

Amazon Deforestation Models

Deforestation predictions for Amazonia presented by W. F. Laurance *et al.* in 2001 (1) are based on the assumption that the road infrastructure is the prime factor driving deforestation. Much has already been said by the scientific community about their model—its apocalyptic results based on simple extrapolation of past patterns, disregarding the region's enormous biophysical and socio-economic heterogeneity (2, 3)—but recently the authors reinforced their arguable results (“Deforestation in Amazonia,” 21 May 2004, p. 1109), blaming planned infrastructure and the land speculation it provokes for the current high deforestation rates in the Amazon, which we consider an oversimplified view of current deforestation causes (4).

Deforestation rates have increased significantly in the last two years (5), but in spite of the ambitious infrastructure plans announced in the mid-1990s, very few federal investments on roads have been made since the 1980s. Therefore, this overall rate increase cannot be explained by those plans even if land speculation is one of the factors in areas such as BR-163. For instance, the municipality that has had the highest deforestation rates in recent years, São Felix do Xingu, Pará, is not even served by a paved road. São Felix is an entrée to the area between the Xingu and Iriri rivers, a recent deforestation hot spot, where cattle farmers and local municipal governments build unpaved roads themselves (4). The Laurance *et al.* model fails to capture this type of new frontier.

Although we do not dispute the fact that in the past most of the deforestation has happened along the major highways (6), there is an urgent need to understand the genesis of the new Amazon frontiers, and the hypothesis that they are more localized and much less dependent on federal government infrastructure investments than in the 1970s and 1980s (7). Even in the 1970s and 1980s, the effect of roads was not homogeneous across the region (8), depending on proximity to national markets in the south, climatic restrictions, official settlements sites, agrarian structure differences, and technology access.

Simplistic models such as that of Laurance *et al.* (1) may divert attention from real deforestation causes, being potentially misleading in terms of deforestation control, even if, as proposed in (2), Brazilian infrastructure plans are completely undermined.

Gilberto Câmara,^{1*†} Ana Paula Dutra Aguiar,^{1*} Maria Isabel Escada,^{1*} Silvana Amaral,^{1*} Tiago Carneiro,^{1*} Antônio Miguel Vieira Monteiro,^{1*} Roberto Araújo,^{2*} Ima Vieira,^{2*} Bertha Becker^{3*}

¹Instituto Nacional de Pesquisas Espaciais (INPE), Av. dos Astronautas 1758, São José dos Campos, SP, Brasil. ²Museu Paraense Emilio Goeldi (MPEG), Av. Magalhães Barata 376, Belém, PA, Brasil. ³Universidade Federal do Rio de Janeiro (UFRJ), Cidade Universitária, Rio de Janeiro, RJ, Brasil.

*GEOMA Network, Ministry for Science and Technology

†To whom correspondence should be addressed. E-mail: gilberto@dpi.inpe.br

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