**Deforestation a greater threat to the Amazon than global warming**

Rhett A. Butler at Mongabay [writes about a recent study](http://news.mongabay.com/2008/0225-mayle_amazon.html): …If past conditions are any indication of future conditions, the Amazon rainforest may survive considerable drying and warming caused by global warming, argue researchers in a paper published in Philosophical Transactions of the Royal Society B.

Examining charcoal and fossil records from across the Amazon basin, Francis E. Mayle and Mitchell J. Power of theUniversity of Edinburgh report that Amazon forests appear to have been "remarkably resilient to climatic conditions significantly drier than those of today, despite widespread evidence of forest burning" during the Early-Mid- Holocene, a period 4000 to 8000 years ago. The conclusion challenges other research suggesting that the Amazon is on the brink of a dramatic die-back due to the interaction of accelerating deforestation, increasing incidence and severity of forest fires, and the effects of climate change.

…Many researchers have argued that while the Amazon has seen transition between tropical forest to savanna in the past, human activity — especially fire and deforestation — is creating unprecedented conditions, pushing it towards a "die-back" tipping point towards the end of the century. Mayle and Power counter by citing evidence of past human influence in the region, noting that charcoal records support the notion that pre-Colombian societies burned Amazon forests. While Mayle and Power concede that ancient burning was likely less extensive than it is today, they suggest that dire projections for the Amazon due to climate change alone may be overstated.

"Humans, rather than climate, may have been the key agents of disturbance of Holocene forests in many parts of the basin, especially if 'pre-Conquest' Amazonia was much more densely populated than previously thought," they write. "However, a drier climate would have had an important influence by making forests more combustible. Anthropogenic burning would therefore have been a more effective tool for forest clearance and, through more frequent fire leakage, would have led to an increase in large wildfires as occurs today during particularly severe droughts."

"Our analysis shows that, notwithstanding floristic changes, the forest biome in most parts of Amazonia appears to have been remarkably resilient to climatic conditions significantly drier than those of today, despite widespread evidence of forest burning," the authors continue. "Although the effects of continually rising CO2, and different climate change scenarios, upon Amazonia's forests over the twenty-first century remain uncertain... our insights from the distant past suggest that the Amazon forest 'dieback' scenario simulated by Cox et al. (2000) and Betts et al. (2004) is unlikely."

"A projected temperature increase of 3-8C over the twenty-first century... in combination with drying and forest fragmentation, would be expected to increase water stress and vulnerability to dieback, although this may be offset by higher CO2 concentrations. Of much greater cause for concern should be the unprecedented rates of deforestation, forest fragmentation... and uncontrolled burning, which are much more serious and immediate threats than climate change."

Francis E. Mayle and Mitchell J. Power (2008). Impact of a drier Early-Mid-Holocene climate upon Amazonian forests [FREE OPEN ACCESS]. Phil. Trans. R. Soc. B, DOI: 10.1098/rstb.2007.0026