

Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

Canadian Climate Centre

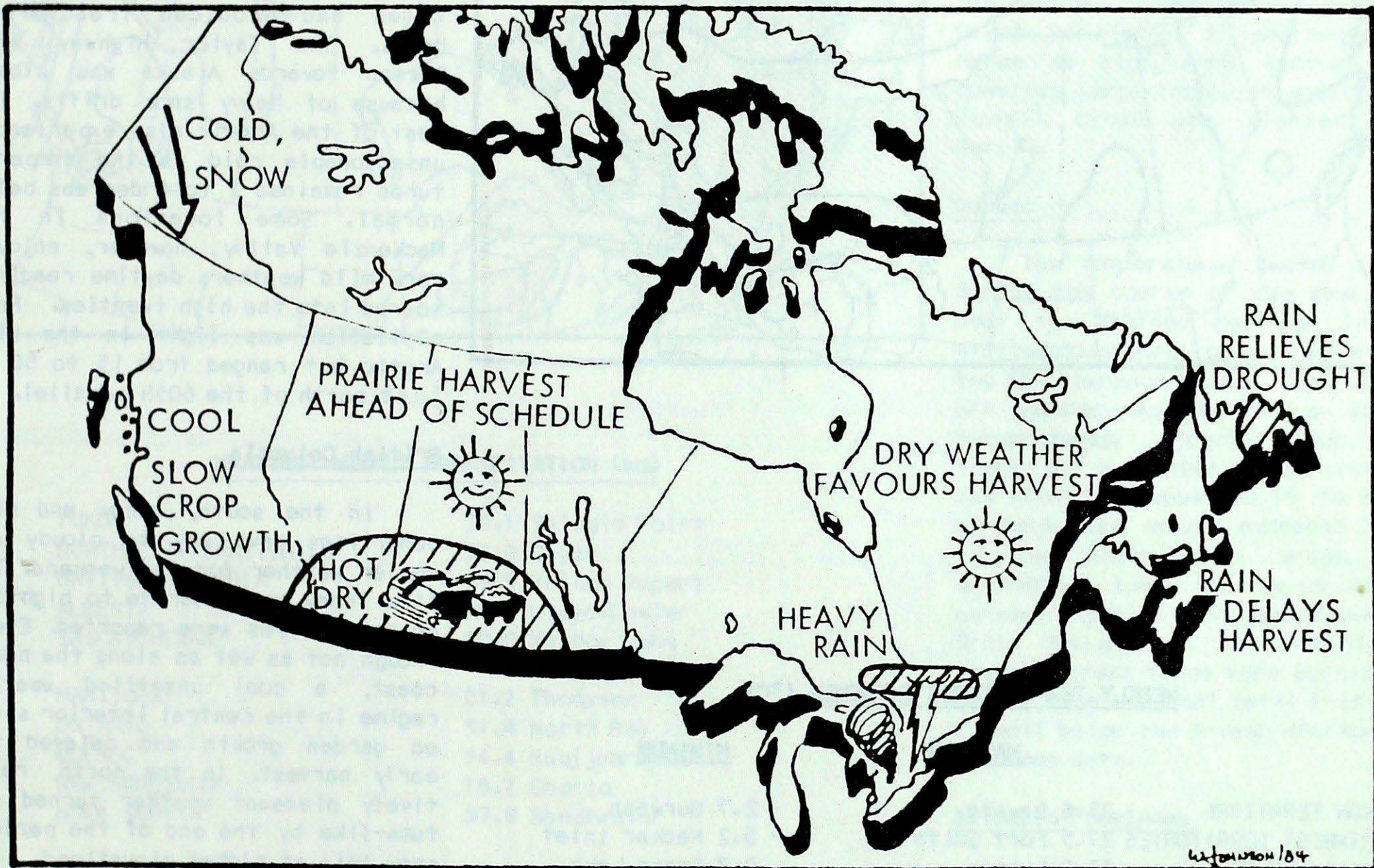
AUGUST 31, 1984

(Aussi disponible en français)

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FOR THE PERIOD AUGUST 21 TO 27, 1984

ACROSS CANADA.....

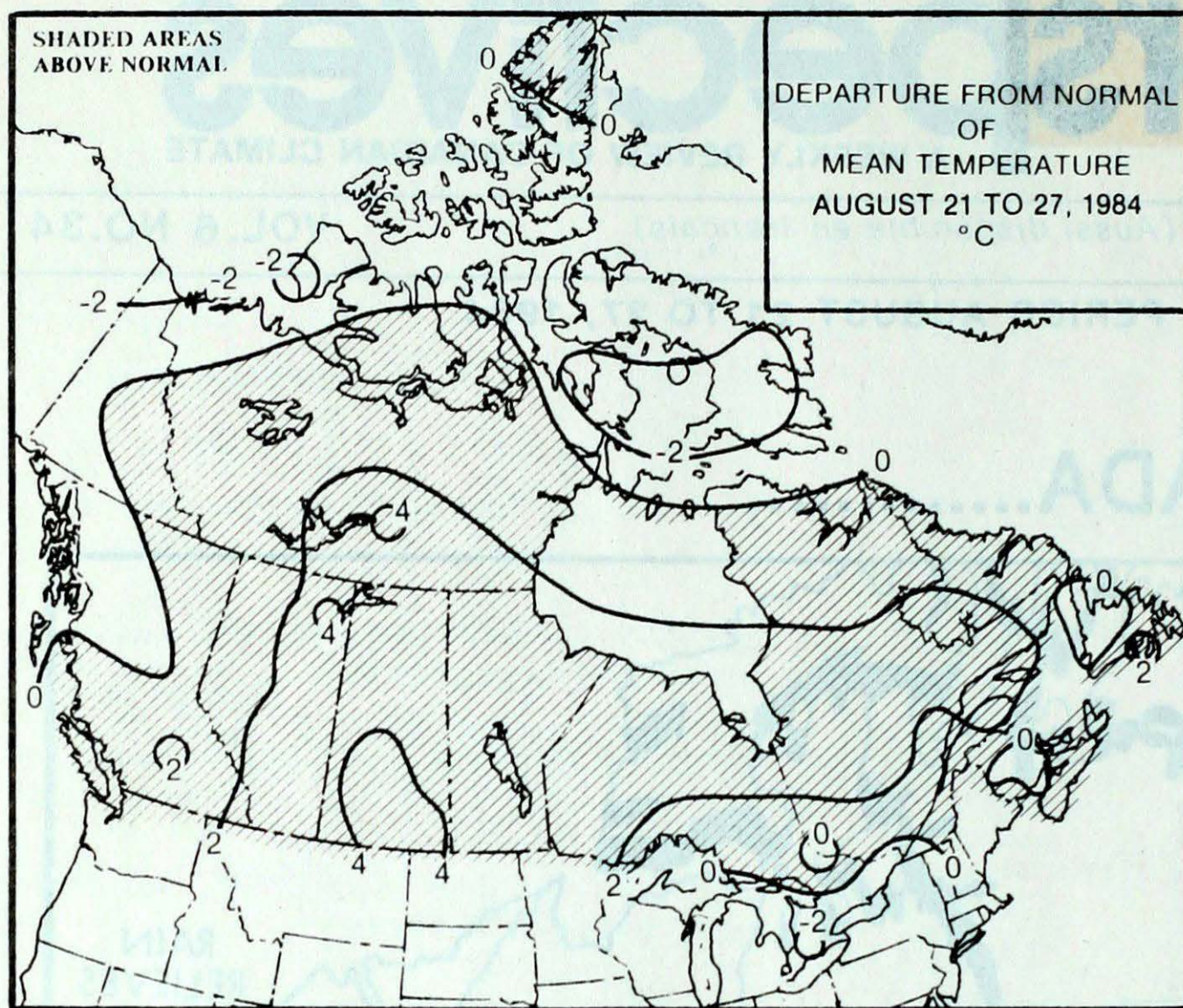


A change in the season was evident across the Canadian Arctic as brisk northwesterly air pushed sub-freezing temperatures and the first seasonal snowfall into the Yukon. In contrast, oppressively hot and dry weather continued throughout southern Prairies, but ground frost occurred in southwestern Manitoba early in the week. Farmers took advantage of the dry weather and harvesting progressed rapidly throughout the Grainbelt. An early forshadow of Autumn was evident across Ontario as the temperatures reached near record-low values. Severe thunderstorms produced damaging winds and heavy rains along the Great Lakes Basin, a funnel cloud was sighted near Lake Erie. Ideal harvest weather prevailed along the St. Lawrence Valley, but heavy rains delayed field work in the Maritimes. Drought-stressed crops benefitted from rains in eastern Newfoundland.

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

Canada

**ACROSS THE COUNTRY...****Yukon and Northwest Territories**

Autumn-like weather covered the Yukon as a major storm tracked out of the Aluetian Islands and produced the first snowfall of the season west of the Mackenzie Valley. Brisk northwesterly flow of a much cooler and moist air pushed southward bringing with it plummeting temperatures and significant snowfalls at higher elevations. The winds combined with snowfall reduced visibilities and produced treacherous roads. The Taylor Highway from Dawson towards Alaska was closed because of heavy snow drifts. The rest of the Arctic also experienced unseasonable cold as the temperatures remained 2 to 4 degrees below normal. Some locations in the Mackenzie Valley, however, enjoyed very mild weather; daytime readings soared into the high twenties. Precipitation was light in the High Arctic but ranged from 15 to 50 mm just north of the 60th parallel.

British Columbia

In the south, sunny and mild conditions gave way to cloudy and cooler weather for the weekend. The fire index was moderate to high but no major fires were reported. Even though not as wet as along the north coast, a cool unsettled weather regime in the central interior slowed garden growth and delayed the early harvest. In the north, relatively pleasant weather turned autumn-like by the end of the period; snow fell at higher elevations.

Prairies

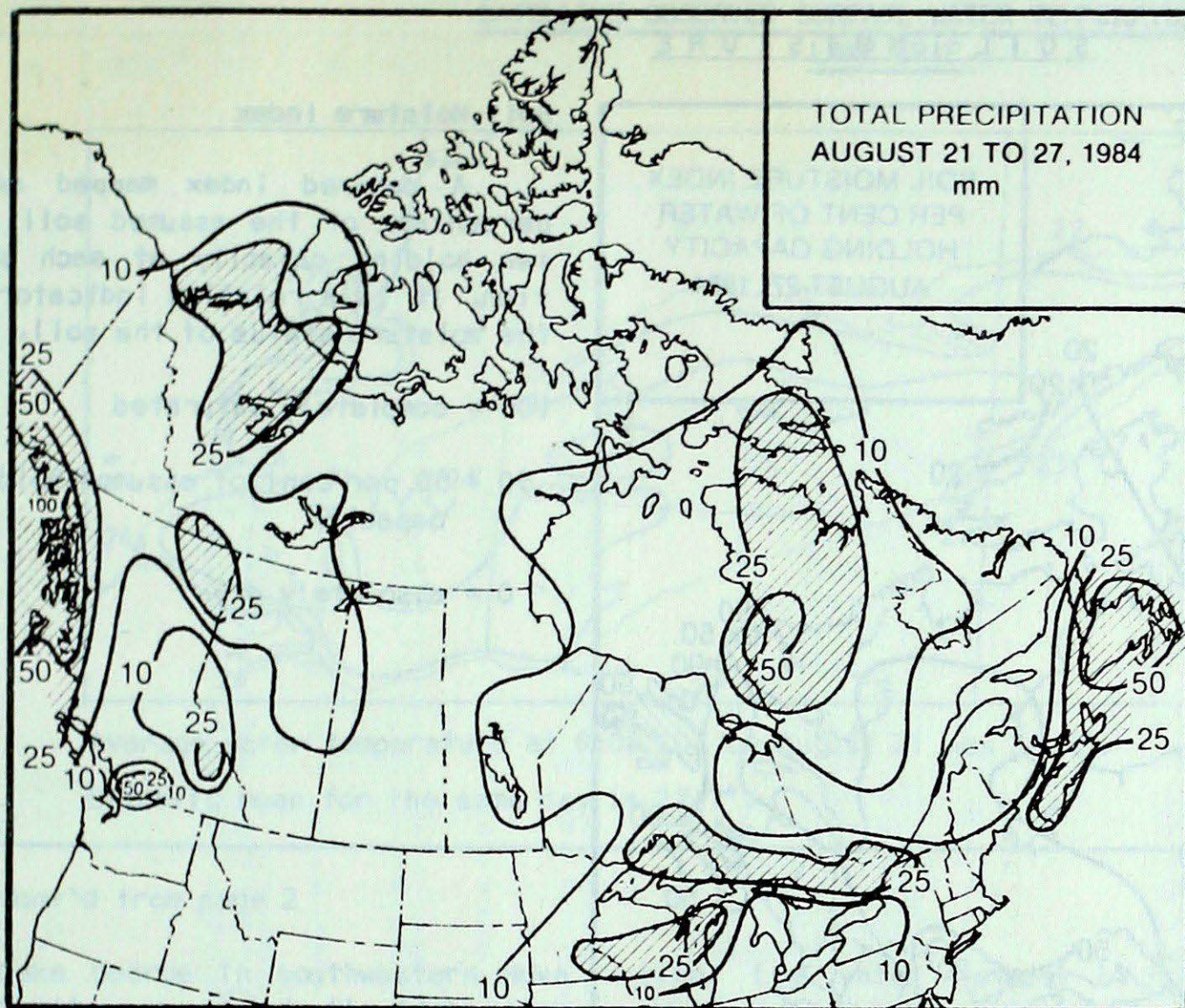
The first ground frost of the season was reported in the Dauphin District early in the week, afterwards a southerly flow allowed the mercury to soar into the mid-thirties, breaking many daily temperature records. Precipitation, mainly in the form of showers, continues to be widely scattered and light overall. An ideal situation for grasshoppers, which have infested the southwest. Harvesting was well under way, nearing completion in some farming districts.

WEEKLY TEMPERATURES EXTREMES (°C)

	MAXIMUM	MINIMUM
YUKON TERRITORY	23.6 Dawson	- 2.7 Burwash
NORTHWEST TERRITORIES	27.5 Fort Smith	- 5.2 Mackar Inlet
BRITISH COLUMBIA	33.9 Lytton	0.7 Dease Lake
ALBERTA	34.0 Medicine Hat	2.0 Banff Rocky Mountain House
SASKATCHEWAN	37.1 Moose Jaw	0.6 Hudson Bay
MANITOBA	37.2 Gretna	1.2 The Pas
ONTARIO	34.0 Kenora	0.3 Moosonee
QUEBEC	29.3 Bagotville	0.0 La Grande Riviere
NEW BRUNSWICK	29.5 Chatham	4.9 St Stephen
NOVA SCOTIA	26.6 Greenwood	4.2 Truro
PRINCE EDWARD ISLAND	26.4 Summerside	9.6 Charlottetown
NEWFOUNDLAND	27.5 Goose	- 0.1 Deer Lake

ACROSS THE NATION

Warmest mean temperature	23.0	Estevan, SASK
Coollest mean temperature	- 0.3	Broughton Island, NWT



Ontario

A combination of near-record minimums and a few rainy days provided much of Ontario with an early forshadow of Autumn. Rain was especially heavy in the central areas and in the Ottawa Valley; North Bay, for example, received 49.4 mm during August 22nd-23rd. The recent rain in Toronto is being blamed for an increased flow in local creeks. Owing to the high pollution counts, many Lakes Ontario beaches were closed. On the evening of August 22, a line of severe thunderstorms hit the Grand Bend area of southern Lake Huron as high winds knocked down numerous large trees. In addition, a funnel cloud was sighted near Sarnia.

Québec

The temperatures became milder during the course of the week, and over the weekend readings in the mid-twenties were commonplace across the St. Lawrence Valley. Even northern Québec enjoyed above normal temperatures. Precipitation was light, but a weather system crossing the Province deposited 15 to 25 mm of rain. The amount exceeded 35 mm in the southwestern areas. The weather was ideal for the second hay harvest especially at Sherbrooke and Trois Rivières. At the end of the week 7 forest fires were burning in Québec, the seasonal total this year is well below the 5-year average for the same date.

Atlantic Provinces

Warm and sunny weather early in the week yielded to heavy rains towards the weekend. The rains, in the 30 to 80 mm range, proved beneficial to the forage and vegetable crops in Newfoundland. These crops, earlier suffering from moisture stress, have recovered and yields are expected to be average. The rains, however, delayed harvesting of tobacco and cereal grains in Prince Edward Island. Owing to the dry July weather, reduced yields of the blueberry crop was expected this year. According to the Department of Fisheries and Oceans, an estimated 106,000 Brook Trout have died in

...continued on page 5

HEAVIEST WEEKLY PRECIPITATION (mm)

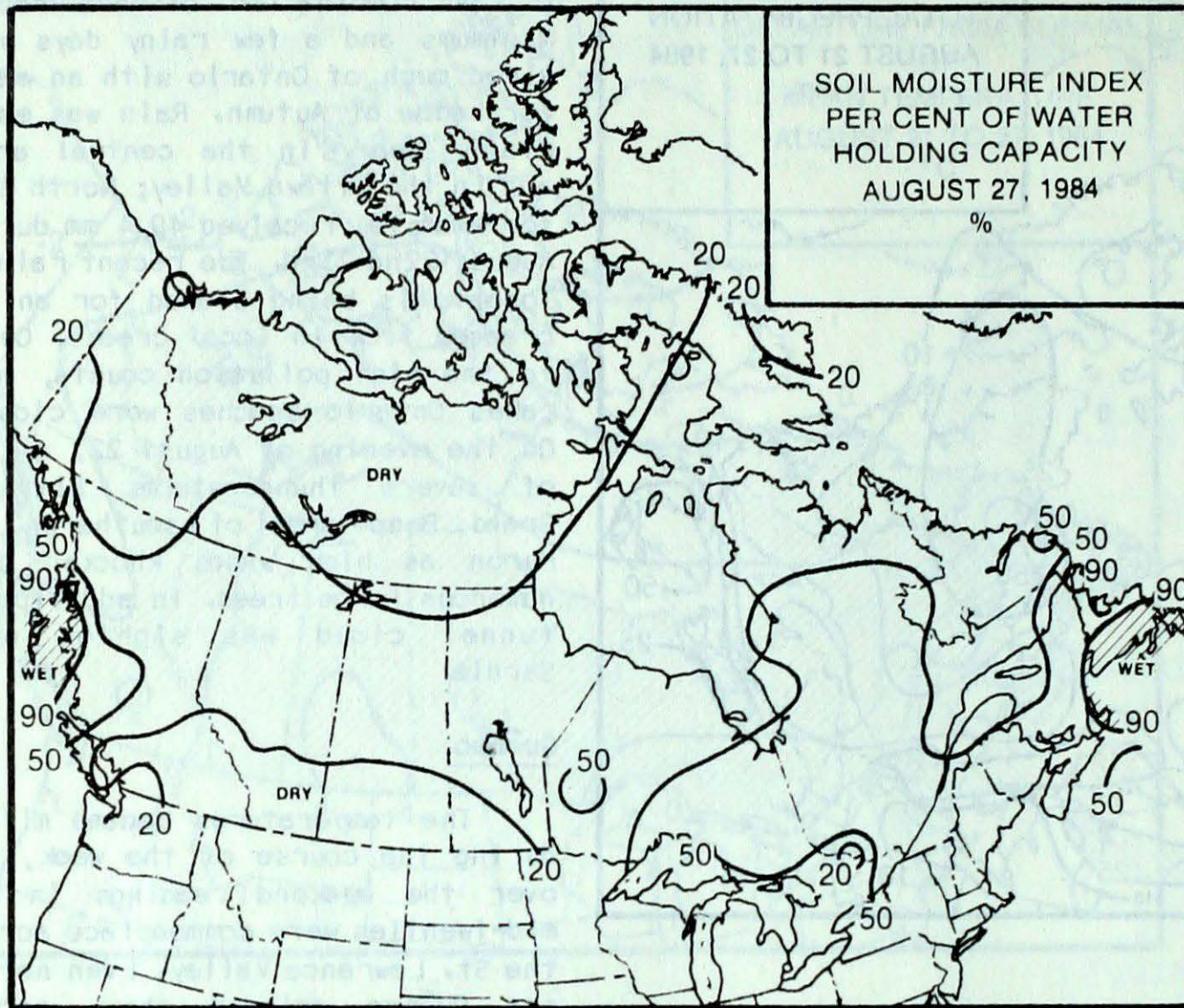
YUKON	35.1 Shingle Point
NORTHWEST TERRITORIES	53.0 Clyde
BRITISH COLUMBIA	89.5 Prince Rupert
ALBERTA	19.7 Lloydminster
SASKATCHEWAN	10.0 Meadow Lake
MANITOBA	21.2 Thompson
ONTARIO	51.4 North Bay
QUEBEC	54.4 Kuujuarapik
NEW BRUNSWICK	18.2 Charlo
NOVA SCOTIA	57.8 Shearwater
PRINCE EDWARD ISLAND	38.2 East Point
NEWFOUNDLAND	81.0 Port Aux Basques

Prairie Agriculture

The hot and dry weather continues across southern Prairies. Despite scattered, showers, there has not been much improvement in the southern grainbelt crops. Farmers have taken advantage of the dry weather and nearly completed harvesting that is about 2 weeks

ahead of normal. Throughout the Prairies, nearly 75 per cent of all crops were swathed and 50 per cent were combined. Crop yields are expected to be well below average.

SOIL MOISTURE



Soil Moisture Index

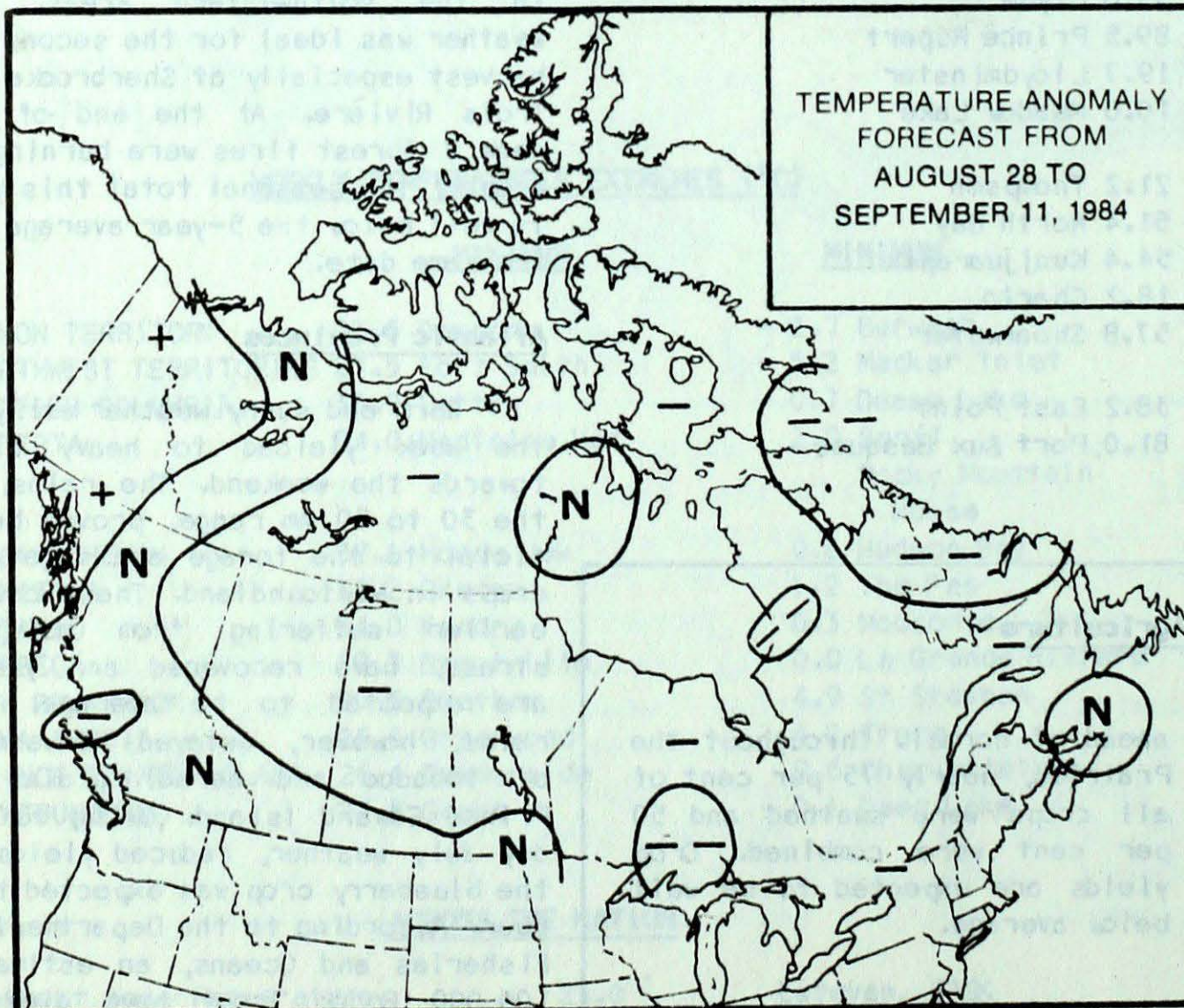
A derived index mapped as a percentage of the assumed soil water holding capacity at each station. It is a relative indicator of the moisture status of the soil.

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

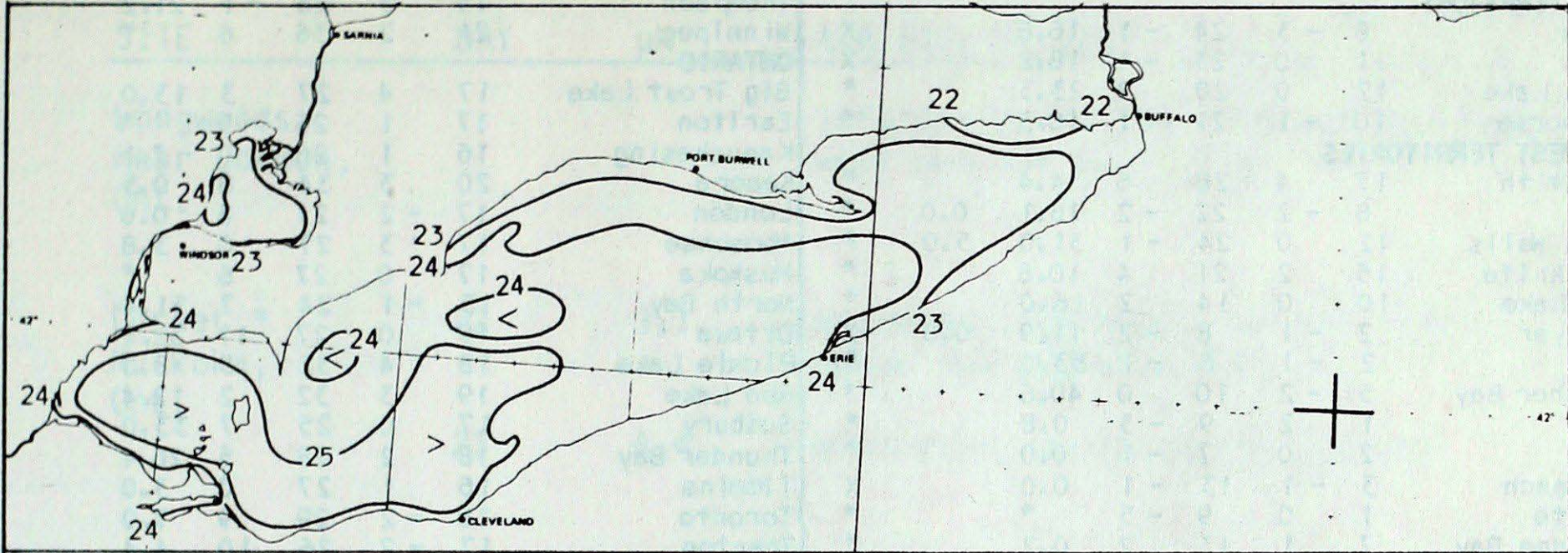
+ above normal

N normal

- below normal

-- much below normal

SATELLITE OBSERVED SURFACE WATER TEMPERATURES (°C)
LAKE ERIE



Average water temperature at 9:00 EDT on August 21 was 24.4°.
Climatic mean for the same day is 22.7°.

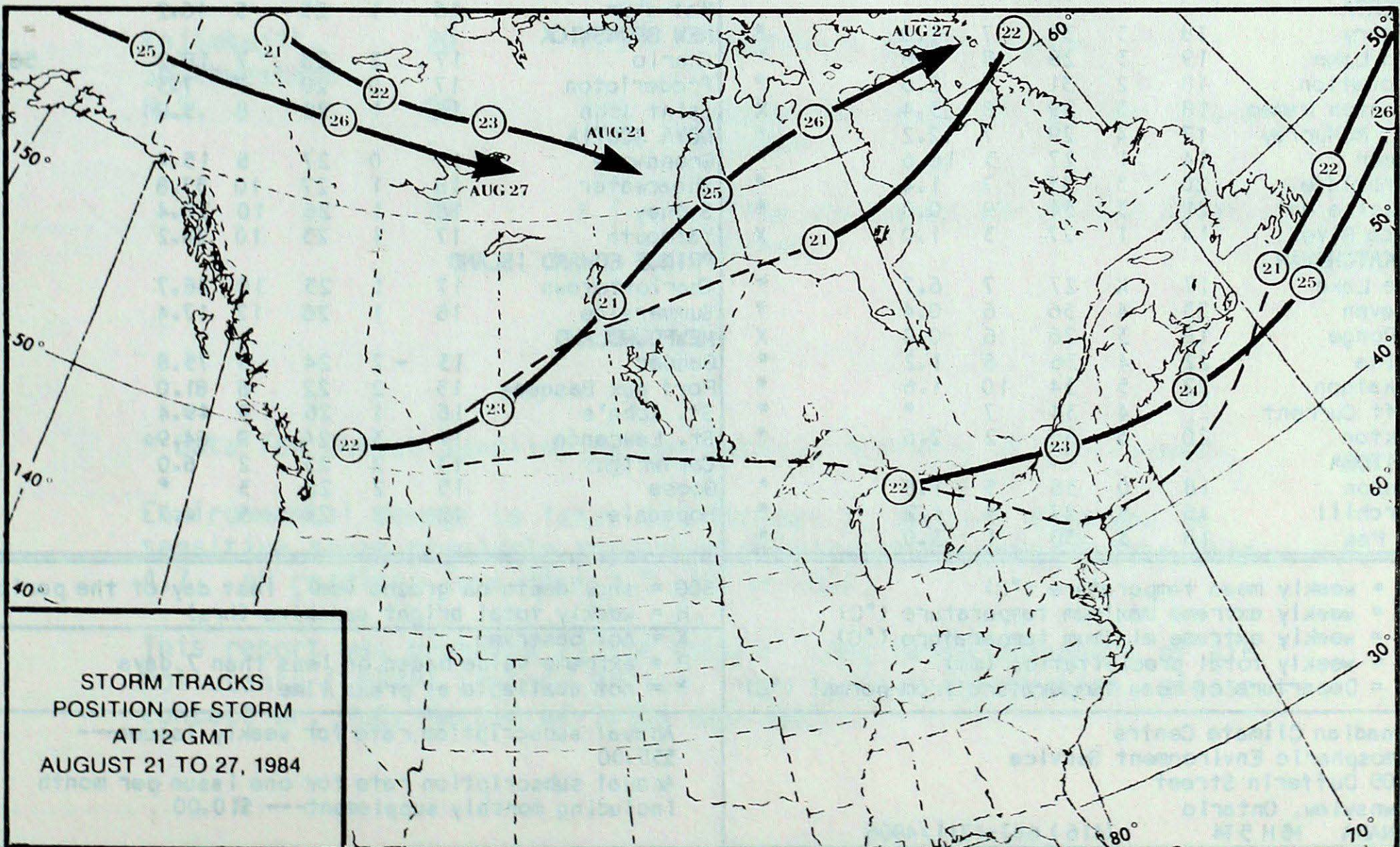
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Lake George in southwestern Nova Scotia, unprecedently high water temperatures during July and August are blamed for this situa-

tion. Low water levels in the reservoirs have contributed to high bacteria count in the drinking waters of Truro. Residents

were boiling their drinking waters.

STORM TRACKS



STORM TRACKS
POSITION OF STORM
AT 12 GMT
AUGUST 21 TO 27, 1984

TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT AUGUST 28, 1984

STATION	TEMP				PRECIP		SUN	STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H		Av	Dp	Mx	Mn	Tp	SOG	H
YUKON TERRITORY								Thompson	15	3	28	-1	21.2		68.1
Dawson	8	-3	24	-1	16.8		X	Winnipeg	21	2	36	6	*	*	
Mayo A	11	0	23	-1	18.2		X	ONTARIO							
Watson Lake	12	0	20	2	23.3		*	Big Trout Lake	17	4	27	3	13.0		X
Whitehorse	10	-1	21	-1	10.3		*	Earlton	17	1	26	5	*		X
NORTHWEST TERRITORIES								Kapuskasing	16	1	26	0	7.1		*
Fort Smith	17	4	28	6	4.4		*	Kenora	20	3	34	8	0.5		X
Inuvik	8	-2	22	-2	18.1	0.0	*	London	17	-2	27	8	0.6		*
Norman Wells	12	0	24	-1	31.0	5.0	*	Moosonee	17	3	27	0	3.8		*
Yellowknife	15	2	21	4	10.8		*	Muskoka	17	0	27	6	*		X
Baker Lake	10	0	14	2	16.0		*	North Bay	15	-1	24	7	51.4		*
Cape Dyer	2	-1	8	-2	11.9	0.0	X	Ottawa	19	0	27	11	32.1		*
Clyde	2	-1	6	-1	53.0		*	Pickle Lake	18	4	32	5	8.0		X
Frobisher Bay	5	-2	10	0	40.6		*	Red Lake	19	3	32	2	12.4		*
Alert	1	2	9	-3	0.8		*	Sudbury	17	0	25	7	33.0		*
Eureka	2	0	7	-1	0.0		*	Thunder Bay	18	2	28	5	26.4		*
Hall Beach	3	-1	13	-1	0.0		X	Timmins	16	1	27	0	3.0		X
Resolute	1	0	9	-5	*		*	Toronto	18	-2	29	9	7.0		X
Cambridge Bay	7	1	13	2	0.2		*	Trenton	17	-2	26	10	4.4		X
Mould Bay	0	-1	3	-4	*		*	Warton	17	-1	27	6	3.8		*
Sachs Harbour	2	-2	8	-3	22.4	0.0	*	Windsor	19	-1	29	11	0.0		X
BRITISH COLUMBIA								QUEBEC							
Cape St. James	13	0	18	8	22.1		*	Bagotville	18	2	29	3	6.4		X
Cranbrook	18	1	30	7	2.2		*	Blanc-Sablon	11	0	17	2	3.4		*
Fort Nelson	14	1	24	1	31.3		*	Inukjuak	10	1	18	4	17.2		*
Fort St. John	13	0	25	1	22.3		X	Kuujuuaq	11	2	23	2	36.8		*
Kamloops	20	2	33	9	7.2		*	Kuujuarapik	14	4	25	3	54.4		*
Penticton	20	1	29	10	3.6		*	Maniwaki	16	0	26	7	43.2		*
Port Hardy	14	0	19	9	25.7		*	Mont-Joli	16	1	26	8	9.2		*
Prince George	14	1	25	4	11.8		*	Montréal	18	-1	27	9	35.6		*
Prince Rupert	13	0	19	6	89.5		*	Natashquan	15	2	22	7	2.2		*
Revelstoke	17	1	28	9	47.6		*	Nitchequon	14	2	21	4	36.4		*
Smithers	13	0	21	5	8.0		*	Québec	18	1	28	7	3.0		*
Vancouver	17	1	23	11	3.6		*	Schefferville	12	2	22	1	11.6		*
Victoria	17	1	27	9	0.4		*	Sept-Îles	15	2	23	7	0.0		*
Williams Lake	15	1	28	4	10.2		*	Sherbrooke	15	0	26	2	9.2		*
ALBERTA								Val-d'Or	16	1	25	5	16.2		*
Calgary	18	3	31	7	1.0		*	NEW BRUNSWICK							
Cold Lake	19	3	28	8	2.8		*	Charlo	17	2	28	7	18.2		56.9
Coronation	18	2	31	5	2.6		*	Fredericton	17	0	28	7	7.3		*
Edmonton Namao	18	3	29	8	3.4		X	Saint John	16	1	25	8	5.9		*
Fort McMurray	17	4	29	7	12.2		*	NOVA SCOTIA							
Jasper	14	1	27	3	16.6		*	Greenwood	17	0	27	6	15.4		X
Lethbridge	20	3	33	7	1.4		*	Shearwater	18	1	27	10	57.8		*
Medicine Hat	21	3	34	9	0.0		*	Sydney	18	1	26	10	38.4		*
Peace River	14	1	27	3	1.0		X	Yarmouth	17	1	23	10	28.2		*
SASKATCHEWAN								PRINCE EDWARD ISLAND							
Cree Lake	17	X	27	7	6.7		*	Charlottetown	17	1	25	10	26.7		*
Estevan	23	4	36	6	0.4		*	Summerside	18	1	26	12	17.4		*
La Ronge	18	3	26	6	0.0		X	NEWFOUNDLAND							
Regina	22	4	36	6	1.2		*	Gander	13	-2	24	6	75.8		*
Saskatoon	22	5	34	10	1.6		*	Port aux Basques	15	2	22	6	81.0		*
Swift Current	21	4	34	7	*		*	St. John's	16	1	26	9	49.4		*
Yorkton	20	3	35	2	2.6		*	St. Lawrence	17	3	24	9	64.9		X
MANITOBA								Cartwright	13	2	25	2	6.0		X
Brandon	18	0	36	5	1.8		*	Goose	15	2	28	3	*		*
Churchill	16	5	27	4	1.2		*	Hopedale	12	2	24	5	4.7		X
The Pas	18	3	30	1	3.0		*								

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
* = not available at press time

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ACID RAIN REPORT ISSUED BY ENVIRONMENT CANADA
FOR AUG. 19 - AUG. 25, 1984

SITE	DAY	pH	AIR PATH TO SITE
Longwoods, near London, Ont.			Information on the rainfall for last week was not available.
Dorset,* Muskoka, Ont.	22	3.7	Wisconsin, Michigan, across Lake Huron and Georgian Bay.
	23	4.4	Wisconsin, northeastern Ontario.
Chalk River Ottawa Valley, Ont.	22	3.8	Wisconsin, Michigan, across Lake Huron and Georgian Bay.
Montmorency, Quebec City, Que.	23	3.5	Michigan, northeastern Ontario, northern Quebec.
Kejimkujik, Southwestern N.S.	20	4.9	Northern Quebec, Maine.
	23	3.9	From the south off of the Atlantic Ocean.
	24	4.7	From the south off of the Atlantic Ocean.

* Data for Dorset supplied by the Ontario Ministry of Environment.

Environmental damage to lakes and streams is usually observed in sensitive areas regularly receiving precipitation with pH less than 4.7. pH readings less than 4.0 are serious.

This report was prepared by the Federal Long Range Transport of Air Pollutants (LRTAP) Liaison Office. For further information, please contact Dr. H.C. Martin at (416) 667-4803.