

## **How can we conserve intact tropical peatlands?**

Ian Lawson and Katherine Roucoux

School of Geography and Sustainable Development, University of St Andrews, St Andrews, UK

The scientific community has, for more than three decades, been expressing increasing alarm about the fate of peatlands in parts of Indonesia and Malaysia, where extensive land-use conversion and drainage for rice and oil palm have greatly compromised peatland hydrology, ecology, biological richness, and carbon storage. The discourse in the literature on these peatlands is now moving on from attempts to preserve the last remaining fragments of peat-swamp forest, towards discussion of how best to restore damaged ecosystems, and whether it is possible to manage plantations more 'sustainably'.

It is becoming increasingly clear, however, that peatlands occur quite widely in other parts of the lowland tropics, including parts of Amazonia and the Congo Basin, and many of these peatlands can reasonably be described as 'intact': although few if any parts of the tropics are totally unaffected by human actions, the hydrology and functional ecology of these systems appear to be close to a 'natural' state. The question then arises as to what should be done with the knowledge of their existence.

Here we analyse the arguments in favour of protecting intact peatlands, and the potential conflicts with other priorities such as economic development and social justice. We evaluate alternative mechanisms for protecting intact peatlands, focusing on the particular issues raised by peatlands as opposed to other kinds of tropical ecosystem. We identify ways in which natural science agendas can help to inform these arguments, using our own contributions in palaeoecology and carbon mapping as examples. Finally, we argue for a radical reconsideration of research agendas in tropical peatlands, highlighting the potential contribution of methodologies borrowed from the social sciences and humanities.