

# California wildfires unleash climate-warming carbon

Deborah Zabarenko -Reuters Published November 1, 2007 09:43 A

WASHINGTON (Reuters) - California wildfires pumped nearly 8 million metric tons of climate-warming carbon dioxide into the atmosphere in just a week, about one-quarter as much as fossil fuels do in that state in a month, scientists said on Wednesday.

The release of carbon dioxide in wildfires is part of the natural cycle in which burning plays an important role, the scientists reported in the online journal Carbon Balance and Management. And the ebb and flow of carbon that is alternately sucked up and emitted by plants is different from that spewed by fossil-fueled factories and vehicles.

Overall, the study estimates that fires in the contiguous United States and Alaska release about 290 million tons of carbon dioxide a year, equivalent to 4 to 6 percent of U.S. emissions from the burning of fossil fuels like coal and oil.

These figures are hard to pin down because of the challenge of figuring out how much carbon was tied up in the plants that burned, and what percentage of the plants actually went up in flames in different kinds of fires, said Jason Neff of the University of Colorado at Boulder, a co-author of the study.

The estimates carry a 50 percent margin of error, but that still means U.S. wildfires emission are equivalent to between 2 and 8 percent of emissions from fossil fuel burning, which Neff noted is a considerable fraction.

Fires contribute a higher proportion of carbon dioxide in several western and southeastern states, especially Alaska, Idaho, Oregon, Montana, Washington, Arkansas, Mississippi and Arizona, the study said.

## HEAVY CARBON FOOTPRINT

Big fires like the ones that destroyed more than 2,000 homes in California this month can have a particularly heavy carbon footprint, the researchers wrote.

"A striking implication of very large wildfires is that a severe fire season lasting only one or two months can release as much carbon as the annual emissions from the entire transportation or energy sector of an individual state," the authors write.

Because planetary climate change is expected to bring more frequent and widespread wildfires, these could release more carbon dioxide into the atmosphere as the planet warms, in what scientists call a positive feedback loop -- a cycle that feeds on itself, spurring global warming.

Neff and Christine Wiedinmyer of the National Center for Atmospheric Research drew a distinction between carbon dioxide released by periodic wildfires and that released by fossil fuel burning.

Carbon emitted by fires will eventually be absorbed by plants as forests and grasslands regenerate after the blaze. But modern trends to suppress fires can have an unintended effect of giving the next fire more plant life to feed upon, since forests have the time to grow more densely.

Carbon emitted by fossil fuel burning is carbon that was locked underground for hundreds of millions of years, and after it is released, it will not be reabsorbed by the ecosystem on any human timetable. This is a large release of climate-warming gas, Neff said.

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