

# Post-doc at the Department of Soil and Environment

The Department of Soil and Environment announces a Post-doctoral position in spatial modelling of carbon stocks in forest soils.

The research at the Department of Soil and Environment (<http://www.slu.se/institutioner/mark-miljo>) seeks knowledge about the interaction between man, soil, plant and the surrounding environment in forest and agricultural landscapes as well as urban environments. We carry out monitoring and assessment of the state of the environment on commission from Swedish government agencies.

The Department of Soil and Environment is responsible for the Swedish Forest Soil Inventory, which monitors soil conditions and soil chemistry across Sweden. Data from the Soil Inventory is used to estimate carbon stock changes in forest soils for the reporting to the EU and the Climate convention.

## Duties:

Large spatial variation in soil carbon content and the fact that even small relative changes in the soil carbon pool may lead to large fluxes of greenhouse gases are two challenges when assessing the impact of land use on climate change.

Uncertainties in the estimates of carbon stocks and carbon stock changes may also be an obstacle for a proper representation of soil processes in models that are currently used to estimate soil carbon balances.

The aim of this post-doc position is to improve carbon stock estimates in forest soils by combining soil inventory data with models. The main objective is to develop empirical models and relationships for soil carbon stock and soil carbon change based on site characteristics, forest management and management history, for instance by using hierarchical Bayesian-generalized linear-models. The models should enhance the accuracy of estimates of soil carbon changes in forest soils.

The position is linked to a collaborative project involving research groups in Sweden, Norway, Denmark and Latvia. The project aims to use national forest inventories, spatially-explicit remote sensing, local data and modeling procedures to increase the precision and spatial resolution of carbon stock change estimates. The developed methods should be able to quantify the effects of forest mitigation measures at the national and sub-national scales.

## Qualifications:

As postdoctoral appointments are career-developing positions for junior researchers, we are primarily looking for candidates with a doctoral degree that is three years old at most.

The applicant should hold a PhD in soil science, ecosystem modelling or corresponding fields. Experience in data management, GIS, mathematical tools and models for data analysis is also required.

Documented experience in research oriented towards soil modelling and digital soil mapping is a merit.

The candidate must be fluent in both written and spoken English. Besides the formal qualifications, personality traits as working in team as well as working independently are considered important for this position.

**Place of work:** Uppsala

**Form of employment:** Temporary employment as postdoctor for 2 years.

**Extent:** 100%

**Starting date:** By agreement

**Application:** We welcome your application marked with **Ref no. SLU ua SLU ua 3183/2017**.

*The Swedish University of Agricultural Sciences (SLU) develops the understanding and sustainable use and management of biological natural resources. The university ranks well internationally within its subject areas. SLU is a research-intensive university that also offers unique degree programmes in for example rural development and natural resource management, environmental economics, animal science and landscape architecture.*

*SLU has just over 3,000 employees, 5,000 students and a turnover of SEK 3 billion. The university has invested heavily in a modern, attractive environment on its campuses in Alnarp, Umeå and Uppsala.*

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Please submit your application to the Registrar of SLU, P.O. Box 7070,  
SE-750 07 Uppsala, Sweden or [registrator@slu.se](mailto:registrator@slu.se) no later than **October  
31, 2017**.

SLU is an equal opportunity employer.