

Table 5.45-- ATMOSPHERIC CARBON DIOXIDE MEASUREMENTS AT MAUNA LOA: 1958 TO 2024

[Average carbon dioxide mixing ratio, parts per million]

Year	Annual average	Year	Annual average	Year	Annual average
1958 1/	315.17	1981	340.12	2003	375.98
1959	315.98	1982	341.48	2004	377.70
1960	316.91	1983	343.15	2005	379.98
1961	317.64	1984	344.85	2006	382.09
1962	318.45	1985	346.35	2007	384.02
1963	318.99	1986	347.61	2008	385.83
1964 2/	319.62	1987	349.31	2009	387.64
1965	320.04	1988	351.69	2010	390.10
1966	321.37	1989	353.20	2011	391.85
1967	322.18	1990	354.45	2012	394.06
1968	323.05	1991	355.70	2013	396.74
1969	324.62	1992	356.54	2014	398.87
1970	325.68	1993	357.21	2015	401.01
1971	326.32	1994	358.96	2016	404.41
1972	327.46	1995	360.97	2017	406.76
1973	329.68	1996	362.74	2018	408.72
1974 1/	330.19	1997	363.88	2019	411.66
1975 3/	331.12	1998	366.84	2020	414.24
1976	332.03	1999	368.54	2021	417.41
1977	333.84	2000	369.71	2022 4/	418.52
1978	335.41	2001	371.32	2023 4/	421.24
1979	336.84	2001	371.32	2024 4/	426.71
1980	338.76	2002	373.45		

1/ Based on data for 8 months.

2/ Based on data for 9 months.

3/ Based on data for 11 months.

4/ Measurements from Mauna Loa Observatory were suspended as of November 29, 2022 because of the eruption at the Mauna Loa Volcano. Observations from December 2022 to July 4, 2023 are from a site at the Mauna Kea Observatories. Mauna Loa observations resumed in July 2023.

Source: National Weather Service, Pacific Region, Honolulu (for 1958-1991); Mauna Loa Observatory (for 1992-1999); and U.S. Department of Commerce, National Oceanic & Atmospheric Administration (NOAA), Cooperative Global Air Sampling Network, Global Monitoring Division, Earth Systems Research Laboratory (ESRL) <<https://gml.noaa.gov/ccgg/trends/weekly.html>> accessed April 7, 2025; and records.