UNIVERSITY OF COLOGNE



Foto: Jörn Henn

Faculty of Mathematics and Natural Sciences

Research Associate in Precipitation Forecasting and Climate Adaptation (f/m/x)

Institute of Geophysics and Meteorology

We are one of the largest and oldest universities in Europe and one of the most important employers in our region. Our broad range of subjects, the dynamic development of our main research areas and our central location in Cologne make us attractive for students and researchers from around the world. We offer a wide range of career opportunities in science, technology, and administration.

As part of the collaborative research project RAIN-USE, we investigate how cities can simultaneously mitigate the impacts of heavy rainfall and reduce urban heat. We are testing smart rainwater storage systems that are operated proactively: ahead of forecasted heavy rainfall events, storage capacity is created through controlled water release, while the collected rainwater is subsequently used for building cooling and irrigation. The operation of these systems relies on probabilistic weather forecasts – and this is where meteorological research plays a key role. You will collaborate closely with researchers in urban climatology, health sciences, and governance, as well as with TH Köln (University of Applied Sciences), the Cologne municipal wastewater utility (Stadtentwässerungsbetriebe Köln), and the start-up FloodWaive.

YOUR TASKS

- Conduct climatological analyses of regional weather and climate conditions in the Cologne area, with a particular focus on summertime extreme events (heavy precipitation, heat, and drought)
- Contribute to observations and monitoring of the urban climate in Cologne
- Apply innovative ensemble-based precipitation forecasting systems developed by the German Meteorological Service (DWD), such as INTENSE, for short-term forecasting of summertime precipitation in the Cologne region
- Develop and apply computational algorithms to optimize a prototype smart rainwater harvesting and management system in collaboration with the specialized software enterprise FloodWaive.
- Process and tailor heat and drought forecasts for integration into a climate risk app
- Actively participate in scientific exchange and the dissemination of research findings through seminars, conferences, and publications in international peer-reviewed journals

YOUR PROFILE

Required qualifications

- Completed Master's degree (M.Sc.) in meteorology or a closely related discipline
- Solid and demonstrable knowledge and/or experience in atmospheric observations and/or atmospheric modelling
- Advanced programming skills (e.g., Python)
- Excellent written and spoken English skills (C1 level or equivalent)

Desirable

- Experience working with modern UNIX or Linux operating systems
- Experience with precipitation forecasting or radar-based nowcasting
- Good written and spoken German skills (B2 level or equivalent)

WE OFFER

- Possibility to obtain a doctoral degree in meteorology in an interdisciplinary environment
- A diverse working environment with equal opportunities
- Support in balancing work and family life
- Flexible working time models
- Extensive advanced training opportunities
- Occupational health management offers

The University of Cologne promotes equal opportunities and diversity. Women will be considered preferentially in accordance with the Equal Opportunities Act of North Rhine-Westphalia (Landesgleichstellungsgesetz – LGG NRW). We also expressly welcome applications from all suitable candidates regardless of their gender, nationality, ethnic and social origin, religion, disability, age, sexual orientation and identity.

The position is available from 1 February 2027 on a part time basis with 29,88 hours per week. The position is to be filled for a fixed term until 31 January 2030. If the applicant meets the relevant wage requirements and has the appropriate personal qualifications, the salary is based on remuneration group 13 TV-L of the pay scale for the German public sector.

Please apply online with proof of the required qualifications (without a photo) under https://jobportal.uni-koeln.de. The reference number is Wiss2611-15. The application deadline is 21 December 2026.

For further inquiries, please contact Professor Dr Ulrich Löhnert (ulrich.loehnert@uni-koeln.de) and take a look at our FAQs.

HR EXCELLENCE IN RESEARCH