

# Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

Canadian Climate Centre

MAY 11, 1984

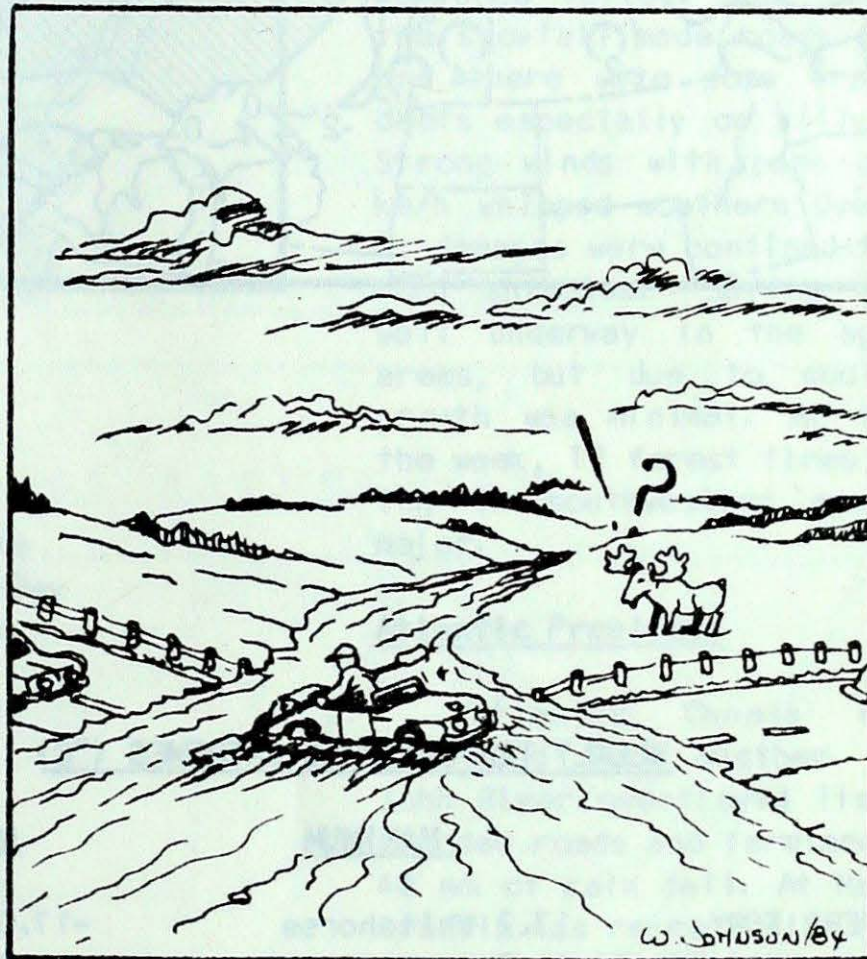
(Aussi disponible en français)

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FOR THE PERIOD MAY 1 TO 7, 1984

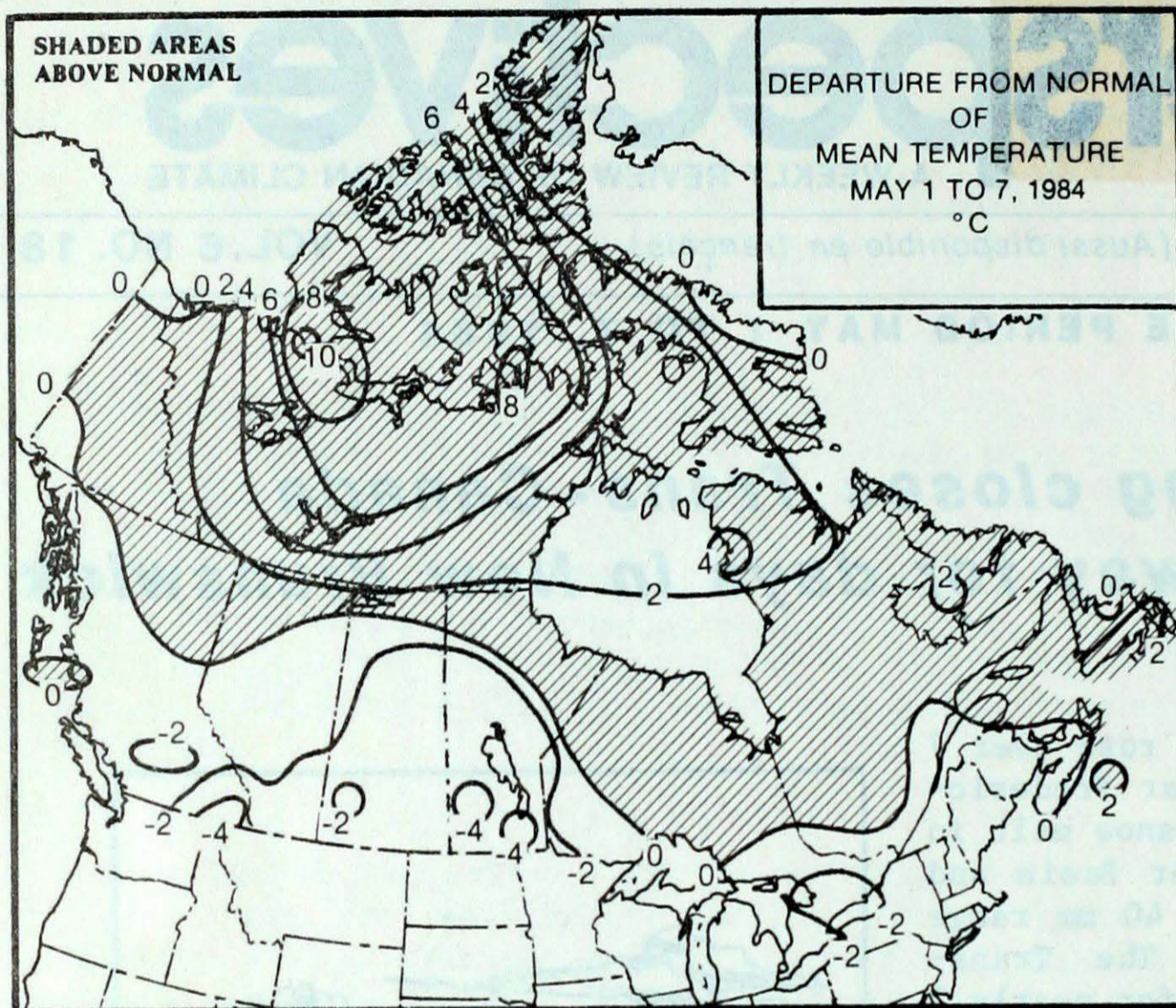
## ● Severe flooding closes Trans-Canada Highway for days in New Brunswick

The Saint John River rose over 7 metres to flood stages near Fredericton on May 1st-2nd. Rapid snow melt in the upper Saint John River Basin and heavy rains in the 30 to 40 mm range caused severe flooding. The Trans-Canada Highway was closed for nearly 3 days between Jemseg and Fredericton, as well, many secondary highways were closed. One man drowned as he drove through the barracked road near McGowans Corner. Hundreds of houses were cut off and people used boats to get around. The raging waters eroded the Trans-Canada Highway, at many locations. Usually, spring flooding occurs near the end of April in the Saint John River. This year there were 2 peaks, an earlier flooding just before Easter diminished the severity of the recent flooding event. Climatological records indicate that the severity of this year's flooding in the Saint John River can be expected one in five years. For 3 consecutive years now, the Trans-Canada Highway has been flooded in spring. The worst flooding in the Saint John River occurred in 1973, in that year the river rose over 9.5 metres and property damage was estimated near \$12 million.



## ● Spring seeding well underway across Canada





**ACROSS THE COUNTRY...**

**Yukon and Northwest Territories**

Near 20° temperatures continued to produce unusual warmth across the Mackenzie District. On May 3, daytime readings rose to 20.2° at Fort Simpson, the warmest place across Canada. Mild air covered almost all of the North, mean temperatures were 5 to 10 degrees above normal. Only the extreme eastern Arctic experienced below-normal readings. In the Yukon, warm weather contributed to rapid snow melt. The spring run-off combined with ice jams produced flooding in the Klondike River near Rock Creek. A few buildings suffered water damage. Precipitation was light, but nearly 13 mm fell in the central and southern Yukon.

**British Columbia**

It was a cool and unsettled week with sporadic rain shower activity. Only in more northern districts were mean temperatures above normal, and with the added bonus of more sunshine. Daily temperatures ranged from just below freezing in the north to a high of 22° at Lytton in the south.

**Prairies**

Variable amounts of clouds and scattered showers were prevalent in the west. The Edmonton and Whitecourt Districts received 15 to 25 millimetres of rain with lesser amounts falling elsewhere. Soil moisture reserves are still below normal, but adequate for germination. More widespread precipitation is needed. In the east the weather was unsettled and cool. The snow from last week's storm in the south has all but disappeared. Spring seeding was well underway.

**Ontario**

Ontario's weather returned to normal after previous week's fierce wind storm. In that storm, Hurricane-force winds gusting near 125 km/h caused extensive property damage and contributed to the drowning of 3 men in Lake Erie. Afterwards, cool and damp weather covered most of the Province, however, there was

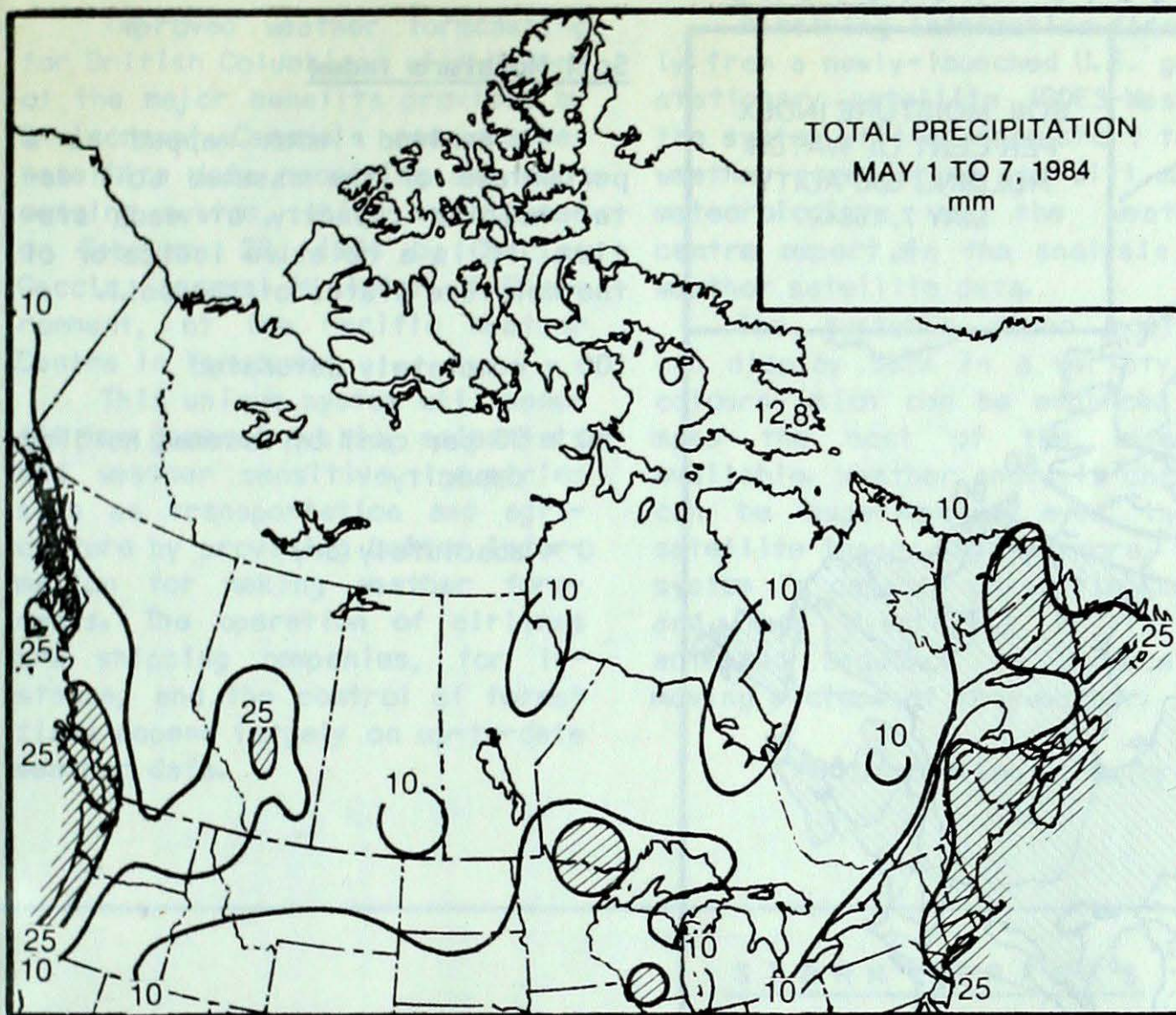
**WEEKLY TEMPERATURES EXTREMES (°C)**

	<u>MAXIMUM</u>	<u>MINIMUM</u>
YUKON TERRITORY	17.2 Whitehorse	-17.0 Shingle Point
NORTHWEST TERRITORIES	20.2 Fort Simpson	-29.0 Eureka
BRITISH COLUMBIA	22.4 Lytton	- 7.3 Puntzi Mountain
ALBERTA	20.5 High Level	- 6.8 Banff
SASKATCHEWAN	17.4 Meadow Lake	- 7.5 Cree Lake
MANITOBA	17.0 Winnipeg	-12.1 Grand Rapids
ONTARIO	22.4 Moosonee	- 7.5 Moosonee
QUEBEC	21.8 Maniwaki	- 9.0 La Grande Rivière
NEW BRUNSWICK	20.1 Chatham	- 4.0 Miscou Island
NOVA SCOTIA	18.8 Inverness	- 1.7 Truro
PRINCE EDWARD ISLAND	13.6 Summerside	- 1.4 Charlottetown
NEWFOUNDLAND	21.8 Deer Lake	- 5.5 Wabush Lake

**ACROSS THE NATION**

Warmest mean temperature	10.5	Windsor, Ont
Coollest mean temperature	-15.1	Eureka, NWT





#### HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON	12.9	Watson Lake
NORTHWEST TERRITORIES	13.8	Frobisher Bay
BRITISH COLUMBIA	48.9	Abbotsford
ALBERTA	28.2	Red Deer
SASKATCHEWAN	14.2	Regina
MANITOBA	19.4	Gillam
ONTARIO	36.6	Atikokan
QUEBEC	31.8	Natashquan
NEW BRUNSWICK	40.4	Moncton
NOVA SCOTIA	49.0	Yarmouth
PRINCE EDWARD ISLAND	30.7	Charlottetown
NEWFOUNDLAND	48.0	Comfort Cove

#### Alberta Crop Report

The additional precipitation received since mid-April has considerably improved soil moisture conditions in Alberta. Dry weather in early spring combined with below-normal snowfall had caused concerns about insufficient moisture for seed germination. Recent precipitation has provided some relief. Although more rain is needed soon, most areas have adequate

soil moisture reserves for germination. Field work was well underway throughout Alberta. Forage growth was slow in all regions. Since mild winter reduced feed requirements, additional fodder will supplement slow pasture development.

- Information provided by  
Alberta Agriculture

a gradual warming towards the weekend.

Weather systems crossing the Province deposited 10 to 15 cm of snow near Geraldton while farther south heavy rains in the 20 to 30 mm range fell. Ontario Ministry of Natural Resources reports that 10 fires were burning at the end of the week, but the fire scene was described as 'quiet'.

#### Québec

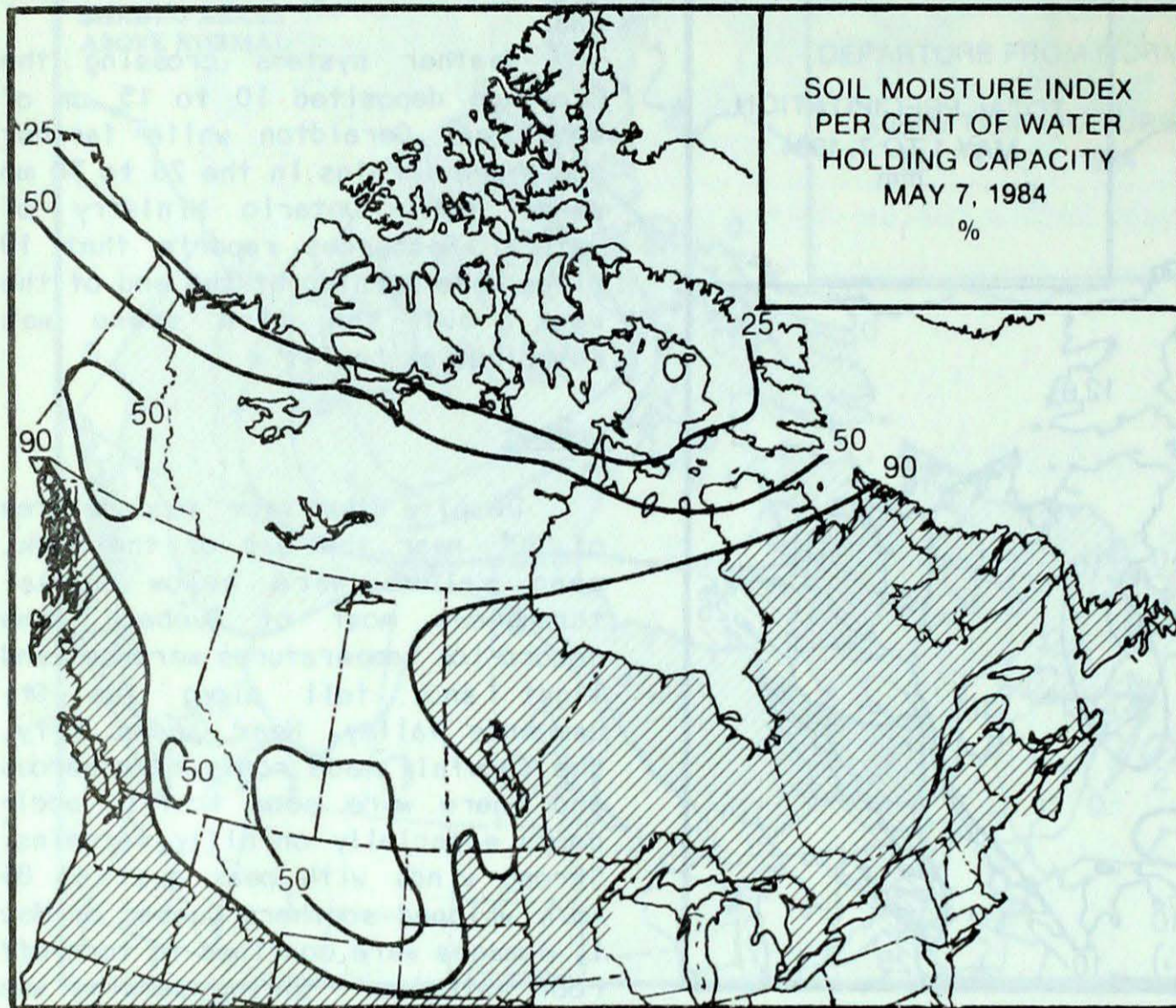
Despite the warm temperatures of 20° near the end of the week, mean values were below normal throughout most of Québec. Some record-low temperatures were set and light snow fell along the St. Lawrence Valley. Near Québec City, the snowfall made roads treacherous and there were some traffic accidents especially on hilly terrains. Strong winds with peak gust of 85 km/h whipped southern Québec on May 1, damages were confined to torn off roof shingles. Spring seeding was well underway in the agricultural areas, but due to cool weather, growth was minimal. At the end of the week, 12 forest fires were burning in southwestern areas - none major.

#### Atlantic Provinces

Atlantic Canada experienced cool and dull weather. The Saint John River overflowed its banks and flooded roads and farmlands as 30 to 40 mm of rain fell. At Maugerville, traffic was re-routed, a man drowned as he attempted to drive through the elevated waters. On May 1, warm air moved into Newfoundland and a few record-high temperatures were established. Spring ploughing started in Nova Scotia.



SOIL MOISTURE

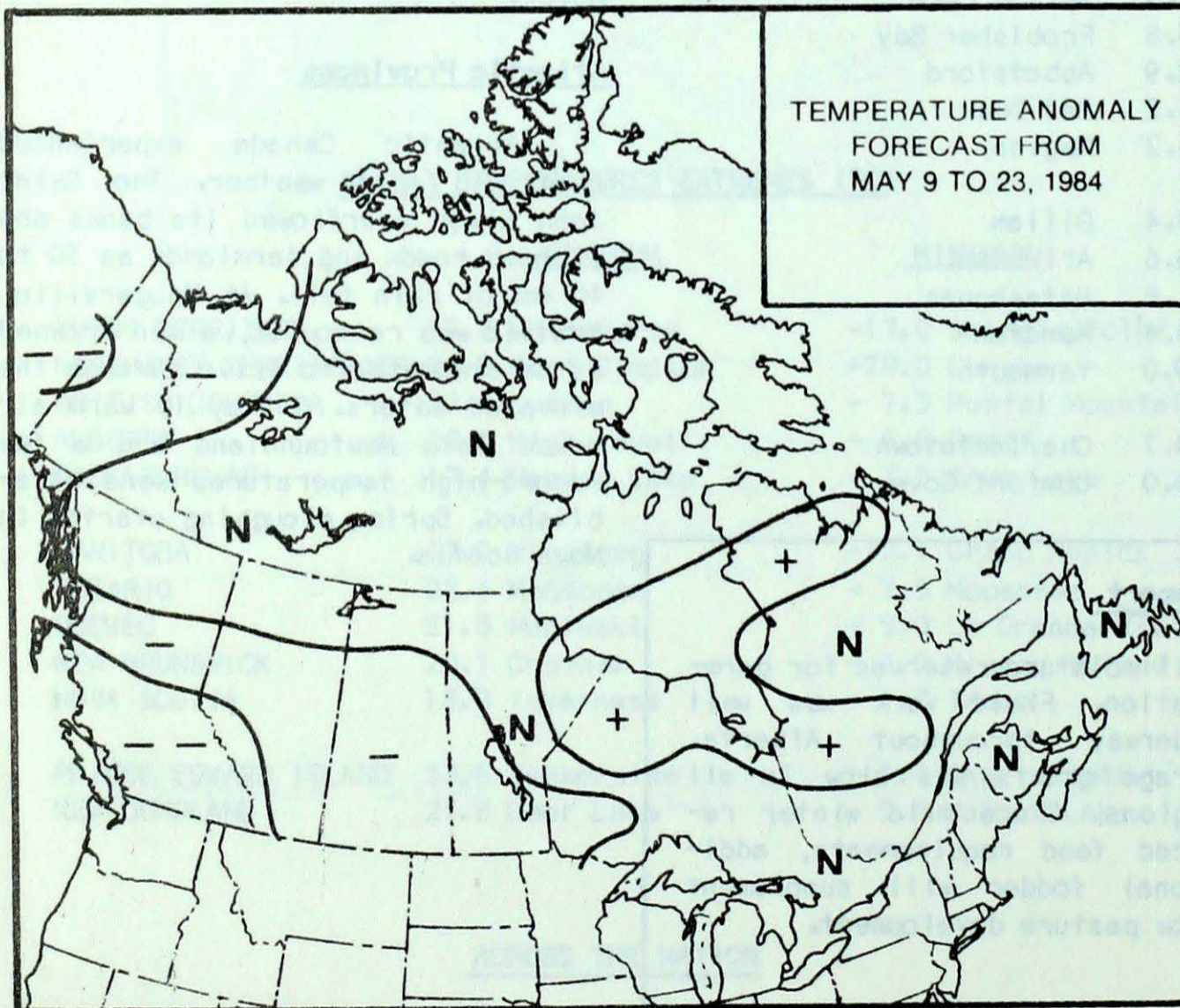


Soil Moisture Index

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



### A Unique Weather Satellite Station Opens at Vancouver

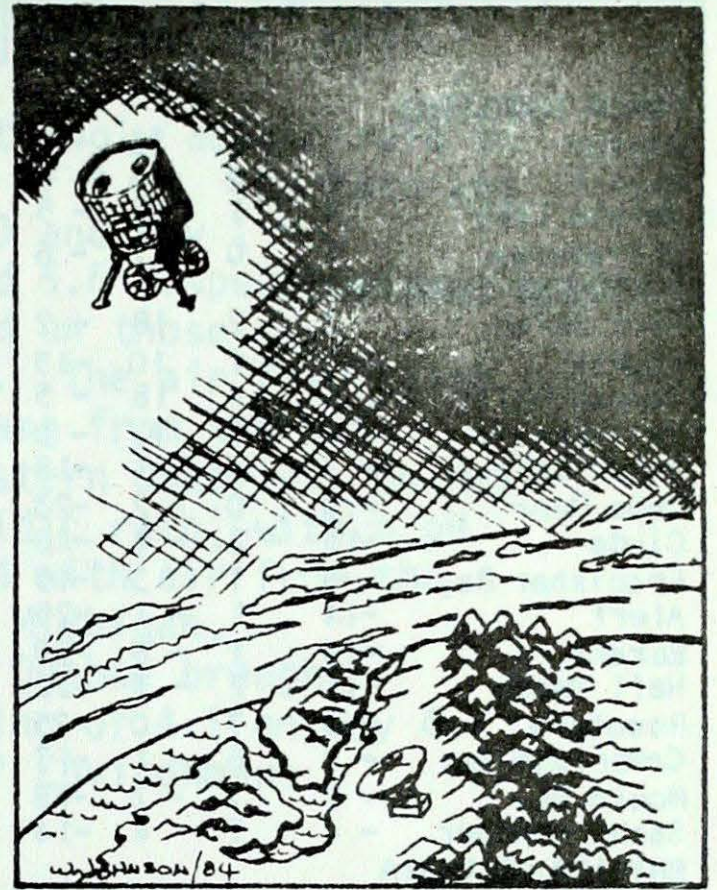
Improved weather forecasting for British Columbians will be one of the major benefits provided by Environment Canada's new weather satellite data receiving and processing system, which was opened on February 28, 1984 by Charles Caccia, federal Minister of Environment, at the Pacific Weather Centre in Vancouver.

This unique system will benefit the general public, scientists and weather sensitive industries such as transportation and agriculture by providing better information for making weather forecasts. The operation of airlines and shipping companies, for instance, and the control of forest fires depend largely on up-to-date weather data.

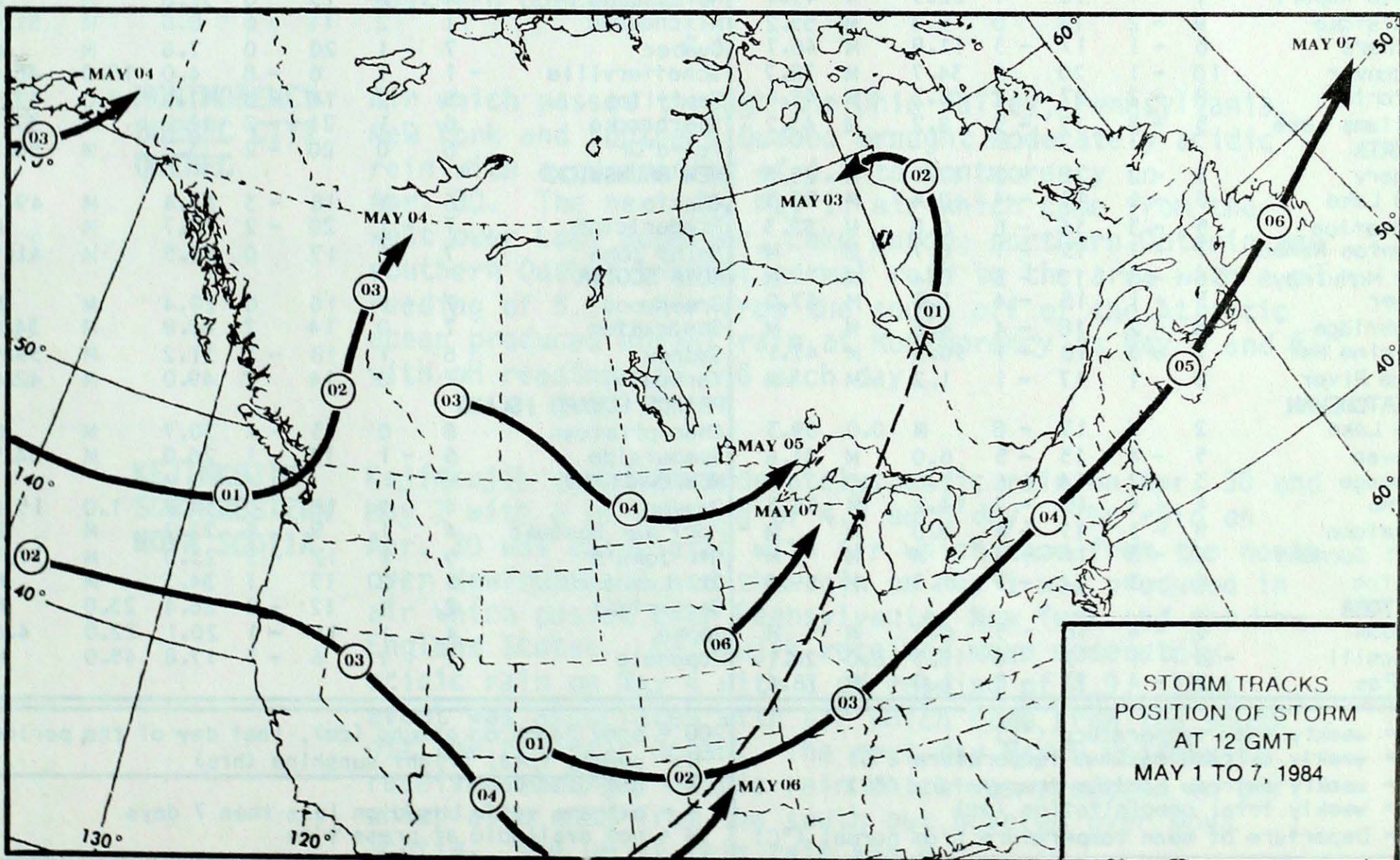
Receiving information directly from a newly-launched U.S. geostationary satellite (GOES-West), the system will enhance short term weather forecasting and will make meteorologists at the weather centre expert in the analysis of weather satellite data.

The system's video monitor can display data in a variety of colours which can be enhanced to make the most of the imagery available. Weather analysis charts can be superimposed over these satellite images. Furthermore, the system is capable of sorting data and then displaying it in an animated sequence to produce a moving picture of the weather.

- Information Directorate



### STORM TRACKS





## TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT MAY 8, 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	-1	-4	9	-10	5.0	2.0	51.8
Dawson	5	1	16	-5	1.2	M	M	Winnipeg	4	-4	17	-6	0.0	M	76.3
Mayo A	6	2	16	-2	8.0	M	M	<b>ONTARIO</b>							
Watson Lake	5	1	15	-5	12.9	M	53.3	Big Trout Lake	1	0	14	-7	4.4	M	M
Whitehorse	4	0	17	-6	2.4	M	M	Earlton	7	-1	21	-2	M	M	M
<b>NORTHWEST TERRITORIES</b>								Kapusking	6	1	22	-4	6.2	M	M
Fort Smith	7	2	18	-2	0.0	M	M	Kenora	6	-1	15	-3	15.0	M	M
Inuvik	-6	-1	10	-15	M	53.0	M	London	9	-2	18	1	1.3	M	28.2
Norman Wells	6	4	18	-5	0.0	M	85.6	Moosonee	4	1	22	-8	13.8	M	63.2
Yellowknife	6	6	17	-3	0.0	M	91.0	Muskoka	7	-2	21	-4	M	M	M
Baker Lake	-7	4	1	-18	0.0	60.0	M	North Bay	8	0	21	-3	2.6	M	M
Cape Dyer	-10	0	-2	-23	0.0	51.0	M	Ottawa	9	-2	22	2	20.7	M	48.7
Clyde	-13	-2	-4	-26	M	95.0	82.5	Pickle Lake	4	0	19	-7	6.6	M	M
Frobisher Bay	-5	1	3	-15	13.8	33.0	M	Red Lake	4	-3	17	-6	14.4	M	65.5
Alert	-14	1	-1	-25	5.0	17.0	118.2	Sudbury	7	0	20	-3	4.0	M	51.8
Eureka	-15	1	-6	-29	0.8	12.0	56.9	Thunder Bay	5	-2	16	-5	20.0	M	44.8
Hall Beach	-11	2	-3	-22	0.6	38.0	M	Timmins	7	0	21	-3	7.4	M	M
Resolute	-9	7	0	-25	0.0	25.0	95.5	Toronto	8	-2	17	0	21.2	M	M
Cambridge Bay	-8	6	-1	-17	0.0	42.0	111.9	Trenton	8	-3	20	-2	15.6	M	M
Mould Bay	-7	7	-2	-18	3.6	30.0	M	Warton	7	-2	22	-3	0.4	M	35.0
Sachs Harbour	-4	7	4	-14	0.0	10.0	72.7	Windsor	11	-2	21	3	2.4	M	M
<b>BRITISH COLUMBIA</b>								<b>QUEBEC</b>							
Cape St. James	8	0	12	4	8.1	M	56.6	Bagotville	6	0	20	-3	5.3	M	M
Cranbrook	5	-4	15	-2	15.9	M	52.0	Blanc-Sablon	5	4	14	0	26.2	0.0	19.6
Fort Nelson	9	2	20	-2	2.6	M	65.7	Inukjuak	0	5	7	-5	8.1	2.0	41.3
Fort St. John	8	0	15	0	0.0	M	M	Kuujuuaq	-1	2	9	-6	7.6	26.0	18.4
Kamloops	10	-2	22	1	0.6	M	52.9	Kuujuuarapik	-1	1	11	-6	22.5	3.0	27.1
Penticton	10	-2	19	-1	5.2	M	M	Maniwaki	7	-2	22	-2	5.8	M	44.6
Port Hardy	7	-1	13	1	20.3	M	36.4	Mont-Joli	6	0	15	-1	26.6	M	53.6
Prince George	6	-1	18	-3	15.7	M	M	Montréal	9	-2	21	3	16.3	M	45.6
Prince Rupert	7	1	16	1	22.5	M	45.4	Natashquan	4	2	13	0	31.8	M	M
Revelstoke	9	-2	18	0	5.8	M	55.2	Nitchequon	1	2	11	-6	0.8	M	51.0
Smithers	6	-1	17	-3	11.8	M	46.7	Québec	7	-1	20	0	7.6	M	M
Vancouver	10	-1	20	5	34.7	M	38.7	Schefferville	-1	1	6	-8	4.0	18.0	46.6
Victoria	9	-2	17	2	18.2	M	47.4	Sept-Îles	5	2	14	-3	7.8	0.0	52.7
Williams Lake	5	-2	17	-5	8.2	M	43.2	Sherbrooke	6	-1	21	-2	18.2	M	37.7
<b>ALBERTA</b>								Val-d'Or	6	0	20	-2	3.2	M	56.2
Calgary	5	-2	16	-2	17.1	M	25.8	<b>NEW BRUNSWICK</b>							
Cold Lake	6	-1	18	-4	0.4	M	59.3	Charlo	6	1	18	-3	13.4	M	49.6
Coronation	5	-3	16	-6	0.8	M	52.3	Fredericton	7	-1	20	-2	29.7	M	M
Edmonton N. Mao	7	-1	15	-1	6.7	M	M	Saint John	7	0	17	0	38.5	M	41.5
Fort McMurray	6	-0	17	-3	0.4	M	M	<b>NOVA SCOTIA</b>							
Jasper	5	-1	13	-4	1.6	M	47.0	Greenwood	7	-1	16	0	29.4	M	M
Lethbridge	6	-2	18	-4	4.6	M	M	Shearwater	7	0	14	2	40.8	M	34.0
Medicine Hat	7	-3	18	-1	10.5	M	47.1	Sydney	6	1	18	-1	31.2	M	39.9
Peace River	8	1	17	-1	1.2	M	M	Yarmouth	7	0	14	2	49.0	M	42.9
<b>SASKATCHEWAN</b>								<b>PRINCE EDWARD ISLAND</b>							
Cree Lake	2	X	13	-8	M	0.0	69.3	Charlottetown	6	0	13	-1	30.7	M	M
Estevan	5	-4	15	-5	6.0	M	51.6	Summerside	6	-1	14	1	26.0	M	34.5
La Ronge	3	-2	14	-6	5.0	2.0	M	<b>NEWFOUNDLAND</b>							
Regina	4	-4	15	-7	14.2	M	52.3	Gander	4	1	16	0	34.8	1.0	15.8
Saskatoon	5	-3	17	-4	0.0	M	M	Port aux Basques	4	1	9	1	22.2	M	M
Swift Current	4	-3	14	-4	M	M	M	St. John's	5	1	12	-2	23.0	M	17.1
Yorkton	4	-3	14	-5	1.8	M	59.6	St. Lawrence	5	2	15	1	34.3	M	M
<b>MANITOBA</b>								Cartwright	2	1	12	-2	26.4	23.0	M
Brandon	4	-4	16	-5	0.2	M	M	Goose	4	1	11	-1	20.1	22.0	4.6
Churchill	-4	1	2	-10	18.3	16.0	28.1	Hopedale	1	1	6	-3	17.8	45.0	M
The Pas	2	-4	11	-8	1.0	M	78.4								

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  
M = not available at press time

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

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EDITOR: A. Shabbar

ASSISTANT EDITOR: A. Cailliet

STAFF WRITER: A. Radomski



**LONGWOODS  
NEAR LONDON  
ONTARIO**

No rain last week.

**DORSET\*  
MUSKOKA  
ONTARIO**

Air from the U.S. Midwest brought strongly acidic rain to Dorset on Apr. 29 with a pH reading of 4.1. The rain and snow which fell at Dorset on Apr. 30 and May 1 had unusually high pH values, pH 6.8 and 5.6 respectively, because the strong winds experienced on those days carried soil with the precipitation. The air associated with the precipitation on Apr. 30 came from the U.S. Midwest and on May 1st from northwestern Ontario. On May 3 the region received moderately acidic rain, with a pH reading of 4.3, which was associated with air from the U.S. Midwest. Air which passed over Michigan, Pennsylvania, New York and southern Quebec brought strongly acidic rain with a pH reading of 4.1 on May 4. Data supplied by Ontario Ministry of Environment.

**CHALK RIVER  
OTTAWA  
ONTARIO**

Air which passed over the U.S. Midwest brought moderately acidic rain with a pH reading of 4.4 to Chalk River on Apr. 30th. Later on in the week of May 4th the region received received strongly acidic rain with a pH reading of 4.0. This rain was produced in rain which passed over Michigan, Pennsylvania, the New England States and southern Quebec.

**MONTMORENCY  
QUEBEC CITY  
QUEBEC**

Air which passed through the Ohio Valley, Pennsylvania, New York and southern Quebec brought moderately acidic rain with a pH reading of 4.5 to Montmorency on Apr. 30. The next day May 1, air which came from the west over Lake Superior, Lake Huron, northern Ontario and southern Quebec brought normal rain to the area with a pH reading of 5.1. Air from the south off of the Atlantic ocean produced normal rain at Montmorency on May 4 and 5 with pH readings of 5.6 each day.

**KEJIMKUJIK  
SOUTHWESTERN  
NOVA SCOTIA**

Kejimkujik received moderately acidic rain on Apr. 30 and May 1 with a pH reading of 4.9 each day. The rain on Apr. 30 was associated with air which came from the north over Newfoundland and the rain on May 1 was produced in air which passed over Pennsylvania, New York and the New England States. Kejimkujik received more moderately acidic rain on May 4 with a pH reading of 4.9. This event was associated with air which came from the south off the Atlantic Ocean. The next day May 5 Kejimkujik received strongly acidic rain which was produced in air which also came from the south but hovered over Nova Scotia. The pH of this rain was 4.0.

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.