



Climatic Perspectives



Snow follows completion of prairie harvest

Near ideal fall weather has advanced the western grain harvest to more than 95 percent complete by the end of September. This is well ahead of the five year average of just 66 percent complete in Alberta and 79 percent complete in Saskatchewan.

This week, the first significant snowfalls of the season blanketed parts of the country. In the Yukon, a number of locations reported fresh snowfalls, and record cold temperatures as low as -16°C. Higher elevations of central and northern B.C. had 15 to 20 centimetres of snow covering the ground, for the first time this season. In the south, highways above the 5,000 metre level were also covered with snow for a couple of days. Surprisingly, a good portion of the Northwest Territories missed out on the heavy snowfalls. The Great Slave Lake District recorded their first snowfall only this week.

On October 2, the first major snowstorm of the season dumped more than 28 cm of snow across parts of northern Saskatchewan, with the storm and accompanying snow moving eastwards into Manitoba the next day. It was much the same story in Alberta. This week Edmonton and Jasper received more than 10 and 30 centimetres of snow, respectively. Snowfalls of up to 20 centimetres blanketed the Edson and Peace River Districts, where luckily, harvesting is now essentially complete. By the end of the week, there was a solid cover of snow, 10 to 20 centimetres deep, from central Alberta, across central Saskatchewan into northern Manitoba.

Low water levels in Nova Scotia's reservoirs

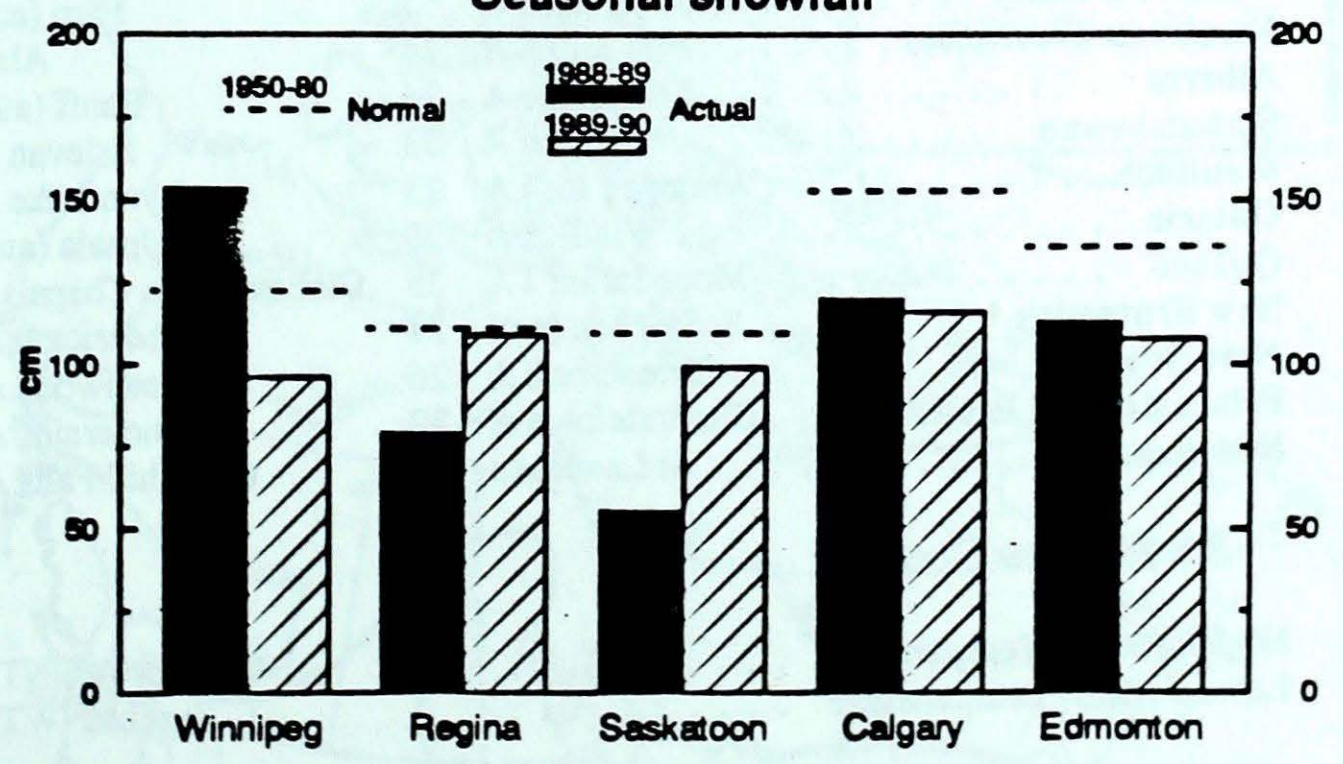
It has been a relatively dry summer in some parts of Nova Scotia. Truro for example, received 181.0 mm of rain during the June to August period, compared to a normal of 247.6 mm. This precipitation shortfall has not helped the water deficit situation in the province. Six water storage reservoirs in Nova Scotia are presently at only 48 percent of their full

rated capacity, while four other reservoirs in the province are at 54 percent capacity.

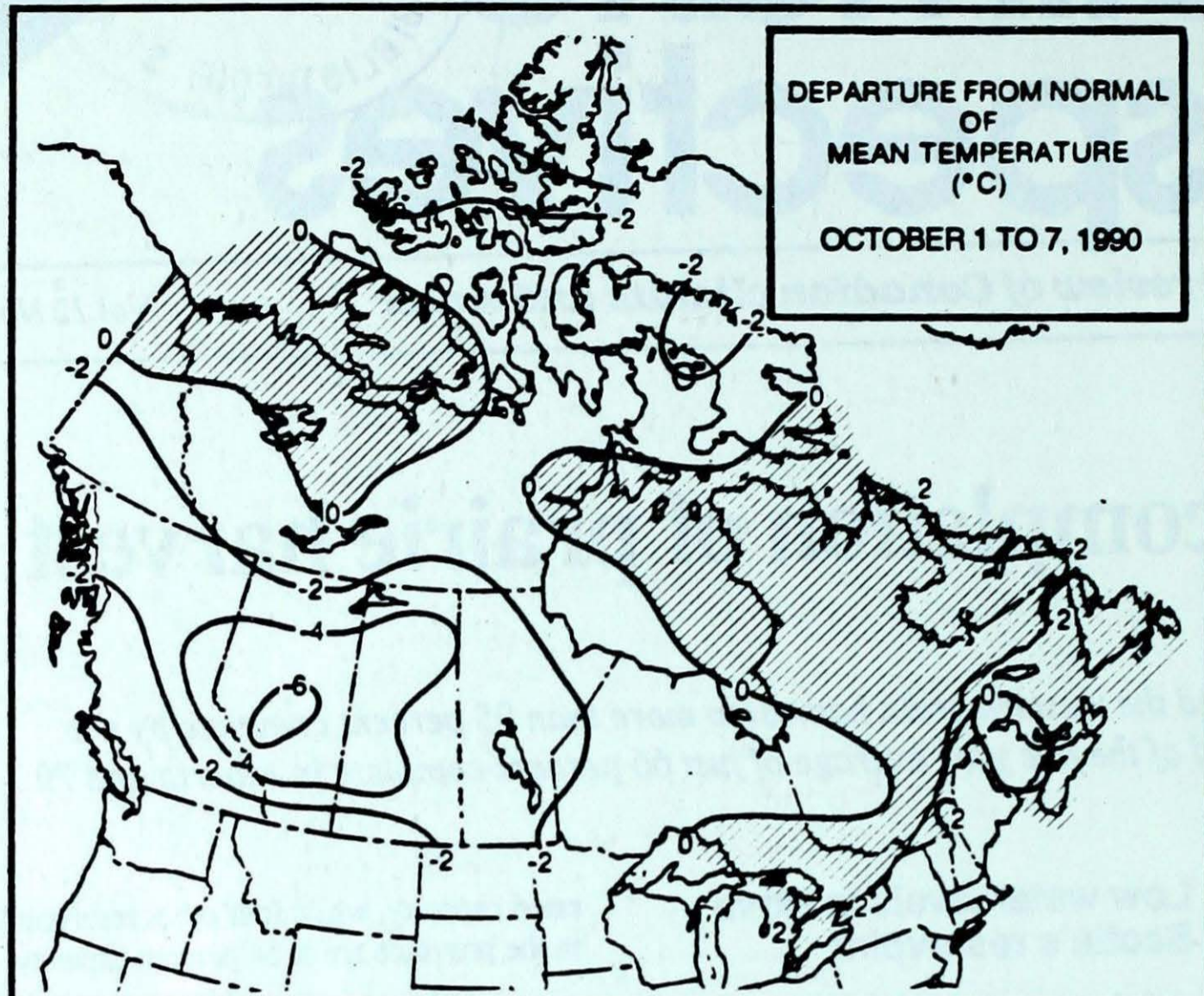
Unseasonably cold weather ahead...

A series of low pressure systems covering the country from the Yukon through the Prairies to Atlantic Canada will bring below normal temperatures throughout most of Canada for the week of October 15. Only extreme southern Ontario will experience near normal temperatures.

Seasonal snowfall



In the last two years, snowfalls on the Canadian Prairies have been, for the most part, below normal.



Weekly normal temperatures (°C)

	max.	min.
Whitehorse A	7.3	-0.9
Iqaluit A	0.4	-4.3
Yellowknife A	4.5	-1.1
Vancouver Int'l A	15.5	-7.6
Victoria Int'l A	16.1	6.6
Calgary Int'l A	14.7	1.3
Edmonton Int'l A	14.3	0.5
Regina A	15.0	1.0
Saskatoon A	14.0	1.1
Winnipeg Int'l A	14.3	3.1
Ottawa Int'l A	15.5	5.5
Toronto (Pearson Int'l A)	17.0	5.9
Montréal Int'l A	15.8	6.6
Québec A	13.9	4.5
Fredericton A	15.8	4.1
Saint John A	14.5	5.4
Halifax (Shearwater)	15.8	7.8
Charlottetown A	14.5	6.6
Goose A	9.0	1.2
St John's A	12.4	4.9

Weekly temperature and precipitation extremes

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Penticton A 22	Clinton (aut) -6	Hope A 195
Yukon Territory	Watson Lake A 7	Faro (aut) -11	Watson Lake A 25
Northwest Territories	Fort Smith A 14	Alert -30	Killinek 13
Alberta	Lethbridge A 26	Banff (aut) -13	Jasper 40
Saskatchewan	Estevan A 23	Estevan A -11	La Ronge A 31
Manitoba	Winnipeg Int'l A 23	Lynn Lake A -10	Churchill A 49
Ontario	Windsor A 28	Upsala (aut) -6	Upsala (aut) 59
Québec	Montréal Int'l A 25	Chibougamau Chapais a -4	Sept-iles A 58
New Brunswick	St Stephen (aut) 27	Fredericton A -2	Saint John A 43
Nova Scotia	Greenwood A 26	Greenwood A 0	Sable Island 53
Prince Edward Island	Charlottetown A 20	Summerside A 4	East Point (aut) 27
Newfoundland	St Lawrence 20	Churchill Falls A -2	St Lawrence 74

Across The Country...

Highest Mean Temperature	Windsor A(ONT) 17
Lowest Mean Temperature	Eureka(NWT) -23

90/10/01-90/10/07

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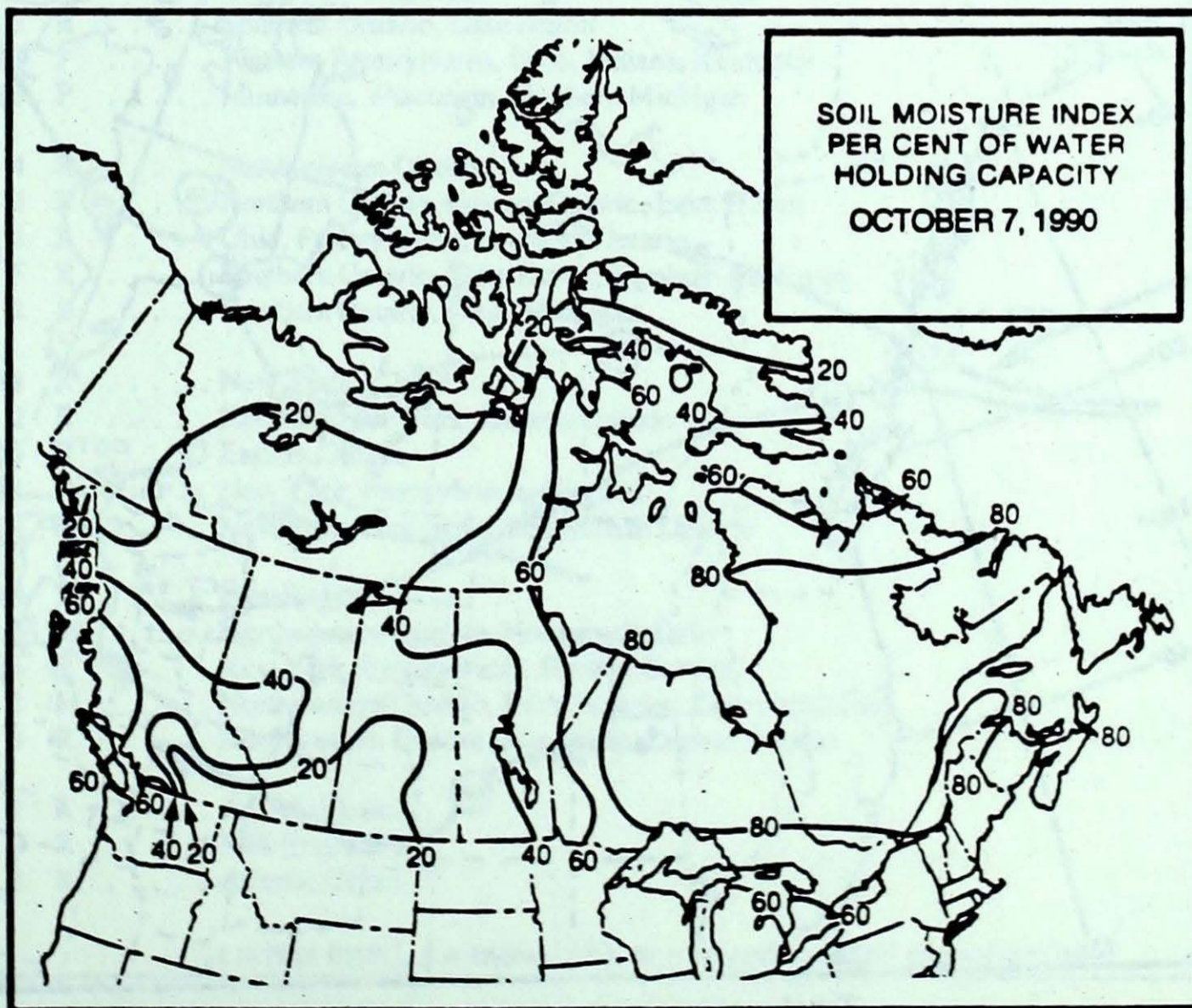
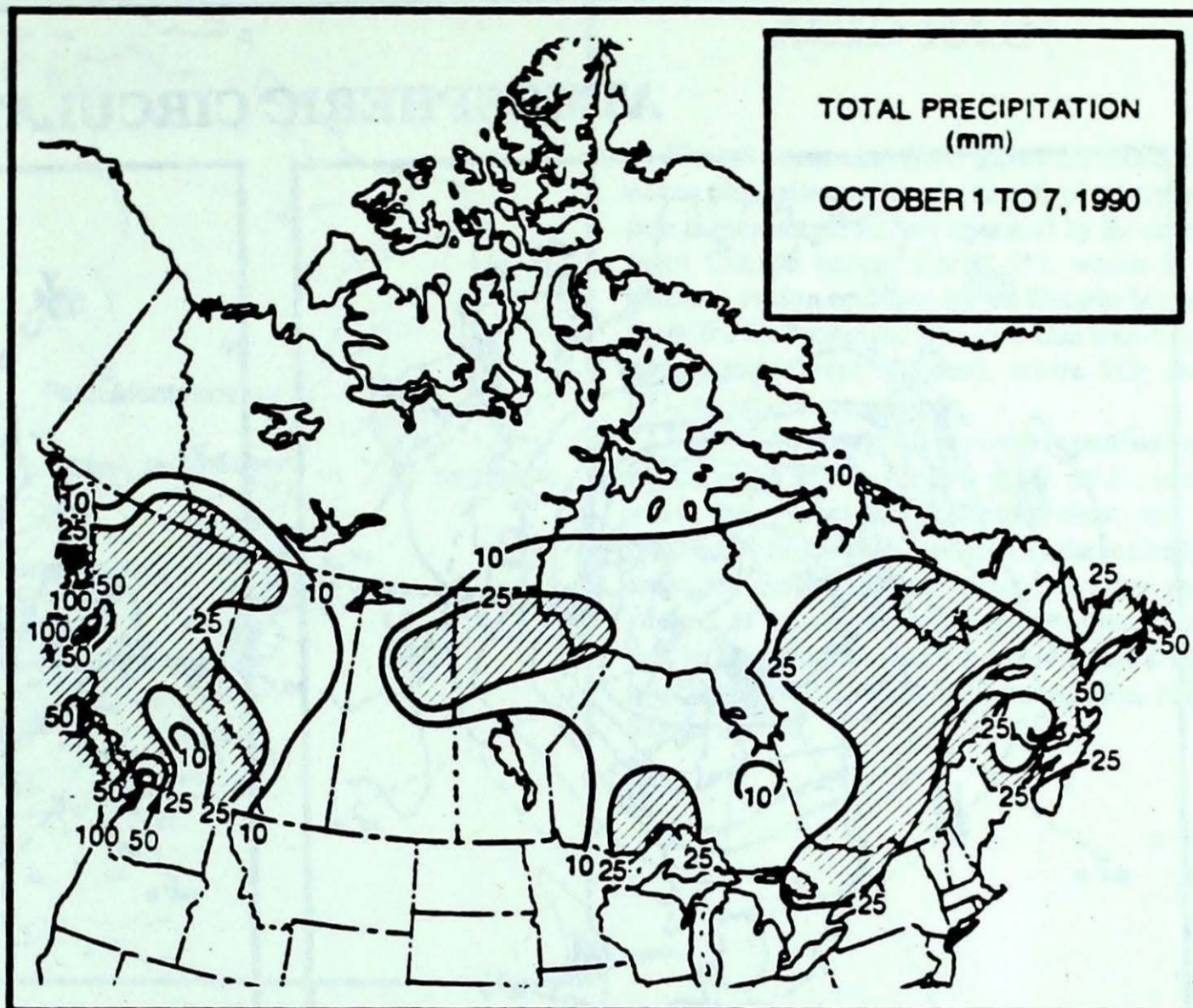
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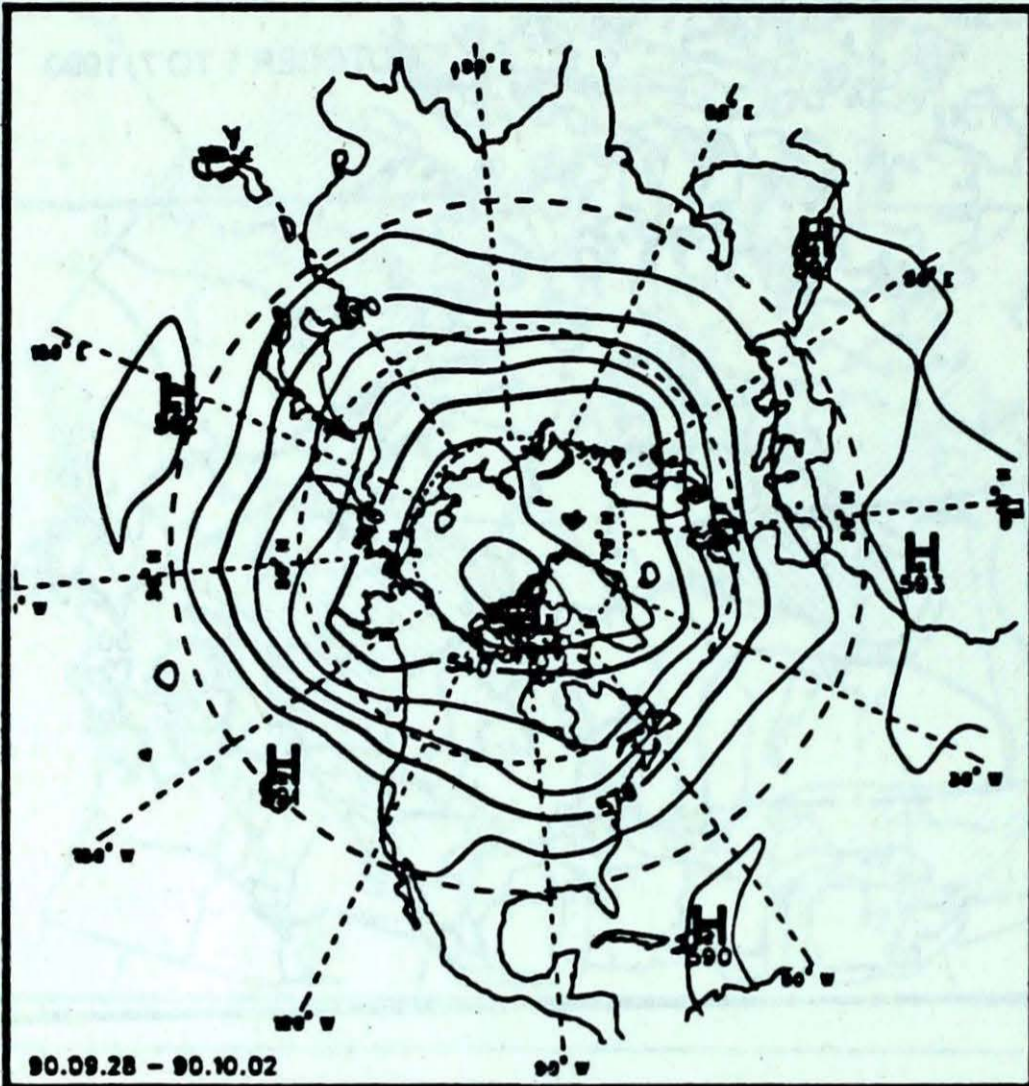
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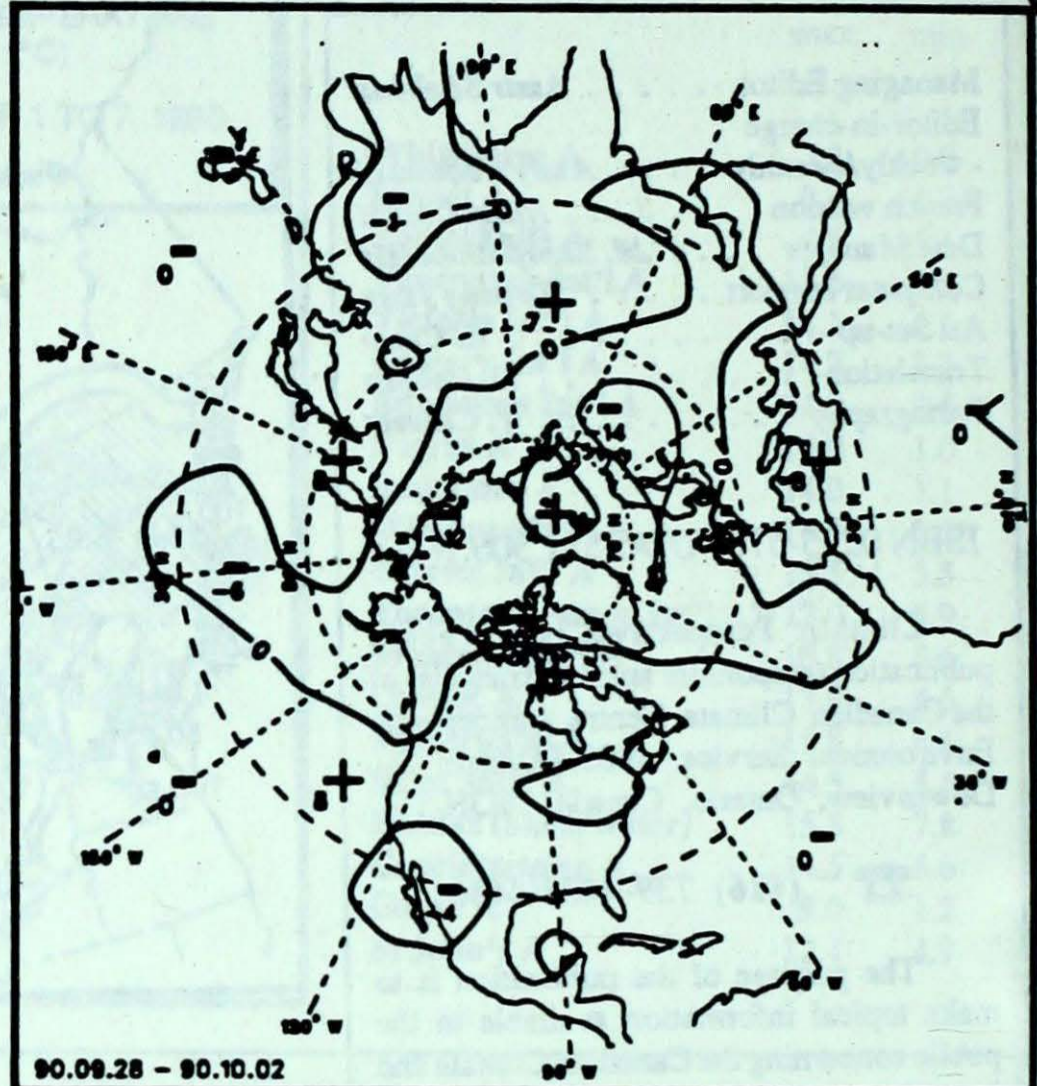
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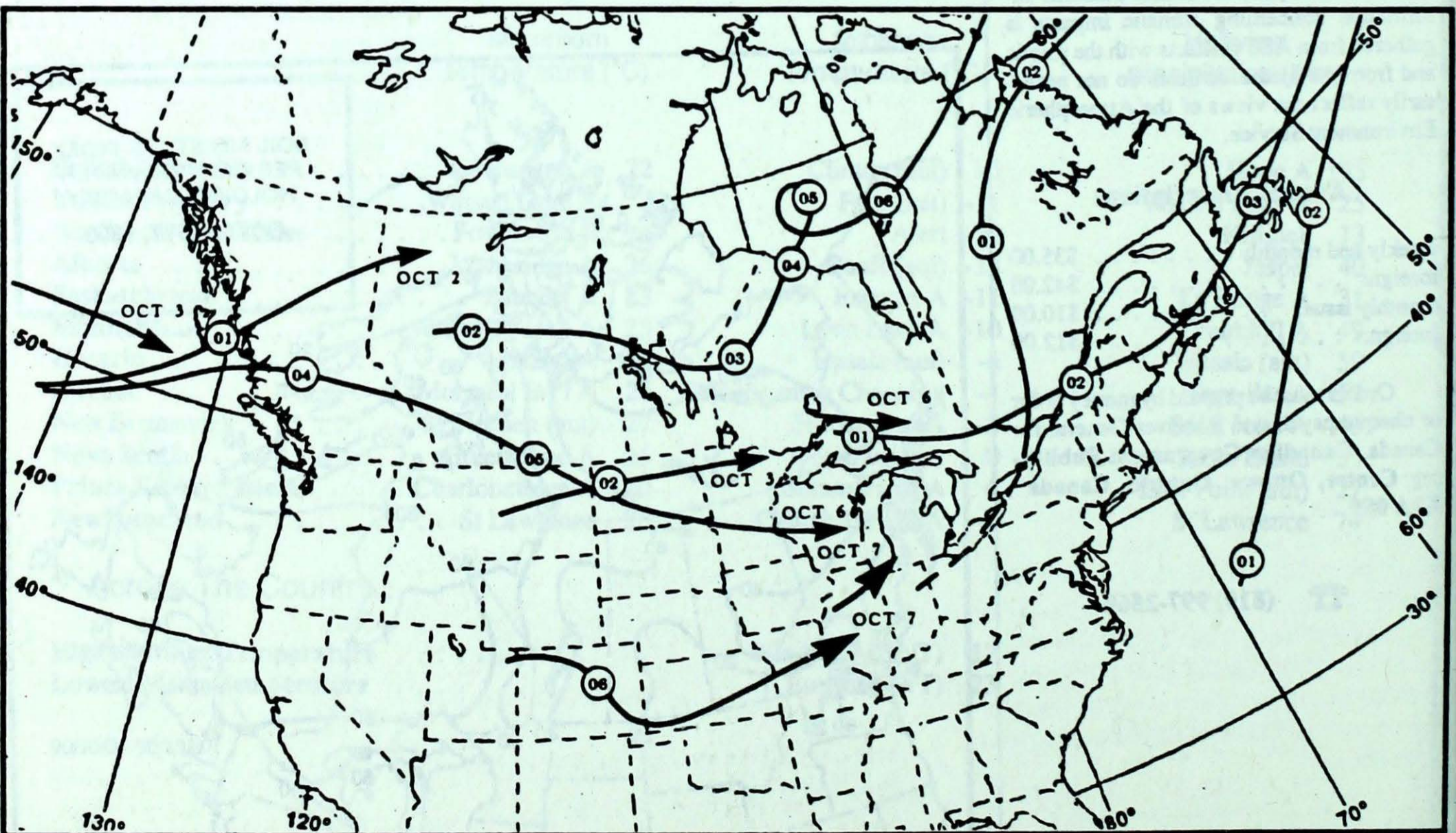
ATMOSPHERIC CIRCULATION



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



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

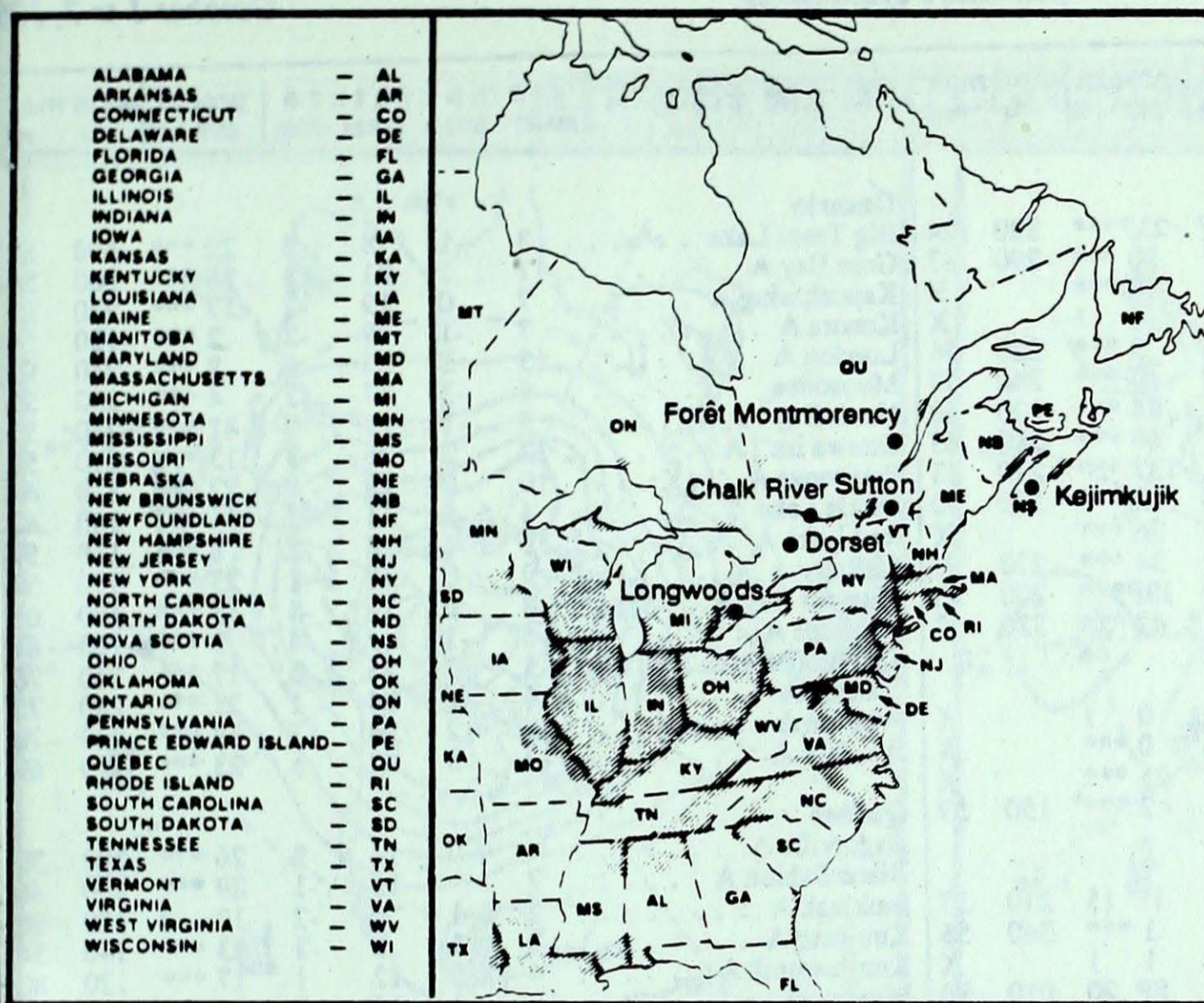


Tracks of low pressure centres at 12:00 U.T. each day during the period.

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	Sept. 30 to Oct. 6, 1990
Longwoods	3	4.1	14 R	Ohio, Indiana, Kentucky	
Dorset *	30	4.6	9 R	Northwestern Quebec	
	1	4.7	13 R	Southern Ontario, Lake Huron	
	3	4.0	13 P	Western Pennsylvania, Ohio, Indiana, Kentucky	
	4	4.9	13 P	Minnesota, Wisconsin, Northern Michigan	
Chalk River	30	4.3	4 R	Northwestern Quebec	
	1	4.5	4 R	Northern Ontario, Eastern Ontario, Lake Huron	
	3	3.8	2 R	Ohio, Pennsylvania, Southern Ontario	
	4	4.3	6 R	Southern Ontario, Lake Huron, Northern Michigan	
	5	4.6	2 R	Southern Ontario, Ohio, Michigan	
Sutton	30	4.1	18 R	New York	
	1	4.0	2 R	Northern New York, Eastern Ontario	
	2	4.7	15 R	Eastern Ontario	
	4	4.1	18 R	New York, Pennsylvania, Virginia	
	5	4.9	4 R	New York, Pennsylvania, Southern Ontario	
Montmorency	30	4.6	43 M	New England	
	1	4.4	3 M	Northwestern Quebec, Northern Ontario	
	4	4.6	36 R	New York, Pennsylvania, Eastern Ontario	
	5	-	3 M	Northwestern Quebec, Lake Superior, Central Ontario	
	6	4.0	8 R	Northwestern Quebec, Wisconsin, Central Ontario	
Kejimikujik	30	3.8	2 R	Atlantic Ocean	
	2	3.6	2 R	New England	
	4	4.7	8 R	Atlantic Ocean	

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

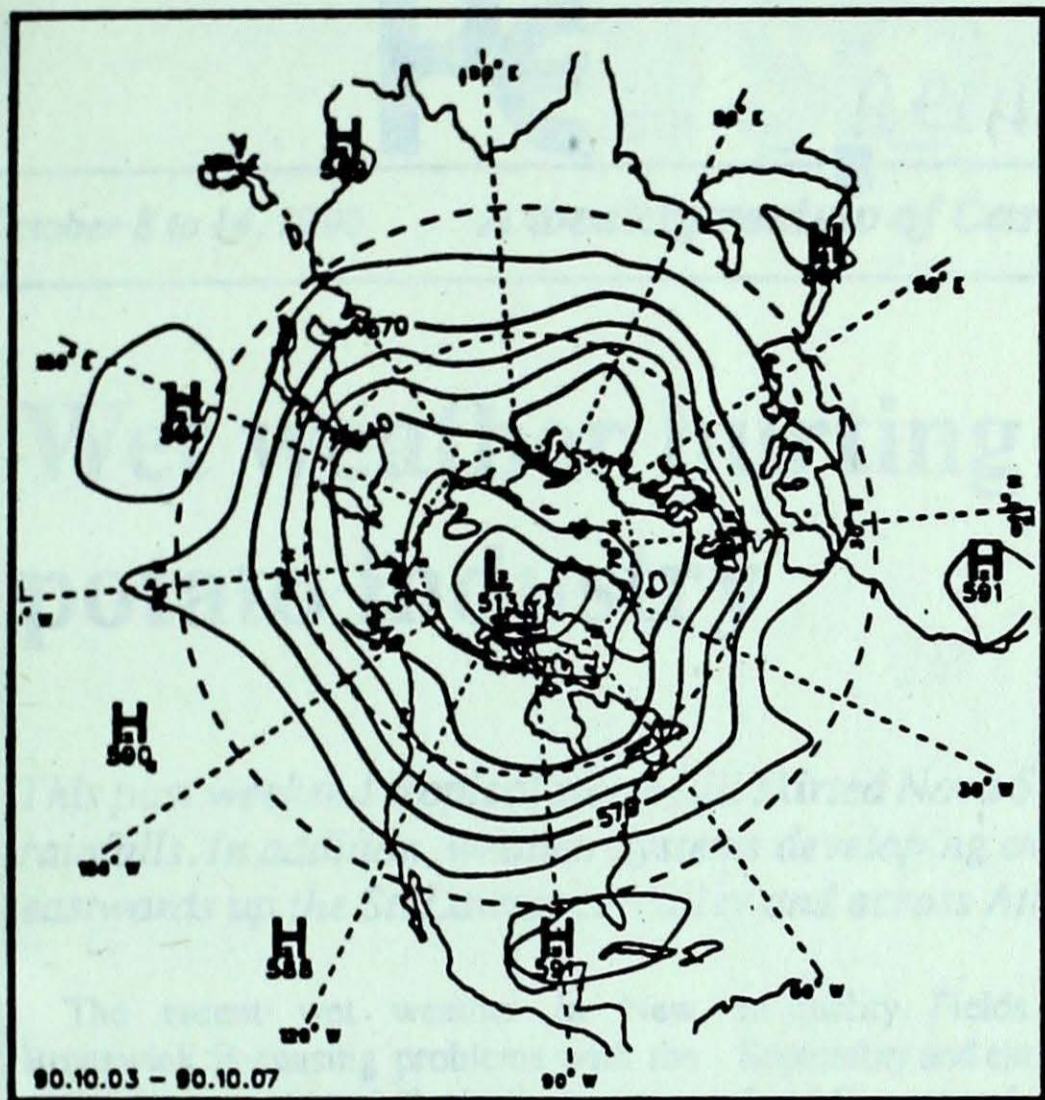
STATION	temperature				precip. ptot	wind dir	wind max vel	STATION	temperature				precip. ptot	wind dir	wind max vel									
	mean	anom	max	min					mean	anom	max	min												
British Columbia								Ontario																
Cape St James	11P	0P	15P	8P	23P***	320	124	Big Trout Lake	3	-1	8	-2	22***	300	82									
Cranbrook A	6	-2	18	-6	10***	290	67	Gore Bay A	11	1	21	3	26***	300	56									
Fort Nelson A	2	-2	12	-4	25***		X	Kapusking A	7	0	19	-2	17***	240	83									
Fort St John A	2	-5	10	-6	16	1	X	Kenora A	7	-1	19	-2	2***	130	56									
Kamloops A	10	-1	20	-1	3***	220	56	London A	15	3	25	4	3***	240	96									
Penticton A	9P	-2P	22P	-4P	0P***	240	57	Moosonee	6	-1	17	-2	4***	250	56									
Port Hardy A	9	-1	14	3	84***	120	50	North Bay A	9	1	19	0	41***	240	57									
Prince George A	4	-3	14	-4	30***	210	65	Ottawa Int'l A	12	2	26	3	13***	210	57									
Prince Rupert A	8	-2	13	0	137***	270	43	Petawawa A	10	0	28	0	27***	310	48									
Revelstoke A	7	-1	13	0	28***	160	50	Pickle Lake	4	-1	11	-2	35	1	140	43								
Smithers A	4	-3	10	-3	26***		X	Red Lake A	5	-1	16	-2	8***	110	57									
Vancouver Int'l A	11	0	18	5	34***	270	52	Sudbury A	9	0	19	-1	23***	170	57									
Victoria Int'l A	11P	-1P	21P	2P	19P***	200	63	Thunder Bay A	8	0	19	-4	35***	300	61									
Williams Lake A	4	-3	15	-5	42***	320	59	Timmins A	6	-1	19	-4	3***	160	61									
Yukon Territory								Toronto (Pearson Int'l A)																
Komakuk Beach A	-4	1	1	-10	0	1	X	Trenton A	13	2	24	1	21***	280	72									
Teslin (aut)	1	*	6	-10	0***		X	Warton A	13	2	24	3	38***	240	78									
Watson Lake A	1	-3	7	-6	25***		X	Windsor A	17	3	28	6	23***	240	69									
Whitehorse A	1	-3	7	-9	2***	150	57	Québec																
Northwest Territories								Bagotville A																
Alert	-21P	-5P	-12P	-30P	1P	15	240	37	Blanc Sablon A	7	*	12	-1	29***	200	46								
Baker Lake A	-4	0	0	-10	1***	360	56	Inukjuak A	2	1	6	-2	19	2	100	96								
Cambridge Bay A	-6	1	-1	-10	1	1		X	Kuujuuaq A	2	1	8	-3	23***	130	54								
Cape Dyer A	-2P	3P	6P	-5P	8P	20	010	80	Kuujuarapik A	4	0	12	1	17***	120	80								
Clyde A	-7	-3	1	-16	3	11	320	33	Maniwaki	10	1	25	0	35***	210	43								
Coppermine A	-3	1	3	-10	3	3		X	Mont Joli A	9	1	18	3	40***	170	67								
Coral Harbour A	-4	0	1	-10	5	1	060	111	Montréal Int'l A	13	1	25	2	28***	250	72								
Eureka	-23P	-6P	-15P	-25P	0P	2	290	37	Natashquan A	7	1	13	-1	27***	180	67								
Fort Smith A	2	-1	14	-7	0***		X	Québec A	10	1	23	1	33***	300	74									
Hall Beach A	-7	-1	-3	-11	0	1	340	57	Schefferville A	2	1	8	-2	31	1	160	56							
Inuvik A	-3	0	4	-13	3***		X	Sept-Îles A	6	0	12	-2	58***	330	52									
Iqaluit A	-1	1	4	-10	2	1	080	78	Sherbrooke A	11	2	25	2	28***	280	56								
Mould Bay A	-16	-2	-7	-26	6	17	330	39	Val-d'Or A	6	-1	16	-1	18***	240	74								
Norman Wells A	-1	-1	5	-8	8	2		X	New Brunswick															
Resolute A	-12	-2	-7	-20	7	21	340	54	Charlo A	8	0	17	-1	31***	320	46								
Yellowknife A	3	1	8	-1	2	2	080	37	Chatham A	9	-1	21	-1	17***	190	67								
Alberta								Fredericton A																
Calgary Int'l A	4	-4	22	-4	6***	320	59	Moncton A	10	0	22	-2	20***	240	59									
Cold Lake A	2	-5	15	-6	6	1	110	46	Moncton A	10	0	23	0	23***	300	59								
Edmonton Namao A	2	-6	15	-6	12	3	300	70	Saint John A	10	0	24	0	43***	200	82								
Fort McMurray A	2	-4	13	-5	11***	100	35	Nova Scotia																
High Level A	2	-3	10	-5	26***	110	32	Greenwood A	12	1	26	0	16***	200	91									
Jasper	2	-5	13	-9	40	15		X	Shearwater A	13	1	24	3	26***	290	59								
Lethbridge A	8	-2	26	-6	7***	220	107	Sydney A	12	2	21	5	21***	210	54									
Medicine Hat A	8	-2	24	-5	6	1	270	78	Yarmouth A	12	1	19	3	7***	310	59								
Peace River A	2	-4	11	-7	14***	290	44	Prince Edward Island																
Saskatchewan								Charlottetown A																
Cree Lake	-1	-4	13	-10	28	4	060	70	Summerside A	11	0	19	4	11***	180	69								
Estevan A	7	-3	23	-11	0***	290	98	Newfoundland																
La Ronge A	2	-3	13	-6	31***	110	57	Cartwright	7	2	15	1	9***	180	61									
Regina A	5	-4	20	-9	7***	300	78	Churchill Falls A	3	1	10	-2	31***	310	59									
Saskatoon A	4	-4	18	-5	4***	300	59	Gander Int'l A	10	2	17	3	31***		X									
Swift Current A	4	-4	23	-6	2***	290	76	Goose A	6	1	15	-1	4***	170	59									
Yorkton A	4	-3	17	-8	6***	320	59	Port Aux Basques	10	2	15	5	54***	150	65									
Manitoba								St John's A																
Brandon A	6	-2	19	-9	0***	290	72	St Lawrence	11	2	20	2	74***	191	54									
Churchill A	1	0	6	-2	49	15	360	80	Wabush Lake A	2	0	9	-2	30	1	190	37							
Lynn Lake A	-2	-4	6	-10	25	17	060	46	90/10/01-90/10/07															
The Pas A	4	-3	13	-5	7***	100	57																	
Thompson A	0	-3	7	-8	13	1	070	56																
Winnipeg Int'l A	7	-1	23	-8	0***	290	69																	

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

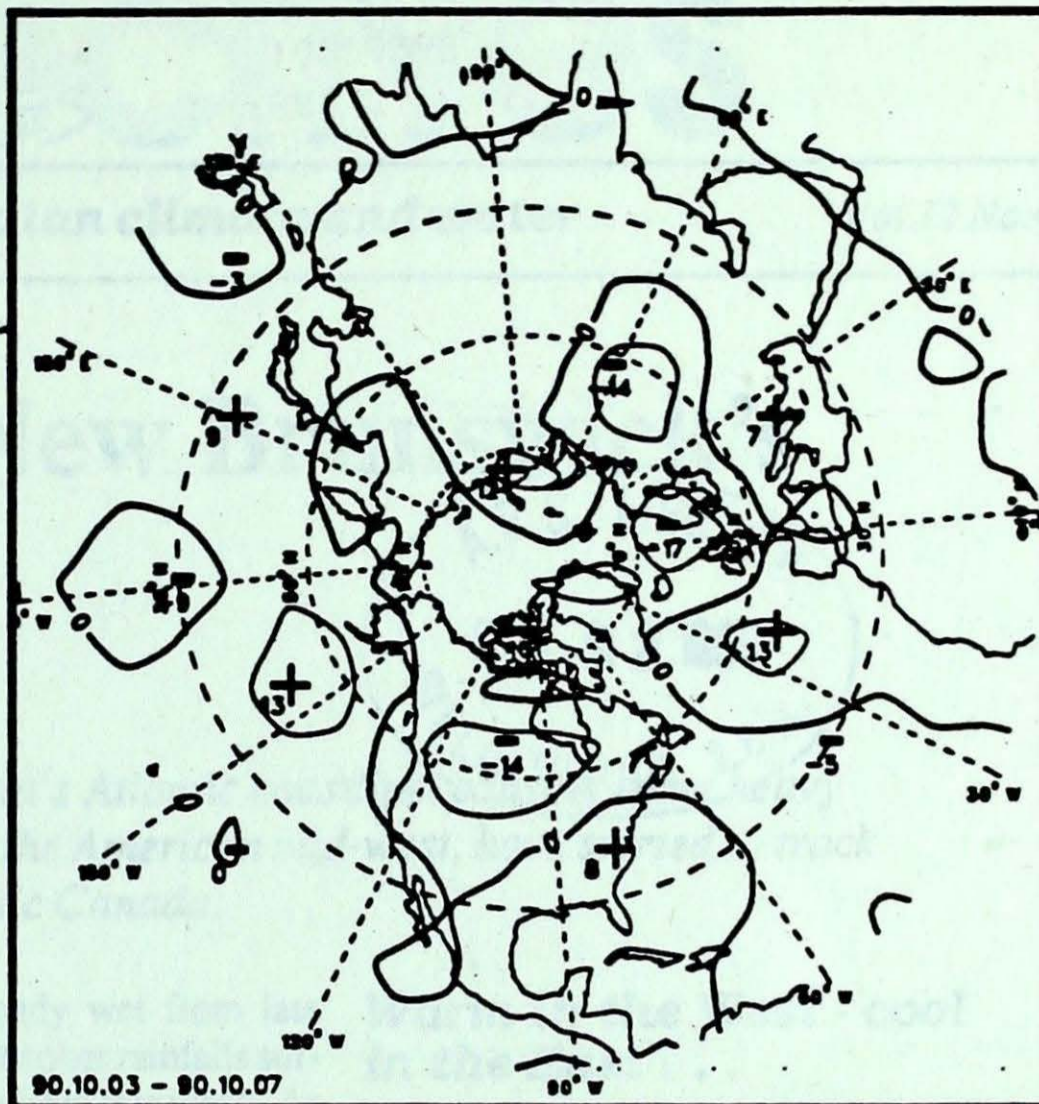
ptot = weekly precipitation total in mm
 st = snow thickness on the ground in cm
 dir = direction of max wind, deg. from north.
 vel = wind speed in km/h

— 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)

Think recycling



Pensez à recycler

CLIMATIC PERSPECTIVES

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