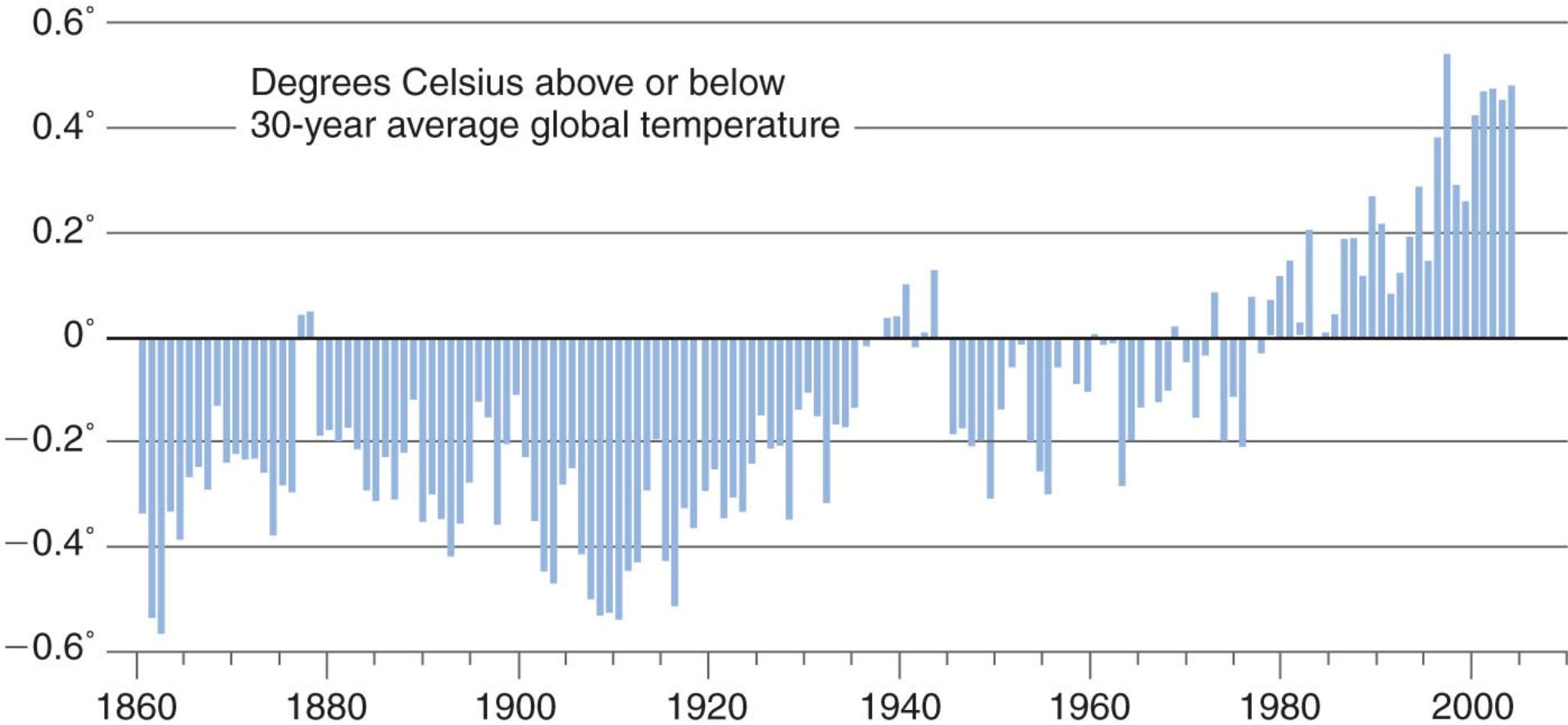


# Special Topic: Climate Change

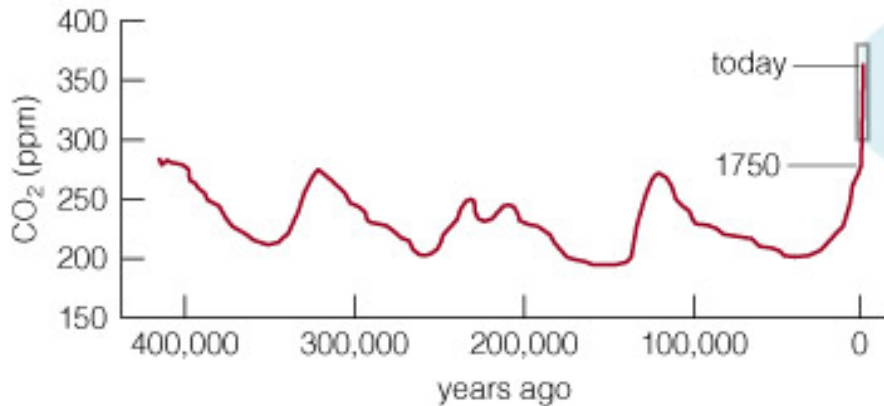
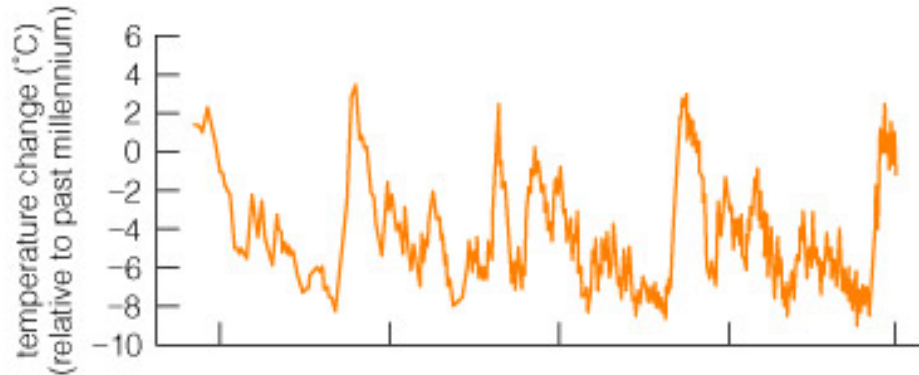
# How is human activity changing our planet?



# Global Warming

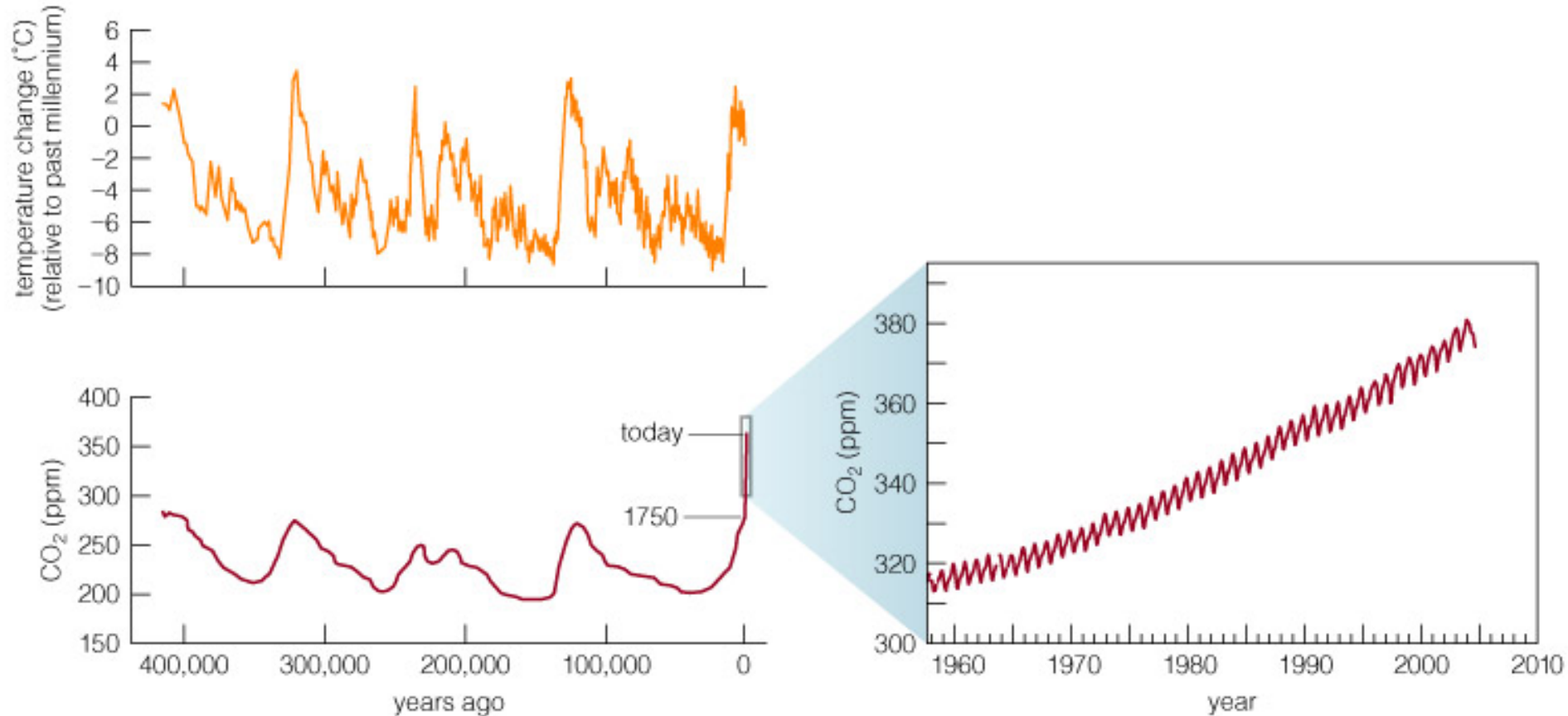
- Earth's average temperature has increased by  $0.5^{\circ}\text{C}$  in the past 50 years.
- The concentration of  $\text{CO}_2$  is rising rapidly.
- An unchecked rise in greenhouse gases will eventually lead to global warming (which really means more weather).

# CO<sub>2</sub> Concentration



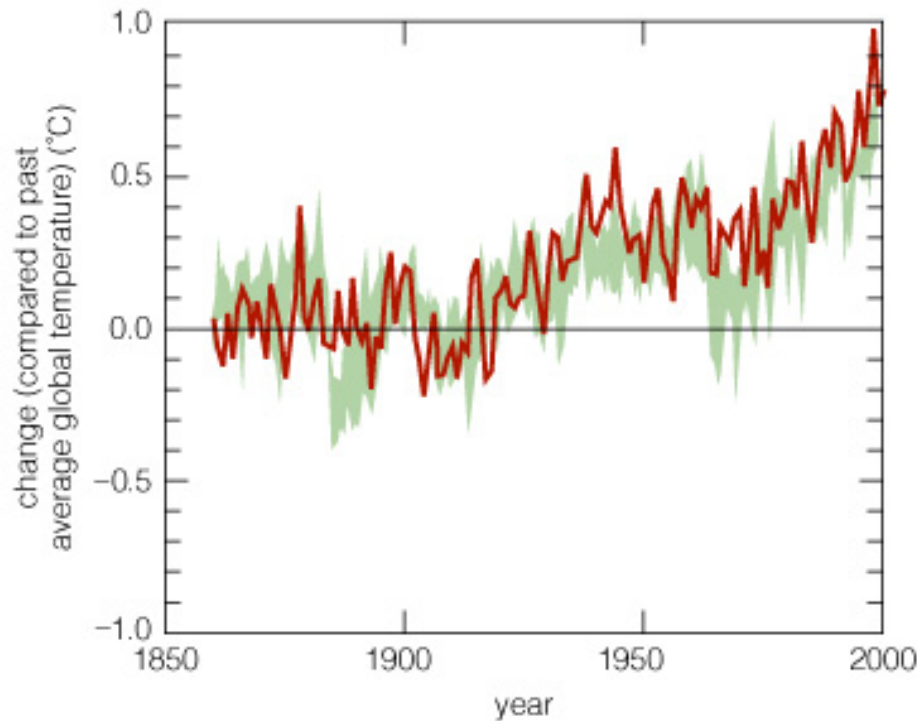
- Global temperatures have tracked CO<sub>2</sub> concentration for the last 500,000 years.
- Antarctic air bubbles indicate the current CO<sub>2</sub> concentration is at its highest level in at least 500,000 years.

# CO<sub>2</sub> Concentration



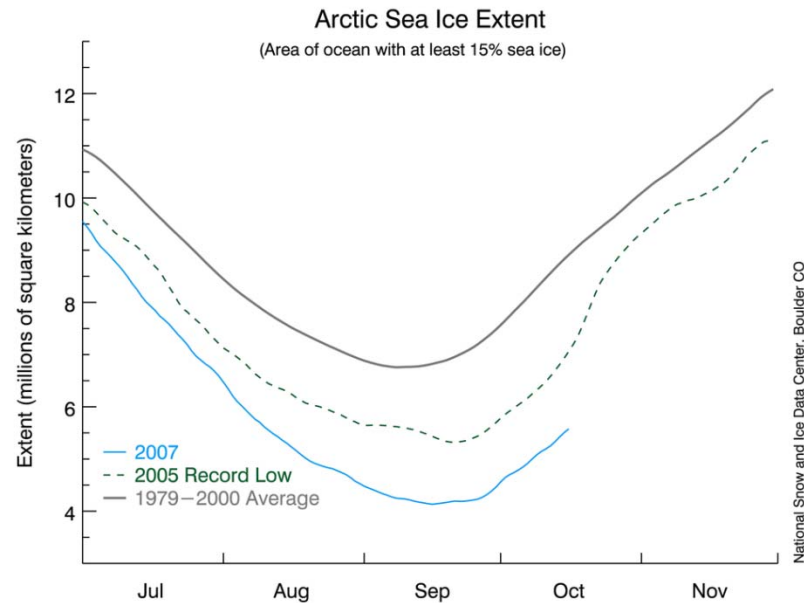
- Most of the CO<sub>2</sub> increase has happened in the last 50 years!

# Modeling of Climate Change

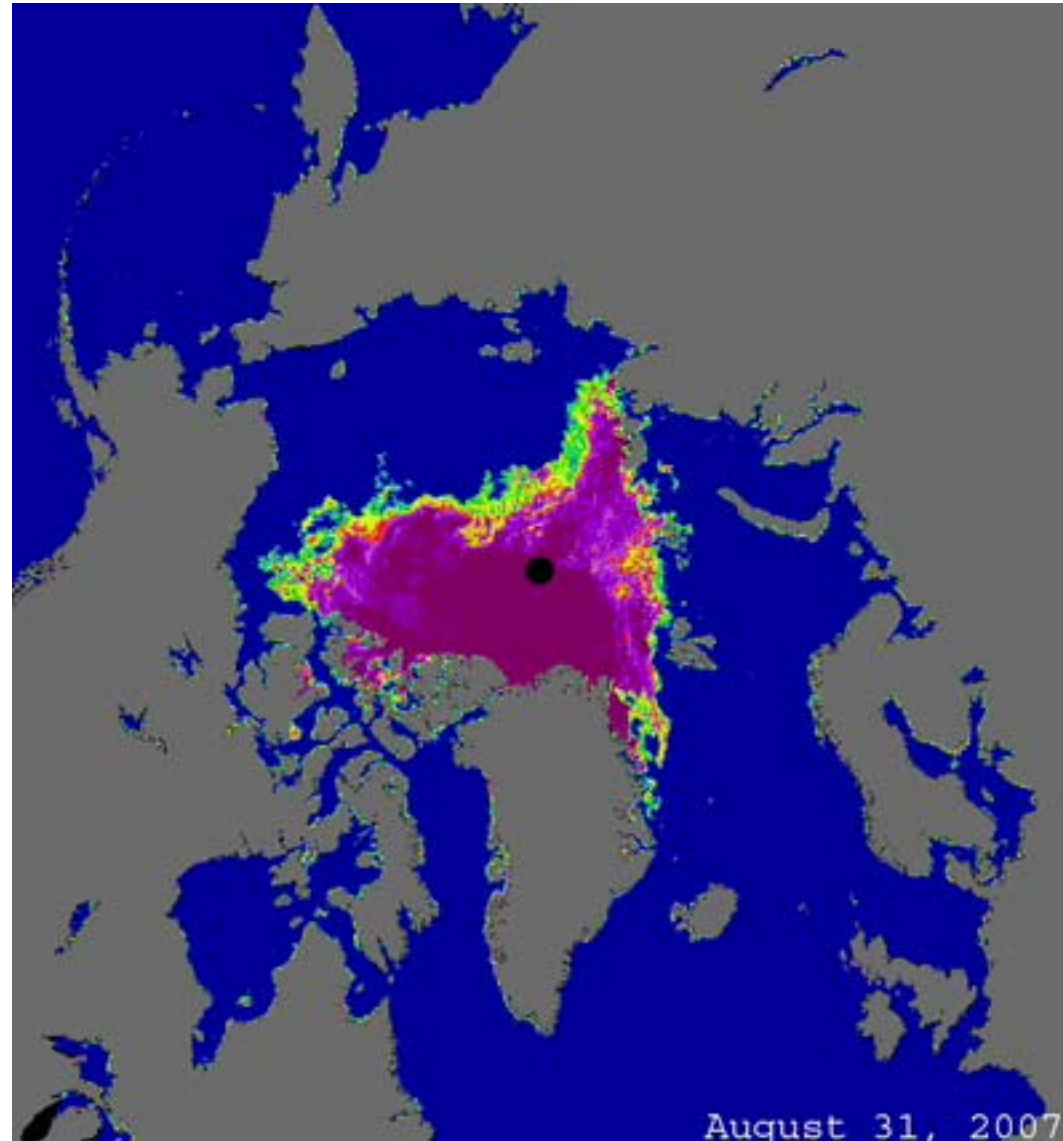


- Complex models of global warming suggest that the recent temperature increase is very consistent with human production of greenhouse gases.

# Consequences of Global Warming



- Melting of polar ice.
- More extreme weather.
- Rising sea levels.



# What can we do about it?

- Reduce greenhouse emissions by improving energy efficiency, especially car gas mileage.
- Invest in alternative energy sources.
- Bury the CO<sub>2</sub>.





# What can we do about it?

- But then there's the elephant in the room no one wants to talk about:
- Population control

