Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

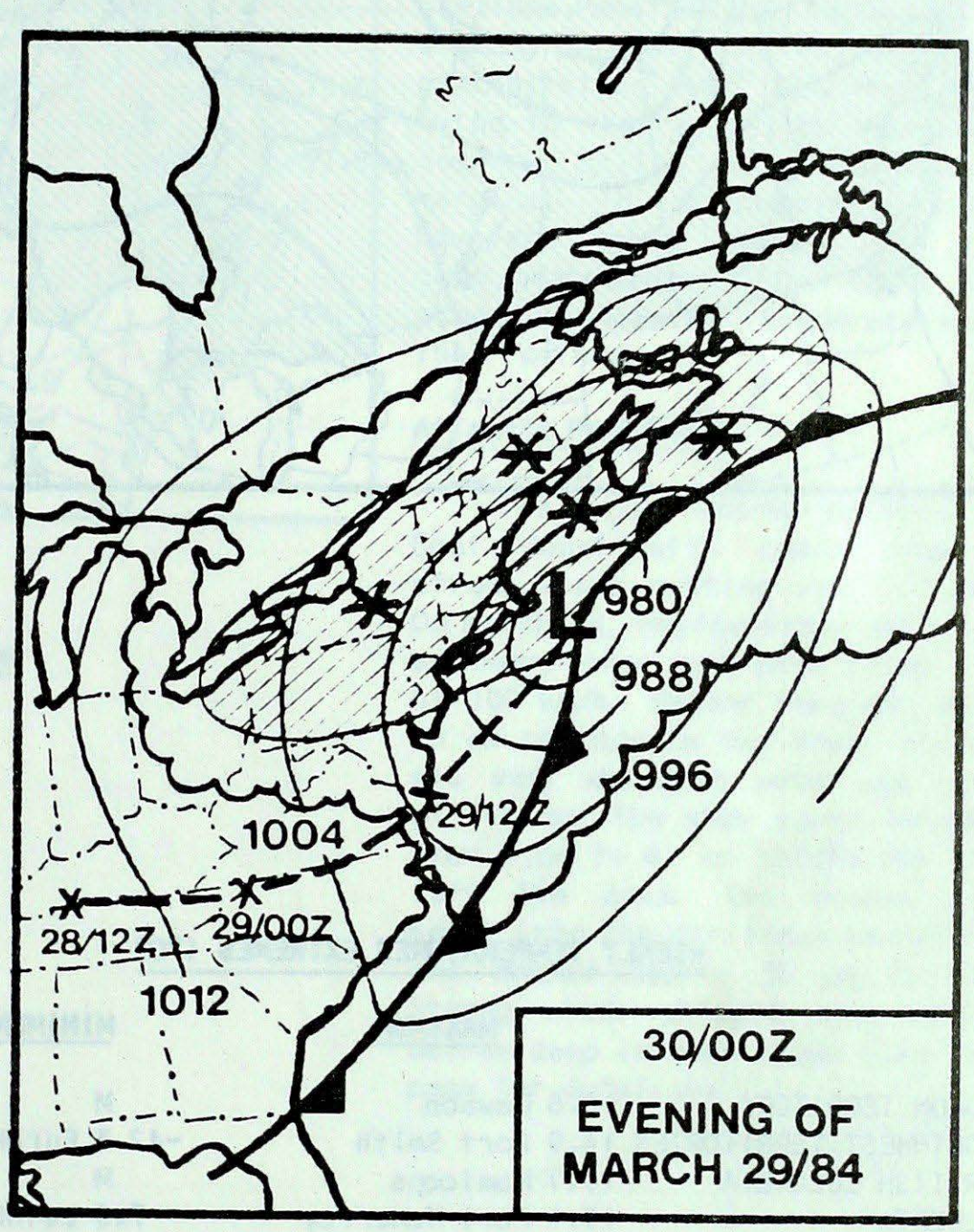
APRIL 6, 1984 (Aussi disponible en français) VOL. 6 NO. 13

FOR THE PERIOD MARCH 27 TO APRIL 2, 1984

• Major snowstorms batter Atlantic Canada

A major snowstorm emerged out of the U.S. Southeast and pounded Atlantic Canada with blizzard-like weather on the last 2 days of March. Although snowfall was generally less than 30 cm, gale force winds with gusts near 130 km/h whipped snow several metres deep in some areas and contributed to extensive drifting and blowing snow. Roads and highways were made impassable in Nova Scotia and New Brunswick. Schools and businesses were shut down, up to 2 days in some locations. The storm slammed into Newfoundland some 24 hours later. St. John's received over 20 cm of snow and winds were clocked over 100 km/h. Owing to rough seas, ferry services were cancelled. The winds pushed huge chunks of ice into the Cabot Strait, closing it to transportation for nearly 2 days. Earlier, the same storm ripped wide paths of destructions and deaths in the Carolinas, where property damage from tornadoes was estimated in hundreds of millions of dollars.

A few days earlier, Newfoundland experienced a vicious snowstorm. At Gander 83 cm of snow fell in 2 days, far exceeding the normal amount for March.



30/00Z
EVENING OF
MARCH 29/84

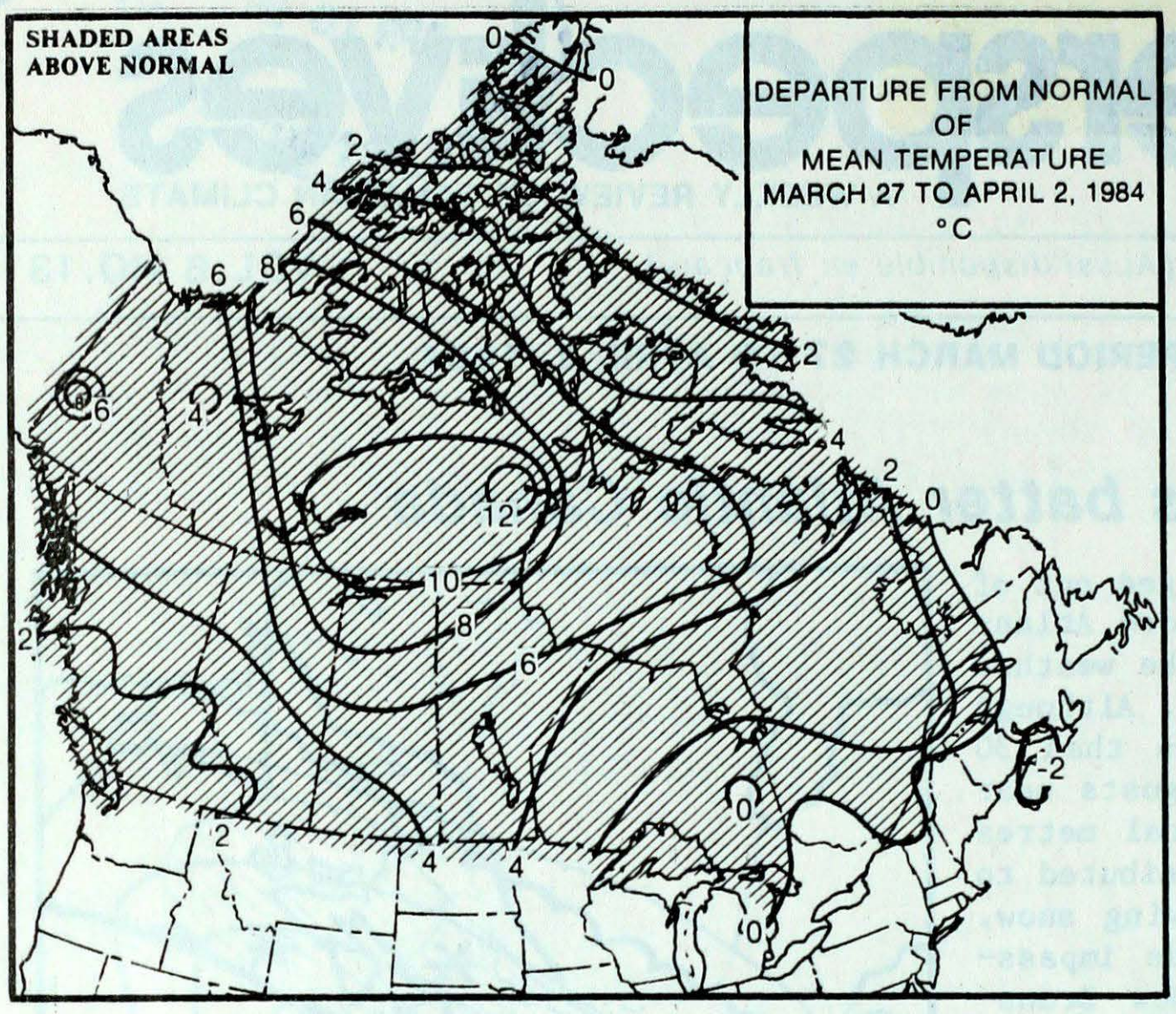
Note: Due to computer problems, maps and tables contain limited data.

• Fruit trees in bloom in British Columbia

SSN 0225-5707
DC: 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	10.6 Dawson	M
NORTHWEST TERRITORIES	14.9 Fort Smith	-42.3 Eureka
BRITISH COLUMBIA	16.7 Kamloops	M
ALBERTA	15.1 Fort McMurray	- 7.6 Lethbridge
SASKATCHEWAN	10.7 Cree Lake	-11.0 Cree Lake
MANITOBA	11.2 Winnipeg	-20.6 Churchill
ONTARIO	11.5 Toronto	-23.9 Kapuskasing
QUEBEC	9.7 Maniwaki	-21.3 Kuujuaq
NEW BRUNSWICK	7.7 Fredericton	- 9.3 Charlo
NOVA SCOTIA	5.2 Shearwater	- 6.9 Sydney
PRINCE EDWARD ISLAND	2.6 Summerside	-14.8 Summerside
NEWFOUNDLAND	5.0 Port aux Basques	-16.6 Cartwright

ACROSS THE NATION

Warmest mean temperature	8.1	Vancouver, BC
Coolest mean temperature	-33.4	Eureka, NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

Mild spring-like weather continued in the Arctic. Mean temperatures were up to 10° above normal west of the Mackenzie District, setting record-mild values at some Yukon locations. For example at Mayo, the reading soared to 11° on March 30. The far North did experience very cold weather as the mercury dropped to a frigid -28° at Old Crow and Ogilvie. Once again this week, precipitation was light across the Arctic. In southeastern Yukon, 3 to 7 cm of snow fell at higher elevations. March monthly mean temperature of 0.1° at Whitehorse proved to be the mildest on record.

British Columbia

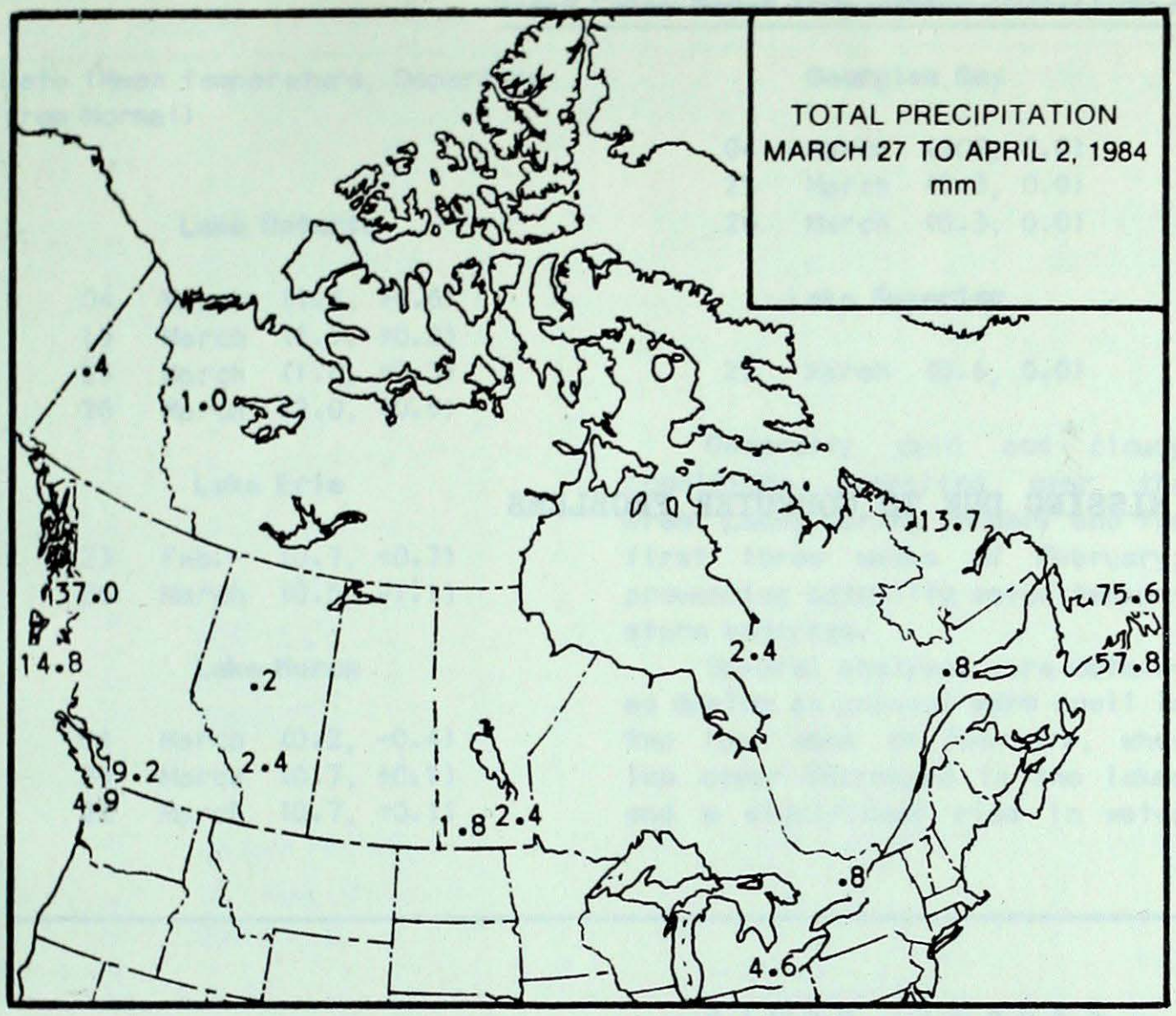
The unsettled weather of the past several weeks gave way to a sunny and mild week. Temperatures in the southern interior climbed to 18°, the warmest in the country, while in the north mean temperatures averaged 6 to 7 degrees above normal. In the southern fruit belt, trees are beginning to bloom and skiing remains good at higher elevations.

Prairies

It was another mild spring week with sunny and dry weather. Daytime temperatures reached 12° in the west, but were several degrees cooler in the east. Precipitation was light, but several centimetres of snow fell in southern Alberta earlier in the week, which has since disappeared. Good spring skiing continues at higher elevations of the Rockies.

Ontario

Sunny days and cool nights dominated Ontario's weather. The temperatures were 4 to 8 degrees below normal at the beginning of the week but climbed to near seasonable values by the weekend. Almost all of the South was free of snow cover as the depth of the snow on the ground dwindled. Measureable snow was confined to areas north of a line from Ottawa to Wawa. Geraldton had the



HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON	M
NORTHWEST TERRITORIES	M
BRITISH COLUMBIA	M
ALBERTA	M
SASKATCHEWAN	M
MANITOBA	M
ONTARIO	M
QUEBEC	M
NEW BRUNSWICK	M
NOVA SCOTIA	M
PRINCE EDWARD ISLAND	M
NEWFOUNDLAND	M

Newfoundland Blizzard

On March 28, Newfoundland experienced blizzard-like weather. At Gander 83 cm of snow fell in 2 days, and nearly 45 cm established a 24-hour record fall for March. Other Newfoundland locations received about 50 cm. Many roads were made impassable because of high drifting and poor visibilities in blowing snow. The second storm emerged out of the U.S. southeast and brought blizzard conditions to the East (see details on front page).

deepest snow cover 76 cm. In many communities, March was the coldest in 25 years, and in Toronto the month was drier and sunnier than normal.

Québec

After the severe ice storm of the previous week, the weather was rather uneventful. Mean temperatures were slightly above normal and in the Gaspé Peninsula record-mild overnight values were set. Most stations remained dry throughout the week and those that did experience precipitation felt less than 15 mm. Owing to the rapid snow melt, cross country skiing was described as marginal in northwestern Québec. However, spring skiing was still good near Québec City. Maple syrup production was well underway across the Province.

Atlantic Provinces

Two major storms battered the East Coast with heavy snow and strong winds gusting over 100 km/h. On March 28, Newfoundland experienced heavy snow and gale force winds of 100 km/h. Gander received nearly 83 cm of snow in two days, the snow was very wet with water equivalent of 105 mm. The snow cover increased from 4 cm to 61 cm before the storm left the area. The second storm moved into the Maritimes on March 30 and dumped nearly 30 cm of snow. Strong winds whipped snow several metres deep in some areas (see front page for details).

SNOW DEPTH ON THE GROUND

MAP MISSING DUE TO COMPUTER PROBLEMS

TEMPERATURE ANOMALY FORECAST

MAP MISSING DUE TO COMPUTER PROBLEMS

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 15-day periods. After the five best cases are selected, the surface temperature anomalies are calculated. This results in five separate forecasts, which are averaged to provide the forecast depicted.

++ much above normal

+ above normal

N normal

- below normal

-- much below normal

Great Lakes Water Temperature (Satellite Analyses)

Date (Mean temperature, Departure from Normal)

Lake Ontario

04 March (1.6, +0.6)
15 March (1.5, +0.2)
25 March (1.8, +0.3)
26 March (2.0, +0.5)

Lake Erie

23 Feb. (0.7, +0.7)
26 March (0.5, -1.1)

Lake Huron

04 March (0.2, -0.4)
25 March (0.7, +0.1)
26 March (0.7, +0.1)

Georgian Bay

04 March (ICE, 0.0)
25 March (0.3, 0.0)
26 March (0.3, 0.0)

Lake Superior

25 March (0.6, 0.0)

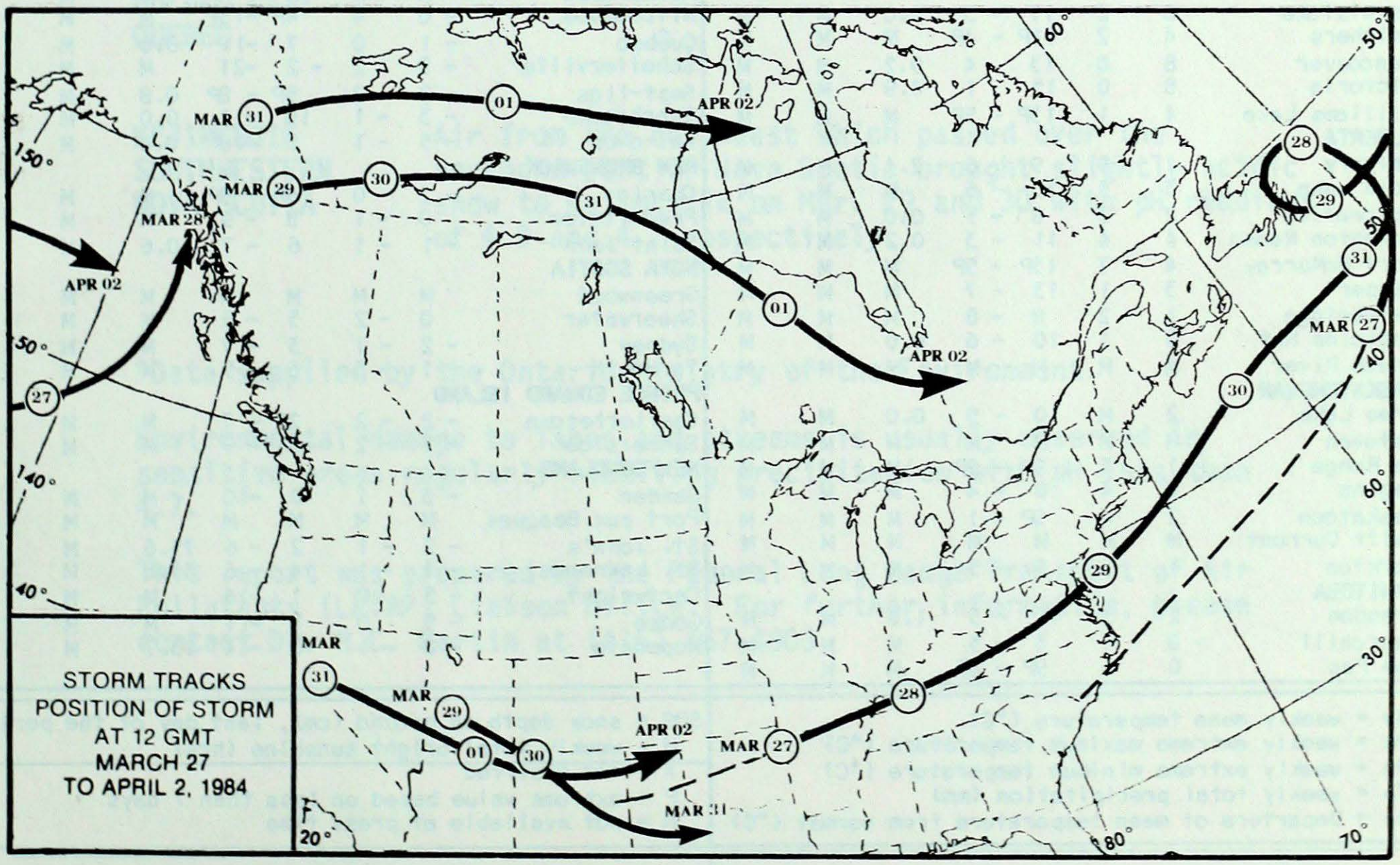
Generally cold and cloudy conditions prevailed over the Great Lakes during January and the first three weeks of February, preventing satellite water temperature analyses.

Several analyses were obtained during an unusual warm spell in the last week of February, when ice cover decreased in the lakes and a significant rise in water temperature was observed. With the return of cold weather in March, an extensive ice cover reformed again in the lakes. Lake Erie and Georgian Bay were almost completely ice covered by the middle of March. The spring melt started under sunny skies in the last week of March.

Mean water temperatures were near normal values at the end of March. The exception were: Lake Erie, where temperature was held below normal by the extensive and late ice cover; and Lake Ontario, where temperature has remained above normal throughout the winter, possibly due to an augmented reserve of heat stored in the lake during the previous summer.

- George Irbe

STORM TRACKS



TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT APRIL 3, 1984

STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H
YUKON TERRITORY							
Dawson	0	8	11	-10	0.4	M	M
Mayo A	M	M	M	M	M	M	M
Watson Lake	1	5	9	-12	M	M	M
Whitehorse	2	6	7	- 6	M	M	M
NORTHWEST TERRITORIES							
Fort Smith	2	10	15P	-13P	M	M	M
Inuvik	-16	4	5	-29	M	M	M
Norman Wells	-11	3	10	-22	1.0	M	M
Yellowknife	- 2	12	7	- 9	M	M	M
Baker Lake	-11	12	- 2	-19	M	M	M
Cape Dyer	M	M	M	M	M	M	M
Clyde	-22	1	-13P	-30P	M	M	M
Frobisher Bay	-11	6	5	-21	M	M	M
Alert	-32	- 1	-17	-41	M	M	M
Eureka	-33	1	-20	-42	M	M	M
Hall Beach	-21	3	-12	-34	M	M	M
Resolute	-24	4	-13	-37	M	M	M
Cambridge Bay	-18	9	-10	-33	M	M	M
Mould Bay	-28	2	-15	-40	M	M	M
Sachs Harbour	-16	10	-10	-27	M	M	M
BRITISH COLUMBIA							
Cape St. James	7	2	10	6	14.8	M	M
Cranbrook	M	M	M	M	M	M	M
Fort Nelson	M	M	M	M	M	M	M
Fort St. John	M	M	M	M	M	M	M
Kamloops	8	1	18	- 3	0.6	M	M
Penticton	M	M	M	M	M	M	M
Port Hardy	M	M	M	M	M	M	M
Prince George	4	2	14P	- 5	M	M	M
Prince Rupert	7	2	11	1	37.0	M	M
Revelstoke	6	2	17	- 3	0.0	M	M
Smithers	4	2	11P	- 4P	M	M	M
Vancouver	8	0	13	4	9.2	M	M
Victoria	8	0	15	1	4.9	M	M
Williams Lake	4	1	13P	- 5P	M	M	M
ALBERTA							
Calgary	1	0	9	- 6	2.4	M	M
Cold Lake	3	5	10	- 6	M	M	M
Coronation	2	3	8	- 5	0.0	M	M
Edmonton Namao	4	4	11	- 3	0.2	M	M
Fort McMurray	4	7	15P	- 5P	M	M	M
Jasper	3	1	13	- 7	M	M	M
Lethbridge	1	2	8	- 8	M	M	M
Medicine Hat	3	1	10	- 6	0.0	M	M
Peace River	M	M	M	M	M	M	M
SASKATCHEWAN							
Cree Lake	2	M	10	- 5	0.0	M	M
Estevan	M	M	M	M	M	M	M
La Ronge	- 1	6	9P	- 8P	M	M	M
Regina	2	4	8	- 4	M	M	M
Saskatoon	2	4	9P	- 1	M	M	M
Swift Current	M	M	M	M	M	M	M
Yorkton	1	5	9	- 5	M	M	M
MANITOBA							
Brandon	2	5	11	- 5	1.8	M	M
Churchill	- 8	7	3	- 5	M	M	M
The Pas	0	6	9P	- 6P	M	M	M
Thompson	M	M	M	M	M	M	M
Winnipeg	3	5	11	- 6	2.4	M	M
ONTARIO							
Big Trout Lake	- 7	2	1	-17	M	M	M
Earlton	M	M	M	M	M	M	M
Kapuskasing	- 5	- 1	6	-21	M	M	M
Kenora	2	4	9	- 7	0.0	M	M
London	2	- 1	6	- 4P	M	M	M
Moosonee	- 7	0	0P	- 9P	M	M	M
Muskoka	M	M	M	M	M	M	M
North Bay	- 1	1	8P	-13P	M	M	M
Ottawa	1	0	10	- 8	0.0	M	M
Pickle Lake	- 4	2	8	-16	0.0	M	M
Red Lake	M	M	M	M	M	M	M
Sudbury	0	2	10	-12	0.0	M	M
Thunder Bay	- 1	1	10	-10	0.0	M	M
Timmins	- 3	1	6	-15	M	M	M
Toronto	2	- 1	9	- 6	0.0	M	M
Trenton	2	- 1	10	- 7	0.8	M	M
Wiarton	M	M	M	M	M	M	M
Windsor	4	- 1	12	- 4	4.6	M	M
QUEBEC							
Bagotville	2	4	6	-12	M	M	M
Blanc-Sablon	M	M	M	M	M	M	M
Inukjuak	- 9	7	0	-15	M	M	M
Kuujjuaq	- 8	5	4	-21	M	M	M
Kuujjuarapik	- 9	2	2	-16	2.4	M	M
Maniwaki	- 1	1	10	-12	0.0	M	M
Mont-Joli	M	M	M	M	M	M	M
Montréal	1	1	11P	- 9	M	M	M
Natashquan	M	M	M	M	M	M	M
Nitchequon	- 6	4	4P	-15P	M	M	M
Québec	- 1	0	7	-11	0.0	M	M
Schefferville	- 9	2	- 2	-21	M	M	M
Sept-Iles	- 2	2	5P	- 8P	0.8	M	M
Sherbrooke	- 3	- 1	10	-11	0.0	M	M
Val-d'Or	- 5	- 1	5	-18	0.0	M	M
NEW BRUNSWICK							
Charlo	- 2	0	6P	- 9P	M	M	M
Fredericton	0	- 1	8	- 9	M	M	M
Saint John	- 1	- 1	6	- 7	10.6	M	M
NOVA SCOTIA							
Greenwood	M	M	M	M	M	M	M
Shearwater	0	- 2	5	- 6	M	M	M
Sydney	- 2	- 1	3	- 7	M	M	M
Yarmouth	- 1	- 3	6	- 5	M	M	M
PRINCE EDWARD ISLAND							
Charlottetown	- 2	- 2	2P	- 7	M	M	M
Summerside	- 2	- 2	3	- 9	M	M	M
NEWFOUNDLAND							
Gander	- 3	1	0	-10	M	M	M
Port aux Basques	M	M	M	M	M	M	M
St. John's	- 2	- 1	2	- 6	75.6	M	M
St. Lawrence	- 1	- 1	4	- 6	57.8	M	M
Cartwright	- 5	0	1	-16	M	M	M
Goose	- 5	0	1	-11	M	M	M
Hopedale	- 8	- 1	0	-14	13.7	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

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

STAFF WRITER: A. Radomski

ACID RAIN REPORT ISSUED BY ENVIRONMENT CANADA FOR MAR. 25-31, 1984

LONGWOODS
NEAR LONDON
ONTARIO

Air from northern Quebec which passed through the state of New York and southern Ontario brought normal snow to Longwoods on March 28, with a pH reading of 5.2. On the next day Mar. 29, Longwoods received more clean snow with a pH reading of 5.4. This snowfall was associated with air which came from the northeast and passed over southern Quebec and southern Ontario.

DORSET*
MUSKOKA
ONTARIO

Dorset received no precipitation last week.

CHALK RIVER
OTTAWA VALLEY
ONTARIO

Chalk River received no precipitation last week.

MONTMORENCY
QUEBEC CITY
QUEBEC

Montmorency received no precipitation last week.

KEJIMKUJIK
SOUTHWESTERN
NOVA SCOTIA

Air from the northeast which passed over the northern part of Nova Scotia brought slightly acidic snow to Kejimkujik on Mar. 29 and 30 with pH readings of 4.9 and 4.7 respectively.

*Data supplied by the Ontario Ministry of the 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.