

Snow Survey and Water Supply Bulletin – February 1st, 2017

The February 1st snow survey is now complete. Data from 109 snow courses and 65 automated snow weather stations around the province, collected by the Ministry of Environment Snow Survey Program and partners, and climate data from Environment and Climate Change Canada have been used to form the basis of the following report¹.

Weather

Early January featured periods of persistent Arctic air leading to cold and dry conditions across British Columbia. A shift in flow patterns in mid-January led to a dramatic change in conditions, bringing an atmospheric river event that delivered warm and wet weather to the province. This led to elevated freezing levels and melting of low elevation snow which had been in place since early December. Late-January featured a mix of high and low pressure systems that alternated between dry weather and unsettled periods with light to moderate precipitation.

January temperatures were 0.5 to 3 °C below-normal through most of southern and south-east BC, and 0.5 to 3 °C above normal through most of northern BC, and well above-normal in north-east BC. January was a dry month across the province, with below-normal precipitation across most of the province and well below-normal precipitation in southern and north-east BC.

Snowpack

In general, snow basin indices have remained relatively stable since January 1st, with declining indices in south-west and south-east BC, and increases in the Skeena-Nass, Upper Fraser and Peace. Snow basin indices for February 1st 2017 range from a low of 49% of normal in the Liard to a high of 101% in the Nechako (Table 1 and Figure 1). The province has below-normal snowpack for February 1st, with the average of all snow measurements at 79%. This is down slightly from the provincial average of 82% in January. Well below-normal snowpack (<65%) is present in the Boundary, Stikine and Liard. It is worth noting that both the Stikine and Liard indices are based on limited snow measurements, and low index values may therefore not be fully representative of conditions in these watersheds. Slightly below-normal snowpacks (65-80%) are present in the Upper Fraser, West Kootenay, East Kootenay, Okanagan, Similkameen, Peace and Skeena-Nass. Near-normal snowpacks (80-105%) are present throughout the rest of the province. The February basin index for the entire Fraser River basin is 84%.

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 – February 1, 2017

Basin	% of Normal	Basin	% of Normal
Upper Fraser West	74	Boundary	59
Upper Fraser East	65	Similkameen	73
Nechako	101	South Coast	95
Middle Fraser	81	Vancouver Island	81
Lower Fraser	97	Central Coast	89
North Thompson	86	Skagit	99
South Thompson	87	Peace	67
Upper Columbia	81	Skeena-Nass	77
West Kootenay	73	Stikine	57
East Kootenay	75	Liard	49
Okanagan	79	Northwest	NO DATA

Outlook

La Niña conditions in the equatorial Pacific Ocean are marginal, and the Climate Prediction Centre (CPC) at the U.S. National Weather Service/NOAA is forecasting a high likelihood of neutral ENSO conditions occurring through February and into the spring. Seasonal forecasts from Environment and Climate Change Canada are indicating an increased likelihood of near normal temperatures across most of British Columbia over the February to April period. Short-to-medium term forecasts are suggesting colder temperatures through the week and a transition to warmer than normal conditions into the middle of February.

Seasonal volume runoff forecasts (see below) are near normal for most basins across the province with below-normal seasonal runoff forecasted for the Kalamalka-Wood basin.

By early February, two-thirds of the annual BC snowpack has typically accumulated. At this stage in the season there is limited indication that any region of the province is developing increased seasonal flood risk due to high snowpack. While snowpack is an important factor in seasonal flooding, weather during the melt season, such as hot temperatures causing rapid snowmelt, or extreme rainfall events, can also create flood risk.

Lower than normal snowpacks in the Stikine, Liard, Peace, Upper Fraser and Boundary indicate the potential for increased risk of low flows this summer.

With two to three months remaining in the snow accumulation season, changes to the seasonal runoff outlook are possible, but at this stage would require extremely wet conditions to make a significant impact on seasonal flood risk. In most regions of the province, spring and summer weather is a key driver for low summer streamflow.



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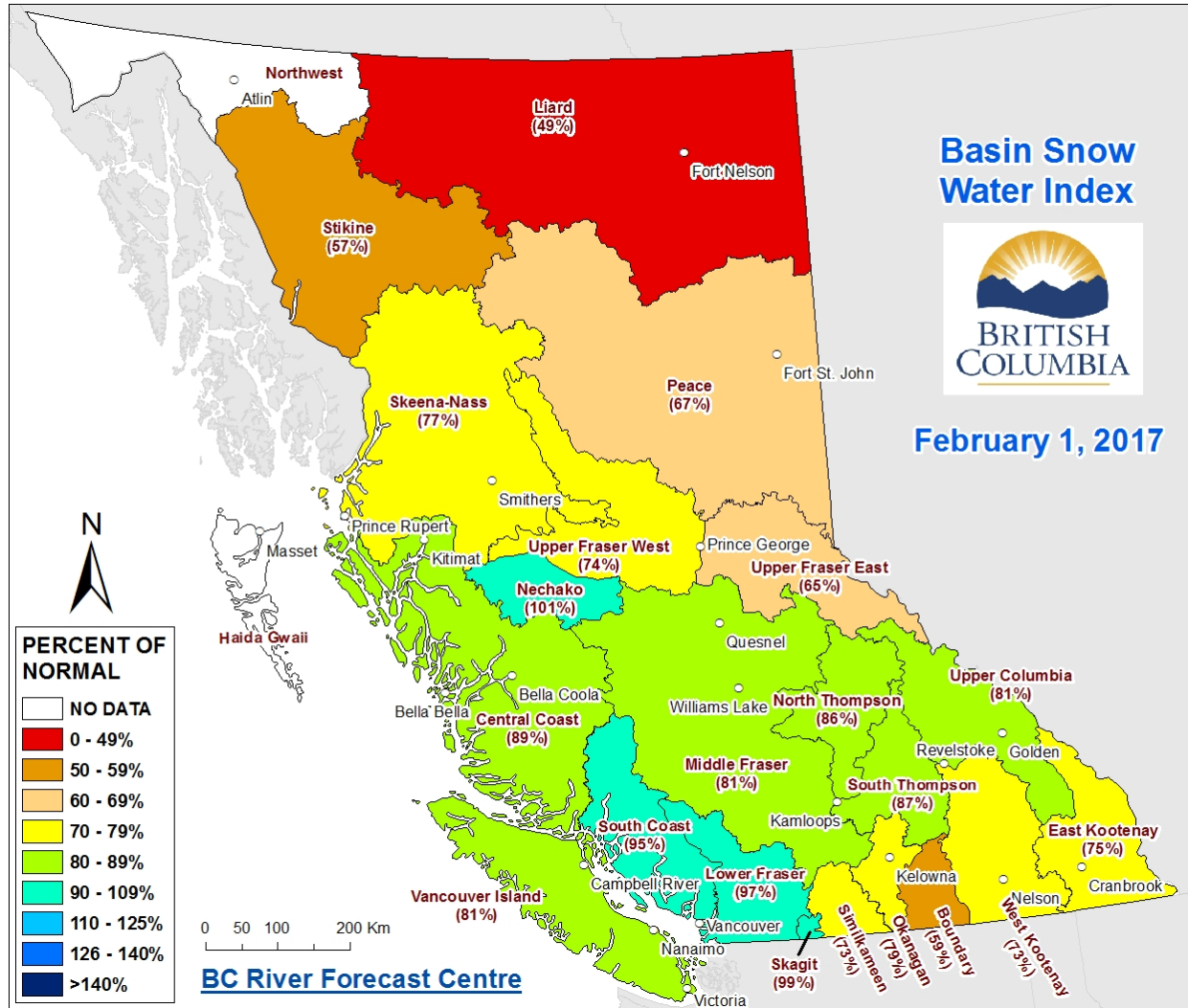
The River Forecast Centre will continue to monitor snowpack conditions and will provide an updated seasonal flood risk forecast in the March 1st 2017 bulletin, which is scheduled for release on March 7th.

BC River Forecast Centre
February 7, 2017



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Figure 1: Basin Snow Water Index – February 1st, 2017



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