

The **Karlsruhe Institute of Technology (KIT)** and its **Institute of Meteorology and Climate Research, Department Atmospheric Research (KIT/IMK-IFU)** at Campus Alpin in **Garmisch-Partenkirchen, Germany** is looking for a

PhD Candidate in Climate- and Environmental Sciences

to fill a **three-year position** from 1st of April 2020 on (or earliest convenience).

The position is available within the BMBF-funded cooperation project *ClimXtreme (Impact of human water use on atmospheric extremes in regional climate simulations)* with cooperation partners from Research Center Jülich (IBG-3) and the University of Bonn.

The objective is to understand occurring and possible future frequency- and intensity changes of extreme weather events in Central Europe, such as heat waves, droughts, heavy precipitation, hail and strong winds. The effects of extreme weather and climate events on natural and socio-economic systems will be analyzed. The specific aim of this PhD research is to investigate potential and magnitude of anthropogenic water use (e.g. groundwater abstraction and irrigation) to influence the large-scale atmospheric circulation and the formation, duration and intensity of heat waves and droughts.

The main work tasks for the position are:

- Analysis and evaluation of CORDEX and further European climate simulations by means of extreme value statistics and divergence analysis
- Downscaling of global atmospheric models with the WRF and WRF-Hydro model system and analysis of the joint atmospheric-terrestrial water cycle
- Specific model development for groundwater abstraction and irrigation interaction.

To be successful the potential candidate needs:

- An outstanding MSc in environmental- or natural sciences (e.g. meteorology, hydrology, climate sciences, physical geography), or environmental engineering
- Proven knowledge of statistical methods
- Proven knowledge about atmospheric dynamics and atmospheric modeling, preferably with the WRF-modeling system; knowledge about hydrological modeling
- Proven programming skills in, e.g., Fortran, Python, R, or Matlab
- Knowledge of UNIX/Linux and HPC systems including scripting
- Good communication skills (writing and speaking) in English

Please send your detailed application electronically and in one pdf-file to harald.kunstmann@kit.edu until **1st of March 2020** latest.

The position remains open until a suitable candidate has been selected.

KIT strives to achieve gender balance at all levels of employment. We therefore particularly encourage female candidates to apply for this position. With appropriate qualifications, applications from handicapped persons will be treated with preference.

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