

Water in the West

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Our Glaciers, Snowpacks and Rivers are in Transition

Scientists address water issues

The Saskatchewan River basin is the lifeblood of the Canadian Prairie provinces and understanding its challenges is key to the future strength and growth of this dynamic part of Canada. Melting glaciers, forest die-back, warmer winters and changes in snowfall and rainfall patterns are creating challenges for the management of Canada's water supply. To deal with emerging problems, IP3 scientists are currently working at three research sites near the headwaters of the Saskatchewan River.

Marmot Creek in Kananaskis Country, Lake O'Hara in Yoho National Park and Peyto Creek in Banff National Park are the site of research in snow accumulation, snow melt, glacier melt and runoff. The collection of weather data and snowfall information is being used to develop models for use in predicting changes in streamflow under changing climate conditions.

This research is being used in collaboration with various private and public enterprises. Interested user groups include Parks Canada, City of Calgary, Manitoba Hydro, Bow River Basin Council, Alberta Sustainable Resource Development, Kananaskis Country, Resorts of the Canadian Rockies, Environment Canada, Saskatchewan Watershed Authority and Alberta Environment. These user groups recognize the need for continual monitoring of upstream water production to ensure that changes in streamflow can be planned for in downstream water allocations. Further growth and development in the Prairie Provinces necessitates more reliable streamflow forecasting for our diminishing water resource to be shared.

Important areas necessary for continuing research are:

- determining the impact of changing flows in the major rivers draining the Rockies on water availability, to meet increasing downstream demand
- monitoring and predicting mountain weather, snowpacks, glaciers and streamflow in a changing climate
- the impact of declining forest cover on runoff production
- the role of mountain groundwater in maintaining streamflow in dry periods

Research is currently being produced by the IP3 research network, composed of eight universities and four federal research labs.. This important work is funded through CFCAS (Canadian Foundation for Climate and Atmospheric Sciences) with funding through to end in 2010.

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