

Postdoctoral Researcher in Paleoclimatology

in the research group for Climatology, Climate Dynamics and Climate Change (Prof. Dr. J. Luterbacher) at the University of Giessen, Germany

The project of the University of Giessen (Dr. Luterbacher) and the GKSS (Dr. Zorita) PRIME “PRecipitation In the past Millennium in Europe” is funded in the framework of the DFG Priority Program ‘INTERDYNAMIK’. It aims at ascertaining whether global and regional climate simulations are consistent with new proxy-derived reconstructions, focusing on the spatial patterns of mean precipitation and on the frequency of extremes. Emphasis is on a better understanding of the underlying dynamics of hydrological changes and extremes in Europe/Mediterranean back to 1000. The physical mechanisms leading to slow changes in mean European precipitation and in the frequency of extremes and the role of the different forcings will be jointly analysed in the simulations and reconstructions. The expected outcome is an evaluation of climate model skill in simulating future precipitation changes at continental and regional scale and the detection of externally driven past precipitation changes. Results are targeted to contribute to a reduction of uncertainties for future climate predictions at seasonal and continental scale.

Duties: The postdoctoral researcher will reconstruct temporally- and spatially-high-resolved hydrologic changes in Europe/Mediterranean combining long instrumental time series, high and low frequency marine and terrestrial natural proxies as well as documentary evidence. Sophisticated statistical methods will be applied, including Kalman filter, variational methods, optimized linear subspace methods along with hierarchical Bayesian modeling that assimilates both proxy and instrumental data to estimate the probability distribution of all parameters and the climate field through time on a regular spatial grid. The output will include an estimate of the full covariance structure of the hydrologic reconstructions, as well as diagnostic measures that indicate the utility of the different proxy time series for successful reconstruction. Further work involves the comparison between the reconstruction and the new regional climate simulation performed at the GKSS. The project has strong links with other research teams in Europe and the US (NCAR, NOAA).

Requirements: Candidates should have a PhD in natural sciences with experience in paleoclimatological applications and a strong background in statistical analysis or a PhD in statistics/mathematics ideally with experience in paleoclimatology. Experience in handling large data sets and statistical modelling are envisaged. Experience in project management and ability to work efficiently in multidisciplinary environment are essential. Applicants must provide evidence of high-quality research and a very good publication record in peer-reviewed journals. The successful applicant will be expected to publish research papers in peer-reviewed journals, and participate in international conferences and spend some time with other research teams abroad. A motivated, well organized, creative and enthusiastic team-player is much appreciated.

Pay scale grouping follows the “Tarifvertrag Hessen” (TV-H).

The working place is located at the Institute of Geography, University of Giessen, Germany (Prof. J. Luterbacher). Duration of the postdoctoral research position is 24 months. An extension of the project for one year is intended. Starting date is as soon as possible.

Applicants should prepare a CV, motivation letter, qualifications, publications list and contact details of three referees:

Please note that only an electronic version of the application in one single pdf File will be considered.

Please send your application to Andrea Goetzl (<andrea.goetzl@geogr.uni-giessen.de>)

Deadline of the application is 26 February 2010

Severely handicapped persons with comparable occupational qualification are favourably considered.

Application documents will not be returned to applicants
