

NEWS RELEASE

Wilfrid Laurier
University



Improved Processes & Parameterisation
for Prediction in Cold Regions



Canadian Foundation for Climate
and Atmospheric Sciences (CFCAS)
Fondation canadienne pour les sciences
du climat et de l'atmosphère (FCSCA)

Leading researchers gather to discuss water issues and Canada's cold regions

Science network addresses how our changing cold regions pose challenges to water resources management, resource industry infrastructure, and natural environments

(November 1, 2007 – Waterloo) A network of leading Canadian minds, called IP3 (the Improved Processes and Parameterisation for Prediction in Cold Regions), is gathering at Wilfrid Laurier University Nov. 8-10 to discuss the state of Canada's cold regions and how to predict and minimize risks to Canada's resource industries, communities and environment.

"Few people realize how closely connected Canada's cold regions are to the rest of the country," said John Pomeroy, project lead for the IP3 network. "Reliable knowledge of our cold regions water resources is necessary for both natural resource development and environmental conservation."

With recent reports of greater snowfall, melting glaciers and thawing permafrost, Canada's mountain and northern cold regions are changing – and that translates into problems nation-wide for Canada's water supply, infrastructure, ecosystem health, and climate.

"IP3 will yield results that will improve forecasting and understanding of the hydrology of these regions," said Dr. Gordon McBean, chair of the Canadian Foundation for Climate and Atmospheric Sciences (CFCAS), which funds the network. "This information is pivotal to the continued health of the people and industries situated in cold regions."

IP3 brings together scientists from across the country who will provide the insight needed to address issues such as the sustainability of water resources, the prediction and management of hazards associated with thawing and flooding, and the goal of ensuring that infrastructure used in cold regions is designed to withstand the elements.

"Wilfrid Laurier University is delighted to host this distinguished group of researchers," said Laurier president and vice-chancellor, Max Blouw. "We have a long-standing interest in cold regions science through Laurier's Cold Regions Research Centre. By helping to understand cold region surface water and weather systems, IP3 research will improve forecasting and prediction of extreme events that could have substantial social and economic costs."

The network will discuss the following water issues in particular:

- 1) ***Permafrost Water Shortage***: In some areas, melting permafrost means that more water is absorbed into the soil rather than running off the ground's surface to streams, wetlands and lakes. This translates into **less** surface water available for use by local communities or industries, such as mining, oil and gas, that depend on it and **less** water available to supply northern wetlands, lakes and river systems which are home to important aquatic ecosystems and migratory bird populations.
- 2) ***Mountain Flood Hazards***: In mountain areas, the problem is the opposite. Disappearing pine forests, ravaged by the mountain pine beetle, translate into **more** surface run-off as trees do not hold snow to evaporate from their canopies and slow snowmelt by blocking sunlight as they would under normal conditions. This can raise the frequency and severity of floods downstream, with impacts on infrastructure such as roads, bridges, ski areas, national parks, natural resources industries and urban centres.
- 3) ***Predicting Future Water Resources***: The network has produced both small and large basin water prediction systems, which will help water managers and land-use decision-makers to properly plan and design infrastructure such as mines, roads, and pipelines and to ensure water supply for ski areas, mountain and northern communities and downstream developments such as cities and irrigated agriculture. The small basin prediction system is already used to evaluate the effectiveness of abandoned mine rehabilitation and can be applied across Canada.

The workshop opens on Thursday, November 8 at 8:30 a.m. in the Senate and Board Chamber, Wilfrid Laurier University, Waterloo, Ontario.

This network is funded by the Canadian Foundation for Climate and Atmospheric Sciences (CFCAS). CFCAS is the main funding body for university-based research on climate, atmospheric and related oceanic work in Canada. It provides research grants through a competitive (peer-reviewed) process. Its current mandate extends to March 2011.

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For more information, please contact:

Kelly Crowe, Communications Officer, CFCAS: 613-238-2223 ext. 209 or crowe@cfcas.org.

Or

Kevin Crowley, Associate Director: News and Editorial Services, Wilfrid Laurier University
Office: 519-884-0710 ext. 3070 Cell: 519-573-1084 or kcrowley@wlu.ca.

OR

www.usask.ca/ip3.