

# Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

Canadian Climate Centre

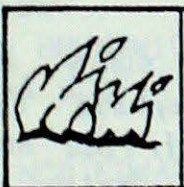
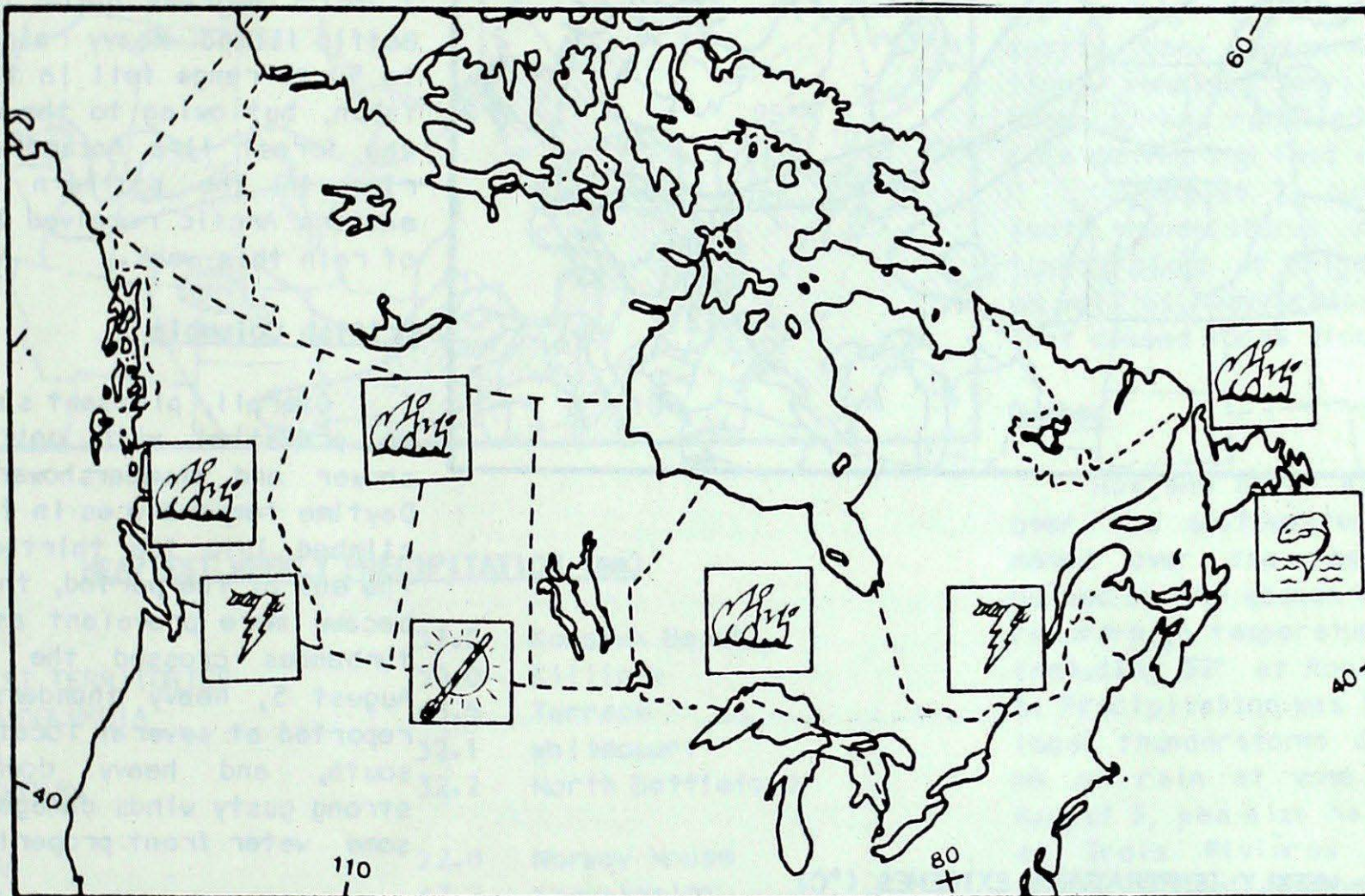
AUGUST 10, 1984

(Aussi disponible en français)

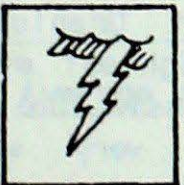
VOL. 6 NO. 31

FOR THE PERIOD JULY 31 TO AUGUST 6, 1984

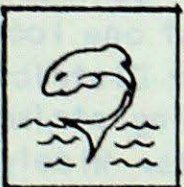
## ● Hot and dry weather covers most of Canada



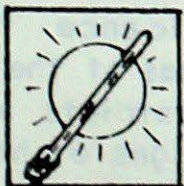
In the searing heat, at least 80 forest fires were ignited in Alberta. The fire hazard was high in southern British Columbia and northern Ontario. A major fire near Springdale, Nfld was still burning.



Lightning strikes were responsible for a house fire in Edmunston, N.B. and claimed one life near Montréal.

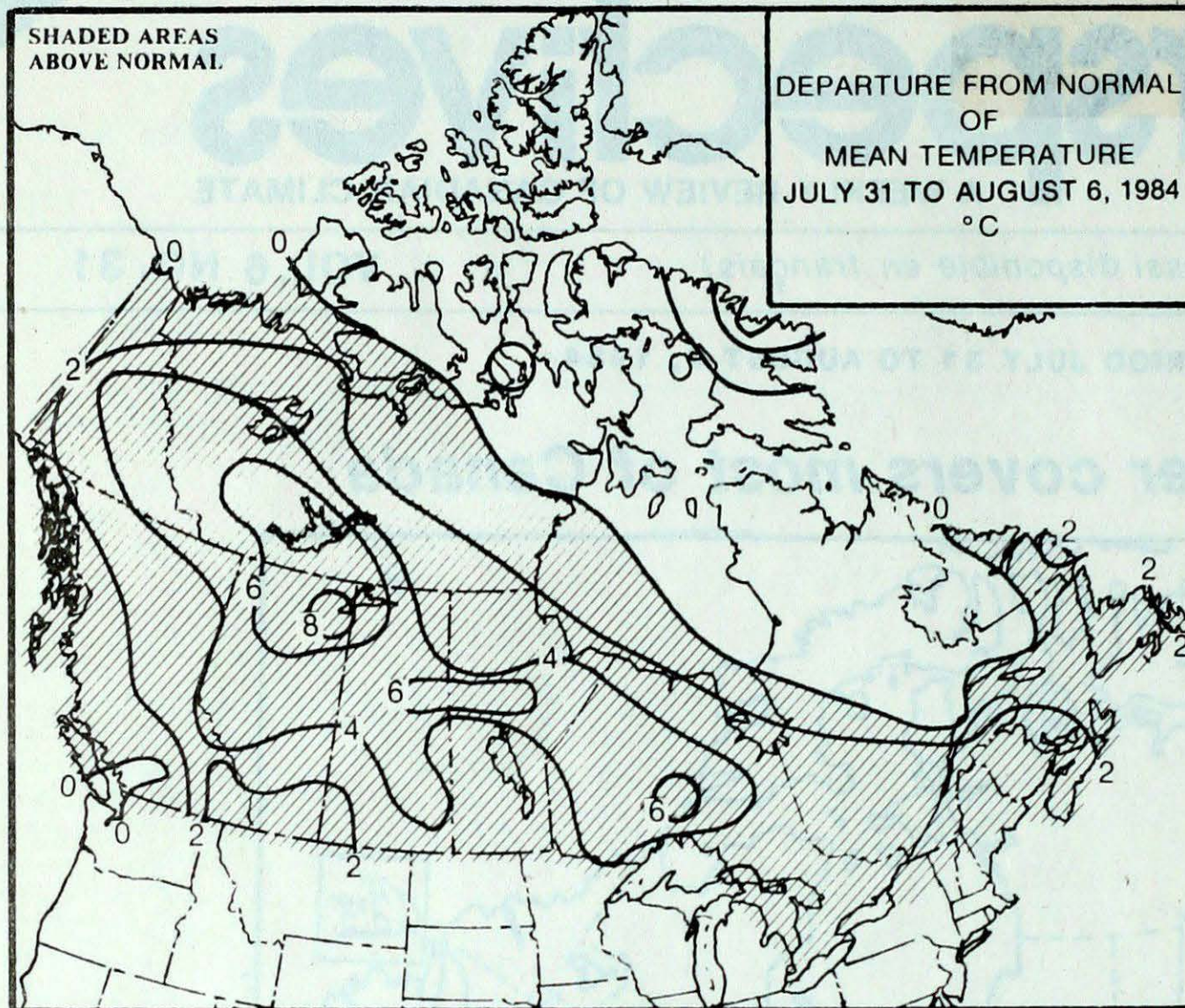


Owing to the hot and dry weather, river levels in Newfoundland are much below normal and fishing bans have been imposed on some rivers.



The relentless heat continued on the parched farm land of southern Prairies. No significant rain fell in the drought-stricken areas.



ACROSS THE COUNTRY...Yukon and Northwest Territories

Record-breaking warmth covered the southern Yukon and the Mackenzie Valley. Daytime readings climbed into the low thirties at several locations. At Whitehorse, 30.2° on August 4 was the highest August temperature since records began in 1942. The eastern Arctic, however, continued to experience unseasonably cool weather. Mean temperatures were 2 to 5 degrees below normal over Baffin Island. Heavy rains in the 25 to 50 mm range fell in the northern Yukon, but owing to the dry weather the forest fire hazard was on the rise in the southern Yukon. The eastern Arctic received 15 to 30 mm of rain this week.

British Columbia

Overall, pleasant summer weather prevailed with only scattered shower and thundershower activity. Daytime temperatures in the interior climbed into the thirties. Towards the end of the period, thunderstorms became more prevalent as weak disturbances crossed the region. On August 5, heavy thunderstorms were reported at several locations in the south, and heavy downpours and strong gusty winds damaged trees and some water front properties.

Prairies

It was another sunny, hot and dry week with daytime readings reaching the mid-thirties and once again breaking many daily maximum temperature records. On August 3, the temperature at Uranium City reached 33°, the highest ever recorded for any August. The forest fire situation is very serious, especially in Alberta. A dozen fires were burning out of control in the Province, the largest one located in the Athabasca forest District. Over the weekend, lightning strikes have ignited 80 new fires. Widely scattered afternoon thundershowers were of little significance to the drought-stricken areas of the south. Crops in central districts are now beginning to show signs of heat and moisture and stress. Several communities received, locally, heavy

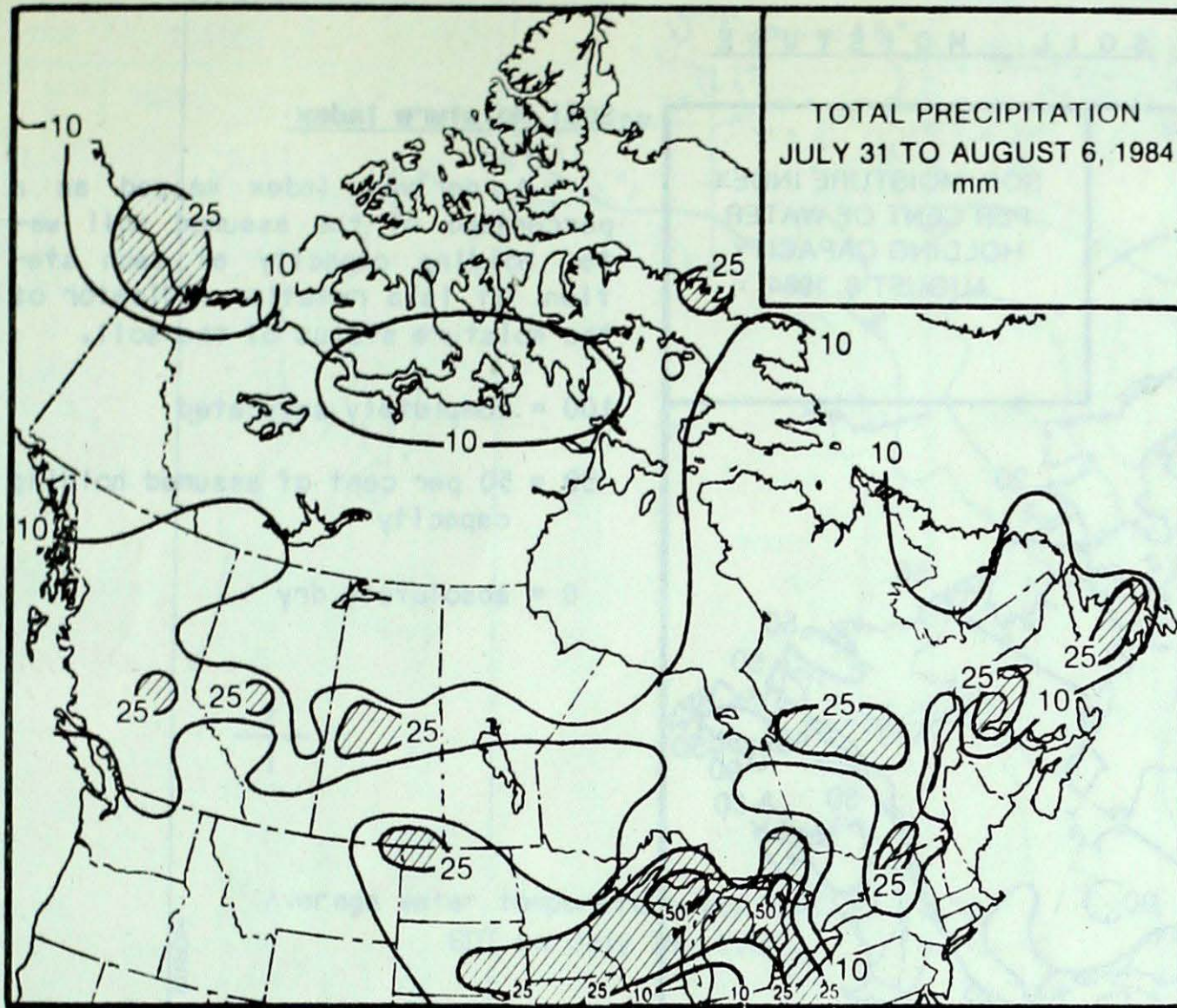
WEEKLY TEMPERATURES EXTREMES (°C)

	MAXIMUM	MINIMUM
YUKON TERRITORY	31.4 Watson Lake	0.2 Burwash
NORTHWEST TERRITORIES	35.4 Fort Simpson	- 3.8 Broughton Island
BRITISH COLUMBIA	38.2 Prince George	2.7 Dease Lake
ALBERTA	34.0 Fort Chipewyan	6.3 Banff
SASKATCHEWAN	36.0 Estevan	9.3 Meadow Lake
MANITOBA	33.4 Thompson	5.1 Churchill
ONTARIO	32.6 Ottawa	5.0 Moosonee
QUEBEC	32.2 Roberval	2.5 La Grande Rivière
NEW BRUNSWICK	33.4 Fredericton	10.0 Charlo
NOVA SCOTIA	32.8 Greenwood	9.6 Western Head
PRINCE EDWARD ISLAND	30.9 Summerside	13.4 Charlottetown
NEWFOUNDLAND	28.8 Badger	3.2 Battle Harbour

ACROSS THE NATION

Warmest mean temperature	24.8	Fort Chipewyan, ALB
Coollest mean temperature	- 0.6	Broughton Island, NWT





downpours and hail. On July 30, near the community of Weyburn, southeast of Regina, more than 200 mm of rain fell in the late afternoon.

**Ontario**

Persistent hot and hazy weather produced the longest warm spell of the season over the Province. Afternoon temperatures remained near 30° while high nighttime humidity and near record-high minimum temperatures combined to create uncomfortably high humidex readings in the mid to high thirties. Rainfall was spotty, many southern Ontario locations remained dry; Toronto, for example, has received only 19 mm of rain during the last 4 weeks.

On August 2, outbreak of violent thunderstorms resulted in a funnel cloud at Brigden near Sarnia as well as heavy rains at Georgetown that caused local flooding.

**Quebec**

Hot and humid air mass arrived over the southwestern regions and moved over the rest of southern Québec by the weekend. Several daily record-high temperatures were broken including 32° at Roberval on August 4. Precipitation was light; however, local thunderstorms dumped 10 to 15 mm of rain at some locations. On August 3, pea size hail was reported at Trois Rivières and lightning strike killed one person at Granby near Montréal.

**Atlantic Provinces**

Atlantic Canada's weather was hot and dry. Numerous stations in the Maritimes established record-high temperatures as the mercury climbed into the mid-thirties, including 33° at Greenwood on August 6. Owing to the lack of rain, vegetable crops in Newfoundland and Nova Scotia were suffering from moisture stress and stunted growth. Also pasture growth in Nova Scotia was described as poor. The hot and dry weather has lowered river levels throughout most of Newfoundland and fishing bans have been imposed on some rivers. The forest fire hazard was high, the biggest fire near  
 ....continued on page 5

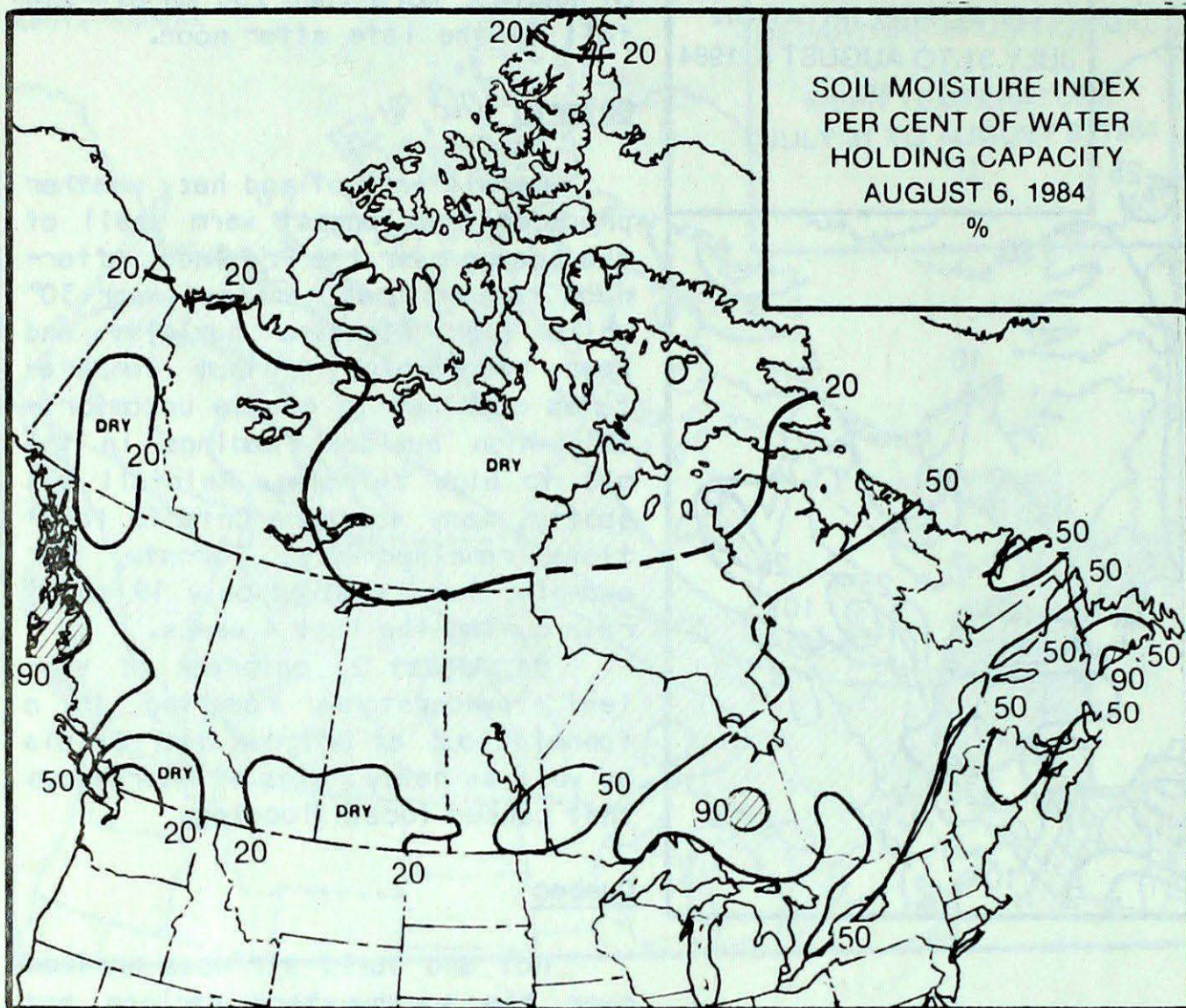
**HEAVIEST WEEKLY PRECIPITATION (mm)**

YUKON	37.0	Komakuk Beach
NORTHWEST TERRITORIES	30.0	Killinek
BRITISH COLUMBIA	43.5	Terrace
ALBERTA	32.1	Whitcourt
SASKATCHEWAN	32.2	North Battleford
MANITOBA	22.0	Norway House
ONTARIO	47.2	Kapuskasing
QUEBEC	31.2	Roberval
NEW BRUNSWICK	30.8	Charlo
NOVA SCOTIA	1.0	Truro
PRINCE EDWARD ISLAND	0.2	Summerside
NEWFOUNDLAND	34.9	Burgeo

**Average annual number of Thunderstorm days in Canada**

Newfoundland	4.0
Prince Edward Island	9.0
Nova Scotia	9.5
New Brunswick	11.0
Québec	10.0
Ontario	20.0
Manitoba	18.5
Saskatchewan	19.5
Alberta	17.5
British Columbia	7.5
Yukon Territory	7.0
Northwest Territories	2.5



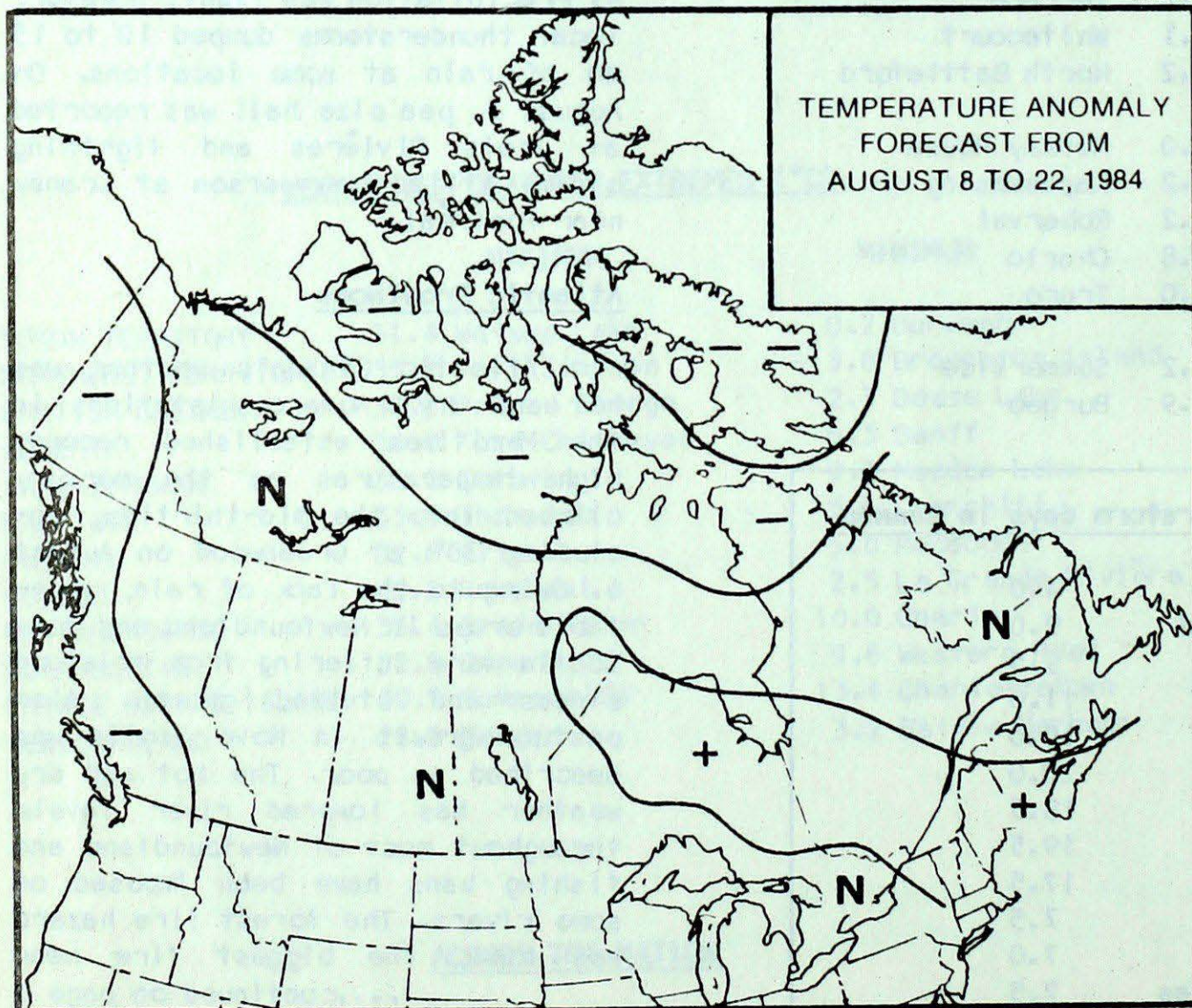
SOIL MOISTURESoil Moisture Index

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 FORECASTTemperature 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

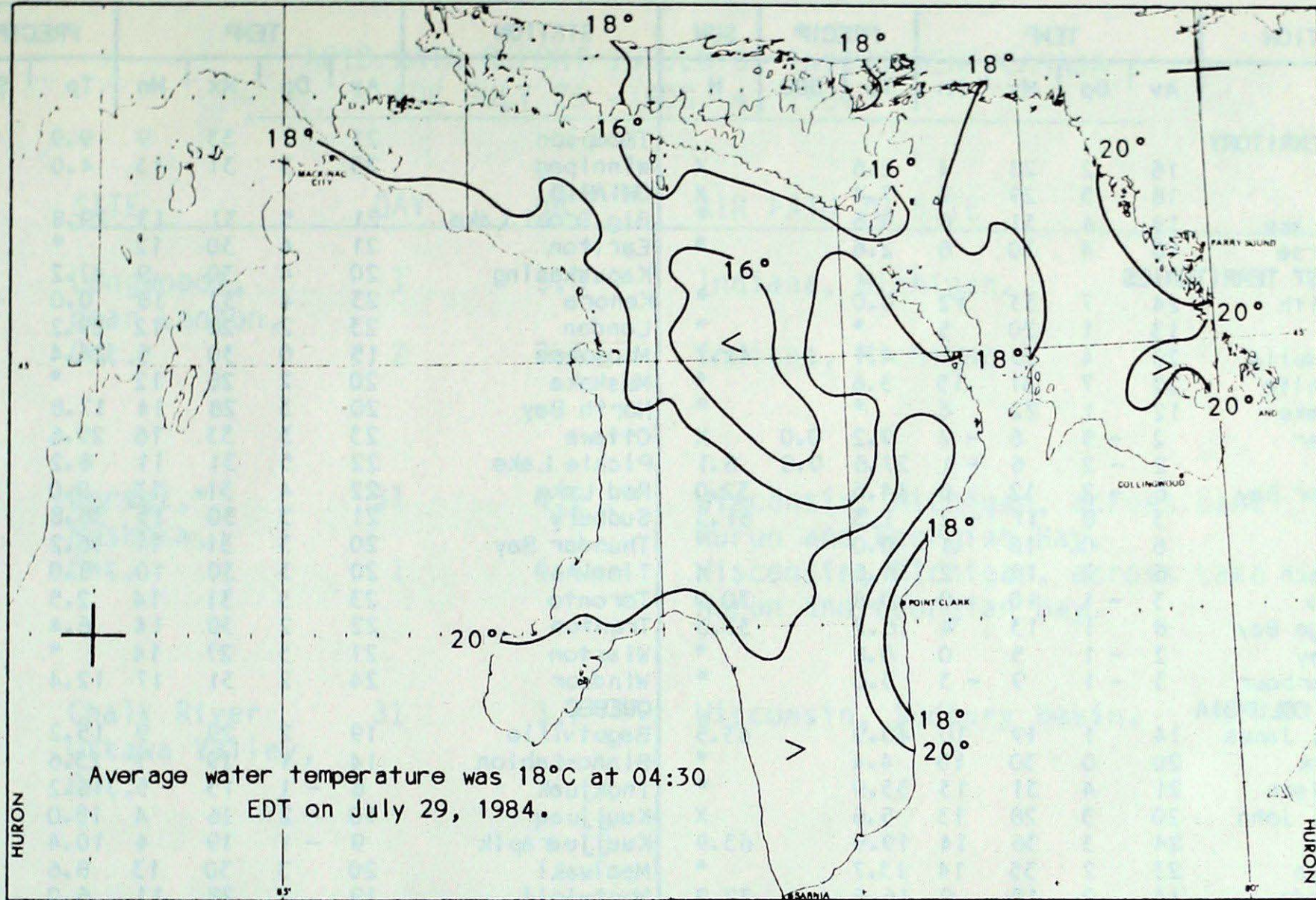
N normal

- below normal

-- much below normal



SATELLITE OBSERVED SURFACE WATER TEMPERATURE (°C) LAKE HURON AND GEORGIAN BAY



Cont'd from page 3

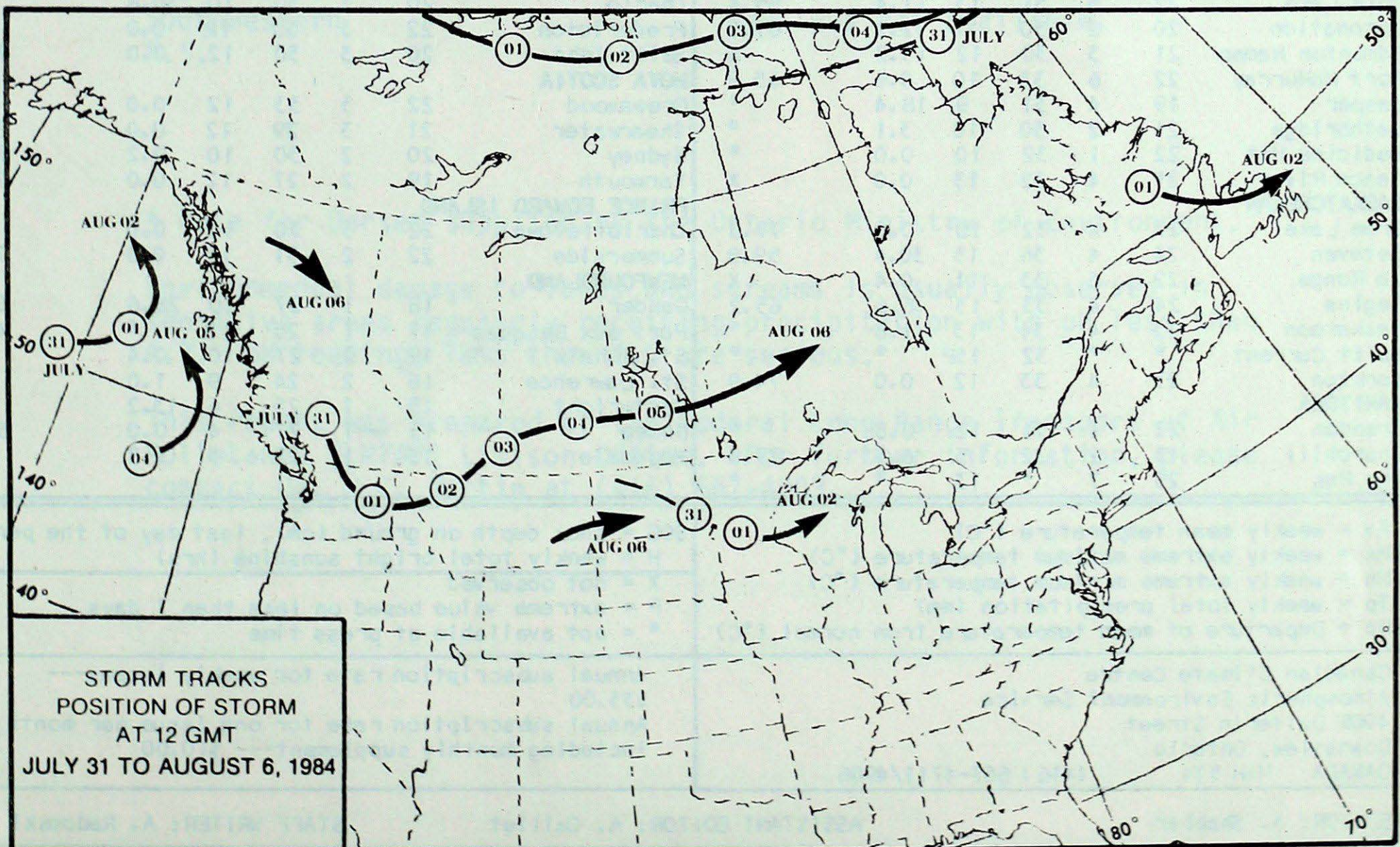
Springdale was still burning but it was under control.

On August 5, damaging winds

accompanied by heavy downpours struck Edmunston. The roof was blown off one house and lightning

strike started a house fire, property damage from the storm was estimated to be near \$200,000.

STORM TRACKS





## TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT AUGUST 07, 1984

STATION	TEMP				PRECIP		SUN	STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H		Av	Dp	Mx	Mn	Tp	SOG	H
<b>YUKON TERRITORY</b>								Thompson	21	7	33	9	9.9		74.2
Dawson	16	2	28	4	2.6		X	Winnipeg	23	3	31	13	4.0		77.5
Mayo A	18	5	29	7	7.4		X	<b>ONTARIO</b>							
Watson Lake	19	4	31	6	5.6		*	Big Trout Lake	21	5	31	13	19.8		X
Whitehorse	18	4	30	6	2.6		*	Earlton	21	4	30	12	*		X
<b>NORTHWEST TERRITORIES</b>								Kapuskasing	20	4	30	9	47.2		*
Fort Smith	24	7	33	12	0.0		*	Kenora	23	4	32	18	0.0		X
Inuvik	13	1	20	5	*		*	London	23	2	28	12	29.2		29.2
Norman Wells	20	4	29	11	4.7		41.7	Moosonee	15	0	30	5	24.4		61.9
Yellowknife	22	7	31	15	5.6		*	Muskoka	20	2	28	12	*		X
Baker Lake	12	1	22	6	*		*	North Bay	20	3	28	14	17.8		40.6
Cape Dyer	2	-5	6	-2	9.2	0.0	X	Ottawa	23	3	33	16	29.6		55.8
Clyde	2	-2	6	-1	27.6	0.0	6.1	Pickle Lake	22	5	31	11	8.2		X
Frobisher Bay	6	-2	12	0	14.6		32.0	Red Lake	22	4	31	13	0.0		80.8
Alert	3	0	11	-2	1.3		61.3	Sudbury	21	3	30	15	38.8		47.2
Eureka	6	0	10	1	0.0		*	Thunder Bay	20	3	31	11	16.2		65.2
Hall Beach	6	2	13	2	4.6		X	Timmins	20	3	30	10	8.0		X
Resolute	3	-1	10	0	0.8		70.9	Toronto	23	3	31	14	2.5		X
Cambridge Bay	8	1	13	4	16.2		33.8	Trenton	22	2	30	14	6.4		X
Mould Bay	2	-1	5	0	0.8		*	Warton	21	3	27	14	*		*
Sachs Harbour	3	-1	9	-3	3.0		*	Windsor	24	2	31	17	12.4		X
<b>BRITISH COLUMBIA</b>								<b>QUEBEC</b>							
Cape St. James	14	1	19	10	40.9		43.5	Bagotville	19	2	29	9	15.2		X
Cranbrook	20	0	30	10	4.4		*	Blanc-Sablon	14	1	19	7	23.6		*
Fort Nelson	21	4	31	13	33.9		*	Inukjuak	8	-1	13	5	16.2		48.8
Fort St. John	20	3	28	13	5.6		X	Kuujuuaq	10	-2	16	4	15.0		*
Kamloops	24	3	36	14	19.9		63.9	Kuujuuaqalik	9	-1	19	4	10.4		*
Penticton	23	2	35	14	13.7		*	Maniwaki	20	3	30	13	8.6		54.3
Port Hardy	14	0	19	9	16.6		32.9	Mont-Joli	19	2	28	11	6.0		63.4
Prince George	19	4	38	8	10.8		*	Montréal	24	3	31	17	10.0		59.4
Prince Rupert	14	1	20	9	18.9		29.6	Natashquan	14	0	22	7	*		*
Revelstoke	21	1	31	13	2.4		*	Nitchequon	13	0	20	7	13.2		53.3
Smithers	17	2	28	8	30.0		50.1	Québec	22	3	31	13	0.0		71.3
Vancouver	17	0	24	11	7.4		61.7	Schefferville	11	-1	20	5	19.0		52.3
Victoria	16	0	25	9	2.6		72.2	Sept-Îles	15	0	26	8	11.0		61.5
Williams Lake	18	2	31	8	13.1		74.8	Sherbrooke	20	3	29	10	0.0		59.7
<b>ALBERTA</b>								Val-d'Or	20	4	30	6	1.2		61.0
Calgary	20	3	29	9	14.2		72.0	<b>NEW BRUNSWICK</b>							
Cold Lake	22	5	31	13	11.4		55.4	Charlo	20	2	30	10	30.8		*
Coronation	20	2	30	11	12.2		61.5	Fredericton	22	3	33	12	0.0		*
Edmonton N. Am.	21	3	30	12	13.2		X	Saint John	20	3	30	12	0.0		75.7
Fort McMurray	22	6	33	10	0.6		65.9	<b>NOVA SCOTIA</b>							
Jasper	19	4	31	9	18.4		*	Greenwood	22	3	33	12	0.0		X
Lethbridge	21	2	30	10	3.1		*	Shearwater	21	3	29	12	0.0		81.4
Medicine Hat	22	1	32	10	0.0		*	Sydney	20	2	30	10	0.2		74.6
Peace River	21	4	32	13	0.0		X	Yarmouth	19	2	27	12	0.0		74.4
<b>SASKATCHEWAN</b>								<b>PRINCE EDWARD ISLAND</b>							
Cree Lake	23	X	32	10	0.0		77.8	Charlottetown	22	3	30	13	0.0		*
Estevan	24	4	36	15	30.4		59.8	Summerside	22	2	31	15	0.0		76.8
La Ronge	22	6	33	11	0.4		X	<b>NEWFOUNDLAND</b>							
Regina	24	4	33	13	6.6		65.2	Gander	18	1	27	10	28.6		60.8
Saskatoon	23	4	34	13	1.8		*	Port aux Basques	17	1	25	11	*		47.6
Swift Current	*	*	32	15P	*		*	St. John's	19	2	27	10	0.4		*
Yorkton	23	4	33	12	0.0		74.9	St. Lawrence	16	2	24	9	1.0		X
<b>MANITOBA</b>								Cartwright	15	1	25	6	13.2		X
Brandon	22	4	34	12	0.8		*	Goose	15	-1	27	4	0.0		63.7
Churchill	15	2	32	5	6.3		77.8	Hopedale	13	1	22	5	1.8		X
The Pas	25	7	*	13	*		*								

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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Annual subscription rate for weekly issues---  
\$35.00  
Annual subscription rate for one issue per month  
including monthly supplement--- \$10.00

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Subscription enquiries: Supply and Services Canada, Publishing Centre, Ottawa, Ontario, Canada, K1A 0S9



ACID RAIN REPORT ISSUED BY ENVIRONMENT CANADA  
FOR JULY 29 - AUG. 4, 1984

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SITE	DAY	pH	AIR PATH TO SITE
Longwoods, near London, Ont.	1	3.8	Indiana, Michigan.
	2	3.6	Indiana, Michigan
Dorset,* Muskoka, Ont.	31	4.2	Wisconsin, Michigan, across Lake Huron and Georgian Bay.
	1	4.4	Wisconsin, Michigan, across Lake Huron and Georgian Bay.
Chalk River Ottawa Valley, Ont.	31	3.7	Wisconsin, Sudbury basin.
Montmorency, Quebec City, Que.			No rain last week.
Kejimikujik, Southwestern N.S.			Information on the rainfall for last week was not available.

\* 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.