

Subject: Preliminary 2014 Canadian Flood Forecast

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Government Operations Centre (GOC)

Preliminary 2014 Canadian Flood Forecast

While flooding in Canada can happen at any point in the year, about 40% of Canada's flooding events occur in April and May. This increase in frequency coincides with the snow and ice melt period throughout much of the southern half of the country.

At present, a number of flood indicators, including a relatively dry fall and near normal levels of snow accumulation (in terms of water content), suggest **a quieter spring flood season than the one experienced in 2013 (with the possible exception of Ontario).**

In addition, normal to below normal seasonal temperature and precipitation forecasts have prompted some provinces to project **a delay to the start of 2014 flood season** (e.g. Ontario, Quebec and New Brunswick).

That said, generally below average winter temperatures experienced nationally have resulted in colder soil temperatures overall and thicker than normal ice levels on many lakes and river systems, which can exacerbate flooding by limiting soil absorption and by creating conditions favorable to ice jam formation. Consequently, Manitoba, Ontario, Quebec and New Brunswick have noted the **increased likelihood of ice jams triggering localized flooding.**

This outlook is based on flood indicators provided by provincial, territorial and federal partners at this time, and, therefore, should be considered preliminary and subject to change, as the majority of the country is still projected to experience additional winter precipitation, thaws and/or freezing. Moreover, at this time there is limited information regarding key, highly variable, flooding factors including: the rate and timing of the thawing periods; the amount, timing and concentration of rainfall; frost depth during run-off; and, the timing of peak flows.

Prairies

In its 01 Mar 2014 Forecast for Spring Runoff, Saskatchewan identified regions across its central interior as having an above normal potential for flooding as a result of high soil moisture levels in the area, poor drainage conditions across much of the region, and an above normal snowpack (from 150 to over 200 per cent of normal). The Prince Albert region is of particular interest, and, assuming normal weather conditions between now and the end of spring, is expected to experience well above normal runoff. There is no indication yet as to when flooding may occur in this area. The province anticipates releasing more detailed runoff forecasts in early April.

In Manitoba, the first spring flood outlook, released 28 Feb, identified parts of the Souris River basin and regions surrounding The Pas as having an above average flood potential for 2014 due to above to well above normal soil moisture and snowpack water content (up to 170 per cent of normal). Elsewhere in the province, the potential for spring flooding was identified as below or near normal in most areas. The province expects to release a more detailed flood outlook on 28 March.

To date, no major flooding concerns have been identified by Alberta, though the province did issue a Provincial Spring Runoff Advisory in early March following several days of normal to above normal temperatures, which resulted in the rapid melt of the snowpack in the plains, leading to localized ponding in low-lying areas and flooding along smaller creeks.

Ontario & Quebec

Snowpacks in a number of locations across Ontario, including the Muskoka region and parts of Northeastern Ontario (which drains into the James Bay), have been higher than normal. Snowpacks throughout southern Ontario are also above normal as a result of a persistently cold winter that reduced winter thawing periods. Significantly colder than normal winter temperatures have also heightened concerns over ice levels in lakes and river systems across the Province.

In Southern Ontario, freezing over the Great Lakes is the most extensive it has been since 1979. The concern is that lake ice, should it persist, may block river ice and water from entering the lakes, causing water to back up and cause flooding upstream. In Northern Ontario, elevated snowpacks and potentially thicker than average lake and river ice may accentuate ice jam flooding concerns for those communities along James Bay communities which are routinely subject to flooding during ice break-up season.

To date, aside from potential localized ice-jam related flooding, no major flood concerns have been identified by Quebec due to normal to below normal snowpack and favourable seasonal temperature and precipitation forecasts.

British Columbia and the North

As indicated in its 01 March Snow Survey and Water Supply Bulletin, British Columbia is anticipating a favourable condition for most of the province's more populated areas. That is, there has been below normal to normal snow accumulation throughout the southern half of the province, including the Lower Fraser River, which is normally the federal community's greatest concern for preparedness and potential support to the province during spring freshet. However, the Upper Fraser River in central British Columbia, and the Liard River basin in the Northwest have experienced above normal snow accumulation (137 per cent of normal).

At this time, it is too early to assess this year's flood risk in both Yukon and the Northwest Territories. Flood preparations in the Yukon and Northwest Territories do not normally start until later in the spring.

Atlantic Canada

To date, no major flooding concerns have been identified in any of the Atlantic Provinces. However, as with other regions across the country, colder than normal winter weather conditions have raised concerns regarding ice jams, particularly for parts of New Brunswick and Newfoundland and Labrador.

Mitigation

It is important to note that partners at every level (municipal, provincial, federal) are working collaboratively to closely monitor conditions that may increase the risk of flooding and are taking steps to plan for, prevent and mitigate against these risks. Many of these regions have also benefited from successive years of flood mitigation investments and activities.

Moving Forward

The GOC will continue ongoing flood monitoring activities and will continue to work with its partners to develop and share additional 2014 flood response planning products as the season progresses, on behalf of the Government of Canada (i.e., a Government of Canada risk assessment and an update to the *Government of Canada's Flood Contingency Plan*).

Should significant flooding events occur, the GOC will issue event-specific situation reports by affected region.

**Government Operations Centre/
Centre des opérations du gouvernement**
Email/courriel: GOC-COG@OPSCEN.GC.CA