



PhD opportunity at MPI-Biogeochemistry Jena/Germany; starting spring 2018

Global warming – increasing relevance of land hydrology for the climate?

Land surface hydrology acts at the interface between soil, vegetation, and atmosphere, and therefore impacts food production, water availability, and extreme events such as droughts and floods. The interactions between land (hydrology) and atmosphere (weather) are not entirely understood. In particular, it is unclear whether or not land surface impacts on vegetation and near-surface weather are intensifying in the context of global warming. Furthermore there is yet an inadequate knowledge of the transition from an energy-limited regime where the atmosphere (temperature and incoming radiation) is driving the land (vegetation productivity, soil moisture), to a moisture-limited regime where the land can impact the atmosphere.

In this context, **we seek a motivated PhD student who will advance the understanding of land-atmosphere interactions**. You will perform (statistical) analyses with modelled and observed data comprising soil moisture, matric potential, gross primary production, evapotranspiration, temperature, and ancillary land surface data. Hydrology-vegetation-climate feedbacks will be investigated with respect to (1) their short- and long-term variability, (2) their potential changes with climate change, and (3) their past, present and future hot spot regions. Moreover you will diagnose, characterise, and understand critical soil moisture and/or matric potential ranges at which a moisture-limitation of vegetation or evapotranspiration occurs.

The successful candidate will work with Dr. Rene Orth within the **new research group on land-atmosphere interactions**. The group is embedded in the Department of Biogeochemical Integration at the Max Planck Institute for Biogeochemistry in Jena with its vibrant research environment which encompasses experimental and theoretical work on the role of the biogeochemical cycles of carbon, nutrients and water in the Earth system. You will further collaborate with national and international partners.

The ideal candidate should be well-motivated and have

- a Master's degree in environmental science (or related)
- Experience in statistical analysis and modelling
- Good English language skills

This position is initially funded for **3 years with a salary equivalent to TVöD E13 / 65%**. The position is expected to start in spring 2018, and will remain open until filled.

Please send your application to rene.orth@bgc-jena.mpg.de It should contain CV, motivation letter (stating why you are interested and what makes you suitable), and two references. Also if you have any questions, do not hesitate to contact rene.orth@bgc-jena.mpg.de

The Max Planck Society is committed to increasing the number of individuals with disabilities in its workforce and therefore encourages applications from such qualified individuals. The Max Planck Society seeks to increase the number of women in those areas where they are underrepresented and therefore explicitly encourages women to apply.