

Panama REDD: Getting what you pay for

October 4 2011

A new report by researchers from the Smithsonian Tropical Research Institute in Panama and Canada's McGill University identifies gaps in forest monitoring and ways to improve data collection. This will produce reliable estimates of greenhouse gas emission reductions from activities aimed at reducing deforestation.

Under a United Nations proposal to Reduce Emissions from Deforestation and [Forest Degradation](#), called REDD+, developing countries would be compensated according to their success in reducing [greenhouse gas emissions](#). The importance of the REDD+ proposal is that it addresses the approximately 10-15 percent of all greenhouse gas emissions created by deforestation.

Panama's abundant [tropical biodiversity](#) and the fact that more than 40 percent of the country is still forested makes Panama an ideal testing ground for [conservation strategies](#) that would reduce [carbon dioxide emissions](#). In fact, Panama was one of the first countries selected by the World Bank and the United Nations REDD+ initiative to receive funding.

"We wanted to know if readily available in-country monitoring techniques would be enough to demonstrate that emissions could be reduced by the REDD+ plans that United Nations delegates have been discussing since 2005," said Johanne Pelletier, doctoral candidate at McGill University and first author of the study. "We made a model for Panama to simulate land-cover change from 2000-2030 based on two maps and the available carbon stock information, and found that better

monitoring will be needed to show that [emission reductions](#) are really taking place."

The best land-use maps available to the public from Panama's National Environmental Authority were maps produced in 1992 and 2000 using information about [forest cover](#) from [Landsat satellites](#). Cloud cover often blocks the view of satellites. The STRI-McGill team found that the 1992 map was a composite of images from 1988 to 1992 and the 2000 map was based on images dating back to 1998.

"If we could compare cloud-free images of the land cover in each of these two years, it would be easy to show that land use has changed, but the fact that satellite images from as many as five different years had to be pieced together to make a complete map obscures the land-use changes that have taken place," said Pelletier.

Only a scenario that simulates reducing deforestation by half was sufficient to show that significant emissions reductions were achieved. In other words, the "noise" around existing data is such that emission reductions that would take place in Panama due to an effort to halt deforestation would not be detectable. The use of different methodologies to measure carbon stocks in mature forest and the natural variability in forest carbon density made this the number one source of error. There is an urgent need to improve the methodology and the data available to measure emissions from the forest sector.

"Monitoring is a preeminent preoccupation of developed countries vis-à-vis the REDD+ proposal," said Catherine Potvin, professor at McGill University and associate staff scientist at STRI. "If they are to disburse financial resources to support the effort of developing countries that try to halt deforestation, they want to be able to track emissions reduction in a reliable way. We need to develop new, low-cost, verifiable forest monitoring techniques to clearly show that Panama's efforts to reduce

[deforestation](#) and conserve forests on native lands pay off for the climate."

More information: Pelletier, Johanne; Ramankutty, Navin; and Potvin, Catherine. 2011. Diagnosing the uncertainty and detectability of emission reductions for REDD+ under current capabilities: an example for Panama. *Environ. Res. Lett.* 6 (2011) 024005
[doi:10.1088/1748-9326/6/2/024005](https://doi.org/10.1088/1748-9326/6/2/024005)

Provided by Smithsonian Tropical Research Institute

Citation: Panama REDD: Getting what you pay for (2011, October 4) retrieved 6 May 2024 from <https://phys.org/news/2011-10-panama-redd.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.