

Growing oil palm for biofuels can't save our climate

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(Phys.org)—Growing oil palm to make 'green' biofuels in the tropics could be accelerating the effects of climate change, say scientists.

Researchers from Bangor University found the creation of [oil palm plantations](#) are releasing prehistoric sources of carbon dioxide back into the atmosphere.

The findings throw into doubt hopes that biofuels grown in the tropics could help cut [greenhouse gas emissions](#).

Working as part of an international team, the north Wales scientists looked at how the [deforestation](#) of peat-swamps in Malaysia, to make way for oil [palm trees](#), is releasing carbon which has been locked away for thousands of years.

It is feared this carbon will be attacked by microbes and produce the greenhouse gas, carbon dioxide. The Bangor researchers say the ancient carbon comes from deep in the soil, which as the effects of deforestation take hold, breaks down and dissolves into the nearby watercourses.

When describing their work which appears in *Nature*, Prof Chris Freeman commented: ""We first noticed that the ditches draining areas converted to palm oil plantations were loaded with unusually high levels of dissolved carbon back in 1995, but it was not until my researcher Dr Tim Jones took samples to measure the age of that carbon that we realised we were onto something important". Dr Jones added "We were amazed to discover that the samples from Malaysian oil palm plantations contained the oldest soil-derived dissolved organic carbon ever recorded."

The Bangor University researchers measured the water [leaching](#) from channels in palm oil plantations in the Malaysian peninsular which were originally Peatland Swamp Forest. There are approximately 28,000 km² of industrial plantations

in [peninsular Malaysia](#), Sumatra and Borneo with even more planned, making them a major contributor to peat-swamp deforestation in the region. Prof Freeman commented; "Our results are yet another reminder that when we disturb intact peat-swamps and convert them to industrial [biofuel](#) plantations, we risk adding to the very problem that we are trying to solve"

Prof Freeman added: "We have known for some time that in South East Asia, oil palm plantations were a major threat to biodiversity, including the habitat for orang-utans, and that the drainage could release huge amounts of carbon dioxide during the fires seen there in recent years. But this discovery of a "hidden" new source of problems in the waters draining these peatlands is a reminder that these fragile ecosystems really are in need of conservation."

Such is the necessity to learn more about the role of tropical peatlands on our climate Prof Freeman is establishing a unique postgraduate degree on wetlands.

The world-renowned scientist hopes Bangor University's new Wetland Science and Conservation MSc will ensure research continues on the best ways to protect and manage these special habitats.

'Deep instability of deforested tropical peatlands revealed by fluvial [organic carbon](#) fluxes' is published in *Nature* on 31 January 2013.

More information: 'Deep instability of deforested tropical peatlands revealed by fluvial organic carbon fluxes' is published in *Nature* on 31 January 2013. www.nature.com/nature/journal/.../ull/nature11818.html

Provided by Bangor University

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