

Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

MONTHLY
SUPPLEMENT
INCLUDED

Canadian Climate Centre

AUGUST 17, 1984

(Aussi disponible en français)

VOL. 6 NO. 32

FOR THE PERIOD AUGUST 7 TO 13, 1984

- **Searing heat continues from the Rockies to the Maritimes**
- **Lightning storms start a rash of forest fires in British Columbia**
- **Showers bring relief to the dry farmland of the Maritimes**



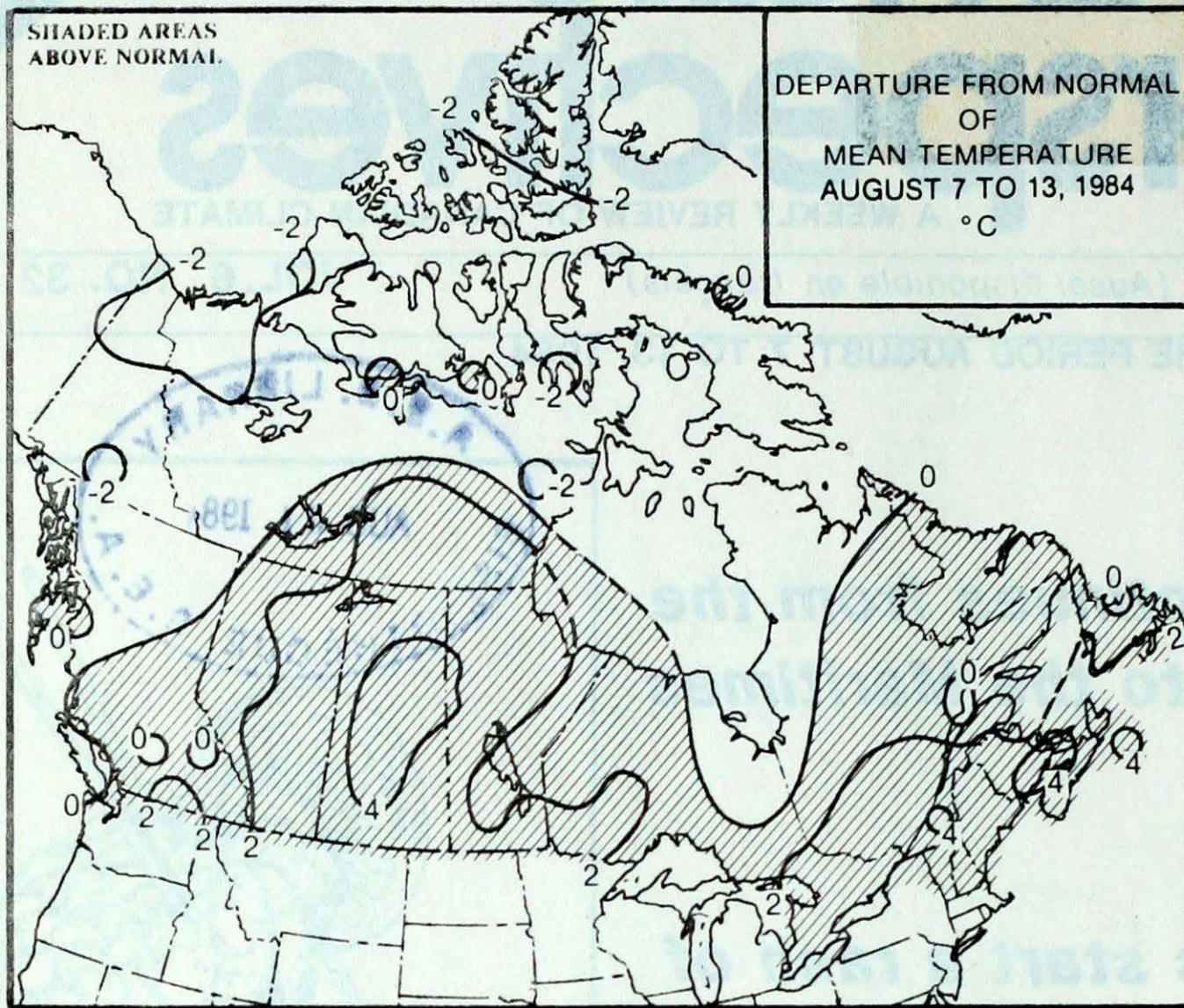
INSIDE THE JULY MONTHLY SUPPLEMENT.....

- Warmer Climate and the Arctic
- Ice Breakup in the Hudson Bay

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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

The record breaking high temperatures of early August were followed this week by near record minimums as cool Arctic air pressed southward out of the Beaufort Sea. Mean temperatures in almost every regions were below normal. However near the Mackenzie Valley, daytime temperatures rose to 27° on several occasions. A series of weather systems crossing the North deposited moderate to heavy amounts of precipitation. Heavy rains of 45 mm washed parts of the Alaska Highway near Burwash.

British Columbia

A persistent storm track brought cloudy and wet conditions to the North Coast and the northern portion of Vancouver Island, while more southern areas enjoyed a pleasant summer week. With a few exceptions, temperatures remained above normal in the interior, climbing as high as the mid-thirties in the south resulting in consistently high forest fire indices. Sunshine was plentiful but due to the unstable nature of the air mass, showers and thunderstorms developed rapidly during the afternoons. Frequent lightning strikes started many new forest fires, which were quickly brought under control. Several communities experienced heavy downpour and strong gusty winds during these storms.

Prairies

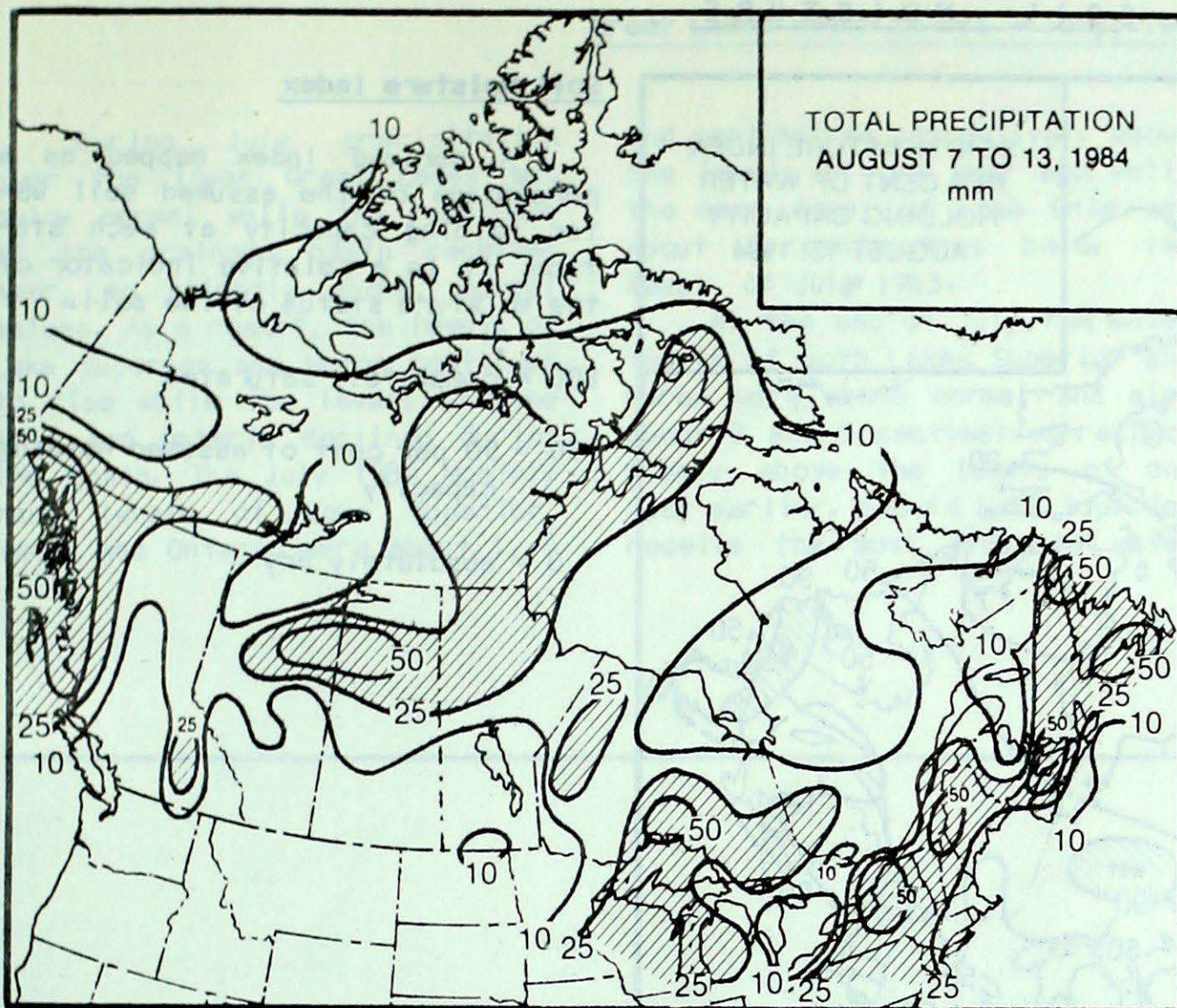
Dry and hot weather persisted. Daytime readings at many locations reached the high thirties, establishing numerous daily maximum temperature records. On August 10, the temperature at Medicine Hat and Saskatoon soared to 39 and 38 degrees respectively. Showers were widely scattered and did little to alleviate the persistent drought, especially in southern Saskatchewan. A weak disturbance approaching Alberta the last day of the period was accompanied by increased incidence of showers.

WEEKLY TEMPERATURES EXTREMES (°C)

	MAXIMUM	MINIMUM
YUKON TERRITORY	24.0 Mayo	- 4.0 Dawson
NORTHWEST TERRITORIES	27.8 Fort Smith	- 3.5 Pelly Bay
BRITISH COLUMBIA	35.9 Penticton	1.9 Cape St. James
ALBERTA	39.0 Medicine Hat	3.7 Rock Mountain House
SASKATCHEWAN	37.7 Saskatoon	7.4 Meadow Lake
MANITOBA	36.7 Pilot Mound	3.1 Churchill
ONTARIO	32.3 Kenora	0.9 Nagagam
QUEBEC	30.8 Bagotville	2.4 Schefferville
NEW BRUNSWICK	30.8 Fredericton	10.2 Chatham
NOVA SCOTIA	32.2 Inverness	8.5 Western Head
PRINCE EDWARD ISLAND	29.0 Charlottetown	14.4 Charlottetown
NEWFOUNDLAND	30.4 Goose	1.4 Churchill Falls

ACROSS THE NATION

Warmest mean temperature	24.2	Windsor, ONT
Coollest mean temperature	0.9	Alert, N.W.T.



Ontario

Hot, hazy and humid weather continued in Ontario. Mean temperatures were near normal in the North but averaged nearly 3° above normal in southern Ontario. On August 10, moderate rainshowers fell in areas north of Lake Superior and reduced the threat of forest fires in Northwestern Ontario. And on August 13, Showers relieved dry conditions in southwestern region. Despite the rain, crops in the Essex and Kent counties were under severe moisture stress. Lack of moisture was also affecting corn growth; in some locations maturation was behind schedule. Warm nights and dry days have significantly helped the tobacco crop. Many of the crops have greened rapidly. Owing to the favourable weather this summer, Ontario grape growers are expecting a bumper crop this year.

Québec

Hot and muggy weather continued over southern Québec. Numerous daily high temperatures were set as the readings climbed near 30°. Precipitation was light, but locally up to 60 mm fell in the extreme southwestern region including 86 mm near Hull. In the North, the weather was cool but dry. Schefferville recorded the lowest temperature, 2°. Despite the hot and dry weather, the number of forest fires continued to be well below average.

Atlantic Provinces

Urgently needed rain arrived in Atlantic Canada. The precipitation, however, was showery and did not alleviate drought conditions in central and northern Nova Scotia. In New Glasgow, water levels in ponds and reservoirs have dropped significantly and water rationing was imposed. Vegetable and forage crops benefitted from the 25 to 50 mm range weekend rains in Prince Edward Island and eastern Newfoundland. And water rationing was imposed. For most of the week, the East Coast basked under hot and sunny weather. The temperatures were 2 to 4 degrees above the long term average and typically maximums reached into the high twenties.

HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON	43.8	Whitehorse
NORTHWEST TERRITORIES	64.6	Mould Bay
BRITISH COLUMBIA	110.2	McInnes Island
ALBERTA	60.2	Fort McMurray
SASKATCHEWAN	56.5	Cree Lake
MANITOBA	40.8	Lynn Lake
ONTARIO	78.2	Ottawa
QUEBEC	64.8	Blanc Sablon
NEW BRUNSWICK	37.1	Moncton
NOVA SCOTIA	100.1	Greenwood
PRINCE EDWARD ISLAND	56.8	Charlottetown
NEWFOUNDLAND	58.6	Burgeo

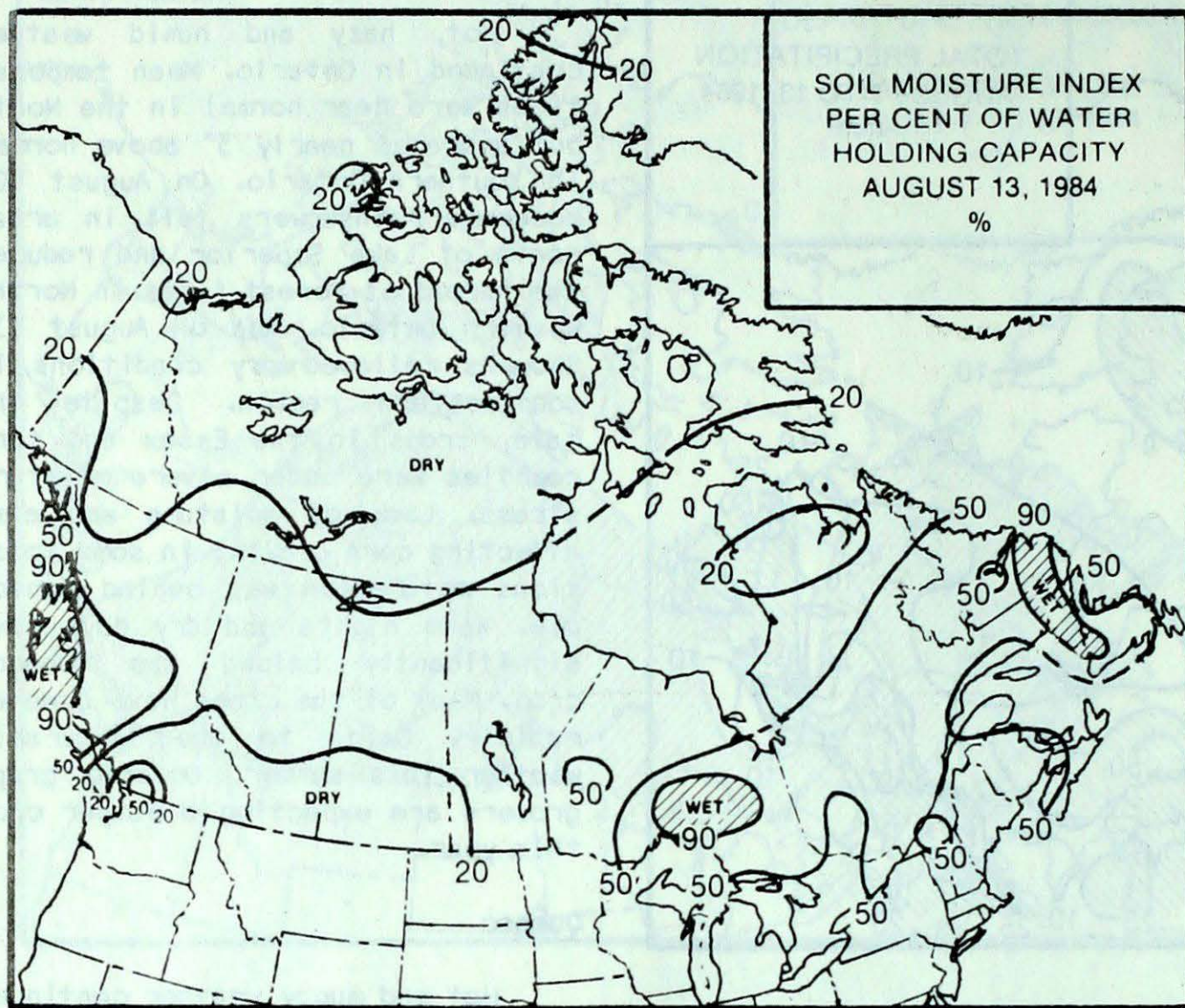
Lightning strikes start forest fires in British Columbia

Lightning storms ignited about 750 new fires during the first week of August in British Columbia. As a result, the total number of fires this season doubled in one week to 1580. Nearly 2,000 fire fighters assisted by air tankers and helicopters were battling the

blazes. The area burned to date has been kept down to 17,000 hectares, which is well below average. The forests are very dry and the fire danger is generally high to extreme.

B.C. Forestry

SOIL MOISTURE



Soil Moisture Index

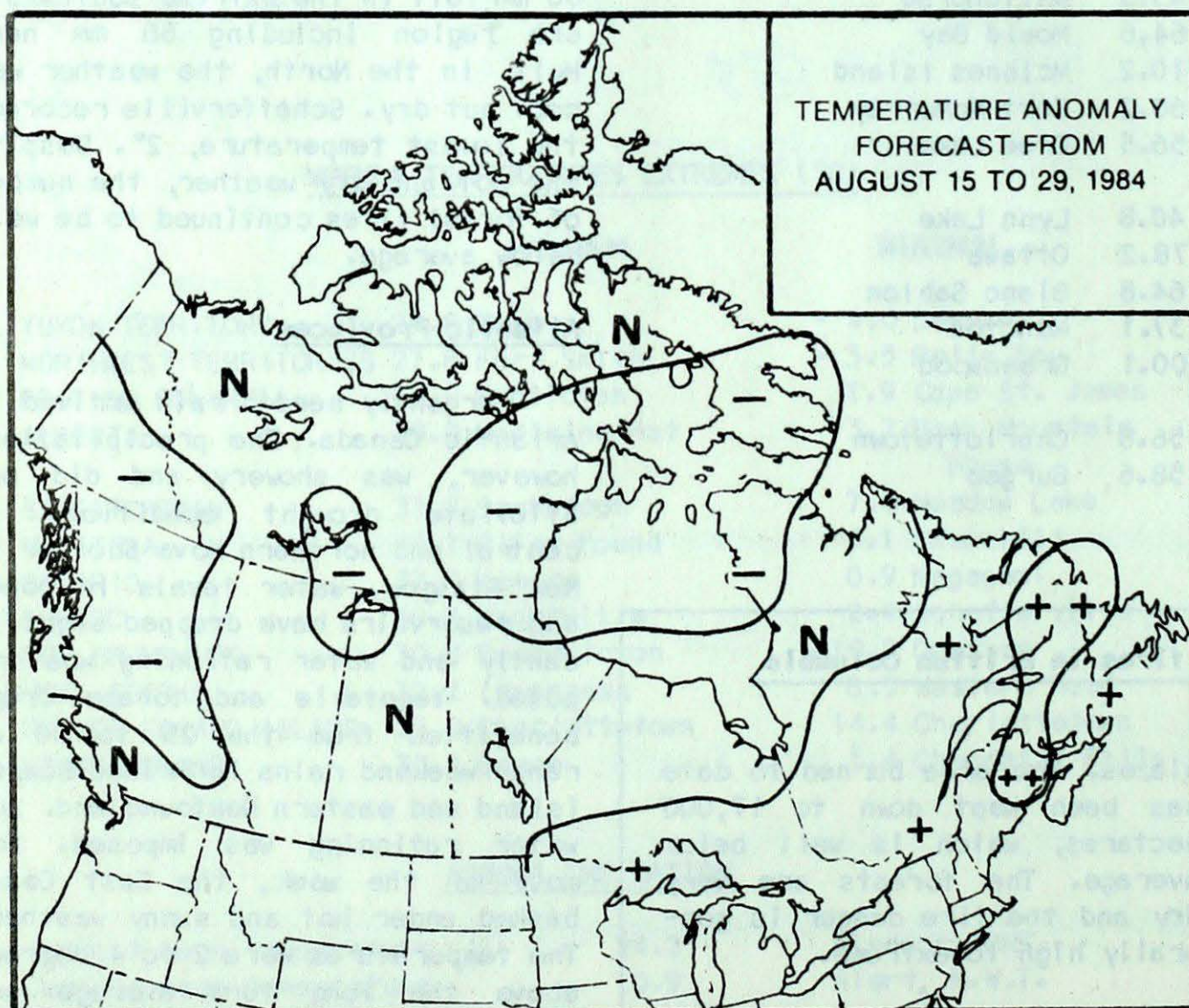
A derived index mapped as a percentage of the assumed soil water holding capacity at each station. It is a relative indicator of the moisture status of the soil.

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

Great Lakes Water Levels - July, 1984

During July precipitation over the lower Great Lakes was below normal while the remainder of the drainage basin received near, to slightly above, normal values. As a result, the levels of Lake Superior and Huron continued to rise while the levels of Lake Erie and Ontario declined during the month. The July 1984 monthly mean levels of Lake Superior, Huron and Ontario were about 1, 5

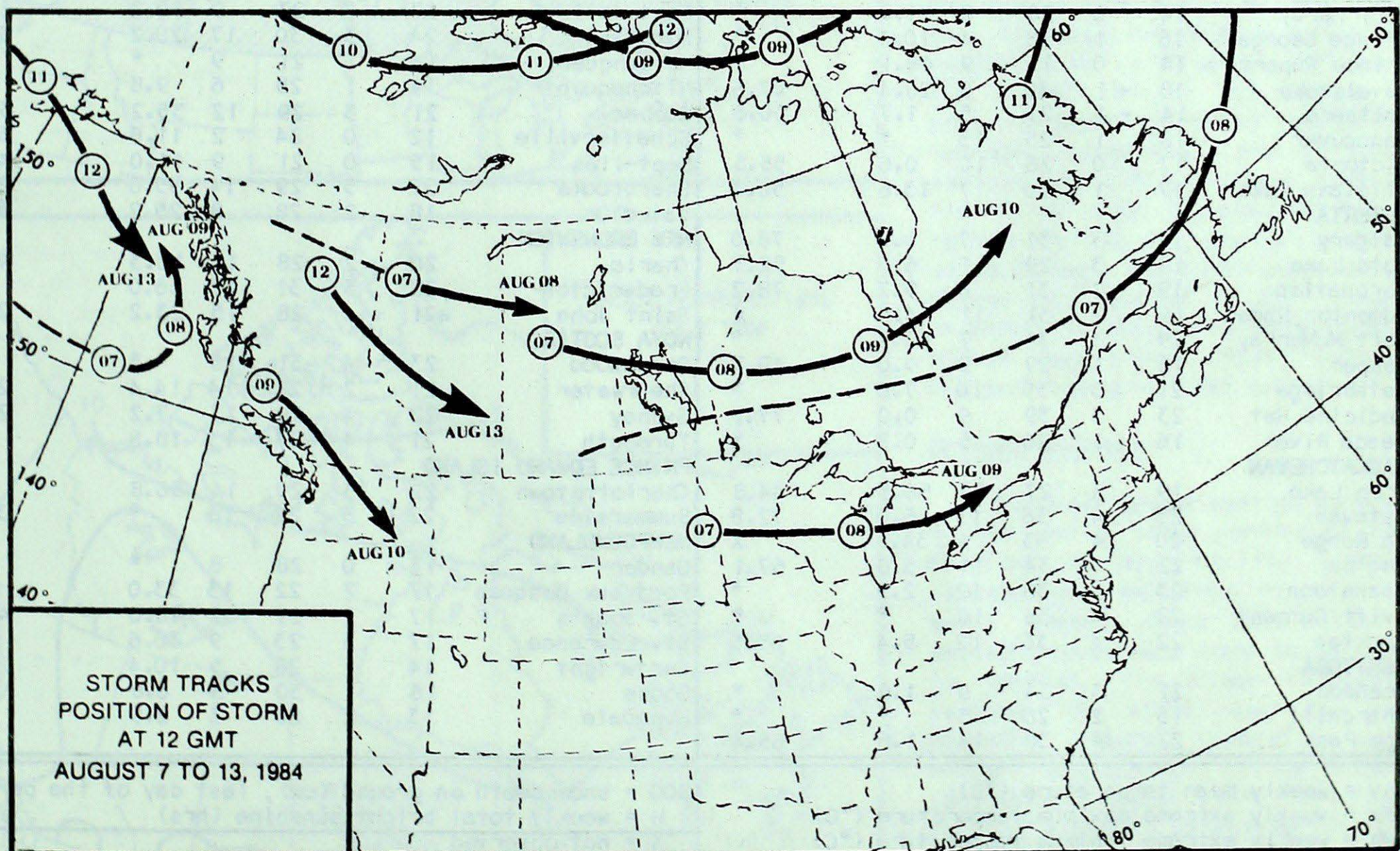
and centimetres respectively above the levels of one year ago while the mean level of Lake Erie was about 2 centimetres below the level of July 1983.

At the end of July the water levels of both Lakes Superior and Huron were above normal and also about 2 and 5 centimetres respectively above the levels of one year earlier. Should Lake Superior receive the most probable water

supplies over the next six months, its level, during the fall and early winter months, is expected to approximate that of the previous year. Similar supply conditions would be expected to produce levels on Lake Huron nearly equal to those of the previous year with Lake Erie levels somewhat lower than those recorded during a similar period in 1983.

- Inland Waters

STORM TRACKS



TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT AUGUST 14, 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	17	2	30	5	30.5		54.6
Dawson	10	-4	24	-4	3.0		X	Winnipeg	22	2	35	14	3.6		53.6
Mayo A	12	-1	24	-2	8.1		X	ONTARIO							
Watson Lake	13	-1	22	7	15.2		22.0	Big Trout Lake	16	0	27	4	32.2		X
Whitehorse	11	-2	18	-1	43.8		*	Earlton	19	2	28	6	*		X
NORTHWEST TERRITORIES								Kapuskasling	16	0	27	1	15.4		*
Fort Smith	17	2	28	8	6.0		*	Kenora	21	3	32	13	4.4		X
Inuvik	8	-3	24	-1	21.2		*	London	23	3	29	16	4.2		47.4
Norman Wells	11	-4	23	3	3.6		45.6	Mosonoe	14	-1	28	2	10.8		55.7
Yellowknife	15	0	24	7	9.0		51.6	Muskoka	*	*	28P	16	*		X
Baker Lake	9	-2	20	0	27.4		48.3	North Bay	20	2	26	11	24.8		39.3
Cape Dyer	5	-1	12	0	*		X	Ottawa	23	3	30	17	78.2		30.3
Clyde	*	*	8P	-1P	*		*	Pickle Lake	18	2	29	4	14.4		X
Frobisher Bay	8	0	15	2	8.4		33.2	Red Lake	20	2	30	10	25.2		72.3
Alert	1	-2	7	-2	9.8	0.0	56.9	Sudbury	19	2	28	10	33.6		58.5
Eureka	2	-3	7	-1	5.9	0.0	*	Thunder Bay	17	0	29	8	41.6		*
Hall Beach	5	-1	12	0	11.9		X	Timmins	16	0	28	3	24.0		X
Resolute	2	-2	8	-2	7.4	0.0	*	Toronto	24	3	32	17	8.2		X
Cambridge Bay	7	-1	14	0	14.0		31.3	Trenton	24	3	30	17	43.2		X
Mould Bay	1	-2	5	-1	*	1.0	*	Warton	21	2	28	13	9.4		62.1
Sachs Harbour	1	-3	7	-2	*	0.0	21.1	Windsor	24	3	32	17	20.2		X
BRITISH COLUMBIA								QUEBEC							
Cape St. James	13	0	18	2	32.0		33.2	Bagotville	19	2	31	11	*		X
Cranbrook	20	1	33	8	1.0		78.8	Blanc-Sablon	14	1	22	6	64.8		*
Fort Nelson	14	-2	23	5	19.6		34.9	Inukjuak	8	-1	15	4	11.0		35.2
Fort St. John	16	1	26	6	11.6		X	Kuujuaq	10	0	20	3	9.0		34.8
Kamloops	23	2	35	14	1.3		60.5	Kuujuarapik	10	0	23	3	4.4		44.0
Penticton	22	2	36	9	13.6		*	Maniwaki	21	3	29	12	18.0		34.9
Port Hardy	14	0	20	8	21.0		*	Mont-Joli	17	0	27	9	30.2		26.4
Prince George	16	1	28	4	10.4		*	Montréal	24	3	30	17	20.2		34.9
Prince Rupert	14	0	17	9	48.1		*	Natashquan	15	1	21	9	*		*
Revelstoke	18	-1	30	9	28.4		47.5	Nitchequon	14	1	25	6	9.8		*
Smithers	14	-1	23	5	1.7		50.6	Québec	21	3	29	12	35.2		30.6
Vancouver	18	1	25	13	*		*	Schefferville	12	0	24	2	11.8		53.1
Victoria	17	0	26	10	0.6		55.5	Sept-Îles	15	0	21	9	11.0		41.5
Williams Lake	17	1	30	7	13.6		50.4	Sherbrooke	22	5	29	14	55.0		89.7
ALBERTA								Val-d'Or	18	2	28	8	25.2		54.9
Calgary	19	3	31	7	1.0		78.0	NEW BRUNSWICK							
Cold Lake	19	3	29	11	6.0		52.3	Charlo	20	2	28	13	13.3		46.3
Coronation	19	2	31	8	9.2		78.2	Fredericton	22	3	31	15	36.0		*
Edmonton Namao	19	2	31	11	4.5		X	Saint John	21	4	28	15	23.2		21.1
Fort McMurray	19	3	31	7	60.2		*	NOVA SCOTIA							
Jasper	16	1	29	9	9.0		49.3	Greenwood	23	4	31	15	*		X
Lethbridge	21	3	35	10	7.6		*	Shearwater	21	2	27	14	14.4		22.8
Medicine Hat	23	3	39	9	0.0		77.1	Sydney	22	4	29	17	7.2		26.3
Peace River	16	1	26	5	0.8		X	Yarmouth	21	4	27	13	18.8		*
SASKATCHEWAN								PRINCE EDWARD ISLAND							
Oree Lake	19	X	27	12	56.5		44.8	Charlottetown	22	3	29	14	56.8		*
Estevan	23	4	36	13	6.0		72.8	Summerside	22	3	29	16	*		33.5
La Ronge	20	4	33	9	34.4		X	NEWFOUNDLAND							
Regina	22	4	34	11	5.0		67.1	Gander	17	0	28	8	*		*
Saskatoon	23	5	38	12	2.9		*	Port aux Basques	17	2	22	13	33.0		*
Swift Current	22	4	36	10	*		*	St. John's	17	1	29	7	40.0		45.7
Yorkton	22	4	36	12	5.4		65.5	St. Lawrence	17	3	23	9	40.6		X
MANITOBA								Cartwright	14	1	28	5	10.4		X
Brandon	21	3	34	9	1.6		*	Goose	16	1	30	3	6.8		*
Churchill	15	2	28	3	*		*	Hopedale	13	2	26	7	2.9		X
The Pas	22	4	30	14	1.6		65.4								

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