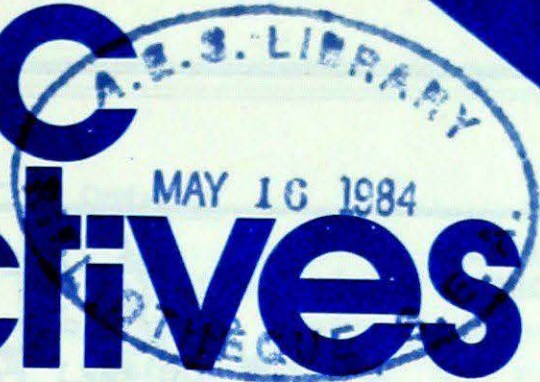


Climatic Perspectives



Canadian Climate Centre

A WEEKLY REVIEW OF CANADIAN CLIMATE

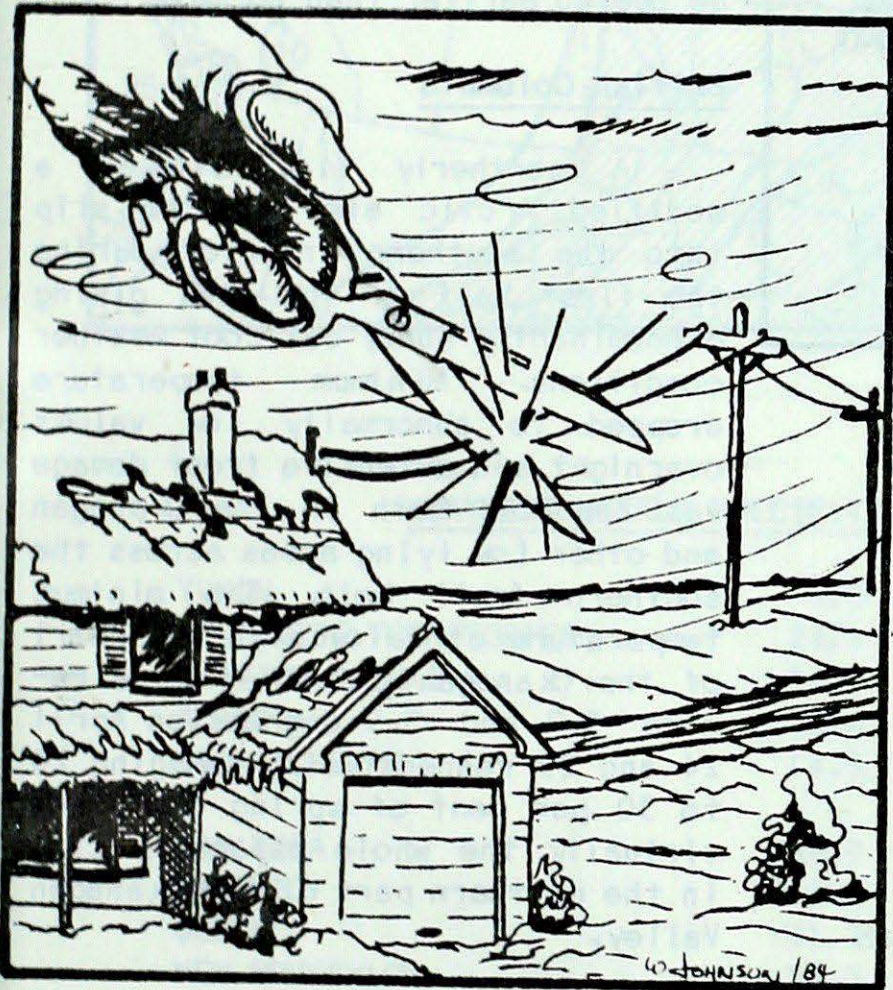
MAY 4, 1984

(Aussi disponible en français)

VOL. 6 NO. 17

FOR THE PERIOD APRIL 24 TO 30, 1984

- **Wintry weather returns to western Canada.....**
....near blizzard weather in southern Manitoba
....killing frost in British Columbia



A major spring snow storm accompanied by very strong winds and thunder spread heavy snow and freezing rain across a large portion of Manitoba and the southeast corner of Saskatchewan. The storm which developed in the American Mid-west earlier in the week and tracked northeastward caused more damage than any storm in recent memory. The snow and freezing rain began on the evening of April 26, and continued for two days. Hardest hit area was southwestern Manitoba, where snowfalls ranged between 20 and 40 centimetres.

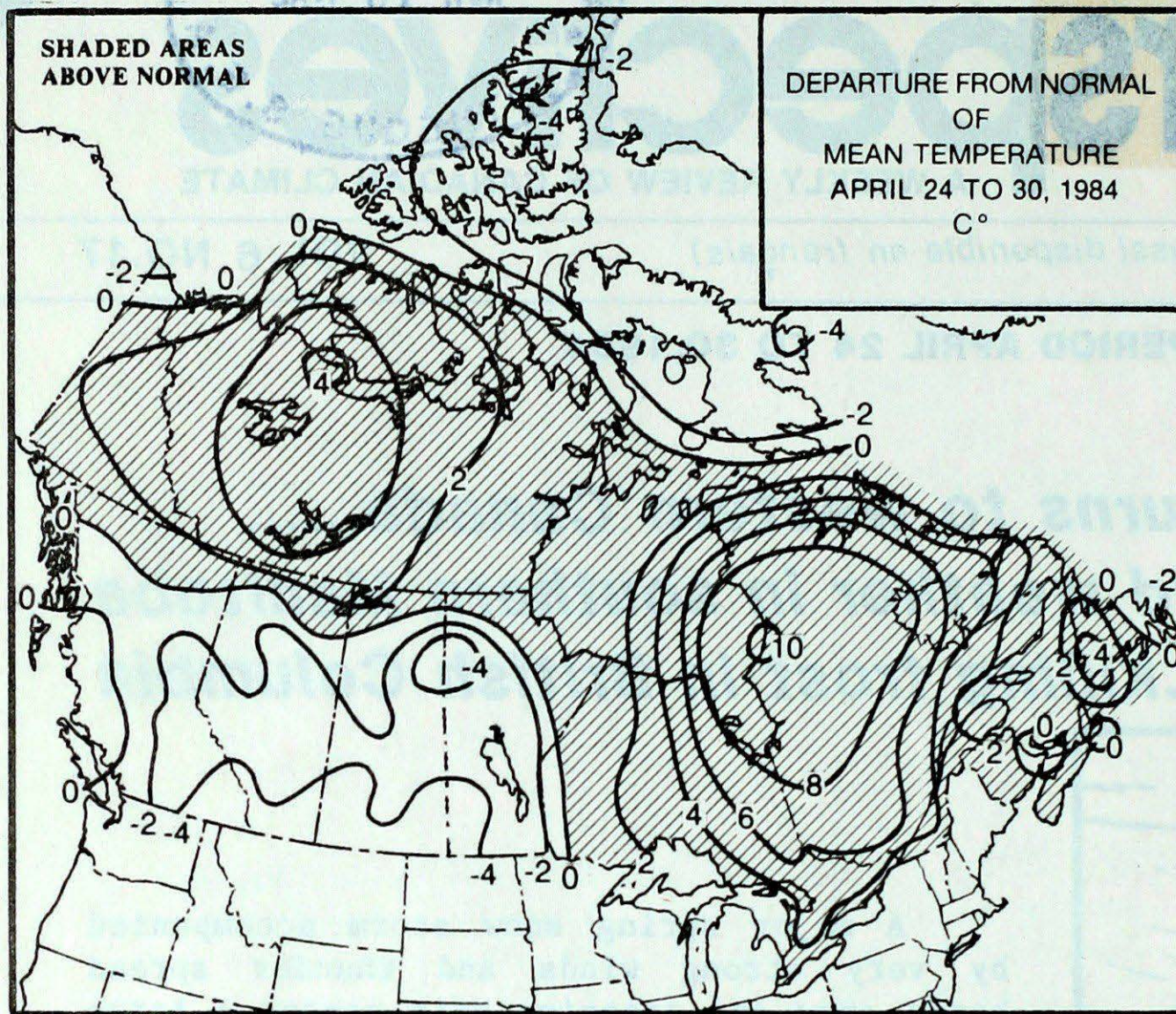
...Cont'd on page 5

- **Dense ice disrupts life in eastern Newfoundland**

Dense pack ice continued to play havoc with ship navigation, endangered fishermen and kept some communities isolated along the East Coast. A man died as his boat became trapped for about a week in ice off the Baie Verte Peninsula. About 33 seal hunters returned safely after being stranded on ice floe. Several fishing vessels remained stuck in thick ice sheets in the Botwood area. Even ice breakers were stuck in heavy ice. Ice closed in around Belle Isle and disrupted ferry service to the community that had been without electricity since the massive sleet storm of April 13.

...Cont'd on page 5

- **Wind storm kicks up dust in southern Ontario**
....causes extensive property damage

**ACROSS THE COUNTRY...****Yukon and Northwest Territories**

The western half of the Arctic experienced mild temperatures that averaged 5 to 8 degrees above normal. The readings climbed to 20° in some locations just east of the Mackenzie Valley and at Whitehorse, a maximum of 15.5° was the warmest reading since September 1, 1983. North of the Ogilvie Mountains and over the eastern Arctic, winter held its icy grip as mean temperatures registered 3 to 6 degrees below the norm. Precipitation was light across the North. Dry spring weather allowed the Canol and Skagway Highways to be opened earlier than normal.

British Columbia

A northerly flow allowed a modified Arctic air mass to slip into the southern interior during the first half of the week giving predominantly sunny but cool weather conditions. Minimum temperature dropped to abnormally low values overnight and extensive frost damage was reported both in the Okanagan and other low lying areas across the southern fruit belt. The minimum temperature at Kelowna in the heart of the Okanagan plummeted to a record -5.2 and -5.9 degrees on April 24 and 25 respectively, damaging 20 to 30 per cent of spring crops and virtually the whole asparagus crop in the northern part of the Okanagan Valley.

Prairies

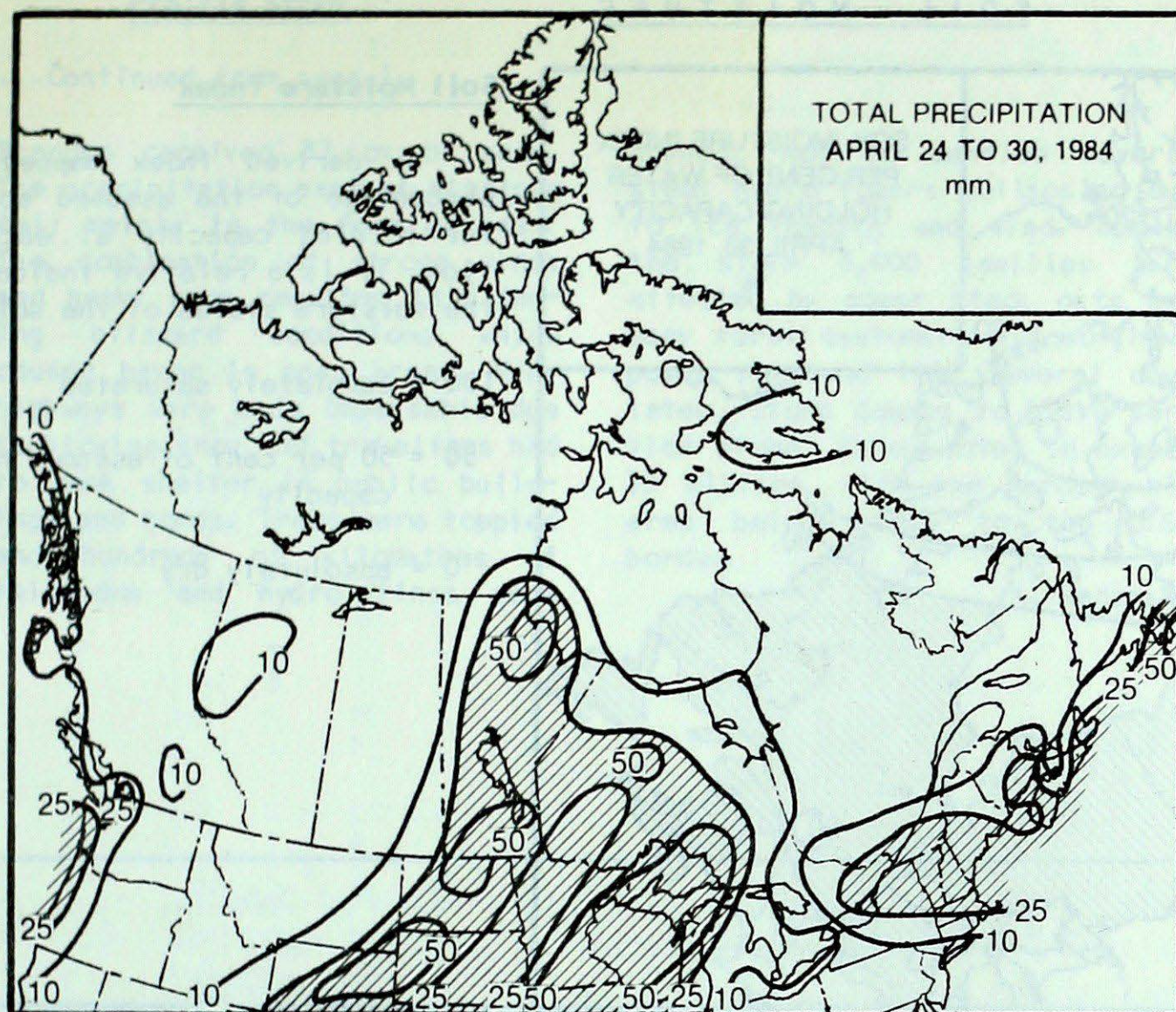
Cooler and unsettled weather prevailed with mean temperatures averaging 3 to 5 degrees below normal. The early part of the week in the western region was cloudy and wet. The Peace River District received 10 to 15 centimetres of snow while in southern Alberta up to 12 mm of precipitation was recorded. The east was relatively dry until mid week when a major spring storm gave 30 to 60 millimetres of precipitation across Manitoba. Field work and seeding were well under way in all areas. The fire situation in south Manitoba has improved considerably, with the additional precipitation having fallen over the week end.

WEEKLY TEMPERATURES EXTREMES (°C)

	<u>MAXIMUM</u>	<u>MINIMUM</u>
YUKON TERRITORY	16.8 Dawson Mayo	-25.7 Komakuk Beach
NORTHWEST TERRITORIES	19.0 Fort Simpson	-34.1 Eureka
BRITISH COLUMBIA	19.4 Lytton	- 9.6 Puntzi Mountain
ALBERTA	16.2 High Level	- 9.5 Banff
SASKATCHEWAN	15.0 Prince Albert	-11.2 Collins Bay
MANITOBA	20.0 Bissett	-11.1 Churchill
ONTARIO	26.2 Britt Kapusking	- 7.0 Big Trout Lake
QUEBEC	26.8 Sherbrooke	- 9.1 Chevery
NEW BRUNSWICK	23.4 Fredericton	- 4.2 Moncton
NOVA SCOTIA	21.7 Greenwood	- 3.4 Sydney
PRINCE EDWARD ISLAND	17.5 Summerside	- 1.7 East Point
NEWFOUNDLAND	19.7 Goose	-15.9 Hopedale

ACROSS THE NATION

Warmest mean temperature	14.2	Windsor, Ont
Coollest mean temperature	-26.0	Eureka, NWT



HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON	4.0	Shingle Point
NORTHWEST TERRITORIES	24.4	Frobisher Bay
BRITISH COLUMBIA	36.1	Vancouver
ALBERTA	15.6	Peace River
SASKATCHEWAN	14.3	Estevan
MANITOBA	58.9	Brandon
ONTARIO	57.8	Wawa
QUEBEC	31.7	Sherbrooke
NEW BRUNSWICK	37.5	Moncton
NOVA SCOTIA	39.4	Sydney
PRINCE EDWARD ISLAND	21.4	Summerside
NEWFOUNDLAND	110.2	Cape Race

Wind Storm Lash Southern Ontario

A furious wind storm buffeted southern Ontario with gusts of 125 km/h. Hurricane-force winds caused extensive property damage as sidings and insulations were ripped off houses under construction. In Toronto, roof was torn off a

10-story building, with debris damaging cars. High winds knocked down power lines, leaving thousands of residents without electricity in the Bruce Peninsula. Dust devils were spotted and blowing dust reduced visibilities to 1 km on some highways.

Ontario

Strong winds, wet snow and rain produced wintry weather in Northwestern Ontario. The rain relieved the prolonged dry spell as over 20 mm fell in most locations during the latter half of the week. After many weeks of cool and damp weather, spring warmth finally arrived in the southern and central areas. Record maximums were established in many communities; the temperatures soared into the mid-twenties breaking records dating back to 1942. Mild weather and winds dispersed ice jams in the St. Clair River. Ice floes have restricted the movements of about 80 ships over the past 2 weeks in the Great Lakes. Warm and dry conditions allowed southern Ontario farmers to begin work on well drained fields.

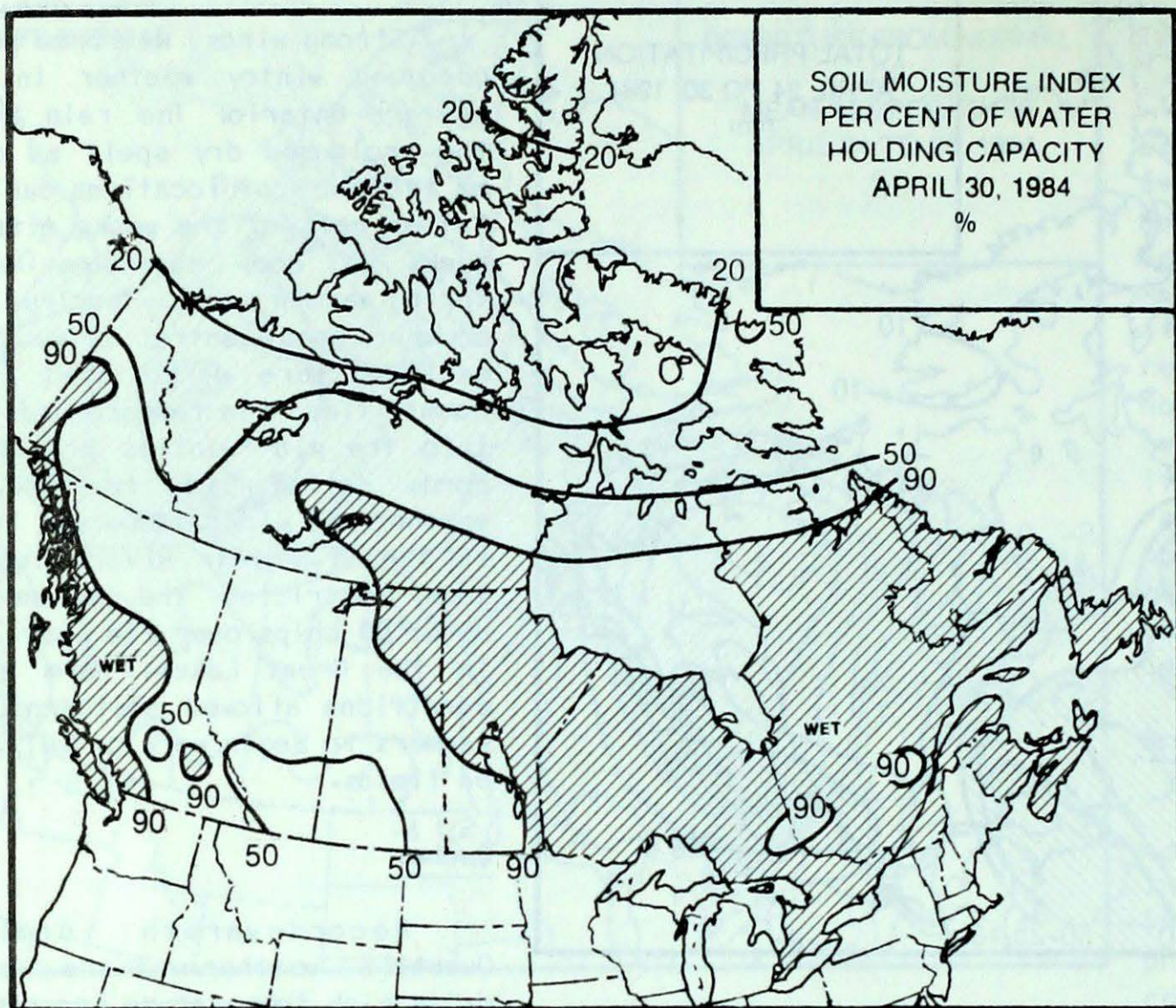
Québec

Record-warmth dominated Québec's weather. There were 38 daily high temperature records and 4 monthly records as the readings rose into the mid-twenties. Despite the flooding near Québec City, a meager rainfall kept river flows at low levels elsewhere. The dry weather allowed farmers to start their field work in the South, and in Estrie and at Trois Rivières, seeding began in earnest.

Atlantic Provinces

Cool and damp weather early in the week yielded to warm and dry conditions in the Maritimes. In Labrador, a stationary ridge of high pressure resulted in spring-like weather. At Goose Bay, 247 hours of bright sunshine proved to be the highest for April; in addition, several stations experienced record high temperatures including 20° at Goose Bay that was also a monthly record. Heavy to moderate rains in the 20 to 40 mm range caused the Saint John River to reach flood stages near Fredericton. Minor flooding occurred in some communities, the snow cover water equivalent has been of record proportions in northern New Brunswick this past winter. Heavy pack ice continued to play havoc with shipping along the East Coast.

SOIL MOISTURE



SOIL MOISTURE INDEX
PER CENT OF WATER
HOLDING CAPACITY
APRIL 30, 1984
%

Soil Moisture Index

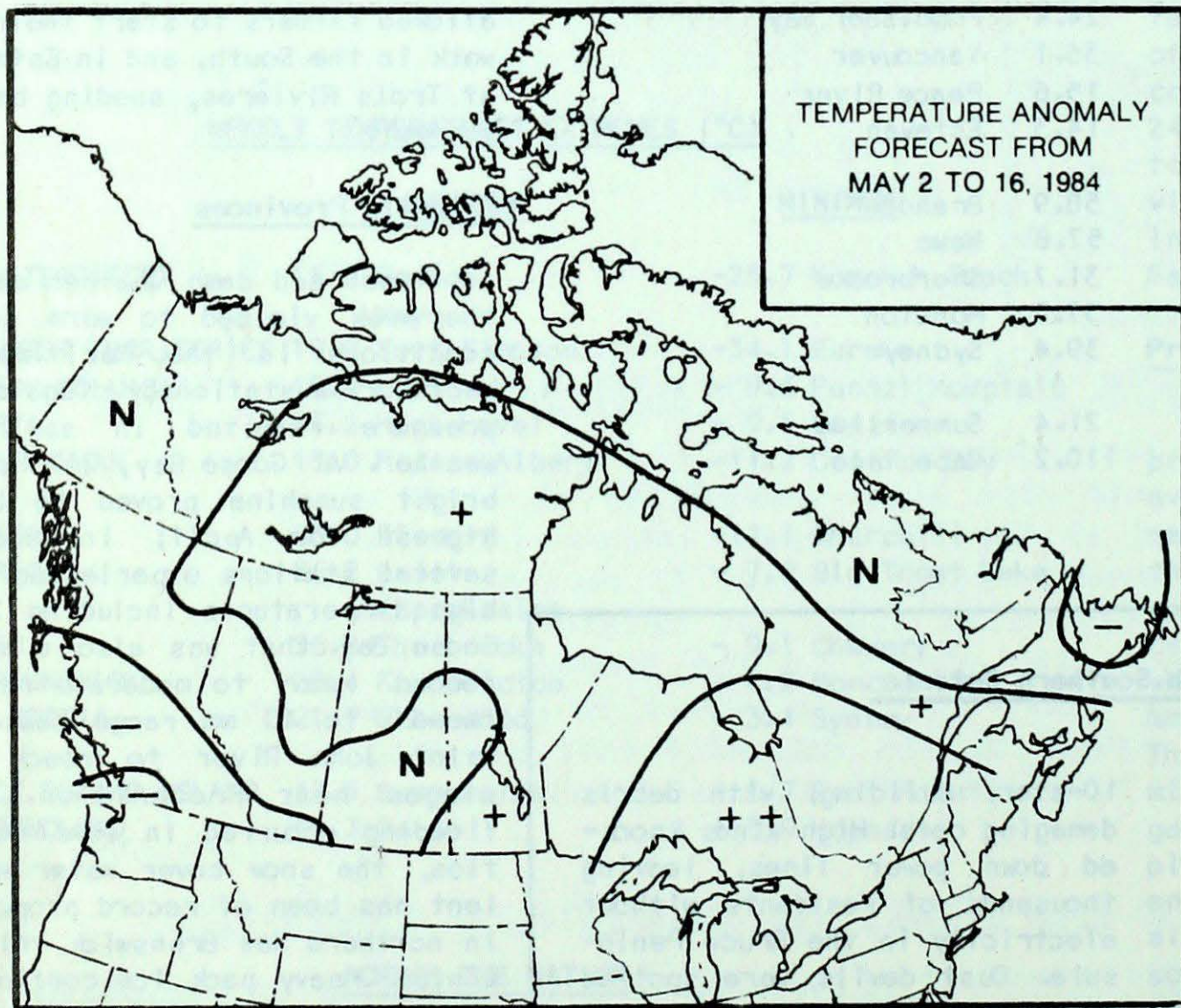
A derived index mapped as a percentage of the assumed soil water holding capacity at each station. It is a relative indicator of the moisture status of the soil.

100 = completely saturated

50 = 50 per cent of assumed holding capacity

0 = absolutely dry

TEMPERATURE ANOMALY FORECAST



TEMPERATURE ANOMALY
FORECAST FROM
MAY 2 TO 16, 1984

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

Prairie Storm

...Continued from page 1

Brandon received 37 cm of snow. The precipitation east of Winnipeg fell mainly in the form of rain. The combination of strong winds and heavy snow resulted in blinding blizzard conditions which caused havoc in open areas. Many highways were made impassable due to blowing snow and travellers had to seek shelter in public buildings and homes. Trees were toppled and hundreds of kilometres of telephone and hydro lines were

downed, not to mention several steel hydro towers collapsing due to ice loading and wind. During the storm 8,000 families were affected by power black outs and many rural customers did not have power restored till several days later. Storm damage to hydro service alone, is expected to exceed \$3 million, with the hardest hit area being close to the U.S. border.

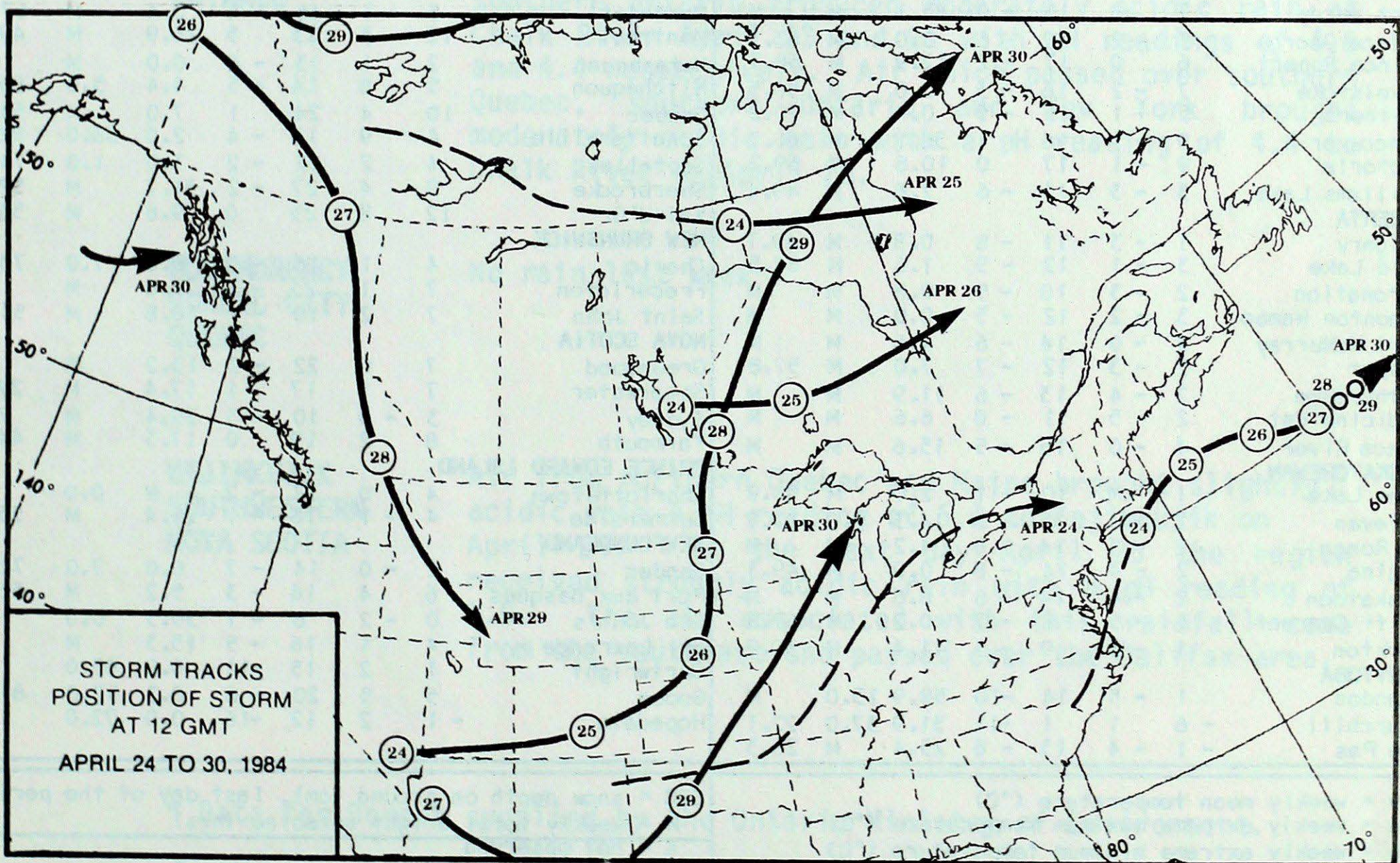
A. Radomski

East Coast Ice

...Continued from page 1

Extensive ice in the Northumberland Strait prevented the start up of passenger ferry service between Nova Scotia and Prince Edward Island. High icebergs hampered offshore drilling in the Grand Banks as some oil rigs could not get at their wells. Threatened earlier by encroaching pack ice, the rigs were moved southwest of the drilling area to safety.

STORM TRACKS



TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT MAY 1, 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	-2	-4	15	-10	45.0	18.0	26.2
Dawson	4	1	17	-8	0.0	M	M	Winnipeg	3	-4	16	-6	M	0.0	22.8
Mayo A	5	2	17	-5	1.6	M	M	ONTARIO							
Watson Lake	4	1	14	-6	0.0	0.0	82.1	Big Trout Lake	1	2	20	-7	23.3	1.0	M
Whitehorse	4	1	16	-6	0.0	M	M	Earlton	13	8	25	1	M	M	M
NORTHWEST TERRITORIES								Kapuskasing	10	6	26	-2	23.8	M	M
Fort Smith	4	3	17	-8	0.0	M	67.3	Kenora	5	-1	20	-4	21.1	0.0	M
Inuvik	-8	1	11	-23	0.8	68.0	72.3	London	12	3	24	4	11.5	M	45.0
Norman Wells	1	3	16	-13	0.0	M	86.0	Moosonee	9	8	25	-1	17.4	M	49.0
Yellowknife	2	5	14	-5	1.6	M	M	Muskoka	13	5	26	-0	M	M	M
Baker Lake	-14	0	-4	-23	4.0	69.0	72.0	North Bay	12	6	25	-0	15.4	M	46.6
Cape Dyer	-18	-6	-11	-28	1.2	61.0	M	Ottawa	13	4	24	4	41.9	M	M
Clyde	-18	-3	-10	-26	0.0	95.0	90.9	Pickle Lake	4	2	22	-5	21.8	M	M
Frobisher Bay	-13	-3	-4	-25	24.4	39.0	M	Red Lake	3	-2	20	-7	29.7	0.0	12.3
Alert	-20	-1	-14	-28	M	16.0	127.8	Sudbury	12	6	26	-1	9.4	M	54.3
Eureka	-26	-5	-15	-34	M	12.0	153.4	Thunder Bay	7	2	21	-3	26.5	2.0	37.0
Hall Beach	-20	-3	-7	-30	1.0	41.0	M	Timmins	11	7	26	-1	15.4	M	M
Resolute	-22	-3	-12	-29	1.4	37.0	84.5	Toronto	13	4	25	4	5.7	M	M
Cambridge Bay	-15	2	-6	-24	0.0	38.0	80.3	Trenton	12	2	21	4	31.2	M	M
Mould Bay	-19	-1	-11	-25	1.4	28.0	M	Warton	10	3	25	2	8.8	M	63.9
Sachs Harbour	-11	4	0	-18	1.0	15.0	M	Windsor	14	3	25	6	11.8	M	M
BRITISH COLUMBIA								QUEBEC							
Cape St. James	8	1	14	3	8.3	M	M	Bagotville	10	5	25	-2	1.9	M	M
Cranbrook	3	-5	13	-5	0.2	M	60.8	Blanc-Sablon	1	1	9	-7	0.0	3.0	M
Fort Nelson	5	1	17	-3	6.8	M	59.0	Inukjuak	1	8	7	-3	3.6	8.0	21.8
Fort St. John	4	-1	14	-3	3.4	M	M	Kuujuaq	2	8	15	-5	0.6	35.0	31.1
Kamloops	7	-3	17	-2	11.0	M	48.0	Kuujuarapik	7	10	22	-3	8.6	0.0	59.8
Penticton	7	-3	17	-3	3.0	M	M	Maniwaki	12	6	23	2	6.8	M	50.4
Port Hardy	7	0	15	-0	15.1	M	M	Mont-Joli	5	1	16	-4	0.4	M	67.2
Prince George	3	-2	12	-6	0.0	M	63.3	Montréal	12	3	23	5	26.9	M	49.7
Prince Rupert	6	0	17	-2	12.9	M	60.7	Natashquan	2	1	13	-6	0.0	M	M
Revelstoke	7	-2	16	-3	0.0	M	56.5	Nitchequon	5	8	14	-5	4.4	5.0	65.0
Smithers	5	-1	15	-5	0.4	M	70.2	Québec	10	4	24	1	7.0	M	54.9
Vancouver	9	-1	16	1	36.1	M	66.7	Schefferville	4	9	13	-4	2.0	36.0	82.5
Victoria	9	-1	17	0	10.6	M	69.2	Sept-Îles	4	2	12	-2	3.0	1.0	74.8
Williams Lake	3	-3	11	-6	2.6	M	49.4	Sherbrooke	9	4	27	-2	31.7	M	52.4
ALBERTA								Val-d'Or	12	8	23	0	9.8	M	53.7
Calgary	1	-3	11	-8	0.8	M	49.7	NEW BRUNSWICK							
Cold Lake	3	-1	12	-5	1.6	M	82.5	Charlo	4	1	16	-3	6.6	7.0	73.4
Coronation	2	-3	10	-5	0.8	M	M	Fredericton	7	1	23	-3	23.8	M	M
Edmonton Namao	3	-2	12	-5	0.0	M	M	Saint John	7	2	19	-1	30.8	M	51.7
Fort McMurray	4	-0	14	-6	4.6	M	M	NOVA SCOTIA							
Jasper	2	-3	12	-7	7.0	M	52.8	Greenwood	7	0	22	-3	13.2	M	M
Lethbridge	2	-4	13	-6	11.9	M	M	Shearwater	7	1	17	1	17.4	M	27.0
Medicine Hat	2	-5	11	-8	6.6	M	M	Sydney	3	-0	10	-3	39.4	M	7.9
Peace River	4	-0	15	-5	15.6	M	M	Yarmouth	8	2	19	0	17.3	M	44.7
SASKATCHEWAN								PRINCE EDWARD ISLAND							
Cree Lake	-1	M	10	-11	2.0	M	90.9	Charlottetown	4	0	17	-2	M	0.0	M
Estevan	2	-4	15	-6	14.3	0.0	52.7	Summerside	4	-1	18	-1	21.4	M	55.0
La Ronge	2	-3	14	-8	4.2	M	M	NEWFOUNDLAND							
Regina	2	-4	14	-8	0.0	M	49.3	Gander	2	-0	14	-7	0.0	7.0	72.2
Saskatoon	2	-4	14	-6	6.6	M	M	Port aux Basques	6	4	16	-3	5.2	M	56.0
Swift Current	1	-5	8	-7	0.2	M	69.8	St. John's	0	-2	6	-7	39.5	0.0	M
Yorkton	1	-5	9	-5	11.4	M	30.7	St. Lawrence	4	1	16	-5	15.3	M	M
MANITOBA								Cartwright	1	2	15	-11	0.2	65.0	M
Brandon	1	-5	14	-10	58.9	13.0	M	Goose	5	5	20	-6	0.2	57.0	81.6
Churchill	-6	1	1	-11	51.9	37.0	22.1	Hopedale	-1	2	12	-16	0.0	72.0	M
The Pas	-1	-4	13	-8	25.4	M	26.3								

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

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**LONGWOODS
NEAR LONDON
ONTARIO**

Air which came from northern Quebec and passed through New York and Pennsylvania brought moderately acidic rain with a pH reading of 4.3 to Longwoods on April 22. On the next two days April 23 and 24 the region received strongly acidic rain with pH readings of 3.7 and 3.2 respectively. The rain on April 23 was produced in air which passed through the Ohio Valley and the rain on April 24 was associated with air which passed over northern Quebec, New York, Pennsylvania and southern Ontario.

**DORSET*
MUSKOKA
ONTARIO**

Dorset received moderately acidic rain on April 23 with a pH reading of 4.6 and strongly acidic rain the next day April 24 with a pH reading of 4.2. These events were associated with air which came from northern Quebec and passed over the New England States, New York, Pennsylvania and southern Ontario. On April 28 air which came from the U.S. Midwest brought strongly acidic rain with a pH reading of 4.0 to Dorset.

**CHALK RIVER
OTTAWA-RIVER
ONTARIO**

Air which came from northern Quebec and passed through the New England States, New York and southern Ontario produced moderately acidic rain at Chalk River April 23 and 24 with pH readings of 4.6 and 4.4 respectively. Air which passed over southern Quebec, southern Ontario and New York brought moderately acidic rain with a pH reading of 4.4 to Chalk River on April 28.

**MONTMORENCY
QUEBEC CITY
QUEBEC**

No rain last week

**KEJIMKUIK
SOUTHWESTERN
NOVA SCOTIA**

Air from northern Quebec and Maine brought slightly acidic rain a pH reading of 5.0 to Kejimkujik on April 24. On the next day April 25 the region received strongly acidic rain with a pH reading of 3.5. The air associated with this rainfall came from the southeast and passed over the Halifax area.

* 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.

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.