Environment Canada | Environnement Canada

lian Climate Centre

MONTHLY SUPPLEMENT INCLUDED

Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

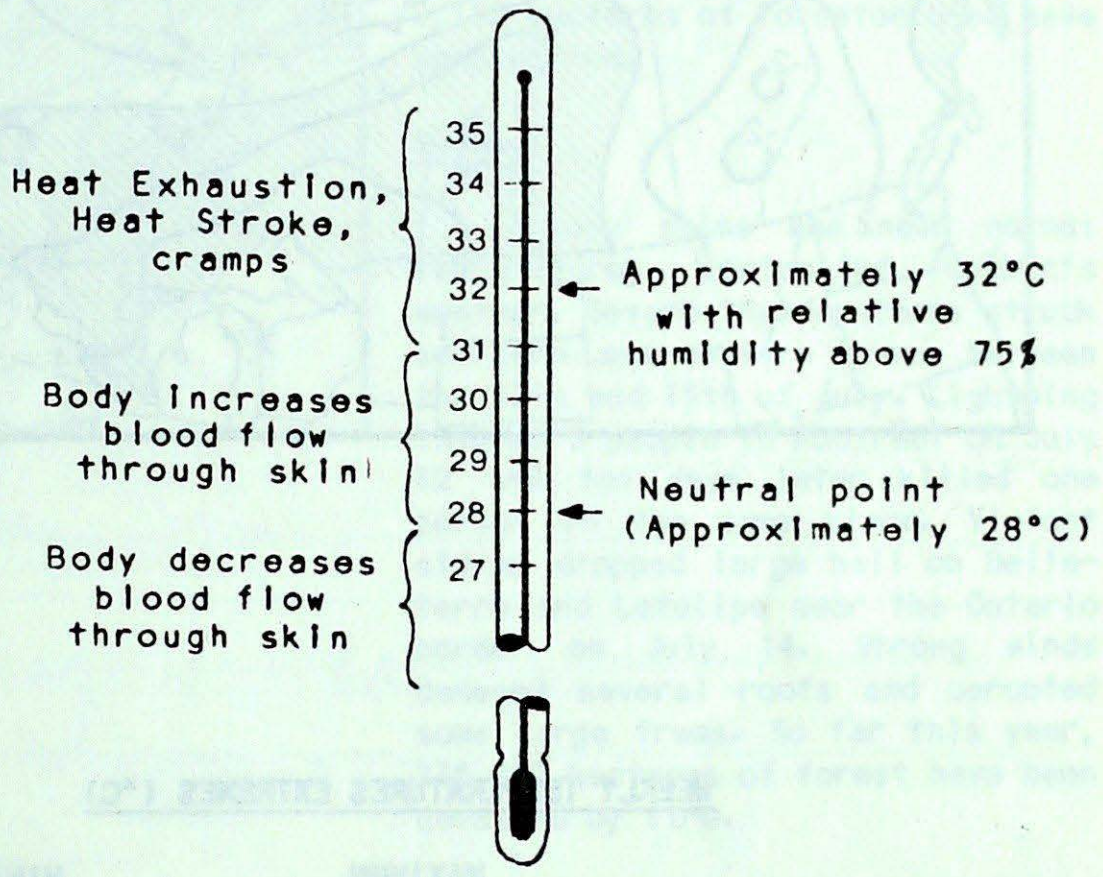
JULY 22,1983 | (Aussi disponible en français) | VOL.5 NO.29

FOR THE PERIOD JULY 12-18, 1983

• Heat wave in Ontario

EXCESSIVE HEAT AND HUMIDITY

In the scorching heat wave temperatures rose near the 35° mark in many Ontario locations on July 15. The heat combined with the humidity to produce extremely uncomfortable conditions. At Toronto Airport, a reading of 35.7°, which is only 0.4° shy of the monthly record, proved to be the hottest July 15 temperature in 144 years of record. In the city, that night was the warmest since July 14, 1936 as the temperature did not fall below 25.2°. The heat in combination with the humidity resulted in humidex in excess of 40° in southern Ontario.



• Update on British Columbia's heavy rainfall

Inside the June Monthly Supplement.....

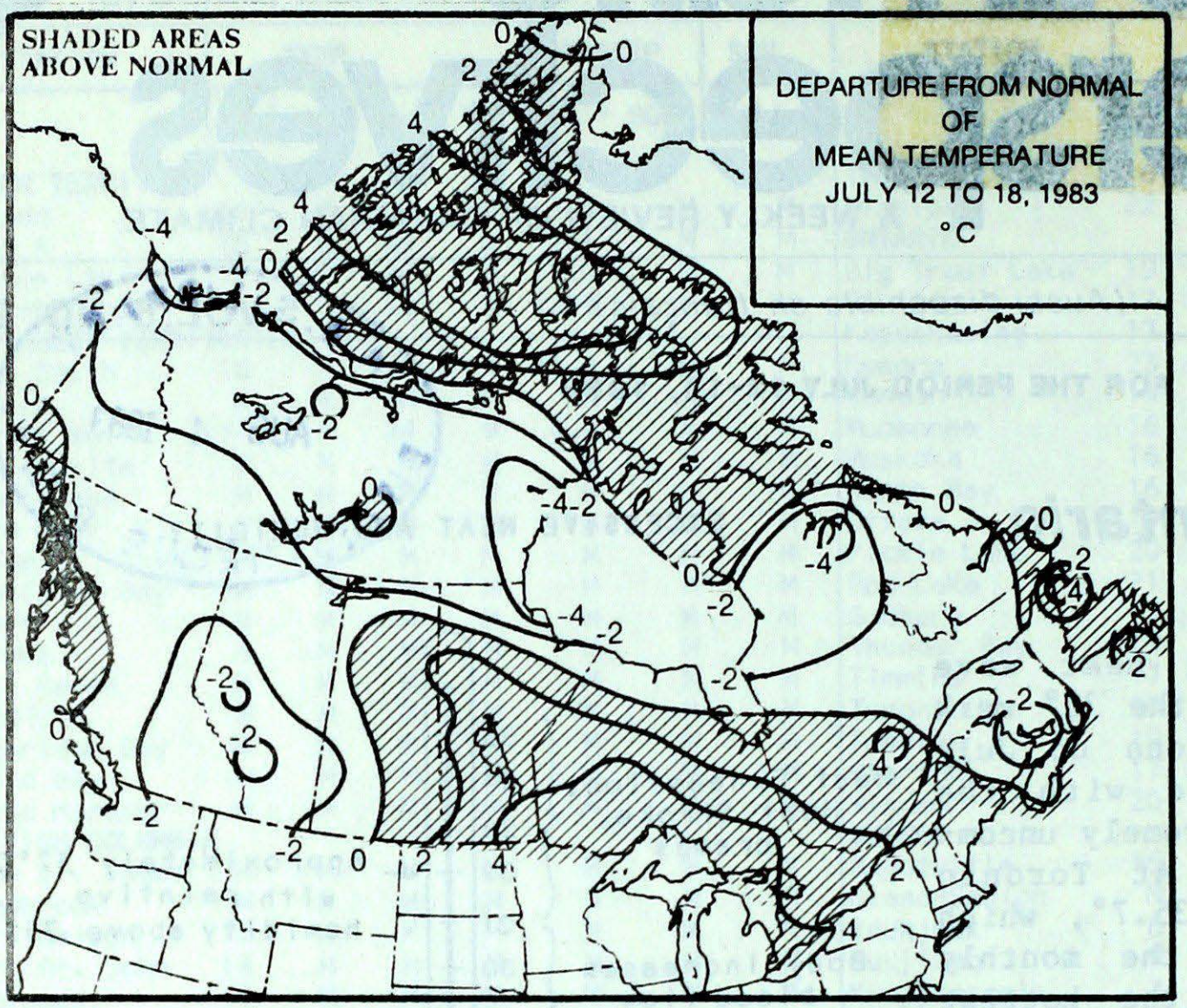
Increase in Carbon dioxide:
Is it changing our climate ?

Recent Global Weather Highlights

ISSN 0225-5707
UDC: 551.506.1(71)

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	25.3	Watson Lake	0.0	Komakuk Beach
NORTHWEST TERRITORIES	26.3	Fort Smith	-3.2	Alert
BRITISH COLUMBIA	31.8	Kamloops	0.0	Kindakun Point
ALBERTA	30.7	Medicine Hat	3.4	Rocky Mountain House
SASKATCHEWAN	38.1	Estevan	3.2	Meadow Lake
MANITOBA	34.4	Portage la Prairie	2.3	Churchill
ONTARIO	35.8	Kenora Red Lake	5.8	Moosonee
QUÉBEC	32.1	Roberval	1.6	Kuujjuaq Poste de la Baleine
NEW BRUNSWICK	27.9	Fredericton	7.3	Chatham
NOVA SCOTIA	28.2	Greenwood	6.6	Greenwood
PRINCE EDWARD ISLAND	25.2	Summerside	10.0	Charlottetown
NEWFOUNDLAND	28.7	Cartwright	2.1	Hopedale

ACROSS THE NATION

Warmest mean temperature	26.6	Windsor, ONT.
Coolest mean temperature	1.9	Alert, NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

The Yukon experienced cloudy, cool and unsettled weather. The majority of the locations west of the Mackenzie Valley had almost daily occurrences of rain. By the week's end, rainfall across the southern Yukon exceeded the normal amount for July. Sheldon Lake received 43.6 mm and Carmack 31 mm. Other stations had 10-20 mm. The cool and showery weather has lowered the forest fire hazard considerably, but 93 fires were still burning in the Northwest Territories.

British Columbia

Heavy rain fell in the south and along the coast through the first half of the period, while the north continued mostly sunny and dry. Mud slides and washouts have been numerous, both in the lower Fraser Valley and near Revelstoke, closing highways and the main Trans-continental railway lines. As a result of these road closures, there has been a noticeable drop in the tourist trade in the interior communities.

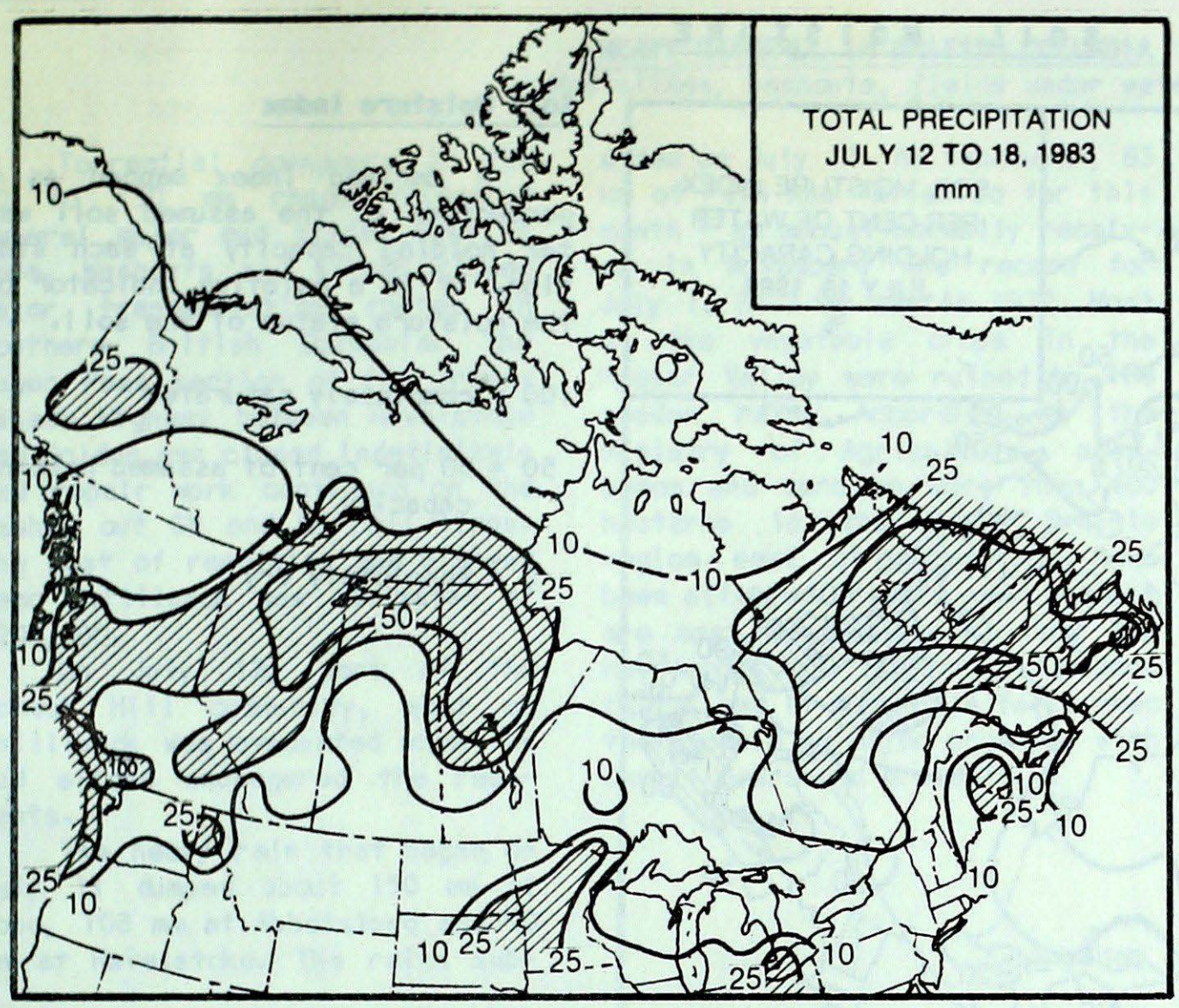
Prairies

It was cool and unsettled in the west. Hail was reported in some areas of Alberta. The fire hazard in Alberta was the lowest in six years with no reported fires burning in the province. This year forest fires have destroyed only 2,500 hectares of forest in Alberta compared to 650,000 hectares burned during the same period last year.

Saskatchewan and Manitoba were mostly sunny and warm with only scattered shower activity. Many new maximum temperatures were established on July 14 when temperature climbed well into the thirties.

Ontario

Hot, hazy and humid air, with temperatures in the mid-thirties, produced a heat wave throughout most of the province. On July 15, record high values were set at numerous locations. At Toronto, a reading of



HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON	38.5	Burwash
NORTHWEST TERRITORIES	76.4	Fort Smith
BRITISH COLUMBIA	139.7	Hope
ALBERTA	69.6	High Level
SASKATCHEWAN	59.2	Collins Bay
MANITOBA	64.8	Norway House
ONTARIO	31.6	Windsor
QUEBEC	73.6	Chevery
NEW BRUNSWICK	29.7	Fredericton
NOVA SCOTIA	33.2	Sydney
PRINCE EDWARD ISLAND	10.4	Summerside
NEWFOUNDLAND	86.2	Goose

Ontario's Heat Wave

Excessive heat and humidity often produce very uncomfortable conditions. Humidex is used as a measure of the "discomfort" resulting from the combined effects of high temperature and humidity. In the humidex calculation, air of a given temperature and moisture content is equated in comfort to air of a higher temperature which has a negligible moisture content.

On July 15, humidex values were near the uncomfortable 40° at many southern Ontario locations including:

Windsor	42°
Toronto	41°
London	40°
Sudbury	39°

With the humidex of 40° or higher, almost everyone feels uncomfortable. More on Humidex in next week's issue.

35.7° proved to be the hottest temperature for any July 15 in 144 years and the hottest since July 20, 1977. The hot weather resulted in booming sales of air conditioners and fans. Southern Ontario farmers did not welcome this dry spell.

Except for isolated showers on July 17, many localities including Sarnia, Wiarton and Toronto have had no measurable rain since July 4. As a result, fields were parched and crop growth was slow. The rainfall in Northwestern Ontario has been plentiful, but lightning strikes with thunderstorms have caused many forest fires. So far this year, over 2,100 hectares of forested area have been burned.

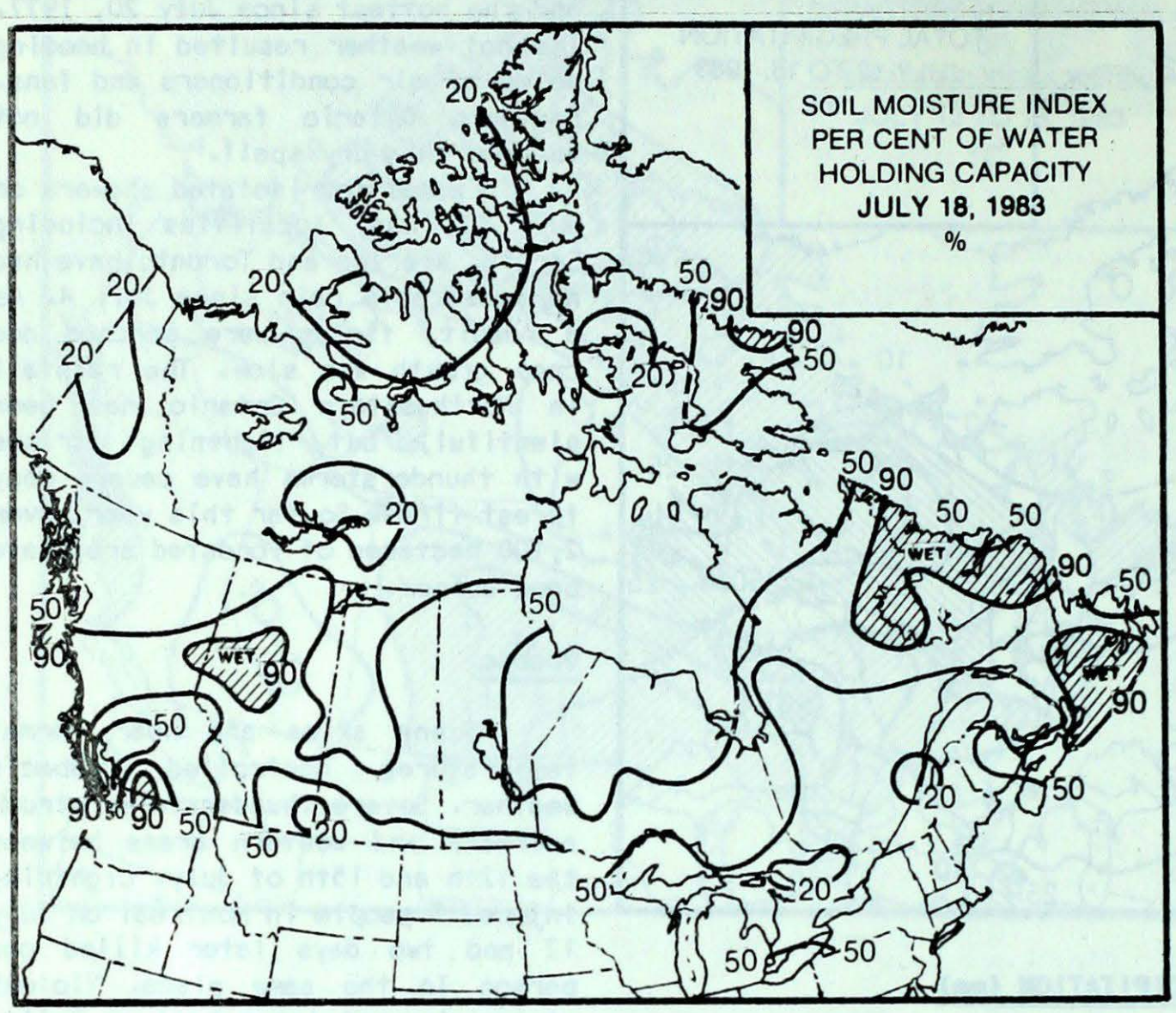
Québec

Sunny skies and near normal temperatures controlled Québec's weather. Severe thunderstorms struck southern and western areas between the 12th and 15th of July. Lightning injured 3 people in Montréal on July 12 and two days later killed one person in the same place. Violent storms dropped large hail on Belleterre and Latulipe near the Ontario border on July 14. Strong winds damaged several roofs and uprooted some large trees. So far this year, 245,000 hectares of forest have been devasted by fire.

Atlantic Provinces

After the record-breaking heat of early July, the weather turned cool and showery. Several low daytime temperatures were set in Newfoundland. Heavy rains of 50-80 mm fell in Newfoundland. Elsewhere, the amounts ranged from 10 to 30 mm. On July 13, violent summer storms downed power lines leaving many New Brunswick communities without electricity for hours. Because of the wet spring, growth of the corn crop was 1 week later than normal in new Brunswick. The recent hot weather has advanced the tobacco growth by two weeks in Prince Edward Island.

SOIL MOISTURE



Soil Moisture Index

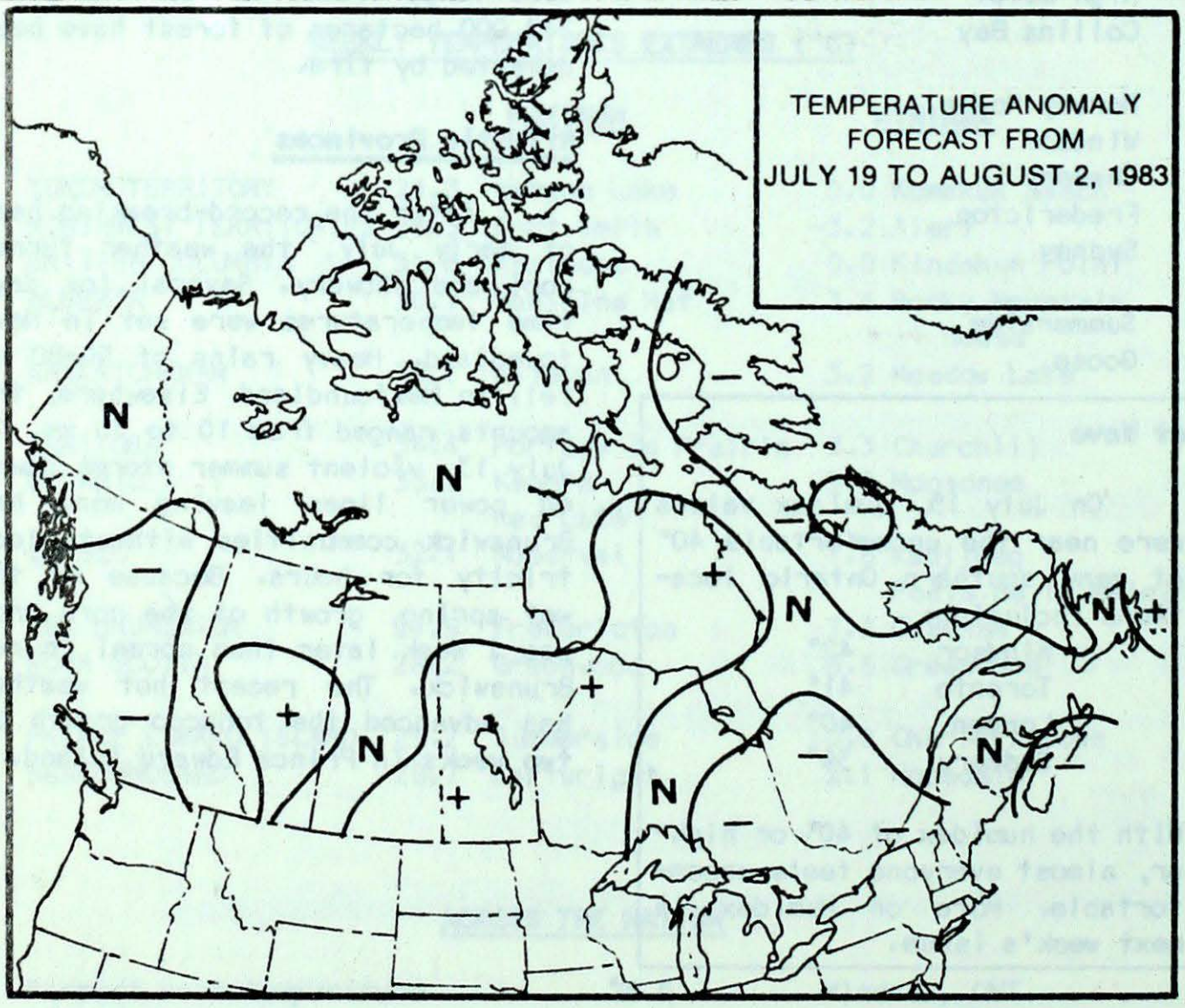
A derived index mapped as a percentage of the assumed soil water holding capacity at each station. It is a relative indicator of the moisture status of the soil.

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

HEAVY RAINFALL IN BRITISH COLUMBIA

- Mud slides, washouts, fields under water -

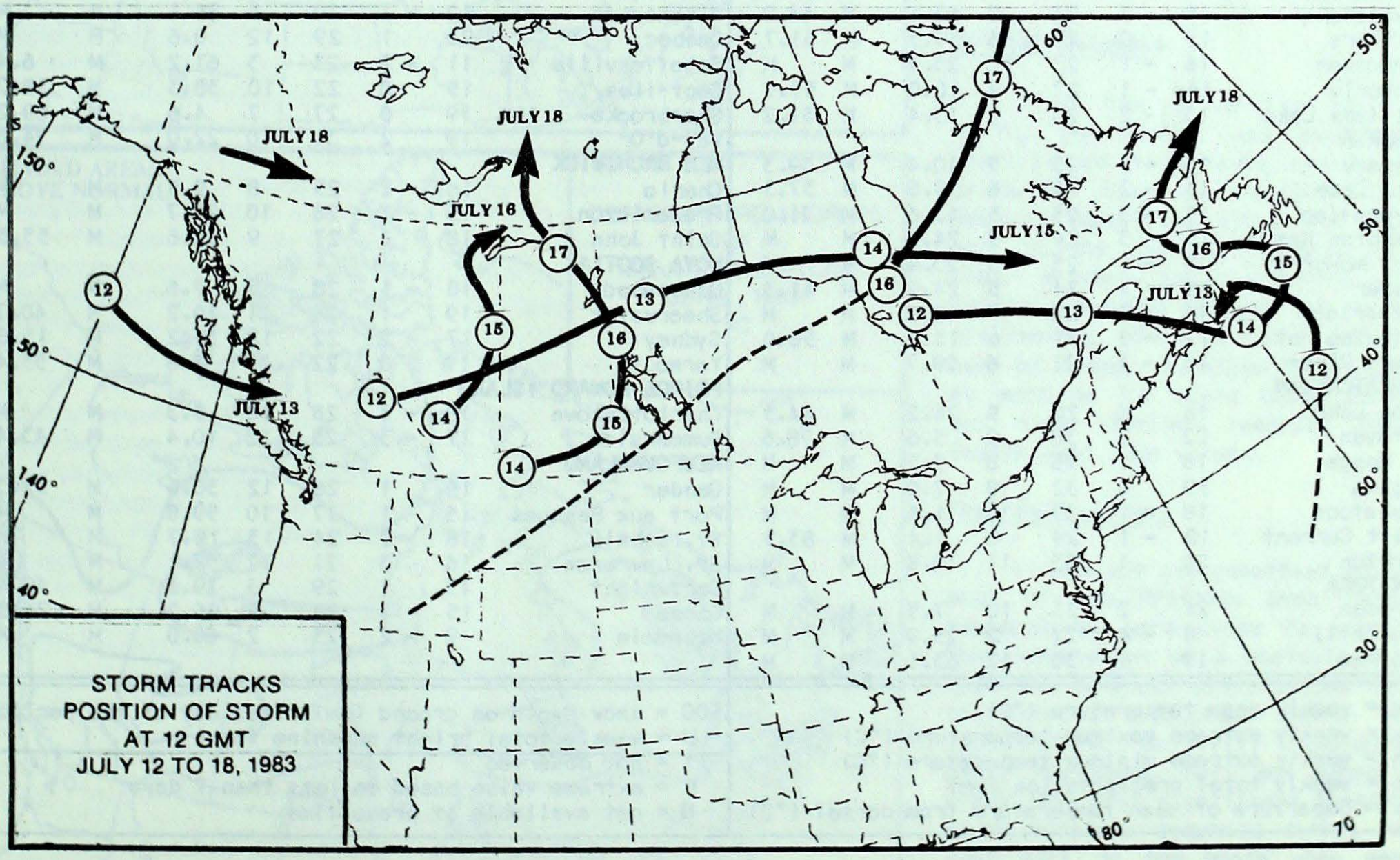
Torrential downpours in the 90 to 150 mm range triggered several major mud slides west of Hope. Washouts and slides closed major transportation routes in southern British Columbia. The Roger Pass section of the Trans-Canada Highway between Revelstoke and Golden was closed indefinitely and repair work continued on the washed out CN and CP rail lines. The cost of repairing the highway near Chilliwack was estimated at $200,000.

On July 12, part of the Jones' Hill community, east of Chilliwack was evacuated when the mud slides endangered the residents.

The heavy rain that began on July 11 dumped about 150 mm at Hope, 108 mm at Abbotsford and 90 mm at Revelstoke. The rains subsided on July 13. At Vancouver, 63 mm of rain has fallen so far this month - an amount normally received in November. The record for July is 81.3 mm set in 1972. Most of the vegetable crops in the Fraser Valley were ruined by the sudden rain. According to the Ministry of Agriculture, peas, beans and corn on more than 400 hectares in the Sumas Prairie region east of Abbotsford have been affected. Plants near harvest are most susceptible to rot. The hay crop was flattened in some fields and if more rain falls then there could be major problems with cauliflowers and broccoli.

A. Shabbar

STORM TRACKS



TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT JULY 19, 1983

STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H
YUKON TERRITORY							
Dawson	15	- 2	23	8	23.9	M	M
Mayo A	13	- 2	21	5	24.6	M	M
Watson Lake	13	- 2	25	2	1.1	M	76.2
Whitehorse	13	- 1	24	4	7.0	M	45.1
NORTHWEST TERRITORIES							
Fort Smith	14	- 3	26	7	76.4	M	24.6
Inuvik	10	- 5	18	5	8.0	M	21.8
Norman Wells	14	- 3	22	7	13.4	M	M
Yellowknife	14	- 2	24	9	27.0	M	43.9
Baker Lake	7	- 4	14	2	2.0	M	44.9
Cape Dyer	6	1	13	- 1	3.8	0.0	M
Clyde	7	2	15	1	0.0	M	117.0
Frobisher Bay	9	1	21	1	0.2	M	96.8
Alert	2	- 2	6	- 3	40.2	0.0	6.1
Eureka	7	2	14	2	0.0	M	118.9
Hall Beach	9	4	20	2	0.0	0.0	M
Resolute	9	4	15	- 2	0.0	M	155.2
Cambridge Bay	11	2	17	5	1.6	M	63.2
Mould Bay	10	6	16	5	3.6	M	M
Sachs Harbour	10	3	17	2	M	M	M
BRITISH COLUMBIA							
Cape St. James	14	1	20	9	12.9	M	M
Cranbrook	14	- 3	26	2	18.8	M	M
Fort Nelson	16	- 1	24	6	4.2	M	70.8
Fort St. John	14	- 2	23	8	25.1	M	M
Kamloops	19	- 2	32	10	7.8	M	62.0
Penticton	18	- 3	29	9	3.9	M	47.6
Port Hardy	14	0	19	9	50.0	M	45.2
Prince George	14	- 1	27	6	45.0	M	46.1
Prince Rupert	13	1	17	5	27.1	M	37.7
Revelstoke	15	- 3	27	9	63.1	M	44.0
Smithers	15	0	27	6	9.5	M	61.7
Vancouver	16	- 1	23	10	23.7	M	M
Victoria	16	- 1	27	9	10.0	M	57.9
Williams Lake	13	- 2	26	4	13.4	M	51.2
ALBERTA							
Calgary	15	- 2	25	5	10.4	M	59.3
Cold Lake	15	- 3	24	6	9.6	M	37.3
Coronation	15	- 3	25	5	12.6	M	71.0
Edmonton Namao	15	- 3	24	9	24.7	M	M
Fort McMurray	15	- 1	25	9	23.4	M	M
Jasper	12	- 4	24	5	24.9	M	41.3
Lethbridge	16	- 3	28	7	19.9	M	M
Medicine Hat	17	- 3	31	6	15.8	M	58.0
Peace River	14	- 3	21	6	29.7	M	M
SASKATCHEWAN							
Cree Lake	16	X	26	9	24.2	M	44.5
Estevan	22	2	38	9	5.6	M	78.6
La Ronge	18	1	26	8	3.2	M	M
Regina	19	0	32	9	7.0	M	M
Saskatoon	18	- 1	29	8	1.6	M	M
Swift Current	18	- 1	29	8	1.4	M	83.5
Yorkton	20	1	33	11	14.8	M	M
MANITOBA							
Brandon	21	2	33	10	7.5	M	M
Churchill	8	- 4	22	2	25.9	M	M
The Pas	19	1	30	12	63.1	M	M
Thompson	19	3	27	10	62.0	M	61.0
Winnipeg	24	4	34	14	0.4	M	80.3
ONTARIO							
Big Trout Lake	20	4	28	8	8.7	M	M
Earlton	22	4	31	11	15.0	M	M
Kapuskasing	20	3	32	10	5.5	M	M
Kenora	25	5	36	15	1.0	M	M
London	25	4	33	14	2.5	M	M
Moosonee	16	0	30	6	4.3	M	50.1
Muskoka	22	4	30	11	0.0	M	M
North Bay	22	3	32	12	0.0	M	89.9
Ottawa	24	2	33	15	5.7	M	91.0
Pickle Lake	23	6	33	14	17.6	M	M
Red Lake	22	3	36	10	1.0	M	M
Sudbury	23	5	35	15	0.0	M	81.0
Thunder Bay	22	5	34	12	6.0	M	M
Timmins	20	2	33	11	11.0	M	M
Toronto	25	4	36	13	0.0	M	M
Trenton	24	3	34	14	0.0	M	M
Wiarton	22	3	30	14	0.0	M	89.0
Windsor	27	4	35	19	31.6	M	M
QUEBEC							
Bagotville	19	0	30	8	3.8	M	M
Blanc-Sablon	16	5	25	9	67.8	M	M
Inukjuak	12	3	21	3	4.2	M	M
Kuujjuaq	6	- 5	17	2	20.4	M	27.3
Kuujjuarapik	8	- 3	20	2	32.0	M	38.2
Manawaki	20	2	31	10	13.4	M	70.8
Mont-Joli	17	- 1	25	9	5.8	M	51.8
Montréal	22	1	31	13	12.4	M	84.9
Natashquan	14	0	21	8	53.6	M	21.4
Nitchequon	12	- 2	20	5	56.1	M	M
Québec	21	1	29	12	0.6	M	M
Schefferville	11	- 2	23	3	61.2	M	6.4
Sept-Iles	15	0	22	10	38.3	M	35.2
Sherbrooke	19	0	27	7	4.6	M	69.2
Val-d'Or	19	2	31	10	22.0	M	74.6
NEW BRUNSWICK							
Charlo	16	- 2	25	8	9.5	M	M
Fredericton	19	- 1	28	10	29.7	M	M
Saint John	18	1	27	9	22.6	M	55.5
NOVA SCOTIA							
Greenwood	18	- 1	28	7	7.6	M	M
Shearwater	19	1	28	11	19.2	M	40.7
Sydney	17	- 2	22	12	33.2	M	15.8
Yarmouth	17	0	22	11	2.6	M	55.4
PRINCE EDWARD ISLAND							
Charlottetown	18	- 1	25	10	5.3	M	M
Summerside	17	- 3	25	12	10.4	M	43.4
NEWFOUNDLAND							
Gander	19	1	26	12	30.6	M	32.3
Port aux Basques	15	1	17	10	59.8	M	M
St. John's	18	2	24	13	16.7	M	M
St. Lawrence	16	3	21	12	58.1	M	M
Cartwright	15	1	29	3	19.3	M	49.4
Goose	15	- 1	28	5	86.2	M	21.0
Hopedale	9	- 2	25	2	60.0	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