Visiting Researcher- Spatial Soil Information

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

Soils are the foundation for ecosystem services that support human life, healthy environments, and agricultural systems worldwide. Land use change impacts on soil ecosystem services include their effects on fertility, biodiversity and soil carbon. Understanding the dynamic variability of soils across the landscape is critical to assess the effects of agriculture and consequent land use change on ecosystem services. Digital soil mapping (DSM) provides a framework to develop accurate maps at high resolution using the most recent technologies (e.g., satellite images to determine land use and digital elevation models) associated with field data to provide high quality information and tools for adequate decision making at field and landscape level.

CIAT is seeking a student to work on developing digital soil property maps (physical and chemical) as a support tool for better decision making in the Eastern Plains savannas biome of Colombia. The student will be based at CIAT Headquarters in Palmira, Colombia for a period of 6 months. He/she will work with different tools of Geographic Information System (GIS), remote sensing (RS) and soil data (recollect legacy soil data and analyze new soil data) to develop accurate digital soil maps and their uncertainties.

Responsibilities:

- Search available data and organize database (e.g., soil data, digital elevation models, geology and soil maps)
- Conduct statistical analyses
- Develop digital soil maps (calibration, validation)
- Develop uncertainties maps of the digital soil maps developed
- Publish the results in international peer-review journal

Requirements:

- Knowledge of soils
- Knowledge of statistics
- Skills on GIS and RS
- Experience on R statistical 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 – Spatial Soil Information".

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**