

The Institute of Crop Science and Resource Conservation, Department of Soil Science and Soil Ecology offers a

PhD position

within the West African Science Service Center on Climate Change and Adapted Land Use (WASCAL, www.wascal.org) on

Soil carbon dynamics under climate and land use change in West Africa

WASCAL

With climate change being one of the most severe challenges to rural Africa in the 21st century, West Africa is facing an urgent need to develop effective adaptation and mitigation measures. WASCAL is a large-scale research-focused program designed to help tackle this challenge and thereby enhance the resilience of human and environmental systems to climate change and increased variability.

Objectives

Soils play a crucial role in agricultural and natural systems. They provide the fundamental background for ecosystem services and plant production. Soil organic carbon (SOC) is essential to soil fertility and productivity, being involved in most soil functions such as the storage of nutrients and water, soil biological activity, and structural stability. Maintaining SOC is thus necessary for a soil to fulfill primary ecosystem services, especially in West Africa where natural soil fertility and fertilizer input are low. However, SOC is severely affected by climate and land use change. We therefore aim at analyzing SOC stocks and their feedbacks to land use change and climate change in three West African countries on a watershed level.

Your tasks will be:

- to perform extensive sampling campaigns in the field and to analyze the samples for various SOC fractions
- to initialize and run a SOC model
- to extrapolate the SOC model to the entire watersheds
- to couple climate change and land use change scenarios to the SOC model

Requirements

We are looking for a highly-motivated and self-reliant candidate with a master (or comparable) degree in soil science or a related field (geography, agronomy, geo-ecology). We expect the willingness to spend longer periods on site (Burkina Faso, Ghana, Benin) and to organize samplings campaigns self-reliantly. Candidates should furthermore possess the ability to work in a team. The position requires expertise in Arc-GIS and modeling or the readiness to develop the respective skills. We expect the willingness to closely collaborate with colleagues from other work packages. We furthermore require fluent spoken and written English and at least basic skills in French.

The position

Subject to financial approval from the donor, we offer a three-year scholarship as a doctoral student. During this time, the doctoral student will be based in Bonn (Germany) and the field work will be done in West Africa. The position is available from 1st of March 2012.

The University of Bonn is an equal opportunity employer and particularly welcomes applications from women candidates. The call remains open until the position is filled. Please address applications (CV including photograph, diploma/masters thesis or other example of your work, two references with names and addresses of the referees, cover letter including a statement of research interests and achievements) via email to: Ingrid Rosendahl, INRES-Soil Science, Nussallee 15, 53115 Bonn, Germany, ingrid.rosendahl@uni-bonn.de Please note that only shortlisted candidates will be contacted.