



# Climatic Perspectives



August 5 to 11, 1991

CLIMATIC PERSPECTIVES

A weekly review of Canadian climate and water

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*Archives*

## Summer pushes into the far north

*A strong southerly circulation has allowed a record warm air mass from the American plains to penetrate northwards across the Canadian prairies and into the Arctic region.*

For the past three to six weeks temperatures have been averaging above normal over the northern Prairie provinces, the Northwest Territories, and the southern Arctic. Numerous temperature records have been broken, with readings this week climbing into the mid thirties in the Prairies and mid to high twenties in the Territories. Churchill, along the western shore of Hudson Bay registered a sweltering 37°C, over the weekend. Last week Yellowknife registered 31°C.

Because of this hot and dry weather, the forest fire hazard has risen to the high to extreme range, with many new fires reported. Most of the fires are burning in the region southeast of Great Slave Lake and extending into the northern Prairie provinces. Currently there are 45 fires burning in the Territories, the majority of which have been caused by lightning. There have been 262 fires recorded here so far this year, which compares favourably to an average of 275 fires during the season, which will be ending soon. The 1989 forest fire season was the worst, with 613 fires recorded. In northern Saskatchewan and Manitoba there are approximate-

ly 100 fires; some of them are burning out of control.

On a positive note, the hot, dry weather is allowing lake levels in the Northwest Territories to return to normal after the wet spring set new high water records. Blueberries and raspberries are out and cranberries are coming into season.

With the storm track pushed well north of its normal position, the Arctic Archipelago region, although warm, was unsettled due to a succession of disturbances. Rain, drizzle, fog and strong winds have been quite common the last few weeks. Maximum temperatures along the Arctic coast have managed to reach the low twenties.

On a more negative note, snow fell at a number of western Arctic stations and many Yukon communities recorded their first frost of the season this week. The mercury dipped to -2°C, reminding us that winter can not be far away. Across on the other side of the country, northern Newfoundland residents have now endured 14 consecutive weeks of below normal temperatures - what a summer!

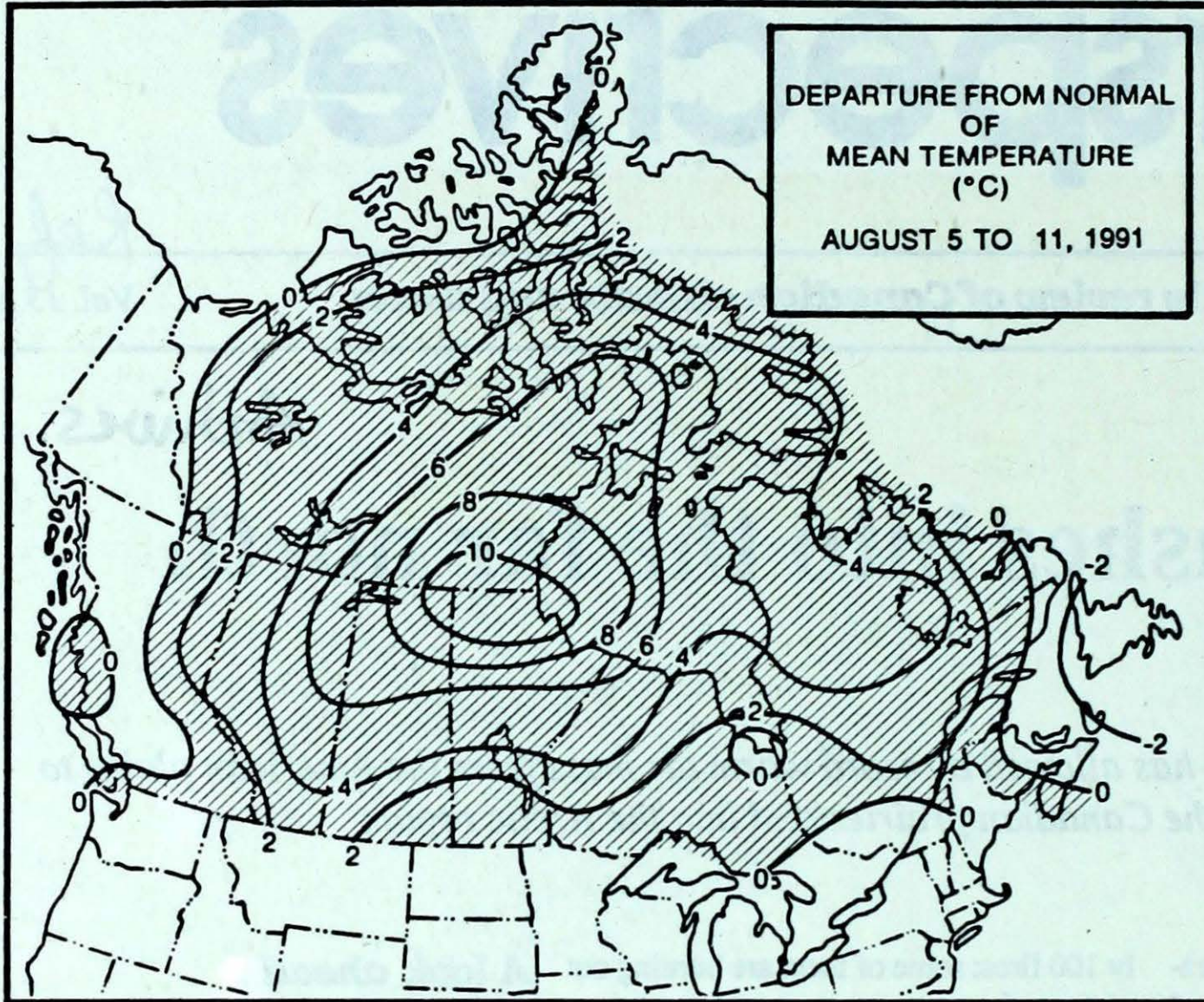
### **A look ahead . . .**

For the week of August 19, below normal temperatures are expected for most of the country, especially across the Arctic Islands, where temperatures will be 3 to 5 degrees below normal. Ontario, Quebec and the Atlantic Provinces will experience above normal readings. Precipitation is likely across coastal B.C. and the Yukon.

### **Sampling of this week's record high temperatures**

Baker Lake, NWT.	28.0°C
Coral Harbour, NWT.	25.4°C
Iqaluit, NWT.	25.5°C
Coppermine, NWT.	27.7°C
Hall Beach, NWT.	24.0°C
Rankin Inlet, NWT.	24.2°C
Cape Dorset, NWT.	20.6°C
Pond Inlet, NWT.	14.0°C
Clyde, NWT.	16.7°C
Churchill, Man.	35.9°C
Lynn Lake, Man.	35.3°C
La Ronge, Sask.	36.1°C
Esther, Alta.	40.0°C

Very warm weather was observed across western and northern Canada.



**Weekly normal temperatures (°C)**

	max.	min.
Whitehorse A	19.8	7.5
Iqaluit A	11.0	3.9
Yellowknife A	19.3	11.3
Vancouver Int'l A	22.9	13.2
Victoria Int'l A	22.7	11.1
Calgary Int'l A	23.2	9.3
Edmonton Int'l A	22.4	9.4
Regina A	26.2	11.3
Saskatoon A	25.1	11.2
Winnipeg Int'l A	25.4	12.3
Ottawa Int'l A	25.5	14.5
Toronto (Pearson Int'l A)	26.1	14.2
Montréal Int'l A	25.4	15.1
Québec A	23.8	12.6
Fredericton A	25.4	12.8
Saint John A	22.3	12.3
Halifax (Shearwater)	22.3	14.3
Charlottetown A	23.1	14.2
Goose A	20.4	10.1
St John's A	20.3	11.8

**Weekly temperature and precipitation extremes**

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Kamloops A 34	Dease Lake -1	Estevan Point (aut) 98
Yukon Territory	Watson Lake A 24	Komakuk Beach A -2	Shingle Point A 19
Northwest Territories	Fort Smith A 34	Mould Bay A -2	Eureka 18
Alberta	Medicine Hat A 38	Banff (aut) 7	Edson A 54
Saskatchewan	North Battleford A 38	Nipawin A 8	Eastend Cypress 7
Manitoba	Churchill A 37	Dauphin A 6	Gretna (aut) 36
Ontario	Pickle Lake 33	Upsala (aut) 3	Windsor A 27
Quebec	Baie Comeau A 30	Blanc Sablon A 2	Parent (aut) 79
New Brunswick	Chatham A 30	St-Léonard A 8	St Stephen (aut) 102
Nova Scotia	Western Head (aut) 30	Sable Island 6	Amherst (aut) 77
Prince Edward Island	Charlottetown A 27	Charlottetown A 11	Charlottetown A 108
Newfoundland	Goose A 28	Deer Lake 2	Port Aux Basques 50

**Across The Country...**

Highest Mean Temperature	Medicine Hat A(ALTA)	25
Lowest Mean Temperature	Mould Bay A(NWT)	1

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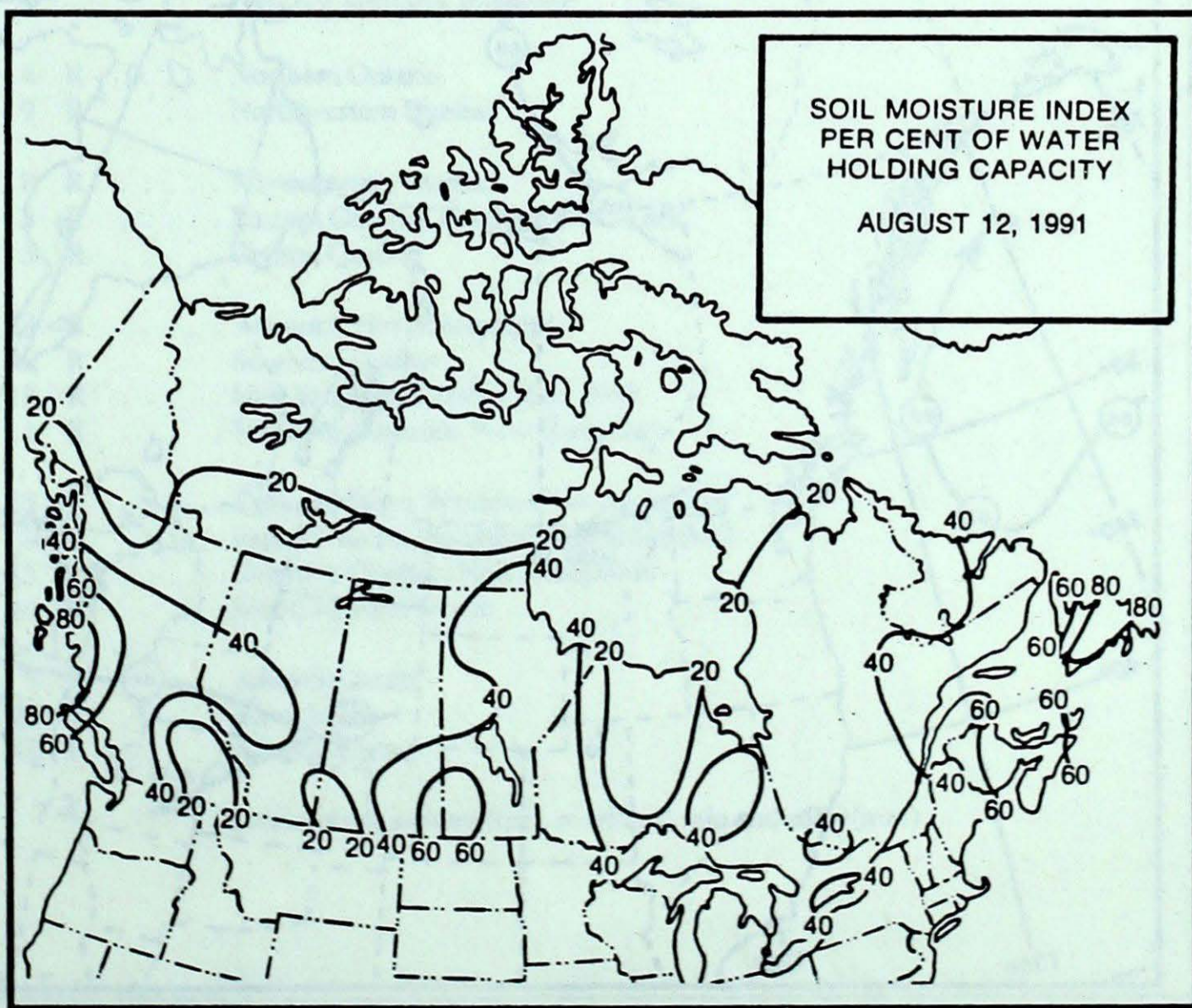
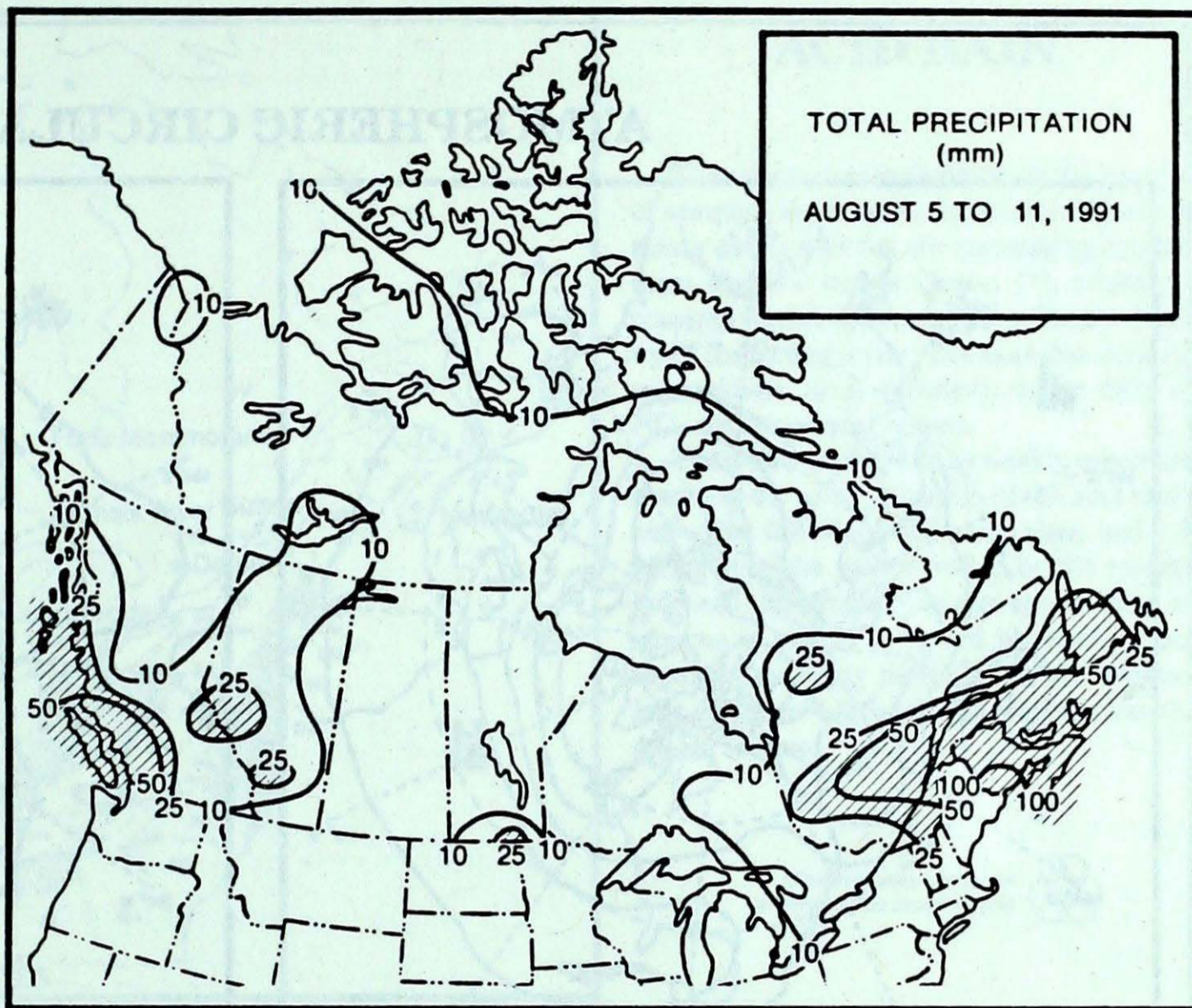
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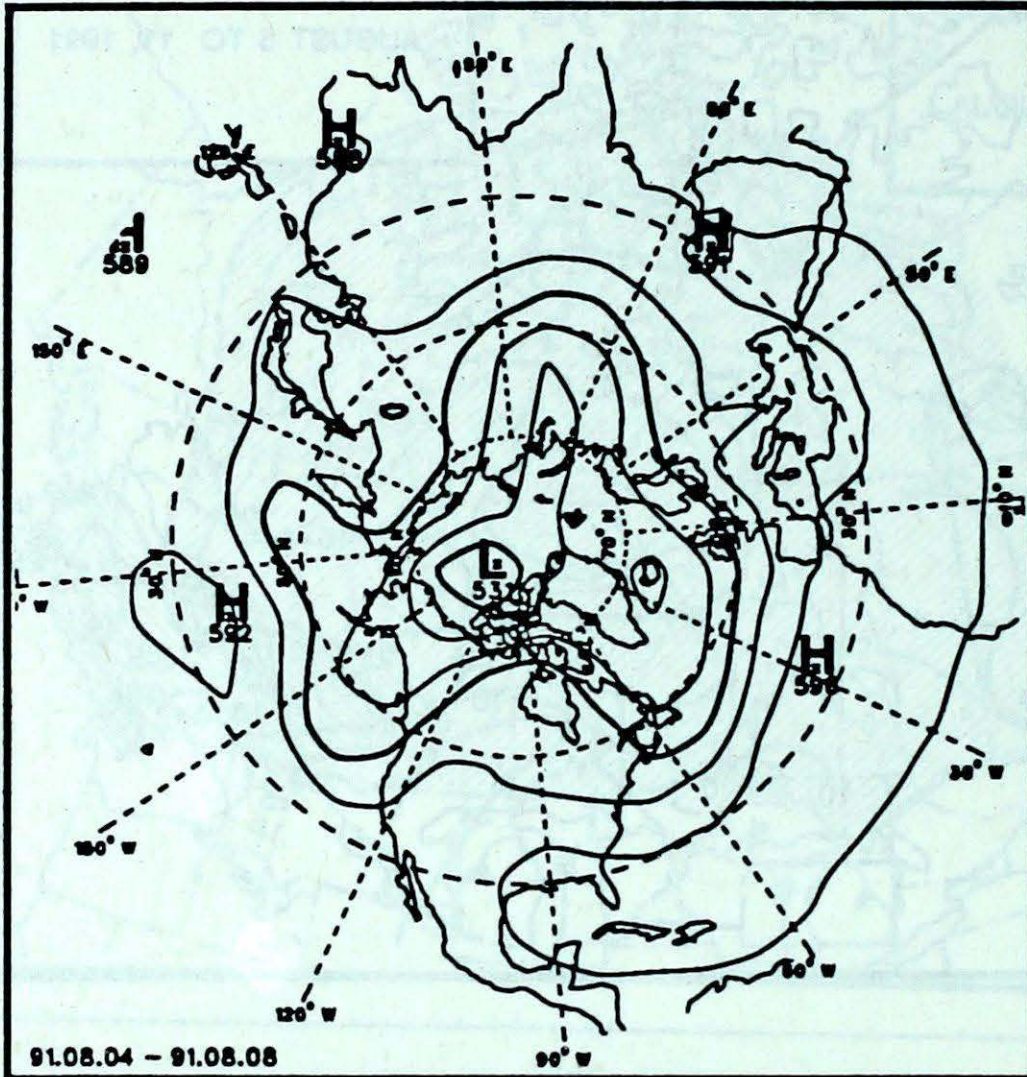
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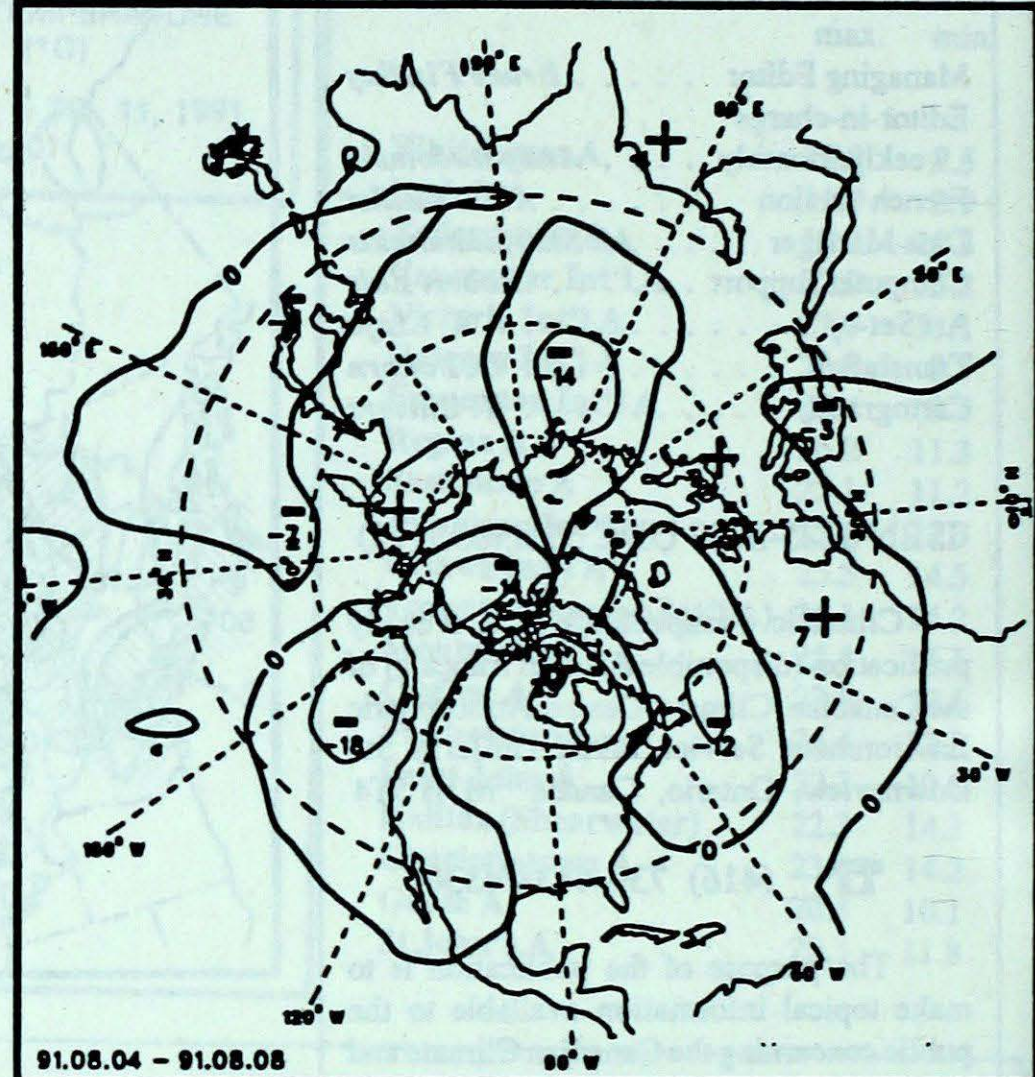
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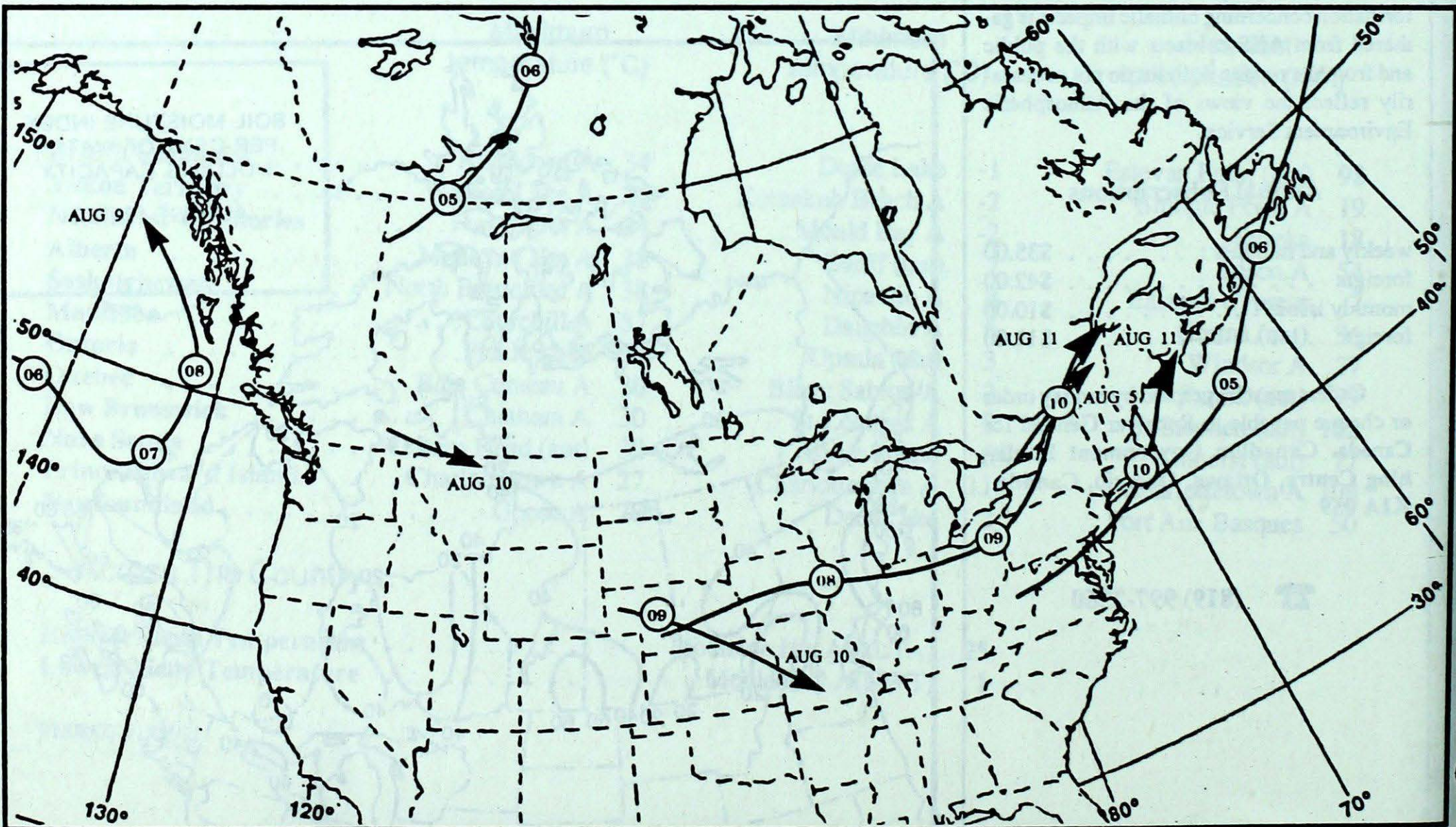
### ATMOSPHERIC CIRCULATION



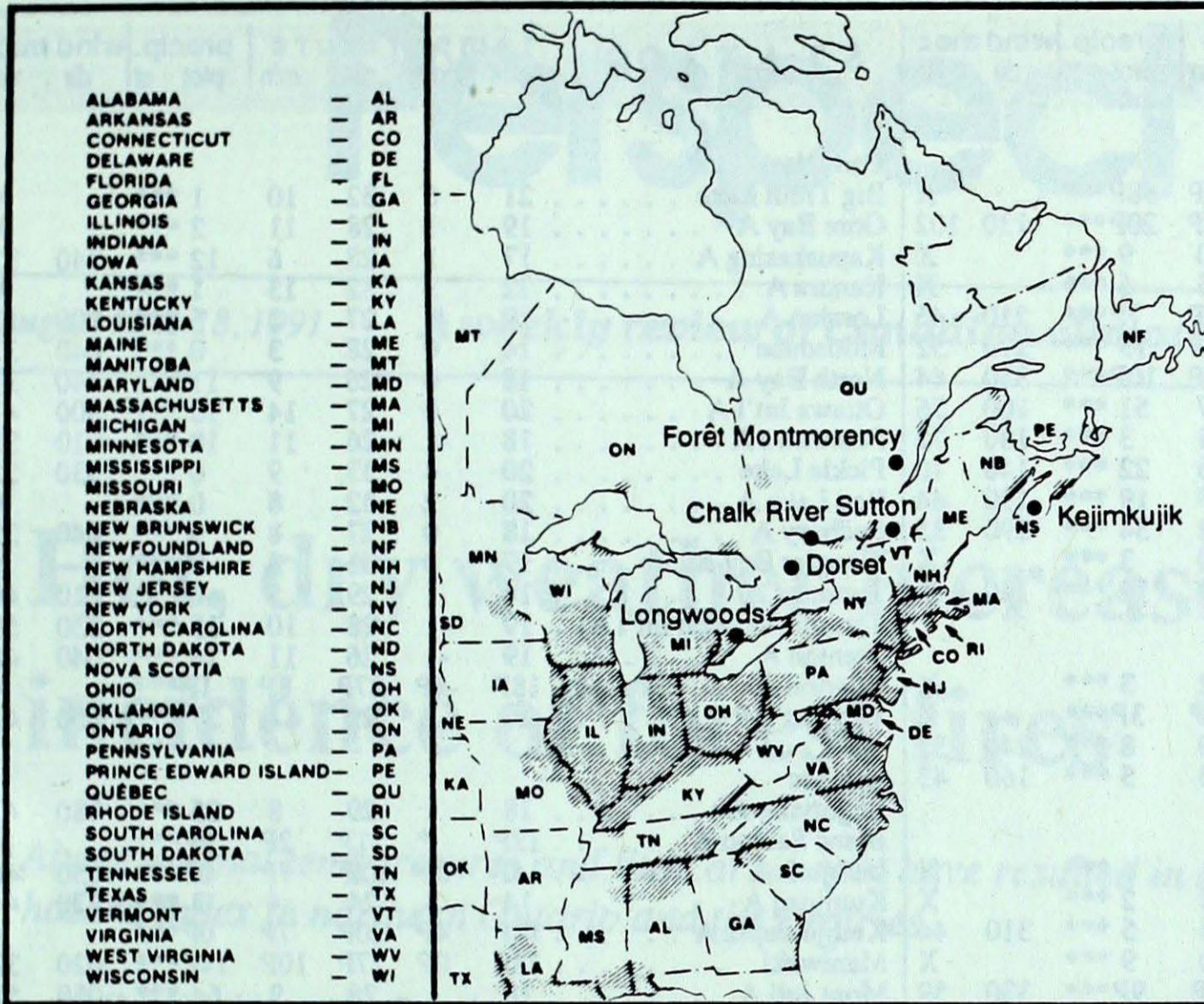
Mean geopotential height  
50-kPa level (10-decametre intervals)



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<sub>2</sub> and NO<sub>x</sub> 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.

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Site	day	pH	amount	air path to site
August 4 to 10, 1991				
Longwoods	..... Data not available this week			
Dorset*	04	4.8	4 R	..... Northern Ontario
	10	4.9	9 R	..... Northwestern Quebec
Chalk River	04	4.3	8 R	..... Northwestern Quebec
	09	4.5	3 R	..... Eastern Ontario, Northern New York
	10	5.2	5 R	..... Central Quebec
Sutton	04	5.3	28 R	..... Vermont, New Hampshire
	05	5.4	9 R	..... Southern Quebec
	09	4.6	18 R	..... New England, Eastern New York
	10	4.8	1 R	..... Northern Vermont, New Hampshire
Montmorency	04	5.0	23 R	..... Eastern Maine, Western New Brunswick
	05	5.7	2 R	..... Eastern Maine, Southern New Brunswick
	09	4.9	15 R	..... Southern Quebec, New Hampshire
	10	5.2	14 R	..... Main, Atlantic Ocean
Kejimkujik	04	4.7	7 R	..... Atlantic Ocean
	05	5.0	25 R	..... Nova Scotia
	10	4.6	34 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	vel		mean	anom	max	min			dir	vel
<b>British Columbia</b>								<b>Ontario</b>									
Blue River A	19P	1P	29P	9P	38P***			X	Big Trout Lake	21	6	32	10	1 ***			X
Cape St James	14P	0P	18P	10P	20P***	130	102		Gore Bay A	19	1	28	11	2 ***			X
Cranbrook A	21	2	34	10	9 ***			X	Kapusking A	17	1	28	6	12 ***	340	32	
Fort Nelson A	17	1	29	5	5 ***			X	Kenora A	22	3	32	13	1 ***			X
Fort St John A	17P	1P	29P	9P	7P***	210	46		London A	19	-1	27	8	5 ***	300	57	
Kamloops A	22	1	34	14	13 ***	270	52		Moosonee	14	0	28	3	0 ***	040	37	
Penticton A	22P	2P	33P	11P	10P***	350	44		North Bay A	18	0	26	9	11 ***	340	37	
Port Hardy A	14	0	23	7	51 ***	100	56		Ottawa Int'l A	20	0	27	14	10 ***	300	41	
Prince George A	18	2	29	4	3 ***	180	72		Petawawa A	18	-1	26	11	10 ***	010	33	
Prince Rupert A	14	0	20	6	22 ***	140	70		Pickle Lake	20	4	33	9	0 ***	030	32	
Smithers A	15	0	26	3	19 ***	190	44		Red Lake A	20	2	32	8	0 ***			X
Vancouver Int'l A	18	0	25	12	34 ***	290	35		Sudbury A	18	0	27	8	9 ***	340	35	
Victoria Int'l A	16	-1	23	10	3 ***			X	Thunder Bay A	17	0	31	5	0 ***			X
Williams Lake A	17	1	26	9	12 ***	140	46		Timmins A	18	1	29	5	0 ***	010	46	
<b>Yukon Territory</b>								<b>Toronto (Pearson Int'l A)</b>									
Komakuk Beach A	5	-2	21	-2	3 ***			X	Trenton A	19	-1	26	11	24 ***	040	48	
Teslin (aut)	11P	*	24P	0P	3P***			X	Warton A	18P	-1P	27P	8P	1P***			X
Watson Lake A	12	-2	24	0	8 ***	240	37		Windsor A	20	-1	29	11	27 ***	050	43	
Whitehorse A	13	-1	24	0	5 ***	160	43		<b>Québec</b>								
<b>Northwest Territories</b>								<b>Bagotville A</b>									
Alert	4	1	12	-1	6 ***			X	Blanc Sablon A	12P	*	21P	2P	9P***			X
Baker Lake A	19	8	28	10	2 ***			X	Inukjuak A	14P	5P	22P	7P	0P***	050	46	
Cambridge Bay A	11	3	18	5	5 ***	310	44		Kuujuuaq A	14	3	24	4	3 ***	270	44	
Cape Dyer A	8	2	17	0	9 ***			X	Kuujuuarapik A	14P	4P	20P	7P	0P***			X
Clyde A	8P	4P	17P	2P	9P***	330	59		Maniwaki	18P	0P	27P	10P	14P***	020	39	
Coppermine A	13	5	27	4	11 ***	270	50		Mont Joli A	18	1	28	9	64 ***	050	52	
Coral Harbour A	14	6	25	4	0 ***	310	50		Montréal Int'l A	20P	-1P	27P	14P	18P***	340	46	
Eureka	5	0	8	1	18 ***			X	Natashquan A	15P	1P	25P	7P	9P***	360	37	
Fort Smith A	21	6	34	11	12 ***	180	44		Québec A	18	0	29	11	49 ***	190	63	
Hall Beach A	12	6	25	3	14 ***	310	74		Schefferville A	16	4	24	7	9 ***	360	61	
Inuvik A	11	0	21	1	7 ***	330	56		Sept-Îles A	17	2	30	9	4 ***	340	56	
Iqaluit A	12P	5P	26P	5P	18P***	310	69		Sherbrooke A	17	0	28	8	44 ***	230	32	
Mould Bay A	1P	-1P	6P	-2P	11P 1			X	Val-d'Or A	16P	0P	26P	8P	35P***	020	37	
Norman Wells A	17	2	29	4	0 ***	280	46		<b>New Brunswick</b>								
Resolute A	3	-1	11	-1	15 1	090	63		Chatham A	20	1	30	11	86 ***	100	35	
Yellowknife A	20	5	29	12	12 ***	230	41		Fredericton A	20	1	30	12	91 ***	050	48	
<b>Alberta</b>								<b>Miscou Island (aut)</b>									
Calgary Int'l A	20	3	33	10	35 ***	360	63		Moncton A	18	-1	28	11	56 ***	340	44	
Cold Lake A	24	7	36	13	1 ***	140	48		Saint John A	18	1	28	12	68 ***	080	48	
Edmonton Namao A	21	4	33	13	20 ***	280	41		<b>Nova Scotia</b>								
Fort McMurray A	24	8	37	15	1 ***	140	41		Greenwood A	19	0	29	12	54 ***	170	52	
High Level A	19	3	29	7	16 ***			X	Shearwater A	19	0	28	13	45 ***	160	48	
Jasper	18P	3P	32P	10P	33P***			X	Sydney A	16	-3	25	7	42 ***	100	54	
Lethbridge A	22	3	34	13	10 ***	210	43		Yarmouth A	17	0	26	12	37 ***	190	52	
Medicine Hat A	25	5	38	12	8 ***	130	43		<b>Prince Edward Island</b>								
Peace River A	20	4	33	12	19 ***	220	46		Charlottetown A	18	-1	27	11	108 ***	120	52	
<b>Saskatchewan</b>								<b>East Point (auto)</b>									
Cree Lake	23	8	36	14	0 ***	210	39		16	*	22	13	68 ***				
Estevan A	20	0	29	13	6 ***	150	48		<b>Newfoundland</b>								
La Ronge A	23	7	36	12	0 ***	110	33		Cartwright	11	-2	25	3	11 ***	320	67	
Regina A	21	2	31	14	0 ***	130	57		Churchill Falls A	16	4	25	8	0 ***	320	65	
Saskatoon A	23	5	36	12	0 ***	130	41		Gander Int'l A	13	-3	25	6	17 ***	300	43	
Swift Current A	21	3	33	10	6 ***	140	37		Goose A	17	1	28	6	1 ***	040	48	
Yorkton A	19	2	30	9	0 ***	180	50		Port Aux Basques	13	-2	19	8	50 ***	080	74	
<b>Manitoba</b>								<b>St John's A</b>									
Brandon A	19	1	30	11	4 ***			X	St Lawrence	13	-1	20	7	12 ***			X
Churchill A	22	10	37	6	9 ***	320	32		Wabush Lake A	17	5	25	7	0 ***	330	52	
Lynn Lake A	23	8	35	12	0 ***	220	37		91/08/05-91/08/11								
The Pas A	22	5	33	13	0 ***	200	39										
Thompson A	20	6	35	8	0 ***	200	35										
Winnipeg Int'l A	21	2	32	12	4 ***	150	50										

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.