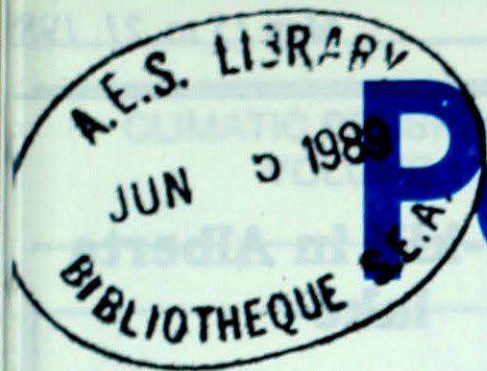


Climatic Perspectives



May 15 to 21, 1989

A weekly review of Canadian climate

Vol. 11 No. 21

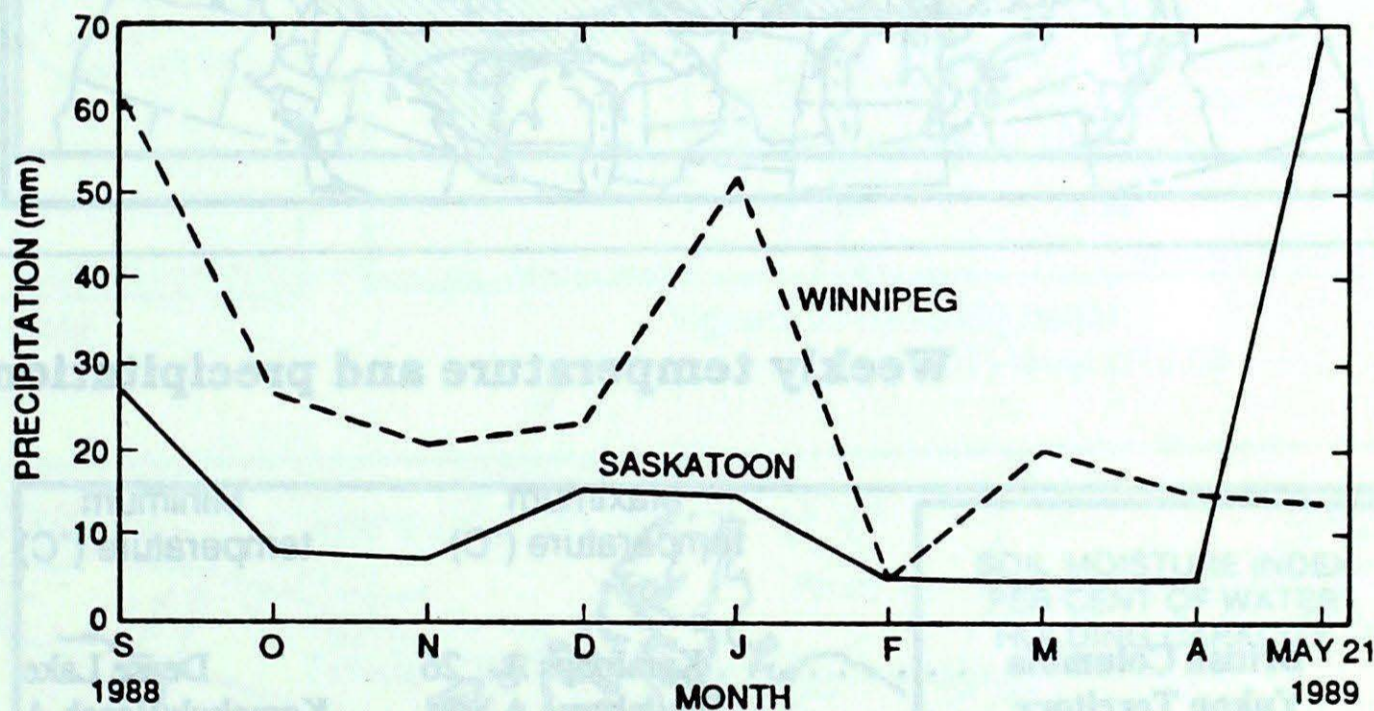
Easing of prolonged dry spell in the prairie provinces

After a dry 1988, dry winter of 1988-89, and dry spring of 1989, there was some welcome relief. Several areas of the Prairies have received substantial amounts of rainfall over the past two weeks.

Areas of concern were central and southern Saskatchewan, southwestern Alberta, and an area from Edmonton to Grande Prairie. Most of the areas in dire need of rain, received at least one good rainfall, and in the case of central Saskatchewan, several rainfalls.

In the week of May 8 to 14, there was a substantial rainfall in southern and central Saskatchewan. A triangular area from Eastend to Prince Albert to West Poplar received more than 20 mm of rain, with amounts of more than 30 mm being recorded south of Swift Current. Again, this week, central Saskatchewan received heavy rainfall in almost the same area as the previous week. Saskatoon received 42 mm this past week. As well, there was a general rainfall of 10 to 20 mm throughout most of the south of Saskatchewan.

Although winter precipitation was more generous in Manitoba than in Alberta and Saskatchewan, a hot, dry spring, with periods of strong winds, has dried the soil. Some light rainfalls received this past week in the south, have done only a little to relieve the dry situation. The heaviest rainfalls were in the central and northern parts of the province.



Heavy rains in May, abruptly ended the long dry spell in Saskatoon, but precipitation deficit continued in Winnipeg.

The dry area between Grande Prairie and Edmonton received 48 to 75 mm of precipitation in the form of rain and snow.

Due to the precipitation of the past 2 weeks, there has been excellent recovery in south-central and central Saskatchewan, and Edmonton to Grande Prairie, Alberta. However, dry areas still remain in southern Manitoba, southeastern Saskatchewan, and southern Alberta. In these areas, precipitation is less than 50% of normal since April 1st.

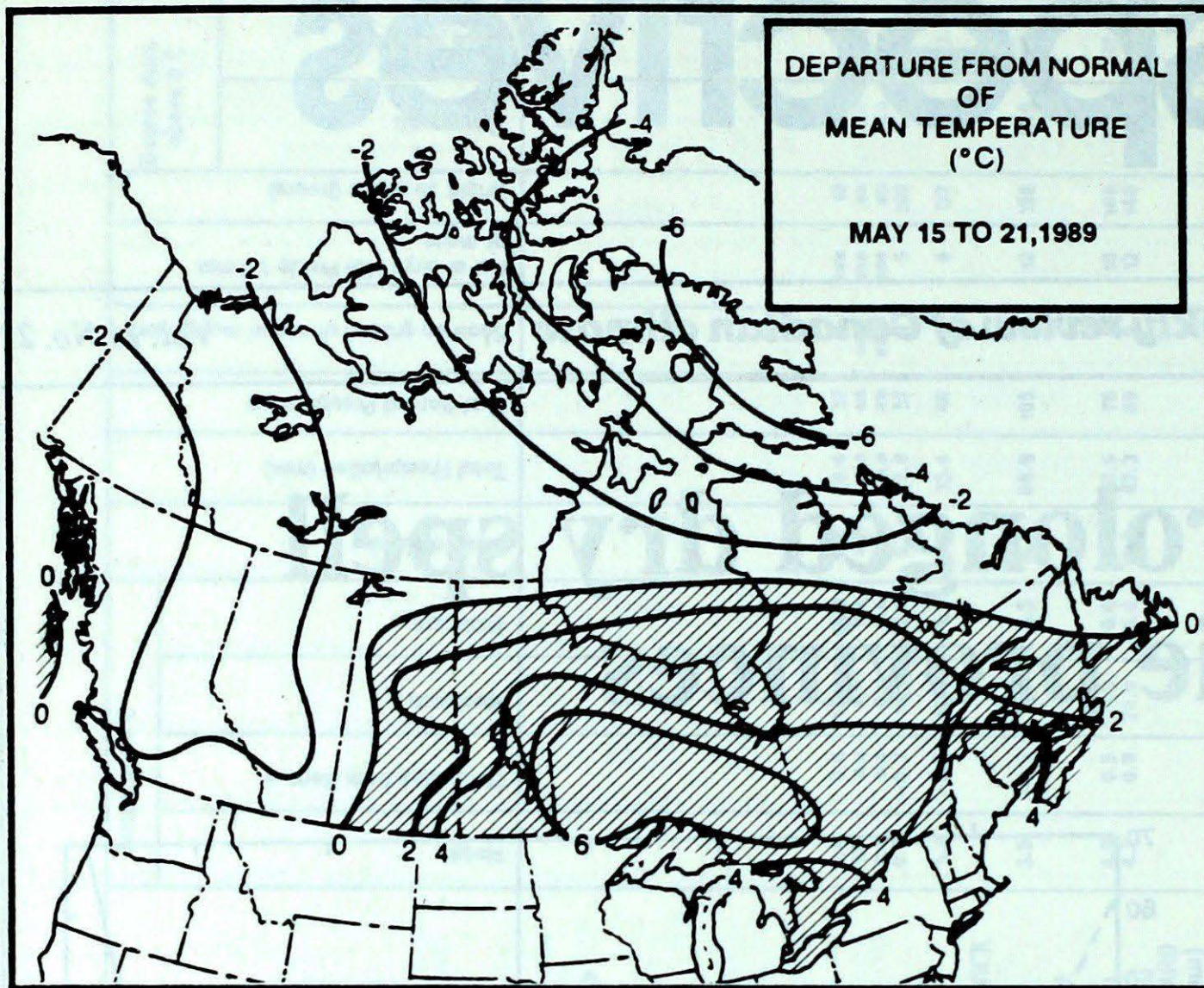
J. Bendell,
Winnipeg Climate Centre

A look ahead...

Above-normal temperatures are expected over the entire country for the week of the 29th. The warmest temperatures will be in British Columbia, Alberta, Québec, and Newfoundland. The 50-kPa circulation suggests below-normal precipitation amounts for British Columbia, Alberta, and Saskatchewan. At the same time, weak low pressure systems will likely affect regions east of Saskatchewan.

— prepared May 24, 1989

A. Gergey, Canadian Climate Centre



Winter-kill in Alberta lake

Lake Utikuma, 40 km north of Lesser Slave Lake, in north-central Alberta, is showing the effects of a cold winter. The lake is also referred to as "Million-dollar Lake", because of the large catches of whitefish which provide a fishing livelihood for the local people. The shallow lake which is eutrophying, froze deeper this year and was covered with more snow. There were no pressure breaks nor thawing spells during the winter to allow any oxygen to be added to the water. As a result, there was a substantial fish-kill, with the result of loss of work for local fishermen.

W. Prusak, AES, Edmonton

Weekly temperature and precipitation extremes

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia Kamloops A	26	Dease Lake -5	Hope A 57
Yukon Territory Whitehorse A	21	Komakuk Beach A -13	Watson Lake A 11
Northwest Territories Fort Smith A	23	Gladman Point A -26	Fort Smith A 32
		Shepherd Bay A -26	
Alberta High Level A	25	Banff (aut) -2	Whitecourt A 75
Saskatchewan Regina A	29	Uranium City A -1	Saskatoon A 42
Manitoba Portage La Prairie A	31	Churchill A -5	Norway House A 47
Ontario Ottawa Int'l A	31	Winisk (aut) -2	Timmins A 51
Québec Montréal Int'l A	31	Kuujuuaq A -8	Vald'Or A 18
New Brunswick Fredericton A	29	Miscou Island (aut) 2	Charlo A 5
Nova Scotia Greenwood A	27	Sydney A 1	Sable Island 11
Prince Edward Island Charlottetown A	24	East Point (aut) 3	Charlottetown A 1
Newfoundland Goose A	25	Nain A, Nfld -9	Bonavista 8

Across The Country...

Warmest Mean Temperature	Pilot Mound (MAN) 20
Coollest Mean Temperature	Resolute A (NWT) -15

89/05/15-89/05/21

CLIMATIC PERSPECTIVES
VOLUME 11

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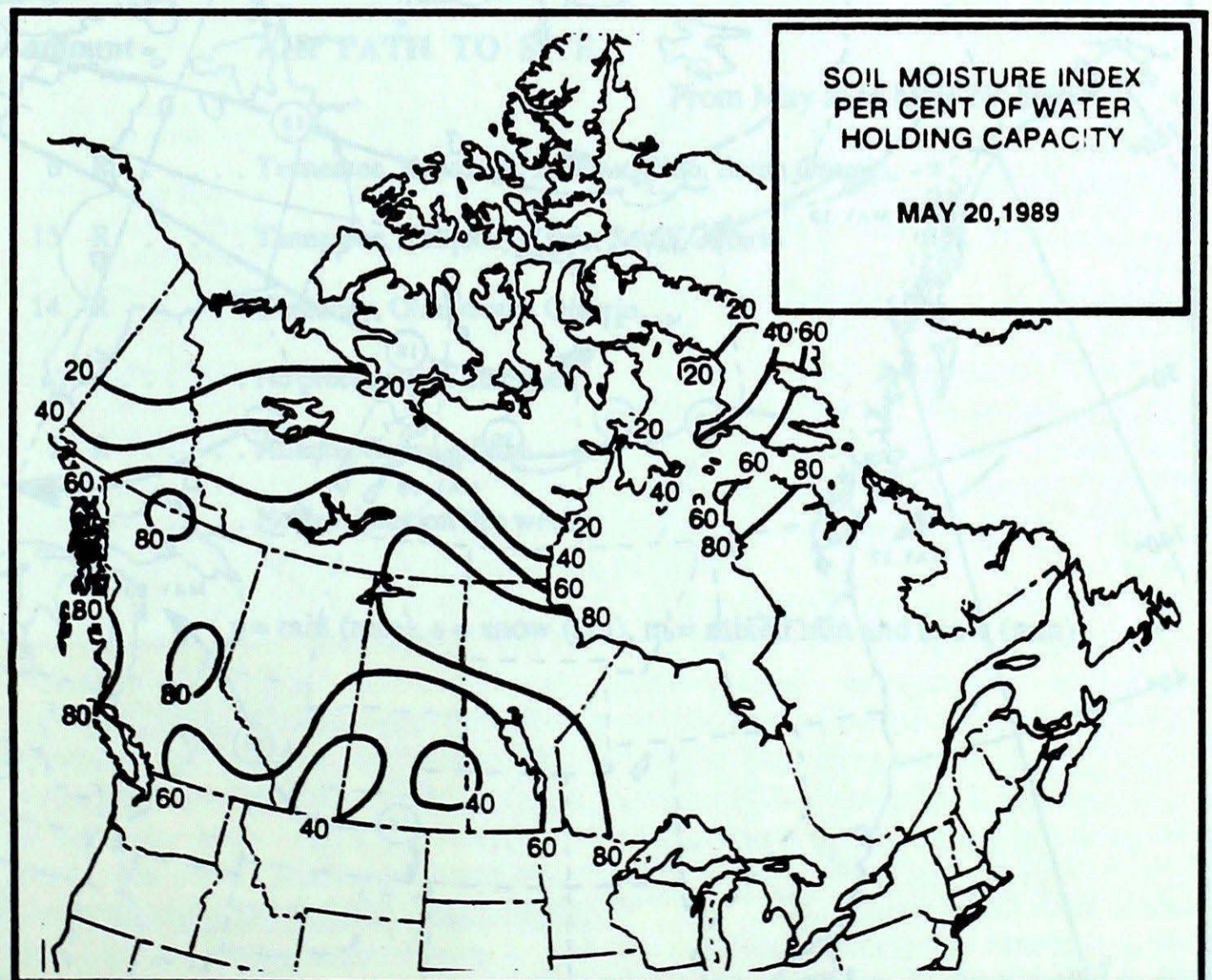
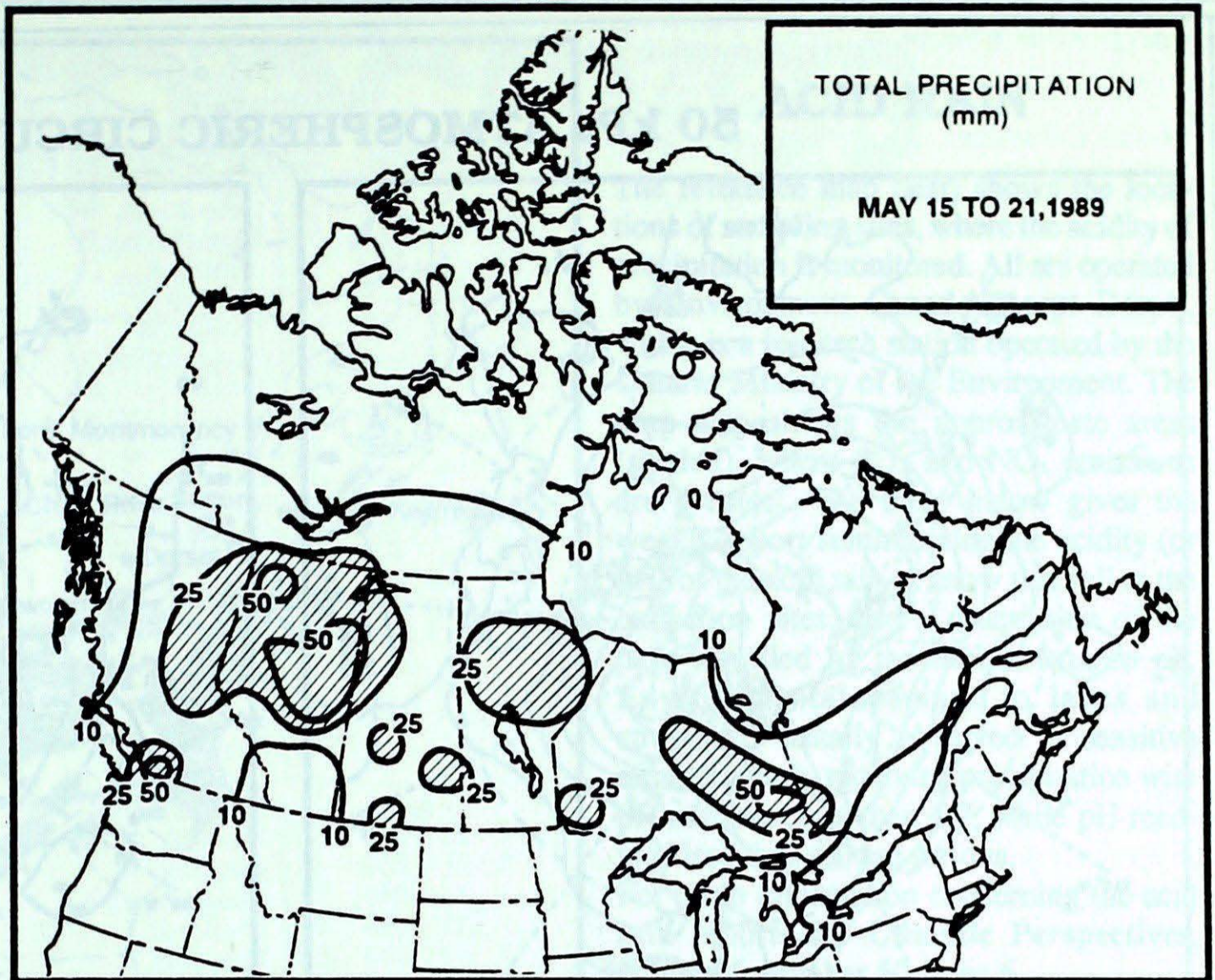
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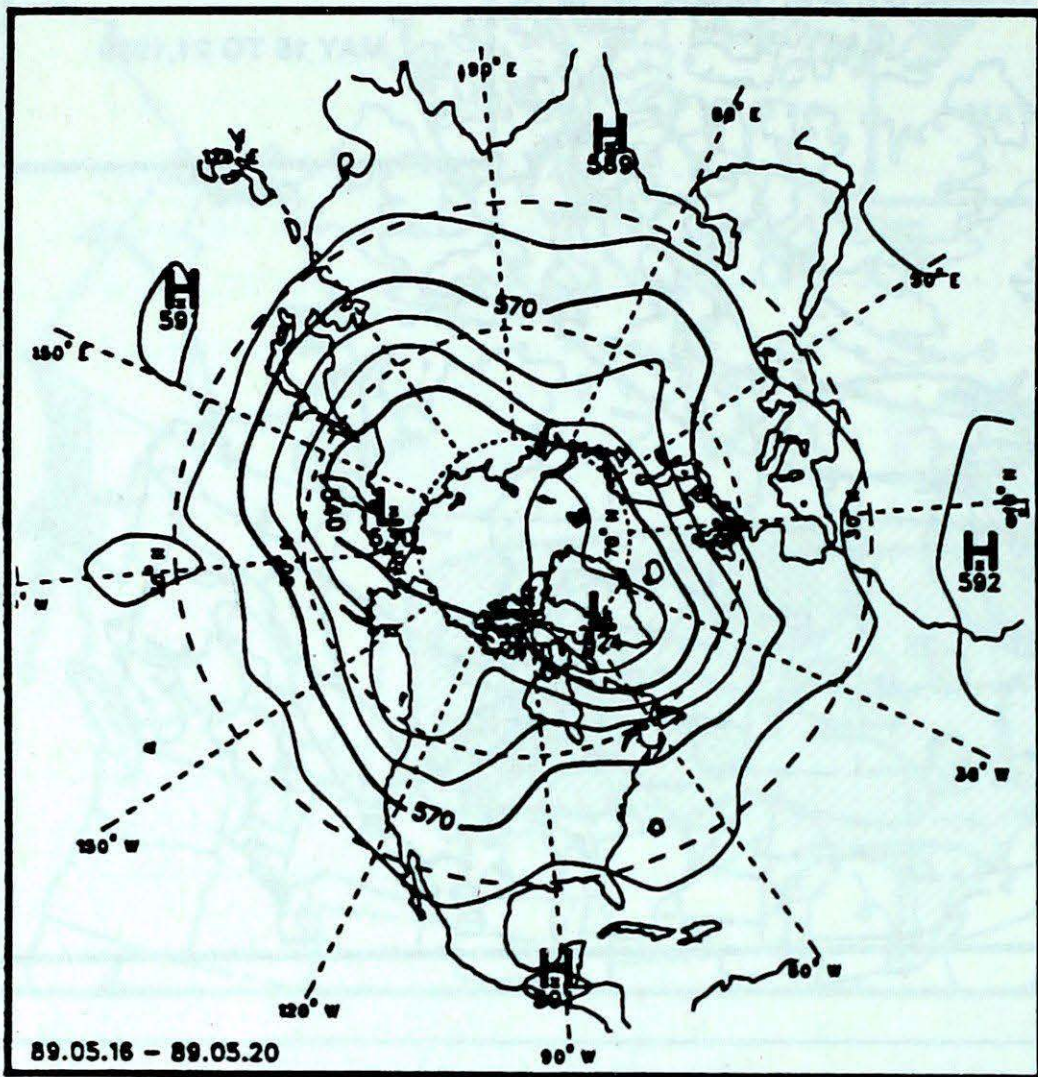
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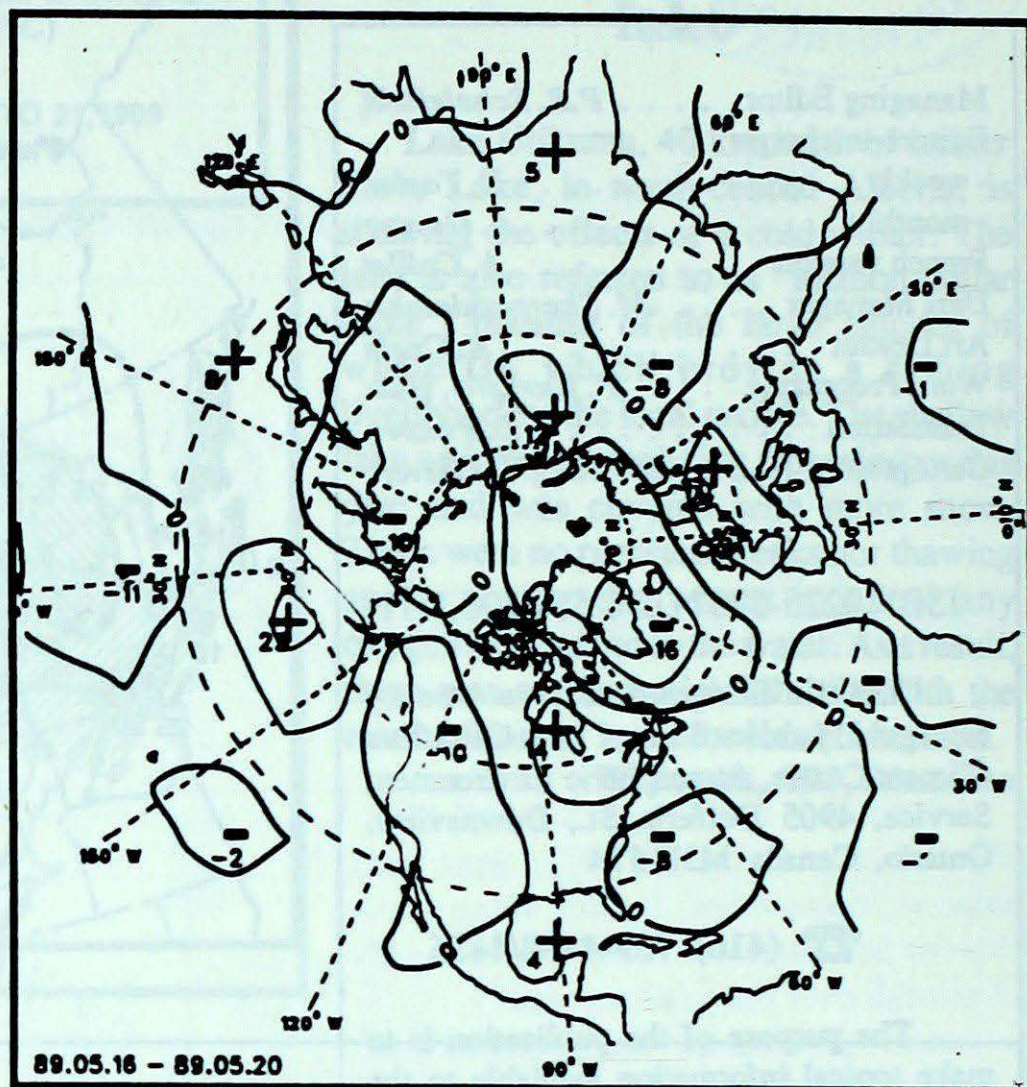
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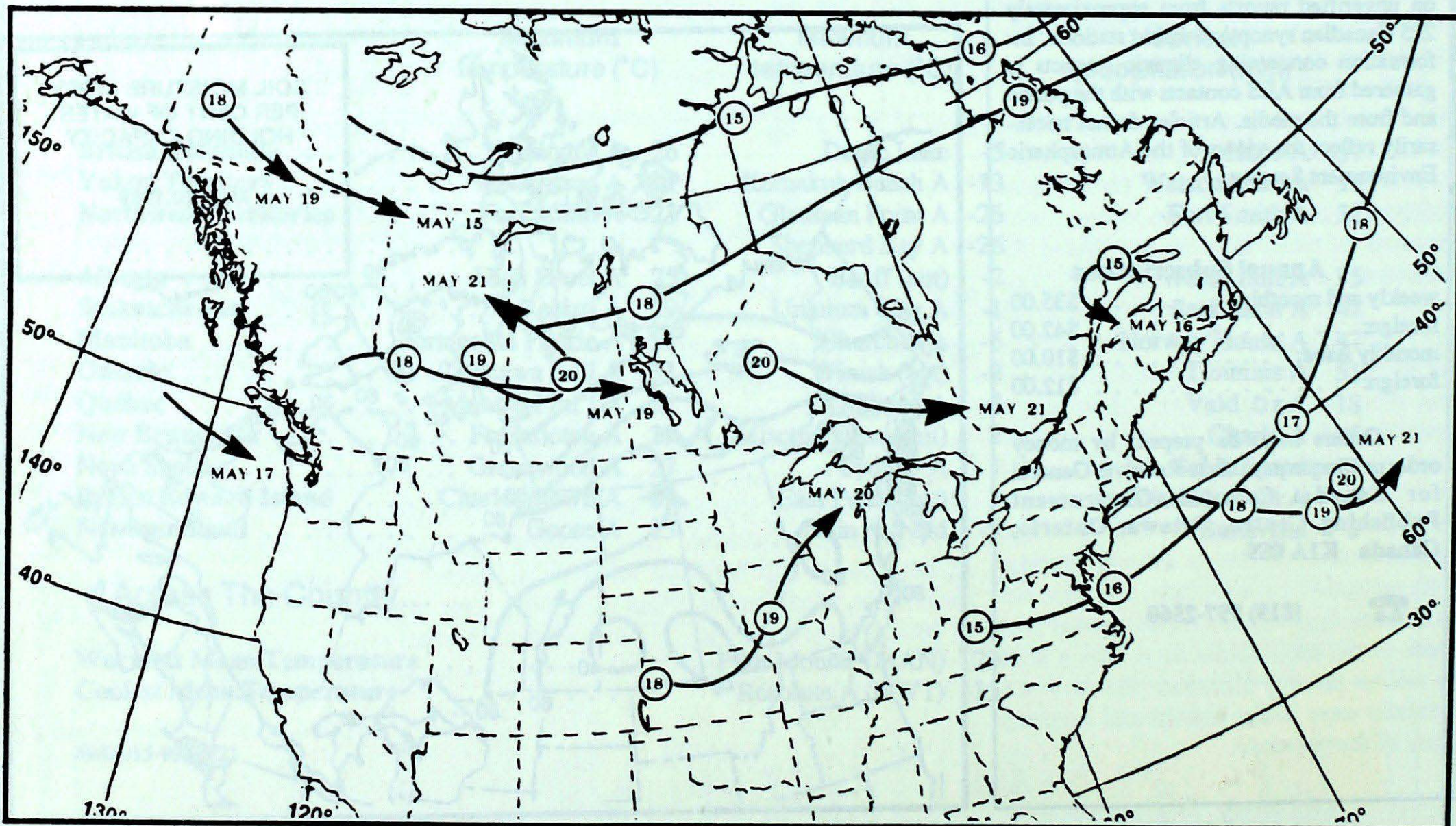
50 kPa ATMOSPHERIC CIRCULATION



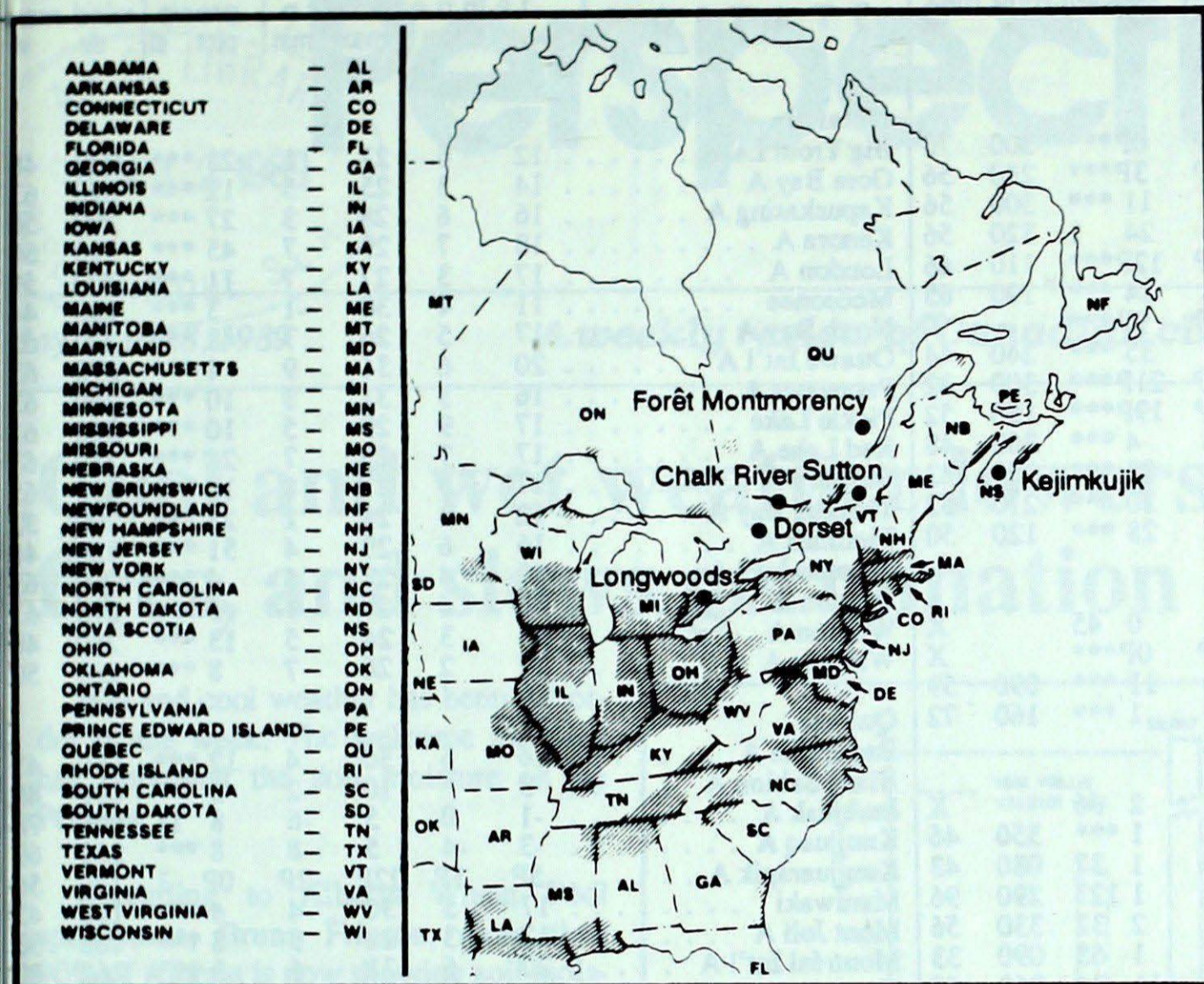
Mean geopotential height
50 kPa level (10 decametre intervals)



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
				From May 14 to May 20, 1989
Longwoods	20	4.3	6 R	Tennessee, Kentucky, Indiana, Ohio, South Ontario
Dorset *	20	5.7	15 R	Tennessee, Kentucky, Ohio, South Ontario
Chalk River	20	4.2	14 R	Kentucky, Ohio, South Ontario
Sutton				No precipitation this week
Montmorency	14	4.9	1 R	Atlantic Ocean, Maine
Kejlmkujik				No precipitation this week

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

The forest fire index is heavy rain has no effect on the forest fire index throughout the week, and is listed as 1. So far this season, 1,540,816 hectares of forest have been consumed by fire.

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	9P	0P	14P	5P	0P***	300	70	Big Trout Lake	12	6	27	1	23 ***	070	48
Cranbrook A	10P	-1P	20P	2P	3P***	240	56	Gore Bay A	14	3	25	5	12 ***	290	63
Fort Nelson A	8	-3	19	-1	11 ***	300	56	Kapusking A	16	6	28	3	27 ***	200	50
Fort St John A	7	-4	19	-1	24 1	320	56	Kenora A	18	7	29	7	45 ***	190	50
Kamloops A	13P	-2P	26P	4P	12P***	110	46	London A	17	3	27	7	11 ***	300	59
Penticton A	13	-1	23	2	14 ***	190	65	Moosonee	11	4	30	-1	3 ***	220	44
Port Hardy A	9P	0P	15P	4P	9P***		X	North Bay A	17	5	26	7	48 ***	270	65
Prince George A	8	-3	18	-1	35 ***	240	44	Ottawa Int'l A	20	6	31	9	4 ***	270	63
Prince Rupert A	7P	-1P	13P	1P	21P***	300	32	Petawawa A	16	3	31	3	10 ***	260	63
Revelstoke A	11P	-1P	24P	4P	19P***	150	52	Pickle Lake	17	9	29	5	10 ***	320	61
Smithers A	8	-1	17	-2	4 ***	360	48	Red Lake A	17	7	29	7	24 ***	230	63
Vancouver Int'l A	12	-1	22	5	28 ***	150	43	Sudbury A	17	5	27	8	18 ***	290	65
Victoria Int'l A	12	-1	20	3	10 ***	210	52	Thunder Bay A	12	3	24	2	23 ***	290	52
Williams Lake A	7	-2	17	-2	28 ***	120	50	Timmins A	16	6	29	4	51 ***	320	46
Yukon Territory								Toronto Int'l A							
Komakuk Beach A	-7	-2	0	-13	0 45		X	Trenton A	17	4	27	5	6 ***	260	63
Teslin (aut)	7P	*	19P	-4P	0P***		X	Warton A	14	3	24	5	13 ***	280	46
Watson Lake A	8	0	17	-4	11 ***	090	59	Windsor A	17	2	26	7	8 ***	280	50
Whitehorse A	8	0	21	-2	1 ***	160	72	Québec							
Northwest Territories								Bagotville A							
Alert	-14	-3	-9	-19	2 56		X	Blanc Sablon A	3	*	10	-2	3 ***	090	48
Baker Lake A	-7	-1	2	-17	1 ***	350	46	Inukjuak A	-1	0	5	-6	8 14	050	78
Cambridge Bay A	-10	0	1	-24	1 37	080	43	Kuujuuaq A	-3	-4	5	-8	8 ***	280	69
Cape Dyer A	-12	-7	-6	-20	1 123	290	96	Kuujuuarapik A	5P	3P	22P	-2P	0P 1	180	56
Clyde A	-12	-6	-4	-20	2 32	330	56	Maniwaki	17	5	30	4	4 ***	190	43
Coppermine A	-5	1	0	-17	1 65	090	33	Mont Joli A	12	3	28	3	8 ***	060	50
Coral Harbour A	-9	-3	2	-21	11 34	360	65	Montréal Int'l A	20	6	31	6	3 ***	260	80
Eureka	-13	-4	-9	-18	0 17	270	50	Natashquan A	6	0	16	-1	1 ***	130	32
Fort Smith A	8	-1	23	-1	32 ***	320	32	Québec A	17	5	30	7	1 ***	250	41
Hall Beach A	-15	-6	-7	-25	0 39	300	37	Schefferville A	2	0	14	-7	6 ***	270	70
Inuvik A	-2	-2	16	-10	0 10		X	Sept-Iles A	8	2	20	1	11 ***	080	41
Iqaluit A	-10	-7	-3	-18	6 8	330	46	Sherbrooke A	17	5	30	5	5 ***	250	46
Mould Bay A	-13P	-2P	-8P	-16P	1P 23		X	Val D'or A	16	6	29	6	18 ***	240	46
Norman Wells A	4P	-3P	14P	-4P	0P***	300	48	New Brunswick							
Resolute A	-15P	-5P	-11P	-23P	0P 22	330	48	Charlo A	12	3	28	4	5 ***	080	39
Yellowknife A	5	-1	13	-2	4 ***	010	56	Chatham A	14	3	29	6	1 ***	230	44
Alberta								Fredericton A							
Calgary Int'l A	10	-1	20	-1	0 ***	300	80	Moncton A	17	5	29	7	1 ***	200	44
Cold Lake A	9	-2	23	0	37 ***	110	56	Moncton A	15	4	26	6	1 ***	200	48
Edmonton Namao A	9	-2	23	0	53 1	330	74	Saint John A	13	3	24	4	1 ***	200	37
Fort McMurray A	9	-1	24	0	61 ***	340	37	Nova Scotia							
High Level A	8	-2	25	0	59 16	030	46	Greenwood A	16	5	27	5	0 ***	260	44
Jasper	8	-1	19	2	15 ***		X	Shearwater A	12	3	21	4	0 ***	090	41
Lethbridge A	12P	0P	23P	-1P	0P***	250	82	Sydney A	9	1	26	1	0 ***	220	44
Medicine Hat A	13	0	24	2	6 ***	260	83	Yarmouth A	13P	3P	25P	4P	0P***	040	37
Peace River A	7	-3	23	0	45 42	660	124	Prince Edward Island							
Saskatchewan								Charlottetown A							
Cree Lake	8P	0P	12P	4P	1P***		X	Summerside A	12P	2P	23P	5P	0P***	190	52
Estevan A	16	3	29	3	3 ***	270	82	Newfoundland							
La Ronge A	11	2	22	3	16 ***	080	39	Cartwright	3	0	20	-5	1 ***	330	59
Regina A	14	2	29	4	12 ***	280	85	Churchill Falls A	4	-1	20	-6	4 7	300	56
Saskatoon A	12	1	26	4	42 ***	270	59	Gander Int'l A	7	-1	19	-1	7 ***	210	65
Swift Current A	12	0	24	2	8 ***	270	80	Goose A	6	0	25	-5	1 ***	280	56
Yorkton A	15	4	27	3	29 ***	280	65	Port Aux Basques	6	1	12	2	4 ***	110	52
Manitoba								St John's A							
Brandon A	15	4	28	2	16 ***	250	83	St Lawrence	6	1	13	-1	6 ***	260	78
Churchill A	0P	1P	11P	-5P	20P 2	090	59	Wabush Lake A	6P	2P	23P	-4P	2P***	270	78
Lynn Lake A	7	1	20	1	35 1	080	46	89/05/15-89/05/21							
The Pas A	13	4	25	3	36 ***	240	54								
Thompson A	10P	4P	25P	0P	9P***	070	52								
Winnipeg Int'l A	18P	6P	31P	6P	13P***	240	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.
vit = wind speed in km/h

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