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Climatic Perspectives

August 21 to 27, 1989 | ***A weekly review of Canadian climate*** | *Vol. 11 No 35*

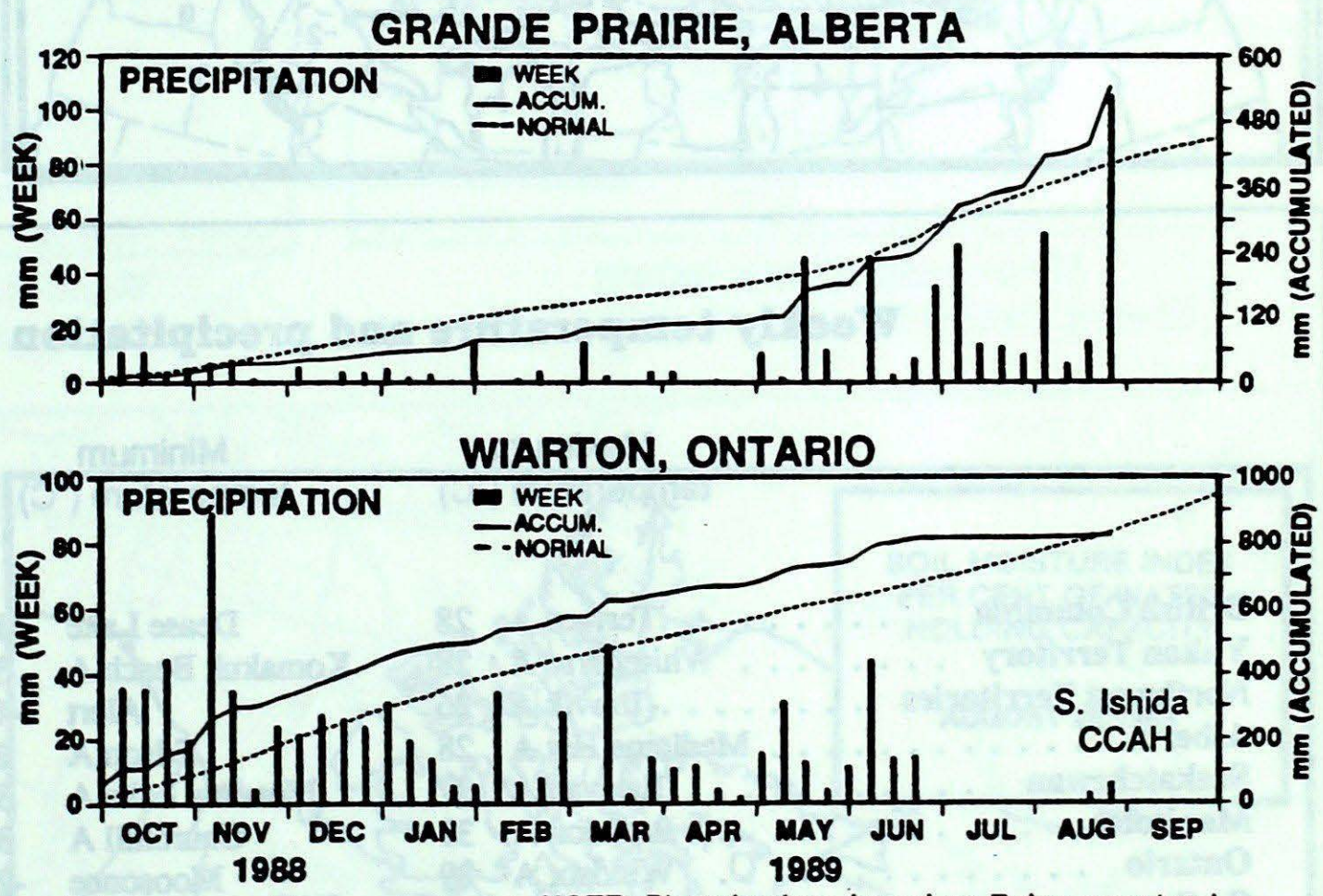
Continuing wet in North-Central Alberta and dry in Central Ontario

Cool, wet weather across Alberta this week, particularly in the Grande Prairie area, was contrasted with dry conditions in the central part of Ontario. In fact, the weather in these areas this past week is a continuation of a summer trend.

A series of disturbances crossing Alberta this week dumped a total of 105.4 mm of rain on Grande Prairie. Some rivers in central Alberta are near the flooding stage and there has been some minor flooding in the low lying areas. In the southern parts of the Peace River district, standing water in the fields are rotting the hay bales and peas. There are concerns that the canola crop may shatter unless it is harvested soon. It is estimated that it may take at least 10 days before the harvesting equipment can be put back on the fields.

At the same time, many stations in central Ontario received less than 4 mm of rain. Wiarton has received less than 10 mm of rain during July and August. In the counties of Grey-Bruce, the agricultural community has been plagued with dry fields and wells.

TIME-SERIES OF WATER BUDGET COMPONENTS TO 26 AUG 89



NOTE: Plotted values based on 7-day mean/total

Warm spell ends in Northern Prairie Provinces but continues in the Yukon and MacKenzie Valley.

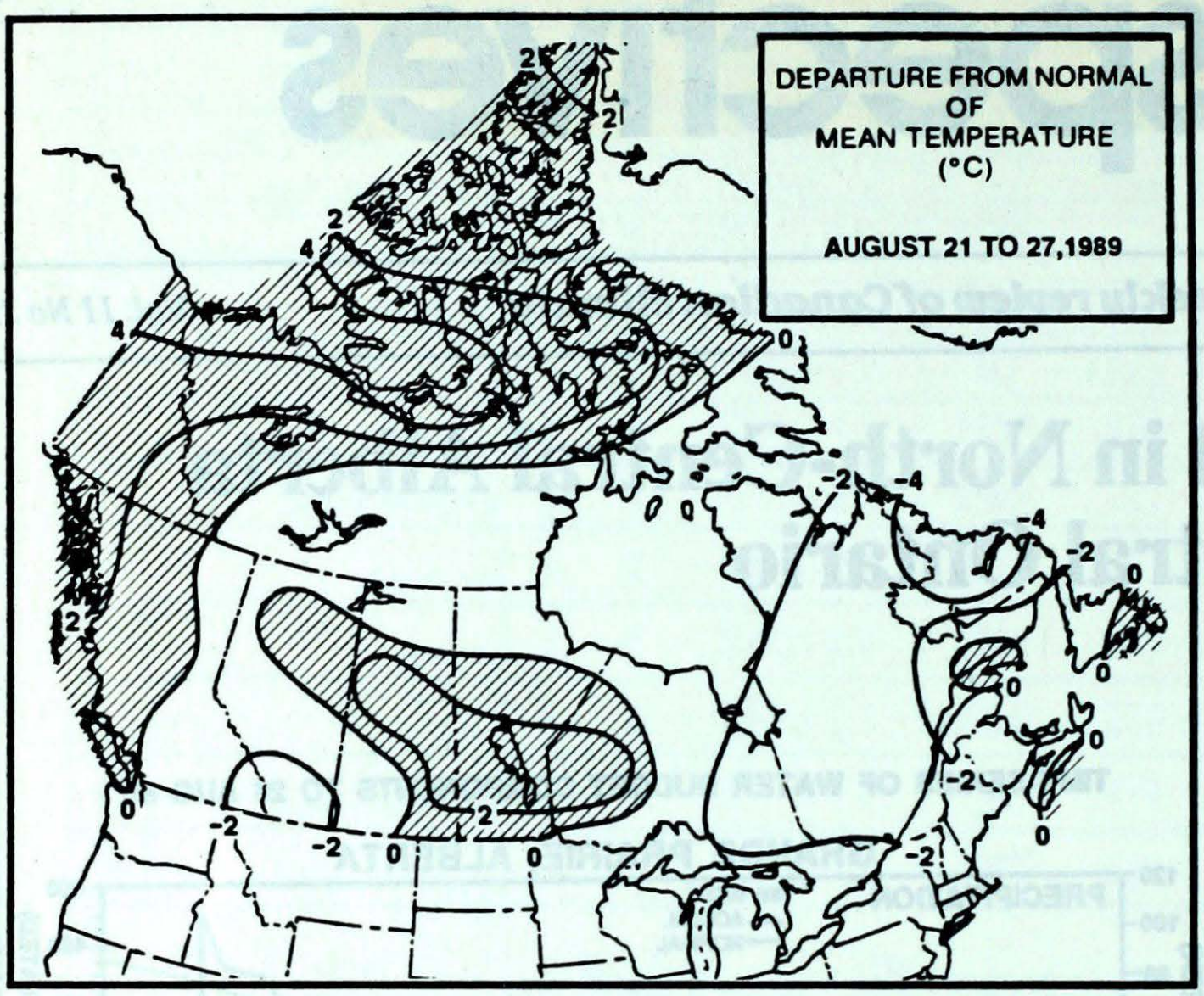
Temperatures eased considerably across the northern parts of the prairie provinces this week. Indeed, it was rather cool. Thompson, Manitoba established record low daily maximums of 11.1°C and 12.6°C on the 22nd and 23rd respectively, while Lynn Lake, Manitoba, saw a record low maximum of 11.1°C on the 23rd. Across the Yukon and the Mackenzie District of the Northwest Territories, temperatures remain above normal. In the Yukon, Carmacks recorded a daily maximum of 29.5°C on the 27th. Forest fires are still burning in the Yukon, and a record number of fires have been recorded to date with the potenial for more in these warm, dry conditions.

A look ahead...

Above normal temperatures are expected to continue over western Canada for the 5 days beginning Sept 4th. A slow-moving ridge of high pressure over the west coast will keep driving warm Pacific air to the Yukon and British Columbia. The Great Lakes and eastern Canada are expected to be cooler than normal.

— *prepared August 30,1989*

Alain Caillet, Canadian Climate Centre



FROST ON THE PUMPKIN...

A subtle reminder that the days of summer are numbered. Frost was reported throughout the Ottawa Valley, Kawartha and Haliburton areas of Ontario and Val d'Or, Québec reported -1°C on the 25th. On the 26th, Goose Bay and Churchill Falls, Labrador recorded a trace of snow. Snow was also reported across the higher elevations of southern Baffin Island during the first half of the week.

Weekly temperature and precipitation extremes

	Maximum temperature (°C)		Minimum temperature (°C)		Heaviest precipitation (mm)	
British Columbia	Terrace A	28	Dease Lake	1	Fort St John A	32
Yukon Territory	Whitehorse A	28	Komakuk Beach A	3	Teslin (aut)	24
Northwest Territories	Inuvik A	26	Alert	-4	Hay River A	22
Alberta	Medicine Hat A	28	Edson A	2	Grande Prairie A	106
Saskatchewan	Estevan A	37	Meadow Lake A	3	Buffalo Narrows A	71
Manitoba	Brandon A	33	Churchill A	3	Island Lake	55
Ontario	Windsor A	29	Moosonee	-2	Thunder Bay A	22
Québec	Montréal Int'l A	27	La Grande Iv A	-3	Montréal Int'l A	41
New Brunswick	Chatham A	26	St Stephen (aut)	2	Fredericton A	17
Nova Scotia	Greenwood A	27	Truro	5	Inverness (aut)	56
Prince Edward Island	Charlottetown A	25	Charlottetown A	7	Charlottetown A	34
					East Point (aut)	34
Newfoundland	Comfort Cove	23	Nain A	-1	Port Aux Basques	113
	Gander Int'l A	23				

Across The Country...

Highest Mean Temperature	Windsor A(ONT)	21
Lowest Mean Temperature	Resolute A(NWT)	2

89/08/21-89/08/27

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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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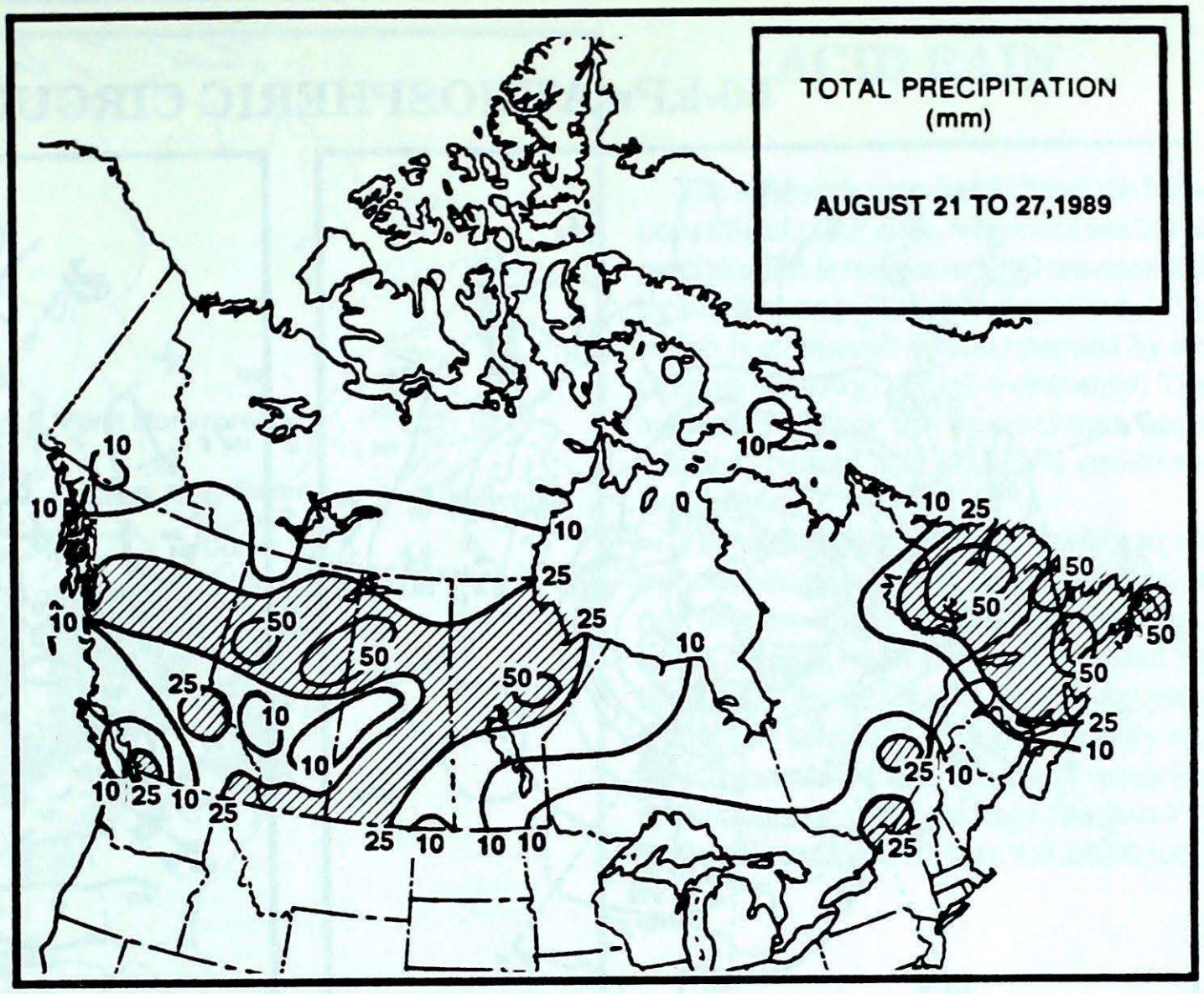
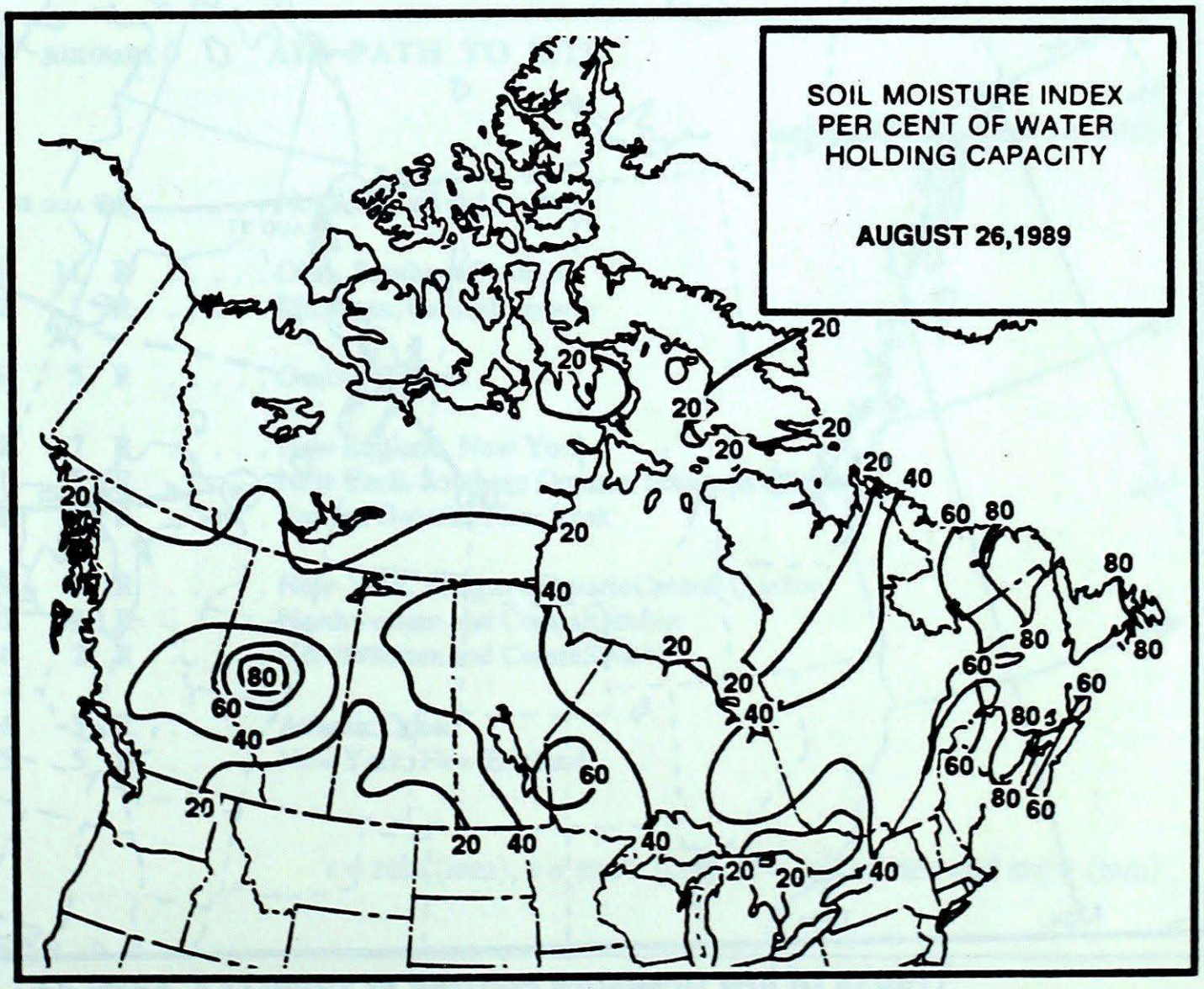
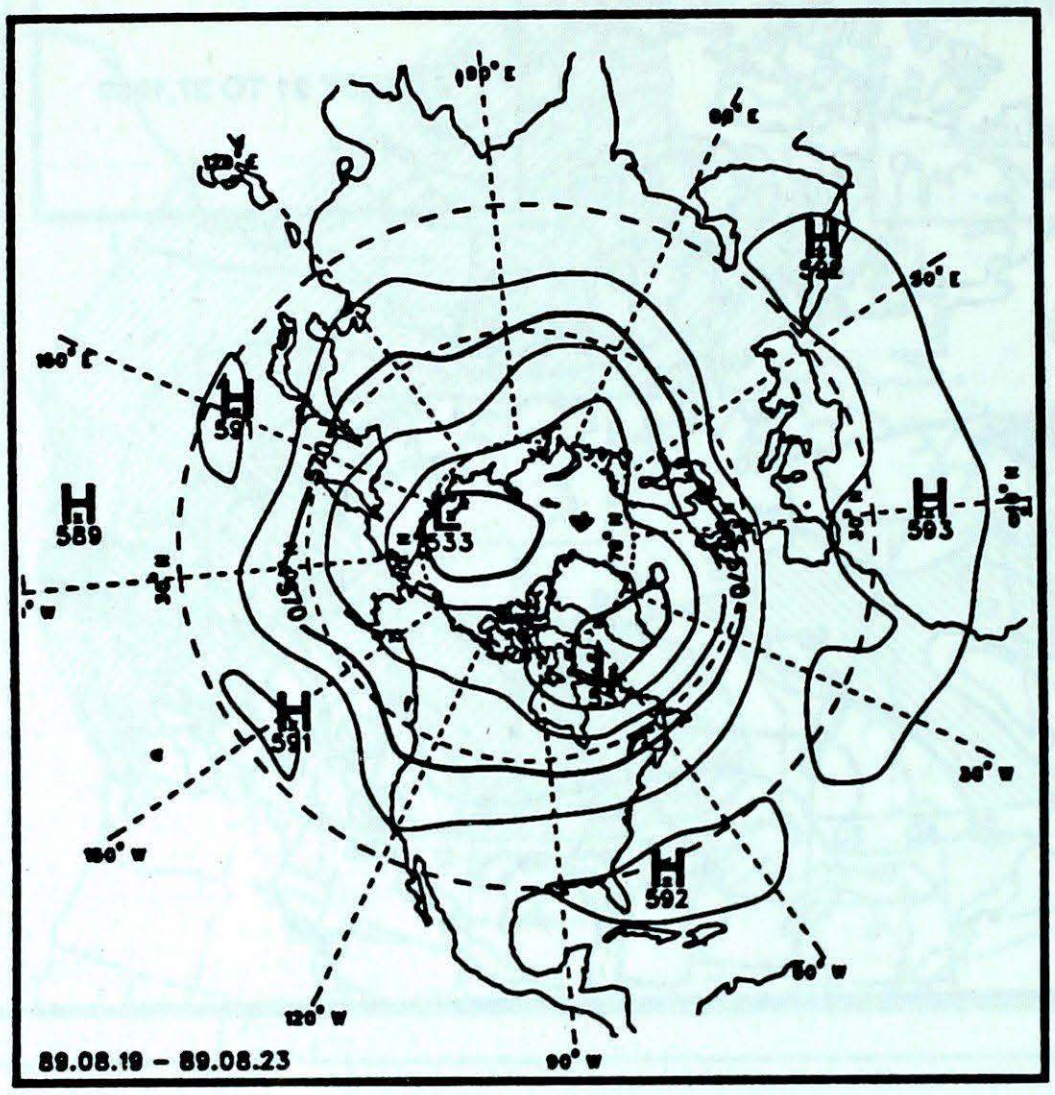
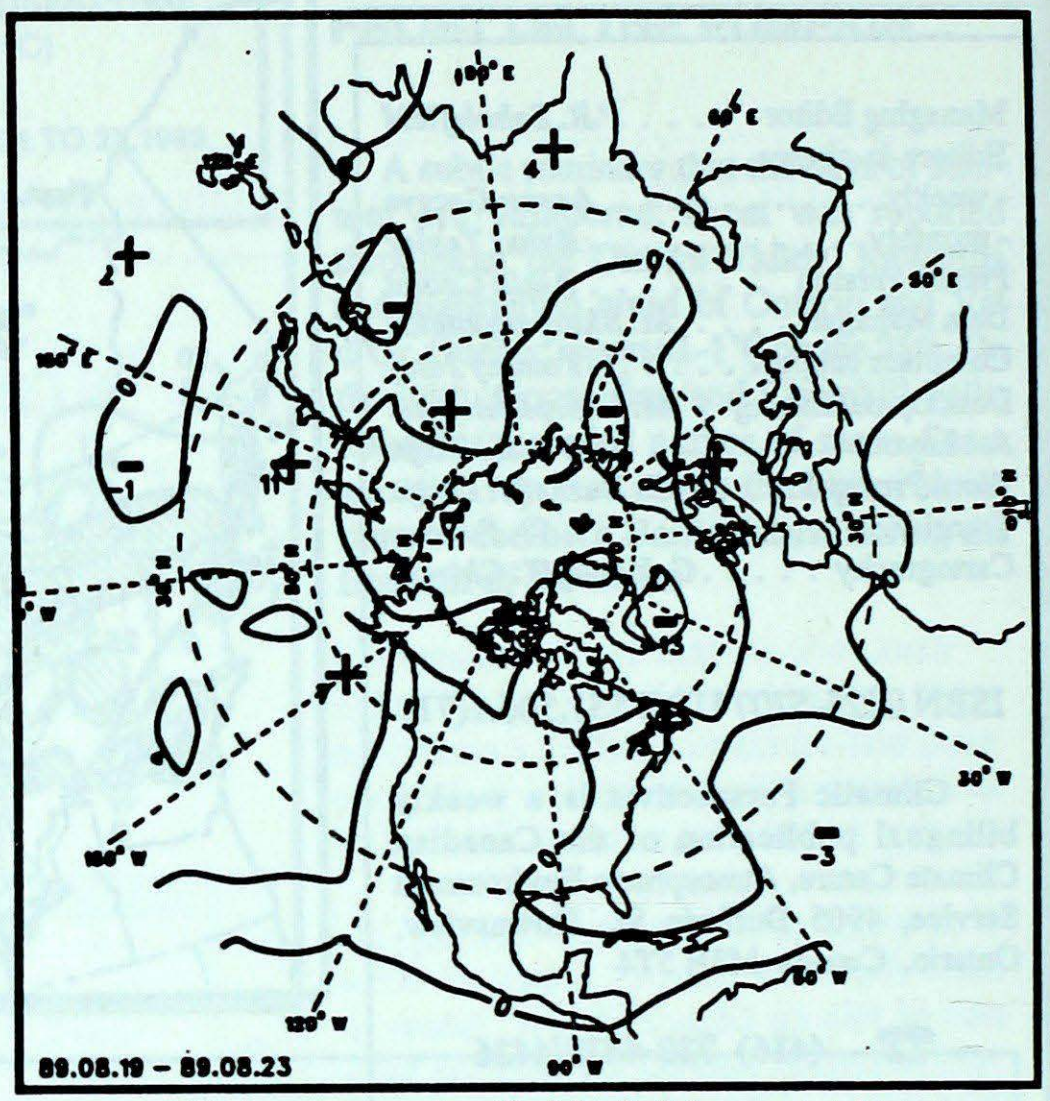




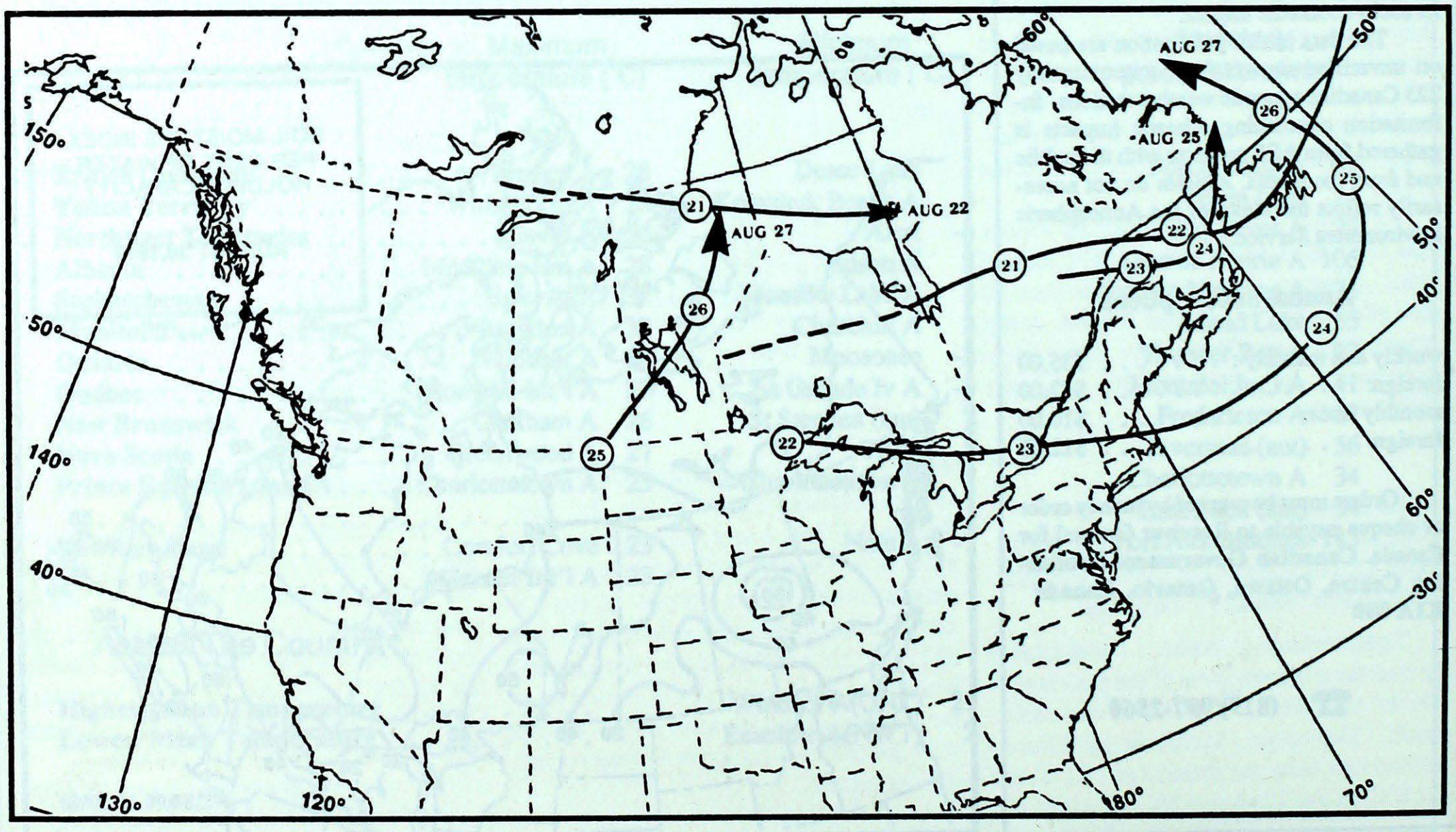
50-kPa ATMOSPHERIC CIRCULATION



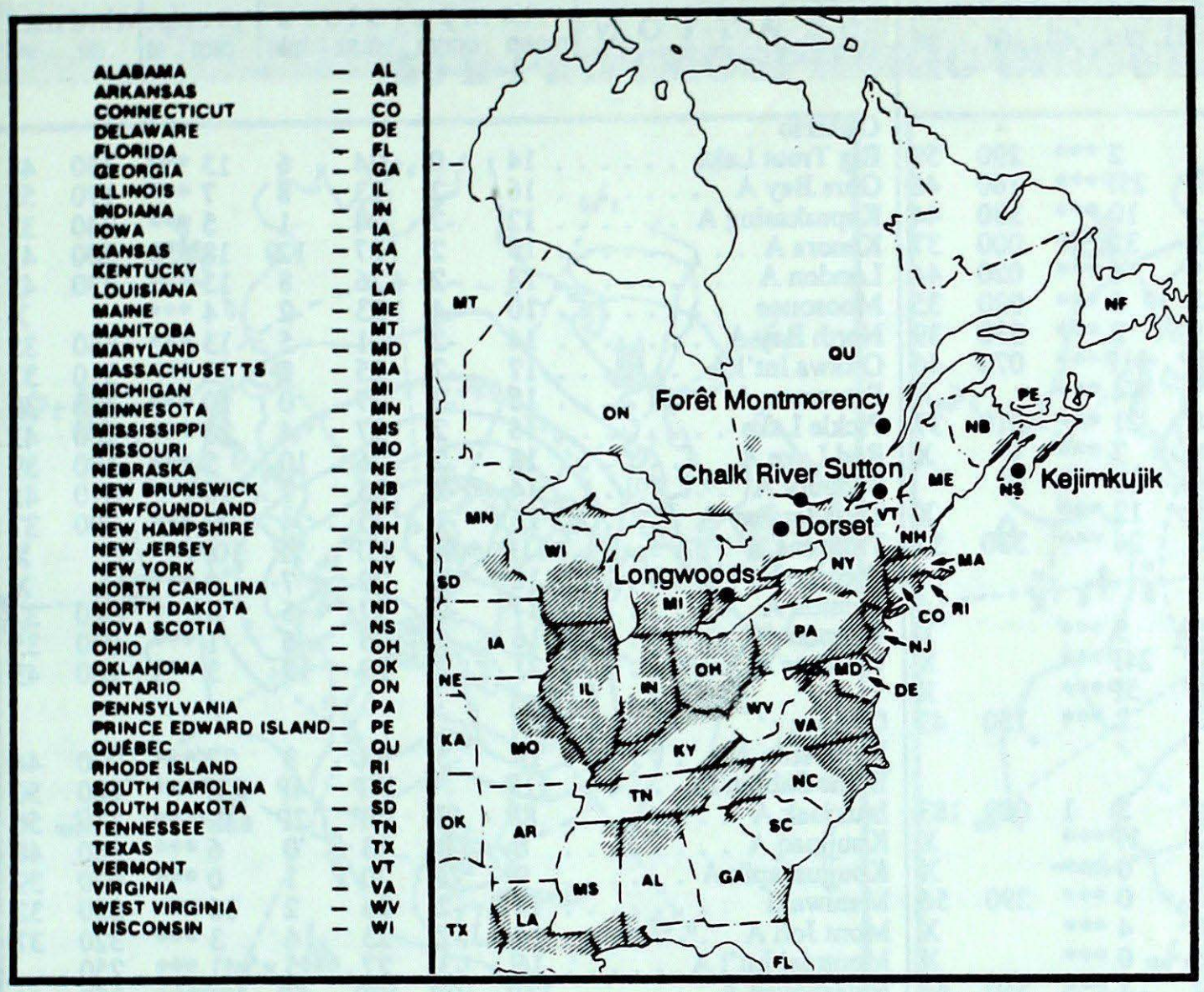
Mean geopotential height
50-kPa level (10 decametre intervals)



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 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
					August 20 to August 26, 1989
Longwoods					. . . . . No data available
Dorset *	20	3.9	11	R	. . . . . Ohio, Southern Ontario
	22	4.2	1	R	. . . . . Michigan, Central Ontario
Chalk River	22	3.9	5	R	. . . . . Central Ontario
Sutton	20	5.2	7	R	. . . . . New England, New York
	21	4.1	5	R	. . . . . New York, Southern Ontario, Southern Quebec
	22	4.5	1	R	. . . . . Eastern Ontario, New York
Montmorency	20	3.9	3	R	. . . . . New-York, Southern OntarioCentral Quebec
	21	4.0	3	R	. . . . . Northwestern and CentralQuebec
	22	4.4	2	R	. . . . . Northwestern and CentralQuebec
Kejimkujik	20	4.4	3	R	. . . . . Atlantic Ocean
	23	4.5	5	R	. . . . . New York, New England

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	15	1	20	11	2 ***		290	59
Cranbrook A	14P	-2P	21P	9P	25P***		160	46
Fort Nelson A	12	-1	22	3	10 ***		330	44
Fort St John A	12	-1	20	4	32 ***		000	37
Kamloops A	18	-1	26	9	6 ***		020	44
Penticton A	18	0	26	8	5 ***		020	35
Port Hardy A	14	1	20	9	2 ***		330	39
Prince George A	13P	0P	21P	5P	11P***		070	46
Prince Rupert A	13	1	22	7	4 ***			X
Revelstoke A	16	0	26	10	21 ***		010	37
Smithers A	15	2	25	6	7 ***			X
Vancouver Int'l A	17	0	24	10	10 ***			
Victoria Int'l A	15	-1	24	8	12 ***			X
Williams Lake A	13	-1	21	5	26 ***		330	33
Yukon Territory								
Komakuk Beach A	10	5	23	3	5 ***			X
Teslin (aut)	13P	*	24P	5P	24P***			X
Watson Lake A	14P	2P	25P	4P	5P***			X
Whitehorse A	14	3	28	3	2 ***		150	43
Northwest Territories								
Alert	2	3	10	-4	5	1	009	183
Baker Lake A	8P	-1P	16P	1P	1P***			X
Cambridge Bay A	10	4	16	2	0 ***			X
Cape Dyer A	3	-1	10	-3	0 ***		290	56
Clyde A	4	0	10	-1	4 ***			X
Coppermine A	11	4	21	3	0 ***			X
Coral Harbour A	6	-1	14	0	1 ***		360	44
Eureka	3	1	8	0	1 ***		130	44
Fort Smith A	12P	-2P	18P	8P	7P***			X
Hall Beach A	7	2	14	2	2 ***		320	37
Inuvik A	14	4	26	2	8 ***			X
Iqaluit A	6P	0P	14P	2P	12P***		330	52
Mould Bay A	2	1	7	-3	2	1	280	52
Norman Wells A	14P	2P	24P	7P	9P***		120	46
Resolute A	2P	1P	7P	-1P	1P	1	340	43
Yellowknife A	12	-1	16	6	1 ***		350	48
Alberta								
Calgary Int'l A	14	-1	23	8	8 ***		340	43
Cold Lake A	14	0	25	5	92 ***			X
Edmonton Namao A	13P	-1P	21P	6P	13P***		320	44
Fort McMurray A	14	0	21	7	18 ***			X
High Level A	12	0	20	4	2 ***		330	35
Jasper	12	-1	18	4	12 ***			X
Lethbridge A	15	-2	25	9	28 ***		270	59
Medicine Hat A	16	-3	28	5	24 ***		210	41
Peace River A	13	0	22	7	57 ***			X
Saskatchewan								
Cree Lake	12	-1	16	6	35 ***		090	54
Estevan A	20	2	37	5	7 ***		140	80
La Ronge A	14	0	24	6	1 ***		120	37
Regina A	19	2	36	6	18 ***		160	63
Saskatoon A	17	0	30	8	36 ***		340	57
Swift Current A	16	-1	27	7	32 ***		210	50
Yorkton A	19P	2P	33P	7P	3P***		140	61
Manitoba								
Brandon A	19	2	33	5	12 ***		280	72
Churchill A	10	-1	16	3	46 ***		110	63
Lynn Lake A	11	-2	16	6	25 ***			X
The Pas A	16P	1P	26P	8P	40P***		110	41
Thompson A	13	0	21	7	22 ***		100	33
Winnipeg Int'l A	20	2	31	8	0 ***		160	52

STATION	temperature mean	anom	max	min	precip. ptot	st	wind max dir	vel
Ontario								
Big Trout Lake	14	0	24	6	13 ***		150	48
Gore Bay A	16	-2	23	8	7 ***		170	52
Kapuskasing A	12	-2	24	-1	5 ***		240	33
Kenora A	19	2	27	12	18 ***		200	41
London A	18	-2	26	8	15 ***		330	43
Moosonee	10	-4	23	-2	4 ***			X
North Bay A	14	-2	21	5	13 ***		360	35
Ottawa Int'l A	17	-2	25	8	5 ***		310	37
Petawawa A	15	-2	27	0	10 ***		330	39
Pickle Lake	16	2	27	4	20 ***		280	41
Red Lake A	18	2	26	10	5 ***		180	39
Sudbury A	14	-2	23	7	16 ***		010	41
Thunder Bay A	15	-1	25	4	22 ***		300	37
Timmins A	11P	-4P	23P	1P	10P***			X
Toronto Int'l A	18	-2	29	7	0 ***			X
Trenton A	17	-2	27	6	4 ***		340	37
Wiarton A	16	-2	25	6	1 ***		030	35
Windsor A	21	0	29	13	3 ***		280	43
Québec								
Bagotville A	13	-3	23	3	27 ***		270	44
Blanc Sablon A	11P	*	17P	4P	23P***		080	50
Inukjuak A	8P	0P	15P	2P	0P***		330	56
Kuujjuaq A	6	-3	13	0	6 ***		360	48
Kuujjuarapik A	9	-2	20	1	0 ***		020	39
Maniwaki	14	-2	26	2	16 ***		320	32
Mont Joli A	14	-2	23	6	3 ***		320	37
Montréal Int'l A	16	-3	27	5	41 ***		250	
Natashquan A	13P	0P	19P	5P	19P***		250	54
Québec A	15	-2	24	4	18 ***		300	46
Schefferville A	8P	-2P	17P	1P	17P***		340	61
Sept-Îles A	13P	0P	22P	4P	9P***		340	74
Sherbrooke A	13	-3	25	1	16 ***		290	39
Val-d'Or A	11	-4	22	-1	3 ***		330	48
New Brunswick								
Charlo A	15	-1	24	5	1 ***		300	72
Chatham A	15	-2	26	4	5 ***		310	72
Fredericton A	15	-2	26	5	17 ***		310	59
Moncton A	15	-2	26	5	10 ***		290	72
Saint John A	15P	-1P	24P	7P	0P***		320	59
Nova Scotia								
Greenwood A	17	0	27	7	2 ***		291	50
Shearwater A	17	-1	25	9	7 ***		290	69
Sydney A	15	-1	26	5	27 ***		270	46
Yarmouth A	15	0	22	10	2 ***		250	57
Prince Edward Island								
Charlottetown A	15	-2	25	7	34 ***		290	56
Summerside A	15	-2	25	8	20 ***		310	80
Newfoundland								
Cartwright	7P	-4P	11P	4P	26P***		300	54
Churchill Falls A	8	-3	16	2	61 ***		350	6
Gander Int'l A	13	-1	23	7	39 ***		260	52
Goose A	8	-5	13	4	81 ***		290	59
Port Aux Basques	13	-1	21	7	113 ***		280	74
St John's A	15	1	22	8	38 ***		250	56
St Lawrence	14	1	20	9	22 ***			X
Wabush Lake A	9P	-2P	18P	3P	20P***		020	63

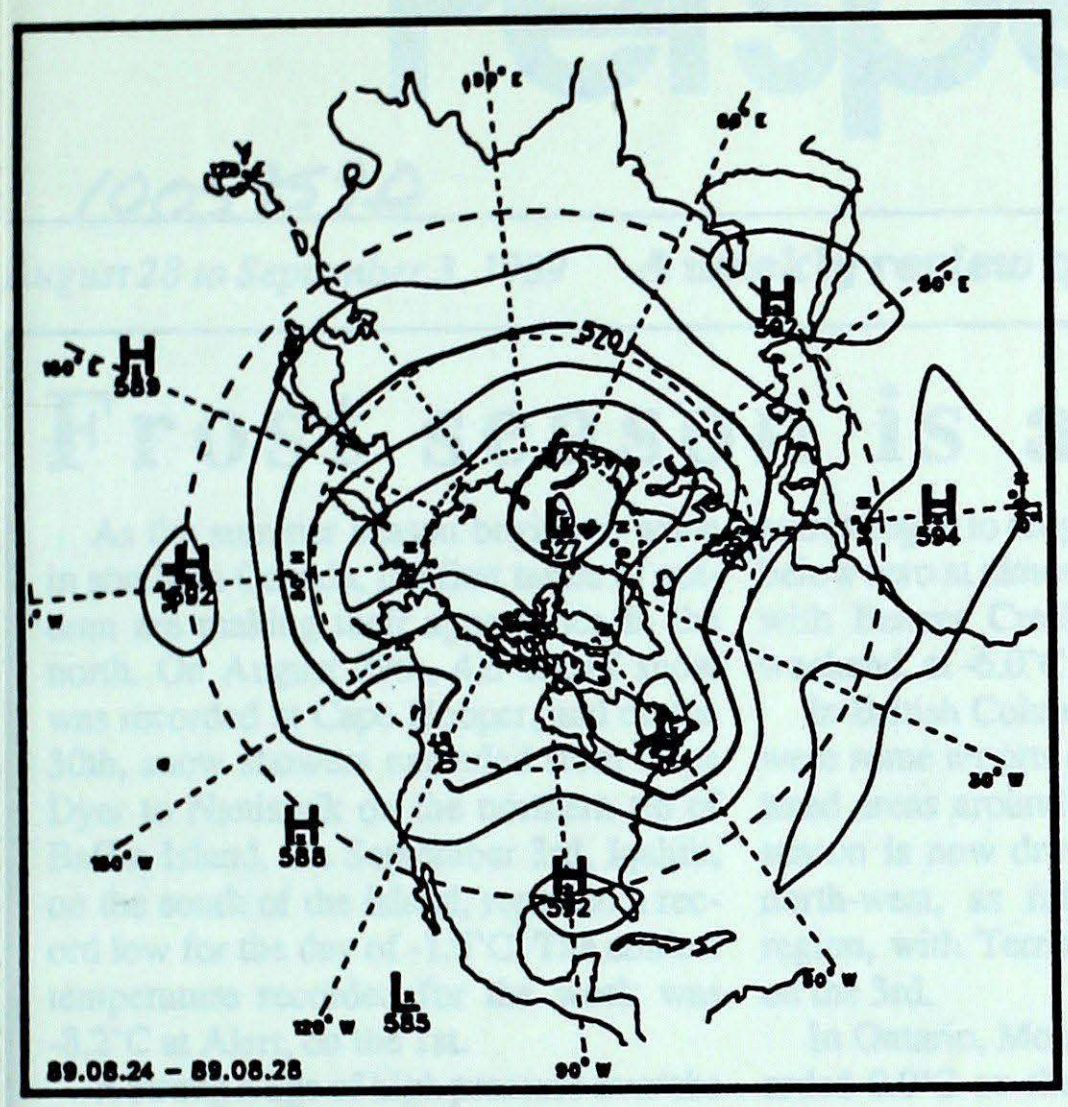
89/08/21-89/08/27

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.

50 k-Pa ATMOSPHERIC CIRCULATION



Mean geopotential height
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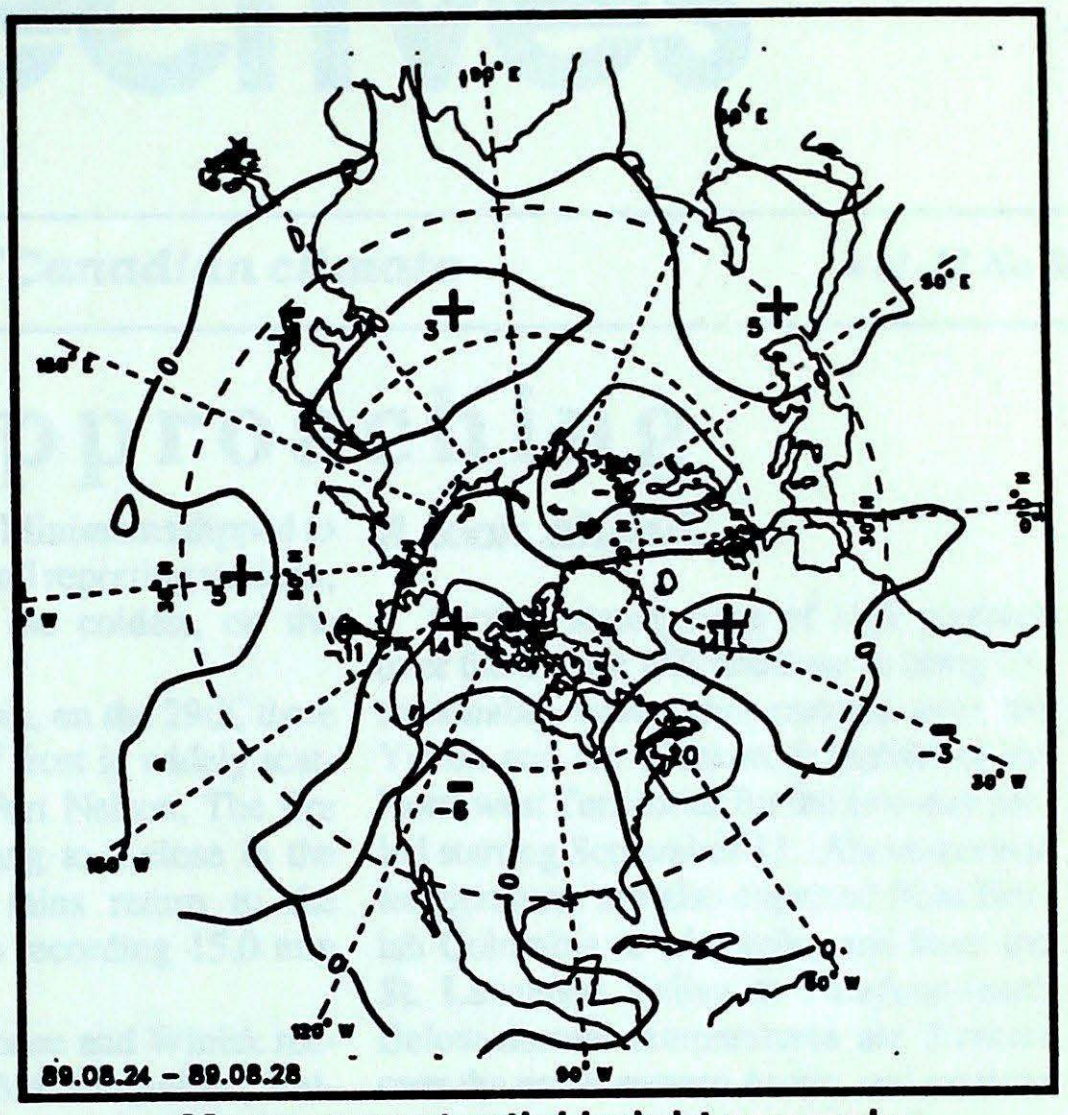

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