Northern Water Futures

Northern Water Futures is a multi-disciplinary, multi-institutional research project led by Wilfrid Laurier University. The multi-year project will take a leading role in sustainable development in the North through science-based environmental prediction models, decision support tools and mitigation strategies that will lead to prudent investment and knowledgebased community adaptation.

Northern Water Futures will deliver risk management solutions – informed by leading-edge water science and supported by innovative decision-making tools – to manage water futures in Canada and other cold regions where global warming is changing landscapes, ecosystems, and the water environment.

The project is funded through Global Water Futures: Solutions to Water Threats in an Era of Global Change, a University of Saskatchewan-led research program funded. Laurier is one of the key university partners in this \$143-million program, supported in part by a \$77.8-million grant from the Canada First Research Excellence Fund, which also includes the University of Waterloo and McMaster University.



www.northernwaterfutures.ca

Northern Water Futures will focus on four main research themes:

Northern Water Resources and Security

Climate warming-induced changes to precipitation, ice/snow cover, permafrost, river and stream flows, and lake levels severely challenge our ability to predict the future of northern water resources. Northern Water Futures will synthesize existing data; initiate innovative, targeted interdisciplinary studies; develop new monitoring capacity including new monitoring tools; and apply novel technologies for monitoring and predicting changes to ecosystems and water resources.

Integrated Ecosystem Change and Human Health

Partners have identified the need to better understanding how climate change will affect the safety and security of drinking water and traditional foods. Northern Water Futures will construct mechanisms of interaction and knowledge sharing that ensure communities can draw on scientific data in ways that support their own needs and decisionmaking processes to enhance community health and well-being.

Energy Security and Impacts of Industrial Development on Water Resources

The development of energy resources within the Northwest Territories WT (i.e. oil, gas, biofuels) provides the simultaneous opportunities of enhancing economic prosperity and energy security. Northern Water Futures will address the major challenges facing energy stakeholders and concerned communities pertaining to climate warming and the uncertainty concerning the ability of terrestrial and aquatic ecosystems to support these activities.

Impacts of Climate Warming on Infrastructure

Climate warming directly challenges the functioning of existing and new infrastructure, including roads, buildings, pipelines and bridges. Northern Water Futures will develop the tools to improve regional climate change predictions such as extreme flows and terrain sensitivity in order to construct and maintain safe, reliable and cost-effective infrastructure for the 21st century.

Connect with us

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