

Observational Evidence for a Long-term Trend in Carbon Monoxide

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Through the reaction of carbon monoxide (CO) and the hydroxyl radical, changes in CO have potentially important effects on the oxidizing capacity of the troposphere. It is commonly accepted that carbon monoxide (CO) increased during the industrial era since two main sources, fossil fuel combustion and the oxidation of CH₄, have increased. Yet there are relatively few CO measurements on which to base this conclusion. The positive trend is based on a few ice core studies, spectroscopic measurements of column abundances and surface time series. Close examination of the data raise questions of their representativeness. Long term measurements since the late 1980s have shown that inter-annual variations of the global annual average may exceed up to 25% and trends are sensitive to the time span used. This presentation will provide a re-examination of the data and evaluate a long-term trend in CO.

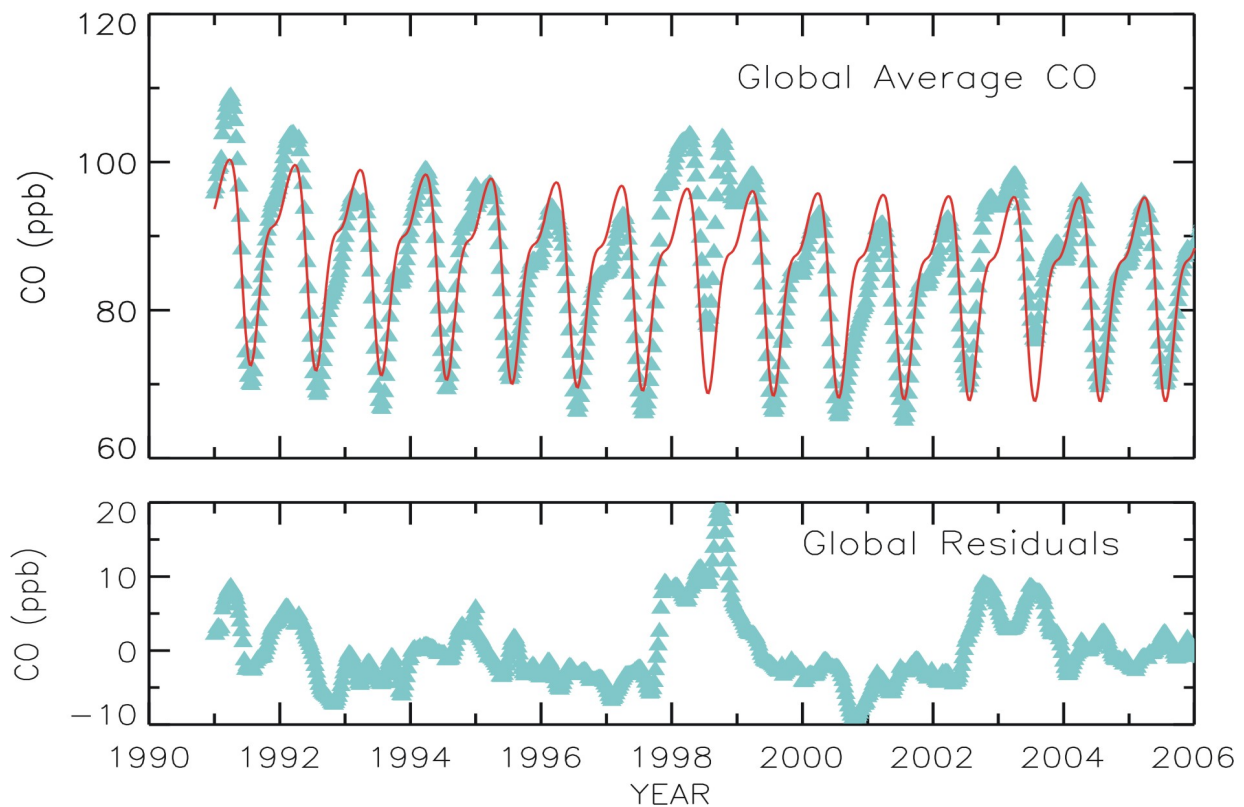


Figure 1. Globally-averaged CO mixing ratio in blue and smoothed curve in red (**top**) and residuals from a smooth curve (**bottom**) 1991-2006. The effect of wildfires in 1997-1998 and 2002-2004 are seen in the timeseries.