



Climatic Perspectives

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August 6 to 12, 1990

A weekly review of Canadian climate and water

Vol. 12 No 32

Hot and dry weather helps to ignite major forest fires in western Canada

Since early August, lightning strikes have sparked a number of major forest fires in coastal British Columbia and the northern prairies. These fires have occurred in areas where spring and summer precipitation has been deficient. A nearly stationary ridge of high pressure covering western North America has pumped hot and dry winds into western Canada. These winds have fanned some of the major blazes in Alberta. Although fire destruction is nowhere near the record proportions experienced across Canada in 1989, the fires have forced evacuation of many communities this season.

In British Columbia, about 500 new fires started during August 11-12th. The fires were mainly due to the dry winds which gave little or no rains. On August 12 alone, nearly 12,000 lightning strikes were recorded across the province. A large number of fires were burning in the Vancouver area.

The fire season started late this year in Alberta and Saskatchewan. Little precipitation has fallen across the northern prairies since mid-July. On August 3, a record 109 fires were started by lightning in Alberta. Major fires have consumed 10,700 hectares near Lac La Biche north of Edmonton. Since late July about 1,000 people have been evacuated from four communities in Saskatchewan as fires came perilously close to their homes. On August 7, forest fires forced about 600 people out

of their homes in the northern village of Canoe Narrows (350 km north of Saskatoon).

More heavy rains in Atlantic Canada

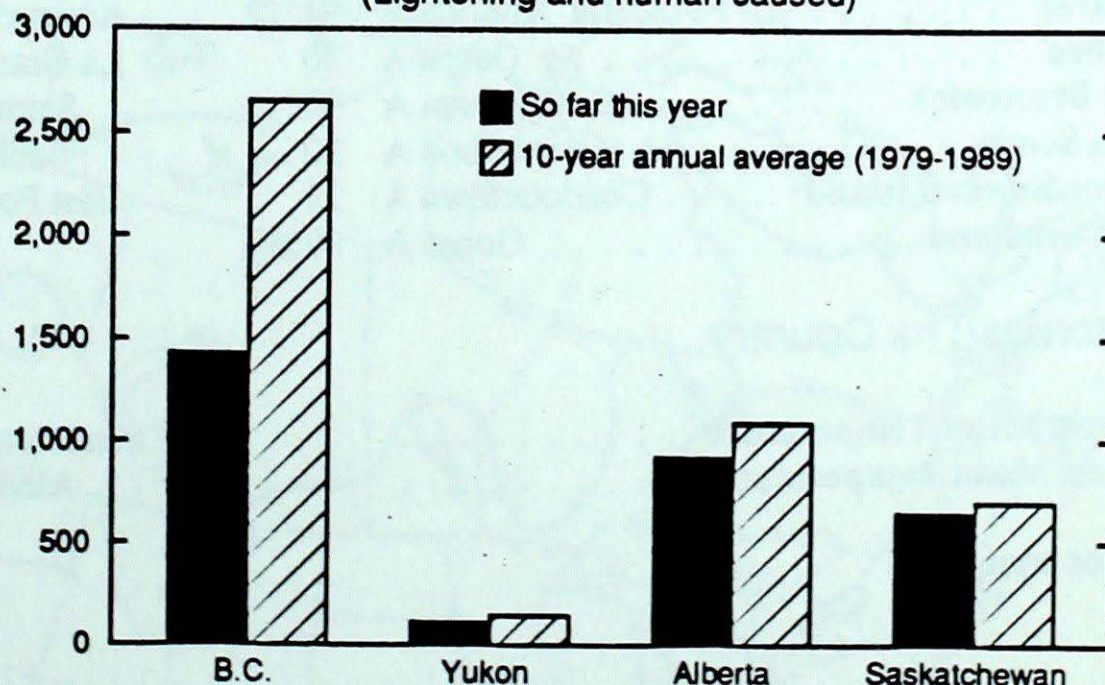
In the footsteps of Hurricane Bertha, which crossed the East Coast in early August, 70 to 80 mm of rain fell in the Maritimes. Woodstock N.S. received 168 mm in a 24 hour period which caused local flooding. Record amounts of rain also fell in Quebec. Nearly 80 mm of rain was recorded across the lower St. Lawrence Valley.

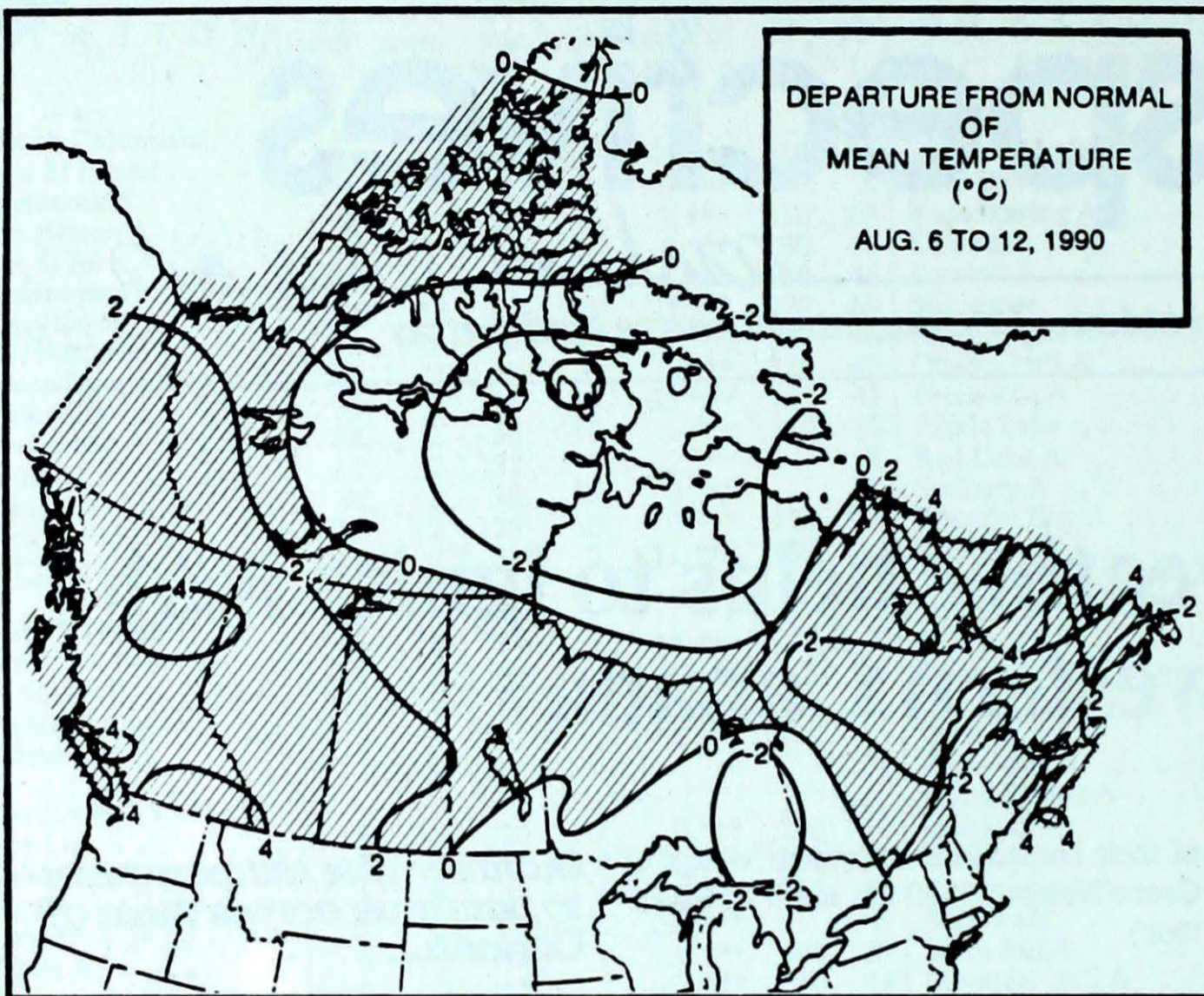
Frank Amirault (902) 426-9226

Summer-like temperatures to continue across most of Canada...

A flow of air from the west will bring abnormally warm temperatures from the Yukon to Atlantic Canada during the week of August 20. Warm temperatures (2 to 5°C above normal) will help to fuel forest fires in southern B.C. Areas from the Great Lakes to Newfoundland should also experience similar warmth. A trough of low pressure situated over Baffin Island will produce below normal temperatures over northeastern Canada.

Number of forest fires in western Canada
(Lightening and human caused)





Weekly normal temperatures (°C)

	max.	min.
Whitehorse A	19.8	7.4
Iqaluit A	11.1	3.9
Yellowknife A	19.0	11.0
Vancouver Int'l A	22.9	13.2
Victoria Int'l A	22.8	11.1
Calgary Int'l A	23.2	9.2
Edmonton Int'l A	22.5	9.1
Regina A	26.1	10.9
Saskatoon A	25.0	10.9
Winnipeg Int'l A	25.3	12.2
Ottawa Int'l A	25.4	14.5
Toronto (Pearson Int'l A)	26.0	14.1
Montréal Int'l A	25.3	15.1
Québec A	23.8	12.6
Fredericton A	25.3	12.9
Saint John A	22.2	12.2
Halifax (Shearwater)	22.3	14.4
Charlottetown A	23.2	14.2
Goose A	20.2	9.9
St John's A	20.2	11.8

Weekly temperature and precipitation extremes

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Kamloops A 37	Dease Lake 1	Prince Rupert A 26
Yukon Territory	Watson Lake A 31	Komakuk Beach A 2	Faro (aut) 20
Northwest Territories	Fort Smith A 33	Alert -3	Hay River A 49
Alberta	Medicine Hat A 38	Fort McMurray A 1	Cold Lake A 16
Saskatchewan	Estevan A 36	Cree Lake 3	Collins Bay 31
Manitoba	Dauphin A 35	Thompson A 1	Churchill A 19
Ontario	Big Trout Lake 31	Armstrong (aut) 2	Windsor A 47
Québec	Gaspé A 30	La Grande Iv A 0	Chevery (aut) 86
New Brunswick	Chatham A 37	Saint John A 12	Miscou Island (aut) 74
Nova Scotia	Greenwood A 30	Sable Island 12	Amherst (aut) 88
Prince Edward Island	Charlottetown A 29	East Point (aut) 16	Charlottetown A 74
Newfoundland	Goose A 32	Nain A 6	Goose A 35

Across The Country...

Highest Mean Temperature	Penticton A(BC) 25
Lowest Mean Temperature	Alert(NWT) 2

90/08/06-90/08/12

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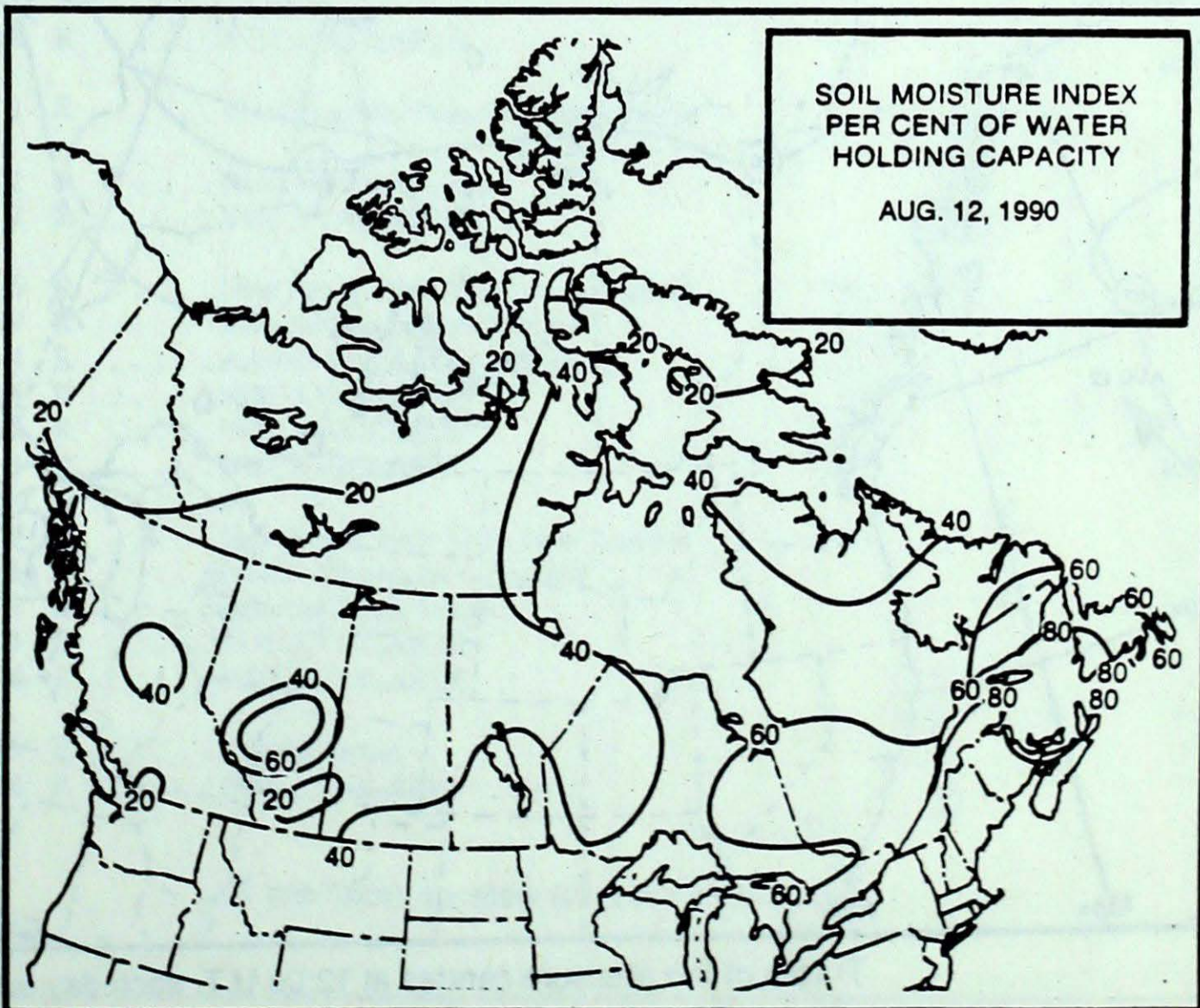
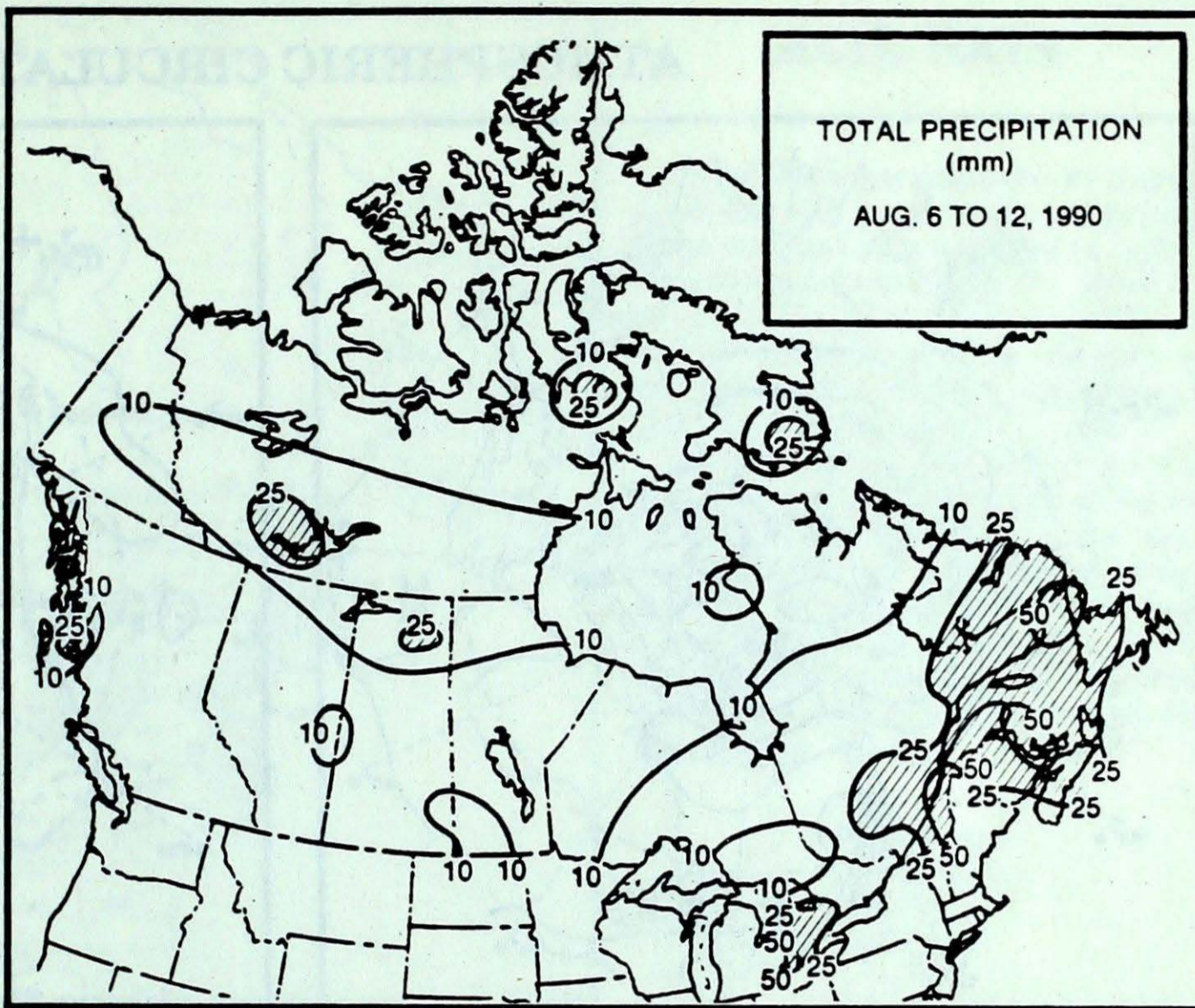
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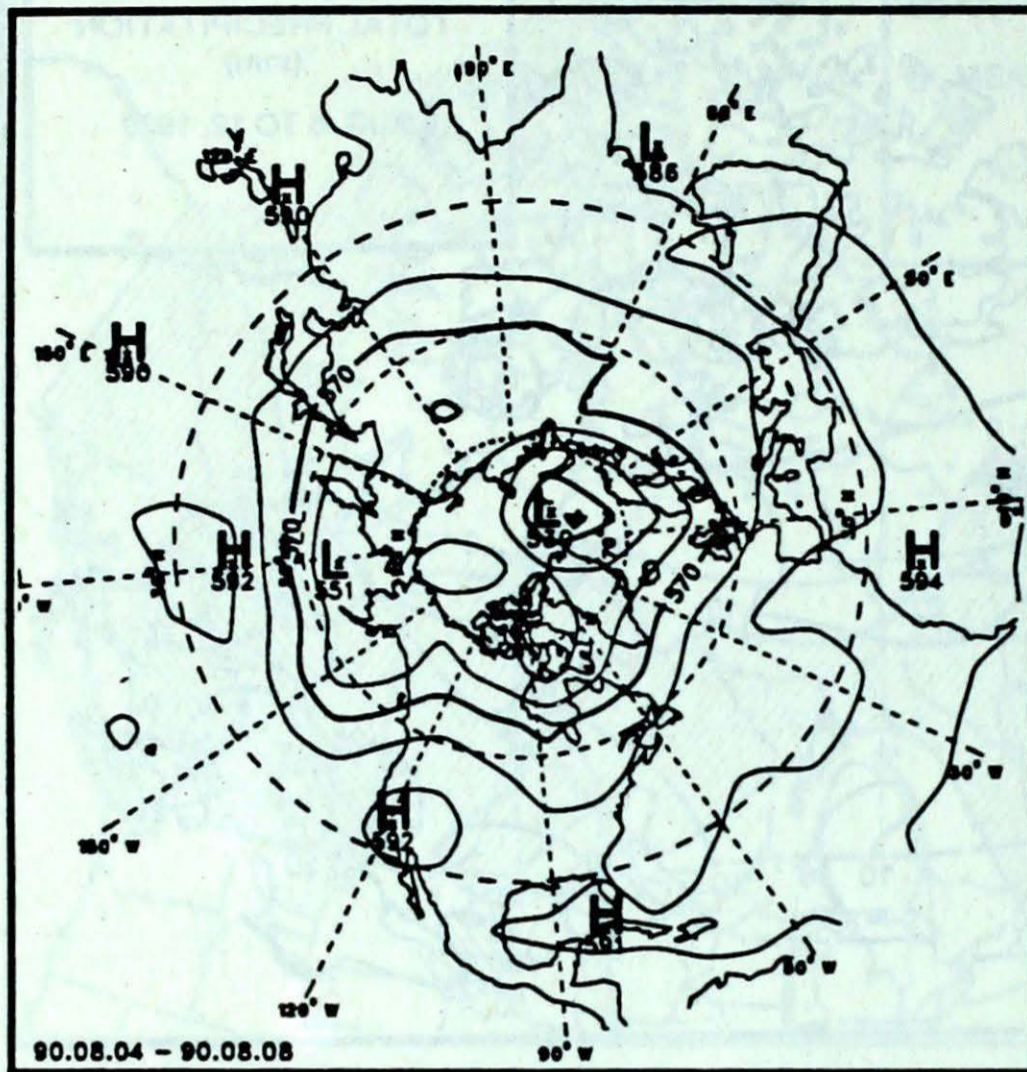
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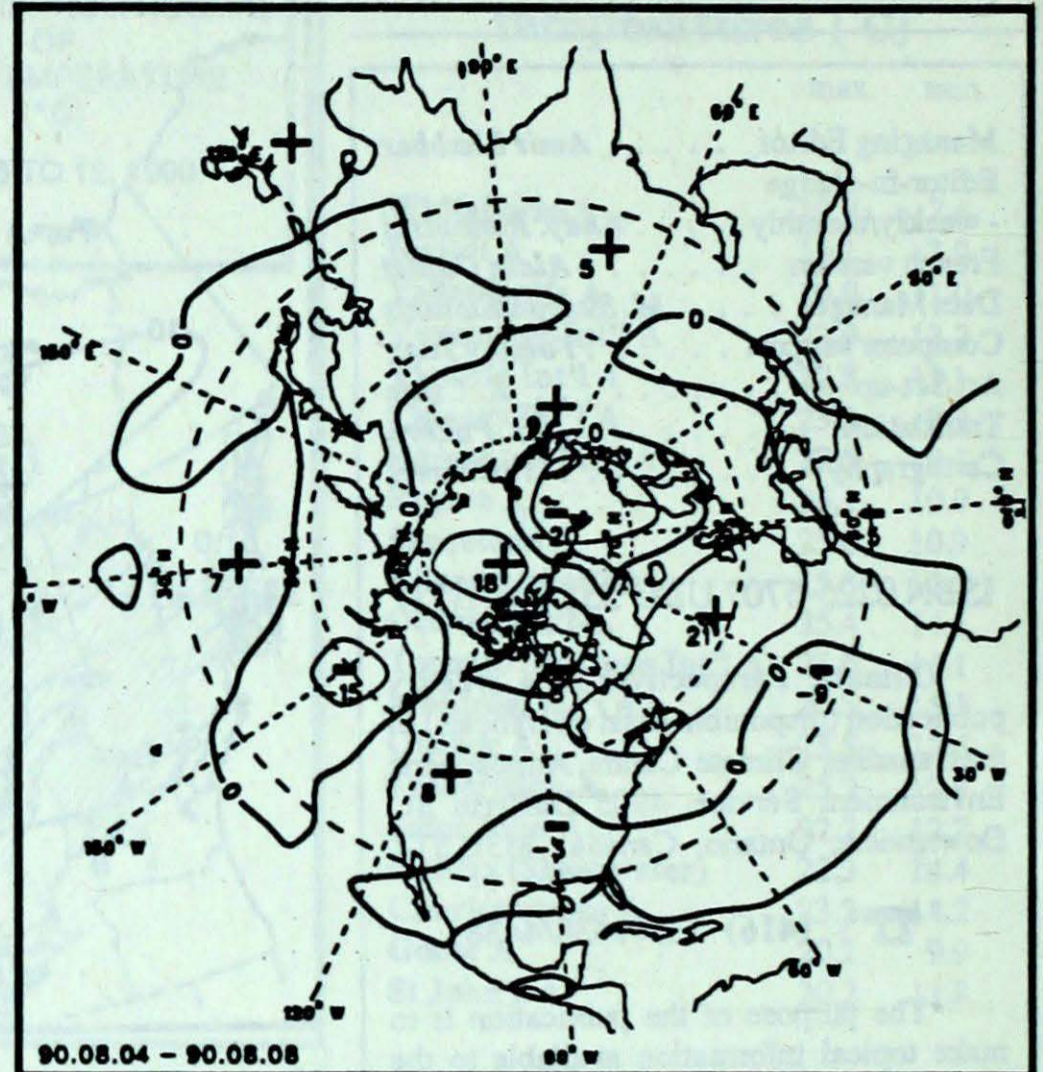
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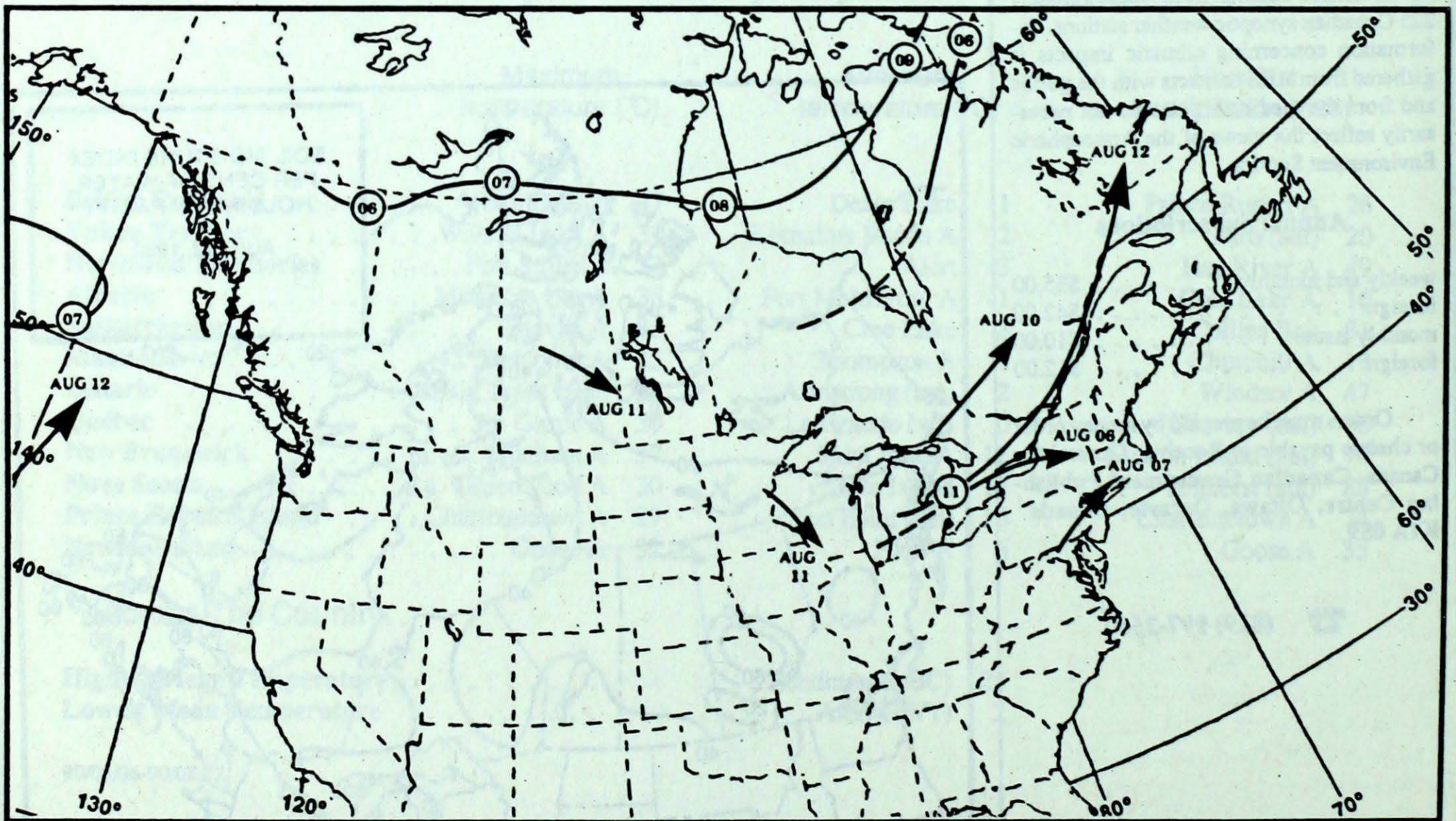
ATMOSPHERIC CIRCULATION



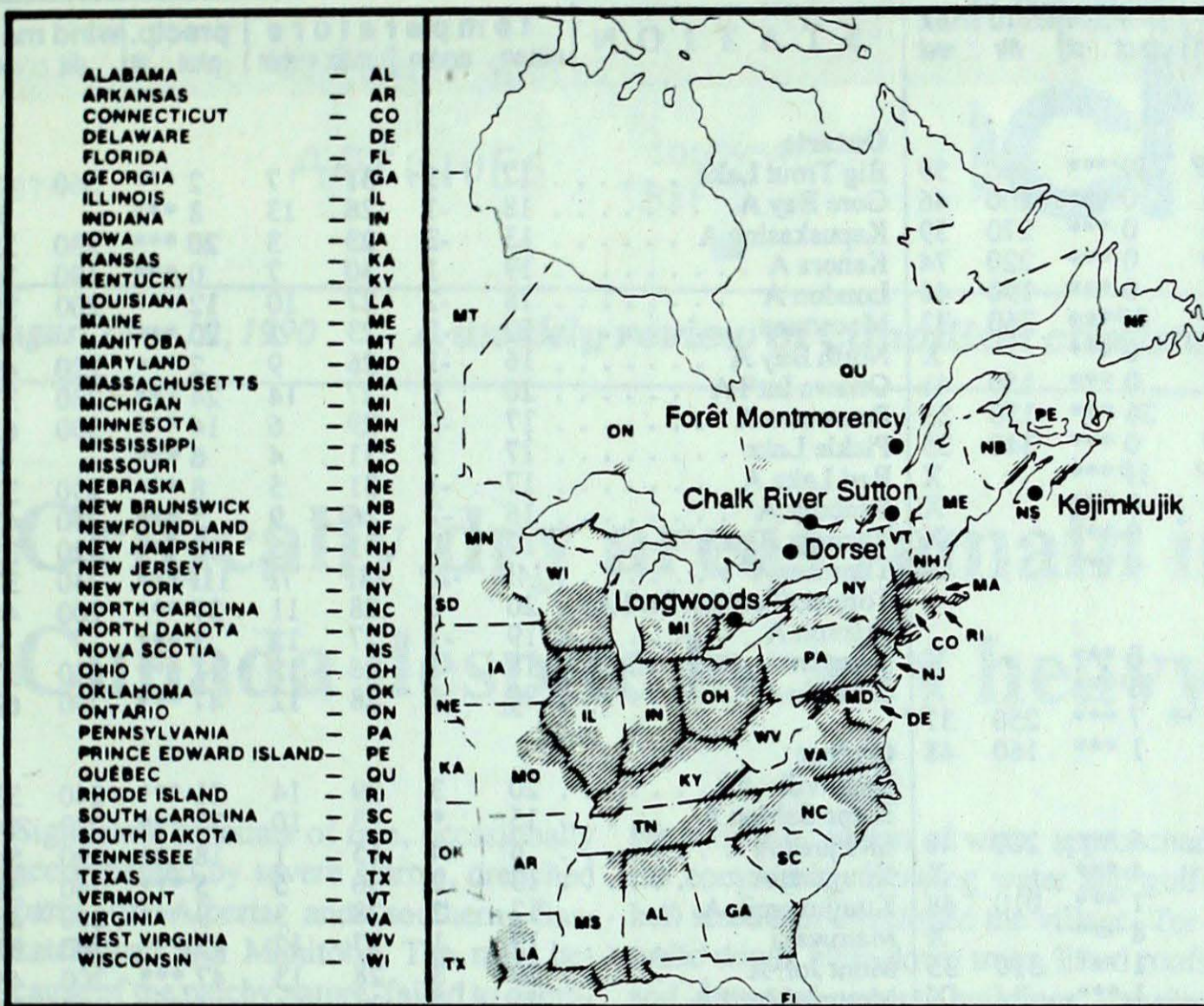
Mean geopotential height
50-kPa level (10-decametre intervals)



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.

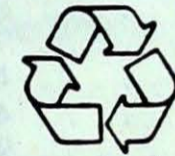


ACID RAIN

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 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.

Think recycling



Pensez à recycler

Site	day	pH	amount	air path to site	August 5 to 11, 1990
Longwoods	10	3.4	18 R	.....	NOT AVAILABLE
Dorset *	5	3.2	1 R	.....	West Virginia, Ohio, Southern Ontario
Chalk River	6	4.1	1 R	.....	Northwestern Quebec
	10	3.9	2 R	.....	NOT AVAILABLE
Sutton	5	4.2	6 R	.....	New Jersey, New York, New England
	6	4.5	19 R	.....	Atlantic Ocean, New England
	7	5.0	4 R	.....	Atlantic Ocean, New England
	9	4.1	4 R	.....	NOT AVAILABLE
	10	4.6	22 R	.....	NOT AVAILABLE
Montmorency	11	4.9	3 R	.....	NOT AVAILABLE
	5	4.0	4 R	.....	New Jersey, New York, New England
	6	4.6	15 R	.....	Atlantic Ocean, New England
	7	4.8	19 R	.....	Atlantic Ocean, Maine
Kejimikujik	10	4.9	5 R	.....	NOT AVAILABLE
	11	4.8	8 R	.....	NOT AVAILABLE
	8	4.8	35 R	Atlantic Ocean
	11	4.8	8 R	NOT AVAILABLE

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

DTM
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 CLIMATIC PERSPECTIVES
 Environment Canada Environnement
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 AECT



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								
British Columbia								Ontario															
Cape St James	16P	2P	20P	12P	19P***	160	59	Big Trout Lake	17	2	31	7	2***	360	43								
Cranbrook A	23	4	34	13	0***	200	46	Gore Bay A	18	-1	26	13	8***	X	X								
Fort Nelson A	20	3	33	6	0***	270	59	Kapuskasing A	13	-3	23	3	20***	230	35								
Fort St John A	20	4	32	10	0***	220	74	Kenora A	19	1	30	7	0***	190	39								
Kamloops A	25	4	37	14	0***	190	46	London A	18	-2	27	10	12***	200	35								
Penticton A	25P	5P	35P	15P	0P***	360	33	Moosonee	12	-2	23	2	20***	X	X								
Port Hardy A	17	3	24	11	0***	X	X	North Bay A	16	-1	26	9	2***	220	41								
Prince George A	19	3	33	5	0***	150	41	Ottawa Int'l A	20	0	27	14	24***	230	37								
Prince Rupert A	16	3	25	11	26***	150	33	Petawawa A	17	-2	29	6	14***	300	61								
Revelstoke A	23	4	35	10	0***	340	35	Pickle Lake	17	1	31	4	6***	X	X								
Smithers A	19P	4P	35P	6P	1P***	X	X	Red Lake A	17	-1	31	5	8***	230	37								
Vancouver Int'l A	22	4	32	14	0***	X	X	Sudbury A	16	-2	26	9	3***	250	43								
Victoria Int'l A	19	2	32	10	0***	X	X	Thunder Bay A	17	0	31	5	10***	320	33								
Williams Lake A	20	4	32	9	0***	X	X	Timmins A	14P	-2P	28P	7P	11P***	230	37								
Yukon Territory								Toronto (Pearson Int'l A)															
Komakuk Beach A	7	0	16	2	0***	X	X	Trenton A	19	-1	27	12	5***	X	X								
Teslin (aut)	16P	*	30P	3P	5P***	X	X	Warton A	18	-1	26	12	11***	230	37								
Watson Lake A	17	3	31	8	7***	250	37	Windsor A	20	-1	28	12	47***	290	69								
Whitehorse A	17	3	30	3	1***	160	48	Québec															
Northwest Territories								Bagotville A															
Alert	2	-1	10	-3	6***	200	48	Blanc Sablon A	15	*	23	10	73***	220	44								
Baker Lake A	8	-3	16	2	4***	X	X	Inukjuak A	6	-4	15	1	18***	190	56								
Cambridge Bay A	7	0	14	3	1***	010	48	Kuujuuaq A	13	2	30	5	5***	260	56								
Cape Dyer A	4	-2	10	0	8***	X	X	Kuujuarapik A	12	2	28	3	9***	260	48								
Clyde A	4	0	11	1	1***	310	35	Maniwaki	19	1	27	12	47***	200	32								
Coppermine A	9	1	19	2	1***	X	X	Mont Joli A	20	3	28	13	47***	200	43								
Coral Harbour A	7	-2	13	0	3***	350	56	Montréal Int'l A	21	1	26	14	11***	270	37								
Eureka	5	0	12	0	1***	300	61	Natashquan A	18	4	26	12	39***	X	X								
Fort Smith A	16	0	33	4	24***	280	95	Québec A	20	2	26	15	79***	240	32								
Hall Beach A	5	-1	12	-1	1***	X	X	Schefferville A	13	2	24	6	9***	260	61								
Inuvik A	13	2	21	5	1***	050	33	Sept-Îles A	18	3	23	14	38***	230	35								
Iqaluit A	6	-1	14	3	40***	340	33	Sherbrooke A	19	2	25	12	79***	X	X								
Mould Bay A	4	2	11	-1	7***	180	37	Val-d'Or A	16	-1	27	9	10***	200	41								
Norman Wells A	17	3	27	11	2***	X	X	New Brunswick															
Resolute A	4	1	9	0	0***	330	50	Charlo A	21	4	29	15	32***	X	X								
Yellowknife A	14	-1	22	7	18***	180	54	Chatham A	24	5	37	15	10***	210	35								
Alberta								Fredericton A															
Calgary Int'l A	20	4	33	11	0***	250	41	Moncton A	22P	4P	29P	14P	70P***	180	44								
Cold Lake A	19	3	33	9	16***	170	41	Saint John A	20	3	27	12	47***	X	X								
Edmonton Namao A	21	4	34	11	1***	300	54	Nova Scotia															
Fort McMurray A	18	2	36	1	7***	300	74	Greenwood A	23	3	30	14	43***	180	46								
High Level A	18	2	30	7	1***	300	52	Shearwater A	20	2	24	15	29***	X	X								
Jasper	20	4	31	9	1***	X	X	Sydney A	22	4	29	15	3***	220	43								
Lethbridge A	22	3	36	12	0***	300	59	Yarmouth A	21	4	26	16	4***	X	X								
Medicine Hat A	24	4	38	14	0***	X	X	Prince Edward Island															
Peace River A	19	4	33	7	0***	250	59	Charlottetown A	23	4	29	18	74***	180	48								
Saskatchewan								Summerside A															
Cree Lake	16	0	32	3	12***	250	59	23	4	28	18	44***	180	43									
Estevan A	20	1	36	6	3***	160	44	Newfoundland															
La Ronge A	17	1	34	5	10***	350	65	Cartwright	16	3	31	8	28***	220	52								
Regina A	20	2	33	9	0***	300	46	Churchill Falls A	16	3	25	8	22***	230	52								
Saskatoon A	19	1	35	*	0***	030	44	Gander Int'l A	22	6	29	14	0***	230	54								
Swift Current A	21	2	36	10	4***	190	44	Goose A	20	4	32	11	35***	270	48								
Yorkton A	18	1	35	8	1***	190	50	Port Aux Basques	16	0	24	10	34***	X	X								
Manitoba								St John's A															
Brandon A	18	0	33	5	11***	180	46	St Lawrence	18	3	27	13	11***	240	65								
Churchill A	12	0	28	4	19***	360	44	Wabush Lake A	14	2	24	8	21***	200	41								
Lynn Lake A	16	1	32	3	6***	320	37	90/08/06-90/08/12															
The Pas A	18	1	33	7	0***	320	39																
Thompson A	16	1	34	1	2***	X	X																
Winnipeg Int'l A	18	-1	33	4	2***	180	44																

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.