

# LAND-USE CHANGE IN BRAZILIAN AMAZONIA AS A SOURCE OF GREENHOUSE GAS EMISSIONS

Philip M. Fearnside  
Instituto Nacional de Pesquisas da Amazônia-INPA  
Manaus, Amazonas, Brazil

Amazonian deforestation is a significant source of greenhouse gas emissions today, and the large amount of remaining forest means that the potential for future emissions is much greater than in other tropical areas. The amounts of carbon involved are astronomical, notwithstanding controversies over data on biomass and other parameters for estimating emissions, over how to calculate emissions, and over what these emissions mean in terms of policies for combating global warming. Emissions come from deforestation, hydroelectric dams, logging, forest fires, soil, and recurrent burning of both natural savannas and anthropogenic ecosystems such as pastures.

The large impact of land-use change on global warming translates into a large benefit for climate of not emitting these greenhouse gases. However, as a result of political compromises reached in 2001, avoided deforestation is excluded from credit under the Kyoto Protocol's Clean Development Mechanism until 2013. After then the chances of this becoming eligible for credit are much better than they were during the earlier rounds of negotiations.

A proposal for a new mechanism to implement avoided deforestation mitigation efforts in the Amazon before 2013 was made in Milan in December 2003 by the Institute for Research in Amazonia (IPAM) in a side event at the Conference of the Parties to the climate convention. The "compensated deforestation reduction proposal" would only generate credit after 2013, but the activities and the deforestation reduction on which the credit would be based would begin much earlier. Not waiting another nine years to begin action on the scale that could be implemented as a part of international efforts to combat climate change is critical to the fate of the forest both because of the ongoing rapid pace of forest destruction and because of the need for economic motivations to avoid setting processes in motion that lead to long-term increases in the yearly rate of deforestation.