guardian.co.uk

The threat to the Amazon rainforest should not be overstated

Highlighting only the most catastrophic scenarios could backfire, say Yadvinder Malhi and Oliver Phillips

Yadvinder Malhi and Oliver Phillips
The Guardian, Tuesday 7 April 2009

A larger | smaller

Your article stated that "global warming will wreck attempts to save the Amazon" (Too late to save Amazon forest from catastrophe, climate experts warn, 12 March). "Even under the most optimistic climate-change scenarios, the destruction of large parts of the forest is 'irreversible'," you reported.

As representatives of a UK-wide community of scientists which has been studying the impacts of climate change on the Amazon rainforest for over a decade, we believe the article greatly overstated the inevitability of severe forest dieback.

You reported a study which "used computer models to investigate how the Amazon would respond to future temperature rises". But it was based on just one computer model (admittedly, one of the better ones), from the UK Met Office Hadley Centre, which makes a more pessimistic prediction than almost all other climate models. Most climate models substantially underestimate the current rainfall in Amazonia, so it does not take much extra drying to simulate the disappearance of the forest. The representation of vegetation in these models is also rather simple compared with modern ecological understanding, and may be oversensitive to temperature increase.

You say that "the new research is the first to quantify the long-term effect" of global warming. The balance of the scientific evidence to date is that under a 2C warming the Amazon forest is likely to persist, albeit in a more moisture-stressed state and with the possibility of significant loss of biodiversity. Forest dieback is a possibility that should not be ignored, and the probability increases with increasing air temperatures; but it is not inevitable. What is clear is that climate change magnifies the threat from advancing agricultural development, as a drier Amazon will burn more easily.

You reported Chris Jones, who led the research, saying: "On any kind of pragmatic timescale, I think we should see loss of the Amazon forest as irreversible."

Scientific understanding advances over time, and all this discussion of uncertainty could be considered as the normal "to and fro" of the scientific process if the stakes were not so high. On the one hand, there is a clear and pressing need to communicate the overwhelming scientific evidence for the severity of potential climate change to a sometimes sceptical public and lethargic political process. But journalism that highlights only the most catastrophic scenarios has the potential to backfire.

If rainforests were already doomed based on the bulk of scientific evidence, then so be it. But when such a story is promoted, based on a model simulation that has not yet been reviewed by other scientists, it may do a lot of damage.

Climate change is undeniably a serious threat, and our comments should not be seized upon as an excuse for delay or inaction. Rather, conserving Amazonian forests both reduces the carbon dioxide flux from deforestation, which contributes up to a fifth of global emissions, and also increases the resilience of the forest to climate change. The potential impacts of climate change on the Amazon forest must be a call to action to conserve the Amazon, not a reason to retreat in despair.

• Yadvinder Malhi is professor of ecosystem science at the University of Oxford; Oliver

Phillips is professor of tropical ecology at the University of Leeds
yadvinder.malhi@ouce.ox.ac.uk

guardian.co.uk © Guardian News and Media Limited 2009