

Climatic Perspectives

May 1 to 7, 1989 A weekly review of Canadian climate Vol. 11 No. 19

Ice jams cause flooding along Liard River

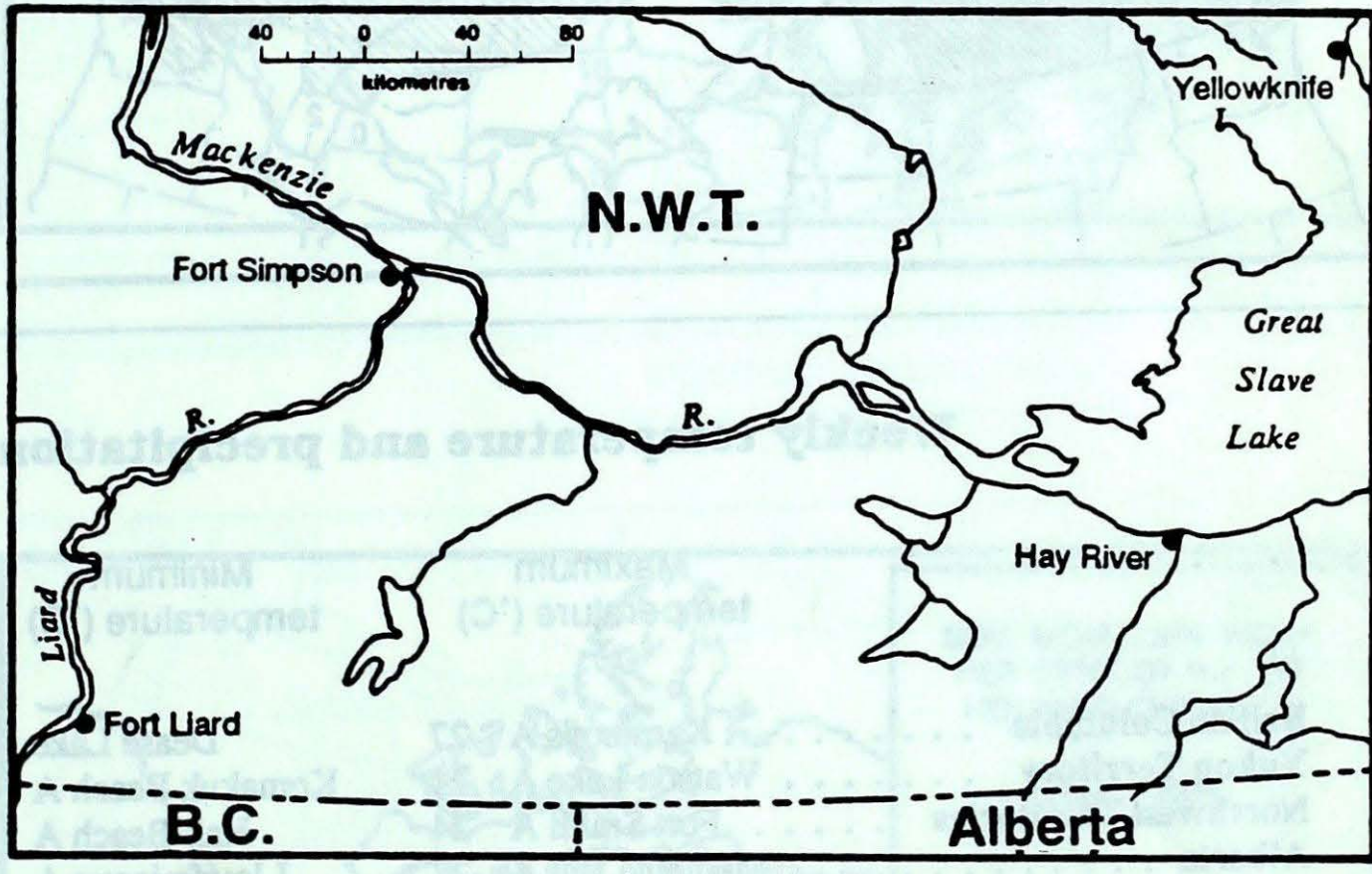
Residents of northern settlements anxiously await spring break-up with guarded anticipation. The most vulnerable for flooding are low-lying settlements at or near the confluence of rivers where ice jams pose potential threats. The threat is greater on north-flowing rivers such as the Liard, Hay, and Mackenzie where melting often occurs upstream while the downstream parts remain frozen. Such threats were realized during the past week at the island community of Fort Simpson where 900 residents were forced on May 3rd, to evacuate to higher ground on the mainland as flood waters submerged nearly half of the town. Jagged ice which extended 1.1 km across the Mackenzie River and 32 km north had jammed, caused the Liard River to rise to within 0.5 m of the causeway. This threatened to cut off the community's only link to the mainland.

The Liard River area in the southwestern corner of the Northwest Territories experienced temperatures 3 to 7 degrees above normal for the last 2 weeks, which, when combined with generous sunshine, caused a rapid melt. This was the first melt of the season.

After the water receded, tonnes of massive ice were left along the river bank. This is the worst flood since 1976 and possibly worse than the flood of 1963.

Earlier in the week, on May 1, flooding of the Liard River forced residents of Fort Liard to flee their homes. Damage was estimated at one-half to one million dollars.

W. Prusak, AES, Edmonton



March weather in May

Cold temperatures remained entrenched over Ontario. Snowfalls were general across Southern Ontario on May 7th. While only a trace fell in downtown Toronto, the Niagara Peninsula was hit by 8 to 15 cm of heavy wet snow. The 8 cm that fell in St. Catharines surpassed the 1923 record of 2 cm for May total snowfall. No damage to trees was reported as foliage has just started to appear.

Up to 12 cm of wet snow fell in the Barrie and Collingwood areas.

Bryan Smith, Ontario Climate Centre

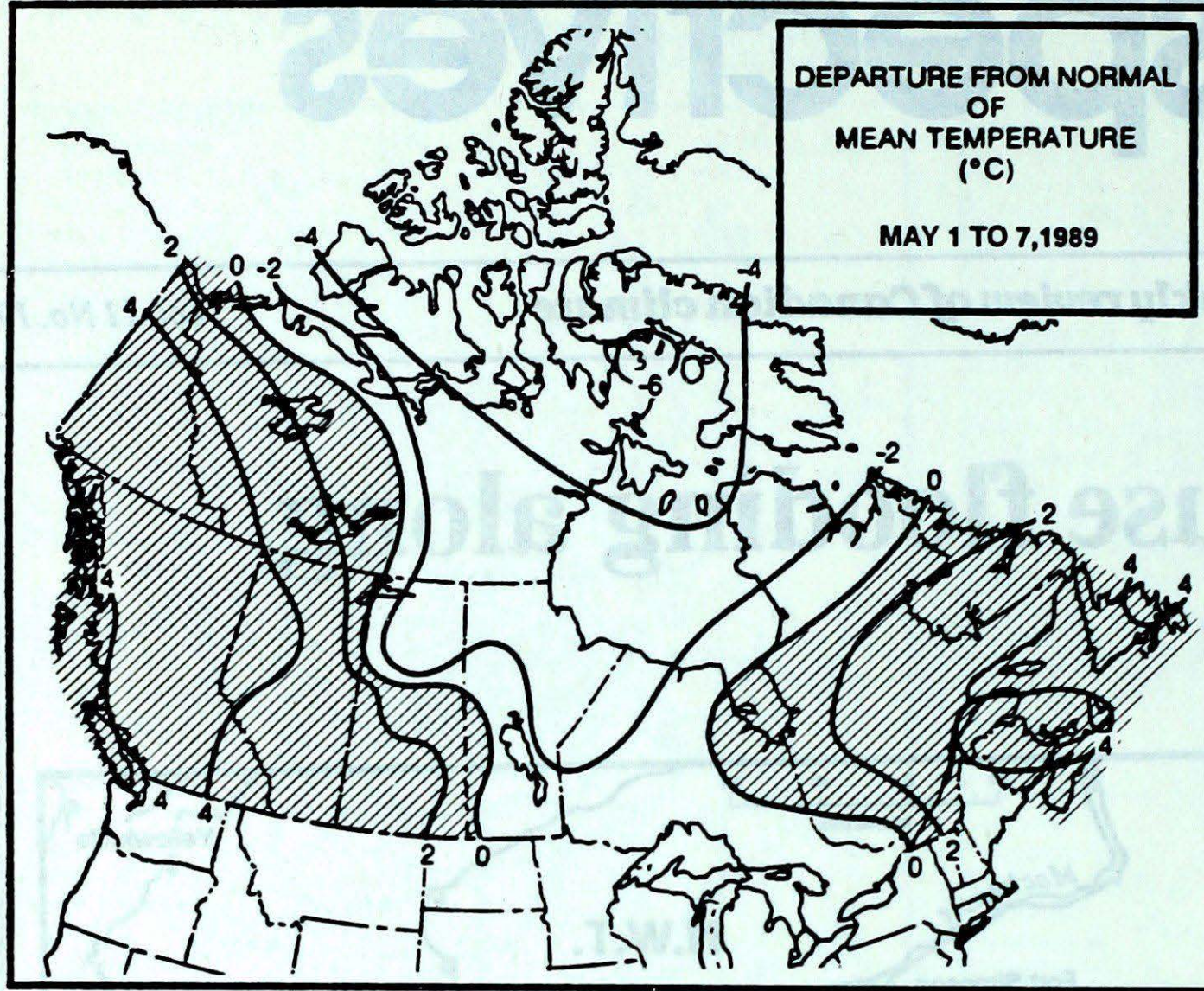
Turning warmer in central Canada...

A flow of warm air from the west will bring spring-like temperatures over Ontario and Quebec during the week of May 14. Southern portions of British Columbia and the Prairies will continue to experience above normal temperatures.

Milder than normal temperatures are also expected over Atlantic Canada.

— prepared May 10, 1989

A. Shabbar, Canadian Climate Centre



Dry conditions continue

In April, rainfall and snowfall amounts were below to much below normal for almost all of the agricultural regions of the Prairies. Only parts of southwestern Saskatchewan and parts of south and central Alberta received greater than normal precipitation. A dry spring has followed a dry winter in the area between Saskatoon, Moose Jaw and Regina. This area received less than 25% of the normal precipitation for the month. The available soil moisture based on water-budget modelling at the Winnipeg Climate Centre indicates little change from the post-melt situation as spring rains have not yet materialized.

R. Raddatz, Winnipeg Climate Centre

Weekly temperature and precipitation extremes

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Kamloops A 27	Dease Lake -3	Williams Lake A 22
Yukon Territory	Watson Lake A 21	Komakuk Beach A -15	Komakuk Beach A 1
Northwest Territories	Fort Smith A 24	Hall Beach A -29	Ennadai Lake (aut) 24
Alberta	Medicine Hat A 27	Lloydminster A -6	Edson A 16
			Whitecourt A 16
Saskatchewan	Moose Jaw A 29	Collins Bay -11	Swift Current 9
Manitoba	Winnipeg Int'l A 24	Churchill A -20	Gretna (aut) 10
Ontario	Petawawa A 22	Big Trout Lake -16	Ottawa Int'l A 57
Québec	Bagotville A 23	Inukjuak A -18	Québec A 80
New Brunswick	Fredericton A 23	Charlo A -3	Saint John A 77
Nova Scotia	Greenwood A 22	Truro -1	Truro 64
Prince Edward Island	Summerside A 19	Charlottetown A 2	Charlottetown A 35
Newfoundland	Comfort Cove 22	Badger (aut) -9	Burgeo 37

Across The Country...

Warmest Mean Temperature	Kamloops A (BC) 17
Coollest Mean Temperature	Eureka (NWT) -20

89/05/01-89/05/07

CLIMATIC PERSPECTIVES
VOLUME 11

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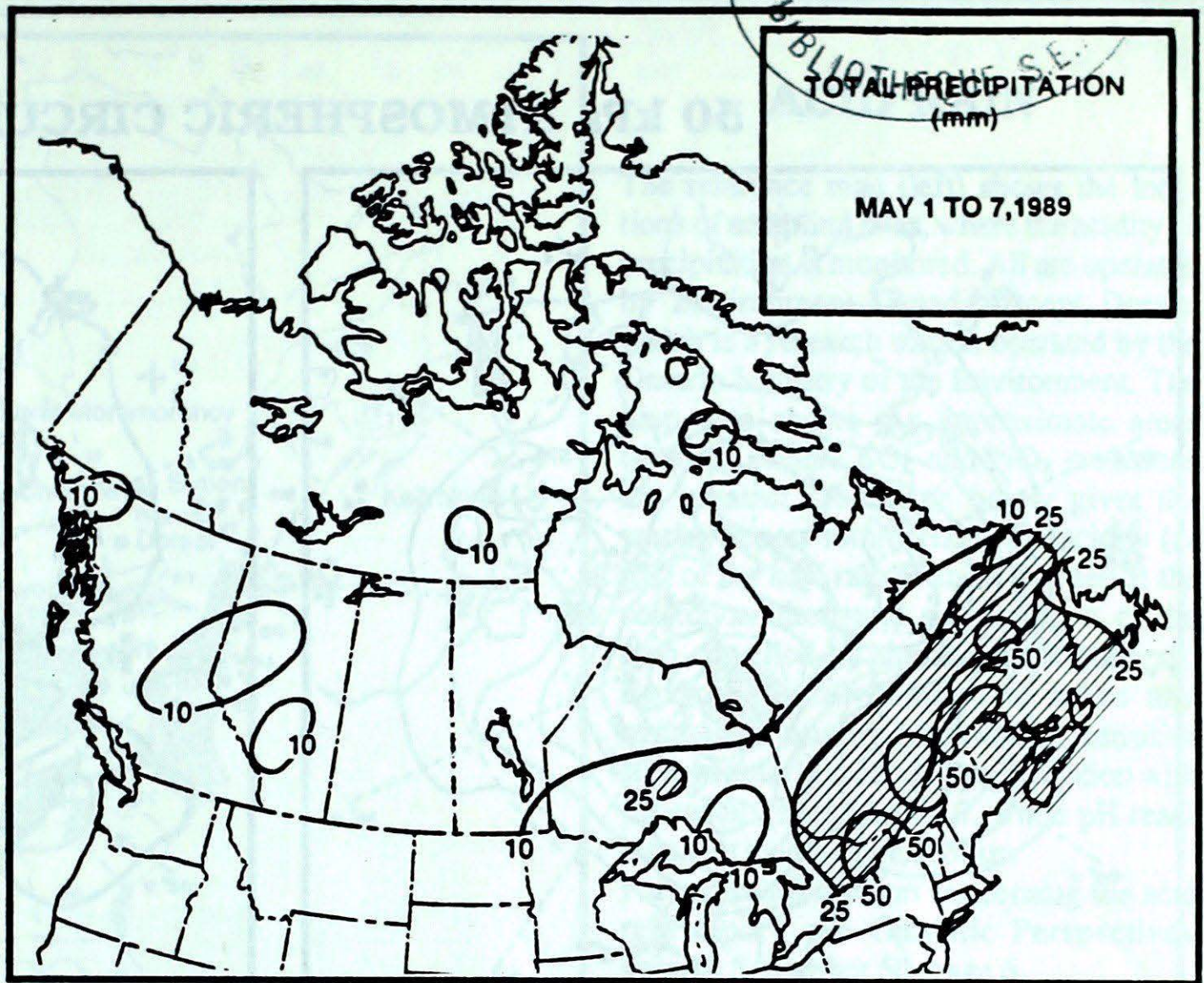
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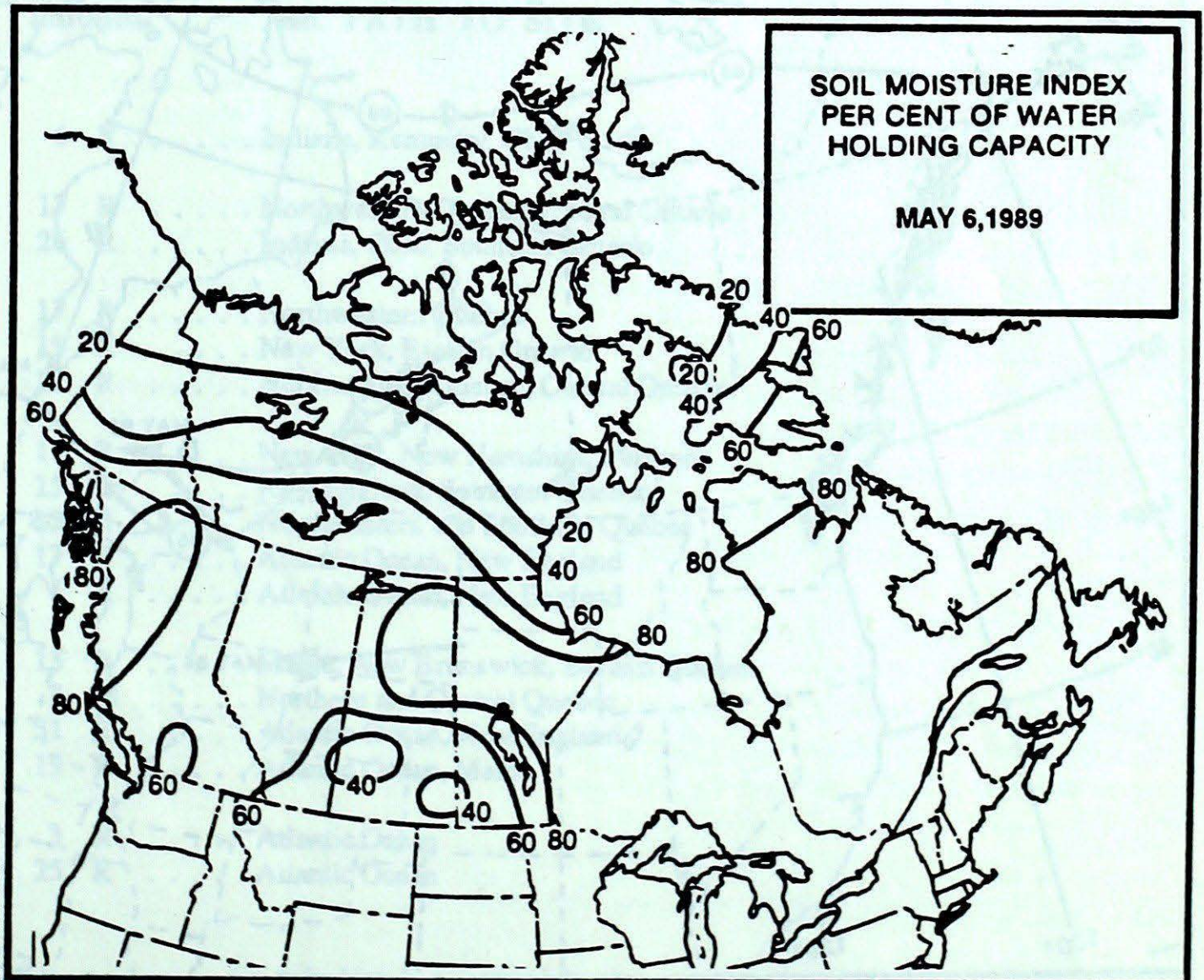
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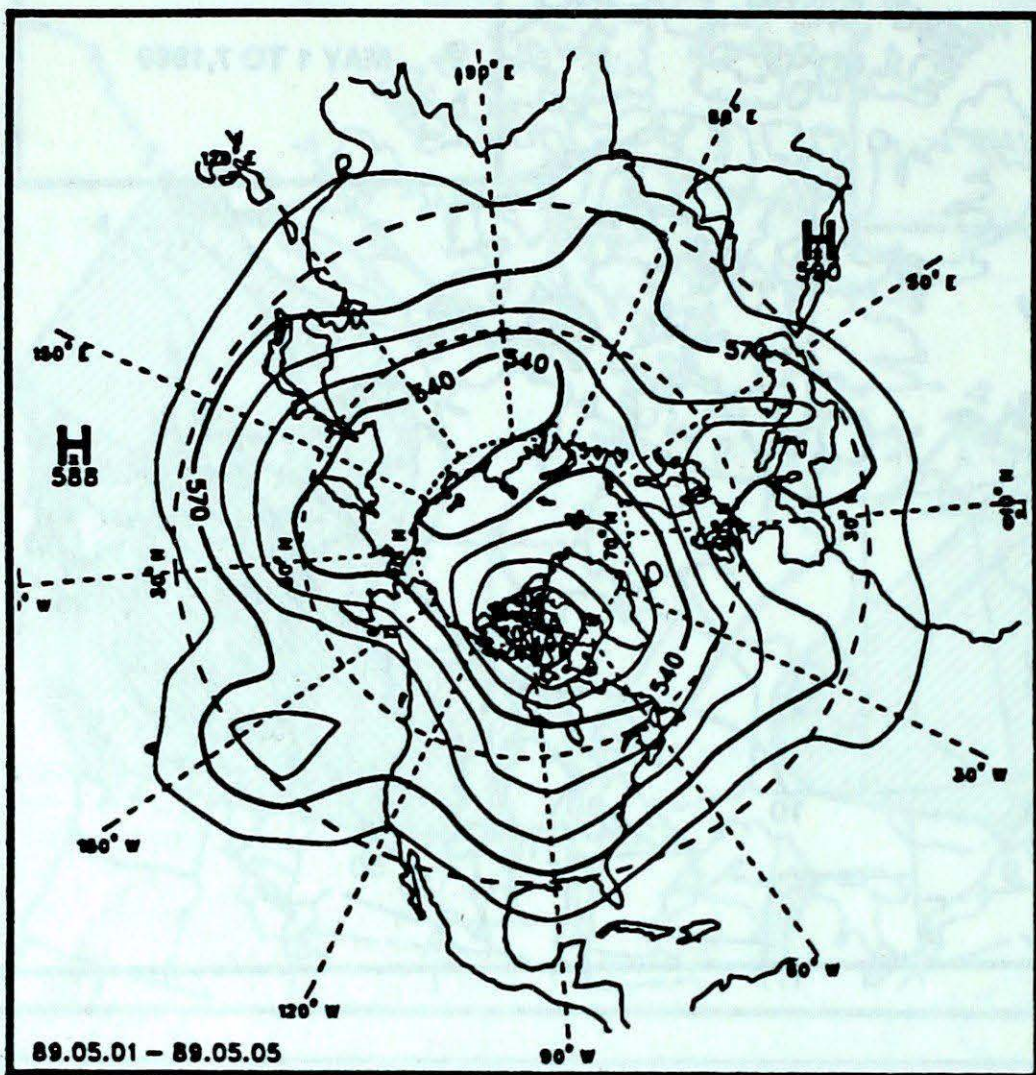
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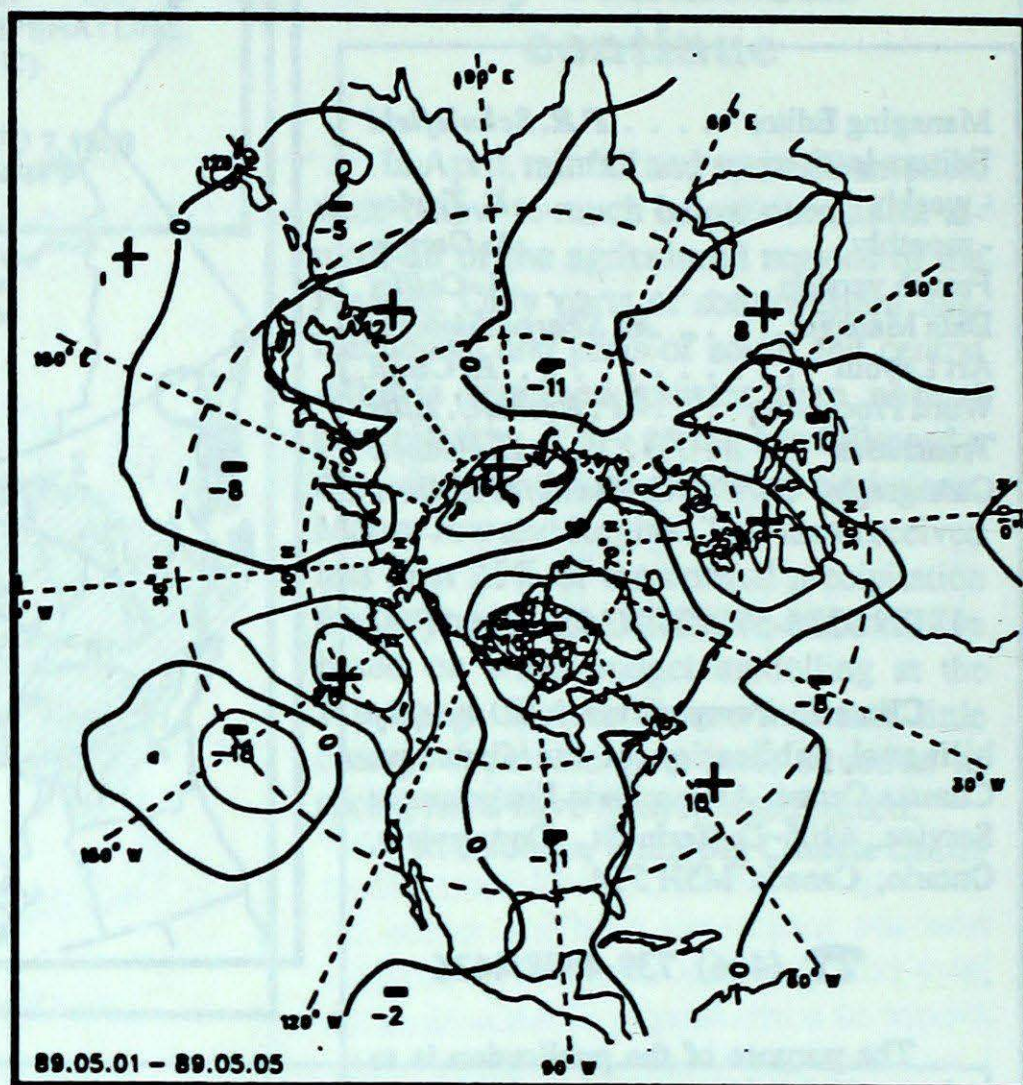
SOIL MOISTURE INDEX
PER CENT OF WATER
HOLDING CAPACITY
MAY 6, 1989



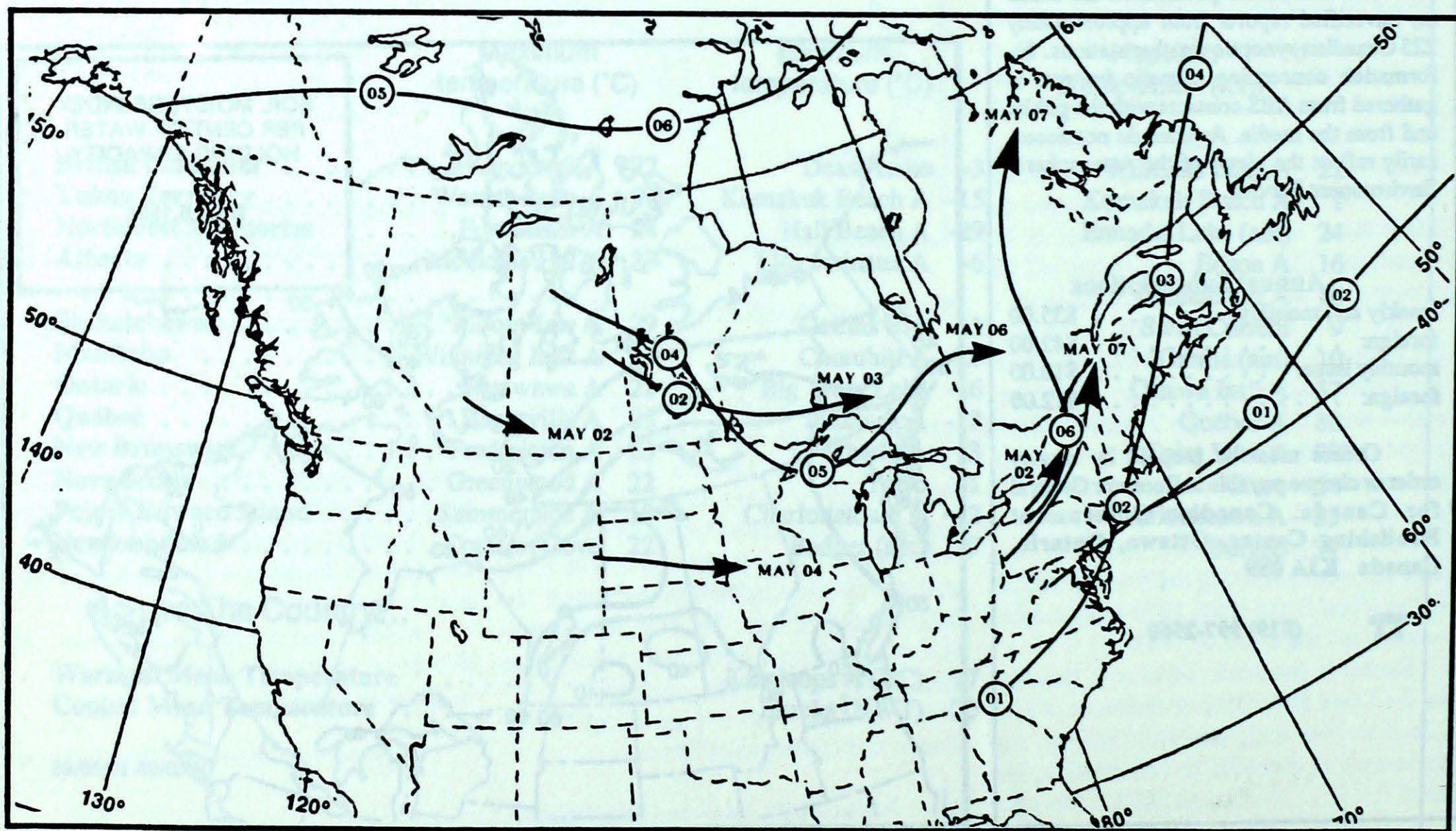
50 kPa ATMOSPHERIC CIRCULATION



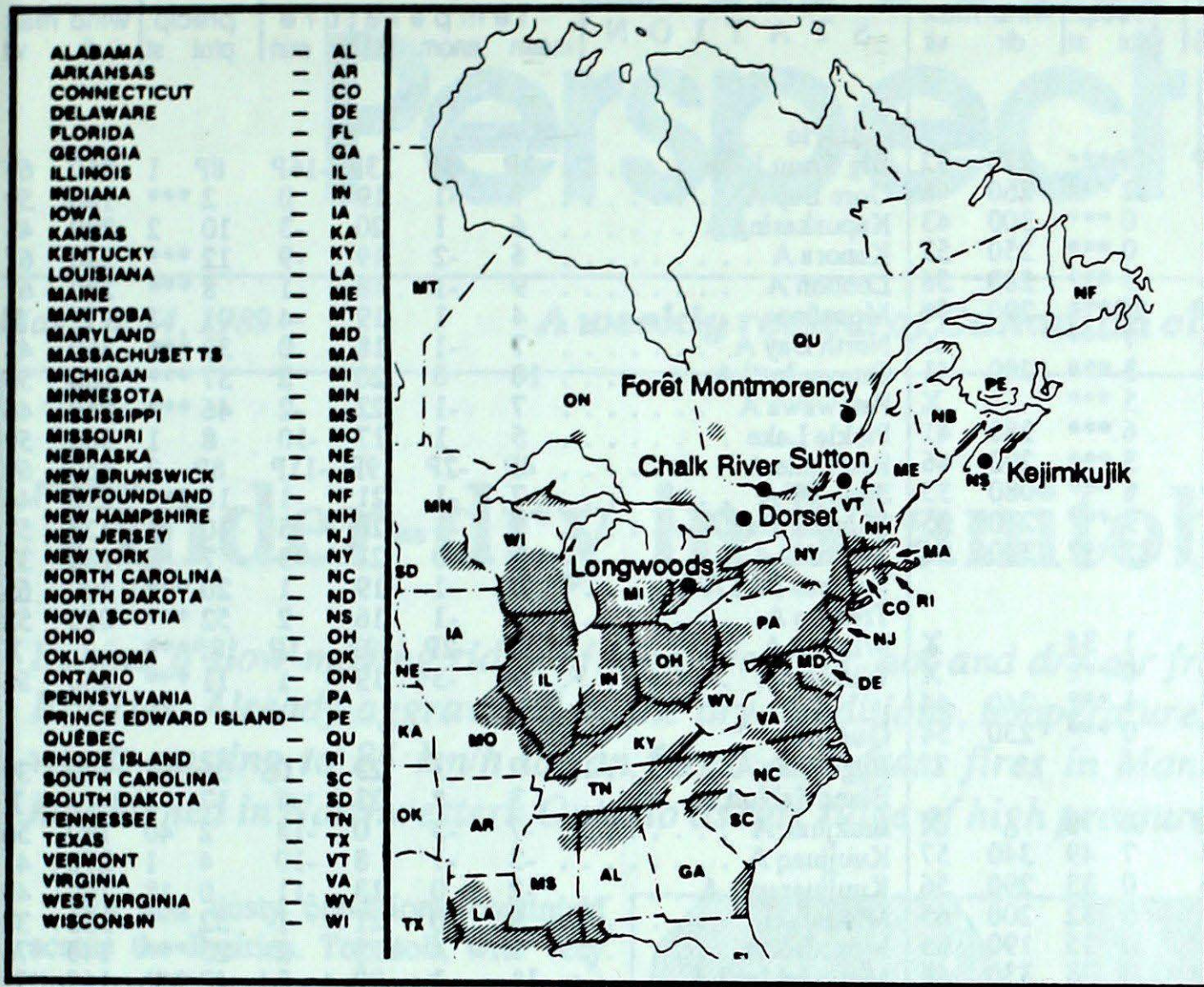
Mean geopotential height
50 kPa level (10 decametre intervals)



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



Tracks of low pressure centres at 12 UTC 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. For more information concerning the acid rain report, see Climatic Perspectives, volume 5, number 50, page 6.

SITE	day	pH	amount	AIR PATH TO SITE
Longwoods	4	4.2	6 R	..... Indiana, Kentucky, Ohio
Dorset *	2	4.5	17 R	..... Northwestern Quebec, Central Ontario
	5	4.3	26 R	..... Indiana, Ohio, Southern Ontario
Chalk River	2	4.4	17 R	..... Northwestern Quebec
	5	4.1	11 R	..... New York, Eastern Ontario
	6	4.7	17 R	..... Northwestern Quebec, Central Ontario
Sutton	1	4.8	11 R	..... New York, New Hampshire, Vermont
	2	4.8	15 R	..... New England, Southern Quebec
	3	4.9	12 R	..... Northwestern and Southern Quebec
	5	4.3	17 R	..... Atlantic Ocean, New England
	6	4.3	6 R	..... Atlantic Ocean, New England
Montmorency	2	4.9	13 R	..... Maine, New Brunswick, Eastern Quebec
	3	4.2	3 M	..... Northern and Central Quebec
	5	5.6	31 R	..... Atlantic Ocean, New England
	6	5.0	19 R	..... Atlantic Ocean, Maine
Kejimikujik	2	4.0	3 R	..... Atlantic Ocean
	6	4.5	25 R	..... Atlantic Ocean

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

STATION	temperature				precip. plot st	wind max		STATION	temperature				precip. plot st	wind max			
	mean	anom	max	min		dir	vit		mean	anom	max	min		dir	vit		
British Columbia								Ontario									
Cape St James	10P	2P	18P	6P	0P***	270	32	Big Trout Lake	-2P	-3P	13P	-16P	8P	1	350	69	
Cranbrook A	12	2	24	1	12***	260	46	Gore Bay A	7	-1	19	0	2***	180	59		
Fort Nelson A	12	6	23	-1	0***	300	43	Kapuskasing A	6	1	20	-3	10	2	220	43	
Fort St John A	13	6	23	3	0***	250	57	Kenora A	6	-2	19	-9	12***	340	67		
Kamloops A	17	4	27	6	3***	280	56	London A	9	-1	18	1	8***	280	67		
Penticton A	15P	3P	26P	3P	3P***	290	56	Moosonee	4	1	19	-4	1	1	X		
Port Hardy A	12	4	22	5	7***		X	North Bay A	7	-1	18	0	39***	350	43		
Prince George A	12	5	22	0	3***	280	41	Ottawa Int'l A	10	0	20	2	57***	280	50		
Prince Rupert A	10	3	18	5	5***		X	Petawawa A	7	-1	22	-2	46***	250	46		
Revelstoke A	14	3	26	3	6***	280	41	Pickle Lake	5	1	17	-10	8	1	360	59	
Smithers A	12	4	22	1	3***	290	46	Red Lake A	4P	-2P	19P	-11P	8P	2	360	69	
Vancouver Int'l A	15	4	22	9	6***	080	33	Sudbury A	7	-1	21	-1	16***	230	44		
Victoria Int'l A	13	3	21	1	9***	270	35	Thunder Bay A	5	-1	20	-5	10	1	320	57	
Williams Lake A	12	4	23	2	22***	330	44	Timmings A	5	0	21	-3	7	2	140	37	
Yukon Territory								Toronto Int'l A									
Komakuk Beach A	-8	1	-2	-15	1	34	X	Trenton A	9	-1	16	2	52***	020	52		
Teslin (aut)	9	*	19	-3	0***		X	Warton A	7P	-2P	19P	1P	18P***		X		
Watson Lake A	9	5	21	-3	1***	240	44	Windsor A	9	-3	19	1	11***	230	56		
Whitehorse A	9	4	19	-2	0***	230	54	Québec									
Northwest Territories								Bagotville A									
Alert	-19P	-4P	-6P	-29P	0P	70	X	Blanc Sablon A	3	*	13	-4	17	1	X		
Baker Lake A	-14	-3	-2	-24	7	49	340	57	Inukjuak A	-7	-3	0	-18	2	40	190	56
Cambridge Bay A	-18	-4	-10	-26	0	33	290	56	Kuujuuaq A	-3	-1	8	-10	4	1	270	41
Cape Dyer A	-12	-3	-2	-21	5	132	200	65	Kuujuuarapik A	-2	0	13	-11	0	18	160	41
Clyde A	-15P	-4P	-6P	-26P	3P	35	190	65	Maniwaki	8	0	21	-1	52***	330	37	
Coppermine A	-11P	0P	-1P	-21P	1P	73	330	46	Mont Joli A	9	4	19	2	25***	140	74	
Coral Harbour A	-14P	-5P	-4P	-26P	1P	35	320	63	Montréal Int'l A	11	1	20	3	42***	160	52	
Eureka	-20	-4	-11	-29	1	21	150	59	Natashquan A	4	2	12	-2	70***	140	52	
Fort Smith A	6P	2P	24P	-6P	1P	1	320	41	Québec A	11	3	22	3	80***	070	63	
Hall Beach A	-19	-6	-9	-29	3	40	330	70	Schefferville A	0	2	10	-10	8	33	X	
Inuvik A	-3	3	8	-13	3	7	310	35	Sept-Iles A	6	2	14	-1	42***	090	70	
Iqaluit A	-9	-4	-1	-18	4	4	330	59	Sherbrooke A	10	3	20	2	30***	270	46	
Mould Bay A	-20P	-5P	-10P	-29P	1P	20	280	54	Val D'or A	6	1	19	-1	28***	330	61	
Norman Wells A	4	2	14	-5	3***	300	65	New Brunswick									
Resolute A	-20	-5	-12	-28	0	27	030	52	Charlo A	8	3	20	-3	50***	290	54	
Yellowknife A	2	2	12	-10	2***	340	46	Chatham A	11	5	22	-1	35***	210	70		
Alberta								Fredericton A									
Calgary Int'l A	10	3	25	-2	12***	340	63	Moncton A	11P	5P	22P	2P	29P***	270	63		
Cold Lake A	10	3	25	-3	1***	280	56	Saint John A	9	3	19	0	77***	200	59		
Edmonton Namao A	11	3	25	1	1***	310	65	Nova Scotia									
Fort McMurray A	10	3	24	-3	4***	180	39	Greenwood A	12	4	22	0	13***	230	74		
High Level A	10	3	24	1	0***	350	41	Shearwater A	9	2	17	2	25***	220	57		
Jasper	10	3	22	0	13***		X	Sydney A	10	5	21	0	15***	190	59		
Lethbridge A	12	3	26	-1	6***	030	67	Yarmouth A	9	2	14	4	20***	160	65		
Medicine Hat A	13	3	27	-1	8***	180	52	Prince Edward Island									
Peace River A	11	4	25	-1	1***	230	59	Charlottetown A	11	6	18	2	35***	150	56		
Saskatchewan								Summerside A									
Cree Lake								11	5	19	4	24***	210	76			
Estevan A	9	1	25	-5	2***	330	69	Newfoundland									
La Ronge A	6	1	23	-9	5***	340	50	Cartwright	3	2	17	-3	9	90	350	67	
Regina A	9	1	27	-7	1***	340	69	Churchill Falls A	3	3	15	-8	17	58	020	56	
Saskatoon A	10	1	27	-9	2***	360	59	Gander Int'l A	8	4	21	-1	6***	180	74		
Swift Current A	10	2	26	-6	1***	330	74	Goose A	5	2	19	-4	25	1	190	54	
Yorkton A	8	0	25	-5	3***	350	67	Port Aux Basques	5	1	11	-1	32	1	100	65	
Manitoba								St John's A									
Brandon A	7	-1	22	-10	3***	340	98	6	3	16	-1	6***	240	72			
Churchill A	-7P	-2P	7P	-20P	4P	21	190	61	St Lawrence	6P	2P	15P	0P	10P***		X	
Lynn Lake A	2P	-1P	18P	-13P	4P	1	230	48	Wabush Lake A	3	3	13	-9	9***	350	41	
The Pas A	5	0	22	-9	3***	150	63	89/05/01-89/05/7									
Thompson A	3	0	20	-14	7***	350	59										
Winnipeg Int'l A	8	-1	24	-10	1***	300	80										

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.
 vit = wind speed in km/h

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