

A Atmospheric CO₂ concentration

Atmospheric & Biogeochemical Cycles

Carbon Dioxide

This quantity comes from a time series measurement and the most recent value (1964-2020) is reported.

≈ 415 parts per million

see this value in other units

This is equivalent to...

$$\approx 4.15 \times 10^{-4} \text{ mol CO}_2 \text{ mol}^{-3} \text{ air}$$

$$\approx 6.30 \times 10^{-4} \text{ kg CO}_2 \text{ kg}^{-1} \text{ air}$$

$$\approx 3.25 \times 10^{15} \text{ kg CO}_2$$

C Value:**D** HullID: B1043**E** Relevant Year(s): 1964-2020**F** Summary:

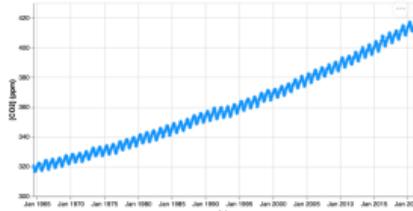
Data obtained from monthly mean carbon dioxide measured at Mauna Loa Observatory, Hawaii by the Scripps CO₂ program. The carbon dioxide data on Mauna Loa constitute the longest record of direct measurements of CO₂ in the atmosphere. They were started by C. David Keeling of the Scripps Institution of Oceanography in March of 1958 at a facility of the National Oceanic and Atmospheric Administration.

G Method:

Uncertainty in measurements is not reported in original source, and it is assumed lower than the monthly variability. The Mauna Loa data are being obtained at an altitude of 3400 m in the northern subtropics, and may not be the same as the globally averaged CO₂ concentration at the surface. The mass of CO₂ is obtained from the concentration using the molar mass of CO₂, 44 g mol⁻¹; the molar mass of air, 29 g mol⁻¹; and the mass of the atmosphere, 5.15×10^{18} kg.

H Source: Scripps CO₂ Program Primary Mauna Loa CO₂ Record (2020)

I Dataset: Monthly atmospheric CO₂ measurements from Mauna Loa Observatory ([monthly_co2_data_processed.csv](#))

**J** Trend**K** Added by: ilopezgo

Scripps CO₂ Program

Atmospheric CO₂ Data

Primary Mauna Loa CO₂ Record

Map showing the location of the Mauna Loa Observatory in Hawaii, with various sampling sites marked across the globe.

Station Name: Mauna Loa Observatory, Hawaii
Station Code: MLO
Latitude: 19.5° N
Longitude: 155.8° W
Elevation (m): 3400

In-situ CO₂ Data

Measurement	Frequency	Data File	Dates
CO ₂	monthly	monthly_co2_data_processed.csv	1968 - present

See Mauna Loa Observatory Station Record Page for weekly, daily, and 10-minute versions of this record.

1 master → [human_impacts / data / atmosphere.biogeochemistry / mauna_loa_co2_trend / processed / monthly_co2_data_processed.csv](#)

ilopezgo Update CO₂ data, follow SOPs. →

1 contributor

4525 lines (4525 sloc) 207 KB

Q Search this file...

1	year	month	date (decimal)	Reported value	Concentration (ppm)
2	1968	3	1968.203	monthly mean	315.7
3	1968	4	1968.288	monthly mean	317.46
4	1968	5	1968.37	monthly mean	317.51
5	1968	6	1968.455	monthly mean	
6	1968	7	1968.537	monthly mean	315.86
7	1968	8	1968.622	monthly mean	314.93
8	1968	9	1968.707	monthly mean	313.21
9	1968	10	1968.789	monthly mean	
10	1968	11	1968.874	monthly mean	313.33
11	1968	12	1968.956	monthly mean	314.67
12	1969	1	1969.041	monthly mean	315.58
13	1969	2	1969.126	monthly mean	316.49