

PhD Student Opportunity: Ecohydrological implications of subarctic landcover change

Wilfrid Laurier University's Northern Water Futures project, as part of the recently announced Global Water Futures program (<http://gwf.usask.ca>), is seeking a highly motivated and organized individual for a PhD student position to investigate the effects of permafrost degradation on vegetation and water cycling in the Northwest Territories' subarctic Canadian Shield. It is well known that permafrost thaw has the potential to alter vegetation cover, water cycling, hydrological flow paths, interactions between groundwater and surface water, and streamflow regimes. This introduces new uncertainty to what was before a very predictable snowmelt dominated system. Profound vegetation changes have been documented elsewhere in the circumpolar north, but not in the subarctic Canadian Shield where soils are thin and exposed bedrock is predominant. The successful PhD student will, with a combination of spatial analysis, field and modelling methodologies, quantify the impact of permafrost decay on subarctic Canadian Shield vegetation distribution and ecohydrology. For this position, we are searching for candidates with strong GIS skills, and experience with remote field work and numerical hydrological modelling or ecohydrological flux measurement experience. The PhD will be expected to collaborate with others in regional assessments of climate and landscape change across the Northwest Territories, Canada, and the circumpolar north. The candidate will be part of a dynamic group researchers leading water research in Canada.

Location:

Research will be conducted at the Cold Regions Research Centre (<https://coldregions.ca/about/>) at Wilfrid Laurier University (www.wlu.ca) and Environment Canada's National Hydrology Research Centre (NHRC) (<http://www.ec.gc.ca/scitech/default.asp?lang=En&n=44EEFEB3-1>) at the University of Saskatchewan's Innovation Place Research Park in Saskatoon. The primary field research platform will be the Baker Creek Research Catchment, located nearby Yellowknife, NWT, in which Environment and Climate Change Canada has operated an integrated suite of hydrometeorological observations since 2003.

How to Apply:

Interested applicants should contact Dr. Christopher Spence (chris.spence@canada.ca) or Dr. Jennifer Baltzer (jbaltzer@wlu.ca) with a cover letter explaining their motivation, complete CV, a transcript copy, an example of your best written work, and contact details for three academic references. Informal inquiries are welcome.