



## Climate Change - Greenhouse Gas Emissions

You are here: [EPA Home](#) [Climate Change](#) [Greenhouse Gas Emissions](#) Carbon Dioxide

- [Carbon Dioxide](#)
- [Natural Sources and Sinks](#)
- [Human-Related Sources and Sinks](#)
- [Geologic Sequestration](#)

### Carbon Dioxide

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Carbon dioxide (CO<sub>2</sub>) is emitted in a number of ways. It is emitted naturally through the carbon cycle and through human activities like the burning of fossil fuels.

Natural sources of CO<sub>2</sub> occur within the carbon cycle where billions of tons of atmospheric CO<sub>2</sub> are removed from the atmosphere by oceans and growing plants, also known as 'sinks,' and are emitted back into the atmosphere annually through natural processes also known as 'sources.' When in balance, the total carbon dioxide emissions and removals from the entire carbon cycle are roughly equal.

Since the Industrial Revolution in the 1700's, human activities, such as the burning of oil, coal and gas, and deforestation, have increased CO<sub>2</sub> concentrations in the atmosphere. In 2005, global atmospheric concentrations of CO<sub>2</sub> were 35% higher than they were before the Industrial Revolution. For more information on CO<sub>2</sub> trends in the atmosphere, visit the [page on Atmosphere Changes](#).

For more information on carbon dioxide, please see the following links:

- [Natural sources and sinks of carbon dioxide](#)
- [Human-related sources and sinks of carbon dioxide](#)
- [Geologic sequestration](#)
- [Carbon Sequestration in Agriculture and Forestry](#)
- [Global Emissions](#)

#### Related Links

EPA

- [Recent Atmosphere Changes](#)
- [U.S. Greenhouse Gas Inventory](#)

[Carbon Dioxide Information and Analysis Center](#)

[NOAA's Climate Monitoring Diagnostics Laboratory](#)