



Climatic Perspectives

April 5 to 11, 1993

A weekly review of Canadian climate and water

Vol. 15 No. 15

Spring flooding in Eastern Canada

It has been a cold, snowy winter in eastern Canada, and residents are now paying the price. Luckily, precipitation in Atlantic Canada was minimal this week.

In New Brunswick, ice jams along the Saint John River and its tributaries, flooded low lying areas. Rising water levels have inundated a number of roads and highways in the western part of the province, including the Trans-Canada Highway. One of the hardest hit areas is a 11 km stretch near the town of Perth-Andover, where about 230 residents were forced from their homes by flood waters. If the river continues to rise, more people will have to be evacuated. Officials are monitoring the situation closely, and are thankful that precipitation has been light. The rising water of the Saint John River is still half a metre below the levels seen in 1987, when flooding caused an enormous amount of damage.

Flooding was also reported in southern Quebec. The Achigan, Matane and Chaudière Rivers all overflowed their banks.

Heavy April showers in the Ottawa Valley on April 9 and 10, added to the already high spring runoff, resulting in rising water levels on the Ottawa and Rideau River systems. Ottawa recorded nearly 30 mm of rain on April 10. This fell soon after the melt of their record-deep snow cover, which had accumulated during the snowy months of February and March. Although some riverside homes had to be evacuated, property damage, is expected to be relatively light.

Snowstorms hit Alberta

A spring snowstorm dumped as much as 30 cm of snow between Edmonton and Cold Lake on April 5 and 6, with up to 14 cm of the fluffy stuff falling in Edmonton. Lethbridge received 20 cm of snow. Another disturbance on Good Friday, dumped an additional 10 to 15 centimetres, with Edmonton once again receiving the brunt of the snowfall. Although blowing snow in rural areas resulted in a number of school and road closures, the moisture will prove to be very beneficial in the dry areas of eastern Alberta.

Elsewhere...

It was a relatively pleasant week in the eastern Arctic, with a good deal of sunshine. Generally sunny spring weather continued across the southern Mackenzie District. However, cloudy skies and some light snow were reported over the Easter weekend. In fact, on Easter Sunday, Yellowknife received 5 cm of snow. In the Yukon, the week was rather dull and uneventful. Temperatures were on the mild side, ranging from a high of near 13°C in the south, to a low of -26°C in the north.

It was an unsettled spring week across most of British Columbia, with frequent showers. For the time being, logging has stopped until the bush roads firm and dry up. Some ski resorts have closed for the season. Vancouver Island saw measurable precipitation on six of the seven days this week, decreasing the severity of this past winter's drought. However, the B.C. interior was still dry.

Cooler, unsettled weather gradually covered Saskatchewan and Manitoba this week. Unlike Alberta, most precipitation fell as rain.

For a change, Newfoundland received no precipitation this week. In fact, temperatures averaged close to normal.

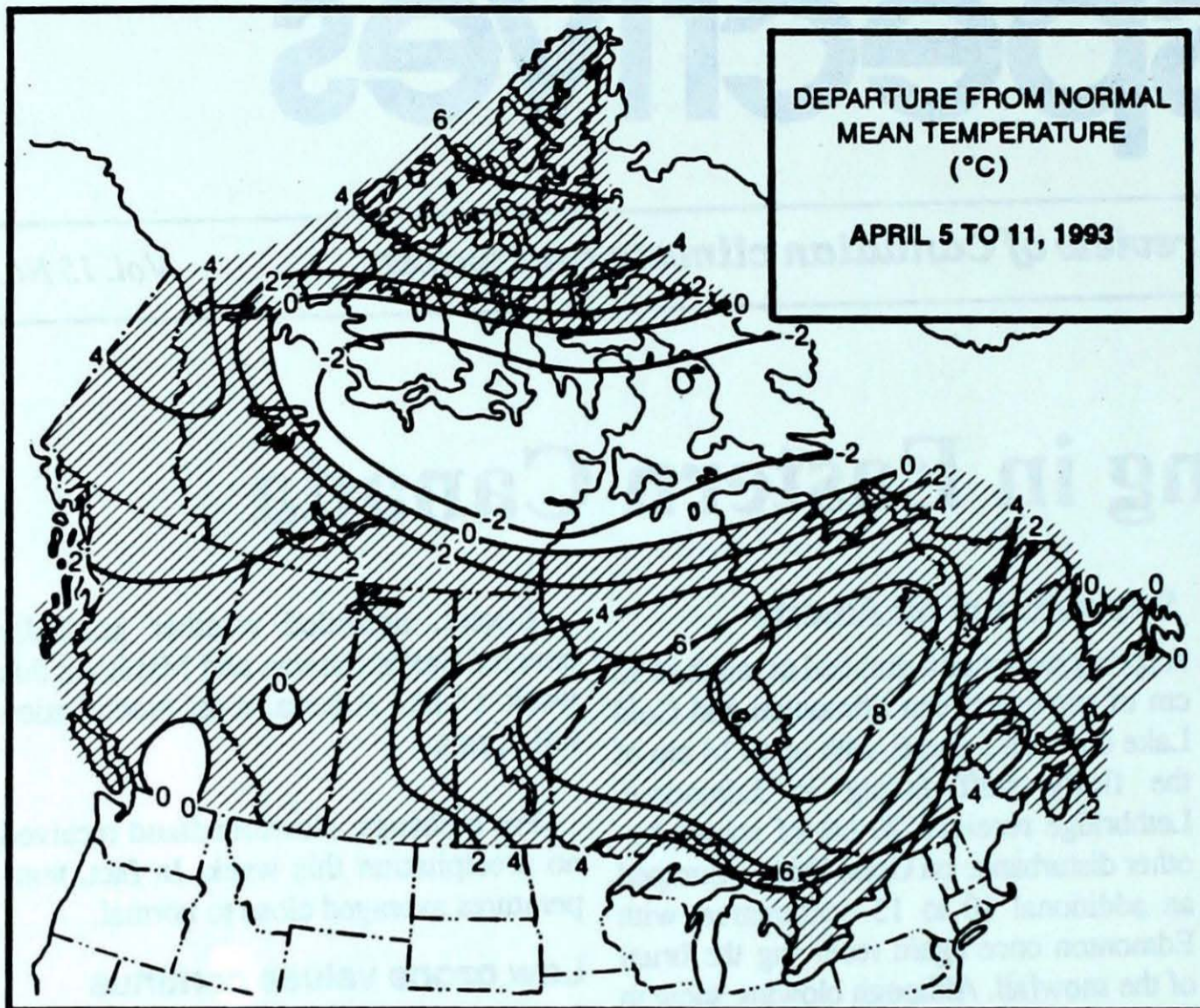
Low ozone values continue

Throughout the month of March, ozone values from the Canadian Ozone Monitoring Network remained persistently low. This week, a new record-low measurement was reported for Toronto. Low ozone levels result in unusually high levels of ultra violet radiation or UV. The UV under sunny skies was more typical of mid-May, increasing the risk of sunburn. This week's ozone values are: Toronto, 24% below normal; Edmonton, 22% below normal; Goose Bay, 14% below normal; Churchill 22% below normal; Resolute Bay 25% below normal.

Scientists do not solely attribute low ozone levels to industrial chemicals, such as chlorofluorocarbons. Natural causes, such as volcanic debris and weather patterns are also a contributing factor.

A Look Ahead...

For the week of April 19, near to below-normal temperatures are expected for Ontario, Quebec and the Atlantic region. Elsewhere, near to above-normal temperatures are likely west of Ontario. Wet weather will occur over southern Ontario, southwestern Quebec and the Maritimes.



Weekly normal temperatures (°C)

| | max. | min. |
|---------------------------|-------|-------|
| Whitehorse A | 4.1 | -6.1 |
| Iqaluit A | -11.5 | -21.1 |
| Yellowknife A | -4.2 | -16.1 |
| Vancouver Int'l A | 12.3 | 4.2 |
| Victoria Int'l A | 12.5 | 3.3 |
| Calgary Int'l A | 8.9 | -3.5 |
| Edmonton Int'l A | 7.5 | -4.2 |
| Regina A | 7.3 | -3.6 |
| Saskatoon A | 6.8 | -3.6 |
| Winnipeg Int'l A | 6.2 | -4.2 |
| Ottawa Int'l A | 7.3 | -2.3 |
| Toronto (Pearson Int'l A) | 8.4 | -1.5 |
| Montréal Int'l A | 7.1 | -1.6 |
| Québec A | 5.0 | -3.7 |
| Fredericton A | 6.9 | -2.5 |
| Saint John A | 6.0 | -2.6 |
| Halifax (Shearwater) | 6.6 | -0.8 |
| Charlottetown A | 4.5 | -2.6 |
| Goose A | 1.0 | -7.6 |
| St John's A | 4.0 | -2.6 |

Weekly temperature and precipitation extremes

| | Maximum temperature (°C) | Minimum temperature (°C) | Heaviest precipitation (mm) |
|-----------------------|--------------------------|--------------------------|-----------------------------|
| British Columbia | Kamloops A 19 | Dease Lake -8 | Port Alberni A 82 |
| Yukon Territory | Whitehorse A 9 | Komakuk Beach A -24 | Whitehorse A 1 |
| Northwest Territories | Fort Smith A 8 | Hall Beach A -34 | Fort Smith A 10 |
| Alberta | Lethbridge A 17 | High Level A -9 | Lac La Biche (aut) 52 |
| Saskatchewan | La Ronge A 14 | Uranium City A -11 | Meadow Lake A 17 |
| | Prince Albert A 14 | | |
| Manitoba | Island Lake 15 | Churchill A -23 | Lynn Lake A 5 |
| Ontario | Port Weller (aut) 19 | Lansdowne House -13 | Ottawa Int'l A 30 |
| | Windsor A 19 | | |
| Quebec | Québec A 17 | Inukjuak A -22 | Chibougamau Chapais a 32 |
| New Brunswick | Fredericton A 17 | Moncton A -9 | St Stephen (aut) 15 |
| Nova Scotia | Truro 17 | Amherst (aut) -7 | Yarmouth A 1 |
| Prince Edward Island | Charlottetown A 14 | Charlottetown A -9 | East Point (aut) 2 |
| Newfoundland | Goose A 17 | Churchill Falls A -18 | Wabush Lake A 12 |

Across The Country...

| | |
|--------------------------|------------------------------|
| Highest Mean Temperature | Lytton (B.C.) 10 |
| Lowest Mean Temperature | Cambridge Bay A (N.W.T.) -26 |

CLIMATIC PERSPECTIVES
VOLUME 15

Managing editor *A. Saulesleja*
Editor English version *Andrew Radomski*
French version . . . *Alain Caillet*
Long-range forecasts *Aaron Gergy*
Data manager *M. Skarpathiotakis*
Computer support *Robert Eals*
Art layout *K. Czaja*
Translation *D. Pokorn*
Cartography *T. Chivers*

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☎ (416) 739-4438/4330
Network Email:

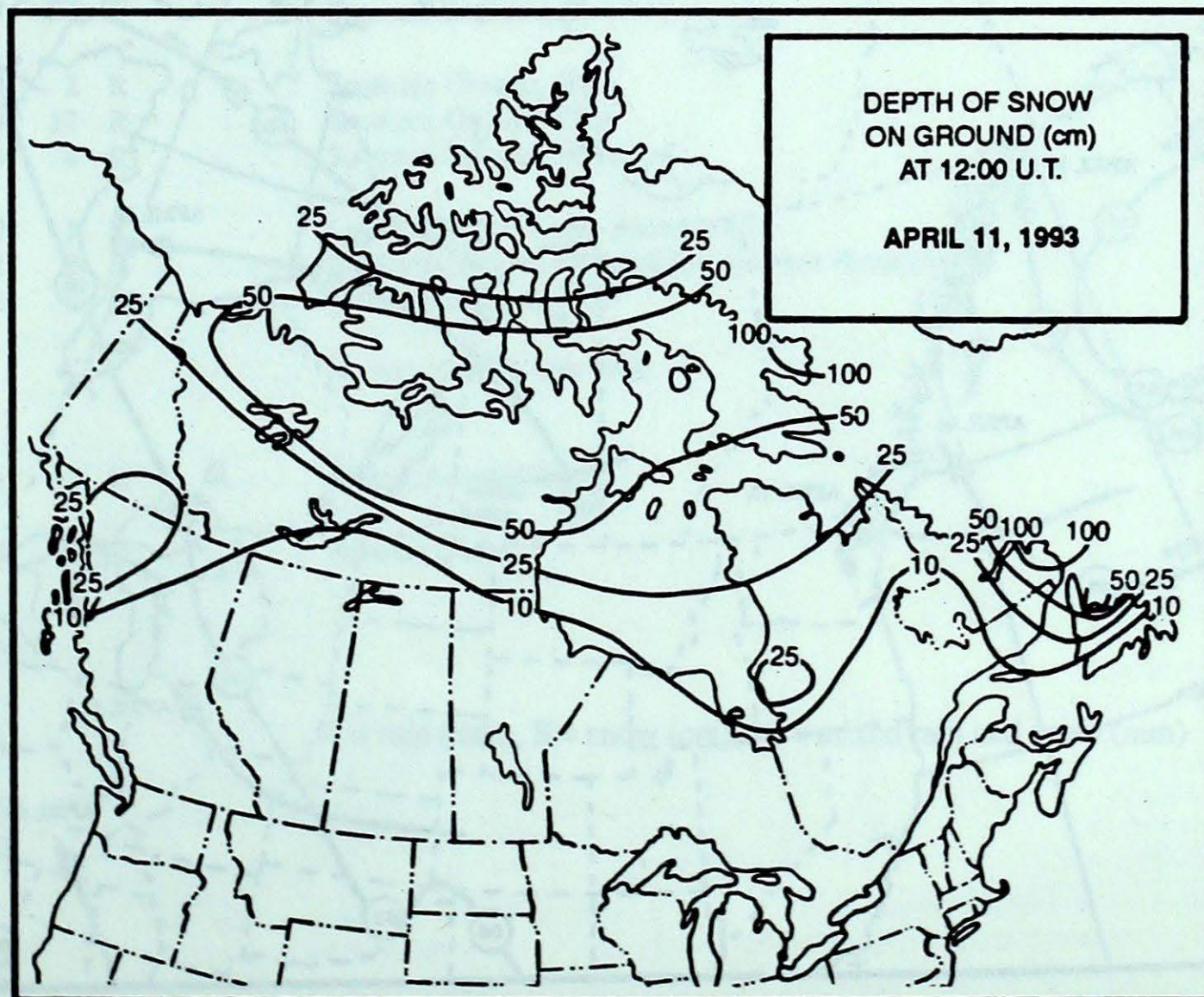
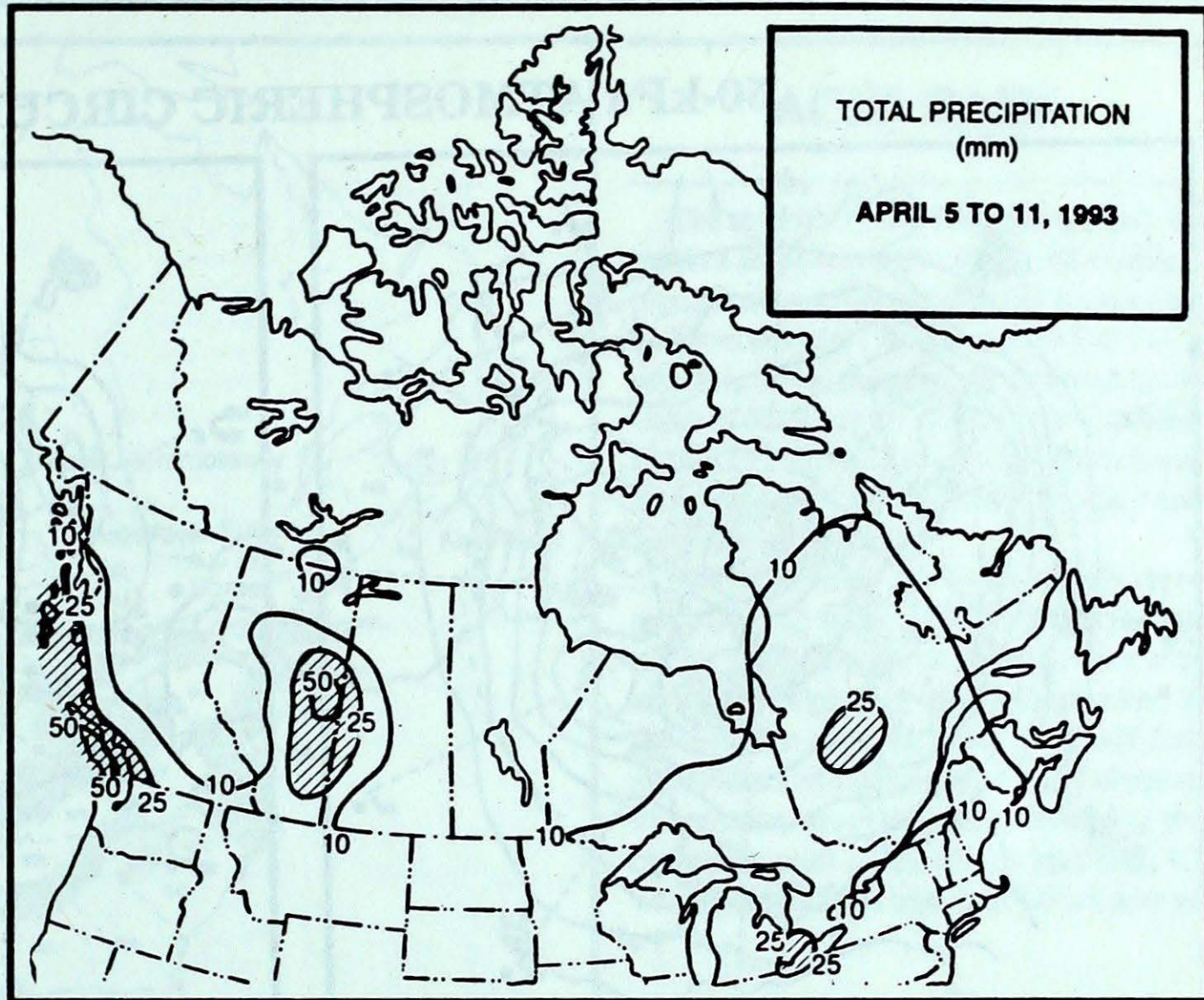
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The purpose of the publication is to make topical information available to the public concerning the Canadian Climate and its socio-economic impact.

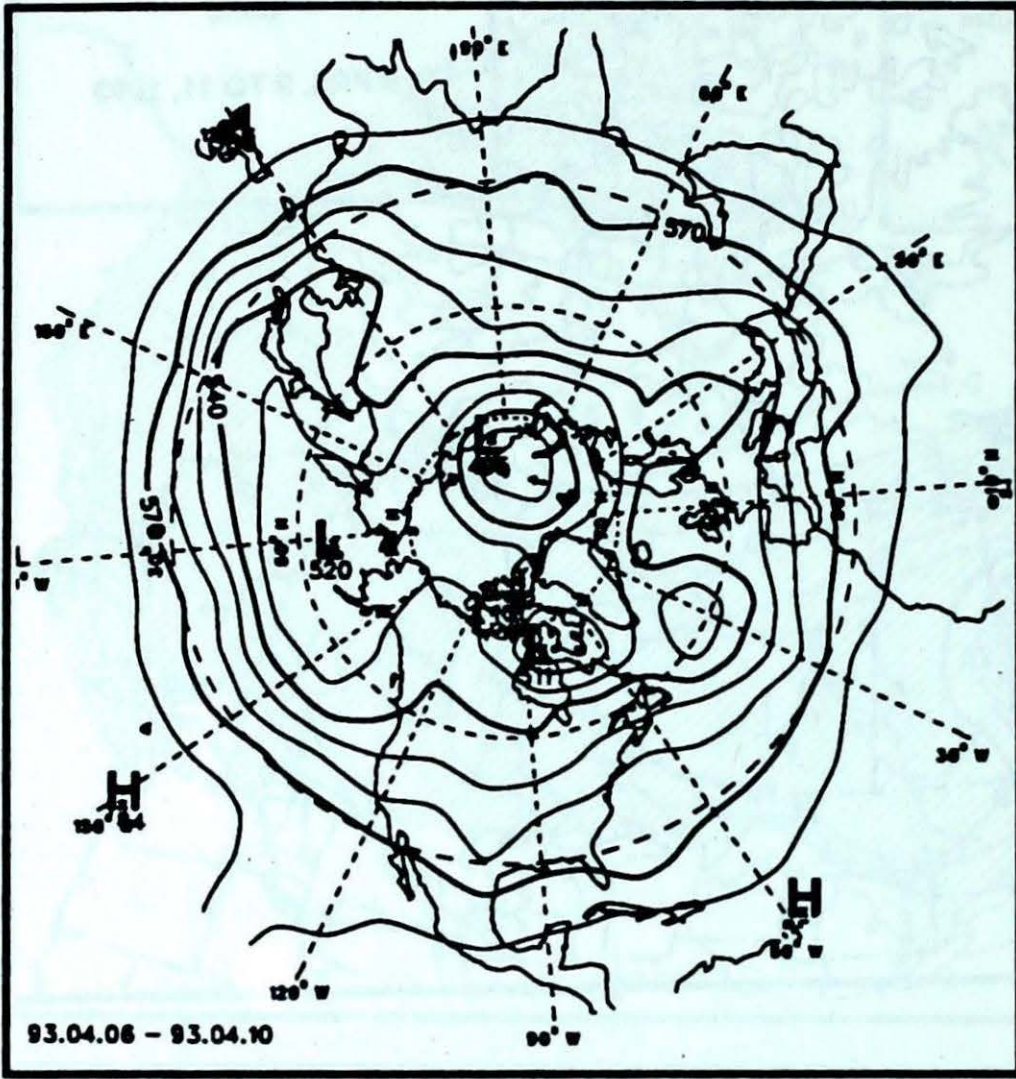
The data in this publication are based on unverified reports from approximately 225 Canadian synoptic weather stations. Information concerning climatic impacts is gathered from AES contacts with the public and from the media. Articles do not necessarily reflect the views of the Atmospheric Environment Service.

Annual Subscriptions
and changes:

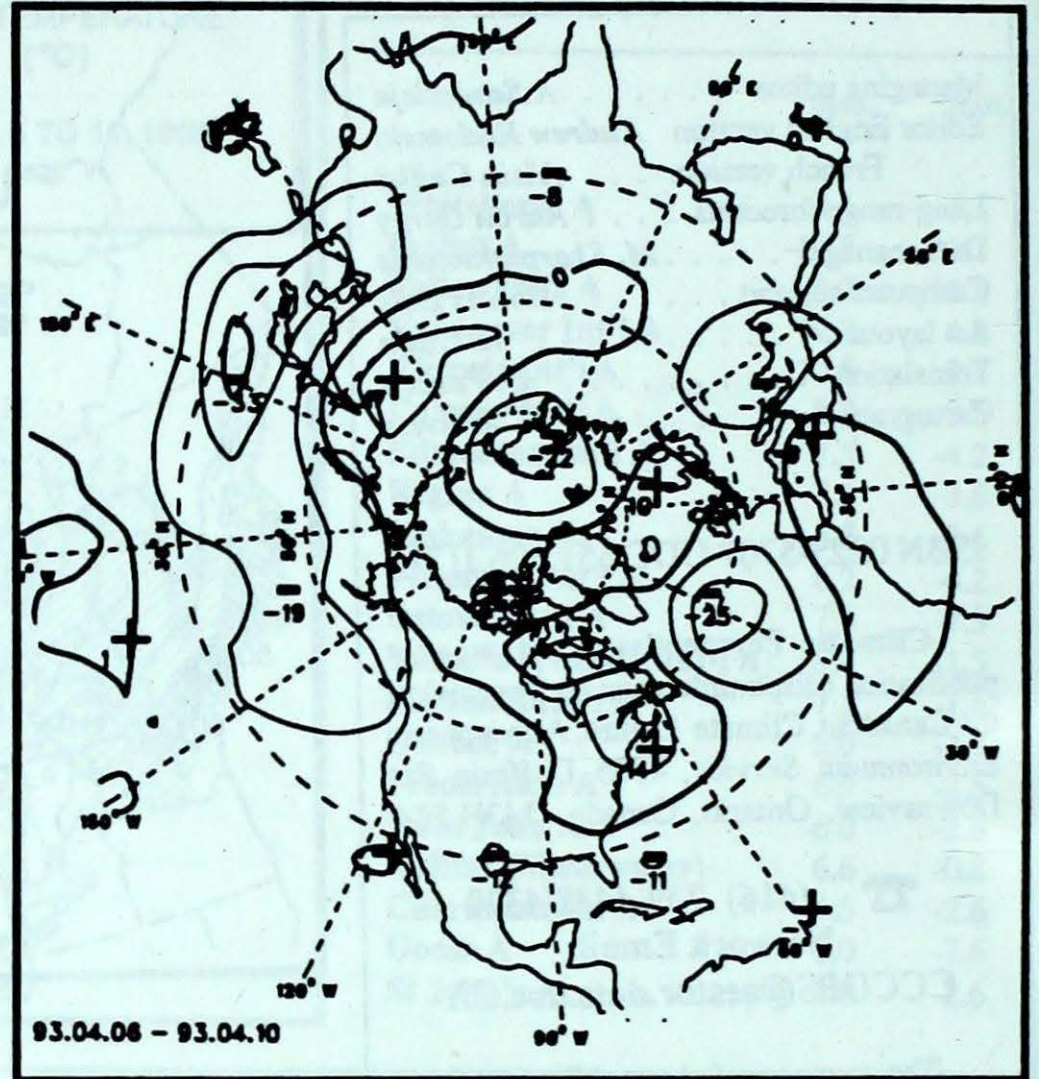
Albert Wright (416) 739-4446



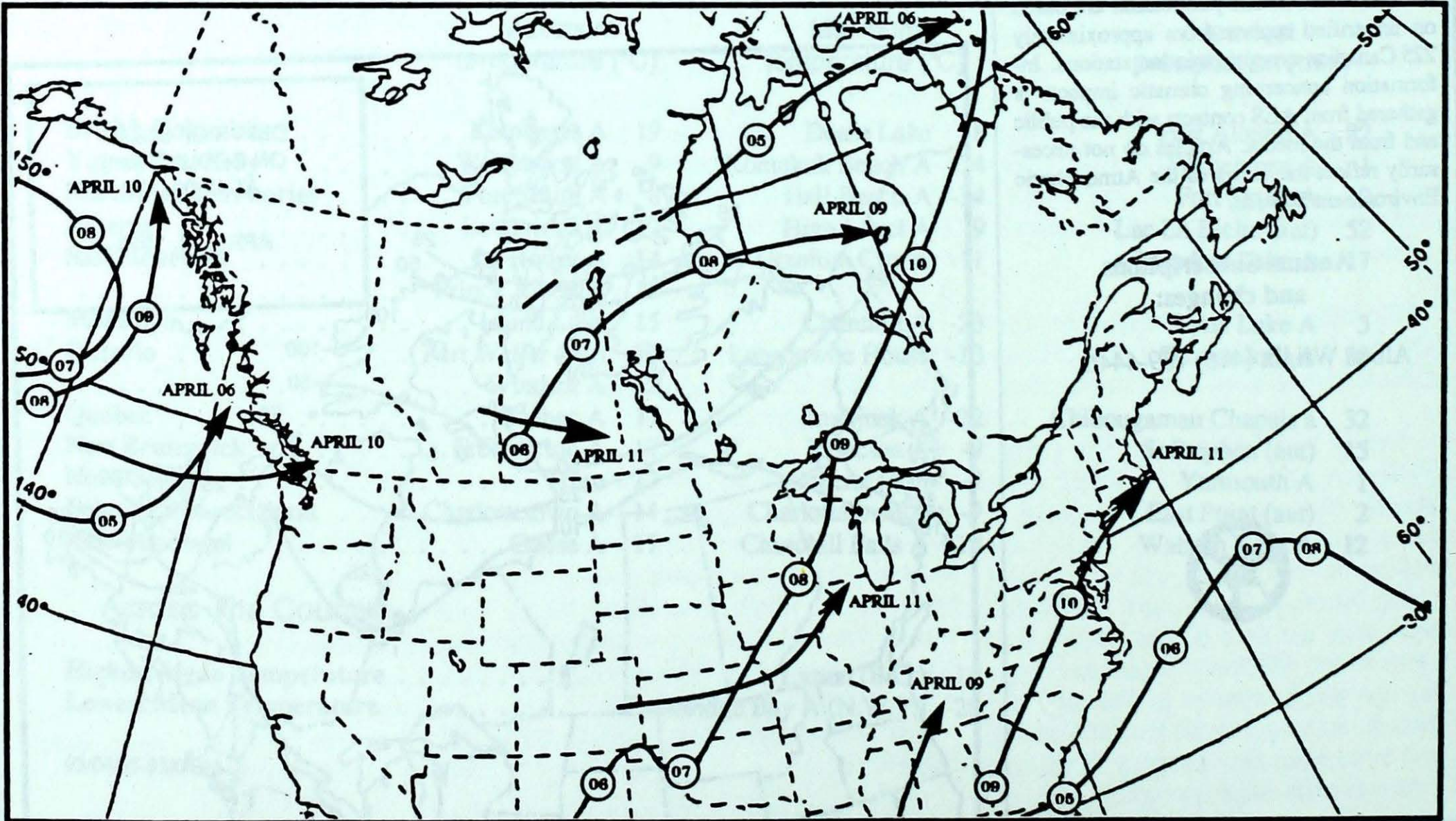
50-kPa ATMOSPHERIC CIRCULATION



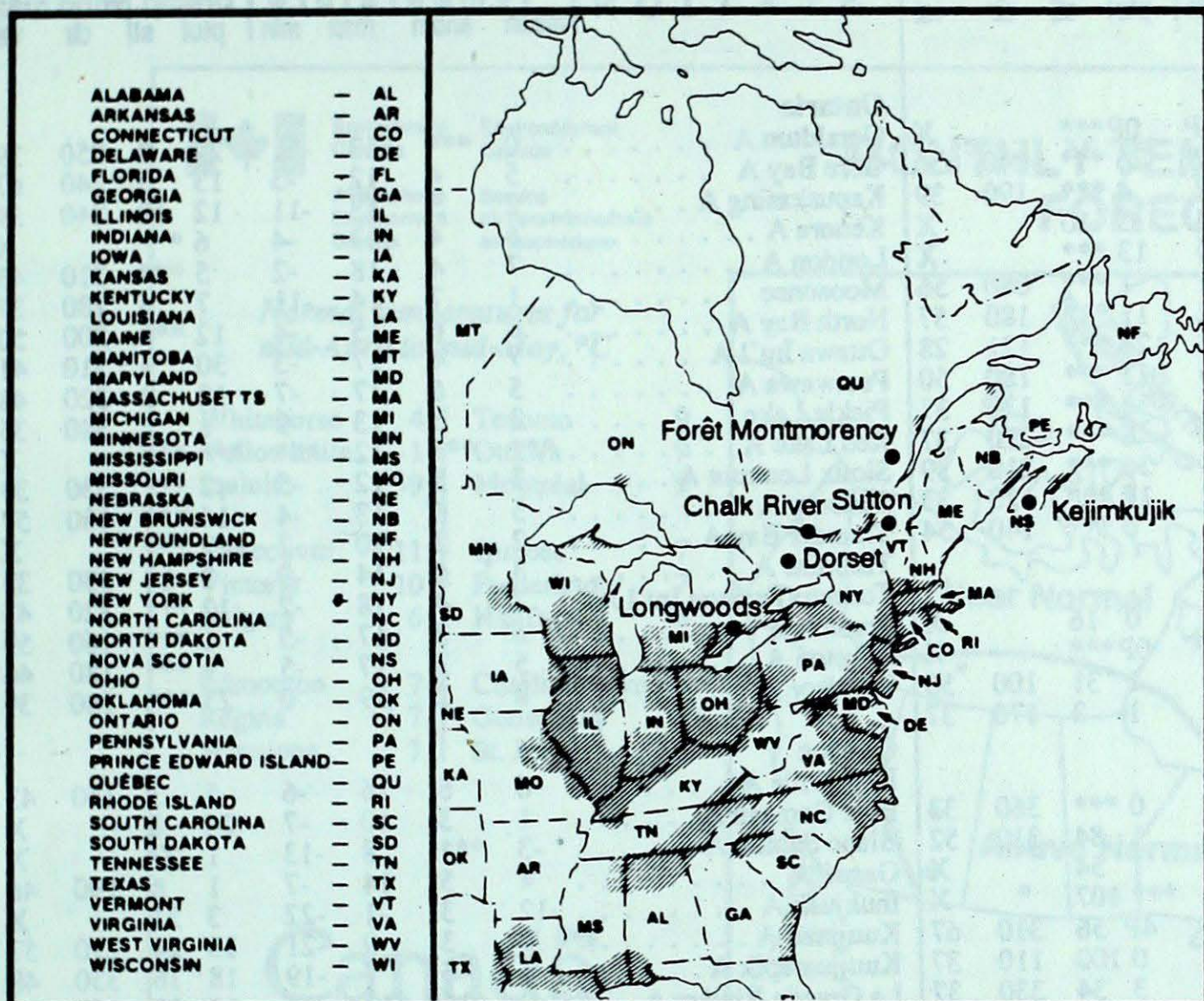
Mean geopotential height
50-kPa level (10 decametre intervals)



Mean geopotential height anomaly
50-kPa level (10 decametre intervals)



Tracks of low pressure centres at 12:00 U.T. each day during the period.



ACID RAIN

The reference map (left) shows the locations of sampling sites, where the acidity of precipitation is monitored. All are operated by Environment Canada except Dorset (*), which is a research station operated by the Ontario Ministry of Environment and Energy. The map also shows the approximate areas (shaded), where SO₂ and NO_x emissions are greatest.

The table below gives the weekly report summarizing the acidity (or pH) of the acid rain or snow that fell at the collection sites, and a description of the path travelled by the moisture laden air. Environmental damage to lakes and streams is usually observed in sensitive areas regularly receiving precipitation with pH readings less than 4.7, while pH readings less than 4.0 are serious.

| SITE | day | pH | amount | AIR PATH TO SITE |
|------|-----|----|--------|------------------|
|------|-----|----|--------|------------------|

April 4 to 10, 1993

| | | | | |
|-------------|----|-----|------|--|
| Longwoods | | | | Data not available this week |
| Dorset * | 08 | 3.7 | 2 R | Southern Ontario, Ohio |
| | 09 | 3.9 | 17 R | Southern Ontario, Ohio |
| | 10 | 4.4 | 4 R | Southern Ontario, Michigan |
| Chalk River | 08 | 4.0 | 1 R | Lake Ontario, western Pennsylvania |
| | 09 | 3.8 | 3 R | Southern Ontario, eastern Ohio, western Pennsylvania |
| | 10 | 4.2 | 8 R | Southern Ontario, Ohio |
| Sutton | | | | No precipitation this week |
| Montmorency | 10 | 5.1 | 32 R | Maine, Atlantic Ocean |
| Kejimikujik | 10 | 4.4 | 2 R | Atlantic Ocean |

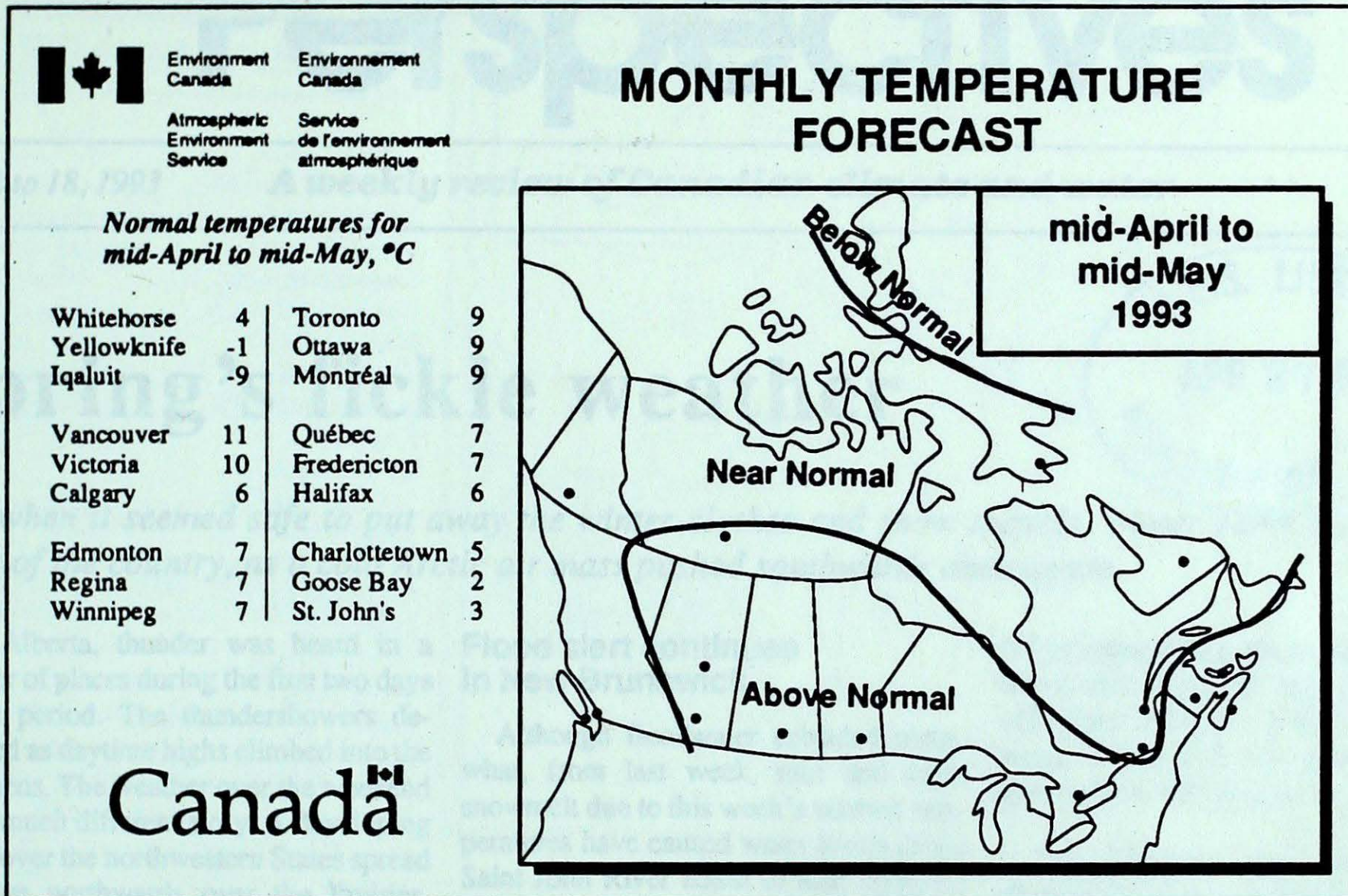
R = rain (mm), S = snow (cm), M = mixed rain and snow (mm)

| STATION | temperature | | | | precip. ptot | st | wind max | | STATION | temperature | | | | precip. ptot | st | wind max | |
|------------------------------|-------------|------|------|------|--------------|-----|----------|--------------------------|-----------------------------|-------------|------|-----|------|--------------|-----|----------|-----|
| | mean | anom | max | min | | | dir | vel | | mean | anom | max | min | | | dir | vel |
| British Columbia | | | | | | | | Ontario | | | | | | | | | |
| Blue River A | 6P | 2P | 14P | -6P | 0P*** | | | X | Geraldton A | 0 | *** | 12 | -11 | 24 | 8 | 350 | 39 |
| Comox A | 8 | 1 | 13 | 2 | 26 | *** | 140 | 56 | Gore Bay A | 5 | 4 | 12 | -3 | 13 | 3 | 240 | 67 |
| Cranbrook A | 6 | 1 | 15 | -2 | 4 | *** | 190 | 39 | Kapuskasing A | 2 | 5 | 13 | -11 | 12 | 10 | 240 | 39 |
| Fort Nelson A | 2 | 3 | 13 | -4 | 3 | 10 | | X | Kenora A | 4 | 4 | 12 | -4 | 6 | *** | | X |
| Fort St John A | 1 | -1 | 10 | -5 | 13 | *** | | X | London A | 7 | 4 | 18 | -2 | 5 | *** | 310 | 43 |
| Kamloops A | 8 | 0 | 19 | -1 | 1 | *** | 080 | 56 | Moosonee | 1 | 7 | 14 | -11 | 7 | 3 | 280 | 37 |
| Penticton A | 8 | 0 | 14 | -2 | 11 | *** | 180 | 57 | North Bay A | 6 | 6 | 15 | -4 | 12 | *** | 200 | 50 |
| Port Hardy A | 7 | 1 | 12 | 3 | 24 | *** | 121 | 28 | Ottawa Int'l A | 7 | 4 | 17 | -3 | 30 | 3 | 310 | 41 |
| Prince George A | 4 | 1 | 13 | -5 | 11 | *** | 180 | 50 | Petawawa A | 5 | 6 | 17 | -7 | 12 | 3 | 320 | 48 |
| Prince Rupert A | 6 | 1 | 13 | -1 | 36 | *** | 130 | 37 | Pickle Lake | 2 | 5 | 13 | -9 | 1 | 3 | 340 | 35 |
| Smithers A | 4 | 1 | 12 | -5 | 6 | *** | 210 | 37 | Red Lake A | *** | *** | 12 | *** | *** | *** | | X |
| Vancouver Int'l A | 9 | 1 | 14 | 3 | 36 | *** | 210 | 39 | Sioux Lookout A | 3 | 5 | 12 | -5 | 2 | *** | 330 | 39 |
| Victoria Int'l A | 8 | 0 | 15 | 2 | 17 | *** | 120 | 33 | Sudbury A | 5 | 6 | 13 | -4 | 16 | *** | 180 | 57 |
| Williams Lake A | 4 | 0 | 11 | -5 | 6 | *** | 140 | 54 | Thunder Bay A | 2 | 2 | 10 | -7 | 17 | *** | | X |
| Yukon Territory | | | | | | | | Québec | | | | | | | | | |
| Komakuk Beach A | -17 | 4 | -12 | -24 | 0 | 16 | | X | Bagotville A | 6 | 6 | 16 | -6 | 5 | 3 | 150 | 43 |
| Teslin (aut) | 1P | ***P | 8P | -6P | 0P | *** | | X | Baie Comeau A | 1 | 3 | 10 | -7 | 24 | 8 | | X |
| Watson Lake A | 1 | 3 | 7 | -9 | 1 | 31 | 100 | 50 | Blanc Sablon A | -3 | *** | 8 | -13 | 1 | 27 | | X |
| Whitehorse A | 2 | 3 | 9 | -9 | 1 | 3 | 170 | 37 | Gaspé A | 4 | 5 | 14 | -7 | 1 | 6 | 190 | 46 |
| Northwest Territories | | | | | | | | New Brunswick | | | | | | | | | |
| Alert | -26 | 2 | -20 | -31 | 0 | *** | 360 | 33 | Fredericton A | 6 | 4 | 17 | -8 | 1 | *** | 200 | 43 |
| Baker Lake A | -24 | -3 | -17 | -30 | 1 | 84 | 310 | 52 | Miscou Island (aut) | 1P | 2P | 7P | -7P | 0P | *** | | X |
| Cambridge Bay A | -26 | -1 | -19 | -32 | 1 | 54 | | X | Moncton A | 5 | 3 | 15 | -9 | 1 | *** | | X |
| Cape Dyer A | *** | *** | *** | *** | *** | 107 | | X | Saint John A | 4 | 3 | 14 | -7 | 6 | *** | 100 | 48 |
| Clyde A | -21P | -1P | -12P | -30P | 4P | 56 | 310 | 67 | St Leonard A | 5 | *** | 14 | -6 | 15 | 8 | 160 | 54 |
| Coppermine A | -25 | -4 | -11 | -33 | 0 | 100 | 110 | 37 | Nova Scotia | | | | | | | | |
| Coral Harbour A | -22 | -3 | -15 | -30 | 3 | 34 | 330 | 37 | Greenwood A | 6 | 3 | 17 | -6 | 1 | *** | 150 | 70 |
| Eureka | -22 | 10 | -13 | -34 | 1 | 18 | | X | Shearwater A | 4 | 1 | 14 | -3 | 1 | *** | 110 | 67 |
| Fort Smith A | -2 | 4 | 8 | -11 | 10 | 4 | | X | Sydney A | *** | *** | 13 | *** | *** | 3 | 150 | 41 |
| Hall Beach A | -25 | -2 | -16 | -34 | 4 | 59 | 290 | 44 | Yarmouth A | 6 | 3 | 16 | -4 | 1 | *** | 140 | 83 |
| Inuvik A | -13P | 5P | -2P | -23P | 2P | 67 | | X | Prince Edward Island | | | | | | | | |
| Iqaluit A | -20 | -4 | -7 | -29 | 4 | 24 | 330 | 69 | Charlottetown A | 4 | 3 | 14 | -9 | 1 | *** | 150 | 46 |
| Mould Bay A | -22 | 5 | -16 | -29 | 1 | 16 | | X | East Point (auto) | 1P | ***P | 10P | -6P | 2P | *** | | X |
| Norman Wells A | -7 | 4 | 4 | -16 | 1 | 12 | | X | Newfoundland | | | | | | | | |
| Resolute A | -21 | 5 | -13 | -28 | 1 | 16 | 020 | 59 | Cartwright | -2 | 2 | 12 | -17 | 1 | 150 | 210 | 65 |
| Yellowknife A | -7 | 3 | 1 | -16 | 6 | 18 | | X | Churchill Falls A | -1P | 8P | 12P | -18P | 2P | *** | 230 | 57 |
| Alberta | | | | | | | | 93/04/05-93/04/11 | | | | | | | | | |
| Calgary Int'l A | 4 | 1 | 11 | -4 | 3 | *** | 320 | 65 | Gander Int'l A | 2 | 2 | 13 | -6 | 1 | *** | 330 | 52 |
| Cold Lake A | 2 | 0 | 6 | -3 | 34 | 3 | 020 | 37 | Goose A | 2 | 5 | 17 | -13 | 1 | 10 | 230 | 50 |
| Edmonton Namao A | 2 | -1 | 9 | -6 | 34 | 4 | 320 | 41 | Stephenville A | 1 | 0 | 10 | -8 | 1 | 9 | 120 | 37 |
| Fort McMurray A | 0 | 0 | 8 | -4 | 14 | *** | | X | St John's A | 0 | 0 | 12 | -8 | 1 | 3 | 280 | 50 |
| Grande Prairie A | 3 | 2 | 13 | -3 | 1 | *** | 290 | 39 | St Lawrence | 1 | 1 | 10 | -8 | 1 | *** | | X |
| High Level A | 0 | 1 | 12 | -9 | 7 | 3 | 340 | 32 | Wabush Lake A | 1 | 10 | 12 | -13 | 12 | 6 | 180 | 46 |
| Lethbridge A | 6 | 1 | 17 | -5 | 24 | *** | 260 | 72 | | | | | | | | | |
| Medicine Hat A | 6 | 1 | 15 | -2 | 26 | *** | 280 | 63 | | | | | | | | | |
| Peace River A | 2 | 1 | 12 | -5 | 10 | *** | | X | | | | | | | | | |
| Saskatchewan | | | | | | | | | | | | | | | | | |
| Cree Lake | -1 | 3 | 5 | -6 | 8 | 4 | 070 | 44 | | | | | | | | | |
| Estevan A | 5 | 2 | 13 | -6 | 6 | *** | 140 | 63 | | | | | | | | | |
| La Ronge A | 2 | 4 | 14 | -2 | 5 | *** | 260 | 41 | | | | | | | | | |
| Regina A | 4 | 2 | 13 | -5 | 6 | *** | 140 | 63 | | | | | | | | | |
| Saskatoon A | 3 | 1 | 12 | -5 | 13 | *** | 120 | 46 | | | | | | | | | |
| Swift Current A | 3 | 1 | 13 | -5 | 4 | *** | 240 | 69 | | | | | | | | | |
| Yorkton A | 3 | 3 | 12 | -4 | 7 | 4 | 140 | 48 | | | | | | | | | |
| Manitoba | | | | | | | | | | | | | | | | | |
| Brandon A | 3 | 3 | 12 | -3 | 1 | *** | 150 | 61 | | | | | | | | | |
| Churchill A | -11 | 3 | 3 | -23 | 0 | 7 | 010 | 46 | | | | | | | | | |
| Lynn Lake A | -1 | 4 | 9 | -10 | 5 | 8 | | X | | | | | | | | | |
| The Pas A | 3 | 6 | 12 | -6 | 1 | *** | 150 | 56 | | | | | | | | | |
| Thompson A | -1 | 6 | 14 | -13 | 1 | *** | 170 | 33 | | | | | | | | | |
| Winnipeg Int'l A | 4 | 3 | 13 | -6 | 1 | *** | 020 | 41 | | | | | | | | | |

mean = mean weekly temperature, °C
 max = maximum weekly temperature, °C
 min = minimum weekly temperature, °C
 anom = mean temperature anomaly, °C

ptot = weekly precipitation total in mm
 st = snow thickness on the ground in cm
 dir = direction of max wind, deg. from north.
 vel = wind speed in km/h

— Annotations —
 X = no observation
 P = less than 7 days of data
 * = missing data when going to printing.



Did you know that a single driver in a car produces up to six times as much carbon dioxide as a rider on public transit? Be an environmental citizen! Use car pools, take the bus, ride a bike, or walk.

An environmental citizenship message from Environment Canada

