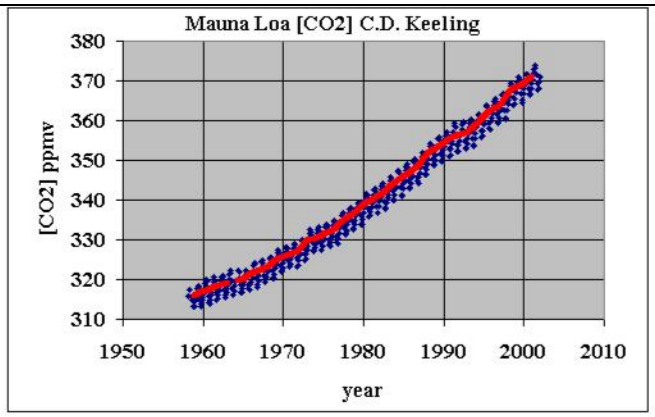
Carbon Dioxide and Life

The figure at right shows the 1958 through 2002 carbon dioxide concentration, [CO_2], measured at Mauna Loa observatory. The individual monthly data points are shown along with the 12-month running mean.

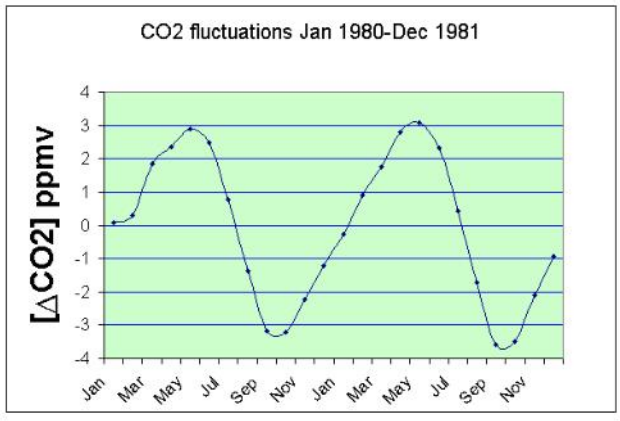


What are the increases in [CO_2] from 1960 to 1970, 1970 to 1980, 1980 to 1990, 1990 to 2000, and the forty-year interval from 1960 to 2000. Record all values in the table below as actual increase and % increase.

interval	[CO_2] increase ppm	[CO_2] increase (percent)
1960 to 1970		
1970 to 1980		
1980 to 1990		
1990 to 2000		
1960 to 2000		

Has the increase in [CO_2] accelerated? Explain.

The figure at right shows the seasonal cycle of atmospheric carbon dioxide concentration, [ΔCO_2], measured at Mauna Loa observatory from January 1980 through December 1981. This figure was generated by subtracting the 12 month running mean shown in the figure above from each monthly data values.



Mauna Loa CO_2

When the atmospheric carbon dioxide increases plants are **growing or decaying**? *Circle one.*

When the atmospheric carbon dioxide decreases plants are **growing or decaying**? *Circle one.*

During what months is atmospheric carbon dioxide increasing?

Explain how this makes since in terms of photosynthesis (biomass production) or biomass decay.

During what months is atmospheric carbon dioxide decreasing?

Explain how this makes since in terms of photosynthesis (biomass production) or biomass decay.

During what months is atmospheric carbon dioxide neither increasing nor decreasing?

During these months what can be said about biomass production and biomass decay?