Environment Canada Environnement Canada

Climatic Perspectives

April 1 to 7, 1991 — A weekly review of Canadian climate and water — Vol.13 No.14

Record warmth invades a large portion of the country

A southwesterly circulation and a northward shift in the storm track allowed a record warm air mass to penetrate into southern Canada this week.

Last week's cool and unsettled weather conditions across the eastern half of the country gradually gave way, as a moderating trend moved in from western Canada. Record warm temperatures in Saskatchewan and Manitoba earlier in the week reached Ontario and Quebec in time for the weekend, when daytime readings soared to the record twenties. On the Prairies dozens of daily high temperature records were broken. In Winnipeg, records dating back to 1872, indicate that there has never been a warmer first week in April. In Ontario, at least twenty daily temperature records were broken on April 7. The hot spot was at Petawawa, Ontario, with a high of 29.0°C, eclipsing the former high of 19.6°C set in 1980.

Heavy snow blankets Edmonton

A snowstorm hit the Edmonton area on April 6, dumping 36 cm of the white stuff. What is most surprising is that the heavy snowfall only occurred within a 50 km radius of the city. When compared to the record books, which incidently date back to 1880, this event stands out as Edmonton's second greatest April snowfall. As the storm moved eastwards, it generated additional heavy snowfalls across central Manitoba.

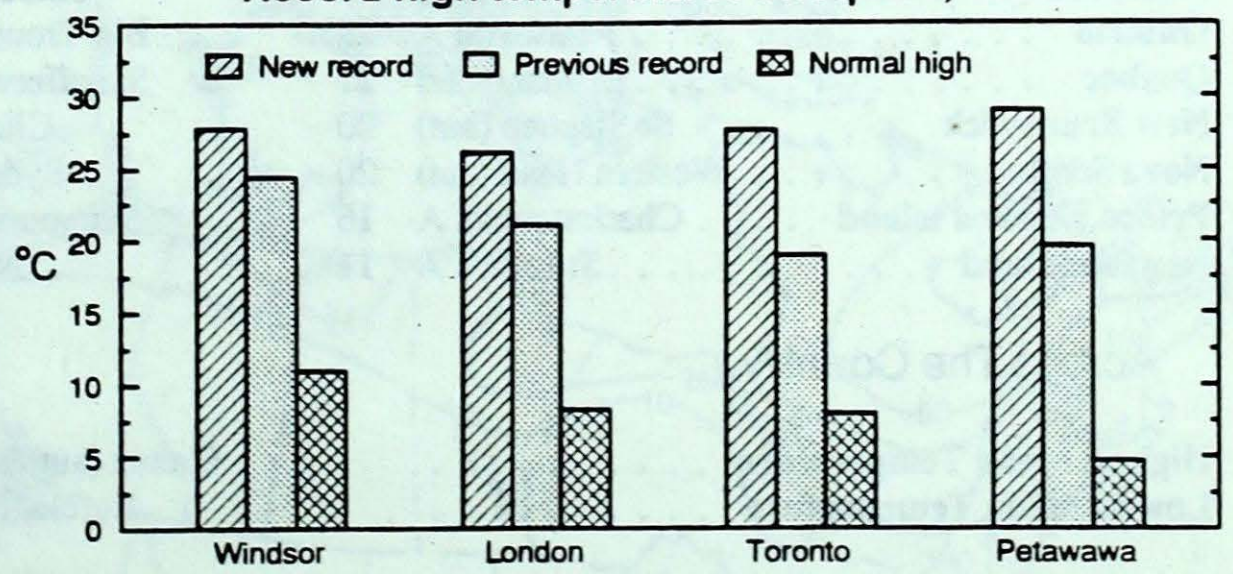
Updated Prairie agriculture outlook

Generally, mild weather conditions since mid-January have resulted in above average snowpack loses on the Prairies this winter season, and as a result, in the last few weeks there has been little or no snow cover left. Fortunately there was a significant snowfall across most of the southern agricultural districts towards the end of March. The additional moisture provided by this snow will help germination during the upcoming growing season, but the record warm temperatures this week will cause more evaporation and not help the moisture situation. Even with near normal precipitation falling in the next few weeks, runoff projections for local streams and rivers remain low. Luckily, the mountain snowpack is well above average in the Rockies. This should provide above normal runoff on most major river basins later in the spring, and improve the water supply situation for irrigation purposes in Alberta. Lake Diefenbaker, a major reservoir in Saskatchewan, is expected to fill completely this summer.

A look ahead ...

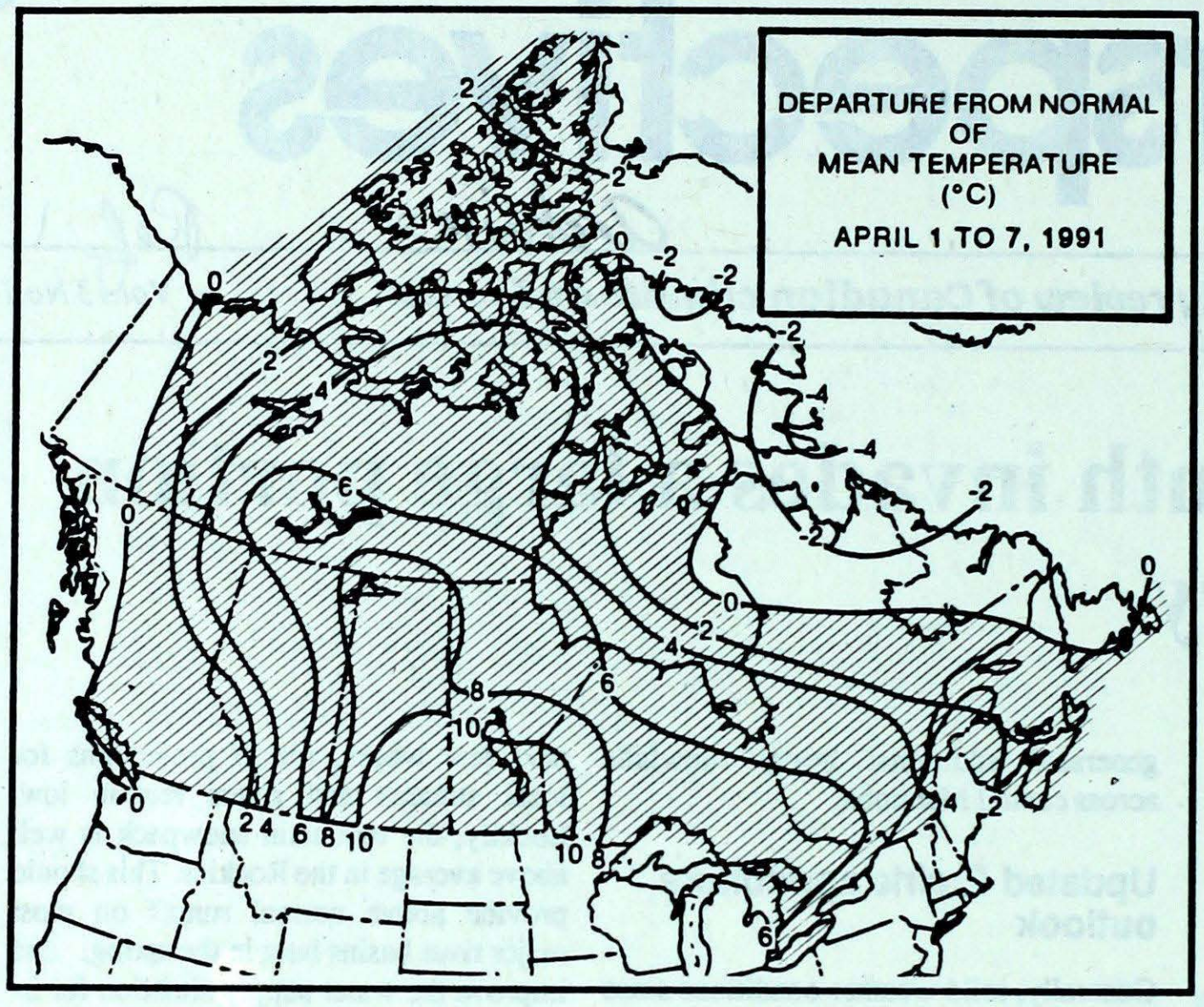
The high pressure area, which was over central Canada, will move eastward over the Great Lakes Basin, bringing for the week of April 15, above normal temperatures for all the regions east of Alberta. For the same period, B.C., Alberta and the Yukon will experience near normal to below normal readings.

Record high temperatures on April 7, 1991



Under mainly sunny skies daytime maximum temperatures soared to new record daily high values in Ontario on April 7, 1991.

Canada



Weekly normal temperatures (°C)

	max.	min.
Whitehorse A	3.3	-6.9
Iqaluit A	-12.0	-21.9
Yellowknife A	-6.3	-18.7
Vancouver Int'l A	11.9	3.7
Victoria Int'l A	12.1	3.1
Calgary Int'l A	7.6	-4.8
Edmonton Int'l A	5.4	-6.0
Regina A	5.0	-5.7
Saskatoon A	4.5	-6.0
Winnipeg Int'l A	3.7	-6.0
Ottawa Int'l A	5.9	-2.7
Toronto (Pearson Int'l A)	7.6	-1.6
Montréal Int'l A	6.0	-2.0
Québec A	4.0	-4.3
Fredericton A	6.5	-3.1
Saint John A	5.5	-3.3
Halifax (Shearwater)	6.3	-1.3
Charlottetown A	4.0	-3.3
Goose A	0.7	-8.5
St John's A	3.1	-3.5

Weekly temperature and precipitation extremes

	Maximum temperature (°C)		Minimum temperature (°C)		Heaviest precipitation (mm)	
British Columbia	Kamloops A	19	Dease Lake	-12	Hope A	120
Yukon Territory	Watson Lake A	7	Komakuk Beach A	-35	Shingle Point A	1
Northwest Territories	Fort Simpson A	12	Eureka	-36	Shepherd Bay A	14
Alberta	Medicine Hat A	22	Banff (aut)	-8	Edmonton Int'l A	50
Saskatchewan	Estevan A	24	Uranium City A	-15	Nipawin A	17
Manitoba	Gretna (aut)	24	Churchill A	-17	Thompson A	27
Ontario	Petawawa A	29	Big Trout Lake	-27	North Bay A	14
Québec	Maniwaki	27	Schefferville A	-31	La Grande IV A	22
New Brunswick	St Stephen (aut)	20	Charlo A	-13	Fredericton A	15
Nova Scotia	Western Head (aut)	20	Sydney A	-7	Sable Island	18
Prince Edward Island	Charlottetown A	16	Summerside A	-8	Charlottetown A	10
Newfoundland	St John's A	11	Nain A	-25	Comfort Cove	19

Across The Country...

Highest Mean Temperature	Gretna (aut)(MAN)	12
Lowest Mean Temperature	Eureka(NWT)	-30

91/04/01-91/04/07

CLIMATIC PERSPECTIVES
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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.

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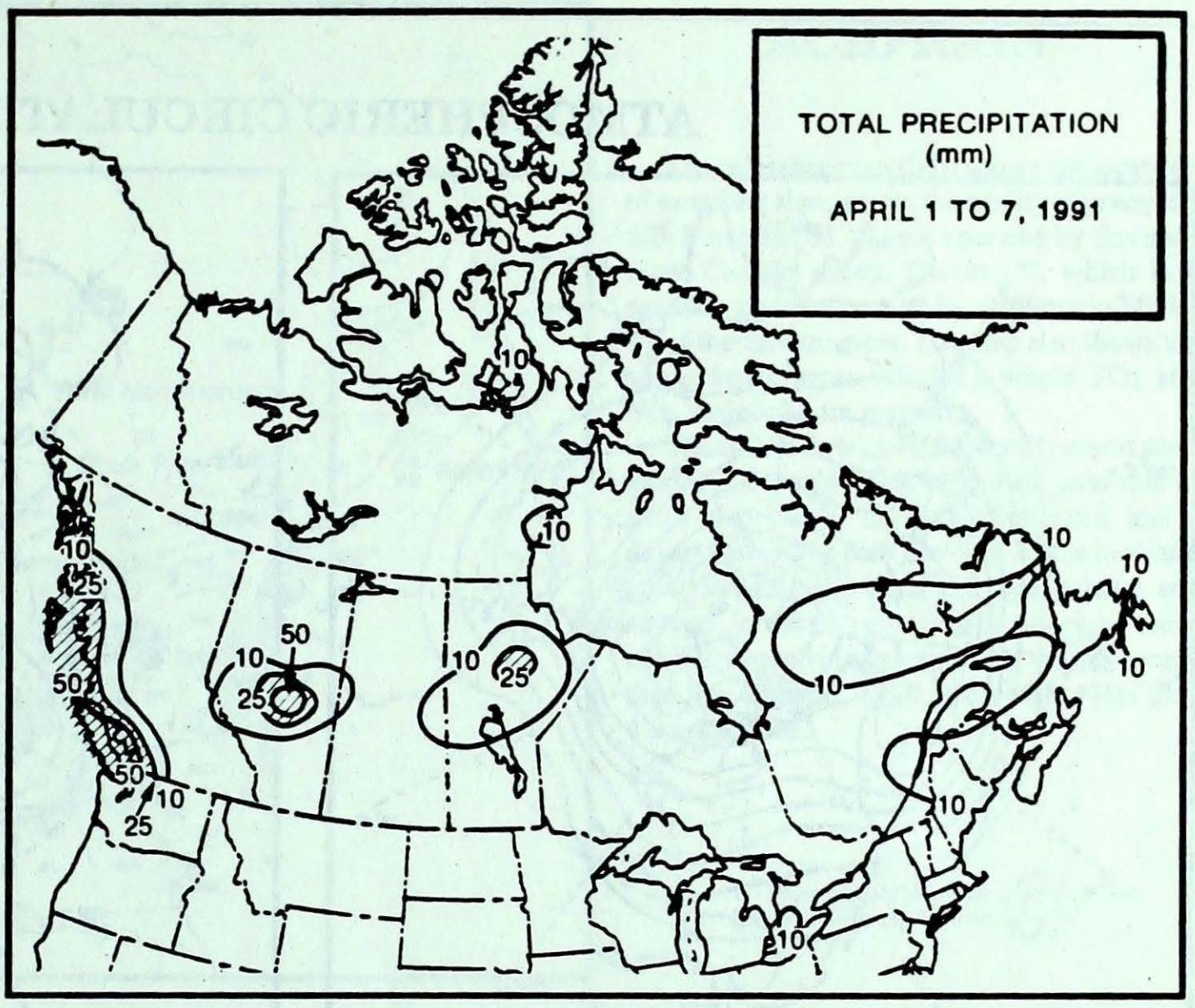
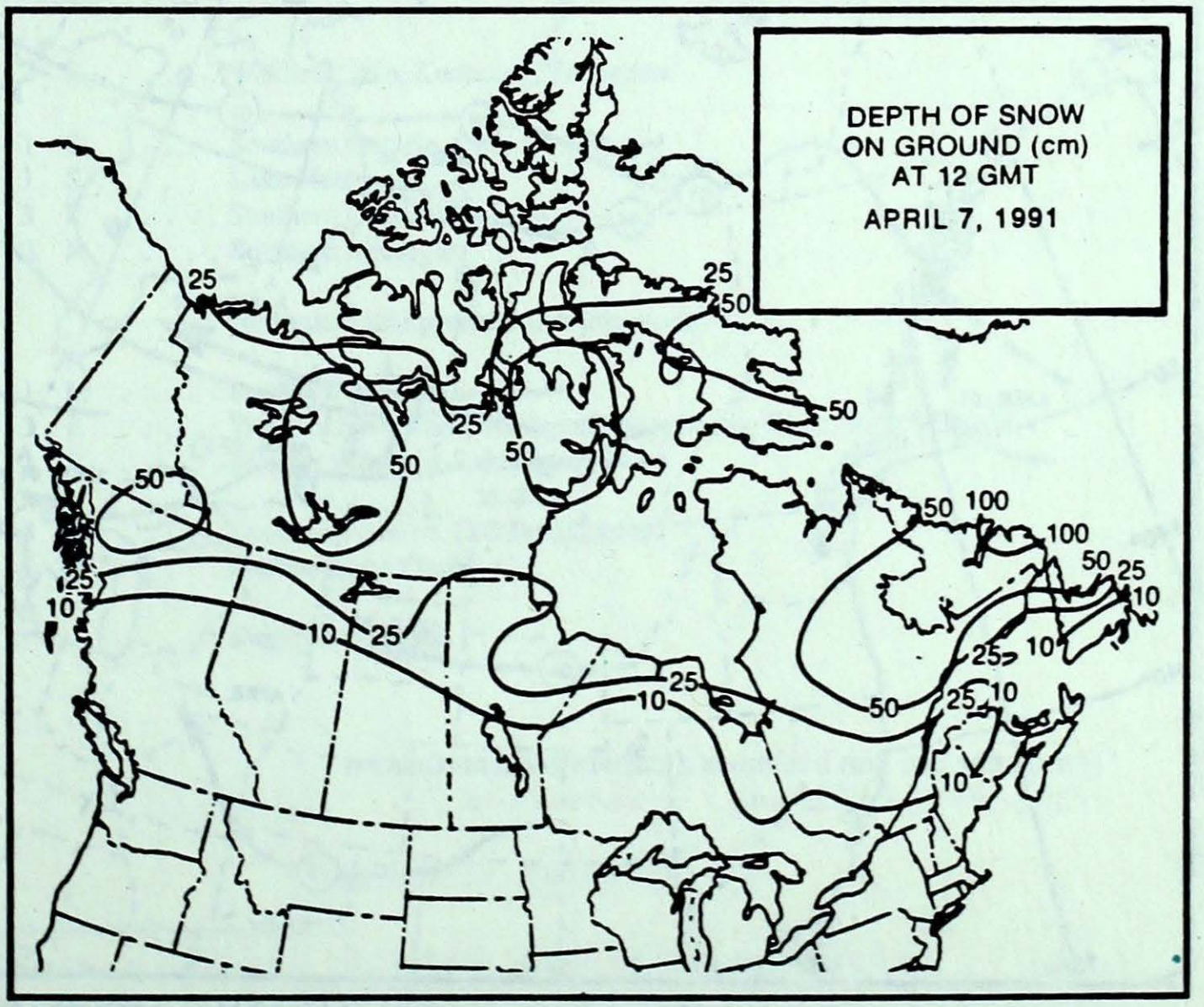
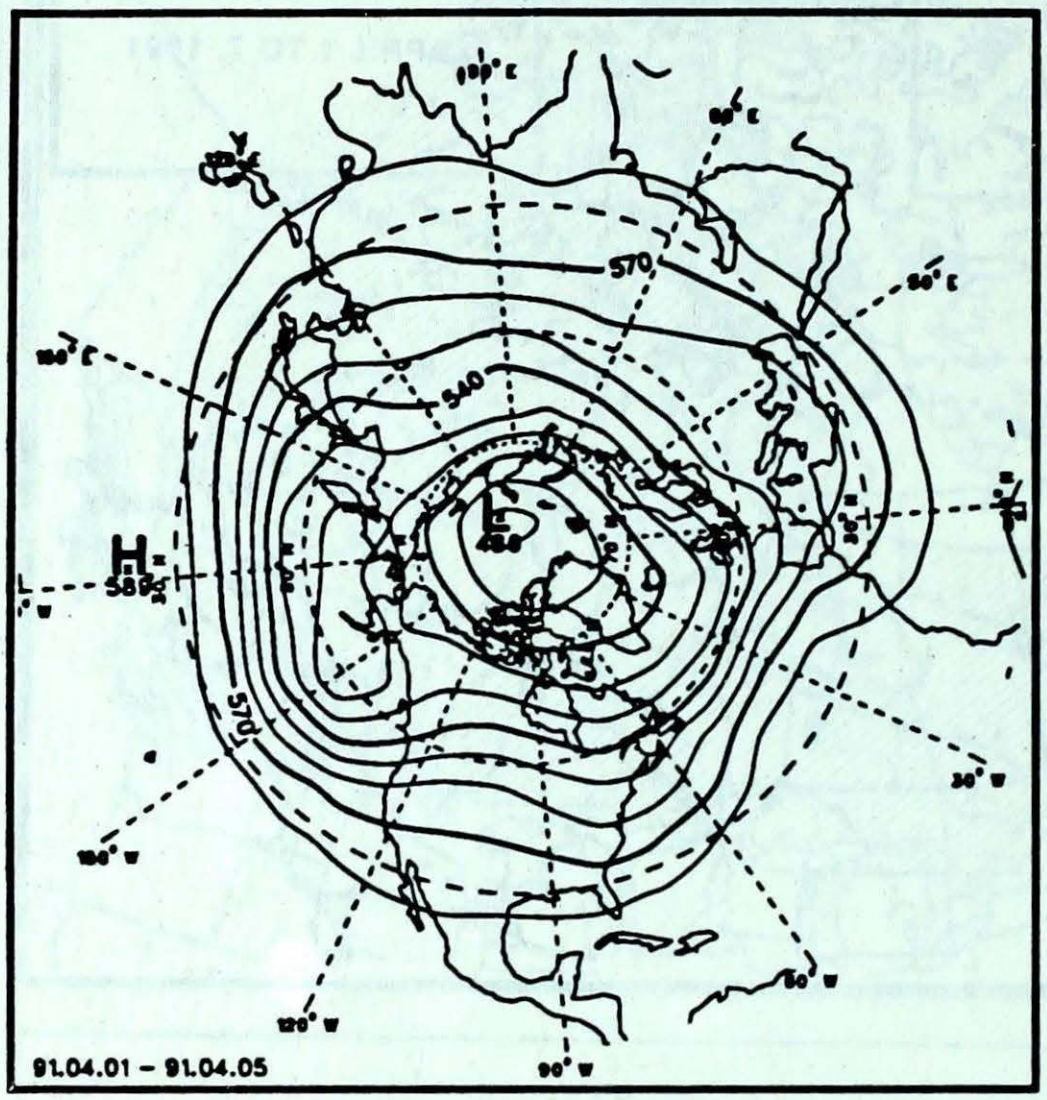
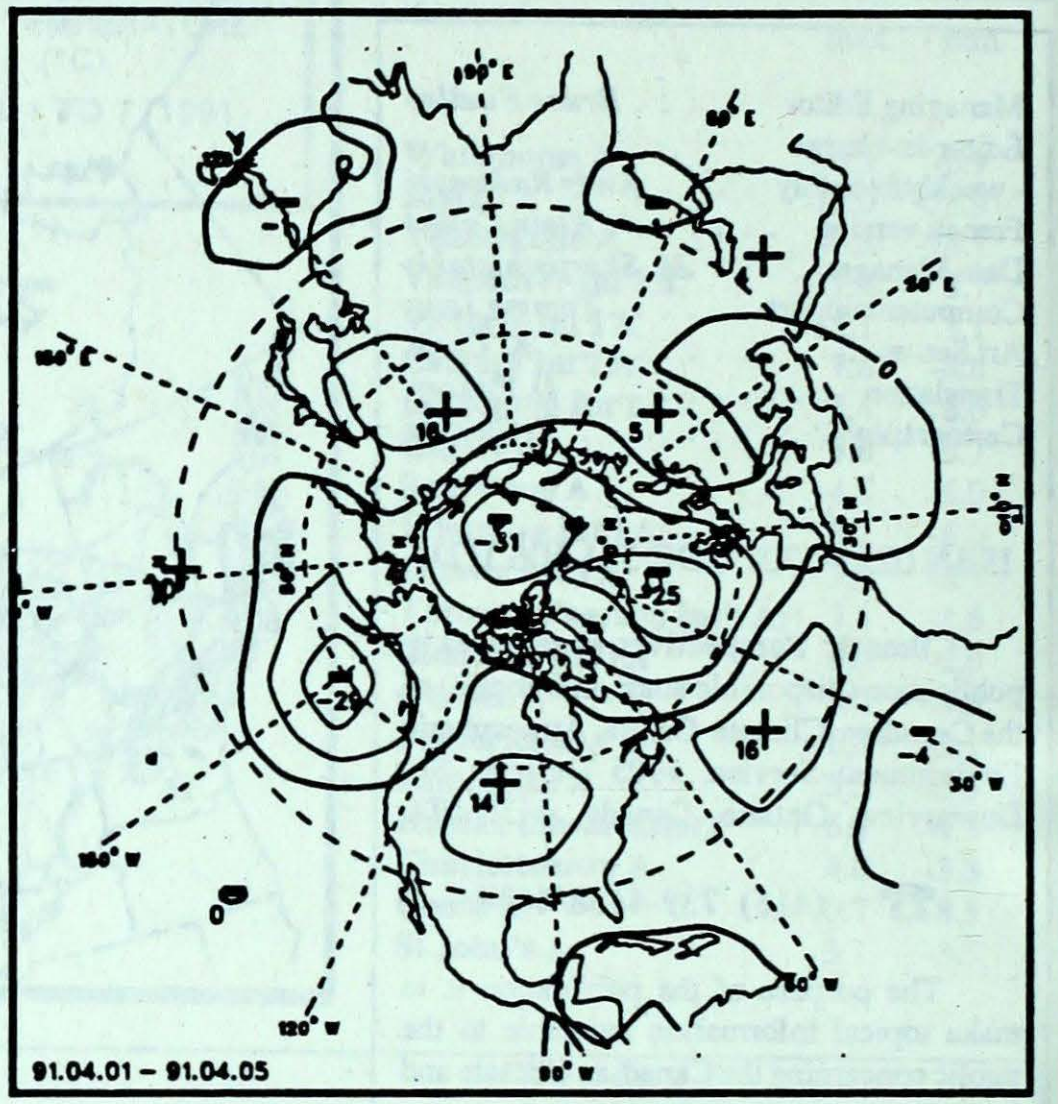




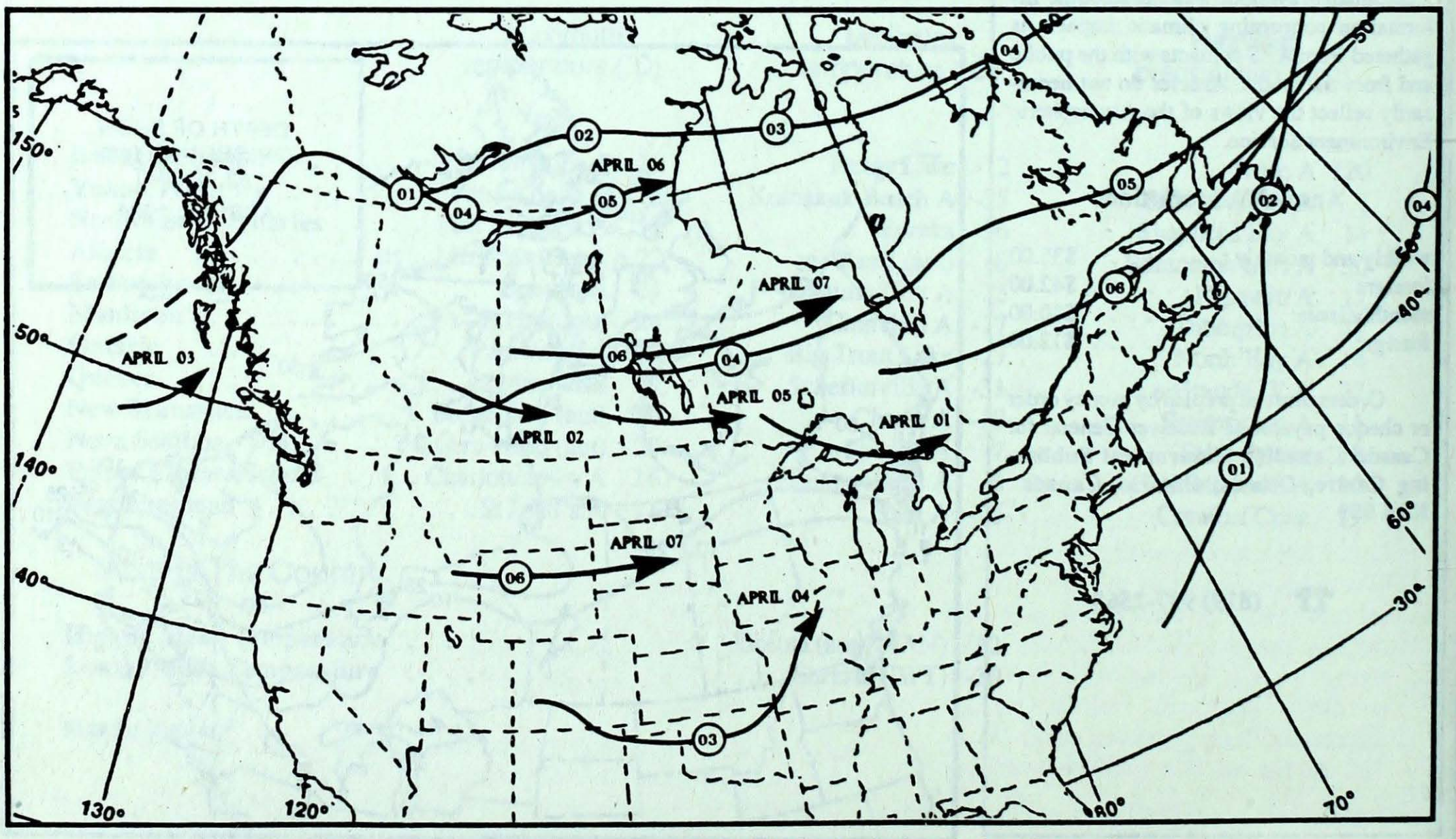
ATMOSPHERIC CIRCULATION



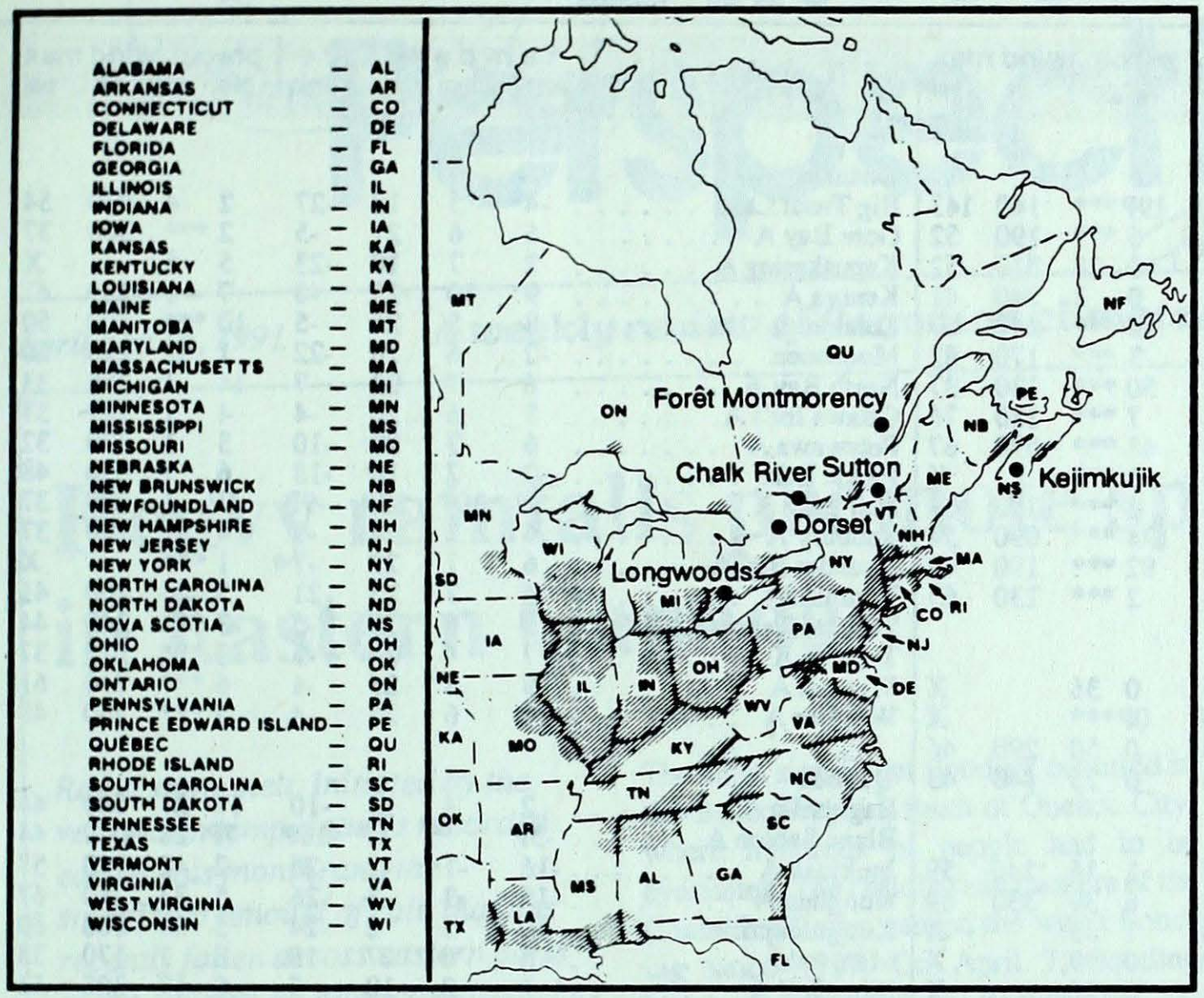
Mean geopotential height
50-kPa level (10-decametre intervals)



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 the Environment. The map also shows the approximate areas (shaded), where SO_2 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

March 31 to April 6, 1991

Longwoods	04	3.5	3	R	. . . . . Western Ohio, Kentucky, Tennessee
Dorset*	31	3.9	1	S	. . . . . Southern Ontario, Ohio
	01	4.0	1	S	. . . . . Lake Huron
	04	3.8	3	R	. . . . . Southern Ontario, Ohio
	06	5.8	2	R	. . . . . Southern Michigan
Chalk River					. . . . . No measurable precipitation this week
Sutton	02	4.0	1	M	. . . . . Southern Quebec
	05	3.9	3	R	. . . . . Western New York, Western Pennsylvania, Ohio, West Virginia
	06	4.6	1	R	. . . . . Southern Ontario, Lake Ontario
Montmorency	05	4.0	3	R	. . . . . Southern Quebec, Southern Ontario
	06	4.3	1	R	. . . . . Northwestern Quebec
Kejimkujik					. . . . . Data not available

r=rain(mm), s=snow(cm), m=mixed rain and snow(mm)

STATION	temperature mean	anom	max	min	precip. ptot	st	wind max dir	vel
British Columbia								
Cape St James	6P	0P	10P	3P	19P	***	140	143
Cranbrook A	5	1	14	-3	6	***	190	52
Fort Nelson A	2	4	11	-8	0	28	310	52
Fort St John A	3	3	9	-3	0	1	240	41
Kamloops A	11P	3P	19P	1P	0P	***	240	67
Penticton A	8	1	18	-3	3	***	170	82
Port Hardy A	6	0	10	2	50	***	130	37
Prince George A	4	1	10	-3	7	***	180	76
Prince Rupert A	5	0	8	0	48	***	090	67
Revelstoke A	*	*	*	*	*	***		X
Smithers A	3	0	10	-4	2	***	190	39
Vancouver Int'l A	8	0	13	2	74	***	090	54
Victoria Int'l A	8	0	12	3	82	***	190	43
Williams Lake A	4	1	13	-4	2	***	130	65
Yukon Territory								
Komakuk Beach A	-25	-3	-19	-35	0	36		X
Teslin (aut)	-4P	*	5P	-12P	0P	***		X
Watson Lake A	-4	0	7	-15	0	50	290	46
Whitehorse A	-2	0	6	-13	0	25	140	43
Northwest Territories								
Alert	-27	4	-19	-35	1	16	240	59
Baker Lake A	-19	4	-8	-29	6	39	330	69
Cambridge Bay A	-25	3	-15	-35	1	33		X
Cape Dyer A	-21	-4	-13	-29	0	99		X
Clyde A	-25	-3	-15	-33	0	20		X
Coppermine A	-22	5	-13	-32	2	107		X
Coral Harbour A	-21	0	-11	-30	6	47	330	61
Eureka	-30	3	-22	-36	0	7	140	52
Fort Smith A	1	8	10	-12	7	38		X
Hall Beach A	-24P	1P	-16P	-31P	1P	34	300	52
Inuvik A	-19	1	-8	-30	1	52		X
Iqaluit A	-22	-5	-10	-31	2	44	320	52
Mould Bay A	-28	2	-18	-35	0	18	220	56
Norman Wells A	-12	1	-2	-22	3	35	300	39
Resolute A	-27	0	-18	-36	2	15	120	41
Yellowknife A	-6	7	4	-17	2	***	280	54
Alberta								
Calgary Int'l A	6	4	18	-6	0	***	330	59
Cold Lake A	6	6	16	-4	13	1	060	32
Edmonton Namao A	5	5	16	-2	14	10	300	37
Fort McMurray A	5	7	14	-5	1	2	280	43
High Level A	2	7	11	-8	0	13	280	43
Jasper	4	2	15	-7	16	1		X
Lethbridge A	8	4	20	-7	0	***	250	91
Medicine Hat A	10	6	22	-3	0	***	250	67
Peace River A	4	5	11	-5	1	***	240	52
Saskatchewan								
Cree Lake	1	9	12	-7	2	31	190	43
Estevan A	10	10	24	-1	2	***	250	57
La Ronge A	4	9	15	-4	9	1		X
Regina A	10	10	22	-1	4	***	270	74
Saskatoon A	8	9	21	-1	9	***	250	39
Swift Current A	10	9	21	-4	1	***	270	78
Yorkton A	6	8	18	-4	3	***	260	63
Manitoba								
Brandon A	9	10	20	-2	0	***	270	63
Churchill A	-8	7	5	-17	1	14	310	61
Lynn Lake A	-2	8	8	-13	3	10	150	41
The Pas A	3	7	13	-4	17	1	110	48
Thompson A	-3	7	11	-15	27	59	070	50
Winnipeg Int'l A	11	12	23	-2	2	***	260	56

STATION	temperature mean	anom	max	min	precip. ptot	st	wind max dir	vel
Ontario								
Big Trout Lake	-4	5	12	-27	2	4	070	54
Gore Bay A	6	6	21	-5	2	***	300	37
Kapuskasing A	2	7	18	-23	5	5		X
Kenora A	9	10	25	-8	7	1	230	41
London A	8	5	26	-5	10	***	200	50
Moosonee	-2	6	16	-22	1	21	220	50
North Bay A	6	7	22	-7	14	1	350	33
Ottawa Int'l A	8	6	26	-4	4	1	240	33
Petawawa A	6	7	29	-10	3	1	320	32
Pickle Lake	2	7	14	-18	6	3	250	48
Red Lake A	7P	10P	22P	-9P	1P	1	230	37
Sudbury A	5	7	24	-9	4	1	240	37
Thunder Bay A	6	7	22	-7	1	***		X
Timmins A	4	7	25	-21	5	24	200	41
Toronto(Pearson Int'l A)	9	6	28	-5	3	***	240	44
Trenton A	7	4	24	-5	1	***	210	37
Wiarton A	9	8	25	-4	6	***	210	61
Windsor A	11	6	28	-4	5	***	240	48
Québec								
Bagotville A	2	4	13	-10	17	27	080	44
Blanc Sablon A	-5P	*	1P	-10P	7P	28	040	44
Inukjuak A	-16	-1	-2	-25	2	42	190	57
Kuujjuaq A	-15	-3	-3	-26	5	33	280	67
Kuujjuarapik A	-10	2	2	-24	5	30	160	69
Maniwaki	5	6	27	-10	3	1	170	33
Mont Joli A	1	2	10	-7	0	17	300	54
Montréal Int'l A	7	5	18	-4	4	***		X
Natashquan A	-2P	1P	3P	-10P	10P	40	270	48
Québec A	2	2	12	-7	14	47	260	35
Schefferville A	-12	-2	2	-31	8	78	220	61
Sept-Îles A	-1	1	8	-10	9	47	090	54
Sherbrooke A	6	6	24	-7	4	1		X
Val-d'Or A	3	7	21	-13	2	2	240	50
New Brunswick								
Charlo A	2	4	14	-13	2	25	240	41
Chatham A	2	2	17	-10	9	2	270	46
Fredericton A	3	2	19	-8	15	1	240	43
Moncton A	3	2	18	-6	6	2	290	43
Saint John A	2	1	13	-8	12	***	220	52
Nova Scotia								
Greenwood A	4	1	20	-6	17	***	250	59
Shearwater A	4	2	16	-3	9	***	080	43
Sydney A	2	2	20	-7	14	***	240	56
Yarmouth A	5	1	14	-3	11	***	230	44
Prince Edward Island								
Charlottetown A	3	2	16	-5	10	1	250	37
Summerside A	2	1	12	-8	7	1	250	39
Newfoundland								
Cartwright	-6	-2	6	-18	2	211	330	50
Churchill Falls A	-9P	-1P	3P	-23P	4P	94	260	69
Gander Int'l A	-1	0	10	-7	11	6	290	54
Goose A	-5	-1	7	-20	3	50	280	57
Port Aux Basques	0	0	9	-6	18	5	280	65
St John's A	0	1	11	-6	8	1	270	46
St Lawrence	0	0	6	-7	6	1		X
Wabush Lake A	-7	3	5	-19	16	28	290	61

91/04/01-91/04/07

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.