

Manitoba Water Availability and Drought Conditions Report

JULY 2024

Executive Summary

- This Water Availability and Drought Conditions Report provides an update on conditions throughout Manitoba for July 2024.
- Precipitation conditions over the past month, three-month, and twelve-month periods are as follows:
 - During July 2024, the Interlake and southeast Manitoba experienced normal to above normal precipitation conditions while the rest of Manitoba experienced moderately to severely dry conditions.
 - Over the past three months (May, June, July), southern Manitoba experienced normal to above normal precipitation conditions. Northern Manitoba experienced moderately dry to above normal conditions.
 - Over the past 12 months, normal to moderately dry conditions have been experienced across Manitoba.
- As of July 31, 2024, water levels in rivers and lakes across southern Manitoba ranged from normal (25th – 75th percentile) to much above normal (> 90th percentile). Lake Winnipeg has improved and is now in the normal (25th – 75th percentile) category. Rivers in northern Manitoba range from below normal (10th – 25th percentile) to much above normal (> 90th percentile).
- The June 30, 2024, Canadian Drought Monitor assessment showed significant improvement in drought classification across Manitoba, with only abnormally dry (D0) conditions in the Swan River area and in a few areas in Northern Manitoba. With hot dry conditions in July, it is expected that some abnormally dry conditions will be reflected in the end of July drought assessment.
- There are currently no concerns over reservoir water supplies. At the end of July, all provincial water supply reservoirs are near or above full supply levels.
- Regarding on-farm water supplies, dugouts are 95% full.
- Manitoba Agriculture's soil moisture map for July 28, 2024 shows that moisture across southern Manitoba at the 0-120 cm depth has developed some dry to very dry areas with the hot dry weather in July. Generally, most areas have optimal or wet conditions.
- On July 31, 2024, the fire danger is mainly moderate to high for the province. There were 58 active wildfires burning in Manitoba. There have been 175 wildfires to date, Manitoba's 20-year average is 283 wildfires by this date. As of July 31, 2024, there were no provincial fire or travel restrictions in place. The RMs of Kelsey, Lorne and Emerson-Franklin, as well as the Town of Grand Rapids, 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 12 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.

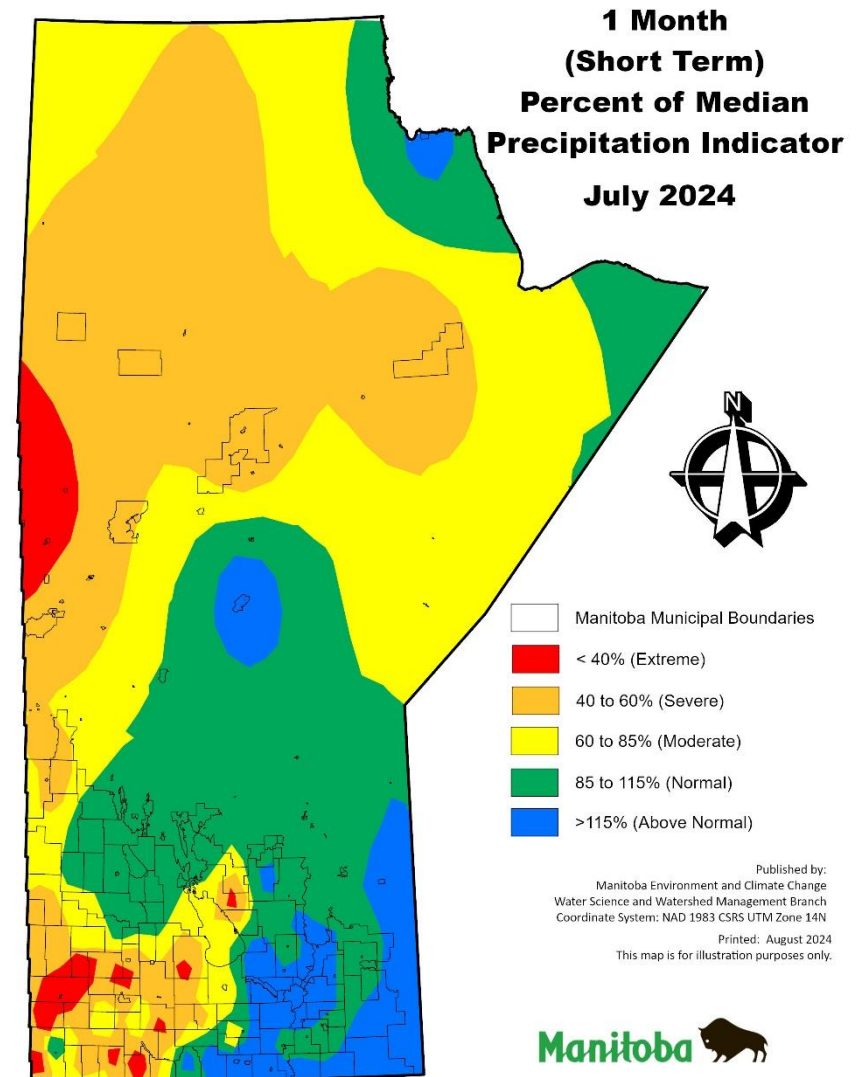


Figure 1: One month (short-term) percent of median precipitation indicator.

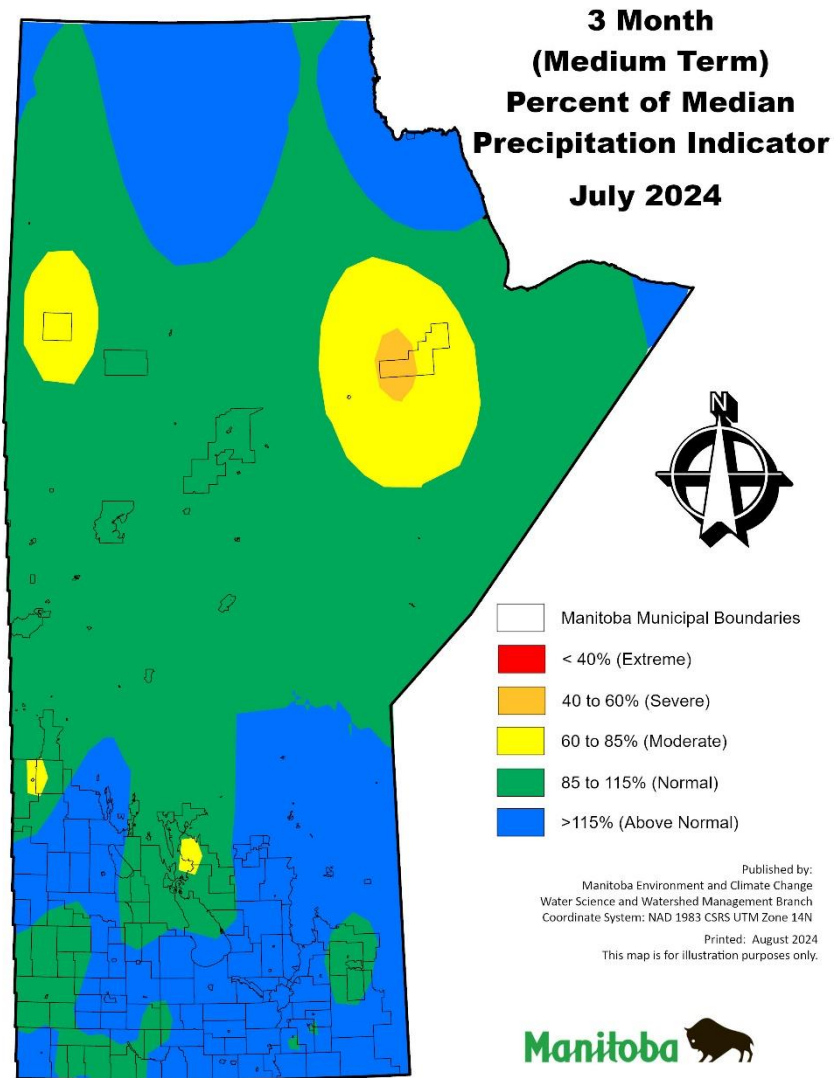


Figure 2: Three month (medium-term) percent of median precipitation indicator.

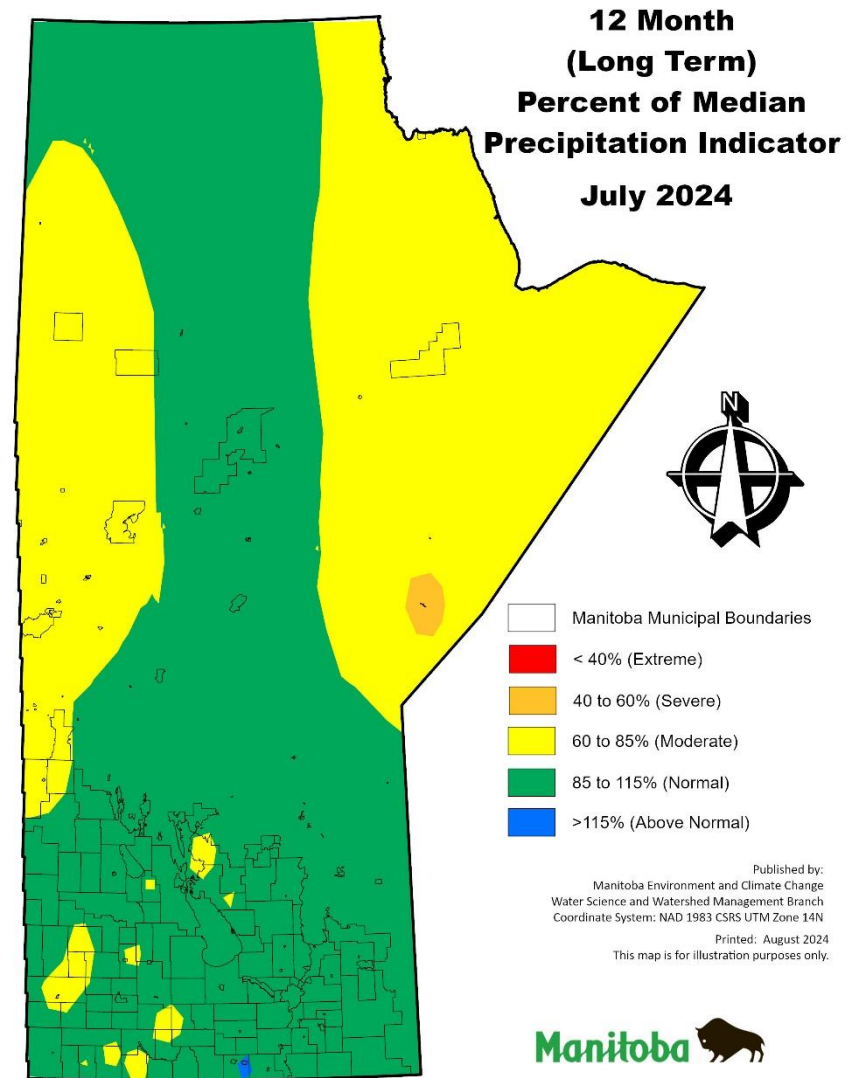


Figure 3: Twelve month (long-term) percent of median precipitation indicator.

Streamflow and 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 July 31, 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.

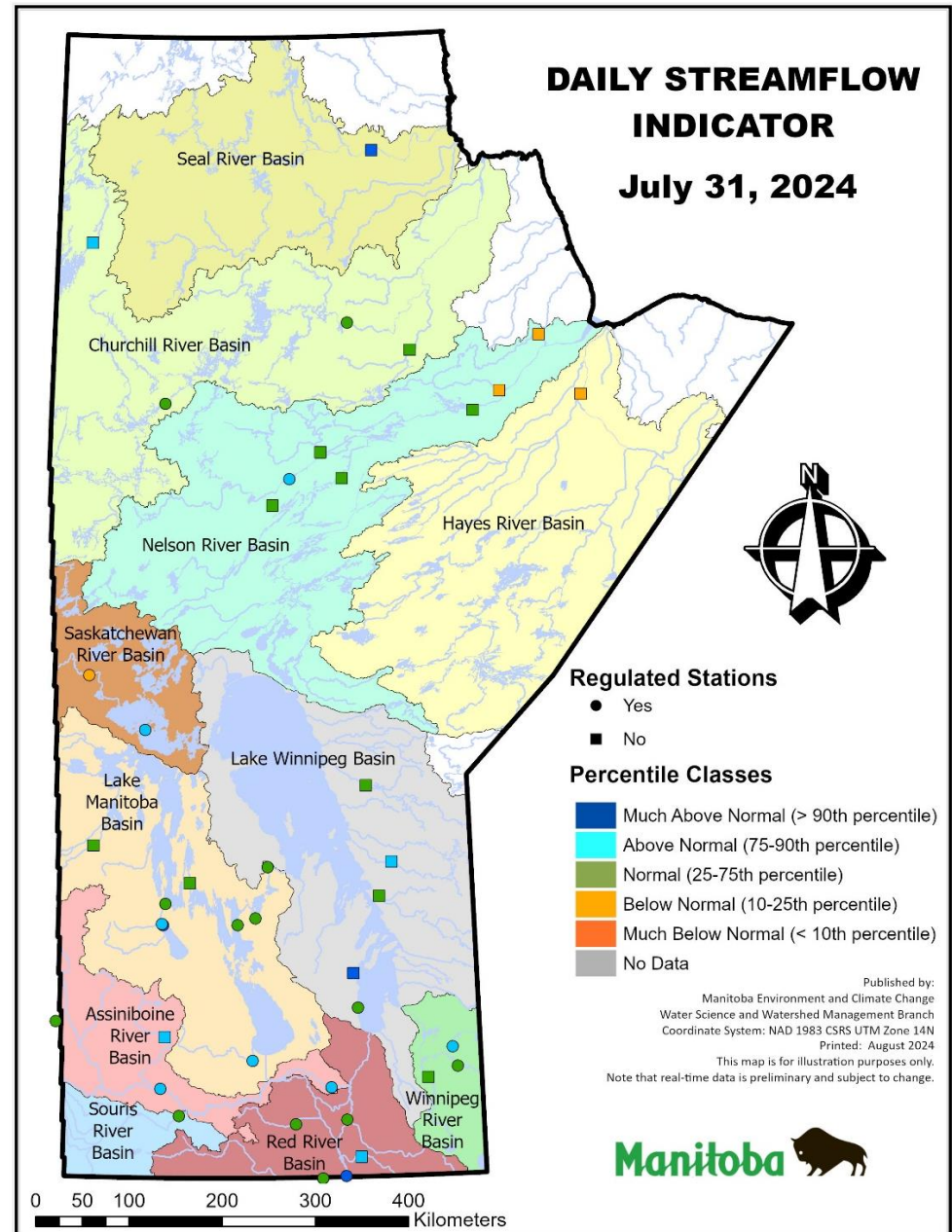


Figure 4: Daily streamflow and lake level indicator for July 31, 2024.

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 three to five years
- D1 (Moderate Drought) – five to 10 year event
- D2 (Severe Drought) – 10 to 20 year event
- D3 (Extreme Drought) – 20 to 50 year event
- D4 (Exceptional Drought) – 50+ year event

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

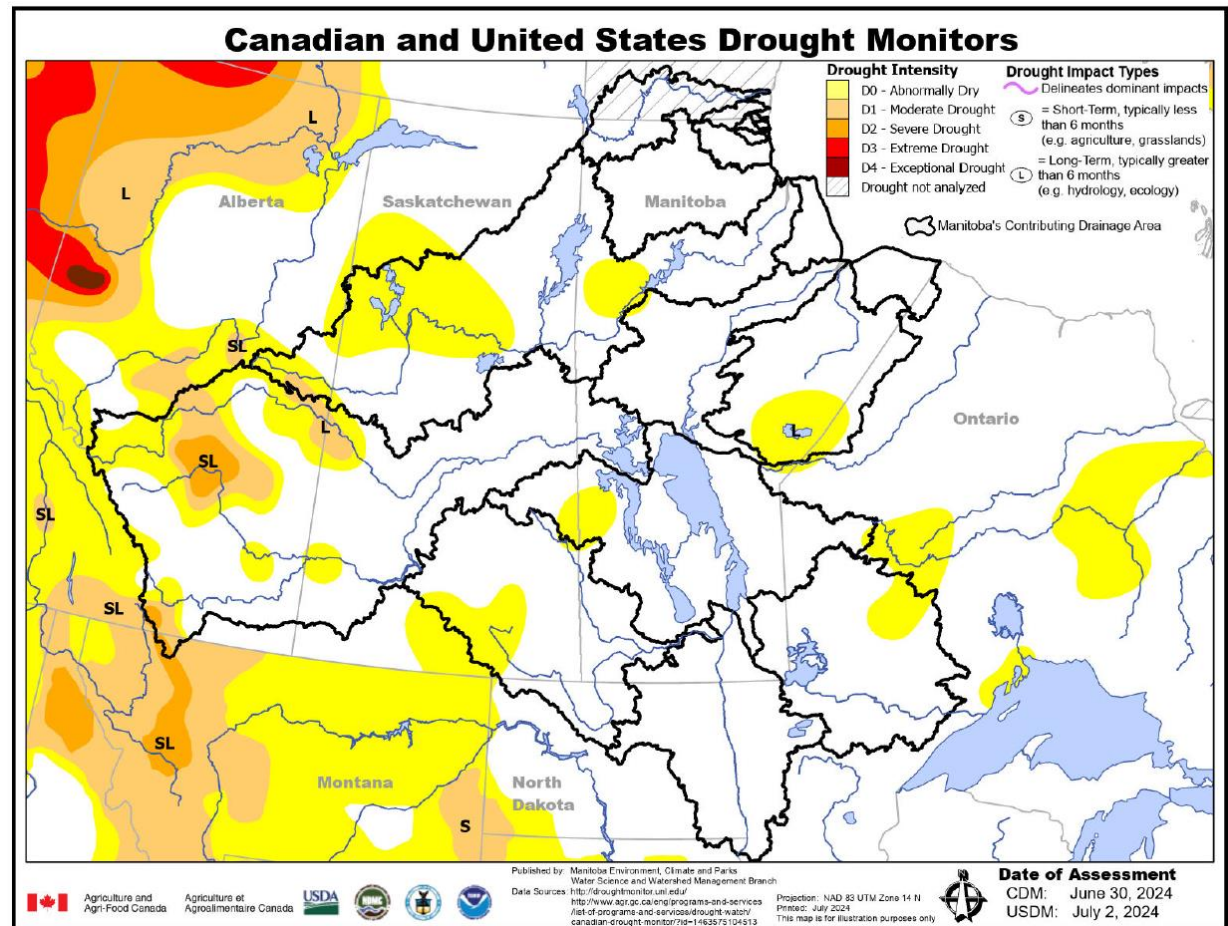


Figure 5: Canadian and United States Drought Monitors' classification of short-term (S) and long-term (L) drought conditions assessed as of June 30, 2024.

Water Availability

Reservoir Conditions

Table 1: Water Supply Reservoir Levels and Storages – July 31, 2024 (Southern and Western Manitoba).¹

Water Supply Reservoir Levels and Storages - July 31, 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	1404.04	July 31, 2024	+1.54	300,000	321,356	107%
Lake Wahtopanah (Rivers)*	Rivers	1,536.0	1537.28	July 31, 2024	+1.28	24,500	27,379	112%
Minnewasta (Morden)*	Morden	1,082.0	1082.11	July 31, 2024	+0.11	3,150	3,165	100%
Stephenfield*	Carman, Pembina Valley Water Co-op	972.0	972.56	July 31, 2024	+0.56	3,810	4,073	107%
Vermilion*	Dauphin	1,274.0	1274.00	July 31, 2024	-0.00	2,600	2,599	100%
Goudney (Pilot Mound)*		1,482.0	1482.28	July 31, 2024	+0.28	450	464	103%
Jackson Lake*		1,174.0	1173.98	July 31, 2024	-0.02	2,990	2,986	100%
Manitou (Mary Jane)*		1,537.0	1536.86	July 31, 2024	-0.14	1,150	1,137	99%
Turtlehead (Deloraine)*	Deloraine	1,772.0	1771.87	July 31, 2024	-0.13	1,400	1,394	100%
Lake Irwin*		1,178.0	1178.22	July 31, 2024	+0.22	3,800	3,941	104%
Minnedosa* ¹		1,681.5	1682.10	July 31, 2024	+0.60	1,558	1,715	110%
Boissevain*	Boissevain	1,697.0	1698.43	July 31, 2024	+1.43	505	625	124%
Elgin*		1,532.0	1532.03	July 31, 2024	+0.03	520	522	100%
St. Malo*		840.0	840.71	July 31, 2024	+0.71	1,770	1,887	107%
Kenton Reservoir		1,448.0	1447.79	July 31, 2024	-0.21	600	584	97%
Killarney Lake		1,615.0	1615.82	July 3, 2024	+0.82	7,360	7,737	105%

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 14 (July 30, 2024) are provided in Table 2.

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

Region	General Dugout Condition
Eastern	Dugouts are 85% full
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.

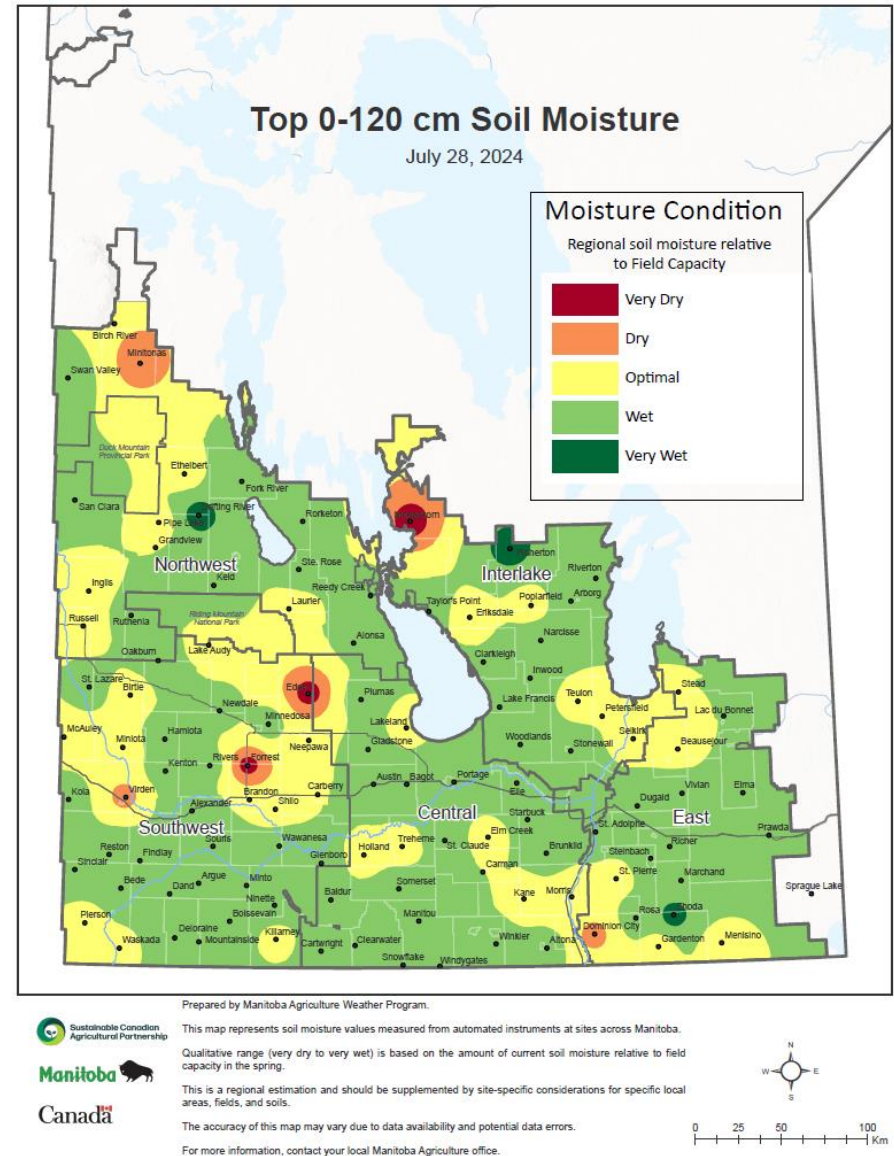


Figure 6: Manitoba Agriculture’s July 28, 2024, mapping of soil moisture conditions in the top 0–120 cm.

Wildland Fires

On July 31, 2024, the Manitoba Wildfire Service advises that the fire danger is mainly moderate to high for the province. There were 58 active wildfires burning in Manitoba. There have been 175 wildfires to date; Manitoba's 20-year average is 283 wildfires by this date. Due to ongoing lightning activity across the province, Manitoba Wildfire Service anticipates there will be several new fires daily across the province.

As of July 31, 2024, there were no provincial fire or travel restrictions in place. The RMs of Kelsey, Lorne and Emerson-Franklin and the Town of Grand Rapids have burning restrictions in place.

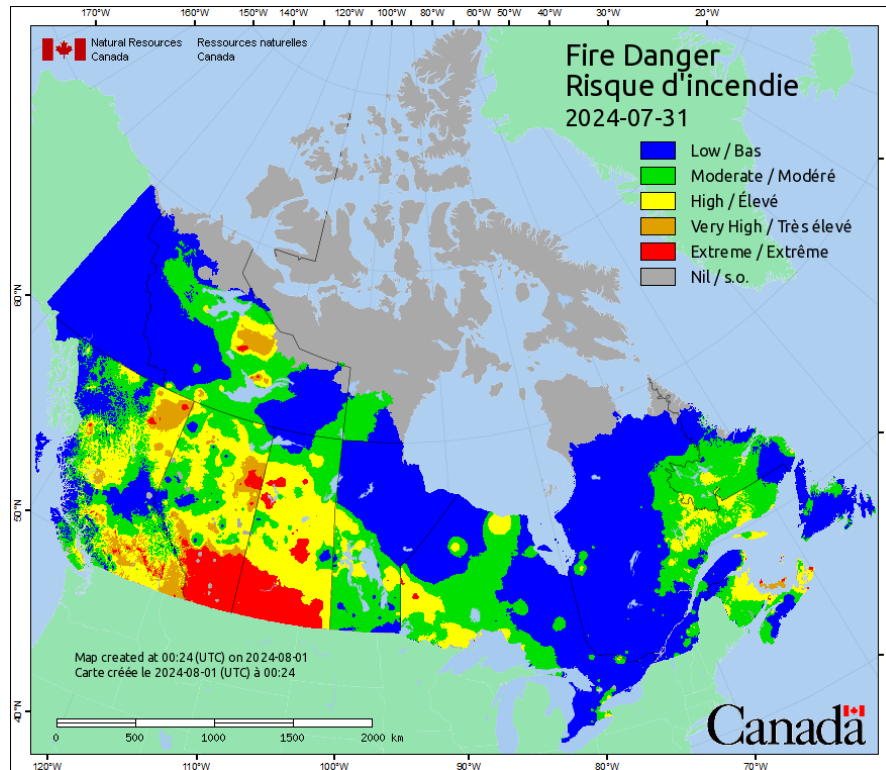


Figure 7: Fire Danger mapping by Natural Resources Canada.

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

This report was prepared with information from the following sources which are gratefully acknowledged:

Manitoba Transportation and Infrastructure

Reservoir level information:

www.manitoba.ca/mit/floodinfo/index.html

Manitoba Wildfire Service

www.manitoba.ca/sd/fire/

Manitoba Agriculture

Crop Reports:

www.manitoba.ca/agriculture/crops/seasonal-reports/crop-report-archive/index.html

Topsoil moisture conditions:

www.manitoba.ca/agriculture/weather/weather-conditions-and-reports.html

Environment and Climate Change Canada

Flow and lake level information:

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

Agriculture and Agri-Food Canada

Canadian Drought Monitor:

agriculture.canada.ca/en/agriculture-and-environment/drought-watch-and-agroclimate/canadian-drought-monitor

United States Drought Monitor

droughtmonitor.unl.edu/