# Climatic Perspectives

MONTHLY SUPPLEMENT INCLUDED

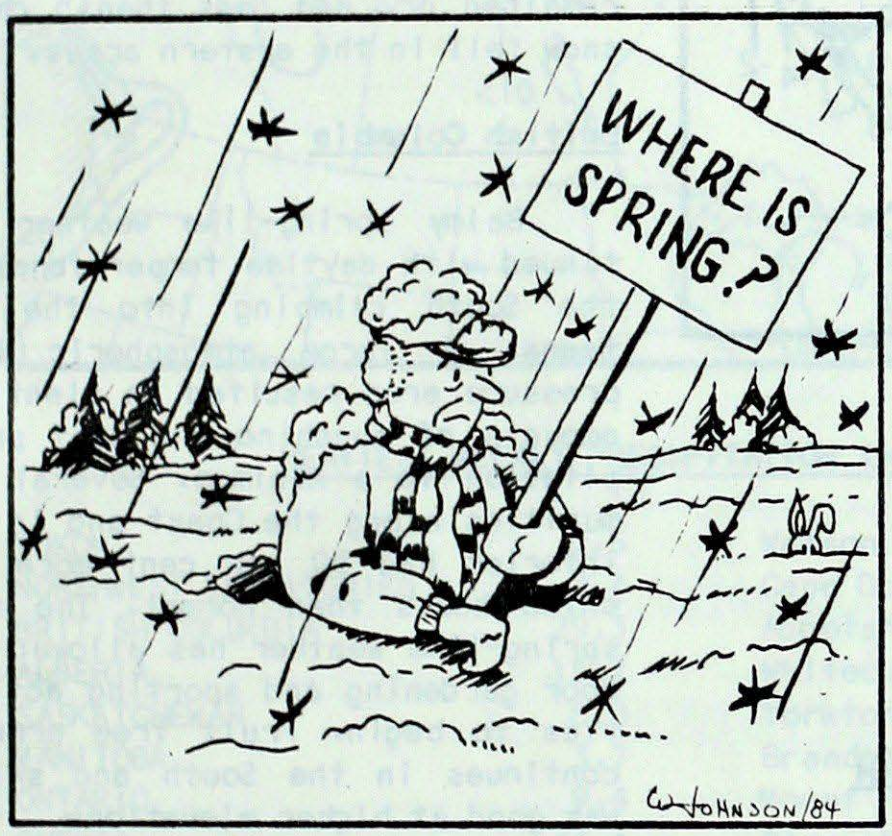
A WEEKLY REVIEW OF CANADIAN CLIMATE

MARCH 16 ,1984 (Aussi disponible en français) VOL.6 NO.10

FOR THE PERIOD MARCH 6-12 ,1984



## • Harsh winter weather covers the Nation east of the Rockies




Record-cold, very strong winds and snowfalls produced blizzard-like weather in many communities from Saskatchewan to Newfoundland. Extensive drifting and blowing snow reduced visibilities to near zero and caused numerous multi-car pile-ups in Ontario, Québec and Nova Scotia. At least 6 people died and hundreds were injured in traffic related accidents. The 'mid-winter' weather brought bone-chilling temperatures from the Great Lakes eastward, overnight readings near -20° were common. In contrast, British Columbia and the Yukon experienced spring weather as daytime temperatures climbed into the low to mid-teens.

## • Good to excellent skiing in Central Canada during March break

INSIDE THE FEBRUARY MONTHLY SUPPLEMENT...

- Winter of 1983-84 in Review
- Summary of the 1983 Forest fire season in Canada

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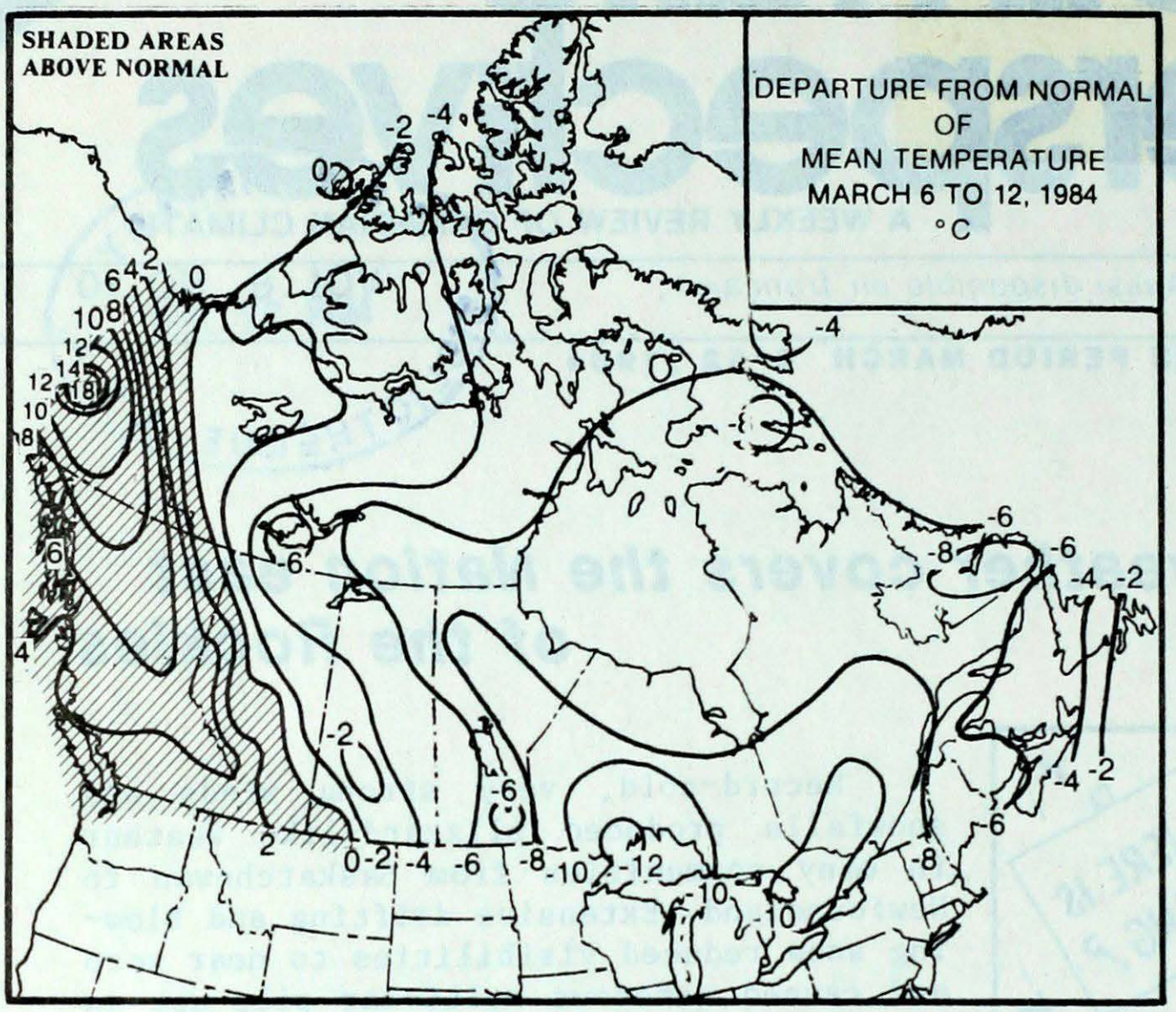
NOTE: The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic stations.

Canada




## WEEKLY TEMPERATURES EXTREMES (°C)

| | MAXIMUM | | MINIMUM | |
|---|---|---|---|---|
| YUKON TERRITORY | 10.0 | Haines Junction | -33.8 | Shingle Point |
| NORTHWEST TERRITORIES | -7.6 | Fort Smith | -51.3 | Eureka |
| BRITISH COLUMBIA | 18.2 | Abbotsford | -18.6 | Fort Nelson |
| ALBERTA | 16.0 | Medicine Hat | -37.0 | Fort Chipewyan |
| SASKATCHEWAN | 3.1 | Swift Current | -39.1 | Uranium City |
| MANITOBA | -4.0 | Dauphin | -40.8 | Thompson |
| ONTARIO | 1.4 | Trenton | -39.2 | Coburg |
| QUEBEC | 2.4 | Montréal/Dorval | -40.1 | Kuujjuarapik |
| NEW BRUNSWICK | 2.9 | Fredericton | -27.1 | Fredericton |
| NOVA SCOTIA | 7.3 | Shelburne | -25.3 | Truro |
| PRINCE EDWARD ISLAND | 2.0 | Charlottetown | -18.6 | Summerside |
| NEWFOUNDLAND | 5.4 | Argentia | -38.8 | Wabush Lake |

## ACROSS THE NATION

| | | |
|---|---|---|
| Warmest mean temperature | 9.4 | McInnes Island, BC |
| Coolest mean temperature | -45.1 | Eureka, NWT |

## ACROSS THE COUNTRY...

### Yukon and Northwest Territories

Near record-warmth covering the western third of the Arctic produced balmy temperatures that were 10 to 15 degrees above the norm. The unusual mildness created spring like weather in the southern and central Yukon as the snow cover dwindled considerably. On March 10, Haines Junction experienced maximum of 10° followed closely by 8.8° at Whitehorse. The eastern Arctic con tinued to remain several degrees below normal. Many localities had readings near -40°. Precipitation was very small, most of the southern Yukon remained dry and less than 5 cm of snow fell in the eastern areas.

### British Columbia

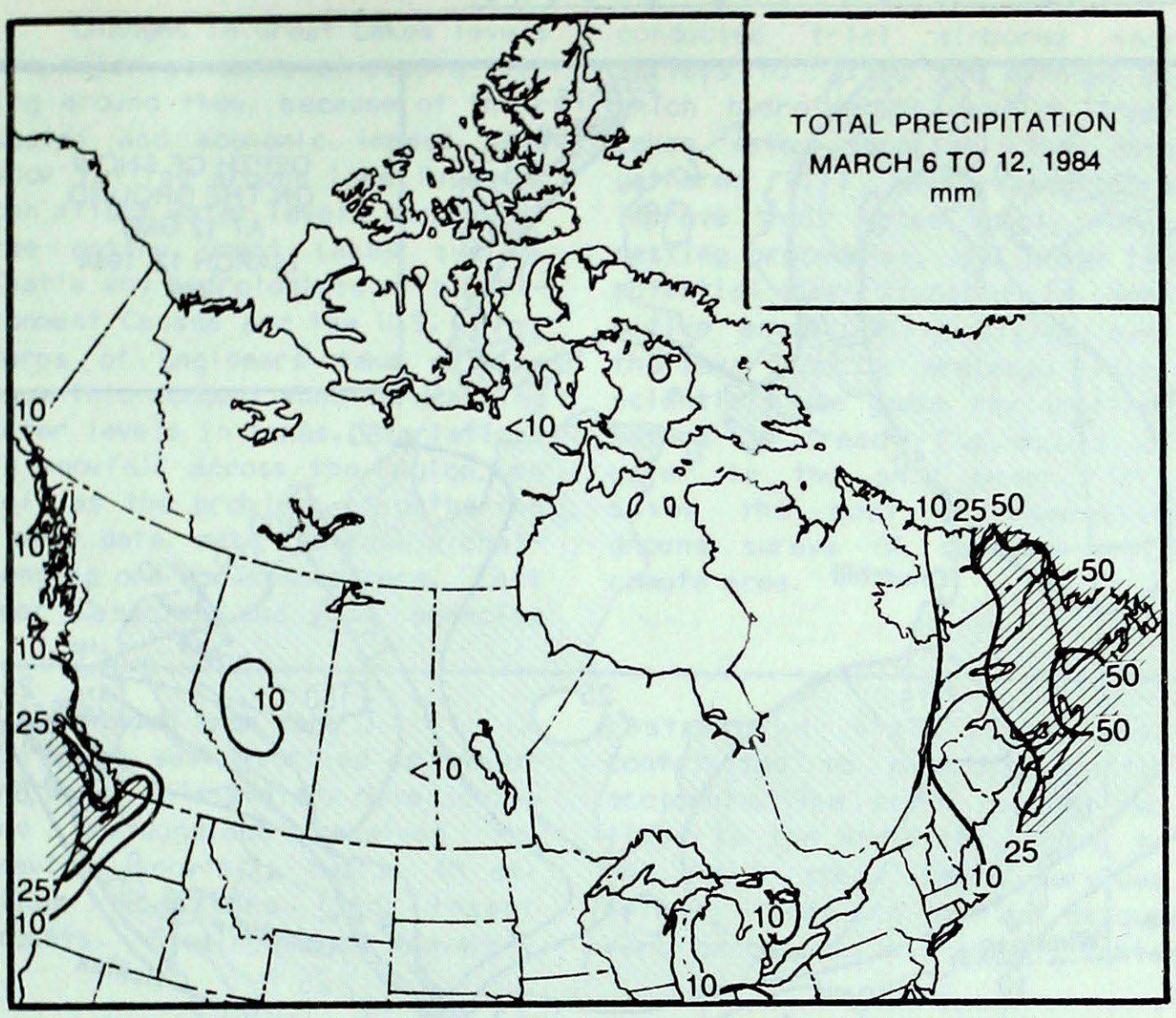
Balmy spring-like weather con tinued with daytime temperatures in the South climbing into the mid teens. A large atmospheric high pressure area resulted in plentiful amounts of sunshine and kept preci pitation to a minimum. Several com munities along the Coast and in the interior had 50 per cent more sun shine hours than normal. The fine spring-like weather has allowed out door gardening and sporting activi-ties to begin. Fruit tree pruning continues in the South and skiing was good at higher elevations.

### Prairies

A bitterly cold Arctic air mass spilled southeastwards bringing an end to the mild weather of previous weeks. An associated area of high pressure kept skies mainly clear but temperatures plummeted to record low values in the east. The minimum temperature at Thompson registered -41° on March 6. Several rapidly moving disturbances deposited only light snow but very strong winds gusting to 90 km/h on the evening and morning of March 9 and 10 respectively resulted in blowing snow and hazardous driving conditions.

### Ontario

Icy winds and blowing snow




## HEAVIEST WEEKLY PRECIPITATION (mm)

| | | |
|---|---|---|
| YUKON | 2.5 | Watson Lake |
| NORTHWEST TERRITORIES | 2.4 | Cape Dorset |
| BRITISH COLUMBIA | 29.3 | Abbotsford |
| ALBERTA | 15.2 | Whitecourt |
| SASKATCHEWAN | 8.8 | Yorkton |
| MANITOBA | 3.7 | Brandon |
| ONTARIO | 9.4 | Mount Forest |
| QUÉBEC | 46.4 | Blanc Sablon |
| NEW BRUNSWICK | 18.1 | Moncton |
| NOVA SCOTIA | 56.8 | Sydney |
| PRINCE EDWARD ISLAND | 26.3 | Charlottetown |
| NEWFOUNDLAND | 84.4 | St. Anthony |

## ICE

In the Gulf of St. Lawrence, the eastern and southeastern portions had extensive ice cover, but ice in the western areas was thinning out. In the east Newfoundland waters, the main area of pack ice was north of St. John's which is about normal for this time of the year; however, the eastern ice edge was somewhat more extensive than average. On several occasions this week, strips and patches of ice drifted very close to the drill sites in the Hibernia oil fields.

severely restricted visibilities on southern Ontario's roads and produced extremely treacherous driving conditions on March 11. Numerous multi-car accidents occurred in blinding snow squalls, including a 65-car collision near Bowmanville in which damage was estimated at $0.75 million; as well as, two 40-50 car pile-ups in the vicinity of Barrie. The accidents claimed at least 2 lives. Scores of roads and highways were closed due to extensive drifting as a vigorous cold front delivered another shot of 'mid-winter' weather to the Province already experiencing one of the coldest March in years. Otherwise, record-cold covered all regions. Overnight temperatures near -20° were quite common across the South. Extensive snow on the ground provided excellent late winter skiing at the resorts.

## Québec

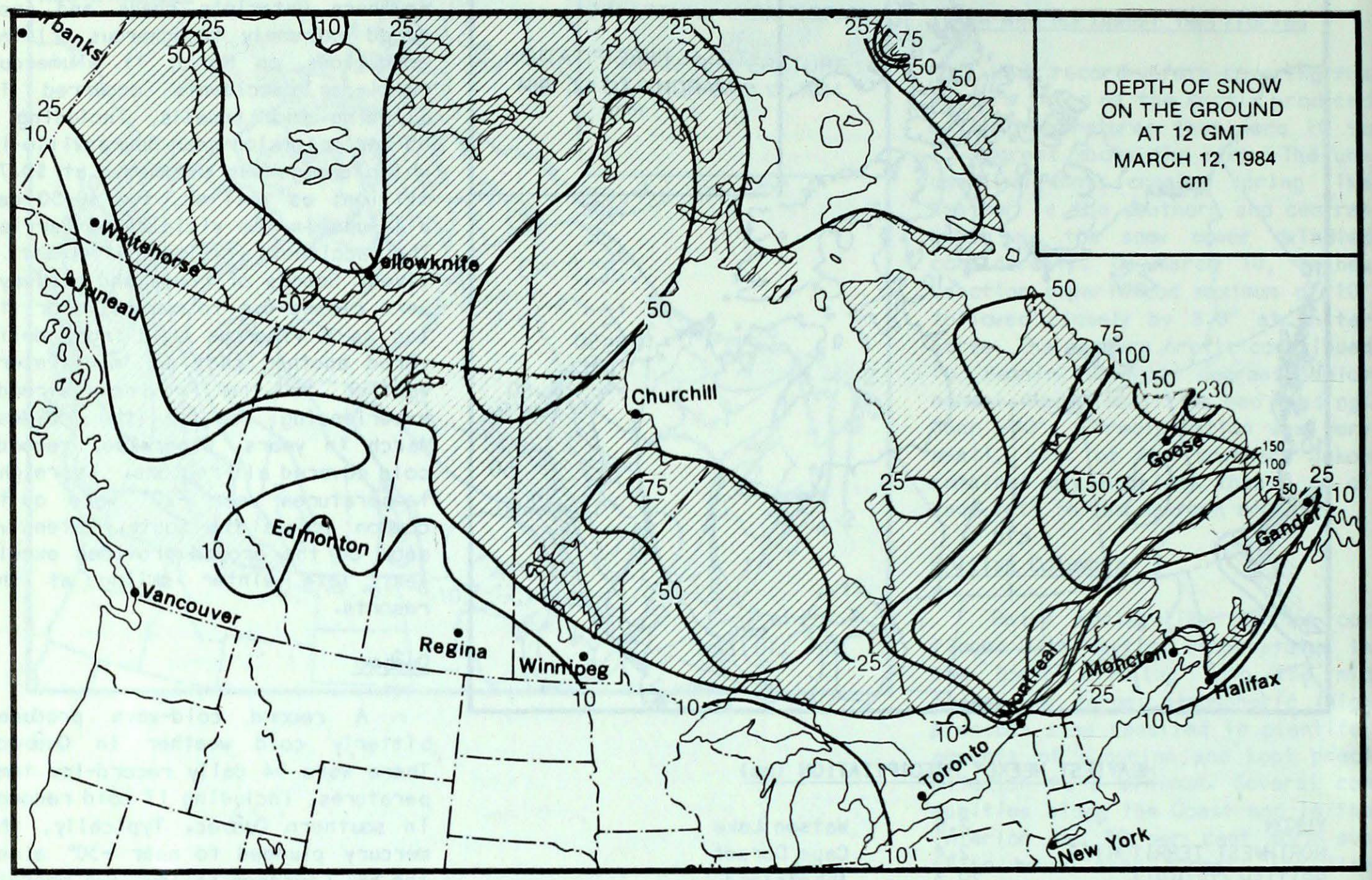
A record cold-wave produced bitterly cold weather in Québec. There were 54 daily record-low temperatures, including 17 cold records in southern Québec. Typically, the mercury plunged to near -30° along the St. Lawrence Valley. Two monthly records were set as the readings dropped to -35.7° and 30° at Val-d'Or and Ste Agathe respectively. An intense cold front crossing the southern regions produced up to 95 km/h winds. Blowing snow restricted visibilities to near zero. Poor driving conditions prevailed throughout the South, causing multitudes of collisions and several road closures. Two people died and at least 100 were hurt in traffic accidents. The unseasonable cold and light to moderate snowfalls earlier in the week have helped to create very good skiing in the Laurentians and the Eastern Townships

## Atlantic Provinces

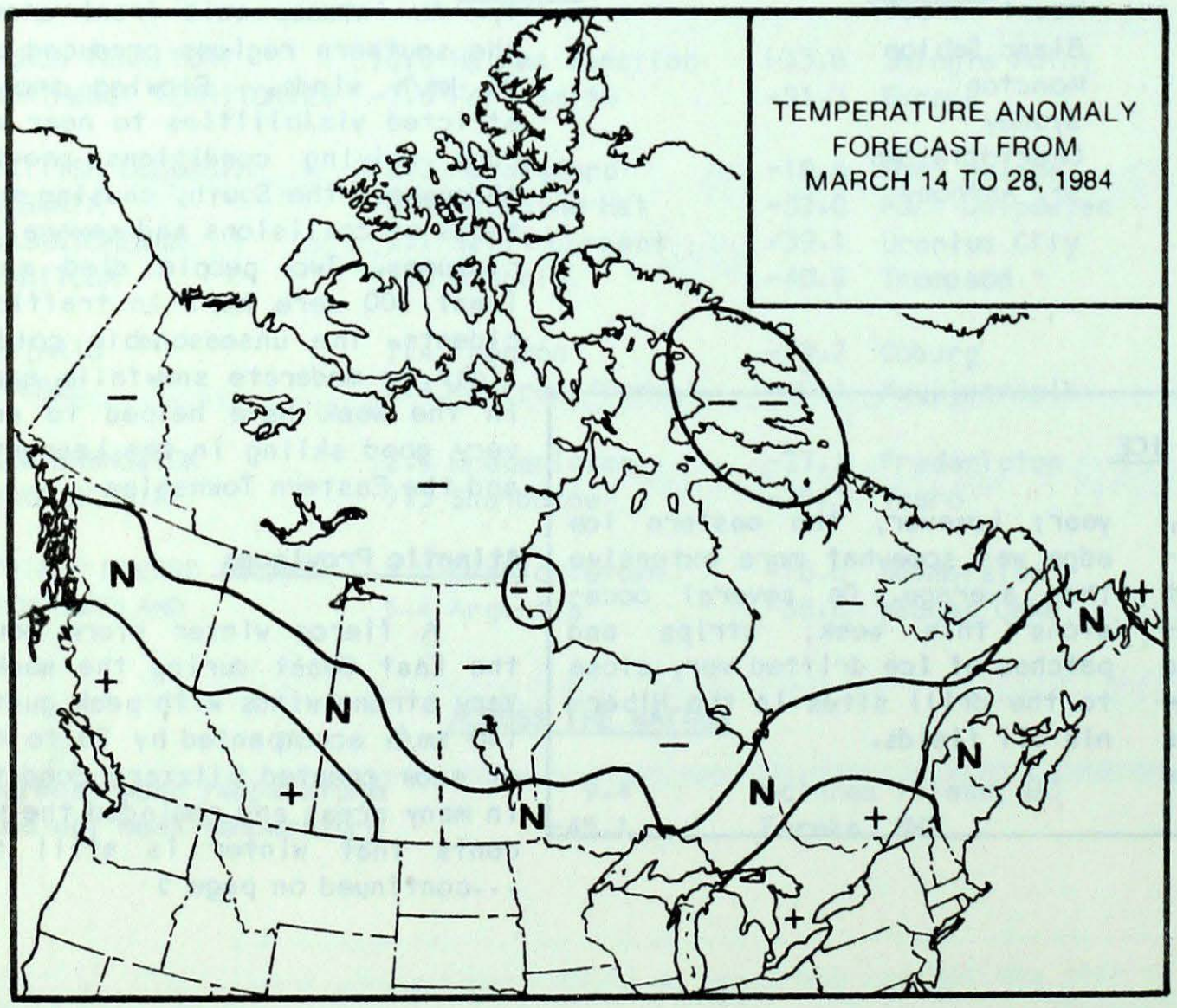
A fierce winter storm pounded the East Coast during the weekend. Very strong winds with peak gusts of 140 km/h accompanied by 20 to 40 cm of snow created blizzard conditions in many areas and reminded the residents that winter is still here.

...continued on page 5

## 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**

## SNOW AFFECTS WATER LEVEL

Changes in Great Lakes levels are major concerns of people living around them, because of their social and economic impact. And snow falling around Lake Superior can affect water levels throughout the entire Great Lakes system. That's why hydrologists with Environment Canada and the U.S. Army Corps of Engineers take melting snow into account when forecasting water levels in lakes. Variations in snowfall across the region, as well as the problems of gathering timely data, make the task a challenging one for researchers. Last year Canadian and U.S. agencies conducted trial airborne snow surveys to refine the methods by which hydrologists predict Great Lakes water supplies. The data gathered will help researchers improve their water supply forecasting procedures, and judge the potential for flooding in sensitive areas. While flying over the Lake Superior drainage basin, scientists use gamma ray spectrometers to "read" the amount of water in the snow cover. This saves the cost of expensive ground sureys of such a vast, remote area.

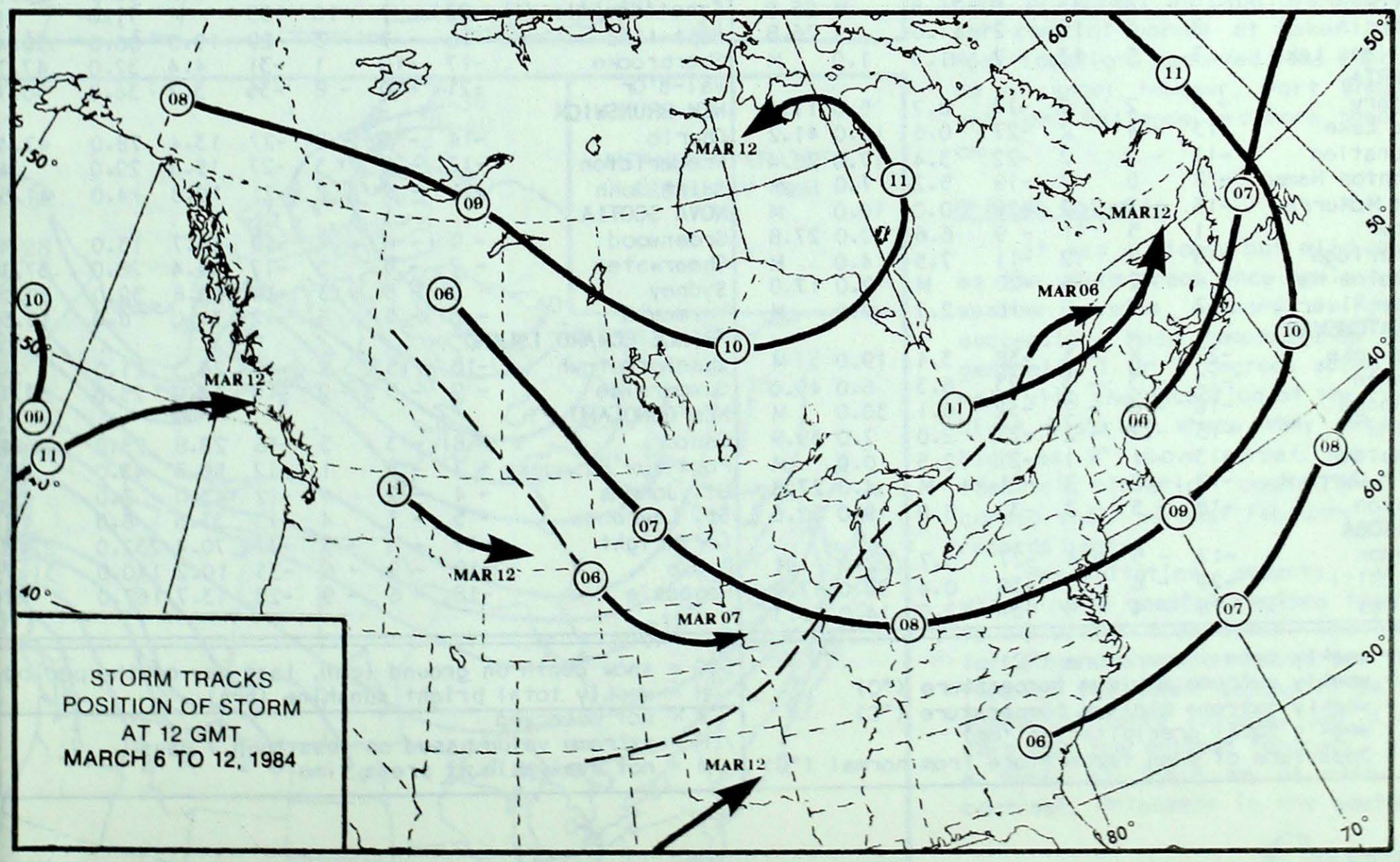
**Lake Superior February Mean Water Level (metre)**

| | |
|---|---|
| Mean | 183.05 |
| Last year | 183.11 |
| Maximum for month | 183.18/1975 |
| Minimum for month | 182.42/1926 |
| Mean, last 10 years | 182.95 |
| Probable mean for March | 183.05 |

**...continued from page 3**

The storm was described as one of the worst this winter. Nova Scotia and Newfoundland received the heaviest snowfall, nearly 40 cm. Other locations had lesser amounts. Blowing snow severely restrricted visibilities and contributed to numerous traffic accidents. The storm claimed two lives in the Maritimes. Owing to the rough seas, ferry services between Sydney and Port aux Basque were cancelled, and many flights were delayed in Halifax. Prior to the storm, Atlantic Canada experienced piercing cold weather as the temperatures plummeted to near -20° in the Maritimes and near -30° in the Labrador.

## STORM TRACKS



TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT MARCH 13, 1984

| STATION | TEMP | | | | PRECIP | | SUN |
|---|---|---|---|---|---|---|---|
| | Av | Dp | Mx | Mn | Tp | SOG | H |
| **YUKON TERRITORY** | | | | | | | |
| Dawson | 1 | 18 | 7 | - 8 | 0.0 | 42.0 | M |
| Mayo A | - 1 | 12 | 5 | -10 | 0.0 | 36.0 | M |
| Watson Lake | - 4 | 8 | 5 | -11 | 2.5 | 41.0 | 6.3 |
| Whitehorse | 2 | 11 | 9 | -7 | 0.0 | 15.0 | 30.7 |
| **NORTHWEST TERRITORIES** | | | | | | | |
| Fort Smith | -22 | - 4 | - 8 | -34 | 1.2 | 39.0 | 44.8 |
| Inuvik | -24 | 1 | -15 | -38 | 0.0 | 62.0 | 46.5 |
| Norman Wells | -20 | 1 | -11 | -35 | 1.0 | 16.0 | 52.7 |
| Yellowknife | -25 | - 4 | -16 | -39 | 0.0 | 19.0 | 61.1 |
| Baker Lake | -34 | - 5 | -24 | -43 | 0.0 | 51.0 | 29.0 |
| Cape Dyer | -28 | - 3 | -17 | -38 | 2.2 | 44.0 | M |
| Clyde | M | M | -25P | -44 | 0.4 | 81.0 | 43.7 |
| Frobisher Bay | -31 | - 9 | -19 | -41 | 1.0 | 22.0 | 47.5 |
| Alert | -38 | - 5 | -25 | -44 | 0.0 | 20.0 | 0.0 |
| Eureka | -45 | - 7 | -38 | -51 | M | 17.0 | M |
| Hall Beach | -36 | - 5 | -25 | -45 | 0.4 | 25.0 | 28.6 |
| Resolute | -38 | - 6 | -28 | -46 | 0.4 | 25.0 | M |
| Cambridge Bay | -33 | - 2 | -24 | -43 | 0.0 | 27.0 | 38.6 |
| Mould Bay | -33 | 0 | -27 | -41 | M | 27.0 | 4.0 |
| Sachs Harbour | -33 | - 4 | -24 | -40 | 0.0 | 10.0 | 41.6 |
| **BRITISH COLUMBIA** | | | | | | | |
| Cape St. James | 8 | 3 | 11 | 6 | 15.0 | M | 10.1 |
| Cranbrook | 4 | 4 | 14 | - 5 | 0.6 | M | M |
| Fort Nelson | - 8 | 3 | 4 | -19 | 6.2 | 35.0 | 16.5 |
| Fort St. John | - 5 | 3 | 6 | -12 | 6.4 | 5.0 | M |
| Kamloops | 5 | 4 | 14 | - 4 | 1.6 | M | 38.2 |
| Penticton | 5 | 3 | 13 | - 4 | 3.6 | M | 37.5 |
| Port Hardy | 8 | 4 | 15 | 1 | 2.7 | M | 32.9 |
| Prince George | 2 | 6 | 11 | - 5 | 1.4 | M | 39.6 |
| Prince Rupert | 7 | 4 | 14 | - 1 | 6.2 | M | 24.1 |
| Revelstoke | 3 | 2 | 10 | - 6 | 10.7 | 18.0 | 22.8 |
| Smithers | 4 | 6 | 14 | - 4 | 5.0 | M | 20.4 |
| Vancouver | 9 | 4 | 15 | 2 | 26.8 | M | 25.8 |
| Victoria | 8 | 3 | 15 | 2 | 11.6 | M | 26.8 |
| Williams Lake | 3 | 5 | 13 | - 7 | 1.3 | 1.0 | M |
| **ALBERTA** | | | | | | | |
| Calgary | - 5 | 2 | 9 | -14 | 8.7 | 5.0 | 17.0 |
| Cold Lake | -13 | - 4 | 2 | -27 | 0.6 | 17.0 | 41.2 |
| Coronation | -11 | - 2 | 2 | -22 | 3.4 | 17.0 | 26.4 |
| Edmonton Namao | - 8 | 0 | 7 | -19 | 5.2 | 7.0 | M |
| Fort McMurray | -15 | - 3 | 2 | -29 | 0.0 | 10.0 | M |
| Jasper | 1 | 5 | 11 | - 9 | 6.6 | 0.0 | 27.8 |
| Lethbridge | - 3 | 2 | 12 | -11 | 7.5 | 4.0 | M |
| Medicine Hat | - 4 | 2 | 16 | -20 | M | 2.0 | 17.0 |
| Peace River | - 7 | 3 | 6 | -16 | 2.7 | 7.0 | M |
| **SASKATCHEWAN** | | | | | | | |
| Cree Lake | -22 | X | - 3 | -38 | 3.4 | 19.0 | M |
| Estevan | -12 | - 3 | - 3 | -23 | 6.3 | 6.0 | 45.0 |
| La Ronge | -18 | - 6 | - 2 | -32 | 6.1 | 30.0 | M |
| Regina | -13 | - 2 | - 2 | -23 | 2.0 | 7.0 | 39.9 |
| Saskatoon | -13 | - 1 | - 1 | -21 | 2.5 | 0.0 | M |
| Swift Current | -10 | - 2 | - 3 | -21 | M | 4.0 | 27.8 |
| Yorkton | -18 | - 5 | - 3 | -32 | 8.8 | 9.0 | 52.6 |
| **MANITOBA** | | | | | | | |
| Brandon | -17 | - 5 | - 4 | -27 | 3.7 | 2.0 | M |
| Churchill | -29 | - 6 | -17 | -38 | 0.4 | 32.0 | 47.9 |
| The Pas | -18 | - 4 | - 6 | -31 | 2.0 | 14.0 | 51.3 |
| Thompson | -24 | - 9 | - 8 | -41 | 0.4 | 27.0 | M |
| Winnipeg | -17 | - 6 | - 6 | -27 | M | M | 59.1 |
| **ONTARIO** | | | | | | | |
| Big Trout Lake | -25 | - 7 | -11 | -39 | 3.0 | 64.0 | M |
| Earlton | -20 | - 9 | - 6 | -32 | M | 26.0 | M |
| Kapuskasing | -21 | - 9 | - 7 | -33 | 5.0 | 18.0 | M |
| Kenora | -18 | - 9 | - 9 | -29 | 0.8 | 22.0 | M |
| London | -12 | - 9 | - 1 | -20 | 3.6 | 10.0 | 29.2 |
| Moosonee | -23 | - 8 | - 5 | -38 | 1.2 | 26.0 | 43.6 |
| Muskoka | -18 | -11 | - 3 | -31 | M | 18.0 | M |
| North Bay | -18 | - 9 | - 8 | -28 | 3.4 | 15.0 | 48.7 |
| Ottawa | -15 | - 9 | - 1 | -26 | 1.6 | 40.0 | M |
| Pickle Lake | -23 | -10 | -10 | -38 | 2.4 | 76.0 | M |
| Red Lake | -22 | - 9 | - 9 | -36 | 0.4 | 34.0 | 58.3 |
| Sudbury | -18 | - 8 | - 7 | -27 | 0.8 | M | 51.9 |
| Thunder Bay | -18 | - 9 | - 5 | -29 | 0.6 | 7.0 | 55.9 |
| Timmins | -21 | - 9 | - 6 | -35 | 3.0 | 50.0 | M |
| Toronto | -13 | -10 | 1 | -23 | 3.0 | 14.0 | M |
| Trenton | -14 | -11 | 1 | -26 | 1.7 | 15.0 | M |
| Wiarton | -15 | -10 | - 3 | -28 | 7.0 | 15.0 | 38.6 |
| Windsor | - 8 | - 8 | 1 | -14 | 8.1 | 0.0 | M |
| **QUEBEC** | | | | | | | |
| Bagotville | -19 | -10 | - 3 | -32 | 6.7 | 63.0 | M |
| Blanc-Sablon | -13 | - 4 | - 4 | -25 | 46.4 | 122.0 | 19.5 |
| Inukjuak | -29 | - 7 | -13 | -38 | 2.8 | 39.0 | 40.9 |
| Kuujjuaq | -25 | - 6 | -14 | -32 | M | 54.0 | 32.5 |
| Kuujjuarapik | -26 | - 7 | -10 | -40 | 3.6 | 28.0 | 38.4 |
| Maniwaki | -19 | -11 | - 4 | -33 | 1.8 | 27.0 | 59.2 |
| Mont-Joli | -14 | - 7 | 1 | -25 | 14.8 | 30.0 | M |
| Montréal | -15 | -10 | 2 | -25 | 2.6 | 5.0 | 54.4 |
| Natashquan | -15 | - 7 | - 5 | -30 | 25.1 | 76.0 | M |
| Nitchequon | -25 | - 8 | - 8 | -40 | 2.8 | 45.0 | M |
| Québec | -16 | - 9 | 0 | -26 | 8.2 | 82.0 | 45.5 |
| Schefferville | -23 | - 7 | -10 | -35 | M | 71.0 | M |
| Sept-Iles | -16 | - 7 | - 3 | -29 | 19.6 | 86.0 | 38.4 |
| Sherbrooke | -17 | -10 | 1 | -31 | 4.4 | 32.0 | 47.7 |
| Val-d'Or | -21 | -10 | - 8 | -36 | 3.2 | 36.0 | 50.7 |
| **NEW BRUNSWICK** | | | | | | | |
| Charlo | -14 | - 6 | - 2 | -27 | 13.4 | 78.0 | 47.4 |
| Fredericton | -12 | - 8 | 3 | -27 | 15.8 | 29.0 | M |
| Saint John | -11 | - 7 | 2 | -21 | 10.8 | 14.0 | 41.5 |
| **NOVA SCOTIA** | | | | | | | |
| Greenwood | - 9 | - 6 | 4 | -19 | 16.7 | 13.0 | M |
| Shearwater | - 7 | - 5 | 5 | -17 | 45.4 | 26.0 | 37.1 |
| Sydney | - 8 | - 5 | 3 | -18 | 56.8 | 39.0 | 30.1 |
| Yarmouth | - 6 | - 5 | 6 | -12 | 31.0 | 6.0 | 15.5 |
| **PRINCE EDWARD ISLAND** | | | | | | | |
| Charlottetown | -10 | - 5 | 2 | -18 | 26.3 | 21.0 | M |
| Summerside | - 9 | - 5 | 2 | -19 | 14.0 | 25.0 | 39.7 |
| **NEWFOUNDLAND** | | | | | | | |
| Gander | - 8 | - 3 | 3 | -16 | 28.8 | 25.0 | 37.4 |
| Port aux Basques | - 7 | - 5 | 1 | -12 | 50.3 | 43.0 | M |
| St. John's | - 4 | - 2 | 4 | -12 | 43.0 | 3.0 | M |
| St. Lawrence | - 5 | - 1 | 4 | -13 | 33.6 | 8.0 | M |
| Cartwright | -17 | - 8 | - 5 | -31 | 70.4 | 232.0 | 22.6 |
| Goose | -19 | - 9 | - 6 | -33 | 10.2 | 110.0 | 31.7 |
| Hopedale | -18 | - 6 | - 9 | -28 | 13.7 | 167.0 | 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