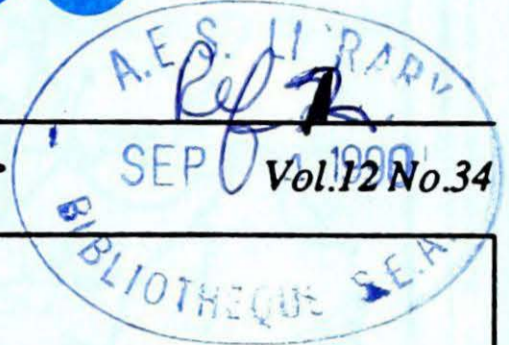


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Climatic Perspectives

archives



August 20 to 26, 1990

A weekly review of Canadian climate and water

Great Lakes water levels to remain below average

Since early 1989, water levels on Lakes Superior and Huron have been below average. Levels on these lakes will remain below average unless much above-average precipitation occurs on their drainage basins. At present, Lakes Superior and Huron are about 19 cm (7.5 inches) and 14 cm (5.5 inches) below average, respectively. While levels are below average, they are still well within the range of fluctuation that the Great Lakes have experienced in recent decades. The range of fluctuation is about 1.2 metres (4 feet) on Lake Superior and 1.8 metres (6 feet) on Lake Huron. Lake St. Clair is also below average by about 14 cm (5.5 inches).

Lake Erie is the only Great Lake at this time with water levels above average. Since 90% of the water supply to Lake Erie comes from Lake Huron, the below normal water levels on the upper Great Lakes will have a considerable impact on the level of Lake Erie. Lake Erie should approach average levels by the end of the year.

During July, precipitation was slightly below average (96%) over the Great Lakes Basin. The drainage basins of Lakes Huron, Michigan and Erie had higher than average precipitation, while Lakes Superior and Ontario were below average.

Calgary flood summary

The severe thunderstorms, which hit the city on August 16 and 17 caused ap-

proximately 5 million dollars worth of flood and structural damage. On Thursday evening, the northwest part of the city was inundated with 50 mm of rain in one hour. Then again late Friday evening another thunderstorm dumped an additional 60 to 80 millimetres.

Forest fire update

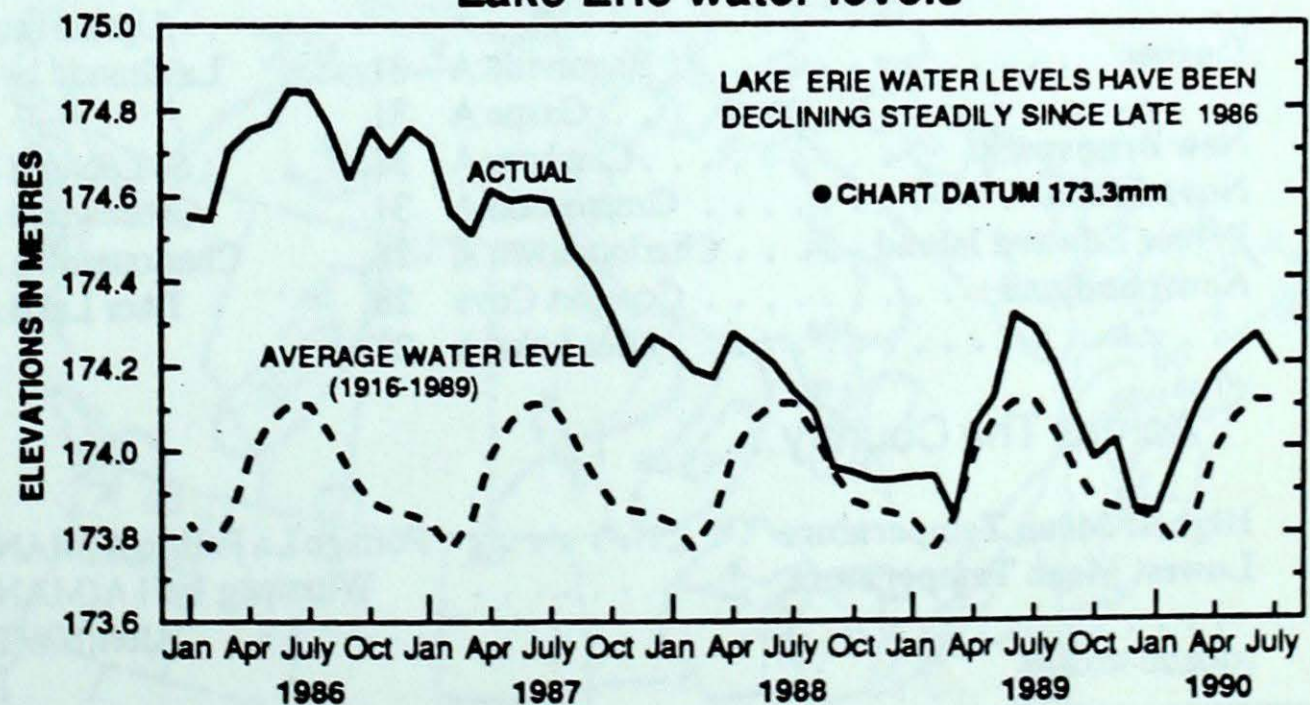
In northern B.C. and the Yukon much needed precipitation lowered the forest fire hazard significantly. In northeastern Alberta, the season's largest forest fire in the Lac La Biche district has been finally brought under control, mainly due to the arrival of a cooler, damp weather regime. Rain in northwestern Ontario this week helped fire fighters battle numerous blazes

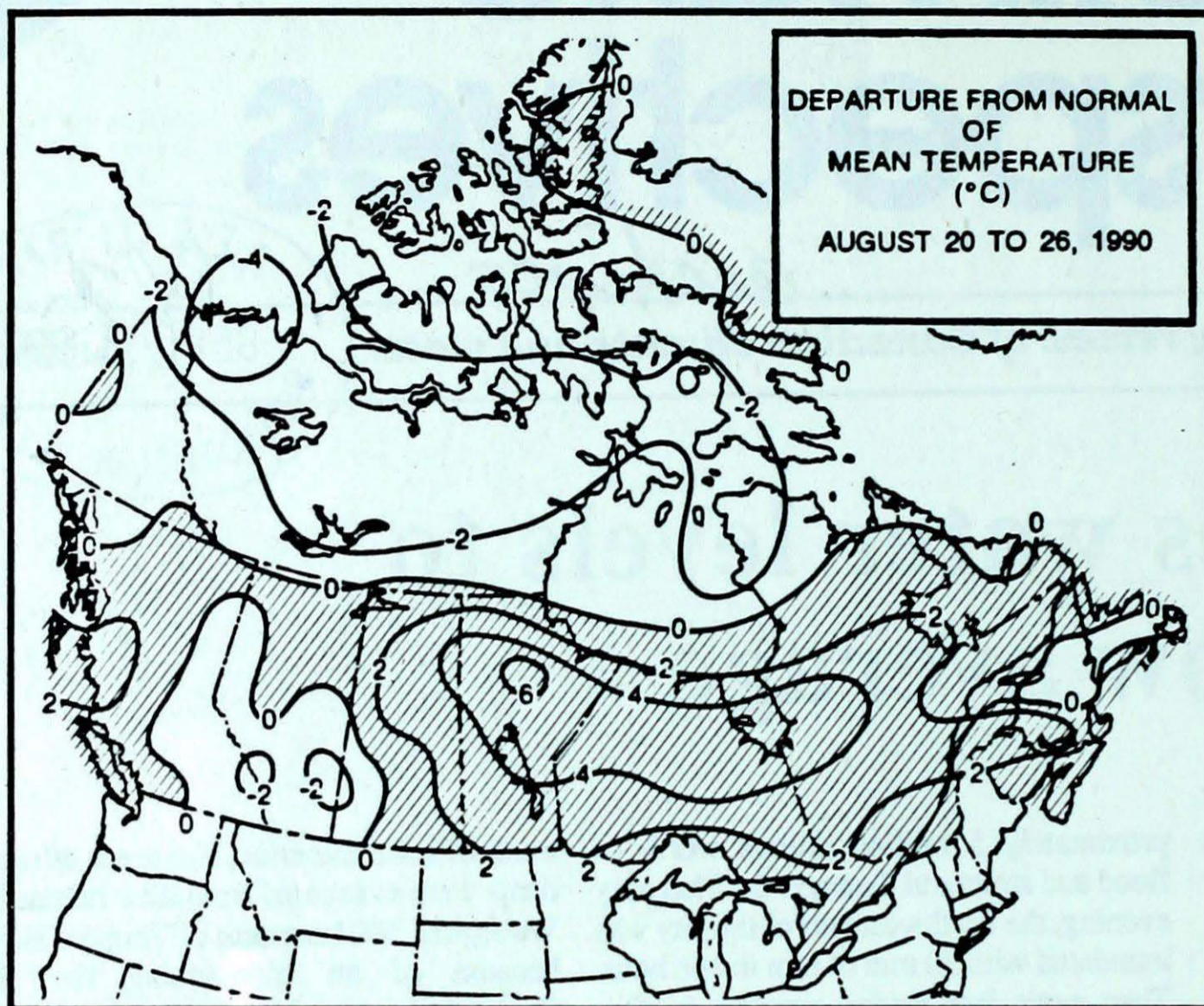
north of Lake Superior. Hundreds of residents were evacuated from their homes in Webequie, 500 km north of Thunder Bay, because of an approaching fire. In Quebec, rising temperatures pushed the forest fire hazard to the extreme range across the southern part of the province, where fire bans have been put in effect.

More Summer weather...

A westerly flow will continue to produce above-normal temperatures from the Yukon to Newfoundland for the first week of September. Readings will be especially warm over the southern Prairies and the Great Lakes Basin. Only the northeastern Arctic is expected to experience below normal temperatures.

Lake Erie water levels





Weekly normal temperatures (°C)

	max.	min.
Whitehorse A	16.6	6.0
Iqaluit A	9.9	3.1
Yellowknife A	17.2	9.7
Vancouver Int'l A	20.6	12.4
Victoria Int'l A	20.5	10.3
Calgary Int'l A	21.4	7.5
Edmonton Int'l A	20.7	6.9
Regina A	25.2	10.4
Saskatoon A	24.1	9.6
Winnipeg Int'l A	24.6	12.0
Ottawa Int'l A	23.9	12.7
Toronto Int'l A	25.3	12.9
Montréal Int'l A	23.9	13.3
Québec A	22.1	10.9
Fredericton A	23.5	10.6
Saint John A	21.1	10.6
Halifax (Shearwater)	21.7	12.6
Charlottetown A	21.2	12.1
Goose A	18.2	8.1
St John's A	18.3	10.1

Weekly temperature and precipitation extremes

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Kamloops A 32	Prince George A -2	Hope A 26
Yukon Territory	Watson Lake A 23	Komakuk Beach A -6	Faro (aut) 7
Northwest Territories	Fort Smith A 29	Alert -8	Fort Smith A 43
Alberta	Fort McMurray A 32	High Level A 0	Slave Lake A 82
Saskatchewan	Estevan A 31	Meadow Lake A 3	Uranium City A 38
	Nipawin A 31		
Manitoba	Gretna (aut) 33	Thompson A 0	Churchill A 31
Ontario	Petawawa A 32	Geraldton A 1	Lansdowne House 200
		Upsala (aut) 1	
Québec	Bagotville A 31	La Grande Iv A -1	Kuujuarapik A 38
	Gaspé A 31		
New Brunswick	Chatham A 31	St-Léonard A 2	No measurable precipitation
Nova Scotia	Greenwood A 31	Greenwood A 4	
Prince Edward Island	Charlottetown A 28	Charlottetown A 9	
Newfoundland	Comfort Cove 28	Deer Lake A 1	Nain A 9
	Deer Lake A 28		

Across The Country...

Highest Mean Temperature	Portage La Prairie A(MAN)	22
Lowest Mean Temperature	Winnipeg Int'l A(MAN)	22
	Alert(NWT)	-2

90/08/20-90/08/26

CLIMATIC PERSPECTIVES
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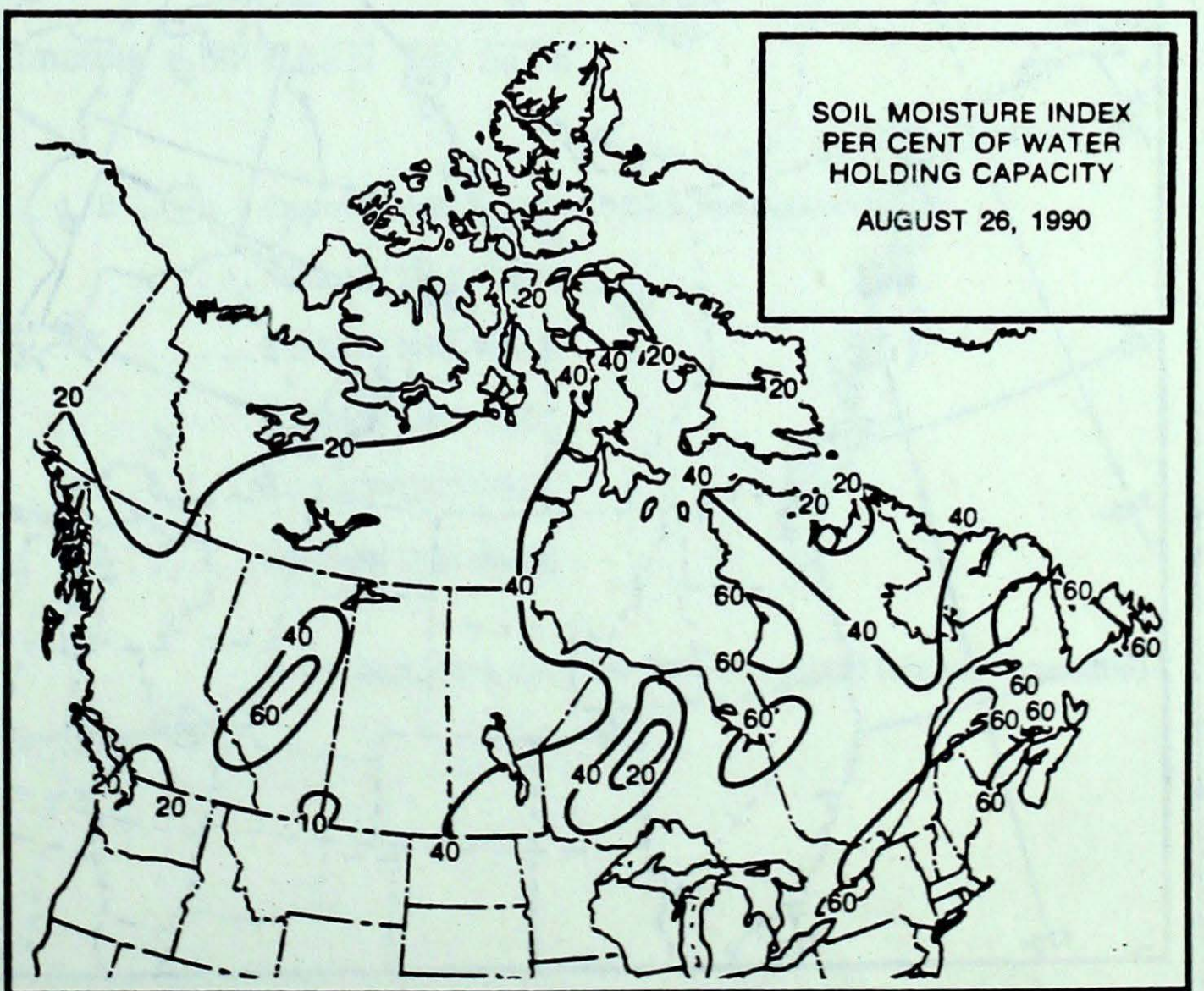
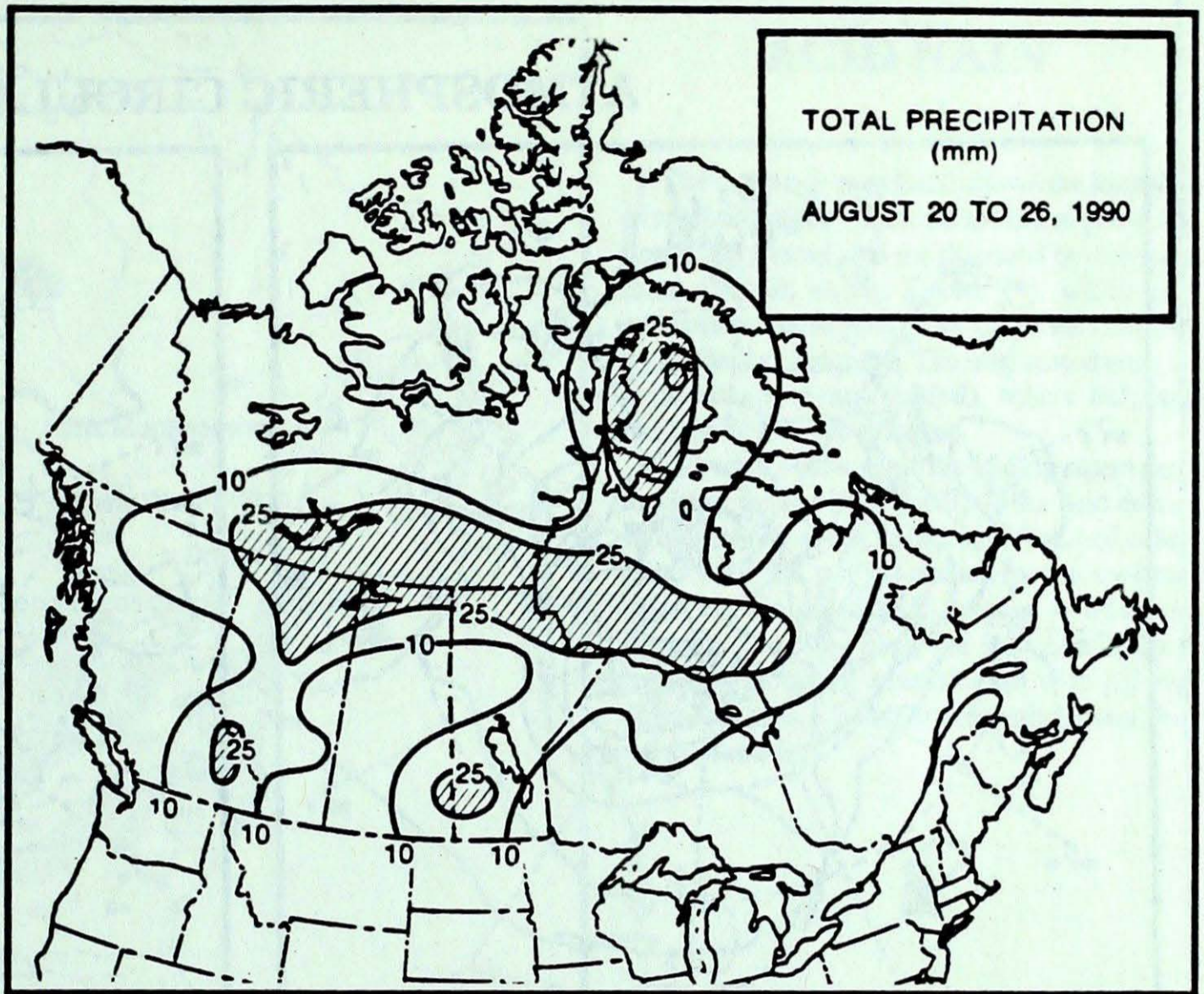
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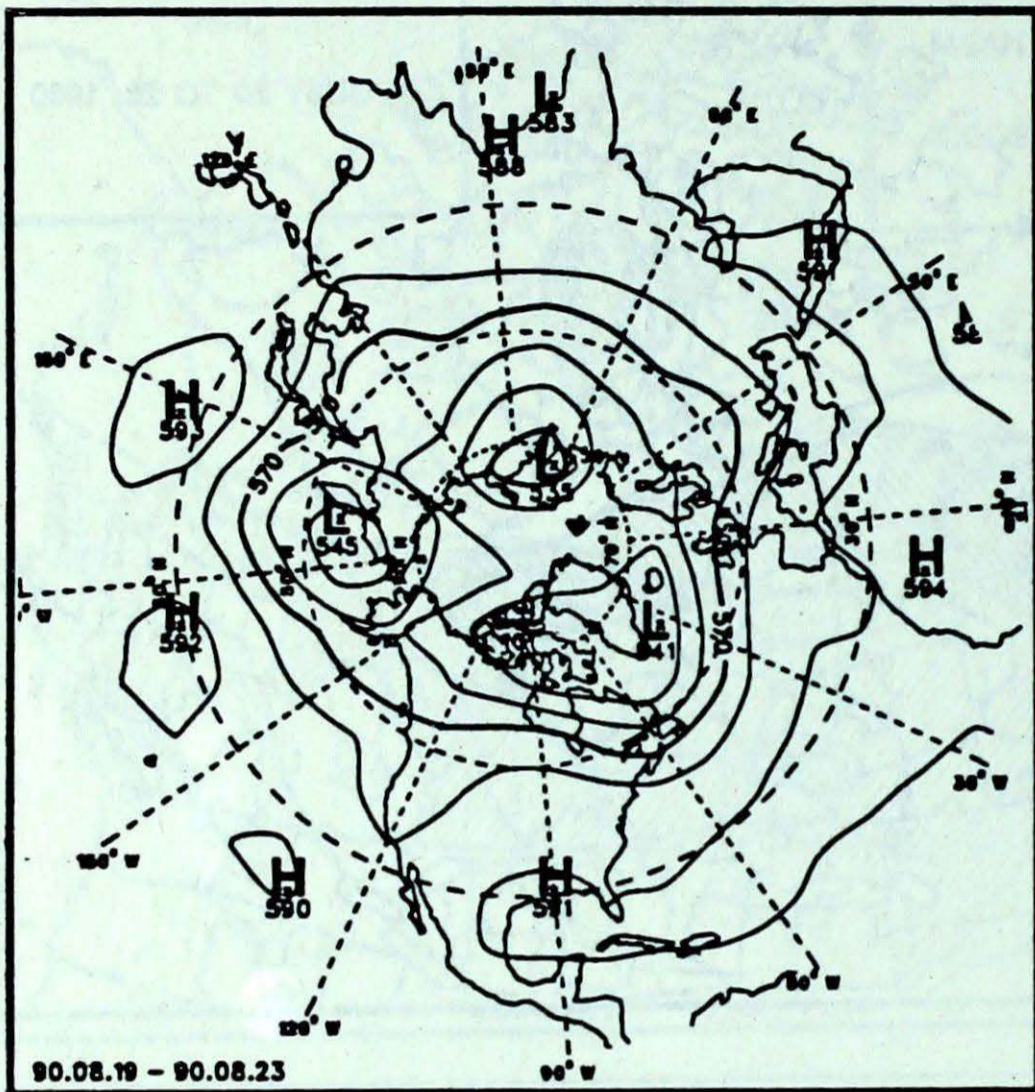
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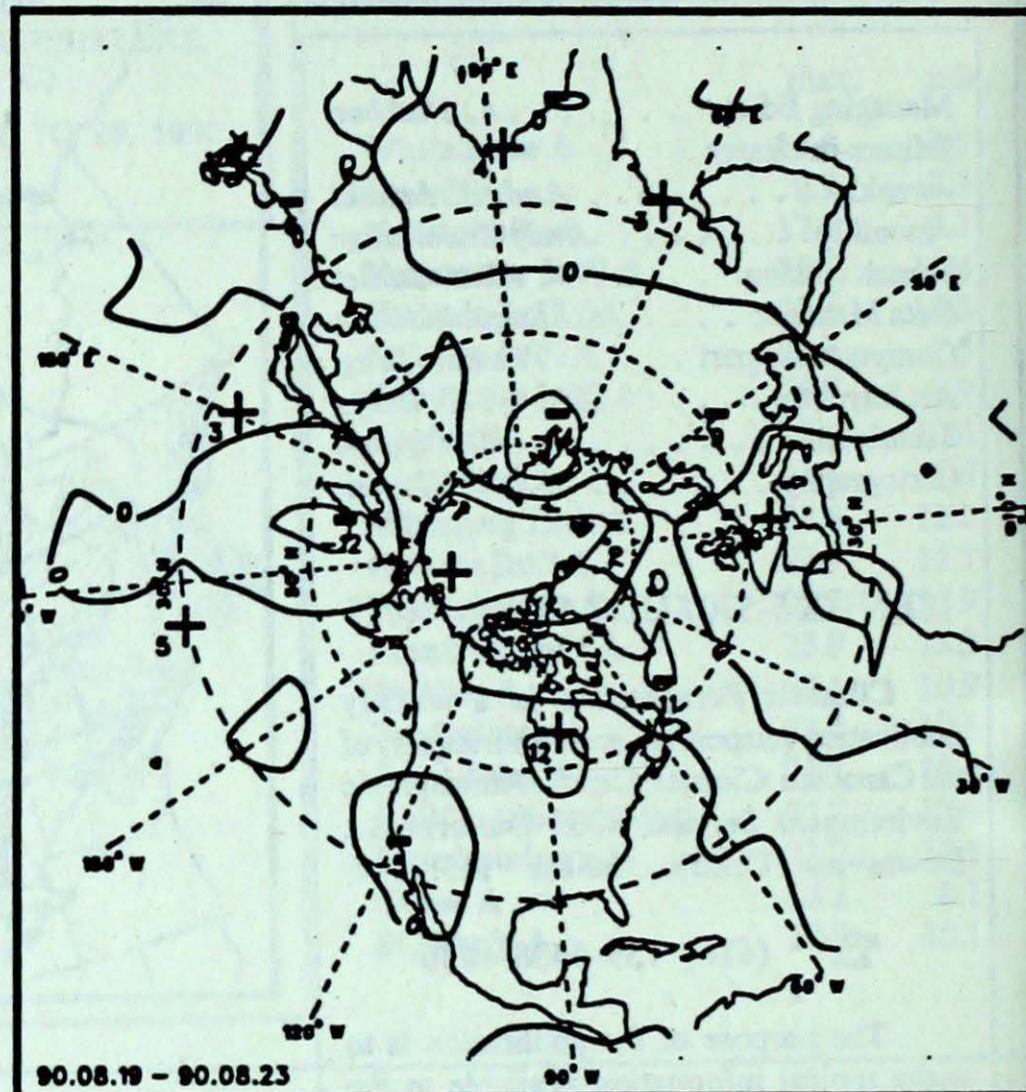
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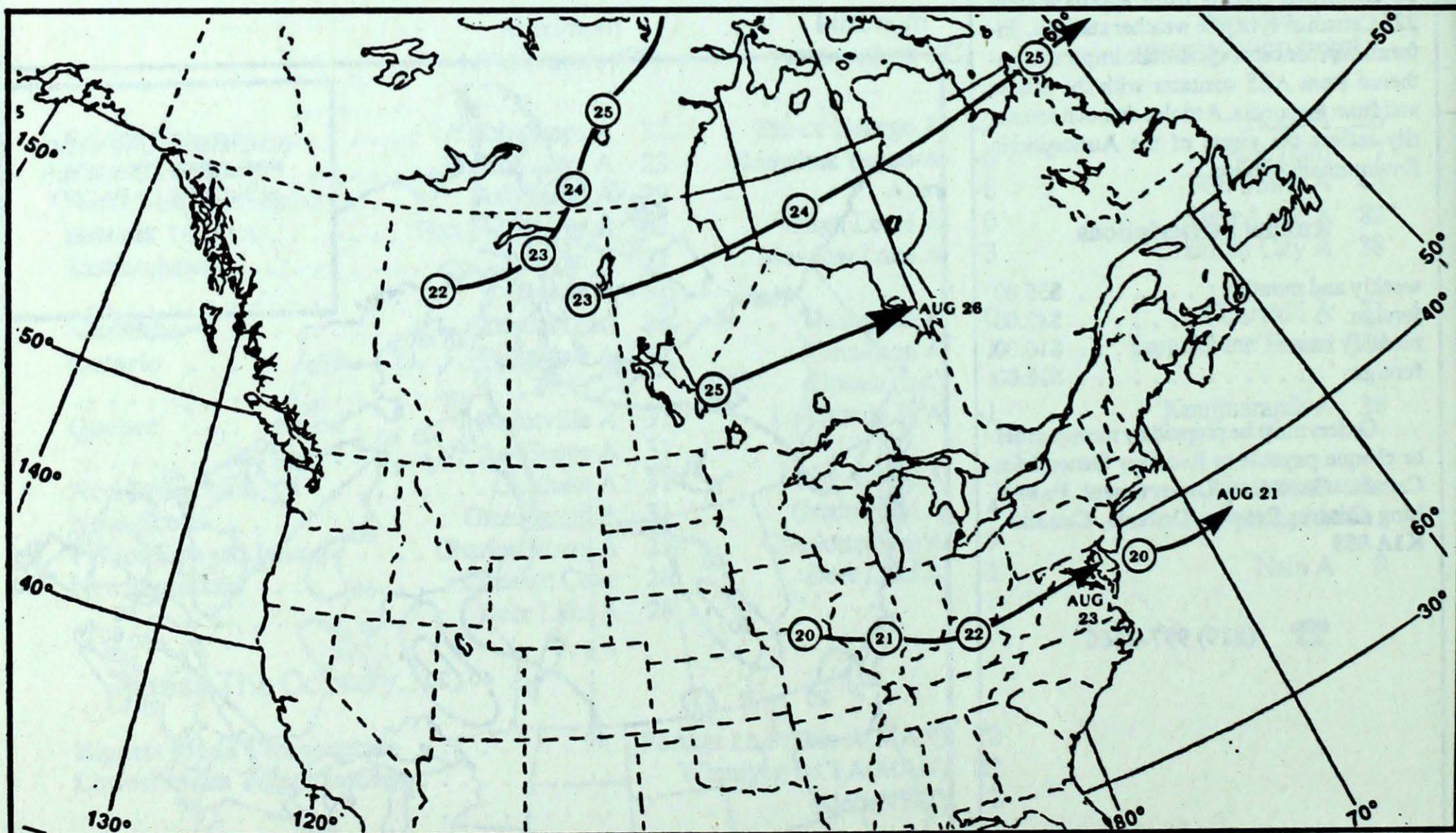
ATMOSPHERIC CIRCULATION



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



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

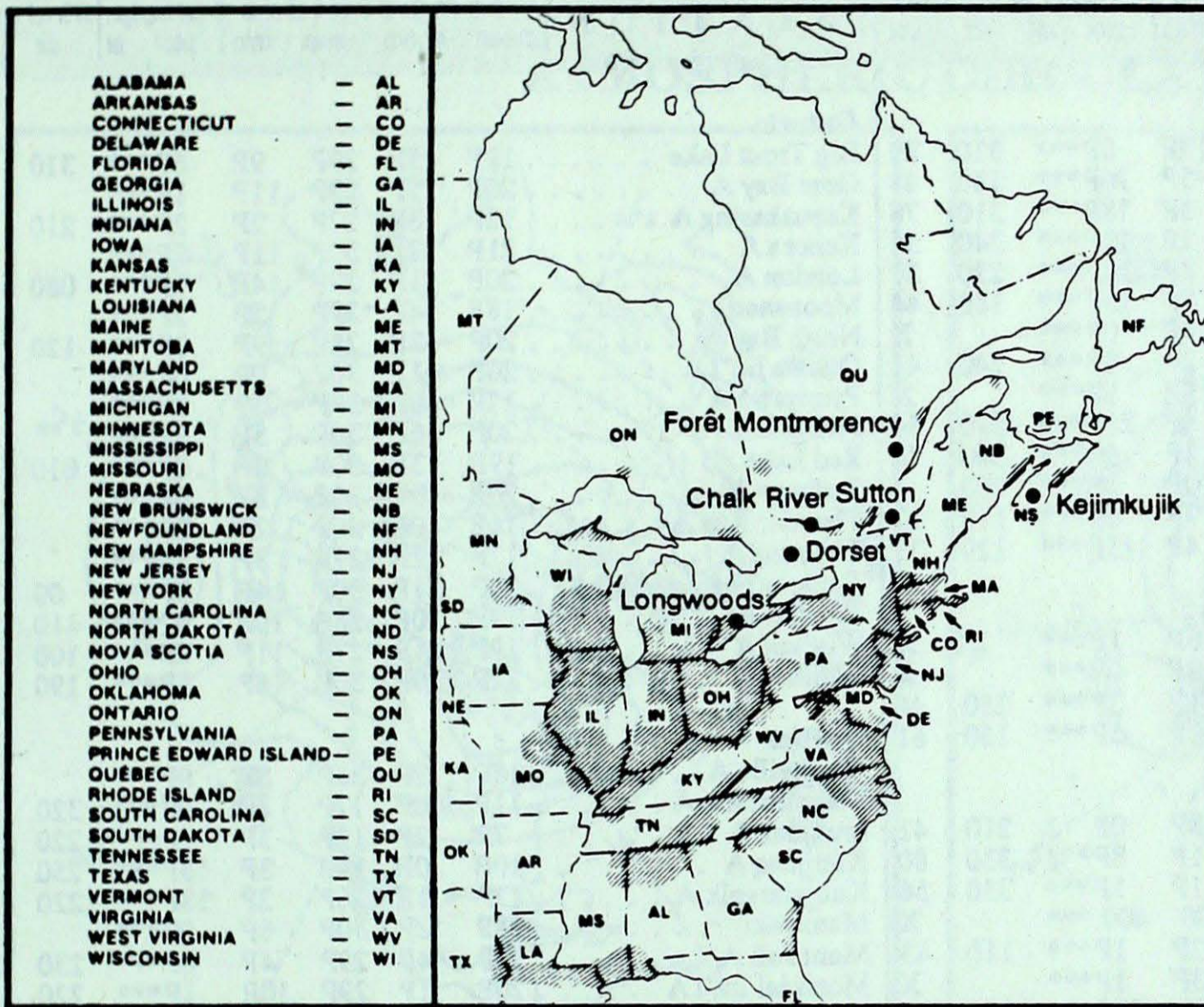


Tracks of low pressure centres at 12:00 U.T. each day during the period.

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.



SITE	day	pH	amount	AIR PATH TO SITE
------	-----	----	--------	------------------

August 19 to 25, 1990

Longwoods	19	3.6	4 R Central Ontario, Southern Ontario, Northwestern Quebec
Dorset *			 NO RAIN THIS WEEK
Chalk River			 NO RAIN THIS WEEK
Sutton			 NO RAIN THIS WEEK
Montmorency			 NO RAIN THIS WEEK
Kejimikujik			 NO RAIN THIS WEEK

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

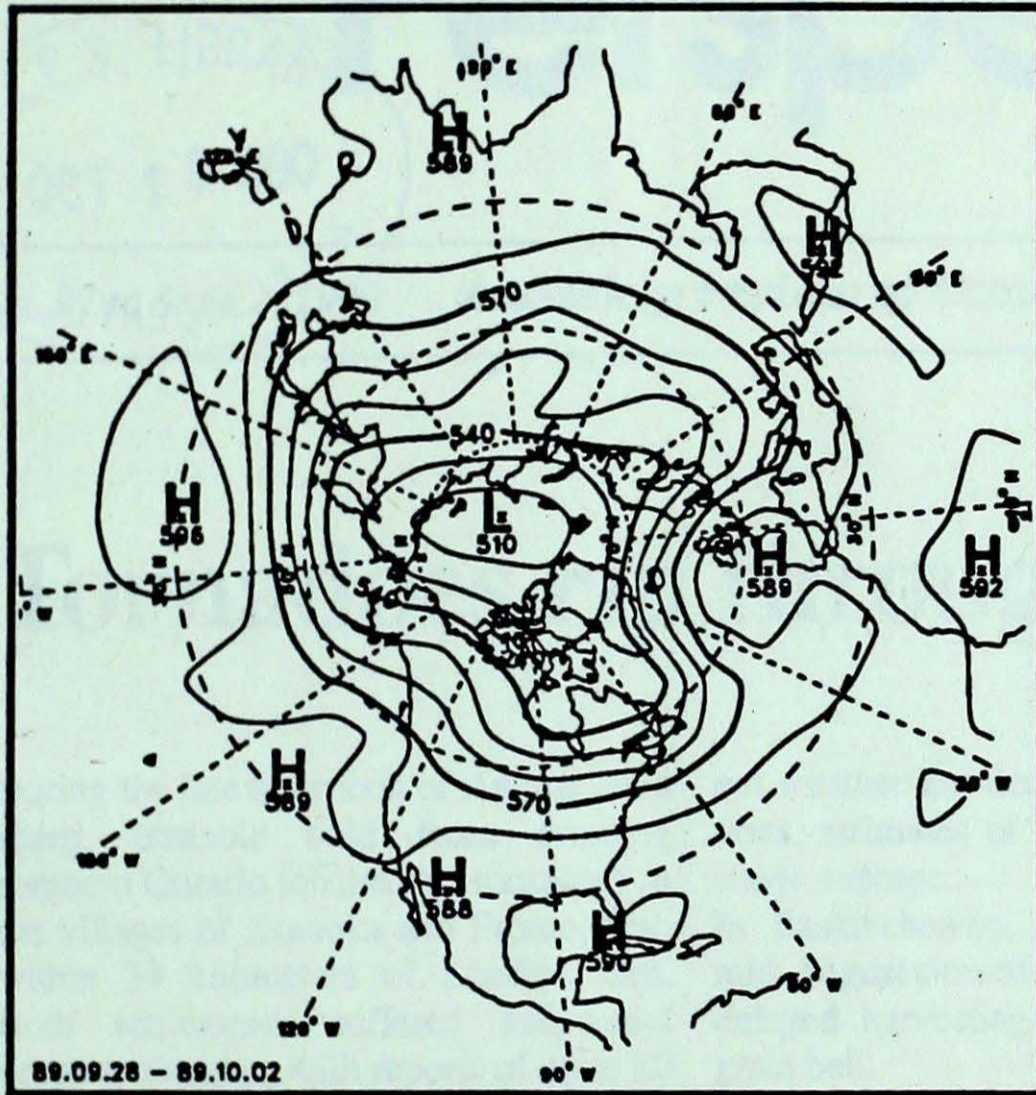
STATION	temperature				precip. ptot st	wind max		STATION	temperature				precip. ptot st	wind max		
	mean	anom	max	min		dir	vel		mean	anom	max	min		dir	vel	
British Columbia								Ontario								
Cape St James	16P	2P	21P	12P	0P***	310	89	Big Trout Lake	19P	5P	29P	9P	6P***	310	41	
Cranbrook A	16P	-1P	28P	5P	16P***	180	44	Gore Bay A	20P	2P	29P	11P	1P***		X	
Fort Nelson A	14P	0P	29P	3P	18P***	310	76	Kapuskasing A	18P	3P	27P	2P	2P***	210	32	
Fort St John A	12P	-2P	28P	2P	12P***	340	57	Kenora A	21P	3P	30P	11P	2P***		X	
Kamloops A	19P	0P	32P	8P	12P***	270	37	London A	20P	1P	29P	14P	1P***	080	39	
Penticton A	18P	0P	28P	8P	15P***	180	44	Moosonee	18P	4P	29P	5P	2P***		X	
Port Hardy A	15P	2P	20P	9P	0P***		X	North Bay A	20P	3P	28P	9P	0P***	120	35	
Prince George A	13P	0P	28P	-2P	8P***	240	41	Ottawa Int'l A	20P	1P	30P	9P	0P***		X	
Prince Rupert A	14P	1P	22P	7P	1P***		X	Petawawa A	17P	0P	32P	3P	0P***		X	
Revelstoke A	16P	-1P	24P	6P	26P***	330	54	Pickle Lake	20P	6P	30P	5P	3P***		X	
Smithers A	14P	1P	28P	2P	6P***	360	74	Red Lake A	19P	3P	30P	6P	0P***	010	39	
Vancouver Int'l A	18P	1P	25P	10P	1P***	260	4	Sudbury A	20P	3P	30P	8P	0P***		X	
Victoria Int'l A	16P	1P	24P	7P	0P***	170	33	Thunder Bay A	16P	0P	26P	2P	0P***		X	
Williams Lake A	13P	-1P	28P	4P	15P***	120	33	Timmins A	17P	2P	27P	3P	3P***		X	
Yukon Territory								Toronto (Pearson Int'l A)								
Komakuk Beach A	3P	-3P	20P	-6P	1P***		X	Trenton A	19P	0P	28P	10P	0P***	110	33	
Teslin (aut)	11P	400P	19P	0P	0P***		X	Warton A	19P	1P	27P	11P	0P***	100	35	
Watson Lake A	12P	0P	23P	1P	3P***	250	46	Windsor A	21P	0P	30P	16P	8P***	190	33	
Whitehorse A	11P	0P	20P	-1P	5P***	160	61	Québec								
Northwest Territories								Bagotville A								
Alert	-2P	-2P	8P	-8P	0P	1	210	41	Blanc Sablon A	11P	400P	17P	3P	0P***	320	74
Baker Lake A	6P	-3P	16P	1P	8P***	330	80	Inukjuak A	7P	-2P	12P	3P	1P***	220	56	
Cambridge Bay A	4P	-2P	7P	1P	1P***	330	56	Kuujuuaq A	10P	0P	19P	3P	13P***	250	70	
Cape Dyer A	400	400	8	400	400	***		X	Kuujuuarapik A	12P	1P	26P	2P	38P***	220	56
Clyde A	3P	0P	11P	-2P	1P***	110	43	Maniwaki	18P	2P	30P	6P	0P***		X	
Coppermine A	4P	-3P	10P	-3P	1P***		X	Mont Joli A	19P	4P	29P	4P	0P***	230	39	
Coral Harbour A	6P	-1P	9P	0P	27P***	330	93	Montréal Int'l A	20P	1P	29P	10P	1P***	220		
Eureka	3P	1P	9P	-1P	0P***		X	Natashquan A	13P	0P	23P	5P	0P***	290	57	
Fort Smith A	13P	-1P	29P	0P	43P***	240	37	Québec A	18P	2P	29P	8P	0P***		X	
Hall Beach A	3P	-1P	9P	0P	25P***	340	44	Schefferville A	11P	1P	24P	3P	5P***	320	69	
Inuvik A	5P	-5P	13P	-5P	0P***	160	37	Sept-Îles A	15P	2P	31P	4P	1P***	300	56	
Iqaluit A	6P	-1P	12P	1P	9P***	140	48	Sherbrooke A	17P	2P	28P	5P	0P***		X	
Mould Bay A	-1P	-2P	2P	-4P	2P***		X	Val-d'Or A	18P	3P	28P	5P	2P***		X	
Norman Wells A	10P	-3P	18P	2P	6P***	280	37	New Brunswick								
Resolute A	1P	-1P	6P	-3P	1P***	030	48	Charlo A	18P	3P	30P	5P	0P***		X	
Yellowknife A	11P	-2P	25P	4P	14P***	020	43	Chatham A	19P	2P	31P	7P	0P***		X	
Alberta								Fredericton A								
Calgary Int'l A	14P	0P	26P	5P	10P***	250	57	Moncton A	17P	1P	30P	4P	0P***	240	35	
Cold Lake A	15P	0P	29P	3P	3P***	280	37	Saint John A	17P	1P	31P	5P	0P***		X	
Edmonton Namao A	14P	-1P	28P	1P	5P***	330	41	Nova Scotia								
Fort McMurray A	15P	1P	32P	2P	21P***	180	46	Greenwood A	17P	0P	31P	4P	0P***		X	
High Level A	13P	0P	29P	0P	25P***	320	46	Shearwater A	18P	0P	28P	9P	0P***		X	
Jasper	13P	0P	29P	4P	22P***		X	Sydney A	17P	0P	28P	6P	0P***	010	43	
Lethbridge A	16P	-1P	27P	6P	5P***	250	72	Yarmouth A	17P	1P	26P	8P	0P***		X	
Medicine Hat A	17P	-1P	30P	8P	7P***	010	54	Prince Edward Island								
Peace River A	14P	1P	31P	2P	1P***	250	37	Charlottetown A	18P	1P	28P	9P	0P***		X	
Saskatchewan								Summerside A								
Cree Lake	15P	2P	28P	4P	13P***	220	56	19P	2P	27P	10P	0P***	230	39		
Estevan A	20P	1P	31P	12P	10P***	230	43	Newfoundland								
La Ronge A	17P	2P	31P	3P	1P***	270	33	Cartwright	11P	0P	20P	5P	8P***	350	65	
Regina A	19P	1P	30P	11P	13P***	360	50	Churchill Falls A	12P	1P	24P	3P	1P***	290	7	
Saskatoon A	18P	1P	30P	6P	1P***	270	52	Gander Int'l A	14P	0P	28P	5P	1P***	360	83	
Swift Current A	17P	0P	30P	8P	4P***	190	57	Goose A	13P	0P	24P	5P	3P***	280	63	
Yorkton A	19P	2P	31P	11P	35P***	180	35	Port Aux Basques	15P	1P	25P	7P	3P***	290	46	
Manitoba								St John's A								
Brandon A	20P	3P	29P	11P	16P***	240	80	14P	0P	25P	7P	2P***	240	61		
Churchill A	12P	1P	27P	5P	31P***	230	50	St Lawrence	15P	2P	27P	5P	0P***		X	
Lynn Lake A	18P	5P	30P	2P	5P***	240	48	Wabush Lake A	13P	2P	26P	4P	2P***	300	57	
The Pas A	19P	4P	32P	12P	3P***	240	35	90/08/20-90/08/26								
Thompson A	18P	6P	31P	0P	5P***	240	43									
Winnipeg Int'l A	22P	4P	32P	10P	1P***	180	56									

mean = mean weekly temperature, °C
 max = maximum weekly temperature, °C
 min = minimum weekly temperature, °C
 anom = mean temperature anomaly, °C

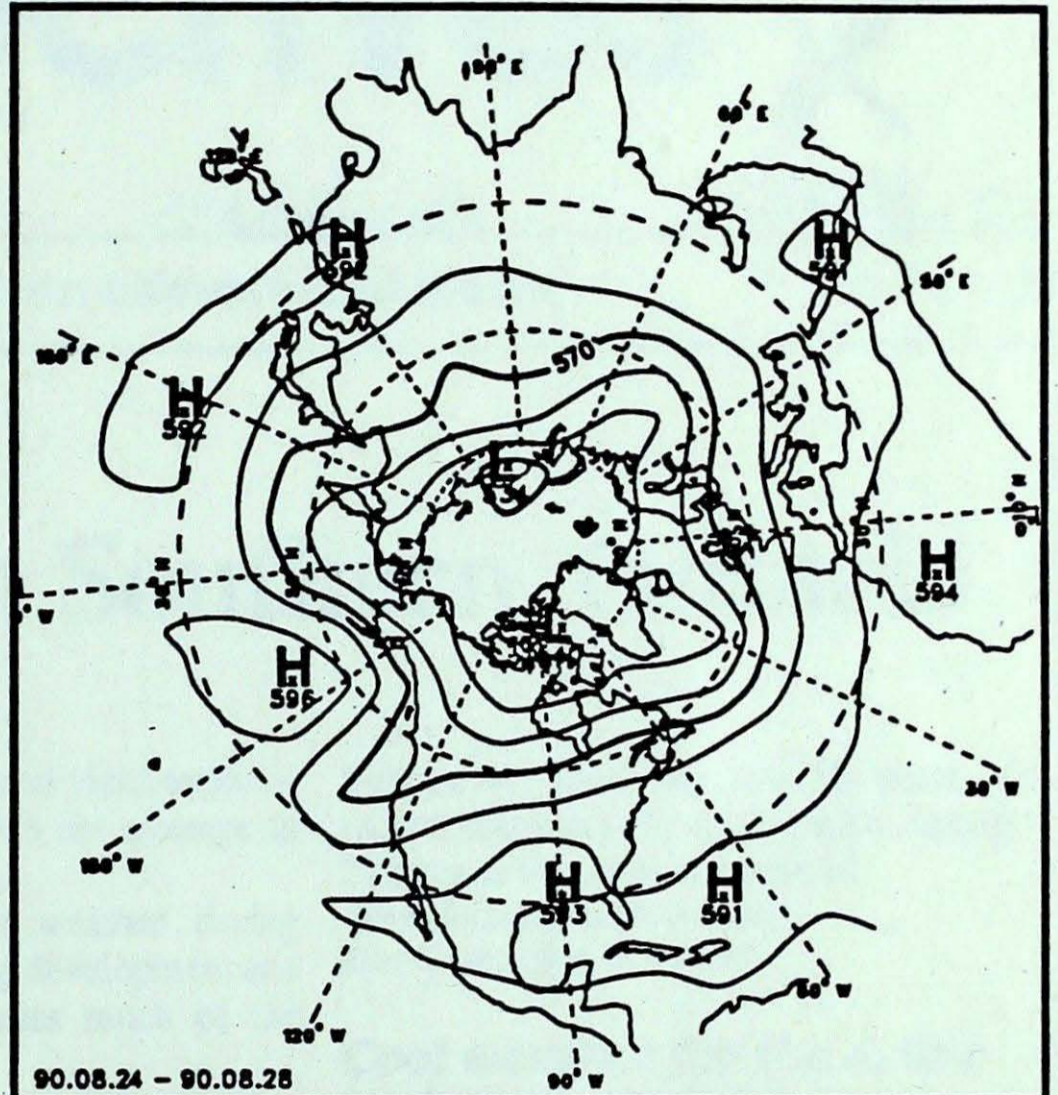
ptot = weekly precipitation total in mm
 st = snow thickness on the ground in cm
 dir = direction of max wind, deg. from north.
 vel = wind speed in km/h

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

ATMOSPHERIC CIRCULATION



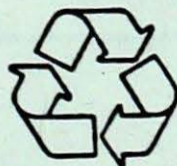
Mean geopotential height
50 kPa level (10 decametre intervals)



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

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