

Spring Runoff Update – April 14, 2016

The spring melt continues to progress across the province from the southwest towards the northeast. The April 11, 2016, satellite image in Figure 1 shows very little snow cover remaining south of the tree line. Some snow remains north of Jackfish and Redberry Lakes on the west side of the province and a larger snow covered area remains north of Yorkton and east of Melfort on the east central side of the province.

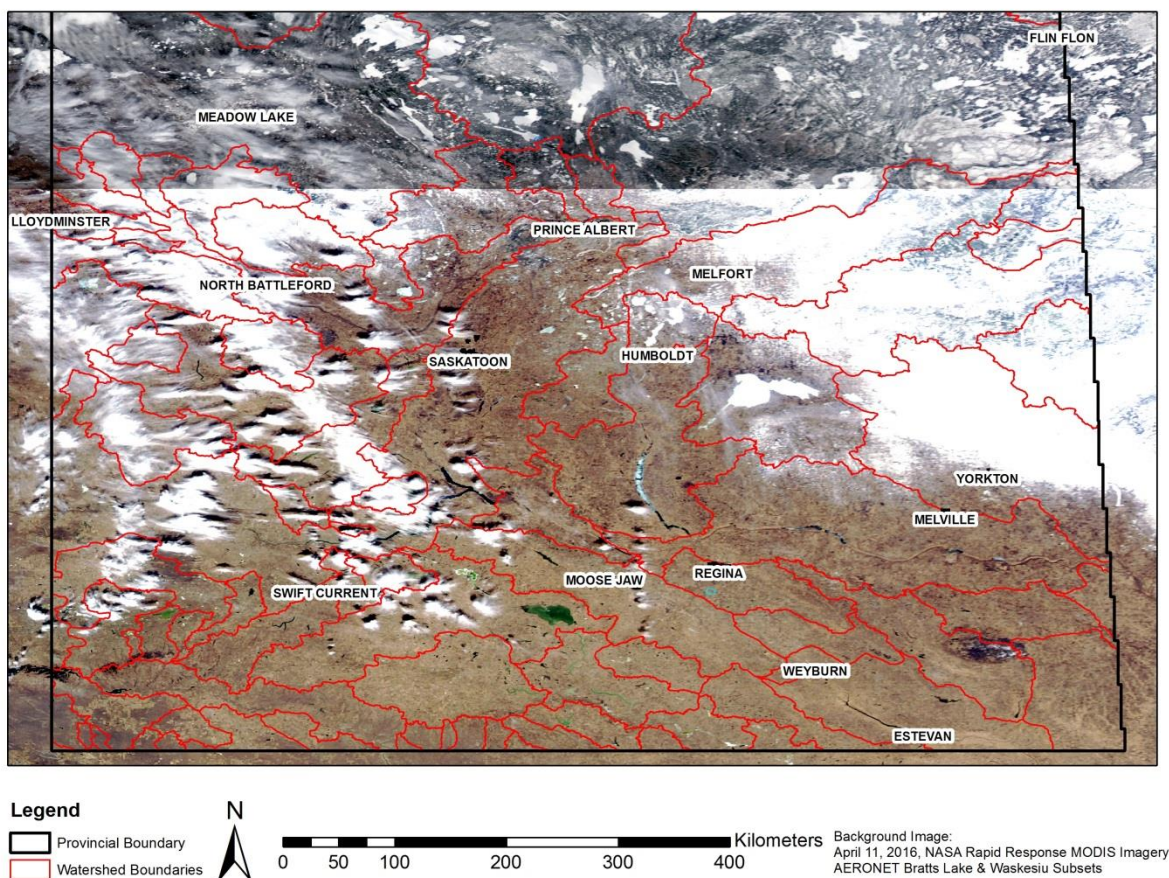


Figure 1: April 11, 2016 Satellite Image

East Central Saskatchewan

Significant snow covers remain in areas north of Yorkton. This includes the Assiniboine, Swan, Red Deer, and Lower Carrot River Basins. These areas were wetter than normal in the fall of 2015 and received above normal precipitation in March. An above normal runoff response is now expected in these basins. With double digit highs and overnight lows above the freezing mark forecasted for early next week, a rapid loss of this remaining snowpack may occur and could create some out of bank flows and localized flooding issues. The Water Security Agency (WSA) will continue to monitor runoff in those areas and issue additional information when and if necessary.

Qu'Appelle River

Over the past week, outflows from the Qu'Appelle River Dam at Lake Diefenbaker have been staged up to a release of 8 cubic metres per second (m³/s). Most of this flow is being passed downstream of Buffalo Pound Lake towards Craven. At Craven, flows are being split to send approximately 5 m³/s downstream to bring Pasqua and Echo Lakes into their summer operating range. The balance of the flow arriving at Craven, approximately 3 m³/s, is being diverted into Last Mountain Lake in an effort to bring it closer to the top of its summer operating range. It is expected that Pasqua and Echo Lakes will increase approximately 0.45 m over the next five weeks, bringing them to near the top of their desirable operating range by mid-May. Further down the system, Mission and Katepwa Lakes are within their desirable summer operating ranges and Crooked Lake is stabilizing near the top of its desirable summer operating range.

Saskatchewan River System

The ice cover on both the North and South Saskatchewan Rivers has now broken up, resulting in additional inflow to Codette Reservoir over the past week which was managed by outflow from SaskPower's generating units. Lake Diefenbaker remains about 1.0 m above the median level for this time of year. Inflows are expected to be below normal in April and May and with outflows in the 90 to 120 m³/s range resulting in near normal reservoir levels by June 1, close to 553.0 m. Snowpack in the mountain headwaters remains below normal.

WSA intends to resume issuing 10-Day Saskatchewan River Forecasts beginning April 14.

These are typically released each Thursday afternoon and are available at:

<https://www.wsask.ca/Lakes-and-Rivers/Provincial-Forecast/>

Quill Lakes

The Quill Lakes are currently at 520.66 m, equal to the record peak observed in May of 2015, and continuing to climb slowly (8 mm over the past 24 hours). With snowmelt nearing completion in the basin, all tributary inflows are now in recession and the lakes are expected to peak later this week or early next week at an elevation near 520.7 m. Rainfall events could result in a higher peak elevation later in 2016.

Southwest

Snowmelt runoff in the southwest occurred in the second half of February and early March. Although runoff was below normal, it was enough to fill many of the irrigation reservoirs in the area.

Precipitation Forecast

A low pressure is expected to bring rain to southern Saskatchewan beginning Thursday evening and continuing through Friday. This system is expected to result in general accumulations of 15-30 mm over areas south of Highway 13. There is also a risk of thunderstorms within this system which could result in higher localized accumulations throughout this region. A second low pressure system developing over eastern Montana is expected to bring 10-20 mm of rain to the Cypress Hills area Friday morning and up to 10 cm of wet snow Friday afternoon. Maps showing forecasted accumulations for Thursday and Friday are included as Figure 2 (Canadian model output) and 3 (US model output).

The areas expected to be impacted by this precipitation event have received little precipitation since snowmelt in March and with soils are now thawed there is capacity to absorb much of this precipitation and little runoff is expected from the event. The exception may be the Cypress Hills area where some streamflow may be generated but it is not expected to result in any flooding.

Figure 2: GEM Model 48 hour Precipitation Accumulation Forecast for April 14-15

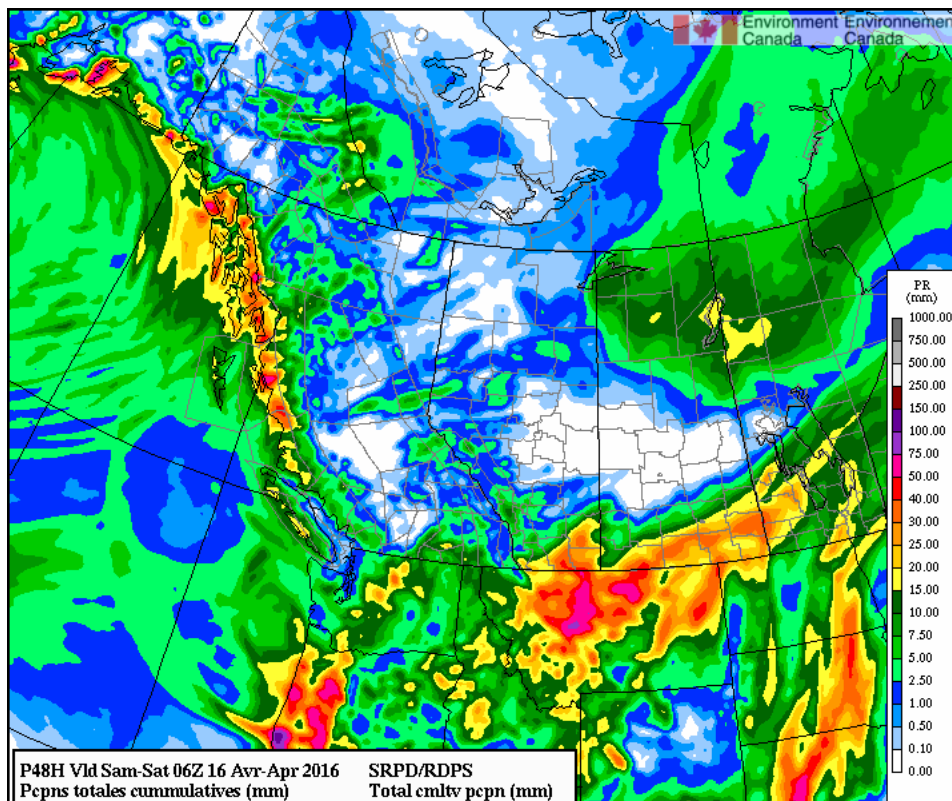
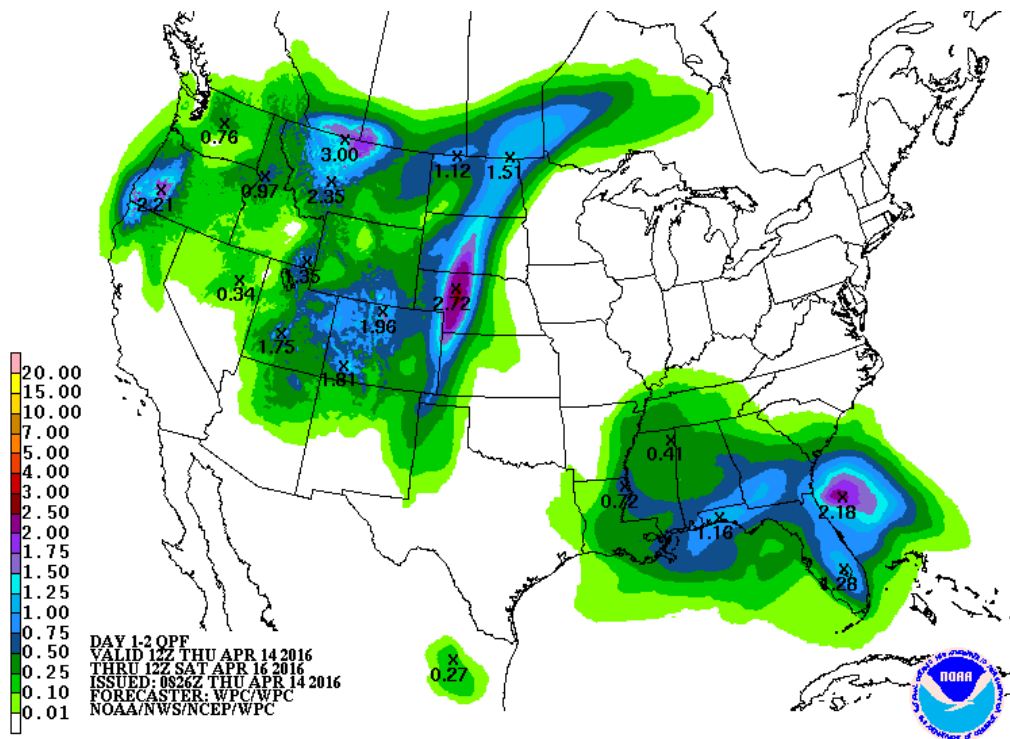


Figure 3: US National Weather Service 48 hour Precipitation Accumulation Forecast for 6:00 AM April 14 to 6:00 AM April 16



Next Update

The Water Security Agency will post the next update on April 20, 2016 or before if conditions warrant it.