



# Climatic Perspectives



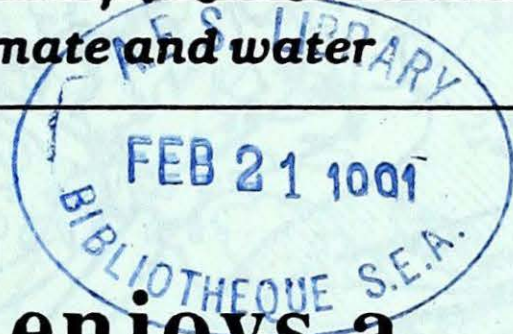
Archives

Ref 1

Jan 28 to Feb 3, 1991

A weekly review of Canadian climate and water

Vol.13 No.05



## Most of southern Canada enjoys a preview of spring

A mild Pacific air mass, which infiltrated the western parts of the country in mid-January, finally began to spread eastwards. The mild weather was accompanied by abundant sunshine, giving most of southern Canada an early taste of spring. In Manitoba and parts of Ontario, temperatures this week have risen more than forty degrees, when compared to the minimum values recorded earlier in the period to the maximum readings achieved by week's end. Numerous long standing temperature records across the Prairies, Ontario and Quebec have been broken, as daytime highs climbed into the teens in southern British Columbia and Alberta and the double digits from Saskatchewan, eastwards.

The balmy, sunny weather has been depleting much of the snow cover. Fifty centimetres of snow reported in northwestern Ontario on February 1, had diminished to less than half by the morning of the 4th. On the southern Prairies, a lack of snow can have a detrimental effect on soil moisture reserves and can also increase wind soil erosion.

In Montreal, the fine weather brought record crowds to the *La Fete des Neiges* festival on the weekend.

### Heavy snowfalls on northern coastal B.C. mountains

Since February 1, more than 130 cm of snow has fallen on the Skagway Highway in the Yukon, linking Skagway on the coast, with Carcross and Whitehorse further inland. In the past four days road crews have been able to keep the road open for only 12 hours. Snowfalls this winter are the worst ever experienced in the area since the road has been kept open through the winter months, several years ago. In the last few days, seven avalanches have buried the road and snow banks on either side are a phenomenal 10 to 15 metres high.

### Review of 1990 Alberta grain harvest

Due to relatively favourable weather conditions, last year's major grain production in Alberta was over 16.13 million metric tonnes. This was the second largest crop on record, greater than the 1987 crop, but under the record crop of 17.69 million metric tonnes in 1986. The five-year average for production in Alberta is 15.12 million metric tonnes

### Spring-like temperatures to continue in western Canada...

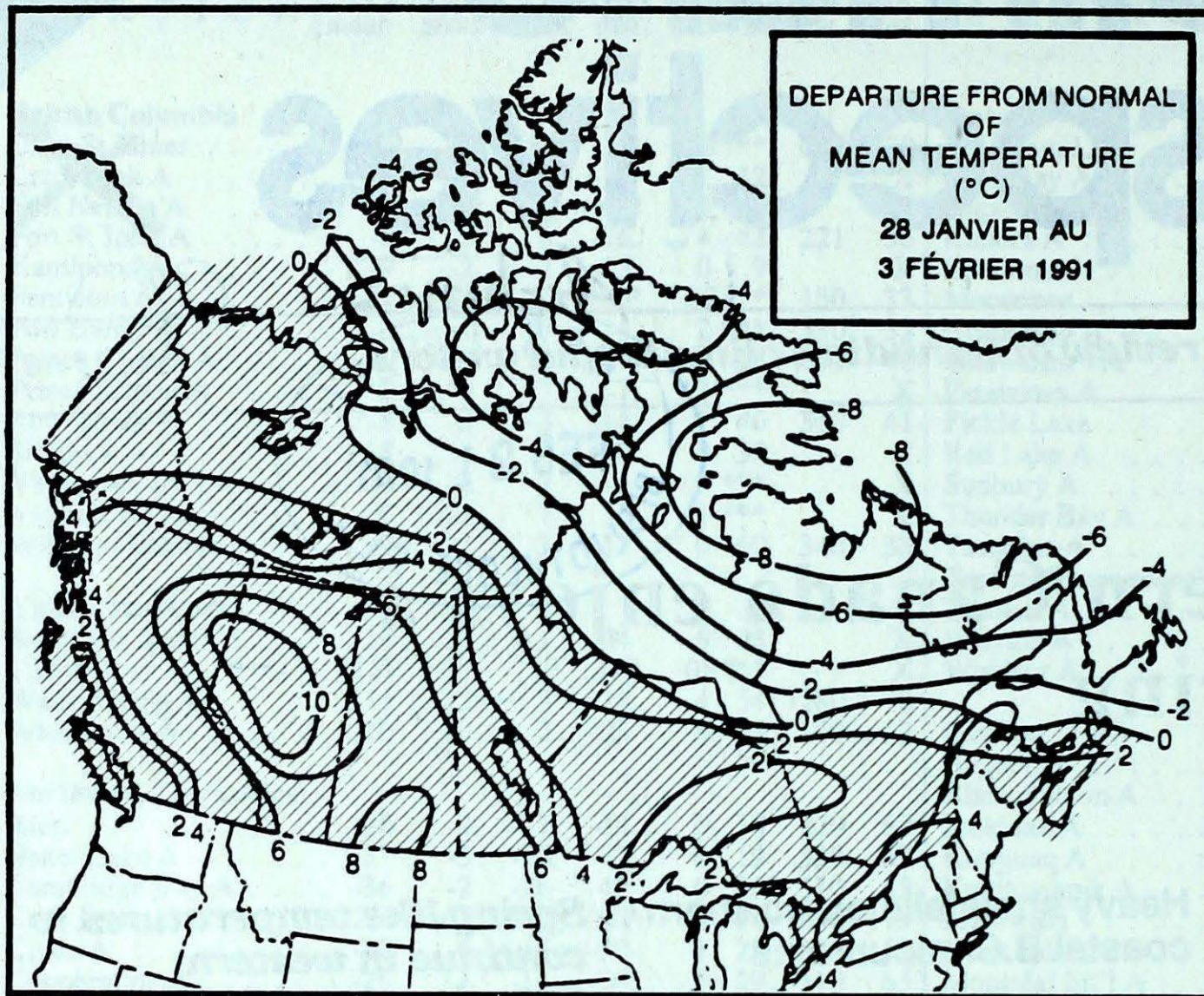
A flow of air from the southwest will continue to bring very mild temperatures from the Yukon through B.C. into Manitoba for the week of February 10. Temperatures are expected to be several degrees above normal. A trough of low pressure situated over northeastern Canada will push frigid Arctic air from Quebec to Newfoundland for the same period.

### Maximum temperature records

February 3, 1991

Location	new record	previous record	date
Red Deer, Alta.	10.6	10.0	1954
Moose Jaw, Sask.	10.2	9.4	1931
Regina, Sask.	6.6	4.4	1931
Sioux Lookout, Ont.	9.3	0.0	1954
Red Lake, Ont.	8.9	0.0	1954
Pickle Lake, Ont.	8.3	0.0	1964
Petawawa, Ont.	11.5	4.3	1984
Muskoka, Ont.	10.3	3.9	1952
Toronto City, Ont.	10.0	10.0	1842
Windsor, Ont.	9.8	4.6	1984
Maniwaki, Que.	11.1	2.6	1984
Sherbrooke, Que.	8.3	8.0	1983

A sampling of new daily maximum temperature records established on the Prairies and in Ontario and Quebec this past week.



**Weekly normal temperatures (°C)**

	max.	min.
Whitehorse A	-12.9	-22.6
Iqaluit A	-22.6	-31.1
Yellowknife A	-24.2	-32.8
Vancouver Int'l A	6.1	0.1
Victoria Int'l A	6.6	0.4
Calgary Int'l A	-3.5	-15.8
Edmonton Int'l A	-10.3	-21.4
Regina A	-11.6	-22.5
Saskatoon A	-12.7	-23.3
Winnipeg Int'l A	-14.0	-24.8
Ottawa Int'l A	-7.6	-16.8
Toronto (Pearson Int'l A)	-3.9	-12.4
Montréal Int'l A	-7.0	-15.9
Québec A	-8.6	-17.9
Fredericton A	-4.6	-16.2
Saint John A	-3.9	-14.4
Halifax (Shearwater)	-1.5	-9.9
Charlottetown A	-4.6	-13.3
Goose A	-11.9	-21.9
St John's A	-1.7	-8.6

**Weekly temperature and precipitation extremes**

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Abbotsford A 16	Puntzi Mountain (aut) -30	Port Alberni A 199
Yukon Territory	Watson Lake A 1	Komakuk Beach A -40	Whitehorse A 11
Northwest Territories	Fort Smith A -4	Shepherd Bay A -50	Cape Dyer A 16
Alberta	Calgary Int'l A 14	Fort McMurray A -34	High Level A 7
Saskatchewan	Collins Bay 11	Cree Lake -43	Cree Lake 5
Manitoba	Dauphin A 10	Thompson A -47	Gillam A 7
Ontario	Petawawa A 12	Armstrong (aut) -43	Warton A 10
Québec	Maniwaki 11	La Grande IV A -45	Blanc Sablon A 33
New Brunswick	St Stephen (aut) 10	St Stephen (aut) -30	Moncton A 28
Nova Scotia	Shearwater A 10	Amherst (aut) -19	Sydney A 34
		Truro -19	
Prince Edward Island	Summerside A 5	Charlottetown A -22	Charlottetown A 32
Newfoundland	St John's A 9	Wabush Lake A -38	Burgeo 51

**Across The Country...**

Highest Mean Temperature	Cape St James(BC) 6
Lowest Mean Temperature	Shepherd Bay A(NWT) -42

CLIMATIC PERSPECTIVES  
VOLUME 12

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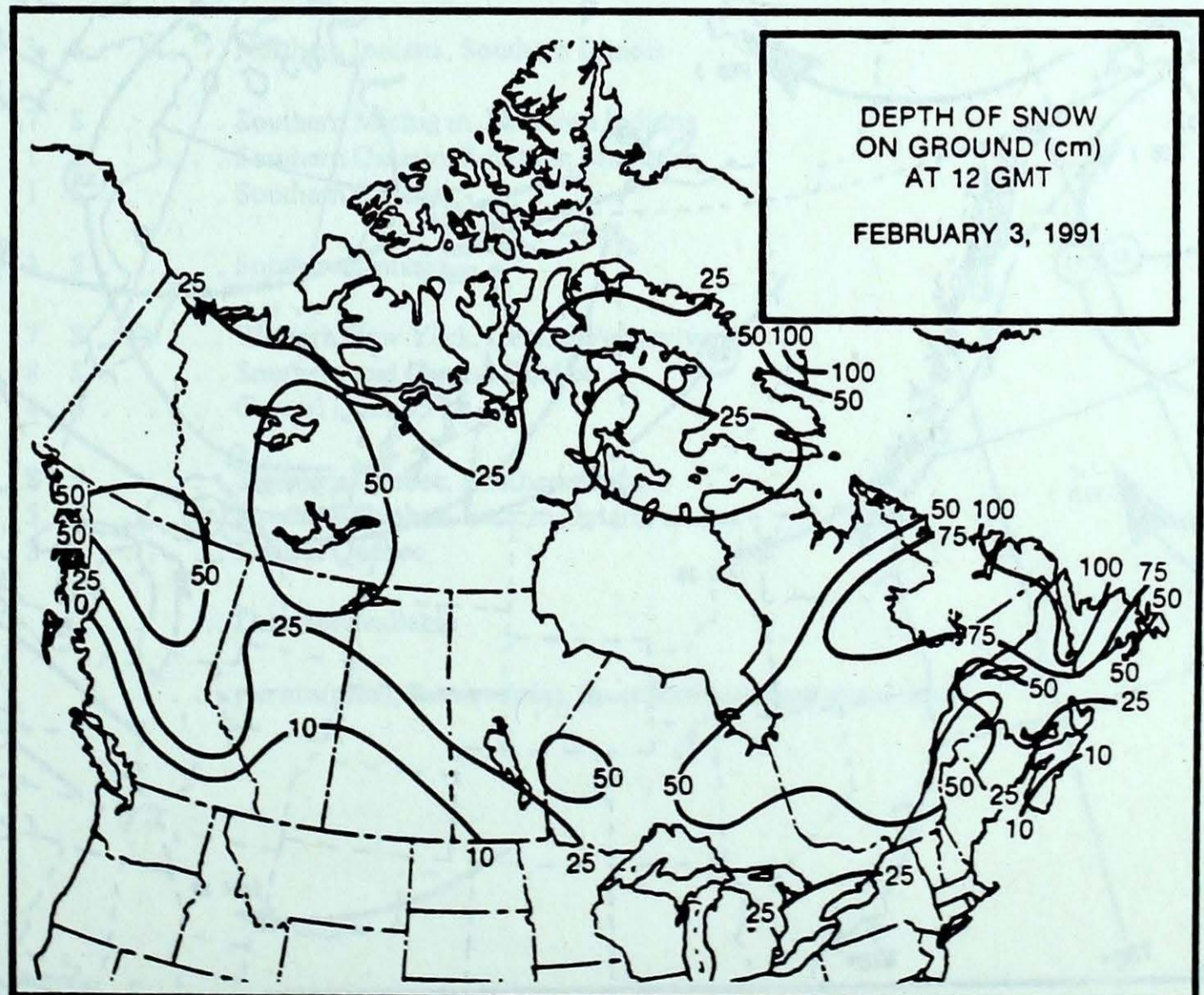
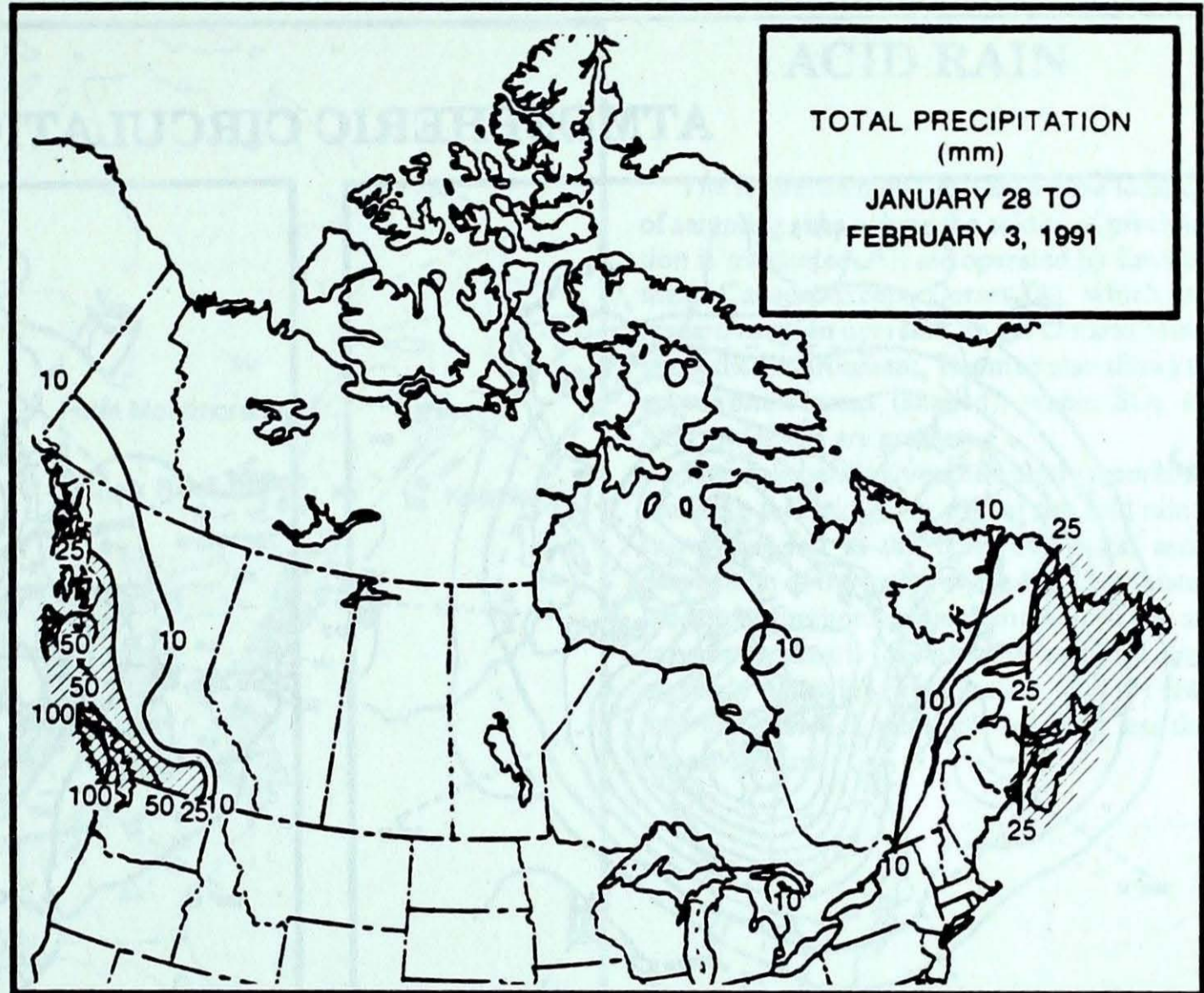
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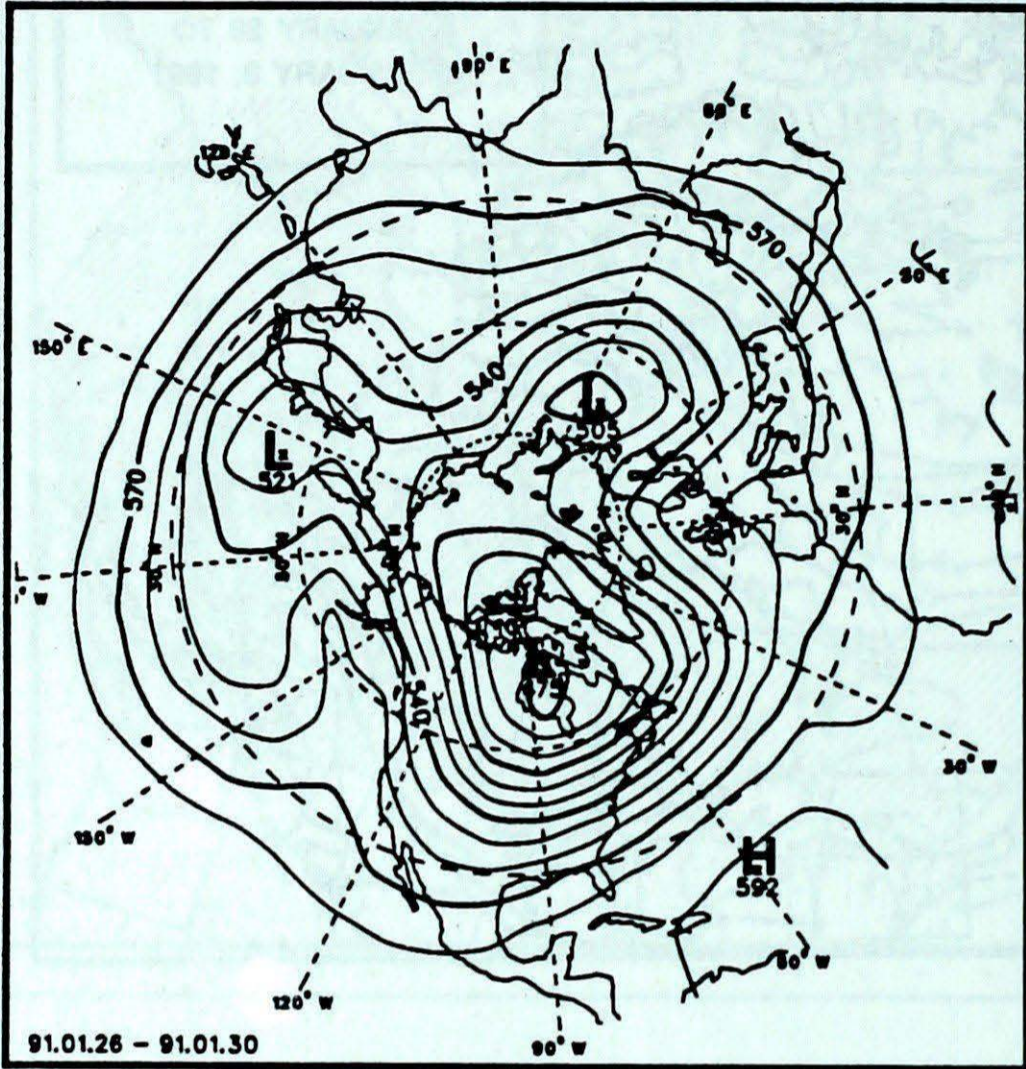
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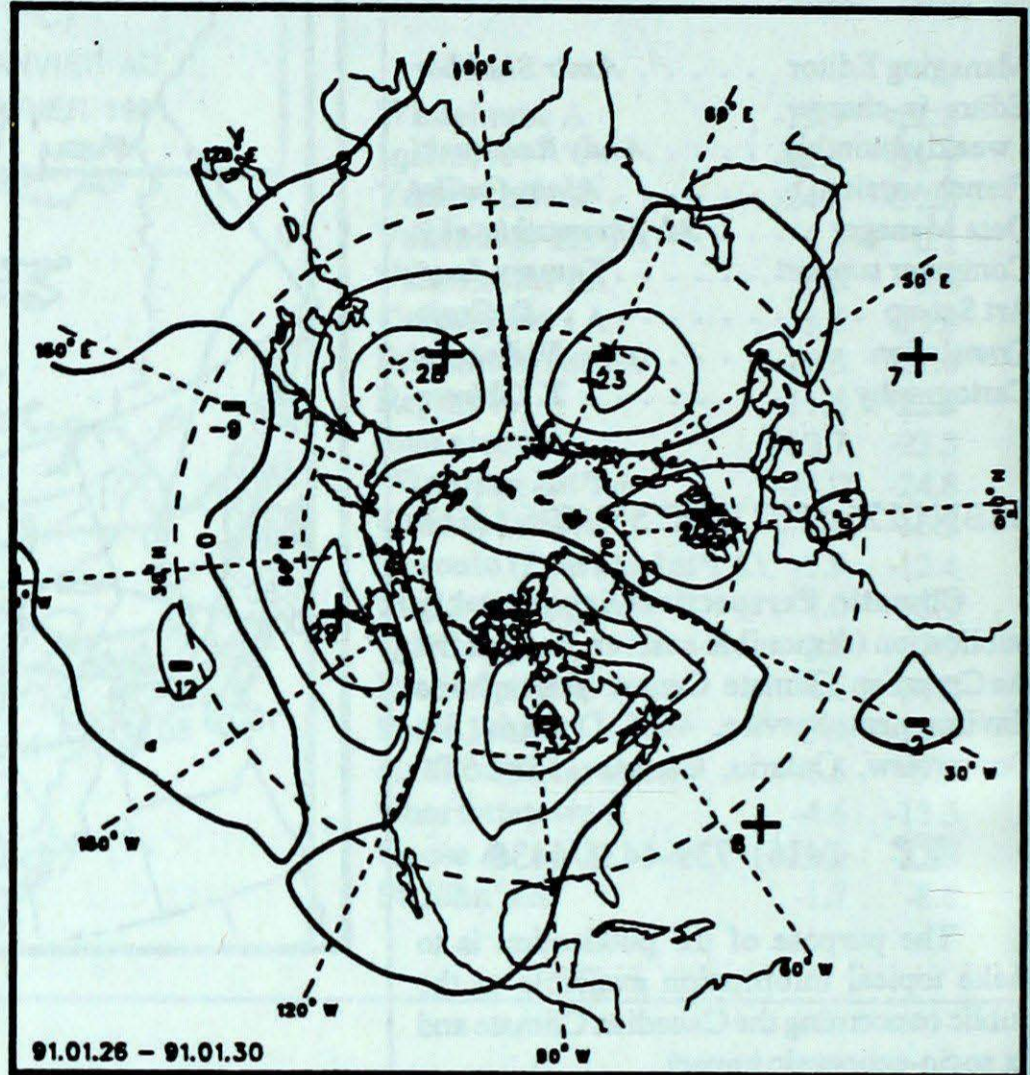
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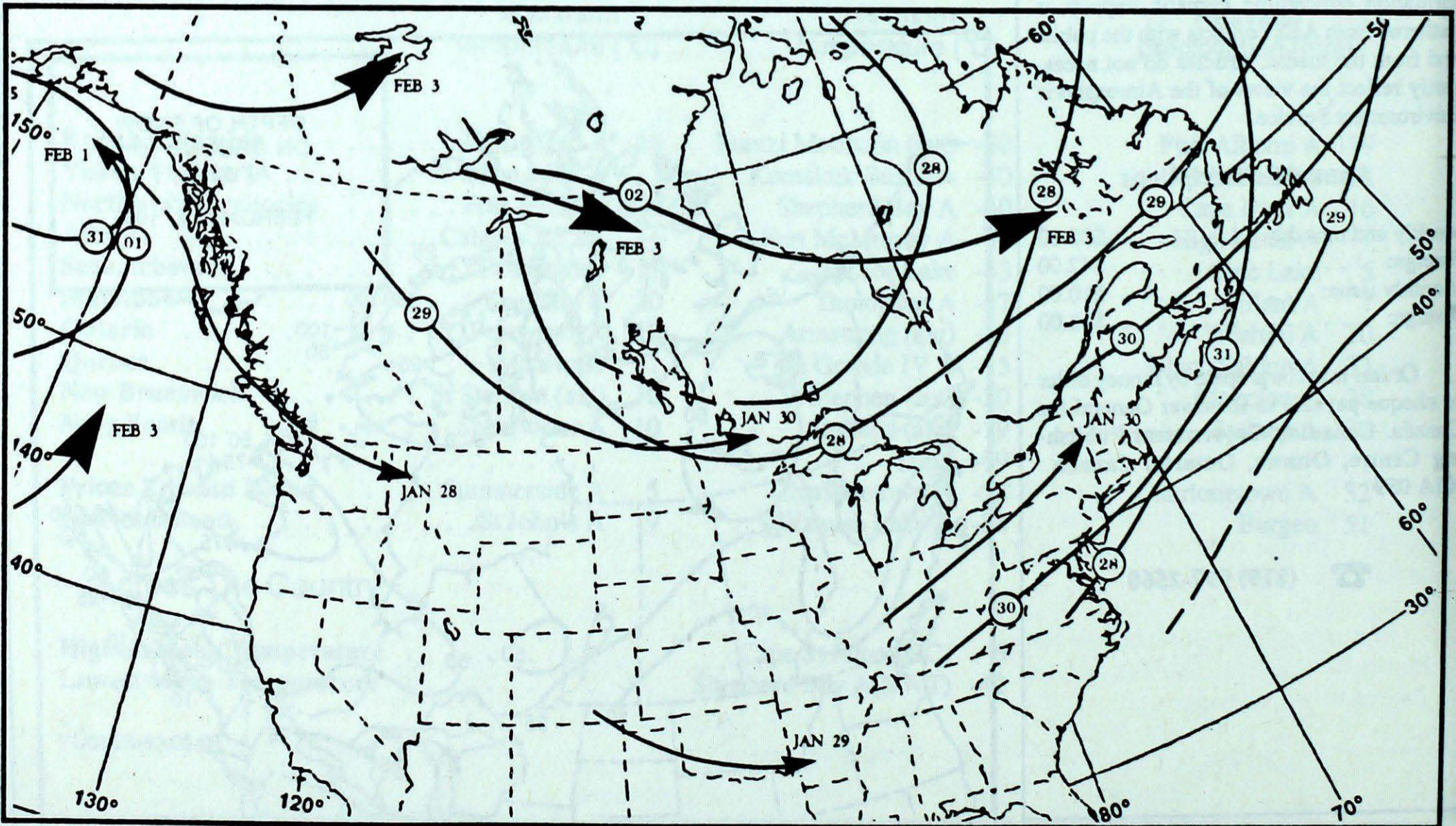
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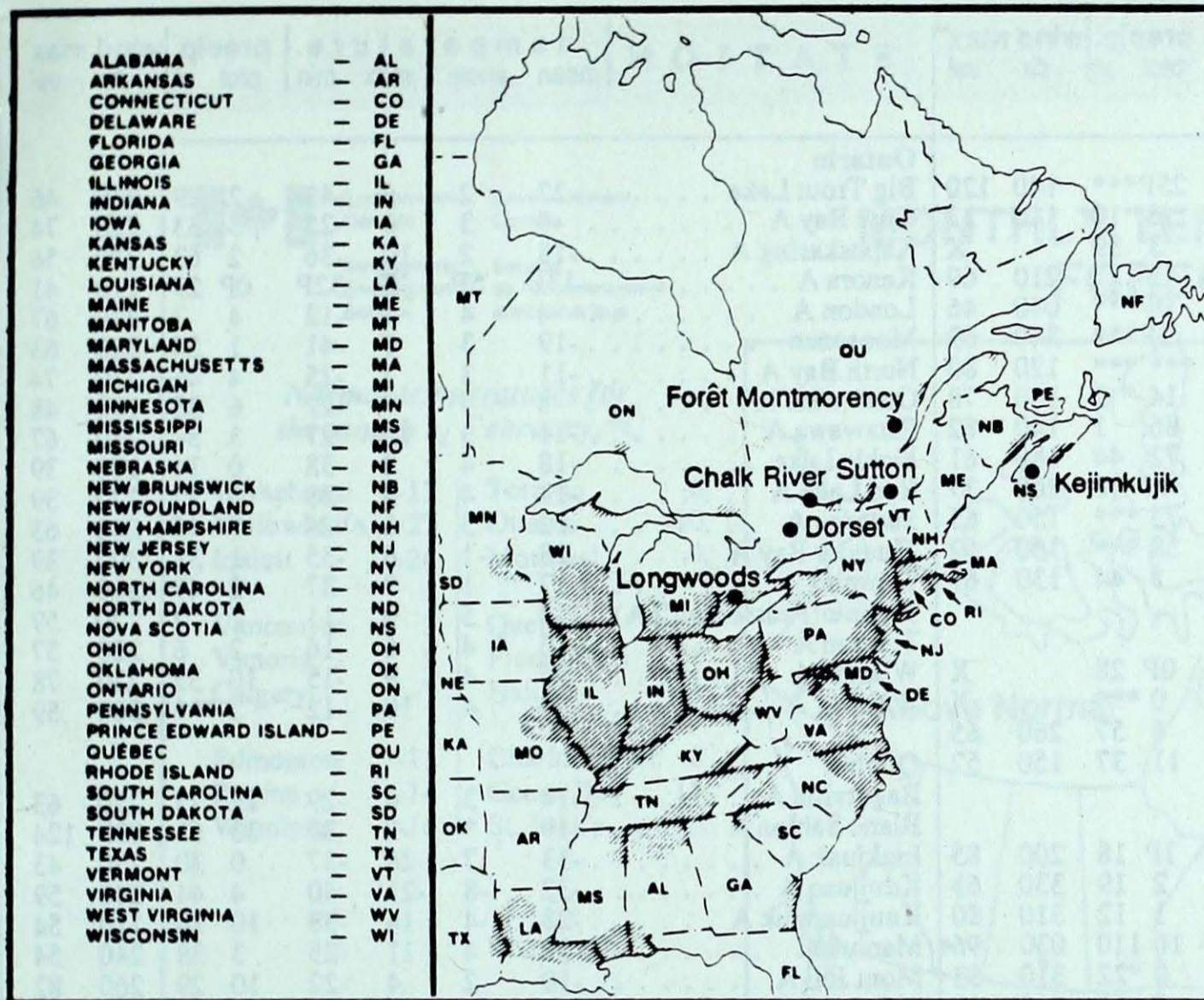
Mean geopotential height  
50-kPa level (10-decametre intervals)



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.

Site	day	pH	amount	air path to site
Jan.27 to Feb. 2, 1991				
Longwoods	27	4.0	3 S . . . . .	Northern Indiana, Southern Illinois
Dorset*	27	4.1	7 S . . . . .	Southern Michigan, Northern Indiana
	28	4.7	1 S . . . . .	Southern Ontario, Southern Michigan
	29	4.3	1 S . . . . .	Southern Ontario
Chalk River	29	4.2	1 S . . . . .	Southern Ontario
Sutton	29	4.0	7 S . . . . .	Western New York, Central Pennsylvania
	30	4.0	8 S . . . . .	Southern and Central Quebec
	31	4.3	4 S . . . . .	Central Quebec
Montmorency	27	4.0	8 S . . . . .	Southern Quebec, Southern Ontario
	29	4.2	5 S . . . . .	Southern Quebec, Eastern Ontario
	30	4.4	3 S . . . . .	Central Quebec
Kejimikujik			. . . . .	Data not available
			. . . . .	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
<b>British Columbia</b>								<b>Ontario</b>									
Cape St James	6P	1P	8P	2P	25P***		140	120	Big Trout Lake	-22	2	6	-42	2	29	230	46
Cranbrook A	-5	4	9	-24	6	10	180	33	Gore Bay A	-9	3	6	-25	5	33	220	74
Fort Nelson A	-18	3	-9	-26	3	39		X	Kapuskasing A	-18	2	10	-36	2	63	230	56
Fort St John A	-3	12	9	-19	3	27	210	69	Kenora A	-13P	5P	7P	-32P	0P	29	170	41
Kamloops A	-2P	3P	13P	-17P	0P***		080	46	London A	-4	4	8	-12	4	7	270	67
Penticton A	-6P	-4P	10P	-11P	0P***		340	69	Moosonee	-19	3	9	-41	1	54	200	63
Port Hardy A	4	1	11	-3	***	***	120	80	North Bay A	-11	3	7	-25	4	46	210	74
Prince George A	-2	7	9	-25	14	2	180	78	Ottawa Int'l A	-8	4	7	-22	6	35	180	48
Prince Rupert A	3	3	10	-8	86	1	140	82	Petawawa A	-11	3	12	-27	3	34	230	67
Revelstoke A	-4	2	5	-18	72	44	180	61	Pickle Lake	-18	4	8	-38	0	34	170	39
Smithers A	-5P	4P	8P	-22P	4P	18	200	37	Red Lake A	-17	4	9	-38	1	52	220	39
Vancouver Int'l A	5	2	14	-5	73	***	150	65	Sudbury A	-12	3	6	-26	7	45	240	63
Victoria Int'l A	5	1	14	-6	58	***	150	52	Thunder Bay A	-18	-1	6	-35	1	33	300	39
Williams Lake A	-3	5	10	-18	5	44	130	67	Timmins A	-17	1	7	-37	2	47	310	46
<b>Yukon Territory</b>								<b>Quebec</b>									
Komakuk Beach A	-23P	4P	-19P	-40P	0P	28		X	Bagotville A	-14	3	4	-29	12	75	270	63
Teslin (aut)	-16	*	-1	-26	0	***		X	Blanc Sablon A	-19	*	-2	-30	33	61	030	124
Watson Lake A	-19	5	1	-33	6	57	260	65	Inukjuak A	-33	-7	-24	-37	0	30	250	43
Whitehorse A	-18	0	-3	-28	11	37	150	52	Kuujuuaq A	-32	-8	-21	-40	4	44	240	59
<b>Northwest Territories</b>								<b>New Brunswick</b>									
Alert	-32P	0P	-23P	-38P	1P	18	200	85	Charlo A	-13	-1	4	-23	21	126	280	63
Baker Lake A	-34	0	-15	-41	2	19	330	61	Chatham A	-10	1	6	-25	21	27	300	56
Cambridge Bay A	-39	-5	-25	-45	1	12	310	80	Fredericton A	-8	3	9	-26	22	37	300	59
Cape Dyer A	-28	-6	-15	-39	16	110	030	96	Moncton A	-7	3	6	-23	28	43	240	63
Clyde A	-31	-4	-16	-43	0	22	310	83	Saint John A	-6	4	9	-24	26	16	240	74
Coppermine A	-30	-1	-22	-37	8	68	260	67	<b>Nova Scotia</b>								
Coral Harbour A	-39	-8	-22	-47	2	18		X	Greenwood A	-4	2	7	-17	28	4	240	70
Eureka	-40	-4	-26	-46	1	6	290	74	Shearwater A	-2	3	10	-17	29	1	230	76
Fort Smith A	-22	4	-4	-39	3	58	320	32	Sydney A	-7	0	4	-19	34	5	230	104
Hall Beach A	-33	-1	-22	-45	0	30	300	46	Yarmouth A	-1	3	6	-12	31	1	300	83
Inuvik A	-30	0	-17	-41	5	45	310	43	<b>Prince Edward Island</b>								
Iqaluit A	-37	-10	-29	-44	1	23	330	46	Charlottetown A	-7	2	5	-22	32	35	310	56
Mould Bay A	-39	-5	-30	-46	0	21	170	52	Summerside A	-7	2	5	-20	26	43	290	61
Norman Wells A	-28	0	-17	-38	8	31	300	56	<b>Newfoundland</b>								
Resolute A	-36	-4	-28	-43	0	20	340	57	Cartwright	-22P	-8P	-5P	-32P	21P	168	320	107
Yellowknife A	-27	2	-17	-36	5	55		X	Churchill Falls A	-28	-7	-10	-37	4	86	300	78
<b>Alberta</b>								<b>91/01/28-91/02/03</b>									
Calgary Int'l A	-3	7	14	-21	0	1	240	63	Gander Int'l A	-11	-4	3	-22	17	46	270	95
Cold Lake A	-11	7	8	-27	1	14	280	39	Goose A	-24	-7	-6	-35	5	87	260	76
Edmonton Namao A	-4	11	9	-21	2	6	290	41	Port Aux Basques	-8	-2	2	-17	50	105	290	111
Fort McMurray A	-12	8	13	-34	2	18	270	52	St John's A	-6	-1	9	-18	***	14	240	96
High Level A	-16	6	1	-34	7	46	330	59	St Lawrence	-6	-2	4	-17	43	33		X
Jasper	-3	6	8	-19	3	15		X	Wabush Lake A	-27	-5	-8	-38	6	63	300	65
Lethbridge A	-3P	5P	13P	-23P	1P***		250	96									
Medicine Hat A	-3	8	11	-21	0	***	240	70									
Peace River A	-8	11	7	-20	1	7	230	41									
<b>Saskatchewan</b>																	
Cree Lake	-18	7	7	-43	5	47	320	52									
Estevan A	-9	6	7	-28	0	4	300	48									
La Ronge A	-16	7	9	-37	0	52	300	43									
Regina A	-11	7	8	-29	0	5	320	48									
Saskatoon A	-11	7	6	-28	0	3		X									
Swift Current A	-6	7	9	-25	2	4	270	65									
Yorkton A	-13	6	5	-28	0	20	140	44									
<b>Manitoba</b>																	
Brandon A	-15	4	4	-33	0	20	220	52									
Churchill A	-29	-1	-9	-39	6	26	340	57									
Lynn Lake A	-22	6	4	-39	3	33	320	46									
The Pas A	-17	4	7	-37	0	16	140	50									
Thompson A	-24	2	2	-47	1	707		X									
Winnipeg Int'l A	-15	5	6	-31	2	15	170	54									

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.



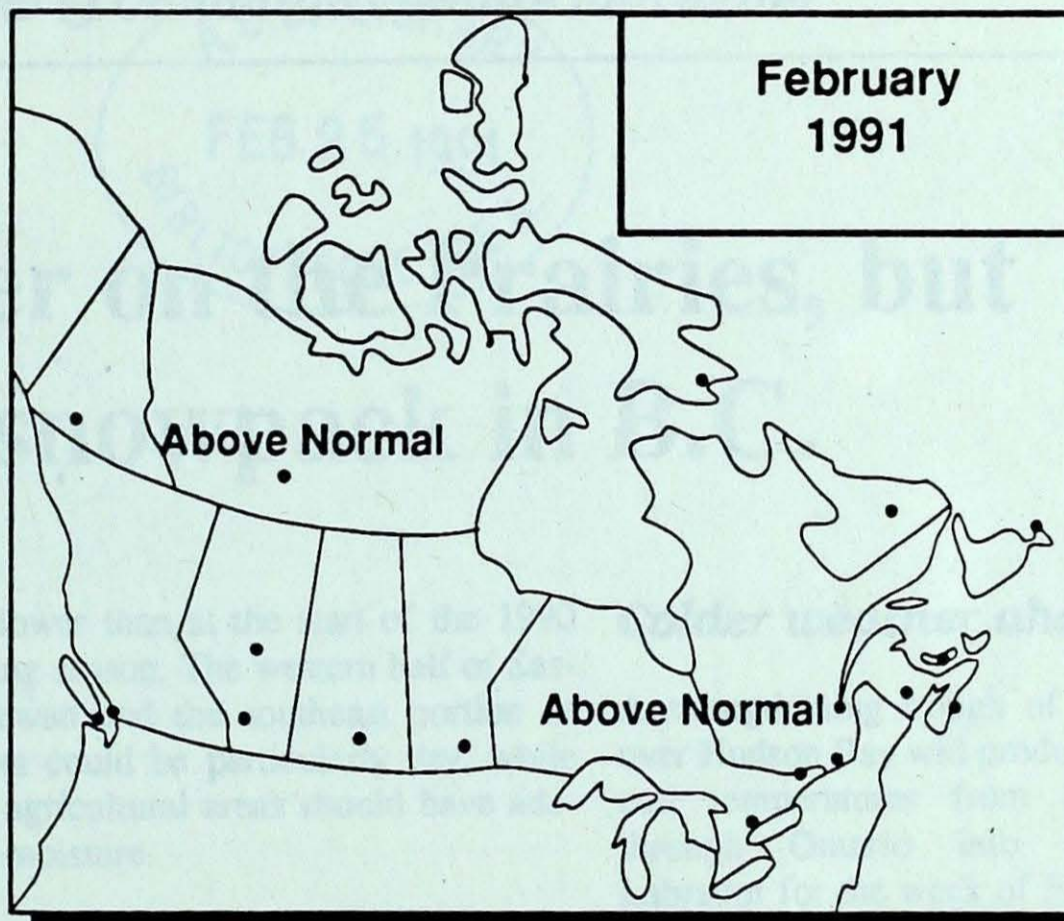
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## MONTHLY TEMPERATURE FORECAST

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

Whitehorse -13	Toronto -6
Yellowknife -27	Ottawa -10
Iqaluit -26	Montreal -9
Vancouver 5	Quebec -11
Victoria 5	Fredericton -8
Calgary -7	Halifax -5
Edmonton -11	Charlottetown -8
Regina -14	Goose Bay -15
Winnipeg -16	St. John's -5

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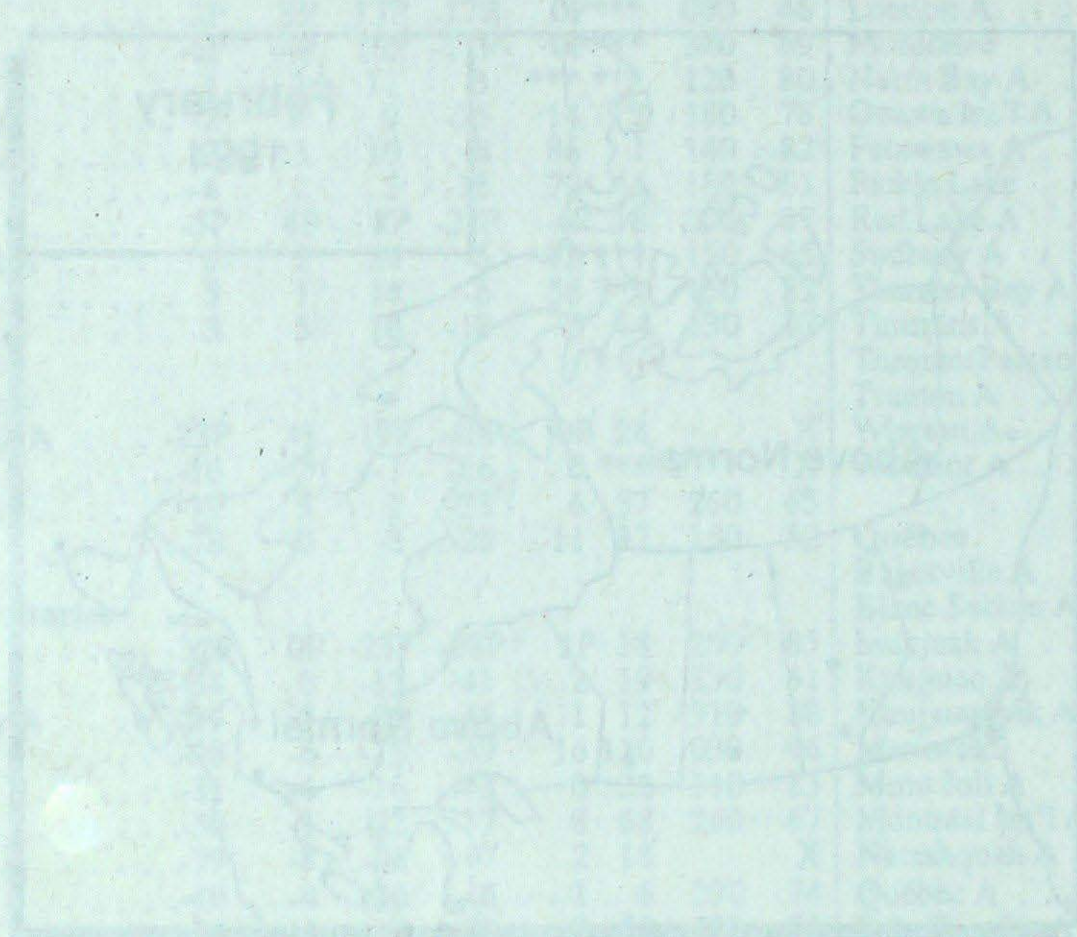
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Archives

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Province/Territory	Area (km²)	Population (1981)	Population Density (per km²)	Climate Zone
Alberta	660,000	2,400,000	3.6	Continental
Saskatchewan	650,000	2,100,000	3.2	Continental
Manitoba	645,000	2,000,000	3.1	Continental
Ontario	1,076,000	10,000,000	9.3	Continental
Quebec	1,542,000	6,000,000	3.9	Continental
Atlantic Provinces	470,000	4,000,000	8.5	Oceanic
Northwest Territories	4,078,000	40,000	0.01	Continental
Yukon	483,000	30,000	0.06	Continental
Nunavut	2,098,000	30,000	0.01	Continental

Source: Statistics Canada, 1981 Census of Canada. Population figures are based on the 1981 Census. Area figures are based on the 1981 Census. Climate zones are based on the Köppen-Geiger climate classification system.