

The vicious cycle of rainforest destruction

May 22 2006

Rainforests and savannas contain 70% of the world's plants and are critical to the health of our planet. A new £1.6m international project involving researchers from the Leeds Earth and Biosphere Institute is looking at the impact of global warming on these sensitive areas.

The researchers think we may be at the start of a vicious cycle, where global warming causes the rainforests to shrink, so increasing the amount of carbon in the atmosphere, raising the earth's temperature and magnifying the impact on the rainforests.

Heading the work at Leeds is Professor of Earth System Science, Jon Lloyd: "The two major vegetation systems in the tropics are rainforest and savanna. As it gets warmer and drier the rainforest gets invaded by savanna, which has fewer trees and holds less carbon in the soil. Savanna also doesn't recycle water in the same way as rainforest, so the carbon loss from the savanna is greater and the atmosphere becomes drier."

The researchers want to find out under what conditions rainforest and savanna are able to thrive. It's not a simple question of rainfall: areas in Africa with 1800mm of rainfall a year are rainforest; in South America, areas with the same rainfall are savanna.

Other issues such as soils, fertility and drainage must play a part, the researchers believe. They will make measurements in Africa, Australia and South America, focusing on 'zones of tension' where rainforest and savanna currently grow side by side.

Using these measurements, detailed computer models will be created to look at the impact of changes in tropical vegetation on the Earth system in terms of carbon emissions, temperature and rainfall. These changes will then be fed back into the models to determine their cumulative impact and ultimately predict global climate change.

The researchers hope to complete their calculations within five years. If this shows that the level of carbon in the atmosphere is set to increase beyond current estimates it could force a change in international targets for reducing carbon emissions.

Source: University of Leeds

Citation: The vicious cycle of rainforest destruction (2006, May 22) retrieved 27 April 2024 from <https://phys.org/news/2006-05-vicious-rainforest-destruction.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.