Environment Canada Environnement Canada

Climatic Perspectives

August 28 to September 3, 1989 **A weekly review of Canadian climate** *Vol. 11 No 36*

Frost season is approaching

As the summer season begins to wane in southern Canada, the first tastes of autumn are making their appearance in the north. On August 29th, 4.6 cm of snow was recorded at Cape Hooper, and on the 30th, snow showers extended from Cape Dyer to Nanisivik on the northern tip of Baffin Island. On September 3rd, Iqaluit, on the south of the island, reported a record low for the day of -1.5°C. The coldest temperature recorded for the week was -8.2°C at Alert, on the 1st.

A strong ridge of high pressure over the Yukon which produced temperatures in the mid to upper twenties on the 28th, moved eastward, and as it did, temperatures began to drop. Minimums dipped to below zero at almost all reporting stations, with Beaver Creek the coldest, on the weekend, at -6.0°C.

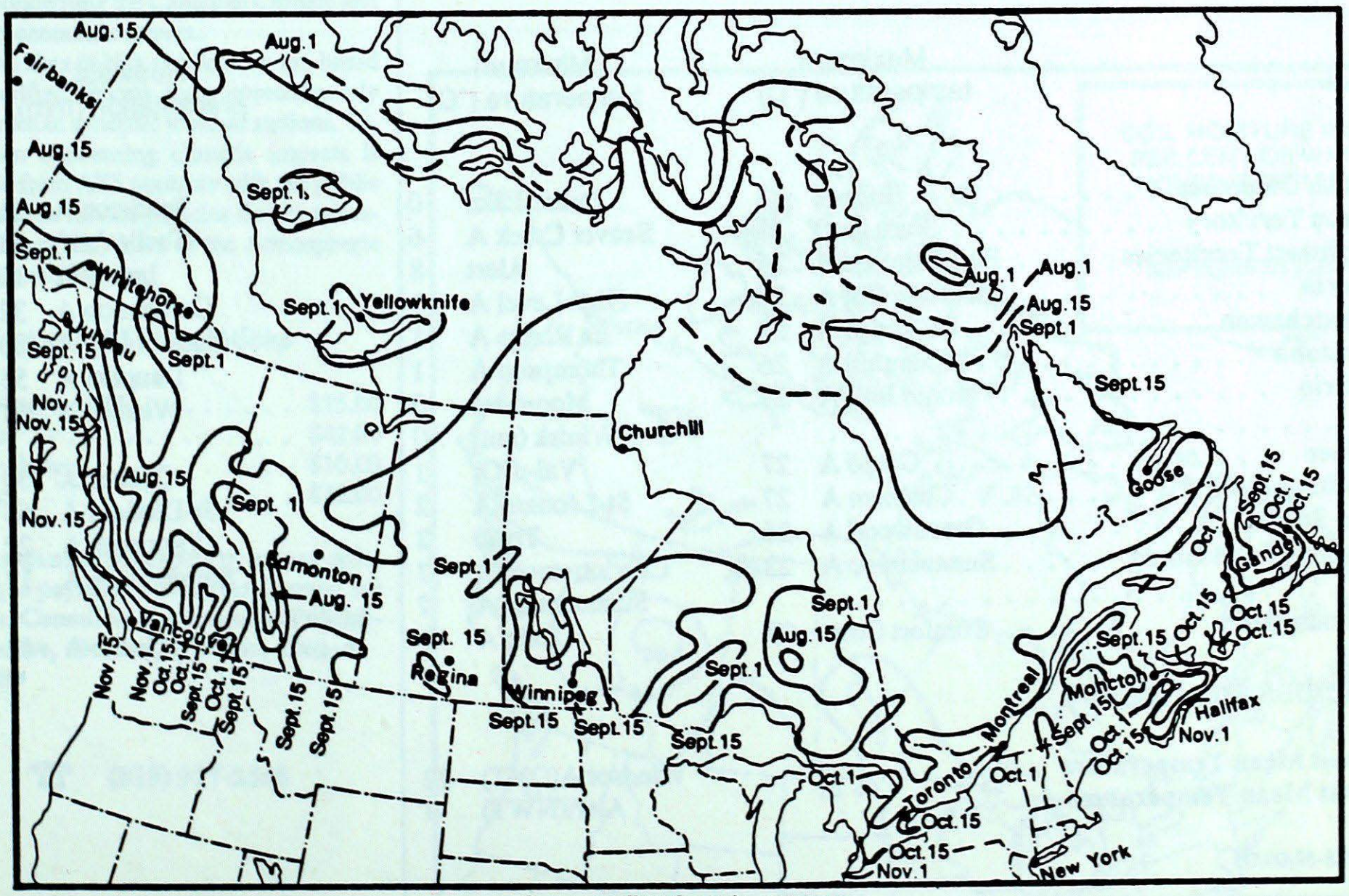
In British Columbia, on the 29th, there were some reports of frost in widely scattered areas around Fort Nelson. The fire season is now drawing to a close in the north-west, as fall rains return to the region, with Terrace recording 15.0 mm on the 3rd.

In Ontario, Moosonee and Winisk recorded 0.0°C on the 3rd. In Québec, Val-d'Or was chilled with -0.6°C. In the Maritimes, a few locations reported some frost early on the 28th.

A look ahead...

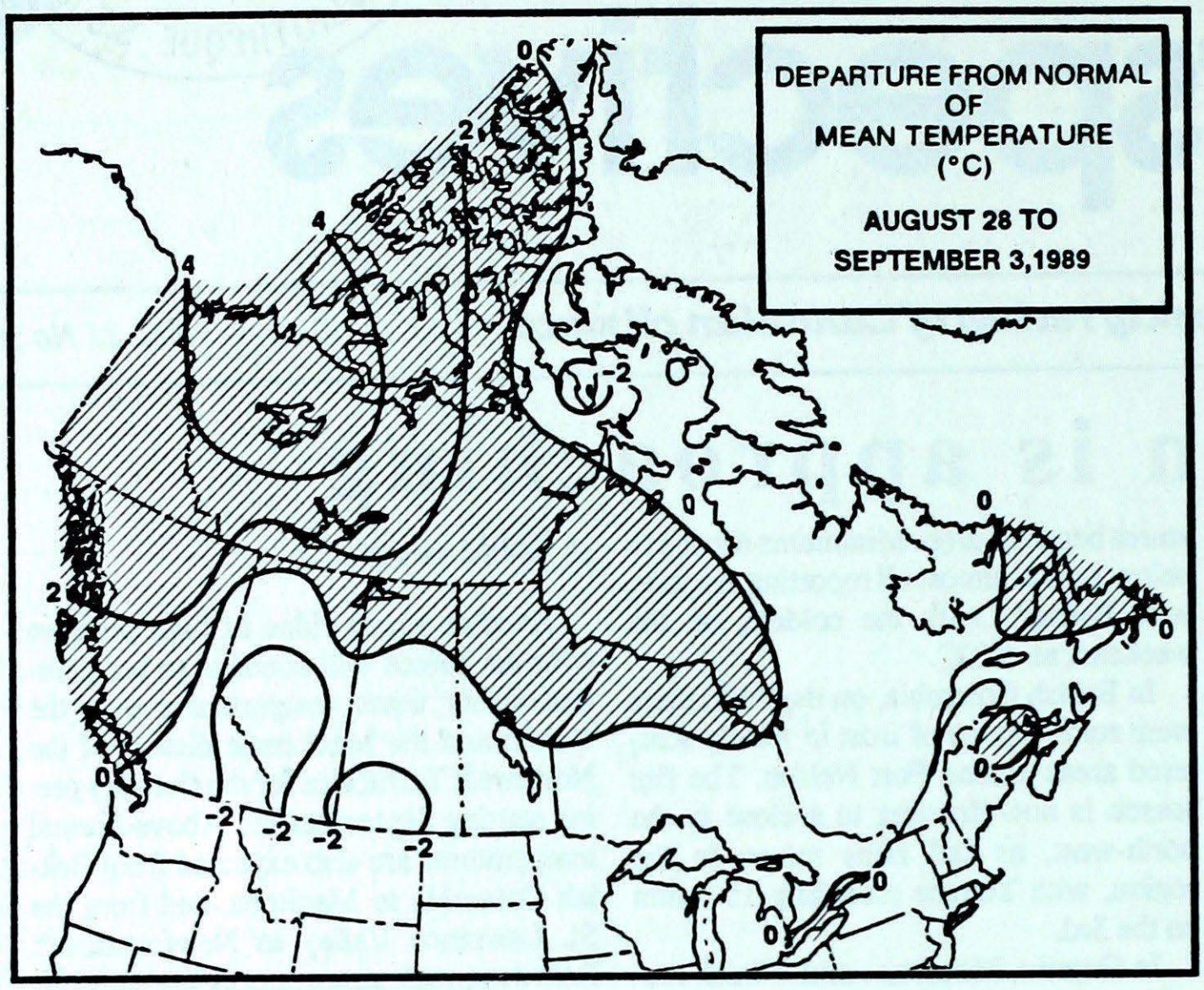
Another strong ridge of high pressure over the Yukon will continue to bring unseasonably warm temperatures over the Yukon and the Mackenzie district of the Northwest Territories for the five-day period starting September 11. Above-normal temperatures are also expected from British Columbia to Manitoba, and from the St. Lawrence Valley to Newfoundland. Below-normal temperatures are forecast over the north-eastern Arctic, and extreme south-western Ontario during the same period. — *prepared September 6, 1989*

Amir Shabbar, Canadian Climate Centre



Average first frost in autumn

Canada



Wet in the central Prairies

On August 28th, a line of showers and thundershowers over the southern part of Saskatchewan and Manitoba produced measurable rainfall amounts. Along the Saskatchewan-Alberta border, Hudson Bay reported 50.6 mm, Dauphin 41.8 mm, Yorkton 33.7 mm, and Broadview, 24.8 mm. Several other stations reported more than 10 mm. Roblin, Manitoba, recorded 91 mm of rain in 3 hours. Showers and thundershowers on the 1st and 2nd produced two-day rainfall totals of over 20 mm in Saskatchewan. On the 2nd, Macoun, Saskatchewan recorded hail and 25 mm of rain in 30 minutes, and Estevan recorded wind gusts to 94 km/h.

John Bendell, Winnipeg Climate Centre

Weekly temperature and precipitation extremes

	Maximum temperature (°C)		Minimum temperature (°C)		Heaviest precipitation (mm)	
British Columbia	Hope A	28	Dease Lake	0	Penticton A	51
Yukon Territory	Faro (aut)	28	Beaver Creek A	-6	Teslin (aut)	12
Northwest Territories	Fort Simpson A	25	Alert	-8	Inuvik A	12
Alberta	Medicine Hat A	26	High Level A	1	Coronation A	32
Saskatchewan	La Ronge A	23	La Ronge A	1	Hudson Bay A	80
Manitoba	Churchill A	26	Thompson A	1	Dauphin A	53
Ontario	Toronto Int'l A	29	Moosonee	0	Wiarton A	51
			Winisk (aut)	0		
Québec	Gaspé A	27	Val-d'Or	-1	Québec A	50
New Brunswick	Chatham A	27	St-Léonard A	2	St-Léonard A	53
Nova Scotia	Greenwood A	24	Truro	2	Yarmouth A	22
Prince Edward Island	Summerside A	23	Charlottetown A	7	Summerside A	17
			Summerside A	7		
Newfoundland	Comfort Cove	23	Nain A	-1	Goose A	42

Across The Country...

Highest Mean Temperature	Windsor A(ONT)	22
Lowest Mean Temperature	Alert(NWT)	-4

89/08/28-89/09/03

CLIMATIC PERSPECTIVES
VOLUME 11

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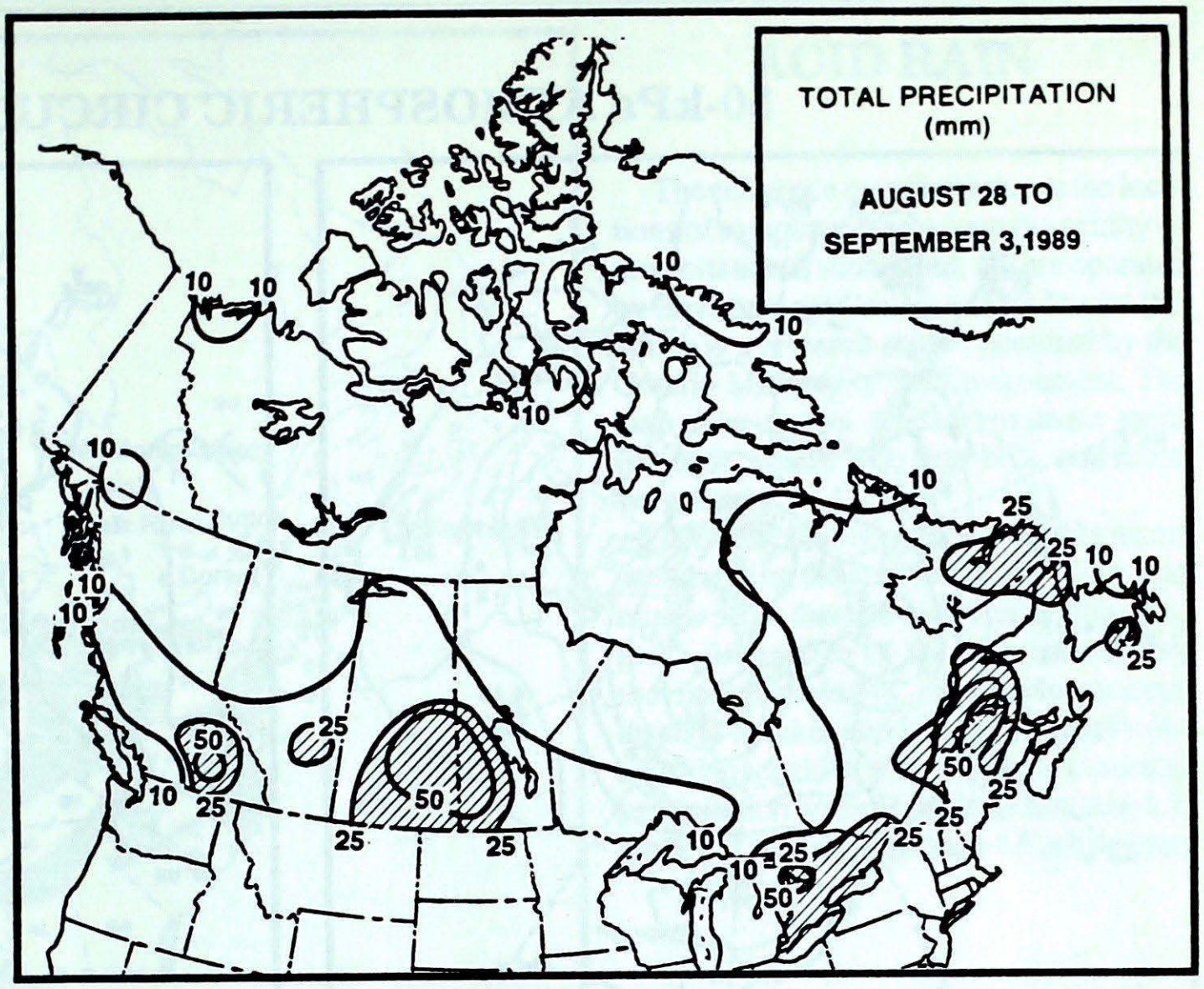
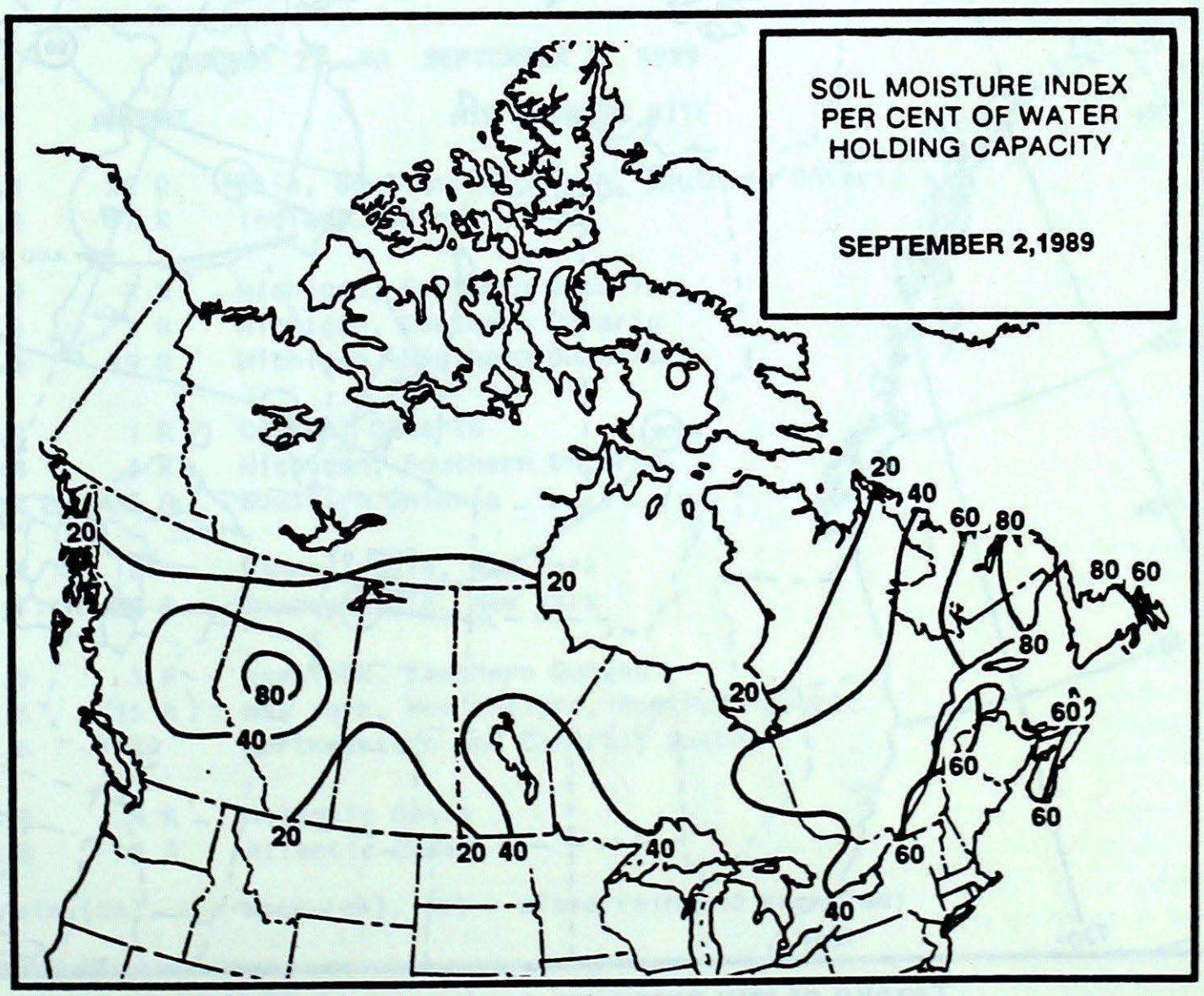
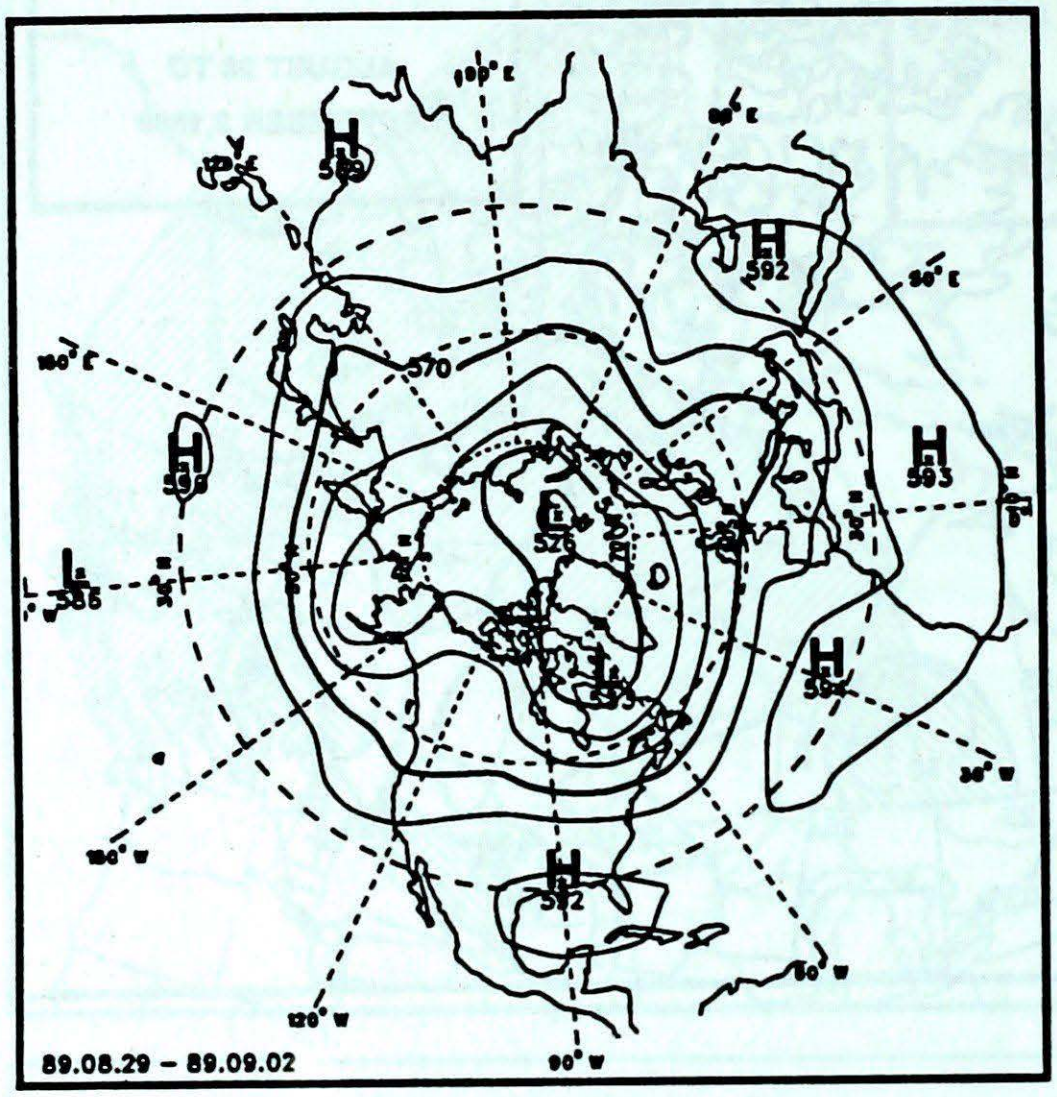
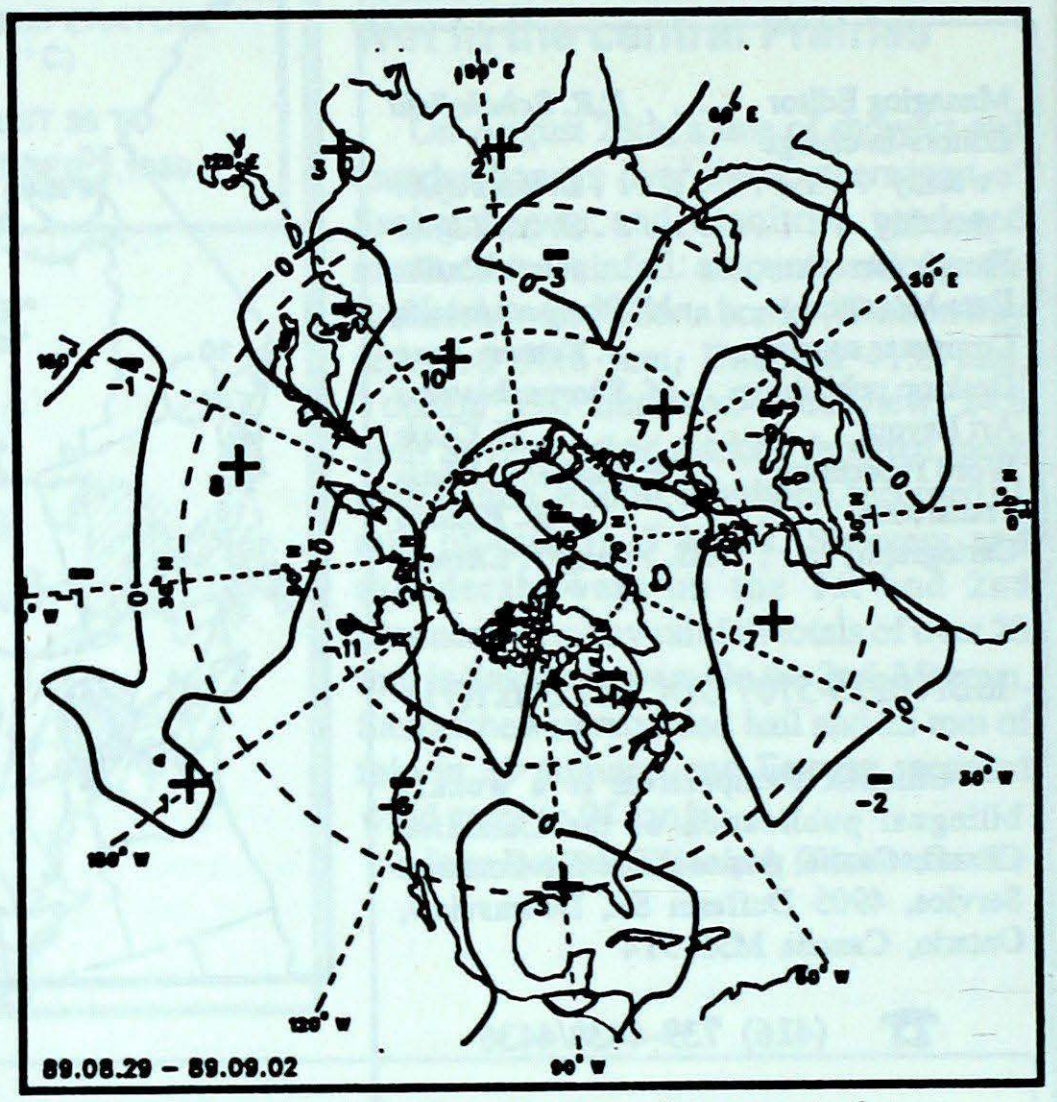




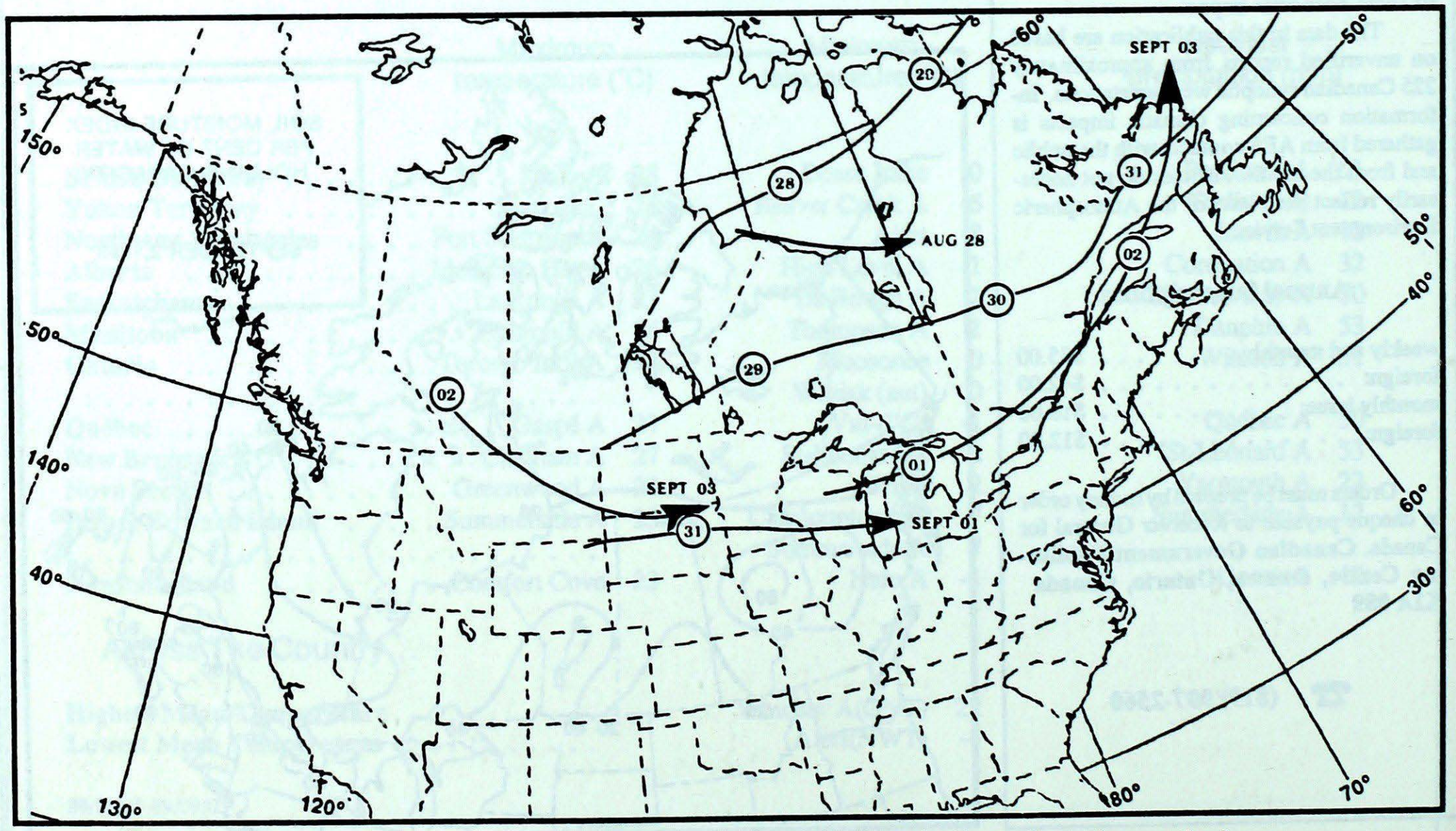
50-kPa ATMOSPHERIC CIRCULATION



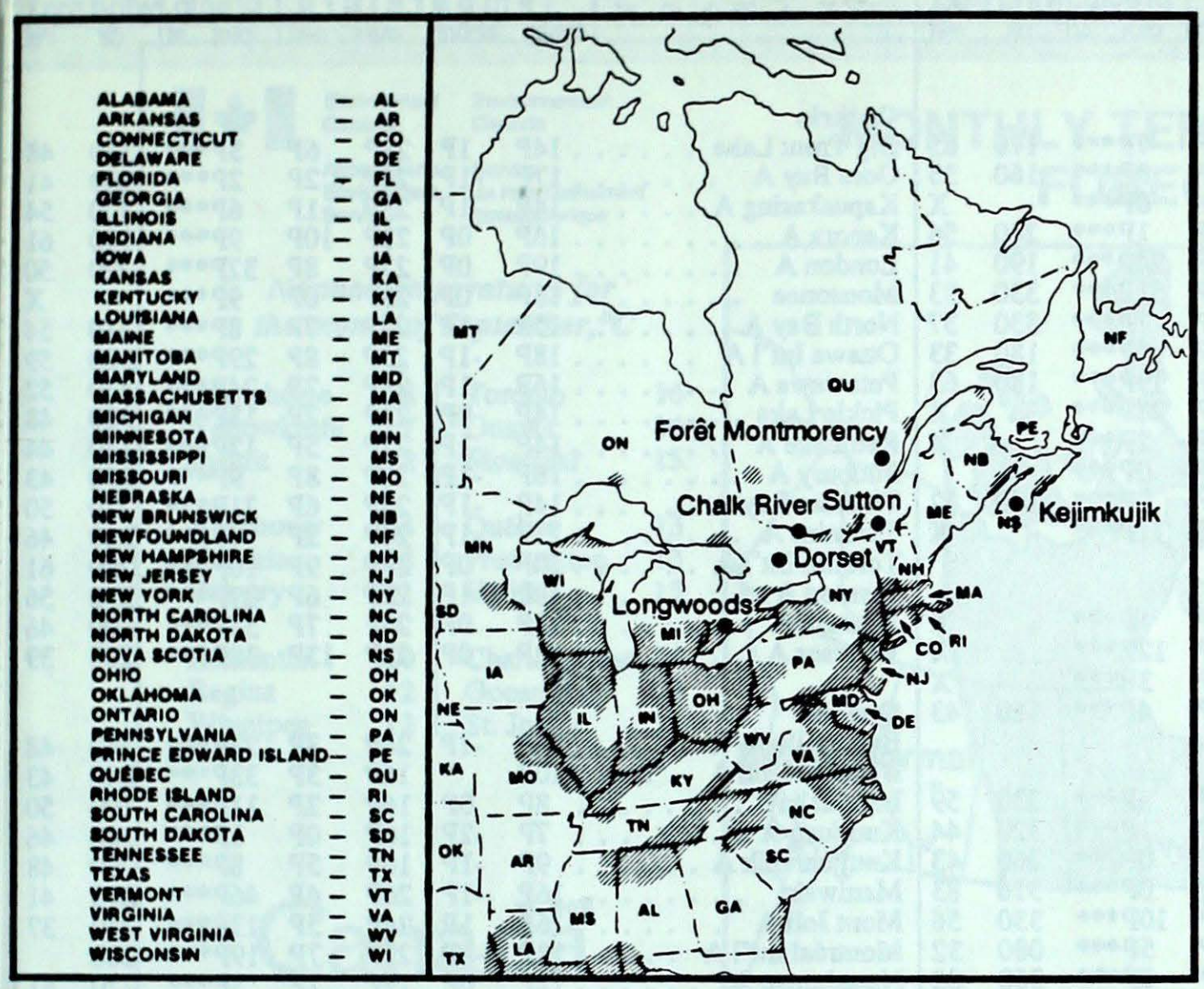
Mean geopotential height
50-kPa level (10 decametre intervals)



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.

AUGUST 27 TO SEPTEMBER 2, 1989

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	28	3.8	22 R	Ohio, Southern Michigan, Southern Ontario
	31	4.0	17 R	Indiana, Ohio
Chalk River	28	3.9	3 R	Michigan, Southern Ontario
	29	3.3	1 R	Michigan, Southern Ontario
	1	4.2	19 R	Michigan, Southern Ontario
Dorset	27	4.2	1 R	Central Ontario
	31	4.8	3 R	Michigan, Southern Ontario
	1	4.1	33 R	Southern Ontario
Sutton	29	3.4	2 R	Pennsylvania, New York
	1	4.7	35 R	Pennsylvania, New York
Montmorency	29	3.9	3 R	New-York, Southern Quebec
	30	4.5	15 R	New York, New England, Southern Quebec
	31	4.6	5R	Northwestern and Central, Quebec
Kejimkujik	29	4.4	4 R	Atlantic Ocean
	30	4.0	5 R	Atlantic Ocean

r = rain (cm), 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	7P***		170	65
Cranbrook A	13P	-2P	21P	4P	8P***		160	35
Fort Nelson A	13P	1P	24P	2P	0P***			X
Fort St John A	11P	-1P	22P	4P	1P***		240	56
Kamloops A	17P	-1P	25P	8P	24P***		190	41
Penticton A	16P	-1P	24P	7P	51P***		330	33
Port Hardy A	14P	1P	18P	9P	7P***		330	37
Prince George A	12P	0P	22P	4P	3P***		180	33
Prince Rupert A	13P	1P	16P	9P	19P***		180	63
Revelstoke A	14P	-2P	21P	8P	28P***			X
Smithers A	15P	3P	25P	6P	2P***			X
Vancouver Int'l A	16P	0P	21P	10P	0P***			
Victoria Int'l A	14P	-1P	23P	7P	0P***		140	32
Williams Lake A	12P	-1P	22P	2P	11P***			X
Yukon Territory								
Komakuk Beach A	5P	2P	13P	2P	1P***			X
Teslin (aut)	12P	*	26P	1P	12P***			X
Watson Lake A	14P	4P	26P	4P	3P***			X
Whitehorse A	12P	2P	27P	-1P	4P***		160	43
Northwest Territories								
Alert	-4P	-1P	0P	-8P	6P***		330	59
Baker Lake A	8P	1P	19P	-1P	1P***		320	44
Cambridge Bay A	6P	2P	11P	0P	0P***		260	43
Cape Dyer A	2P	-1P	10P	-2P	0P***		310	83
Clyde A	3P	0P	8P	-1P	10P***		330	56
Coppermine A	10P	6P	22P	4P	5P***		080	32
Coral Harbour A	4P	-1P	14P	-1P	2P***		360	82
Eureka	1P	1P	5P	-2P	1P***		260	65
Fort Smith A	12P	1P	24P	3P	1P***			X
Hall Beach A	3P	0P	8P	0P	0P***		340	56
Inuvik A	12P	5P	23P	6P	12P***			X
Iqaluit A	5P	-1P	14P	-2P	3P***		330	57
Mould Bay A	2P	4P	6P	-2P	0P***		080	46
Norman Wells A	14P	4P	23P	6P	0P***		120	52
Resolute A	0P	0P	5P	-3P	1P***		350	57
Yellowknife A	13P	2P	20P	8P	0P***		170	33
Alberta								
Calgary Int'l A	11P	-1P	21P	5P	19P***		320	41
Cold Lake A	14P	1P	21P	7P	13P***		330	32
Edmonton Namao A	10P	-3P	20P	1P	14P***		290	39
Fort McMurray A	13P	1P	23P	2P	1P***			X
High Level A	10P	-1P	23P	1P	0P***			X
Jasper	10P	-2P	19P	2P	7P***			X
Lethbridge A	13P	-2P	25P	4P	17P***		260	63
Medicine Hat A	14P	-2P	26P	5P	9P***		270	46
Peace River A	10P	-2P	21P	2P	5P***		270	41
Saskatchewan								
Cree Lake	11P	-1P	22P	2P	17P***			X
Estevan A	15P	-1P	22P	3P	7P***		280	56
La Ronge A	12P	-1P	23P	1P	9P***			X
Regina A	14P	-2P	20P	6P	39P***		120	52
Saskatoon A	14P	-1P	21P	6P	9P***		170	48
Swift Current A	13P	-2P	21P	6P	20P***		290	63
Yorkton A	14P	-1P	23P	6P	35P***		330	59
Manitoba								
Brandon A	15P	-1P	23P	5P	23P***		280	72
Churchill A	10P	1P	26P	2P	2P***		010	37
Lynn Lake A	12P	2P	23P	4P	0P***		190	32
The Pas A	13P	-1P	22P	3P	12P***		030	32
Thompson A	12P	1P	24P	1P	3P***			X
Winnipeg Int'l A	15P	-1P	25P	5P	12P***		110	74

STATION	temperature mean	anom	max	min	precip. ptot	st	wind max dir	vel
Ontario								
Big Trout Lake	14P	1P	23P	6P	3P***		320	48
Gore Bay A	17P	-1P	24P	2P	2P***		280	41
Kapuskasing A	14P	-1P	23P	1P	6P***		300	54
Kenora A	16P	0P	21P	10P	9P***		140	61
London A	19P	0P	27P	8P	32P***		220	50
Moosonee	13P	0P	28P	0P	9P***			X
North Bay A	15P	-1P	22P	7P	8P***		310	54
Ottawa Int'l A	18P	-1P	25P	8P	29P***		300	59
Petawawa A	16P	-1P	26P	2P	24P***		330	52
Pickle Lake	14P	0P	23P	7P	13P***		320	48
Red Lake A	14P	-1P	22P	5P	12P***		140	44
Sudbury A	16P	-1P	22P	8P	9P***		290	43
Thunder Bay A	14P	-1P	24P	6P	21P***		270	50
Timmins A	13P	-1P	24P	2P	4P***		300	46
Toronto Int'l A	20P	0P	29P	9P	10P***		280	61
Trenton A	18P	-1P	25P	6P	29P***		270	56
Wiarton A	18P	0P	26P	7P	51P***		300	46
Windsor A	22P	0P	28P	13P	38P***		200	39
Québec								
Bagotville A	14P	-1P	24P	3P	23P***		240	48
Blanc Sablon A	10P	*	16P	3P	33P***		340	43
Inukjuak A	8P	0P	16P	2P	11P***		190	50
Kuujjuaq A	7P	-2P	16P	0P	1P***		340	46
Kuujjuarapik A	9P	-1P	16P	5P	8P***		230	48
Maniwaki	16P	-1P	26P	4P	46P***		270	41
Mont Joli A	16P	1P	24P	5P	13P***		240	37
Montréal Int'l A	18P	-1P	25P	7P	19P***		260	
Natashquan A	12P	0P	19P	2P	3P***		270	61
Québec A	15P	-1P	26P	4P	50P***		250	52
Schefferville A	8P	-1P	16P	0P	23P***		340	48
Sept-Îles A	12P	-1P	20P	4P	25P***		320	52
Sherbrooke A	15P	0P	25P	4P	33P***		280	85
Val-d'Or A	14P	-1P	25P	-1P	2P***		300	48
New Brunswick								
Charlo A	14P	0P	27P	4P	51P***		300	52
Chatham A	15P	-2P	27P	4P	13P***		310	57
Fredericton A	14P	-3P	25P	3P	19P***		310	50
Moncton A	14P	-2P	24P	2P	8P***		010	150
Saint John A	14P	-2P	22P	4P	13P***		300	46
Nova Scotia								
Greenwood A	15P	-2P	24P	5P	6P***		280	46
Shearwater A	15P	-2P	22P	7P	9P***		160	41
Sydney A	16P	-1P	23P	5P	7P***		170	44
Yarmouth A	15P	-1P	21P	8P	22P***		180	52
Prince Edward Island								
Charlottetown A	15P	-1P	23P	7P	8P***		180	50
Summerside A	16P	-2P	23P	7P	17P***		160	50
Newfoundland								
Cartwright	11P	0P	20P	2P	9P***		330	56
Churchill Falls A	9P	-1P	17P	0P	13P***		340	5
Gander Int'l A	14P	0P	22P	6P	3P***		160	74
Goose A	11P	-1P	21P	4P	42P***		270	57
Port Aux Basques	12P	-2P	17P	5P	15P***		150	56
St John's A	15P	1P	21P	7P	7P***		190	69
St Lawrence	13P	-1P	20P	5P	28P***			X
Wabush Lake A	8P	-2P	18P	0P	22P***		280	56

89/08/28-89/09/03

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.

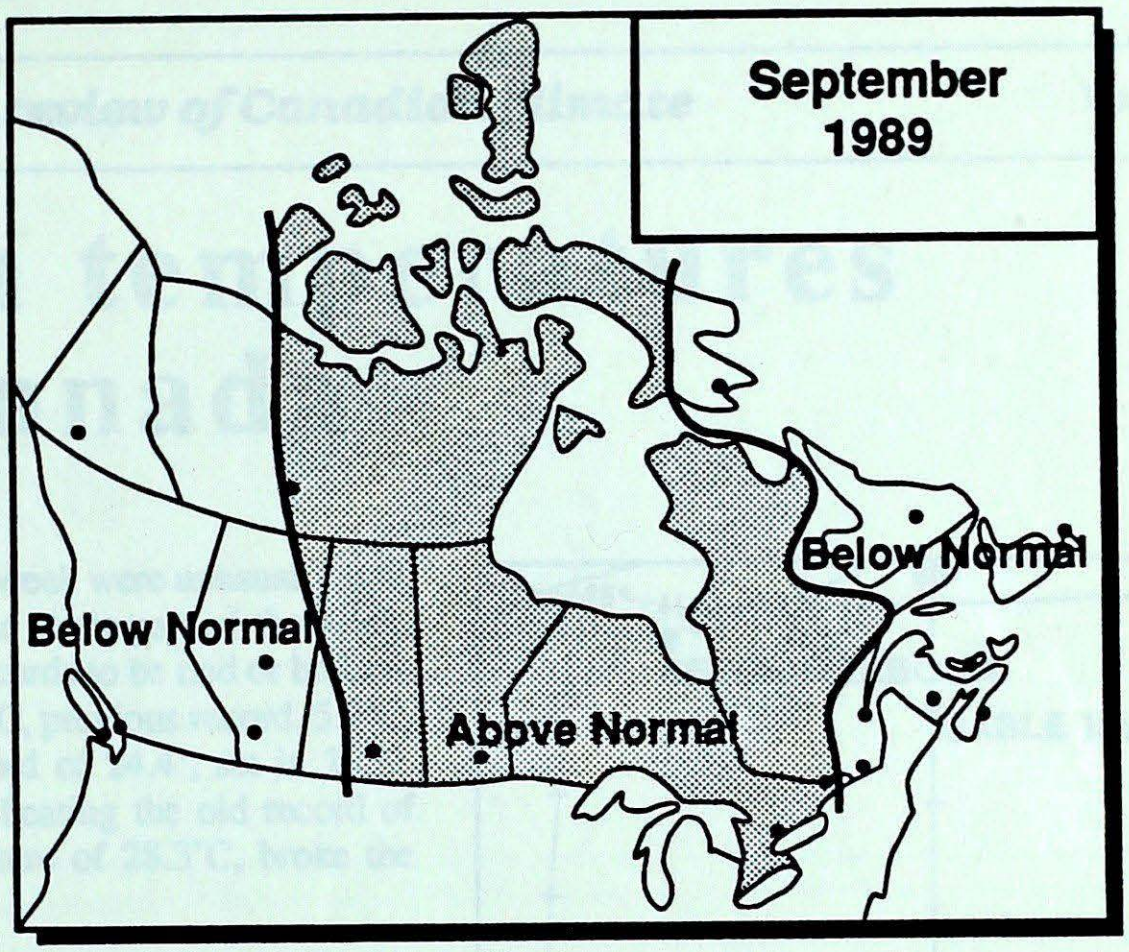
Environment Canada / Environnement Canada

Atmospheric Environment Service / Service de l'environnement atmosphérique

MONTHLY TEMPERATURE FORECAST

Normal temperatures for the month of September, °C

Whitehorse	8	Toronto	16
Yellowknife	7	Ottawa	14
Iqaluit	2	Montréal	15
Vancouver	14	Québec	13
Victoria	14	Fredericton	13
Calgary	11	Halifax	15
Edmonton	10	Charlottetown	14
Regina	12	Goose Bay	9
Winnipeg	12	St. John's	12



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