

Visiting Researcher- Land Use Analysis

The **International Center for Tropical Agriculture** (CIAT) works to reduce hunger and poverty, and improve human nutrition in the tropics, through research aimed at increasing the eco- efficiency of agriculture. CIAT is a member of the CGIAR (www.cgiar.org), a global partnership that unites organizations engaged in research for a food secure future. CIAT's research focuses on increasing productivity of key tropical crops, reversing soil and land degradation, and using information to foster better decisions about issues such as climate change and environmental management. Headquartered near Cali, Colombia, CIAT has regional offices in Nairobi, Kenya, and Hanoi, Vietnam, and sub-regional offices in Managua, Nicaragua.

The Position

Land-use change analysis is important for understanding how environmental changes impact on ecosystem services. Detecting land-use changes in savanna environments is challenging because of environmental heterogeneity, high cloud cover and difficulty in distinguishing land covers. Our work in the savannas of eastern Colombia seeks to meet these challenges through a comprehensive remote-sensing data approach. How can we use environmental analysis and remote-sensing to detect land-use changes in the Orinoco region of Colombia?

CIAT is seeking a graduate student (MA or PhD) to work on developing land-use change maps as a support tool for better decision making in the Eastern Plains savannas biome of Colombia. The student will focus on distinguishing different land cover/land use types in the grasslands of the region, with a particular emphasis on detecting well-managed improved pastures, degraded pastures and native savanna.

This work will support a larger mapping effort by the government of Colombia (GoC) to analyze land-use change for improving the country's greenhouse gas emissions inventory. The student will be based at CIAT Headquarters in Palmira, Colombia. He/she will use remote sensing (RS), Geographic Information System (GIS) and field analysis to analyze grassland environments of the Orinoco region of Colombia. The student's work on grassland and pasture land covers will feed into a larger project on understanding recent land-use changes in the Orinoco region. It will support the work of a small team of GoC and CIAT scientists working to support broader goals to improve our understanding of land-use change and its impacts on greenhouse gas emissions.

The position provides research operations costs, round-trip travel to CIAT headquarters in Cali Colombia and a small stipend.

Responsibilities:

- Search available data and organize database (e.g., imagery, air photos, soil data, digital elevation models, geology and other environmental maps)
- Collect field data where necessary
- Use remote-sensing analysis to classify grasslands, with emphasis on differentiating native savanna, degraded pasture and well-managed improved pasture

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- Publish the results with project team in international peer-review journal

Requirements:

- Knowledge of remote-sensing, GIS and land use analysis
- Knowledge of statistics
- Experience in R or similar statistical software package
- Good writing ability in English

This project could be a PhD chapter or Master's thesis of the student.

Please send a short CV, and covering letter outlining your reasons for applying and why you think you would be a good fit. Please indicate in the SUBJECT field of the email "Student – Land Use Analysis".

Contact

[Mayesse da Silva](#) with a copy to [Glenn Hyman](#).

We invite you to learn more about us at: <http://www.ciat.cgiar.org>

Closing date for applications: **April 28th, 2017**