

Manitoba Water Availability and Drought Conditions Report

SEPTEMBER 2024

Executive Summary

- This Water Availability and Drought Conditions Report provides an update on conditions throughout Manitoba for September 2024.
- Precipitation conditions over the past month, three-month, and twelve-month periods are as follows:
 - During September 2024, southeast Manitoba experienced above normal precipitation conditions while the rest of southern Manitoba, the Interlake and northeast Manitoba experienced dry to severely dry precipitation conditions. Northwest Manitoba experienced above normal precipitation.
 - Over the past three months (July, August, September), most of Manitoba experienced moderately dry to normal conditions. Pockets of above normal conditions were experienced in the southeast and central Manitoba, and severely dry conditions were experienced along the Saskatchewan border.
 - Over the past 12 months, normal to moderately dry conditions have been experienced across Manitoba with a few pockets of above normal conditions.
- As of September 30, 2024, water levels in rivers and lakes across southern Manitoba ranged from normal (25th – 75th percentile) to above normal (75th – 90th percentile) with the Boyne, Qu'Appelle and Icelandic Rivers much below normal (<10th percentile). Rivers in northern Manitoba range from much below normal (<10th percentile) to normal (25th – 75th percentile).
- The August 31, 2024, Canadian Drought Monitor assessment showed southern Manitoba without any drought classification, but significant expansion of drought classification in northern Manitoba including an area of severe drought (D2) along the western area bordering Saskatchewan.
- There are currently no concerns over reservoir water supplies. At the end of September, all provincial water supply reservoirs are near full supply levels or at typical drawdown levels for the season. Lake Wahtopanah (Rivers Reservoir) is being drawn down for a dam construction project this fall.
- Regarding on-farm water supplies, dugouts are reported to be adequate.
- Manitoba Agriculture's soil moisture map for September 30, 2024 shows that moisture across southern Manitoba at the 0-120 cm depth remains mostly optimum to wet, with a few dry areas in the northwest and Interlake areas.
- On September 9, 2024, the fire danger was moderate across the province, except for the western edge where it remains in high to extreme fire danger. There were 65 active wildfires burning in Manitoba. There have been 291 wildfires to date, Manitoba's 20-year average is 356 wildfires by this date. Potential remains for lightning and human caused wildfires. As of October 1, 2024, there were no provincial fire or travel restrictions in place. The RMs of Kelsey, Lorne and Emerson-Franklin 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.

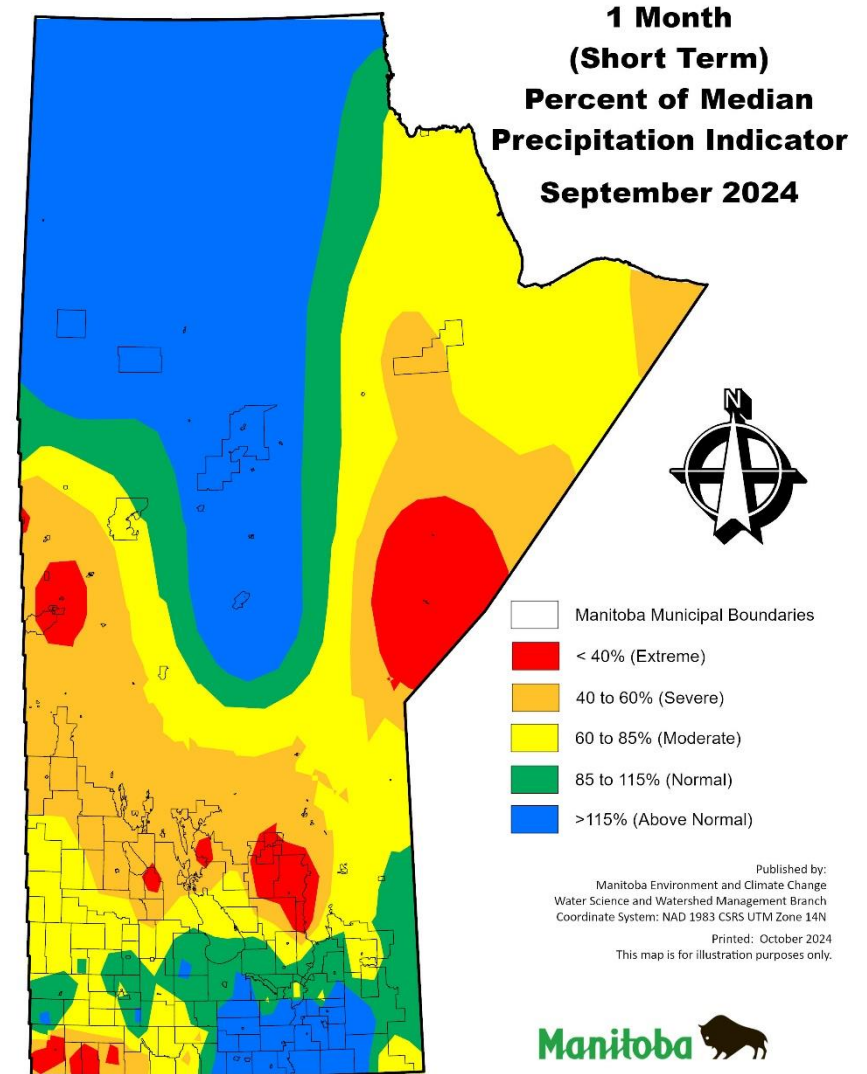


Figure 1: One month (short-term) percent of median precipitation indicator.

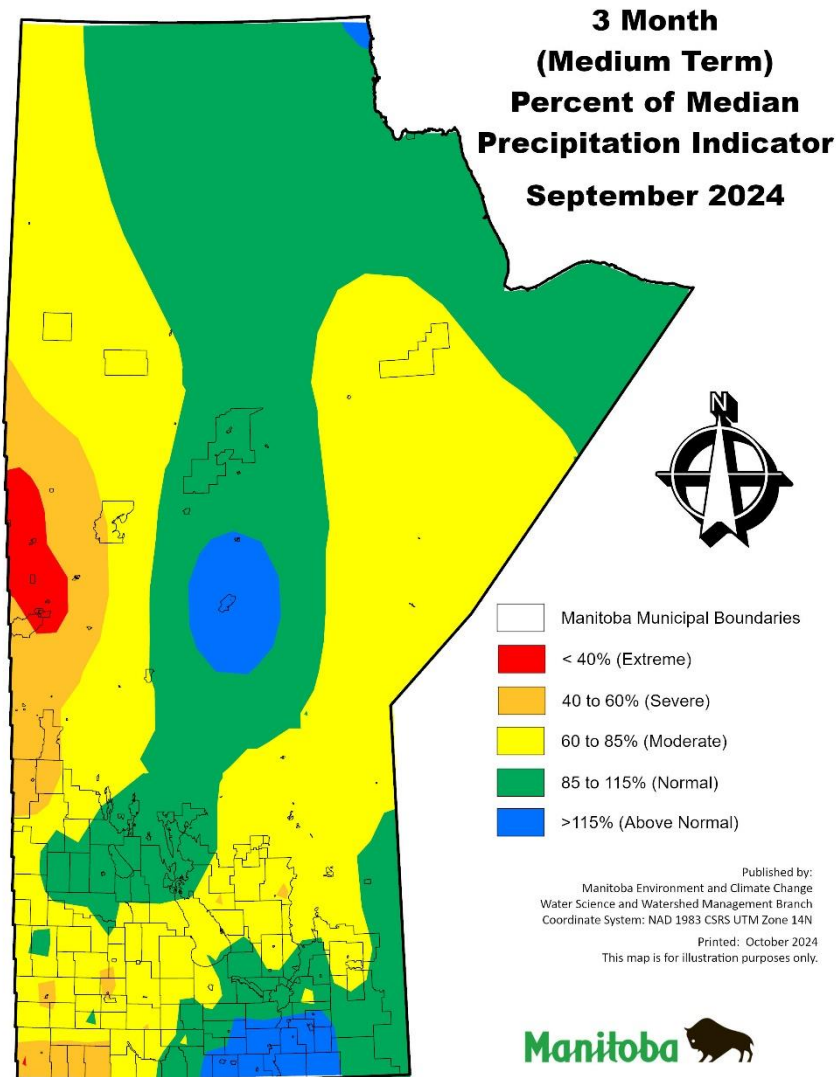


Figure 2: Three month (medium-term) percent of median precipitation indicator.

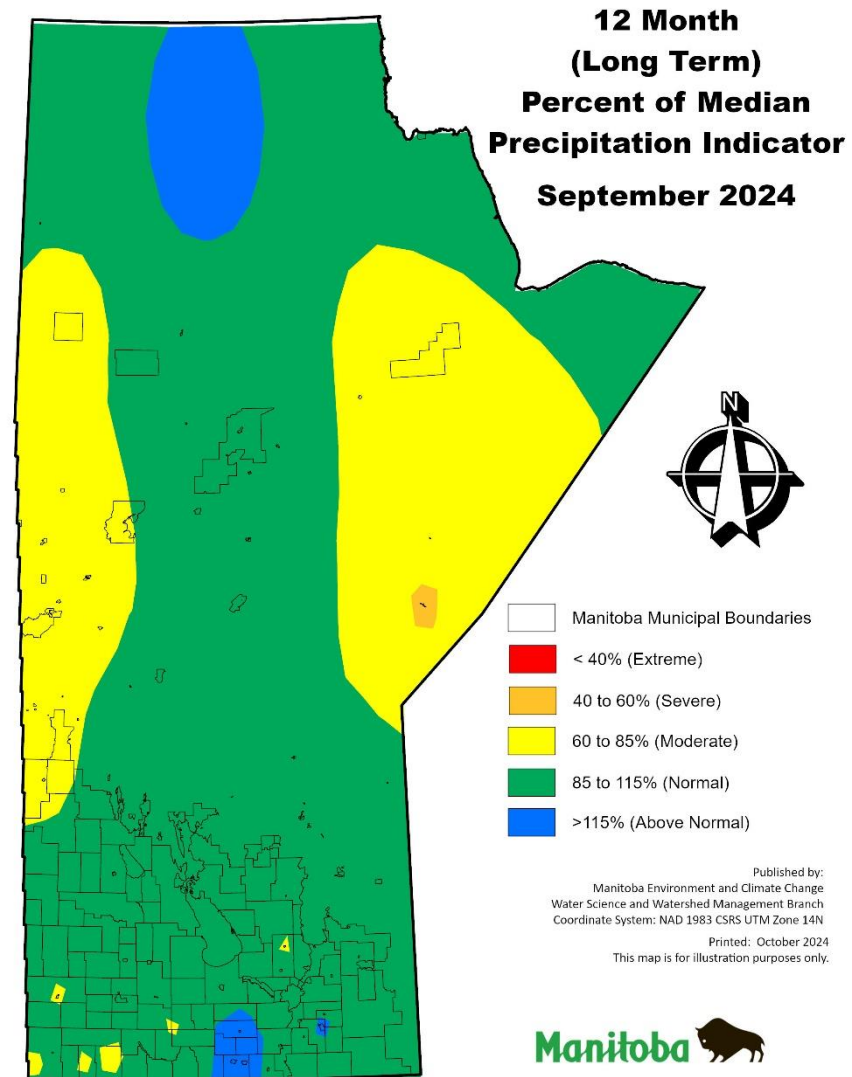


Figure 3: Twelve month (long-term) percent of median precipitation indicator.

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 September 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.

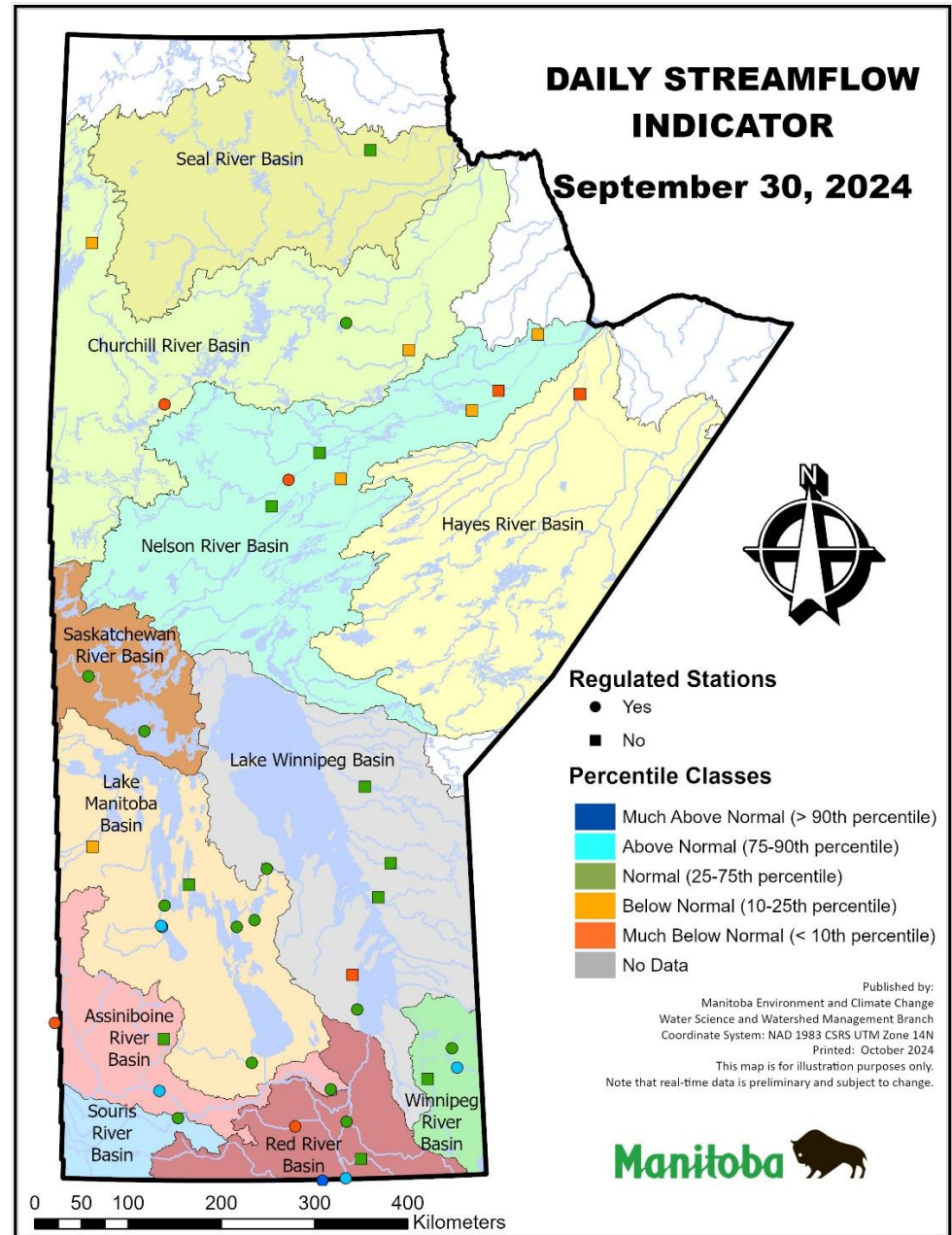


Figure 4: Daily streamflow and lake level indicator for September 30, 2024.

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 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).

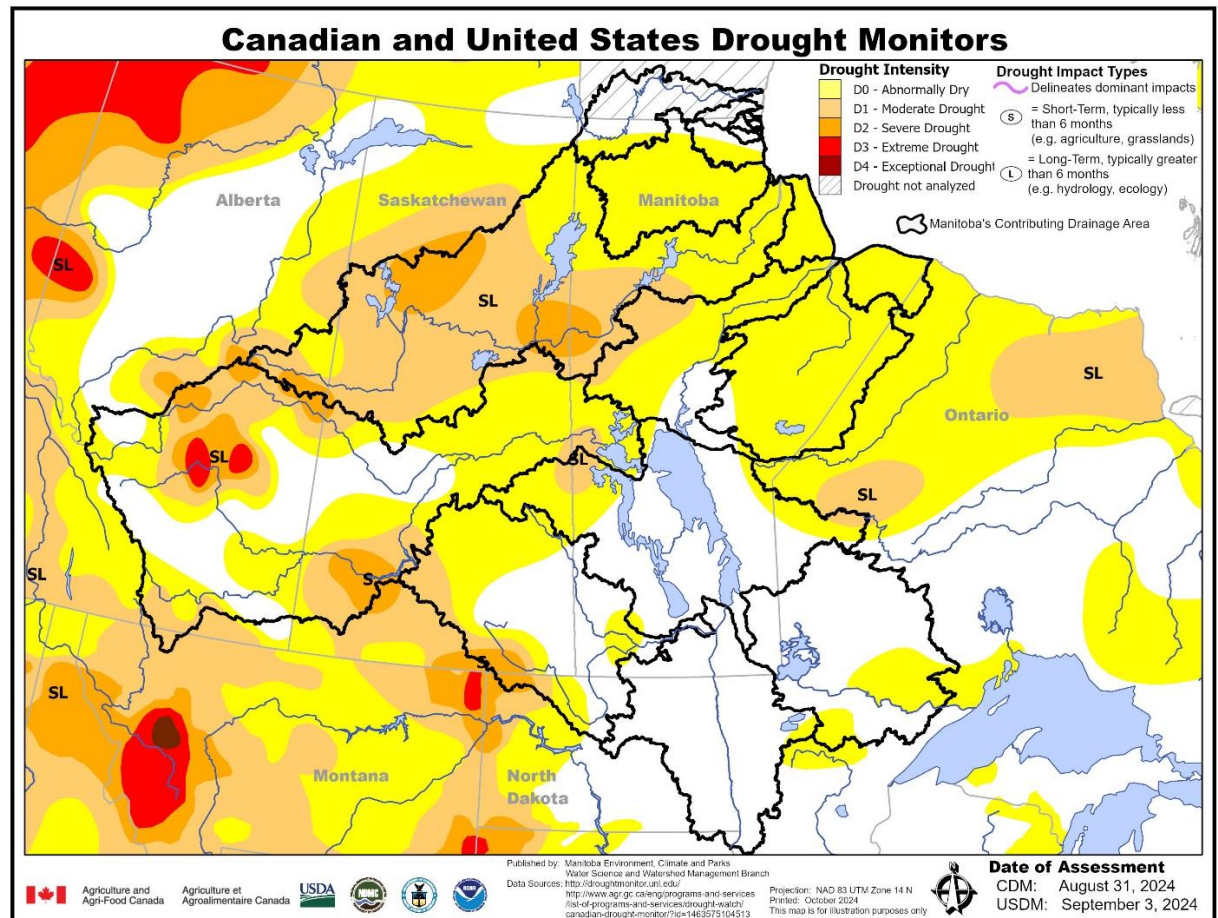


Figure 5: Canadian and United States Drought Monitors' classification of short-term (S) and long-term (L) drought conditions assessed as of August 31, 2024.

Water Availability

Reservoir Conditions

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

Water Supply Reservoir Levels and Storages - September 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	1401.12	September 30, 2024	-1.38	300,000	282,975	94%
Lake Wahtopannah (Rivers)*	Rivers	1,536.0	1534.74	September 30, 2024	-1.26	24,500	23,119	94%
Minnewasta (Morden)*	Morden	1,082.0	1082.10	September 30, 2024	+0.10	3,150	3,164	100%
Stephenfield*	Carman, Pembina Valley Water Co-op	972.0	969.96	September 30, 2024	-2.04	3,810	2,870	75%
Vermilion*	Dauphin	1,274.0	1274.11	September 30, 2024	+0.11	2,600	2,626	101%
Goudney (Pilot Mound)*		1,482.0	1482.00	September 30, 2024	+0.00	450	450	100%
Jackson Lake*		1,174.0	1173.15	September 30, 2024	-0.85	2,990	2,776	93%
Manitou (Mary Jane)*		1,537.0	1536.31	September 30, 2024	-0.69	1,150	1,088	95%
Turtlehead (Deloraine)*	Deloraine	1,772.0	1770.47	September 30, 2024	-1.53	1,400	1,318	94%
Lake Irwin*		1,178.0	1177.22	September 30, 2024	-0.78	3,800	3,334	88%
Minnedosa ¹		1,681.5	1682.04	September 30, 2024	+0.54	1,558	1,698	109%
Boissevain*	Boissevain	1,697.0	1697.43	September 30, 2024	+0.43	505	539	107%
Elgin*		1,532.0	1531.06	September 30, 2024	-0.94	520	454	87%
St. Malo*		840.0	840.37	September 30, 2024	+0.37	1,770	1,832	103%
Kenton Reservoir		1,448.0	1447.18	September 30, 2024	-0.82	600	539	90%
Killarney Lake		1,615.0	1614.78	September 30, 2024	-0.22	7,360	7,257	99%

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

On-Farm Water Supply

On-farm water supply from Manitoba Agriculture’s Crop Report Issue 22 (September 24, 2024) are reported to be adequate. Dugouts in areas that experienced heavy rain in September have recharged.

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.

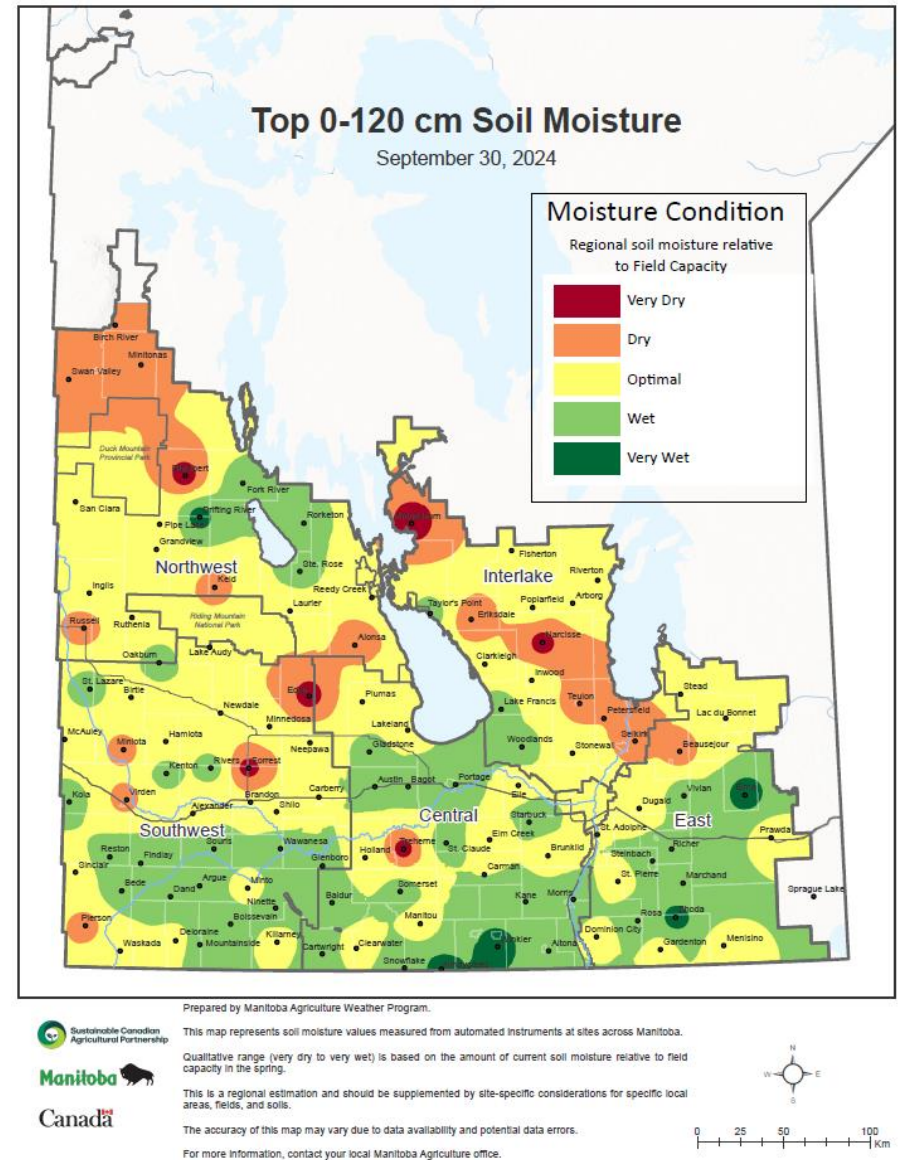


Figure 6: Manitoba Agriculture’s September 30, 2024, mapping of soil moisture conditions in the top 0–120 cm.

Wildland Fires

On September 9, 2024, the Manitoba Wildfire Service advised that fire danger was moderate across the province, except for the western edge where it remains in high to extreme fire danger. There were 65 active wildfires burning in Manitoba. There have been 291 wildfires to date, Manitoba's 20-year average is 356 wildfires by this date. Potential remains for lightning and human caused wildfires.

As of October 1, 2024, there were no provincial fire or travel restrictions in place. The RMs of Kelsey, Lorne and Emerson-Franklin have burning restrictions in place.

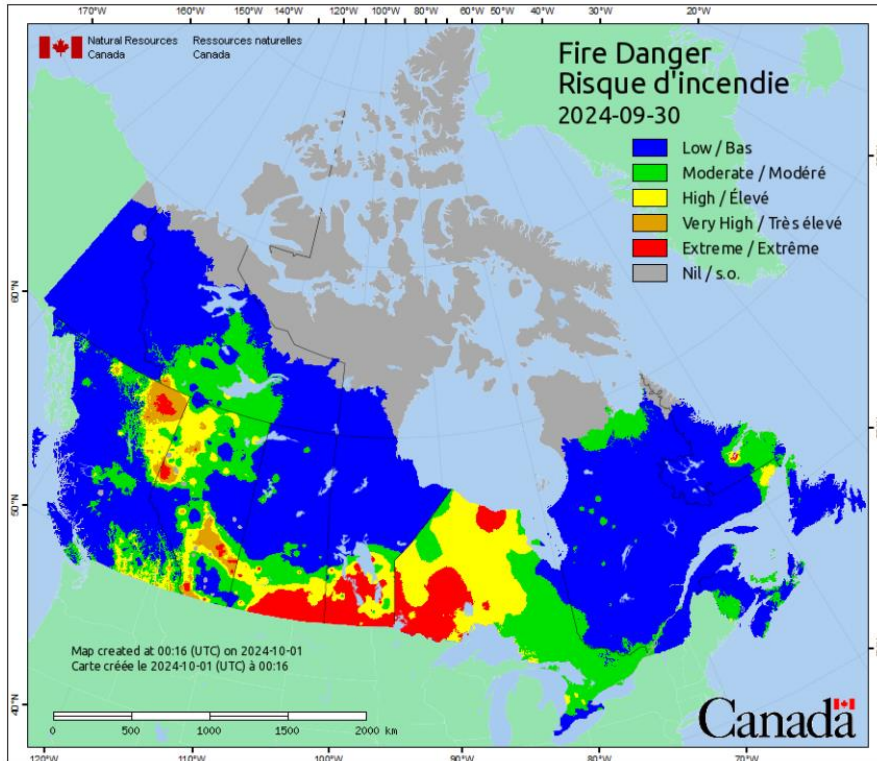


Figure 7: Fire Danger mapping by Natural Resources Canada.

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/