

M.Sc. Graduate Opportunity in Catchment Biogeochemistry and Hydrology

Hydroclimatic controls on patterns of stream chemistry

Supervisor: Dr. Nora Casson

Location: University of Winnipeg

Project Description: The water quality of streams and lakes draining Canada's boreal forests depend in large part on the cycling of water and nutrients on the landscape. These water and nutrient cycling processes are vulnerable to the effects of climate change, particularly changes in the frequency or intensity of events such as droughts. These events change the way water flows through forests and alter soil properties such as temperature and moisture. Both of these changes have the potential to alter the timing and magnitude of nutrient export from forests into streams. There are gaps in our scientific understanding of how the water and nutrient cycles interact in forests, and this limits our ability to make predictions about forest water quality into the future. We are seeking a student to use the long-term stream chemistry record from the IISD-Experimental Lakes Area (IISD-ELA) to investigate relationships between hydrology, climate and stream chemistry. These questions are important in understanding how nutrient cycling in forests and streams will respond to climatic changes.

This project will be done in collaboration with scientists from the IISD-ELA and the position will be based in the Masters of Bioscience, Technology and Public Policy at the University of Winnipeg. Funding for the project will come from a combination of research and teaching assistantships (funded through the University of Winnipeg and the IISD-ELA).

Qualifications: Interested candidates should have strong quantitative skills and a background in environmental science, physical geography, hydrology, biogeochemistry or a related field. A 4-year or honours B.Sc. with a minimum average of 70% is required.

To apply: Please send a letter expressing your qualifications and interests to Nora Casson (n.casson@uwinnipeg.ca). Review of applications will begin on April 30th, 2015 and will continue until the position is filled.

For further information, please contact:

Dr. Nora Casson, Assistant Professor, University of Winnipeg

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