Environnement Canada Environment Canada

Climatic Perspectives

February 3 to 9, 1992 **A weekly review of Canadian climate and water** *Vol. 14 No. 06*

Recurring storms in the Atlantic Provinces

This week's weather conditions were unspectacular, except on the east coast where frequent storms left residents snowed under.

As the Atlantic Provinces struggled to dig their way out of the worst storm in recent memory (February 2nd), they were hit by another two storms. Moncton received the brunt of the first storm, on the 5th, with 26.4 cm of snow. The situation was further complicated as more snow arrived on the 8th; this time, Sydney received the most snowfall across the region, with 24.8 cm.

This combination of storms caused havoc in the Maritimes. Some of the difficulties experienced ranged from business, school and radio station closures, to snow plough companies being unable to keep up with demand, while the fire departments endeavoured to uncover buried fire hydrants. On the bright side, local retailers were quickly sold out of shovels and snow blowers, and ski resorts were quite pleased with the record snowfall.

In Newfoundland, three storms hit this week: on Monday, Thursday and Saturday. These storms brought freezing rain, drizzle and fog. With a total of 20 cm accumulated snow and wind gusts to 120km/h, visibility was reduced to nearly zero, causing closures of schools and businesses.

Although most of the country experienced closer to normal conditions, compared to the previous week, the persistence of below normal temperatures in eastern Canada has led to advanced sea ice development. The ice conditions off the Labrador Coast and east of Newfoundland are reported to be three to four weeks ahead of normal, in extent and ice thickness. Along the eastern New Brunswick coastline, the ice conditions are also ahead of schedule by about two weeks. If this trend continues, there could be an impact on upcoming shipping activities, as was the case last year, when above normal ice thickness and extent hampered all forms of marine transportation.

Temperatures returning to near normal across the West

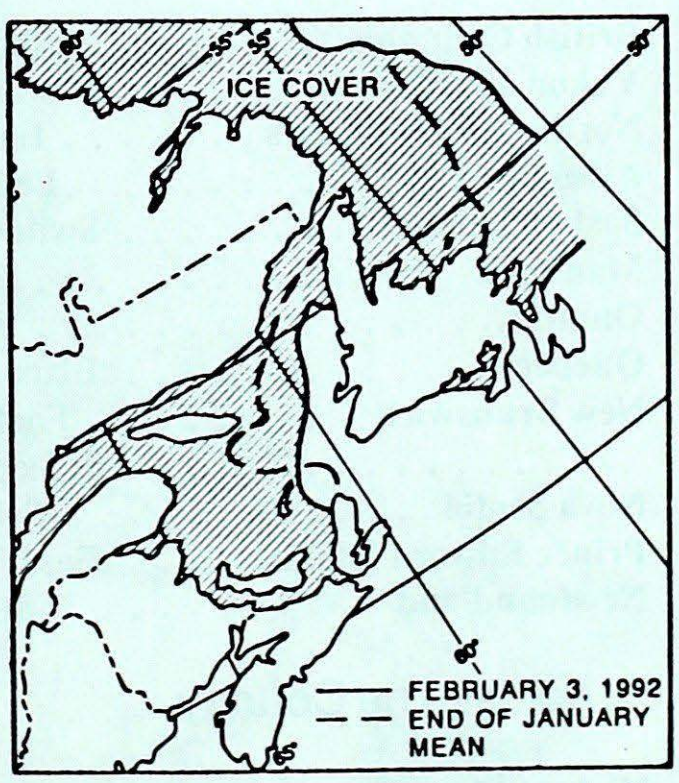
In British Columbia, warm air last week gave way to invading cold Arctic air this week, returning temperatures to near normal. Fort Nelson recorded the lowest temperature in the province with -28.5°C. The cold air mass caused morning fog in southern British Columbia, but generally there was plenty of sunshine, and commercial fishermen got a break from gales and frequent storms. Thanks to the freezing temperatures, logging companies were able to reach areas that were previously inaccessible.

Although temperatures were still above normal across the Prairies, the intrusion of cold Arctic air caused mean temperatures to be comparatively lower than the last week. Throughout Ontario and Quebec, normal or somewhat below normal temperatures prevailed, with the coldest temperature recorded at La Grande IV, Que. with -43.1°C.

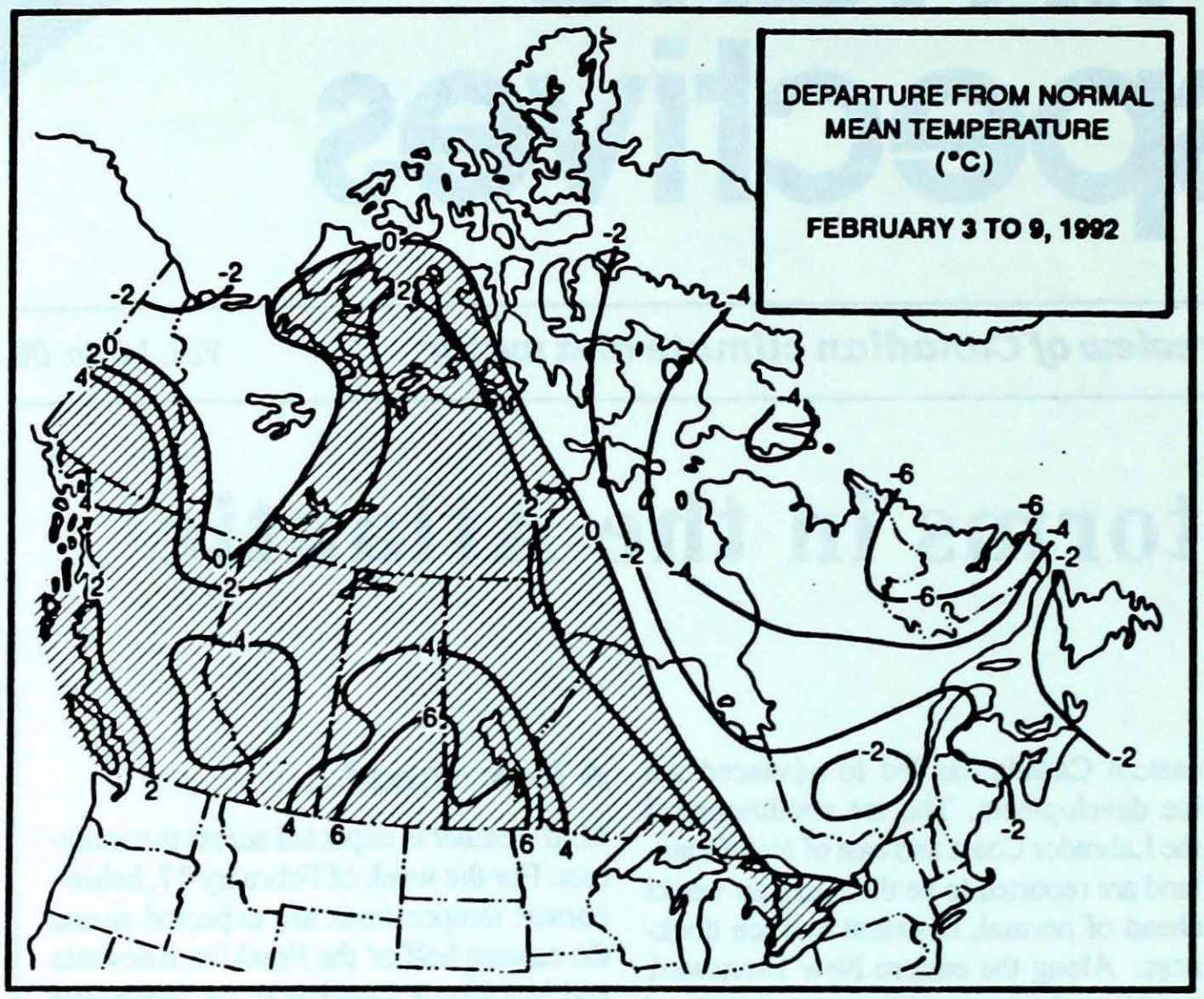
A look ahead...

Mild weather is expected across the southeast. For the week of February 17, below-normal temperatures are expected across the eastern half of the Franklin, Keewatin and Mackenzie Districts of the Northwest Territories.

Above-normal temperatures will occur across the southern parts of Ontario and Quebec, and all of the Atlantic provinces. Elsewhere, near normal temperatures are likely.



The extent of ice cover is two to four weeks ahead of schedule, as the mean temperature for January was 2°C below normal.



Weekly normal temperatures (°C)

	max.	min.
Whitehorse A	-9.5	-18.7
Iqaluit A	-21.2	-29.9
Yellowknife A	-20.9	-29.6
Vancouver Int'l A	7.6	1.5
Victoria Int'l A	8.1	1.5
Calgary Int'l A	-0.4	-12.1
Edmonton Int'l A	-5.1	-17.0
Regina A	-8.4	-19.1
Saskatoon A	-9.1	-19.8
Winnipeg Int'l A	-11.0	-21.4
Ottawa Int'l A	-6.1	-15.7
Toronto (Pearson Int'l A)	-2.7	-12.3
Montréal Int'l A	-5.6	-15.1
Québec A	-7.2	-16.7
Fredericton A	-3.2	-14.6
Saint John A	-2.7	-13.0
Halifax (Shearwater)	-0.7	-8.8
Charlottetown A	-3.5	-11.6
Goose A	-9.3	-19.9
St John's A	-1.0	-7.9

Weekly temperature and precipitation extremes

	Maximum temperature (°C)		Minimum temperature (°C)		Heaviest precipitation (mm)	
British Columbia	Abbotsford A	16	Fort Nelson A	-29	Terrace A	48
Yukon Territory	Whitehorse A	-1	Shingle Point A	-38	Whitehorse A	3
Northwest Territories	Hay River A	-1	Shepherd Bay A	-49	Cape Young A	15
Alberta	Lethbridge A	17	High Level A	-32	Grande Prairie A	6
Saskatchewan	Swift Current A	11	Cree Lake	-35	Cree Lake	10
Manitoba	Dauphin A	3	Churchill A	-38	Island Lake	17
Ontario	Windsor A	5	Armstrong (aut)	-40	Pickle Lake	17
Québec	Blanc Sablon A	0	La Grande IV A	-43	Ste Agathe Des Monts	20
New Brunswick	Fredericton A	-3	St-Léonard A	-25	Moncton A	29
	St Stephen (aut)	-3				
Nova Scotia	Sable Island	2	Greenwood A	-25	Sydney A	76
Prince Edward Island	East Point (aut)	-3	Charlottetown A	-23	Charlottetown A	20
Newfoundland	St John's A	3	Wabush Lake A	-40	Gander Int'l A	64

Across The Country...

Highest Mean Temperature	Estevan Point (aut) (BC)	7
Lowest Mean Temperature	Eureka (NWT)	-39

92/02/03-92/02/09

CLIMATIC PERSPECTIVES
VOLUME 14

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ISBN 0225-5707 UDC 551.506.1(71)

Climatic Perspectives is a weekly publication (disponible aussi en français) of the Canadian Climate Centre, Atmospheric Environment Service, 4905 Dufferin St., Downsview, Ontario, Canada M3H 5T4

☎ (416) 739-4438/4330

The purpose of the publication is to make topical information available to the public concerning the Canadian Climate and its socio-economic impact.

The data in this publication are based on unverified reports from approximately 225 Canadian synoptic weather stations. Information concerning climatic impacts is gathered from AES contacts with the public and from the media. Articles do not necessarily reflect the views of the Atmospheric Environment Service.

Annual Subscriptions

weekly and monthly : $35.00
foreign: $42.00
monthly issue: $10.00
foreign: $12.00

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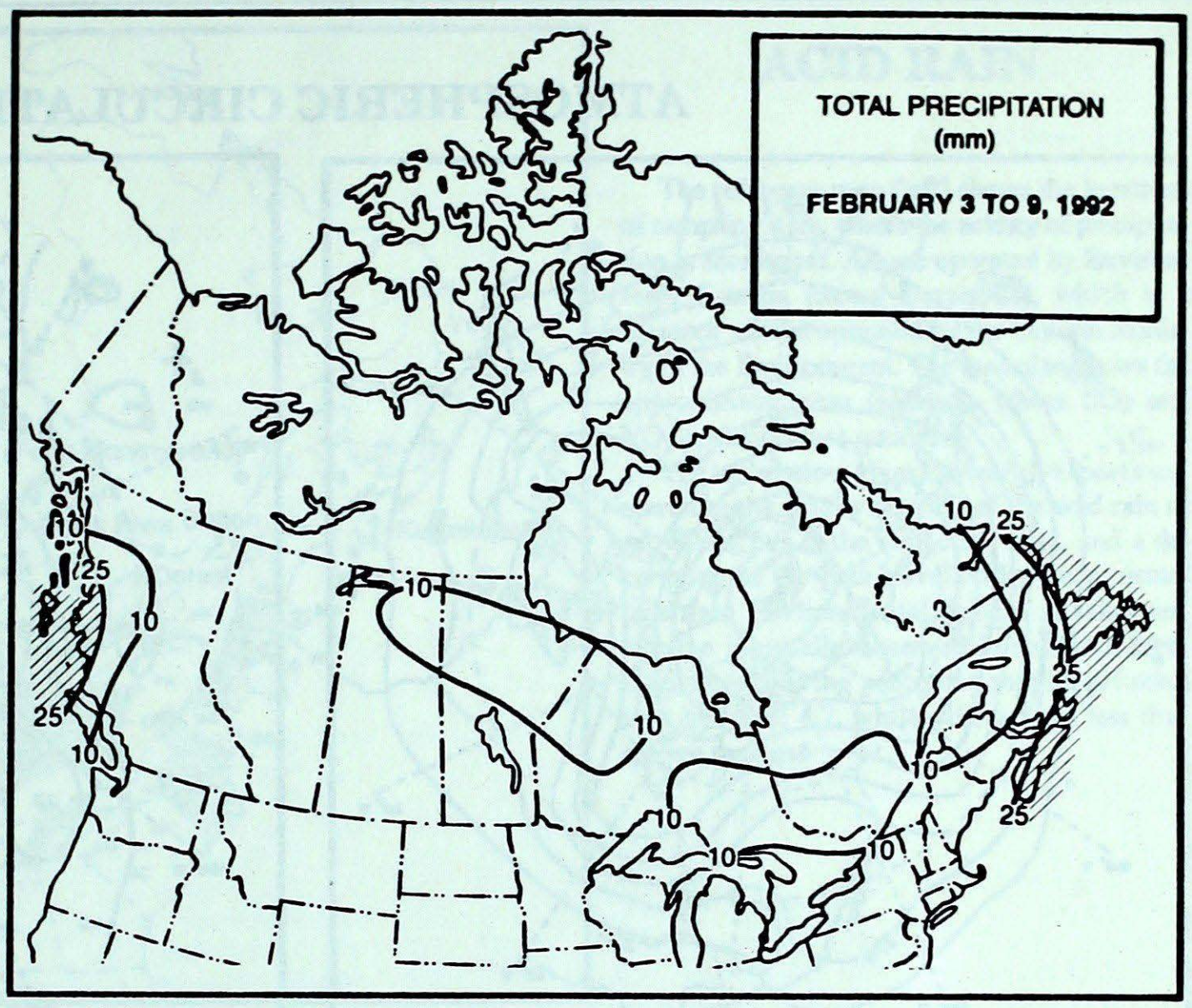
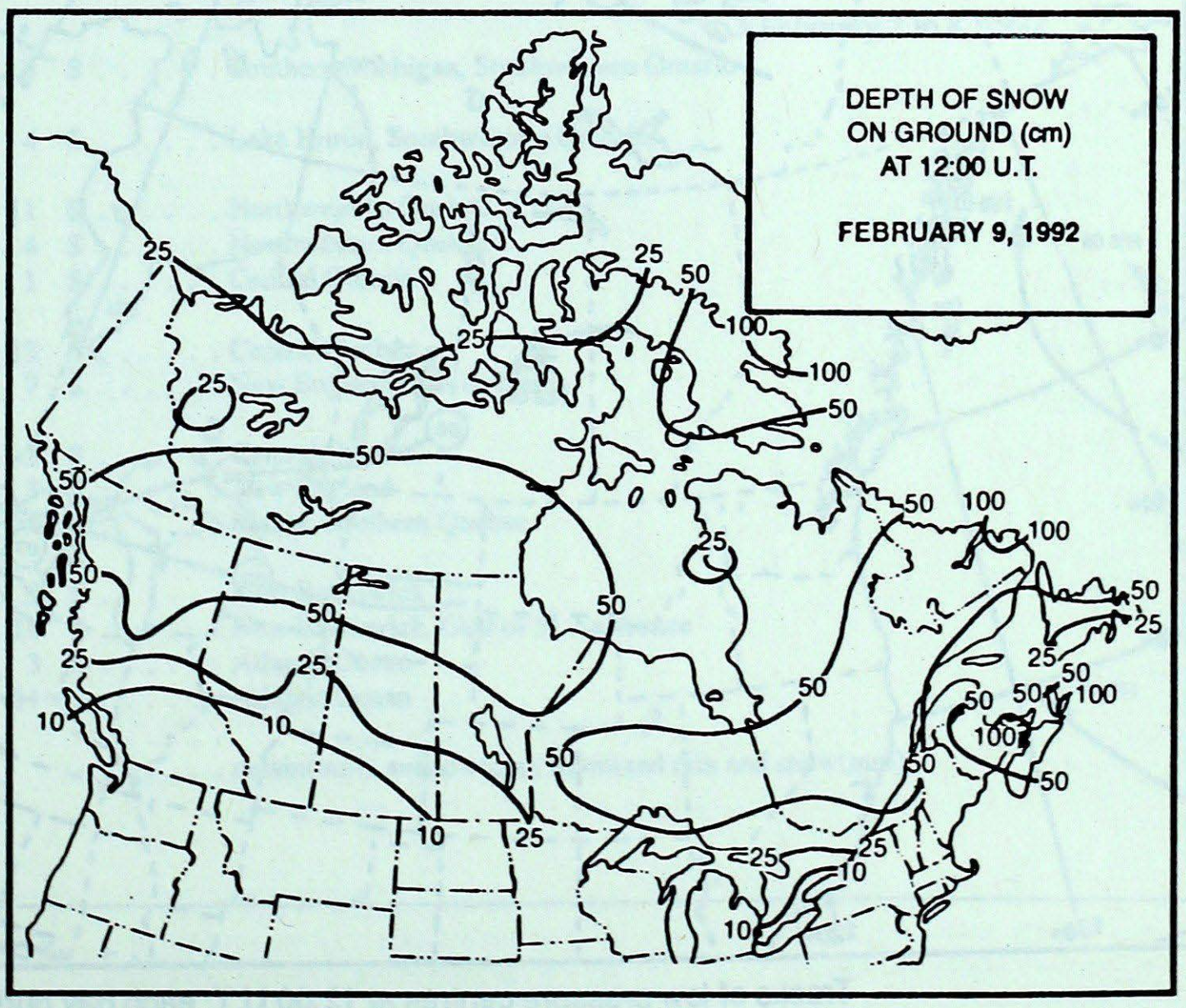
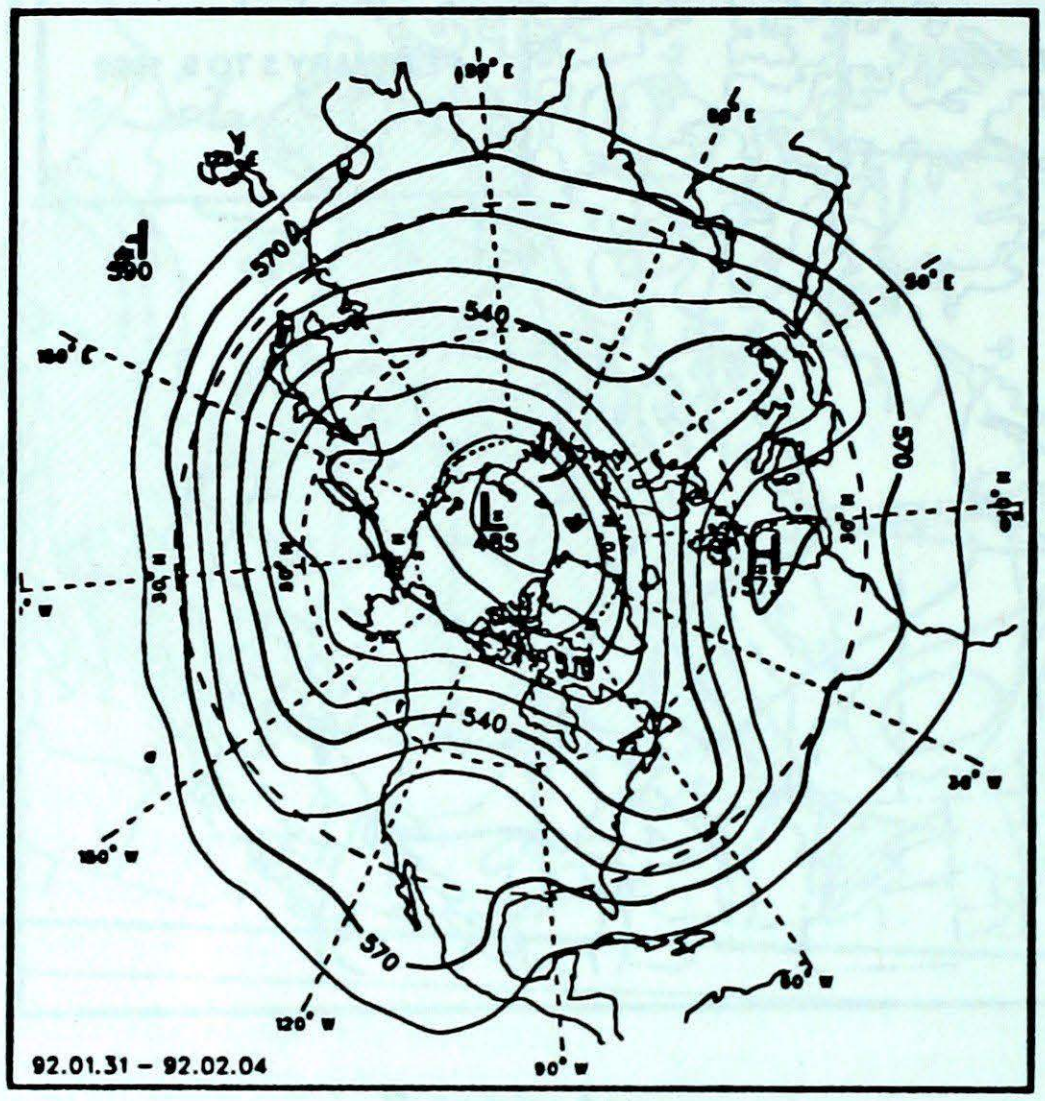
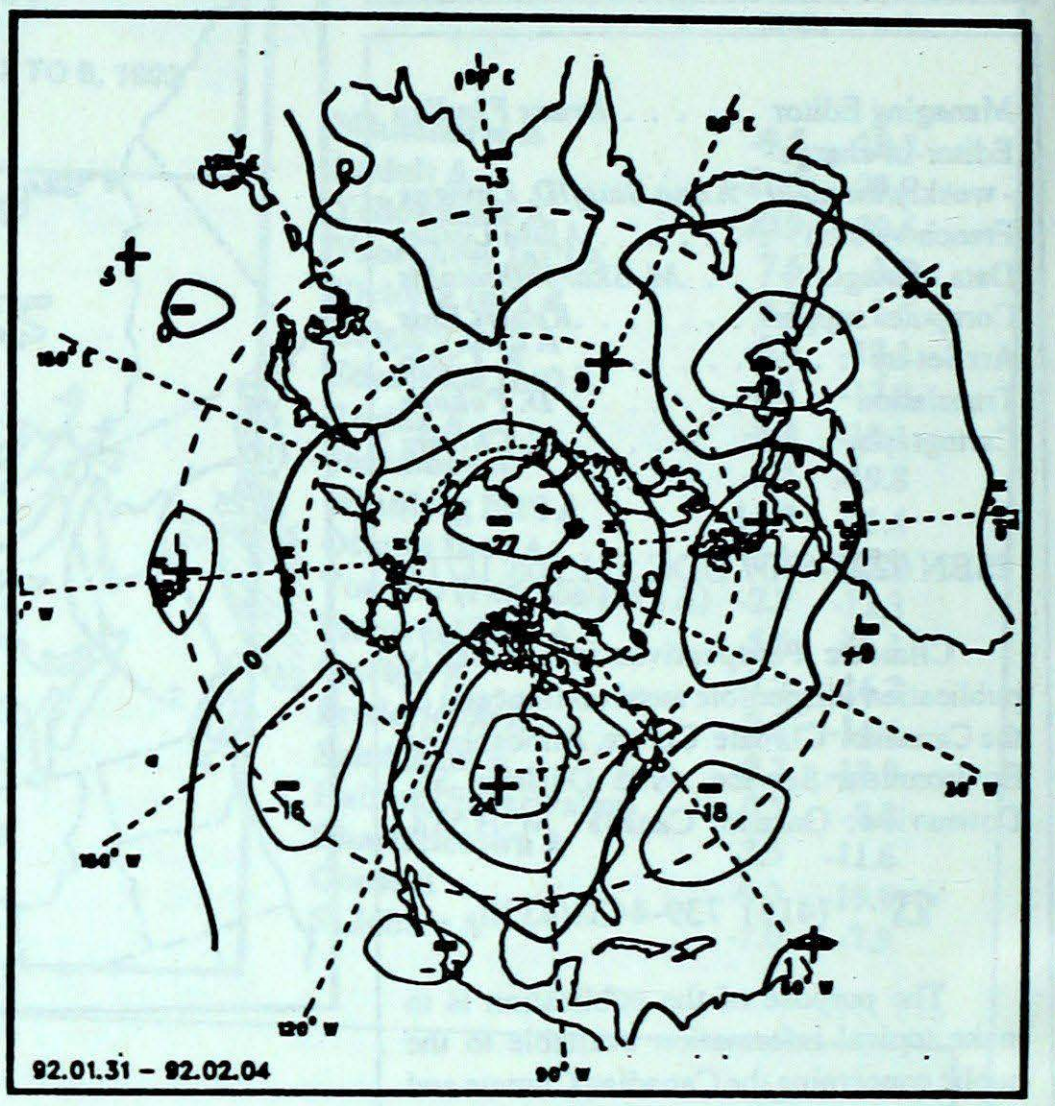




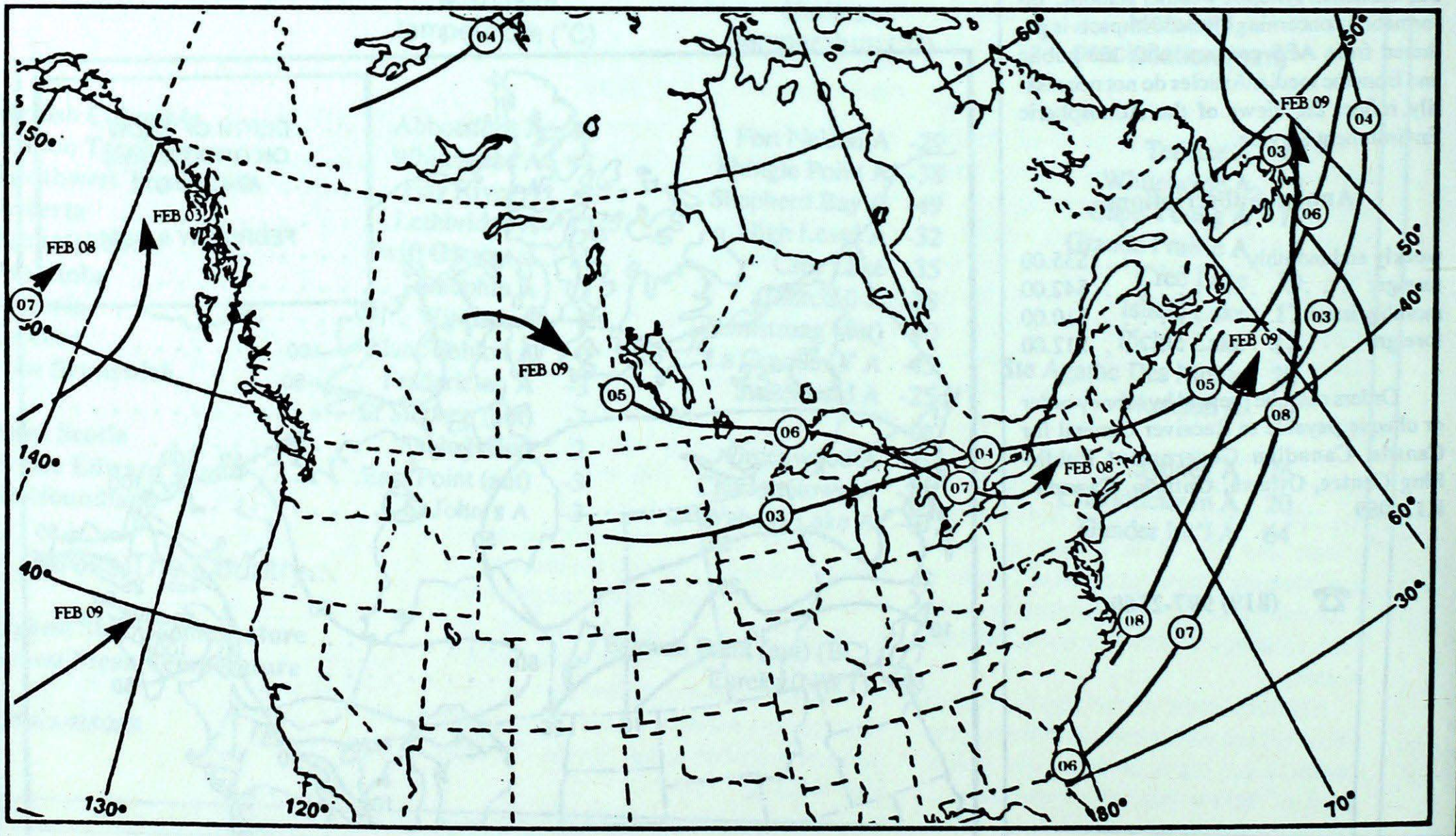
ATMOSPHERIC CIRCULATION



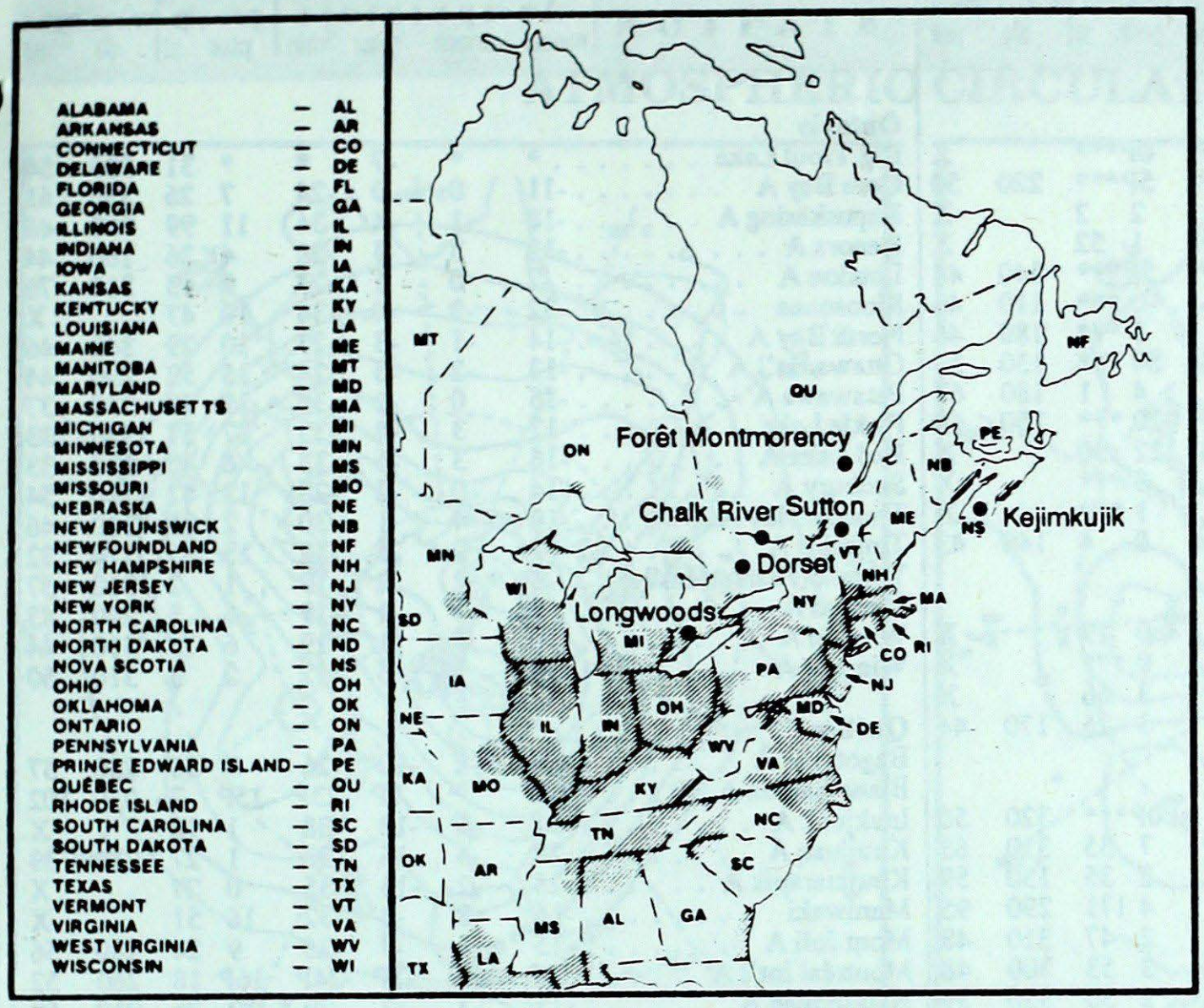
Mean geopotential height
50-kPa level (10-decametre intervals)



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_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
					February 2 to 8, 1992
Longwoods	03	4.2	3	S	Southern Michigan, Southwestern Ontario
Dorset*	04	4.0	4	S	Lake Huron, Southwestern Ontario
Chalk River	03	4.6	11	S	Northwestern Quebec
	04	4.3	4	S	Northwestern Quebec
	07	3.9	1	S	Central Ontario
Sutton	04	4.6	13	S	Central Quebec
	08	3.9	7	S	New England, Pennsylvania
Montmorency	04	5.1	3	S	Central Quebec
	07	4.3	3	S	New England
	08	4.1	4	S	Maine, Southern Quebec
Kejimkujik	04	4.4	3	S	New Brunswick
	05	5.1	16	S	New Brunswick, Gulf of St. Lawrence
	07	4.9	3	S	Atlantic Ocean
	08	4.9	11	S	Atlantic Ocean
				. . . . .	
				. . . . .	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	-6P	1P	-1P	-11P	0P	***		X
Cape St James	6P	0P	8P	4P	5P	***	220	50
Cranbrook A	-2	5	7	-10	2	2		X
Fort Nelson A	-18	0	-7	-29	1	52		X
Fort St John A	-13P	-2P	4P	-23P	2P	***	340	44
Kamloops A	2	4	12	-5	0	***	110	46
Penticton A	1	1	11	-6	1	***	180	46
Port Hardy A	5	1	12	0	38	***	130	33
Prince George A	-1	5	11	-13	4	1	180	67
Prince Rupert A	3	0	9	-4	20	***	150	69
Smithers A	-2	4	4	-9	22	30		X
Vancouver Int'l A	6	2	15	0	0	***		X
Victoria Int'l A	6	2	14	2	1	***		X
Williams Lake A	-1	3	9	-6	0	4	140	43
Yukon Territory								
Komakuk Beach A	-30	-2	-5	-37	0	19		X
Teslin (aut)	-8	*	-1	-22	0	***		X
Watson Lake A	-15	5	-6	-31	3	66		X
Whitehorse A	-10	5	-1	-26	3	26	170	44
Northwest Territories								
Alert	-34P	-2P	-29P	-42P	0P	***	320	50
Baker Lake A	-30	2	-16	-41	7	35	310	63
Cambridge Bay A	-31	4	-18	-39	2	35	150	59
Cape Dyer A	-27	-6	-19	-35	4	171	290	95
Clyde A	-30	-3	-19	-42	2	47	310	48
Coppermine A	-27	-3	-10	-38	3	53	300	48
Coral Harbour A	-33	-4	-20	-43	2	35	330	39
Eureka	-39	-2	-27	-46	1	18		X
Fort Smith A	-19	3	-5	-34	6	76	150	48
Hall Beach A	-34	-3	-19	-41	2	34	300	46
Inuvik A	-30	0	-18	-39	2	41		X
Iqaluit A	-29	-3	-19	-37	2	24	330	65
Mould Bay A	-36	-1	-29	-42	1	13		X
Norman Wells A	-27	0	-19	-33	2	14		X
Resolute A	-33	-1	-22	-41	3	***	340	87
Yellowknife A	-24	1	-9	-38	8	60	110	48
Alberta								
Calgary Int'l A	-4	3	16	-16	1	1		X
Cold Lake A	-11	3	1	-25	0	22		X
Edmonton Namao A	-6	4	6	-21	0	13	330	35
Fort McMurray A	-12	3	3	-30	1	30	340	33
High Level A	-17	3	4	-32	2	50	350	44
Jasper	-2	4	11	-15	0	5		X
Lethbridge A	-1	3	17	-13	0	***	260	54
Medicine Hat A	-2	6	16	-14	0	1	220	41
Peace River A	-10	3	2	-24	1	25	270	37
Saskatchewan								
Cree Lake	-16	5	0	-35	10	50	330	39
Estevan A	-5	7	8	-17	0	1	320	69
La Ronge A	-14	5	2	-28	3	49	310	41
Regina A	-9	4	4	-20	1	7	290	56
Saskatoon A	-11	4	1	-21	0	12	300	43
Swift Current A	-3	7	11	-18	1	1	270	50
Yorkton A	-11	5	2	-24	1	25	310	48
Manitoba								
Brandon A	-11	5	2	-27	0	20	300	76
Churchill A	-25	1	-14	-38	8	55	320	48
Lynn Lake A	-19	5	-8	-32	11	36	340	44
The Pas A	-13	6	-2	-26	7	29	330	41
Thompson A	-20	4	-12	-35	12	52		X
Winnipeg Int'l A	-10	6	-1	-26	1	9	330	65

STATION	temperature mean	anom	max	min	precip. ptot	st	wind max dir	vel
Ontario								
Big Trout Lake	*	*	-7	*	*	31	330	54
Gore Bay A	-11	0	0	-24	7	26	330	61
Kapuskasing A	-18	-1	-4	-34	11	99	330	46
Kenora A	-12	3	-3	-28	4	36	160	44
London A	-7	0	1	-23	9	13	310	76
Moosonee	-22	-3	-8	-34	10	47		X
North Bay A	-14	-1	-3	-27	10	29	340	46
Ottawa Int'l A	-13	-2	-5	-24	15	52	290	44
Petawawa A	-15	0	-2	-34	15	29	330	37
Pickle Lake	-17	3	-4	-35	17	57	340	33
Red Lake A	-16	3	-5	-33	6	40	330	33
Sudbury A	-14	0	-2	-28	12	47	330	54
Thunder Bay A	-10	4	1	-30	2	21	320	46
Timmins A	-17	0	-3	-32	15	65	110	32
Toronto(Pearson Int'l A)	-6	2	2	-19	1	2	310	57
Trenton A	-9	-1	-1	-19	5	3	290	43
Wiarton A	-7	1	-1	-19	6	15	310	44
Windsor A	-4	1	5	-12	2	3	310	50
Québec								
Bagotville A	-17	-2	-10	-26	7	50	280	57
Blanc Sablon A	-12P	*	0P	-23P	15P	7	030	102
Inukjuak A	-31	-6	-18	-38	1	18		X
Kuujjuaq A	-28	-5	-16	-38	1	27	270	39
Kuujjuarapik A	-25	-2	-13	-35	0	27		X
Maniwaki	-16	-2	-4	-32	16	51		X
Mont Joli A	-15	-4	-7	-26	9	24	280	56
Montréal Int'l A	-13P	-3P	-1P	-24P	16P	18	260	52
Natashquan A	-15	-3	-2	-29	2	26	010	69
Québec A	-13	-1	-2	-22	10	66	080	56
Schefferville A	-28	-7	-18	-37	1	65	350	37
Sept-Îles A	-15	-2	-6	-26	3	54	020	78
Sherbrooke A	-12	1	-2	-24	17	37	260	41
Val-d'Or A	-20	-4	-8	-33	10	53	330	43
New Brunswick								
Chatham A	*	*	*	*	*	***		X
Fredericton A	-10	-1	-3	-24	9	34	230	61
Miscou Island (aut)	-11P	-2P	-6P	-19P	0P	***		
Moncton A	-10	-2	-4	-21	29	118	010	67
Saint John A	-10	-2	-4	-21	17	57	340	61
Nova Scotia								
Greenwood A	-9	-3	-2	-25	22	52	320	69
Shearwater A	-7	-3	-1	-20	28	53	010	70
Sydney A	-6	-1	-2	-17	76	123	050	78
Yarmouth A	-7	-3	-2	-17	32	46	300	63
Prince Edward Island								
Charlottetown A	-10P	-3P	-4P	-23P	20P	65	340	70
East Point (auto)	-7P	*	-3P	-18P	0P	***		
Newfoundland								
Cartwright	-17	-5	-3	-28	36	120	340	102
Churchill Falls A	-27	-7	-14	-38	3	96	340	50
Gander Int'l A	-8	-1	-1	-19	64	55	010	74
Goose A	-21	-6	-8	-32	3	39	350	41
Port Aux Basques	*	*	1	*	*	26	360	96
St John's A	-5	-1	3	-17	45	43	280	83
St Lawrence	-5	-1	1	-16	32	16		X
Wabush Lake A	-27	-6	-14	-40	2	59	030	37

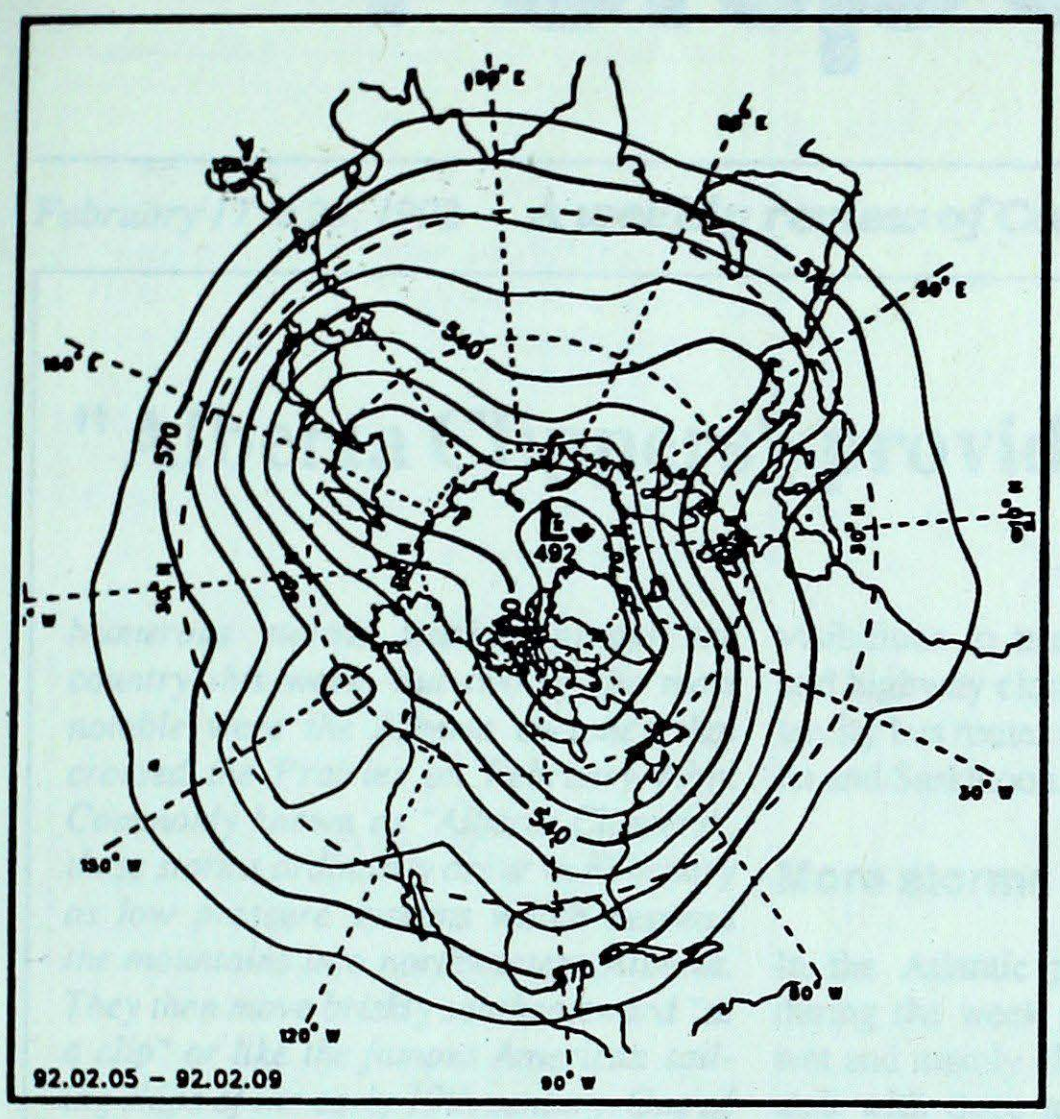
92/02/03-92/02/09

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

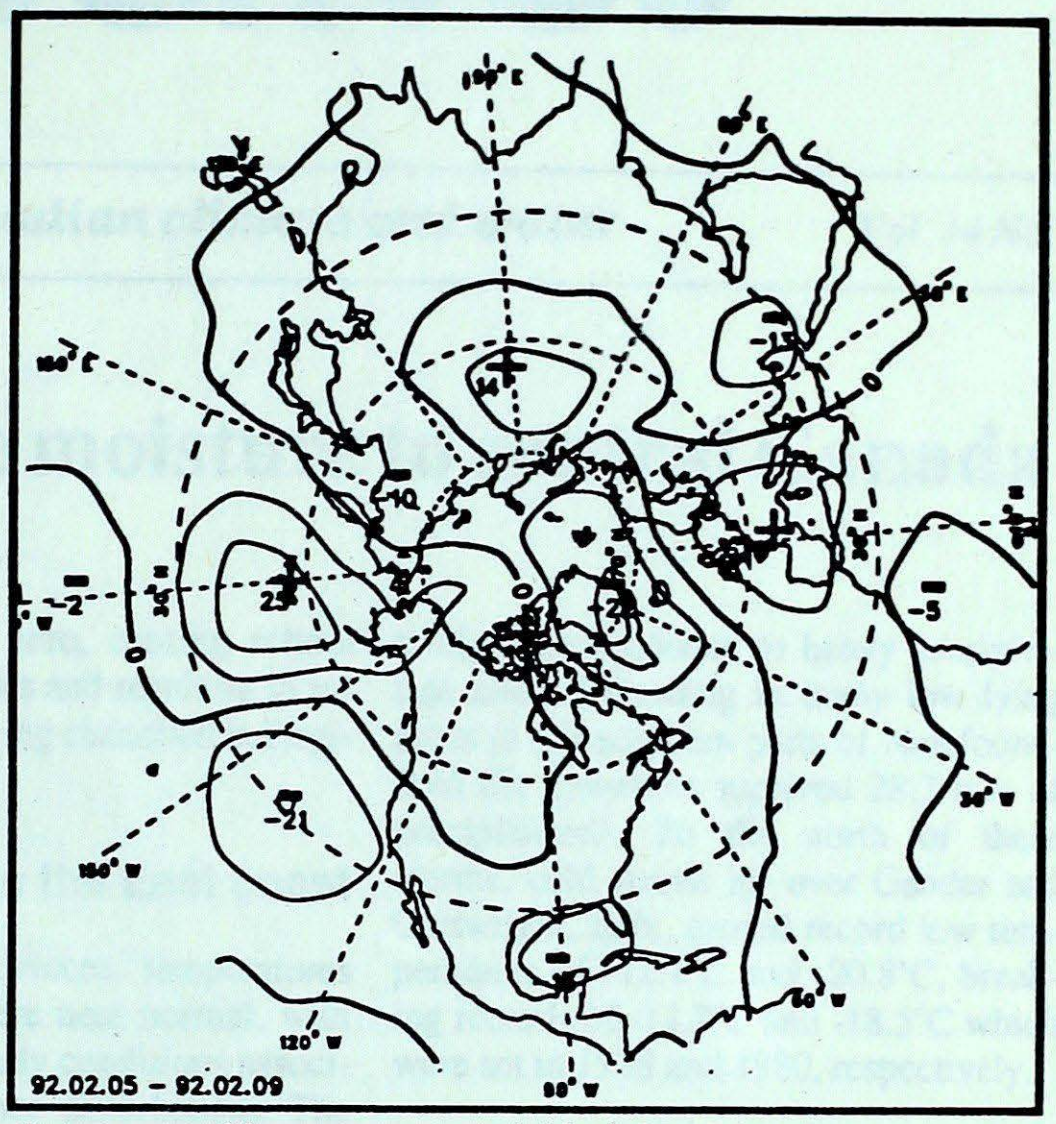
ptot = weekly precipitation total in mm
st = snow thickness on the ground in cm
dir = direction of max wind, deg. from north.
vel = wind speed in km/h

— 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)