



RAINER - Remote sensing based area-wide prediction of forest vegetation influence on rainfall erosivity

PhD Position in Forest Remote Sensing & Erosion Modelling (75%, 3 Years)

21.07.2025

We are looking for a motivated PhD candidate to join a DFG-funded research project investigating how forest vegetation influences rainfall erosivity. The project aims to integrate field-based measurements of rainfall kinetic energy with UAV-based LiDAR data to model the influence of 3D forest structures on rainfall erosivity. These models will enable continuous spatial and temporal predictions, advancing our understanding of vegetation–rainfall interactions and supporting soil conservation strategies in the context of climate change.

At Karlsruhe Institute of Technology (KIT) – Institute of Geography and Geoecology (IfGG), the research group "[Vegetation Science and Biogeography](#)" led by Professor Sebastian Schmidlein focuses on remote sensing and modelling of vegetation patterns to address questions of ecosystem functioning and biodiversity.

Starting date: 01.11.2025

Your profile:

- Master's degree in geoecology, geography, remote sensing, hydrology, geoinformatics, forestry, environmental sciences, or a related discipline
- Strong interest in vegetation dynamics and erosion processes
- Enthusiasm for fieldwork and geoinformatics
- Ability to work independently and collaboratively in an international, interdisciplinary team
- Positive, proactive attitude and problem-solving mindset
- Experience with data analysis and scientific programming (preferably in R or Python)
- Good command of written and spoken English
- Valid driver's license for Germany (class B)

We offer:

- A 3-year position (75% TV-L E13) at one of Germany's leading research universities
- Close supervision, mentoring, and collaboration in a dynamic and supportive research environment
- Access to cutting-edge technologies (UAV, LiDAR, etc.) and data
- Opportunities for international scientific exchange, conferences, and field campaigns
- Professional development opportunities, including teaching, workshops, and training

Your tasks:

- Independently manage the research project
- Plan, coordinate and carry out an intensive fieldwork campaign, including data analysis and modelling
- Publish research results in peer-reviewed journals and present findings at conferences

Karlsruhe offers an inspiring environment for research and a position at the heart of Europe, in close proximity to France and the Black Forest. KIT is an equal opportunity employer and we kindly ask female applicants to apply for this job. Recognized severely disabled persons will be preferred if they are equally qualified.

To apply, submit a cover letter detailing your research interests and relevant experience, your current CV, academic transcripts, a list of publications (if applicable) and contact details of two academic referees. Applications should be sent via email (as a single pdf file) to senn@kit.edu. Review of applications will begin on 15 August 2025 and continue until the position is filled. For further enquiries, please contact [Dr. Johannes Senn](#), KIT, IfGG, Kaiserstr. 12, 76131 Karlsruhe, Germany (senn@kit.edu).