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# Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

JUNE 30,1983 | (Aussi disponible en français) | VOL.5 NO.26

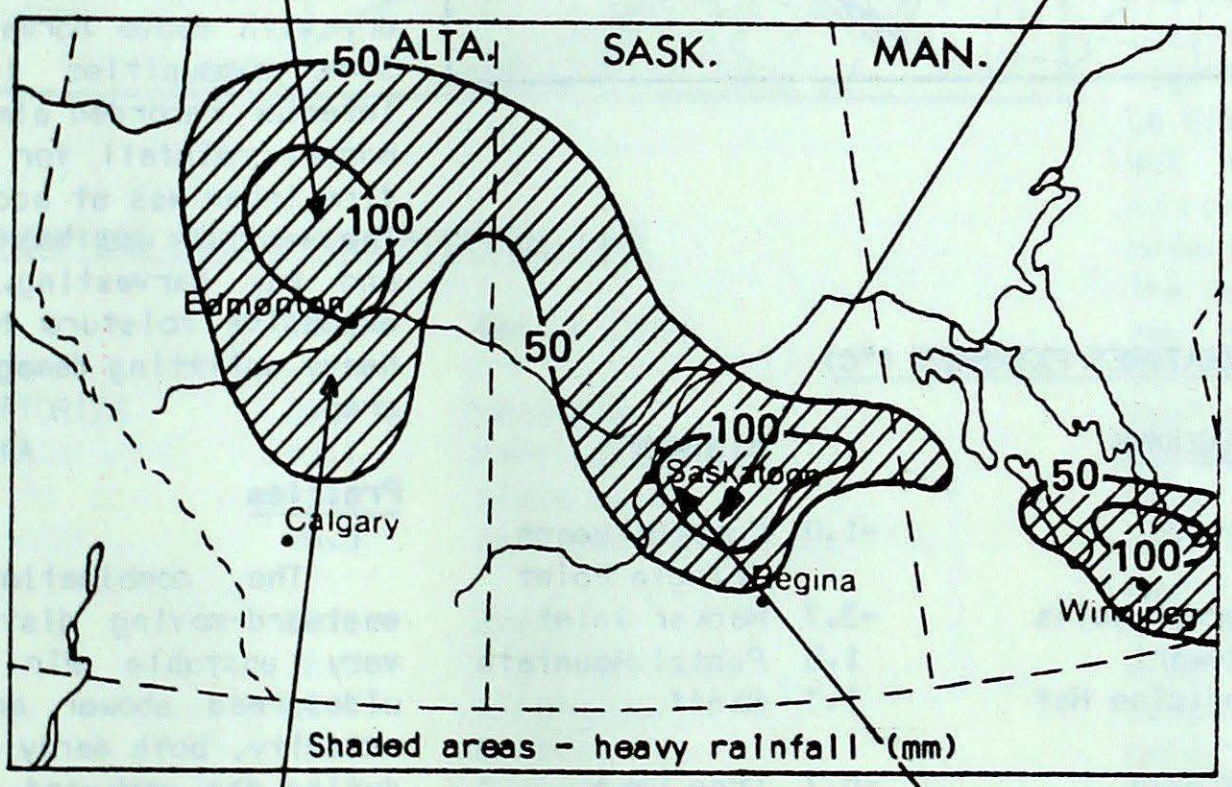


**FOR THE PERIOD JUNE 21-27, 1983**

## • *Violent summer storms lash the Prairies*

Torrential downpour. Flooded basements, roads. N. Saskatchewan river rose 2.5 metres. Major power outages. One death.

Reports of unconfirmed tornadoes. Several funnel clouds sighted. Orange-size hail observed.




Reports of funnel clouds. Grape size hail.

Over 100 mm of rain in 24 hrs., at Saskatoon, 75 mm fell in 1 hr. Wind Gusting near 100 km/h. Several large roofs collapsed. Extensive flooding. One death.

More on the Prairie storms page 5

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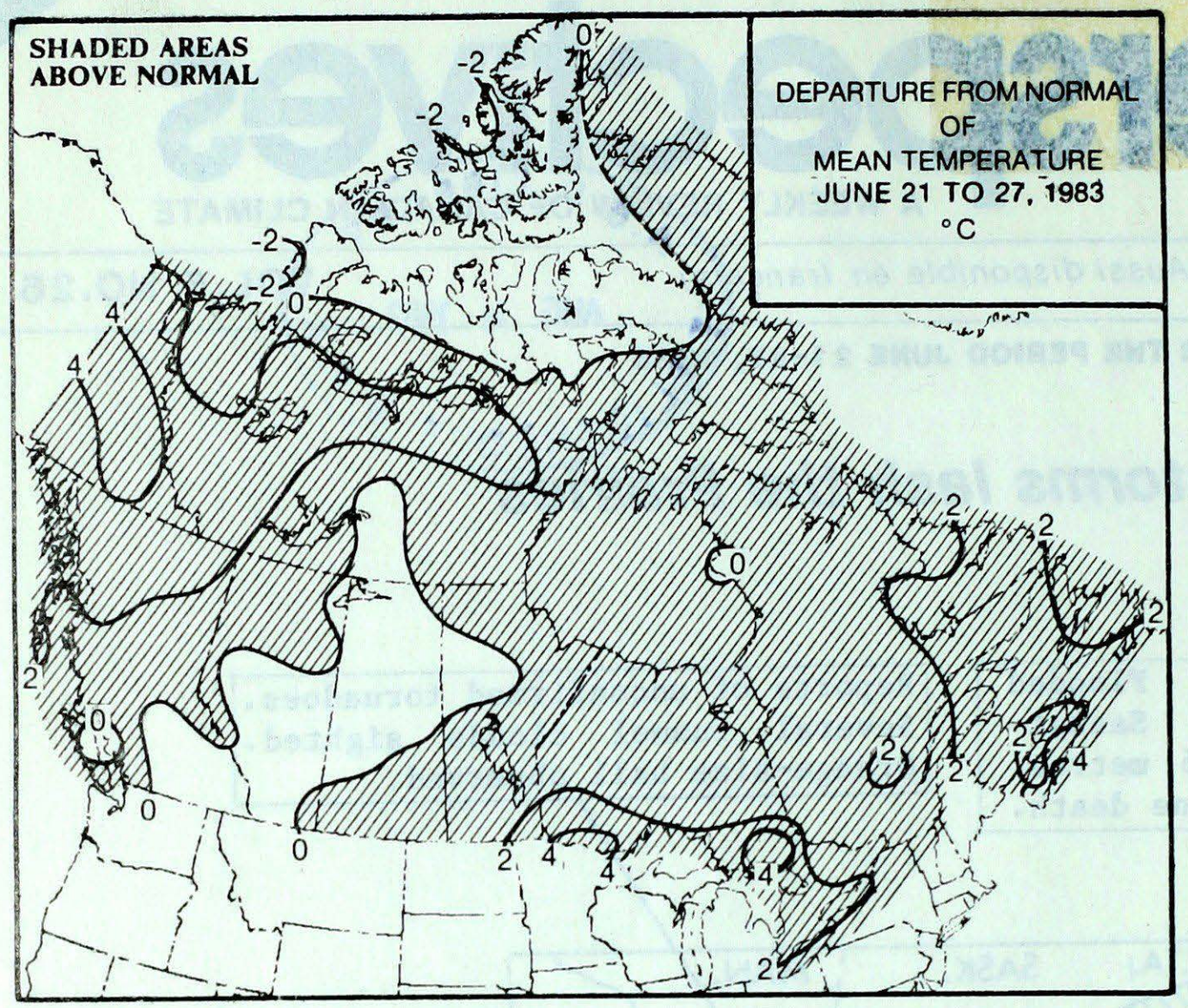
JDC: 551.506.1(71)

NOTE: The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic stations.

Canada




## WEEKLY TEMPERATURES EXTREMES (°C)

| | MAXIMUM | | MINIMUM | |
|---|---|---|---|---|
| YUKON TERRITORY | 32.9 | Dawson | -1.0 | Komakuk Beach<br>Shingle Point |
| NORTHWEST TERRITORIES | 30.5 | Norman Wells | -3.7 | Mackar Inlet |
| BRITISH COLUMBIA | 28.9 | Stewart | 1.8 | Puntzi Mountain |
| ALBERTA | 29.4 | Medicine Hat | 1.3 | Banff |
| SASKATCHEWAN | 34.6 | Estevan | -6.7 | Cree Lake |
| MANITOBA | 28.4 | Winnipeg | -2.2 | Grand Rapids |
| ONTARIO | 34.3 | Windsor | -2.0 | Moosonee |
| QUEBEC | 35.0 | La Grande Rivière | -1.2 | La Grande Rivière |
| NEW BRUNSWICK | 34.8 | Charlo | 5.8 | St Stephen |
| NOVA SCOTIA | 34.0 | Shelburne | 4.5 | Shelburne |
| PRINCE EDWARD ISLAND | 29.5 | Summerside | 9.1 | Charlottetown |
| NEWFOUNDLAND | 31.4 | Wabush Lake | 1.6 | Badger |

## ACROSS THE NATION

| | | |
|---|---|---|
| Warmest mean temperature | 24.8 | Windsor, ONT |
| Coolest mean temperature | 0.2 | Dewar Lake, NWT |

## ACROSS THE COUNTRY...

### Yukon and the Northwest Territories

Mean temperatures across the North ranged from 2 degrees below normal over Baffin Island to 4 degrees above normal in the Yukon. The hot and dry air produced record breaking temperatures that reached 33° in the southern Yukon early in the week and then pushed into the northern Yukon near the week's end.

Precipitation was light almost everywhere; however, local thunderstorms dumped 15 to 25 mm of rain at a few Yukon stations. Of the 6 forest fires in the Yukon only one, south of Mayo covering 1,500 hectares, was out of control.

### British Columbia

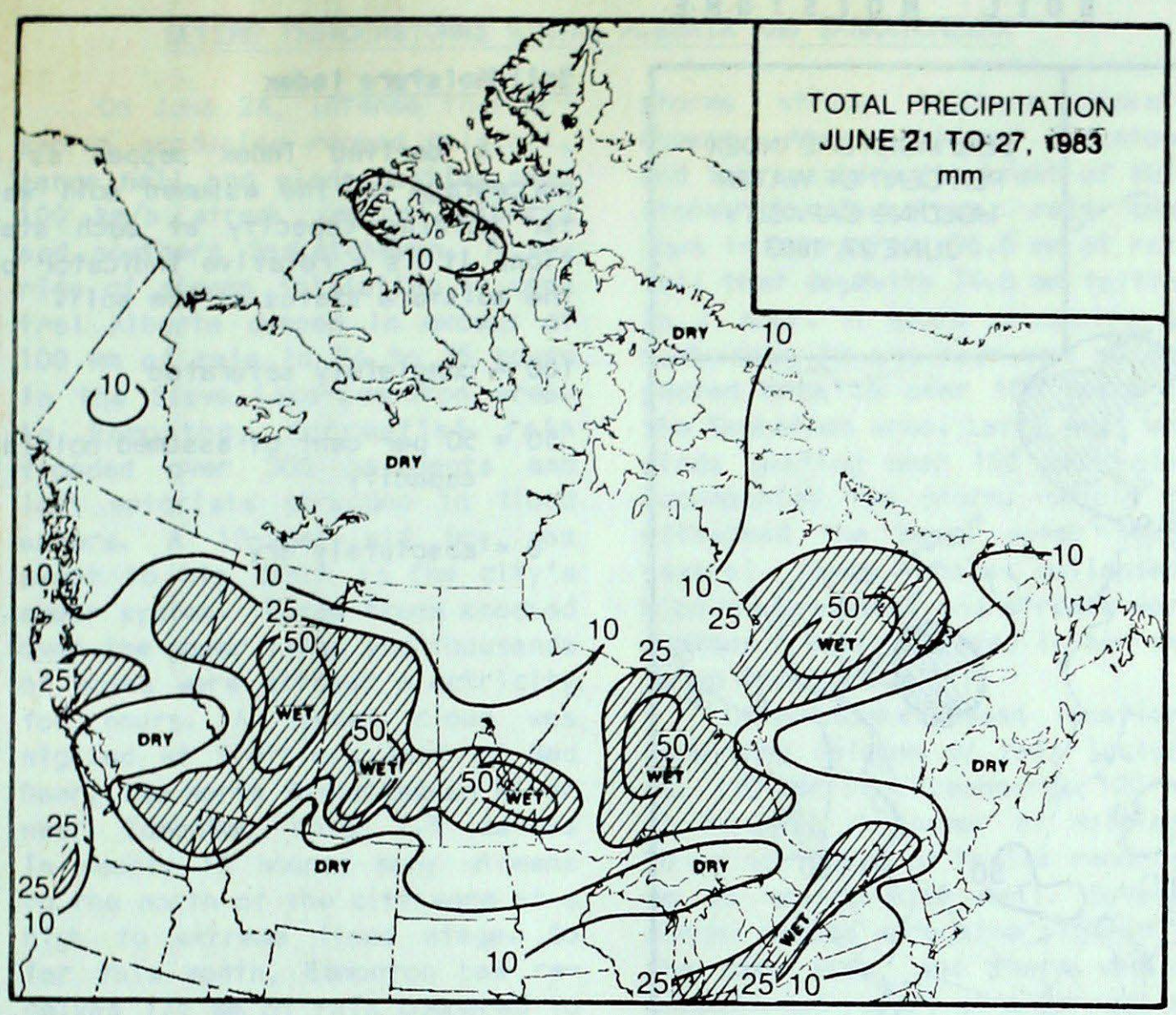
Unsettled showery weather continued, except in the northern regions, where it was mostly sunny and dry with above normal temperatures. Some communities in the central interior recorded almost twice their normal rainfall for the month. The fire index was at acceptable levels. The weather was too wet for logging and hay harvesting. In the south excessive moisture has resulted in heavy splitting damage to the cherry crop.

### Prairies

The combination of several eastward-moving disturbances and a very unstable air mass produced widespread shower and thunderstorm activity, both early in the week and during the week-end. Large areas of central Alberta, central Saskatchewan and southern Manitoba received localized heavy rainfall in excess of 100 mm, accompanied by hail and strong winds. In Saskatchewan several funnel clouds were sighted.

### Ontario

The continuation of the sunny, hot weather produced additional record high temperatures throughout most of the province. On June 26, a reading of 34° at London even exceeded the record high for June. During the week-end, a cooler brand




**HEAVIEST WEEKLY PRECIPITATION (mm)**

| | | |
|---|---|---|
| YUKON | 19.0 | Beaver Lake |
| NORTHWEST TERRITORIES | 20.4 | Resolute |
| BRITISH COLUMBIA | 52.1 | Port Hardy |
| ALBERTA | 102.2 | Slave Lake |
| SASKATCHEWAN | 96.6 | Saskatoon |
| MANITOBA | 88.0 | Gimli |
| ONTARIO | 78.5 | Big Trout Lake |
| QUEBEC | 89.4 | Nitchequon |
| NEW BRUNSWICK | 2.2 | Moncton |
| NOVA SCOTIA | 4.2 | Eddy Point |
| PRINCE EDWARD ISLAND | 3.2 | Charlottetown |
| NEWFOUNDLAND | 40.4 | Wabush Lake |

On June 24, an outbreak of severe thunderstorms inundated central Alberta and southern Saskatchewan with heavy rain. In 24 to 36 hours, rainfall at many stations exceeded the normal for the month. Some of the most outstanding figures are:

| | |
|---|---|
| Fenwood, Sask. | 120.0 mm |
| Strasbourg, Sask. | 110.0 mm |
| Saskatoon | 96.6 mm |
| Edmonton Municipal | 83.3 mm |
| Suburbs of Edmonton | 106.0 mm |
| Slave Lake | 101.4 mm |

of air mass covered the northern areas and overnight temperatures dropped below the freezing mark near the shores of James Bay. On June 26, shower and thundershower activity brought an end to the dry spell that lasted about 19 days in many southern Ontario locations. However, farm land in extreme southwestern Ontario remained parched. In northwestern Ontario, rainfall in the 20-50 mm range kept soil moisture at an adequate level.

The hot weather has spurred the growth of the corn crop and eliminated some yellowing of the plants throughout southern Ontario. Early-planted crops were approaching "knee high" levels but the growth was uneven in fields that were worked while wet. Hay harvesting was general across the south.

**Québec**

For the third week in a row, the temperatures soared into the low thirties. At least 33 daily record high values were set across Québec. La Grande Rivière recorded the highest value again this week, 35°. After June 23, temperatures moderated to more seasonable values. The hot, dry weather kindled many new forest fires. In the Québec City-Mauricie area, 3 fires were raging out of control. To date, 82,000 hectares of forested land has been destoyed by fires; the five-year average is 5,000 hectares (100 hectares = 1 square kilometre).

About 40 per cent of the hay crop was harvested in the St. Lawrence Valley. Because of the lack of rain, the growth of the cereal crops was slowed down considerably.

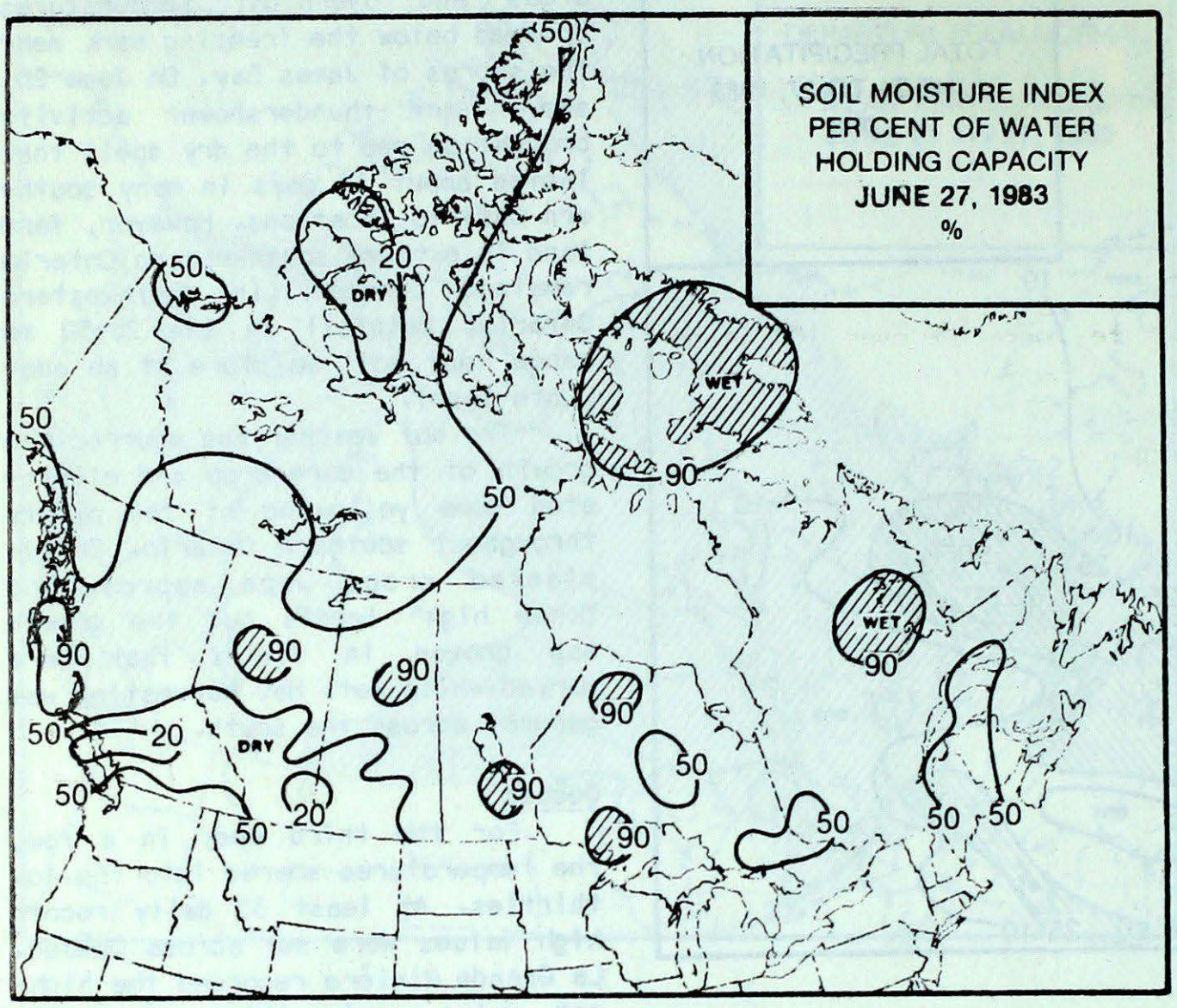
**Atlantic Provinces**

Sunny skies and record warmth predominated. In addition to numerous daily record high temperatures, some monthly records were set including:

| | New Record | Old Record | |
|---|---|---|---|
| Shearwater | 33.0 | 32.1 | 1975 |
| Saint John | 32.0 | 31.7 | 1925 |
| Charlo | 35.0 | 34.4 | 1976 |

(Cont'd on page 5)

## SOIL MOISTURE




### Soil Moisture Index

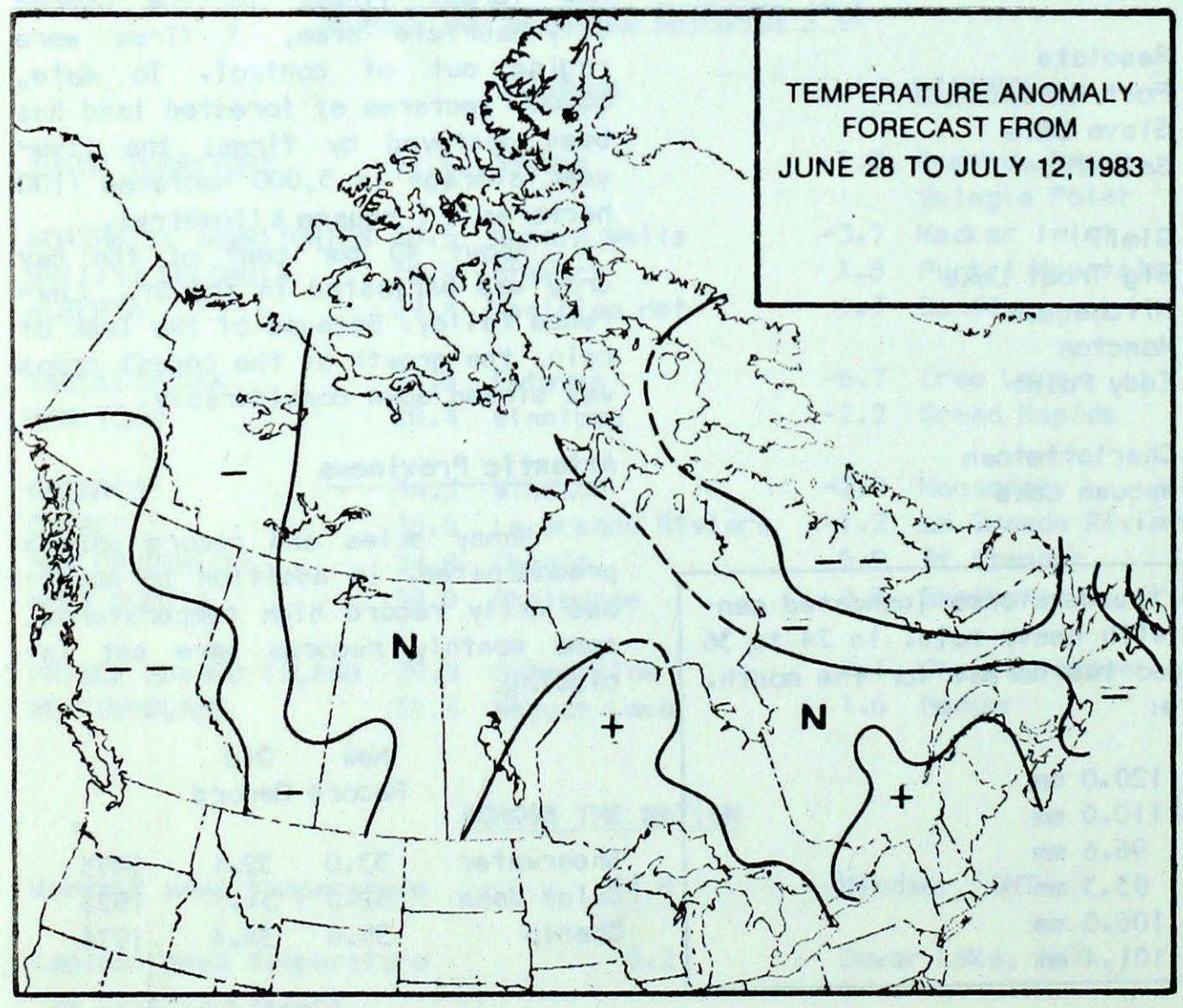
A derived index mapped as a percentage of the assumed soil water holding capacity at each station. It is a relative indicator of the moisture status of the soil.

100 = completely saturated

50 = 50 per cent of assumed holding capacity

0 = absolutely dry

## TEMPERATURE ANOMALY FORECAST




### Temperature Anomaly Forecast

The temperature anomaly forecast, for each of the 70 Canadian stations, is prepared by searching historical weather maps to find cases similar to the present one. The principle used is that a prediction for the next 15 days may be based on what is known to have actually happened during 15-day periods. After the five best cases are selected, the surface temperature anomalies are calculated. This results in five separate forecasts, which are averaged to provide the forecast depicted.

++ much above normal

\+ above normal

N normal

– below normal

-- much below normal

## SEVERE THUNDERSTORMS STRIKE ALBERTA AND SASKATCHEWAN

On June 24, intense thunderstorms producing record rainfall, large hail and winds gusting near 100 km/h struck central Alberta and southern Saskatchewan. A series of storms initiating in central Alberta dumped in excess of 100 mm of rain in 24 to 36 hours in the Slave Lake-Edmonton area. In Edmonton, torrential rain flooded over 300 basements and left motorists stranded in flood waters. A 10-year old boy was swept to his death in the city's sewer system. Large trees knocked over the power lines and thousands of homes were without electricity for hours. A funnel cloud was sighted at Stettler, east of Red Deer. The North Saskatchewan River near Edmonton rose 2.5 metres in nearly 12 hours; many streams to the north of the city were at a high to extreme flood stage. So far this month, Edmonton has received 175 mm of rain compared to its normal of 77 mm. On the afternoon of June 24, violent thunderstorms struck southern Saskatchewan. Areas between Saskatoon and Yorkton bore the brunt of this storm. At Saskatoon, rain came down in torrents; 96.6 mm of rain fell that day with 74.6 mm falling in 1 hour. A storm producing so much rain in one hour can be expected once in over 100 years in the Saskatoon area. Large hail and winds gusting near 100 km/h also accompanied the storm. Unable to withstand the heavy water load, several large roofs collapsed. Flooded basements and streets were common. A woman drowned in her car in an underpass.

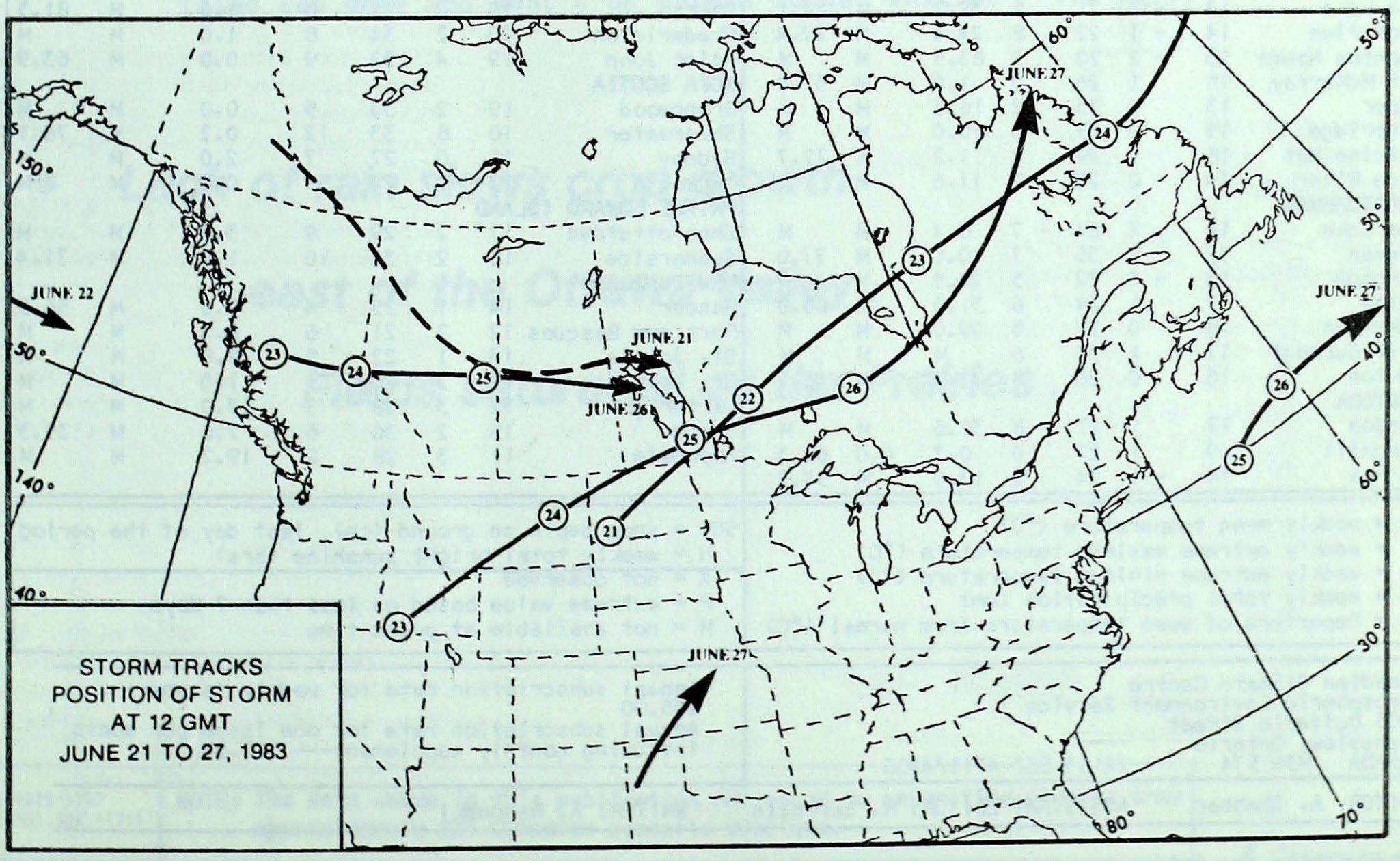
Other Saskatchewan locations receiving deluges of rain included: 110 mm at Strasbourg, 120 mm at Fenwood. A farmer at Holdfast 50 km northwest of Regina reported up to orange size hail. Several funnel clouds were also sighted in the same area, and there was an unconfirmed report of a tornado at Chamberlain.

A. Shabbar

....continued from pg 3

The record heat wave helped ignite many forest fires in New Brunswick. By the end of the week, 16 fires were burning, and four were raging out of control between Moncton and Newcastle. Because of the lengthening dry spell, the potential for fire in Nova Scotia was rated at the high danger level, but no serious fires were burning. The hot dry weather accelerated the hay harvest everywhere.

## STORM TRACKS



## TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT JUNE 28, 1983

| STATION | TEMP | | | | PRECIP | | SUN |
|---|---|---|---|---|---|---|---|
| | Av | Dp | Mx | Mn | Tp | SOG | H |
| **YUKON TERRITORY** | | | | | | | |
| Dawson | 19 | 5 | 33 | 6 | 7.8 | M | M |
| Mayo A | 19 | 5 | 30 | 9 | 10.6 | M | M |
| Watson Lake | 18 | 5 | 28 | 6 | 0.0 | M | 94.4 |
| Whitehorse | 17 | 4 | 30 | 2 | 5.2 | M | 80.6 |
| **NORTHWEST TERRITORIES** | | | | | | | |
| Fort Smith | 15 | 1 | 28 | 4 | 0.0 | M | M |
| Inuvik | 13 | 1 | 27 | 0 | 1.2 | M | M |
| Norman Wells | 16 | 2 | 31 | 6 | 1.7 | M | M |
| Yellowknife | 15 | 2 | 23 | 8 | 0.2 | M | 119.0 |
| Baker Lake | 9 | 3 | 23 | 0 | 0.0 | 0.0 | 91.0 |
| Cape Dyer | 3 | 2 | 9 | -1 | 11.8 | 5.0 | M |
| Clyde | 2 | 0 | 9 | -2 | 5.4 | 0.0 | 25.9 |
| Frobisher Bay | 6 | 1 | 13 | 1 | 16.6 | M | M |
| Alert | 2 | 0 | 12 | -2 | 7.2 | 8.0 | 47.1 |
| Eureka | 2 | -3 | 12 | -2 | 4.7 | M | 50.4 |
| Hall Beach | 4 | 2 | 11 | -1 | M | 1.0 | M |
| Resolute | 1 | -1 | 7 | -2 | 20.4 | M | 62.1 |
| Cambridge Bay | 6 | 2 | 15 | 1 | 1.0 | M | M |
| Mould Bay | 1 | -1 | 7 | -3 | M | 2.0 | M |
| Sachs Harbour | 2 | -2 | 9 | -3 | 2.2 | M | M |
| **BRITISH COLUMBIA** | | | | | | | |
| Cape St. James | 14 | 3 | 21 | 9 | 7.8 | M | M |
| Cranbrook | 14 | -1 | 24 | 5 | 38.6 | M | M |
| Fort Nelson | 18 | 3 | 28 | 6 | 0.2 | M | 99.4 |
| Fort St. John | 15 | 1 | 22 | 8 | 36.1 | M | M |
| Kamloops | 18 | -1 | 29 | 9 | 4.5 | M | 47.7 |
| Penticton | 16 | -2 | 26 | 8 | 31.0 | M | 52.3 |
| Port Hardy | 13 | 0 | 19 | 8 | 52.1 | M | 16.5 |
| Prince George | 14 | 0 | 23 | 4 | 33.5 | M | 53.9 |
| Prince Rupert | 13 | 2 | 19 | 7 | 7.2 | M | 30.8 |
| Revelstoke | 16 | 0 | 27 | 7 | 6.8 | M | 48.7 |
| Smithers | 15 | 2 | 27 | 5 | 15.5 | M | 43.8 |
| Vancouver | 16 | 0 | 23 | 9 | 13.0 | M | 45.2 |
| Victoria | 15 | 0 | 24 | 8 | 4.0 | M | 56.7 |
| Williams Lake | 13 | -1 | 22 | 6 | 20.6 | M | 57.1 |
| **ALBERTA** | | | | | | | |
| Calgary | 14 | 0 | 21 | 6 | 29.6 | M | M |
| Cold Lake | 13 | -3 | 21 | 5 | 39.7 | M | 12.1 |
| Coronation | 14 | -1 | 22 | 8 | 24.4 | M | 42.4 |
| Edmonton Namao | 13 | -2 | 20 | 7 | 83.5 | M | M |
| Fort McMurray | 15 | 1 | 26 | 5 | 1.0 | M | 57.8 |
| Jasper | 13 | 0 | 23 | 2 | 16.6 | M | M |
| Lethbridge | 15 | 0 | 25 | 6 | 10.0 | M | M |
| Medicine Hat | 18 | 1 | 29 | 8 | 1.2 | M | 72.7 |
| Peace River | 14 | 0 | 22 | 5 | 11.6 | M | M |
| **SASKATCHEWAN** | | | | | | | |
| Cree Lake | 12 | X | 24 | -7 | 0.4 | M | M |
| Estevan | 19 | 2 | 35 | 7 | 10.0 | M | 77.0 |
| La Ronge | 13 | -2 | 22 | 5 | 28.5 | M | M |
| Regina | 17 | 1 | 29 | 6 | 31.0 | M | 60.0 |
| Saskatoon | 16 | 0 | 29 | 8 | 99.0 | M | M |
| Swift Current | 17 | 1 | 29 | 6 | M | M | M |
| Yorkton | 16 | 0 | 26 | 8 | 31.5 | M | 53.7 |
| **MANITOBA** | | | | | | | |
| Brandon | 17 | 1 | 27 | 8 | 31.6 | M | M |
| Churchill | 9 | 1 | 27 | 0 | 0.7 | 0.0 | 84.3 |
| The Pas | 14 | -1 | 24 | 2 | 13.0 | M | 53.2 |
| Thompson | 13 | -1 | 27 | 0 | 5.2 | M | 73.0 |
| Winnipeg | 20 | 2 | 28 | 9 | 62.1 | M | 71.2 |
| **ONTARIO** | | | | | | | |
| Big Trout Lake | 15 | 1 | 26 | 3 | 78.5 | M | M |
| Earlton | 19 | 2 | 32 | 5 | M | M | M |
| Kapuskasing | 17 | 2 | 32 | 0 | 31.4 | M | M |
| Kenora | 20 | 2 | 29 | 7 | 20.6 | M | M |
| London | 22 | 3 | 34 | 14 | 55.0 | M | 82.3 |
| Moosonee | 14 | 1 | 33 | -2 | 7.2 | M | 57.4 |
| Muskoka | 19 | 2 | 32 | 7 | M | M | M |
| North Bay | 19 | 2 | 31 | 7 | 16.6 | M | 79.1 |
| Ottawa | 21 | 2 | 33 | 11 | 32.6 | M | 73.9 |
| Pickle Lake | 16 | 1 | 28 | 3 | 57.6 | M | M |
| Red Lake | 17 | 0 | 29 | 2 | 20.4 | M | 59.1 |
| Sudbury | 20 | 4 | 32 | 7 | 7.6 | M | 81.6 |
| Thunder Bay | 18 | 3 | 32 | 4 | 19.4 | M | 68.5 |
| Timmins | 16 | 1 | 32 | 0 | 44.4 | M | M |
| Toronto | 22 | 2 | 33 | 13 | 12.6 | M | M |
| Trenton | 20 | 1 | 30 | 11 | 28.8 | M | M |
| Wiarton | 19 | 3 | 29 | 11 | 15.2 | M | 76.5 |
| Windsor | 25 | 4 | 34 | 17 | 37.8 | M | M |
| **QUEBEC** | | | | | | | |
| Bagotville | 18 | 2 | 34 | 5 | 8.2 | M | M |
| Blanc-Sablon | 11 | 2 | 17 | 4 | 3.8 | M | M |
| Inukjuak | 6 | 0 | 13 | 0 | M | M | M |
| Kuujjuaq | 10 | 1 | 25 | 0 | 24.4 | M | M |
| Kuujjuarapik | 8 | 0 | 31 | -1 | 27.2 | M | 39.6 |
| Manawaki | 18 | 1 | 32 | 7 | 23.2 | M | 76.5 |
| Montréal | 20 | 0 | 32 | 12 | 18.0 | M | 71.7 |
| Mont-Joli | 18 | 2 | 33 | 7 | 1.4 | M | 82.2 |
| Natashquan | 13 | 2 | 21 | 3 | 18.0 | M | M |
| Nitchequon | 12 | 0 | 29 | 1 | 89.4 | M | M |
| Québec | 19 | 2 | 33 | 8 | 9.0 | M | 84.3 |
| Schefferville | 12 | 2 | 29 | 0 | 29.0 | M | 35.6 |
| Sept-Iles | 16 | 3 | 29 | 4 | 2.0 | M | M |
| Sherbrooke | 17 | 1 | 31 | 4 | 10.5 | M | 73.3 |
| Val-d'Or | 17 | 1 | 32 | 4 | 22.0 | M | M |
| **NEW BRUNSWICK** | | | | | | | |
| Charlo | 19 | 2 | 35 | 6 | 1.0 | M | 81.5 |
| Fredericton | 20 | 2 | 34 | 8 | 1.0 | M | M |
| Saint John | 19 | 4 | 32 | 9 | 0.0 | M | 63.9 |
| **NOVA SCOTIA** | | | | | | | |
| Greenwood | 19 | 2 | 33 | 5 | 0.0 | M | M |
| Shearwater | 10 | 5 | 33 | 12 | 0.2 | M | 76.1 |
| Sydney | 15 | 0 | 27 | 7 | 2.0 | M | M |
| Yarmouth | 17 | 2 | 24 | 9 | 0.0 | M | M |
| **PRINCE EDWARD ISLAND** | | | | | | | |
| Charlottetown | 17 | 2 | 29 | 9 | 3.2 | M | M |
| Summerside | 18 | 2 | 30 | 10 | 1.0 | M | 71.4 |
| **NEWFOUNDLAND** | | | | | | | |
| Gander | 14 | 1 | 25 | 4 | 0.6 | M | 56.5 |
| Port aux Basques | 12 | 2 | 21 | 6 | 8.0 | M | M |
| St. John's | 13 | 1 | 22 | 5 | 9.8 | M | M |
| St. Lawrence | 12 | 3 | 20 | 5 | 1.0 | M | M |
| Cartwright | 12 | 3 | 28 | 3 | 17.0 | M | M |
| Goose | 15 | 2 | 30 | 6 | 7.8 | M | 35.3 |
| Hopedale | 11 | 3 | 28 | 2 | 19.2 | M | M |

Av = weekly mean temperature (°C)
Mx = weekly extreme maximum temperature (°C)
Mn = weekly extreme minimum temperature (°C)
Tp = weekly total precipitation (mm)
Dp = Departure of mean temperature from normal (°C)

SOG = snow depth on ground (cm), last day of the period
H = weekly total bright sunshine (hrs)

X = not observed
P = extreme value based on less than 7 days
M = not available at press time

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