

# *Climate Change*

*Unit 5, Chapter 8*

# Climate change -- let's talk openly.

Climate change is a social hot topic. But...

What do you think? Is it real, fake, or somewhere in the middle of the hype?

How do you think it ties in with your life?

# unit outcomes

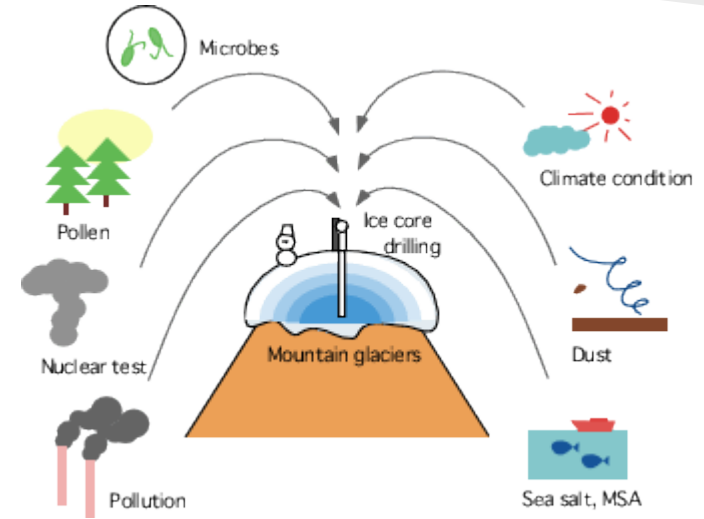
- Discuss how and why we study climate change
- Identify the cause and effect of climate change
- Be able to contrast natural versus human causes
- Argue for advocacy in your life/job?
- Evaluate the arguments for and against climate change

# Measuring the climate

## How do we measure the present?

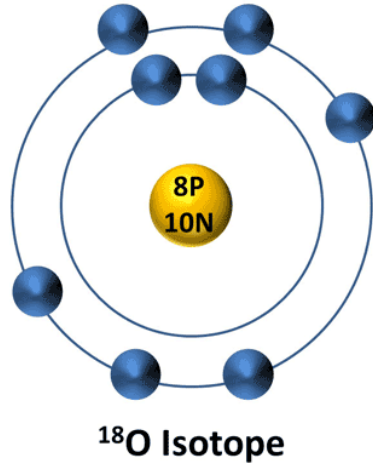
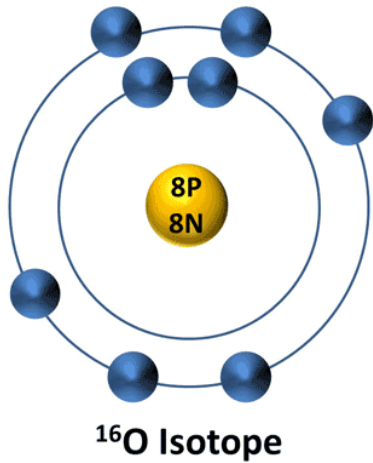
Measuring the past isn't so easy.

- ❖ Isotopes
  - Going up: light first, heavy last
  - Going down: heavy first, light last

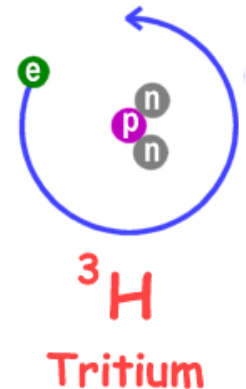
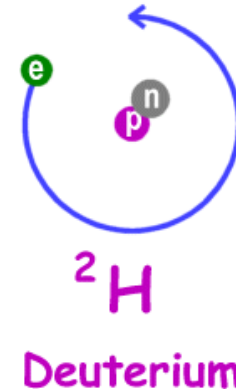
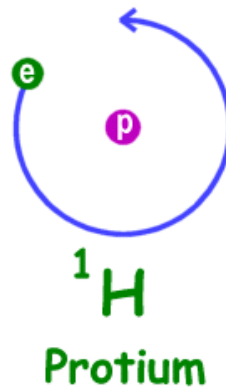


# Isotopes

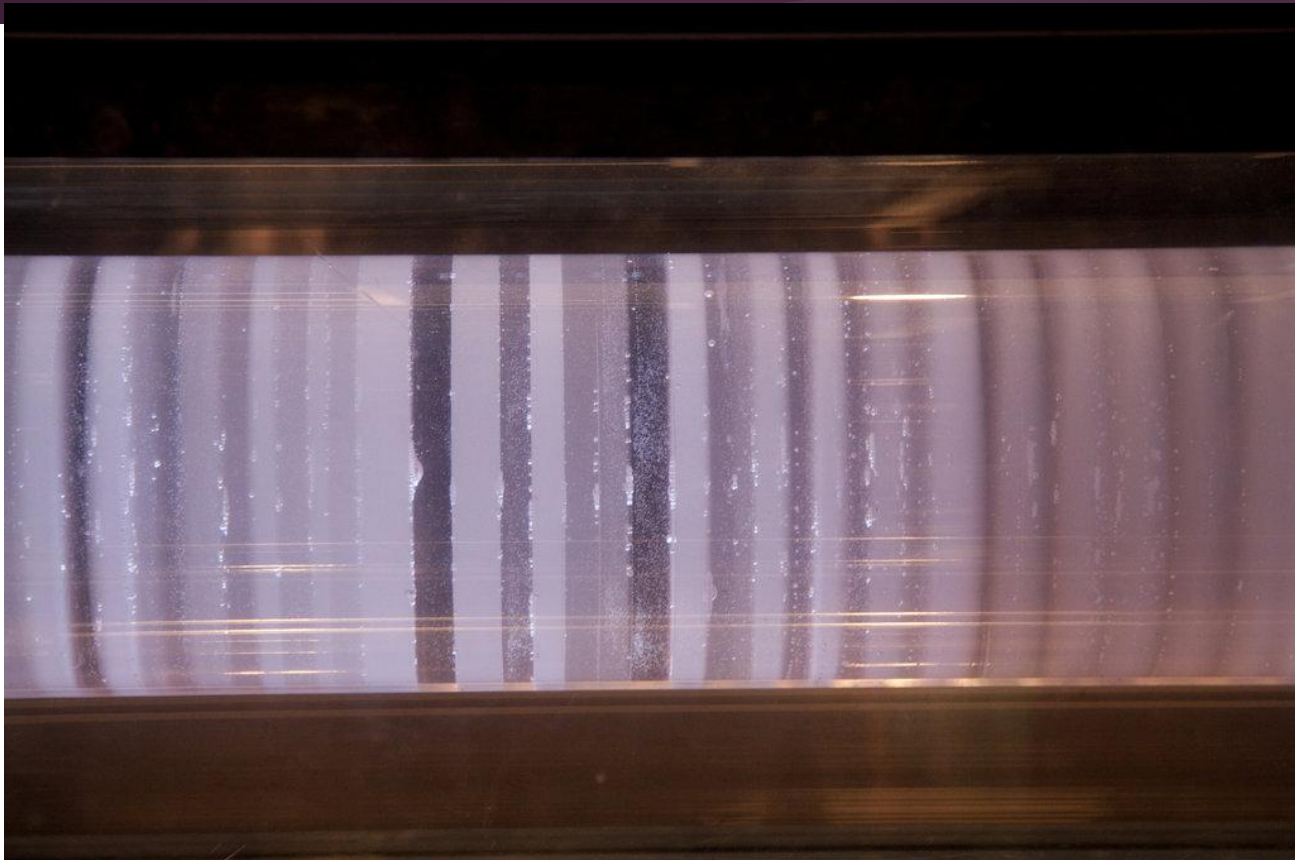
## Oxygen Isotopes



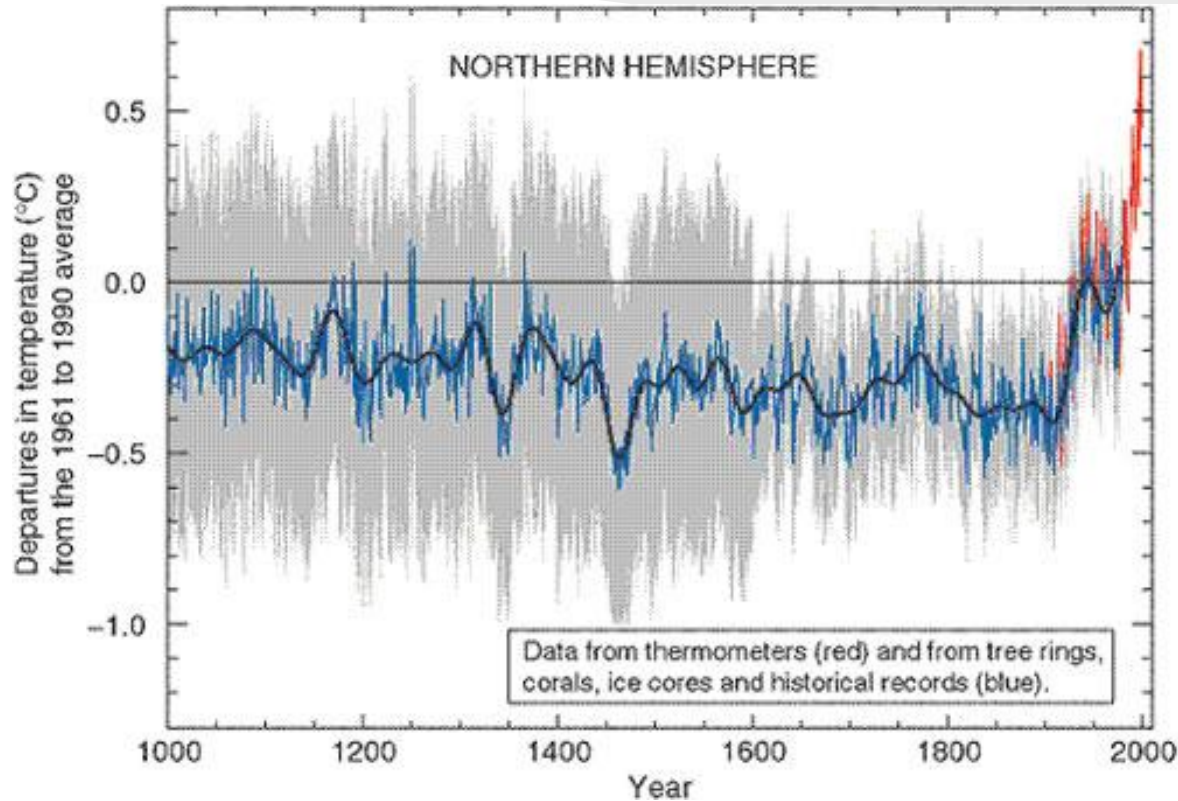
## Three Isotopes of Hydrogen



# The power of ice cores



Add 'em together and you get...



# Background noise & natural change

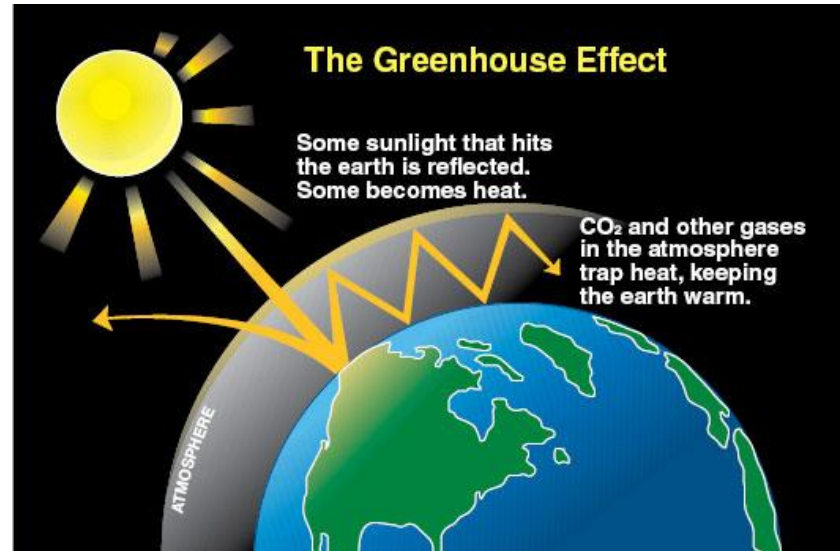
- ❖ Seasonal changes
  - Climate variation
  - El Niño, La Niña (p. 207)
  - Polar vortex
  - Ozone layer changes
  - Sunspots?

**EVIDENCE FOR CLIMATE CHANGE SUSPECT [Marcott  
discussion]**



However, greenhouse gases do rise.

There are more pollutants in the air from our daily activities that create more problems.



# Connect it

What can you think of that happens in everyday life that adds more of these “greenhouse gases” into the environment?

And in your future in law enforcement?

# SOURCES

P. 211

-- We'll also get more into this in chapter 9.

# What will this effect?

A warmer world, in general, is a wetter world.

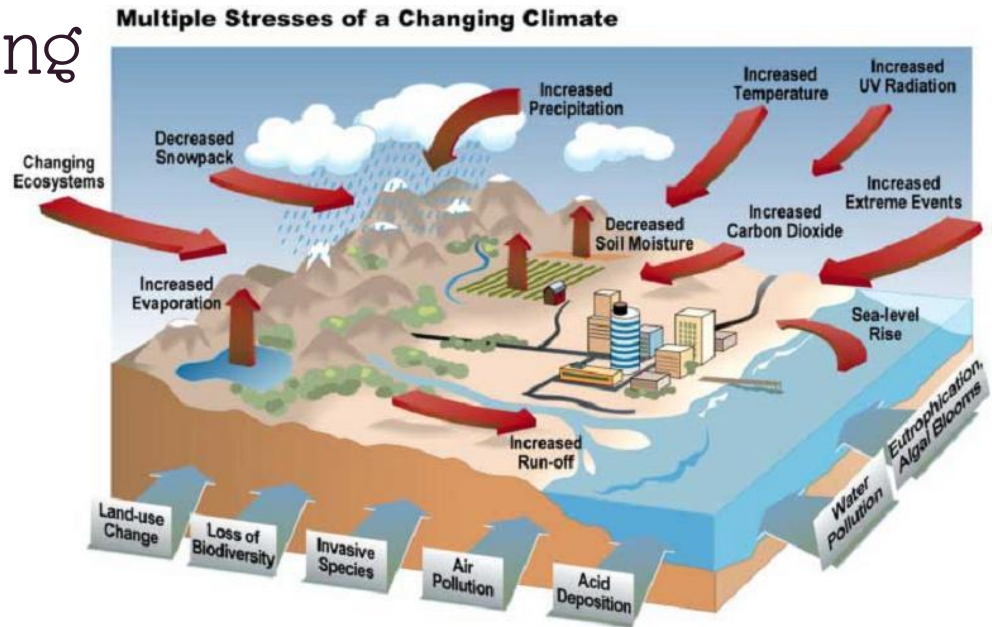
(Hydrologic cycle)

BUT! A few places will be drier.

Glacial retreat... not so much. (Antarctica is growing at this time, the Arctic is shrinking.)

# Other changes

- ❖ Sea levels rise (and land sinks)
- ❖ Biodiversity is changing



# Forecasting the future

There is no crystal ball that accurate.



# Mitigating change

Building a “portfolio” of change

You tell me *which* of the suggested changes you can make now... or in your career. (p. 219 - 227)

# unit homework

## Chapter 8

- 8.3
  - 3
- 8.6
  - 1 - 2
- 8.7
  - 2

## Chapter 9

- 9.1
  - 1,4
- 9.2
  - 1
- 9.3
  - 2

## Extra credit

What is the purpose of an environmental policy? Give an example.

Hint: Use your policy you are using for your 2nd project for your example. Extra credit & work already done? Yes, it is that simple.

Due: 27.May.2015



# Project 2 reminder!

Project two is due at the beginning of next class.

Do you need time to work on it?