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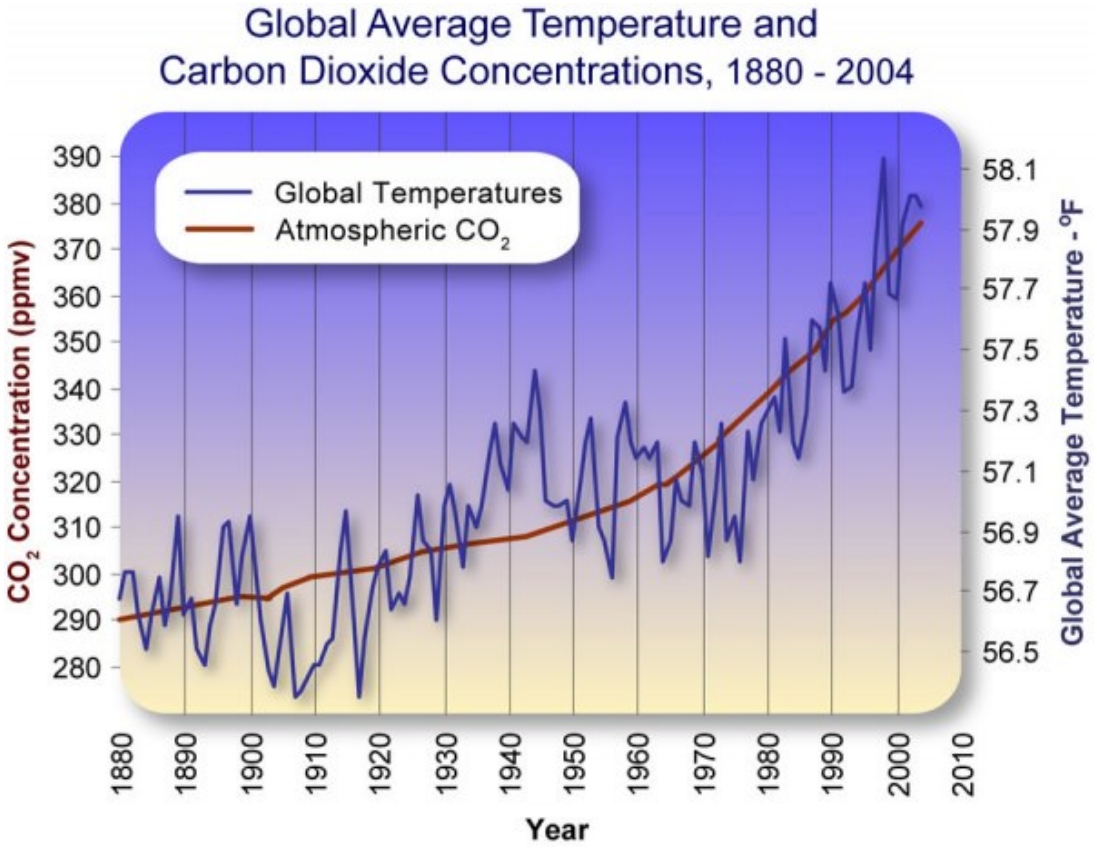
Analyzing Global Temperature and CO_2 Concentrations



Let's look at global average temperature (blue line)

1. What is the general trend in this graph of average global temperature? _____
   _____
2. Annual temperature is variable from year to year.
   The lowest temperature was _____ and occurred in the year _____.
   The highest temperature was _____ and occurred in the year _____.
3. What was the average global temperature in 1880? _____
4. What was the average global temperature in 2004? _____
5. How much has the global average temperature changed since the 1880? _____
6. What is the average rise in temperature per year between 1970 and 2000? _____

Let's look at Carbon Dioxide (CO_2)

1. What is the general trend of CO_2 concentration in this graph? _____
2. In which part of the graph is the slope steepest? _____
3. When was the slope the most gradual? _____

Drawing conclusions

1. In general, what can you say about the relationship of CO_2 and temperature from looking at this graph?
   _____
   _____
2. If we project this average out to 2025, how much will the average global temperature be?
   _____

Image Source: Conservation Report (February 28, 2009) *Global average temperature and CO_2 concentrations.* Accessed October 30, 2009 at http://conservationreport.com/2009/02/

Developed by Dr. Pam Blanchard and Dianne Lindstedt for the
Louisiana Sea Grant College Program http://www.lamer.lsu.edu

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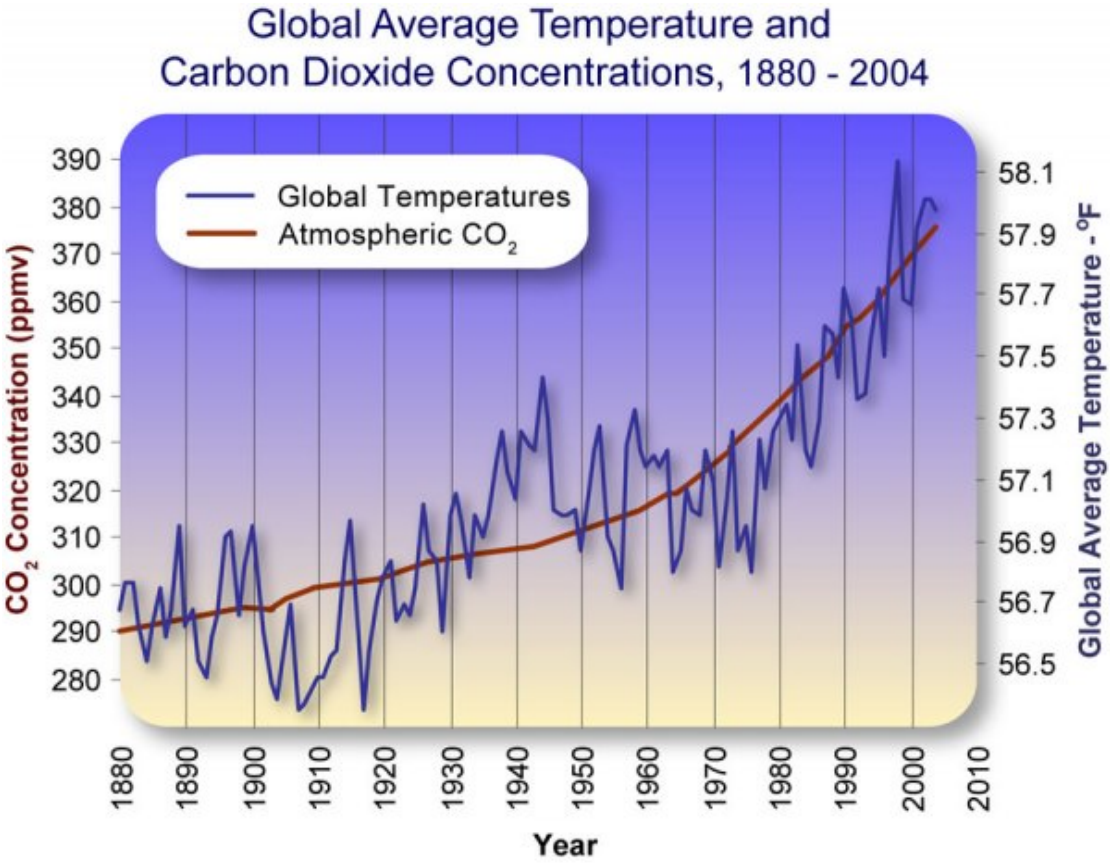

Let's look at global average temperature (blue line)

1. What is the general trend in this graph of average global temperature? **The trend is rising average global temperatures.**
2. Annual temperature is variable from year to year.
   The lowest temperature was **56.4 ºF** and occurred in the year **~1914 or 1916**.
   The highest temperature was **58.2 ºF** and occurred in the year **~1998**.
3. What was the average global temperature in 1880? **56.5 ºF**
4. What was the average global temperature in 2004? **57.9 ºF**
5. How much has the global average temperature changed since the 1880? **1.4 ºF**
6. What is the average rise in temperature per year between 1970 and 2000? **0.6 ºF/year**

Let's look at Carbon Dioxide (CO_2)

1. What is the general trend of CO_2 concentration in this graph? **Rising**
2. In which part of the graph is the slope steepest? **between 1970-2003**
3. When was the slope the most gradual? **1880-1902ish**

Drawing conclusions

1. In general, what can you say about the relationship of CO_2 and temperature from looking at this graph? **Both the concentration of CO_2 and global average temperature are rising. We can also say that they are both rising more quickly since 1980..**
2. If we project the average temperature rise out to 2025, how much will the average global temperature be? **The global average temperature in 2000 was ~57.8 ºF. At an average rate of rise of 0.6ºF/year, this would mean that the global average temperature would rise 15 ºF by 2025.**

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