

# Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

JUNE 8, 1984

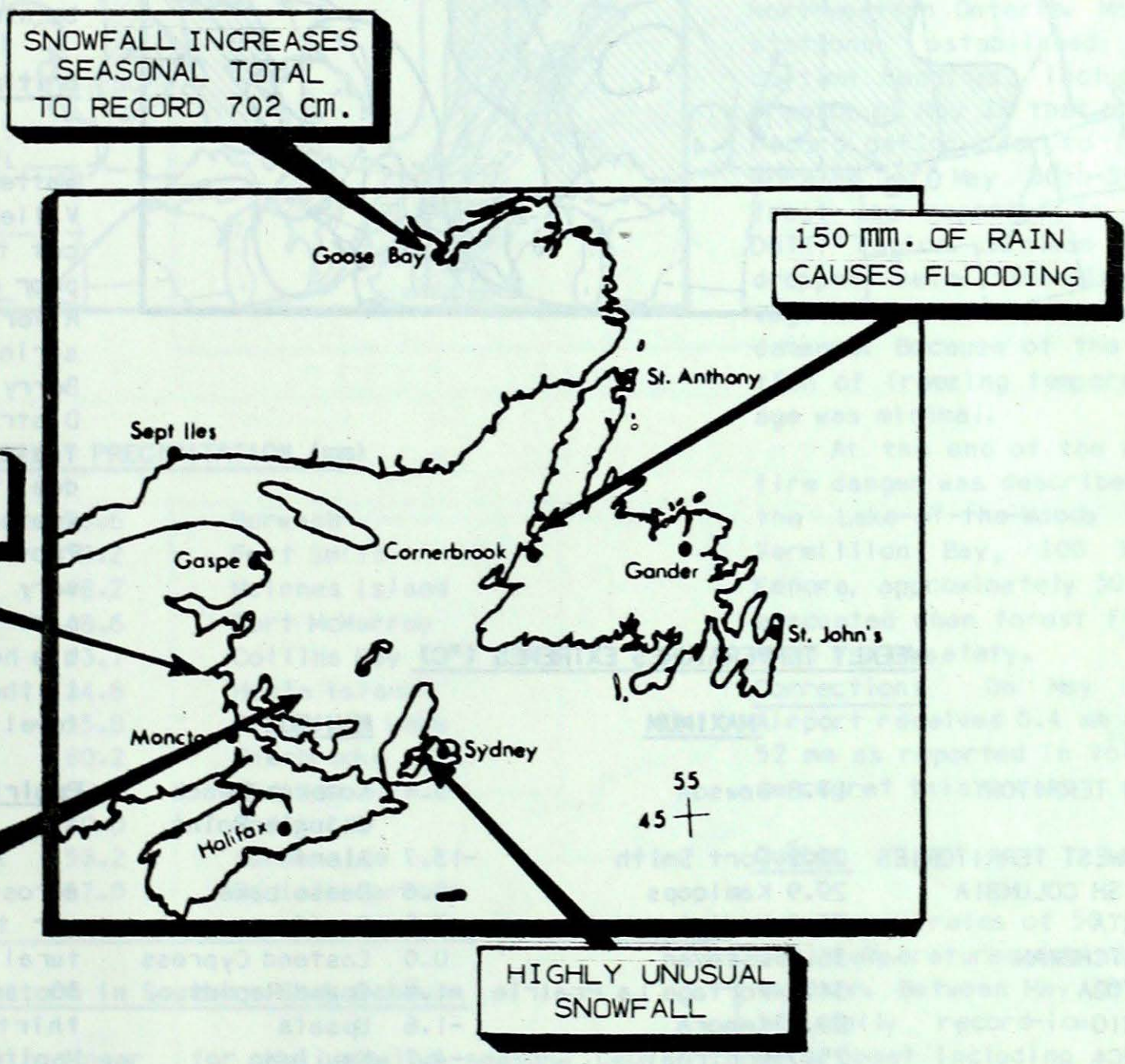
(Aussi disponible en français)

VOL. 6 NO. 22

FOR THE PERIOD MAY 29 TO JUNE 4, 1984

## ● Deluges of rain and cold plague Atlantic Canada

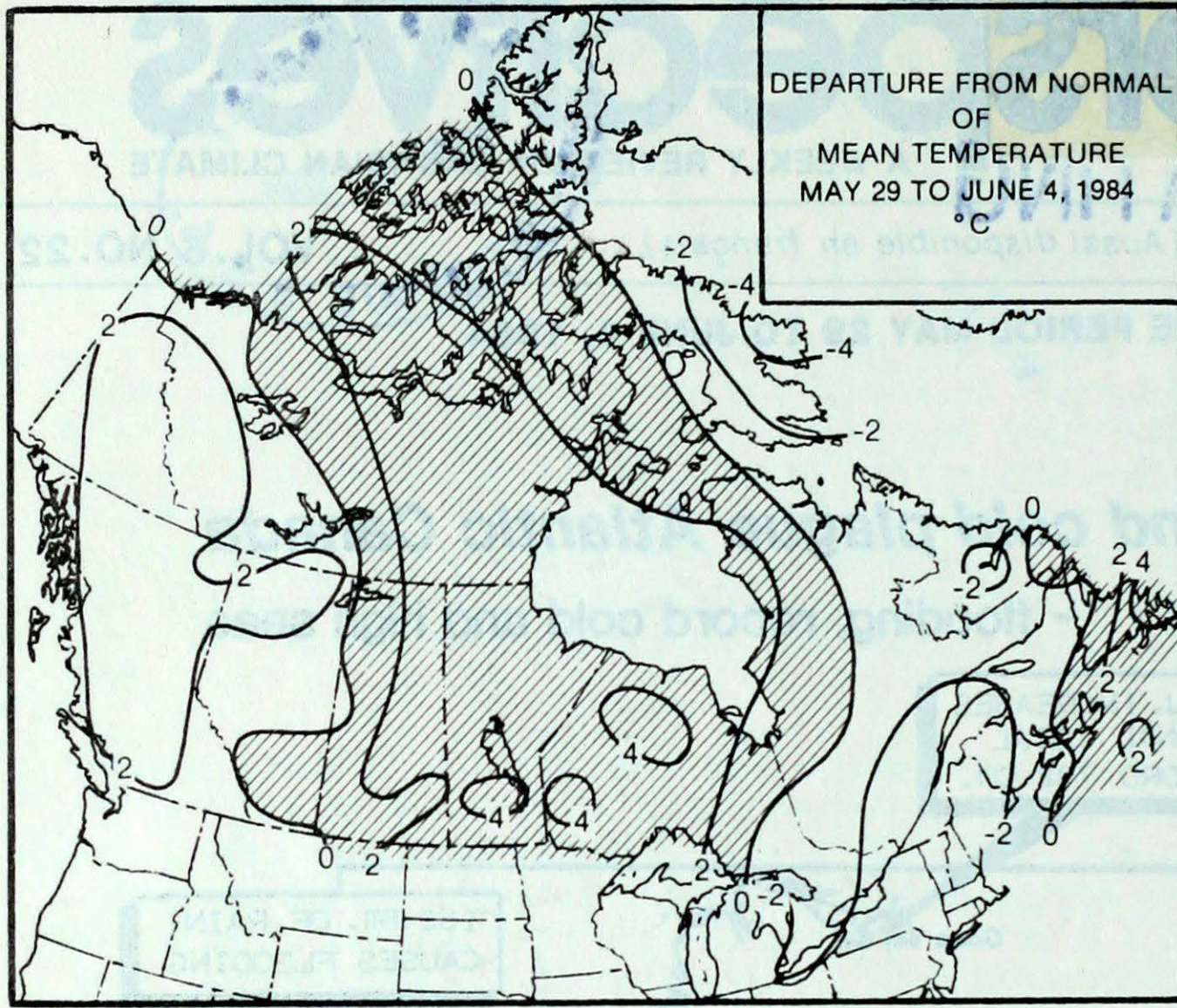
– flooding, record cold and high seas



## ● Dust storm creates havoc on the Prairies



**ACROSS THE COUNTRY...**



**Yukon and Northwest Territories**

The weather was cool and damp throughout most of the North. Even though the temperatures were 2 to 5 degrees below the long-term average, daytime readings climbed near 22° in the Mackenzie Valley on a few days. Showers of rain and snow fell at many locations, nearly 38 mm of precipitation was recorded at Fort Smith. In the eastern Yukon, the dry weather over the past few weeks has significantly increased the threat of forest fires. One major fire covering about 4,000 hectares was burning in that area.

**British Columbia**

A changeable and cool weather pattern returned. In the Interior Valleys, farmers were beginning to cut the first crop hay despite the poor drying conditions. In the Peace River District, 70 per cent of the spring seeding has been completed. Berry growers in the Fraser Valley District fear that the up-coming fruit crop will be of poor quality due to the seemingly endless wet weather that has plagued the south. Provincial government officials are very concerned about the deep snow pack in the mountains and the possible heavy run-off which would result if the temperatures and the freezing level should rise abruptly.

**Prairies**

A strong disturbance tracking across the north allowed very warm air to penetrate into the agricultural districts. Temperatures on May 30 and 31 climbed into the mid-thirties in Saskatchewan and Manitoba setting new maximum temperature records. On May 31 and June 1 very strong winds, gusting to more than 100 km/h, whipped across central Alberta and Saskatchewan, damaging buildings and other outdoor structures, not to mention power line blackouts due to downed power lines and trees. In southwestern Saskatchewan, where rainfall has been sparse, the strong winds ravaged newly seeded fields, blowing away top soil and causing significant soil erosion. Several highways were

**WEEKLY TEMPERATURES EXTREMES (°C)**

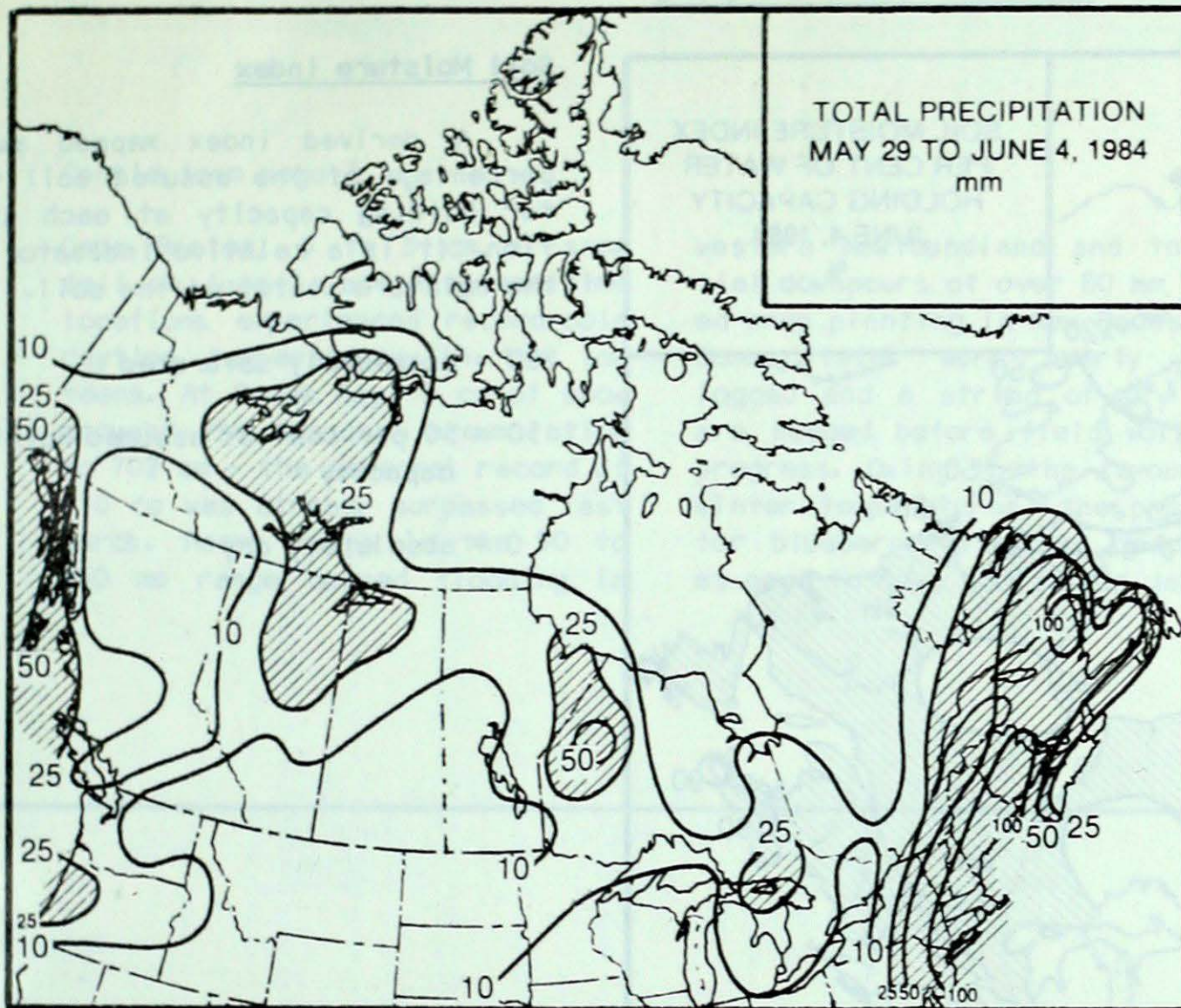
	<u>MAXIMUM</u>	<u>MINIMUM</u>
YUKON TERRITORY	17.8 Dawson	-3.4 Komakuk Beach Shingle Point
NORTHWEST TERRITORIES	22.2 Fort Smith	-13.7 Alert
BRITISH COLUMBIA	29.9 Kamloops	-3.6 Dease Lake
ALBERTA	32.2 Medicine Hat	-3.5 Banff
SASKATCHEWAN	36.0 Estevan	0.0 Eastend Cypress
MANITOBA	34.6 Portage La Prairie	-1.5 Grand Rapids
ONTARIO	29.3 Kenora	-1.6 Upsala
QUEBEC	25.7 Montreal Dorval	-4.2 Kuujuaq
NEW BRUNSWICK	23.9 Chatham	-0.7 Moncton
NOVA SCOTIA	24.9 Inverness	0.0 Inverness
PRINCE EDWARD ISLAND	21.6 Summerside	3.3 East Point Summerside
NEWFOUNDLAND	25.0 Deer Lake	-5.1 Churchill Falls

**ACROSS THE NATION**

Warmest mean temperature	18.7	Portage La Prairie, MAN
Coollest mean temperature	-7.7	Broughton Island, NWT



TOTAL PRECIPITATION  
MAY 29 TO JUNE 4, 1984  
mm



#### HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON	36.6	Burwash
NORTHWEST TERRITORIES	38.2	Fort Smith
BRITISH COLUMBIA	48.2	McInnes Island
ALBERTA	48.6	Fort McMurray
SASKATCHEWAN	23.7	Collins Bay
MANITOBA	24.8	Hecla Island
ONTARIO	55.8	Big Trout Lake
QUEBEC	80.2	Sherbrooke
NEW BRUNSWICK	109.4	Chatham
NOVA SCOTIA	40.0	Shelburne
PRINCE EDWARD ISLAND	58.2	Summerside
NEWFOUNDLAND	157.0	Daniels Harbour

#### Dust Storm In Southern Saskatchewan

Strong winds gusting near 130 km/h lashed southern Saskatchewan and severely reduced visibilities in blowing dust on major highways. There were a few fatal accidents. The winds blew top soil and created soil erosion throughout southwestern Saskatchewan. South of the Trans-Canada Highway precipitation has been much below normal. A meagre winter snowfall combined with only 25 to 30 per cent of spring rainfall has raised concerns about adequate moisture supply

for the growing season. Lack of moisture has affected crop growth in that area. Although average wind speed for May has been below average in many southern Saskatchewan locations, there were a few days when strong winds lifted loose soil and created blinding dust storms. In contrast, heavy rains have hampered spring seeding in central Saskatchewan. Fields were water logged and only 5 per cent of spring planting was complete.

closed when blowing dust reduced visibilities to near zero, making driving hazardous; several lives were lost in highway traffic accidents. At Foam Lake, a community east of Wynyard, the strong winds fanned a fire which spread rapidly to a grain elevator, destroying its contents and resulting in more than \$2 million in damages.

#### Ontario

Unseasonable cold continued across Ontario. The temperatures were 2 to 4 degrees below normal throughout the central and southern regions but averaged near normal in Northwestern Ontario. Many southern stations established record-low daytime readings, including 10° at Trenton on May 28 that broke the old record dating back to 1894. On the morning of May 30th-31st, ground frost was reported in the Simcoe-Delhi region. Minimum temperatures dropped below freezing and some vegetable and tobacco seedlings were damaged. Because of the short duration of freezing temperatures, damage was minimal.

At the end of the week, forest fire danger was described as high in the Lake-of-the-Woods area. Near Vermillion Bay, 100 km east of Kenora, approximately 30 people were evacuated when forest fires threatened their safety.

Correction: On May 25, Toronto Airport received 0.4 mm of rain, not 52 mm as reported in Vol. 6 No. 21. We regret this error.

#### Québec

Heavy rains of 50 to 70 mm and cool temperatures dominated Québec's weather. Between May 28 and May 31, 14 daily record-low temperatures were upset including a cool daytime reading of 7° at Gaspé. Deluges of rain fell along the south shores of the St. Lawrence River. The rains increased the risk of flooding in the St-François River near Sherbrooke. The weather became warm and dry during the weekend.

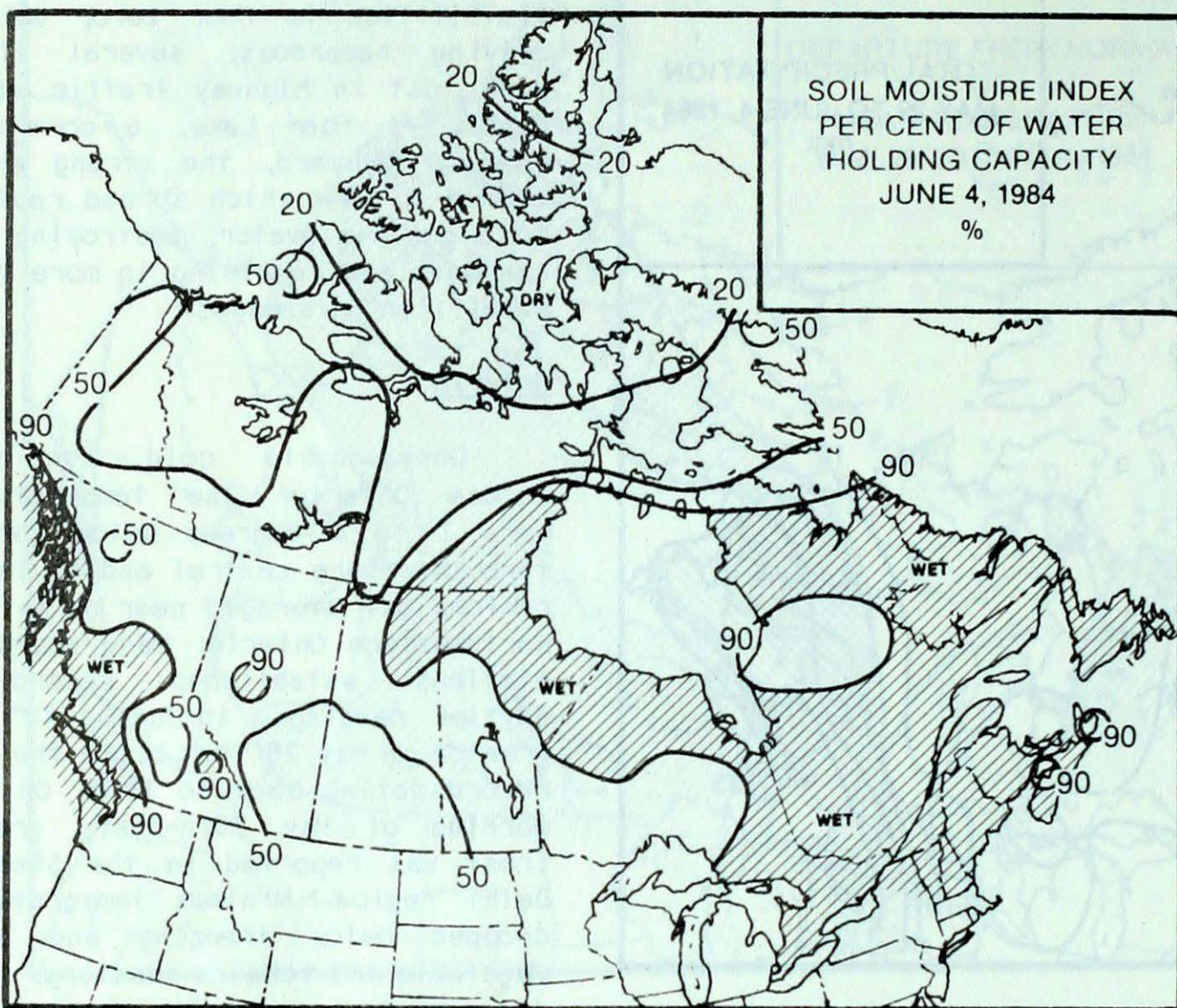
#### Atlantic Provinces

Record-cold and unusual snowfall ended a week of warm temperatures along the East Coast. Over

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SOIL MOISTURE



Soil Moisture Index

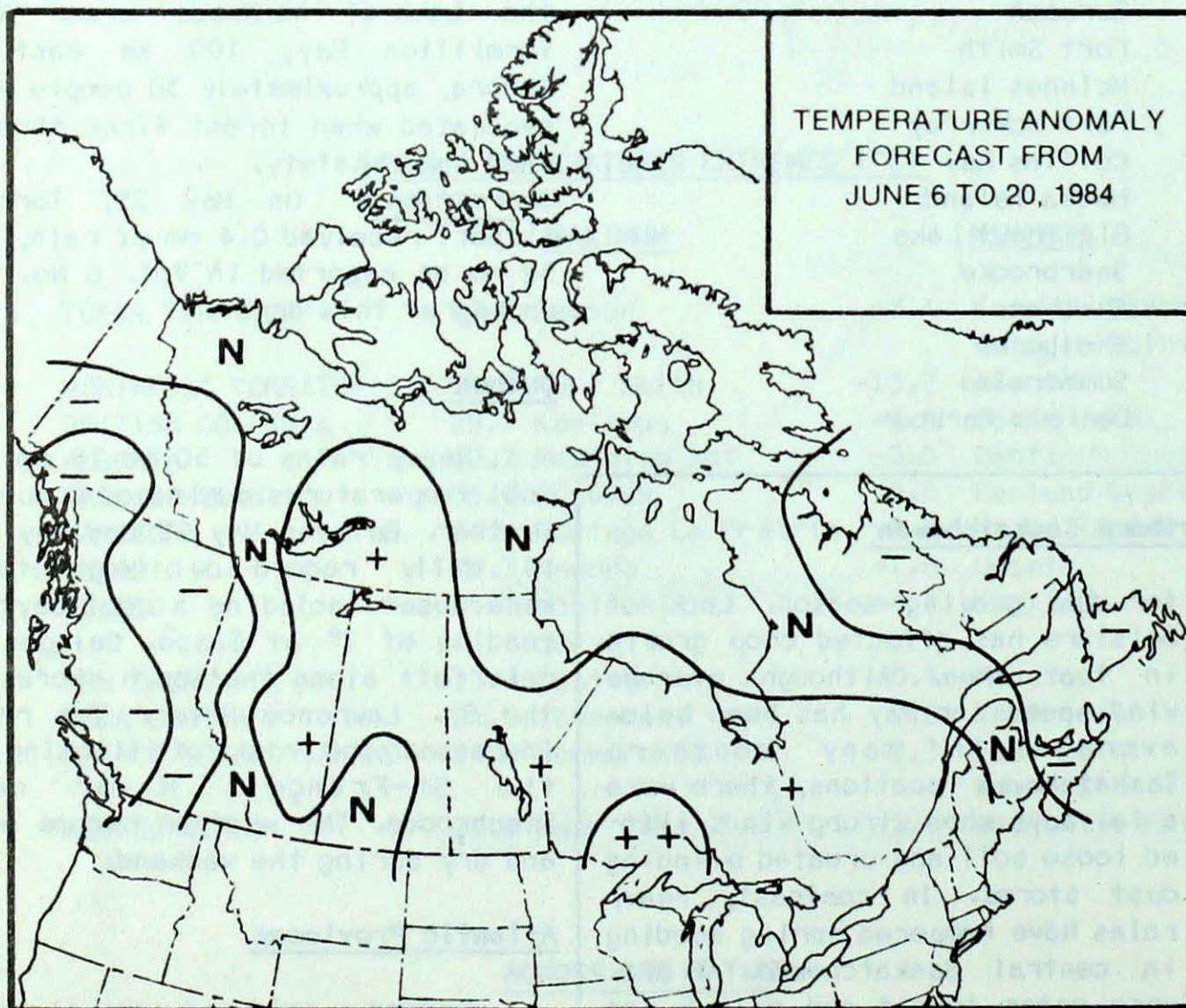
A derived index mapped as a percentage of the assumed soil water holding capacity at each station. It is a relative indicator of the moisture status of the soil.

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



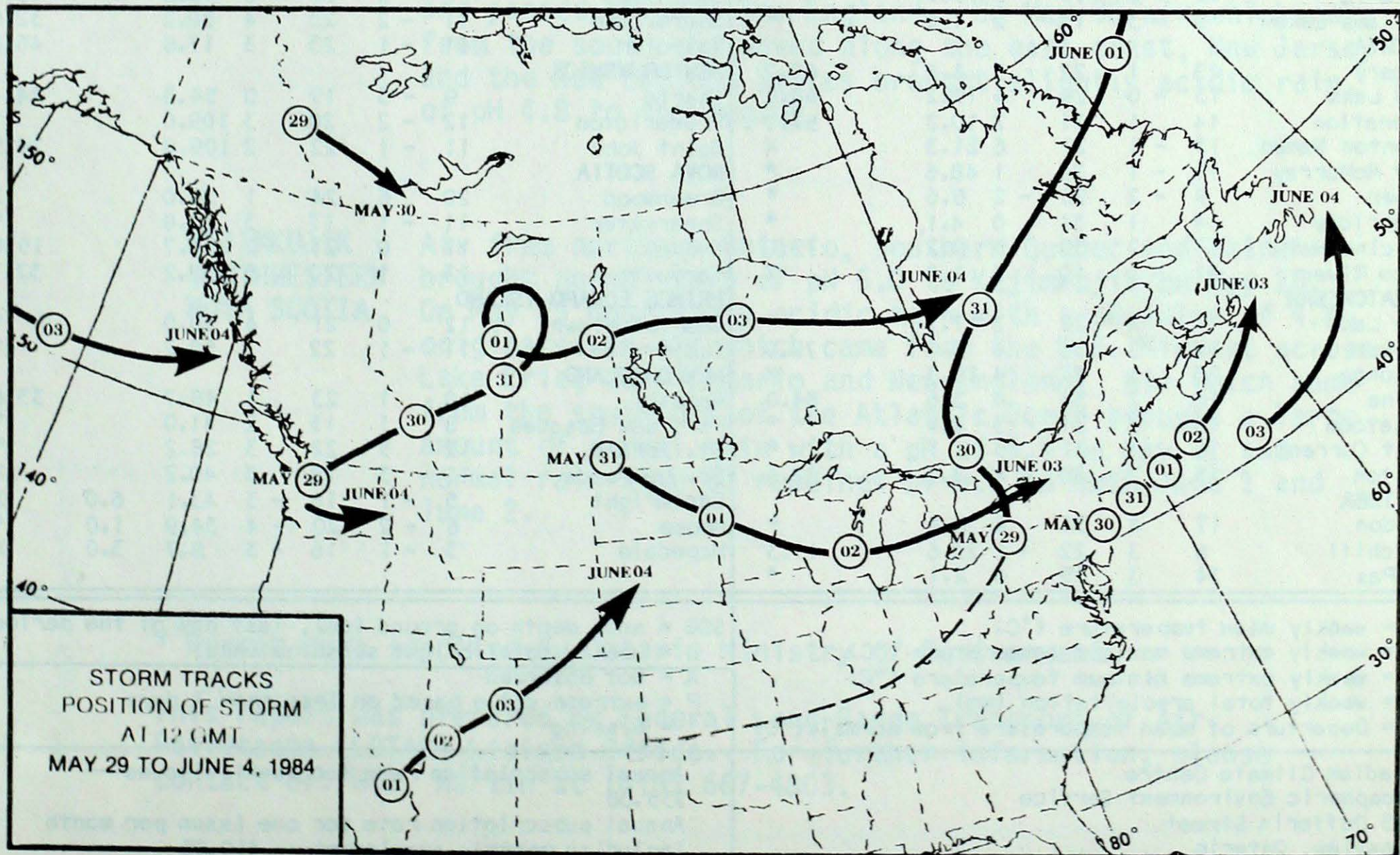
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Cape Breton, 3 to 5 cm of snow fell on June 3, and many maritime locations experienced record-cold daytime temperatures in the low teens. At Goose Bay, 8 cm of snow brought the seasonal accumulation to 702 cm - the seasonal record of 610 cm was already surpassed last March. Heavy rains in the 50 to 150 mm range caused flooding in

western Newfoundland and torrential downpours of over 80 mm halted crop planting in New Brunswick. Some fields were nearly water logged and a string of dry days are needed before field work can progress. Owing to the favourable winter temperatures, the prospect for blueberry crop was described as good in Nova Scotia. On June 4,

strong winds created high seas in the Gulf of St. Lawrence. Two fishing boats capsized, and one man drowned near Tignish, PEI. Near Pennant Island, just south of Halifax, 8 people were rescued after their vessel was swamped in rough seas.

STORM TRACKS





## TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT JUNE 5, 1984

STATION	TEMP				PRECIP		SUN	STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H		Av	Dp	Mx	Mn	Tp	SOG	H
<b>YUKON TERRITORY</b>								Thompson	14	4	24	2	16.0		55.2
Dawson	8	-3	18	-1	3.2		X	Winnipeg	17	3	34	4	*	68.2	
Mayo A	9	-2	17	2	18.5		X	<b>ONTARIO</b>							
Watson Lake	9	-2	16	-2	2.5		*	Big Trout Lake	13	5	22	6	55.8	X	
Whitehorse	7	-3	14	-1	9.1		*	Earlton	12	-0	25	2	*	X	
<b>NORTHWEST TERRITORIES</b>								Kapusking	12	1	23	-1	8.8	*	
Fort Smith	9	-2	22	0	38.2		*	Kenora	17	4	29	9	8.2	X	
Inuvik	5	-0	18	-3	5.8	0.0	*	London	13	-2	27	2	10.6	60.3	
Norman Wells	8	-3	16	1	27.1		*	Moosonee	10	1	19	-0	19.2	67.1	
Yellowknife	8	-1	19	2	25.2		*	Muskoka	12	-2	24	2	*	X	
Baker Lake	1	3	7	-4	0.0	5.0	54.4	North Bay	13	-0	25	4	19.2	*	
Cape Dyer	-6	-4	-2	-13	1.4	40.0	X	Ottawa	13	-3	27	4	18.8	*	
Clyde	-4	-1	1	-13	2.0	94.0	45.7	Pickle Lake	14	4	26	5	23.4	X	
Frobisher Bay	-2	-3	2	-7	6.2	12.0	46.8	Red Lake	15	3	27	2	1.2	64.5	
Alert	-5	-0	5	-14	0.4	23.0	*	Sudbury	12	-1	28	2	28.0	57.3	
Eureka	-3	-0	5	-11	0.2	7.0	*	Thunder Bay	13	2	28	1	11.2	59.8	
Hall Beach	-3	1	3	-11	0.0	17.0	X	Timmins	12	-0	25	0	10.0	X	
Resolute	-4	0	2	-13	*	7.0	*	Toronto	14	-1	27	5	21.6	X	
Cambridge Bay	0	4	4	-6	2.4	10.0	*	Trenton	13	-2	28	3	6.2	X	
Mould Bay	-3	1	6	-8	1.0	29.0	*	Wlarton	11	-2	23	3	18.8	53.6	
Sachs Harbour	0	3	8	-6	1.2	2.0	*	Windsor	15	-2	26	4	17.2	X	
<b>BRITISH COLUMBIA</b>								<b>QUEBEC</b>							
Cape St. James	9	-1	13	5	30.7		32.9	Bagotville	10	-2	24	2	5.4	X	
Cranbrook	12	-2	29	-1	2.0		66.8	Blanc-Sablon	5	0	13	0	76.4	5.0	*
Fort Nelson	11	-1	20	2	1.2		68.0	Inukjuak	5	3	17	-3	0.0		97.0
Fort St. John	10	-2	19	2	*		X	Kuujuuaq	4	-1	21	-4	3.2	0.0	75.4
Kamloops	15	-2	30	5	10.8		*	Kuujuarapik	8	3	17	-2	0.0		88.4
Penticton	14	-2	29	1	7.2		46.1	Maniwaki	11	-3	25	2	10.4		44.1
Port Hardy	10	-2	15	4	31.0		*	Mont-Joli	9	-3	18	1	45.8		46.1
Prince George	10	-2	18	1	16.8		*	Montréal	13	-3	26	7	24.6		49.9
Prince Rupert	9	-1	13	4	27.9		*	Natashquan	6	-2	14	-1	53.4		26.7
Revelstoke	13	-2	26	2	15.4		*	Nitchequon	6	-0	15	-2	*		*
Smithers	8	-3	17	0	7.0		*	Québec	11	-2	22	6	20.8		43.6
Vancouver	13	-2	19	7	19.2		*	Schefferville	5	-1	16	-3	7.4	0.0	49.6
Victoria	12	-2	19	3	15.9		*	Sept-Îles	7	-2	14	-0	32.8		43.4
Williams Lake	9	-3	19	2	7.0		*	Sherbrooke	11	-2	23	4	80.2		32.0
<b>ALBERTA</b>								Val-d'Or	11	-1	23	3	17.6		46.8
Calgary	13	1	27	3	1.8		69.7	<b>NEW BRUNSWICK</b>							
Cold Lake	13	-0	26	4	19.2		44.8	Charlo	9	-3	19	0	54.3		24.4
Coronation	14	1	31	2	10.2		54.7	Fredericton	12	-2	20	3	109.0		*
Edmonton N. Am.	13	-1	21	6	21.3		X	Saint John	11	-1	22	2	109.0		24.5
Fort McMurray	11	-1	23	1	48.6		*	<b>NOVA SCOTIA</b>							
Jasper	9	-2	20	-2	6.6		*	Greenwood	20	6	24	1	28.0		X
Lethbridge	14	1	31	0	4.1		*	Shearwater	11	-1	17	3	20.0		*
Medicine Hat	17	2	32	5	0.2		72.1	Sydney	11	0	21	2	13.7		15.6
Peace River	11	-1	19	5	1.8		X	Yarmouth	13	1	20	5	38.2		37.7
<b>SASKATCHEWAN</b>								<b>PRINCE EDWARD ISLAND</b>							
Cree Lake	9	X	22	2	17.1		*	Charlottetown	12	0	21	4	50.0		*
Estevan	17	2	36	4	0.0		77.9	Summerside	11	-1	22	3	58.2		*
La Ronge	13	1	27	4	10.3		X	<b>NEWFOUNDLAND</b>							
Regina	16	2	34	4	3.6		84.0	Gander	10	1	23	1	48.7		33.6
Saskatoon	16	3	31	3	2.4		*	Port aux Basques	8	1	15	2	41.0		*
Swift Current	16	3	31	5	*		*	St. John's	12	5	22	3	28.2		*
Yorkton	15	2	30	4	3.0		82.6	St. Lawrence	10	3	18	3	40.2		X
<b>MANITOBA</b>								Cartwright	5	-1	18	-3	43.1	6.0	X
Brandon	17	4	34	4	0.4		*	Goose	6	-2	20	-4	34.9	1.0	*
Churchill	6	3	22	-1	23.6		17.3	Hopedale	3	-1	16	-3	8.7	3.0	X
The Pas	14	3	25	6	2.1		*								

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

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ACID RAIN REPORT ISSUED BY ENVIRONMENT CANADA FOR MAY 27 - JUNE 2 1984

**LONGWOODS  
NEAR LONDON  
ONTARIO**

Longwoods received moderately acidic rain May 28, with a pH reading of 4.5. This rain was associated with air which had passed through northern Ontario, Michigan and southern Ontario. On June 2 air from the U.S. Midwest brought strongly acidic rain with a pH of 3.6 to the region.

**DORSET\*  
MUSKOKA  
ONTARIO**

Air which came from northwestern Ontario produced moderately acidic rain May 28 with a pH of 4.6. On May 29 and May 30 the region again received moderately acidic rain with pH values of 4.6 each day. These events were associated with air which came from the south and passed through North Carolina, West Virginia, Pennsylvania, New York and southern Ontario. Data supplied by Ontario Ministry of Environment.

**CHALK RIVER  
OTTAWA  
ONTARIO**

On May 29 Chalk River received strongly acidic rain with a pH of 4.1. The air which produced this rain travelled along the east coast and through Pennsylvania, New York and southern Ontario.

**MONTMORENCY  
QUEBEC CITY  
QUEBEC**

Montmorency received slightly acidic rain and snow with a pH reading of 4.9 on May 29. The air associated with this event came from the south off of the Atlantic Ocean and passed through New England. On May 30 air which came from the south and moved along the east coast, New Jersey and the New England States brought slightly acidic rain of pH 4.8 to the region.

**KEJIMKUJIK  
SOUTHWESTERN  
NOVA SCOTIA**

Air from northern Ontario, southern Quebec and Maine brought normal rain of pH 5.0 to Kejimkujik on May 28. On May 29 moderately acidic rain with a pH value of 4.4 originated in air which came from the U.S. Midwest across Lake Erie, Lake Ontario and New England. Air which came from the south off of the Atlantic Ocean brought a large amount of normal rain with a pH of 5.4 on May 31 and normal rain with pH readings of 5.3 on both June 1 and June 2.

\* 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.