






The Australian

Forests revealed as climate giants

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A new study has credited forests with a greater role in the climate system than commonly thought.
Source: The Daily Telegraph

FORESTS play a larger role in Earth's climate system than previously suspected for both the risks from deforestation and the potential gains from regrowth, a benchmark study released Thursday has shown.

The study, published in *Science*, provides the most accurate measure so far of the amount of greenhouse gases absorbed from the atmosphere by tropical, temperate and boreal forests, researchers said.

"This is the first complete and global evidence of the overwhelming role of forests in removing anthropogenic carbon dioxide," said co-author Josep Canadell, a scientist at CSIRO, Australia's national climate research centre in Canberra.

"If you were to stop deforestation tomorrow, the world's established and regrowing forests would remove half of fossil fuel emissions," he told AFP, describing the findings as both "incredible" and "unexpected".

Wooded areas across the planet soak up fully a third of the fossil fuels released into the atmosphere each year, some 2.4 billion tonnes of carbon, the study found.

At the same time, the ongoing and barely constrained destruction of forests -- mainly in the tropics -- for food, fuel and development was shown to emit 2.9 billion tonnes of carbon annually, more than a quarter of all emissions stemming from human activity.

Up to now, scientists have estimated that deforestation accounted for 12 to 20 percent of total greenhouse gas output.

The big surprise, said Canadell, was the huge capacity of tropical forests that have regenerated after logging or slash-and-burn land clearance to purge carbon dioxide from the atmosphere.

"We estimate that tropical forest regrowth is removing an average of 1.6 billion tonnes of carbon each year," he said in an e-mail exchange.

Adding up the new figures reveals that all the world's forests combined are a net "sink", or sponge, for 1.1 billion tonnes of carbon, the equivalent of 13 percent of all the coal, oil and gas burned across the planet annually.

"That's huge. These are 'savings' worth billions of euros a year if that quantity had to be paid out by current mitigation (CO2 reduction) strategies or the price of carbon in the European market," Canadell said.

The international team of climate scientists combined data -- covering the period 1990 through 2007 -- from forests inventories, climate models and satellites to construct a profile of the role global forests have played as regulators of the atmosphere.

In terms of climate change policy, the study has two critically important implications, said Canadell.

The fact that previous science underestimated both the capacity of woodlands to remove CO2, and the emissions caused by deforestation, means that "forests are even more at the forefront as a strategy to protect our climate", he said.

It also follows that forests should play a larger role in emerging carbon markets, he added.

"The amount of saving which are up for grabs is very large, certainly larger than what we thought," Canadell said.

The UN-backed scheme known as REDD -- Reduced Emissions from Deforestation and Degradation -allots credit to tropical countries in Latin America, Asia and Africa that slow rates of forest destruction.

It also provides a mechanism for rich countries to offset their own carbon-reduction commitments by investing in that process.

Two decades was not enough to discern possible long-term trends due to year-on-year variability due to fluctuations in weather, insect attacks and other factors.

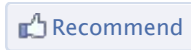
But the tropics did show a clear decline in the capacity to soak up CO2 due to a so-called "once-in-a-century" drought in Amazonia in 2005.


The region suffered an even worse drought in 2010, beyond the time frame of the study.

The breakdown over the last decade for CO2 removal was 1.8 billion tonnes each year for boreal forests at high latitudes, 2.9 billion for temperate forests, and 3.7 billion for tropical forests.

Once deforestation and regrowth are taken into account, however, tropical forests have been essentially carbon neutral.

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