# GREENHOUSE GAS CONCENTRATIONS REACH RECORD HIGH

The amount of greenhouse gases in our atmosphere reached a new record high in 2013, with the concentration of carbon dioxide (CO2) rising more between 2012 and 2014 than in any year since 1984. Concentrations of carbon dioxide (CO2), methane and nitrous oxide were 42, 153 and 21 percent higher in 2013, respectively, than they were in the pre-industrial era (1750), according to the World Meteorological Organization's (WMO) latest annualGreenhouse Gas Bulletin.

Rising atmospheric concentrations of long-lived CO2, methane and nitrous oxide have intensified the Greenhouse Effect that is resulting in global warming. The climate-warming effect of rising GHG emissions – referred to by scientists as radiative forcing – rose 34 percent between 1990 and 2013, according to the latest GHG Bulletin.

World leaders are expected to gather at UN headquarters in New York City September 23 for the UN Climate Summit 2014, a meeting convened by UN Secretary General Ban ki-Moon "to galvanize and catalyze climate action." The rising concentrations of GHGs reported in the WMO's latest GHG Bulletin has "injected even greater urgency into the need for concerted international action against accelerating and potentially devastating climate change," WMO states in a press release.

## Rising GHG concentrations, global warming and ocean acidification

Table 1. Global annual mean abundances (2013) and trends of key greenhouse gases from the WMO/GAW global greenhouse gas monitoring network. Units are dry-air mole fractions, and uncertainties are 68% confidence limits.

| | $CO_2$ | $CH_4$ | $N_2O$ |
|---|---|---|---|
| Global abundance in 2013[4] | 396.0±0.1 ppm | 1824±2 ppb | 325.9±0.1 ppb |
| 2013 abundance relative to year 1750[a] | 142% | 253% | 121% |
| 2012–2013 absolute increase | 2.9 ppm | 6 ppb | 0.8 ppb |
| 2012–2013 relative increase | 0.74% | 0.33% | 0.25% |
| Mean annual absolute increase during last 10 years | 2.07 ppm/yr | 3.8 ppb/yr | 0.82 ppb/yr |

In addition to the “steadily increasing CO2 emissions” from human activities, preliminary data indicate that reduced uptake of CO2 by the earth’s living things – the biosphere – may have contributed to the record level of GHGs in our atmosphere, WMO notes in its press release. Around one-quarter of total GHG emissions are taken up the world’s oceans. Another quarter is absorbed by the biosphere. Both reduce the amount of GHGs in our atmosphere.

Scientists fear that the capacity of the world’s oceans to soak up CO2 that would otherwise be vented into the atmosphere may be reaching its limit.

*According to the WMO, “The current rate of ocean acidification appears unprecedented at least over the last 300 million years.”*

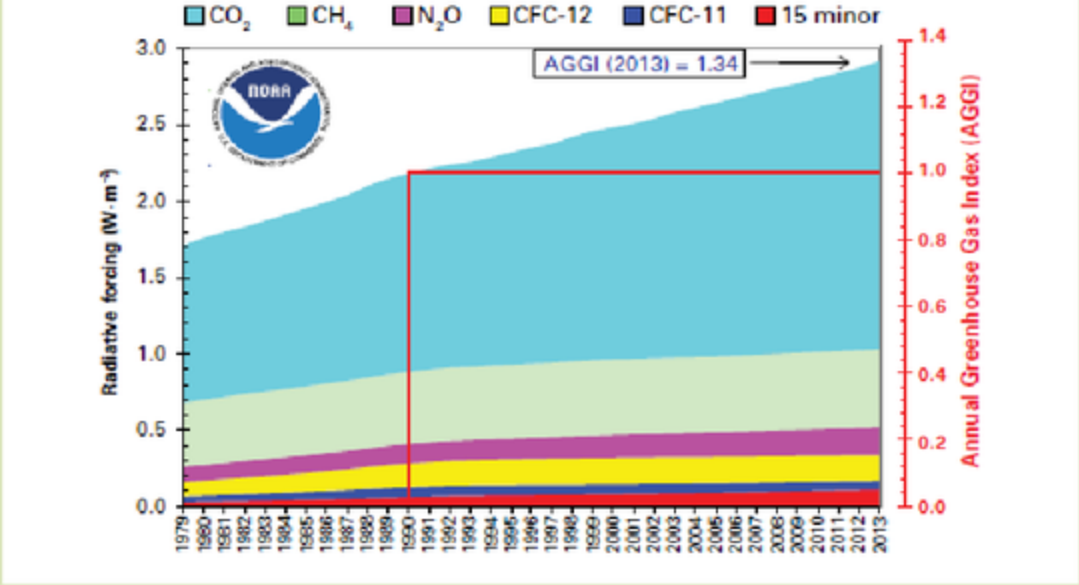


Figure 1. Atmospheric radiative forcing, relative to 1750, of LLGHGs and the 2013 update of the NOAA Annual Greenhouse Gas Index (AGGI)

WMO Secretary-General Michel Jarraud highlighted the fact that because CO2 remains in the atmosphere for many hundreds of years, past, present and future CO2 emissions from human activities have a cumulative, long-lasting and profound impact in terms of global warming and ocean acidification.

*"The laws of physics are non-negotiable," Secretary-General Jarraud stated. "We know without any doubt that our climate is changing and our weather is becoming more extreme due to human activities such as the burning of fossil fuels.*

"The Greenhouse Gas Bulletin shows that, far from falling, the concentration of carbon dioxide in the atmosphere actually increased last year at the fastest rate for nearly 30 years. We must reverse this trend by cutting emissions of CO2 and other greenhouse gases across the board. We are running out of time."

Added Wendy Watson-Wright, executive secretary of the Intergovernmental Oceanographic Commission of UNESCO:

*“The inclusion of a section on ocean acidification in this issue of WMO’s Greenhouse Gas Bulletin is appropriate and needed. It is high time the ocean, as the primary driver of the planet’s climate and attenuator of climate change, becomes a central part of climate change discussions.*

“If global warming is not a strong enough reason to cut CO2 emissions, ocean acidification should be, since its effects are already being felt and will increase for many decades to come. I echo WMO Secretary General Jarraud’s concern – we are running out of time.”

Source : http://globalwarmingisreal.com/2014/09/09/wmo-greenhouse-gas-concentrations-reach-record-high/