Environment Canada Environnement Canada

Climatic Perspectives

MONTHLY SUPPLEMENT INCLUDED

December 9 to 15, 1991 **A weekly review of Canadian climate and water** *Vol. 13 No 50*

Fierce winds lashed the West Coast.

Although the British Columbia coast recorded the strongest winds this week, other parts of the country were also affected by blustery winter weather.

For most of the week the British Columbia coast was under the influence of a strong westerly flow, which was associated with a series of Pacific frontal systems. Sustained wind speeds of 75-85 km/h, with gusts to 100 km/h, were common. The highest gust, 115 km/h, was reported on December 11 at McInnes Island, which is situated along B.C.'s north coast. At Vancouver Airport, a gust of 100 km/h tied the record maximum gust for December, set in 1957. The highest gust ever, 129 km/h, was set in November 1957. The wind storm over southern B.C. on the December 12, ripped off roof shingles, pushed over heavy machinery and left thousands of homes without power. Also, ferry schedules were disrupted for a 5 hour period.

Although these winds have been reported in the past, this fall/winter season has seen a higher number of events than normal, and considerably more than last 10-15 year average.

In Ontario, after a week of balmy, dry weather, a cold front barrelled through on the December 14, producing storm-force winds, as well as snow squalls and blowing snow. Winds along the Lake Ontario and Erie shorelines hit 100-110 km/h, producing 5 to 6 metre high waves. Several highways were closed in the Lake Huron-Georgian Bay snowbelt, as 10-30 cm of snow were blown about by the wind. A return to the colder, more seasonal weather regime, will allow ski resorts operators to make much needed snow for the upcoming Christmas holidays.

In Nova Scotia and Newfoundland, colder temperatures and storm-force winds were also reported. For example, Grand Etang, N.S., had gusts up to 100 km/h, while Sagona Island, Nfld., recorded speeds as high as 107 km/h.

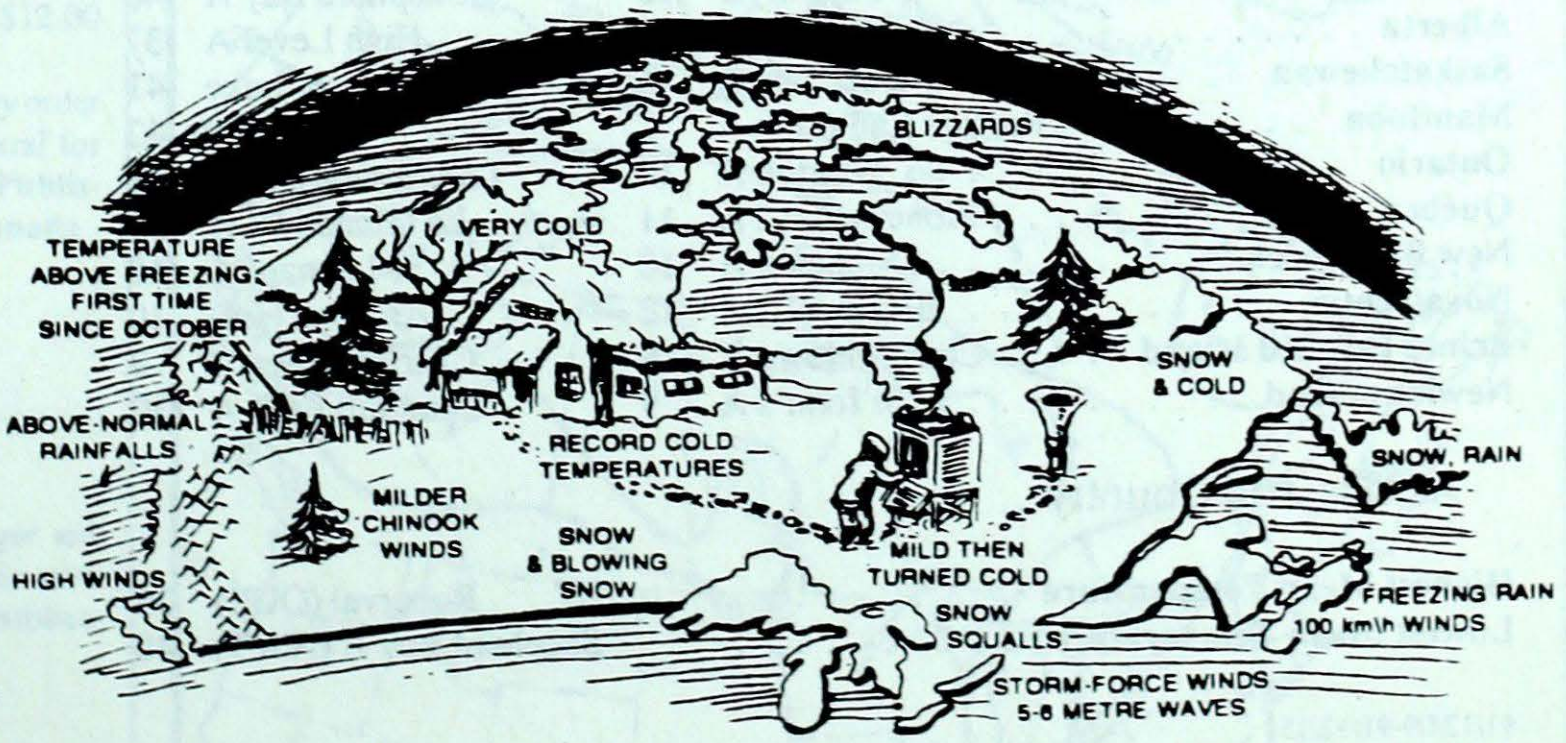
The weather across the Arctic was just as severe, as numerous weather advisories and warning were issued, mainly due to the cold, winds and blizzard conditions.

A look ahead ...

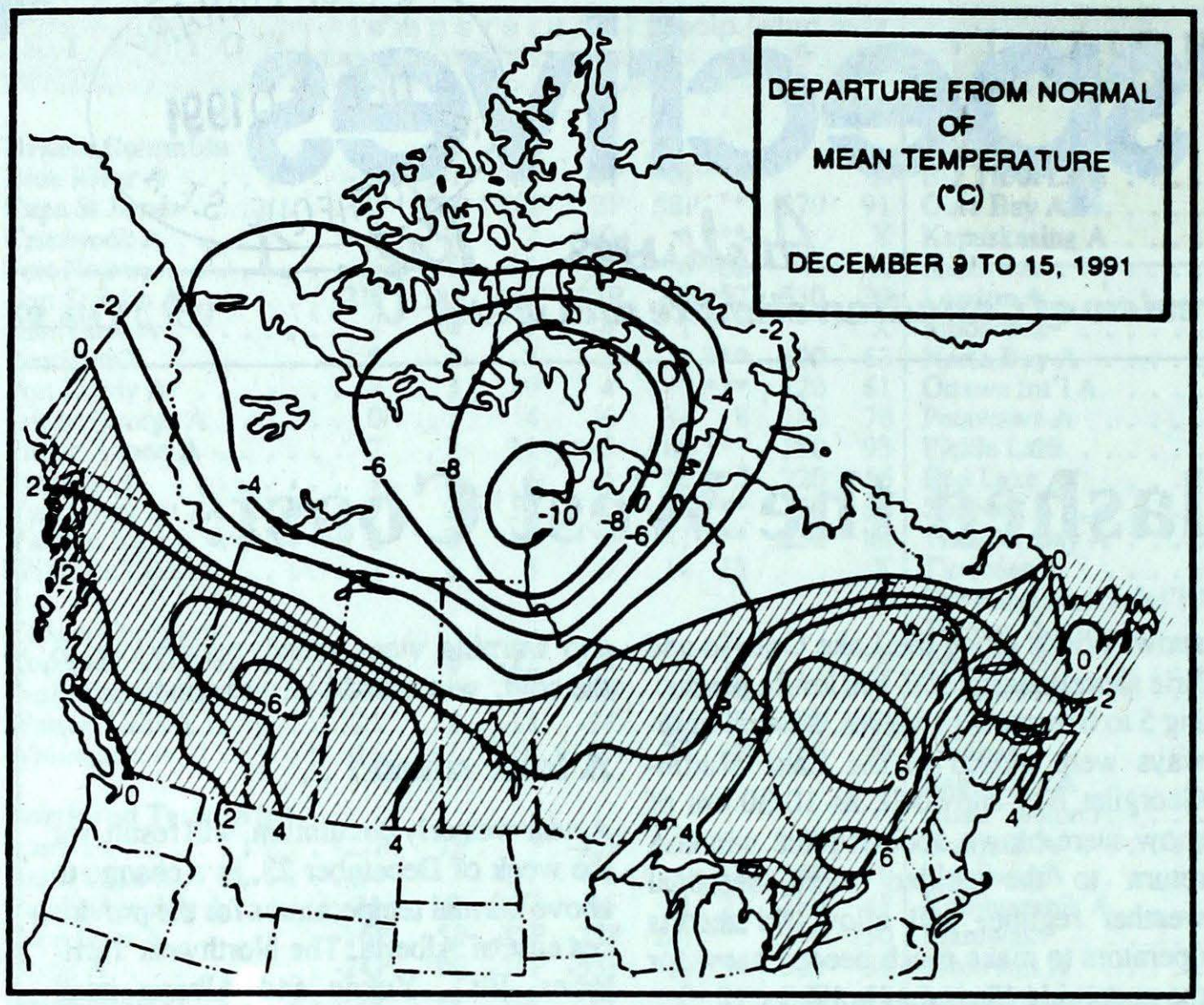
A near westerly circulation, will result, for the week of December 23, in a change to above normal temperatures for the provinces east of Alberta. The Northwest Territories, B.C., Yukon and Alberta itself should endure below normal readings.

The staff of Climatic Perspectives would like to wish all our readers the very best for the holiday period. As usual Climatic Perspectives will not be published during the holiday, but all maps and tables will be included in the New Year edition.

SEASON'S GREETINGS FROM CCC



Canada



Weekly normal temperatures (°C)

	max.	min.
Whitehorse A	-12.2	-20.3
Iqaluit A	-18.7	-26.4
Yellowknife A	-19.6	-27.4
Vancouver Int'l A	7.0	1.4
Victoria Int'l A	7.5	1.4
Calgary Int'l A	-0.9	-13.5
Edmonton Int'l A	-7.3	-18.8
Regina A	-7.5	-18.2
Saskatoon A	-9.0	-19.2
Winnipeg Int'l A	-9.9	-19.1
Ottawa Int'l A	-2.9	-11.0
Toronto (Pearson Int'l A)	0.7	-6.4
Montréal Int'l A	-2.1	-9.8
Québec A	-4.4	-12.5
Fredericton A	-1.2	-10.3
Saint John A	0.7	-8.3
Halifax (Shearwater)	2.8	-4.9
Charlottetown A	0.4	-6.9
Goose A	-10.2	-18.0
St John's A	1.8	-4.6

Weekly temperature and precipitation extremes

	Maximum temperature (°C)		Minimum temperature (°C)		Heaviest precipitation (mm)	
British Columbia	Abbotsford A	10	Fort Nelson A	-33	Prince Rupert A	120
	Penticton A	10				
	Victoria Int'l A	10				
Yukon Territory	Whitehorse A	1	Shingle Point A	-39	Watson Lake A	4
Northwest Territories	Cape Dyer	-10	Shepherd Bay A	-46	Cape Dyer A	46
Alberta	Whitecourt A	10	High Level A	-37	High Level A	15
Saskatchewan	Moose Jaw A	5	Cree Lake	-41	Regina A	10
Manitoba	Portage La Prairie A	2	Gillam A	-42	Portage La Prairie A	15
Ontario	Wiarton A	14	Lansdowne House	-38	Gore Bay A	37
Québec	Montréal Int'l A	11	La Grande IV A	-36	Québec A	40
New Brunswick	Moncton A	10	St-Léonard A	-18	Saint John A	27
Nova Scotia	Greenwood A	12	Amherst (aut)	-10	Yarmouth A	43
Prince Edward Island	Charlottetown A	8	Charlottetown A	-9	Charlottetown A	16
Newfoundland	St John's A	9	Churchill Falls A	-30	St Anthony	49

Across The Country...

Highest Mean Temperature	Roberval (QUÉ)	15
Lowest Mean Temperature	Shepherd Bay A (NWT)	-40

91/12/09-91/12/15

CLIMATIC PERSPECTIVES
VOLUME 13

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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.

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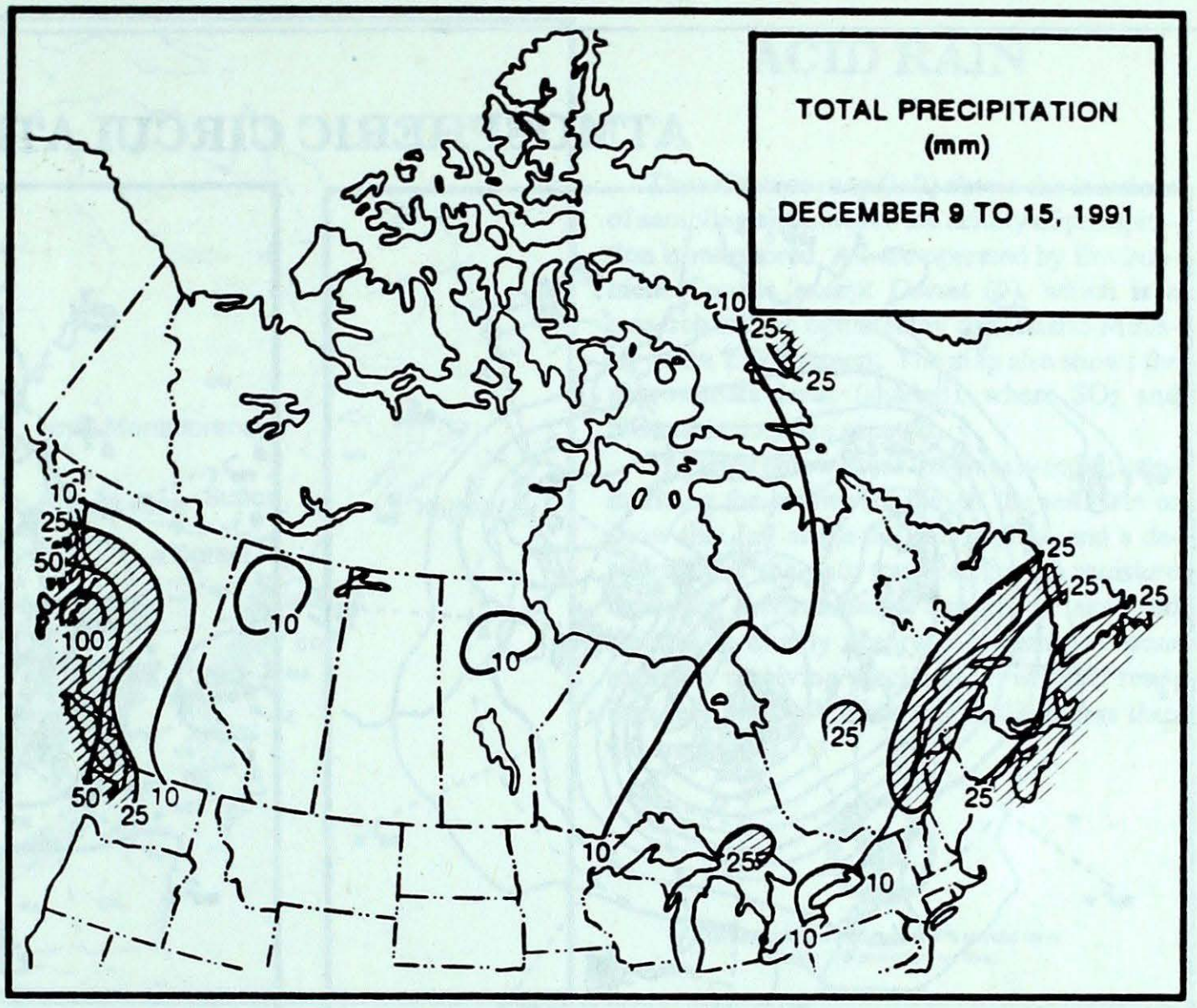
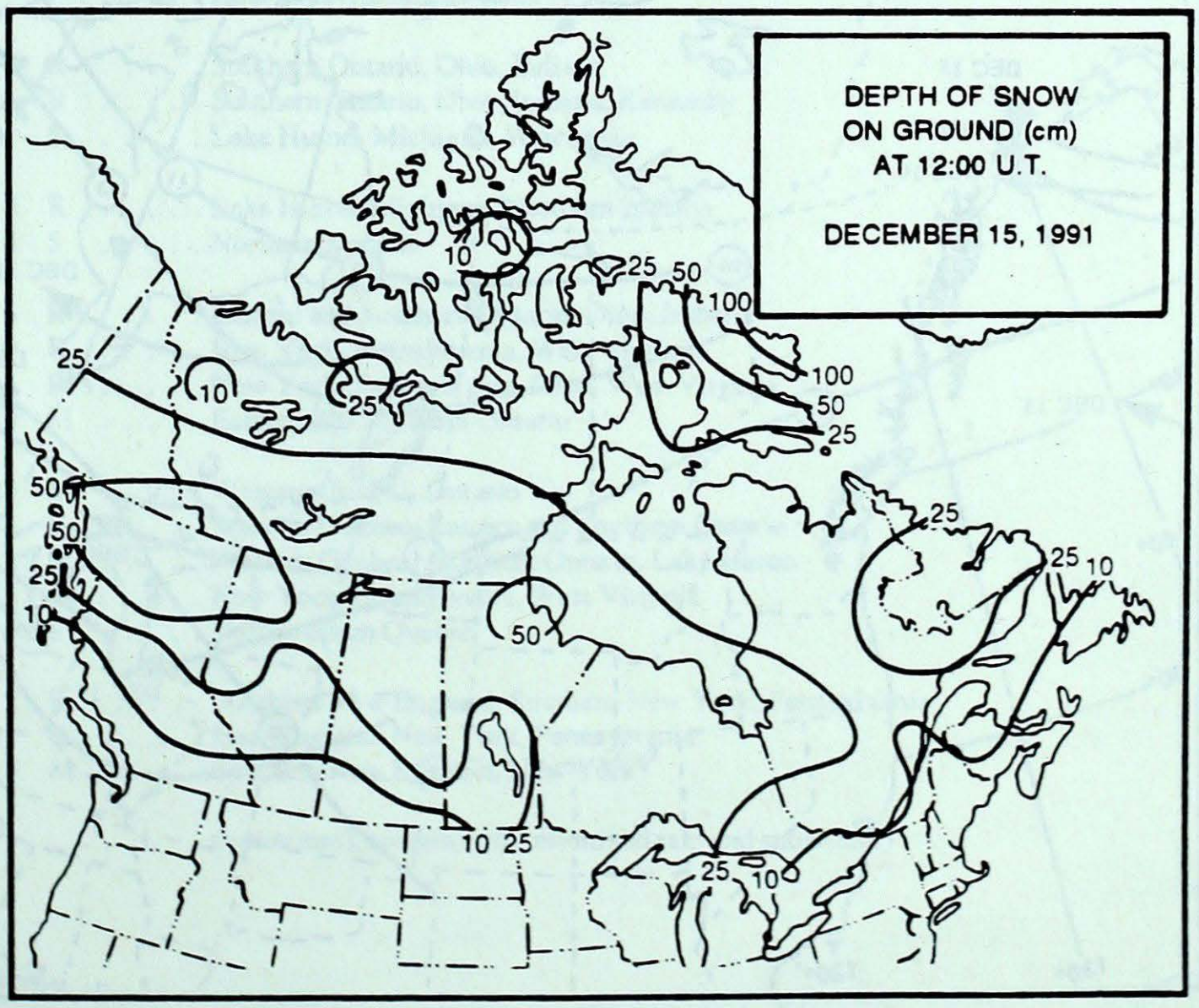
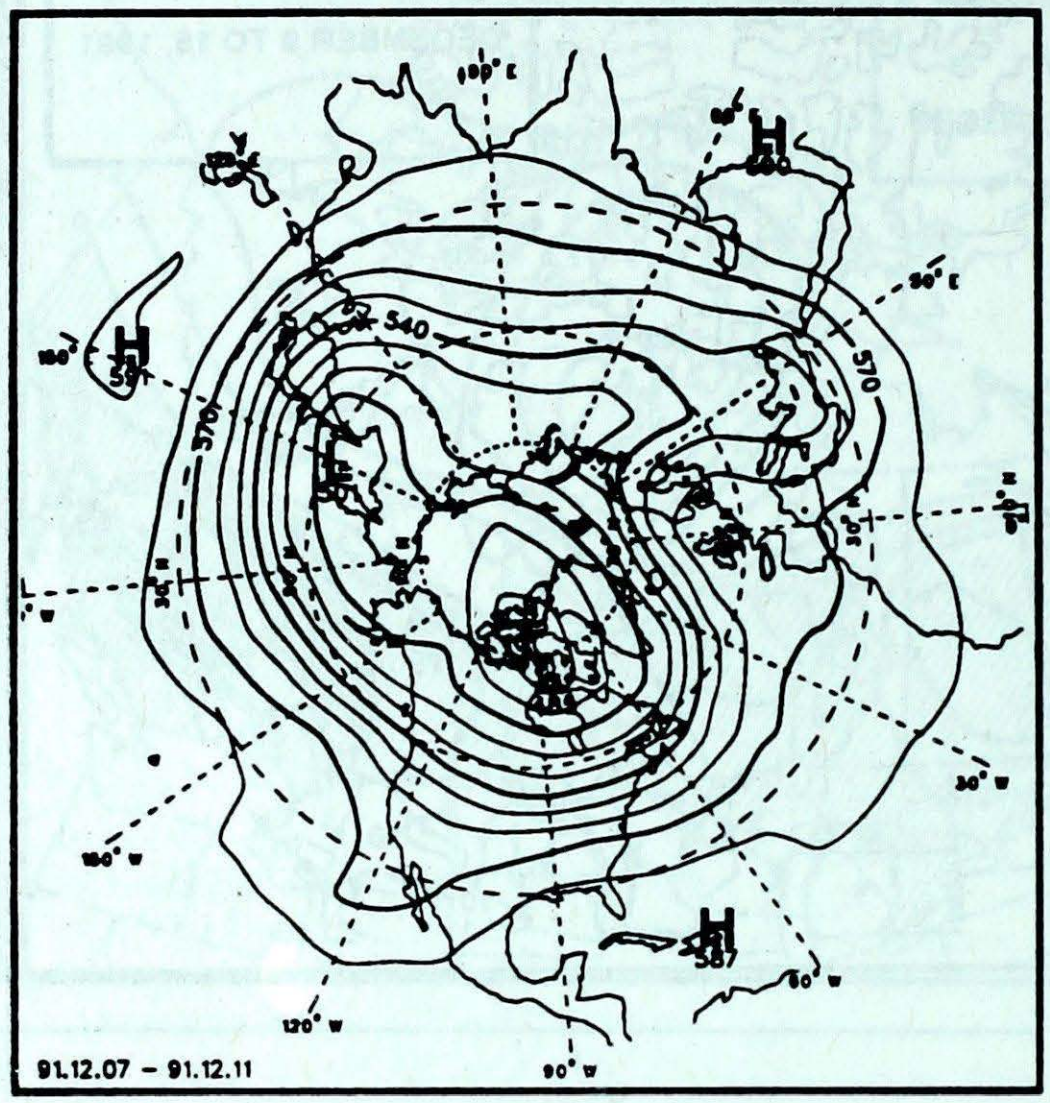
We would like to thank Joan Badger and Krystyna Czaja for their cartograhic assistance in ensuring that this week's publication went to press on time.

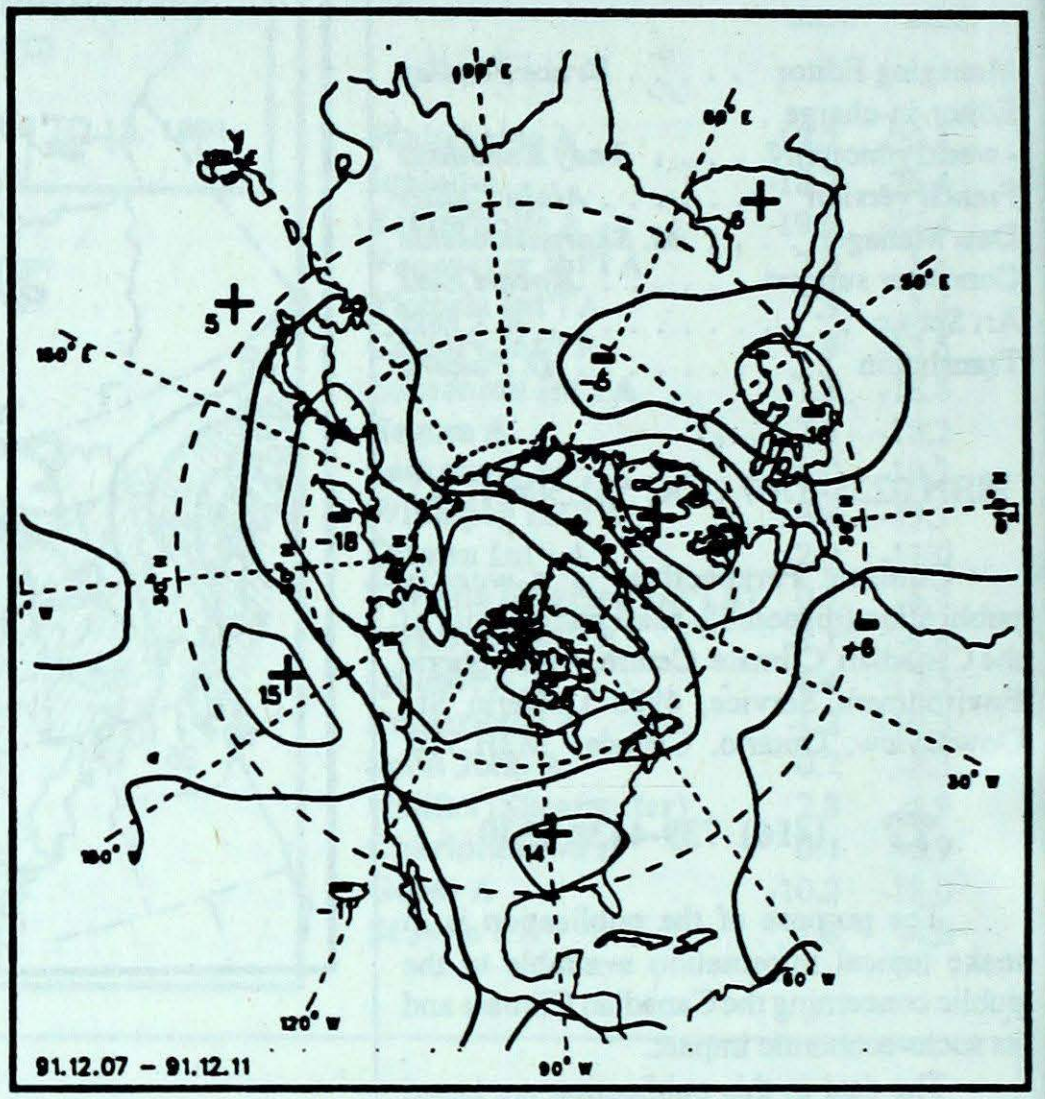




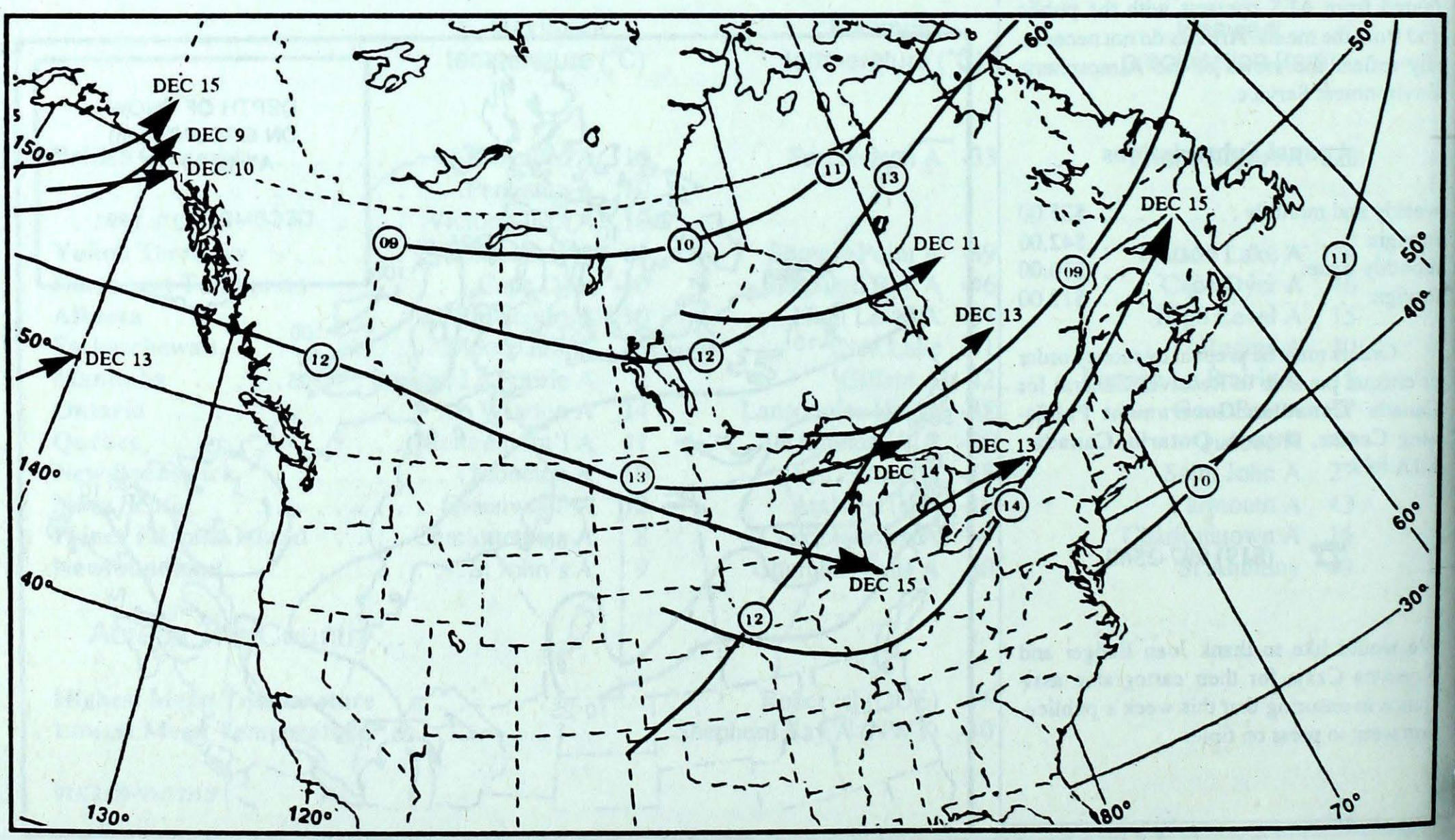
ATMOSPHERIC CIRCULATION



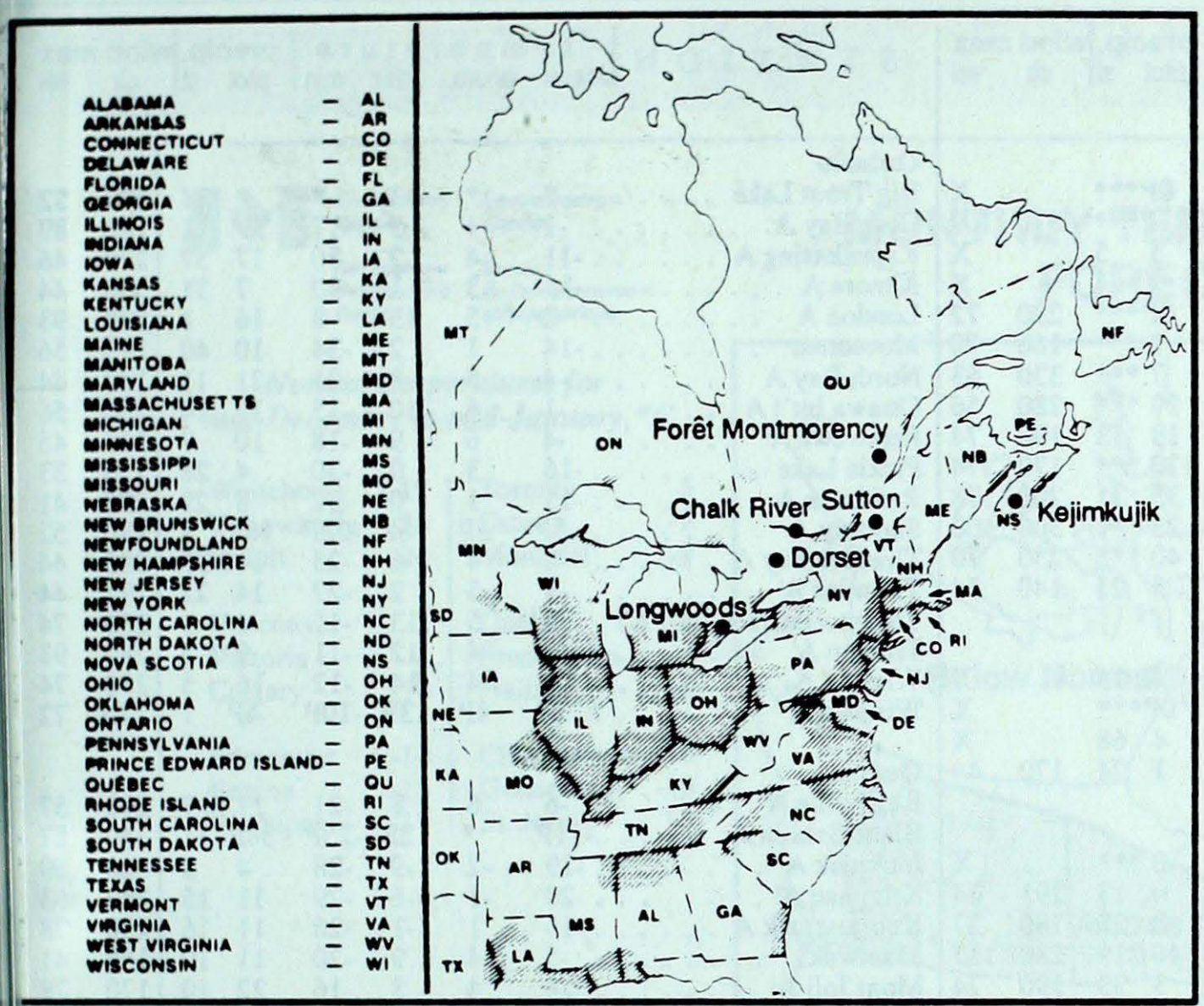
Mean geopotential height
50-kPa level (10-decametre intervals)



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
					December 8 to 14, 1991
Longwoods					. . . . . Data not avilable this week
Dorset*	08	4.2	8	R	. . . . . Southern Ontario, Ohio, Indiana
	12	4.1	16	R	. . . . . Southern Ontario, Ohio, Indiana, Kentucky
	12	4.5	11	S	. . . . . Lake Huron, Michigan, Wisconsin
Chalk River	08	3.9	4	R	. . . . . Lake Huron, Michigan, Northern Indiana
	14	4.4	4	S	. . . . . Northern Ontario
Sutton	08	4.0	6	R	. . . . . Eastern and Southern Ontario, Ohio, Indiana
	12	4.1	9	R	. . . . . New York, Pennsylvania, West Virginia
	13	4.1	3	R	. . . . . New York, Pennsylvania, Ohio, West Virginia
	14	4.2	10	M	. . . . . Eastern and Southern Ontario
Montmorency	08	4.4	24	M	. . . . . Western Quebec, Ontario
	10	4.2	4	S	. . . . . Western Quebec, Eastern and Southern Ontario
	11	4.3	2	S	. . . . . Western Quebec, Northern Ontario, Lake Huron
	12	4.3	13	M	. . . . . New York, Pennsylvania, West Virginia
	14	5.0	9	S	. . . . . Northwestern Quebec
Kejimkujik	09	3.7	2	R	. . . . . Southern New England, Southern New York, Pennsylvania
	13	4.2	11	R	. . . . . New England, New York, Pennsylvania
	14	4.3	19	M	. . . . . Southern New England, New York

. . . . . 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	-4P	4P	5P	-11P	0P	***		X
Cape St James	7P	1P	9P	4P	21P	***	310	109
Cranbrook A	-5	1	5	-17	5	5		X
Fort Nelson A	-21	0	1	-33	1	64		X
Fort St John A	-4P	9P	5P	-16P	0P	***	220	72
Kamloops A	0	3	10	-8	2	***	160	70
Penticton A	1	1	10	-9	7	***	330	63
Port Hardy A	4	0	8	-1	99	***	280	56
Prince George A	-3	4	3	-14	13	13	190	74
Prince Rupert A	4	2	10	0	120	***	170	74
Smithers A	-4	3	9	-12	35	31	200	78
Vancouver Int'l A	4	-1	9	-5	22	***	300	100
Victoria Int'l A	4	-1	10	-3	40	***	250	70
Williams Lake A	-6	0	2	-18	5	21	140	54
Yukon Territory								
Komakuk Beach A	-27P	-4P	-11P	-38P	0P	14		X
Teslin (aut)	-15P	*	-1P	-29P	0P	***		X
Watson Lake A	-24	-1	-15	-37	4	68		X
Whitehorse A	-15	1	1	-33	1	24	170	44
Northwest Territories								
Alert	-34	-3	-29	-38	0	***		X
Baker Lake A	-38	-11	-33	-44	0	13	291	44
Cambridge Bay A	-35	-7	-22	-41	0	20	180	37
Cape Dyer A	-21	0	-10	-35	46	219	280	115
Clyde A	-28	-4	-20	-35	3	33	190	74
Coppermine A	-31	-2	-17	-40	0	21	210	70
Coral Harbour A	-35	-9	-27	-41	0	19	330	52
Eureka	-38	-2	-28	-43	0	16		X
Fort Smith A	-25	-4	-8	-36	4	46	160	44
Hall Beach A	-36	-8	-29	-41	0	16	320	44
Inuvik A	-31	-4	-11	-41	0	23	180	46
Iqaluit A	-25	-2	-13	-41	7	15	321	89
Mould Bay A	-33	-2	-22	-45	1	15		X
Norman Wells A	-30	-4	-18	-42	2	6	290	52
Resolute A	-32	-3	-23	-39	0	6	190	56
Yellowknife A	-28	-5	-14	-35	5	31	320	59
Alberta								
Calgary Int'l A	-2	5	9	-15	1	1	270	93
Cold Lake A	-11	3	5	-27	5	16	340	46
Edmonton Namao A	-5	7	6	-15	2	15	310	52
Fort McMurray A	-16	1	2	-33	6	31	270	50
High Level A	-23	0	1	-37	15	45	270	46
Jasper	-4	4	4	-15	7	22		X
Lethbridge A	-1	4	8	-11	1	1	250	63
Medicine Hat A	-2	5	9	-10	2	1	240	65
Peace River A	-11	4	5	-26	4	53	270	76
Saskatchewan								
Cree Lake	-24	0	-6	-41	6	31	320	32
Estevan A	-7	4	4	-25	8	5	300	87
La Ronge A	-18	1	-1	-34	6	40	260	50
Regina A	-9	4	3	-24	10	14	290	70
Saskatoon A	-10	4	-1	-23	5	25	300	52
Swift Current A	-6	4	4	-15	2	5	180	52
Yorkton A	-12	3	-1	-32	9	46	310	46
Manitoba								
Brandon A	-12	3	1	-34	12	21	040	65
Churchill A	-30	-8	-18	-41	4	59	350	39
Lynn Lake A	-27P	-2P	-12P	-41P	6P	40	320	37
The Pas A	-19	-1	-2	-34	2	25	280	54
Thompson A	-27	-4	-12	-41	14	32	310	39
Winnipeg Int'l A	-11	3	1	-31	10	24	030	78

STATION	temperature mean	anom	max	min	precip. ptot	st	wind max dir	vel
Ontario								
Big Trout Lake	*	*	-1	*	*	24	300	52
Gore Bay A	-1	4	9	-17	37	11	180	89
Kapuskasing A	-11	4	2	-30	17	57	270	46
Kenora A	-11	3	1	-30	7	31	300	44
London A	2	5	13	-8	16	1	270	93
Moosonee	-14	1	2	-34	10	40	270	56
North Bay A	-4	5	8	-21	21	11	140	44
Ottawa Int'l A	-1	6	10	-15	17	14	200	56
Petawawa A	-4	6	9	-18	10	7	310	46
Pickle Lake	-16	3	0	-30	4	28	210	33
Red Lake A	-15	1	0	-32	8	29	290	41
Sudbury A	-5P	5P	6P	-22P	18P	8	180	52
Thunder Bay A	-8	4	6	-25	11	35	080	44
Timmins A	-9	5	2	-27	14	21	191	44
Toronto(Pearson Int'l A)	2	5	13	-11	4	1	260	74
Trenton A	0	4	12	-11	9	3	240	93
Wiarton A	0	4	14	-12	16	3	250	74
Windsor A	2P	4P	13P	-10P	4P	1	270	72
Québec								
Bagotville A	-6	6	8	-21	17	9	290	57
Blanc Sablon A	-11P	*	2P	-25P	38P	11	340	87
Inukjuak A	-19	-2	-9	-28	4	8	020	59
Kuujjuaq A	-20	-1	-6	-29	11	15	280	63
Kuujjuarapik A	-15	1	-1	-26	11	16	250	78
Maniwaki	-5	4	9	-20	11	10	180	41
Mont Joli A	-4	4	8	-16	22	10	170	78
Montréal Int'l A	-1	5	11	-16	18	5	230	69
Natashquan A	-10	0	2	-25	31	10	170	65
Québec A	-4	5	5	-14	40	14	270	41
Schefferville A	-19	1	0	-30	14	41	280	78
Sept-Îles A	-9	2	2	-21	38	33	350	46
Sherbrooke A	-2	5	9	-15	23	6	250	67
Val-d'Or A	-8	5	5	-22	19	15	200	48
New Brunswick								
Chatham A	*	*	*	*	*	***		X
Fredericton A	-2	4	9	-14	16	1	190	54
Miscou Island (aut)	-2P	2P	4P	-13P	0P	***		
Moncton A	-1	4	10	-12	16	***	270	65
Saint John A	0	4	9	-11	27	***	200	61
Nova Scotia								
Greenwood A	2	3	12	-6	29	***	280	70
Shearwater A	3	4	10	-6	35	***	200	61
Sydney A	1	3	9	-5	35	***	190	91
Yarmouth A	4	3	11	-7	43	***	280	61
Prince Edward Island								
Charlottetown A	0	3	8	-9	16	1	280	61
East Point (auto)	1P	*	8P	-6P	0P	***		
Newfoundland								
Cartwright	-11	-1	0	-22	15	44	320	82
Churchill Falls A	-17	4	0	-30	22	55	270	61
Gander Int'l A	-3P	1P	6P	-17P	6P	1	230	85
Goose A	-14	0	1	-29	13	38	280	69
Port Aux Basques	*	*	6	*	*	1	290	91
St John's A	-1	0	9	-16	24	6	300	85
St Lawrence	0	1	7	-14	48	***		X
Wabush Lake A	-16P	5P	1P	-29P	16P	39	180	56

91/12/09-91/12/15

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.

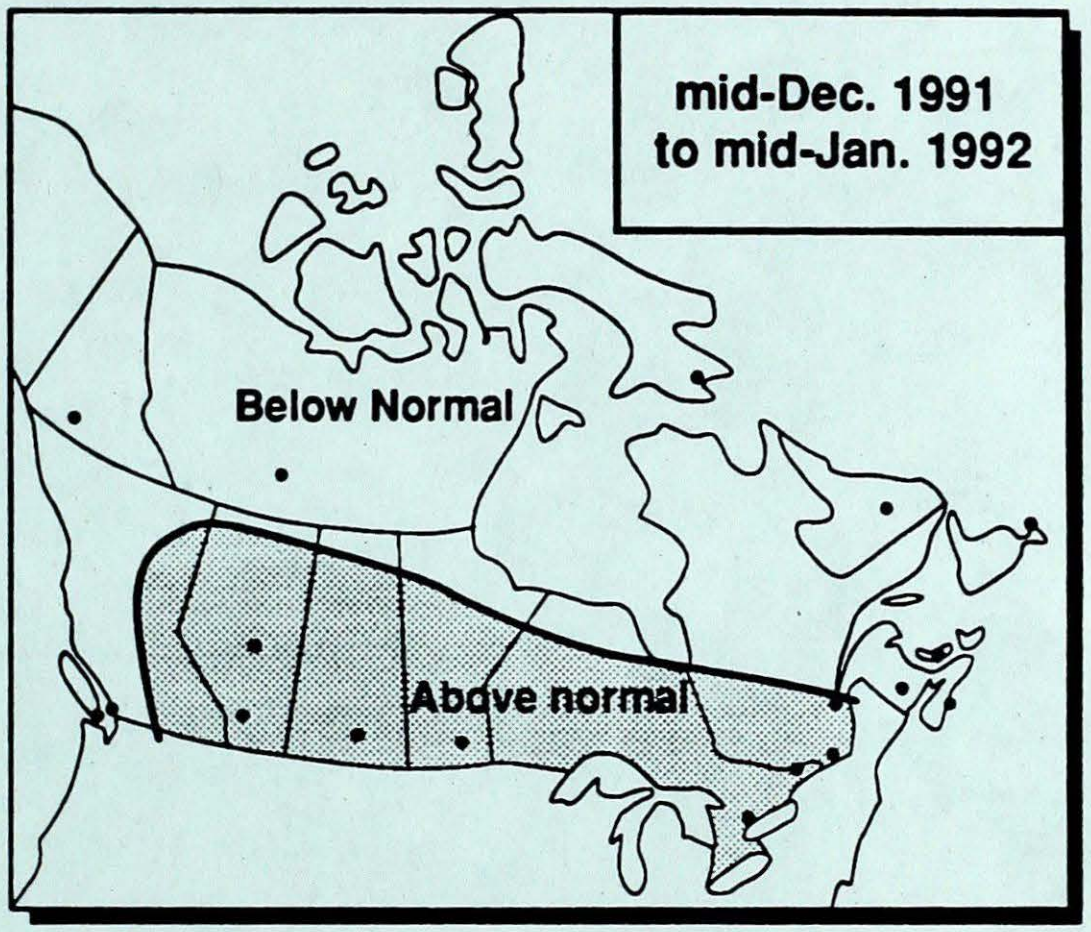
Environment Canada / Environnement Canada

Atmospheric Environment Service / Service de l'environnement atmosphérique

MONTHLY TEMPERATURE FORECAST

Normal temperatures for mid-December to mid-January, °C

Whitehorse	-19	Toronto	-5
Yellowknife	-26	Ottawa	-9
Iqaluit	-24	Montréal	-9
Vancouver	3	Québec	-11
Victoria	4	Fredericton	-8
Calgary	-10	Halifax	-3
Edmonton	-14	Charlottetown	-6
Regina	-15	Goose Bay	-15
Winnipeg	-17	St. John's	-3



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EX RED	25979	ROUGE EX

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