



wsask.ca

Preliminary Runoff Outlook

Based on conditions as of February 2, 2026

Prepared by: Flow Forecasting & Operations Planning - Water Security Agency

Executive Summary

- The Water Security Agency continuously monitors moisture conditions and forecast weather patterns to prepare for spring runoff.
- The amount of spring runoff depends on fall soil moisture, snowpack water content and how quickly the snowpack melts.
- In fall 2025, most of Saskatchewan experienced below-average precipitation, leading to dry conditions at freeze-up, especially in southern and northern Saskatchewan.
- Winter precipitation has been variable across the province, ranging from below normal in most of eastern Saskatchewan to near and above normal for rest of the province. Mid-winter melting events have led to a consolidation and loss of the snowpack in many southern areas.
- At this time, it is anticipated that the runoff across most of northern, south-central and east-central Saskatchewan will be below normal due to dry fall conditions and a below normal snowpack in these areas.
- Southeastern and most of central Saskatchewan are expected to see a near normal runoff response due to a near normal snowpack, in combination with wetter fall conditions.
- Most major water supply reservoirs in southern Saskatchewan are at or above normal levels. The exceptions are Avonlea, McDougald and Harris, which are below normal levels.
- Most reservoirs are expected to be near normal levels following the spring runoff; however, if conditions do not improve, some reservoirs in the Bigstick Basin (i.e., McDougald and Harris) and in the north (i.e., Reindeer Lake) may continue to be lower than normal this year.
- The Water Security Agency is monitoring basin conditions and managing Lake Diefenbaker based on snowpack and precipitation. Currently, Lake Diefenbaker is slightly above its normal operating levels for this time of year and inflows this winter have been near normal.
- In the Souris Basin, reservoirs are projected to remain within normal operating ranges.
- All lakes within the Qu'Appelle River Basin are expected to remain in the normal operating ranges.
- In the Churchill River Basin, dry conditions are expected to result in lower flows and lake levels this year.
- In the Quill Lakes Basin, a near normal runoff event is expected.
- Long-range forecasts predict normal precipitation and below normal temperatures across Saskatchewan from February to April.
- The Water Security Agency will continue to closely monitor and report on landscape conditions and water supply reservoirs to allow for timely response to conditions. The agency continues to work internally and across government to support residents in times of drought or flooding.

Cover Photo: South Saskatchewan River near Lemsford, Jan. 19, 2026
(Charlotte Fuller, Water Security Agency)

Spring Runoff Potential

Summary:

- At this time, it is anticipated that the runoff across most of northern, south-central and southwestern Saskatchewan will be below normal due to dry antecedent moisture conditions prior to freeze up, near normal winter precipitation and intermittent melt events.
- Southeastern and most of central Saskatchewan are expected to see a near normal runoff response as a result of a near normal snowpack, in combination with wetter fall conditions.

To facilitate preparations for spring runoff in 2026, the Water Security Agency (WSA) issues this preliminary runoff outlook. Figure 1 shows the projected snowmelt runoff potential for the province, based on conditions as of Feb. 1, 2026. Average climatic conditions between February 1 and the spring melt were assumed when developing the spring runoff potential map. The runoff potential was determined based on the conditions at freeze-up (Figure 2) and the snowfall received until January 31 (Figure 3).

A near normal snowpack, in combination with the generally dry fall conditions, has resulted in below normal runoff expectations across most northern portions of the province. South-central Saskatchewan, as well as an area in the Bigstick Basin around Maple Creek are expected to see a below normal runoff response this spring, due to dry fall conditions and a below normal snowpack.

The remainder of the province is expected to see a near normal runoff response.

Snowfall throughout the remainder of the winter, and the melt rate, is expected to have a significant impact on runoff yields. A slow melt will result in most of the snowpack recharging the soil column. A rapid

melt and additional precipitation may result in higher-than-expected runoff yield.



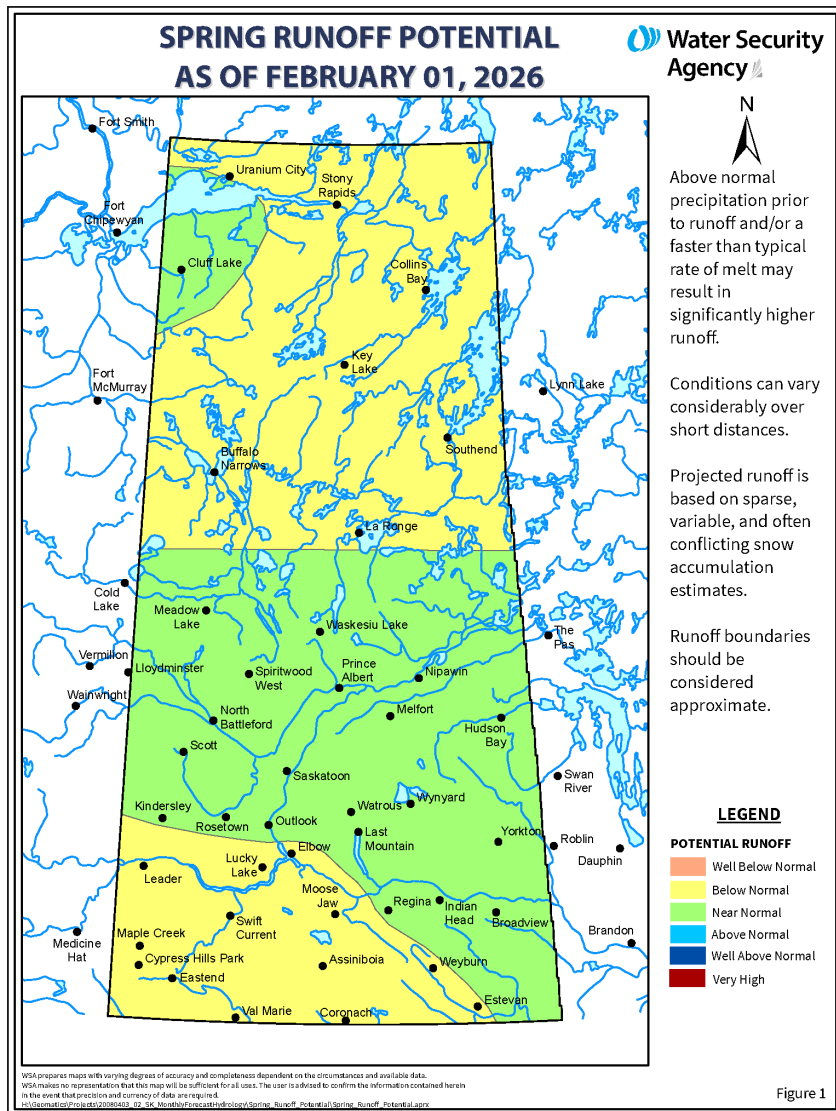


Figure 1: Spring Runoff Potential as of Feb. 1, 2026

Category	Description	Approximate Frequency of Expected Flow
Well Below Normal	Little to no runoff is expected	<< 1:2-year event
Below Normal	Some runoff is expected	< 1:2-year event
Normal	Flows are expected to be average and will generally not exceed channel capacity in most reaches	≈ 1:2-year event
Above Normal	Flows from snowmelt runoff will exceed natural channel capacity in some areas	≈ 1:5-year event
Well Above Normal	Significant out of channel flow and some flooding will likely occur	≈ 1:10-year event
Very High	Significant flooding is likely to occur	≈ 1:25-year event or greater

- Above normal precipitation prior to runoff (especially if it occurs as rainfall), and/or a faster than normal melt, could result in significantly higher runoff than presently forecasted.
- Below normal precipitation prior to runoff and/or a slow melt, can result in significantly lower runoff than presently forecasted.
- Earlier than normal snow cover depletion, followed by significant rain events can result in significantly higher spring runoff than the present forecast because of wet and partially frozen soils.
- Figure 1 is based on local prairie runoff, and it does not consider potential mountain runoff to large systems such as Saskatchewan River Basin. This forecast is based on limited data and should be used as a general guide for large geographical areas. Local conditions may vary significantly from the regional conditions and boundaries. Figure 1 should be considered approximate.

Fall Precipitation and Soil Moisture Conditions

Summary:

- 2025 was generally drier than normal across the province.
- Fall precipitation ranged from well below normal across southeast, southwest and some northern areas of Saskatchewan to above normal in west central areas. Other areas of the province received near normal precipitation.
- Two short November snowstorms brought light to moderate snowfall across Saskatchewan, with heaviest accumulations near North Battleford, Melville and the southwest.

The GRACE-Based root zone soil moisture drought indicator is provided in Figure 2. The soil moisture map reflects root-zone conditions prior to freeze-up. Most of northern Saskatchewan shows below-normal moisture, while the southeast is above normal. Across much of southern and central Saskatchewan, conditions remain below normal.

As outlined in the 2025 Conditions at Freeze-up Report, during October and November 2025, west central, central and east central areas received the highest precipitation amounts, with the area including Meadow Lake receiving up to 200 per cent of normal precipitation for that time of year. In contrast, the southwest, southeast and northeast areas of the province received lower than normal precipitation during this time.

Two short snowstorms occurred in November prior to freeze-up this year. The heaviest snowfall was near North Battleford and Melville. The second event was mainly across southern Saskatchewan where the greatest accumulation was in the southwestern corner of the province.

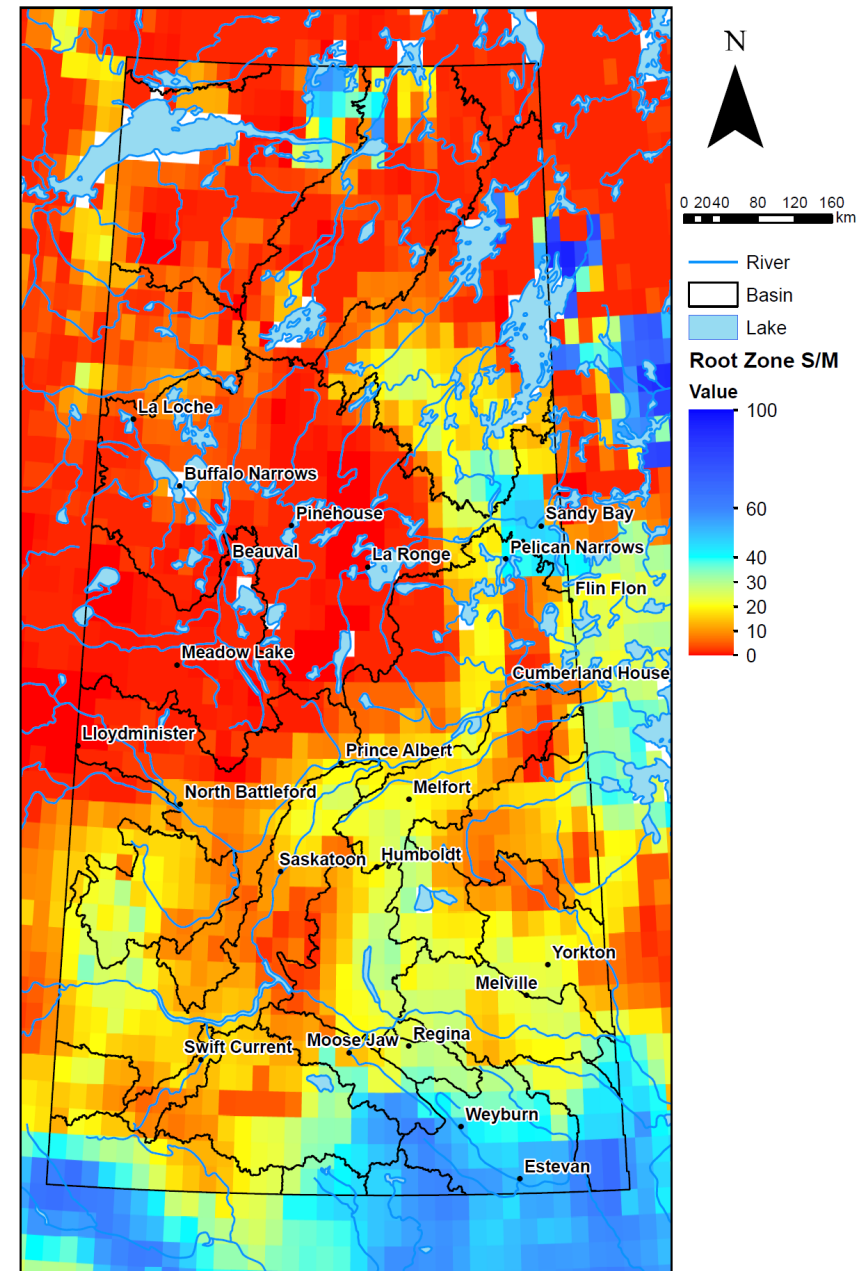


Figure 2: GRACE-Based Root Zone Soil Moisture Drought Indicator Nov. 24, 2025 (Map courtesy of NASA)

Early Winter Precipitation

Summary:

- Precipitation received so far this winter has been near normal to above normal throughout most of the province, with the exception of southeast where precipitation has been below normal.
- The current snowpack is estimated to range from below normal in the southwest to near normal in areas around Yorkton, along the Alberta border, north of North Battleford and throughout much of the far north.

Point precipitation data, mapped as percentile relative to the historical record, is provided in Figure 3. This map is based on a relatively small number of sites across Saskatchewan. Based on this information, winter precipitation has been near normal to slightly above normal in most southern areas, with the Souris River Basin, areas along the Manitoba border and pockets near Saskatoon and in the north receiving below normal winter precipitation. North central areas of the province, particularly near Meadow Lake, have received high precipitation amounts this winter.

An estimate of the current snow water equivalent available in the snowpack, as derived by the Environment and Climate Change Canada Canadian Land Data Assimilation System (CaLDAS), is shown in Figure 4. This figure shows that the snow water equivalent on the landscape is lowest in the Missouri River, Moose Jaw River and Souris River basins as well as in the Cypress Hills North Slope area and the Saskatchewan portion of South Saskatchewan River Basin upstream of Lake Diefenbaker.

Figure 4 also shows that areas around Yorkton, areas north of North Battleford and much of the far north have the highest snow water equivalent on the ground currently, with close to 100 mm of snow water equivalent estimated. These snow water equivalent estimates

represent values that are generally near normal to below normal for this time of year.

Throughout much of the south, mid-winter melting has led to a decline in the snow observed on the ground compared with the total snowfall received. In areas where an ice layer has formed at the soil surface, the soil infiltration capacity may be reduced, which may result in more water running off during the spring thaw. Manual snow surveys will be completed in late February to confirm snowpack conditions in advance of our early March Spring Runoff Forecast.

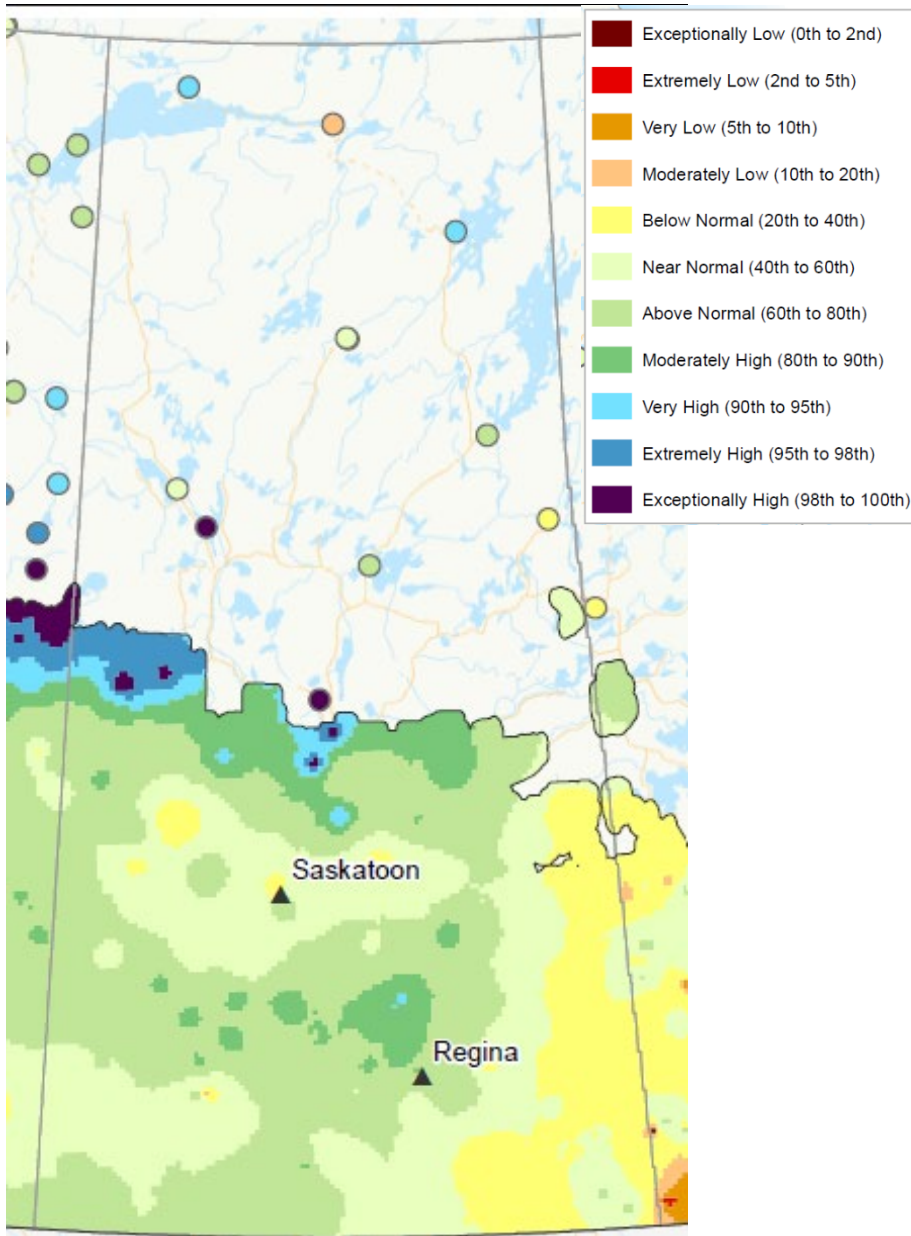


Figure 3: Precipitation Percentile
(Nov. 1, 2025 to Jan. 31, 2026)
Map courtesy of Agriculture and Agri-food Canada

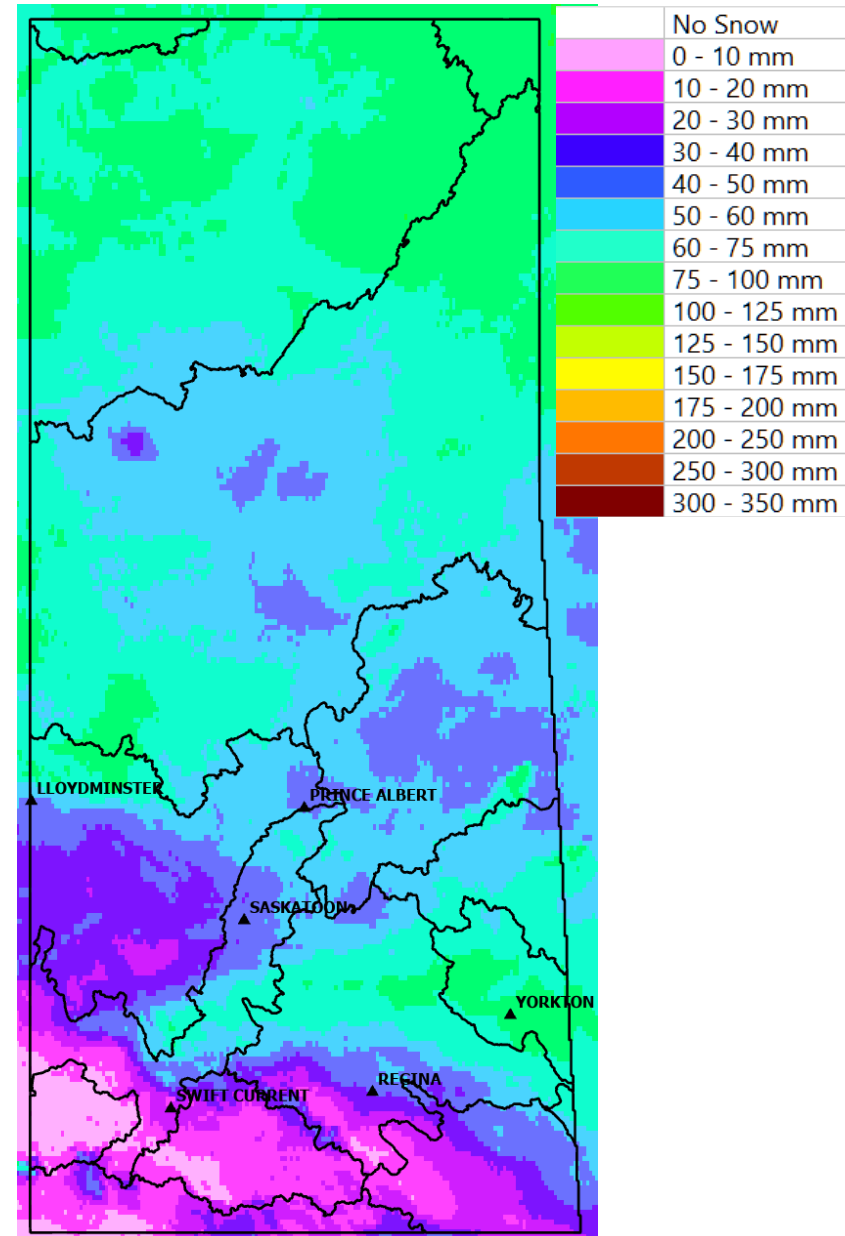


Figure 4: Feb. 1, 2026 CaLDAS Map
Data produced by Environment and Climate Change Canada

Drought Risk

Summary:

- Most major water supply reservoirs are at or near normal levels for this time of year.
- The driest areas are in northern Saskatchewan. These areas would need an above normal snowpack to see a near normal runoff this spring.

WSA uses two different products to help identify areas at risk for drought. The first is the Canadian Drought Map from Agriculture and Agri-Food Canada (Figure 5). This product defines drought conditions based on a number of different data sources, including factors such as temperature and precipitation indicators. The categories in this product range from abnormally dry, which signifies conditions that historically occur about once every three years, to exceptional drought conditions, which historically only occur about once every 50 years. This product is not focused on the stream flows and water supply; therefore, Saskatchewan developed the Hydrological Drought Map.

The Hydrological Drought Map is the second product used to help identify risk of drought in the province (Figure 6). This product is an indicator of the water supply conditions across the province. It uses monthly stream flow averages, monthly reservoir elevation averages and the six-month Standardized Precipitation-Evapotranspiration Index (SPEI) to define hydrological drought in the province. The categories in this product range from near normal and above, to extreme and exceptional drought.

The Canadian Drought Map for December 31 is shown in Figure 5. This map shows that drought conditions are more severe in northern Saskatchewan, with areas ranging from moderate to severe drought and some localized pockets of extreme drought. In the south, conditions are generally less severe. Overall, ranging from near normal to abnormally dry, with some scattered areas of moderate drought near Regina, Cypress Hills and east of Saskatoon.

The Hydrological Drought Map for October 2025 is shown in Figure 6. This map shows that in the fall, most of northern Saskatchewan was experiencing moderate to severe hydrological drought conditions. The remainder of the province was generally showing mild drought conditions. This map is not updated in the winter as most streams are frozen. This figure will be updated again in spring but helps advise on fall drought conditions.

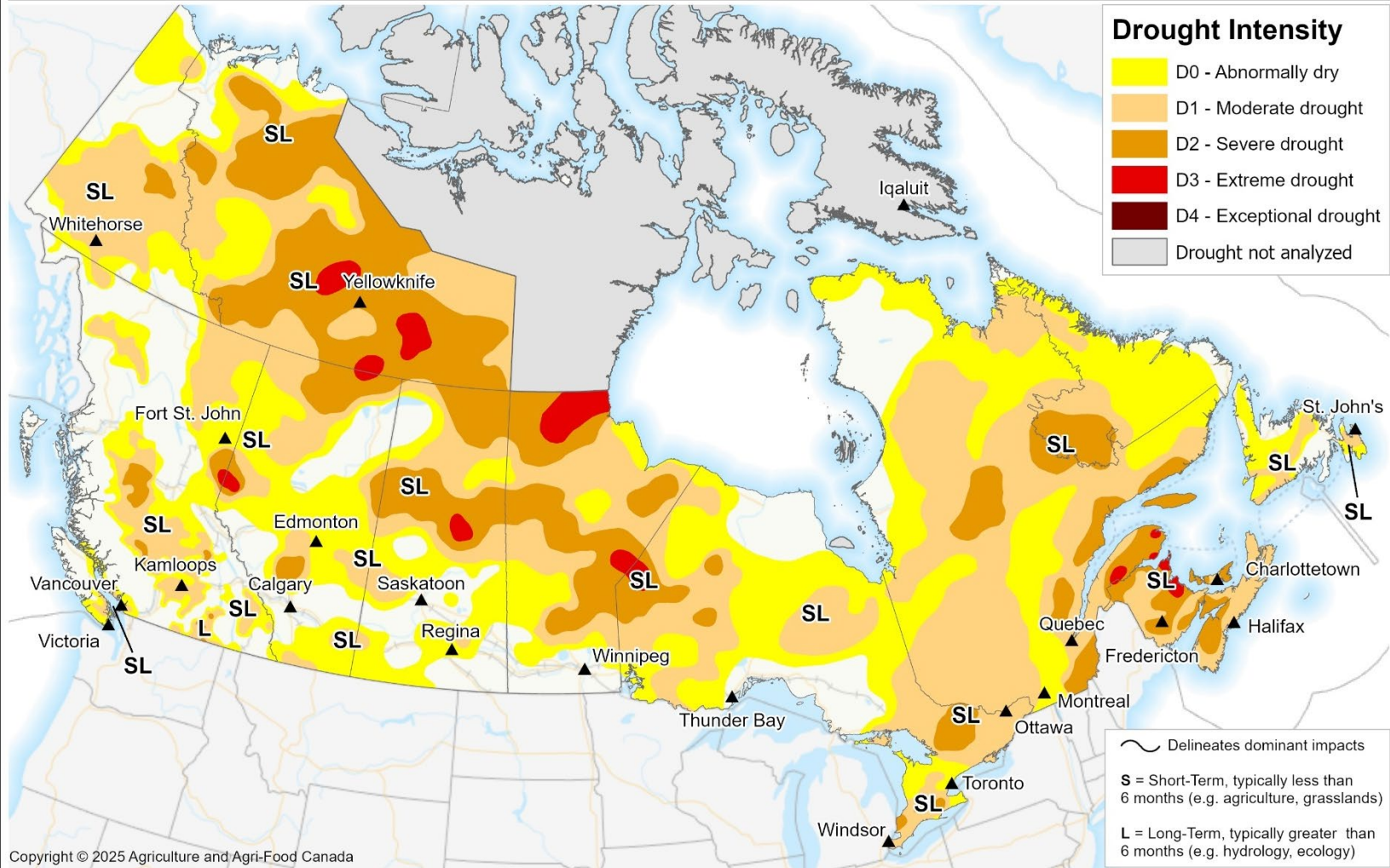
The six-month SPEI map is shown in Figure 7. SPEI is a normalized drought index that uses climate data to identify areas where drought conditions exist. The SPEI values are a relative measure of surface water surplus (positive values) or deficit (negative values) in an area. The values take the current precipitation minus the potential evapotranspiration and compare it to the average value at a location. The result is normalized, so the higher the negative number, the drier the conditions are. This map shows that over the past six months, conditions across Saskatchewan have generally been near normal overall, with pockets of drier-than-normal conditions in the North Saskatchewan River, Beaver River, and Qu'Appelle River basins, and pockets of wetter-than-normal conditions in the Saskatchewan River and Carrot River basins and a small area of the Souris River Basin.

These figures show that the main drought-related water supply concerns in Saskatchewan remain in parts of northern Saskatchewan, with additional areas of concern around Melfort and Humboldt. These areas would need an above normal snowpack and favourable spring moisture to support near normal runoff this spring.



Canadian Drought Monitor

Conditions as of December 31, 2025

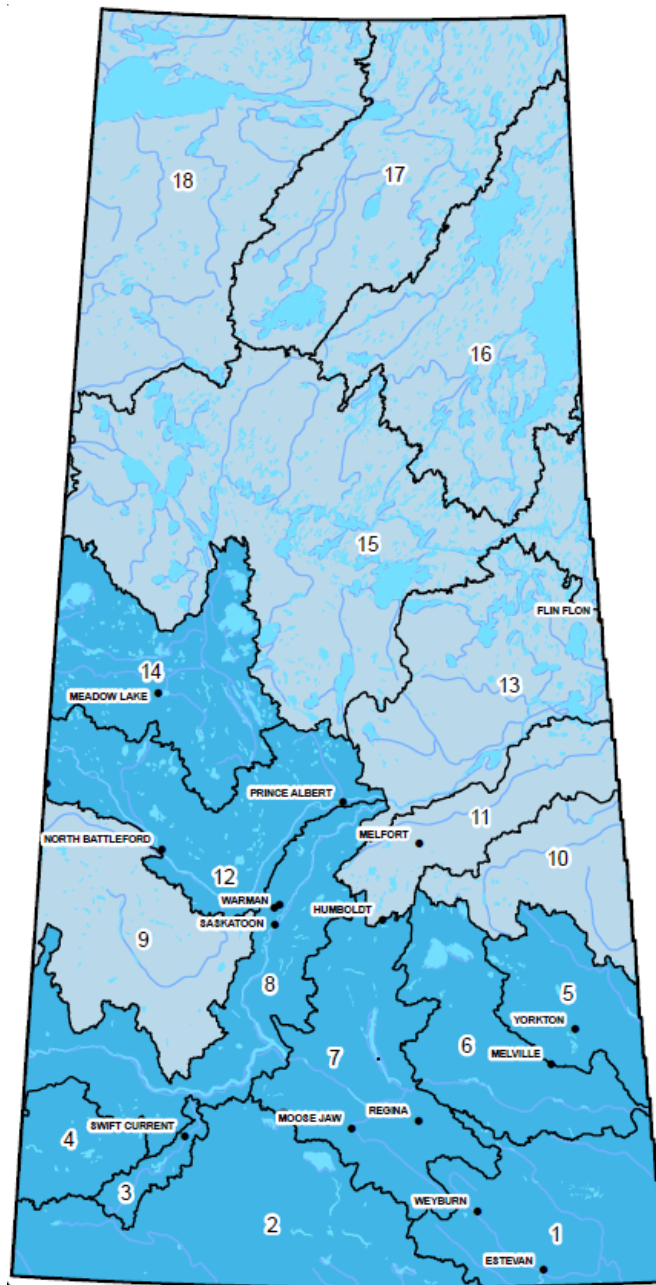


Copyright © 2025 Agriculture and Agri-Food Canada

Prepared by Agriculture and Agri-Food Canada's National Agroclimate Information Service. We also acknowledge various provincial, territorial and non-government organizations whose reports and assessments are consulted. The Drought Monitor focuses on broad-scale conditions. Regions in northern Canada may not be as accurate as other regions due to limited information.

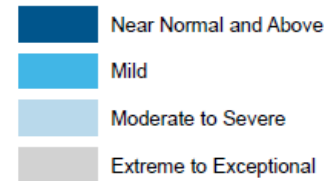
Created: 1/12/2026
www.agr.gc.ca/drought

Figure 5: Canadian Drought Monitor – Dec. 31, 2025
(Map courtesy of Agriculture and Agri-Food Canada)



Legend

Hydrological Drought



Basins:

- 1 - Souris River
- 2 - Big Muddy Lake/Missouri River/Old Wives Lake
- 3 - Swift Current Creek
- 4 - Cypress Hills North
- 5 - Assiniboine River
- 6 - Quill Lakes/Lower Qu'Appelle River
- 7 - Wascana/Moose Jaw/Upper Qu'Appelle River
- 8 - South Saskatchewan River
- 9 - Eagle Creek/Battle River
- 10 - Lake Winnipegosis
- 11 - Carrot River
- 12 - North Saskatchewan River
- 13 - Saskatchewan River
- 14 - Beaver River
- 15 - Churchill River
- 16 - Reindeer River/Wollaston Lake
- 17 - Black Lake/Kasba Lake
- 18 - Lake Athabasca/Tazin River

Note:

The Saskatchewan Hydrological Drought Indicator is made up of three individual indicators combined equally to demonstrate the stress on water availability in a hydrological basin:

1. The SPEI or Standard Precipitation-Evapotranspiration Index is based on climatic data designed to show onset, duration and magnitude of drought conditions with respect to normal conditions. It is a measure of how dry the landscape is over a period of six months.
2. Stream Flow Indicator is a measure of how the flows over a month deviate from the average flow.
3. Reservoir Capacity Indicator is a measure of how full the reservoirs are or how the level of the reservoir compares to the average reservoir level over a month.

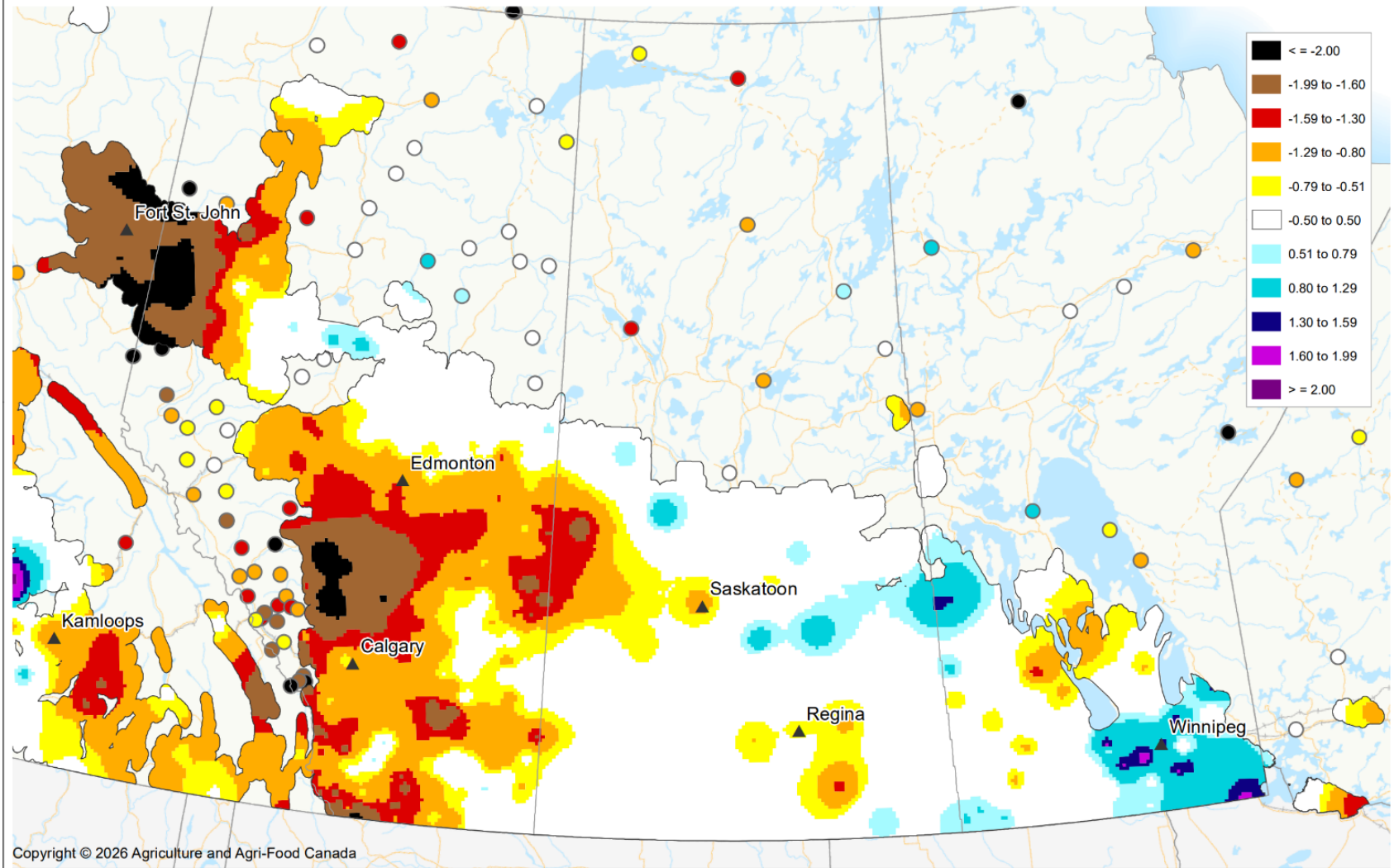
As an example, when all three indicators are low, a severe hydrological drought is indicated meaning the general water supply in a given basin is in jeopardy.

Figure 6: Hydrological Drought Map for October 2025



6 - Month Standardized Precipitation Evapotranspiration Index (SPEI)

as of January 26, 2026



Copyright © 2026 Agriculture and Agri-Food Canada

Prepared by Agriculture and Agri-Food Canada's Science and Technology Branch. Data provided through partnership with Environment Canada, Natural Resources Canada, Provincial and private agencies. Produced using near real-time data that has undergone some quality control. The accuracy of this map varies due to data availability and potential data errors.

Created: 2026-01-27
www.agr.gc.ca/drought

Figure 7: 6-month Standardized Precipitation-Evapotranspiration Index (SPEI) for Jan. 26, 2026 (Map courtesy of Agriculture and Agri-Food Canada)

Water Supply Conditions

Summary:

- Most major reservoirs are within their normal operating ranges for this time of year.
- Some reservoirs in the south, like Avonlea, McDougald and Harris, are below normal levels.
- Lake Diefenbaker is currently slightly above its normal operating levels for this time of year.

Major water supply reservoirs in southern Saskatchewan are near their normal, and historical, operating levels for this time of year, with the exception of Avonlea, McDougald and Harris reservoirs, which remain lower than normal. Figures 8 to 11 illustrate the status of various reservoirs in the southern region compared to their historical averages as of February 1.

With anticipated snowmelt inflows, most reservoirs in southeastern and central Saskatchewan are expected to remain within their desirable operating ranges post-snowmelt.

Lake Diefenbaker is currently about 0.86 m higher than its median elevation for this time of year. WSA is currently drawing down Lake Diefenbaker to reach an elevation of 551.5 m before the prairie spring runoff. This target falls within the normal winter drawdown range to maintain stable water supplies.



Central Saskatchewan Reservoir Levels

February 01, 2026

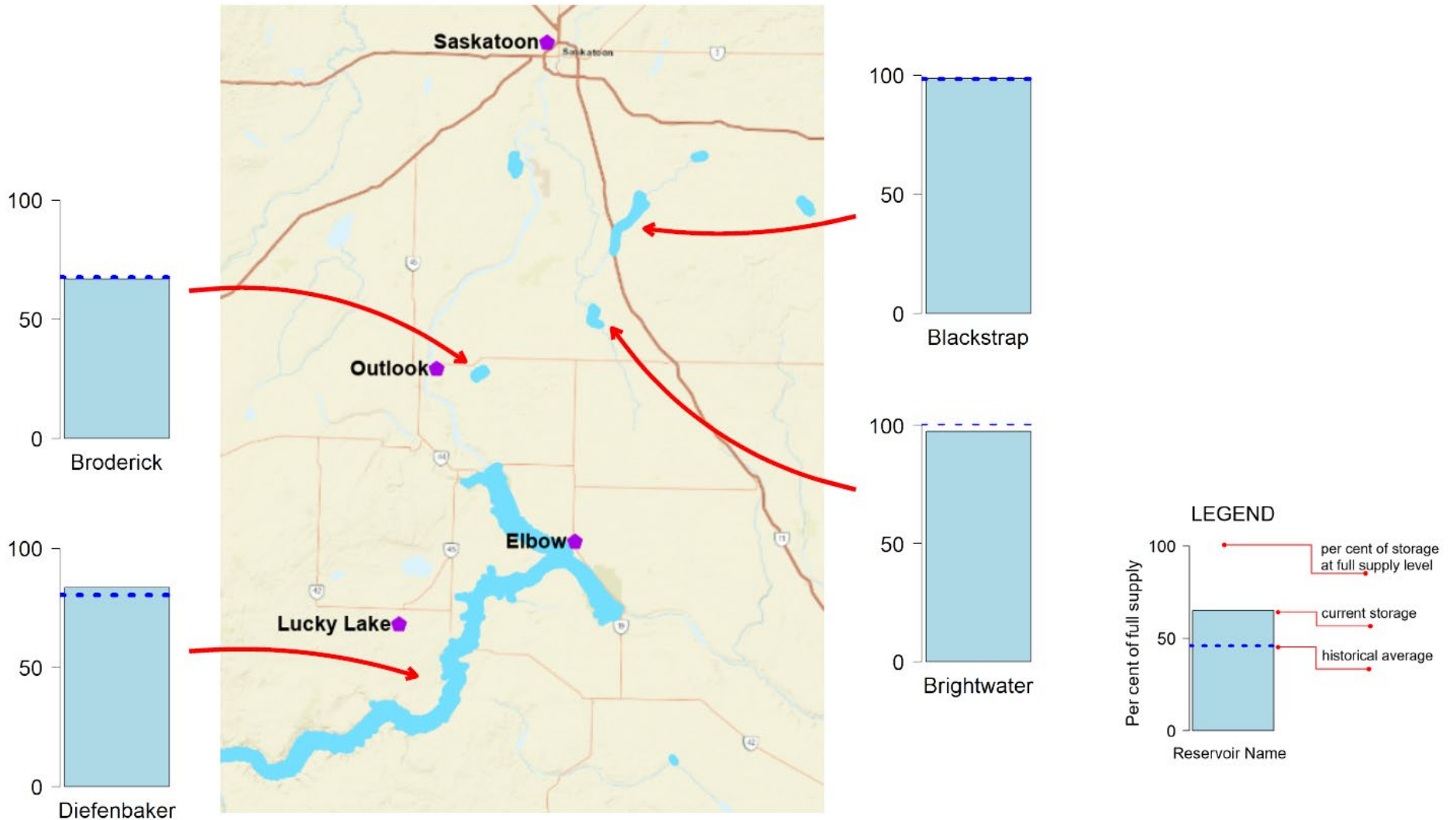


Figure 8: Reservoir Conditions in Central Saskatchewan as of Feb. 1, 2026

Southeastern Saskatchewan Reservoir Levels

February 01, 2026

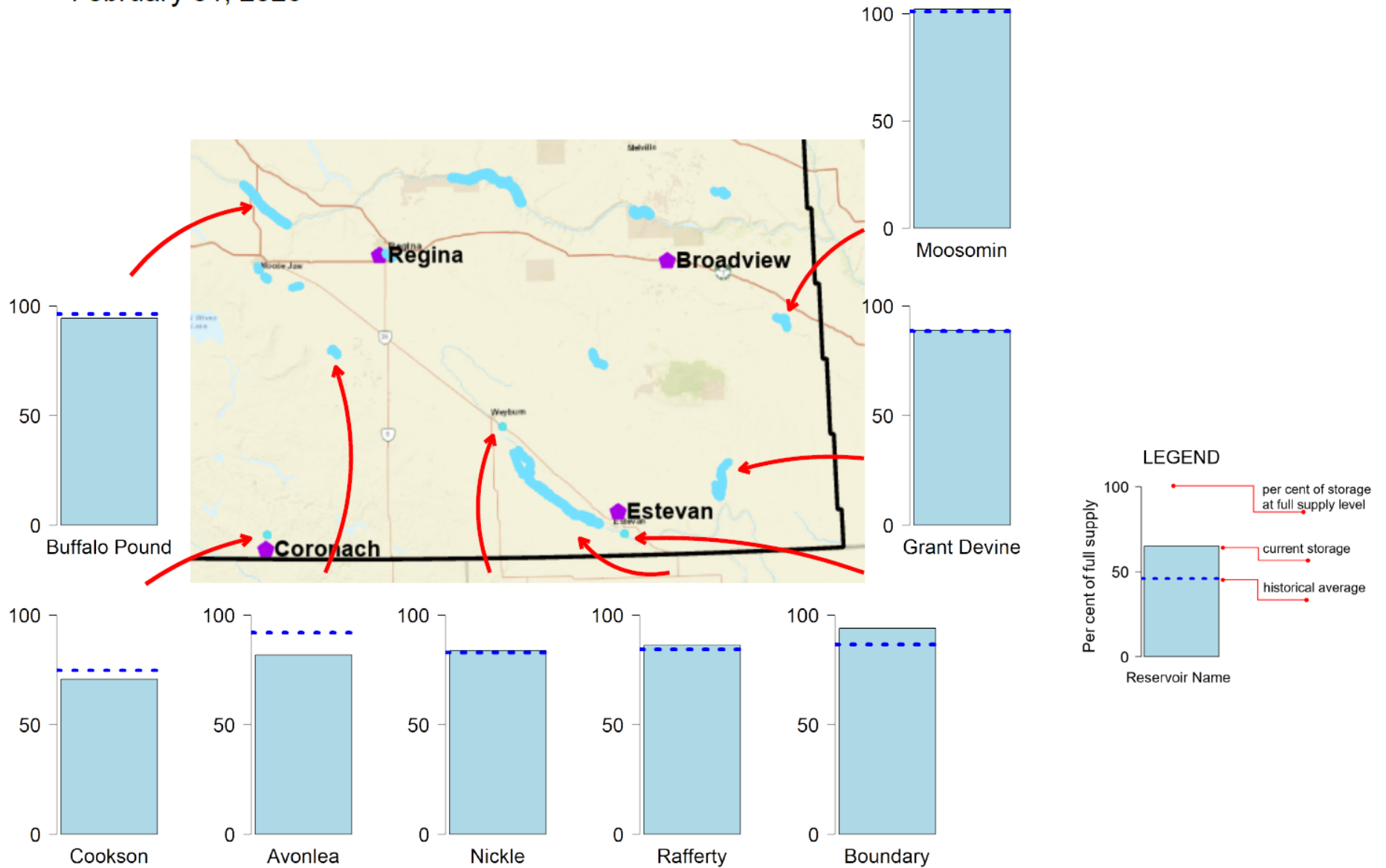


Figure 9: Reservoir Conditions in Southeastern Saskatchewan as of Feb. 1, 2026

South Central Saskatchewan Reservoir Levels

February 01, 2026

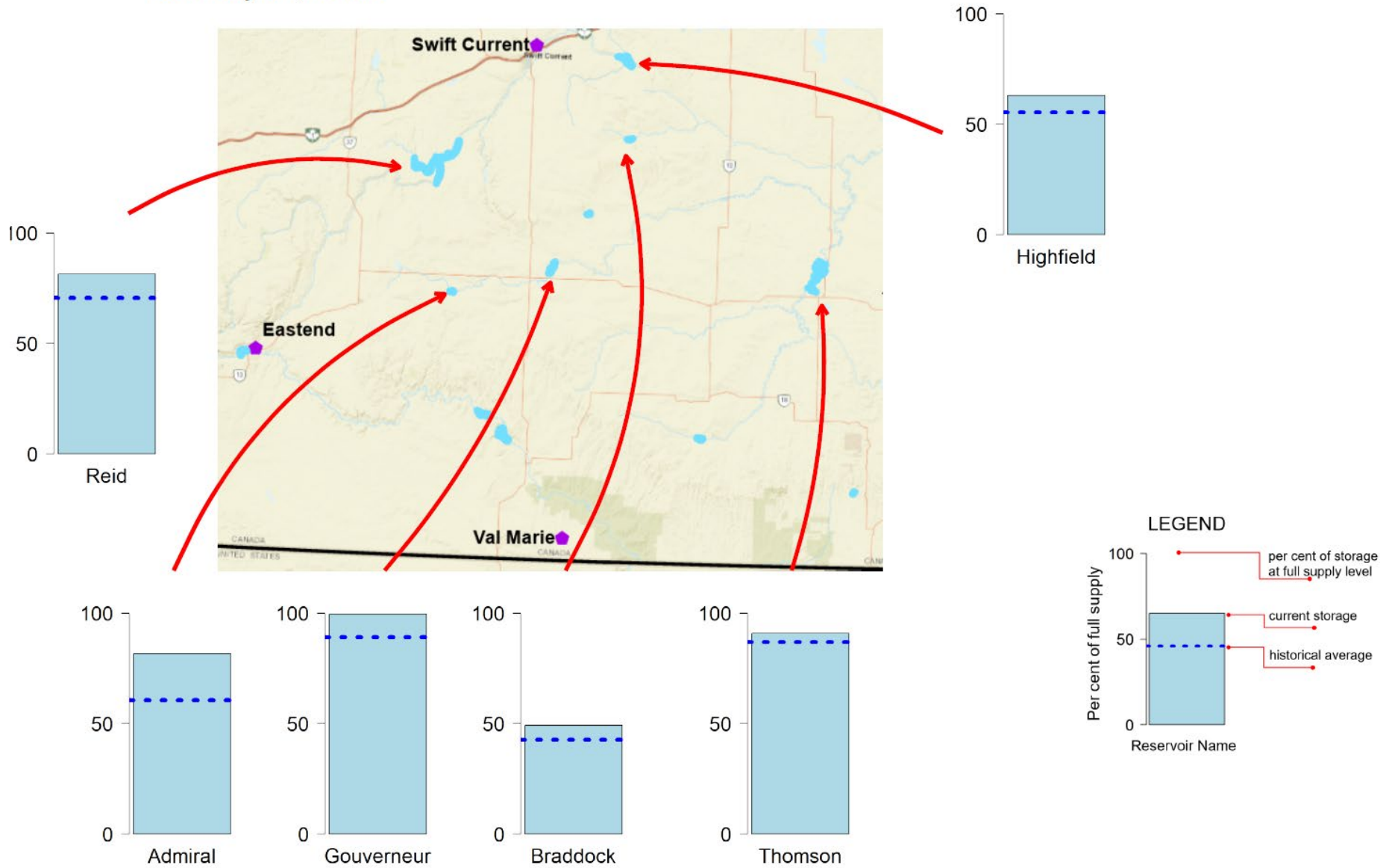


Figure 10: Reservoir Conditions in Southcentral Saskatchewan as of Feb. 1, 2026

Southwestern Saskatchewan Reservoir Levels

February 01, 2026

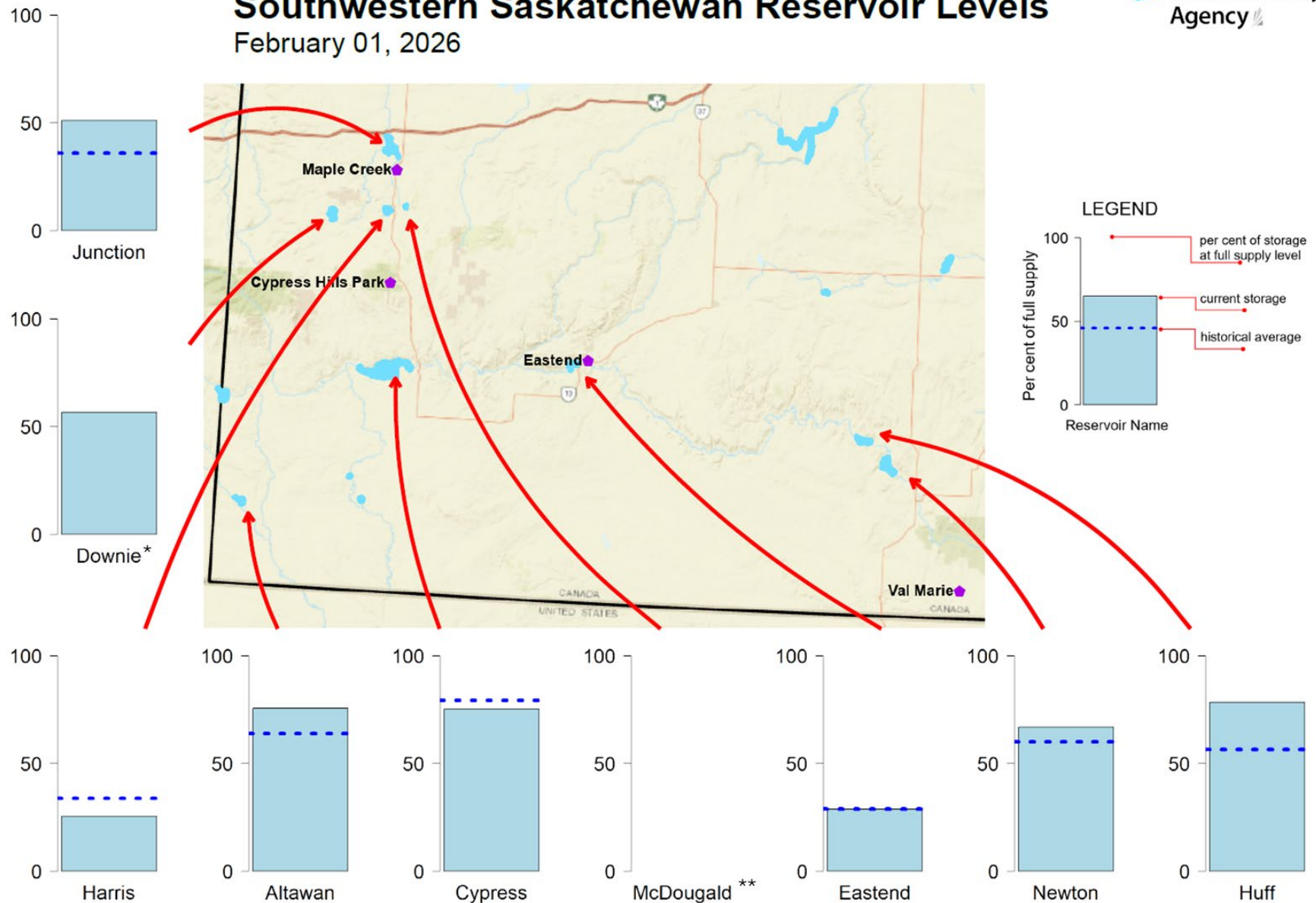


Figure 11: Reservoir Conditions in Southwestern Saskatchewan as of Feb. 1, 2026

*Insufficient historical data to create an average for Downie

**water levels are too low in McDougald to accurately measure.

Major River Systems

Summary:

- The South Saskatchewan River Basin is expected to see a slightly above normal mountain runoff this spring.
- Near normal to above normal inflows are currently forecast for the Souris River Basin.
- The lakes in the Qu'Appelle River Basin are expected to be in normal summer operating zones following the spring melt.
- As of February 1, conditions in the southwest range from near-normal snowpack in the Frenchman River headwaters to minimal snowpack across the Big Stick, Swift Current Creek and Old Wives Lake basins.
- Dry conditions in the north are expected to affect flows and lake levels this year in the Churchill River Basin.
- The Quill lakes are expected to see a near normal runoff response this spring.

Saskatchewan River Basin

Lake Diefenbaker is above median levels for this time of year. Winter inflows to Lake Diefenbaker have been near normal. Releases have been maintained slightly below normal this winter because of ongoing ice constraints at South Saskatchewan River near Moon Lake. Flows on the North Saskatchewan River have remained near normal throughout the winter months.

As of late January 2026, the snowpack in the Alberta prairie portion of the basin ranges from below normal in the Oldman River Basin to near normal in the Red Deer River Basin. The mountain snowpack, which contributes significantly to May and June flows in the Saskatchewan River Basin, is well above normal. If mountain snowpack remains above normal, snowmelt runoff into Lake Diefenbaker is expected to be above normal. Late spring and early summer rainfall in southern Alberta, which typically can account for a

significant percentage of the annual precipitation, cannot yet be predicted, but will also play a critical role in reservoir inflows.

The current winter drawdown target is to reach a water level of 551.5 m by mid-March, aligning with the typical start of prairie runoff. This target falls within the normal winter drawdown range to maintain stable water supplies.

Souris River

Currently, both Grant Devine and Rafferty reservoirs are below their February 1 drawdown target elevations. So far this winter, the basin has received precipitation accumulations that are generally below normal.

A near normal runoff response is forecast for inflows into Rafferty, Boundary and Grant Devine reservoirs. Flows below the reservoirs are currently forecast to be above normal this spring. As of Feb. 1, 2026, both Boundary and Grant Devine reservoirs are expected to fill this spring. Any excess water from Boundary will be diverted to Rafferty. Rafferty Reservoir is expected to be in the normal operating range but is not expected to fill.

Detailed forecasts for the Souris River Basin are developed on or near the first and fifteenth of each month, beginning in February, up until the snowmelt runoff event. These forecasts can be found on wsask.ca.

Qu'Appelle River

Most lakes in the Qu'Appelle River Basin are at near normal elevations for this time of year. The releases from the Qu'Appelle River dam have been maintained around 1.0 m³/s throughout the winter.

Based on the current winter snowpack accumulations and the fall conditions, snowmelt runoff in the Qu'Appelle River Basin is expected to be below to near normal throughout the basin. The Upper Qu'Appelle and parts of the Moose Jaw River Basin are forecast to see a below normal runoff response. The lower portion of the Wascana Creek Basin, the Lower Qu'Appelle and the Last Mountain Lake area, is expected to experience a near normal runoff response.

At this time, all the lakes in the Qu'Appelle River Basin are expected to be in the normal summer operating ranges following the spring runoff, with the exception of Round Lake, which is expected to be low due to ongoing land control constraints.

Southwest

As of February 1, water levels for most lakes in the southwest region are near normal for this time of the year, except for McDougald and Harris, which are below normal.

In the southwest, the winter precipitation accumulation map as of February 1, shows that the region received near to above normal precipitation so far this winter. The heaviest amounts of precipitation are found in the southwestern corner of the province, along the Battle Creek, Lodge Creek and Frenchman River basins, and the southern parts of the Old Wives Lake Basin.

The current snowpack is estimated to range from normal throughout the headwaters of the Frenchman River, to well below normal in the Big Stick, Swift Current Creek and Old Wives Lake basins where there is currently minimal snow.

Churchill River Basin

Snowpack in the Churchill River Basin has been near to below normal. With the dry fall, the runoff response across the basin is expected to be below normal. Flows throughout the Churchill River Basin are below normal for this time of year. With a below normal runoff response expected, flows are expected to remain below normal into the summer months.

Lac La Ronge is currently near the lower end of its operating range. Reindeer Lake is also well below normal. Above normal inflows are needed this spring to bring the lakes up to near normal elevations.

Quill Lakes

The Quill lakes are currently at an elevation of 519.51 m, which is 3 cm higher than last year at this time (519.48 m). The snowfall recorded so far this winter has been near normal, and the fall conditions were drier than normal. Assuming near normal snow conditions going forward, a near normal snowmelt inflow is expected in the basin.

Long Range Forecasts

Summary:

- Near normal precipitation is forecast for the next three months.
- Near normal temperatures are expected over the next three months.

The three-month spatial anomalies maps for precipitation (Figure 12) and temperature (Figure 13) covering the February 1 to April 30 forecast period show the expected long-range precipitation and temperature trends in relation to 30-year climate normals.

Most long-range precipitation forecasts are predicting normal to slightly above normal precipitation accumulations across the province for February through April. All long-range models are predicting slightly colder than normal temperatures across the province during this period. While colder-than-normal temperatures are expected across Saskatchewan, they will be less pronounced in the southern part of the province.

It is important to note that seasonal weather forecasts are statistically unreliable, and their skill is particularly poor for predicting precipitation. However, good agreement among various long-range products indicates a higher degree of confidence.

Next Forecast

WSA will issue a Spring Snowmelt Forecast in early March. Spring Runoff Outlooks will be released on wsask.ca.

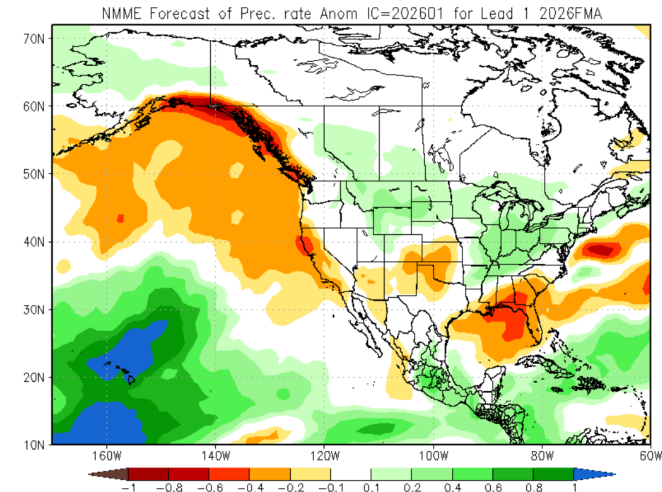


Figure 12: North American Multi-Model Ensemble Precipitation Anomaly Outlook for February 1 to April 30, 2026 (Map courtesy of the US National Weather Service)

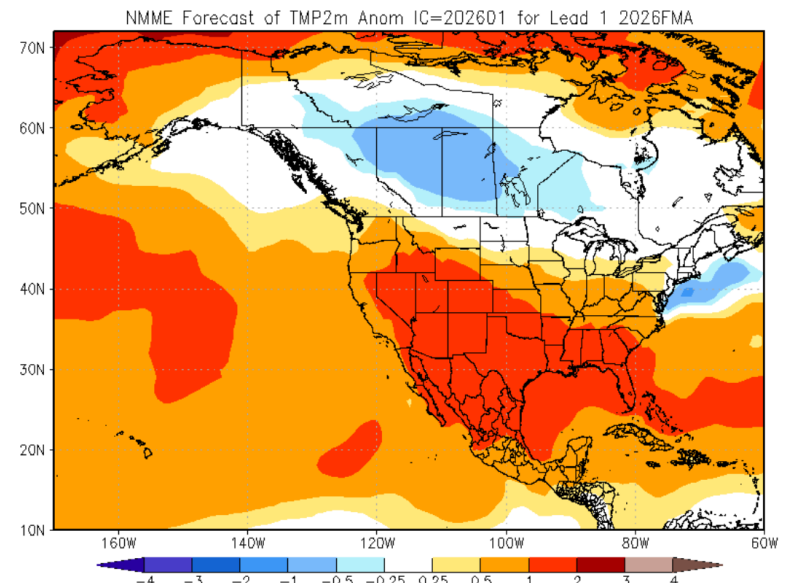


Figure 13: North American Multi-Model Ensemble Temperature Anomaly Outlook for February 1 to April 30, 2026 (Map Courtesy of the US National Weather Service)