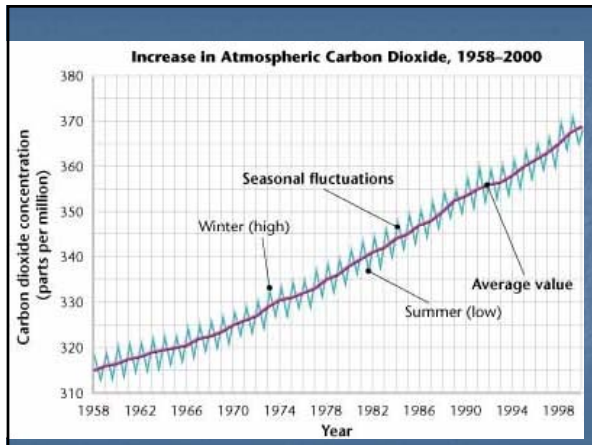
How much CO₂ is there?

- Forests?
- lower levels
 - Photosynthesis turns it into oxygen
- Cities?
- higher levels
 - Car and industrial exhaust from burning fossil fuels raises local levels

How much CO₂ is there?

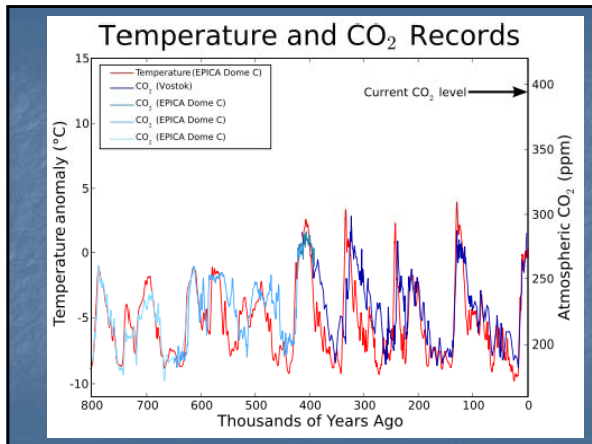
- Seasonal Variation ([WEB ANIMATION](#)) ([HD file](#))
- Summertime levels lower
- Wintertime levels increase
- Why?
- NH has more land/plants
- more plant growth in NH summer
- Photosynthesis turns CO₂ into Oxygen





How certain is global warming?

- CO₂ traps heat
- Increased CO₂ production will trap more heat
- Scientists correlate CO₂ measurements with global temperature measurements
- An increase in both is observed but...



How certain is global warming?

- But....
- The level of current CO2 is higher than ever measured in the past
- We are waiting to see if the global temperature will soon catch up
- Difficult to predict because climate is so complex

Impact of Global Warming

- Higher temperatures leads to...
- Melting Ice Caps / Glaciers which causes...
- Sea Level rise which...
- Increase coastal erosion
- Cause loss of homes / property
- Disrupt salinity / food webs of wetlands
- Add salt to aquifers
- More - ([AMNH Video](#) file) Melting Ice

Impact of Global Warming (cont.)

- Higher temperatures leads to...
- Warmer Sea Surface Temperatures
- Which impact weather patterns
- Which impacts climate
- Could trigger big changes in ocean currents
- Gulf Stream Shut down leads to Ice Age?
- Plot of the movie "Day After Tomorrow"

Impact of Global Warming (cont.)

- Higher temperatures leads to...
