



Climatic Perspectives

May 18 to 24, 1992

A weekly review of Canadian climate and water

Vol. 14 No. 21

Dry spell

An intensifying dry spell has been persisting over the south-western Prairies, where winter precipitation was significantly below normal, leaving soil moisture levels critically dry. However, abundant rain over Manitoba and eastern Saskatchewan has provided good to even excellent water supplies for farms, homes and industrial use.

In Alberta, currently over 4000 square kilometres of farmland are experiencing low or very low soil moisture levels. The cropland in some of the eastern and southern regions now runs the risk of poor seed germination and crop failure if the dry weather continues. Presently, the Brooks area is particularly dry. In Saskatchewan, Canada's largest agricultural producing province, soil moisture is rated from poor to fair in the southern and southwestern areas.

Regular precipitation in Manitoba has recharged water supplies in lakes, reservoirs and ponds and if the weather conditions for the rest of the spring and summer continue near normal, there should be no particular problem in this region.

While rangeland conditions are reported as excellent in the Peace River area cattle have grazed for most of the mild winter and the situation declines southward, such that regions, like near Lethbridge, are reporting degraded pastures and problems in obtaining water supplies from springs and shallow wells.

Ranchers may have to take measures to alleviate the stress on the parched grassland soils by reducing herds, protecting

erosion-prone soils, providing salt and emergency watering holes and seeding annuals for emergency forage.

Severe weather pounds Quebec

Two severe storms traversed parts of southern Quebec during the week. On the north side of the Ottawa River on May 17, a damaging thunder storm moved within 50 km of Hull and then into the Parc du Mont-Tremblant region.

Large hail stones peppered the ground and wind gusts up to 100 km/h caused varying degrees of damage. The intense storm induced a waterspout over the Ottawa River, and maintained its funnel form as it moved inland touching down at several spots tearing away trees, shingles, windows and knocking out electric power facilities.

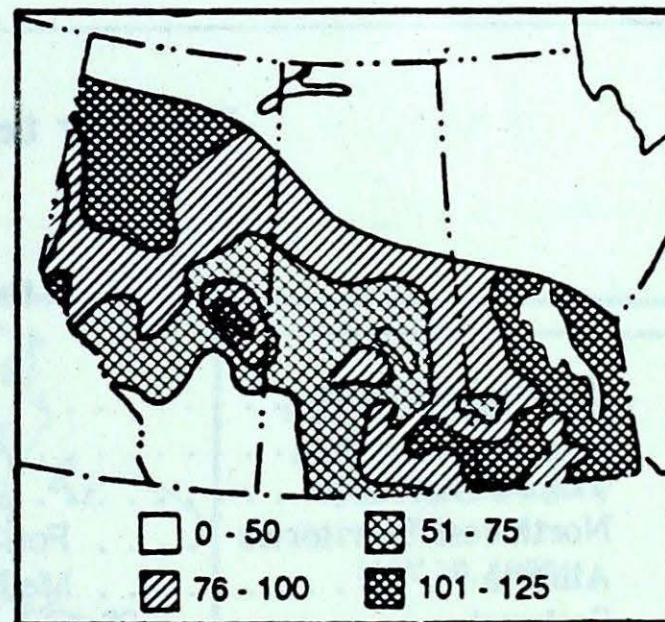
The storm force winds were also responsible for pushing an elevated passenger transporter up against the side of an aircraft at the Mirabel Airport. On the 21st another convective storm in the Mont-Joli region delivered hail and severe winds.

A look ahead ...

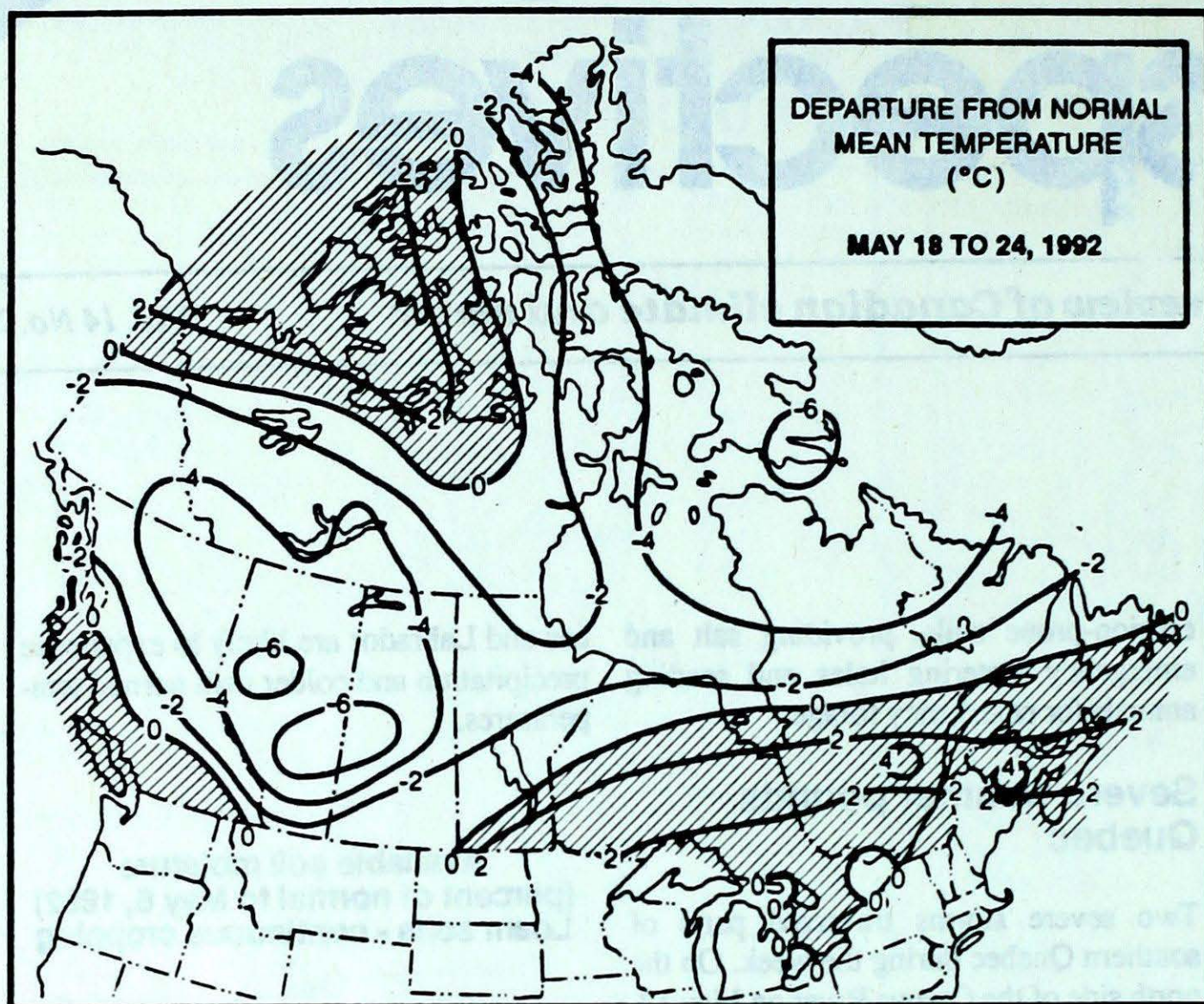
A strong ridge of high pressure over the north-western regions will combine with a centre of low pressure in the central U.S.A. to give, generally, above normal temperatures to most of the provinces for the week of June 1. At the confluence of air masses from the Arctic and the southwest, eastern Quebec, the Atlantic provin-

ces and Labrador are likely to experience precipitation and colder than normal temperatures.

Available soil moisture
(percent of normal to May 6, 1992)
Loam soils - continuous cropping



Soils in the 0-50 category, have insufficient moisture for seed germination, whereas soils in the 51-75 category generally have sufficient moisture for germination, but cannot sustain seedling growth without timely and adequate precipitation. Soils in the 76-100 and 101-125 categories have reserves sufficient to carry grain crops through most dry periods; however, the risk of excess wetness may occur in the higher category. The map pertains to medium textured soils in a level landscape. Source PFRA



Weekly normal temperatures (°C)

	max.	min.
Whitehorse A	14.0	1.5
Iqaluit A	0.2	-6.1
Yellowknife A	12.1	2.0
Vancouver Int'l A	17.2	8.5
Victoria Int'l A	17.3	7.5
Calgary Int'l A	17.8	3.9
Edmonton Int'l A	19.0	4.0
Regina A	20.1	5.6
Saskatoon A	20.0	5.6
Winnipeg Int'l A	19.9	6.0
Ottawa Int'l A	20.3	8.4
Toronto (Pearson Int'l A)	20.1	7.4
Montréal Int'l A	20.2	8.9
Québec A	18.3	6.2
Fredericton A	18.8	5.7
Saint John A	15.7	4.8
Halifax (Shearwater)	14.5	5.4
Charlottetown A	15.2	4.8
Goose A	11.3	0.9
St John's A	11.3	1.9

Weekly temperature and precipitation extremes

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Hope A 32	Dease Lake -6	Prince Rupert A 31
	Lytton 32		
Yukon Territory	Dawson A 22	Klondike -16	Komakuk Beach A 13
Northwest Territories	Fort Simpson A 23	Pond Inlet A -22	MacKar Inlet 18
Alberta	Medicine Hat A 28	Peace River A -5	Lloydminster A 22
Saskatchewan	Yorkton A 35	Uranium City A -6	Broadview 35
Manitoba	Portage La Prairie A 37	Churchill A -10	Gillam A 30
Ontario	Moosonee 34	Geraldton A -4	Windsor A 29
Quebec	Bagotville A 34	Inukjuak A -11	La Grande IV A 48
New Brunswick	Fredericton A 35	St-Léonard A -2	St Stephen (aut) 8
Nova Scotia	Greenwood A 34	Truro 0	Truro 13
Prince Edward Island	Charlottetown A 29	Charlottetown A 0	Charlottetown A 11
Newfoundland	St John's A 23	Churchill Falls A -7	Churchill Falls A 46

Across The Country...

Highest Mean Temperature	Fredericton (N.B.) 16
Lowest Mean Temperature	Alert (N.W.T.) -15

92/05/18-92/05/24

CLIMATIC PERSPECTIVES
VOLUME 14

Managing Editor **Bruce Findlay**
Editors-in-charge
- weekly/monthly . . . **A. Stapf / D. Lavigne**
French version **Alain Caillet**
Data Manager **M. Skarpathiotakis**
Computer support **Robert Eals**
Art Layout **K. Czaja**
Translation **D. Pokorn**
Cartography **T. Chivers**

ISBN 0225-5707 UDC 551.506.1(71)

Climatic Perspectives is a weekly publication (disponible aussi en français) of the Canadian Climate Centre, Atmospheric Environment Service, 4905 Dufferin St., Downsview, Ontario, Canada M3H 5T4

☎ (416) 739-4438/4436

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

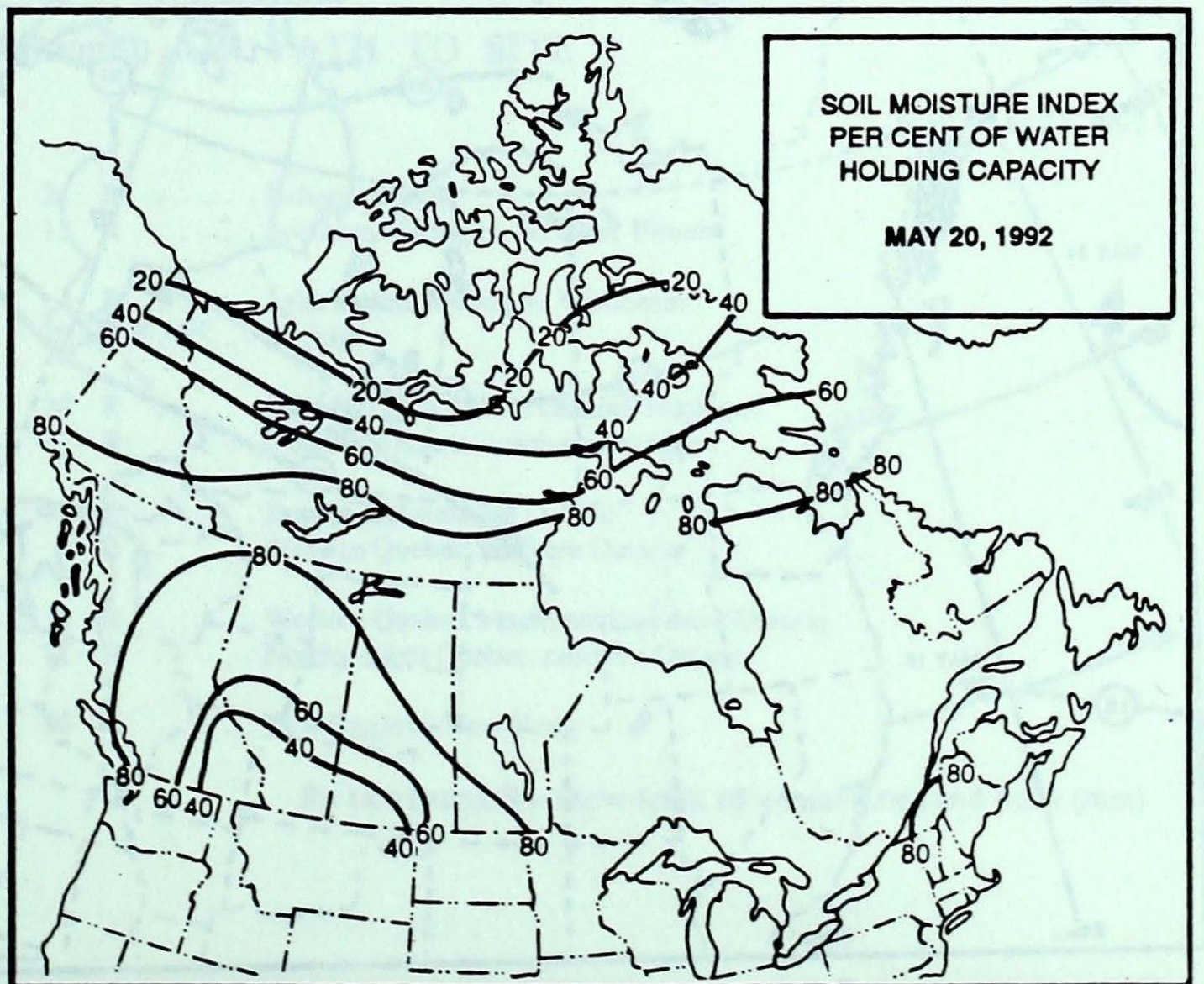
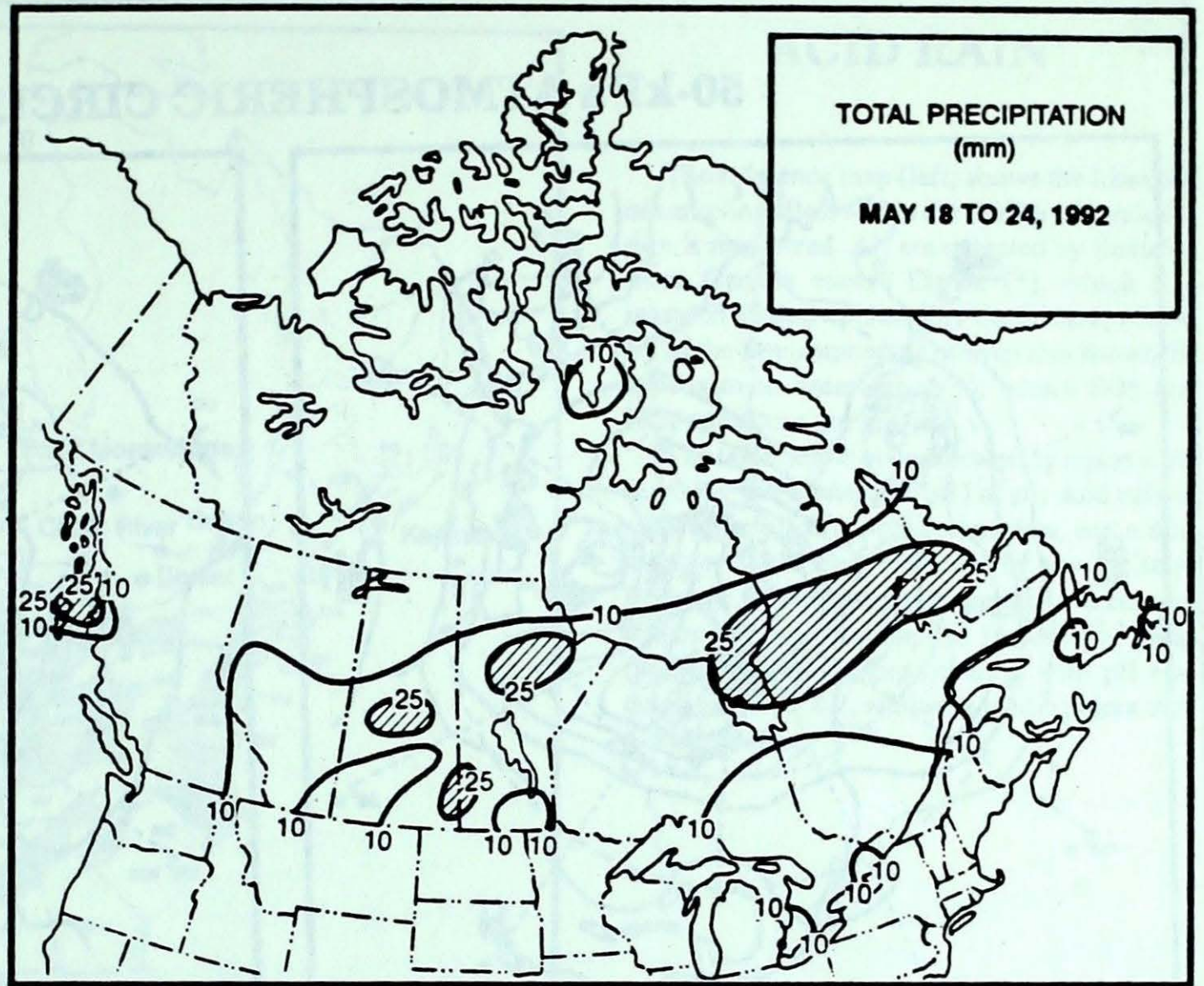
The data in this publication are based on unverified reports from approximately 225 Canadian synoptic weather stations. Information concerning climatic impacts is gathered from AES contacts with the public and from the media. Articles do not necessarily reflect the views of the Atmospheric Environment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

Annual Subscriptions

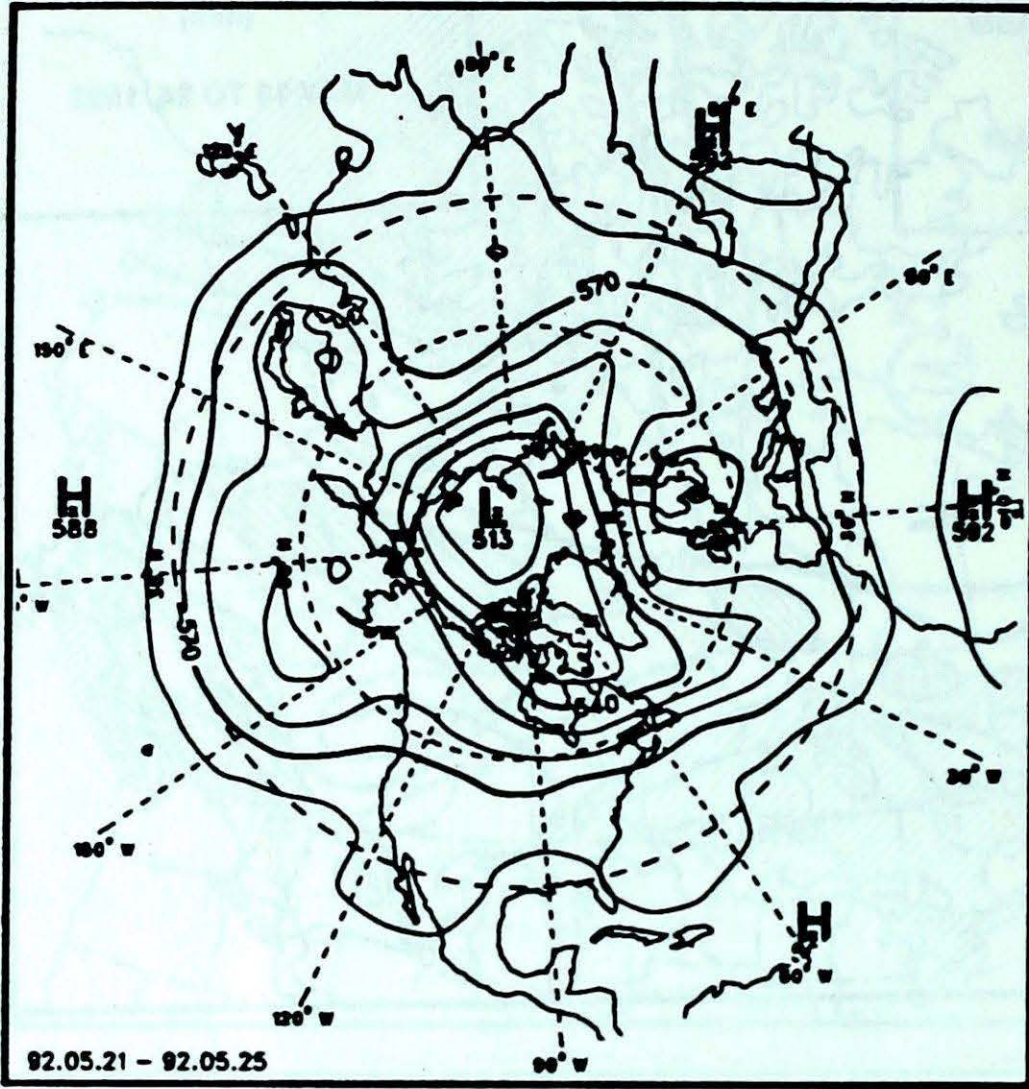
weekly and monthly : \$35.00
foreign: \$42.00
monthly issue: \$10.00
foreign: \$12.00

Orders must be prepaid by money order or cheque payable to Receiver General for Canada. Canadian Government Publishing Centre, Ottawa, Ontario, Canada K1A 0S9

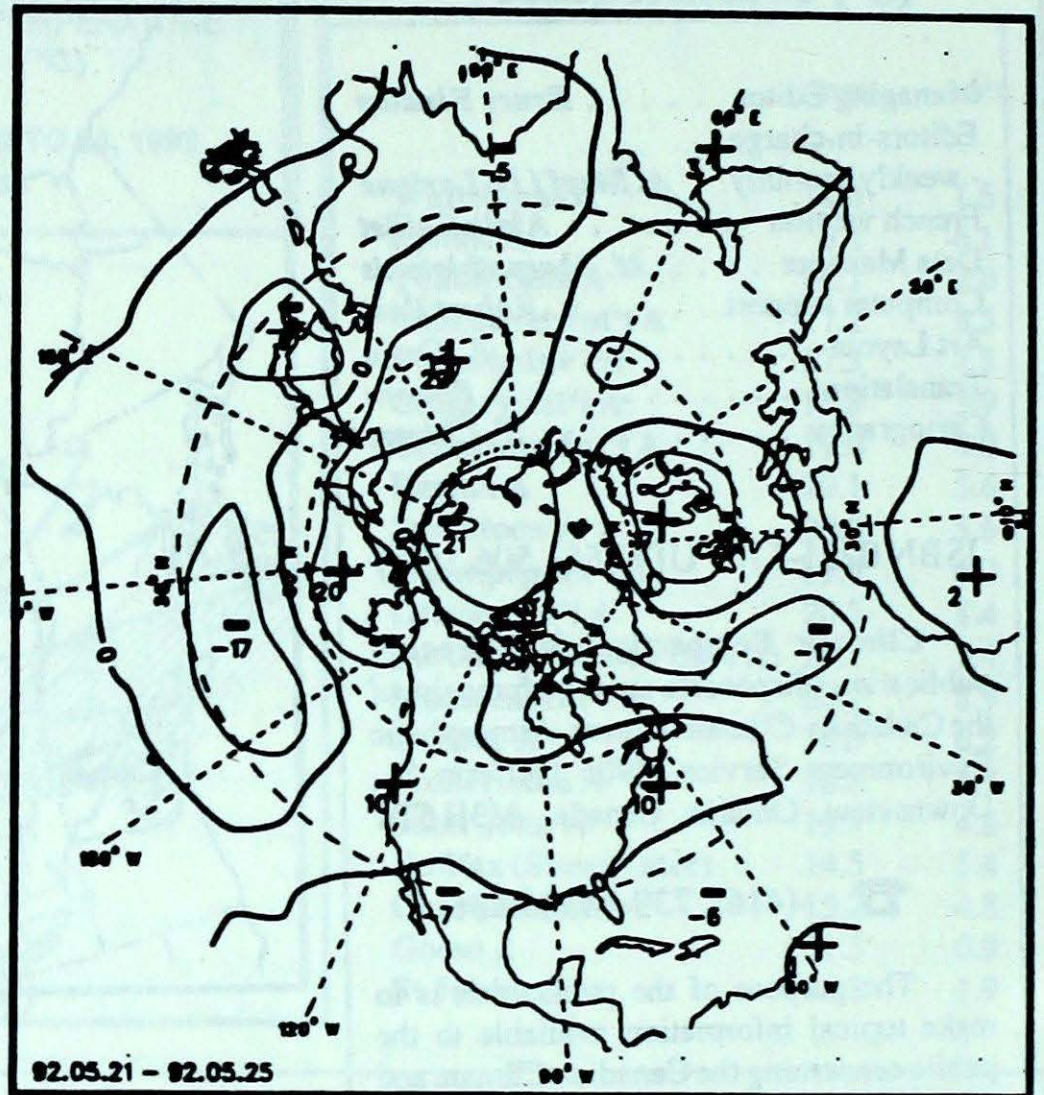
☎ (819) 997-2560



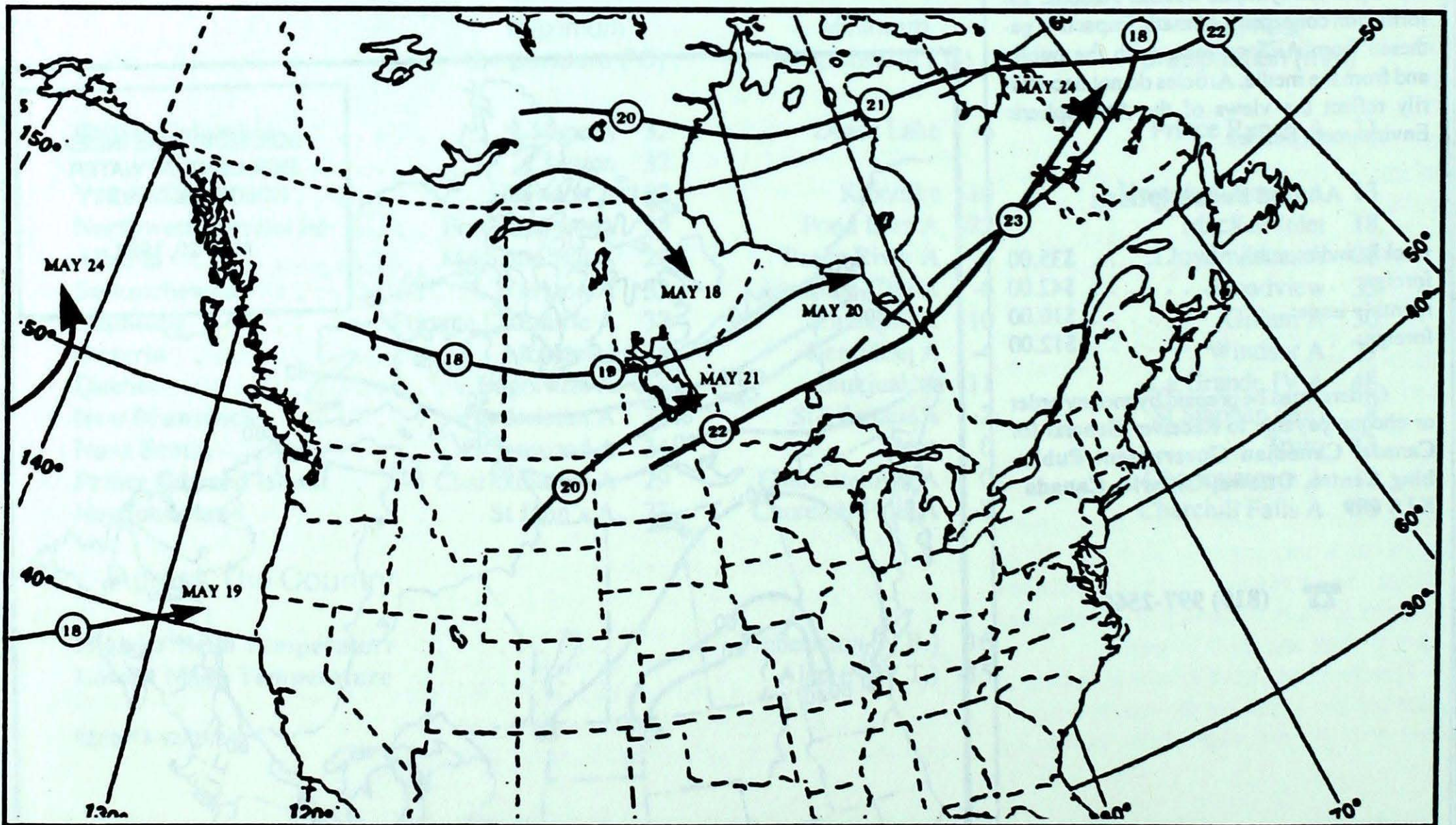
50-kPa ATMOSPHERIC CIRCULATION



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

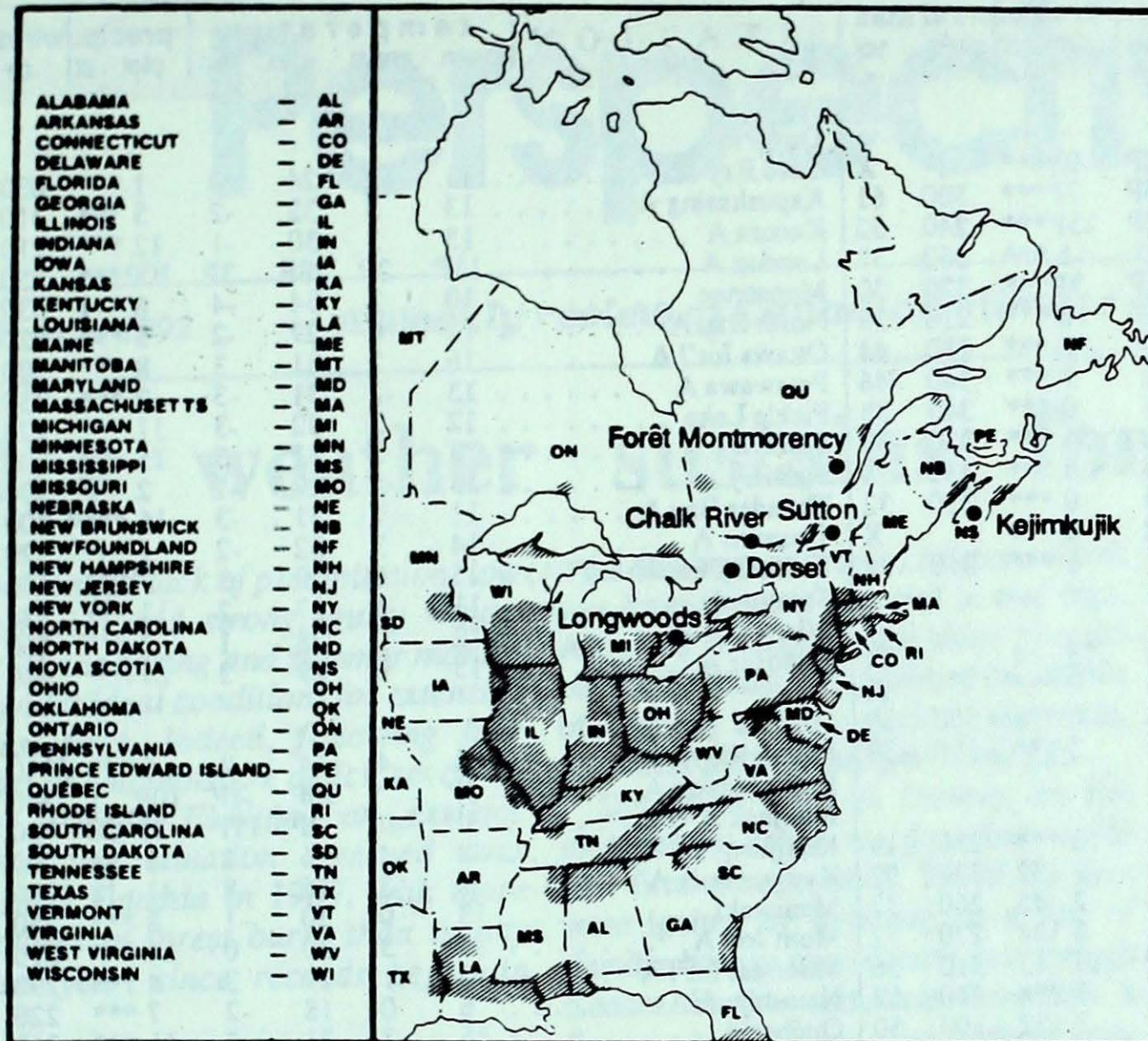


Mean geopotential height anomaly
50-kPa level (10 decametre intervals)



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 the Environment. 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
------	-----	----	--------	------------------

May 17 to 23, 1992

Longwoods	17	5.3	31 R	..... Indiana, Illinois
	23	4.9	12 R	..... Southern Michigan, northern Illinois
Dorset *	17	4.3	4 R	..... Lake Huron, Michigan, Wisconsin
	23	4.4	2 R	..... Michigan
Chalk River	17	4.2	20 R	..... Lake Huron, southern Ontario, Michigan
	23	4.0	3 R	..... Northern Ontario, northern Michigan
Sutton	17	4.1	2 R	..... Eastern and southern Ontario
	23	4.7	4 R	..... Western Quebec, northern Ontario
Montmorency	17	4.1	9 R	..... Western Quebec, eastern and northern Ontario
	23	4.5	11 R	..... Northwestern Quebec, northern Ontario
Kejimikujik	18	4.8	10 R	..... New England, New York

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

STATION	temperature				precip.		wind max		STATION	temperature				precip.		wind max	
	mean	anom	max	min	ptot	st	dir	vel		mean	anom	max	min	ptot	st	dir	vel
British Columbia								Ontario									
Blue River A	10P	0P	24P	-2P	0P***		X	Gore Bay A	11	-1	24	0	1 ***	030	52		
Cape St James	10P	1P	15P	5P	7P***	300	61	Kapuskasing A	13	3	32	-2	5 ***	310	65		
Cranbrook A	12P	0P	23P	2P	13P***	240	52	Kenora A	15	3	30	-1	12 ***	210	50		
Fort Nelson A	6	-6	24	-5	1 ***	260	32	London A	15P	2P	28P	3P	10P***	350	44		
Fort St John A	6P	-5P	22P	-4P	3P***	320	50	Moosonee	10	2	34	-4	6 1	330	52		
Kamloops A	16	1	29	5	0 ***	210	59	North Bay A	12	0	27	-2	5 ***	020	43		
Penticton A	16	2	27	3	0 ***	280	44	Ottawa Int'l A	16	2	31	3	8 ***	300	65		
Port Hardy A	11	1	23	2	1 ***	340	46	Petawawa A	13	-2	31	-3	2 ***	330	50		
Prince George A	7	-4	21	-4	0 ***	340	35	Pickle Lake	12	3	32	-3	11 ***	220	48		
Prince Rupert A	9	0	17	-2	31 ***	320	33	Red Lake A	13	2	31	-3	15 ***	200	50		
Smithers A	8	-2	22	-5	5 ***	330	74	Sudbury A	13	0	29	-1	2 ***	230	56		
Vancouver Int'l A	14	1	24	6	0 ***	310	32	Thunder Bay A	11	1	31	-3	16 ***	300	56		
Victoria Int'l A	13	1	27	2	0 ***		X	Timmins A	14	3	32	-2	1 ***	320	65		
Williams Lake A	9	-1	24	-1	1 ***	310	39	Toronto(Pearson Int'l A)	15	1	29	3	7 ***	330	46		
Yukon Territory								Québec									
Komakuk Beach A	0	5	7	-15	13 4		X	Bagotville A	14	4	34	-2	6 ***	310	74		
Teslin (aut)	3	*	16	-6	0 ***		X	Blanc Sablon A	3P	*	10P	-4P	10P 1	340	56		
Watson Lake A	4	-5	20	-6	0 ***	330	39	Inukjuak A	-5P	-4P	2P	-11P	3P 30	100	46		
Whitehorse A	5	-3	17	-5	2 ***	160	39	Kuujuuaq A	-4	-4	6	-11	5 4	290	78		
Northwest Territories								New Brunswick									
Alert	-15	-5	-5	-21	10 ***	230	119	Fredericton A	16	4	35	0	1 ***	250	52		
Baker Lake A	-7	-1	2	-16	9 52	330	52	Miscou Island (aut)	10	2	22	4	0 ***				
Cambridge Bay A	-6	2	2	-15	2 45	260	37	Moncton A	14	3	33	-1	7 ***	360	69		
Cape Dyer A	-9	-4	-4	-15	6 104	270	52	Saint John A	12	2	33	0	7 ***	210	39		
Clyde A	-12P	-6P	-5P	-19P	2P 42	310	56	Nova Scotia									
Coppermine A	-4	-1	6	-14	3 ***	240	52	Greenwood A	15	3	34	0	9 ***	250	48		
Coral Harbour A	-11	-6	-2	-21	3 52	100	50	Shearwater A	13	3	32	3	9 ***	360	43		
Eureka	-13	-5	-6	-20	1 14		X	Sydney A	12	3	27	2	0 ***	230	54		
Fort Smith A	5	-4	22	-6	12 ***	320	32	Yarmouth A	11	1	23	3	9 ***	360	46		
Hall Beach A	-12	-4	-5	-20	2 40	300	43	Prince Edward Island									
Inuvik A	3	1	15	-9	1 11	320	39	Charlottetown A	13	3	29	0	11 ***	260	48		
Iqaluit A	-9	-6	-5	-16	1 13	320	63	East Point (auto)	10	*	25	1	* ***				
Mould Bay A	-8	2	0	-21	5 19		X	Newfoundland									
Norman Wells A	6	-2	22	-5	0 ***	300	35	Cartwright	1	-3	10	-6	19 197	330	102		
Resolute A	-11P	-1P	-6P	-21P	8P 25	140	48	Churchill Falls A	0	-3	10	-7	46 10	290	63		
Yellowknife A	1P	-6P	18P	-5P	4P***	160	41	Gander Int'l A	8	0	23	-1	8 ***	350	70		
Alberta								92/05/18-92/05/24									
Calgary Int'l A	7	-4	25	-3	7 ***	270	54	Goose A	3	-3	10	-4	*** 8	270	56		
Cold Lake A	6	-6	24	-5	13 ***	330	52	St John's A	7	0	23	-1	7 ***	360	82		
Edmonton Namao A	4P	-8P	23P	-2P	16P***	330	44	St Lawrence	7	1	21	-2	6 ***		X		
Fort McMurray A	7	-5	20	-3	8 ***	310	39	Wabush Lake A	1	-2	16	-7	23 1	320	56		
High Level A	6P	-5P	23P	-4P	0P***		X										
Jasper	7	-3	22	-1	8 ***		X										
Lethbridge A	10	-3	25	1	8 ***	270	80										
Medicine Hat A	11	-3	28	1	6 ***	230	83										
Peace River A	5	-6	21	-5	4 ***	030	43										
Saskatchewan																	
Cree Lake	4	-5	18	-4	7 ***	260	57										
Estevan A	12	-1	34	-1	12 ***	190	69										
La Ronge A	7	-3	19	-2	19 ***	050	56										
Regina A	10P	-3P	33P	-1P	12P***	310	63										
Saskatoon A	10	-3	29	0	16 ***	040	69										
Swift Current A	10	-2	29	-1	5 ***	280	57										
Yorkton A	11	-1	35	-3	28 1	340	72										
Manitoba																	
Brandon A	13	1	34	-2	16 ***	180	70										
Churchill A	-2	-2	8	-10	4 17	340	56										
Lynn Lake A	5	-3	18	-3	0 ***	280	41										
The Pas A	7	-3	24	-4	16 ***	050	52										
Thompson A	4P	-3P	19P	-5P	25P***	040	43										
Winnipeg Int'l A	14	1	34	-2	3 ***	180	78										

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.