

In Brief

Carbon dioxide tops 400 ppm at Mauna Loa, Hawaii The daily mean concentration of carbon dioxide (CO₂) in the atmosphere at Mauna Loa, Hawaii, hit 400.03 parts per million (ppm) on 9 May, marking the first time the concentration there has topped 400 ppm since measurements began at Mauna Loa in 1958, the U.S. National Oceanic and Atmospheric Administration (NOAA) announced on 10 May. NOAA scientists with the agency's Global Monitoring Division have made measurements of CO₂ at the NOAA Mauna Loa Observatory since 1974.

Independent measurements at the Mauna Loa Observatory by the Scripps Institution

of Oceanography, University of California, San Diego, showed a measurement of 399.73 ppm for 9 May. However, a note on the Scripps Web site explains, "The difference partly reflects different reporting periods. NOAA uses UTC [coordinated universal time], whereas Scripps uses local time in Hawaii to define the 24-hr reporting period. If Scripps were to use same reporting period as NOAA, we would report 400.08 for May 9."

The Scripps measurements at Mauna Loa, known as the "Keeling curve," began in 1958 with a measurement of about 315 ppm. The Keeling curve, named after Scripps professor Charles David Keeling, is the longest set of continuous CO₂ measurements in the world. NOAA reported on 31 May 2012 that CO₂

concentrations reached 400 ppm last spring in the atmosphere of Barrow, Alaska, as well as at six other remote, northern sites.

During the last 800,000 years, CO₂ fluctuated between about 180 ppm during ice ages and 280 ppm during interglacial warm periods. The concentration of CO₂ has increased every year since scientists began measurements at Mauna Loa, with the rate of increase accelerating from about 0.7 ppm per year in the late 1950s to 2.1 ppm per year during the last 10 years, according to NOAA.

For more information, see <http://www.esrl.noaa.gov/gmd/ccgg/trends/weekly.html> and <http://keelingcurve.ucsd.edu/>.

—RANDY SHOWSTACK, Staff Writer