

# Climatic Perspectives



Oct. 22 to Oct. 28, 1990 A weekly review of Canadian climate and water Vol. 12 No 43

## More rain in New Brunswick

The harvest of 51,000 acres of potatoes in New Brunswick continued under soggy conditions. The heavy downpour dampened the spirits of farmers, yet 80% of the potatoes were harvested. The soil froze to 6 cm on October 27 bringing good fortune to New Brunswick by enabling harvesting equipment to maneuver in the sodden fields, while causing only minor damage to the potatoes.

With the harvest nearly finished one factor distinguishes this crop from a successful one - moisture content. Farmers underwent five out of seven days this week, in the rain. On October 24, a storm approaching New Brunswick dumped over 50 mm of rain in a single day over most of the province.

What does this mean? Experts believe possible disaster, ensuing one of the worst potato harvests that New Brunswick has seen in over 20 years. Typically, after a full harvest, 60% of the crop remains in New Brunswick for processing. These potatoes are stored over an eleven month period until they are called for. This year, the moisture content of the potatoes is so high that storage is predicted to last only four months, any greater length of time and the potatoes will rot.

Low lying fields, containing the remaining 20% of the crop, are still wet. Experts fear this portion will be worthless as farm machinery is unable to reach the crop to complete the job.

### Quebec corn crop - Update

In Quebec, a slow start in the growing season caused some concern, however, new optimism is expressed with 50% of the crop harvested and a good yield expected. For optimum yield corn must have a 28-30% moisture level. A small portion of the harvest has been spoiled by mold in Nicolet but the damage is minimal.

Experts are optimistic that the entire corn crop will be harvested by November 10, or no later than November 20. That is assuming no weather extremes occur be-

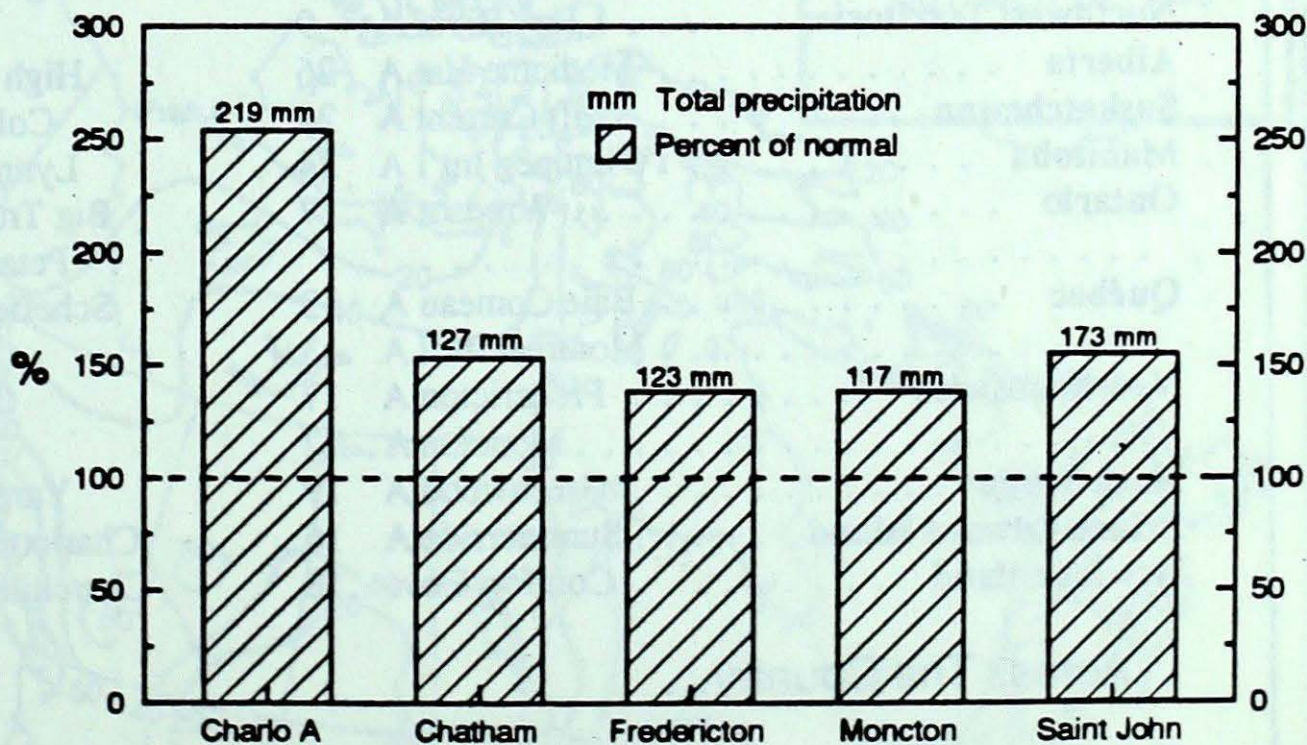
tween now and then. Even with a favourable yield predicted, farmers would welcome three consecutive days of sunshine as added insurance.

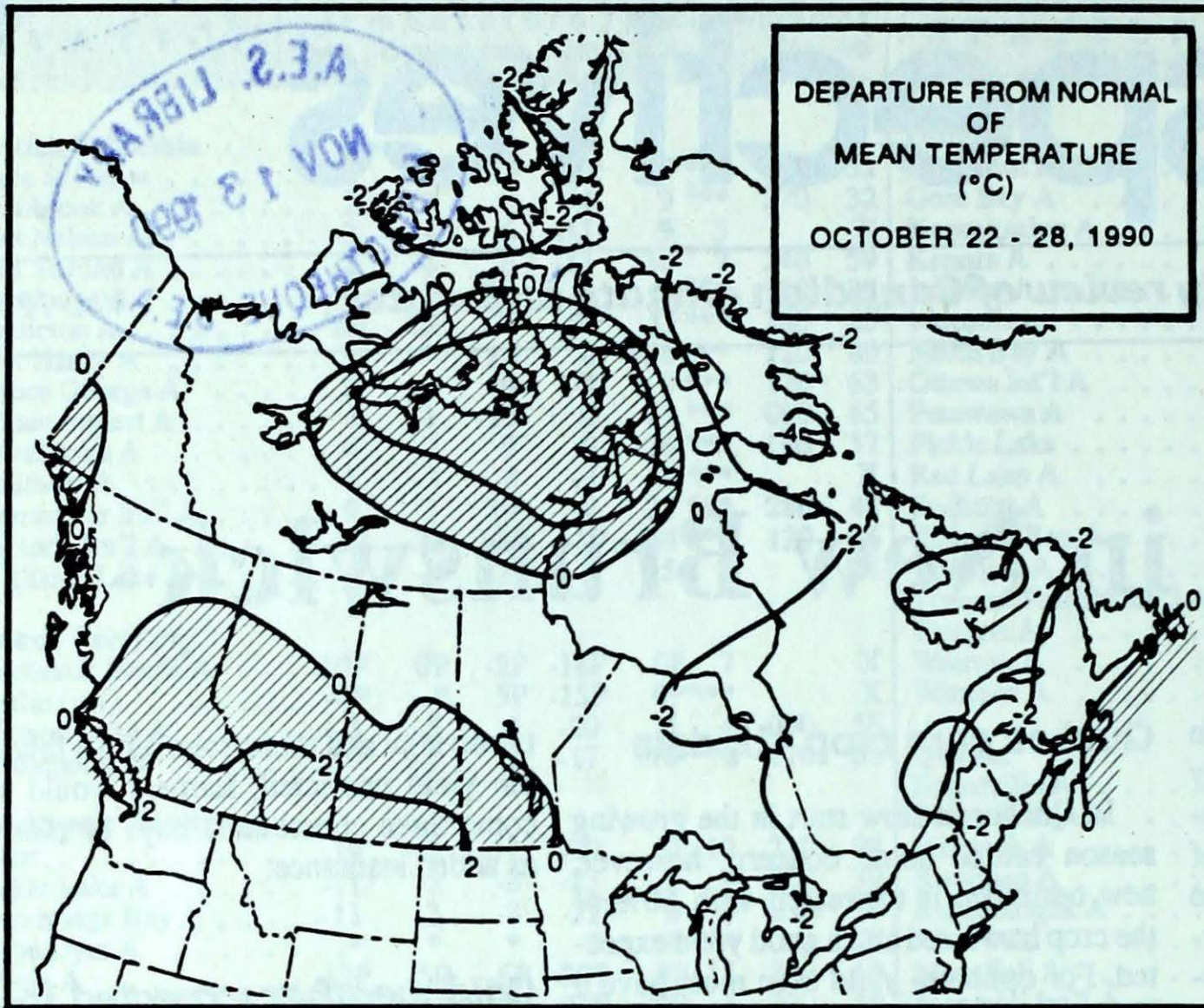
### Cold weather expected in central Canada

For the week of November 5, a northerly circulation will bring below normal temperatures across Manitoba, Ontario, Quebec, and the Maritimes.

British Columbia and Alberta will experience near normal readings

Percent of normal precipitation - October 1-28, 1990





**Weekly normal temperatures (°C)**

	max.	min.
Whitehorse A	1.6	-5.5
Iqaluit A	-3.9	-10.4
Yellowknife A	-1.0	-6.9
Vancouver Int'l A	12.2	5.2
Victoria Int'l A	12.5	4.6
Calgary Int'l A	9.8	-3.7
Edmonton Int'l A	8.1	-4.7
Regina A	8.7	-3.6
Saskatoon A	7.8	-3.5
Winnipeg Int'l A	8.7	-1.7
Ottawa Int'l A	11.1	1.9
Toronto (Pearson Int'l A)	12.7	2.7
Montréal Int'l A	11.5	2.7
Québec A	9.4	0.7
Fredericton A	11.4	0.4
Saint John A	10.4	1.7
Halifax (Shearwater)	11.8	4.0
Charlottetown A	10.4	2.6
Goose A	4.9	-2.7
St John's A	9.0	2.0

**Weekly temperature and precipitation extremes**

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Kamloops A 21	Dease Lake -14	Port Hardy A 193
Yukon Territory	Watson Lake A 6	Shingle Point A -19	Shingle Point A 26
Northwest Territories	Hay River A 9	Eureka -35	Shepherd Bay A 35
Alberta	Medicine Hat A 26	High Level A -13	High Level A 17
Saskatchewan	Swift Current A 25	Collins Bay -14	Broadview 10
Manitoba	Winnipeg Int'l A 24	Lynn Lake A -15	Brandon A 8
Ontario	Windsor A 17	Big Trout Lake -9	Timmins A 26
		Petawawa A -9	
Québec	Baie Comeau A 13	Schefferville A -18	Gaspe A 76
	Montréal Int'l A 13		
New Brunswick	Fredericton A 17	Charlo A -8	St-Léonard A 83
	Moncton A 17		
Nova Scotia	Greenwood A 19	Yarmouth A -2	Yarmouth A 57
Prince Edward Island	Summerside A 16	Charlottetown A 0	Charlottetown A 41
Newfoundland	Comfort Cove 18	Churchill Falls A -15	St Lawrence 54

**Across The Country...**

Highest Mean Temperature	Sable Island(NS) 12
Lowest Mean Temperature	Eureka(NWT) -26

CLIMATIC PERSPECTIVES  
VOLUME 12

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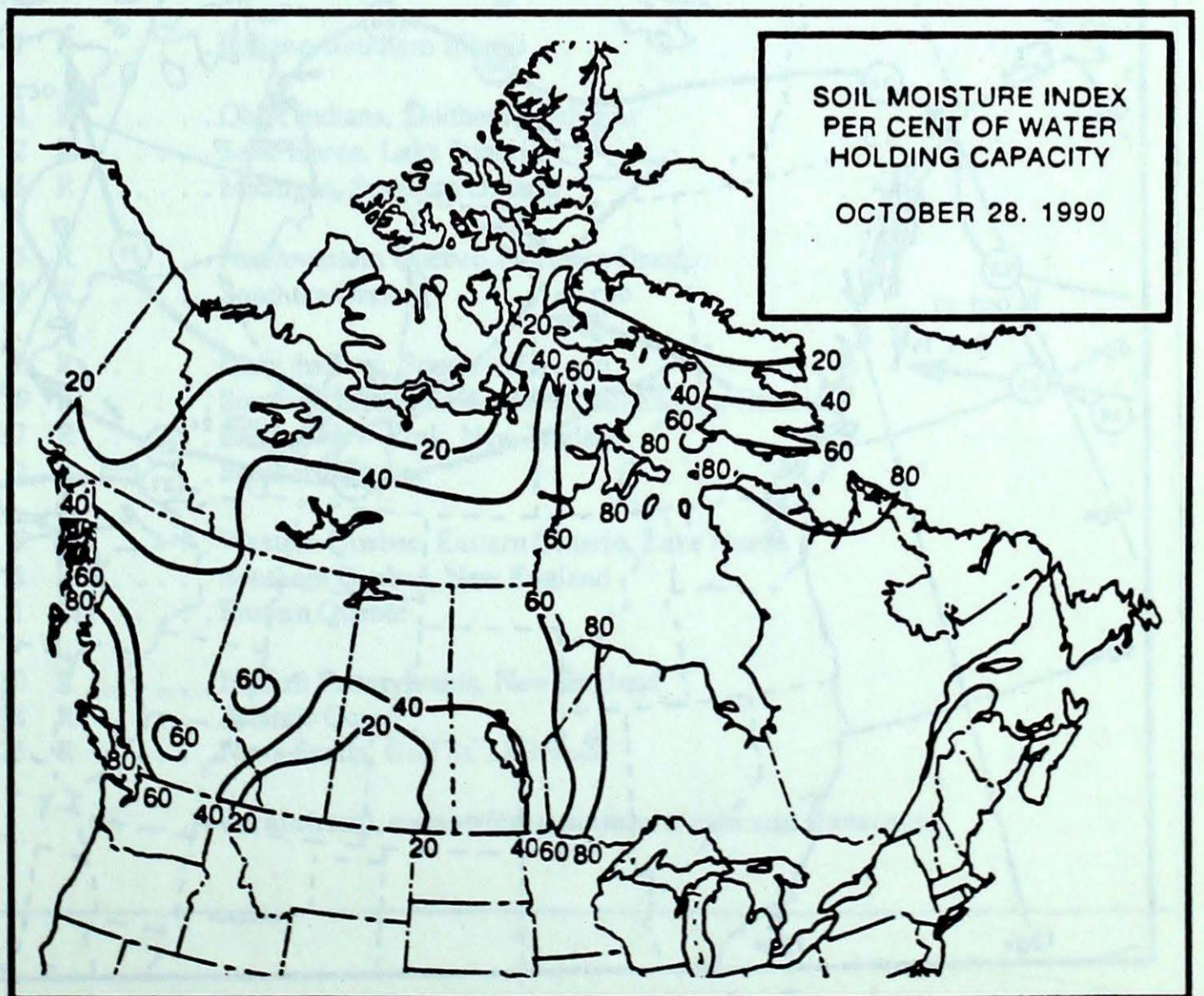
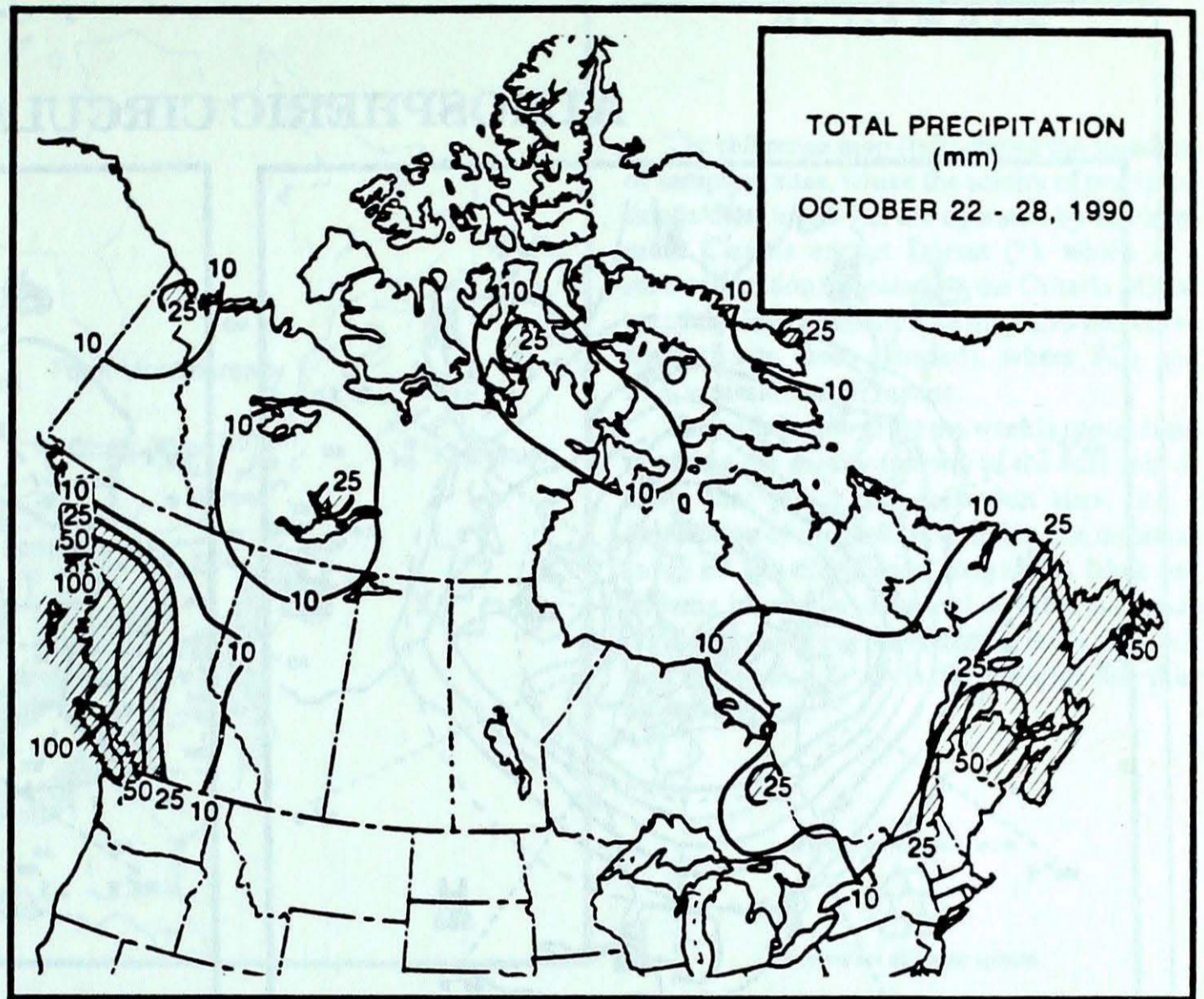
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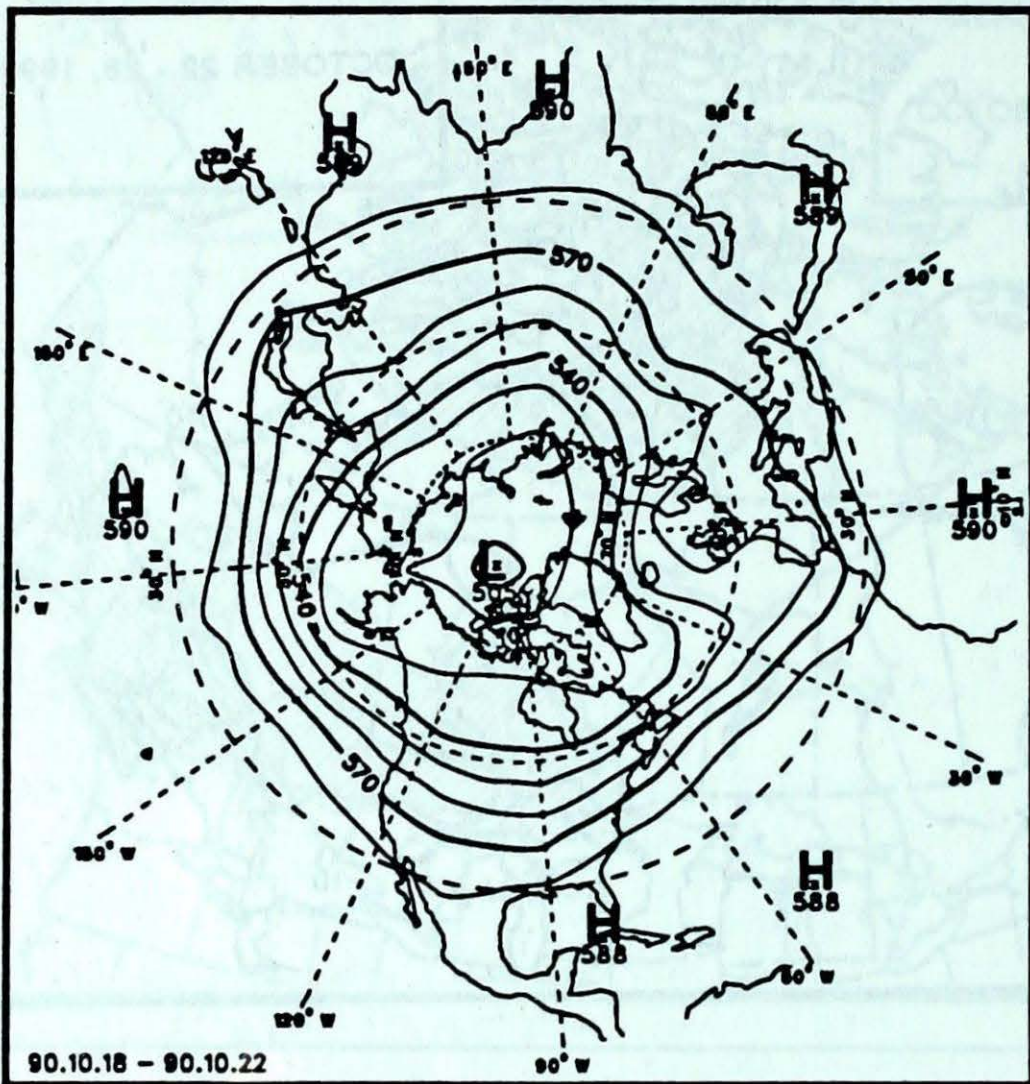
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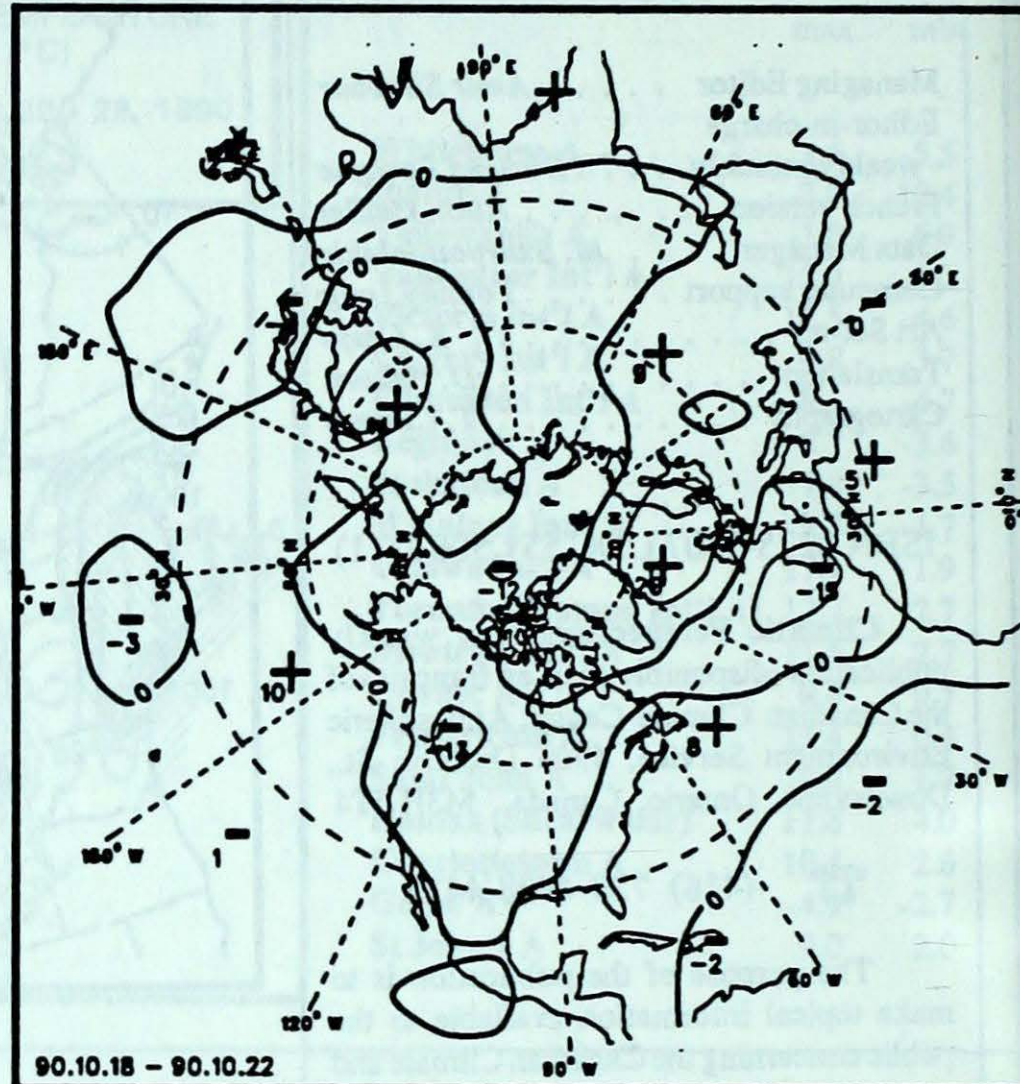
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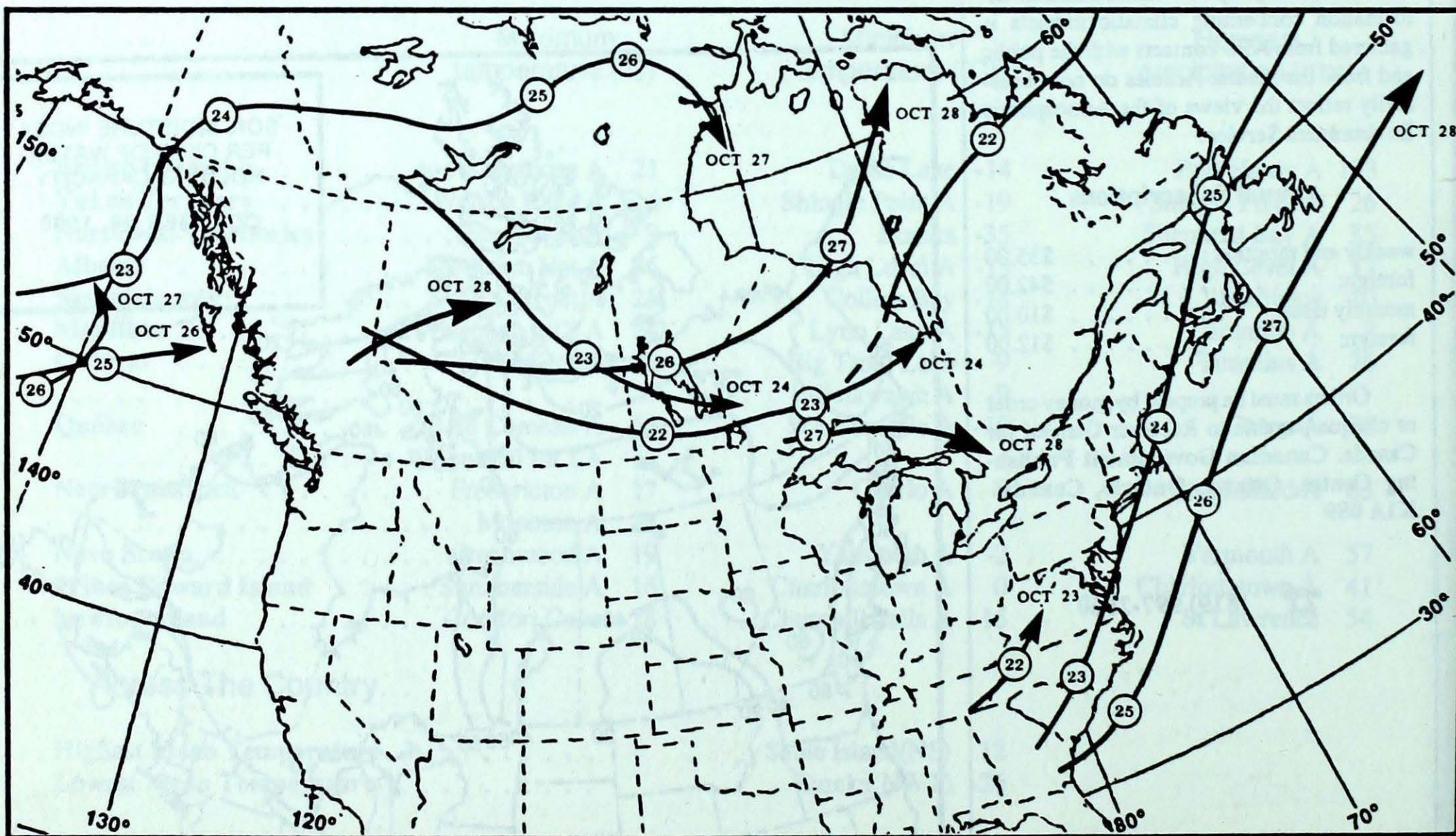
### ATMOSPHERIC CIRCULATION



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



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

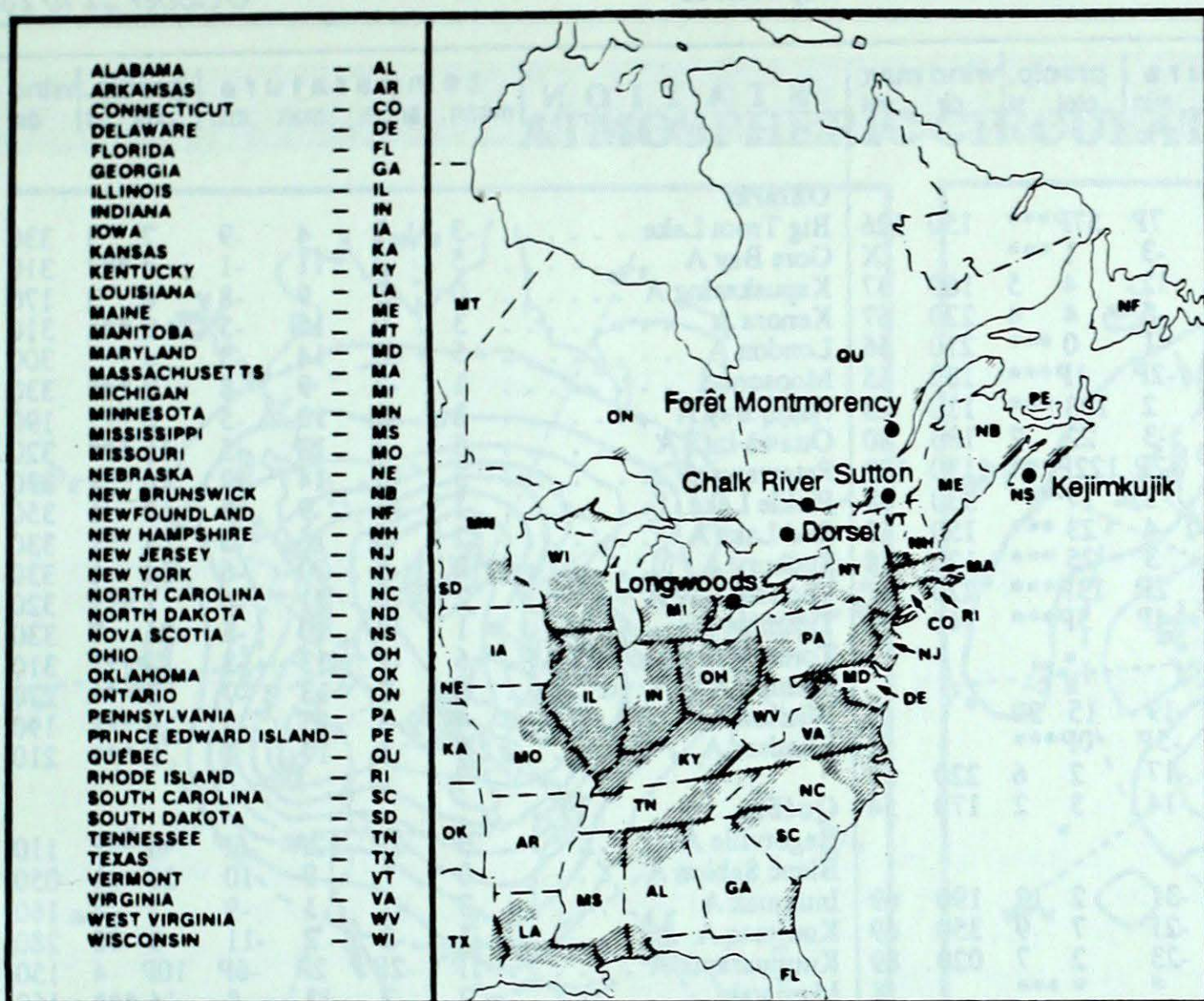


Tracks of low pressure centres at 12:00 U.T. each day during the period.

## 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 SO<sub>2</sub> and NO<sub>x</sub> 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.



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Site	day	pH	amount	air path to site	Oct. 21 to Oct. 27, 1990
Longwoods	21		1 R	..... Indiana, Southern Illinois	
Dorset*	21	3.9	4 R	..... Ohio, Indiana, Southern Michigan	
	24	4.0	2 R	..... Lake Huron, Lake Superior	
	27	4.2	6 R	..... Michigan, Southern Ontario	
Chalk River	24	3.9	3 R	..... Northwestern Quebec, Northern Ontario	
	27	4.1	10 R	..... Southern Ontario	
Sutton	21	3.9	1 R	..... Ohio, Indiana, Southern Ontario	
	22	4.0	6 R	..... Southern Michigan, Southern and Eastern Ontario	
	23	4.8	37 R	..... Eastern New York, New England	
	24	4.5	2 R	..... Southern Quebec	
Montmorency	21	4.9	5 R	..... Western Quebec, Eastern Ontario, Lake Huron	
	23	4.4	3 R	..... Southern Quebec, New England	
	24		1 M	..... Eastern Quebec	
Kejimikujik	23	4.1	10 R	..... Eastern Pennsylvania, New England	
	24	3.5	18 R	..... Atlantic Ocean	
	26	3.4	25 R	..... Nova Scotia, Gulf St. Lawrence	

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

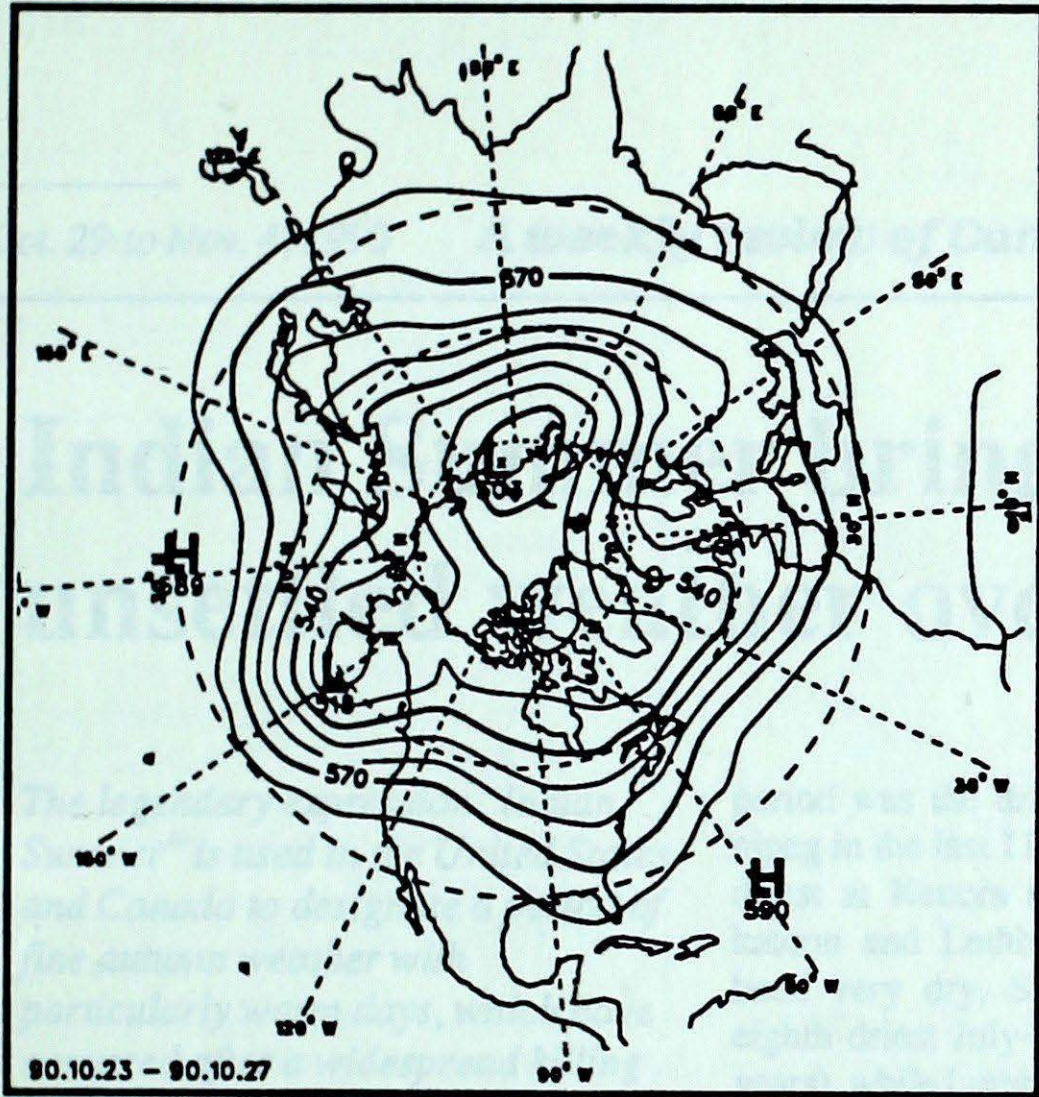
STATION	temperature				precip.		wind max		STATION	temperature				precip.		wind max	
	mean	anom	max	min	ptot	st	dir	vel		mean	anom	max	min	ptot	st	dir	vel
<b>British Columbia</b>								<b>Ontario</b>									
Cape St James	9P	0P	11P	7P	57P***		150	126	Big Trout Lake	-3	-2	4	-9	7	3	330	63
Cranbrook A	6	2	18	-3	1 ***			X	Gore Bay A	5	-2	11	-1	4	***	310	56
Fort Nelson A	-3	-1	8	-12	4	5	160	37	Kapuskasing A	0	-3	9	-8	8	3	170	56
Fort St John A	3	1	11	-5	4	4	220	67	Kenora A	3	0	15	-5	9	***	310	44
Kamloops A	10	3	21	-1	0 ***		210	56	London A	5	-3	14	-3	4	***	300	54
Penticton A	10P	3P	16P	-2P	1P***		180	65	Moosonee	1	-2	9	-8	2	***	330	35
Port Hardy A	8	0	12	2	193 ***		110	63	North Bay A	3	-2	10	-5	6	***	190	57
Prince George A	4	2	16	-3	22	2	180	80	Ottawa Int'l A	5	-2	13	-5	15	***	320	54
Prince Rupert A	6P	0P	11P	-2P	122P***		130	102	Petawawa A	3	-3	14	-9	16	***	330	41
Revelstoke A	6	1	11	2	17 ***		330	48	Pickle Lake	-1	-1	9	-5	7	1	350	50
Smithers A	2	-1	10	-4	23 ***		150	63	Red Lake A	2	0	16	-6	3	***	330	54
Vancouver Int'l A	10	2	17	3	25 ***		120	48	Sudbury A	2	-2	10	-6	14	1	330	63
Victoria Int'l A	9P	1P	16P	2P	13P***		220	61	Thunder Bay A	2	-2	11	-6	1	***	320	57
Williams Lake A	5P	2P	13P	-4P	3P***		140	70	Timmins A	1	-2	10	-5	26	7	330	56
<b>Yukon Territory</b>								<b>Toronto (Pearson Int'l A)</b>									
Komakuk Beach A	-13	-1	-7	-19	15	20		X	Trenton A	5	-2	13	-7	8	***	270	63
Teslin (aut)	0P	*	4P	-5P	0P***			X	Warton A	4	-3	13	-2	9	***	190	56
Watson Lake A	-5	-2	6	-17	2	6	220	59	Windsor A	8	-2	17	1	0	***	210	54
Whitehorse A	-2	1	4	-14	3	2	170	54	<b>Québec</b>								
<b>Northwest Territories</b>								<b>Bagotville A</b>									
Alert	-23	-1	-10	-31	2	12	190	69	Blanc Sablon A	0	*	9	-10	26	1	050	74
Baker Lake A	-8	4	0	-21	7	9	350	69	Inukjuak A	-3	-1	1	-9	7	3	160	65
Cambridge Bay A	-13	3	-3	-23	2	7	020	89	Kuujuuaq A	-5	-2	2	-11	9	70	280	72
Cape Dyer A	*	*	*	*	*	***		X	Kuujuarapik A	-1P	-2P	2P	-6P	10P	4	150	61
Clyde A	-12	-3	-6	-20	3	16	320	80	Maniwaki	2	-3	13	-8	14	***	160	41
Coppermine A	-9	2	0	-24	9	14	030	61	Mont Joli A	2	-3	12	-5	24	***	040	57
Coral Harbour A	-9	2	-2	-19	21	23	020	67	Montréal Int'l A	5	-2	13	-6	18	***	230	35
Eureka	-26	1	-7	-35	2	9	180	69	Natashquan A	0	-3	6	-10	34	***	040	54
Fort Smith A	-3	0	6	-14	14	5	170	56	Québec A	4	-1	11	-3	24	***	080	44
Hall Beach A	-11	3	-5	-21	2	10	350	56	Schefferville A	-8	-5	2	-18	9	35	310	59
Inuvik A	-12	0	-4	-19	18	21	080	48	Sept-Îles A	0	-2	9	-8	20	3	070	39
Iqaluit A	-12	-4	-3	-19	7	1	340	37	Sherbrooke A	4	-1	11	-6	49	***	180	33
Mould Bay A	-24	-4	-18	-30	0	22	290	50	Val-d'Or A	1	-2	8	-8	16	***	320	56
Norman Wells A	-9	-1	-1	-19	8	2	110	93	<b>New Brunswick</b>								
Resolute A	-22	-3	-4	-30	1	27	220	39	Charlo A	2	-2	10	-8	72	***	080	43
Yellowknife A	-6	-2	2	-16	25	4	110	63	Chatham A	5	-1	15	-7	65	***	360	57
<b>Alberta</b>								<b>Fredericton A</b>									
Calgary Int'l A	7	4	21	-6	0	***	230	93	Moncton A	6	0	17	-7	63	***	340	44
Cold Lake A	2	0	15	-6	3	***	280	52	Saint John A	5	-1	16	-5	41	***	190	61
Edmonton Namao A	4	2	18	-5	2	***	280	63	<b>Nova Scotia</b>								
Fort McMurray A	-1	-1	7	-9	7	3	260	50	Greenwood A	8	1	19	0	34	***	170	78
High Level A	-3	-2	13	-13	17	4	120	52	Shearwater A	8	0	16	-2	27	***	350	61
Jasper	5	2	14	-3	13	***		X	Sydney A	8	1	16	1	35	***	180	74
Lethbridge A	7	2	24	-6	0	***	250	107	Yarmouth A	8	0	17	-2	57	***	150	65
Medicine Hat A	8	3	26	-6	1	***	260	83	<b>Prince Edward Island</b>								
Peace River A	2	0	11	-7	8	1	270	48	Charlottetown A	7	0	16	0	41	***	010	67
<b>Saskatchewan</b>								<b>Summerside A</b>									
Cree Lake	-3P	-2P	3P	-7P	8P	9	250	67	7	0	16	0	29	***	360	80	
Estevan A	6	2	24	-11	0	***	300	95	<b>Newfoundland</b>								
La Ronge A	1	1	10	-5	1	***	270	52	Cartwright	-1	-3	6	-9	8	7	310	57
Regina A	5	2	23	-10	4	***	300	80	Churchill Falls A	-6	-3	5	-15	11	8	280	57
Saskatoon A	4	2	20	-8	2	***	300	57	Gander Int'l A	4	-1	17	-4	23	9	170	54
Swift Current A	6	3	25	-10	1	***	310	83	Goose A	-3	-4	7	-13	12	6	280	57
Yorkton A	4	2	18	-11	3	***	320	61	Port Aux Basques	5	0	12	-1	42	***	150	78
<b>Manitoba</b>								<b>St John's A</b>									
Brandon A	4	1	22	-9	8	***	300	74	St Lawrence	6	0	15	-4	54	***		X
Churchill A	-4	0	2	-11	7	15	290	76	Wabush Lake A	-5	-3	3	-11	3	1	250	37
Lynn Lake A	-4	-1	6	-15	6	11	300	50	<b>90/10/22-90/10/28</b>								
The Pas A	1	0	10	-5	1	***	220	63									
Thompson A	-3	-1	5	-15	2	3	310	65									
Winnipeg Int'l A	4	1	24	-7	8	***	170	63									

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

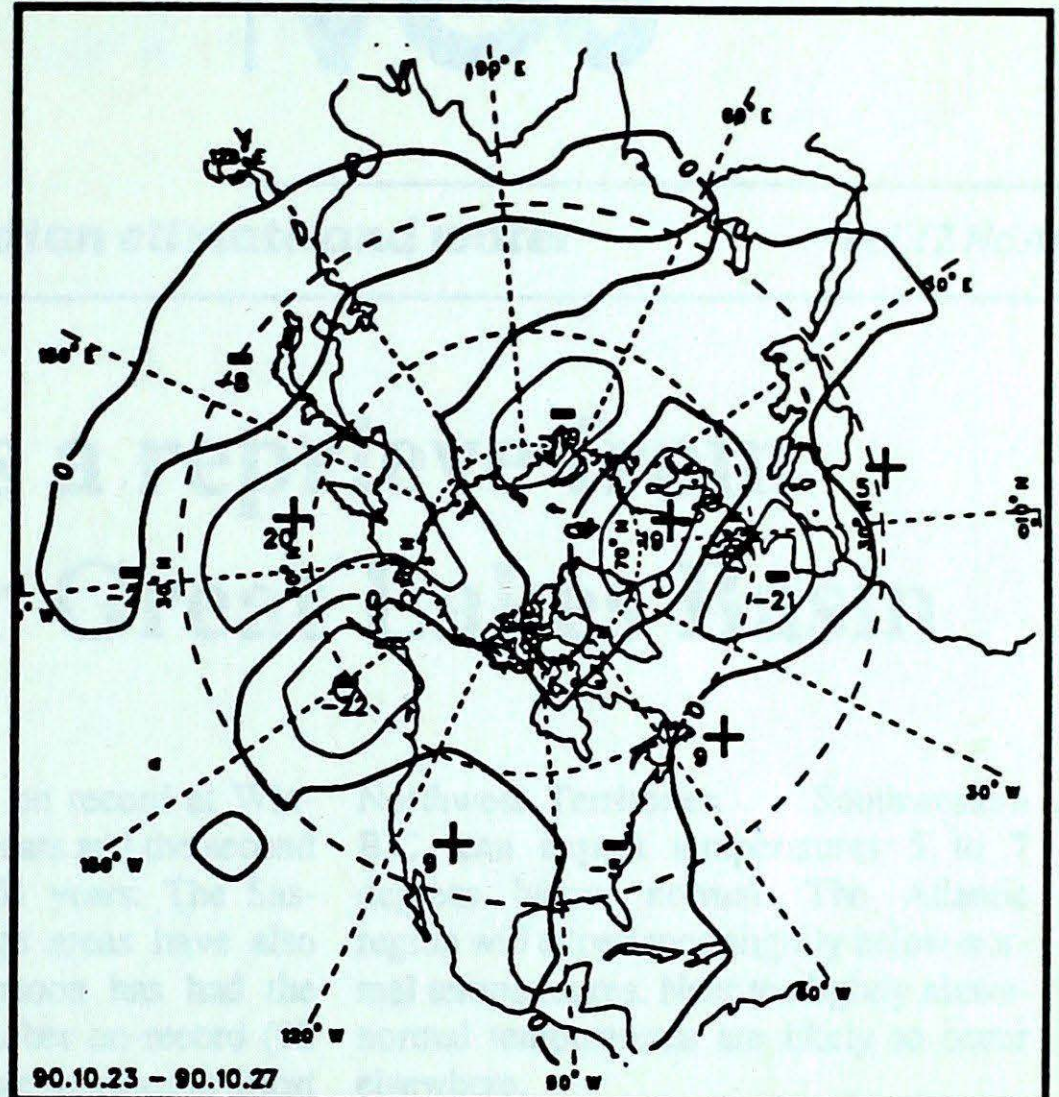
ptot = weekly precipitation total in mm  
 st = snow thickness on the ground in cm  
 dir = direction of max wind, deg. from north.  
 vel = wind speed in km/h

— 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)



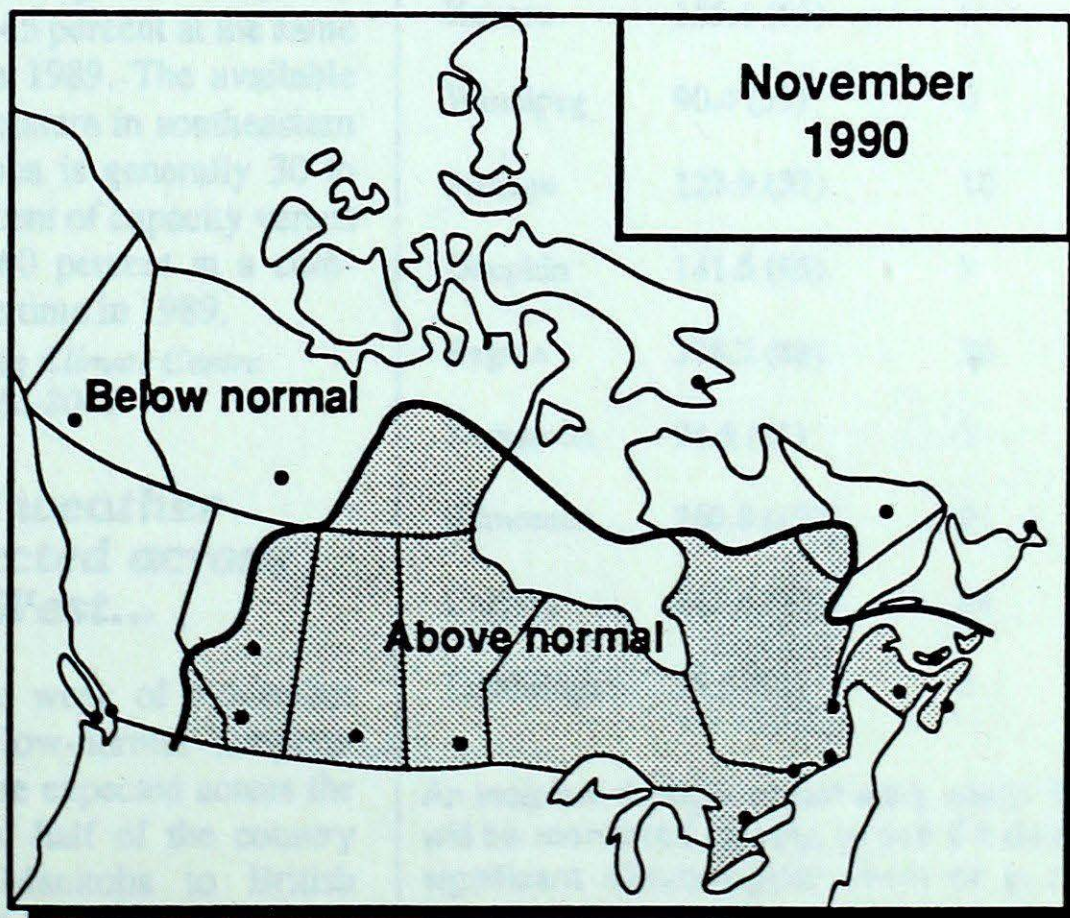
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### MONTHLY TEMPERATURE FORECAST

*Normal temperatures for  
the month of November, °C*

Whitehorse	-9	Toronto	3
Yellowknife	-14	Ottawa	1
Iqaluit	-13	Montréal	2
Vancouver	6	Québec	0
Victoria	6	Fredericton	1
Calgary	-3	Halifax	3
Edmonton	-5	Charlottetown	3
Regina	-5	Goose Bay	-4
Winnipeg	-5	St. John's	3



Canada

CLIMATIC PERSPECTIVES

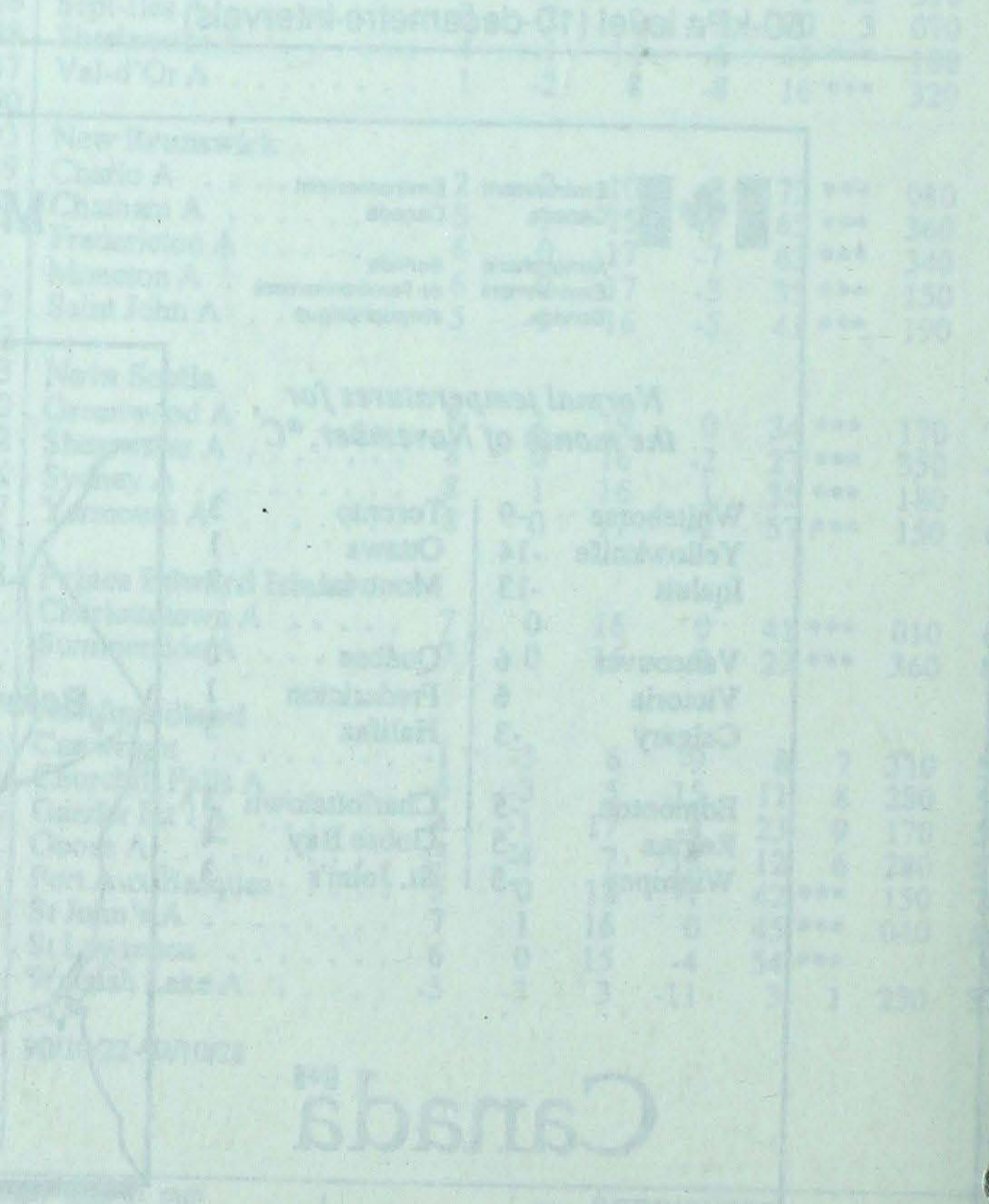
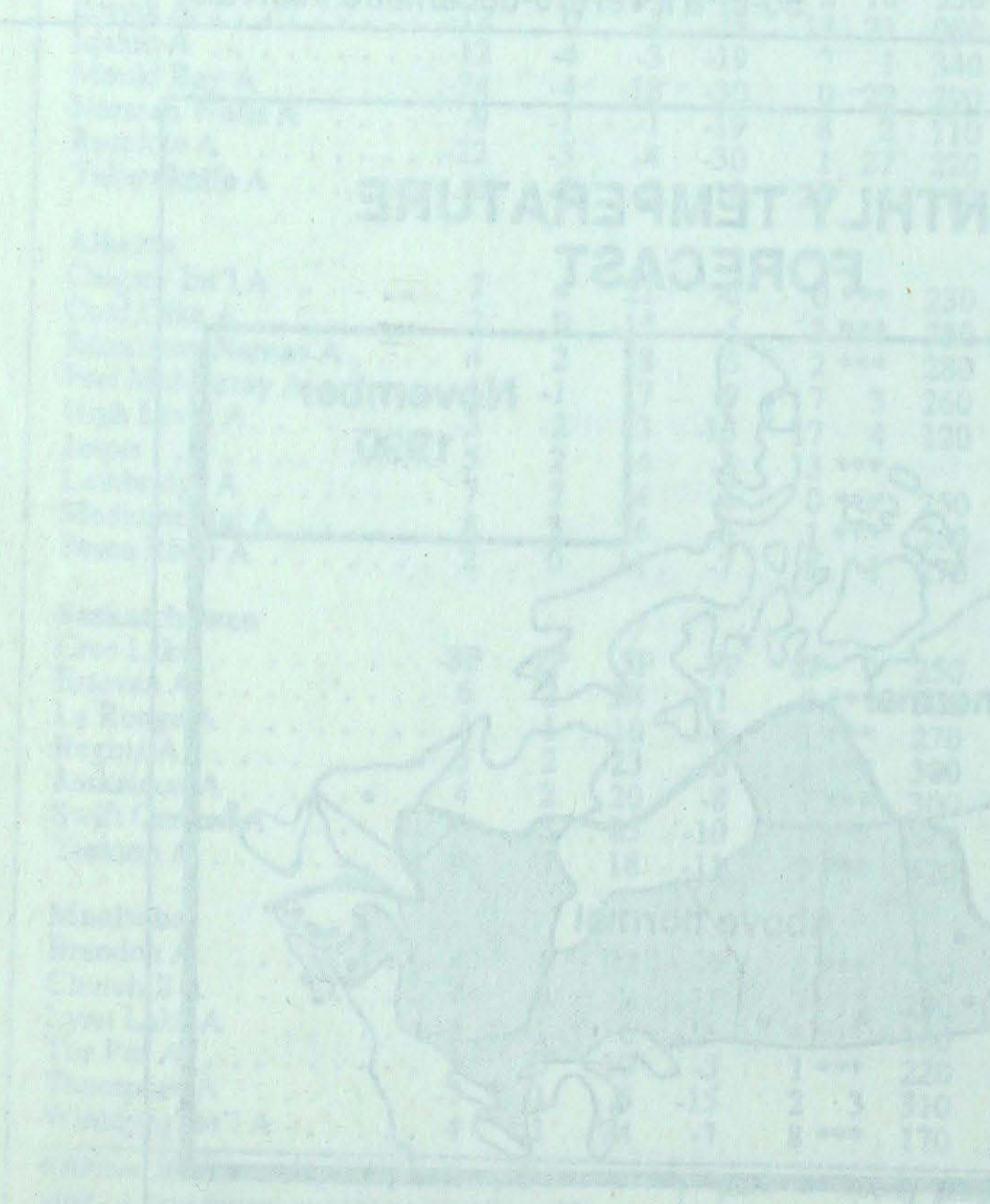
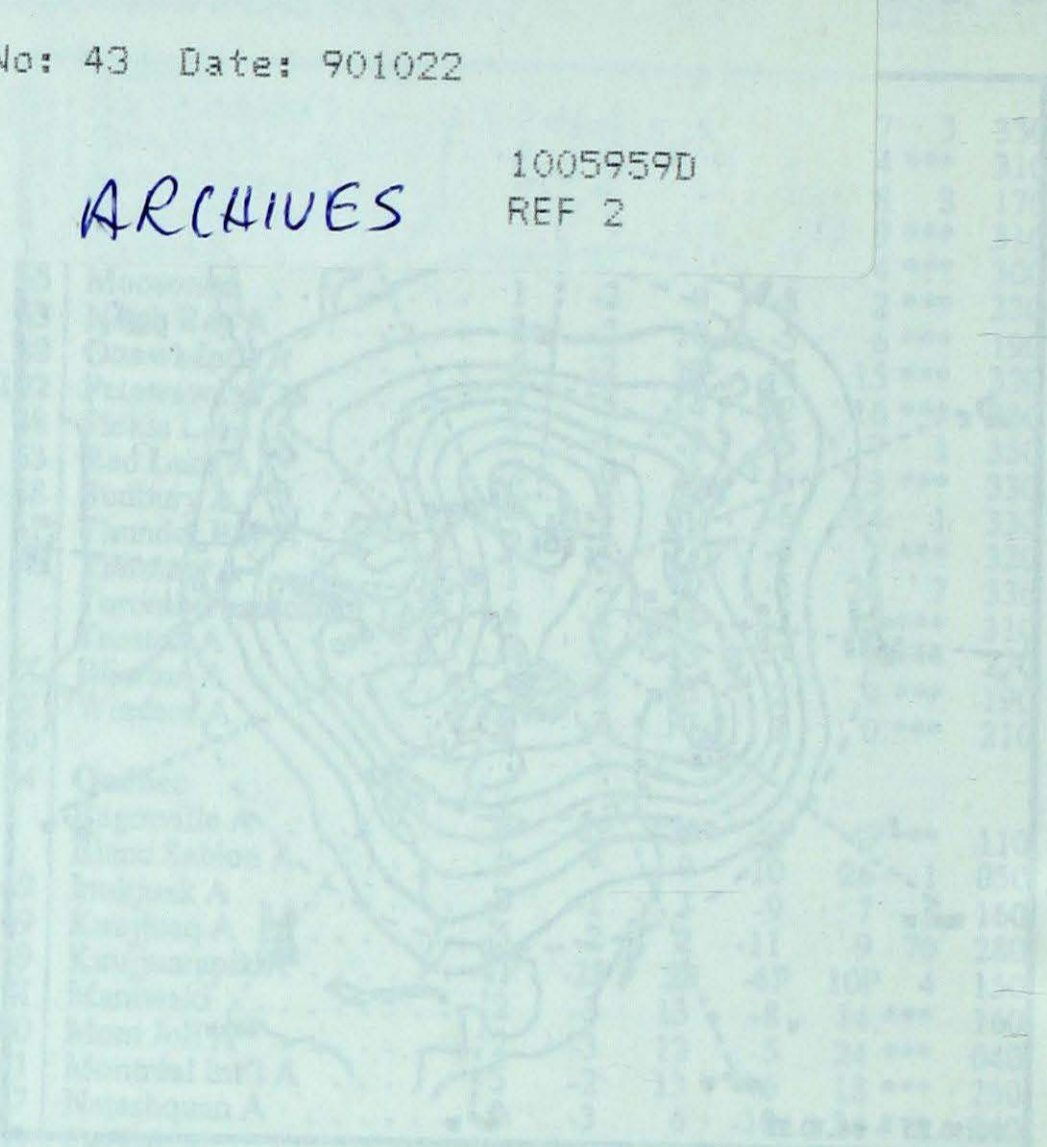
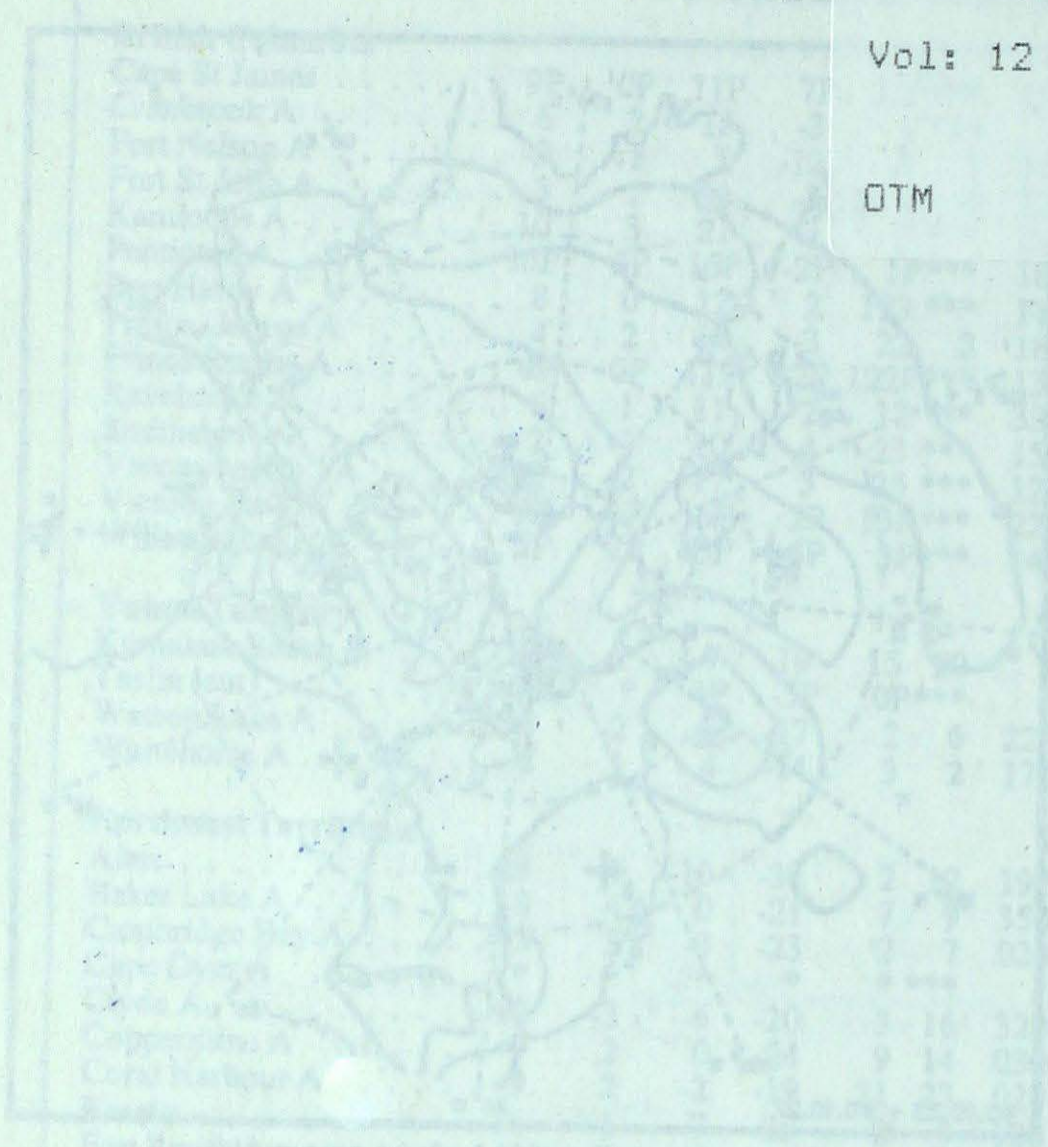
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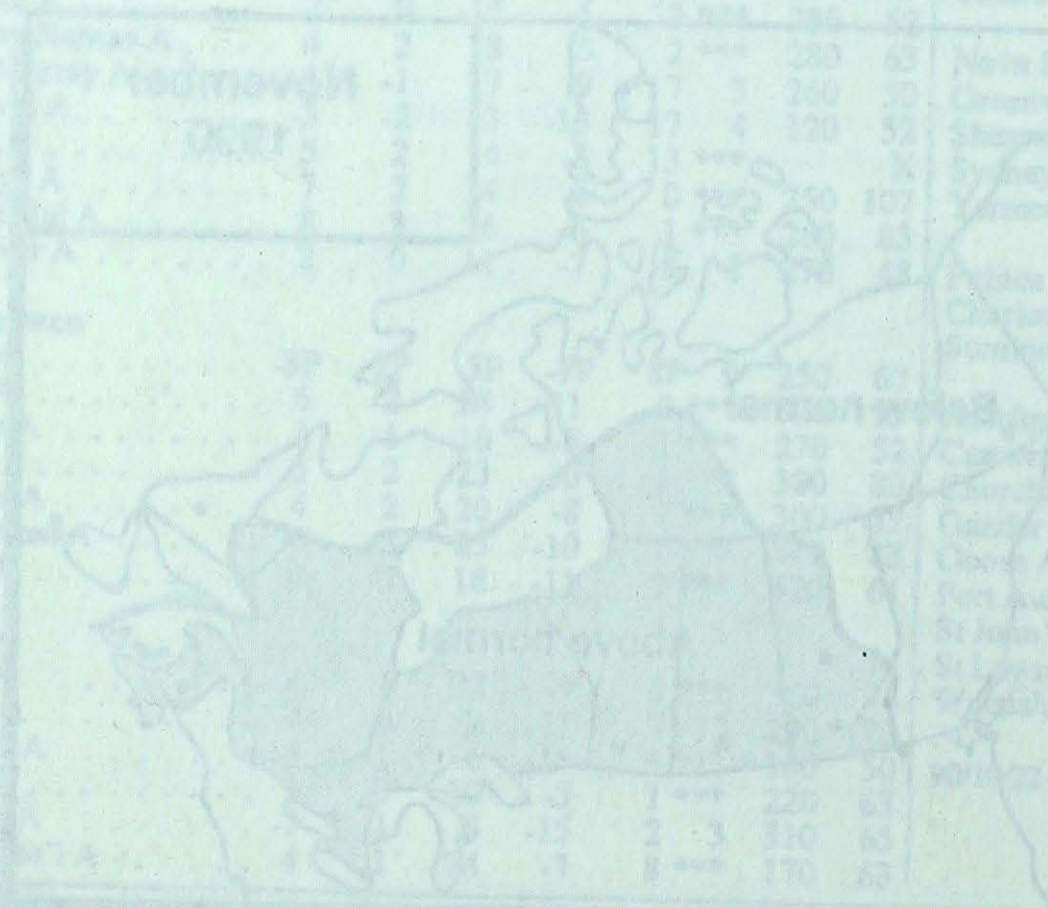
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