

Climatic Perspectives

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MONTHLY SUPPLEMENT INCLUDED

September 11 to 17, 1989

A weekly review of Canadian climate

Vol. 11 No 38

Brief return to summer in Manitoba and Atlantic Canada

A disturbance crossing central Manitoba over the weekend pumped mild air northwards, allowing temperatures in the south to surge upwards into the record mid-thirties. At Brandon, the thermometer registered 34.8°C on the 17th. Thirty degree temperatures were also experienced at Dauphin, Estevan and Portage La Prairie, all on the same day. The warm summer-like weather was a boon to farmers trying to harvest their crops before the winter snow.

In Nova Scotia, under mostly sunny skies, temperatures also managed to nudge thirty degrees. In fact, due to a strong southerly flow, mild weather was common to most of Atlantic Canada at the start of the period, with daytime readings generally hovering up around the mid-twenties. A new daily maximum temperature record of 30.9°C was set at Greenwood on the 11th. In addition, a couple of daily temperature records were established in Newfoundland. St. John's maximum temperature reached 25.7°C.

Autumn harvest report

Nova Scotia: the McIntosh apple harvest is about to begin. Cool nights in late August and September have resulted in early colour development, with maturity not quite as advanced.

Ontario: soyabean and corn maturity advancing rapidly. Corn harvest has begun in some areas, white bean and final hay harvest is under way.

Manitoba: harvesting in full swing with wheat 93%, oats 70%, barley 95%, flax 55% and canola 80% complete.

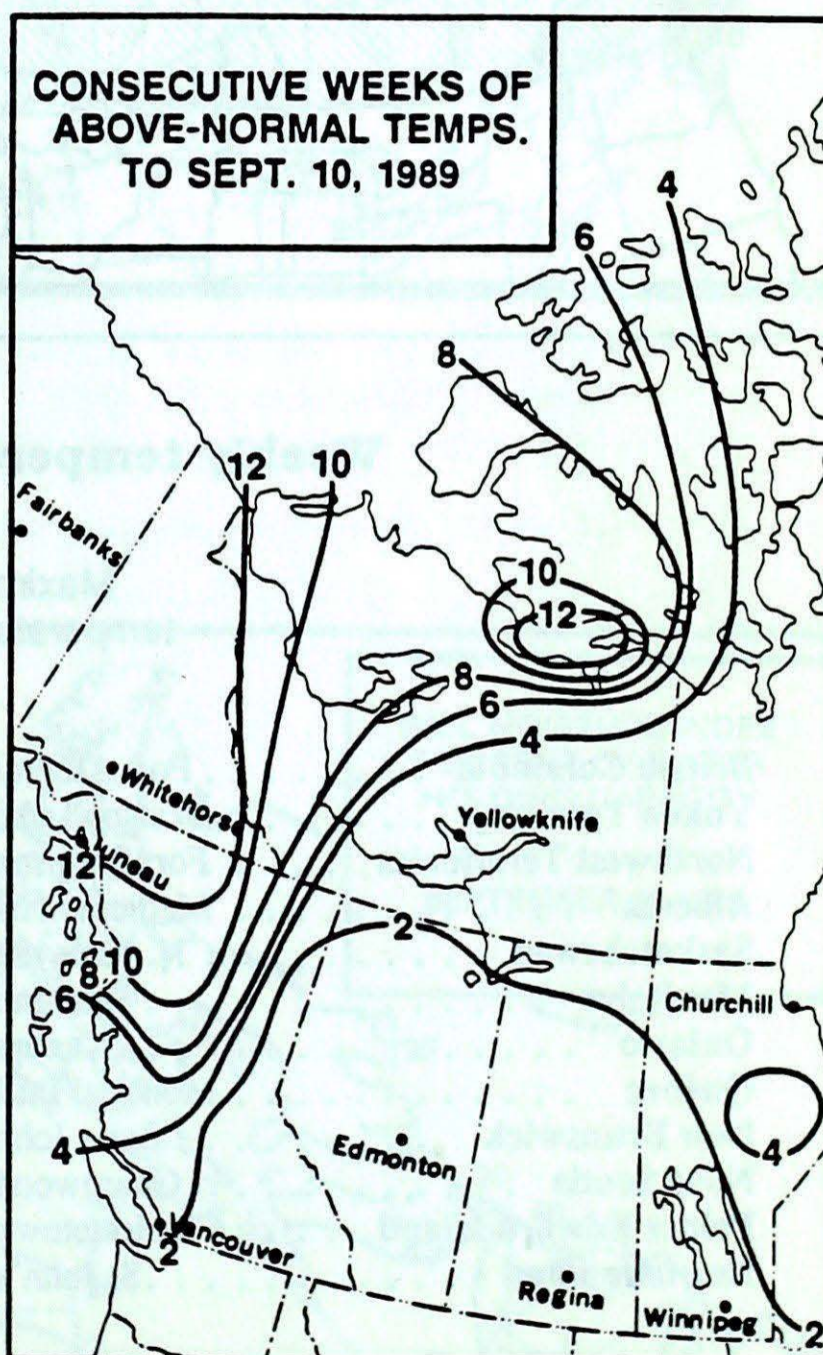
Saskatchewan: harvest has recommenced after several weeks of unsettled weather. Most progress has been made with the barley and canola.

Alberta: harvest back in full swing after a lengthy period of precipitation, which has lowered the quality of the crops. Grain harvesting is less than half complete.

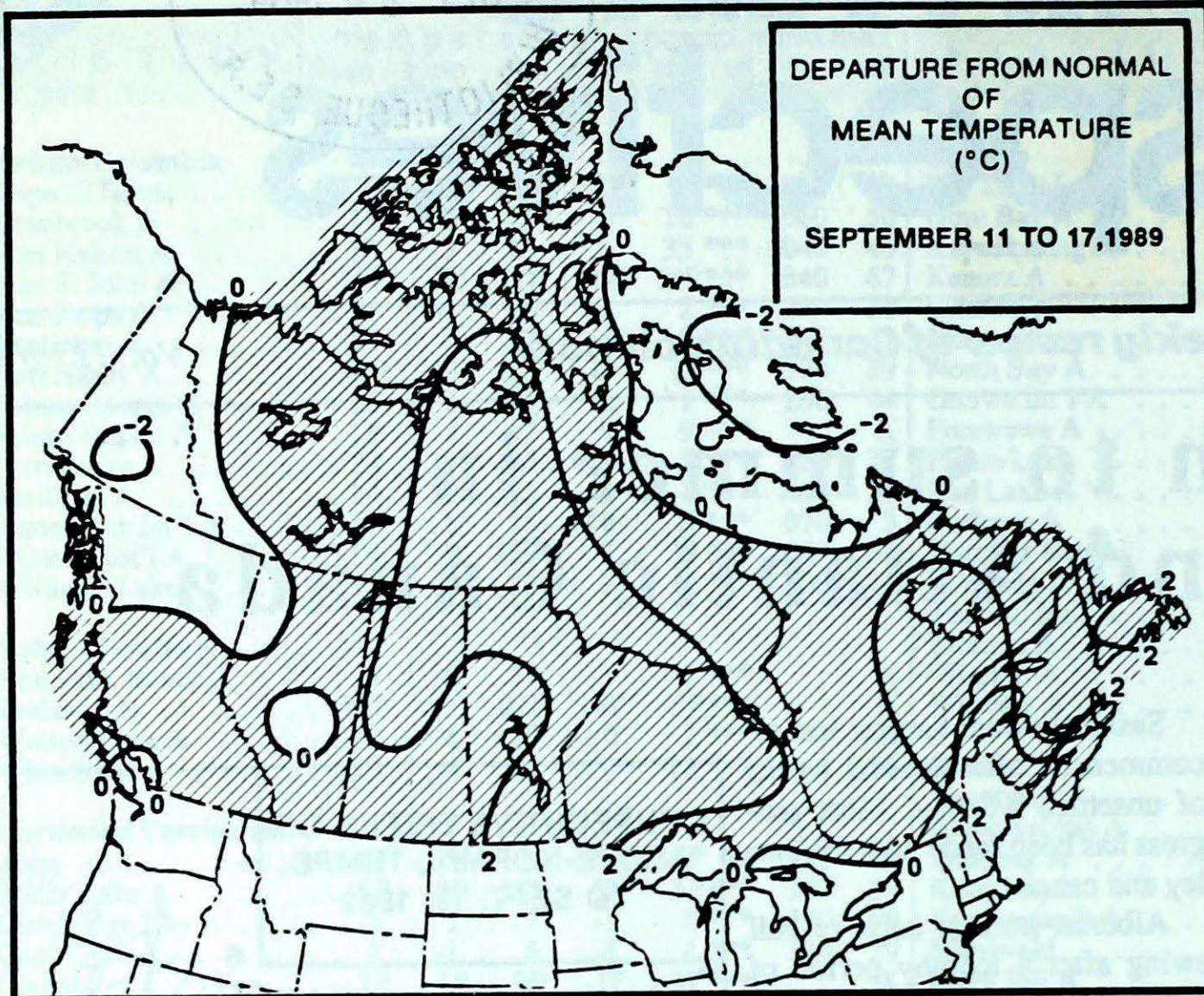
British Columbia: the Okanagan apple harvest is well under way. Size, colour and quality of the apples is considered good, although last winter's cold spell did damage many trees: the hard freeze damaged the buds and thus affected most of the apricot crop and the commercial viability of the peach crop. Grape harvest has just started, for the most part earlier than previous years. Most of the third hay cut has been baled.

Summer-like temperatures in early autumn

A strong ridge of high pressure extending from the Yukon through the Prairies and Ontario to Québec will bring unseasonably warm temperatures throughout most of Canada for the five-day period starting September 24. Warm temperatures are expected to return to northwestern Canada, where a prolonged warm spell of 12 consecutive weeks was briefly interrupted in mid-September. A flow of cold air from the



north will push colder than normal temperatures over the northeastern Arctic Islands, Labrador and northern Newfoundland. — prepared Sept. 20, 1989
A. Shabbar, Canadian Climate Centre



Weekly normal temperature (°C)

	max	min
Whitehorse A	13.6	3.8
Iqaluit A	5.3	0.2
Yellowknife A	10.8	4.2
Vancouver Int'l A	18.7	10.2
Victoria Int'l A	19.4	8.9
Calgary Int'l A	17.2	4.0
Edmonton Int'l A	16.3	3.0
Regina A	18.9	5.0
Saskatoon A	18.1	5.0
Winnipeg Int'l A	18.6	6.4
Ottawa Int'l A	19.4	8.9
Toronto Int'l A	21.4	9.5
Montréal Int'l A	19.5	9.5
Québec A	17.8	6.8
Fredericton A	19.3	6.4
Saint John A	17.3	7.3
Halifax	18.7	10.0
Charlottetown A	17.9	8.8
Goose A	13.5	4.6
St John's A	15.6	7.6

Weekly temperature and precipitation extremes

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Port Alberni A 30	Dease Lake -8	Fort St John A 17
Yukon Territory	Watson Lake A 22	Faro (aut) -9	Komakuk Beach A 21
Northwest Territories	Fort Simpson A 26	Alert -16	Inuvik A 32
Alberta	Medicine Hat A 29	Banff (aut) -3	Jasper 30
Saskatchewan	Estevan A 33	Eastend Cypress (aut) -5	Buffalo Narrows A 37
Manitoba	Brandon A 35	Grand Rapids (aut) -2	Pilot Mound 26
Ontario	Kenora A 29	Upsala (aut) -2	Simcoe 32
Québec	Montréal Int'l A 24	Kuujuuaq A -3	La Grande Iv A 42
New Brunswick	Saint John A 27	Fredericton A 3	Saint John A 41
Nova Scotia	Greenwood A 31	Truro 4	Inverness (aut) 98
Prince Edward Island	Charlottetown A 25	Summerside A 7	Charlottetown A 34
Newfoundland	St John's A 27	Nain A 0	St Lawrence 101

Across The Country...

Highest Mean Temperature	Sable Island(NS) 19
Lowest Mean Temperature	Alert(NWT) -9

89/09/11-89/09/17

CLIMATIC PERSPECTIVES
VOLUME 11

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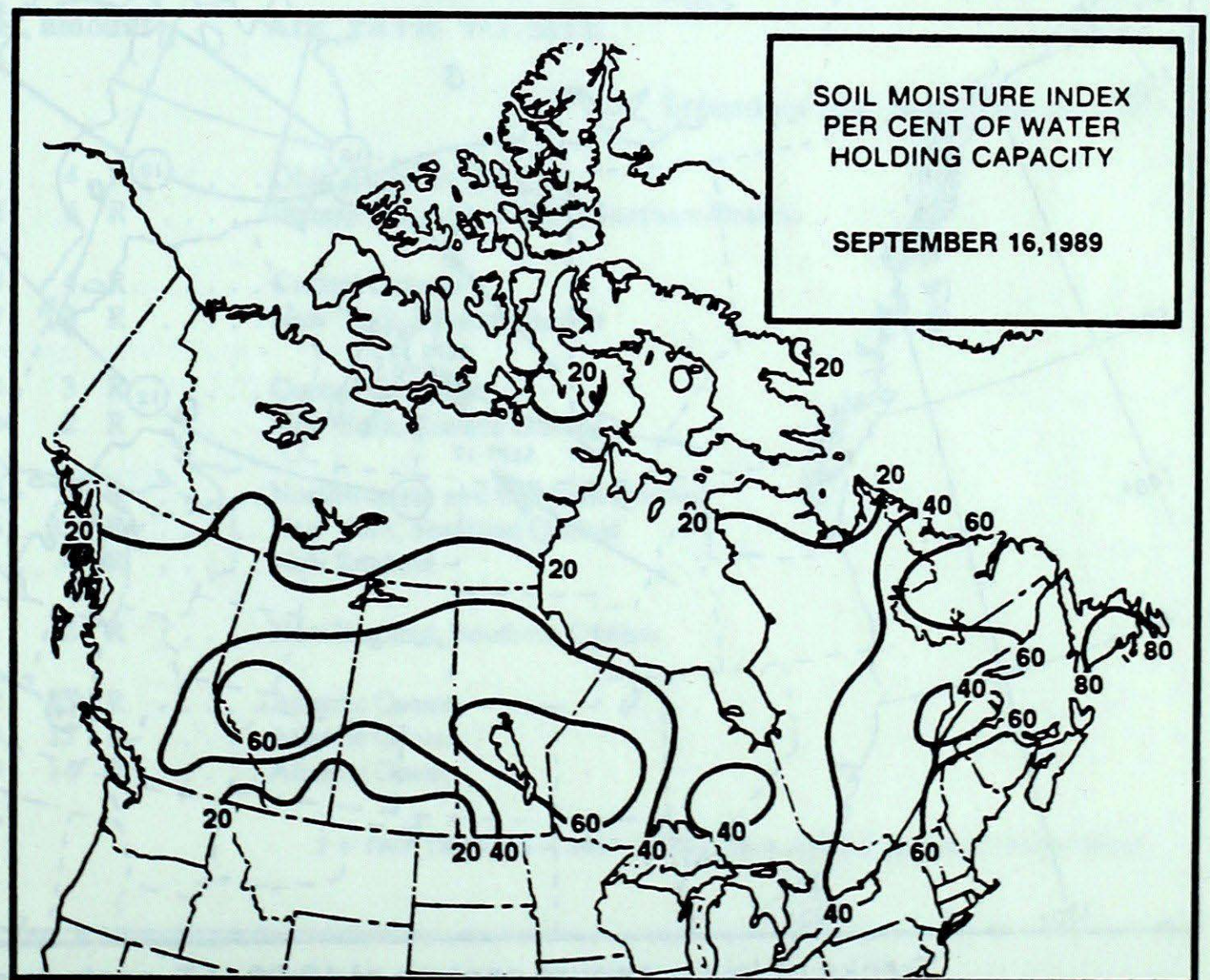
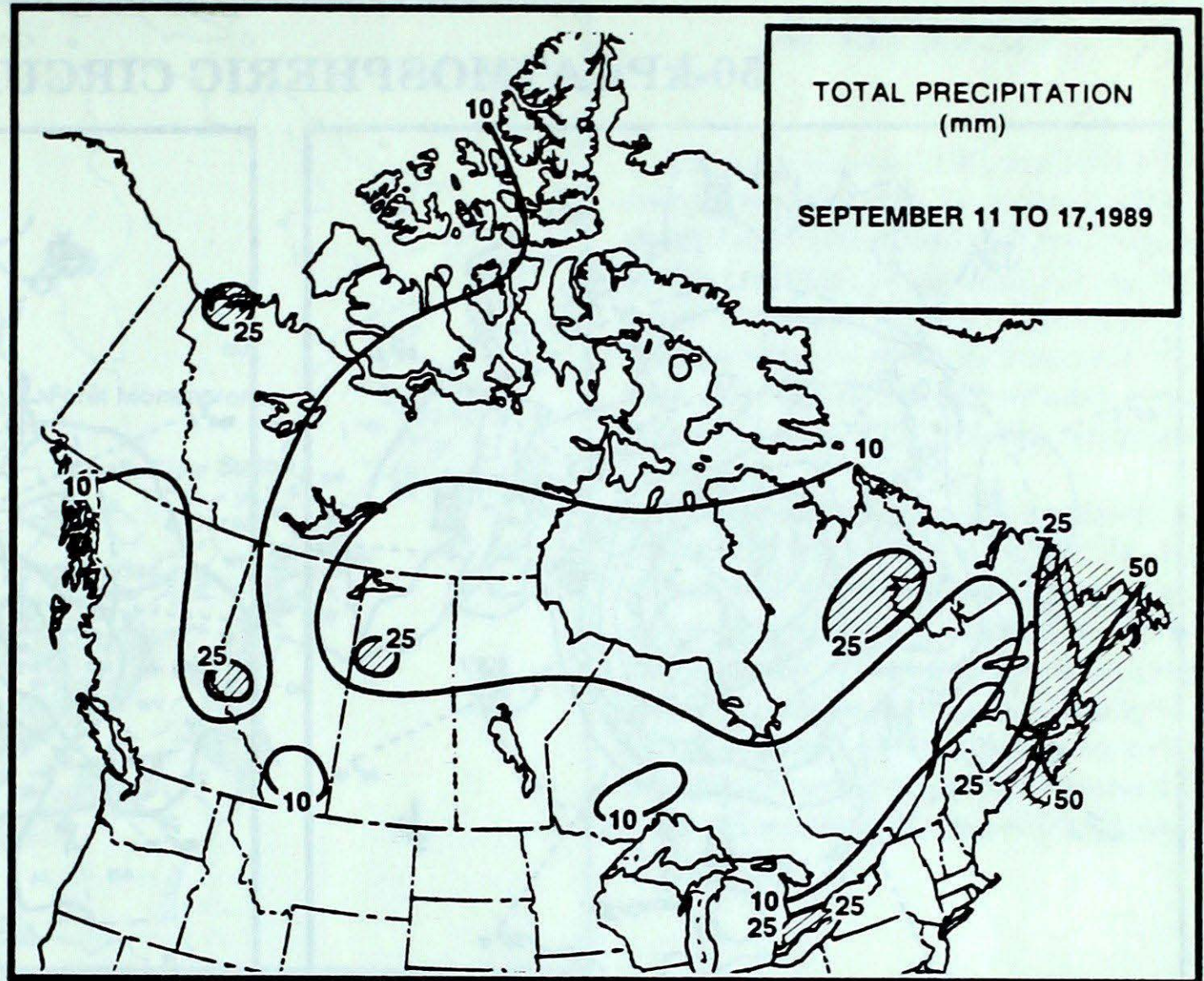
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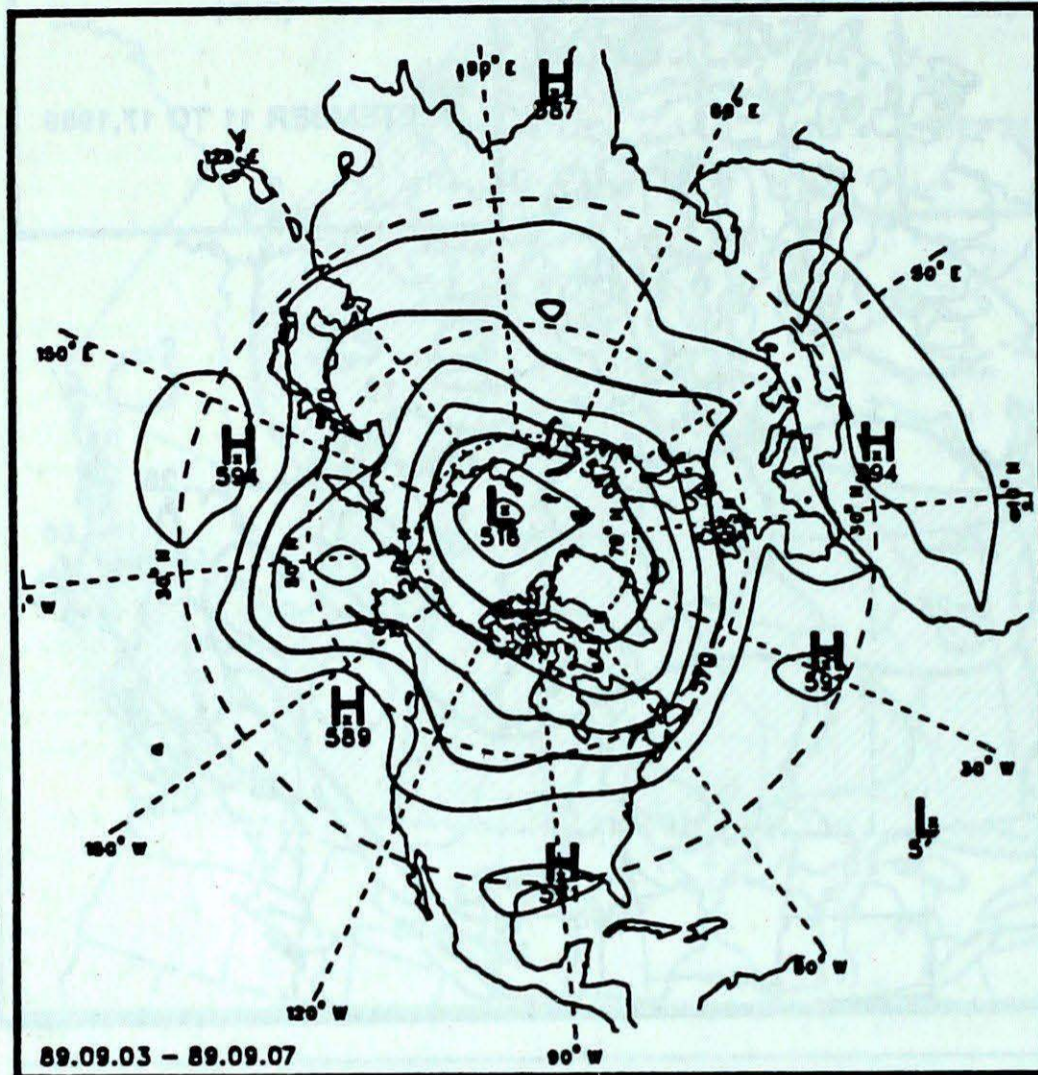
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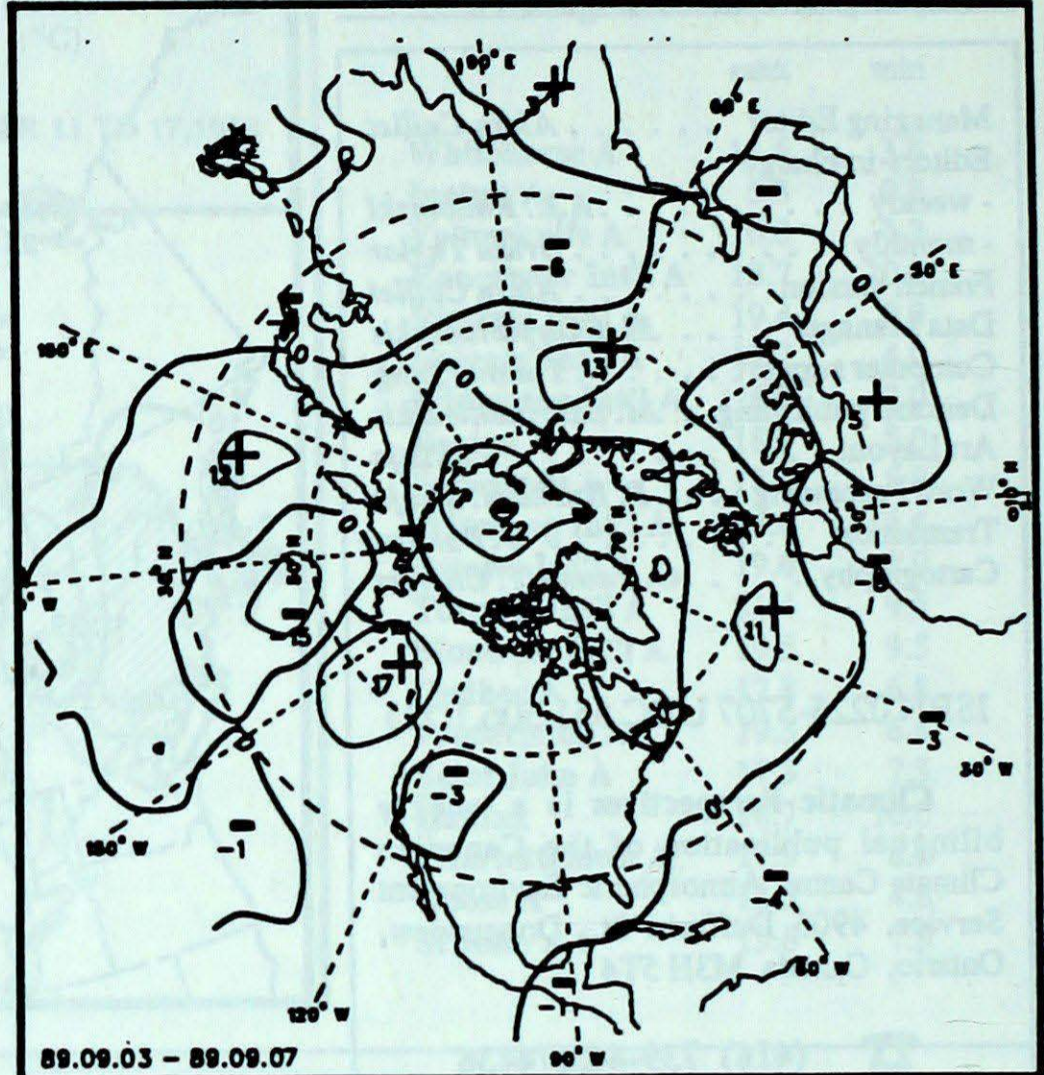
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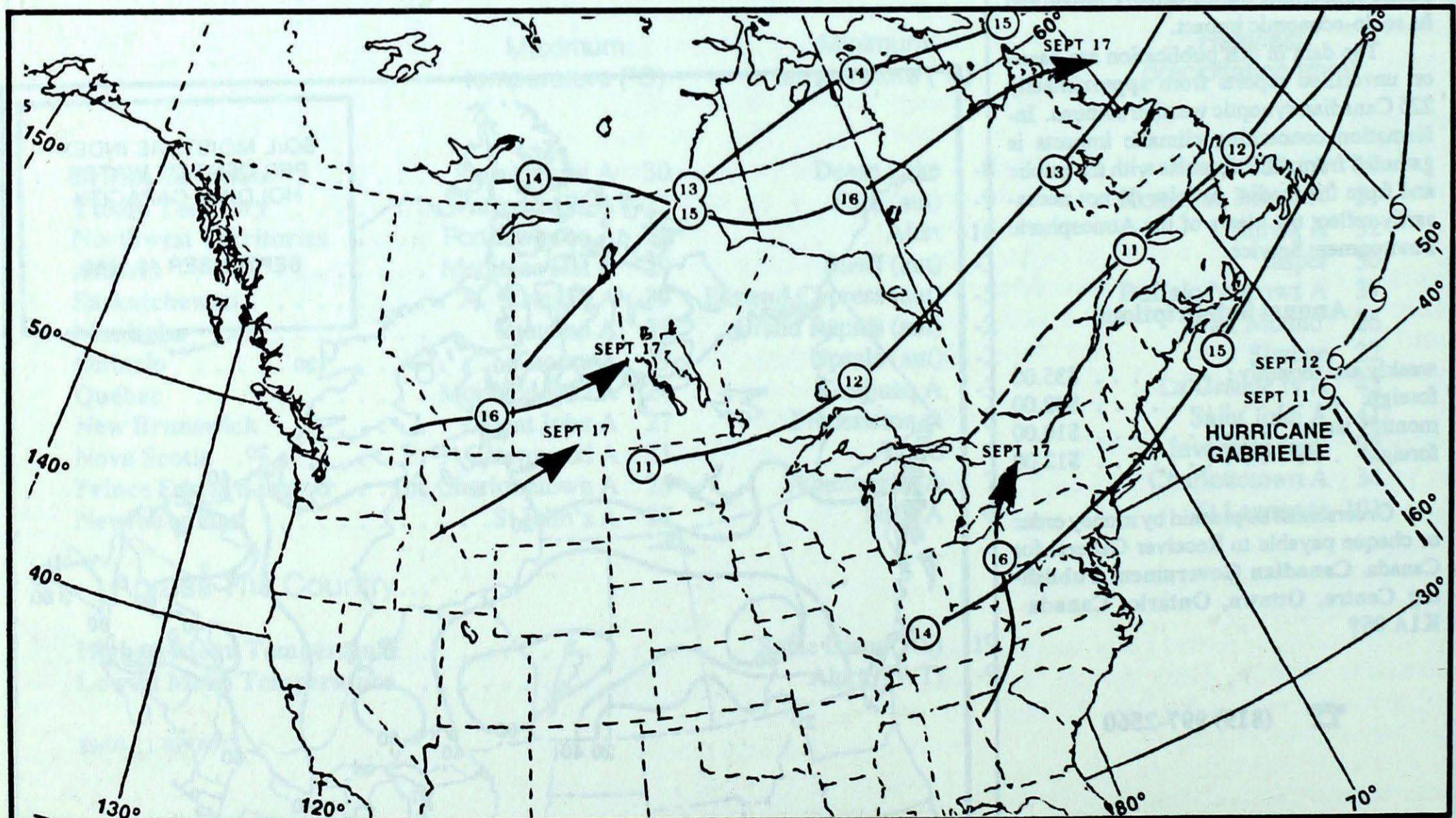
50-kPa ATMOSPHERIC CIRCULATION



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



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



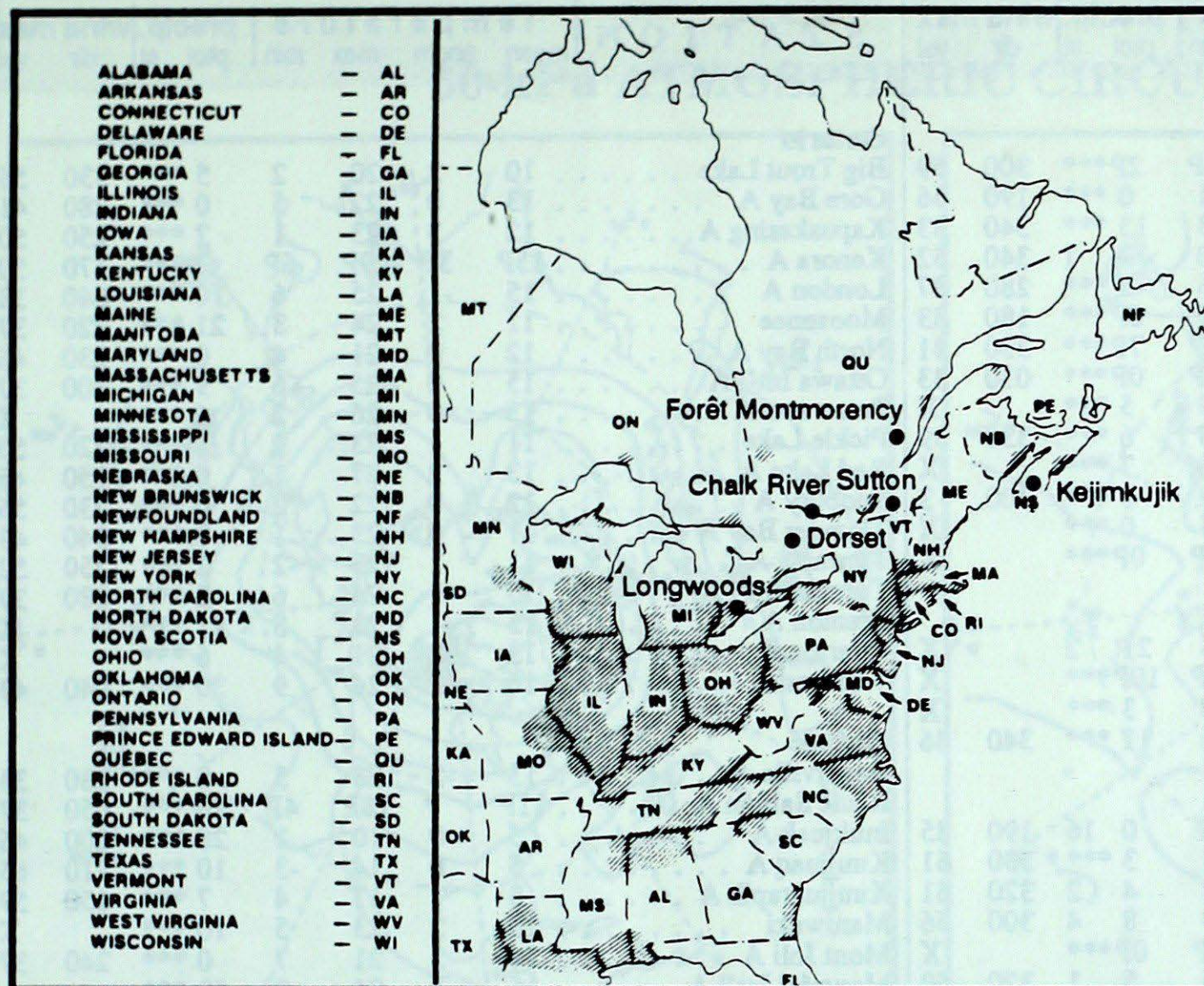
Tracks of low pressure centres at 12:00 U.T. each day during the period.

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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
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September 10 to September 16, 1989

Longwoods	14	4.1	4 R Ohio, Southern Ontario
	16	3.8	6 R	..... Pennsylvania, New York, Southern Ontario
Dorset *	13	4.3	4 R	..... Central Ontario
	16	4.7	3 R	..... New York, Eastern Ontario
Chalk River	13	4.3	3 R	..... Central Ontario
	16	4.3	2 R	..... New York, Eastern Ontario
Sutton	13	3.9	7 R	..... Northwestern and Southern Québec
	14	4.6	25 R	..... New York, Southern Québec
	16	4.1	4 R	..... New England
Montmorency	16	4.1	2 R	..... New England, Southern Québec
Kejimikujik	14	4.2	25 R	..... Atlantic Ocean
	15	5.4	15 R	..... Atlantic Ocean
	16	4.9	14 R	..... Atlantic Ocean

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

STATION	temperature				precip.		wind max		STATION	temperature				precip.		wind max								
	mean	anom	max	min	ptot	st	dir	vel		mean	anom	max	min	ptot	st	dir	vel							
British Columbia									Ontario															
Cape St James	14P	1P	20P	10P	2P***	300	59	Big Trout Lake	10	2	20	2	5 ***	330	56									
Cranbrook A	13	1	26	-1	0 ***	190	56	Gore Bay A	13	0	22	5	0 ***	280	41									
Fort Nelson A	9	-1	25	-3	13 ***	340	33	Kapuskasing A	12	3	23	1	7 ***	250	50									
Fort St John A	10	-1	23	0	17 1	340	52	Kenora A	15P	3P	29P	6P	6P***	170	50									
Kamloops A	16	1	28	6	4 ***	280	37	London A	15	-1	25	6	10 ***	040	33									
Penticton A	16P	1P	28P	4P	0P***	180	33	Moosonee	11	2	24	3	21 ***	220	37									
Port Hardy A	12P	0P	18P	7P	7P***	330	41	North Bay A	12	0	21	4	0 ***	230	46									
Prince George A	11P	1P	25P	-1P	0P***	030	33	Ottawa Int'l A	15	0	25	6	9 ***	300	37									
Prince Rupert A	11	0	16	3	5 ***		X	Petawawa A	13	0	26	2	6 ***		X									
Revelstoke A	13	1	21	3	6 ***	330	39	Pickle Lake	11	1	23	2	1 ***	220	50									
Smithers A	11	0	24	3	7 ***		X	Red Lake A	13	2	27	1	0 ***	150	46									
Vancouver Int'l A	15	1	23	9	1 ***	300	3	Sudbury A	12	0	22	2	0 ***	230	56									
Victoria Int'l A	14	0	24	5	0 ***		X	Thunder Bay A	11	0	23	1	7 ***	340	43									
Williams Lake A	12P	1P	25P	1P	0P***		X	Timmins A	11	1	23	-2	2 ***	250	52									
Yukon Territory									Toronto Int'l A															
Komakuk Beach A	2	0	8	-3	21 2		X	Trenton A	15	-1	24	6	6 ***	080	39									
Teslin (aut)	8P	*	19P	-5P	10P***		X	Warton A	13	-2	21	4	6 ***		X									
Watson Lake A	8	-1	22	-4	3 ***		X	Windsor A	16	-2	26	9	30 ***	040	43									
Whitehorse A	6	-3	18	-6	11 ***	340	46	Québec																
Northwest Territories									Bagotville A															
Alert	-9	1	-4	-16	0 16	190	85	Blanc Sablon A	11P	*	18P	4P	26P***	050	37									
Baker Lake A	5	2	10	-1	3 ***	330	61	Inukjuak A	5	0	10	1	28 ***	200	46									
Cambridge Bay A	2	2	6	-2	4 2	320	61	Kuujuuaq A	5	0	14	-3	10 ***	210	65									
Cape Dyer A	-5	-4	2	-13	8 4	300	56	Kuujuuarapik A	8	1	17	4	7 ***	150	59									
Clyde A	0P	-1P	4P	-6P	0P***		X	Maniwaki	13	2	23	5	10 ***		X									
Coppermine A	4	1	16	-5	5 1	320	50	Mont Joli A	14	3	21	7	0 ***	240	37									
Coral Harbour A	1	-1	6	-5	6 ***	260	50	Montréal Int'l A	16	1	24	9	23 ***											
Eureka	-6	2	0	-12	4 3	110	56	Natashquan A	11	2	18	5	5 ***	270	48									
Fort Smith A	9	1	22	0	5 ***	310	43	Québec A	15	3	22	7	12 ***	260	32									
Hall Beach A	0	0	3	-4	3 ***	200	43	Schefferville A	7	2	14	0	27 ***	340	57									
Inuvik A	5	0	17	-2	32 ***	320	59	Sept-Îles A	12	3	20	4	0 ***	280	48									
Iqaluit A	0P	-3P	4P	-4P	7P 1	140	44	Sherbrooke A	14	2	21	5	37 ***		X									
Mould Bay A	-4	2	1	-10	12 6	250	50	Val-d'Or A	12	2	22	2	0 ***	210	57									
Norman Wells A	8	0	20	-1	19 ***	310	50	New Brunswick																
Resolute A	-4	0	-1	-10	23 20	100	44	Charlo A	15	4	22	7	2 ***		X									
Yellowknife A	9	2	17	1	6 ***	320	46	Chatham A	14	2	25	5	13 ***	290	33									
Alberta									Fredericton A															
Calgary Int'l A	11	0	25	-1	6 ***	330	43	Moncton A	14P	1P	25P	7P	***P***	020	54									
Cold Lake A	11	1	24	-2	1 ***	320	46	Saint John A	15	2	27	6	41 ***	360	52									
Edmonton Namao A	11	0	24	0	7 ***	330	44	Nova Scotia																
Fort McMurray A	10	0	23	-2	13 ***	210	32	Greenwood A	16	2	31	7	74 ***	020	46									
High Level A	9	-1	25	-3	2 ***	320	56	Shearwater A	17	3	26	9	70 ***	220	52									
Jasper	10	0	25	-1	30 ***		X	Sydney A	15	2	26	8	48 ***	020	44									
Leihbridge A	14	1	28	-3	15 ***	260	72	Yarmouth A	16	2	27	7	33 ***	360	48									
Medicine Hat A	13	0	29	-3	8 ***	250	59	Prince Edward Island																
Peace River A	9	-1	23	-1	4 ***	360	37	Charlottetown A	15	1	25	8	34 ***	020	48									
Saskatchewan									Summerside A															
Cree Lake	10	2	19	-1	18 ***	320	48	14	0	24	7	24 ***	360	50										
Estevan A	14	2	33	-4	1 ***	180	52	Newfoundland																
La Ronge A	10	1	20	0	5 ***	300	48	Cartwright	9	0	18	4	13 ***	350	56									
Regina A	13	1	29	-1	0 ***	200	61	Churchill Falls A	9	3	17	2	11 ***	310	5									
Saskatoon A	13P	1P	26P	-2P	0P***	220	56	Gander Int'l A	13	1	24	4	97 ***	320	48									
Swift Current A	13	1	27	-2	3 ***	210	43	Goose A	11	2	19	5	8 ***	310	56									
Yorkton A	13	1	26	-1	0 ***	140	52	Port Aux Basques	11P	0P	20P	6P	37P***	040	48									
Manitoba									St John's A															
Brandon A	15P	3P	35P	1P	6P***	180	59	15	4	27	6	52 ***	030	48										
Churchill A	8	2	16	0	12 ***	330	59	St Lawrence	14	3	21	7	101 ***		X									
Lynn Lake A	9	2	18	-1	12 ***	260	48	Wabush Lake A	9	3	17	2	9 ***	310	56									
The Pas A	10	0	18	2	3 ***	240	54	89/09/11-89/09/17																
Thompson A	9P	1P	18P	-1P	16P***	220	46																	
Winnipeg Int'l A	15	2	32	2	3 ***	180	63																	

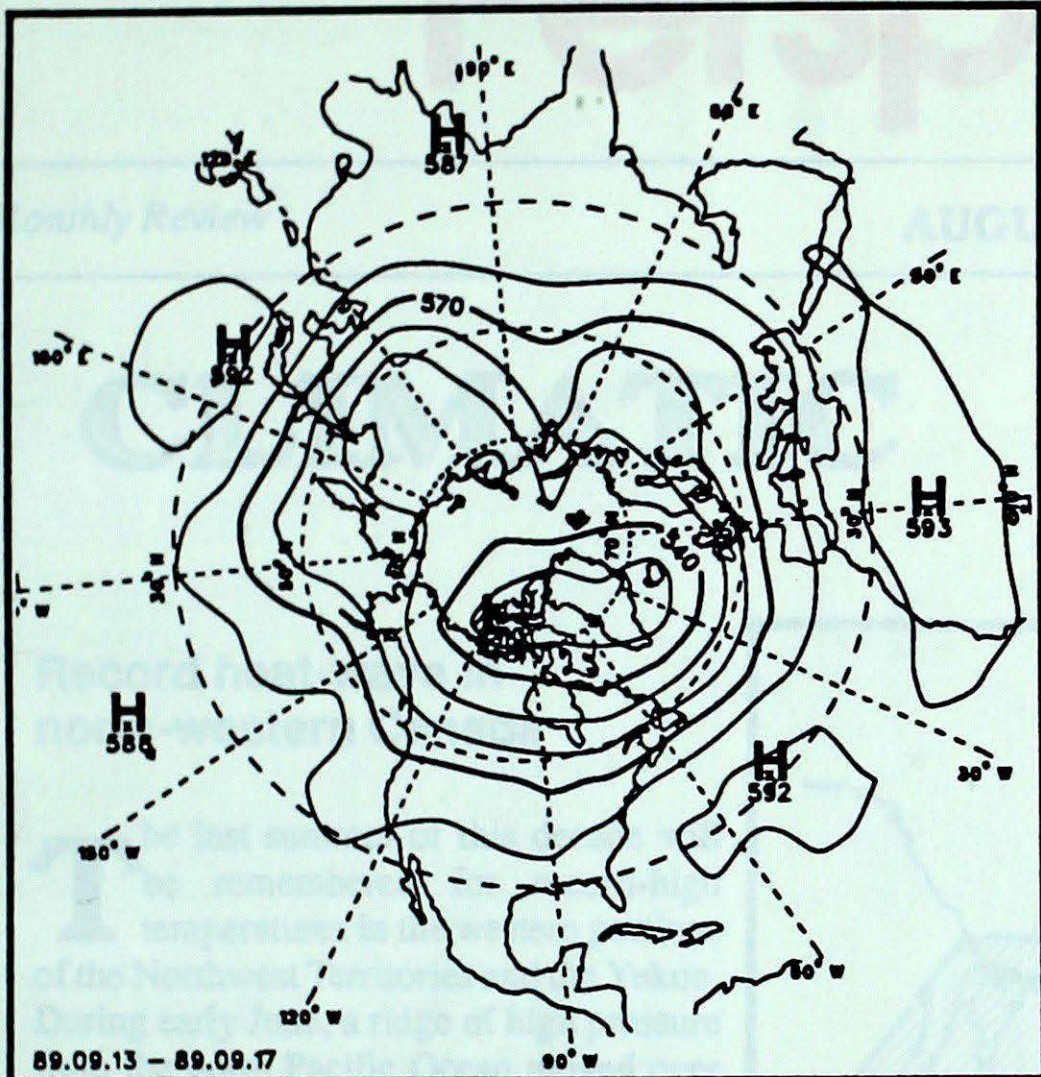
mean = mean weekly temperature, °C
 max = maximum weekly temperature, °C
 min = minimum weekly temperature, °C
 anom = mean temperature anomaly, °C

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

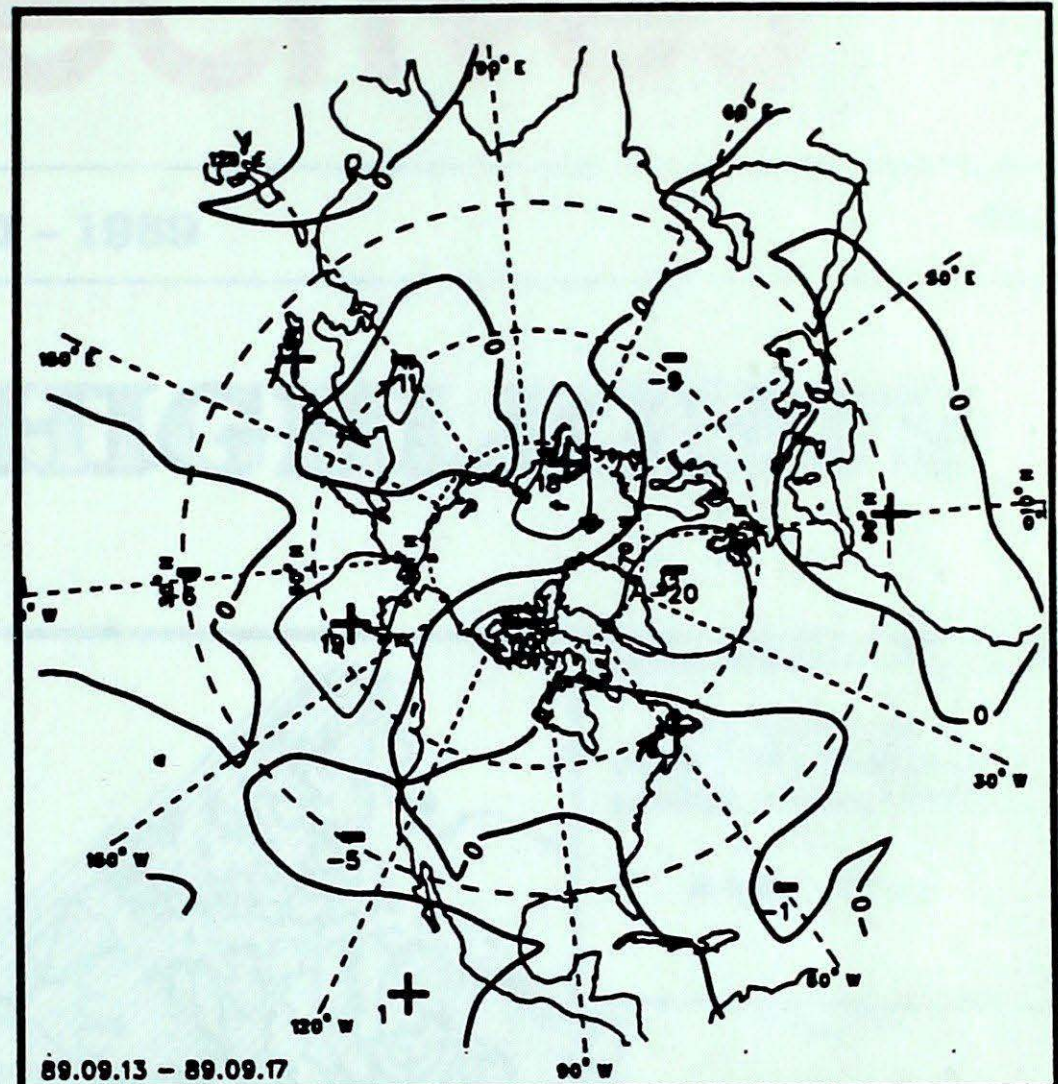
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50-kPa ATMOSPHERIC CIRCULATION



Mean geopotential height
50 kPa level (10 decametre intervals)



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



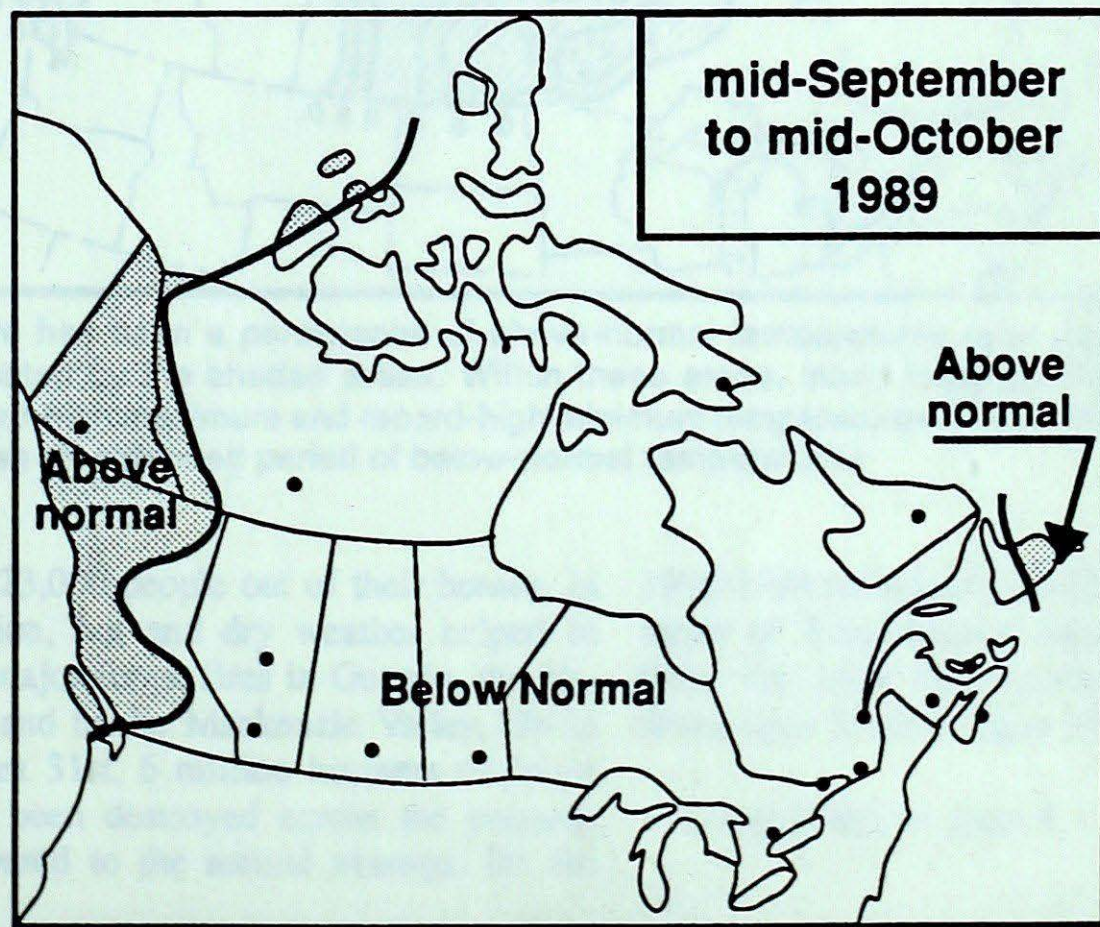
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Atmospheric Environment Service
Service de l'environnement atmosphérique

MONTHLY TEMPERATURE FORECAST

Normal temperatures from
mid-September to mid-October, °C

Whitehorse	4	Toronto	12
Yellowknife	3	Ottawa	11
Iqaluit	-1	Montreal	12
Vancouver	12	Québec	10
Victoria	12	Fredericton	10
Calgary	8	Halifax	12
Edmonton	8	Charlottetown	11
Regina	8	Goose Bay	6
Winnipeg	9	St. John's	9

mid-September
to mid-October
1989



Canada