PhD Student Opportunity: Changing agro-climatic conditions

The University of Saskatchewan, as part of the recently announced Global Water Futures (GWF, the 78 million grant from Canada First Research Excellence Fund) program, is seeking a highly motivated and organized individual for a PhD student position to investigate how agro-climatic indices and patterns of growing season precipitation will change under future climatic conditions, and how different climate condition will impact the agricultural crop yields and crop water use/footprint. The 4-km continental scale WRF regional climate model coupled with Noah-MP land surface model will be the major tool to examine how agro-climatic conditions will be differ under future climate, what constraints or opportunities will these changes present to agriculture. The student will also examine the changes of variables which are more directly related agro-climatic conditions, such as heat stress, frost free period, heat unit accumulation, start and end of growing season, the change in precipitation phase from snow-rain impact on growing conditions and the water balance. Most the required meteorology and surface variables can be derived directly or indirectly from the WRF output. The WRF model's continental scale domain coverage will allow the examination of regional differences across the Pan-Canadian domain.

Eligibility:

The required academic background of the student: major in Atmospheric Science, Environmental Science or Engineering, or equivalent; a strong background in meteorology, climatology, land-atmosphere interaction and crop phenology. Experience with numerical modeling of atmospheric and land-surface processes is a plus.

To receive the full financial support, student needs to satisfy the University requirement:
https://sens.usask.ca/programs/thesis-based/phd.php#Scholarships
International student needs to meet the minimum English requirement:
https://www.usask.ca/cgps/policy-and-procedure/minimum-entrance-requirements.php#1

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, and Shell script, etc. 3) Experience with large spatial datasets (preferably using GrADS, NCL) on multiple computer platforms (Unix/Linux, Windows). 4) Highly motivated and self-directed in advancing complex projects.

How to Apply:

Interested applicant should contact Dr. Yanping Li (yanping.li@usask.ca) with a cover letter explaining his/her motivation, complete CV, transcripts, and contact details for three academic references. Informal inquiries are welcome.