Environment Canada Environnement Canada

Climatic Perspectives

Archives 1

January 20 to 26, 1992 **A weekly review of Canadian climate and water** *Vol. 14 No. 04*

It's a balmy winter in British Columbia!

Abnormally mild weather for winter continues to predominate throughout most of British Columbia and adjacent southern Alberta. In direct contrast, frosty weather in the Arctic and many eastern regions of the country was felt, as the full impact of persistent Arctic air masses prevailed.

The warmer than average weather for central B.C. and southern Alberta has persisted for over two months. Many areas are dry. Generally, a mild winter is appreciated by most people, but some economic sectors, such as the logging industry, may feel the heat in other ways. As a result of daily mean temperatures above freezing, the road bases of areas scheduled to be logged are not frozen solid and thus, cannot support the heavy equipment and trucks required to haul and crop the timber. Logging activities have been limited to between 50 to 70 percent of capacity, and this will be reflected ultimately in the amount of inventory available at saw mills, with possible shutdowns occurring.

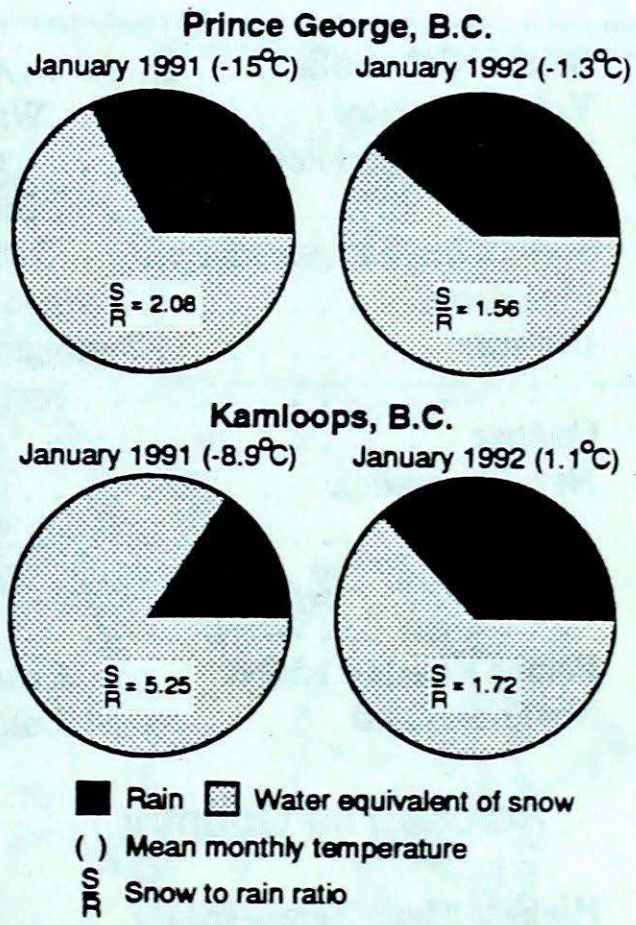
There are other repercussions possible from a benign winter season. A shorter than average duration of the cold period may allow insect populations to emerge early next spring, and in greater numbers. Fur-bearing animals have been developing thinner winter coats and animals which burrow into snow for protection from cold have had to migrate northward to find homes in dry snow, which has good insulating properties. Some Alberta cattle are already grazing their spring hay supply. The mild temperatures have affected the type of precipitation, reflected by a decrease in the ratio of snow to rain, as illustrated in the pie chart. In the far southern regions, some flowers are blooming and trees have budded, as residents of places like Victoria anticipate an early spring.

At the end of the week, the remaining cold weather in northern Alberta, was pushed further northward by a milder, Pacific air mass, causing temperatures to climb to 10 °C above normal. Fortunately, the night-time temperatures continued to be cold enough to cover the ground with hoarfrost helping to slow down erosion of bare agricultural soils on windy days. The snowpack in mountain watersheds is still rated as near, or slightly below normal, and at this early stage, sufficient run-off come spring is expected.

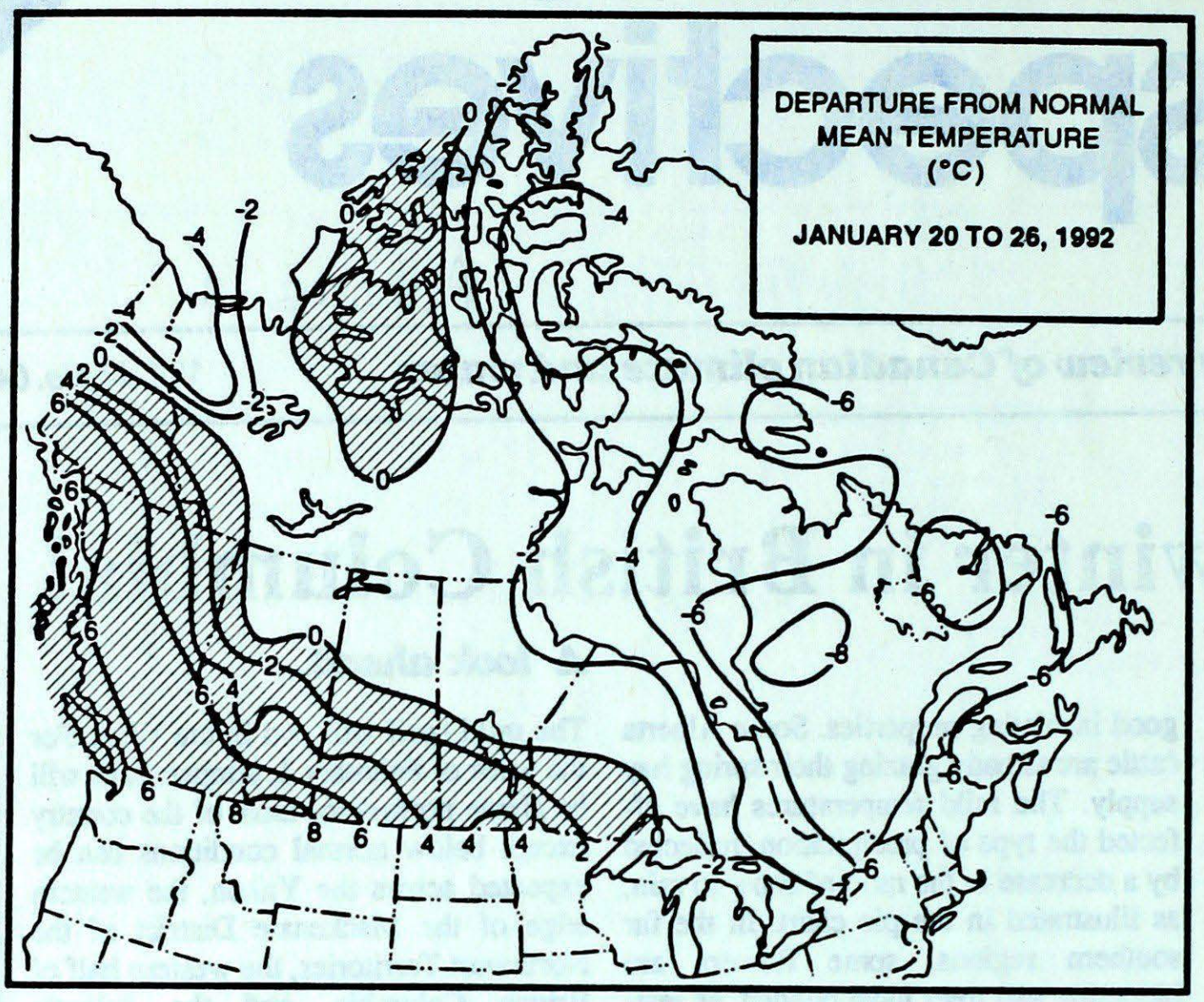
In contrast to the balmy western weather, the Arctic experienced blizzard conditions and the eastern part of Canada had temperatures up to 10 °C below normal. Wind gusts to 130 km/h on Sagona Island, Newfoundland, gave a good taste of winter to the East. The unusually mild conditions reported over Baffin Island, between the 16th and 18th of January, rapidly changed to bitterly cold, with Iqaluit setting a new record low temperature of -44.8 °C on January 26th. Even the polar bears have donned mitts and tuques to help fend off the bitter cold!

A look ahead...

The mild spell will end in the West. For the week of February 3, temperatures will be above normal for most of the country except below normal conditions can be expected across the Yukon, the western edge of the Mackenzie District of the Northwest Territories, the western half of British Columbia, and the Atlantic provinces. Temperatures will be three to five degrees below normal. Precipitation is possible across British Columbia, Alberta, western Saskatchewan and the Atlantic provinces.



There was significantly less snowfall during January 1 to 26, 1992 compared to the same period in 1991, due to much milder temperatures.



Weekly normal temperatures (°C)

	max.	min.
Whitehorse A	-15.0	-24.0
Iqaluit A	-21.6	-30.1
Yellowknife A	-24.3	-32.6
Vancouver Int'l A	5.2	-0.2
Victoria Int'l A	6.0	-0.1
Calgary Int'l A	-6.0	-17.5
Edmonton Int'l A	-9.0	-20.6
Regina A	-12.6	-22.8
Saskatoon A	-14.1	-24.0
Winnipeg Int'l A	-14.1	-24.1
Ottawa Int'l A	-4.9	-14.2
Toronto Int'l A	-1.6	-10.3
Montréal Int'l A	-4.1	-13.3
Québec A	-6.1	-15.3
Fredericton A	-2.2	-13.3
Saint John A	-1.0	-11.7
Halifax (Shearwater)	0.9	-7.1
Charlottetown A	-2.0	-10.4
Goose A	-11.3	-20.8
St John's A	-0.1	-6.9

Weekly temperature and precipitation extremes

	Maximum temperature (°C)		Minimum temperature (°C)		Heaviest precipitation (mm)	
British Columbia	Abbotsford A	13	Fort Nelson A	-26	Port Alberni A	160
Yukon Territory	Watson Lake A	1	Komakuk Beach A	-40	Whitehorse A	4
Northwest Territories	Cape Dyer A	-11	Clyde A	-54	Clyde A	7
Alberta	Calgary Int'l A	13	Fort McMurray A	-33	Grande Prairie A	12
Saskatchewan	Swift Current A	6	Cree Lake	-40	Broadview	12
Manitoba	Portage La Prairie A	3	Thompson A	-40	Winnipeg Int'l A	10
Ontario	Burlington Piers (aut)	5	Timmins A	-38	Kapuskasing A	30
	Port Weller (aut)	5				
Québec	Gaspé A	9	La Grande IV A	-41	Natashquan A	44
New Brunswick	Moncton A	11	St-Léonard A	-29	Saint John A	36
	St Stephen (aut)	11				
Nova Scotia	Greenwood A	13	Greenwood A	-22	Greenwood A	29
			Truro	-22		
Prince Edward Island	Charlottetown A	9	Charlottetown A	-21	Charlottetown A	13
Newfoundland	Daniels Harbour	10	Churchill Falls A	-39	St Lawrence	39

Across The Country...

Highest Mean Temperature	Estevan Point (aut)(BC)	8
Lowest Mean Temperature	Shepherd Bay A(NWT)	-41

92/01/20-92/01/26

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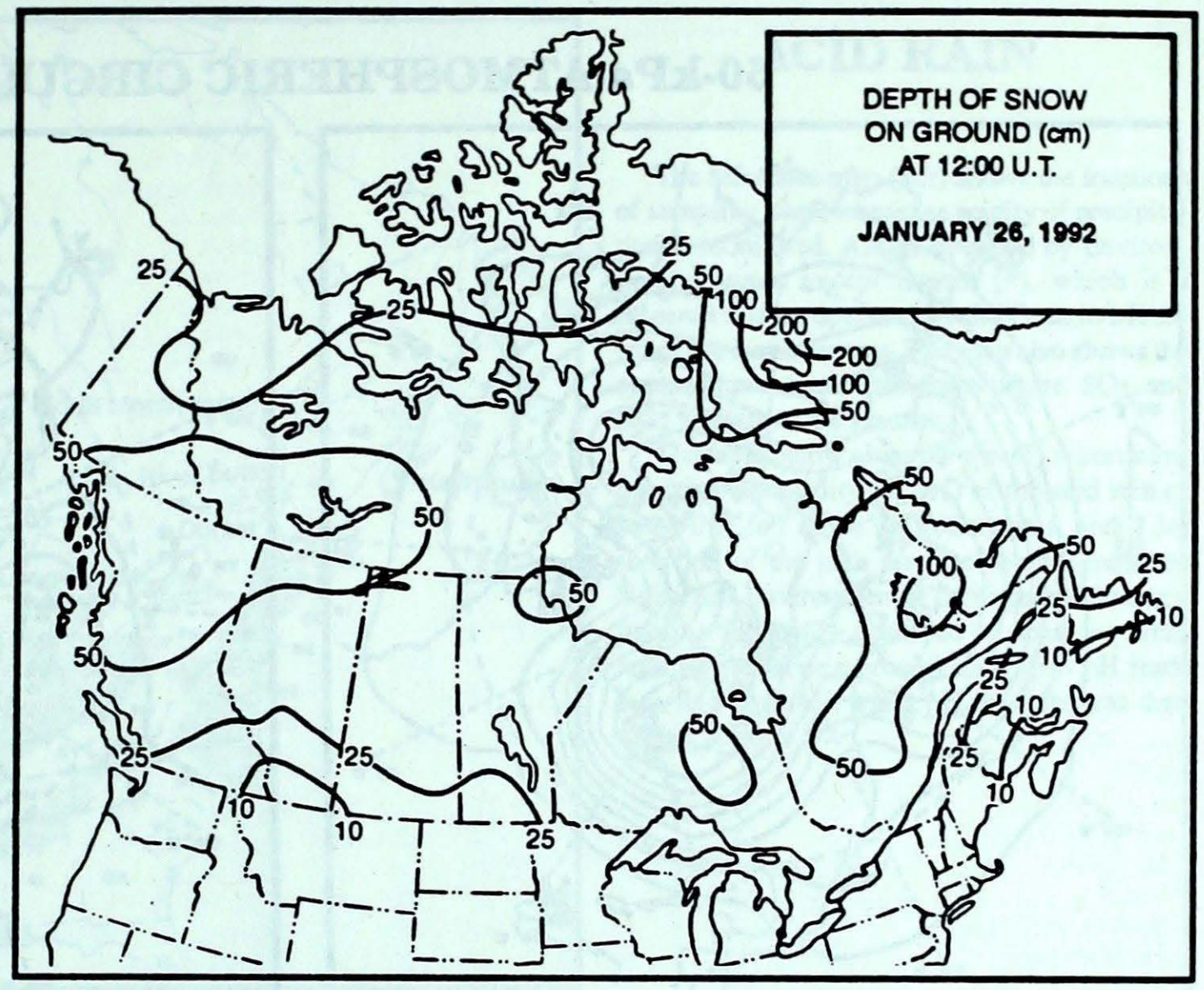
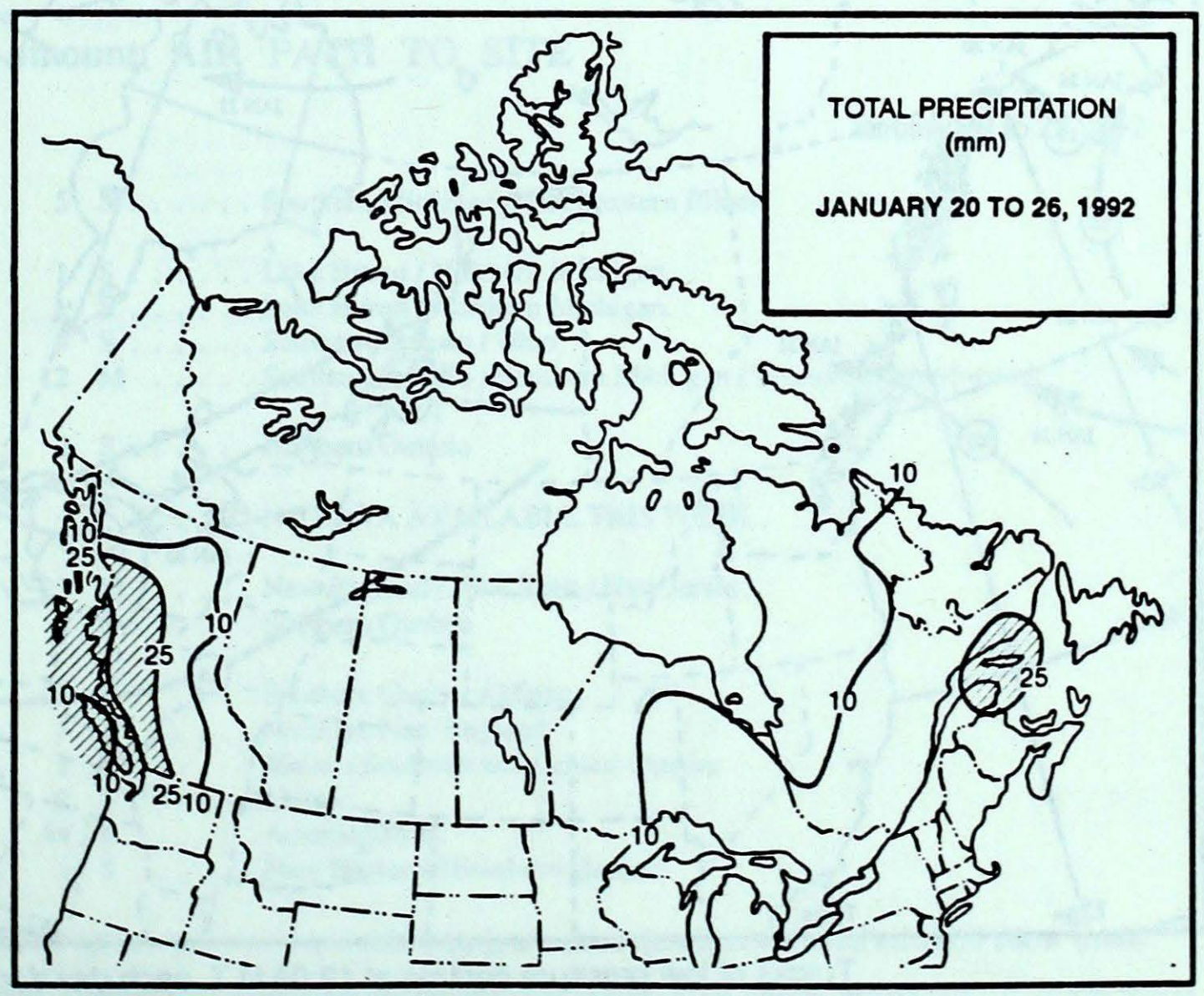
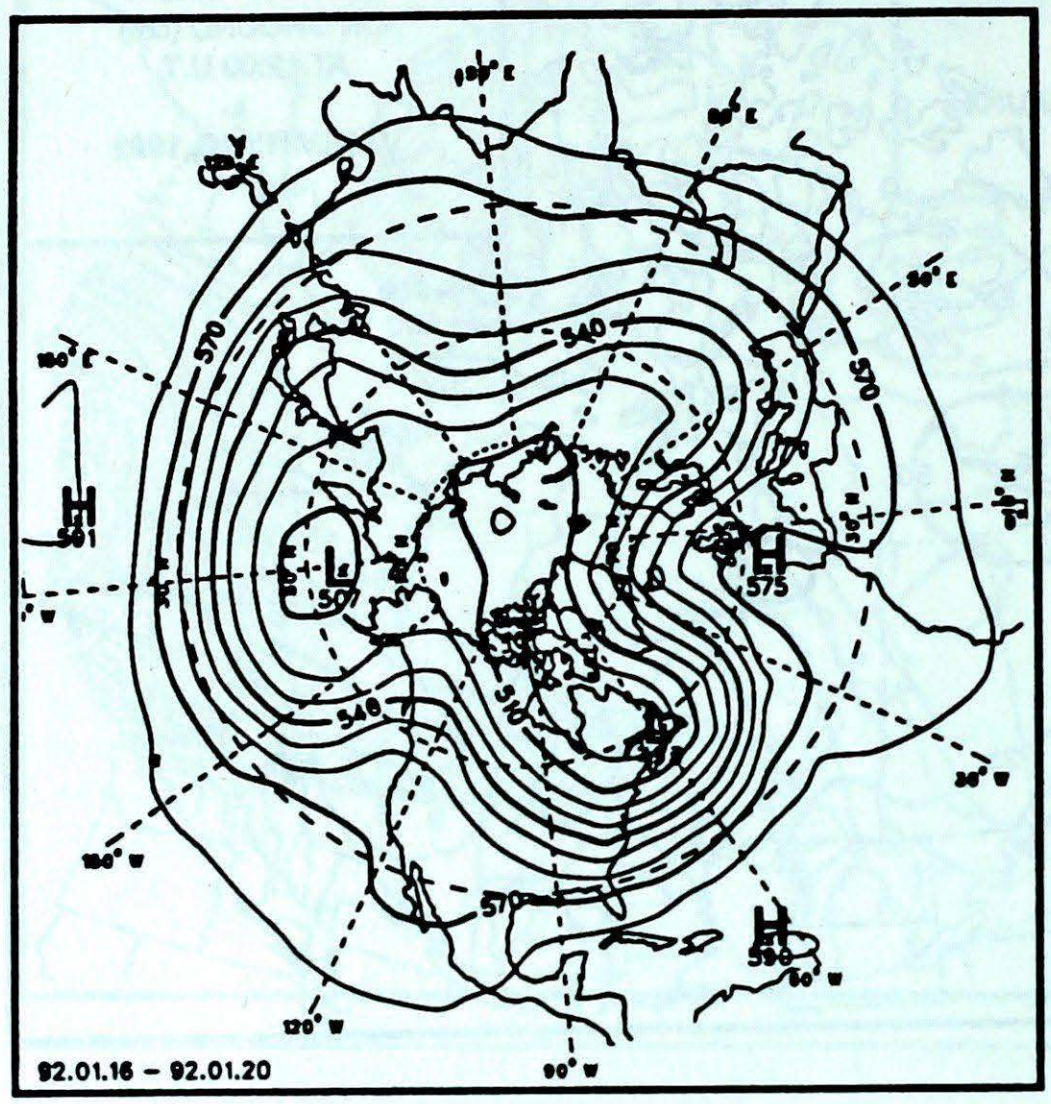
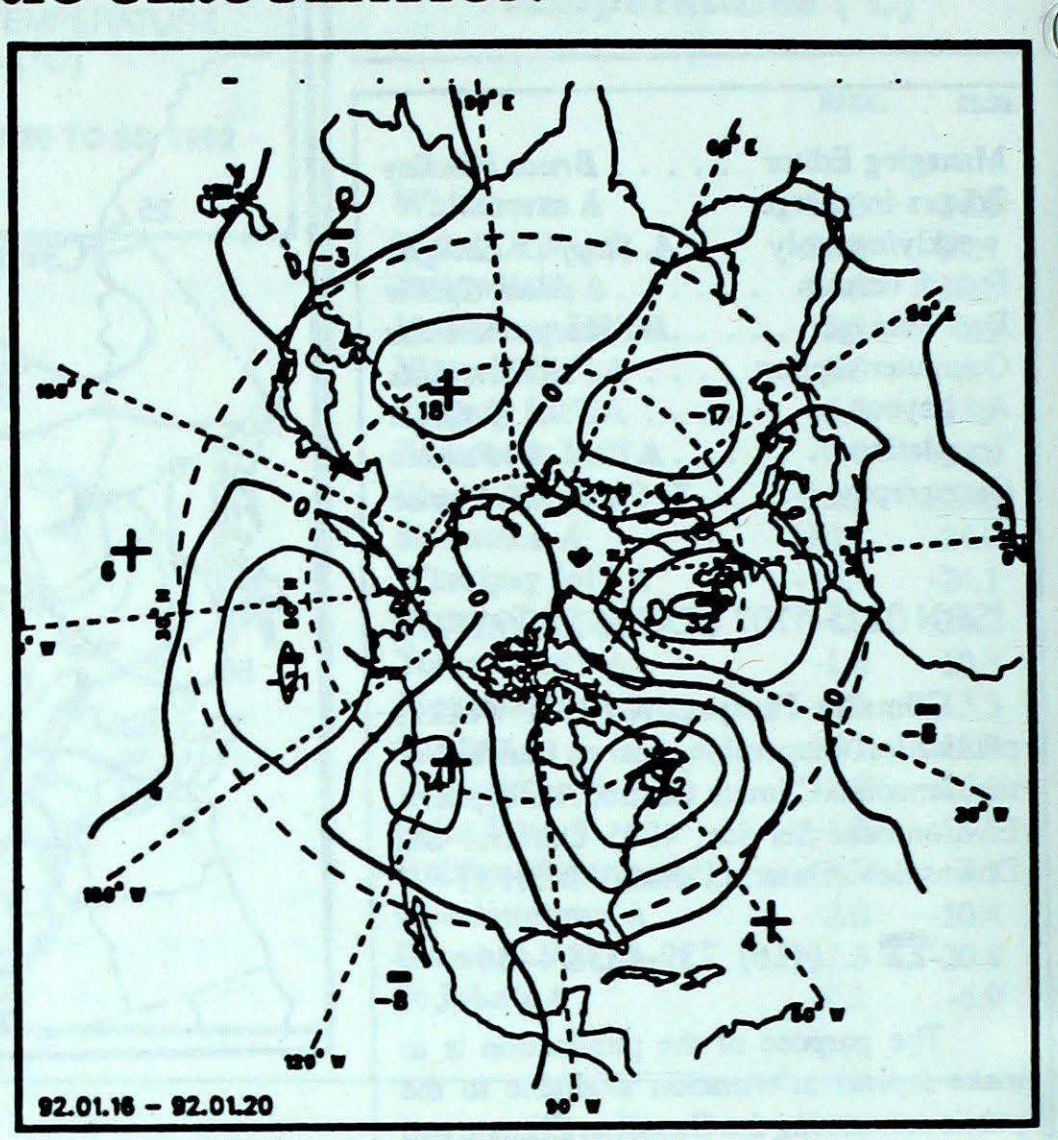




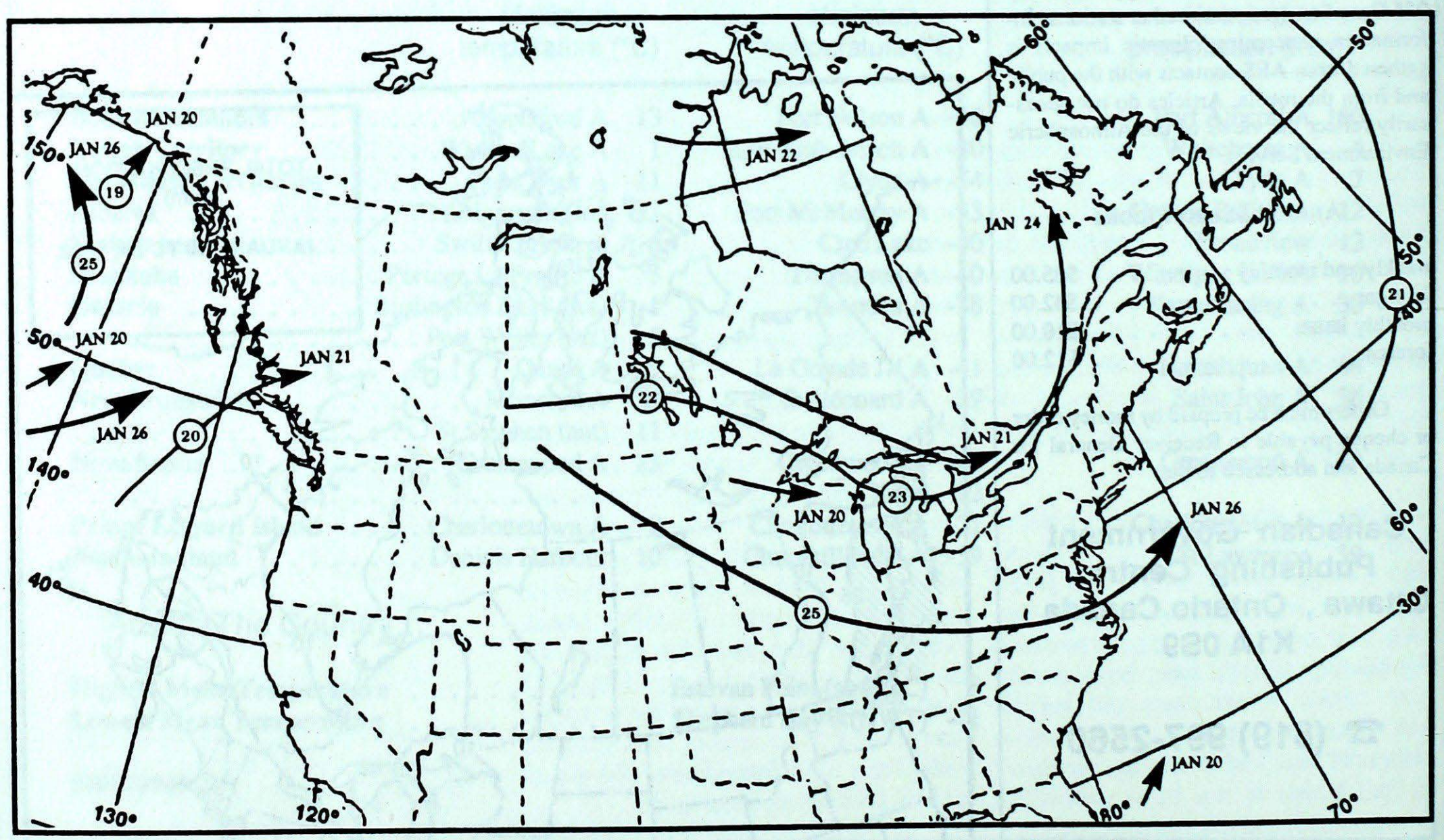
50-kPa ATMOSPHERIC CIRCULATION



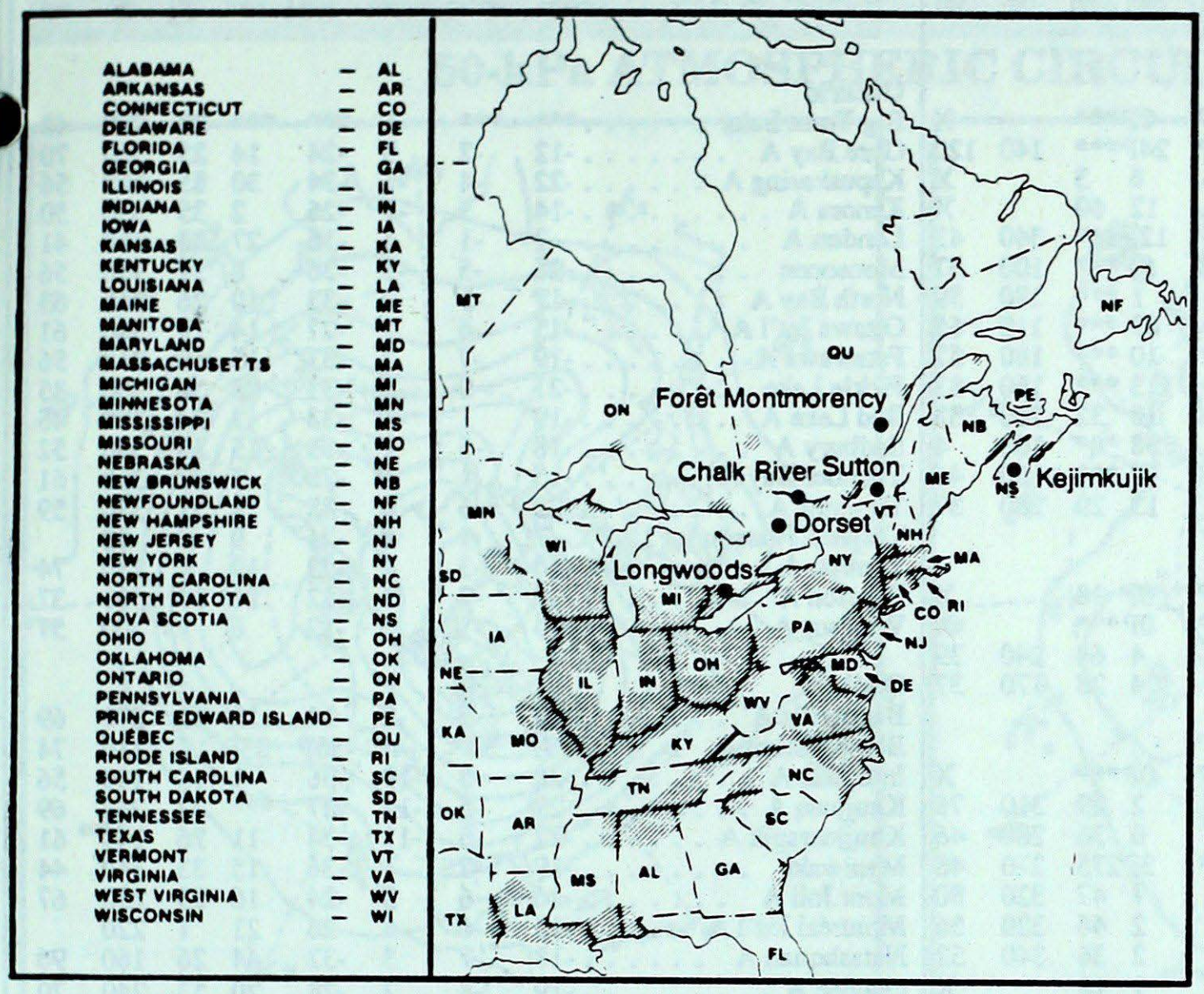
Mean geopotential height
50-kPa level (10 decametre intervals)



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.

SITE day pH amount AIR PATH TO SITE

January 19 to 25, 1992

SITE	day	pH	amount		AIR PATH TO SITE
Longwoods	19	4.7	5	S	Southern Michigan /Northwestern Illinois
Dorset *	19	4.1	1	S	Lake Huron / Northern Michigan.
	20	4.2	1	S	Lake Huron / Northern Michigan.
	22	4.0	4	S	Southern Ontario / Ohio
	23	4.2	12	M	Southern Ontario / Southern Michigan / Western Pennsylvania.
Chalk River	19	4.0	2	S	Northern Ontario
Sutton					NO DATA AVAILABLE THIS WEEK
Montmorency	23	4.7	23	M	New England / New York / New Jersey.
	24	4.4	4	S	Southern Quebec
Kejimkujik	19	4.5	2	S	Southern Quebec / Maine
	20	4.3	1	S	Northern New England
	21	4.2	1	S	Maine / Southern and Central Quebec
	22	4.7	2	S	Maine.
	23	4.8	44	R	Atlantic Ocean
	24	4.3	1	S	New England / Southern Quebec

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

STATION	temperature mean	anom	max	min	precip. ptot	st	wind max dir	vel
British Columbia								
Blue River A	-3P	4P	2P	-9P	0P	***		X
Cape St James	6P	2P	9P	4P	24P	***	140	120
Cranbrook A	-3	5	6	-15	6	3		X
Fort Nelson A	-17	6	-10	-26	12	60		X
Fort St John A	-17P	0P	4P	-21P	12P	***	340	43
Kamloops A	2P	8P	13P	-4P	8P	***	100	37
Penticton A	3	5	8	-3	1	***	180	59
Port Hardy A	6	4	10	2	87	***	110	65
Prince George A	-1	11	5	-5	10	***	180	57
Prince Rupert A	5	4	10	-2	113	***	150	83
Smithers A	-3	8	5	-13	10	32	210	33
Vancouver Int'l A	7	4	12	-1	58	***	160	4
Victoria Int'l A	7	4	12	-2	72	***	160	46
Williams Lake A	-2	7	3	-11	13	29	280	37
Yukon Territory								
Komakuk Beach A	-27P	-3P	-16P	-40P	0P	18		X
Teslin (aut)	-14P	400P	-3P	-20P	0P	***		X
Watson Lake A	-17	9	1	-28	4	64	240	39
Whitehorse A	-14	6	-1	-24	4	28	170	37
Northwest Territories								
Alert	-30P	2P	-26P	-34P	0P	***		X
Baker Lake A	-35	-1	-26	-40	2	29	310	76
Cambridge Bay A	-35	0	-28	-40	0	36	280	46
Cape Dyer A	-25P	-3P	-11P	-36P	3P	275	270	48
Clyde A	-32	-6	-21	-54	7	47	320	80
Coppermine A	-30	-1	-22	-38	2	46	320	56
Coral Harbour A	-33	-3	-25	-41	2	36	340	52
Eureka	-39	-2	-33	-45	1	18		X
Fort Smith A	-26	1	-14	-40	3	63		X
Hall Beach A	-32	-1	-22	-40	3	29	300	74
Inuvik A	-35	-8	-21	-42	4	38		X
Iqaluit A	-34	-8	-24	-45	1	25	310	52
Mould Bay A	-34	0	-26	-40	0	13		X
Norman Wells A	-33	-5	-20	-43	2	15	100	37
Resolute A	-38	-6	-32	-43	0	8	340	59
Yellowknife A	-30	-1	-15	-42	1	***		X
Alberta								
Calgary Int'l A	-3	9	13	-13	1	2	360	63
Cold Lake A	-12	6	3	-26	9	25	340	32
Edmonton Namao A	-9	6	3	-23	4	22	310	43
Fort McMurray A	-17	4	2	-33	9	38		X
High Level A	-22	-2	-6	-32	6	46		X
Jasper	-3	10	4	-11	4	22		X
Lethbridge A	1	11	11	-11	1	***	260	65
Medicine Hat A	-3	10	9	-15	3	1	250	57
Peace River A	-13	7	3	-25	7	32	260	33
Saskatchewan								
Cree Lake	-23	-1	-4	-40	1	39	200	32
Estevan A	-11	5	3	-23	4	5	310	76
La Ronge A	-18	2	2	-32	6	51		X
Regina A	-12	5	0	-23	6	14	320	67
Saskatoon A	-14	6	0	-23	9	22	330	56
Swift Current A	-7	8	6	-20	7	8	290	65
Yorkton A	-15	4	1	-26	9	45	330	44
Manitoba								
Brandon A	-17	3	-4	-28	8	29	330	59
Churchill A	-30	-2	-16	-35	1	52	300	54
Lynn Lake A	-24	1	-10	-35	2	38		X
The Pas A	-19	4	-5	-33	3	28	360	46
Thompson A	-26	-1	-12	-40	4	45		X
Winnipeg Int'l A	-14	5	0	-25	10	14	330	70

STATION	temperature mean	anom	max	min	precip. ptot	st	wind max dir	vel
Ontario								
Big Trout Lake	***	***	-6	***	***	28	030	48
Gore Bay A	-12	-2	3	-24	14	25	360	70
Kapuskasing A	-22	-4	-1	-34	30	85	340	56
Kenora A	-14	5	-1	-26	2	35	330	50
London A	-7	-1	4	-16	27	23	210	41
Moosonee	-25	-5	-5	-36	8	37	350	56
North Bay A	-17	-5	2	-33	10	26	360	63
Ottawa Int'l A	-15	-6	3	-27	14	17	300	61
Petawawa A	-19	-7	2	-33	15	18	310	56
Pickle Lake	-21	0	-5	-33	8	36	360	35
Red Lake A	-19	1	-4	-33	7	34	350	46
Sudbury A	-18	-5	1	-31	15	35	340	52
Thunder Bay A	-15	1	0	-28	5	22	360	61
Timmins A	-22	-6	0	-38	18	51	330	59
Toronto(Pearson Int'l A)	-7	-1	4	-21	9	9	32	
Trenton A	-10	-3	4	-23	19	1	250	74
Wiarton A	-9	-2	3	-22	18	17	321	37
Windsor A	-5	-1	4	-12	6	7	300	57
Québec								
Bagotville A	-23	-9	-2	-34	12	55	270	69
Blanc Sablon A	-19P	***	4P	-30P	23P	6	210	74
Inukjuak A	-30	-5	-19	-36	1	16	180	56
Kuujjuaq A	-29	-5	-15	-37	***	32	260	69
Kuujjuarapik A	-27	-5	-11	-34	11	26	140	61
Maniwaki	-19	-7	1	-36	15	33	340	44
Mont Joli A	-16	-6	3	-24	16	23	230	67
Montréal Int'l A	-15	-6	4	-26	21	1	220	
Natashquan A	-18	-7	3	-32	44	26	160	96
Québec A	-19	-8	2	-28	20	53	240	70
Schefferville A	-29	-6	-12	-38	8	72	280	59
Sept-Îles A	-21	-7	1	-32	27	53	080	44
Sherbrooke A	-16	-6	4	-27	11	10	260	65
Val-d'Or A	-22	-6	0	-38	6	37	340	67
New Brunswick								
Chatham A	***	***	***	***	***	***		X
Fredericton A	-12	-5	11	-22	27	1	180	100
Miscou Island (aut)	-14P	-6P	1P	-22P	0P	***		
Moncton A	-12	-5	11	-22	14	1	160	85
Saint John A	-10P	-4P	10P	-21P	36P	***	180	82
Nova Scotia								
Greenwood A	-8	-5	13	-22	29	1	190	87
Shearwater A	-9	-6	8	-18	24	1	180	93
Sydney A	-10	-6	8	-19	21	1	180	96
Yarmouth A	-6	-5	9	-18	28	1	180	78
Prince Edward Island								
Charlottetown A	-12	-6	9	-21	13	1	190	70
East Point (auto)	***	***	***	***	***	***		
Newfoundland								
Cartwright	-19	-6	5	-31	8	90	340	67
Churchill Falls A	-28	-8	-7	-39	15	104	320	4
Gander Int'l A	-11	-5	7	-21	14	5	170	107
Goose A	-21	-5	4	-33	15	48	260	44
Port Aux Basques	***	***	5	***	***	2	280	93
St John's A	-9	-6	7	-17	22	10	190	93
St Lawrence	-8	-5	8	-17	39	1		X
Wabush Lake A	-28	-6	-9	-38	13	76	350	46

92/01/20-92/01/26

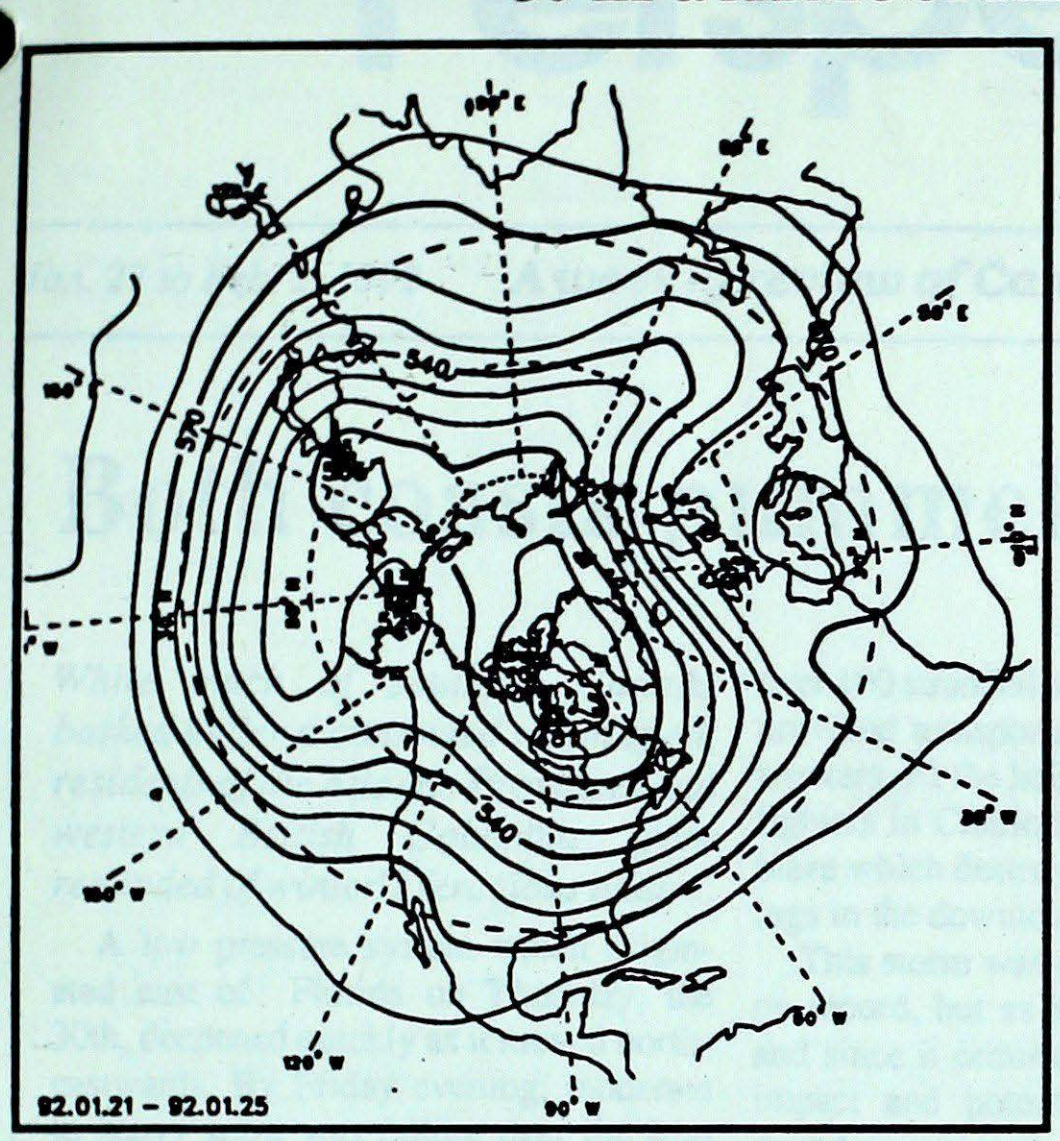
mean = mean weekly temperature, °C
max = maximum weekly temperature, °C
min = minimum weekly temperature, °C
anom = mean temperature anomaly, °C

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

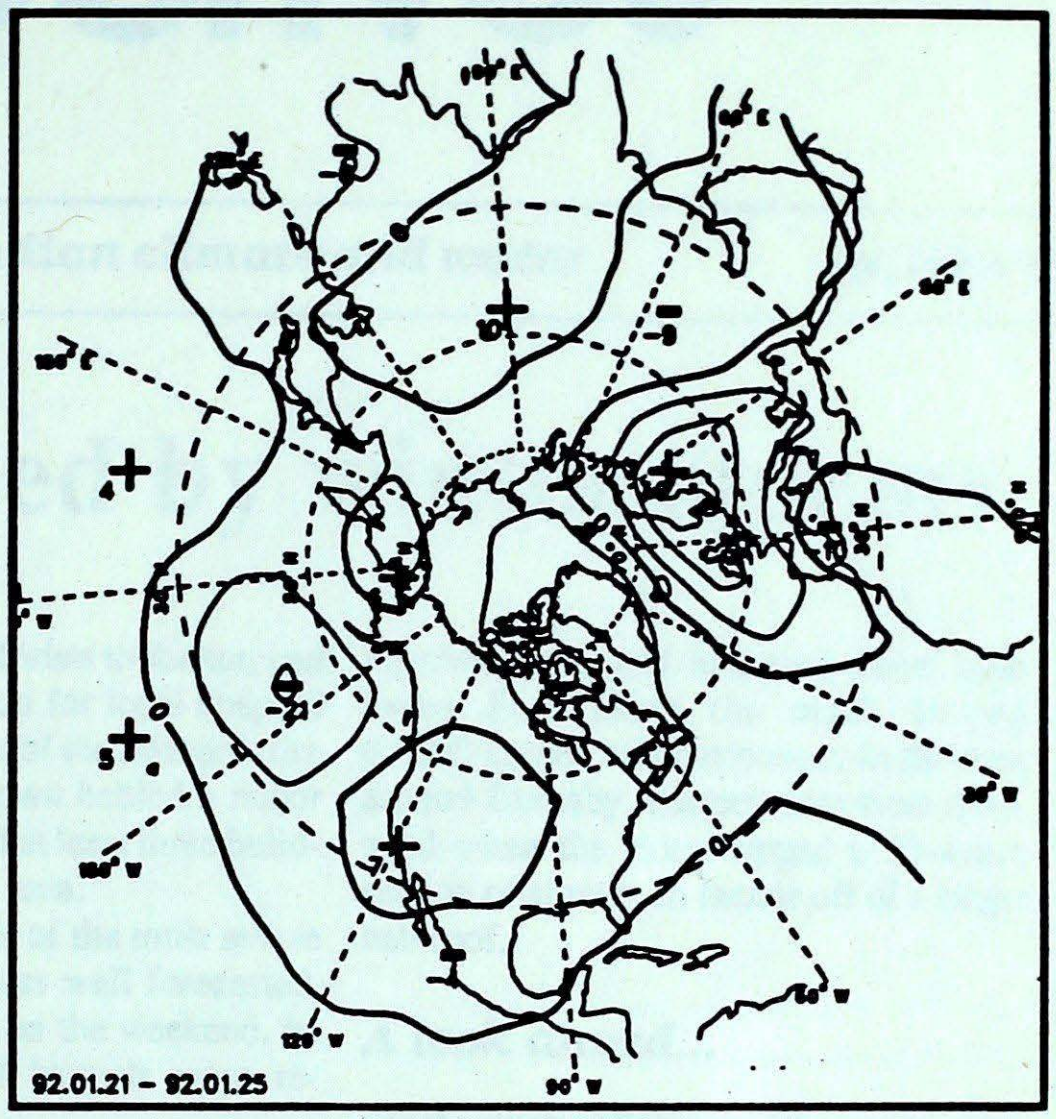
— Annotations —

X = no observation
P = less than 7 days of data
* = missing data when going to printing.

50-kPa ATMOSPHERIC CIRCULATION



Mean geopotential height
50 kPa level (10 decametre intervals)



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