Manitoba
Conservation and Water Stewardship

WATER AVAILABILITY AND DROUGHT CONDITIONS REPORT
Manitoba

January 10, 2012

Synopsis/Overview

Moderate drought conditions (meteorological) are prevailing in eastern Manitoba from the Bloodvein River to the international border (includes Winnipeg River watershed), in the northern portions of the Red River basin, and southern parts of the Westman and Interlake regions. Eastern Manitoba has been experiencing moderate drought conditions for the past seven months. The remaining areas in western Manitoba including the Swan River and southern Manitoba are experiencing mild dry conditions due to below precipitation over the past three months.

Flows were generally at or above median except for the Winnipeg River watershed, Bloodvein and Cochrane rivers which are below median.

Manitoba Agriculture, Food and Rural Initiatives fall soil survey in October 2011 reported that east-central Manitoba is consistently drier than other regions due to well below average soil moisture.

Manitoba Agriculture, Food and Rural Initiatives, Winter Cereal Canada, and WeatherFarm reported that the current snowpack in southern and western Manitoba is not sufficient to protect winter wheat if the cold temperatures were to quickly return to normal without significant precipitation. The current snowpack is less than 10 to 13 cm (four to five inches). About 10 to 13 cm (four to five inches) of snowpack is typically required to provide protection against harsh winter weather.

There is also a potential risk for harvested grains as insect and pest control is a potential issue as a result of the warm weather.

Outlook

For the next 3 months (January, February and March 2012) Environment Canada's seasonal forecast is for above normal temperatures for southern Manitoba, and normal for central and northern Manitoba except below normal for the far north. Above normal precipitation is forecast for most of Manitoba with below normal precipitation forecast for the far north (Attachment 4).

Precipitation

Over the last 30 days, below average precipitation was received in all regions of Manitoba except for the Manitoba portion of Saskatchewan River basin where precipitation was average to above average. Well below average precipitation was received in all of

southern Manitoba

Over the last 90 days, well below average precipitation was received in all of southern Manitoba. Average to above average precipitation was received in northern Manitoba and parts of western Manitoba north of Swan River (Table 1 and Attachment 1).

Stream and River Flows

Flows were generally at or above median except for the Winnipeg River watershed, the Bloodvein and the Cochrane rivers which are below median (Table 1 and Attachment 3).

Lake/Reservoir conditions

For December, most lakes in eastern Manitoba were experiencing very low levels due to prevailing low moisture conditions with water levels about 0.3 to 0.6 metres (1 to 2 ft). below target levels.
http://www.gov.mb.ca/waterstewardship/floodinfo/lakes_information.html#lake_levels.

Except for Turtlehead Creek (near Deloraine) and the Vermillion reservoir, all reservoirs operated by the province are either full or close to full at this time. The Turtlehead Creek is about one metre (3 ft) below the full supply. The Vermillion reservoir operated by the Town of Dauphin is about 1.5 metres (5 ft) below the full supply level.

Fall Soil Moisture Survey

Manitoba Agriculture, Food and Rural Initiatives conducted a fall soil survey across Agro-Manitoba in October 2011 and reported that east-central Manitoba is consistently drier than other regions due to well below average soil moisture (Attachment 2).

Potential Impacts

Meteorological drought can contribute to low flows in rivers and streams and to low soil moisture and low snowpack. There is a potential for forage shortages and negative impacts on the emergence of winter wheat in some areas in the Interlake, Westman and southern regions. There is generally not sufficient snowpack, less than 10 to 13 cm (four to five inches) to protect winter wheat if cold temperatures were to quickly return to normal without significant precipitation. There is also a potential risk for harvested grains as tinsect and pest control is a potential issue as a result of the warm weather.

Table 1: Detail by Major River Basin (Attachments: 1, 3 and 7)				
Basin	Indicators			Major River Flow Conditions December 2011
	1 month Precipitation (December 4, 2011 – January 2, 2012)	3 months Precipitation (October 5, 2011 – January 2, 2012)	Standard Precipitation Index (SPI)	
Red River	Well below average	Well below average	n/a	Above median
Winnipeg River	Well below average	Well below average	n/a	Below median
Assiniboine River- Souris River	Well below average	Well below average	n/a	Above median
Lake Manitoba	Well below average	Below average and well below average for southern part	n/a	Above median
Lake Winnipeg	Well below average	Well below average for southern part and below to average for northern part of basin	n/a	Above median except below median for eastern tributaries
Saskatchewan River	Below average for most parts of basin except above average for The Pas area	Average to above average	n/a	Above median
Nelson River	Below average	Average to above average	n/a	Above median
Hayes River	Below average	Above average	n/a	Above median
Churchill River	Below average	Above average for lower Churchill and below average for upper Churchill	n/a	Above median except below median for Cochrane River near Brochet
Seal River	n/a	n/a	n/a	Above median

Note: Median is 50th percentile.

Acknowledgements

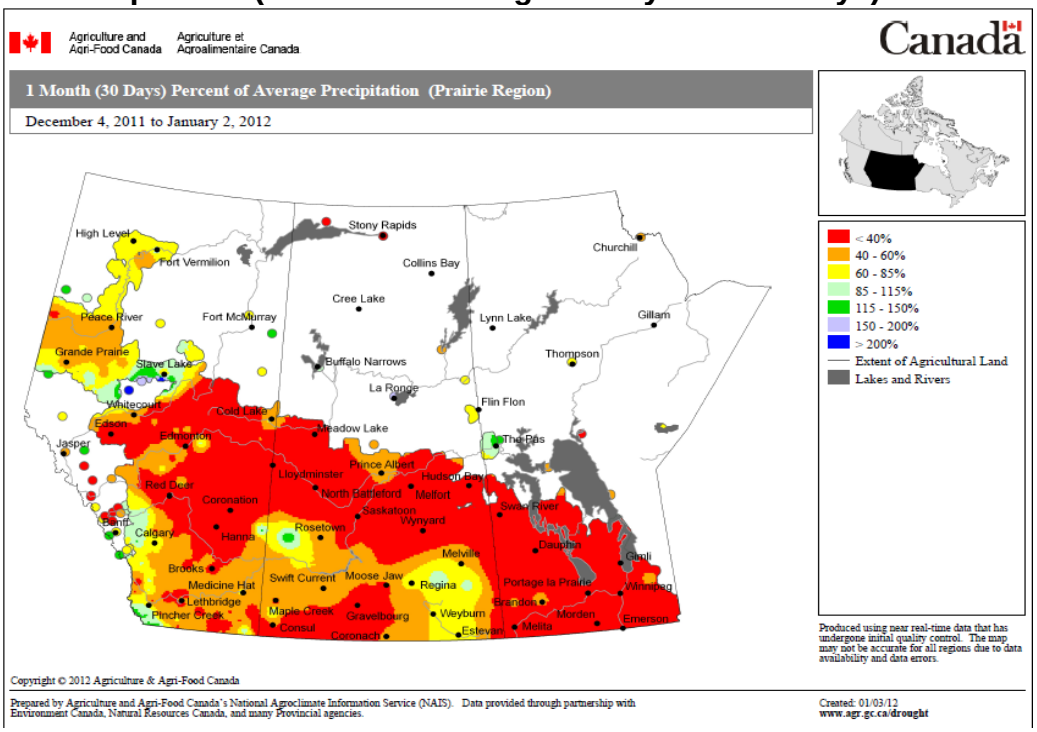
This report was prepared with information from the following sources which are gratefully acknowledged:

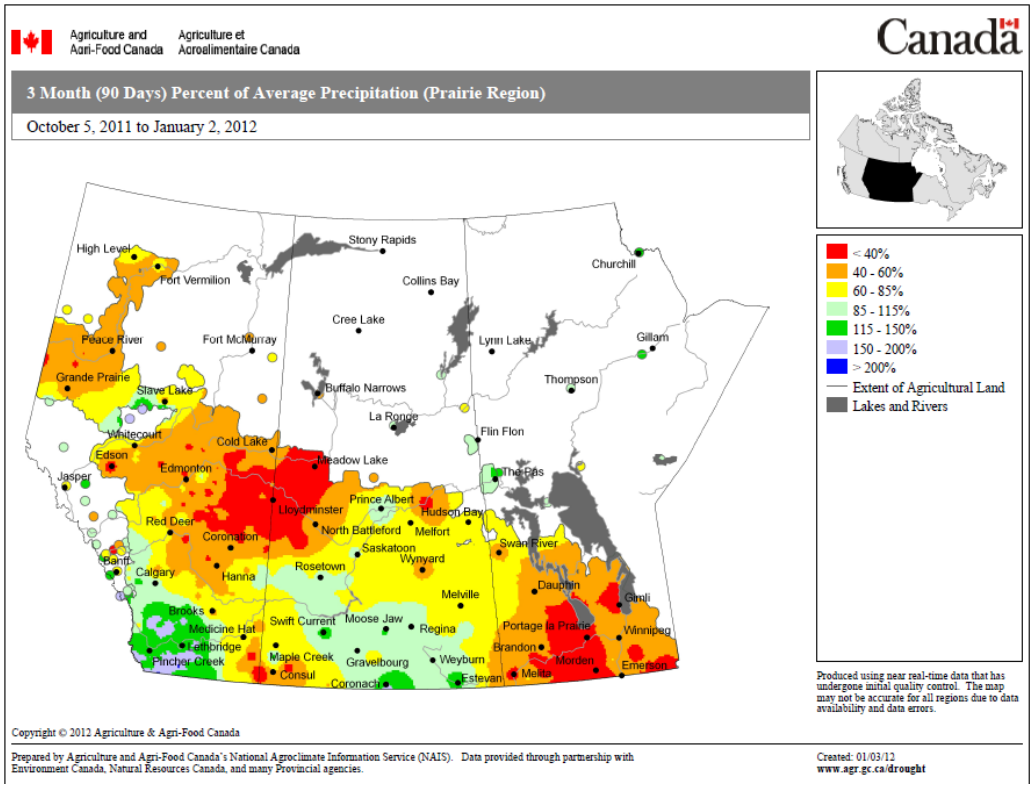
- Agriculture and Agri-food Canada (Drought watch); North America Drought Monitor:
  http://www4.agr.gc.ca/DW-GS/current-actuelles.jspx?lang=eng
  - Regional site: 30 and 90 precipitation
  - National Site: Palmer Drought and Standard Precipitation Indices
- Manitoba Conservation and Water Stewardship: Flow and Lake information:
  http://www.gov.mb.ca/waterstewardship/floodinfo/river_conditions.html
  http://www.gov.mb.ca/waterstewardship/floodinfo/lakes_information.html#lake_levels.
- Environment Canada: Flow and Lake information
  http://www.wateroffice.ec.gc.ca/index_e.html
- Fire Hazard: http://www.gov.mb.ca/conservation/fire/
- Environment Canada 3 month climatic outlook:
  http://weatheroffice.gc.ca/saisons/index_e.html
- Manitoba Agriculture, Food and Rural Initiatives
- Manitoba Conservation and Water Stewardship Fire Program

For further information, please contact: Abul Kashem, Surface Water Management Section, Manitoba Conservation and Water Stewardship, 945-6397

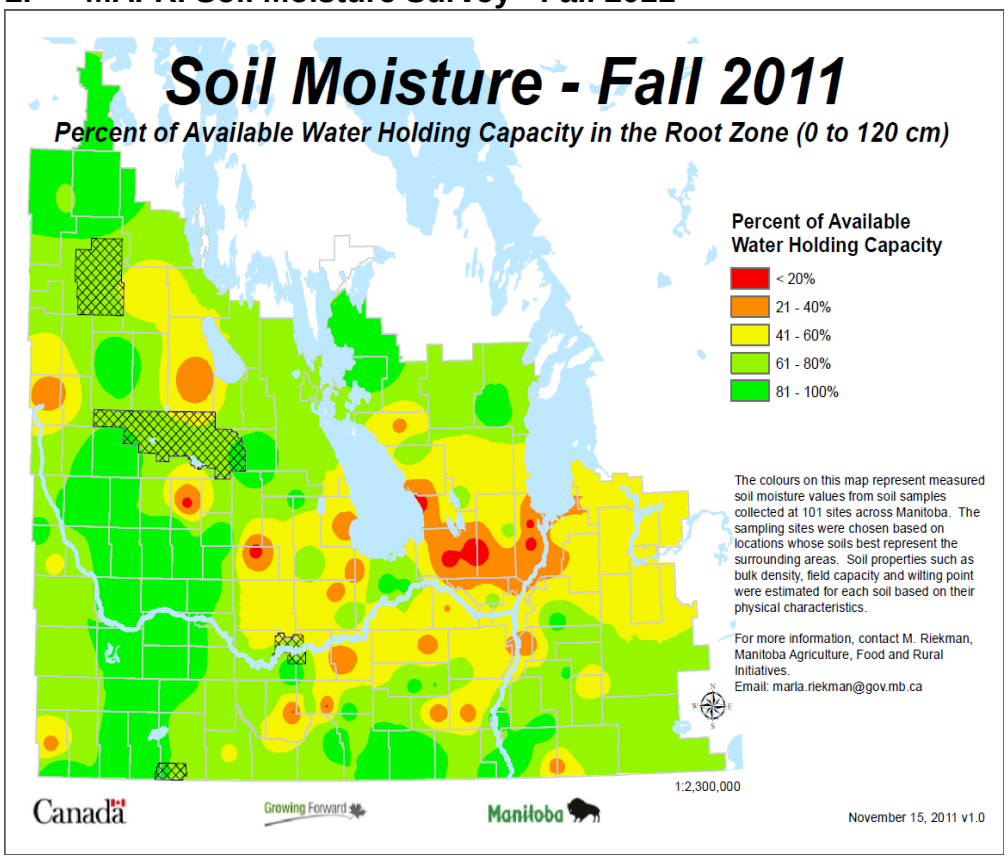
Attachments

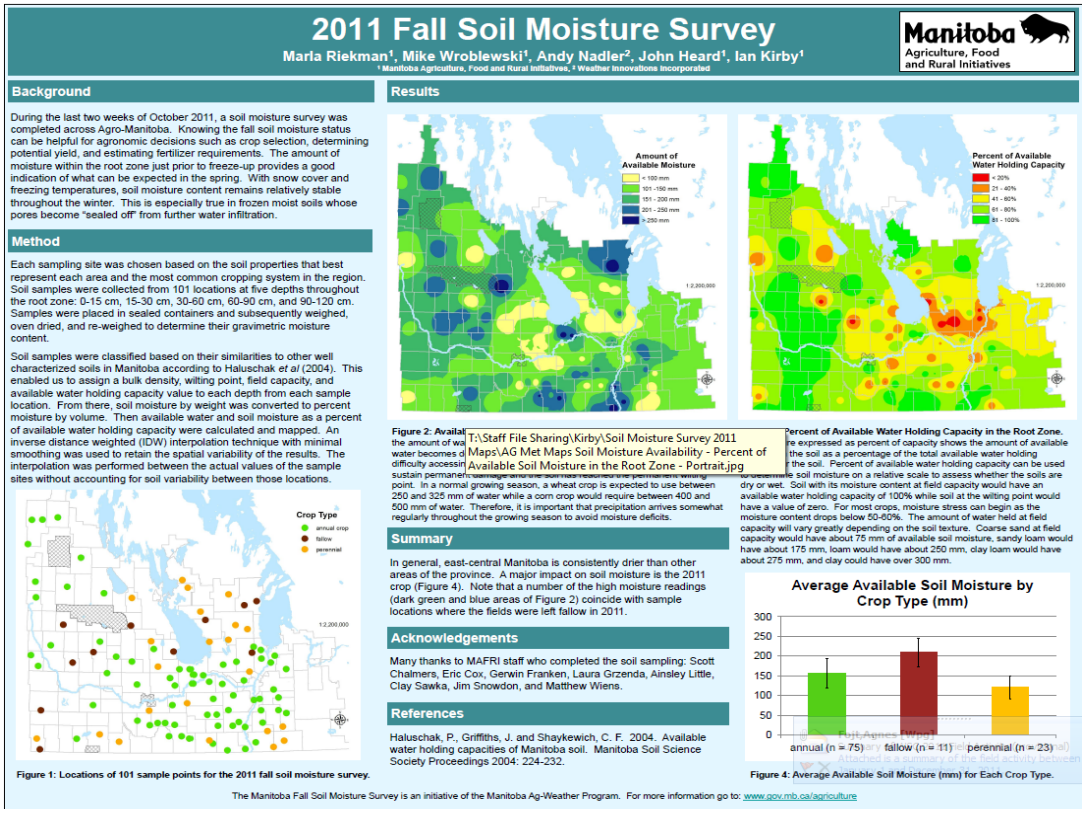
1. Precipitation (Percent of average:30 days and 90 days)



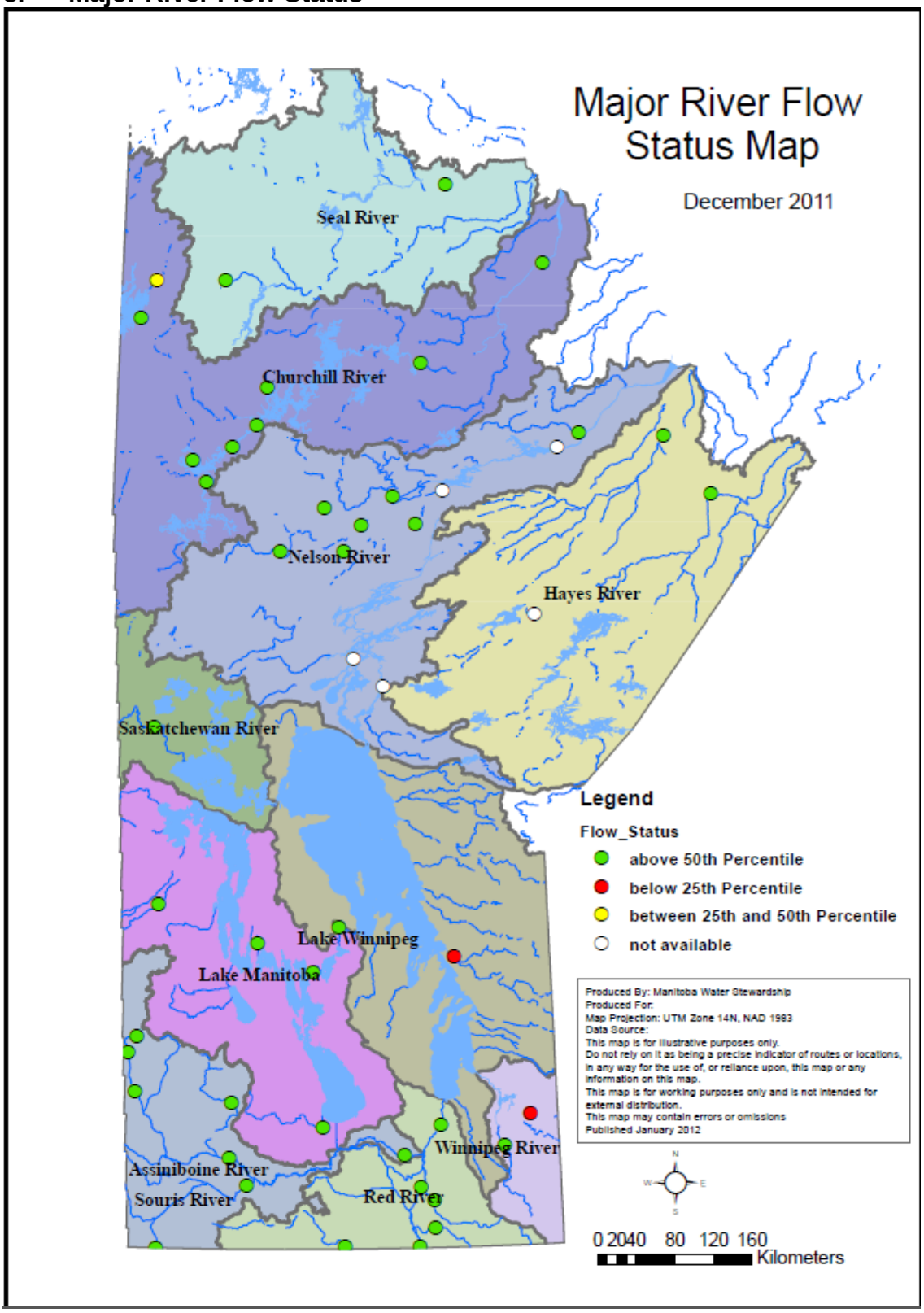


2. MAFRI Soil Moisture Survey - Fall 2011

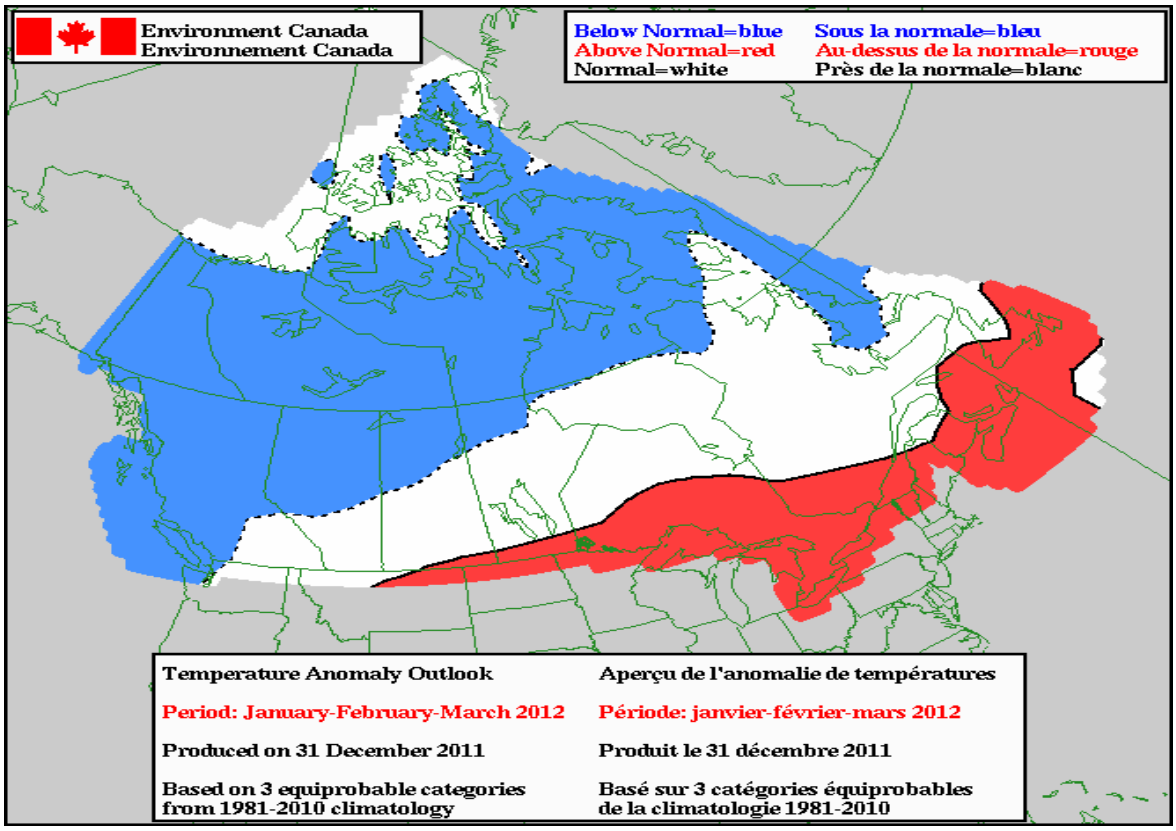


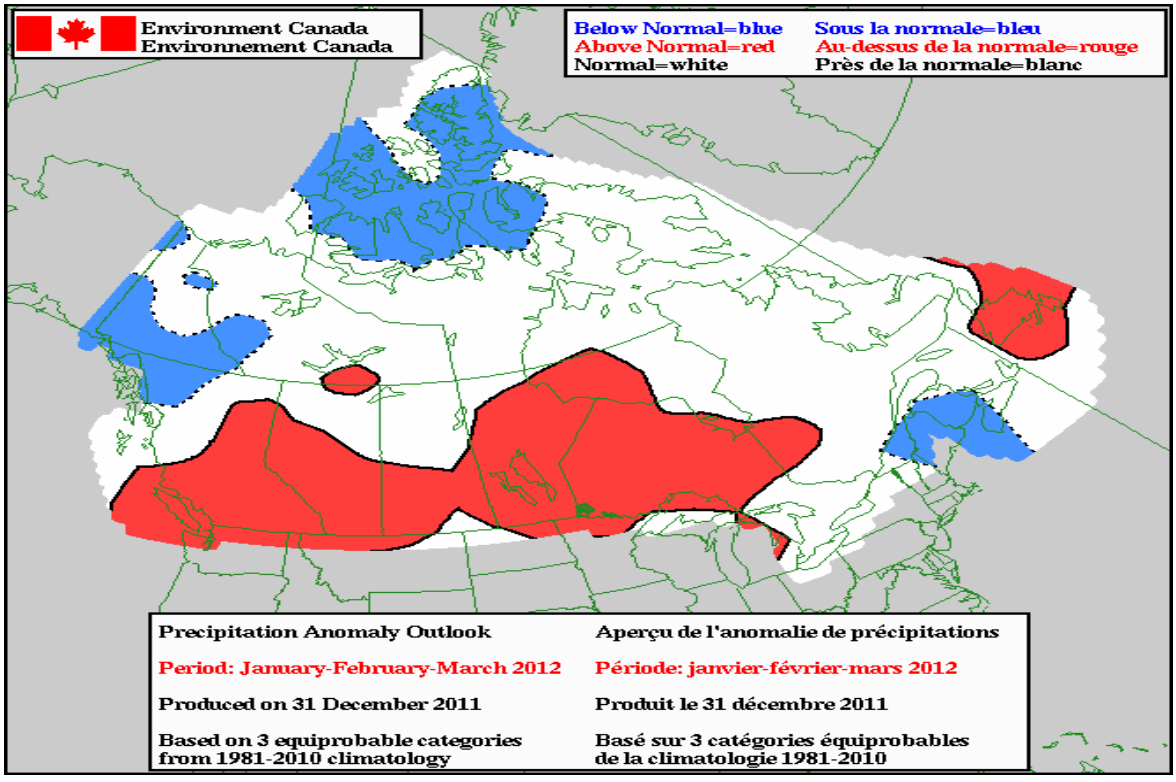


3. Major River Flow Status



4. Environment Canada 3 Month Outlook





5. Major River Basins