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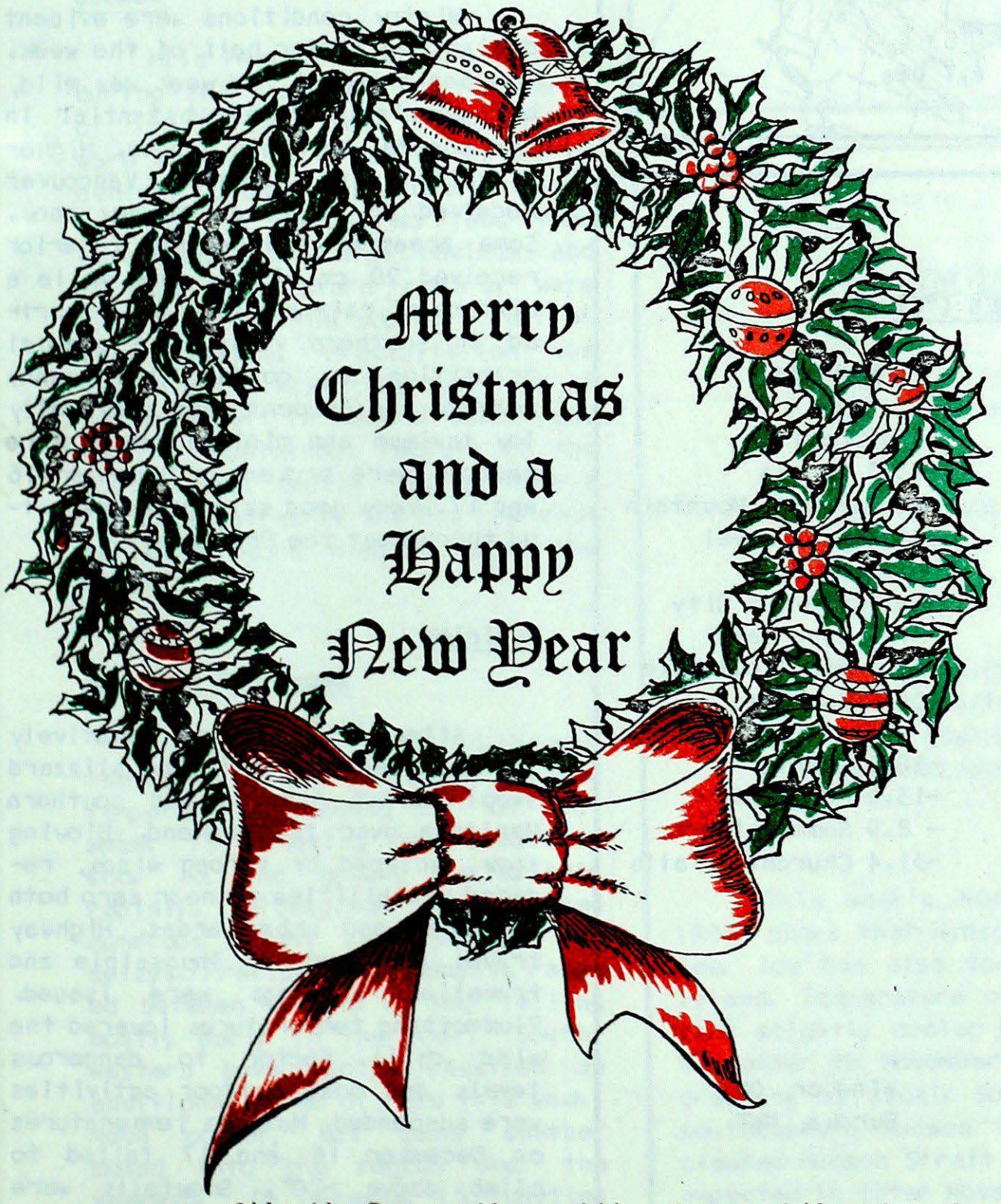
MONTHLY SUPPLEMENT INCLUDED

Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

For the period December 11 to 17, 1984 | Vol.6 NO.50

• Unseasonably mild weather covers Eastern Canada while Blizzards sweep across the Prairies



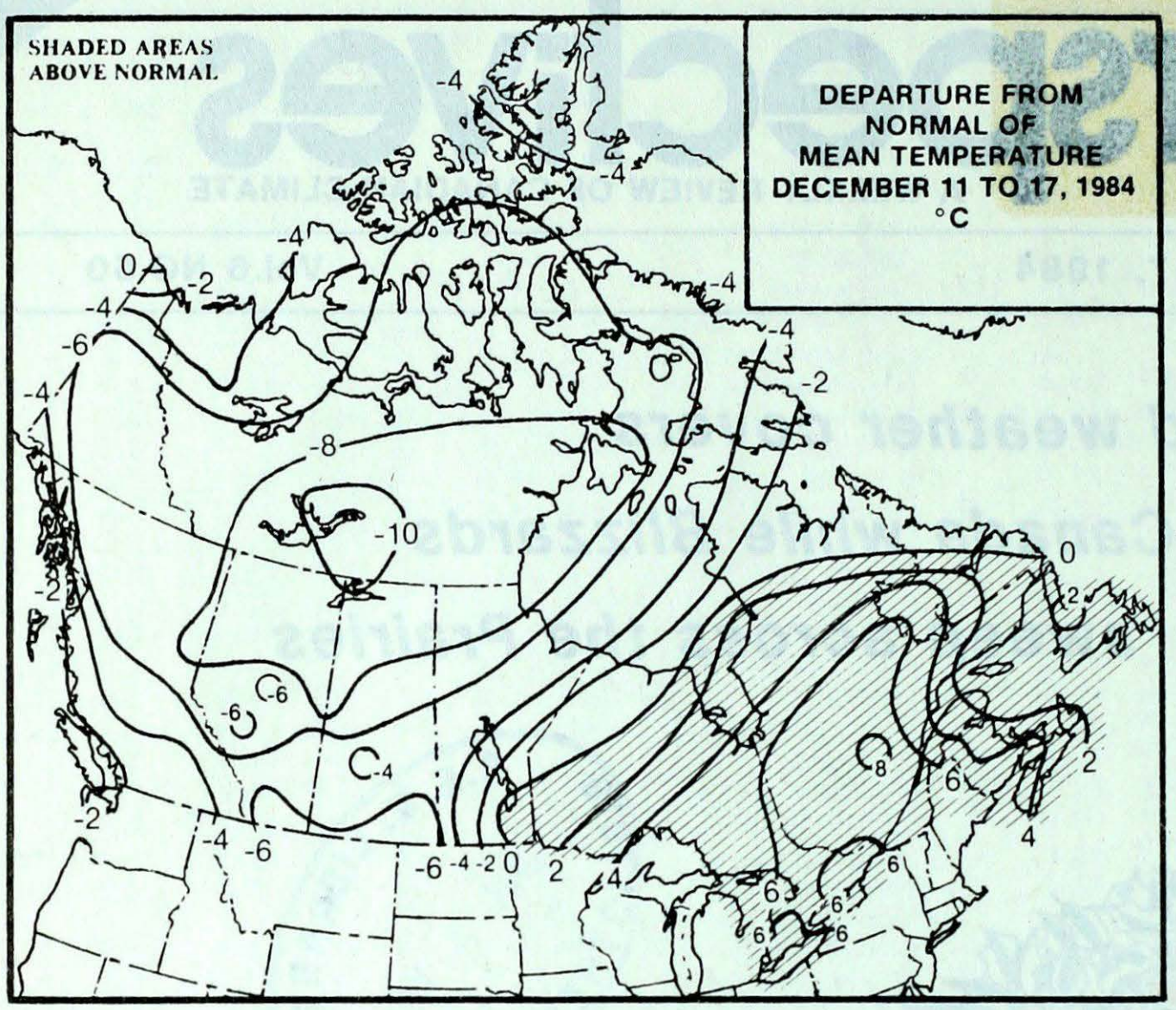
• Hoping for a white Christmas ?

see page 4B

Climatic Perspectives will not be published during the Christmas - New Year holidays. All maps and tables for the periods December 18 to 24 and December 25 to 31, 1984 will appear in January 1985.

We would like to take this opportunity to thank you, our subscribers, for your continued support, and our regional correspondents and production staff for their help in producing Climatic Perspectives. To all of you we extend our best wishes for the season and a prosperous New Year.

Canada



WEEKLY TEMPERATURE EXTREMES (°C)

	MAXIMUM	MINIMUM
YUKON TERRITORY	- 4.3 Komakuk Beach	-48.0 Ogilvie
NORTHWEST TERRITORIES	- 5.5 Inuvik	-45.3 Eureka
BRITISH COLUMBIA	9.3 Estevan Point	-42.3 Puntzi Mountain
ALBERTA	6.3 Calgary	-43.8 High Level
SASKATCHEWAN	3.1 Moose Jaw	-44.7 Uranium City
MANITOBA	0.6 Bissett	-41.3 Lynn Lake
ONTARIO	15.4 Toronto	-36.9 Big Trout Lake
QUEBEC	10.5 Montreal/Dorval	-30.8 Kuujjuaq
NEW BRUNSWICK	12.8 Moncton	-18.3 Charlo
NOVA SCOTIA	13.4 Shelburne	-13.0 Eddy Point
PRINCE EDWARD ISLAND	8.7 East Point	- 8.9 Summerside
NEWFOUNDLAND	12.8 Argentia	-31.4 Churchill Falls

ACROSS THE NATION

Warmest mean temperature	5.7	Windsor, ONT
Coolest mean temperature	-39.1	Eureka, NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

Mean temperatures were below normal across the North. The coldest reading at -48° occurred at Ogilvie in the Yukon on December 14. Snowfalls in the Northwest Territories were light, and many communities received no measureable new snow. Heaviest amounts, between 10 and 20 cm, fell in the southern Yukon. Depths of snow on the ground ranged from 3 to 5 cm in the southern Arctic to more than 100 cm on Baffin Island.

British Columbia

Wintry conditions were evident during the latter half of the week. The beginning of the week was mild, but snowfalls were substantial in the coastal mountain ranges. Higher elevations of Greater Vancouver received up to 10 cm of new snow. Some areas of the central interior received 20 cm of new snow while a mixture of rain and snow was reported in southern valleys. A gradual transition to colder, but sunny weather was evident, and many daily low maximum and minimum temperature records were broken on December 16 and 17. Very good skiing was reported throughout the Province.

Prairies

After a period of relatively tranquil weather, a fierce blizzard swept across Alberta and southern Manitoba over the weekend. Blowing snow, whipped by strong winds, reduced visibilities to near zero both in rural and urban areas. Highway travel was next to impossible and traveller warnings were issued. Plummetting temperatures lowered the wind chill factor to dangerous levels and most outdoor activities were suspended. Maximum temperatures on December 16 and 17 failed to climb above -20°. Snowfalls were generally light, but falls of 10 to 15 cm were reported in central Alberta.

Ontario

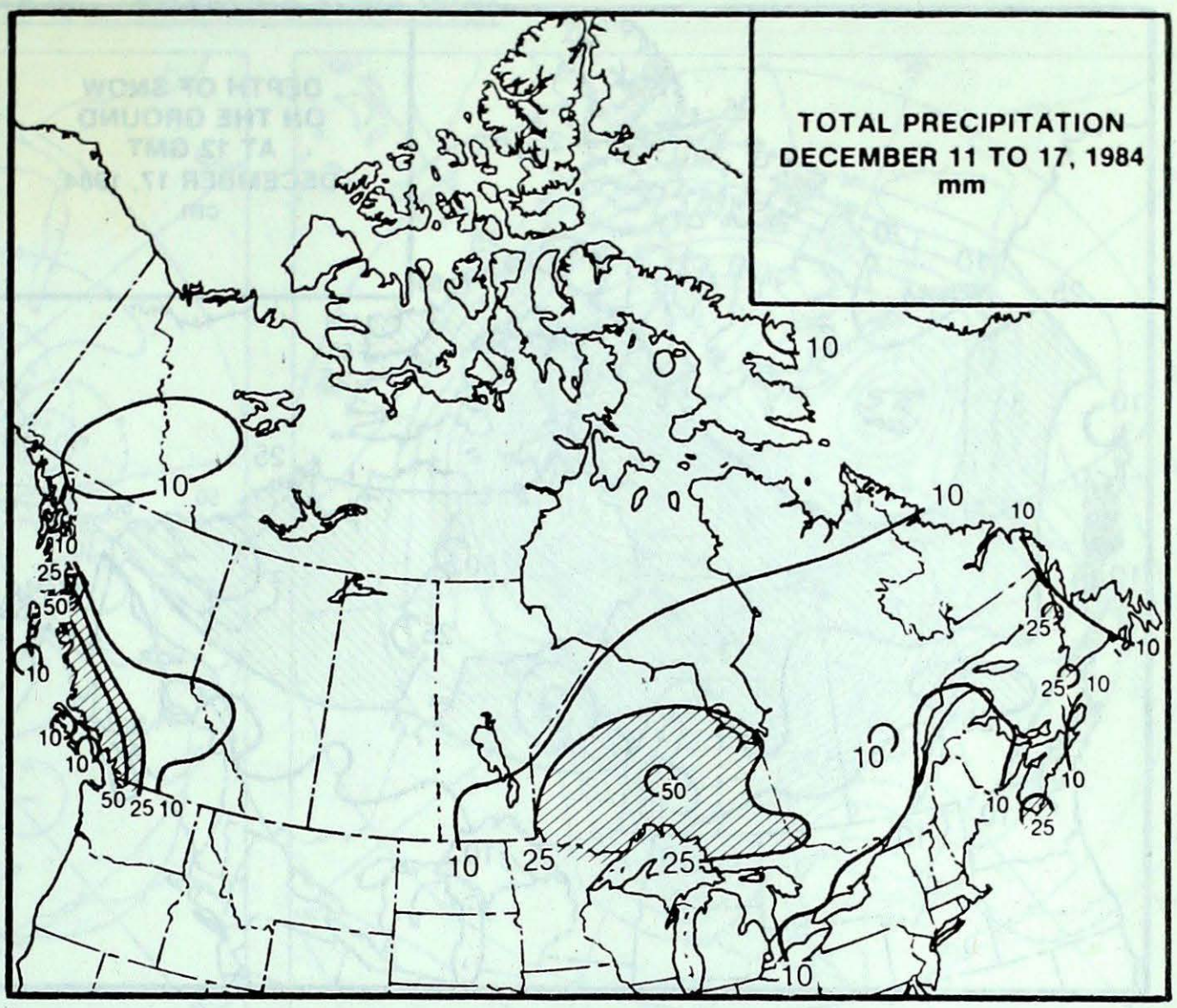
Unseasonably mild weather infiltrated the Province, allowing mean temperatures to climb well above seasonal values. On December 16, maximum temperatures in northern and central Ontario reached the double digits, while in the South, the mercury climbed into the mid-teens, breaking numerous daily temperature records. In the City of Toronto a high of 15.0° on December 16, broke the old mark of 10.6° set in 1861. A brief intrusion of colder weather during the mid-period saw daytime temperatures fall below freezing. On December 14, an extensive area of freezing rain developed, creating treacherous driving conditions in the southern half of the Province.

Québec

Mild temperatures were evident during the early and latter parts of the period. Mean temperatures were as much as 8° above normal in central Quebec, but closer to normal in the North. No less than seventeen daily high maximum and minimum temperature records were broken across the southern half of the Province. Precipitation was variable and mixed; up to 20 cm of new snow fell in central Quebec and in the mountainous regions of the South. Snow depths ranged from a few centimetres in the St. Lawrence Valley to more than 50 cm in the North.

Atlantic Provinces

It was cloudy and mild through the first half of the week. Maximum temperatures reached 13° on December 13, causing the remaining snow on the ground to dwindle rapidly. Widespread fog caused numerous flight cancellations and delays. Precipitation amounts ranged between 10 and 20 mm, falling mostly early in the week. Southwestern Nova Scotia received an additional 25 mm of rain this week. Much colder, but sunny weather moved into the region over the weekend. On December 15, daytime temperatures with a few exceptions, failed to climb above -5°.

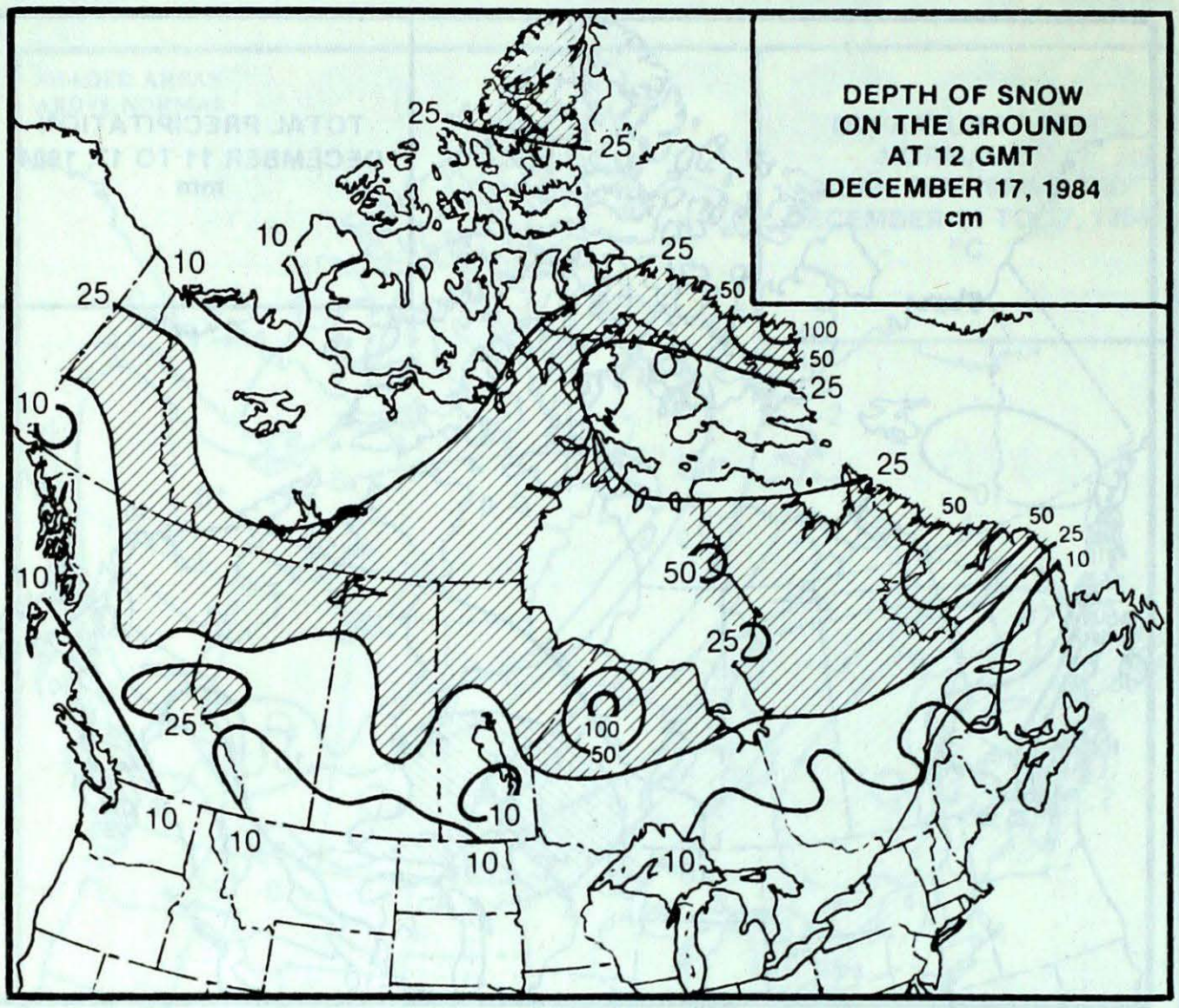


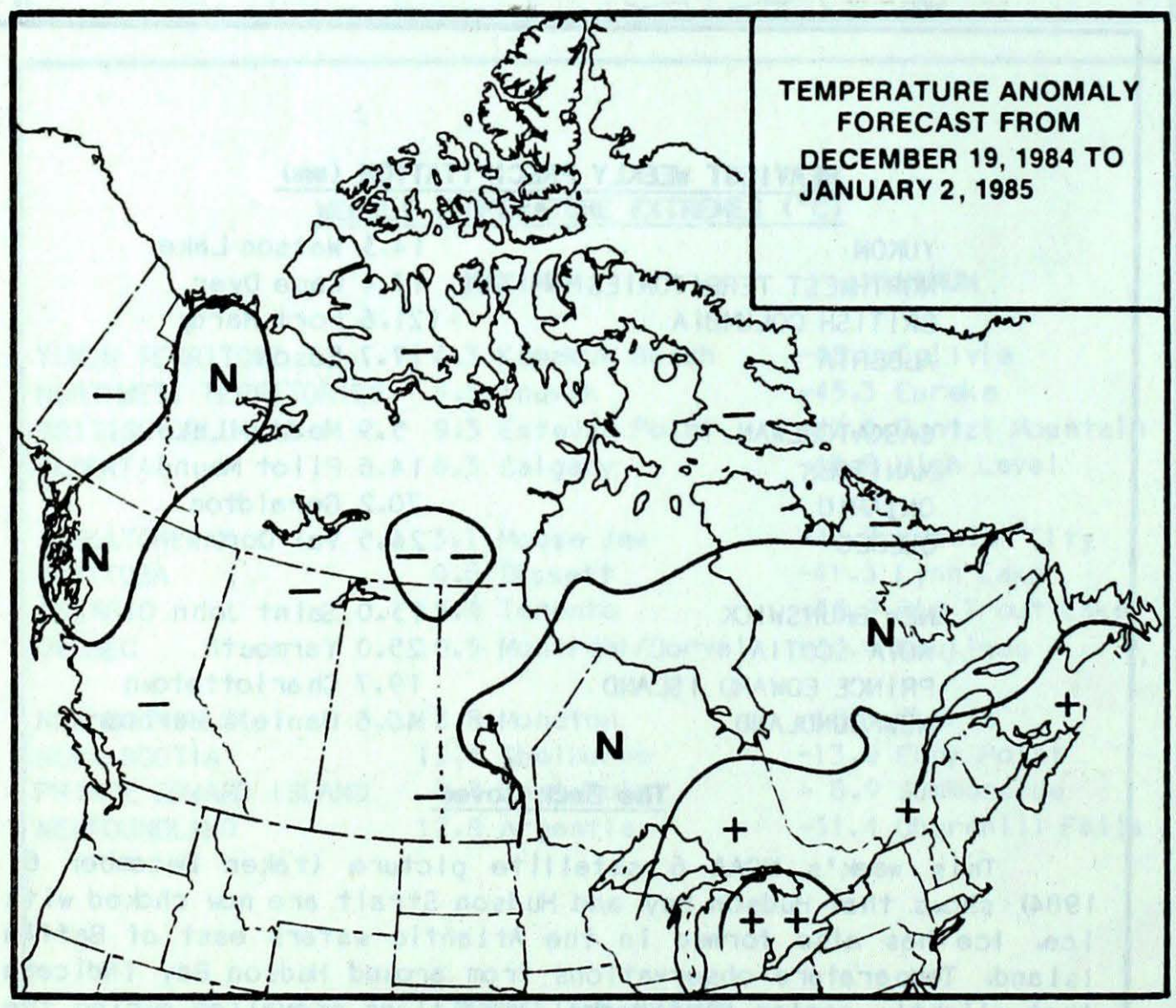
HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON	14.3	Watson Lake
NORTHWEST TERRITORIES	17.4	Cape Dyer
BRITISH COLUMBIA	121.6	Port Hardy
ALBERTA	17.7	Edson
SASKATCHEWAN	5.9	Meadow Lake
MANITOBA	14.6	Pilot Mound
ONTARIO	70.2	Geraldton
QUEBEC	24.5	Val Dor
NEW BRUNSWICK	13.0	Saint John
NOVA SCOTIA	25.0	Yarmouth
PRINCE EDWARD ISLAND	19.7	Charlottetown
NEWFOUNDLAND	40.6	Daniels Harbour

The Back Cover

This week's NOAA 6 satellite picture (taken December 6, 1984) shows that Hudson Bay and Hudson Strait are now choked with ice. Ice has also formed in the Atlantic waters east of Baffin Island. Temperature observations from around Hudson Bay indicate that slightly cooler than normal conditions prevailed during the September to November period, but nonetheless freeze-up is progressing as usual. Some open water is evident in the picture in southeastern Hudson Bay and James Bay. The last ship traffic cleared Hudson Strait about October 20th, and freeze-up, normally expected in later November, was about a week late.





Temperature Anomaly Forecast

++	**much above normal**
+	**above normal**
N	**normal**
-	**below normal**
--	**much below normal**

This forecast is prepared by searching historical weather maps to find cases similar to the present. The historical outcome during the 15 days subsequent to the chosen analogues is assumed to be a forecast for the next 15 days from now.

CLIMATIC PERSPECTIVES VOLUME 6

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ISSN 0225-5707
UDC 551.506.1(71)

Climatic Perspectives is a weekly bilingual publication of the Canadian Climate Centre, Atmospheric Environment Service, 4905 Dufferin St., Downsview, Ont. Canada M3H 5T4. **Phone (416)667-4711/4906.**

It began in 1978 and in 1983 was expanded to include a monthly supplement (formerly known as the Canadian Weather Review). The purpose of the publication is to make topical information available to the public concerning the Canadian Climate and its socioeconomic impact.

Unsolicited articles are welcome but should be at maximum about 1500 words in length. They will be subject to editorial change without notice due to publishing time constraints. Black and white photographs can be used, but not colour. The contents may be reprinted freely with proper credit.

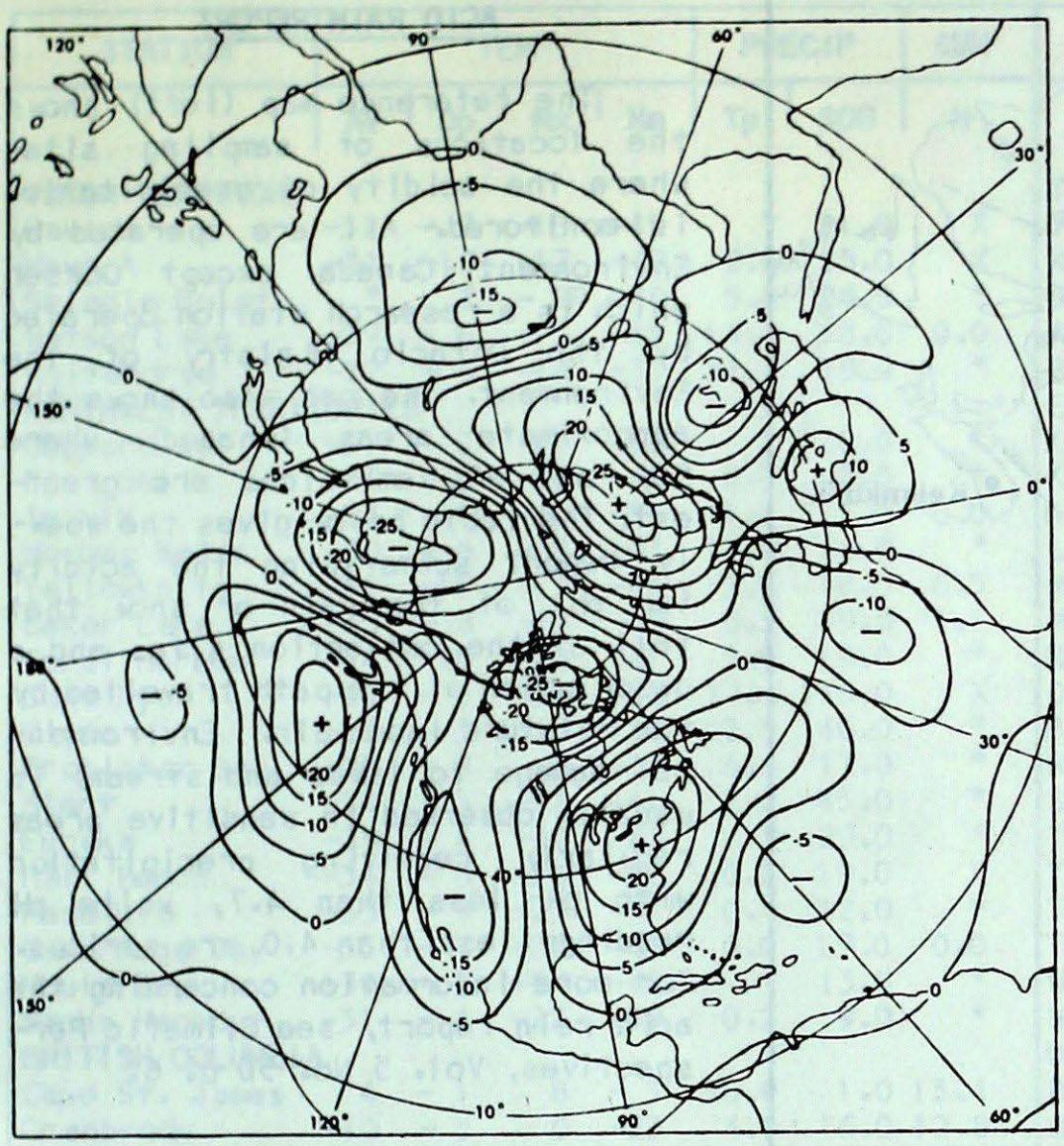
The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic weather stations. Information concerning climatic impacts is gathered from AES contacts with the public and from the media. Articles do not necessarily reflect the views of the Atmospheric Environment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

Annual Subscriptions

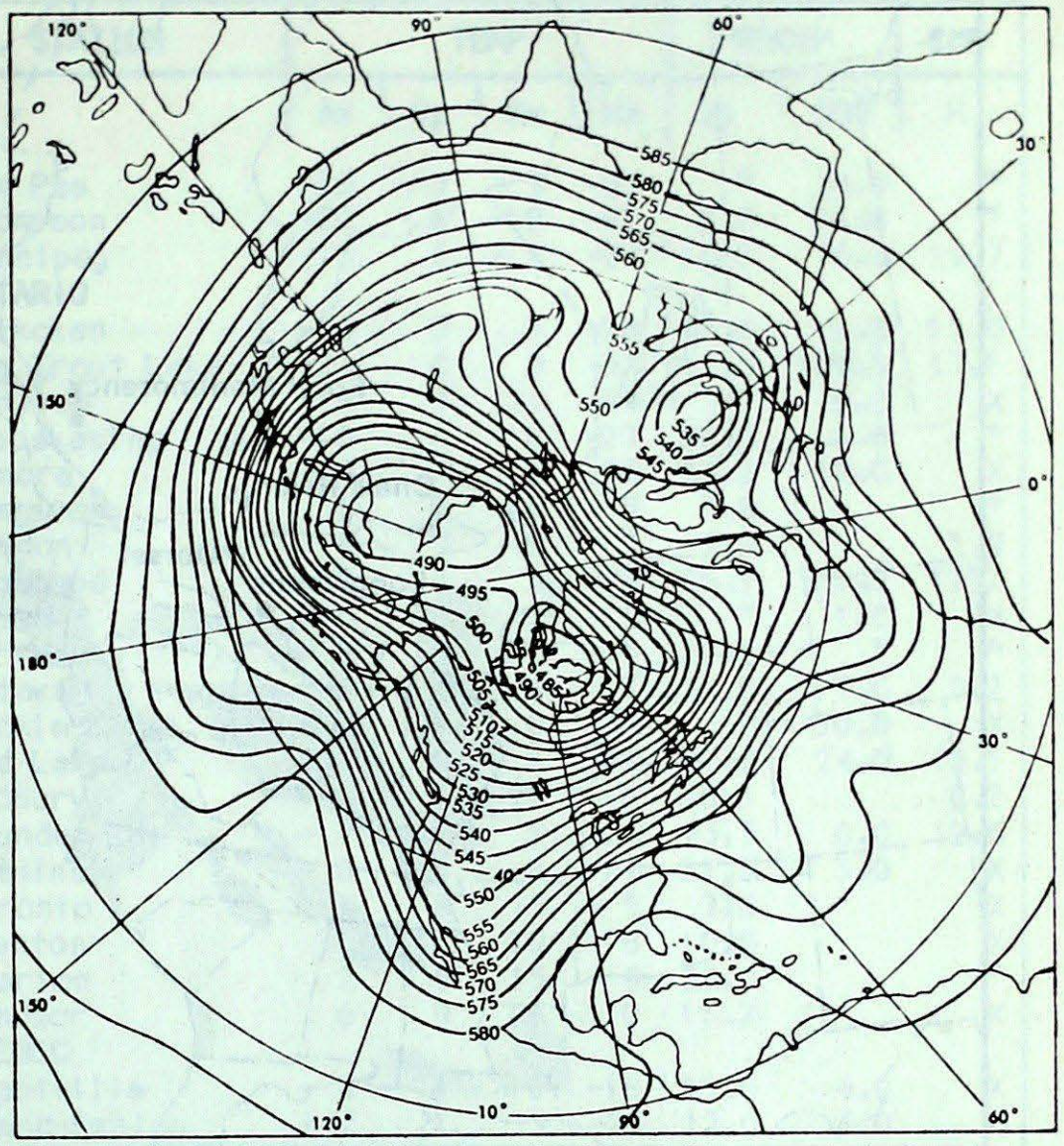
Weekly issue including monthly supplement:	$35.00
Monthly issue only:	$10.00

Subscription enquiries: Supply and Services Canada, Publishing Centre, Ottawa, Ontario, Canada, K1A 0S9.

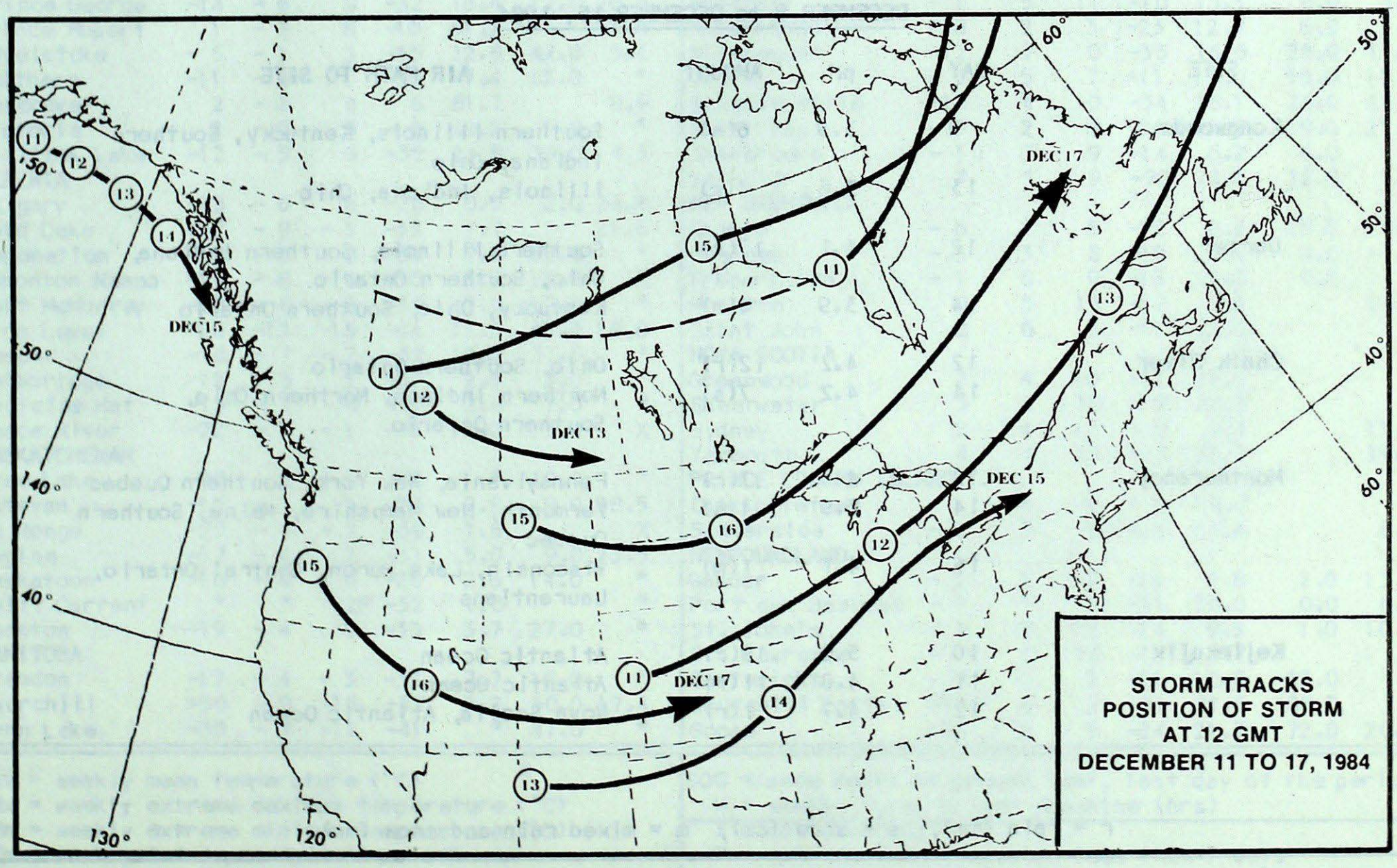
50 KPa ATMOSPHERIC CIRCULATION

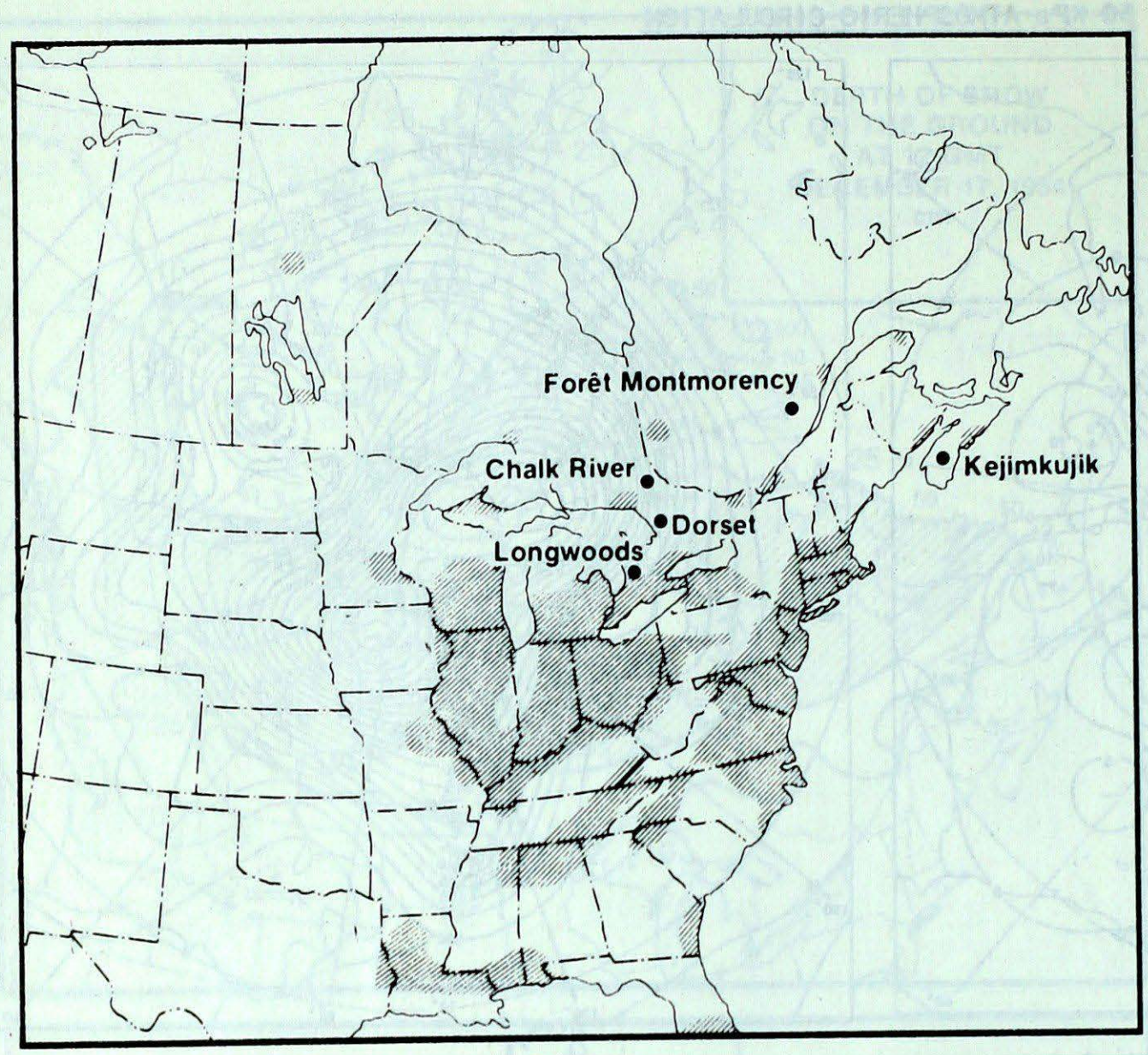


MEAN 50 KPa HEIGHT ANOMALY (dam)
December 12 to December 16, 1984



MEAN 50 KPa HEIGHTS (dam)
December 12 to December 16, 1984





ACID RAIN REPORT

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 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 less than 4.7, while pH readings less than 4.0 are serious. For more information concerning the acid rain report, see Climatic Perspectives, Vol. 5 No. 50 p. 6.

DECEMBER 9 to DECEMBER 15, 1984

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	9	3.9	6(s)	Southern Illinois, Kentucky, Southern Indiana, Ohio
	13	3.6	4(r)	Illinois, Indiana, Ohio
Dorset	12	4.1	17(r)	Southern Illinois, Southern Indiana, Ohio, Southern Ontario
	14	3.9	4(m)	Kentucky, Ohio, Southern Ontario
Chalk River	12	4.2	12(r)	Ohio, Southern Ontario
	14	4.2	7(s)	Northern Indiana, Northern Ohio, Southern Ontario
Montmorency	12	4.5	7(r)	Pennsylvania, New York, Southern Quebec
	14	5.9	4(s)	Vermonth, New Hampshire, Maine, Southern Quebec
	15	4.1	1(m)	Wisconsin, Lake Huron, Central Ontario, Laurentians
Kejimkujik	10	5.0	19(r)	Atlantic Ocean
	11	4.8	11(r)	Atlantic Ocean
	12	4.7	1(r)	Nova Scotia, Atlantic Ocean

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

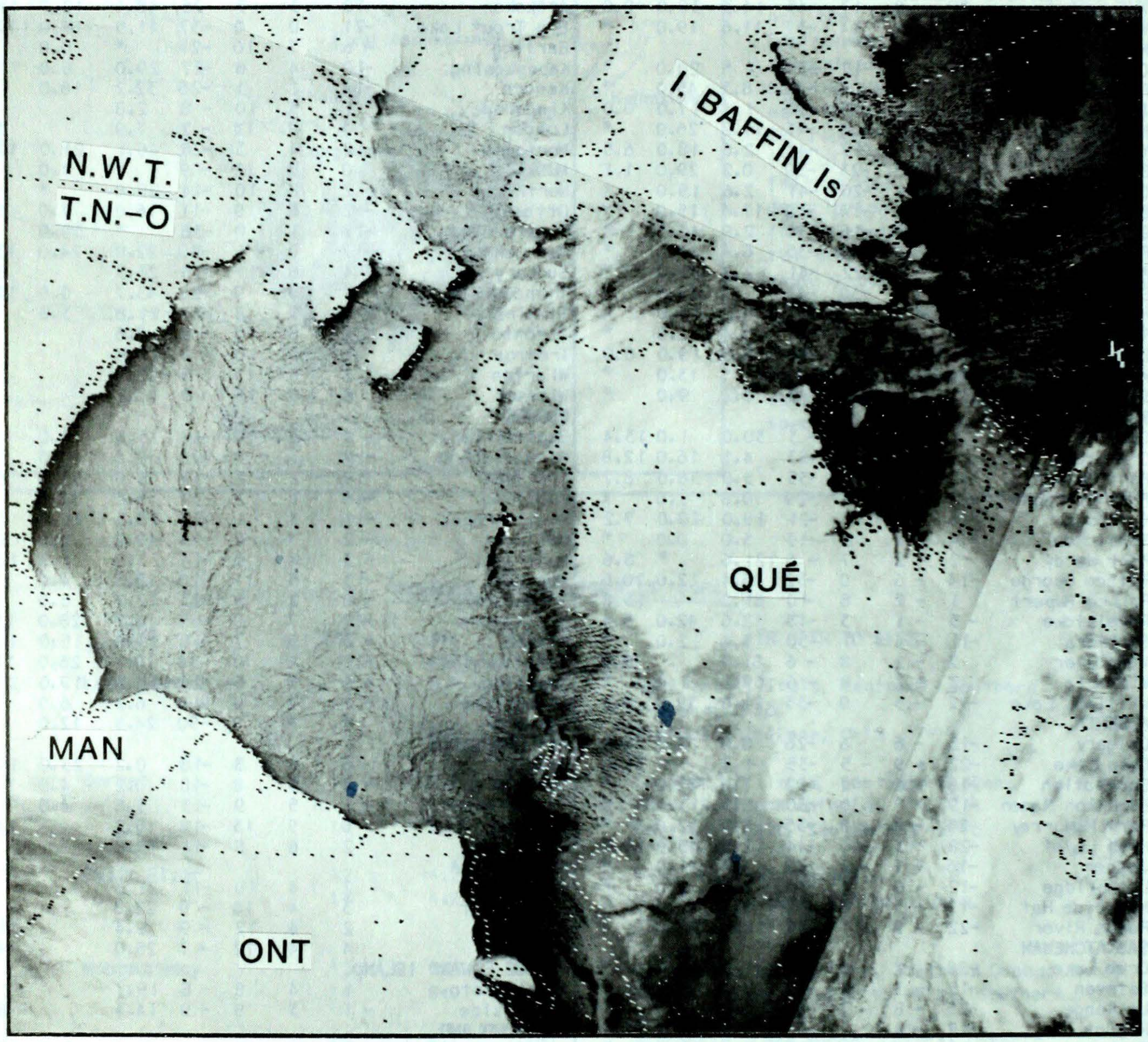
TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT DECEMBER 18, 1984

STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H
YUKON TERRITORY							
Dawson	-32	- 7	-18	-45	*	31.0	X
Mayo A	-31	-10	-17	-47	0.6	25.0	X
Shingle Point	*	*	- 9P	-40	5.4	20.0	*
Watson Lake	-29	- 8	-17	-45	14.3	38.0	0.0
Whitehorse	-22	- 9	-14	-37	11.6	19.0	*
NORTHWEST TERRITORIES							
Coppermine	-31	- 7	-17	-39	*	20.0	*
Fort Smith	-29	- 8	-17	-40	8.3	45.0	*
Inuvik	-27	- 1	- 6	-39	1.4	17.0	0.0
Norman Wells	-30	- 6	- 8	-41	11.2	26.0	*
Yellowknife	-34	-11	-17	-44	2.6	18.0	6.5
Baker Lake	-35	- 8	-23	-39	0.2	29.0	1.1
Coral Harbour	-34	-10	-20	-41	2.6	19.0	*
Cape Dyer	-23	- 3	-14	-38	17.4	115.0	X
Clyde	-27	- 3	-16	-34	2.9	40.0	*
Frobisher Bay	-23	- 3	- 6	-35	6.4	17.0	*
Alert	-34	- 3	-22	-41	2.2	45.0	*
Eureka	-39	- 4	-30	-45	*	29.0	*
Hall Beach	-34	- 8	-20	-42	0.2	19.0	X
Resolute	-35	- 7	-23	-41	0.4	12.0	*
Cambridge Bay	-35	- 7	-27	-40	0.0	19.0	0.0
Mould Bay	-36	- 5	-24	-42	*	13.0	*
Sachs Harbour	-31	- 4	-22	-39	0.2	9.0	*
BRITISH COLUMBIA							
Cape St. James	4	- 1	8	- 3	30.0	1.0	13.4
Cranbrook	-10	- 5	0	-23	4.1	16.0	12.8
Fort Nelson	-26	- 6	-17	-35	3.0	38.0	8.7
Fort St. John	-21	- 9	- 4	-29	0.8	2.0	X
Kamloops	- 6	- 4	5	-21	19.0	10.0	7.2
Penticton	- 4	- 4	3	-13	5.0	0.0	*
Port Hardy	2	- 2	7	- 6	121.6	*	8.6
Prince George	-14	- 6	0	-32	16.4	12.0	20.6
Prince Rupert	1	- 2	8	-10	61.2		13.8
Revelstoke	- 5	- 1	3	-15	12.6	42.0	5.4
Smithers	-11	- 4	1	-30	7.4	12.0	*
Vancouver	2	- 2	8	- 6	81.7		9.9
Victoria	2	- 2	8	- 6	69.2	1.0	*
Williams Lake	-12	- 5	0	-35	21.6	39.0	4.3
ALBERTA							
Calgary	-13	- 6	6	-26	0.0	2.0	26.8
Cold Lake	-22	- 9	- 5	-35	1.7		21.6
Coronation	-18	- 6	2	-32	7.6	22.0	*
Edmonton Namao	-19	- 8	0	-30	5.5	13.0	X
Fort McMurray	-25	- 8	- 8	-35	3.5	12.0	*
High Level	-28	-13	-16	-44	12.5	45.0	10.0
Jasper	-16	- 7	- 2	-32	13.2	31.0	*
Lethbridge	-12	- 6	5	-30	2.5	2.0	*
Medicine Hat	-13	- 5	6	-30	2.8	1.0	*
Peace River	-22	- 9	- 1	-35	10.0	25.0	X
SASKATCHEWAN							
Cree Lake	-28	X	- 9	-41	*	19.0	*
Estevan	-15	- 3	2	-27	2.8	9.0	28.5
La Ronge	-25	- 8	- 7	-39	1.6		X
Regina	-17	- 4	2	-31	5.0	9.0	23.5
Saskatoon	-18	- 4	0	-28	2.6	14.0	*
Swift Current	*	*	2P	-32	1.8		*
Yorkton	-19	- 4	0	-33	3.7	27.0	*
MANITOBA							
Brandon	-17	- 4	- 3	-32	7.7	16.0	*
Churchill	-30	- 9	-15	-37	3.2	30.0	17.4
Lynn Lake	-30	- 7	-11	-41	*	47.0	*
The Pas	-23	- 5	- 7	-35	*	24.0	*
Thompson	-29	- 6	-10	-41	2.8	24.0	*
Winnipeg	-15	0	- 1	-27	10.5	10.0	19.7
ONTARIO							
Atikokan	-10	3	3	-28	48.4	12.0	13.0
Big Trout Lake	-21	0	0	-37	11.5	108.0	17.1
Earlton	- 6	7	10	-21	*	0.0	X
Kapuskasing	-10	4	8	-27	29.0	6.0	*
Kenora	-14	1	1	-26	32.2	18.0	X
Kingston	1	5	10	- 8	2.8		*
London	4	9	14	- 2	7.9		3.9
Moosonee	-12	4	3	-28	46.1	21.0	17.2
Muskoka	0	8	12	- 9	*	1.0	X
North Bay	- 2	8	10	-14	25.8	*	*
Ottawa	- 2	6	9	-11	16.0	7.0	0.2
Pickle Lake	-17	1	0	-36	*	50.0	X
Red Lake	-17	0	- 1	-30	22.0	24.0	13.1
Sudbury	- 4	6	11	-16	26.3		8.2
Thunder Bay	- 7	5	9	-20	43.7	0.0	12.6
Timmins	- 8	5	8	-27	21.8	3.0	X
Toronto	4	8	15	- 5	7.6		X
Trenton	1	6	10	- 8	10.6		X
Wiarton	2	6	15	- 5	22.0		*
Windsor	6	9	15	0	11.2		X
QUEBEC							
Bagotville	- 4	7	10	-18	15.6	4.0	X
Blanc-Sablon	- 7	1	3	-23	12.0	4.0	*
Inukjuak	-19	- 2	- 2	-33	9.8	57.0	6.1
Kuujjuaq	-19	- 1	3	-32	5.6	38.0	*
Kuujjuarapik	-11	3	1	-28	18.5	16.0	3.7
Maniwaki	- 2	7	8	-14	12.8	2.0	0.1
Mont-Joli	- 3	4	9	-14	3.8	1.0	16.9
Montréal	- 1	5	11	-10	15.3	4.0	3.3
Natashquan	- 8	2	3	-23	12.7	6.0	*
Nitchequon	-12	7	0	-35	16.8	28.0	11.9
Québec	- 3	5	7	-11	13.0	15.0	10.7
Schefferville	-15	4	0	-34	16.1	26.0	14.2
Sept-Iles	- 9	2	6	-24	15.2	19.0	21.2
Sherbrooke	- 1	7	9	-14	6.2	6.0	*
Val-d'Or	*	*	9	-90	24.5	12.0	1.6
NEW BRUNSWICK							
Charlo	- 6	2	8	-18	0.2	25.0	14.7
Chatham	- 3	3	8	-18	0.2	4.0	11.3
Fredericton	- 1	5	9	-13	3.6	4.0	*
Moncton	0	5	13	-12	5.2		14.8
Saint John	2	6	8	-11	13.0		*
NOVA SCOTIA							
Greenwood	2	4	10	-11	21.6		X
Shearwater	3	4	10	- 9	22.8		*
Sydney	2	4	12	- 9	9.4		11.2
Yarmouth	4	4	12	- 7	25.0		14.0
PRINCE EDWARD ISLAND							
Charlottetown	1	4	8	- 8	19.7		*
Summerside	- 1	3	8	- 9	14.4		8.8
NEWFOUNDLAND							
Gander	- 2	1	11	-16	8.8	2.0	13.9
Port aux Basques	- 1	1	7	-11	30.0	0.0	6.1
St. John's	- 1	0	10	-14	9.3	1.0	10.0
St. Lawrence	- 1	0	10	-15	12.7		X
Cartwright	- 9	0	3	-21	18.6	62.0	X
Churchill Falls	-14	6	2	-31	21.6	85.0	X
Goose	-11	2	5	-24	21.7	72.0	20.6

Av = weekly mean temperature (°C)
Mx = weekly extreme maximum temperature (°C)
Mn = weekly extreme minimum temperature (°C)
Tp = weekly total precipitation (mm)
Dp = Departure of mean temperature from normal (°C)

SOG = snow depth on ground (cm), last day of the period
H = weekly total bright sunshine (hrs)

X = not observed
P = extreme value based on less than 7 days
* = missing



The NOAA 6 satellite picture of December 6, 1984 indicates that the freeze-up of Hudson Bay is nearly complete (for more details, see page 3).