

Snow Survey and Water Supply Bulletin May 15th, 2014

The May 15th snow survey is now complete. Data from 23 snow courses and 51 snow pillows around the province, and climate data from Environment Canada form the basis for the following report¹.

Weather

Weather in the first half of May has included periods with hot temperatures interspersed with wetter and unsettled conditions. Temperatures through the Okanagan and South Interior reached 25-29 °C during the first several days of the month, and again near the middle of the month. In the Central and North Interior, temperatures over the same periods reached the 18-22 °C range. These temperatures are 3 to 8 °C above normal for May. Only moderate amounts of precipitation were observed through the first half of May. Over the May 16-19th period, an upper low pressure system produced more wide-spread rainfall, with localized heavy rainfall amounts in some areas.

Snowpack

Warmer weather at the start of the month ushered in the snow melt season across the province. In mid-elevation terrain, particularly through the South Interior and Skeena-Nass, snow melt has been vigorous with melt rates of 100 to 200 mm or more and rising snow lines being observed since May 1st. Broader melt of higher elevation sites and production of runoff to river systems has lagged slightly behind the mid-elevation trends, with melt rates of 50 to 100 mm since May 1st being more common. In the East and West Kootenay the transition to snow melt has been delayed with many snow survey locations experiencing no melt, or even additional snow accumulation, over the May 1st to May 15th period.

Higher than normal snow basin indices (>118%) persist in the Upper Fraser, South Thompson, West Kootenay, East Kootenay, and Similkameen (see Figure 1). This is a reflection of both higher volumes of snow water at the start of the melt season and a delay in the melt. Below normal snow basin indices (<80%) persist in the Nechako, Lower Fraser, South Coast, and Vancouver Island. The low snow basin index in the Peace basin is the result of one low snow pack measurement skewing the data from a limited number of stations; other observations indicate near-normal conditions in the region. Other regions of the province have near-normal May 15th snow basin indices. In the Middle Fraser, considerable variability exists, with lower than normal snow conditions in the western portion of the basin on the Interior Plateau, and higher than normal snow packs in the east (Cariboo Mountains).

1. Every effort is made to ensure that data reported on these pages are accurate. However, in order to update the graphs and indices as quickly as possible, some data may have been estimated. Please note that data provided on these pages are preliminary and subject to revision upon review.



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Table 1 - BC Snow Basin Indices – May 15, 2014

Basin	% of Normal	Basin	% of Normal
Upper Fraser	140	West Kootenay	129
Nechako	66	Okanagan-Kettle	113
Middle Fraser	108	Similkameen	181
Lower Fraser	71	South Coast	66
North Thompson	101	Vancouver Island	55
South Thompson	119	Central Coast	92
Upper Columbia	98	Peace	62
Lower Columbia	99	Skeena-Nass	90
East Kootenay	189	Stikine	96

Outlook

With warmer weather in early-May, the seasonal melt of the snow pack has begun. In mid-elevation watersheds, particularly through the Okanagan, South Interior and Interior Plateau, the majority of snow has now melted, and on-going flood risk from snow melt alone is subsiding. Many of the larger river systems, including the Fraser River and Thompson River, are flowing at well above normal levels for this time of year, and in many cases are approaching mean annual flow level. On the Fraser River, an estimated 26% of the freshet runoff (forecasted April-September volume) has passed through Shelley, and 22% through Hope. Typically, the peak of the runoff season occurs when 35-45% of the freshet volume has passed. On the Fraser River, on-going flood risk from snow melt is expected to last another 3 weeks. A similar time frame is expected for the Skeena River. On the North Thompson, the peak of the melt season is expected to occur over the next 1-2 weeks. The South Thompson typically peaks from mid-to-late June, and a similar time frame is expected this year. In higher elevation terrain, including the Columbia and Kootenay, considerable snow pack is still available to pose an on-going seasonal risk for flooding.

In the south-west and western parts of the province (Vancouver Island, Lower Fraser, South Coast, Central Coast, Nechako), low snow packs indicate the likelihood for lower amounts of seasonal runoff and the increased potential for low flows earlier in the summer.

Short-term weather forecasts indicate the potential for showery weather into the last part of May with the potential for an emerging hot spell towards the end of the month. Steady increases in river levels on the major river systems, including the Fraser, North Thompson, South Thompson and Skeena Rivers are possible into the end of the month. With limited flow capacity in the Fraser main stem from the Fraser Canyon upstream to Prince George, and in the North Thompson, these watersheds are also sensitive to additional river rises due to rainfall.

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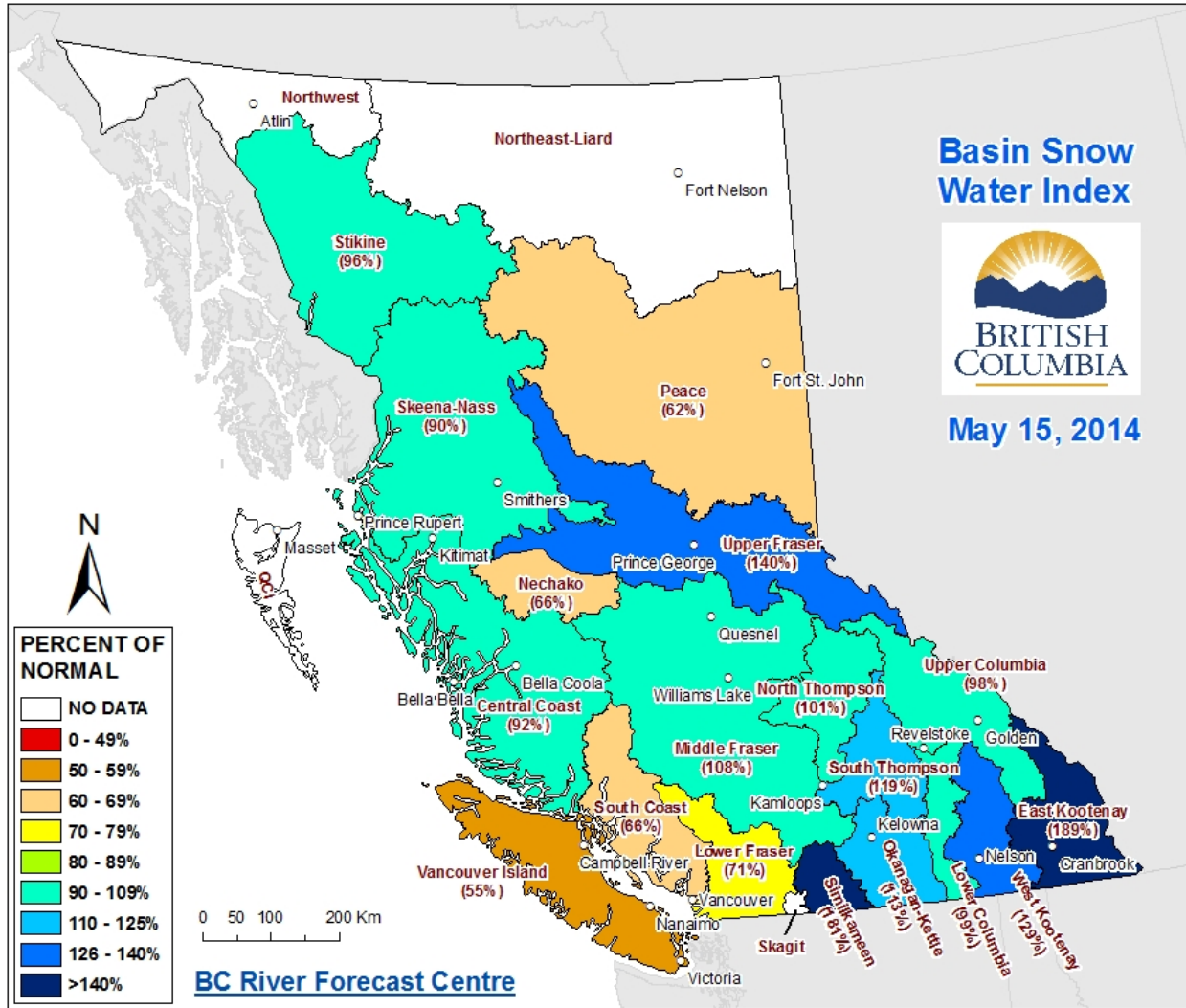
The River Forecast Centre will continue to monitor snow pack and weather conditions and will provide an updated seasonal water supply and flood risk assessment in the June 1st 2014 Snow Bulletin, scheduled for release on June 9th, 2014. High streamflow advisories will be issued as required.

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Figure 1: Basin Snow Water Index – May 15th, 2014



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