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an Climate Centre

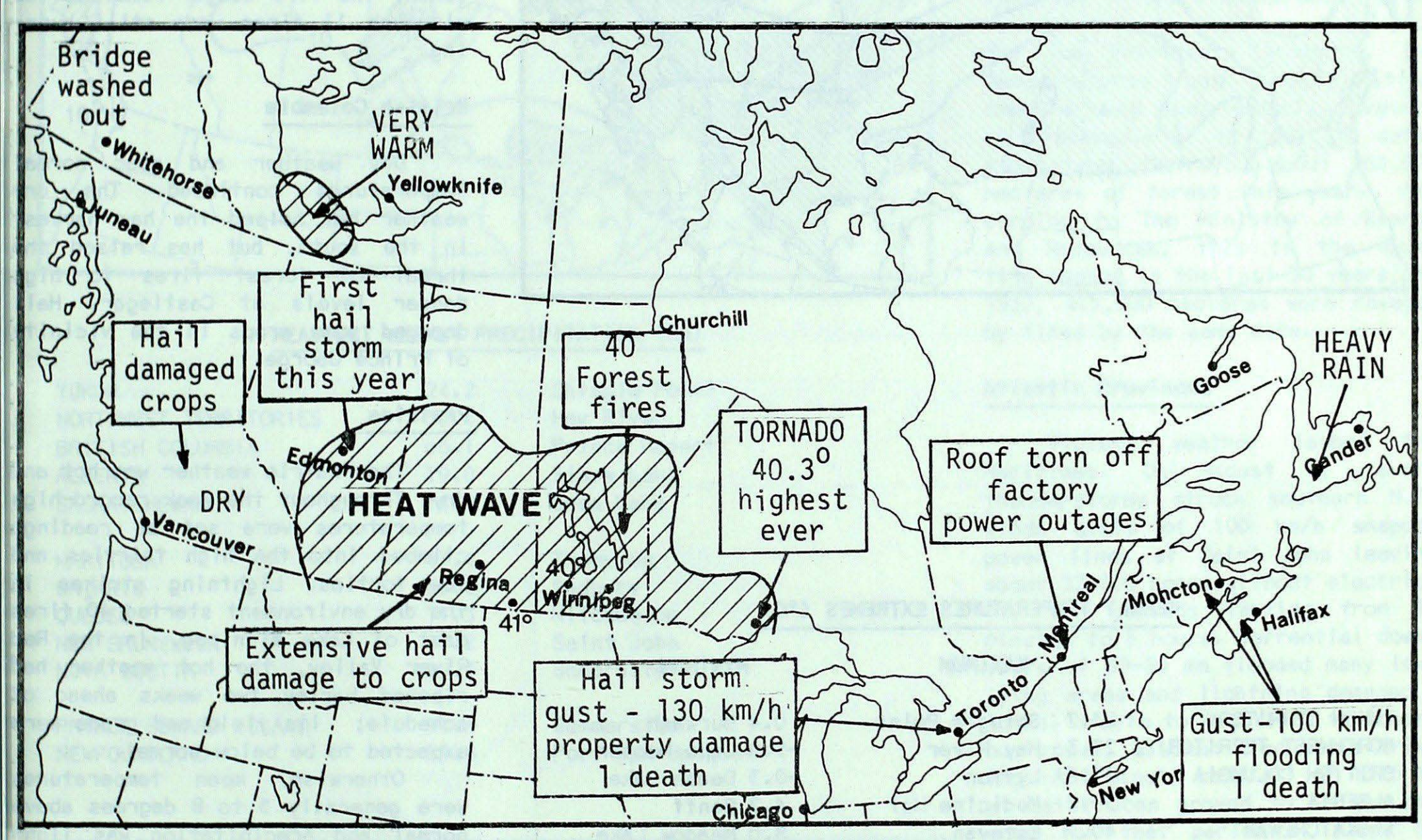
Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

AUGUST 12,1983 | (Aussi disponible en français) | VOL.5 NO.32

FOR THE PERIOD AUGUST 2-8, 1983

• Severe weather across Canada



The Prairies endured a sizzling heat wave. Hot and humid air covering the Nation from the Rockies to the Maritimes contributed to numerous outbreaks of severe thunderstorms. Hail storms damaged crops at several Prairie communities. On August 8, intense summer storms swept across Ontario and Québec, touching off a few tornadoes in Northwestern Ontario and causing extensive wind and hail damage in southern Ontario and southern Québec. A sudden downpour dumped 113 mm of rain at Shearwater in less than 12 hours - a once in a hundred years occurrence.

.... Severe Weather page 5

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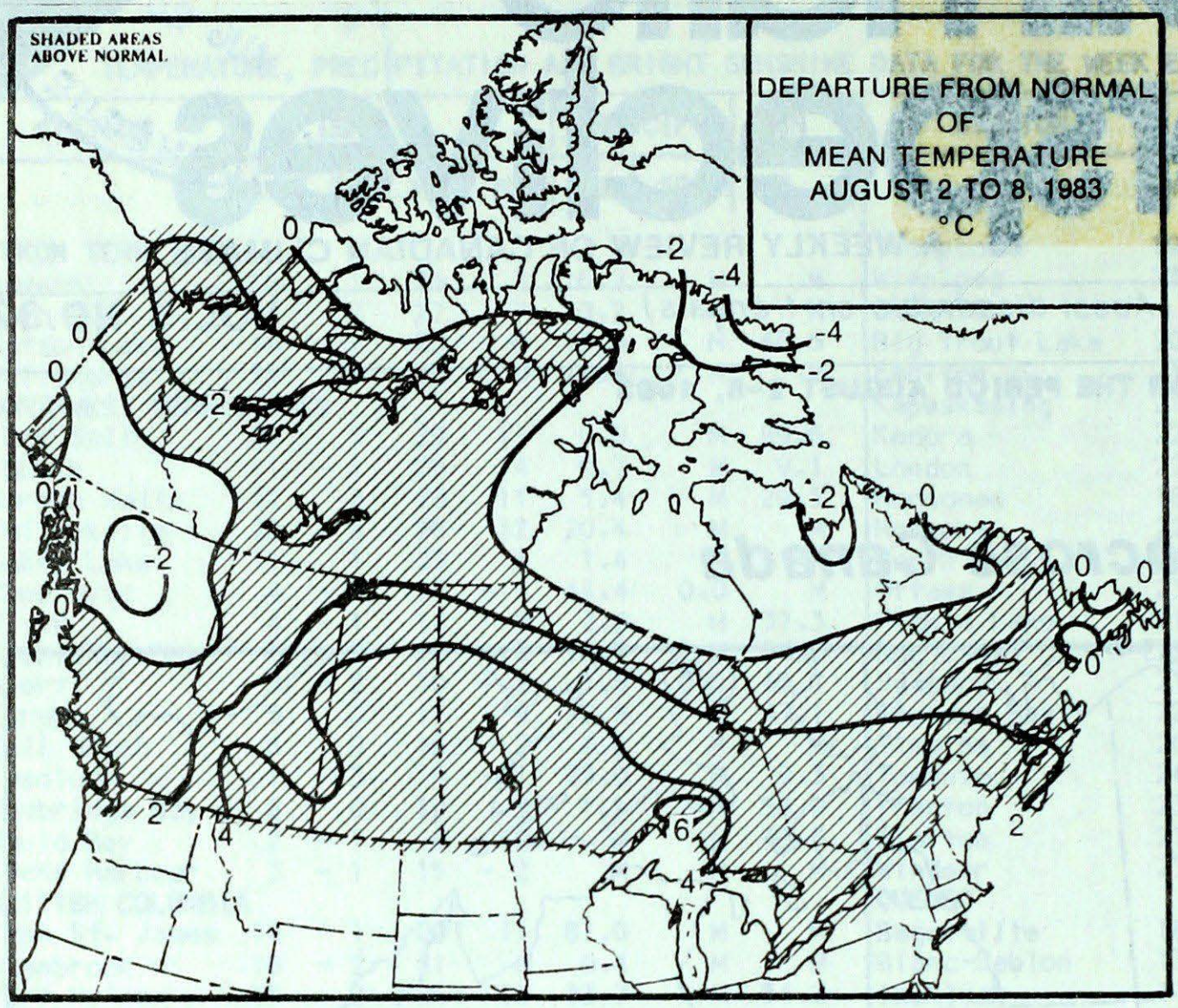
NOTE: The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic stations.

Canada



WEEKLY TEMPERATURES EXTREMES (°C)

	MAXIMUM		MINIMUM	
YUKON TERRITORY	23.7	Shingle Point	0.4	Burwash
NORTHWEST TERRITORIES	27.3	Hay River	-5.0	Cape Hooper
BRITISH COLUMBIA	35.8	Lytton	-0.3	Dease Lake
ALBERTA	39.7	Medicine Hat	4.2	Banff
SASKATCHEWAN	40.7	Estevan	8.0	Meadow Lake
MANITOBA	40.2	Portage la Prairie	6.0	Churchill
ONTARIO	40.3	Thunder Bay	2.0	Winisk
QUÉBEC	34.3	Roberval	0.0	Lac Eon
NEW BRUNSWICK	31.6	Fredericton	8.2	Charlo
NOVA SCOTIA	30.7	Greenwood	9.4	Sydney
PRINCE EDWARD ISLAND	28.6	Charlottetown	10.5	Charlottetown
NEWFOUNDLAND	27.5	Deer Lake	-0.5	Badger

ACROSS THE NATION

Warmest mean temperature	26.5	Estevan, SASK.
Coolest mean temperature	-0.6	Broughton Island, NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

Mean temperatures were near normal almost everywhere; only the northern Yukon and Baffin Island had below normal values. Very warm air covering the Mackenzie District continued to produce daytime readings near 27°. On August 2, a heavy downpour from a severe thunderstorm washed out a bridge on the Alaska Highway southeast of Beaver Creek. The wash-out stranded numerous tourists south of the bridge. In the Yukon, the fire danger remained low although 11 fires were still burning.

British Columbia

Dry weather and near normal temperatures continued. The dry weather has helped the hay harvest in the south, but has raised the threat of forest fires to high danger levels at Castlegar. Hail damaged some crops in the vicinity of Prince George.

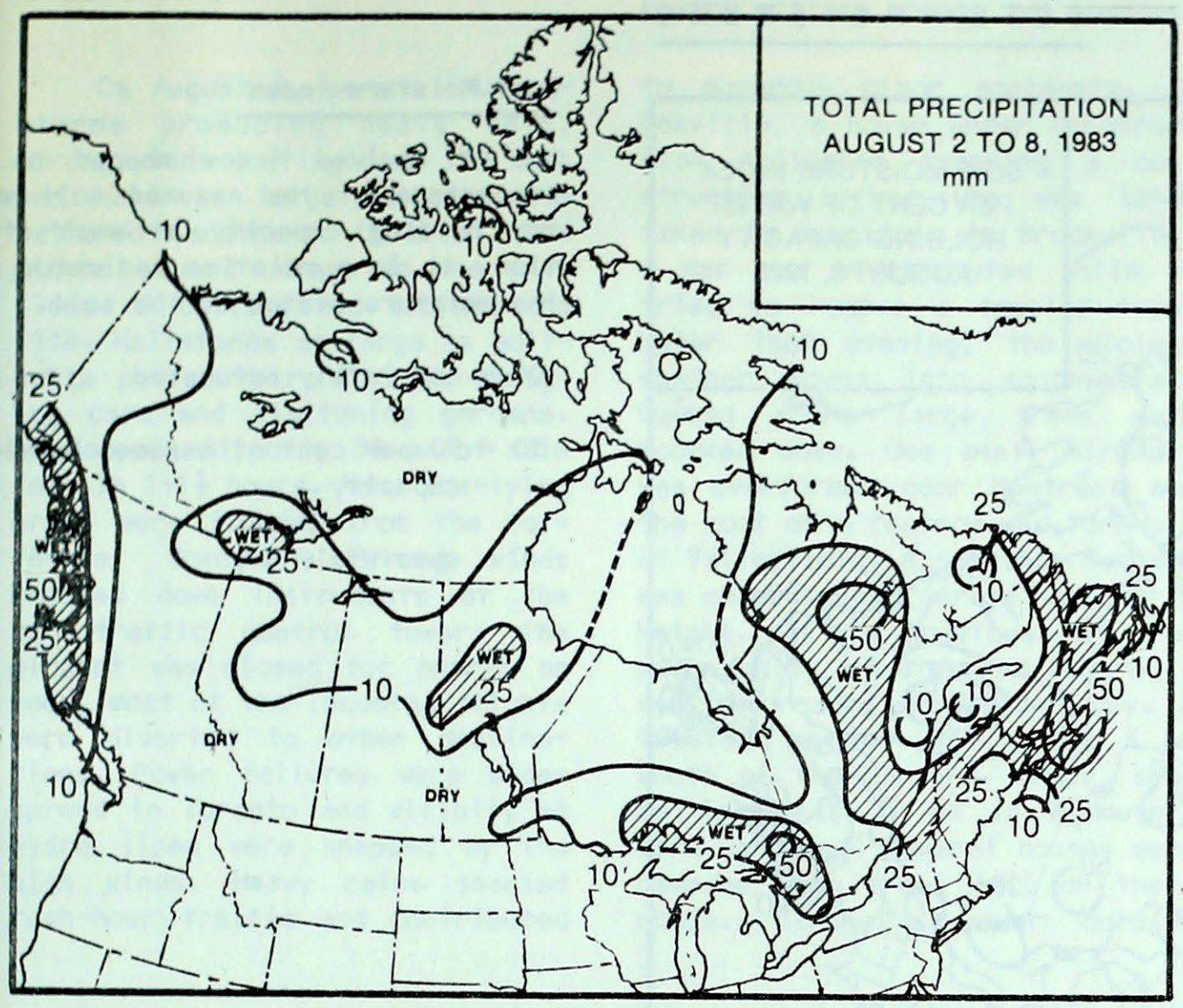
Prairies

The Prairie weather was hot and dry. Throughout the week record-high temperatures were set as readings climbed into the high thirties and low forties. Lightning strikes in the dry environment started 40 fires east of Lake Winnipeg. In the Red River Valley, the hot weather had ripened barley two weeks ahead of schedule; its yield and grade were expected to be below normal.

Otherwise, mean temperatures were generally 5 to 8 degrees above normal and precipitation was light in most localities.

Ontario

Hot and humid weather predominated. Daytime temperature in the low to mid thirties were common across the province. On August 7, the readings reached an unprecedented 40.3° at Thunder Bay. Ontarians endured many uncomfortable nights when minimum temperatures also attained record levels. Thunderstorms again brought much-needed rain to southern Ontario; however, drought stress was still evident in a few southern areas. On August 8, outbreaks of



HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON	24.2	Shingle Point
NORTHWEST TERRITORIES	35.6	Hay River
BRITISH COLUMBIA	66.1	Prince Rupert
ALBERTA	19.0	Slave Lake
SASKATCHEWAN	14.0	Cree Lake
MANITOBA	47.4	Thompson
ONTARIO	50.2	Sudbury
QUEBEC	71.3	Nitchequon
NEW BRUNSWICK	47.2	Saint John
NOVA SCOTIA	129.5	Shearwater
PRINCE EDWARD ISLAND	91.4	Summerside
NEWFOUNDLAND	89.6	Port aux Basques

SEARING HEAT WAVE ON THE PRAIRIES

In the heat wave that covered most of the Prairies, the temperatures rose near the 40° mark especially in the extreme southern localities. At Winnipeg, daytime readings remained above 30° during the first 7 days of August - a first; and the night of August 4 proved to be the warmest in 98 years of record as the mercury did not fall below 22°. Throughout the week, 35 record high values were set across the Prairies. Estevan and Portage la Prairie had their hottest day in any August as the temperatures rose to 41° and 40.2°, respectively. The heat combined with high humidity resulted in extremely uncomfortable conditions. Lightning ignited at least 40 forest fires east of Lake Winnipeg; however only 2 of them were out of control by the week's end.

severe thunderstorms produced strong winds, torrential downpours and large hail across the South. On August 7, a tornado touched down at Thunder Bay causing extensive property damage. In Toronto, the hot and dry weather has promoted bacterial growth in the rivers and streams. Because of the high pollution counts, many beaches in the city and vicinity were closed to swimmers.

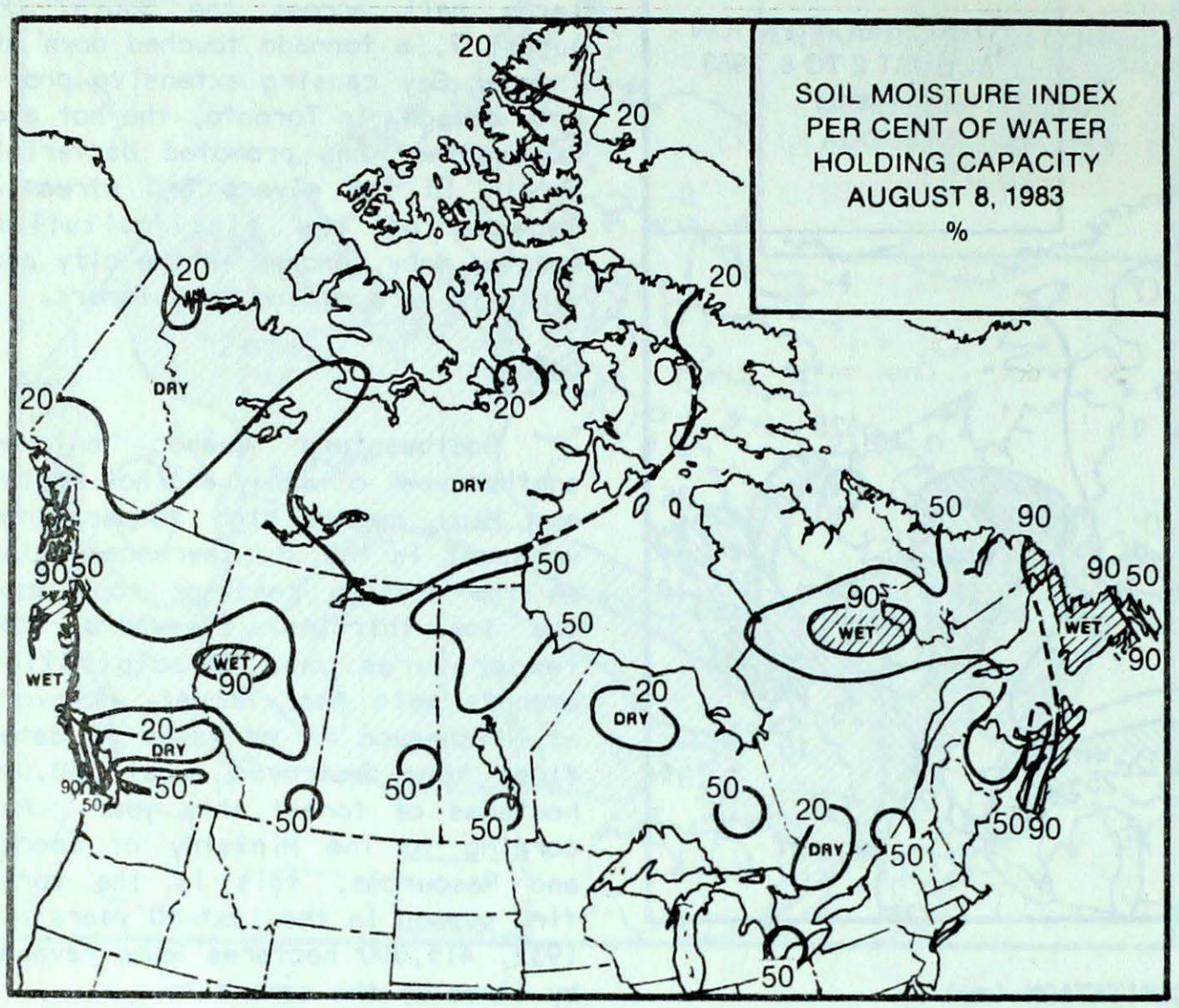
Québec

Southwestern Québec enjoyed another week of sunny and hot weather. Many record high temperatures were set in the St. Lawrence Valley as the daytime readings rose into the low thirties. Elsewhere, the temperatures and precipitation amounts were near normal. However, at Nitchequon 71 mm fell. To date, fires have destroyed about 260,000 hectares of forest this year. According to The Ministry of Energy and Resources, this is the worst fire season in the last 50 years; in 1932, 415,000 hectares were ravaged by fires by the same date.

Atlantic Provinces

Violent weather lashed the Maritimes. On August 2, severe thunderstorms struck southern N.B. Winds gusts of 100 km/h snapped power lines at Saint John leaving about 32,000 homes without electricity for periods lasting from 15 minutes to 5 hours. Torrential downpours of 60-80 mm flooded many low-lying areas and lightning damaged 5 homes. Unable to negotiate treacherous roads, a woman died while driving. A 5-minute rainfall of 13.6 mm at Saint John proved to be the record for that period of time. On August 7, an intense weather system produced heavy rainfall in eastern N.S. and Nfld. At Shearwater, 113 mm of rain fell in less than 12 hours; an occurrence that is expected once in 100 years. Many streets and basements were flooded in the Halifax-Dartmouth area. Along the Stewiacke River thousands of hectares of farmland were under water; crop damage was expected to be extensive. At Eastville, rivers overflowed their banks washing out at least 12 bridges, leaving people and livestock stranded and destroying many fields.

SOIL MOISTURE



Soil Moisture Index

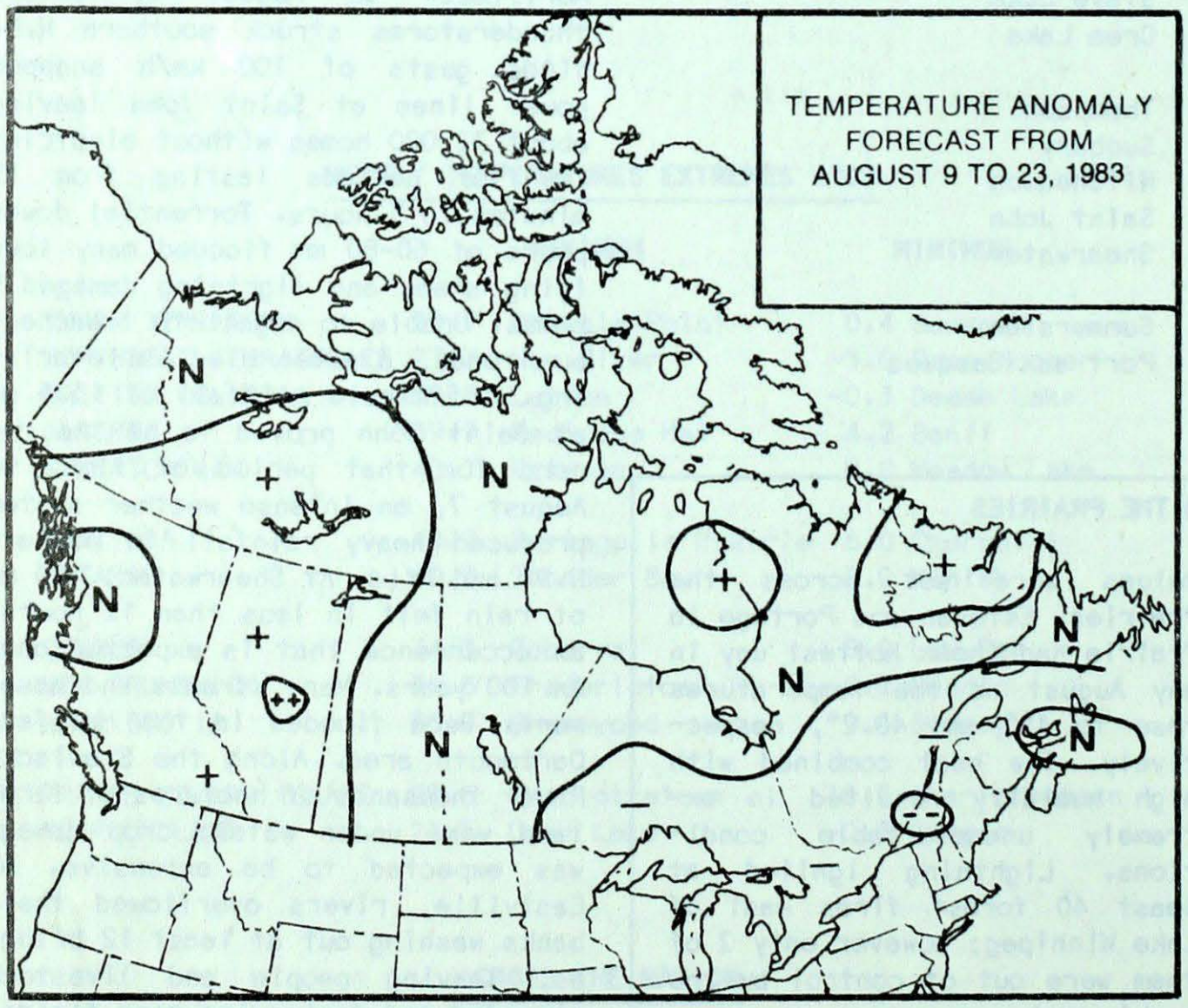
A derived index mapped as a percentage of the assumed soil water holding capacity at each station. It is a relative indicator of the moisture status of the soil.

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 the 15-day anomaly periods. After the five best sets are selected, the surface temperature anomalies are calculated. This results in five separate forecasts, which are averaged to provide the consensus forecast depicted.

++ much above normal

+ above normal

N normal

− below normal

−− much below normal

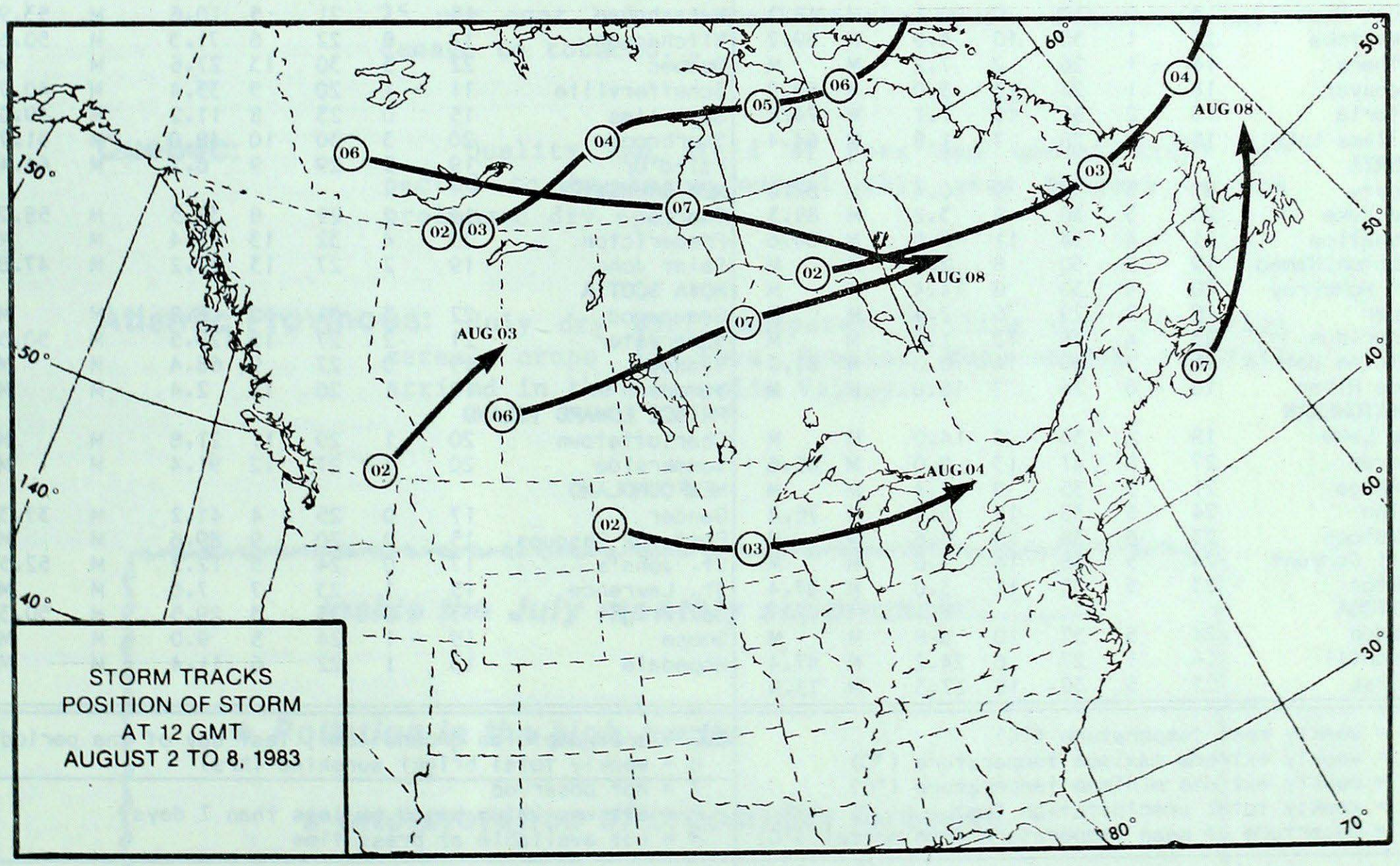
SEVERE WEATHER ACROSS THE COUNTRY

On August 8, severe thunderstorms producing heavy rain, strong winds gusting near 130 km/h and hail as large as golfballs battered southern Ontario. The storms caused damage in the millions of dollars and claimed one life. Hailstones as large as golfballs pelted Metro Toronto damaging cars and flattening gardens. At Toronto Airport, 30 mm of rain fell in 1-1½ hours. Many low-lying areas were flooded from the torrential downpour. Strong winds knocked down instruments at the air traffic control tower; the airport was closed for nearly an hour, most of the incoming flights were diverted to other destinations. Power failures were widespread in Toronto and vicinity as hydro lines were snapped by the high winds. Heavy rains snarled rush-hour traffic and contributed to numerous minor accidents. In Oakville, a house under construction collapsed trapping a construction worker who was later taken to hospital. In Brockville, a man was electrocuted while he tried to remove a toppled tree. Later that evening, the violent weather moved into southwestern Québec where large trees were knocked down. One small aircraft was overturned near Montréal and the roof of a factory was torn off at Valleyfield. A possible tornado was under investigation near Morin Height. On the previous day, the same family of storms triggered a small tornado at Thunder Bay. A twister touched down about 6 km south of the airport. Trees, some as large as 37 cm in diameter, were uprooted. Several houses were damaged when trees fell on their roofs. Extensive power outages were reported throughout the area. Four other, yet unconfirmed, tornadoes were reported at Chippewa Park where several camping trailers were overturned. A funnel cloud was sighted at Kakabeka Falls on the same evening.

Between the 2nd and the 6th of August, severe weather accompanied by large hail and strong winds lashed some Saskatchewan and Manitoba communities. At Limerick, just west of Assiniboia, golfball size hail covered the ground wiping out crops in the area. At Altona, hail damage to crops was extensive. On August 2, severe weather also produced heavy rains and high winds in southern New Brunswick. Some farmland in Nova Scotia was underwater.

A. Shabbar

STORM TRACKS



TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT AUGUST 9, 1983

STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H
YUKON TERRITORY							
Dawson	13	- 1	23	5	6.4	M	M
Mayo A	14	0	22	5	21.0	M	M
Watson Lake	13	- 2	23	3	2.9	M	64.8
Whitehorse	13	0	22	1	2.6	M	M
NORTHWEST TERRITORIES							
Fort Smith	18	2	27	9	15.2	M	M
Inuvik	15	3	25	5	18.7	M	M
Norman Wells	17	2	27	7	6.0	M	71.8
Yellowknife	17	1	26	12	8.2	M	64.6
Baker Lake	11	0	20	5	6.8	M	45.8
Cape Dyer	1	- 5	6	- 3	6.8	M	M
Clyde	3	- 1	10	- 3	4.8	M	59.9
Frobisher Bay	6	- 1	13	2	23.9	M	M
Alert	1	- 2	10	- 2	0.0	0.0	65.7
Eureka	5	0	11	2	4.2	M	36.6
Hall Beach	5	0	15	- 3	M	M	M
Resolute	4	- 1	10	0	17.2	M	M
Cambridge Bay	8	0	16	3	3.4	M	M
Mould Bay	2	- 1	6	- 1	2.0	M	M
Sachs Harbour	M	M	8P	0P	M	M	M
BRITISH COLUMBIA							
Cape St. James	16	2	21	11	24.2	M	M
Cranbrook	23	3	35	10	0.0	M	87.5
Fort Nelson	16	0	26	9	11.4	M	68.7
Fort St. John	15	- 1	23	8	6.9	M	M
Kamloops	22	2	35	10	M	M	76.4
Penticton	22	2	33	10	5.8	M	M
Port Hardy	14	0	21	9	31.7	M	38.8
Prince George	15	0	25	5	7.2	M	64.3
Prince Rupert	14	0	19	9	66.1	M	48.2
Revelstoke	20	1	30	10	4.0	M	69.2
Smithers	14	- 1	26	2	7.2	M	M
Vancouver	18	1	24	12	3.0	M	68.2
Victoria	18	2	31	10	1.1	M	74.8
Williams Lake	16	0	28	7	1.8	M	64.4
ALBERTA							
Calgary	21	5	35	9	0.4	M	82.0
Cold Lake	20	3	30	8	3.2	M	85.3
Coronation	21	4	34	11	0.0	M	84.6
Edmonton Namao	19	2	30	8	2.6	M	M
Fort McMurray	20	4	30	8	14.4	M	M
Jasper	18	2	29	6	2.4	M	M
Lethbridge	23	4	38	13	1.0	M	M
Medicine Hat	25	5	40	14	0.0	M	81.0
Peace River	16	0	26	7	16.0	M	M
SASKATCHEWAN							
Cree Lake	19	X	30	9	14.0	M	M
Estevan	27	6	41	13	0.0	M	85.6
La Ronge	21	5	35	9	2.4	M	M
Regina	24	5	38	12	3.5	M	76.8
Saskatoon	23	5	38	10	0.6	M	M
Swift Current	24	5	38	14	3.0	M	M
Yorkton	23	5	35	11	3.0	M	87.4
MANITOBA							
Brandon	24	5	37	10	3.8	M	M
Churchill	14	1	27	6	24.2	M	47.4
The Pas	23	5	30	15	27.3	M	73.9

STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H
Thompson	20	5	31	8	47.4	M	77.1
Winnipeg	25	5	37	13	18.2	M	85.2
ONTARIO							
Big Trout Lake	20	4	32	6	6.8	M	M
Earlton	21	3	31	12	M	M	M
Kapuskasing	20	3	30	9	10.7	M	M
Kenora	24	5	32	16	4.1	M	M
London	23	3	32	14	23.9	M	57.9
Moosonee	17	2	31	4	M	M	M
Muskoka	22	4	31	11	M	M	M
North Bay	21	3	28	13	29.8	M	66.6
Ottawa	24	4	33	16	12.9	M	56.5
Pickle Lake	22	5	31	10	13.3	M	M
Red Lake	23	4	33	10	22.7	M	72.1
Sudbury	21	3	29	12	50.2	M	73.1
Thunder Bay	23	5	40	11	35.0	M	75.9
Timmins	19	2	30	10	7.3	M	M
Toronto	24	3	34	14	34.4	M	M
Trenton	23	3	32	14	21.2	M	M
Wiarton	21	3	27	13	11.5	M	58.6
Windsor	24	3	33	17	1.9	M	M
QUEBEC							
Bagotville	20	3	32	10	10.2	M	M
Blanc-Sablon	13	0	18	8	M	M	M
Inukjuak	8	- 1	15	4	6.2	M	51.5
Kuujjuaq	8	- 3	16	1	14.6	M	39.1
Kuujjuarapik	9	- 1	17	3	31.8	M	34.6
Maniwaki	21	3	29	12	18.6	M	M
Mont-Joli	20	2	29	10	7.6	M	61.5
Montréal	24	3	32	17	15.5	M	M
Natashquan	15	1	21	5	10.6	M	53.9
Nitchequon	14	0	22	6	71.3	M	50.6
Québec	22	3	30	13	27.6	M	M
Schefferville	11	- 1	20	5	35.4	M	40.7
Sept-Iles	15	0	23	8	11.2	M	49.0
Sherbrooke	20	3	30	10	48.0	M	51.7
Val-d'Or	19	3	29	9	6.2	M	64.4
NEW BRUNSWICK							
Charlo	19	2	29	8	38.5	M	58.2
Fredericton	23	4	32	13	15.4	M	M
Saint John	19	2	27	13	47.2	M	47.8
NOVA SCOTIA							
Greenwood	22	3	31	12	8.8	M	M
Shearwater	21	2	27	15	129.5	M	50.5
Sydney	19	0	27	9	68.4	M	M
Yarmouth	18	1	26	12	2.4	M	M
PRINCE EDWARD ISLAND							
Charlottetown	20	1	29	11	21.8	M	M
Summerside	20	1	27	12	91.4	M	M
NEWFOUNDLAND							
Gander	17	0	25	4	41.2	M	37.3
Port aux Basques	15	0	20	9	89.6	M	M
St. John's	17	0	24	5	12.2	M	52.5
St. Lawrence	15	1	23	7	7.6	M	M
Cartwright	13	0	23	3	29.5	M	50.3
Goose	15	- 1	24	5	9.0	M	M
Hopedale	13	1	22	6	11.4	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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