

Climatic Perspectives

March 20 to 26, 1989

A weekly review of Canadian climate

Vol. 11 No. 13

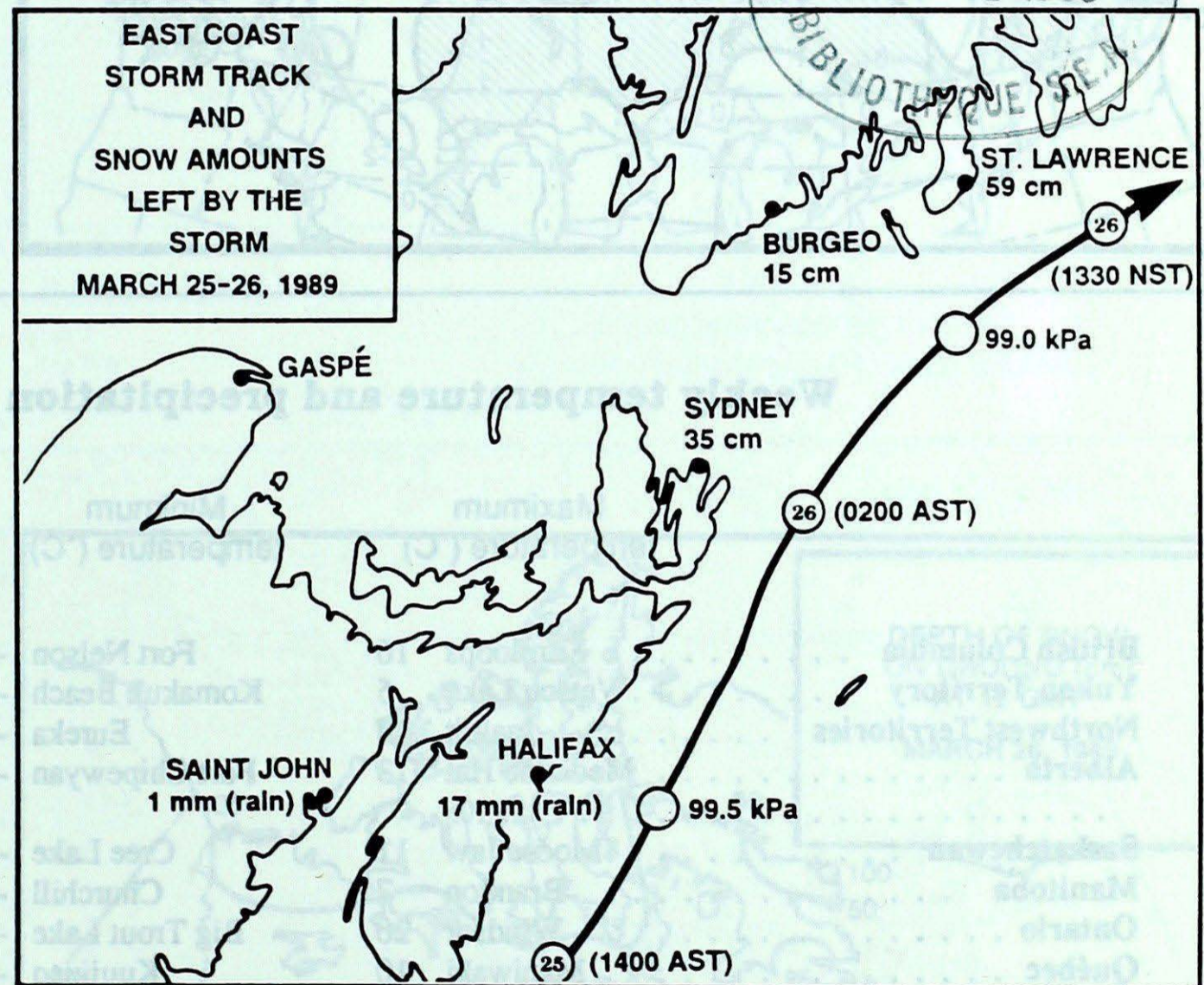
Severe Easter storm hits the East Coast

This winter on Canada's east coast has generally been less severe than usual with fewer major storms and below-normal precipitation.

It seems though, that in recent weeks, there has been a resumption of activity along the traditional east-coast winter storm track. A major winter storm paralyzed Cape Breton Island and the southeastern parts of Newfoundland over the Easter weekend. This storm formed on the 23rd over the warm waters of the Gulf of Mexico, a favourite area for storm development. The storm crossed Florida then headed northeastward to arrive off the coast of Nova Scotia on March 25.

Frank Amirault (AES Halifax) says the storm caused strong winds, freezing precipitation, rain and snow. Hardest hit in Nova Scotia was the Cape Breton area where 35 cm of snow was reported at Sydney. Precipitation began on Saturday, the 25th, as snow, then changed to rain, freezing rain and back to snow again on the 26th. The storm was described by local Transportation spokesperson as the "worst" that plow crews had to contend with for some time. Blocked roads and cancelled airline flights disrupted plans of numerous travellers over the holiday weekend.

According to George MacMillan (AES Gander) 20-40 cm of snow fell during this storm when it hit southeastern New-

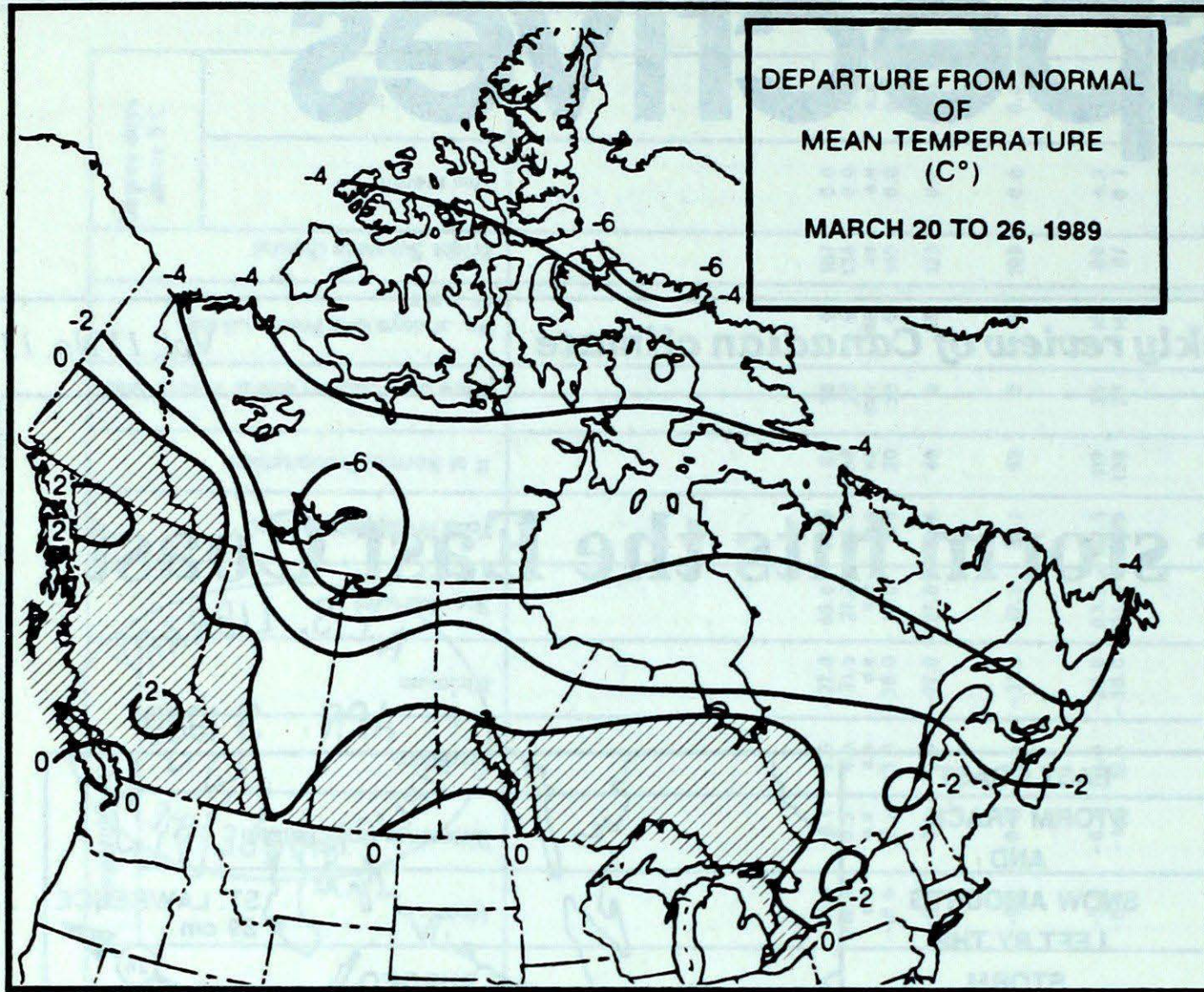


foundland. The village of St. Lawrence reported 59 cm of snow in the two days of Saturday and Sunday. The snow was whipped by winds in excess of 100 km/h with Bonavista reporting gusts to 102 km/h late Saturday. The snow was mixed with freezing rain on the Avalon Peninsula. Highways on the Avalon and Burin Peninsulas were closed as a result of the storm. The storm moved out to sea early Monday as residents began the digging-out task.

A look ahead...

Temperatures for the first week in April are expected to be above normal for the Ungava Peninsula and Baffin Island. The rest of the country will experience near normal temperatures. Precipitation is likely over northern British Columbia, the Yukon, southern Ontario, southern Québec and the Maritimes. Prepared March 29.

A.Gergye, Canadian Climate Centre



**Some heavy snow showers
In Alberta's drybelt.**

An unstable air mass over extreme southern Alberta produced localized heavy snow showers on March 22. Heaviest amounts appear to have occurred primarily over the Lethbridge district with 24.4 cm at Lethbridge Airport. Most of this fell between 7:00 a.m. and noon. Snow depth increased from 17 cm at 5:00 a.m. to 28 cm at 11:00 a.m. but with melting temperatures again dropped to 18 cm by 5:00 p.m. Continued mild temperatures during the week had reduced snow cover to 5 cm by the weekend. Extreme southwestern and southeastern Alberta received little significant precipitation during the week.

Will Prusak, AES-Edmonton

Weekly temperature and precipitation extremes

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Kamloops 16	Fort Nelson -21	Abbotsford 53
Yukon Territory	Watson Lake 5	Komakuk Beach -37	Watson Lake 4
Northwest Territories	Iqaluit 3	Eureka -45	Cape Dyer 6
Alberta	Medicine Hat 13	Fort Chipewyan -29	Lethbridge 28
Saskatchewan	Moose Jaw 11	Cree Lake -34	Swift Current 7
Manitoba	Brandon 7	Churchill -31	Island Lake 11
Ontario	Windsor 20	Big Trout Lake -30	North Bay 13
Québec	Maniwaki 10	Kuujuuaq -35	Maniwaki 14
New Brunswick	Chatham 9	Saint John -24	Fredericton 26
Nova Scotia	Yarmouth 8	Truro -19	Sydney 61
Prince Edward Island	Summerside 5	Summerside -16	Summerside 36
Newfoundland	Goose 4	Churchill Falls -33	St. Lawrence 66

Across The Country...

Warmest Mean Temperature	Abbotsford (BC) 7
Coollest Mean Temperature	Eureka (NWT) -40

CLIMATIC PERSPECTIVES
VOLUME 11

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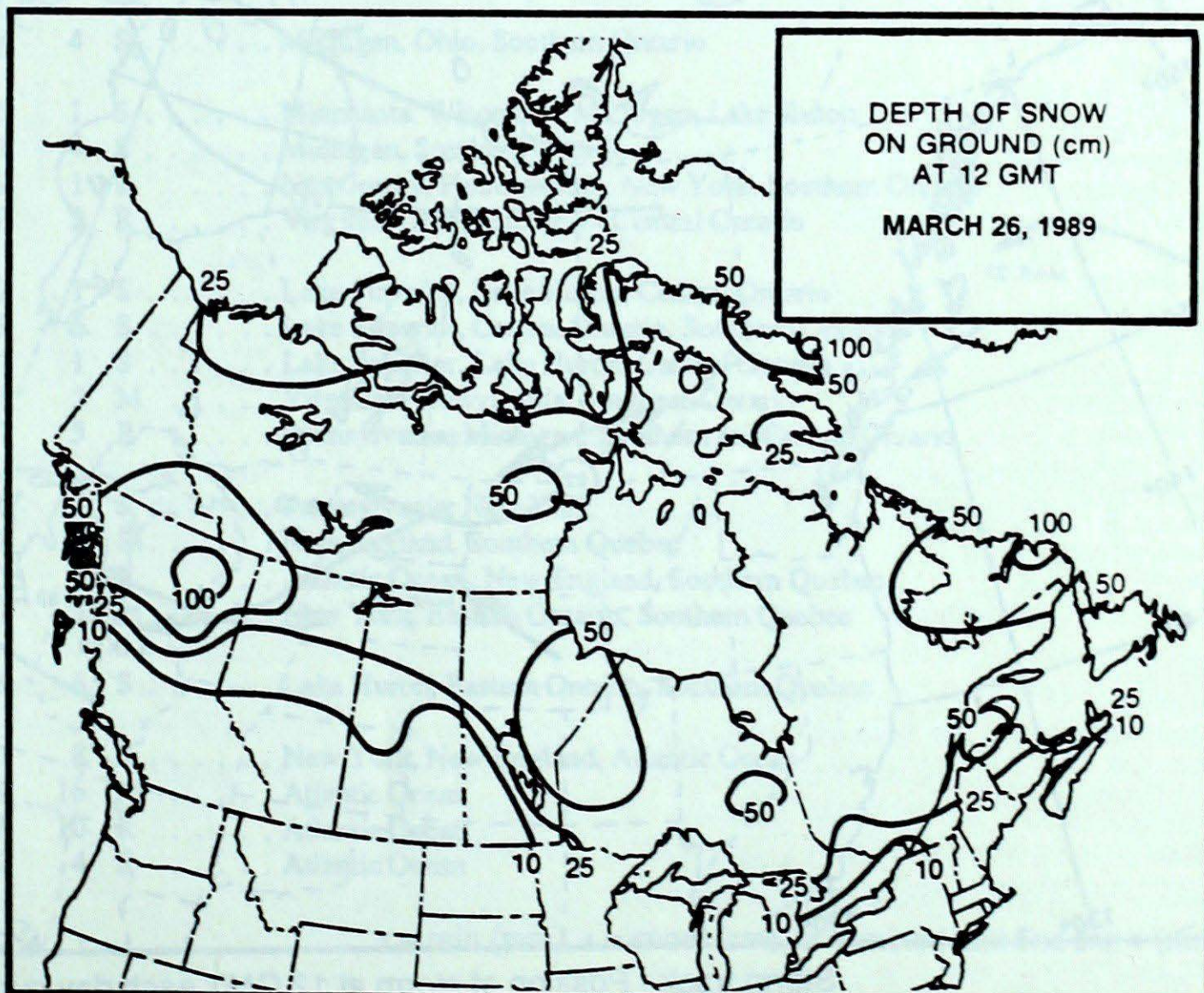
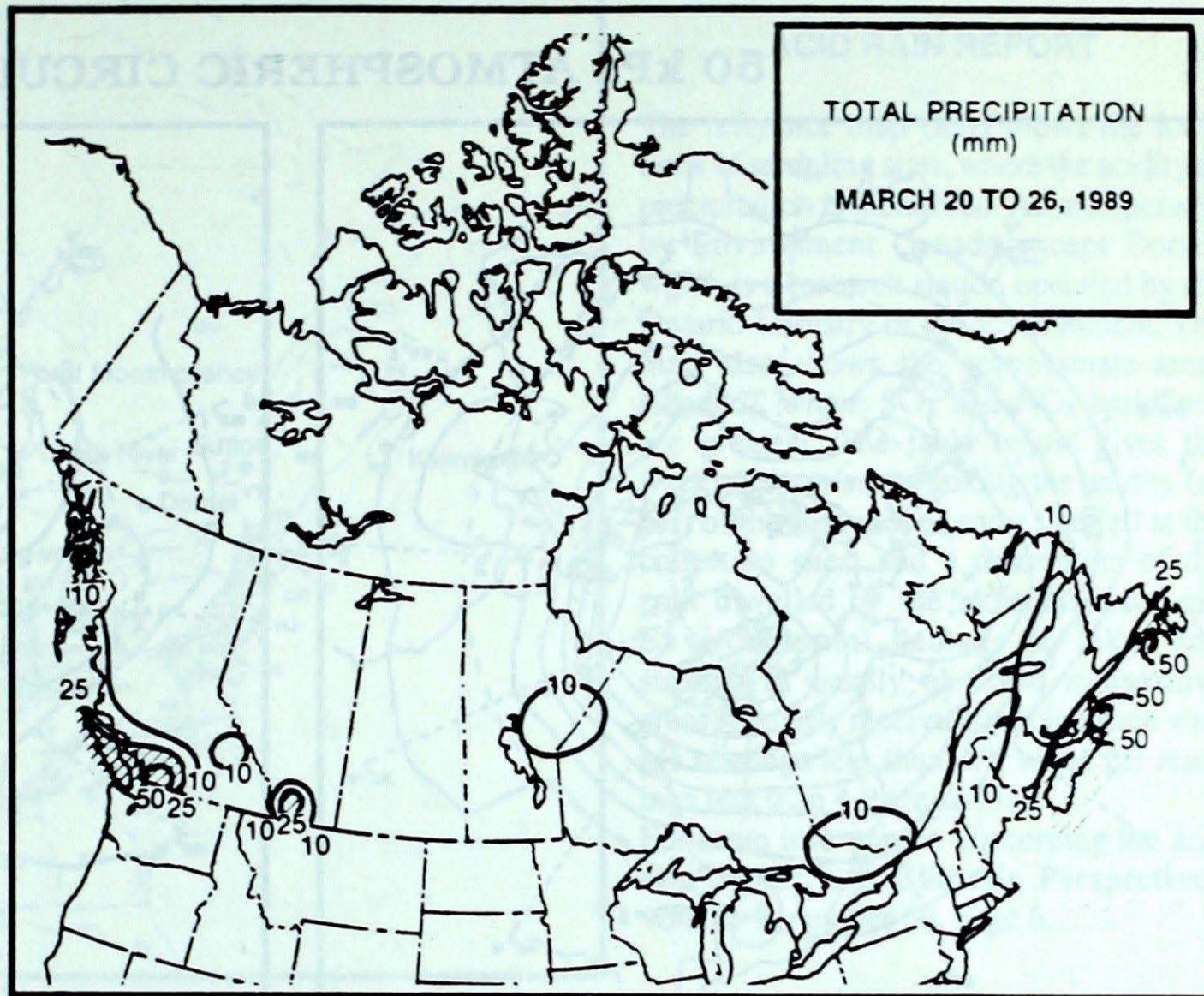
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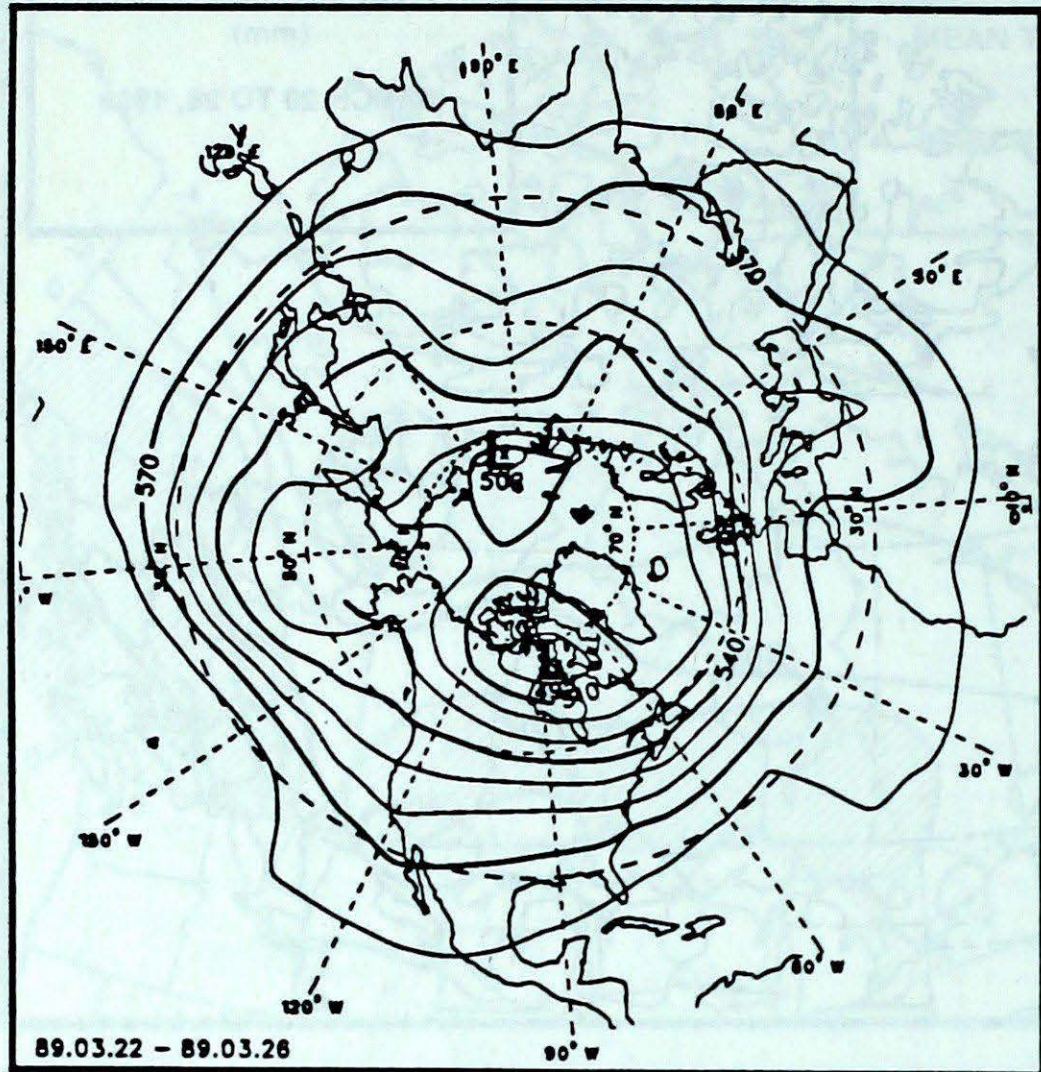
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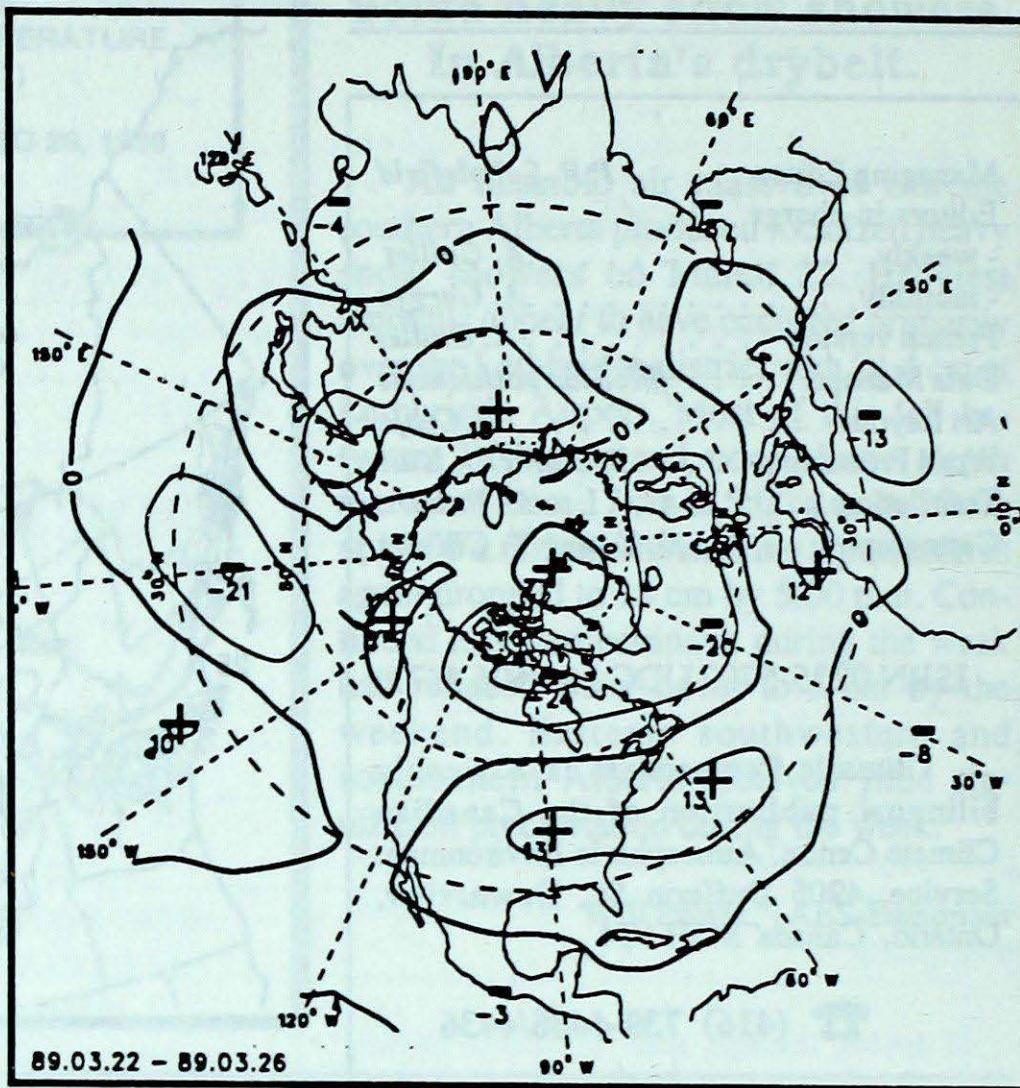
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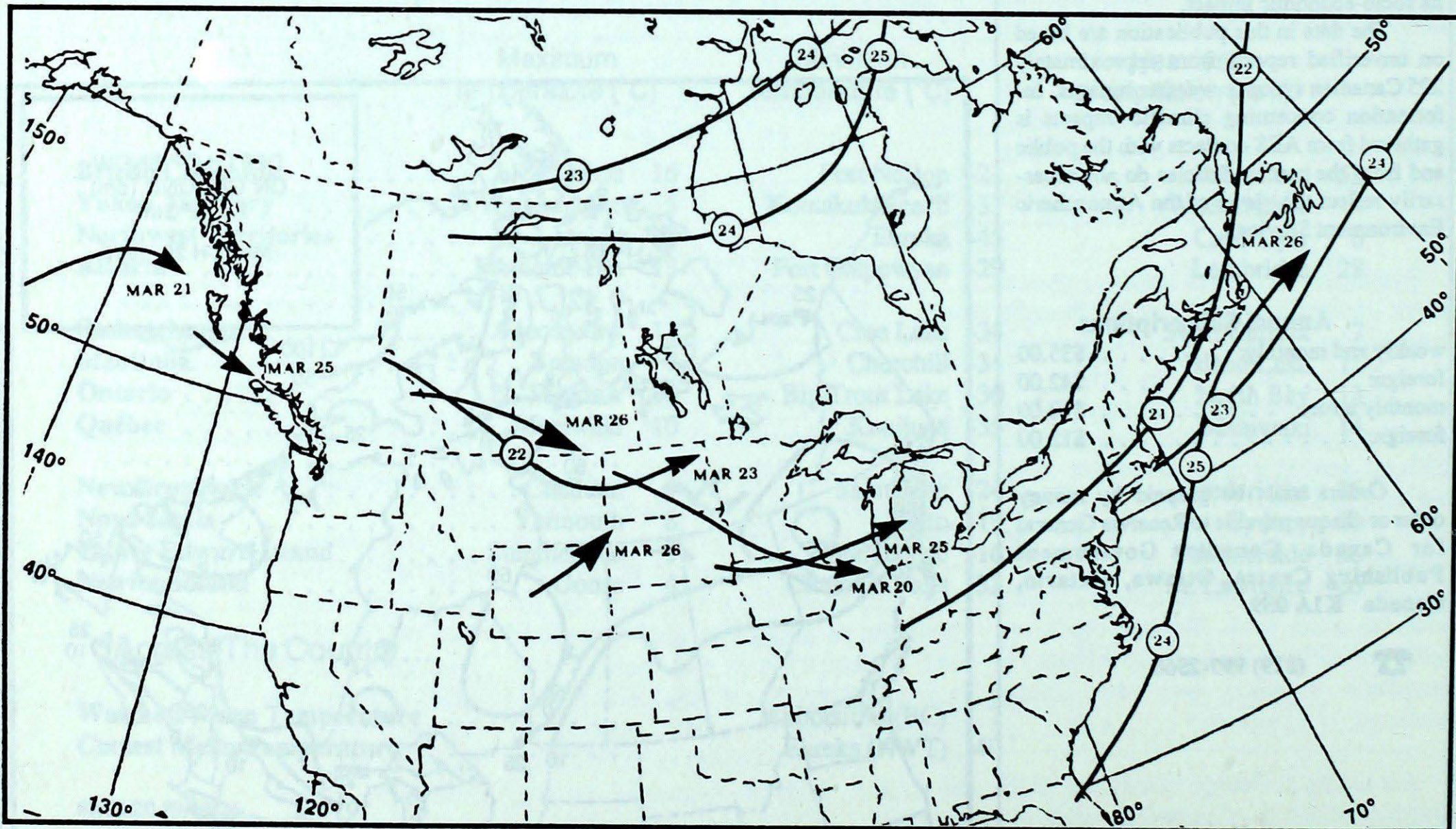
50 kPa ATMOSPHERIC CIRCULATION



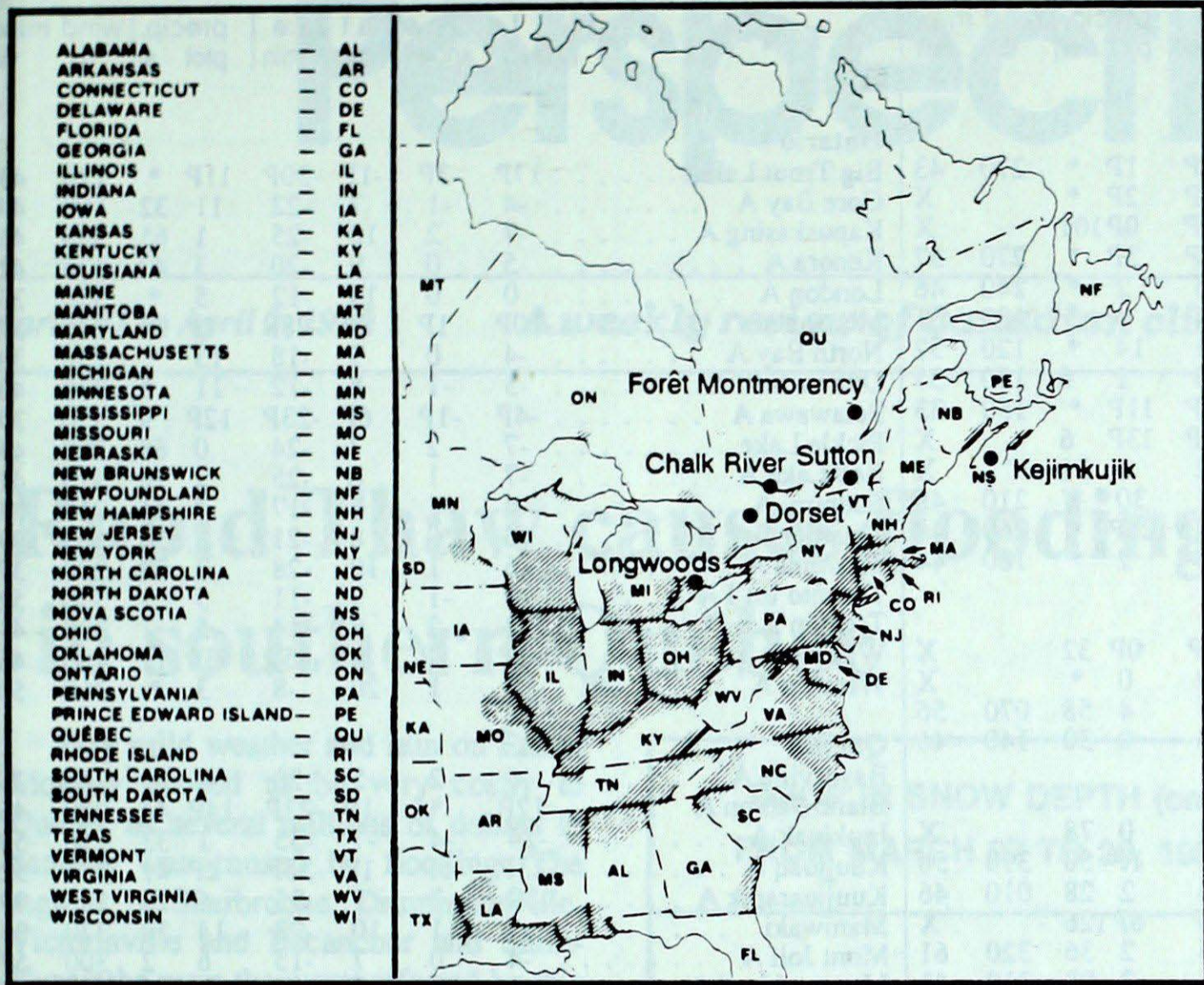
Mean geopotential height
50 kPa level (10 decameter intervals)



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



Storm track - Position of storm at 12 GMT each day during the period.



ACID RAIN REPORT

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
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March 19 to March 25, 1989

Longwoods	20	3.9	4 S	Michigan, Ohio, Southern Ontario
	25	3.8	2 R	Virginia, Ohio, Michigan, Central Ontario
Dorset *	19	4.5	1 S	Minnesota, Wisconsin, Michigan, Lake Huron
	20	4.1	4 S	Michigan, Southern Ontario
	24	3.9	1 R	New Jersey, Pennsylvania, New York, Southern Ontario
	25	3.8	2 R	Virginia, Ohio, Michigan, Central Ontario
Chalk River	19	4.2	1 S	Lake Superior, Lake Huron, Central Ontario
	20	3.9	6 S	Lake Superior, Central Ontario, Southern Ontario
	22	4.1	1 S	Lake Superior, Lake Huron, Central Ontario
	24	3.8	2 M	Virginia, Pennsylvania, Southern Ontario
	25	3.7	5 R	Pennsylvania, Michigan, Southern and Central Ontario
Sutton	20	4.0	7 S	Pennsylvania, New York
	21	3.8	5 S	New England, Southern Quebec
	24	4.1	1 R	Atlantic Ocean, New England, Southern Quebec
	25	4.1	5 M	New York, Eastern Ontario, Southern Quebec
Montmorency	20	4.5	6 S	Lake Huron, Eastern Ontario, Southern Quebec
Kejimikujik	20	5.1	8 S	New York, New England, Atlantic Ocean
	21	5.2	16 M	Atlantic Ocean
	24	5.1	10 R	Atlantic Ocean
	25	5.3	4 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	vit		mean	anom	max	min		dir	vit
British Columbia								Ontario							
Cape St James	6P	0P	9P	3P	1P *	270	43	Big Trout Lake	-17P	-3P	-1P	-30P	11P *	270	43
Cranbrook A	4P	1P	10P	-5P	2P *		X	Gore Bay A	-4	-1	7	-22	11 32	160	44
Fort Nelson A	-8P	0P	3P	-21P	0P101		X	Kapuskasing A	-7	2	10	-25	1 65	250	46
Fort St John A	-6P	-1P	7P	-20P	3P *	270	37	Kenora A	-5	0	9	-20	3 40	320	41
Kamloops A	6	1	16	-5	2 *	240	46	London A	0	0	14	-12	5 *	320	33
Penticton A	6	1	13	-4	4 *	180	61	Moosonee	-10P	1P	8P	-28P	1P 29	210	37
Port Hardy A	6	1	11	-1	14 *	120	52	North Bay A	-4	0	9	-18	13 *	230	39
Prince George A	1	1	9	-13	1 6	150	35	Ottawa Int'l A	-3	-1	8	-12	11 5	330	43
Prince Rupert A	4P	1P	10P	-2P	11P *	180	33	Petawawa A	-4P	-1P	6P	-23P	12P 9	350	39
Revelstoke A	3P	1P	9P	-6P	13P 6		X	Pickle Lake	-7	2	7	-24	0 68	280	43
Smithers A	1	1	8	-12	1 31		X	Red Lake A	-7	1	6	-25	2 76	310	41
Vancouver Int'l A	7	0	11	1	30 *	210	48	Sudbury A	-4	1	6	-17	7 44	210	33
Victoria Int'l A	6P	0P	11P	0P	20P *	260	44	Thunder Bay A	-5	0	8	-21	2 33	300	39
Williams Lake A	2	2	8	-8	2 *	180	44	Timmins A	-6	1	10	-28	3 32	200	37
Yukon Territory								Québec							
Komakuk Beach A	-28P	-3P	-23P	-37P	0P 32		X	Bagotville A	-6	-2	5	-20	5 39	280	35
Teslin (aut)	-4	*	3	-19	0 *		X	Blanc Sablon A	-12P	*	1P	-23P	14P 44	070	46
Watson Lake A	-8	2	5	-25	4 58	070	56	Inukjuak A	-24	-4	-7	-35	1 33	210	59
Whitehorse A	-5	1	4	-23	0 30	140	46	Kuujuuaq A	-23P	-6P	1P	-35P	2P 41	280	52
Northwest Territories								New Brunswick							
Alert	-37	-4	-31	-43	0 78		X	Charlo A	-7	-4	7	-21	6 50	300	48
Baker Lake A	-30P	-4P	-24P	-38P	1P 50	310	56	Chatham A	-6P	-4P	9P	-20P	12P 12	210	46
Cambridge Bay A	-31	-1	-25	-38	2 28	010	46	Fredericton A	-5	-5	8	-22	26 21	330	52
Cape Dyer A	-28P	-5P	-11P	-38P	6P126		X	Moncton A	-6P	-5P	7P	-21P	14P 31	170	48
Clyde A	-33	-8	-23	-45	2 36	320	61	Saint John A	-6	-5	7	-24	22 15	010	54
Coppermine A	-29	-3	-20	-38	2 88	310	41	Nova Scotia							
Coral Harbour A	-31	-7	-23	-39	2 26	270	56	Greenwood A	-3	-3	6	-17	46 1	030	52
Eureka	-40P	-4P	-33P	-45P	0P 21		X	Shearwater A	-2	-2	6	-14	48 1	100	67
Fort Smith A	-19P	-6P	-2P	-33P	0P 34	300	37	Sydney A	-5	-4	5	-15	61 26	160	63
Hall Beach A	-31P	-3P	-17P	-41P	1P 41	100	43	Yarmouth A	0	-1	8	-9	44 *	060	70
Inuvik A	-30P	-6P	-19P	-41P	1P 40	290	50	Prince Edward Island							
Iqaluit A	-25	-4	-10	-41	5 21	150	65	Charlottetown A	-5P	-3P	2P	-16P	24P 25	010	50
Mould Bay A	-35	-4	-27	-44	0 16	350	50	Summerside A	-4P	-3P	5P	-16P	37P *	340	57
Norman Wells A	-25	-8	-13	-39	1 21	290	43	Newfoundland							
Resolute A	-31	-1	-24	-36	0 22	040	54	Cartwright	-13P	-6P	4P	-22P	7P116	350	48
Yellowknife A	-23	-6	-11	-37	0 34	320	37	Churchill Falls A	-16	-6	2	-33	1 88	310	52
Alberta								89/03/20-89/03/26							
Calgary Int'l A	-2	0	4	-15	0 1		X	Gander Int'l A	-7P	-5P	3P	-19P	15P 35	360	76
Cold Lake A	-7	-1	7	-19	2 12		X	Goose A	-13P	-7P	4P	-26P	0P 55	270	44
Edmonton Namao A	-5P	-1P	7P	-16P	0P 13		X	Port Aux Basques	-6P	-5P	2P	-15P	20P 48	090	83
Fort McMurray A	-11P	-3P	6P	-26P	2P *	360	37	St John's A	-5P	-4P	3P	-13P	27P 29	010	83
High Level A	-13	-4	2	-26	9 57	360	44	St Lawrence	-5	-5	4	-13	66 42		X
Jasper	1	3	9	-11	3 *		X	Wabush Lake A	-15	-4	2	-32	1 4	230	44
Lethbridge A	-2	-1	11	-17	28 7	230	61								
Medicine Hat A	1	1	13	-12	1 *	220	32								
Peace River A	-7	0	6	-20	4 16	010	41								
Saskatchewan															
Cree Lake	-16P	-3P	3P	-34P	3P *	240	48								
Estevan A	-4P	0P	9P	-19P	2P 1	110	33								
La Ronge A	-9	0	7	-30	4 *	080	33								
Regina A	-7P	-2P	3P	-25P	0P 1	140	43								
Saskatoon A	-6P	0P	3P	-20P	0P *	230	35								
Swift Current A	-4	0	8	-20	7 2	270	43								
Yorkton A	-6	1	2	-22	0 1	120	33								
Manitoba															
Brandon A	-6	0	7	-24	1 6	060	46								
Churchill A	-25P	-6P	-15P	-31P	2P 36	320	52								
Lynn Lake A	-14P	1P	3P	-28P	3P *	310	52								
The Pas A	-11P	-1P	3P	-27P	3P *	300	43								
Thompson A	-15P	-2P	-2P	-29P	3P 40	340	44								
Winnipeg Int'l A	-7	-1	5	-20	2 13		X								

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.