

Funded Masters level graduate position in the Natural Resources and Environmental Studies Graduate Program at the University of Northern British Columbia (UNBC) on streamflow prediction and climate change

The Natural Resources and Environmental Studies Graduate Program at UNBC, in collaboration with the City of Dawson Creek, the BC Ministry of Forests, Lands, and Natural Resource Operations, and the BC Ministry of Environment, is offering two years of funding in support of a Master of Science (M.Sc.) on streamflow prediction and climate change.

Project Overview:

Annual peak runoff events, maximum soil moisture levels and seasonal wetland recharge are associated with spring snowmelt in the Kiskatinaw River watershed, the principal source of drinking water for the City of Dawson Creek in northeastern BC and of freshwater for regional natural gas extraction. As demands for freshwater intensify and as the climate continues to warm, there is an urgent need to better understand and predict streamflow variations in the Kiskatinaw River. To that end, there is a need to improve real time monitoring of weather and snow conditions within the watershed to enhance predictability of runoff during the spring freshet and to forecast water supplies for the City of Dawson Creek. In recent years, there has been dramatic variation in snowfall amounts over the winter, and the spring freshet of the Kiskatinaw River has tended to be nine days earlier than the long term average (Forest Practices Board 2011). Multi-million dollar investments have been made and are planned by the City of Dawson Creek for additional reservoir capacity and infrastructure to optimize water use. Developing predictions, either through remote sensing, statistical or numerical models, of the volume and timing of spring runoff based on real time monitoring of weather and snow conditions within the Kiskatinaw watershed will provide a better understanding of its hydrology and inform water supply management for the City of Dawson Creek.

Application Process:

The successful candidate will have a strong undergraduate science background with previous focus on the hydrological sciences, climate change, statistics, GIS, remote sensing and/or numerical modeling. Previous experience with field work in remote regions and in the use of meteorological equipment will be an asset. Funding is available for two years at \$16,000 (CND) per year. Course work and supervision will be at UNBC and will be in conjunction with our research partners. For more information, please contact Dr. Stephen Déry at: sdery@unbc.ca.

Candidates must submit electronically a one-page letter of intent describing interests in the project and their qualifications to undertake this work, along with an unofficial transcript and CV to Dr. Déry by January 15th, 2015. Deadline for application to graduate programs at UNBC is February 15th, 2015 for a Fall 2015 admission.