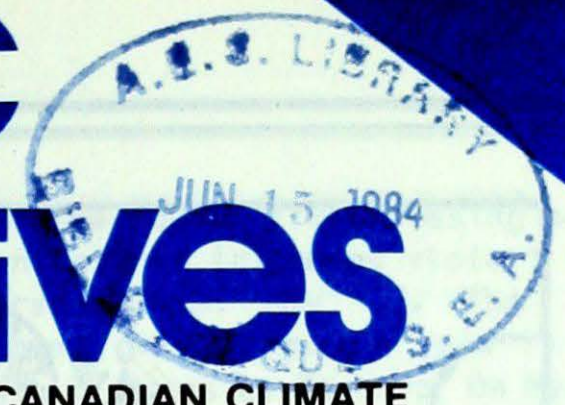


Climatic Perspectives



Canadian Climate Centre

A WEEKLY REVIEW OF CANADIAN CLIMATE

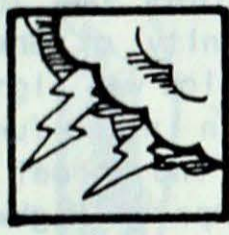
JUNE 1, 1984

(Aussi disponible en français)

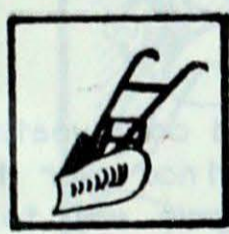
VOL. 6 NO. 21

NON-CIRCULATING

FOR THE PERIOD MAY 22 TO 28, 1984



Outbreak of severe thunderstorms in Southern Ontario and along the St. Lawrence Valley



Warm and dry weather allows field work to progress rapidly in the Maritimes



Unusual snowfall in Northwestern Ontario and the Riding Mountains



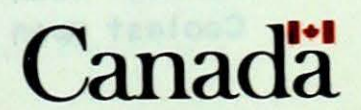
Spring temperatures warm southern Ontario's soil - corn planting nearly complete



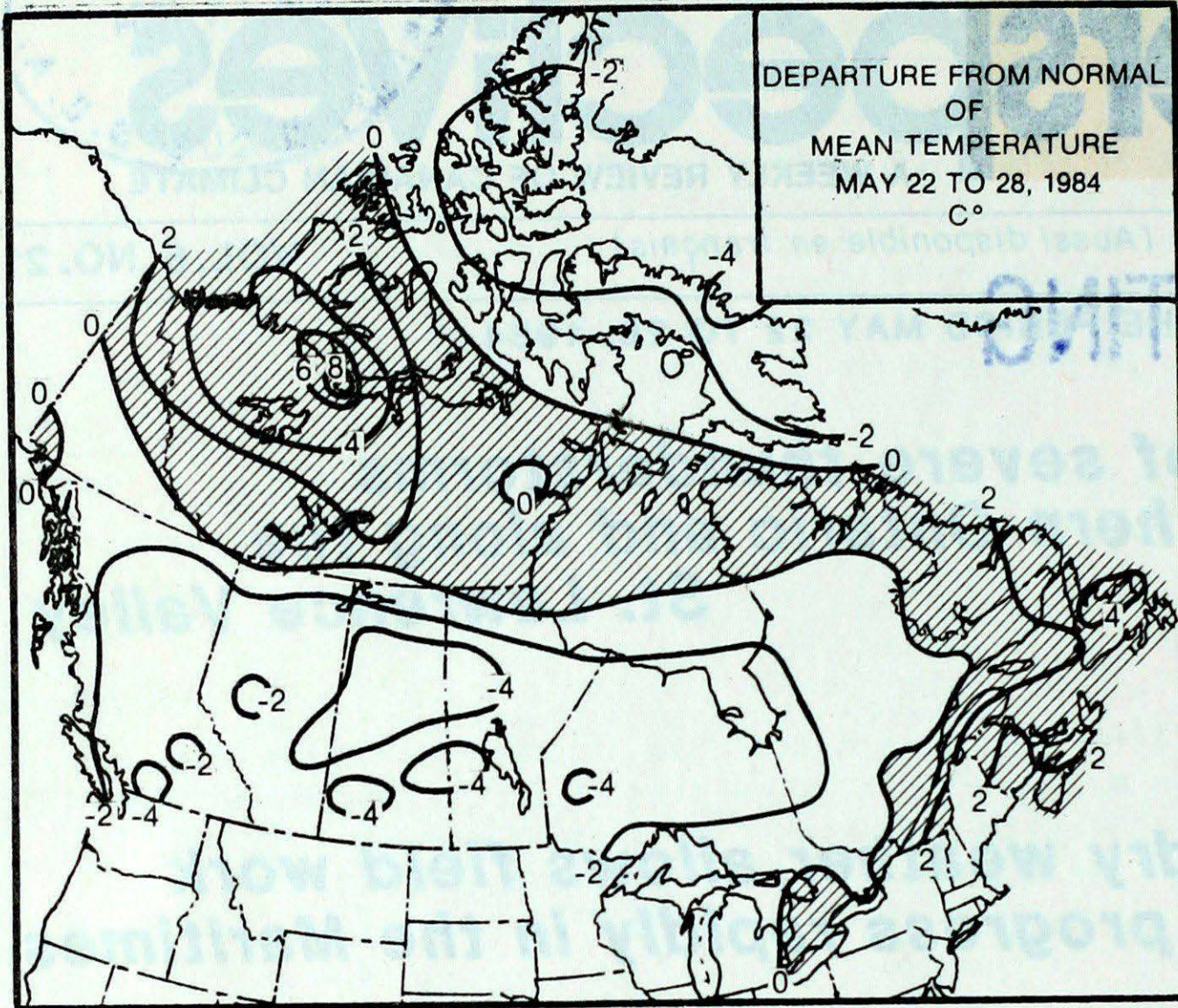
Delayed spring warmth increases potential flooding in Interior British Columbia

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.



ACROSS THE COUNTRY...



Yukon and Northwest Territories

Except for the Mackenzie District, cool and dull weather covered almost all of the Arctic. The temperatures averaged 2 to 5 degrees below normal over Baffin Island, even the Yukon's weather was unusually cold. In contrast, daytime temperatures soared into the low-twenties in the vicinity of Great Slave Lake. Precipitation was light, but up to 12 mm of rain in the Yukon substantially lowered the threat of forest fires. The Dempster Highway remains closed to through traffic north of Eagle Plains pending break-up of ice bridges on the Mackenzie and Peel Rivers.

British Columbia

The unsettled and cool weather that plagued the Province over the past several weeks, gave way to a more sunny and warmer temperature regime in time for the weekend. It has been too wet for any field work and farmers are anxiously waiting for more favourable conditions. Due to the below normal temperatures, there has been little snow melt at higher elevations and a sudden rise in temperature could result in a heavy mountain run off, with its associated flooding problems in the valleys.

Prairies

The week was cool and unsettled with frequent showers. Snow fell across the North and in southwestern Manitoba. The Riding Mountain District received 17 cm of snow. Frost was reported almost everywhere, as nighttime temperatures dropped below freezing. In Alberta, several new minimum temperature records were broken. On May 27, heavy thunderstorms with hail developed south of Edmonton.

Ontario

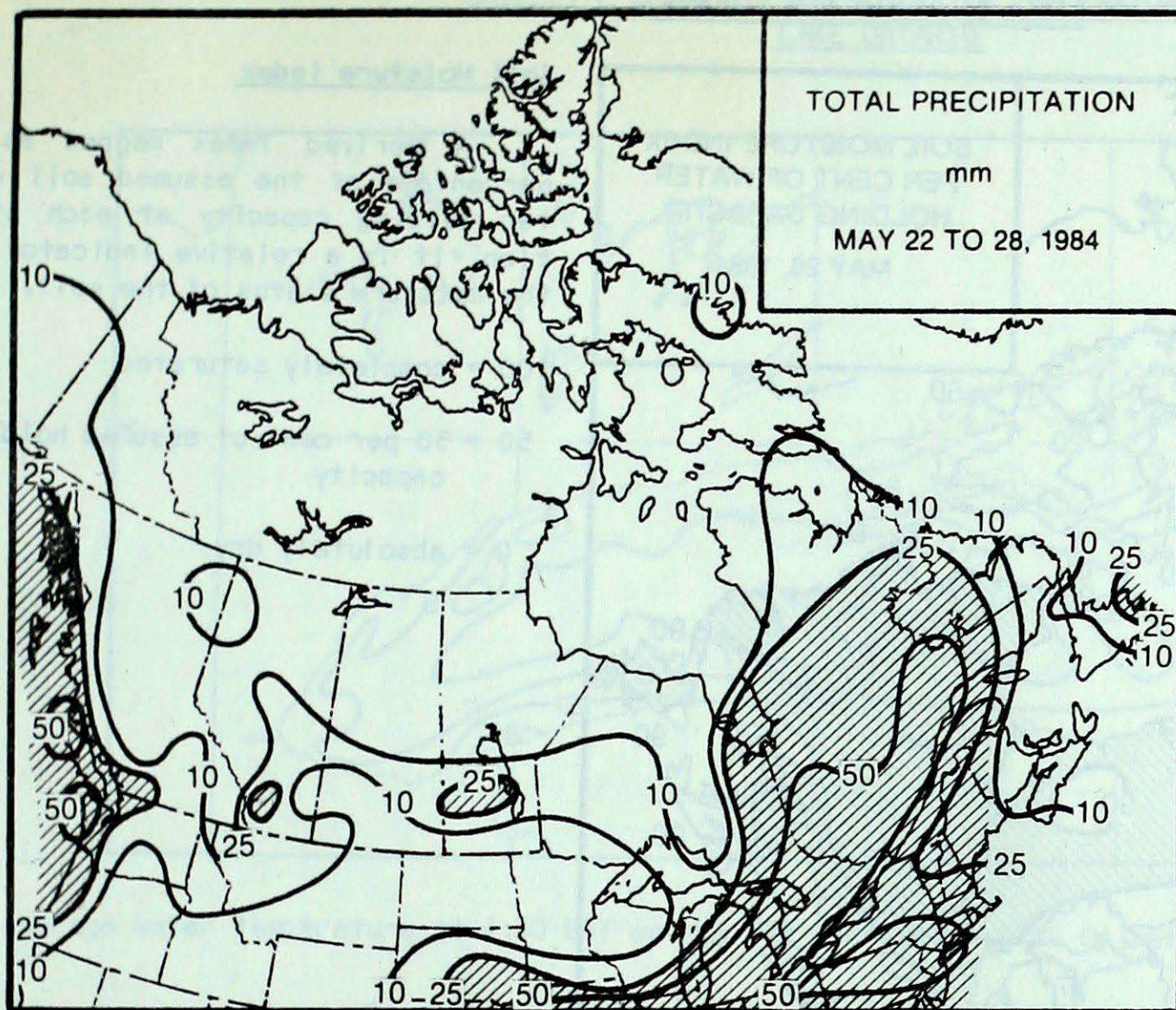
The temperatures were unseasonably cold throughout most of the Province. Many central and northern locations experienced below-freezing nighttime readings during the weekend; at Moosonee, the mercury plunged to record -7° on May 26. An

WEEKLY TEMPERATURES EXTREMES (°C)

	<u>MAXIMUM</u>	<u>MINIMUM</u>
YUKON TERRITORY	21.0 Dawson	-3.8 Komakuk Beach Shingle Point
NORTHWEST TERRITORIES	24.8 Norman Wells	-18.1 Clyde
BRITISH COLUMBIA	27.9 Lytton	-5.2 Puntzi Mountain
ALBERTA	23.6 Lethbridge	-5.0 Fort Chipewyan
SASKATCHEWAN	23.4 Estevan	-8.4 Collins Bay
MANITOBA	22.6 Pilot Mound	-7.9 Churchill
ONTARIO	28.0 Ottawa Toronto	-6.6 Moosonee
QUÉBEC	28.7 Sherbrooke	-7.2 Kuujjuarpiik La Grande Rivière
NEW BRUNSWICK	32.8 Charlo	0.5 Charlo
NOVA SCOTIA	27.5 Greenwood	0.8 Truro
PRINCE EDWARD ISLAND	24.1 Charlottetown Summerside	2.5 East Point
NEWFOUNDLAND	25.6 Deer Lake	-4.0 Hopedale

ACROSS THE NATION

Warmest mean temperature	15.8	Greenwood, NS
Coollest mean temperature	-10.0	Resolute, NWT



intense squall line crossing southern Ontario triggered violent thunderstorms on May 25. The storm dumped over 52 mm of rain in less than 24 hours at Toronto. On May 23, a destructive storm occurred at Cooper's Falls near Gravenhurst where a small tornado destroyed a barn.

Snow accompanied the cold weather in Northwestern Ontario. Measurable amounts were reported at several stations including 8 cm at Lansdowne House.

Quebec

Heavy rain but near normal temperatures prevailed over Québec. Deluges of rain in the 50 to 80 mm range proved to be of record proportions in the southern areas. At Mont-Laurier, 79 mm of rain was the most in 24 hours in May. So far this month 131 mm of rain has surpassed the old record of 124 mm at Val-d'Or. Severe thunderstorms lashed the south shores of St. Lawrence on May 23. Regions south of Rivière-du-Loup were the hardest hit. Strong winds and hail caused considerable damage, trees were uprooted, mobile homes and buildings were damaged. Property damage was estimated to be near \$200,000.

Atlantic Provinces

The weather was warm and dry. Only Labrador and the Avalon Peninsula received heavy rainfall in the 30 to 45 mm range. A southerly flow of mild air produced daytime temperatures near the 30° mark in the Maritimes; at Charlo, the reading climbed to 33° on May 26. The dry weather allowed farmers to proceed on their spring seeding. In Prince Edward Island potato planting was now 50 per cent completed. The wet weather had delayed planting several weeks. On May 26, outbreak of severe thunderstorms produced strong gusty winds. Many communities in New Brunswick were left without electricity as high winds knocked down power lines.

HEAVIEST WEEKLY PRECIPITATION (mm)

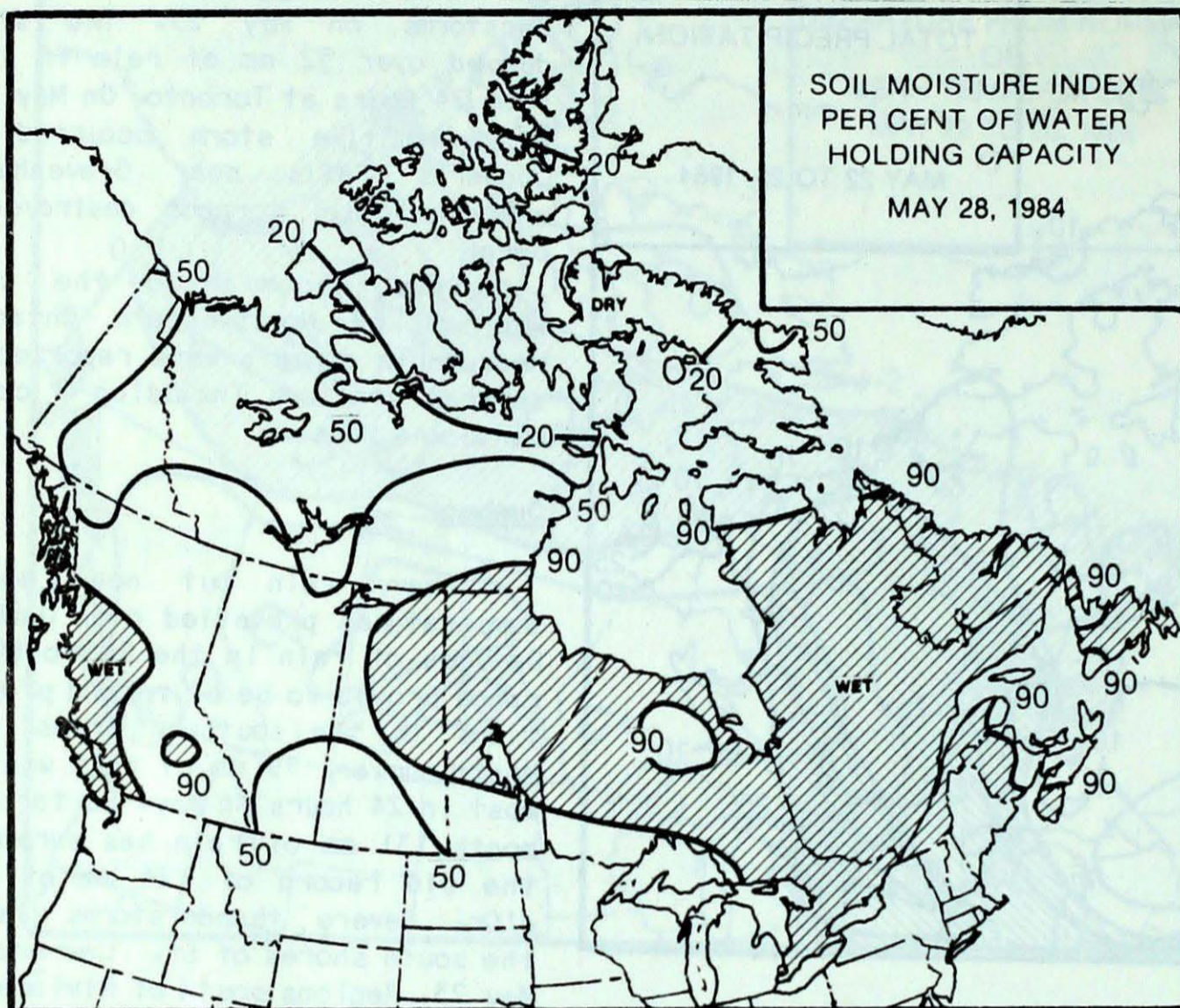
YUKON	13.5	Dawson
NORTHWEST TERRITORIES	18.0	Cape Hooper
BRITISH COLUMBIA	77.4	Abbotsford
ALBERTA	33.7	Calgary
SASKATCHEWAN	20.9	Prince Albert
MANITOBA	26.5	Dauphin
ONTARIO	89.3	Toronto
QUEBEC	85.1	Val-d'Or
NEW BRUNSWICK	11.7	Charlo
NOVA SCOTIA	12.4	Shelburne
PRINCE EDWARD ISLAND	2.8	Charlottetown
NEWFOUNDLAND	47.7	Wabush Lake

Ontario Agriculture

Warm weather during mid-May allowed soil temperatures to rise gradually. In southwestern Ontario, soil temperatures rose above 12° for the first time this year. Moderate rain interspersed with dry days has provided right conditions for planting, 75 to 90 per cent of corn has been planted.

In the Niagara Peninsula, however, the wet and heavy soil has prevented field work. Virtually no corn has been planted. The wet weather has also hampered planting in eastern Ontario, and many farmers got to their land for the first time over the weekend.

SOIL MOISTURE

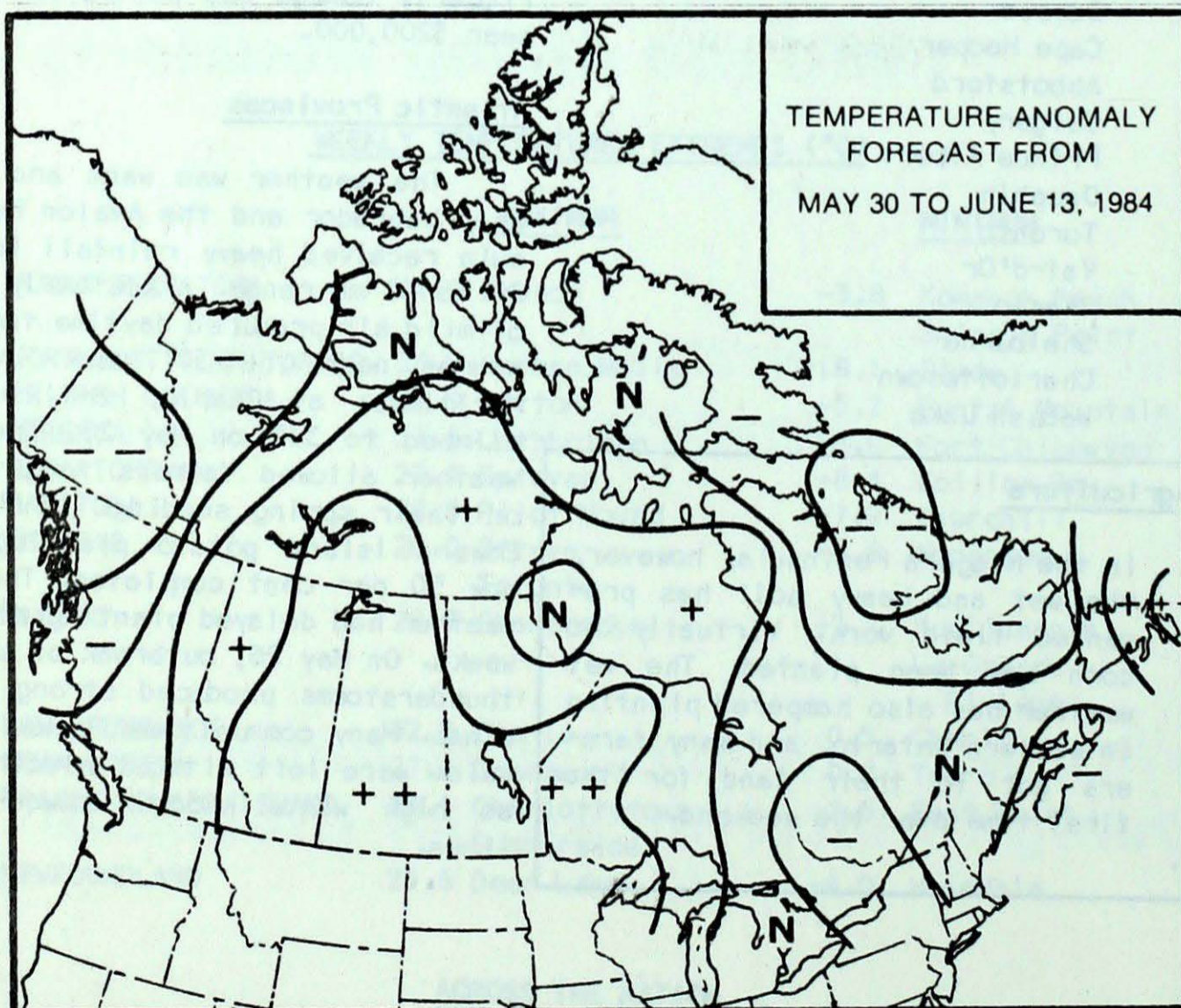


Soil Moisture Index

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

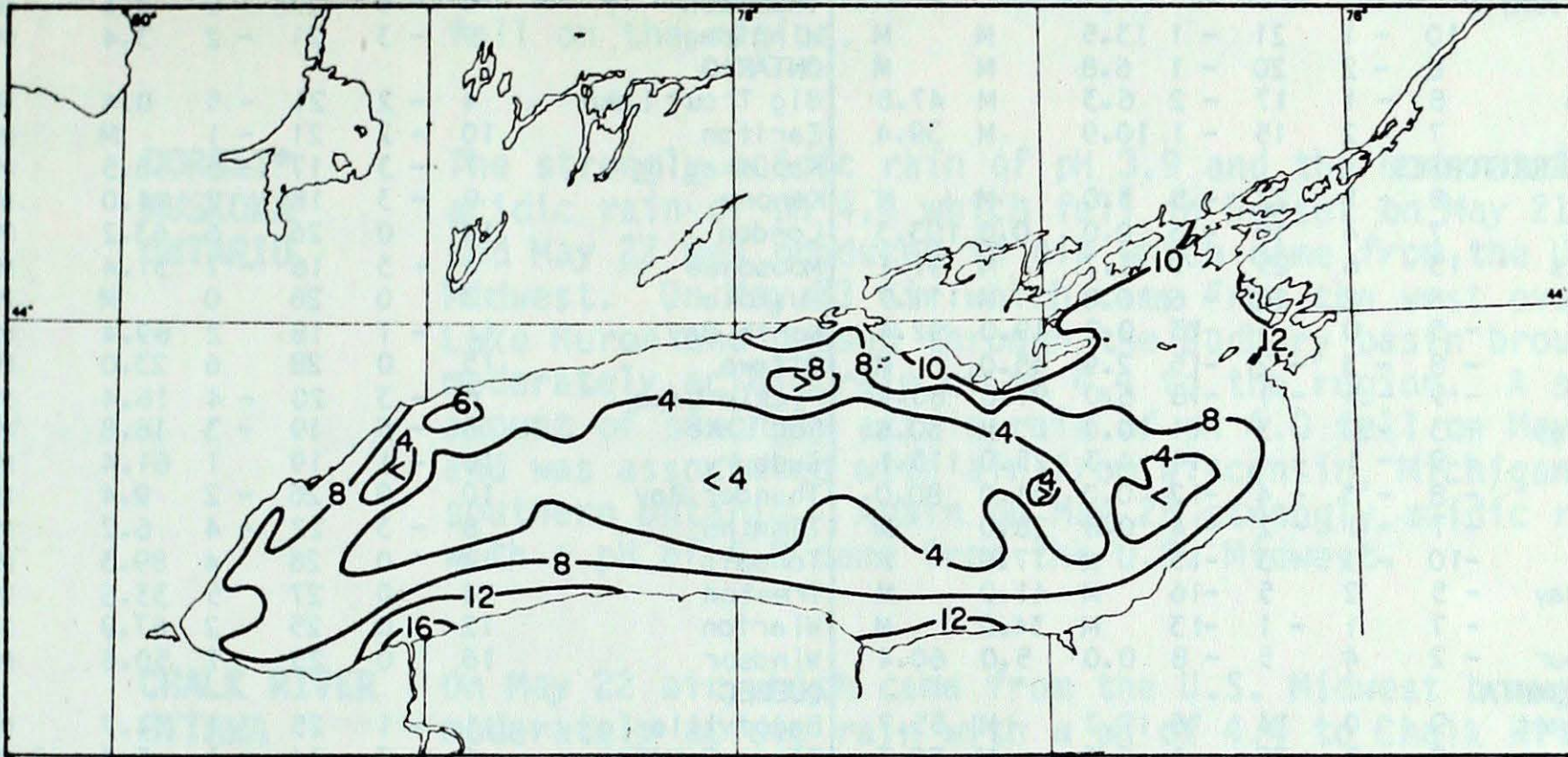


Temperature Anomaly Forecast

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.

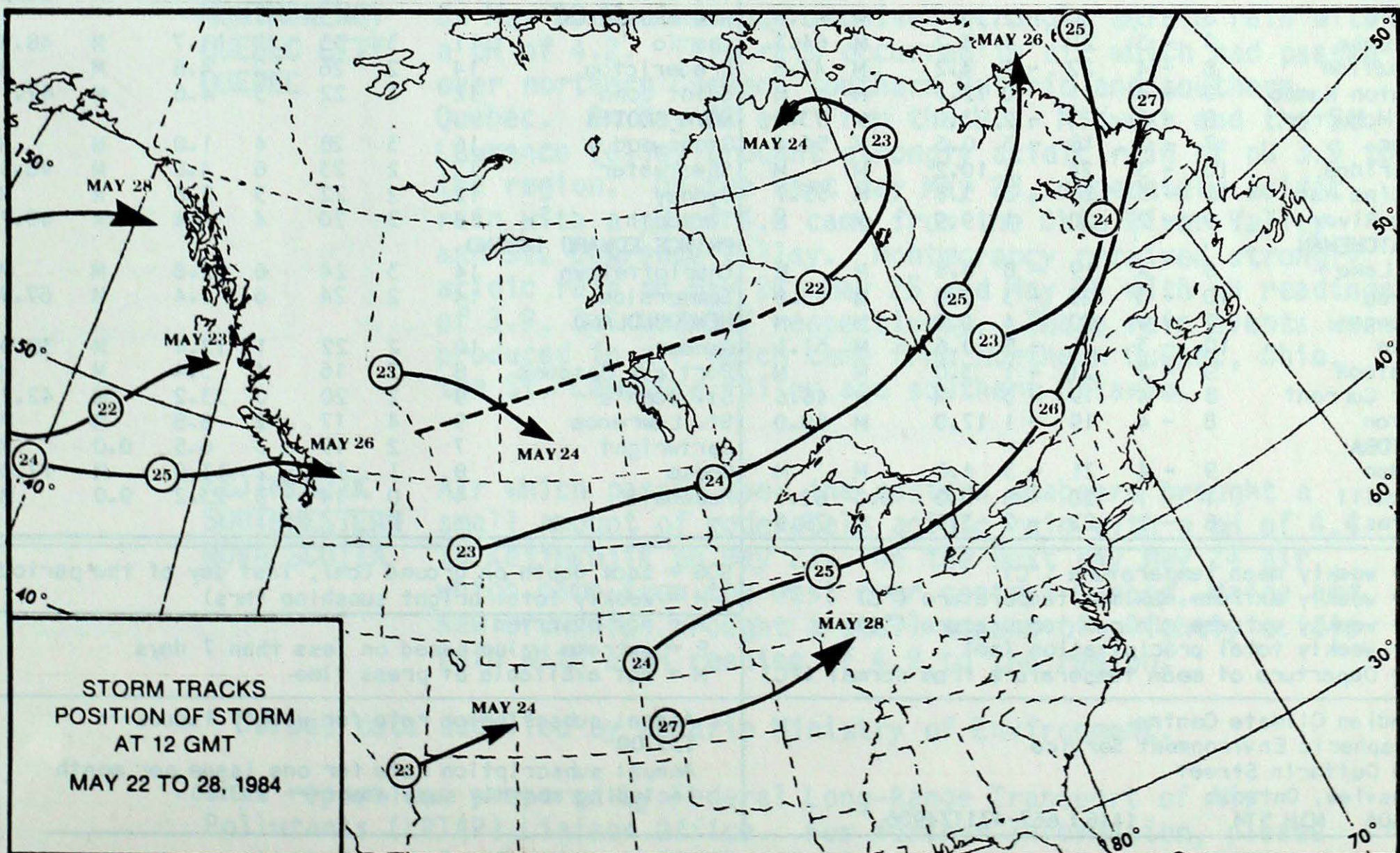
- ++ much above normal
- + above normal
- N normal
- below normal
- much below normal

SATELLITE OBSERVED SURFACE WATER TEMPERATURES (°C)
LAKE ONTARIO



Average water temperature at 4:30 EDT on May 27, 1984 was 6.3°C. Climatic mean for the same day is 6.8°.

STORM TRACKS



TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT MAY 29, 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	5	-5	22	-6	7.4	M	M
Dawson	10	-1	21	-1	13.5	M	M	Winnipeg	9	-3	21	-2	3.4	M	70.1
Mayo A	8	-2	20	-1	6.8	M	M	ONTARIO							
Watson Lake	8	-1	17	-2	6.3	M	47.8	Big Trout Lake	4	-2	21	-5	0.4	M	M
Whitehorse	7	-2	15	-1	10.9	M	39.4	Earlton	10	-2	21	-1	M	M	M
NORTHWEST TERRITORIES								Kapusking	7	-3	17	-5	8.5	M	M
Fort Smith	8	-1	22	-5	3.0	M	M	Kenora	9	-3	18	2	4.0	M	M
Inuvik	7	4	18	-3	0.0	0.0	103.3	London	14	0	26	6	63.2	M	M
Norman Wells	13	6	25	1	1.7	M	91.1	Moosonee	4	-3	16	-7	31.4	M	45.4
Yellowknife	8	2	18	-6	0.8	M	111.7	Muskoka	13	0	26	0	M	M	M
Baker Lake	-5	0	5	-13	0.2	19.0	92.4	North Bay	11	-1	18	2	69.4	M	M
Cape Dyer	-8	-3	-2	-15	2.9	45.0	M	Ottawa	15	0	28	6	23.0	M	37.4
Clyde	-9	-5	-1	-18	6.0	97.0	80.4	Pickle Lake	6	-3	20	-4	16.4	M	M
Frobisher Bay	-3	-2	3	-11	10.0	M	30.6	Red Lake	6	-5	19	-3	18.8	M	M
Alert	-9	-1	-4	-14	4.3	25.0	113.1	Sudbury	10	-1	19	1	61.4	M	34.2
Eureka	-8	-3	-4	-12	0.0	11.0	80.0	Thunder Bay	10	0	26	-2	9.4	M	68.3
Hall Beach	-7	-1	-2	-14	0.8	28.0	M	Timmins	8	-3	22	-4	6.2	M	M
Resolute	-10	-3	-3	-15	M	17.0	M	Toronto	14	0	28	4	89.3	M	M
Cambridge Bay	-5	2	5	-16	M	41.0	M	Trenton	14	0	27	5	33.6	M	M
Mould Bay	-7	1	-1	-13	M	34.0	M	Warton	12	0	25	2	67.9	M	M
Sachs Harbour	-2	4	5	-8	0.0	5.0	60.4	Windsor	16	0	25	7	50.6	M	M
BRITISH COLUMBIA								QUEBEC							
Cape St. James	9	0	14	6	17.7	M	55.7	Bagotville	11	-1	25	1	54.7	M	M
Cranbrook	9	-3	22	-1	6.6	M	58.3	Blanc-Sablon	6	3	14	-1	5.4	0.0	42.6
Fort Nelson	10	-2	20	2	13.6	M	48.4	Inukjuak	0	0	6	-4	M	0.0	M
Fort St. John	9	-2	18	3	2.3	M	M	Kuujuaq	2	0	11	-4	11.2	0.0	19.2
Kamloops	12	-3	23	2	15.1	M	40.1	Kuujuarapik	0	-3	14	-7	2.0	M	31.2
Penticton	11	-4	25	0	15.4	M	56.4	Maniwaki	12	0	23	0	63.2	M	M
Port Hardy	9	-1	16	2	69.2	M	30.5	Mont-Joli	11	0	26	4	42.8	M	45.0
Prince George	9	-2	19	-2	7.1	M	M	Montréal	15	0	27	8	28.4	M	40.4
Prince Rupert	9	0	15	2	33.9	M	42.8	Natashquan	7	1	13	0	5.6	M	M
Revelstoke	11	-1	24	3	14.6	M	42.6	Nitchequon	4	0	15	-3	37.0	2.0	19.9
Smithers	8	-2	18	-2	4.0	M	46.2	Québec	14	1	24	5	32.6	M	44.3
Vancouver	11	-2	22	5	29.7	M	53.3	Schefferville	2	-1	11	-4	49.0	1.0	13.5
Victoria	10	-3	21	3	32.3	M	60.2	Sept-Îles	7	0	17	1	52.4	M	31.1
Williams Lake	8	-2	18	-1	M	M	54.6	Sherbrooke	14	3	29	1	32.2	M	44.7
ALBERTA								Val-d'Or	8	-3	19	-3	85.1	M	33.6
Calgary	8	-3	20	-2	33.7	M	42.6	NEW BRUNSWICK							
Cold Lake	9	-3	21	-1	13.2	M	64.3	Charlo	11	3	33	1	11.7	M	48.8
Coronation	8	-4	22	-1	4.2	M	44.8	Fredericton	14	2	26	2	4.6	M	M
Edmonton Namao	9	-4	21	0	12.1	M	M	Saint John	12	1	22	3	4.6	M	47.1
Fort McMurray	8	-2	23	-2	3.0	M	73.9	NOVA SCOTIA							
Jasper	7	-3	18	-3	0.6	M	54.4	Greenwood	16	3	28	4	1.0	M	M
Lethbridge	10	-3	24	1	10.2	M	M	Shearwater	12	2	23	6	4.0	M	48.3
Medicine Hat	11	-3	23	3	5.8	M	55.7	Sydney	12	2	22	3	2.8	M	M
Peace River	9	-2	20	1	9.9	M	M	Yarmouth	12	2	20	4	9.4	M	49.7
SASKATCHEWAN								PRINCE EDWARD ISLAND							
Cree Lake	6	X	19	-8	0.8	M	M	Charlottetown	14	3	24	6	2.8	M	M
Estevan	10	-3	23	-3	2.8	M	55.0	Summerside	14	2	24	6	1.4	M	67.9
La Ronge	7	-4	20	-4	0.4	M	M	NEWFOUNDLAND							
Regina	10	-3	21	-5	0.6	M	61.1	Gander	10	2	22	1	12.4	M	38.8
Saskatoon	9	-3	21	-1	3.0	M	M	Port aux Basques	8	3	16	4	3.4	M	M
Swift Current	8	-4	19	-3	M	M	46.6	St. John's	9	2	20	0	33.2	M	42.2
Yorkton	8	-4	19	-1	17.0	M	59.0	St. Lawrence	9	4	17	2	8.8	M	M
MANITOBA								Cartwright	7	2	19	-3	6.5	0.0	M
Brandon	9	-4	21	-3	4.0	M	M	Goose	8	1	18	-2	13.0	M	17.0
Churchill	1	1	20	-8	0.0	0.0	62.1	Hopedale	4	0	14	-3	23.2	9.0	M
The Pas	8	-2	22	-2	3.5	M	79.9								

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

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

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

EDITOR: A. Shabbar

ASSISTANT EDITOR: A. Cailliet

STAFF WRITER: A. Radomski

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

**LONGWOODS
NEAR LONDON
ONTARIO**

All rain events at Longwoods last week were associated with air that had passed over the U.S. Midwest. On May 20, Longwoods received a small amount of normal rain with a pH of 5.3 while on May 21 the region received strongly acidic rain of pH 3.7. The next day May 22 rain was slightly acidic with a pH reading of 4.8. Again on May 25 a large amount of strongly acidic rain of pH 4.1 fell on the region.

**DORSET*
MUSKOKA
ONTARIO**

The strongly acidic rain of pH 3.9 and the moderately acidic rain of pH 4.4 which fell in Dorset on May 21 and May 22 was produced in air which came from the U.S. Midwest. On May 23 air which came from the west over Lake Huron and passed through the Sudbury basin brought moderately acidic rain of pH 4.4 to the region. A small amount of strongly acidic rain of pH 4.0 fell on May 24 and was associated with air from Wisconsin, Michigan and southern Ontario. Again on May 25 strongly acidic rain with a pH of 4.2 came from the U.S. Midwest.

**CHALK RIVER
OTTAWA
ONTARIO**

On May 22 air which came from the U.S. Midwest brought moderately acidic rain with a pH of 4.4 to Chalk River. On May 23 air which came from the west over Lake Superior and northern Ontario brought slightly acidic rain of pH 5.0 to the region. On the next day May 24 moderately acidic rain with a pH reading of 4.4 was received from air which passed through Wisconsin, Michigan and Lake Huron. The strongly acidic rain of pH 3.6 which fell on May 25 was associated with air that came from the U.S. Midwest.

**MONTMORENCY
QUEBEC CITY
QUEBEC**

On May 20 Montmorency received strongly acidic rain with a pH of 4.2. This rain occurred in air which had passed over northern Quebec, southern Ontario and southern Quebec. On May 22 air from the U.S. Midwest and the St. Lawrence Valley brought strongly acidic rain of pH 3.9 to the region. On the next day May 23, moderately acidic rain with a pH of 4.3 came from the Ohio River Valley and St. Lawrence Valley. Montmorency received strongly acidic rain on May 24, May 25 and May 26 with pH readings of 3.9, 3.4 and 3.7 respectively. These rain events were produced in air which came from northern Quebec, Ohio, the St. Lawrence Valley and southern Ontario.

**KEJIMKUJIK
SOUTHWESTERN
NOVA SCOTIA**

Air which passed over the eastern seaboard brought a small amount of moderately acidic rain with a pH of 4.4 to Kejimkujik on May 23. On the next day May 24 air which came from the west over central Quebec, Maine and New Brunswick brought a small amount of slightly acidic rain with a pH reading of 4.9 to the region.

* Dorset data supplied by Ontario Ministry of Environment.

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