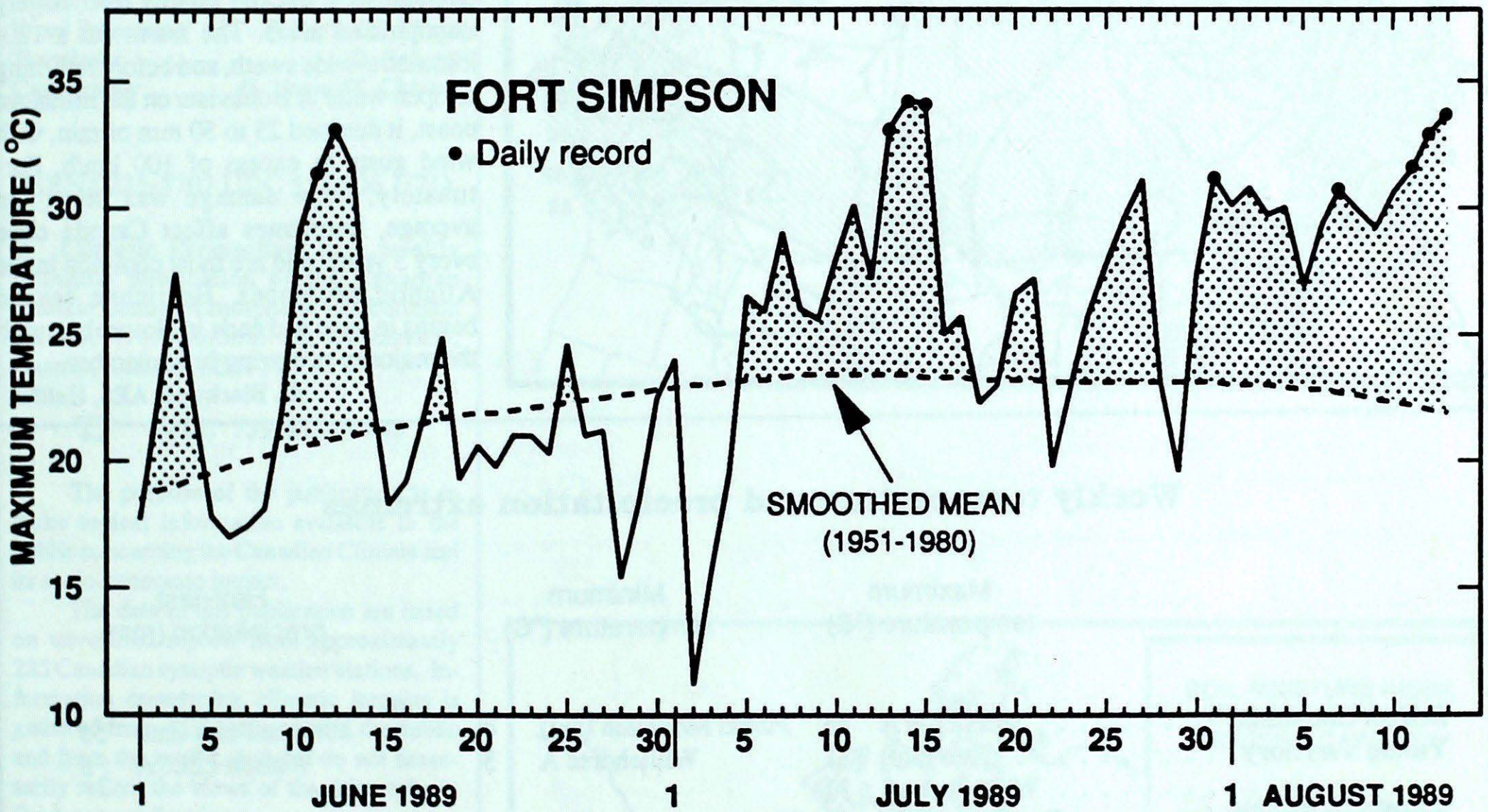
Environment Canada Environnement Canada

Climatic Perspectives

August 7 to 13, 1989 ***A weekly review of Canadian climate*** *Vol. 11 No 33*

Heat wave continues in north-western Canada



The heat wave continued for the fifth straight week in a region of the country not typically known for hot weather. A persistent blocking ridge of high pressure, drawing warm air from the south, has been responsible for numerous record daily maximum temperatures in the Yukon, western Northwest Territories, northern B.C., and northern prairie provinces.

On the 12th, most of the Yukon experienced temperatures into the low thirties. All-time August record maximum temperatures were recorded at Whitehorse, 30.6°C; Mayo, 31.2°C; and Faro, 31.0°C.

Yellowknife, has had 23 days which have reached or exceeded 25°C, so far this summer, and still counting. This breaks the old record of 21 days for the entire summer of 1948. The normal maximum temperature at this time of year is 20 to 21°C. Four days this summer have exceeded 30°C. On July 16th, an all-time record maximum temperature of 32.5°C was recorded. For the week ending August 13, daily record maximums were set on the 9th, 26.7°C; 10th, 30.6°C; and 11th, 28.7°C. Yellowknife would be even warmer if it were not cooled by the winds which blow over the vast extent of Great Slave Lake. Fort Simpson, with no lake-effect cooling, was the Canadian hot spot on the 13th, with 33.7°C recorded.

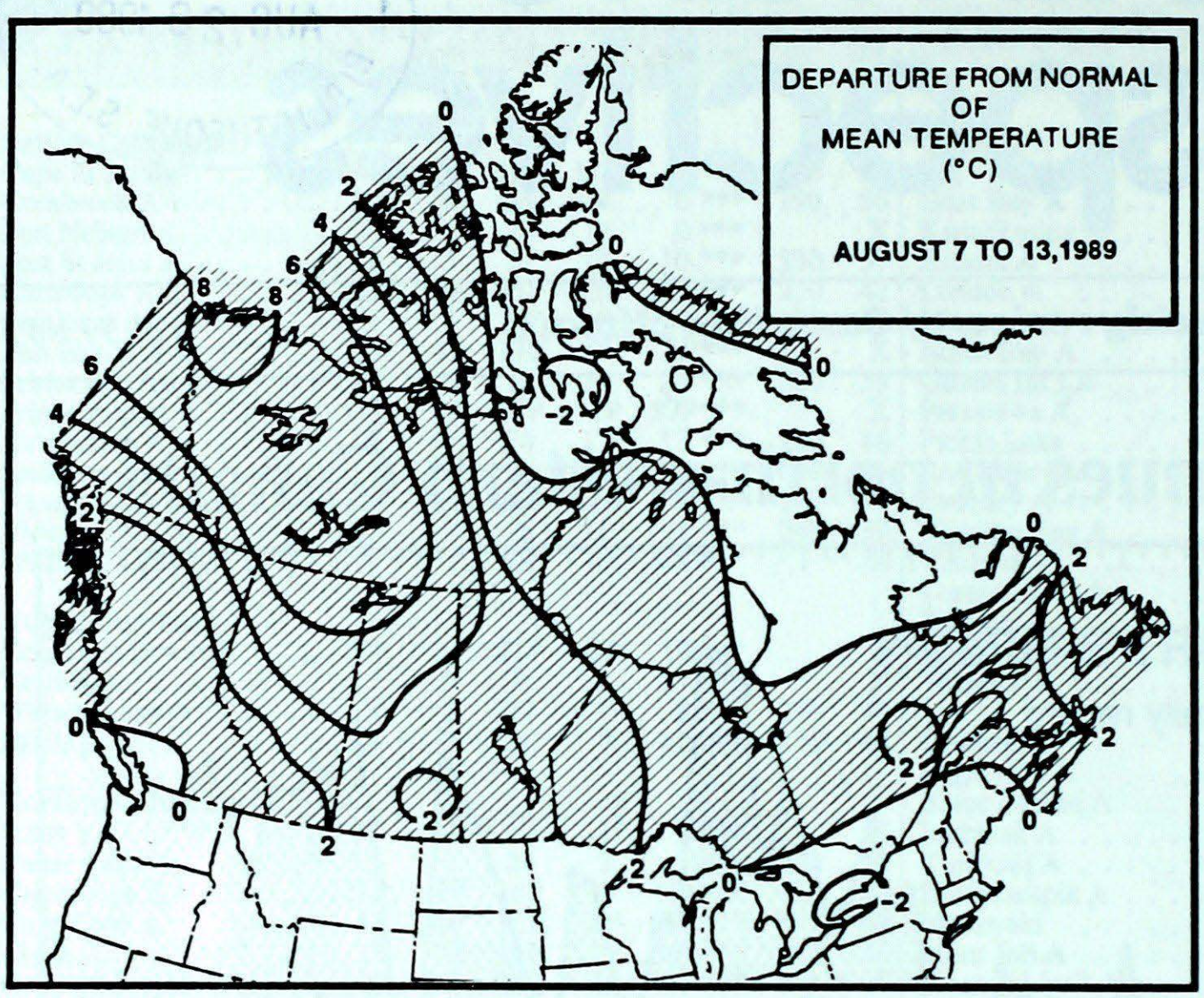
Dennis Malchuk, Yellowknife Weather Office

Normal temperatures expected in the North...

Average temperatures for the week of August 21st are expected to be above normal for all of Canada, except near normal across the Northwest Territories and the Yukon. The greatest departures above normal are expected across Québec and the Atlantic provinces. Near-normal amounts of precipitation are expected across all of the country, except above-normal amounts are likely over British Columbia, the Yukon, and the western half of the Mackenzie District of the Northwest Territories.

— *prepared August 15, 1989*

Aaron Gergye, Canadian Climate Centre



Elsewhere ...

Hurricane Dean tracks across Newfoundland

As Hurricane Dean moved northwards over the cold water of the Atlantic, it lost a great deal of its strength. Early in the morning of the 8th, the hurricane reached the shores of Newfoundland at Harbour Breton on the south coast, quickly losing more strength as it tracked rapidly over largely unpopulated areas. The storm cut a 120-kilometre-wide swath, and before returning to open water at Bonavista on the northeast coast, it dumped 25 to 50 mm of rain, with wind gusts in excess of 100 km/h. Fortunately, little damage was done. On average, hurricanes affect Canada once every 3 years, and are most common in the Atlantic provinces. Hurricane season begins in June and ends in November, with the majority occurring in September.

G. Blackwell, AES, Halifax

Weekly temperature and precipitation extremes

	Maximum temperature (°C)		Minimum temperature (°C)		Heaviest precipitation (mm)	
British Columbia	Penticton A	33	Puntzi Mountain (aut)	4	Estevan Point (aut)	55
Yukon Territory	Faro (aut)	31	Whitehorse A	3	Watson Lake A	8
	Whitehorse A	31				
Northwest Territories	Fort Simpson A	34	Alert	-3	MacKar Inlet	34
Alberta	Medicine Hat A	33	Banff (aut)	6	Lethbridge A	36
Saskatchewan	Estevan A	35	Yorkton A	4	Broadview	8
Manitoba	Dauphin A	35	Grand Rapids (aut)	2	Dauphin A	78
Ontario	Red Lake A	31	Winisk (aut)	0	London	25
Québec	Bagotville A	29	Chibougamau Chapais	1	Sherbrooke A	37
New Brunswick	Moncton A	29	St Stephen (aut)	6	Miscou Island (aut)	72
Nova Scotia	Greenwood A	31	Greenwood A	9	Sable Island	35
Prince Edward Island	Charlottetown A	28	Summerside A	12	Summerside	6
Newfoundland	Gander Int'l A	29	Churchill A	3	Burgeo	79

Across The Country...

Highest Mean Temperature	Fort Simpson A(NWT)	24
Lowest Mean Temperature	Alert(NWT)	0

89/08/07-89/08/13

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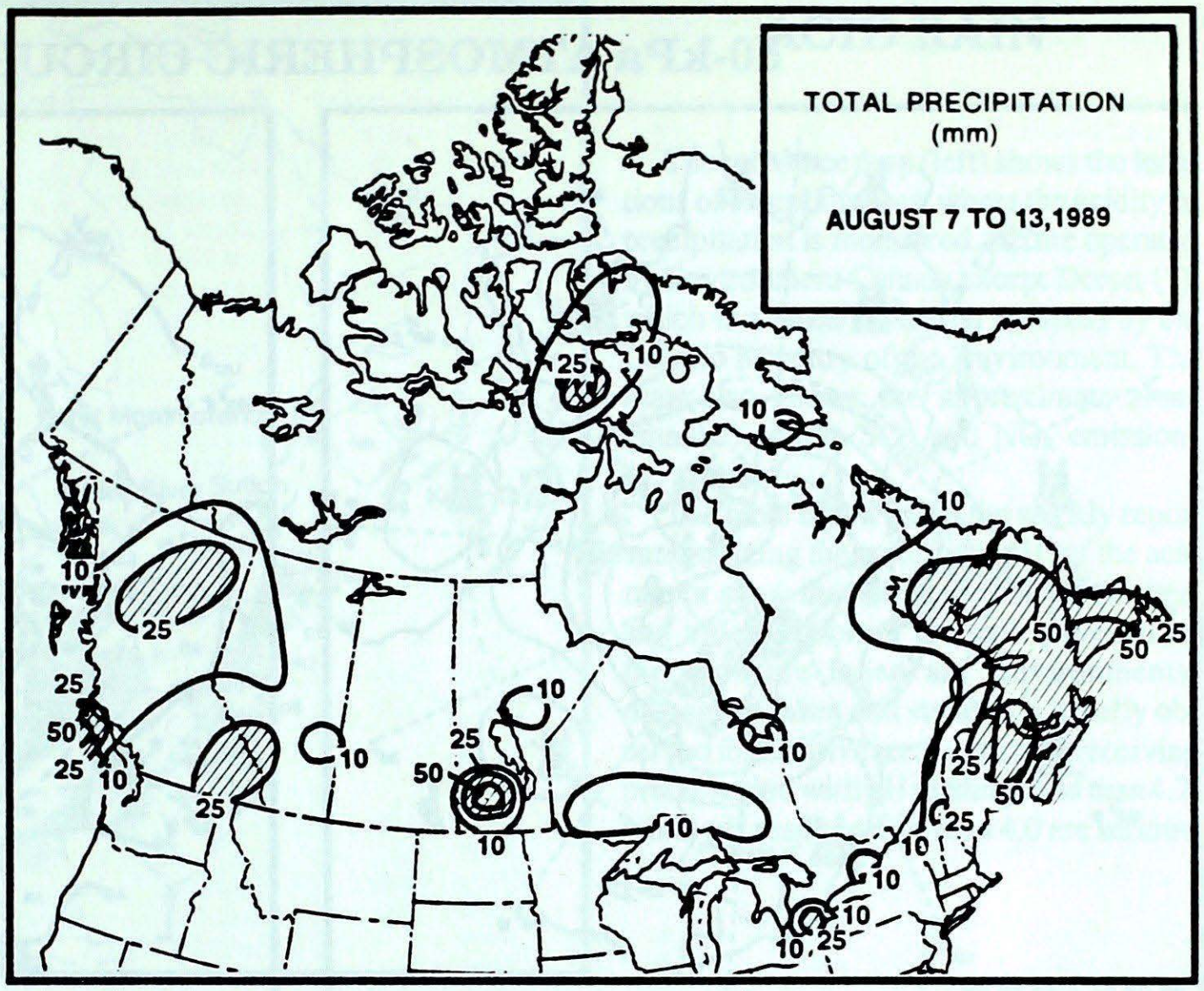
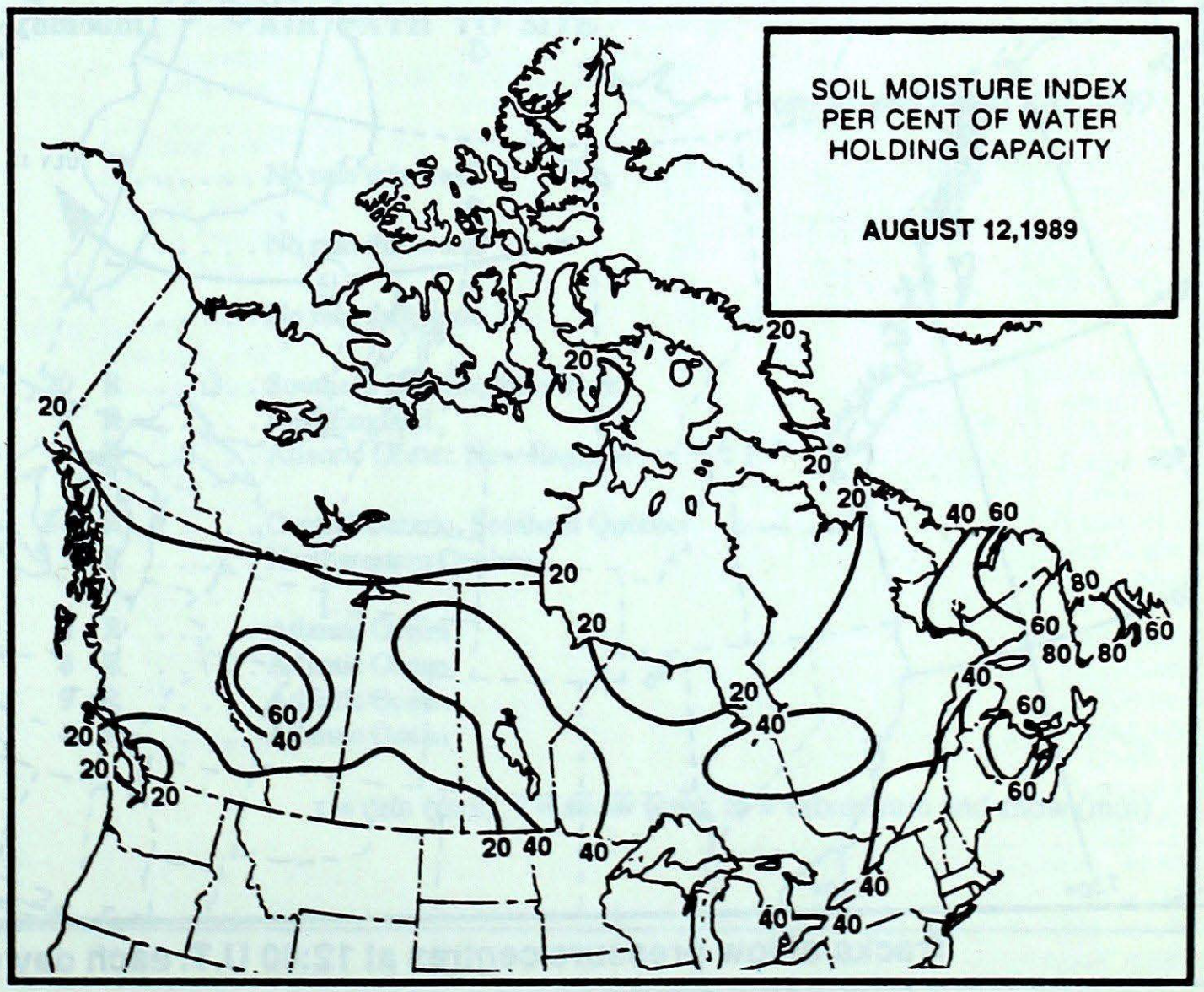
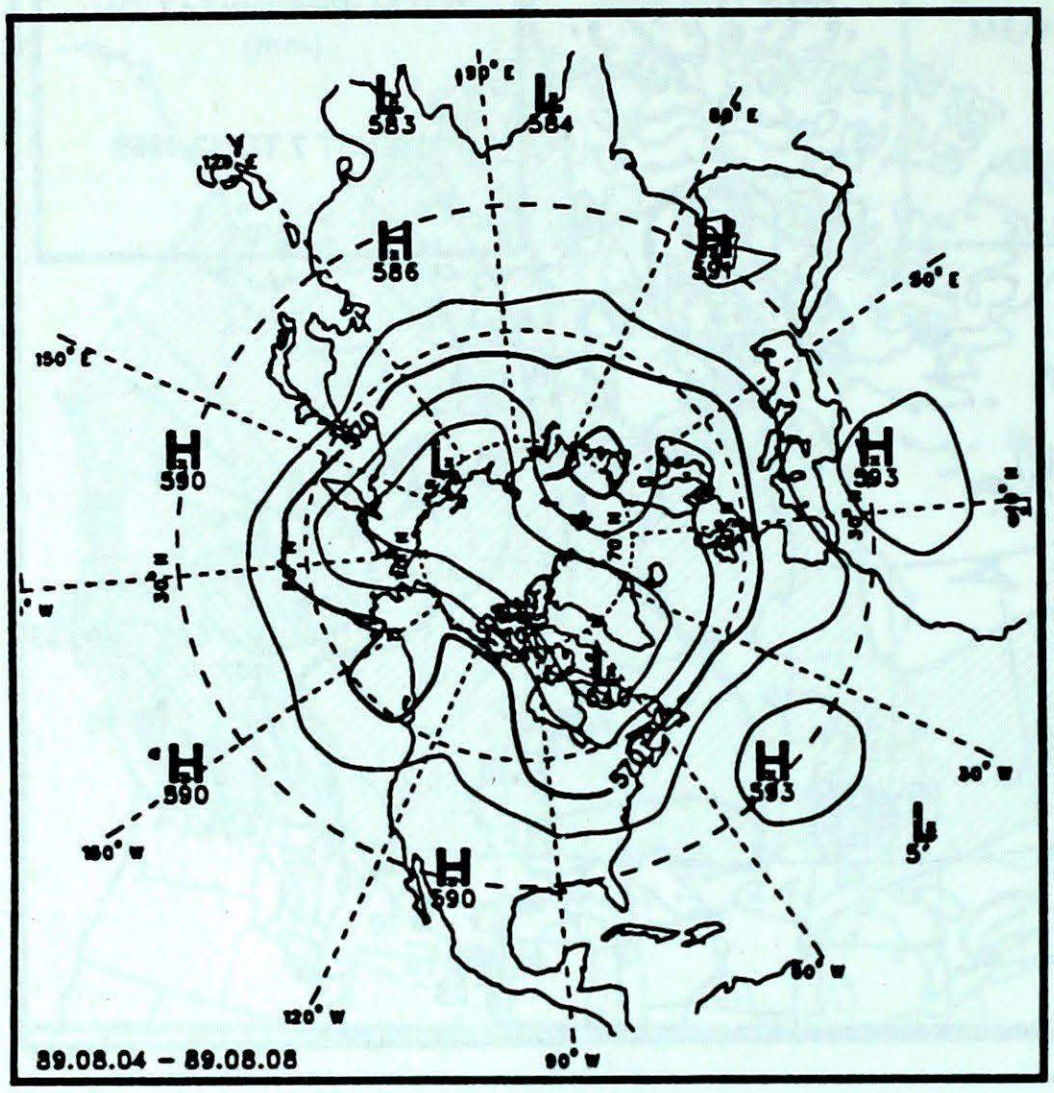
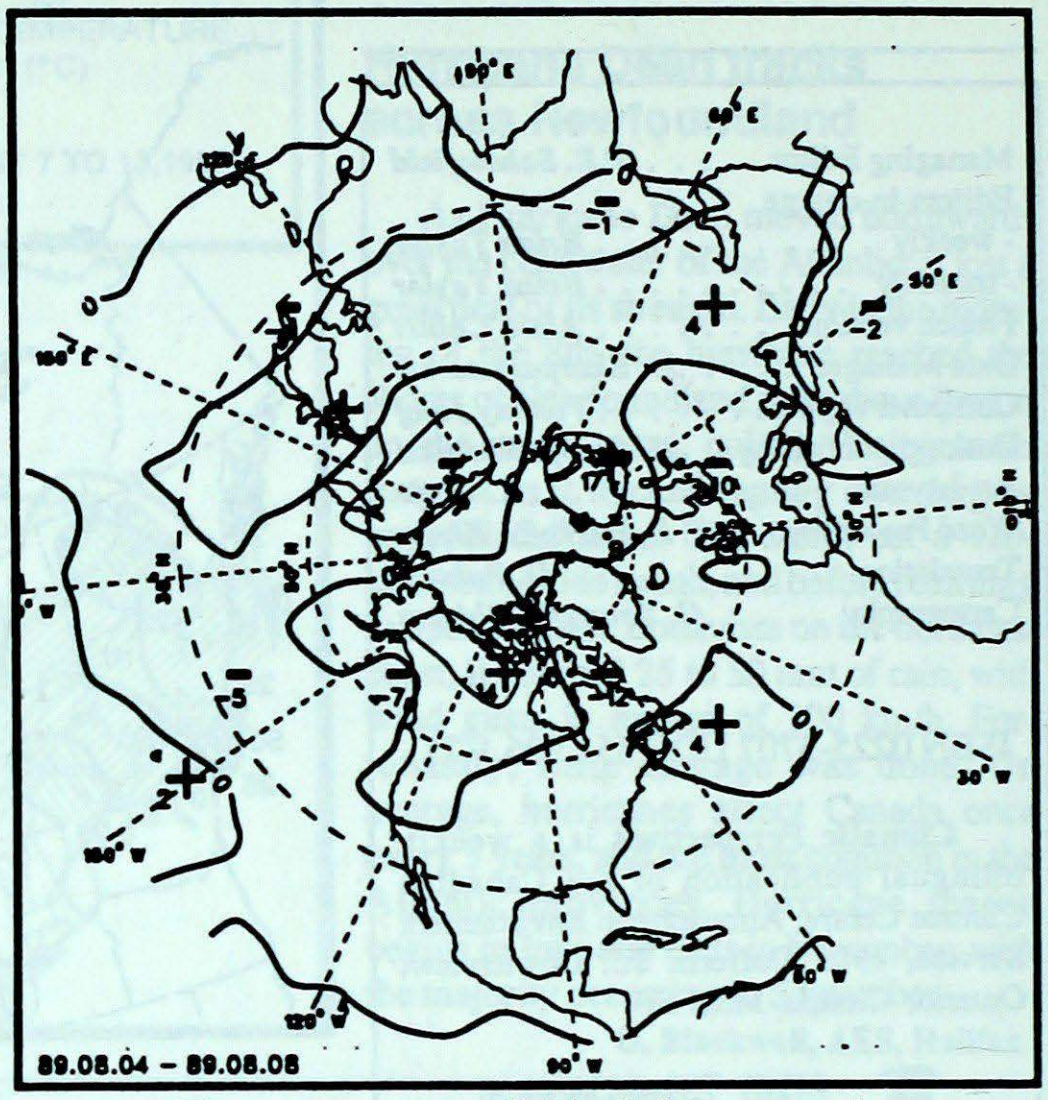




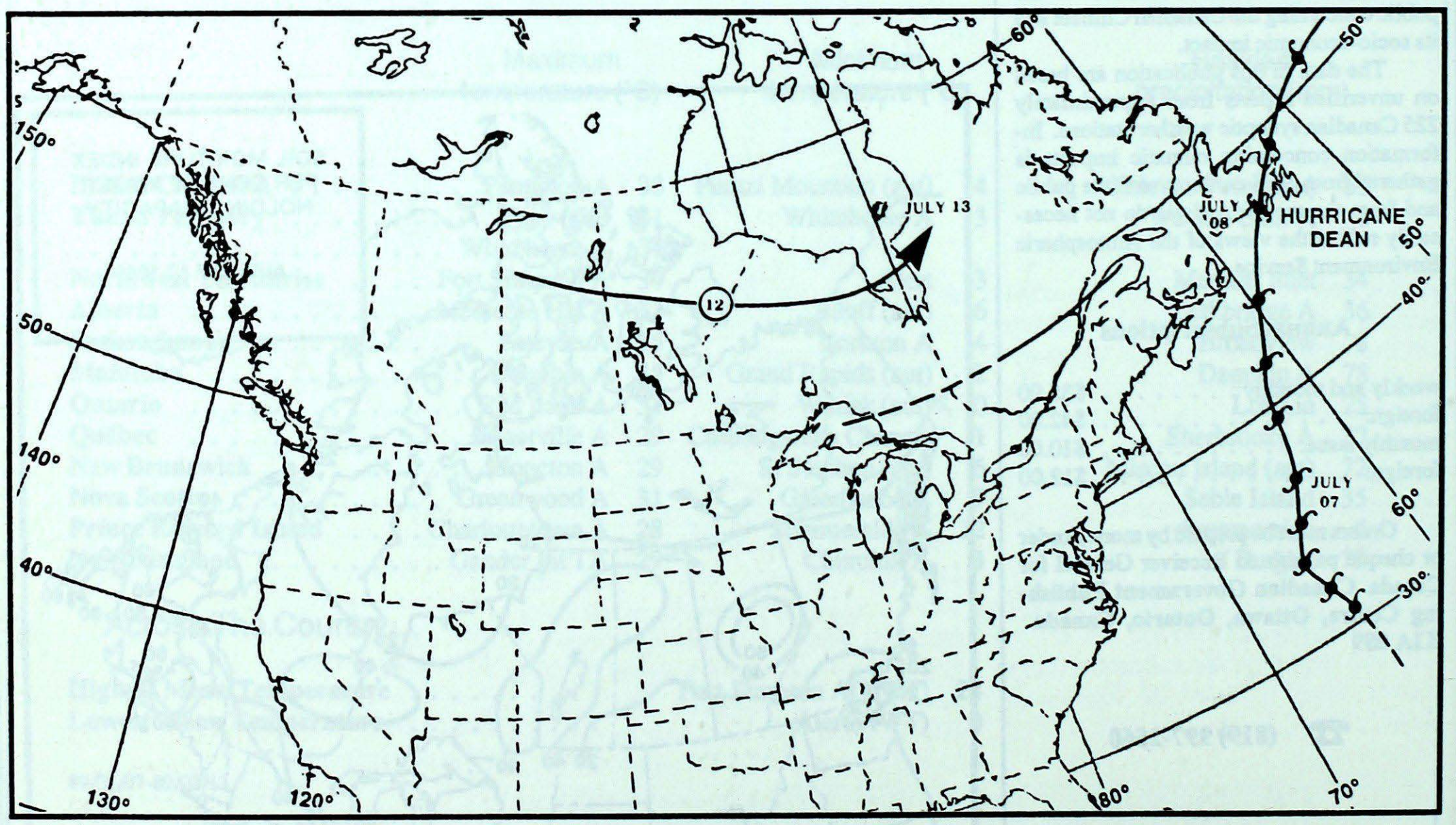
50-kPa ATMOSPHERIC CIRCULATION



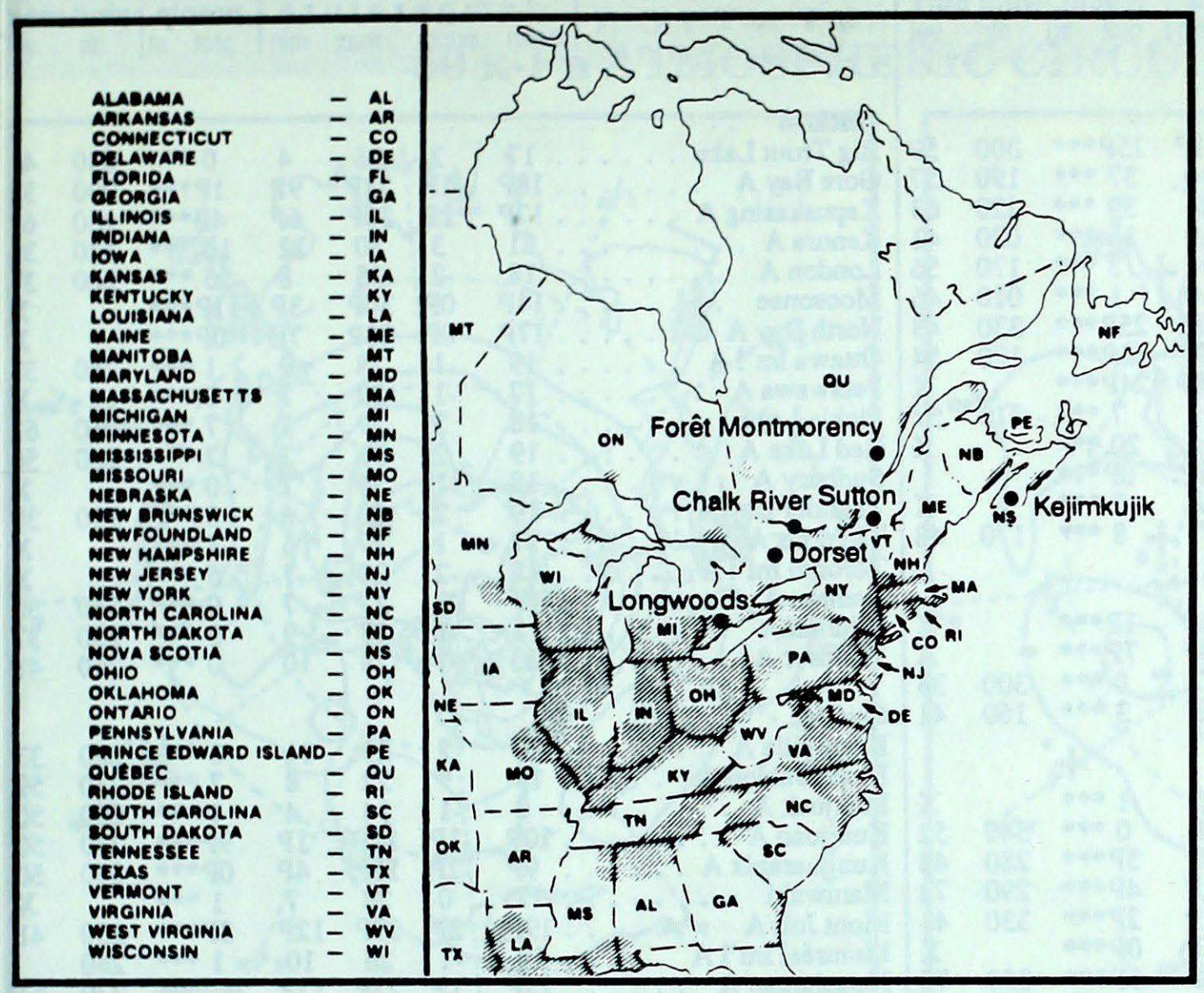
Mean geopotential height 50-kPa level (10 decametre intervals)



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
					From August 6th to 12th, 1989
Longwoods					. . . . . No rain this week
Dorset *					. . . . . No rain this week
Chalk River					. . . . . No rain this week
Sutton	6	3.9	20	R	. . . . . Southern Ontario, New York
	11	5.1	8	R	. . . . . New England
	12	5.0	6	R	. . . . . Atlantic Ocean, New England
Montmorency	6	4.4	34	R	. . . . . Central Ontario, Southern Québec
	8	4.7	3	R	. . . . . Northwestern Québec
Kejimkujik	6	4.3	4	R	. . . . . Atlantic Ocean
	7	4.3	4	R	. . . . . Atlantic Ocean
	8	4.8	9	R	. . . . . Atlantic Ocean
	12	4.9	4	R	. . . . . Atlantic Ocean

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	15P	1P	19P	11P	15P***		300	59
Cranbrook A	20	2	32	10	37 ***		190	57
Fort Nelson A	21	5	32	11	39 ***		220	63
Fort St John A	19	3	28	9	16 ***		020	41
Kamloops A	22	1	32	11	3 ***		170	56
Penticton A	23	2	33	10	1 ***		010	46
Port Hardy A	14P	0P	20P	7P	25P***		330	43
Prince George A	17P	2P	29P	7P	13P***		120	54
Prince Rupert A	13P	0P	19P	8P	24P***			X
Revelstoke A	20	1	31	11	7 ***		310	57
Smithers A	16	1	28	6	20 ***			X
Vancouver Int'l A	18P	0P	24P	11P	0P***			
Victoria Int'l A	16	-1	24	8	0 ***			X
Williams Lake A	17	1	29	7	8 ***		170	48
Yukon Territory								
Komakuk Beach A	14P	7P	30P	4P	1P***			X
Teslin (aut)	15P	*	29P	3P	7P***			X
Watson Lake A	17	3	30	7	8 ***		300	33
Whitehorse A	16	2	31	3	3 ***		160	41
Northwest Territories								
Alert	0	-3	2	-3	1 ***			X
Baker Lake A	11	0	24	1	0 ***		340	52
Cambridge Bay A	11P	3P	17P	4P	3P***		280	44
Cape Dyer A	6P	1P	13P	1P	4P***		290	72
Clyde A	6P	2P	15P	1P	2P***		330	41
Coppermine A	17P	7P	29P	5P	0P***			X
Coral Harbour A	9P	1P	17P	2P	5P***		350	72
Eureka	3	-1	8	1	0 ***		280	44
Fort Smith A	22P	7P	32P	12P	0P***			X
Hall Beach A	6P	0P	11P	2P	9P***		340	52
Inuvik A	20P	9P	31P	10P	3P***			X
Iqaluit A	7	0	17	2	16 ***		340	33
Mould Bay A	3P	1P	9P	-1P	3P***		340	41
Norman Wells A	22P	7P	31P	13P	3P***			X
Resolute A	2P	-1P	7P	-1P	4P***		020	63
Yellowknife A	22P	7P	31P	16P	0P***			X
Alberta								
Calgary Int'l A	19	2	29	9	3 ***		240	52
Cold Lake A	21	5	30	11	2 ***			X
Edmonton Namao A	20	3	29	12	0 ***		110	32
Fort McMurray A	21	6	31	10	0 ***			X
High Level A	21P	6P	32P	10P	0P***			X
Jasper	18	3	29	7	1 ***			X
Lethbridge A	20	2	32	9	36 ***		100	59
Medicine Hat A	22	3	33	11	2 ***			X
Peace River A	20	5	29	12	13 ***		180	74
Saskatchewan								
Cree Lake	19	4	30	9	0 ***		030	39
Estevan A	22	2	35	6	1 ***		270	37
La Ronge A	18	3	30	6	3 ***			X
Regina A	22	4	34	8	0 ***		010	46
Saskatoon A	22	4	33	10	0 ***		020	43
Swift Current A	21	2	32	9	0 ***		150	35
Yorkton A	19	1	34	4	0 ***		360	48
Manitoba								
Brandon A	20	2	33	6	8 ***		210	70
Churchill A	13	2	26	6	4 ***		080	48
Lynn Lake A	18P	4P	29P	5P	1P***		320	37
The Pas A	20	3	32	8	0 ***		040	37
Thompson A	17	3	30	3	3 ***		290	39
Winnipeg Int'l A	22	3	34	9	3 ***		310	35

STATION	temperature mean	anom	max	min	precip. ptot	st	wind max dir	vel
Ontario								
Big Trout Lake	17	2	26	4	0 ***		040	46
Gore Bay A	18P	-1P	28P	9P	1P***		290	33
Kapuskasing A	17P	2P	30P	6P	4P***		280	65
Kenora A	21	3	30	12	10 ***		320	32
London A	18	-2	28	8	25 ***		200	37
Moosonee	14P	0P	30P	3P	11P***			X
North Bay A	17P	0P	28P	7P	0P***			X
Ottawa Int'l A	19	-1	28	9	1 ***		280	37
Petawawa A	17	-1	29	7	0 ***			X
Pickle Lake	18	3	29	5	7 ***		230	61
Red Lake A	19	2	31	7	7 ***		260	56
Sudbury A	18	1	30	7	0 ***			X
Thunder Bay A	19	2	30	6	8 ***		330	39
Timmins A	17	1	29	6	4 ***			X
Toronto Int'l A	18	-2	28	7	5 ***			X
Trenton A	17	-3	27	7	0 ***		240	35
Wiarton A	18	-1	28	9	0 ***		230	37
Windsor A	20	-1	28	10	0 ***		210	41
Québec								
Bagotville A	20	2	29	11	0 ***		260	33
Blanc Sablon A	14	*	22	8	7 ***		230	59
Inukjuak A	8	-1	14	4	4 ***		060	50
Kuujjuaq A	10P	-1P	19P	1P	9P***		260	50
Kuujjuarapik A	9P	-2P	15P	4P	0P***		260	50
Maniwaki	17	0	28	7	1 ***			X
Mont Joli A	19P	2P	29P	12P	2P***		230	41
Montréal Int'l A	19	-1	28	10	1 ***		280	
Natashquan A	15P	1P	22P	12P	26P***		270	61
Québec A	19	1	28	10	3 ***		240	52
Schefferville A	11P	0P	19P	6P	4P***		270	57
Sept-Îles A	16P	2P	23P	12P	7P***		090	41
Sherbrooke A	17	-1	26	7	37 ***		260	41
Val-d'Or A	17	1	29	7	7 ***		260	33
New Brunswick								
Charlo A	19	2	28	9	33 ***			X
Chatham A	19	0	29	9	54 ***		270	41
Fredericton A	19	0	28	8	55 ***		200	39
Moncton A	20	1	29	9	7 ***		210	52
Saint John A	17	0	26	9	25 ***			X
Nova Scotia								
Greenwood A	21	1	31	9	28 ***		200	39
Shearwater A	20	1	27	13	7 ***		220	39
Sydney A	22	3	29	12	21 ***		220	54
Yarmouth A	18	1	25	11	2 ***		190	41
Prince Edward Island								
Charlottetown A	21	2	28	12	9 ***		240	39
Summerside A	21P	2P	29P	12P	11P***		200	43
Newfoundland								
Cartwright	13	0	23	5	17 ***		270	57
Churchill Falls A	11	-2	22	3	39 ***		260	5
Gander Int'l A	21P	4P	29P	13P	32P***		310	50
Goose A	14	-1	24	6	24 ***		250	56
Port Aux Basques	18	2	24	11	37 ***		290	41
St John's A	19	3	28	11	21 ***		220	100
St Lawrence	17	3	25	11	56 ***			X
Wabush Lake A	13	0	25	5	35 ***		270	46

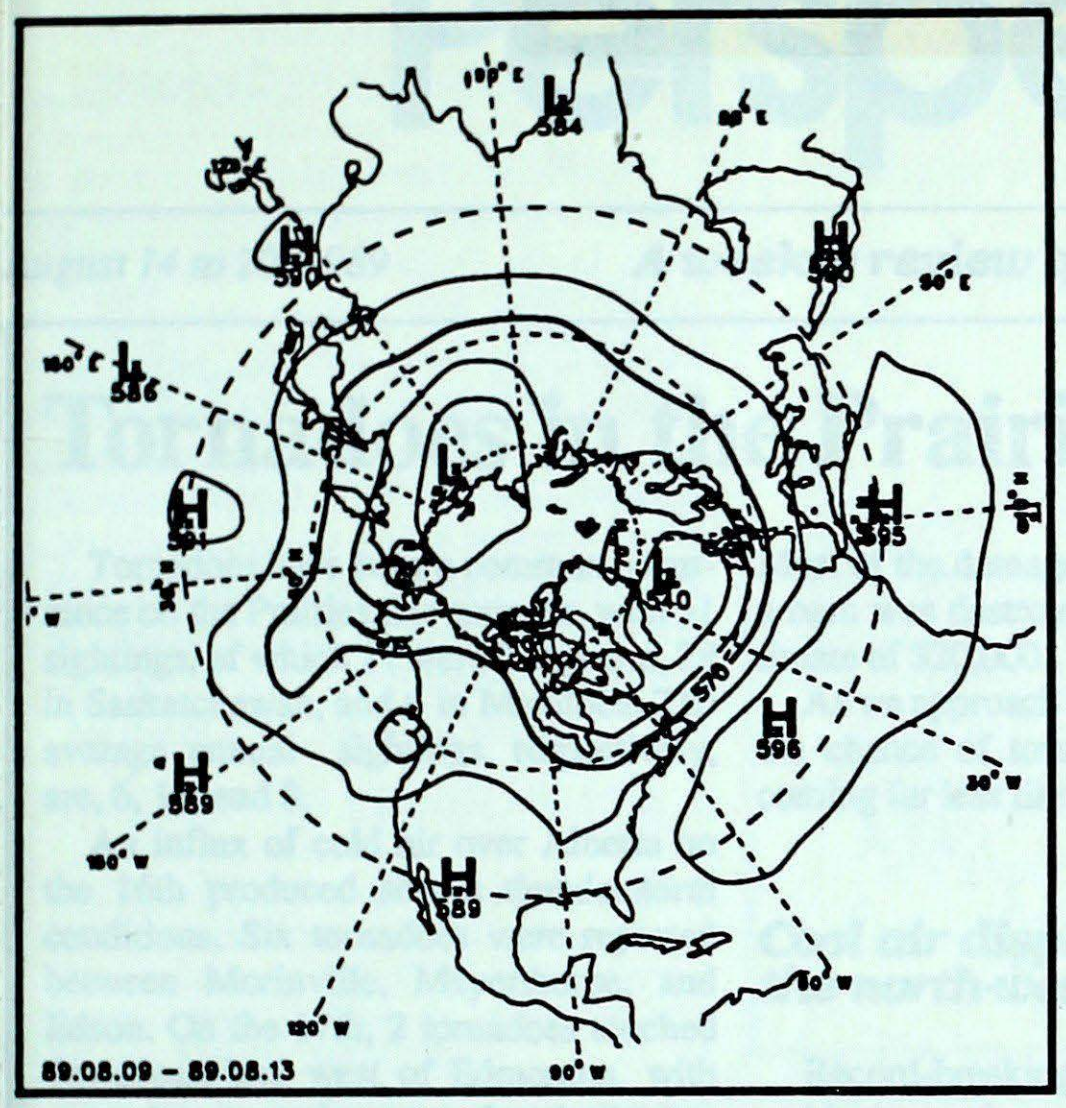
89/08/07-89/08/13

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

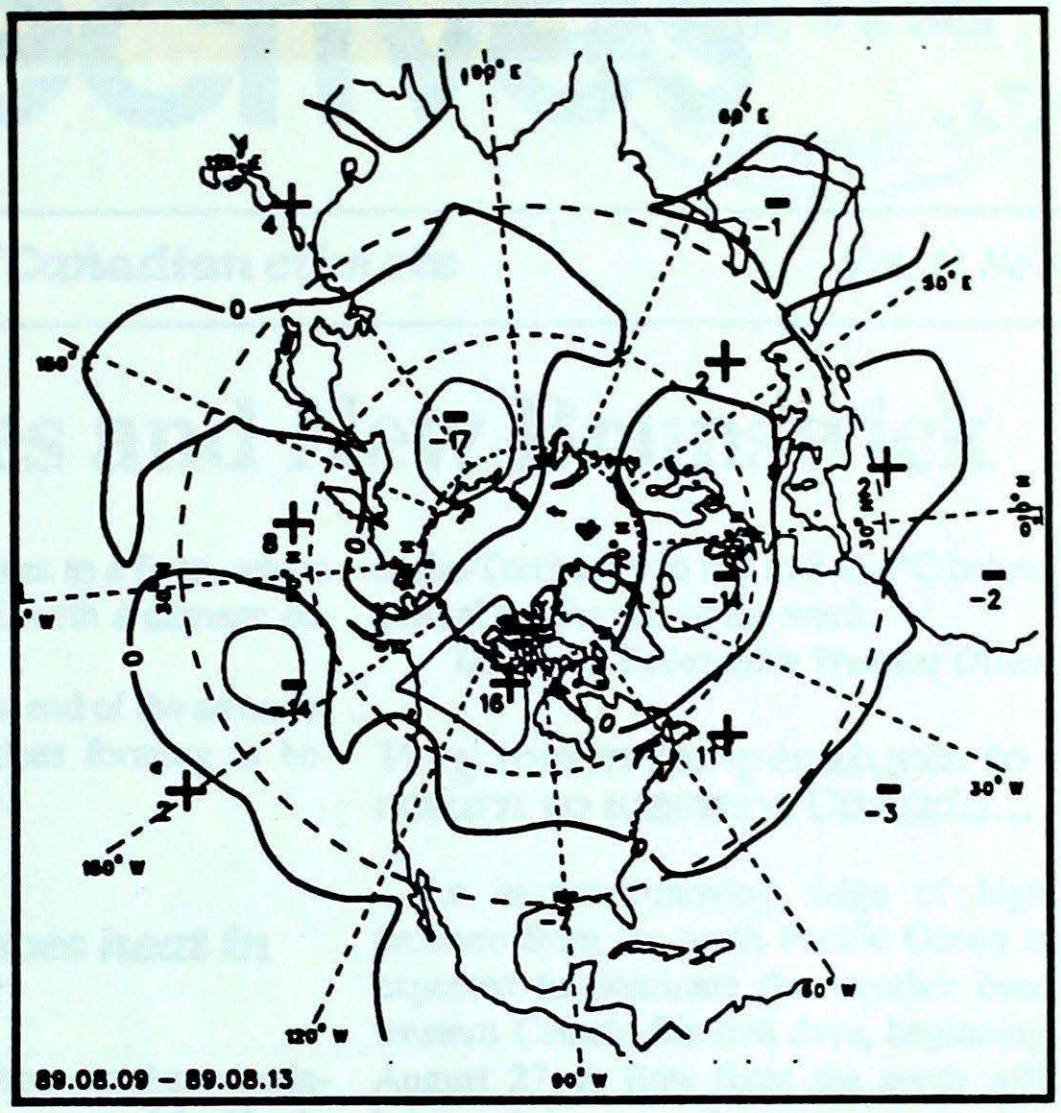
ptot = weekly precipitation total in mm
st = snow thickness on the ground in cm
dir = direction of max wind, deg. from north.
vel = wind speed in km/h

— 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
50 kPa level (10 decametre intervals)



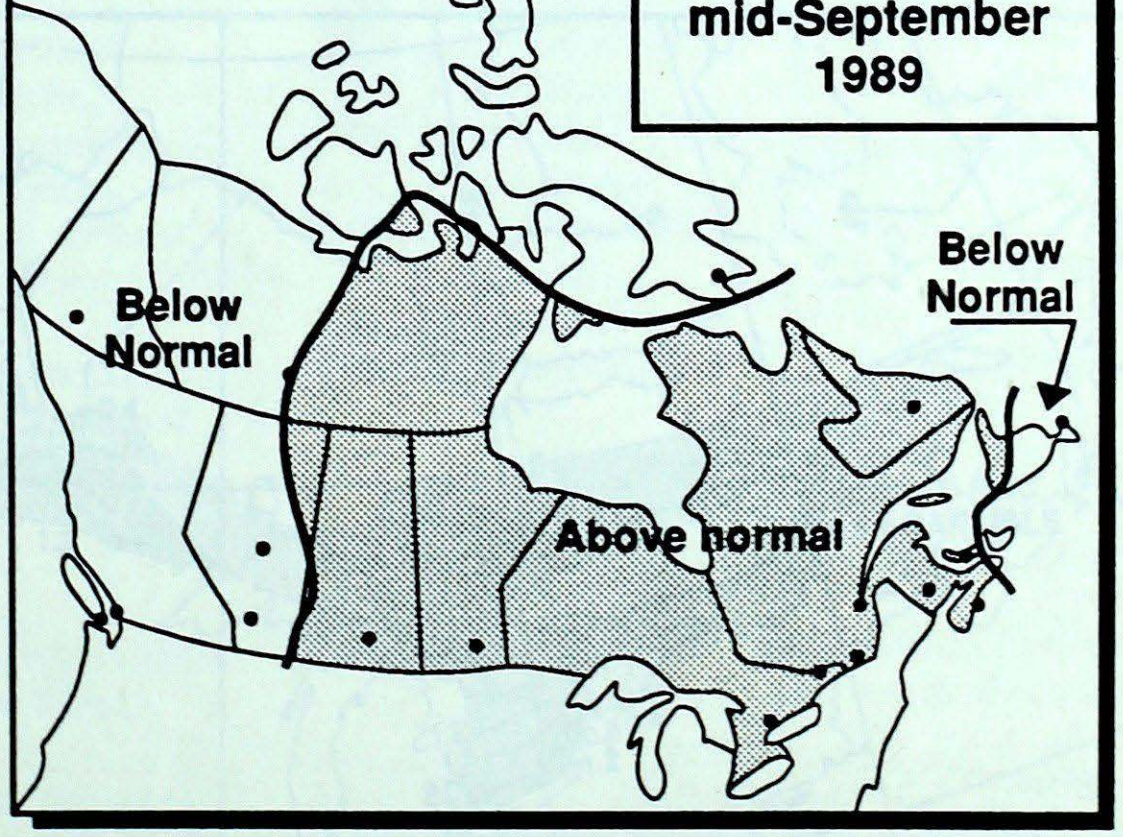
Mean geopotential height anomaly
50 kPa level (10 decametre intervals)

Environment Canada / Environnement Canada
Atmospheric Environment Service / Service de l'environnement atmosphérique

MONTHLY TEMPERATURE FORECAST

Normal temperatures for mid-August to mid-September, °C

Whitehorse	10	Toronto	18
Yellowknife	10	Ottawa	17
Iqaluit	5	Montréal	17
Vancouver	16	Québec	15
Victoria	15	Fredericton	16
Calgary	13	Halifax	16
Edmonton	13	Charlottetown	16
Regina	15	Goose Bay	12
Winnipeg	15	St. John's	13



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