

Atmospheric Levels of Methane Stabilizing, NOAA Finds

Pattern of increase stops, but scientists don't know why

The National Oceanic and Atmospheric Administration (NOAA) reports that atmospheric concentrations of methane, a potent greenhouse gas, have begun to level out after two centuries of increases. In a November 17 press release, NOAA reports that scientists are still trying to determine what this means.

Methane levels have been constant for four years now, but scientists are not certain why the steady increases of the gas in the atmosphere since the dawn of the industrial age have stopped. One theory is that a decrease in fossil fuel production in the former Soviet Union may account for the decline. About 70 percent of methane emissions are connected with human activities -- the burning of fossil fuels, intestinal gas from livestock and farm animals, and the cultivation of rice paddies.

Further information about NOAA activities in monitoring climate, the ozone layer and air quality is available at HYPERLINK "<http://www.cmdl.noaa.gov/>"

Following is the text of the press release:

National Oceanic and Atmospheric Administration
NOAA News Online

NOAA REPORTS POTENT GREENHOUSE GAS LEVELS OFF

Nov. 17, 2003 -- One of the atmosphere's most potent greenhouse gases, methane, may now have leveled off, according to a study by NOAA researchers and National Institute for Space Research in the Netherlands. Scientists aren't sure yet if this "leveling off" is just a temporary pause in two centuries of increase or a new state of equilibrium.

The study appears in the Nov. 18 issue of Geophysical Research Letters. Lead author Ed Dlugokencky of the NOAA Climate Monitoring and Diagnostics Laboratory in Boulder, Colo., said the study is based on air samples from a globally distributed network of more than 43 monitoring sites. The air samples show that global methane has been constant over the past four years, suggesting that methane emissions may be approximately equal to losses.

"Our observation that atmospheric methane has been constant for four years is good news for climate, but our limited understanding of what caused this result makes it impossible to predict whether or not methane levels will continue to remain constant," Dlugokencky said.

The researchers also determined there was a significant change in the distribution of methane globally during the early 1990s between northern and southern latitudes. They say this change is consistent with reductions in methane emissions during that same period because of lower fossil fuel production in the former Soviet Union as reported in databases of methane emission rates.

"This reported decrease in methane emission rates may have moved the global methane budget toward a steady state, although the annual variability in methane emission rates is too large to say so with certainty," Dlugokencky said. Scientists have been projecting that methane levels would continue to increase in the atmosphere at a significant rate, so this new equilibrium was not expected.

Methane is a trace gas that has more than doubled in the atmosphere since pre-industrial times, due mainly to human activities. After water vapor and carbon dioxide, it is the most important greenhouse gas and accounts for approximately 20 percent of the human-influenced greenhouse gas warming potential.

While methane is emitted to the atmosphere by some natural sources, such as wetlands, more than 70 percent of total emissions are due to human activities including fossil fuel production and use, intestinal gas from livestock and farm animals, and cultivation of rice paddies. Since many methane sources are the result of human activities, increased industrialization in developing countries and stepped up global food demand could result in increased emissions in the future.

NOAA Research conducts research, develops products, and provides scientific information and leadership to foster NOAA's evolving environmental and economic mission.

NOAA is dedicated to enhancing economic security and national safety through the prediction and research of weather and climate-related events and providing environmental stewardship of the nation's coastal and marine resources. NOAA is part of the U.S. Department of Commerce.

Relevant Web Sites

NOAA Climate Monitoring and Diagnostics Laboratory

NOAA Research Media Contact: Barbara McGehan, NOAA Research, (303) 497-6288

Created: 19 Nov 2003 Updated: 19 Nov 2003

This page printed from: <http://usinfo.state.gov/gi/Archive/2003/Nov/20-760370.html>