UNIVERSITY OF SASKATCHEWAN
Global Water Futures
GWF.USASK.CA

PhD student and Postdoc (PDF) Opportunities: Convection-Permitting WRF regional climate simulation

The University of Saskatchewan is seeking a Ph. D. and a Postdoc personnel to carry out the research on Convection-Permitting WRF regional climate simulation. The job responsibilities may include:

1. Work with the GWF core atmospheric modelling group, in collaboration with the US National Centre for Atmospheric Research (NCAR), to support the development of pan-Canadian high resolution (<=4km) atmospheric modelling of historical climate and future warming, using the WRF model. In Pseudo Global Warming mode bounded by a perturbed reanalysis model dataset, the WRF runs will provide a dynamically downscaled future climate that includes convective storms. Multi-model RCM (CRCM, CanRCM) runs will provide additional context of model and scenario uncertainty. We plan to deliver and high-resolution Weather Research & Forecasting (WRF) simulations. The personnel will link with ECCC and help with the explanation/analysis of the multi-model Canadian Regional Climate Model ensembles.

2. Assess land–atmosphere feedbacks that uses Noah-MP land surface scheme. Future work in Phase 2 to develop modularity of cold region land surface schemes will enable inter-model comparisons with the ECCC MESH/CLASS modeling system.

Eligibility:

The required academic background of the student: major in Atmospheric Science, Environmental Science or Mechanical, Civil, or Environmental Engineering, or equivalent; a strong background in meteorology, climatology, and/or physics. Experience with numerical modeling of atmospheric processes is a plus.

The required skills include: 1) Ability to gather, understand, and critically analyze data from all relevant sources. 2) Programming skills, such as Fortran, Matlab, R, Python, Perl, and Shell script, etc. 3) Experience with large spatial datasets (preferably using GrADS) on multiple computer platforms (Unix/Linux, Windows). 4) Highly motivated and self-directed in advancing complex projects.

How to Apply:

Interested applicants should contact Dr. Yanping Li (yanping.li@usasaks.ca) with a cover letter explaining their motivation, complete CV, and contact details for three academic references. Informal inquiries are welcome.