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David Sims

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Contact: [David Sims](#)
603-862-5369
Science Writer
Institute for the Study of Earth, Oceans, and Space

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DURHAM, N.H. — New research, published in the Nov. 28 issue of the journal *Science*, reports that some old growth forest in the Brazilian Amazon is not taking up atmospheric carbon dioxide and, in fact, is emitting a small amount of the greenhouse gas.

The finding is unexpected because, since 1995, reports in scientific literature have claimed that Amazon forests are important carbon sinks, which, in fact, might be large enough to offset the amount of carbon being lost as a result of deforestation in the region. The new detailed and complex study, the most comprehensive to date in the Amazon, shows that two sites at that Tapajos National Forest in the Brazilian Amazon are not taking up carbon.

"Our paper raises significant questions with these claims for two measurement approaches," says co-author of the study Michael Keller of the USDA Forest Service and the University of New Hampshire's Institute for the Study of Earth, Oceans, and Space (EOS). Patrick Crill of EOS and the UNH Department of Earth Sciences also co-authored the report. Scott Saleska authored the study under the direction of Steven Wofsy of Harvard University.

Not only does the study find a counter example to the widely held "sink" belief, but according to Keller, the paper also shows why both types of previous measurements might be incorrect.

"Our study points out that eddy covariance (a method of measuring carbon exchange in and out of a forest system) just doesn't work very well at night in tropical forests," Keller says.

The second problem, Keller asserts, is that while previous studies of carbon sinks focus on how much trees grow, "we also estimated the other critical parts of the forest carbon balance, including the decomposition of dead wood." Both dead and living trees have to be taken into account for studies to accurately assess the carbon balance, Keller says.

Michael Keller can be reached for comments at (603) 862-4193.