

Post-doctoral position at the Université catholique de Louvain, Belgium

Analysis of regional climate simulations: impacts of aviation, extreme precipitation events

Profile

PhD with an experience in climate modelling and/or impacts of aviation on climate.

Function

The regional climate model CCLM (<http://clm.gkss.de>) is currently being used at our institute by several researchers. The work focuses on climate change simulations with this model over Europe. There are two objectives, of which each may take more importance depending on the interests of the candidate although some work is required on both:

- . contribute to the analysis of the effects of aviation on climate, specifically aircraft induced cloudiness (AIC). A parameterization to simulate condensation trails formed by airplanes has been developed and introduced in the CCLM model and is currently being validated. Analysis of model results will contribute to this work by further documenting the features of reference simulations that are important for AIC (e.g. cirrus cloud cover) and performing comparisons between runs with/without AIC effects (such for example diurnal temperature range, cloud cover, etc.).
- . analyse runs done by the CCLM community over Europe, with a view to contribute to the understanding of change in extremes precipitation for the 20 and/or 21st century studied in a Belgian « cluster » involving hydrologists. This will be done in cooperation with people from the Katholieke universiteit Leuven that already have experience in the analysis of extremes in other models with a tool that they developed.

For further information, see the ABCi project website: www.climate.be/abc (regarding precipitation extremes, you may also have a look at the CCI-HYDR project, <http://www.kuleuven.be/hydr/CCI-HYDR.htm>)

Qualification

PhD in atmospheric physics or related discipline; expertise in numerical modelling is required. The candidate should have a good knowledge of Fortran and UNIX scripts and be familiar with climate data processing and visualization. Interest for climate statistics and/or familiarity with high performance computing would be an asset.

Duration

This work is funded by the Belgian Science Policy (projects ABC Impacts and cluster SUDEM-CLI). Funding is presently available for up to one year, depending on the experience of the candidate and the starting date of the work - a prompt start is important to fit within the project timescales.

Place of work

The work will take place in the team of Prof. Jean-Pascal van Ypersele (Vice-chair of IPCC) at the “Institut d’Astronomie et de Géophysique G. Lemaître”, a centre of excellence on climate research that depends of the Université catholique de Louvain, Belgium.

The Institute is located in Louvain-la-Neuve, building Marc de Hemptinne, Chemin du Cyclotron, 2 (25 km south of Brussels). See <http://www.uclouvain.be/en-astr.html>

Application

Applications should be sent to Professor J.P van Ypersele (jean-pascal.vanypersele@uclouvain.be) by June 26 at the latest, with a CV, motivation letter, and name + e-mail and phone numbers of two potential referees.