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Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

AUGUST 3 ,1984 | (Aussi disponible en français) | VOL. 6 NO. 30

FOR THE PERIOD JULY 24 TO 30, 1984

- ***Summery temperatures return to the Yukon***

- ***Hot and dry weather helped ignite forest fires in British Columbia and Alberta***

- ***Searing heat continues on the Prairies***

- ***Extremely low river levels in Southern Alberta***

- ***Fine vacation weather in Ontario and Québec***

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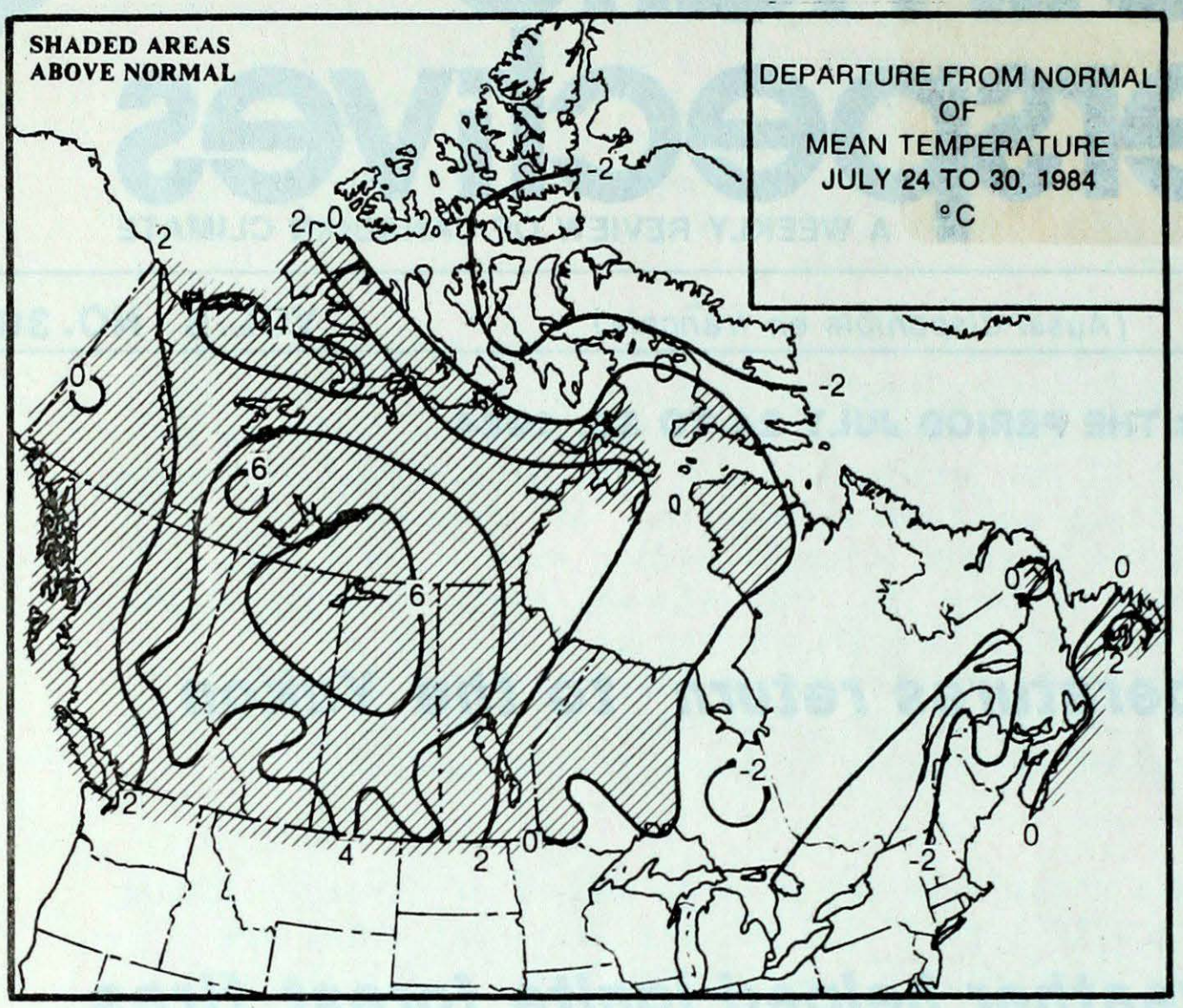
NOTE: The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic stations.

Canada



WEEKLY TEMPERATURES EXTREMES (°C)

	MAXIMUM		MINIMUM	
YUKON TERRITORY	28.9	Shingle Point	0.0	Burwash
NORTHWEST TERRITORIES	34.3	Fort Reliance	-7.5	Broughton Island
BRITISH COLUMBIA	40.5	Lytton	1.2	Dease Lake
ALBERTA	38.0	Medicine Hat	3.3	Banff
SASKATCHEWAN	38.1	Saskatoon	6.9	Meadow Lake
MANITOBA	34.6	The Pas	5.9	Churchill
ONTARIO	29.9	Moosonee Red Lake Windsor	1.0	Moosonee
QUÉBEC	25.8	Montréal	2.4	Gaspé
NEW BRUNSWICK	28.4	Chatham	8.2	Charlo
NOVA SCOTIA	28.2	Greenwood	7.5	Shelburne
PRINCE EDWARD ISLAND	27.1	Summerside	11.5	Charlottetown
NEWFOUNDLAND	26.6	Badger	3.0	Hopedale

ACROSS THE NATION

Warmest mean temperature	25.5	Kamloops, BC
Coolest mean temperature	1.3	Resolute, NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

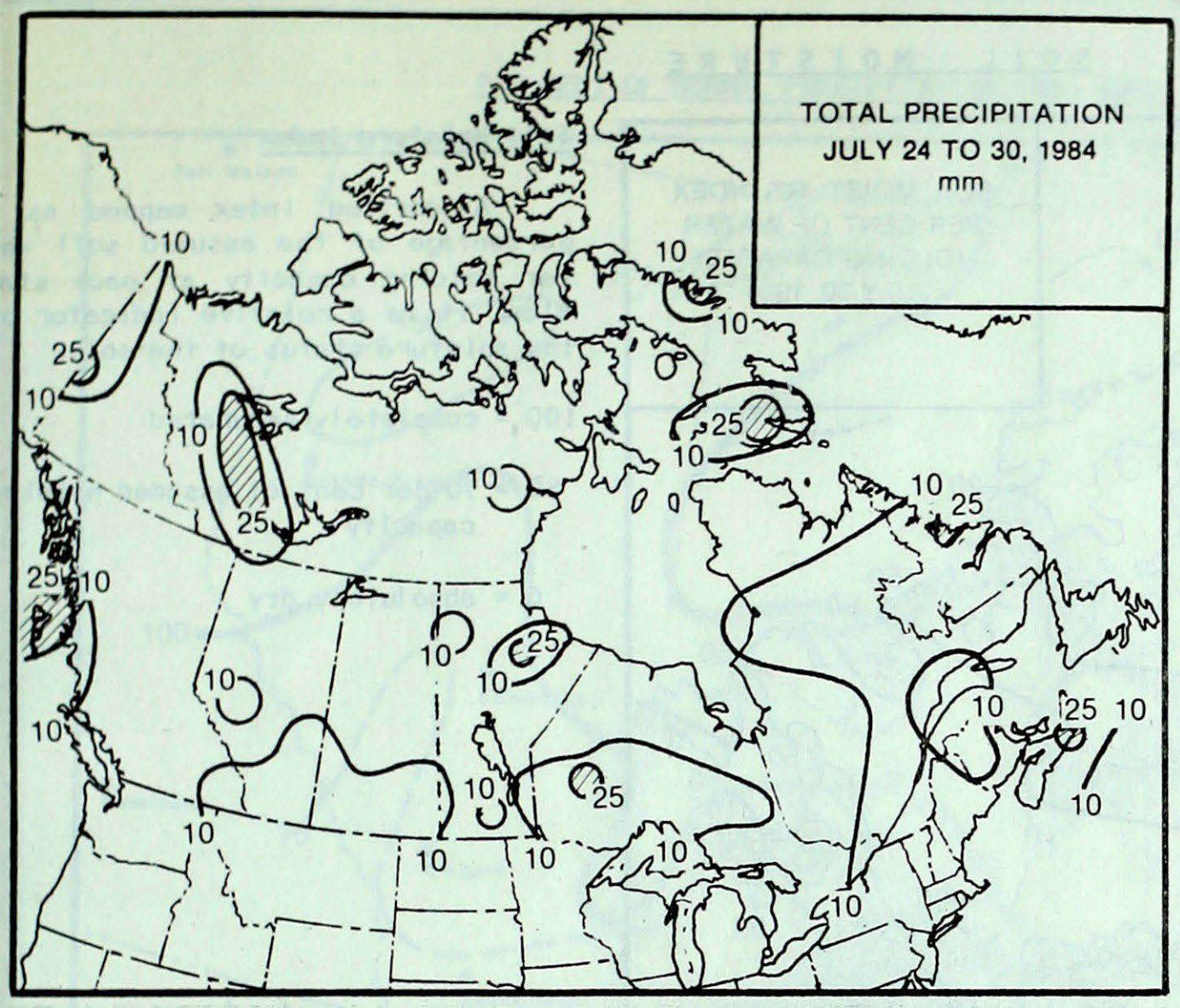
Summery weather returned to the Yukon and the Mackenzie District. The temperatures were 2 to 7 degrees above normal and on several occasions daytime readings climbed into the hot mid-thirties in the vicinity of the Great Slave Lake. Once again this week, Whitehorse established a record-low temperature; on July 26, the mercury dropped to 2.5° making this the 6th occurrence of daily record-low in July. In contrast the eastern half of the Arctic was unseasonably cool. Precipitation was light throughout most of the North; however, heavy rains of 30 to 60 mm fell in parts of the Yukon and the Mackenzie Valley. The rains washed out 8 km of the Dempster Highway at km 160. Owing to the wet and cool July weather in the Yukon, the forest fire season was quiet this year.

British Columbia

Sunny skies and warm temperatures provided the best vacation weather so far this year. Mean temperatures were 3 to 5 degrees above normal and numerous stations established daily record-high values; for example, 30° at Victoria on July 24. Precipitation was light but local thunderstorms dumped 15 to 25 mm of rain at a few locations in the interior. The dry and warm weather has raised the threat of major forest fires in the Province.

Prairies

The searing heat of the past several weeks continued into this week. Record-high temperatures in the mid to high thirties were established at many locations including an all-time high of 35° at Uranium City on July 27. Once again this week, precipitation was rather scarce but 10 to 35 mm of rain fell in the drought-stricken areas of southern Alberta. The rains, however, came too late as much of the crops had passed the stage of recovery. Drought conditions worsened in southern Saskatchewan. Crops on stubble and sandy soils are suffering the most and yield expectations



HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON	26.5	Dawson
NORTHWEST TERRITORIES	43.3	Fort Simpson
BRITISH COLUMBIA	42.8	Prince Rupert
ALBERTA	21.4	Edson
SASKATCHEWAN	52.4	Elbow
MANITOBA	40.6	Gillam
ONTARIO	35.4	Atikokan
QUEBEC	20.4	Kuujjuarapik
NEW BRUNSWICK	20.8	Saint John
NOVA SCOTIA	26.5	Eddy Point
PRINCE EDWARD ISLAND	18.0	Summerside
NEWFOUNDLAND	37.9	Burgeo

Alberta River flow

Owing to the below normal spring and summer rainfall and below average snow melt mountain run-off, the stream flow in the Oldman and Bow Rivers has been extremely low. These rivers provide water to the irrigated fields of southern Alberta. The natural flow in the Oldman River is only 50 per cent of its normal value. Since early July, river levels in southern Alberta have been dropping and the forecast for the rest of the summer calls for extremely low levels.

- Alberta River Forecast Centre

are becoming less favourable on a daily basis. In Alberta, lightning strikes in the hot and dry weather ignited numerous forest fires. At least 98 fires started in a two-day period near the foothills. The forest fire hazard was rated as high to extreme throughout the forested areas of southern and central Alberta.

Ontario

Sunny dry days and cool nights dominated Ontario's weather. On July 29, showers accompanied by a warm front, entered Northwestern regions. Despite the showery precipitation, the forest fire hazard was rated as moderate to high north of Lake Superior. Around the lower Great Lakes, the dry weather allowed the wheat harvest to progress on schedule. In southwestern Ontario, rain would be beneficial for the crop growth as the soil is becoming dry in some fields.

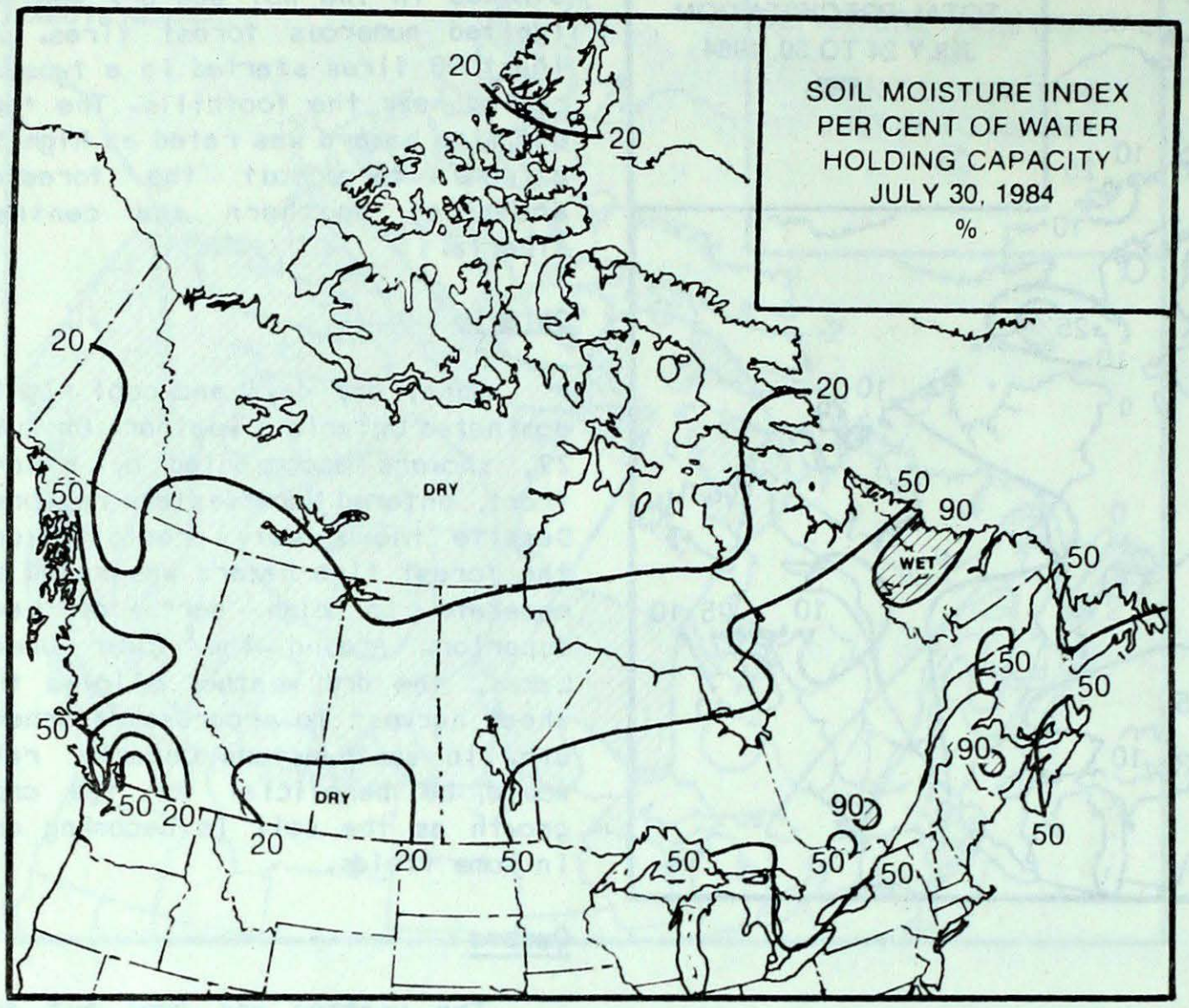
Quebec

The weather was cool but dry throughout most of Québec. At least 4 daily record-low temperatures were set including a nightime reading of 4° at Baie Comeau on July 27. Precipitation was light. The dry weather helped the agricultural growth near Val-d'Or where previously fields were saturated.

Atlantic Provinces

After several weeks of warm weather, the temperatures dropped below the norm in Atlantic Canada. Rainfalls in the 15 to 25 mm range proved beneficial to crops in Nova Scotia and revived crop growth in Prince Edward Island. But, dryness continued in eastern Newfoundland. Rain is urgently needed in that area for the germination of late seeded crops. In Newfoundland a large fire covering nearly 5,000 hectares was still burning out of control near Burlington. At least 150 men were on the fire line.

SOIL MOISTURE



Soil Moisture Index

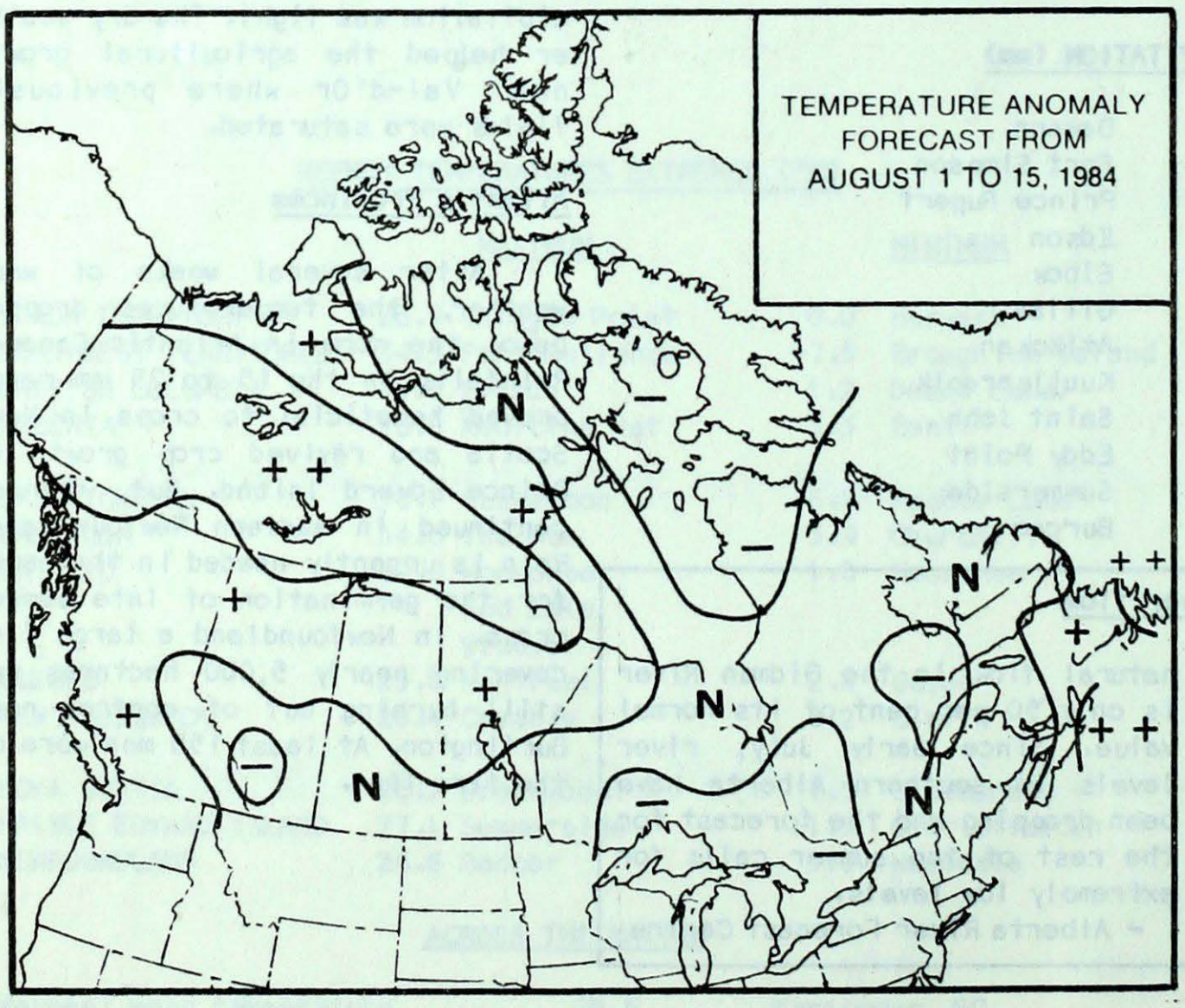
A derived index mapped as a percentage of the assumed soil water holding capacity at each station. It is a relative indicator of the moisture status of the soil.

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

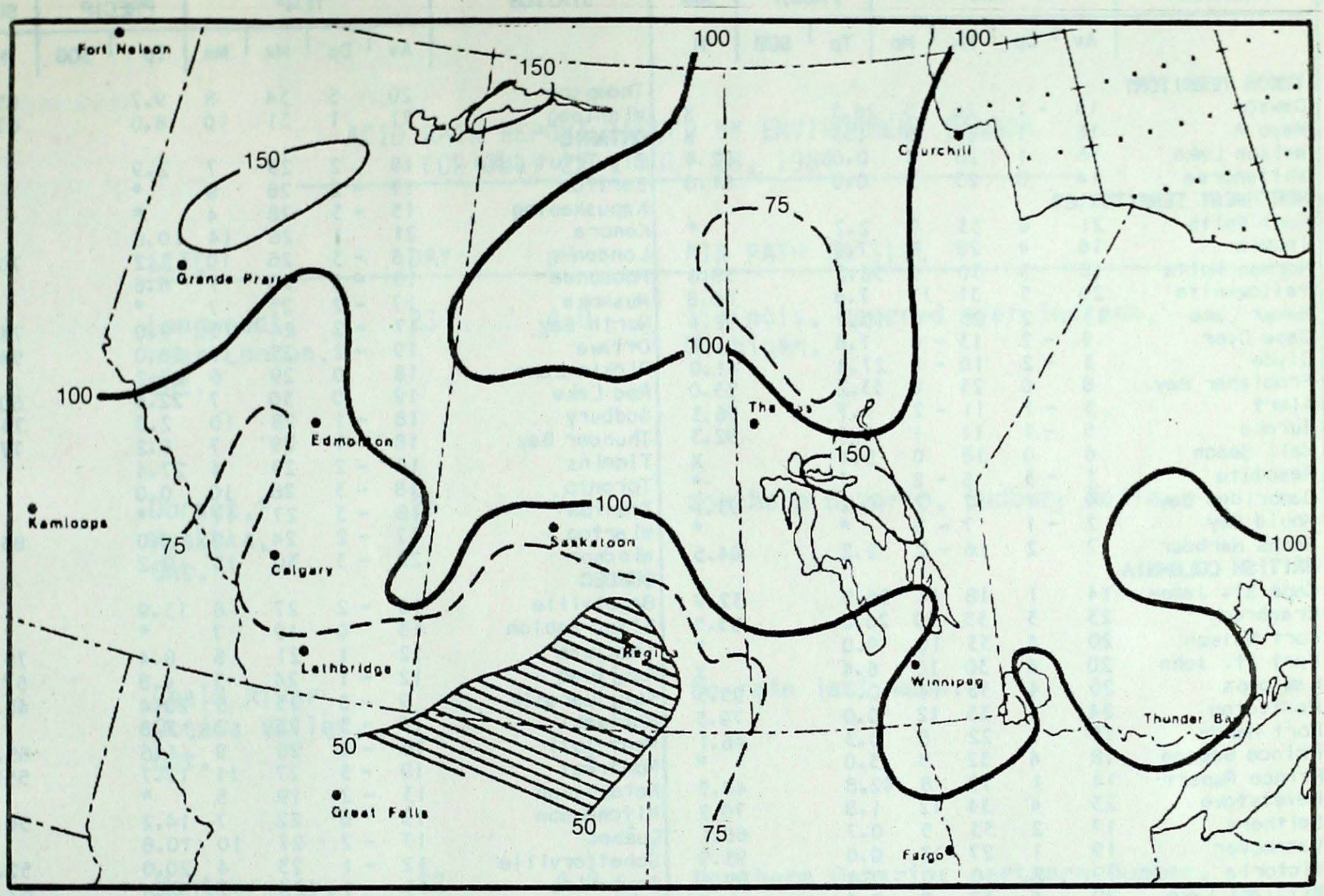
\+ above normal

N normal

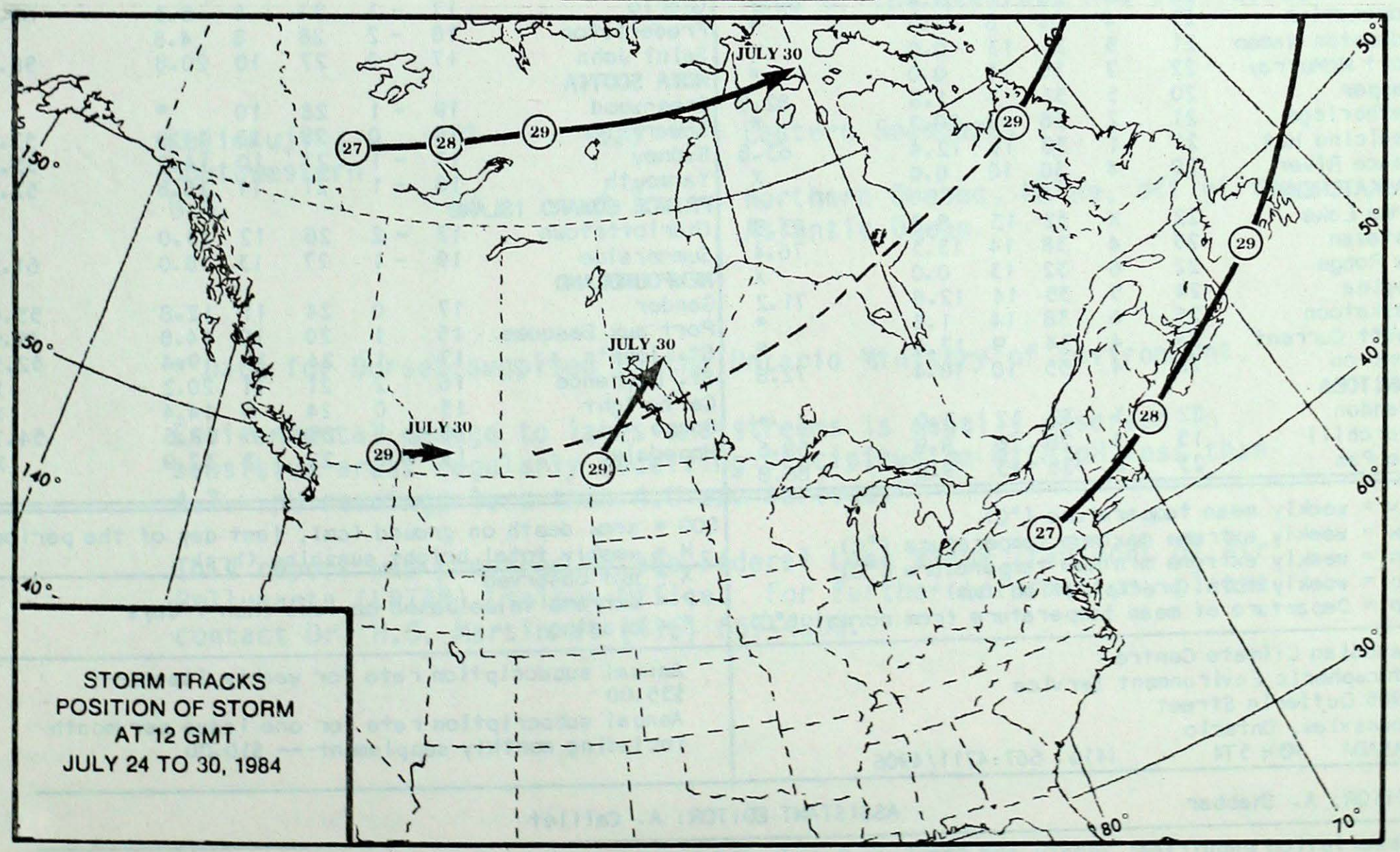
\- below normal

-- much below normal

PER CENT OF NORMAL PRECIPITATION FROM APRIL 1 TO JULY 31, 1984



STORM TRACKS



TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT JULY 31, 1984

STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H
YUKON TERRITORY							
Dawson	14	- 1	26	5	26.5		X
Mayo A	16	1	25	5	1.3		X
Watson Lake	16	1	28	4	0.0		72.4
Whitehorse	14	0	23	3	0.0		81.8
NORTHWEST TERRITORIES							
Fort Smith	21	6	33	9	2.2		*
Inuvik	16	4	28	6	7.0		*
Norman Wells	18	3	30	9	36.2		58.6
Yellowknife	20	5	31	13	7.8		86.8
Baker Lake	13	2	25	4	10.7		92.1
Cape Dyer	5	- 2	13	- 6	7.8		X
Clyde	3	- 2	10	- 1	27.4		41.0
Frobisher Bay	8	0	23	0	33.2		53.0
Alert	3	- 1	11	- 2	1.7		56.3
Eureka	5	- 1	11	1	0.6		92.3
Hall Beach	6	0	18	0	5.4		X
Resolute	1	- 3	6	- 2	*		*
Cambridge Bay	9	1	17	2	0.2		93.3
Mould Bay	2	- 1	7	- 3	*		*
Sachs Harbour	7	2	16	- 2	2.2		84.5
BRITISH COLUMBIA							
Cape St. James	14	1	18	11	26.5		32.9
Cranbrook	23	3	35	10	26.6		65.5
Fort Nelson	20	4	33	10	9.0		*
Fort St. John	20	4	30	10	6.4		X
Kamloops	25	4	38	14	0.7		95.5
Penticton	24	4	35	12	0.0		79.5
Port Hardy	15	1	22	8	0.3		46.1
Prince George	18	4	32	5	3.0		*
Prince Rupert	14	1	19	8	42.8		40.5
Revelstoke	23	4	34	12	1.8		70.2
Smithers	17	2	33	5	0.7		66.1
Vancouver	19	1	27	13	0.0		93.9
Victoria	19	2	30	10	0.4		95.8
Williams Lake	20	4	32	8	0.4		*
ALBERTA							
Calgary	21	5	35	9	5.5		60.6
Cold Lake	22	6	30	11	3.4		63.2
Coronation	21	4	35	8	17.2		*
Edmonton Namao	21	5	31	13	0.0		X
Fort McMurray	22	7	35	11	0.0		*
Jasper	20	5	31	7	1.8		82.8
Lethbridge	21	2	36	9	20.2		*
Medicine Hat	21	1	38	11	12.4		63.8
Peace River	20	4	30	10	0.0		X
SASKATCHEWAN							
Cree Lake	22	X	32	13	8.2		83.8
Estevan	25	4	38	14	13.3		76.4
La Ronge	22	6	32	13	0.0		X
Regina	24	5	35	14	12.8		71.2
Saskatoon	25	6	38	14	1.2		*
Swift Current	23	4	34	9	17.0		*
Yorkton	22	4	35	10	18.4		72.8
MANITOBA							
Brandon	22	3	32	12	3.0		*
Churchill	15	3	28	6	8.9		69.6
The Pas	23	6	35	13	9.8		86.8
Thompson	20	5	34	8	9.7		85.9
Winnipeg	21	1	31	10	8.0		67.9
ONTARIO							
Big Trout Lake	18	2	29	7	2.9		X
Earlton	17	- 2	28	9	*		X
Kapuskasing	15	- 3	28	4	*		*
Kenora	21	1	28	14	10.8		X
London	18	- 3	26	10	1.2		70.8
Moosonee	15	- 2	30	1	6.6		*
Muskoka	17	- 2	25	7	*		X
North Bay	17	- 2	24	10	9.0		74.1
Ottawa	19	- 2	27	12	18.0		54.0
Pickle Lake	18	0	29	6	27.2		X
Red Lake	19	0	30	7	22.4		60.4
Sudbury	18	- 1	28	10	2.0		75.5
Thunder Bay	18	- 1	29	7	9.2		77.6
Timmins	16	- 2	29	4	27.4		X
Toronto	18	- 3	28	10	0.0		X
Trenton	18	- 3	27	11	*		X
Wiarton	17	- 2	24	7	0.0		83.5
Windsor	20	- 3	30	13	8.2		X
QUEBEC							
Bagotville	16	- 2	27	8	13.9		X
Blanc-Sablon	13	0	19	7	*		*
Inukjuak	12	1	21	5	8.4		75.0
Kuujjuaq	12	- 1	24	3	4.8		57.1
Kuujjuarapik	9	- 3	25	3	20.4		45.5
Maniwaki	16	- 3	25	7	7.8		*
Mont-Joli	16	- 2	26	9	1.6		65.6
Montréal	19	- 3	27	11	17.7		55.4
Natashquan	13	- 2	19	5	*		*
Nitchequon	13	0	22	7	14.2		50.5
Québec	17	- 2	27	10	10.8		*
Schefferville	12	- 1	23	4	20.0		52.1
Sept-Iles	15	- 1	22	7	2.6		62.0
Sherbrooke	16	- 3	25	7	14.0		56.2
Val-d'Or	20	2	98	6	4.2		*
NEW BRUNSWICK							
Charlo	17	- 1	27	8	8.3		65.1
Fredericton	18	- 2	28	8	4.8		*
Saint John	17	0	27	10	20.8		58.4
NOVA SCOTIA							
Greenwood	19	- 1	28	10	*		X
Shearwater	18	0	28	13	17.9		53.0
Sydney	17	- 1	27	10	14.2		53.3
Yarmouth	16	- 1	21	11	16.8		52.8
PRINCE EDWARD ISLAND							
Charlottetown	17	- 2	26	12	13.0		*
Summerside	19	- 1	27	13	18.0		61.2
NEWFOUNDLAND							
Gander	17	0	24	11	12.8		53.0
Port aux Basques	15	1	20	10	14.8		49.9
St. John's	17	1	24	11	19.4		52.5
St. Lawrence	16	2	21	11	20.2		X
Cartwright	13	0	24	6	14.4		X
Goose	16	- 1	25	8	19.6		54.7
Hopedale	11	- 1	22	3	37.9		X

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
* = missing

Canadian Climate Centre
Atmospheric Environment Service
4905 Dufferin Street
Downsview, Ontario
CANADA M3H 5T4 (416) 667-4711/4906

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EDITOR: A. Shabbar ASSISTANT EDITOR: A. Caillet

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ATTENTION READERS: BEGINNING THIS WEEK, THE ACID RAIN REPORT WILL BE ISSUED AS A CHART. IT IS FELT THAT THIS FORMAT IS EASIER TO INTERPRET.

ACID RAIN REPORT ISSUED BY ENVIRONMENT CANADA FOR JULY 22 - JULY 28, 1984

SITE	DAY	pH	AIR PATH TO SITE
Longwoods, near London, Ont.	23	4.0	Illinois, hovered over Indiana, Michigan.
Dorset,* Muskoka, Ont.	26	4.6	Northern Ontario, Sudbury basin.
Chalk River Ottawa Valley, Ont.			No rain last week.
Montmorency, Quebec City, Que.	22	4.0	Northern Ontario, northern Quebec. Information on the rainfall for the rest of the week was not available.
Kejimkujik, Southwestern N.S.	23	3.8	Eastern Seaboard.
	27	4.7	Northern Quebec, Maine, 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.