

Old forests absorb CO2 too: study

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The researchers found that old-growth forests shouldn't be left out of the carbon trading equation (Source: Markku Saarinen)

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A new study has found that old-growth forests remove carbon dioxide from the atmosphere, helping to curb the greenhouse gases that drive global warming.

The finding overturns previous assumptions that only younger forests, mainly in the tropics, absorb significantly more CO₂ than they release.

The study appears in the latest issue of Nature.

Out of calculation

Many forests in temperate and subarctic regions are not protected by international treaties, and do not figure in climate change negotiations seeking ways to reward countries that protect carbon-absorbing woodlands within their borders.

Some 30% of the world's forests are unmanaged, of which half consist of old-growth trees.

"Old-growth forests can continue to accumulate carbon, contrary to the long-standing view that they are carbon neutral," says lead researcher Sebastiaan Luysaert, a professor at the University of Antwerp in Belgium.

An international team led by Luysaert analysed scores of databases set up to monitor the flow of carbon into and out of the world's vegetal ecosystems.

They calculated that primary forests in Canada, Russia and Alaska alone absorb about 1.3 gigatonnes of carbon per year, about 10% of the net global carbon exchange between the ecosystem and the atmosphere.

The study suggests that old-growth forests need to be protected not just because they help to absorb carbon dioxide, but also because destroying them could release huge stores of greenhouse gases.

"Old-growth forests accumulate carbon for centuries and contain large quantities of it," says Luysaert. If these pools of CO₂ "are disturbed, much of this CO₂ will move back into the atmosphere."

The study suggests that UN climate change negotiations underway should include incentives for countries to protect their forests.

"The discussions should be expanded to include boreal and temperate forests in Canada and Russia," Luysaert says.

Timely

Dr Pep Canadell of Australia's CSIRO, who was not involved in the study, says the findings are quite timely as Australia moves towards the implementation of a carbon emissions trading scheme.

"As a country we're about to make a massive investment over the next few decades in reducing carbon emissions and increasing carbon sinks," he says.

"So the last thing you want to see under these financial frameworks...is to be cutting your old-growth forests, which you now know are active carbon sinks."

He says the research also provides an additional incentive for conserving old-growth forests.

"We all have problems in justifying why private owners or public money should be invested in protecting old-growth forests," says Canadell. "We now have a very good reason."