

CLIMATIC Perspectives

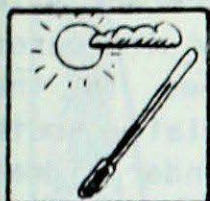
A WEEKLY REVIEW OF CANADIAN CLIMATE

MARCH 2, 1984

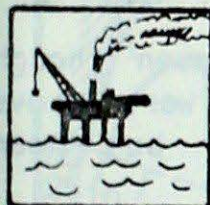
(Aussi disponible en français)

VOL. 6 NO. 8

FOR THE PERIOD FEBRUARY 21 - 27, 1984



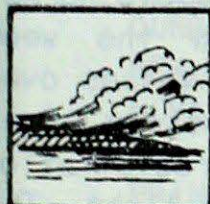
**Mild weather brings Record warmth
in central Canada**



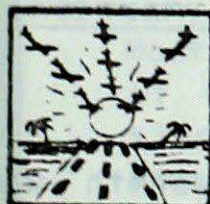
**Fog hampers capping of gas blow out
off Sable Island**



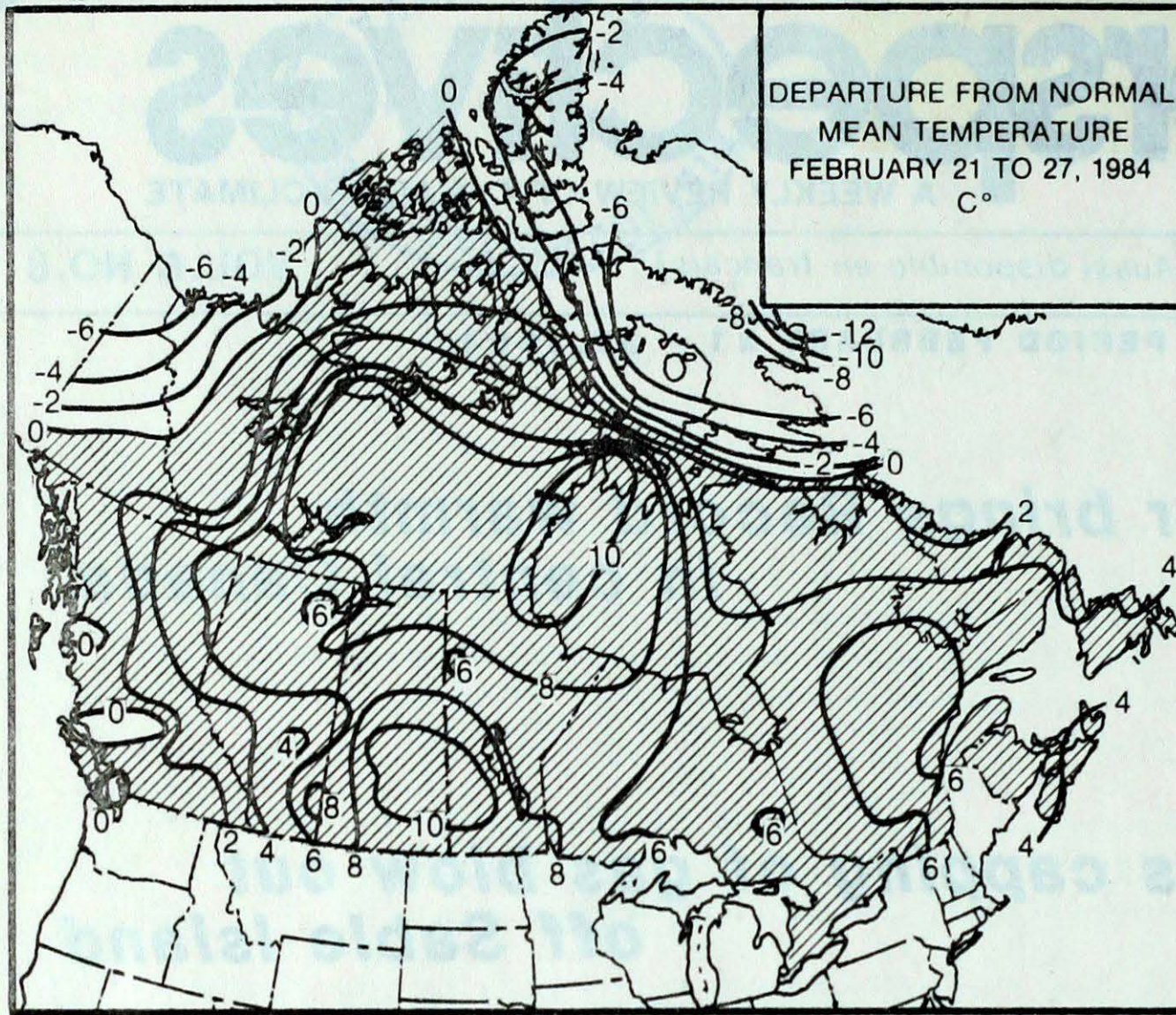
**Mild temperatures favour start of
Rendezvous Festival in the Yukon**



**Lack of snow creates soil erosion
problems on the Prairies**



Heading South for March break ?

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

Much below normal temperatures persisted over Baffin Island, the readings were as much as 14° below average. In contrast, the southern Yukon and the Mackenzie District experienced mild weather; at Drury Lake, the mercury rose to 5° on February 20. Once again this week, snowfall was light. The recent mild weather has considerably increased the threat of avalanches in the southwestern Yukon especially south of Haines Junction. Under ideal weather, the annual 'Rendezvous' festival started in the southern Yukon.

British Columbia

Mean temperatures even though cooler than last week were above normal in the interior but near normal along the coast.

Precipitation was above normal in the southern interior and a heavy snowfall in the mountains resulted in a continuation of good skiing conditions. A dominant oil fruit tree spraying program has begun in the Okanagan. In Victoria the commercial spring flowers are beginning to bloom, much too early for Easter.

Prairies

Variably sunny and pleasant weather persisted. Well above normal temperatures earlier in the week cooled to more seasonal values over the weekend with the passage of an Arctic cold front. Precipitation amounts continued to be light. The snow cover has all but disappeared across the south, causing concern about adequate soil moisture reserves for the upcoming growing season.

Ontario

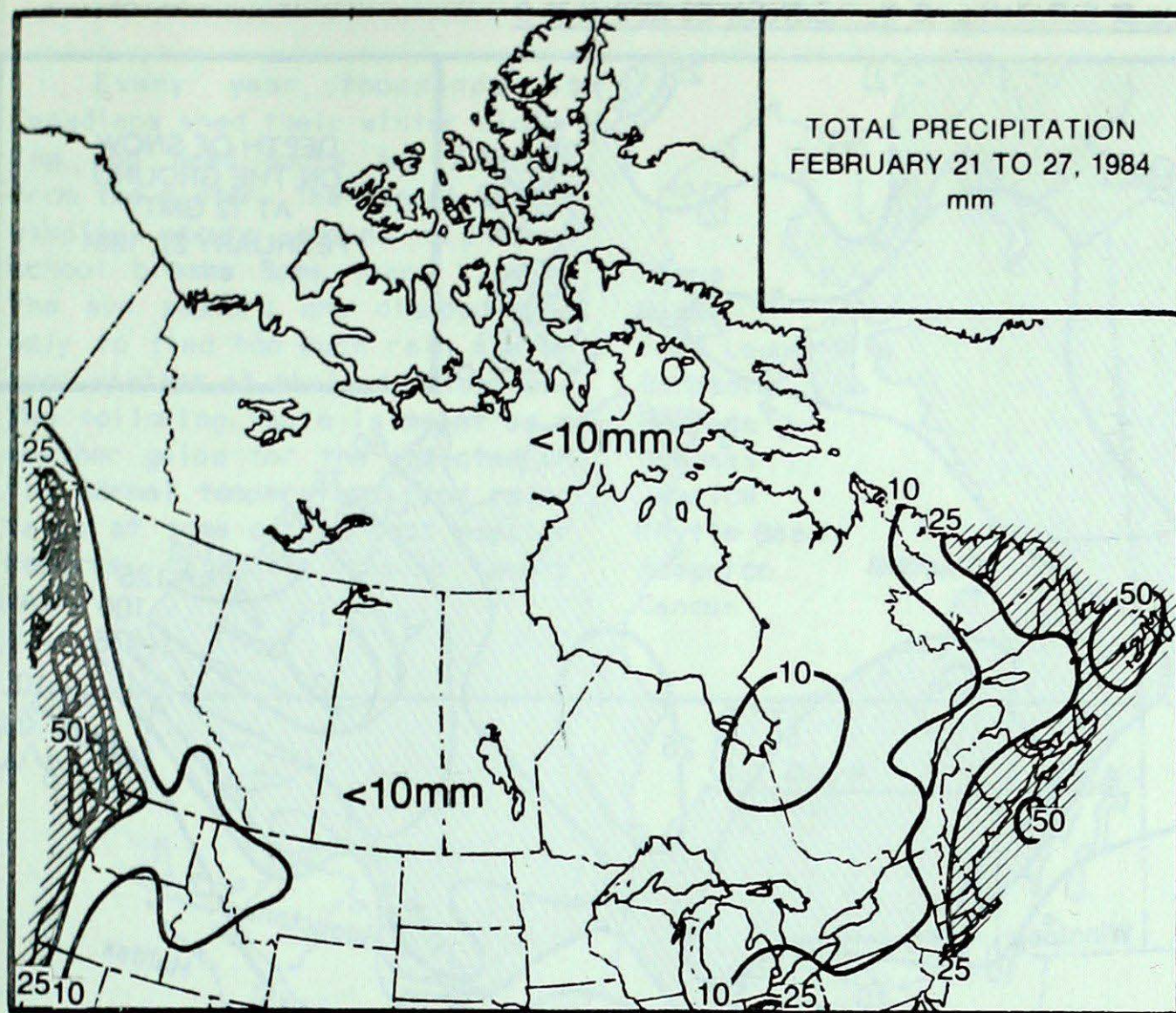
All-time record-warmth was established at no less than 7 cities as a very mild air mass covered the Province. February 23 was particularly mild; in the South, the temperatures soared near 15° while the North enjoyed daytime readings near 10°. The oldest of the broken records dates back to 1930. As a

WEEKLY TEMPERATURES EXTREMES (°C)

| | <u>MAXIMUM</u> | <u>MINIMUM</u> |
|-----------------------|---------------------------|-----------------------|
| YUKON TERRITORY | 0.5 Watson Lake | -40.7 Shingle Point |
| NORTHWEST TERRITORIES | 0.4 Yellowknife | -48.4 Eureka |
| BRITISH COLUMBIA | 11.2 Abbotsford | -21.2 Dease Lake |
| ALBERTA | 11.1 Medicine Hat | -28.0 High Level |
| SASKATCHEWAN | 11.8 Estevan | -28.5 Collins Bay |
| MANITOBA | 9.7 Brandon | -26.9 Thompson |
| ONTARIO | 14.9 Toronto | -29.9 Big Trout Lake |
| QUÉBEC | 12.0 Ste Agathe des Monts | -30.0 Schefferville |
| NEW BRUNSWICK | 10.7 St Stephen | -15.3 Miscou Island |
| NOVA SCOTIA | 11.5 Shelburne | -11.0 Truro |
| PRINCE EDWARD ISLAND | 7.2 Charlottetown | -10.9 Charlottetown |
| NEWFOUNDLAND | 8.8 St. Johns | -31.0 Churchill Falls |

ACROSS THE NATION

| | | |
|---------------------------|-------|---------------|
| Warmest mean temperature | 5.6 | Vancouver, BC |
| Coollest mean temperature | -41.7 | Eureka, NWT |



HEAVIEST WEEKLY PRECIPITATION (mm)

| | |
|-----------------------|-------------------------|
| YUKON | 2.8 Watson Lake |
| NORTHWEST TERRITORIES | 8.6 Lady Franklin Point |
| BRITISH COLUMBIA | 68.0 Comox |
| ALBERTA | 6.3 Fort Chipewyan |
| SASKATCHEWAN | 5.0 Estevan |
| MANITOBA | 7.2 Churchill |
| ONTARIO | 17.8 Windsor |
| QUEBEC | 22.6 Natashquan |
| NEW BRUNSWICK | 49.3 Moncton |
| NOVA SCOTIA | 51.2 Yarmouth |
| PRINCE EDWARD ISLAND | 31.6 Charlottetown |
| NEWFOUNDLAND | 118.8 Cartwright |

Historically This Week ...

February 25-26, 1961 The Montréal area suffered one of the most damaging ice storms in its history. Damage to public utilities alone was estimated at \$3.5 million, and total damage probably exceeded \$7 million. Wires, heavily loaded with 50 mm of ice, were subjected to winds of 80

km/h with gusts up to 120 km/h.

February 27 - March 2, 1958

A severe ice storm occurred at Saint John's Nfld. A total of 43 hours of freezing precipitation was reported as thousands of people were without heat and light for several days.

result of the unusual warmth. February means are significantly above normal. In some places, monthly averages could easily surpass the warmest February ever. In Toronto for example, the monthly mean up to the week ending February 26 was 1.3°, a remarkable 0.9° higher than the old record set in 1954.

Precipitation was light; however on February 25, a weak weather system deposited 5 to 10 cm of snow leaving roads icy and treacherous throughout southcentral Ontario. Blowing snow severely restricted visibilities and contributed to a fatal airplane crash near Ottawa.

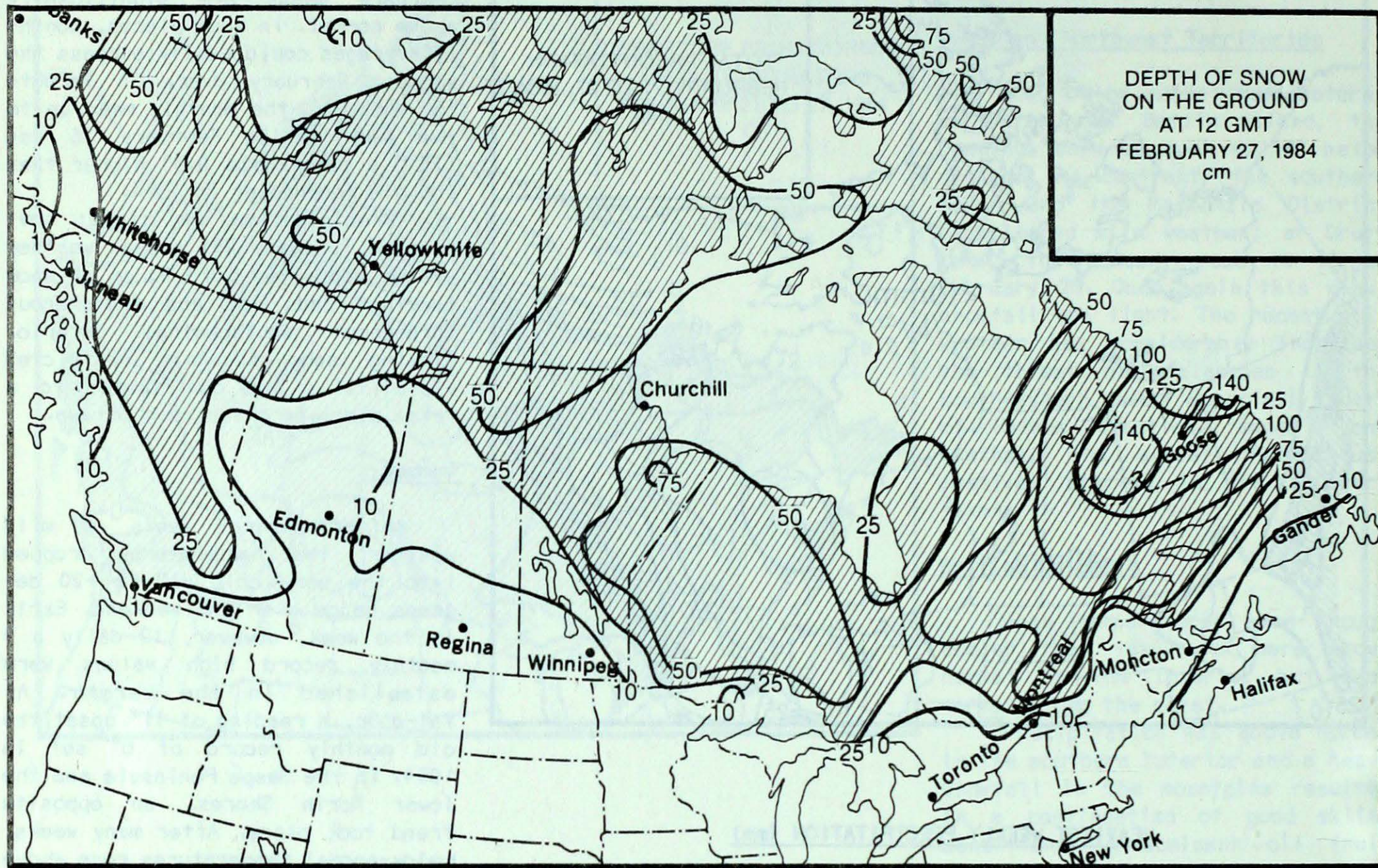
Québec

After several weeks of mild weather, the temperatures dropped into the very cold -10 to -20 degrees range over the weekend. Early in the week, however, 12 daily a 3 monthly record high values were established in the warmth. At Val-d'Or, a reading of 11° upset the old monthly record of 6° set in 1954. In the Gaspé Peninsula and the lower North Shores, an opposite trend took place. After many weeks, below-normal temperatures rose above freezing during the weekend. Except for the Eastern Townships, precipitation was light. On February 20, eastern and northeastern areas received 10 to 15 cm of snow. The additional snow provided good skiing in all areas.

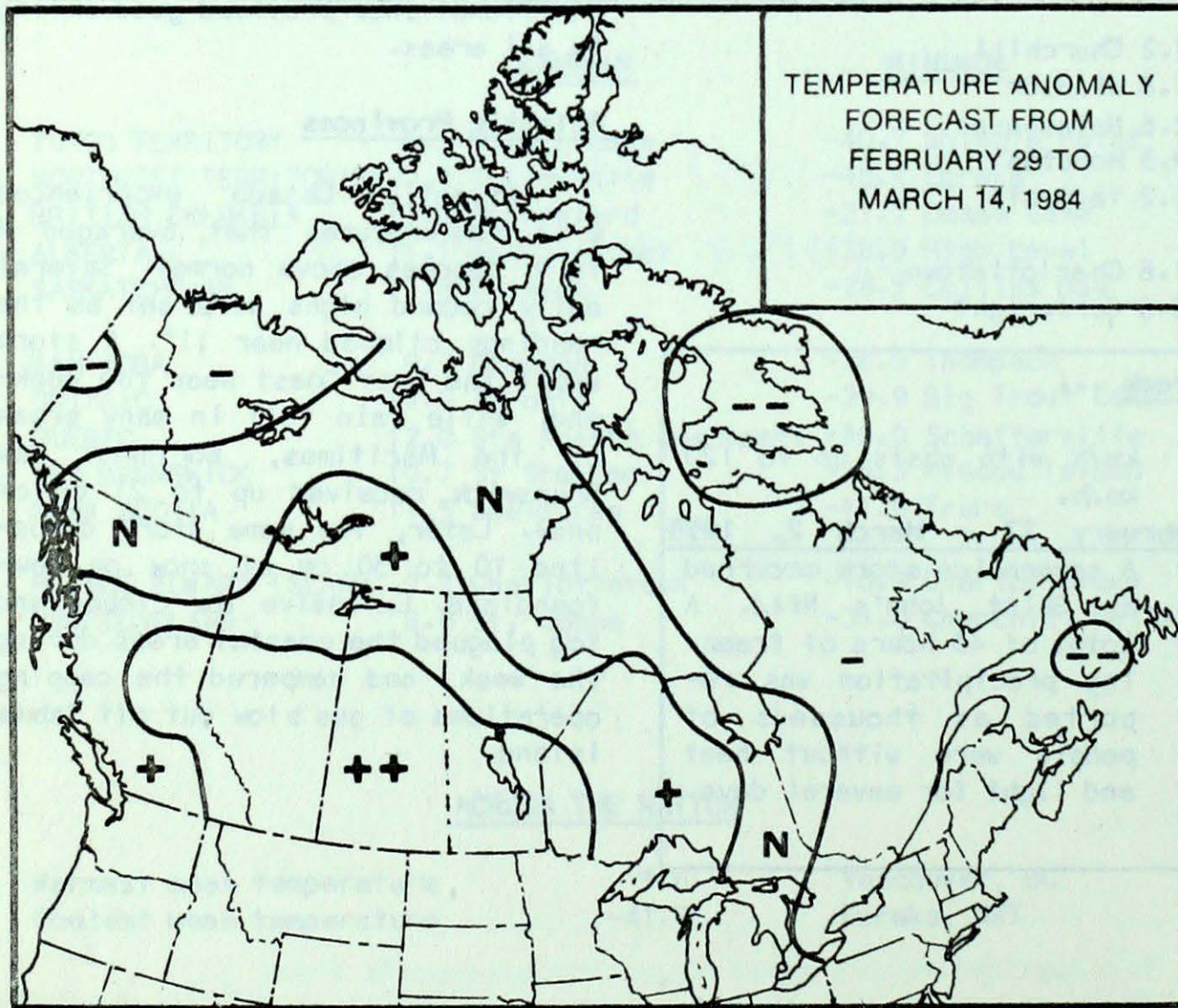
Atlantic Provinces

Atlantic Canada experienced mild temperatures that averaged 4 to 8 degrees above normal. Several daily record highs were set as the readings climbed near 11°. A storm swept the East Coast near the weekend, while rain fell in many areas of the Maritimes, northern New Brunswick received up to 21 cm of snow. Later, the same storm deposited 10 to 30 cm of snow on Newfoundland. Extensive low clouds and fog plagued the coastal areas during the week, and hampered the capping operations of gas blow out off Sable Island.

SNOW DEPTH ON THE GROUND



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 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.

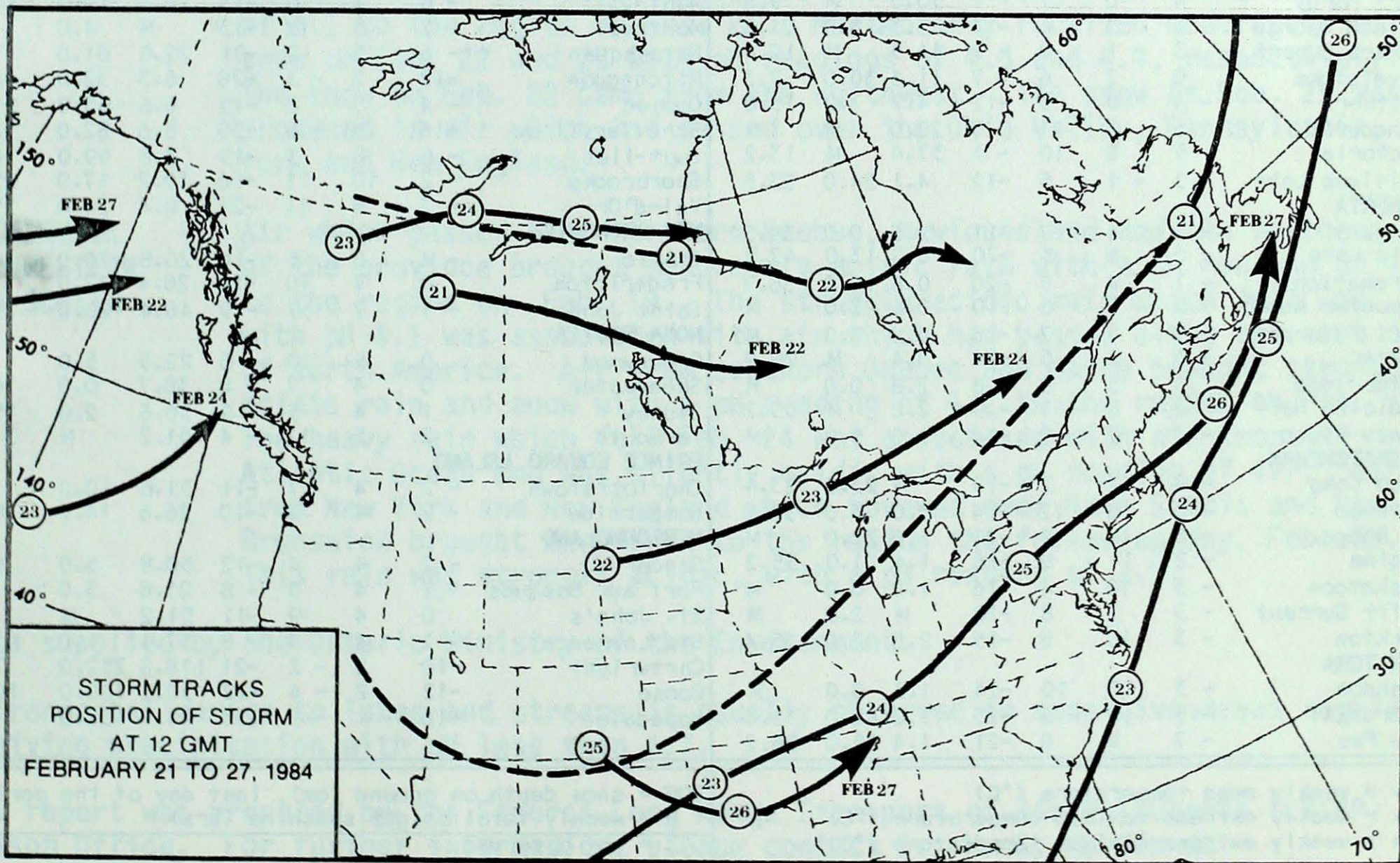
- ++ much above normal
- + above normal
- N normal
- below normal
- much below normal

March Weather at Some Winter Resorts

Every year thousands of Canadians shed their winter clothing and head South for a break from the winter. The annual exodus usually occurs around mid-March school break. Some years though, the sun seekers are disappointed only to find too much rain and or cool weather at their destination. The following table is meant as a weather guide for the expected or the normal temperatures and rainfalls at some of the most popular resorts Canadian choose every year.

| | <u>March Averages</u> | |
|-----------------|-----------------------------|--------------------|
| | <u>Max. Temperatures °C</u> | <u>Rainfall mm</u> |
| Tampa | 24 | 90 |
| Miami | 25 | 57 |
| Fort Lauderdale | 27 | 71 |
| Barbados | 29 | 33 |
| Bermuda | 19 | 115 |
| Bahamas | 26 | 36 |
| Jamaica | 30 | 23 |
| Mrytle Beach | 17 | 121 |
| Acapulco | 31 | 0 |
| Cancun | 29 | 51 |

STORM TRACKS



TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT FEBRUARY 28, 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 | -11 | 6 | 3 | -27 | 4.1 | 33.0 | 20.8 |
| Dawson | -24 | -6 | -16 | -33 | 1.1 | 57.0 | M | Winnipeg | -5 | 9 | 5 | -19 | 0.0 | 3.0 | 43.4 |
| Mayo A | -18 | -3 | -7 | -31 | 0.4 | 53.0 | M | ONTARIO | | | | | | | |
| Watson Lake | -13 | 2 | 1 | -30 | 2.8 | 40.0 | 41.5 | Big Trout Lake | -13 | 7 | 2 | -30 | 0.4 | 60.0 | M |
| Whitehorse | -8 | 0 | -1 | -20 | 0.0 | 24.0 | M | Earlton | -6 | 6 | 10 | -16 | M | 20.0 | M |
| NORTHWEST TERRITORIES | | | | | | | | Kapusking | -9 | 5 | 6 | -19 | 1.9 | M | M |
| Fort Smith | -12 | 8 | -3 | -23 | 2.2 | 35.0 | M | Kenora | -5 | 8 | 6 | -16 | 0.5 | 22.0 | M |
| Inuvik | -32 | -6 | -23 | -44 | M | 64.0 | M | London | -2 | 3 | 14 | -12 | 9.2 | 7.0 | 25.4 |
| Norman Wells | -24 | 0 | -14 | -30 | 0.0 | 16.0 | 19.6 | Moosonee | -12 | 5 | 1 | -20 | 16.0 | 22.0 | 13.7 |
| Yellowknife | M | M | 0 | -24 | 0.8 | 19.0 | M | Muskoka | -3 | 5 | 11 | -16 | M | 3.0 | M |
| Baker Lake | -24 | 8 | -16 | -35 | 4.7 | 50.0 | M | North Bay | -4 | 5 | 10 | -16 | 0.2 | 9.0 | 44.5 |
| Cape Dyer | -35 | -14 | -26 | -43 | 0.0 | 42.0 | M | Ottawa | -2 | 6 | 11 | -14 | 6.3 | 14.0 | 39.7 |
| Clyde | M | M | -27P | -42 | 0.0 | 80.0 | 47.3 | Pickle Lake | -9 | 8 | 4 | -25 | 0.6 | 71.0 | M |
| Frobisher Bay | -29 | -5 | -20 | -36 | 1.0 | 24.0 | 39.5 | Red Lake | -8 | 6 | 6 | -26 | 0.0 | 38.0 | 25.4 |
| Alert | -35 | -2 | -26 | -44 | 5.2 | 24.0 | M | Sudbury | -6 | 5 | 6 | -16 | 0.2 | M | 36.1 |
| Eureka | -42 | -4 | -27 | -48 | 0.6 | 17.0 | M | Thunder Bay | -4 | 7 | 10 | -16 | M | 8.0 | 32.3 |
| Hall Beach | -36 | -6 | -30 | -41 | M | 25.0 | M | Timmins | -7 | 7 | 9 | -18 | 1.0 | 40.0 | M |
| Resolute | -33 | 0 | -28 | -41 | M | 25.0 | M | Toronto | 0 | 4 | 15 | -12 | 8.0 | 3.0 | M |
| Cambridge Bay | -27 | 7 | -17 | -38 | 1.4 | 32.0 | M | Trenton | -1 | 3 | 13 | -14 | 10.7 | 4.0 | M |
| Mould Bay | -35 | 0 | -23 | -43 | 1.1 | 27.0 | M | Warton | -1 | 5 | 14 | -10 | 3.8 | 0.0 | 40.6 |
| Sachs Harbour | -32 | -3 | -20 | -41 | 3.0 | 10.0 | 6.0 | Windsor | 2 | 4 | 15 | -6 | 17.8 | M | M |
| BRITISH COLUMBIA | | | | | | | | QUEBEC | | | | | | | |
| Cape St. James | 5 | 1 | 9 | 2 | 32.7 | M | 25.5 | Bagotville | -6 | 6 | 2 | -16 | 12.2 | 50.0 | M |
| Cranbrook | -0 | 2 | 6 | -8 | 7.7 | 2.0 | 16.6 | Blanc-Sablon | -6 | 5 | 0 | -17 | M | M | 22.0 |
| Fort Nelson | -7 | 6 | 4 | -21 | 0.2 | 26.0 | M | Inukjuak | -23 | 1 | -16 | -29 | 0.0 | 34.0 | 46.4 |
| Fort St. John | -3 | 5 | 4 | -12 | 4.7 | 5.0 | M | Kuujuuaq | -18 | 4 | -13 | -23 | M | 46.0 | 8.3 |
| Kamloops | 2 | 3 | 8 | -4 | 4.2 | M | 15.3 | Kuujuarapik | -15 | 6 | -7 | -28 | 5.2 | 24.0 | 15.9 |
| Penticton | 2 | 1 | 8 | -5 | 8.8 | 1.0 | 11.2 | Maniwaki | -6 | 5 | 11 | -21 | 4.2 | 14.0 | M |
| Port Hardy | 4 | 0 | 7 | -1 | 50.0 | M | 9.8 | Mont-Joli | -6 | 4 | 0 | -13 | 10.8 | 19.0 | 12.1 |
| Prince George | -2 | 2 | 6 | -14 | 3.3 | 3.0 | 21.3 | Montréal | -2 | 5 | 12 | -13 | M | 4.0 | M |
| Prince Rupert | 3 | -1 | 8 | -2 | 41.5 | M | 10.4 | Natashquan | -6 | 5 | 2 | -21 | 22.6 | 61.0 | M |
| Revelstoke | 0 | 2 | 6 | -7 | 11.6 | 30.0 | 7.3 | Nitchequon | -12 | 7 | -3 | -28 | 6.3 | 32.0 | 14.3 |
| Smithers | -4 | 0 | 3 | -12 | 4.7 | 1.0 | 15.8 | Québec | -4 | 5 | 8 | -15 | 8.6 | 65.0 | 21.4 |
| Vancouver | 6 | 1 | 11 | 0 | 27.0 | M | M | Schefferville | -16 | 5 | -6 | -30 | 8.6 | 82.0 | 18.5 |
| Victoria | 5 | 0 | 10 | -1 | 37.4 | M | 13.2 | Sept-Îles | -6 | 6 | 3 | -19 | 4.8 | 59.0 | 18.4 |
| Williams Lake | -3 | -1 | 5 | -12 | 4.1 | 24.0 | 23.5 | Sherbrooke | -2 | 10 | 11 | -16 | 10.2 | 17.0 | 25.4 |
| ALBERTA | | | | | | | | Val-d'Or | -7 | 6 | 11 | -21 | 0.4 | 24.0 | 25.5 |
| Calgary | -3 | 4 | 7 | -11 | 2.6 | 0.0 | 39.5 | NEW BRUNSWICK | | | | | | | |
| Cold Lake | -6 | 6 | 5 | -20 | 0.0 | 13.0 | 42.5 | Charlo | -4 | 6 | 6 | -14 | 20.8 | 70.0 | M |
| Coronation | -7 | 4 | 5 | -20 | 0.6 | 16.0 | 36.7 | Fredericton | 0 | 7 | 10 | -10 | 28.4 | 17.0 | M |
| Edmonton Namao | -2 | 7 | 6 | -10 | 0.4 | 2.0 | M | Saint John | -1 | 7 | 7 | -9 | 48.4 | 20.0 | 19.2 |
| Fort McMurray | -5 | 9 | 7 | -16 | 0.2 | 3.0 | M | NOVA SCOTIA | | | | | | | |
| Jasper | -3 | 2 | 6 | -14 | 3.4 | M | 26.9 | Greenwood | 0 | 5 | 10 | -6 | 22.5 | 5.0 | M |
| Lethbridge | 0 | 5 | 9 | -8 | 2.8 | 0.0 | M | Shearwater | 0 | 4 | 7 | -8 | 38.7 | 0.0 | 10.7 |
| Medicine Hat | 0 | 8 | 11 | -9 | 2.2 | M | 33.2 | Sydney | -1 | 4 | 5 | -9 | 36.6 | 2.0 | 15.9 |
| Peace River | -4 | 7 | 2 | -14 | 1.0 | 5.0 | M | Yarmouth | 2 | 5 | 11 | -4 | 51.2 | M | 31.3 |
| SASKATCHEWAN | | | | | | | | PRINCE EDWARD ISLAND | | | | | | | |
| Cree Lake | -9 | X | 2 | -19 | M | 23.0 | 23.4 | Charlottetown | -2 | 4 | 7 | -11 | 31.6 | 10.0 | M |
| Estevan | -3 | 8 | 12 | -14 | 5.0 | 3.0 | 32.3 | Summerside | -2 | 4 | 7 | -10 | 26.6 | 14.0 | 8.0 |
| La Ronge | -6 | 6 | 9 | -21 | 1.6 | 22.0 | M | NEWFOUNDLAND | | | | | | | |
| Regina | -2 | 11 | 9 | -16 | 1.4 | 1.0 | 35.2 | Gander | -2 | 4 | 4 | -12 | 50.8 | 5.0 | 8.3 |
| Saskatoon | -3 | 10 | 4 | -16 | 1.0 | 0.0 | M | Port aux Basques | -2 | 4 | 5 | -8 | 21.8 | 3.0 | M |
| Swift Current | -3 | 7 | 8 | -18 | M | 2.0 | M | St. John's | 0 | 4 | 9 | -11 | 51.2 | M | M |
| Yorkton | -3 | 10 | 8 | -15 | 2.8 | 2.0 | 35.4 | St. Lawrence | -1 | 4 | 4 | -8 | 57.1 | 1.0 | M |
| MANITOBA | | | | | | | | Cartwright | -10 | 2 | -2 | -21 | 118.8 | 252.0 | 7.7 |
| Brandon | -3 | 10 | 10 | -14 | 1.7 | 0.0 | M | Goose | -12 | 2 | -4 | -22 | 30.5 | 100.0 | 10.5 |
| Churchill | -15 | 10 | -6 | -25 | 7.2 | 42.0 | 11.1 | Hopedale | -16 | -1 | -9 | -23 | 44.7 | 132.0 | M |
| The Pas | -7 | 9 | 8 | -21 | 1.4 | 15.0 | 26.2 | | | | | | | | |

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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ACID RAIN REPORT ISSUED BY ENVIRONMENT CANADA FOR FEB. 19-25, 1984

**LONGWOODS
NEAR LONDON
ONTARIO**

Longwoods received strongly acidic rain and snow with a pH of 4.0 on Feb. 19. This rain was associated with air which had passed over the U.S. midwest. Air from northern Wisconsin and northern Michigan brought slightly acidic rain with a pH reading of 4.7 to the region on Feb. 24.

**DORSET*
MUSKOKA
ONTARIO**

Dorset received strongly acidic rain on two occasions last week. The rain which fell Feb. 19 had a pH reading of 3.7 and was associated with air which had passed over Kentucky, Ohio and southern Ontario. The snow on Feb. 20 had a pH value of 3.9 and was produced in air which came from northwestern Ontario and passed over the Sudbury region.

**CHALK RIVER
OTTAWA VALLEY
ONTARIO**

Air which came from the U.S. midwest and Ohio Valley brought strongly acidic rain with pH 3.7 to Chalk River on Feb. 19. The next day, Feb. 20, the region received slightly acidic snow with a pH value of 4.8. This snowfall was produced in air from northern Ontario.

**MONTMORENCY
QUEBEC CITY
QUEBEC**

The strongly acidic mixed rain and snow which fell in Montmorency on Feb 19 had a pH reading of 4.0 and was produced in air which came from northern Quebec and hovered over New Brunswick, Maine, New England and the Quebec City area. Air which passed over Ohio, southern Ontario, the Sudbury region and southern Quebec brought strongly acidic snow with a pH of 4.1 to the region on Feb. 20. Montmorency received moderately acidic snow on Feb. 22 and 25 with pH readings of 4.5 and 4.4, respectively. The snow on Feb. 22 came from the northwest. The snow on Feb. 25 was produced in air which had passed over the Ohio Valley, Pennsylvania, New York and New England.

**KEJIMIKUJIK
SOUTHWESTERN
NOVA SCOTIA**

Air which passed over northern Quebec, Newfoundland and the northern part of the province brought moderately acidic rain with a pH reading of 4.4 to the region on Feb. 19. The strongly acidic rain which fell Feb. 20 with pH 4.1 was associated with air which had passed along the east coast of North America. Air from southern Quebec and Maine brought strongly acidic rain and snow with a pH reading of 4.2 to the region on Feb. 21. The heavy rain which fell Feb. 24 was associated with air from the Atlantic Ocean and was slightly acidic with a pH reading of 4.7. Air from New York and New England which hovered over Nova Scotia and New Brunswick brought more rain to the region the following day, Feb. 25. This rain was strongly acidic, with a pH reading of 3.9.

*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.