

Water Availability and Drought Conditions Report

APRIL 2024

Executive Summary

- This Water Availability and Drought Conditions Report provides an update on conditions throughout Manitoba for April 2024.
- Precipitation conditions over the past month, three month, and twelve month periods are as follows:
 - During April 2024, most of southern Manitoba experienced above normal precipitation conditions. Northern Manitoba experienced precipitation conditions ranging from above normal in the west to extreme dryness (<40 % of median) in the east.
 - Over the past three months (February, March, April), southern Manitoba experienced moderately dry to above normal precipitation conditions. Conditions in northern Manitoba ranged from above normal to extremely dry in the region surrounding Churchill.
 - Over the past 12 months, southern Manitoba observed moderate to severe dryness. Conditions in northern Manitoba were normal to moderately dry with a few areas of severe dryness.
- As of April 30, 2024, water levels in rivers and lakes across Manitoba ranged from much below normal (<10th percentile) to normal (25th – 75th percentile) to above normal (75th – 90th percentile). Flows in the Saskatchewan River are much below normal. Water levels in Lake Winnipeg and Lake Manitoba, and flows in the Winnipeg River are below normal.
- The March 31, 2024 Canadian Drought Monitor assessment classified almost all of Manitoba and upstream drainage basins as having some degree of drought. In Manitoba, conditions range from abnormally dry (D0) to extreme drought (D3). The area of extreme drought (D3) is located in south-central Manitoba. Given above normal precipitation in April, some improvement in drought conditions is expected to be reflected in the end of April drought assessment.
- There are currently no concerns over reservoir water supplies. Except for Lake Minnewasta, provincial water supply reservoirs are at or above full supply levels. Lake Minnewasta is 92 % full and levels are rising due to April rain events.
- Generally, dugouts have been recharged due to snowmelt and spring run-off. However, water levels in some dugouts are still considered low.
- Despite below normal runoff in most areas, water availability during the spring melt period has been sufficient to meet licensed allocations.
- Manitoba Agriculture's soil moisture map for April 28th shows moisture across southern Manitoba at the 0-120 cm depth is a mix of optimal to wet conditions, with pockets of dry or very wet conditions.
- As of April 30th, the fire danger level is moderate to low across the province and there are six active wildfires currently burning in Manitoba. There have been 17 wildfires so far this year with a yearly average of 24 wildfires by this date. All 17 fires have been human caused. As of April 30, 2024, there were no provincial fire or travel restrictions in place. The RMs of Norfolk Treherne, Lorne, Emerson-Franklin, and the Stuartburn have burning restrictions in place.

Drought Indicators

Precipitation Indicator

Precipitation is assessed to determine the severity of meteorological dryness and is an indirect measurement of agricultural dryness.

Three precipitation indicators are calculated to represent short term (one month; Figure 1), medium term (three months; Figure 2) and long term (12 months; Figure 3) conditions. The indicators compare current monthly precipitation totals to historical data to calculate the per cent of median precipitation that occurred over the past one, three or twelve months. Historical medians are computed from 45 years of data (1971 – 2015).

Due to large distances between meteorological stations in northern Manitoba, the interpolated contours in this region are based on limited observations and should be interpreted with caution.

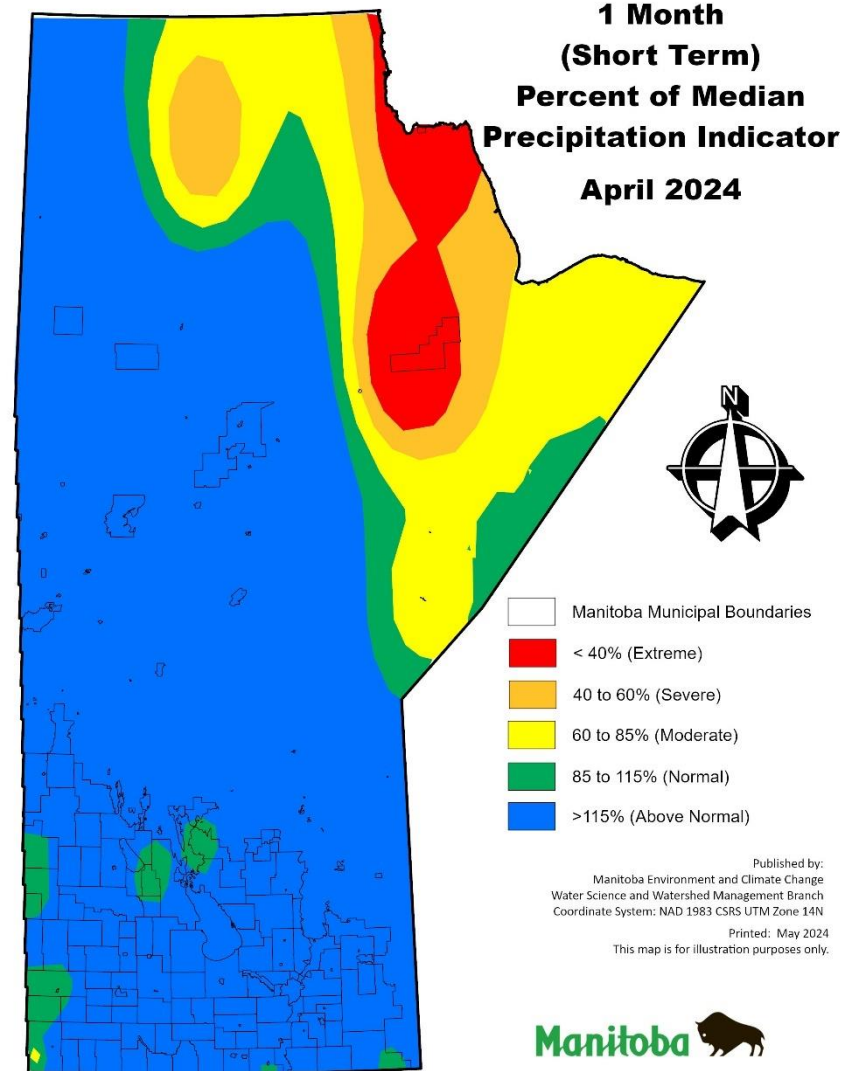


Figure 1: One month (short term) per cent of median precipitation indicator.

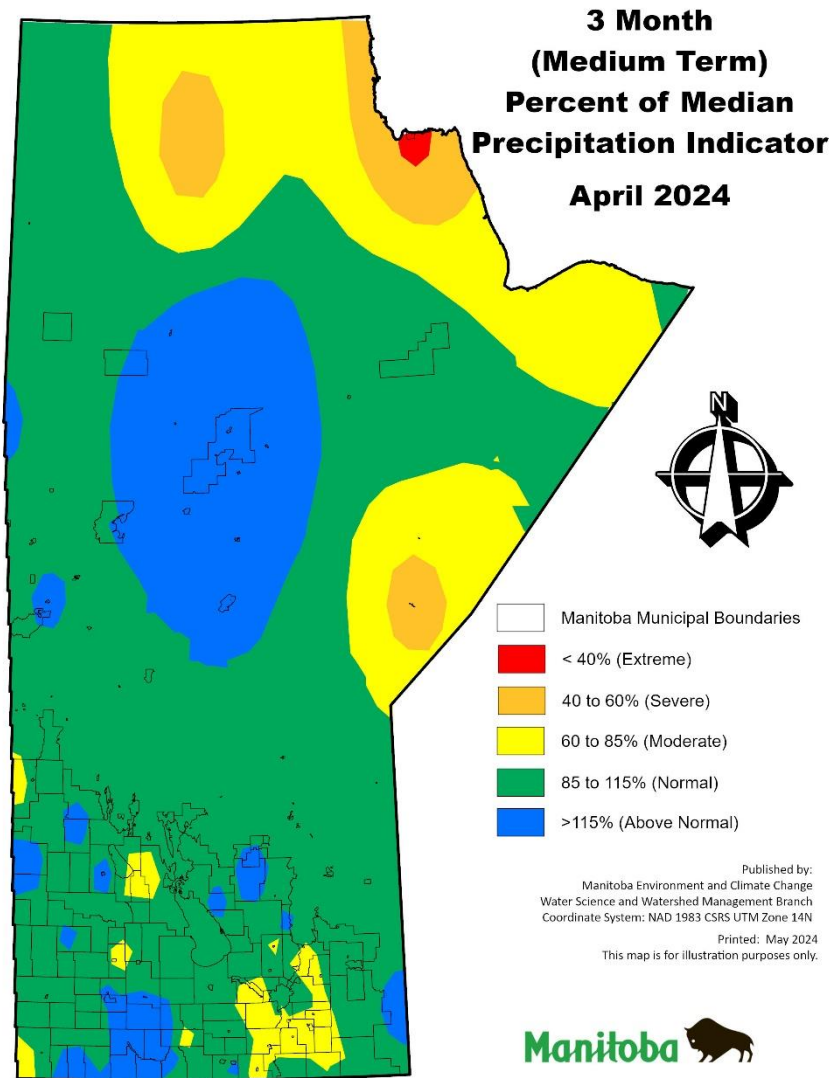


Figure 2: Three month (medium term) per cent of median precipitation indicator.

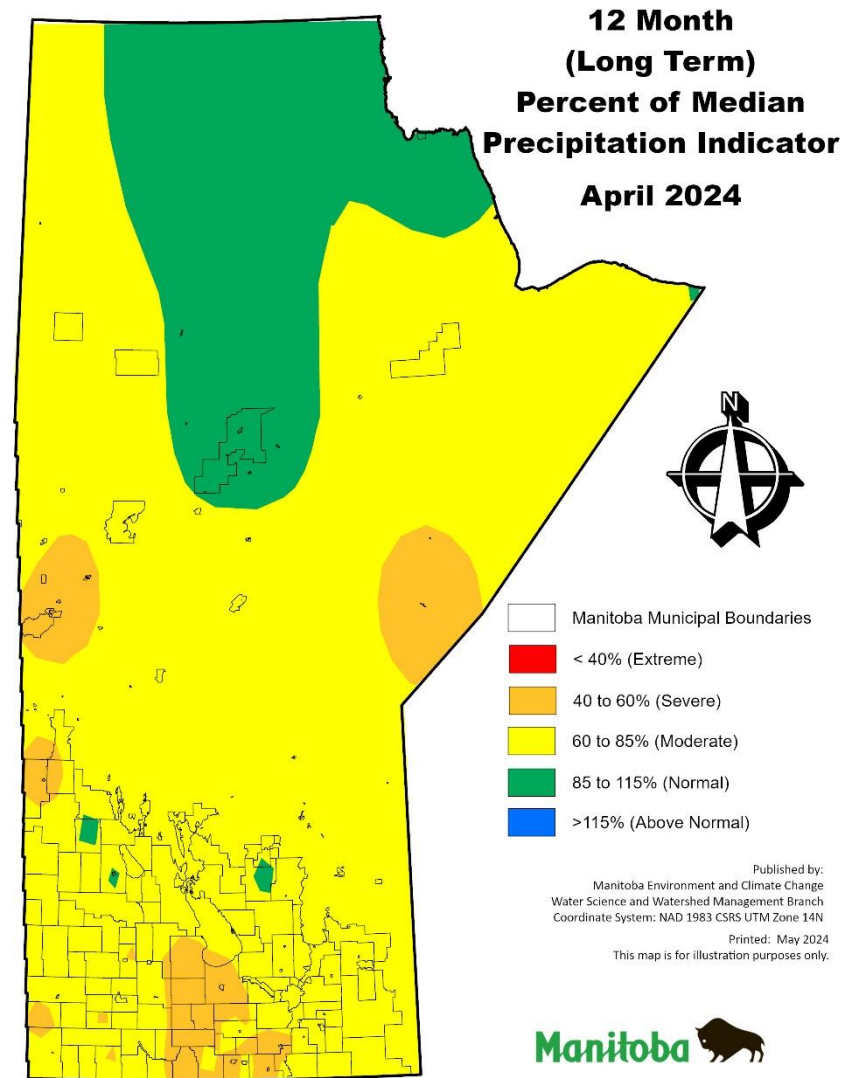


Figure 3: Twelve month (long term) per cent of median precipitation indicator.

Streamflow & Lake Level Indicator

The streamflow and lake level indicator is based on average daily flows and levels compared to historical values for that particular day.

This indicator is used to determine the severity of hydrological dryness in a watershed and is summarized on Figure 4, representing hydrological conditions for April 30, 2024.

Streamflow and lake level percentile plots for all of the rivers and lakes included on Figure 4 are available on the [Manitoba Drought Monitor website](#) under the *Drought Indicator Map* tab.

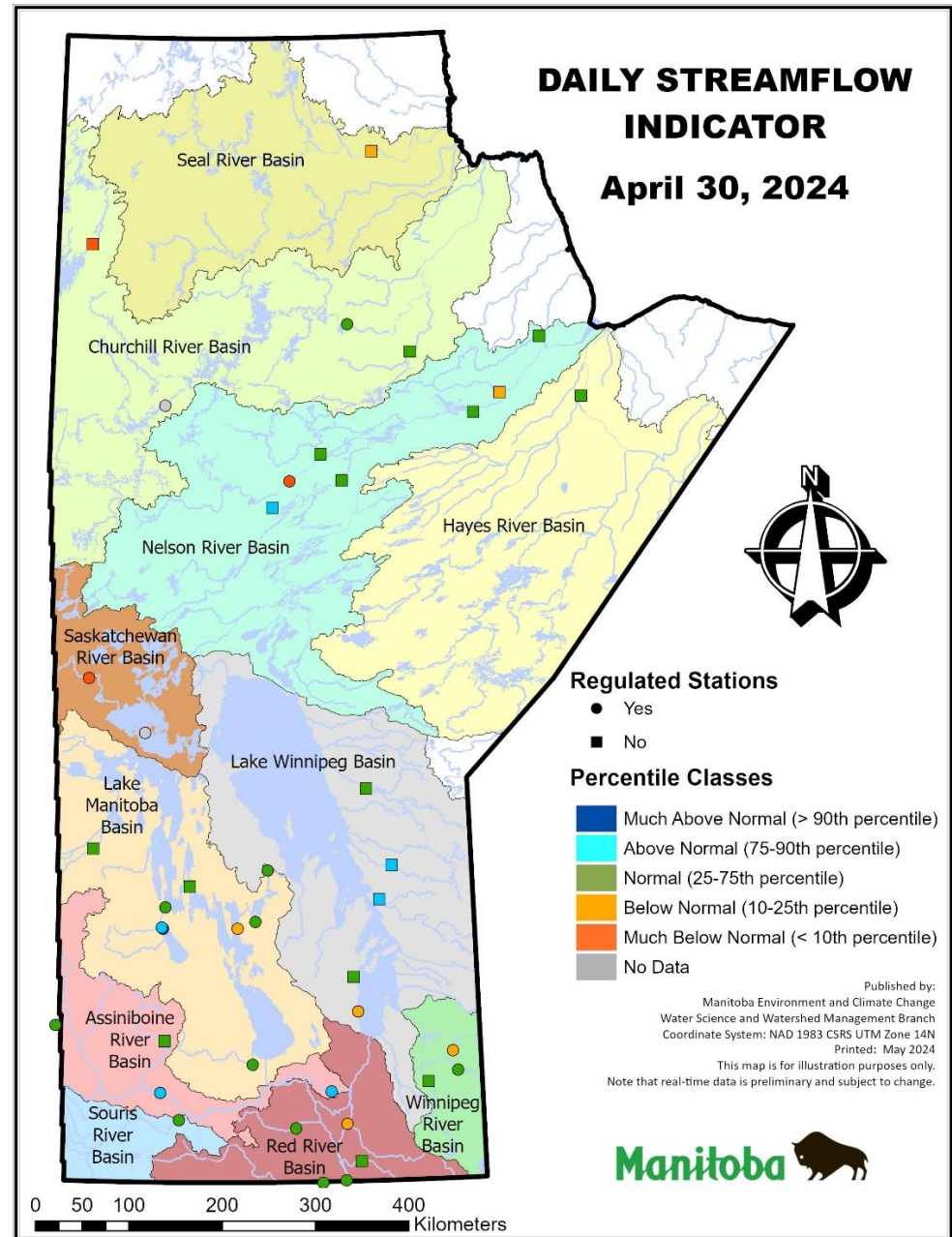


Figure 4: Daily streamflow and lake level indicator for April 30, 2024.

Canada and United States Drought Monitors

The Canadian Drought Monitor and the United States Drought Monitor map the extent and intensity of drought conditions across Canada and the continental U.S.A.

Drought Monitor assessments are based on a suite of drought indicators, impacts data and local reports as interpreted by federal, provincial/state and academic scientists.

The Canadian and United States Drought Monitor maps use the following classification system:

- D0 (Abnormally Dry) – represents an event that occurs every 3 to 5 years;
- D1 (Moderate Drought) – 5 to 10 year event;
- D2 (Severe Drought) – 10 to 20 year event;
- D3 (Extreme Drought) – 20 to 50 year event; and
- D4 (Exceptional Drought) – 50+ year event.

Additionally, the map indicates the duration of drought as either short-term (S; less than 6 months) or long-term (L; more than 6 months) (Figure 5).

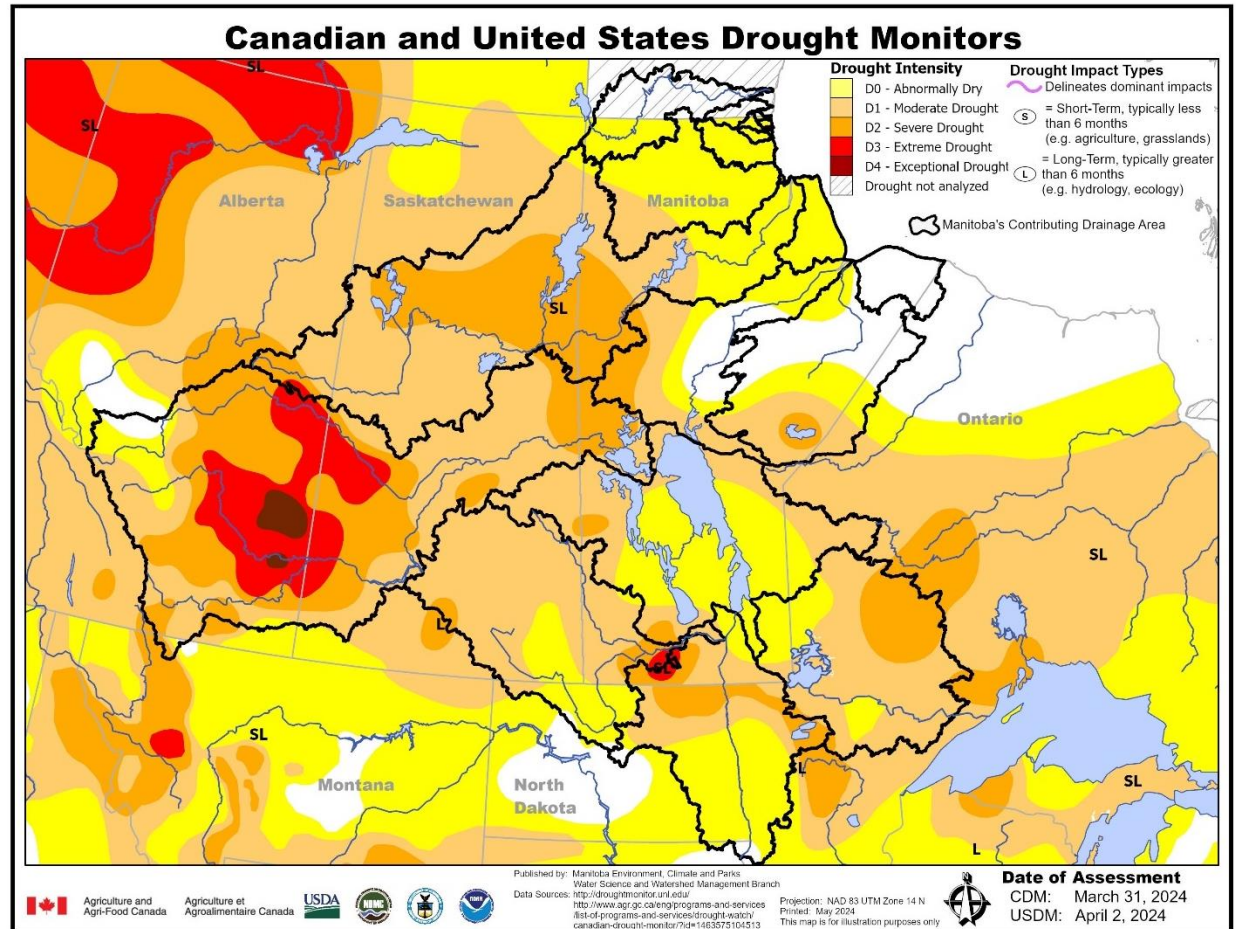


Figure 5: Canadian and United States Drought Monitors' classification of short-term (S) and long-term (L) drought conditions assessed as of March 31, 2024.

Water Availability

Reservoir Conditions

Table 1: Water Supply Reservoir Levels and Storages – April 30, 2024 (Southern and Western Manitoba).

Water Supply Reservoir Levels and Storages - April 30, 2024								
Lake or Reservoir	Community Supplied	Target Level (feet)	Latest Observed Level (feet)	Observed date	Supply Status (Recent - Target) (feet)	Storage at Target Level (acre-feet)	Storage at Observed Level (acre-feet)	Supply Status (observed storage/target storage) (%)
Lake of the Prairies (Shellmouth)* ¹	Brandon, Portage, Cartier Regional Water Co-op	1,402.5	1405.11	April 30, 2024	+2.61	300,000	337,053	112%
Lake Wahtopannah (Rivers)*	Rivers	1,536.0	1538.00	April 30, 2024	+2.00	24,500	29,001	118%
Minnewasta (Morden)*	Morden	1,082.0	1080.40	April 30, 2024	-1.60	3,150	2,886	92%
Stephenfield*	Carman, Pembina Valley Water Co-op	972.0	972.60	April 30, 2024	+0.60	3,810	4,092	107%
Vermilion*	Dauphin	1,274.0	1275.57	April 30, 2024	+1.57	2,600	2,965	114%
Goudney (Pilot Mound)*		1,482.0	1482.25	April 30, 2024	+0.25	450	462	103%
Jackson Lake*		1,174.0	1174.20	April 30, 2024	+0.20	2,990	3,053	102%
Manitou (Mary Jane)*		1,537.0	1536.98	April 30, 2024	-0.02	1,150	1,148	100%
Turtlehead (Deloraine)*	Deloraine	1,772.0	1772.11	April 30, 2024	+0.11	1,400	1,412	101%
Lake Irwin*		1,178.0	1178.12	April 30, 2024	+0.12	3,800	3,879	102%
Minnedosa* ¹		1,681.5	1681.90	April 30, 2024	+0.40	1,558	1,662	107%
Boissevain*	Boissevain	1,697.0	1698.60	April 30, 2024	+1.60	505	639	127%
Elgin*		1,532.0	1532.07	April 30, 2024	+0.07	520	525	101%
St. Malo*		840.0	840.70	April 30, 2024	+0.70	1,770	1,885	107%
Kenton Reservoir		1,448.0	1448.03	April 30, 2024	+0.03	600	601	100%
Killarney Lake		1,615.0	1615.33	April 30, 2024	+0.33	7,360	7,512	102%

¹ Summer target level and storage
 * Real-time water level gauge

On Farm Water Supply

On farm water supply updates from Manitoba Agriculture’s Crop Report Issue 1 (April 30, 2024) are provided in Table 2.

Table 2: On Farm Water Supply (Dugout) Conditions.

Region	General Dugout Condition
Eastern	Water supplies are adequate. Dugouts have been recharged due to snowmelt and spring run-off; however, water levels in some areas are still considered low.
Interlake	
Southwest	
Central	
Northwest	

Soil Moisture

A regional representation of soil moisture conditions for the top 120 cm relative to the field capacity is shown on Figure 6.

The colours on the map represent measured soil moisture values from automated instruments at sites across Manitoba. Qualitative range (very dry to very wet) is based on the amount of current soil moisture relative to field capacity. Field Capacity is defined as the maximum amount of moisture the soil can hold when drainage due to gravity stops.

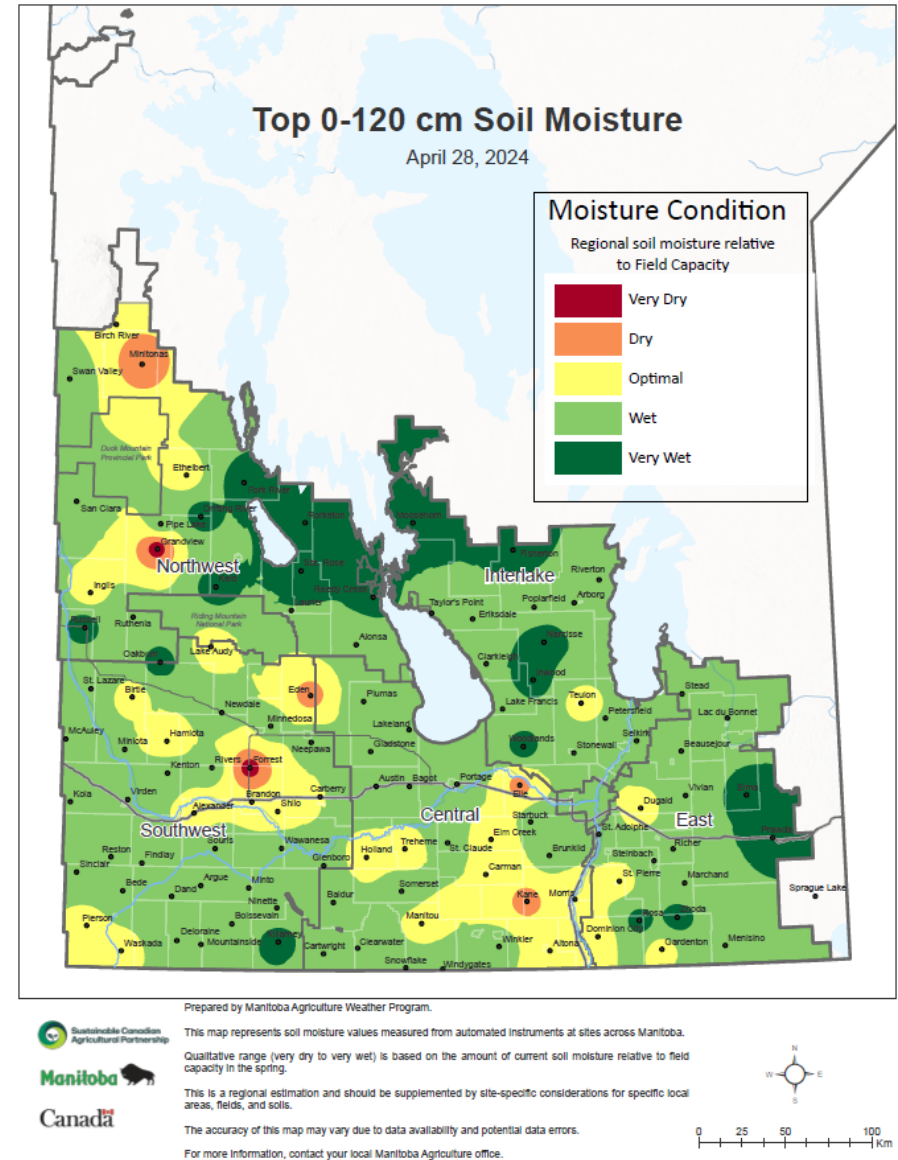


Figure 6: Manitoba Agriculture’s April 28, 2024 mapping of soil moisture conditions in the top 0 – 120 cm.

Wildland Fires

On April 30th, the Manitoba Wildfire Service advised the fire danger level is moderate to low across the province. There were six active wildfires currently burning in Manitoba. There have been 17 wildfires so far this year with a yearly average of 24 wildfires by this date. All 17 fires have been human caused.

As of April 30th, 2024, there were no provincial fire or travel restrictions in place. The RMs of Norfolk Treherne, Lorne, Emerson-Franklin, and the Stuartburn have burning restrictions in place.

Impacts due to Dry Conditions

To date, there have been no impacts due to dry conditions in 2024.

Past reports, drought mapping and other information and resources are available on the [Manitoba Drought Monitor](#) website.

For further information, please contact:

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Acknowledgements

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Manitoba Transportation and Infrastructure:

Reservoir level information:

<https://www.gov.mb.ca/mit/floodinfo/index.html>

Manitoba Wildfire Service:

<https://www.gov.mb.ca/sd/fire/>

Manitoba Agriculture:

Crop Reports:

<http://www.gov.mb.ca/agriculture/crops/seasonal-reports/crop-report-archive/index.html>

Topsoil moisture conditions:

<https://www.gov.mb.ca/agriculture/weather/weather-conditions-and-reports.html>

Environment and Climate Change Canada:

Flow and lake level information:

http://www.wateroffice.ec.gc.ca/index_e.html

Agriculture and Agri-Food Canada:

Canadian Drought Monitor:

<https://agriculture.canada.ca/en/agriculture-and-environment/drought-watch-and-agroclimate/canadian-drought-monitor>

United States Drought Monitor:

<https://droughtmonitor.unl.edu/>