APPENDIX 6.5-B

Flooding

Natural Resources Canada | Ressources naturelles Canada

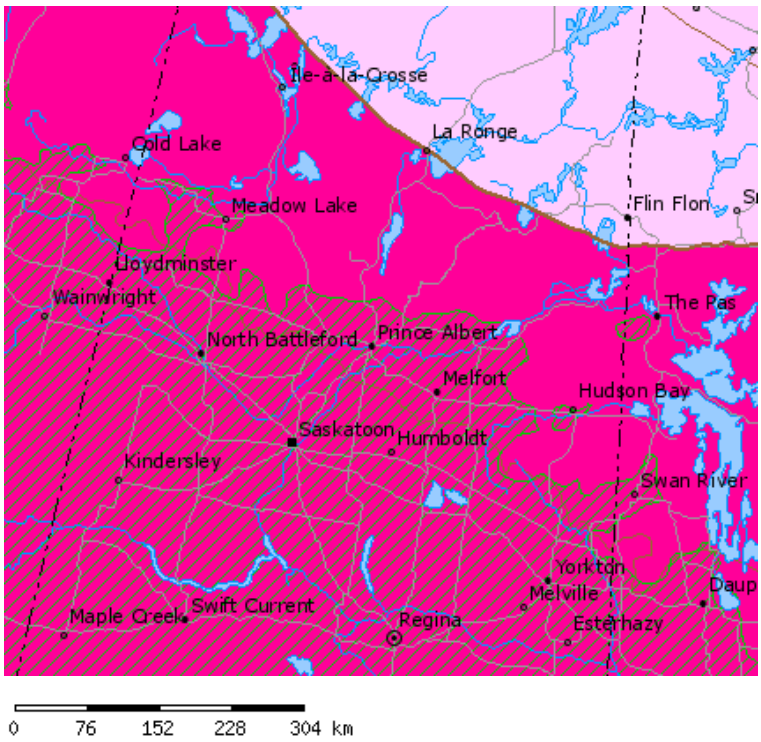
Canada

The Atlas of Canada

Print Map

Return to Map

Sensitivity of River Regions to Climate Change



Abstract:

The most sensitive river regions include the Atlantic coast, the Great Lakes-St. Lawrence Valley regions, the Rocky Mountains and the Prairies. The sensitivity projection for Canada's river regions in response to climate warming was derived based on an examination of the effects of projected precipitation changes on landscapes. Climate warming has the potential to cause substantial changes to flow in rivers. The most direct effects of projected climate change would be an increase in floods and river erosion.

Boundaries of River Regions
- Boundaries of major river regions
- Boundaries of river sub-regions

Agricultural and Urbanized Areas
- Agricultural and urbanized areas

Area at Risk of Permafrost Reduction
- Area at risk of permafrost reduction

Sensitivity of River Regions to Climate Change
- Less sensitive and less vulnerable
- Sensitive and less vulnerable
- More sensitive and vulnerable

Capitals (Canada)
- National
- Provincial and Territorial

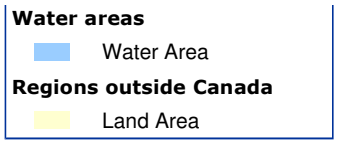
Populated Places
- 1 - 4999
- 5 000 - 49 999
- 50 000 - 99 999
- 100 000 and greater

International Boundaries
- EEZ (200 mile)
- Canada / Kalaallit Nunaat dividing line
- International

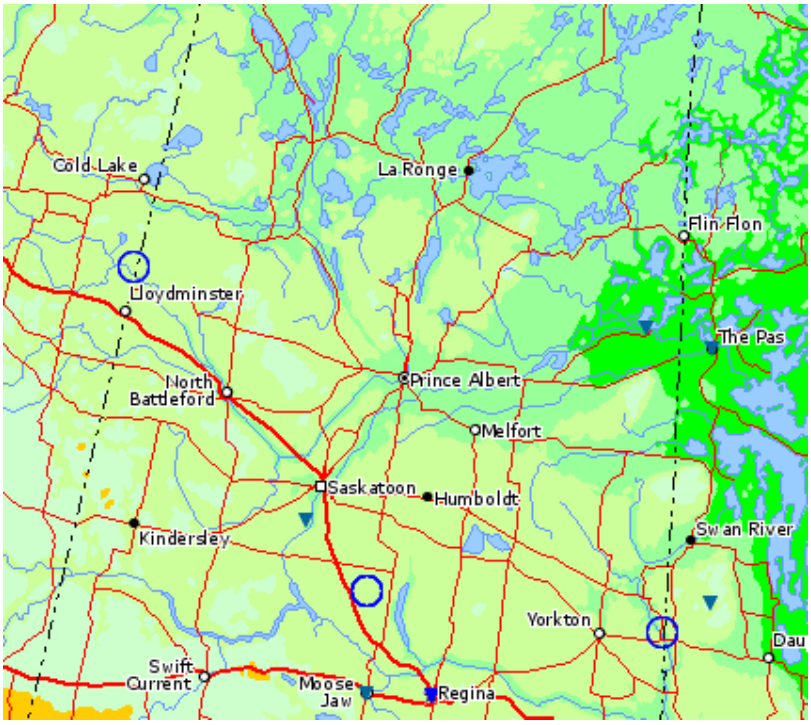
Provincial and Territorial Boundaries
- Provincial / Territorial

Road network
- Road network
- Ferry route

Drainage
- Coastline / River / Lake shoreline


Water areas
Water Area
Regions outside Canada
Land Area

Major Floods



Abstract:

Floods are part of the natural hydrological cycle (the seasonal fluctuation of water levels) and occur along rivers and streams somewhere in Canada every year. Flooding is a common natural hazard that has caused 260 known disasters since 1900, resulting in the loss of 235 lives and 8.7 billion dollars in damage.

Most flooding in Canada is caused by weather-related mechanisms, specifically runoff from snowmelt, storm rainfall, rainfall on snow and the obstruction of flow in rivers and streams by ice jams. Floods can also be caused by the formation and failure of natural dams, but this occurs far less frequently than weather-related flooding and is usually more localized. Floods from natural dams result from the blockage of drainage by landslides, glaciers and **moraines**, and, at a much smaller-scale, by snow and beaver dams.

Flooding causes loss of life and damages property. Water-damaged buildings can cause significant health problems to building occupants for years after the flood because of fungi growing within the walls and building contents. The damaging effects of flooding can be reduced by identifying and carefully managing lands that are prone to flooding. Many urban areas located on such lands are protected by flood -control structures, such as **dykes**.

Major Floods, 1902 - 2005

- Local Effects (single occurence)
- Local Effects (multiple occurences)

Note: Local Effect symbols indicate floods which have affected a relatively small area. They indicate the most affected location.

- Regional Effects (single occurence)
- Regional Effects (multiple occurences)

Note: The Regional Effect symbols represent flood disasters which have affected large areas. The symbols do not indicate the exact location or extent of the flood.

Relief

- Sea level - 100 m
- 100 - 200 m
- 200 - 300 m
- 300 - 500 m
- 500 - 700 m
- 700 - 1 000 m
- 1 000 -1 500 m
- 1 500 - 2 000 m
- 2 000 - 3 000 m
- 3 000 - 4 000 m
- 4 000 - 5 000 m
- Mount Logan, 5959 m

Watersheds

Provinces and Territories

Population Density by Census Division, 2001 (persons / square kilometre)

Roads

- Expressway
- Highway
- Regional or Local Road
- Winter Road

Winter Road

Ferry route

Railways

Populated Places

0 - 999

1 000 - 4 999

5 000 - 24 999

25 000 - 99 999

100 000 - 499 999

500 000 or greater

Capital Cities

National Capital: Ottawa (774 072)

Provincial/Territorial Capitals

Boundaries

International

Provincial / Territorial

EEZ (200 mile)

Canada / Kalaallit Nunaat dividing line