



Improved measurement of post-disturbance dynamics

Arevalo P., Woodcock C. E. & Olofsson P. (2019). *Remote Sensing of Environment*

<https://doi.org/10.1013/j.rse.2019.01.013>

Science Question

The UN-REDD+ program stipulates payments to countries that can prove a reduction of emissions of terrestrial carbon. But estimating land change activities that emit carbon (deforestation and forest degradation) at (bi-)annual intervals is inherently complicated – uncertain estimates prevents result-based payments

Analysis

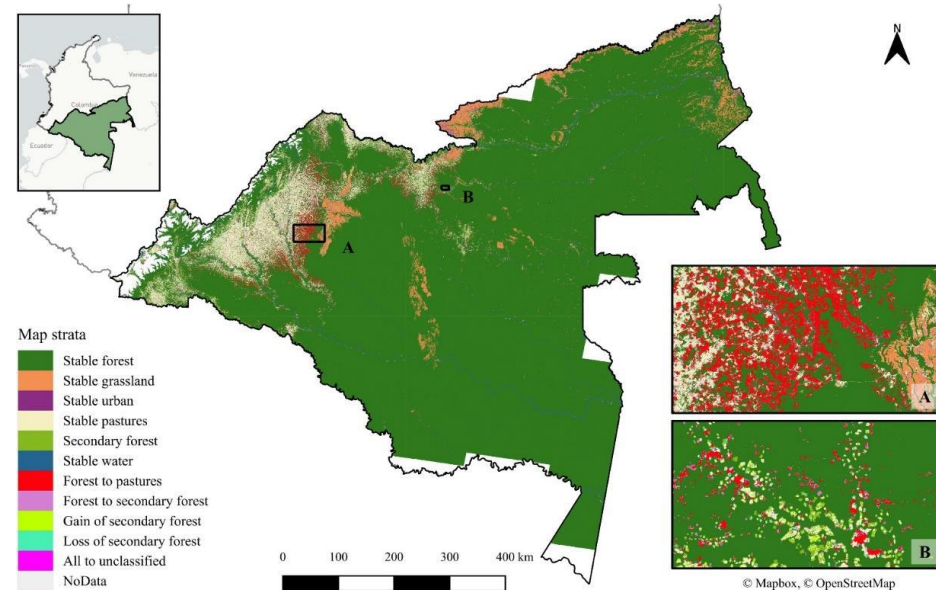
A continuous map product was created by time series analysis of *all* Landsat imagery acquired over the study area. Stable land cover, land change and post-disturbance land cover were monitored continuously 2000-2016.

Results

The Colombian Amazon experienced a small but steady decrease in primary forest due to forest-to-pasture conversion, reaching 103 ± 30 kha in 2015 (0.22% of the study area).

Around 41 ± 28 kha of pastureland reverted back to forest while losses of secondary forest averaged 20 ± 12 kha.

CMS (2015) Grant #NNX16AP26G PI P. Olofsson



Map of cumulative land cover and land change 2001-2016

Significance

These results show that the fate of post-disturbance landscapes can be monitored and estimated with the presented methodology but more work is needed to further reduce the uncertainties. Addition of a buffer stratum to capture omission errors markedly reduced the uncertainty on area estimates.