

**Fast Facts  
COSEE-West**

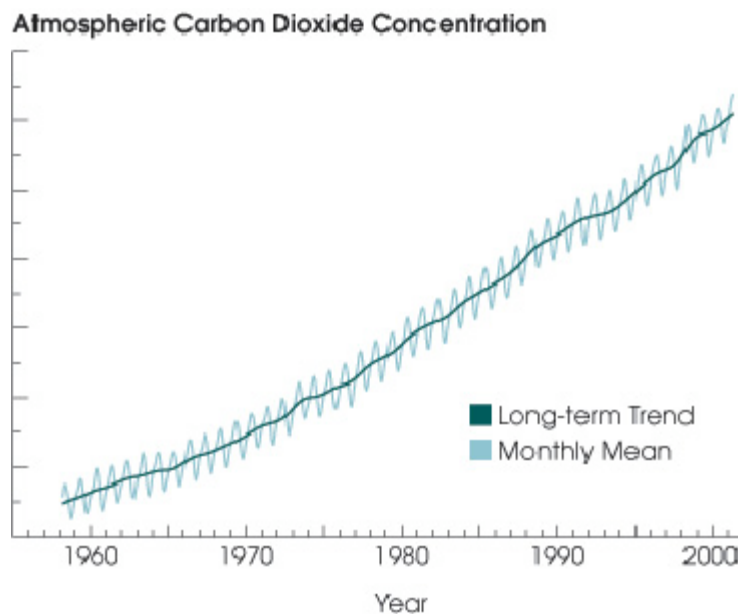
**Workshop: February 2, 2008**

“The CO<sub>2</sub> Shuffle: The Roles of Ocean and Atmosphere in Earth’s Carbon Cycle”

**Carbon dioxide...**

- ...has a chemical formula of CO<sub>2</sub>
- ...is also known as carbonic acid gas and carbonic anhydride
- ...is a molecule made up of 2 oxygen atoms covalently bonded to one carbon atom
- ...has a linear molecular shape
- ...is utilized in photosynthesis
- ...is a product of respiration
- ...is also created by the burning of fossil fuels or plants
- ...can be output from volcanoes and hot springs (and other geothermal processes)
- ...is a gas at standard temperature and pressure (STP = absolute pressure of 100 kPa, or 1 bar, and a temperature of 273.15K, or 0°C)
- ...can be solid, but not until it is cooled below -78 °C (which is its boiling point) and then it is often called dry ice

In 1958, Dr. Charles David Keeling began monitoring CO<sub>2</sub> on Mauna Loa, HI and at the South Pole, but lacked funding to sustain both records after the 1960’s. He was able to continue monitoring at Mauna Loa, which continues to this day. Because Dr. Keeling was the first person to make frequent and regular measurements of atmospheric CO<sub>2</sub> concentrations, the graph of this data is often called the Keeling curve (shown below).



( from: [http://www.visionlearning.com/library/module\\_viewer2.php?mid=95&l=&let1=Ear](http://www.visionlearning.com/library/module_viewer2.php?mid=95&l=&let1=Ear) )