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25 September 2008 Updated global carbon budget released

## Growth in the global carbon budget

Today the new Global Carbon Budget was launched simultaneously by Global Carbon Project co-chair Michael Raupach in France at the Paris Observatory, and in the USA at Capitol Hill, Washington by GCP Executive Director Pep Canadell.

The Global Carbon Project posted the most recent figures for the worlds' carbon budget, a key to understanding the balance of carbon added to the atmosphere, the underpinning of human induced climate change. Despite the increasing international sense of urgency, the growth rate of emissions continued to speed up, bringing the atmospheric CO<sub>2</sub> concentration to 383 parts per million (ppm) in 2007.

Anthropogenic CO<sub>2</sub> emissions have been growing about four times faster since 2000 than during the previous decade, despite efforts to curb emissions in a number of Kyoto Protocol signatory countries. Emissions from the combustion of fossil fuel and land use change reached 10 billion tones of carbon in 2007. Natural CO<sub>2</sub> sinks are growing but slower than the atmospheric CO<sub>2</sub> growth, which has been increasing at 2 ppm since 2000 or 33% faster than the previous 20 years.

Dr. Pep Canadell, executive director of the Global Carbon Project said "This new update of the carbon budget shows the acceleration of both CO<sub>2</sub> emissions and atmospheric accumulation are unprecedented and most astonishing during a decade of intense international developments to address climate change."

Emissions growth for 2000-2007 was above even the most fossil fuel intensive scenario of the Intergovernmental Panel on Climate Change (SRES-IPCC). While the developing nations of China and India continue to increase emissions, China has improved the carbon intensity of their economy since 2005, based on data from the National Energy Administration in China.

Decreasing forest cover, almost exclusively from deforestation in tropical countries, was responsible for an estimated 1.5 billion tons of emissions to the atmosphere above what was gained through new plantings. Although the oceans carbon uptake was expected to rise with the higher atmospheric concentration of CO<sub>2</sub>, in 2007 it was reduced by a net 10 million tons.

Natural land and ocean CO<sub>2</sub> sinks, which have removed 54% (or 4.8 billion tons per year) of all CO<sub>2</sub> emitted from human activities during the period 2000-2007, are now becoming less efficient. While the size of these sinks continues to grow in response to greater concentrations of CO<sub>2</sub> in the atmosphere, they are losing efficiency as feedbacks between the carbon cycle and climate increase.

The Global Carbon Budget is the result of an international collaboration through the Global Carbon Project by Corinne Le Quéré (University of East Anglia/British Antarctic Survey, UK); Michael

Raupach (CSIRO, Australia)\*; Philippe Ciais (Commissariat a L'Energie Atomique, France)§; Thomas Conway (NOOA, USA)<sup>2</sup>; Christopher Field (Carnegie Institution of Washington, USA)\*\*; Richard A. Houghton (Woods Hole Research Center, USA)∞; Gregg Marland (Carbon Dioxide Information Analysis Center, USA)‡; Pep Canadell (CSIRO, Australia)\*.

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#### Notes for editor

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<http://www.globalcarbonproject.org>

The Global Carbon Project was formed to assist the international science community to establish a common, mutually agreed knowledge base supporting policy debate and action to slow the rate of increase of greenhouse gases in the atmosphere.

USA launch information for Global Carbon Budget:

<http://www.ametsoc.org/atmospolicy/EnvironmentalScienceSeminarSeries.html>

Data sourced through the Carbon Dioxide Information Analysis Center

The Carbon Dioxide Information Analysis Center (CDIAC) is the primary climate-change data and information analysis center of the U.S. Department of Energy (DOE). CDIAC is located at DOE's Oak Ridge National Laboratory (ORNL) and includes the World Data Center for Atmospheric Trace Gases. <http://cdiac.ornl.gov>

#### Reference URL

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