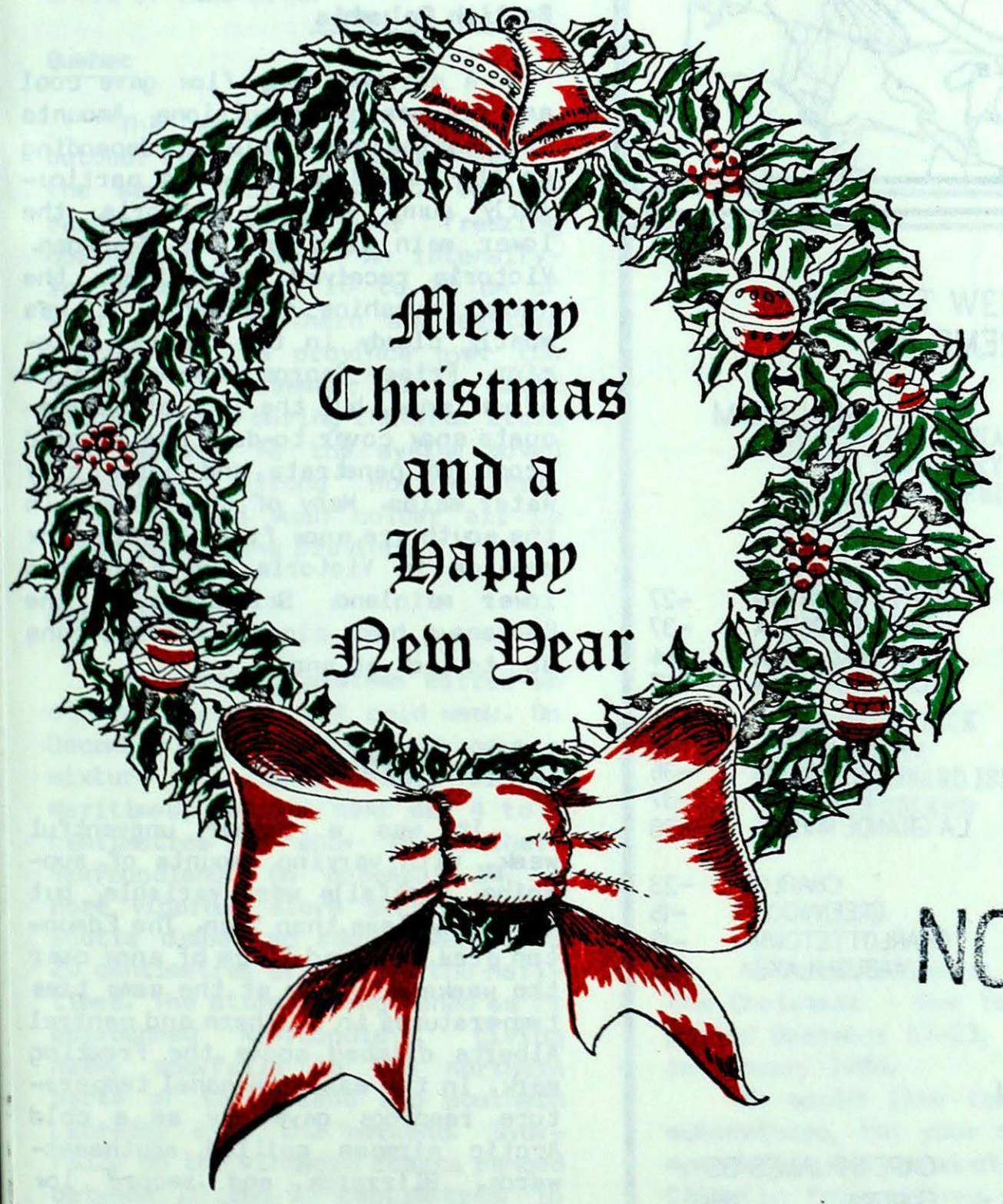
Climatic Perspectives

MONTHLY SUPPLEMENT INCLUDED

A weekly review of Canadian climate | December 10 to 16, 1985 | Vol.7 No.49

- ***Another winter storm hits Newfoundland***
- ***Heavy snow squalls in the lee of the Great Lakes***

– Northeast Shore of Lake Erie pounded by wind, waves and snow

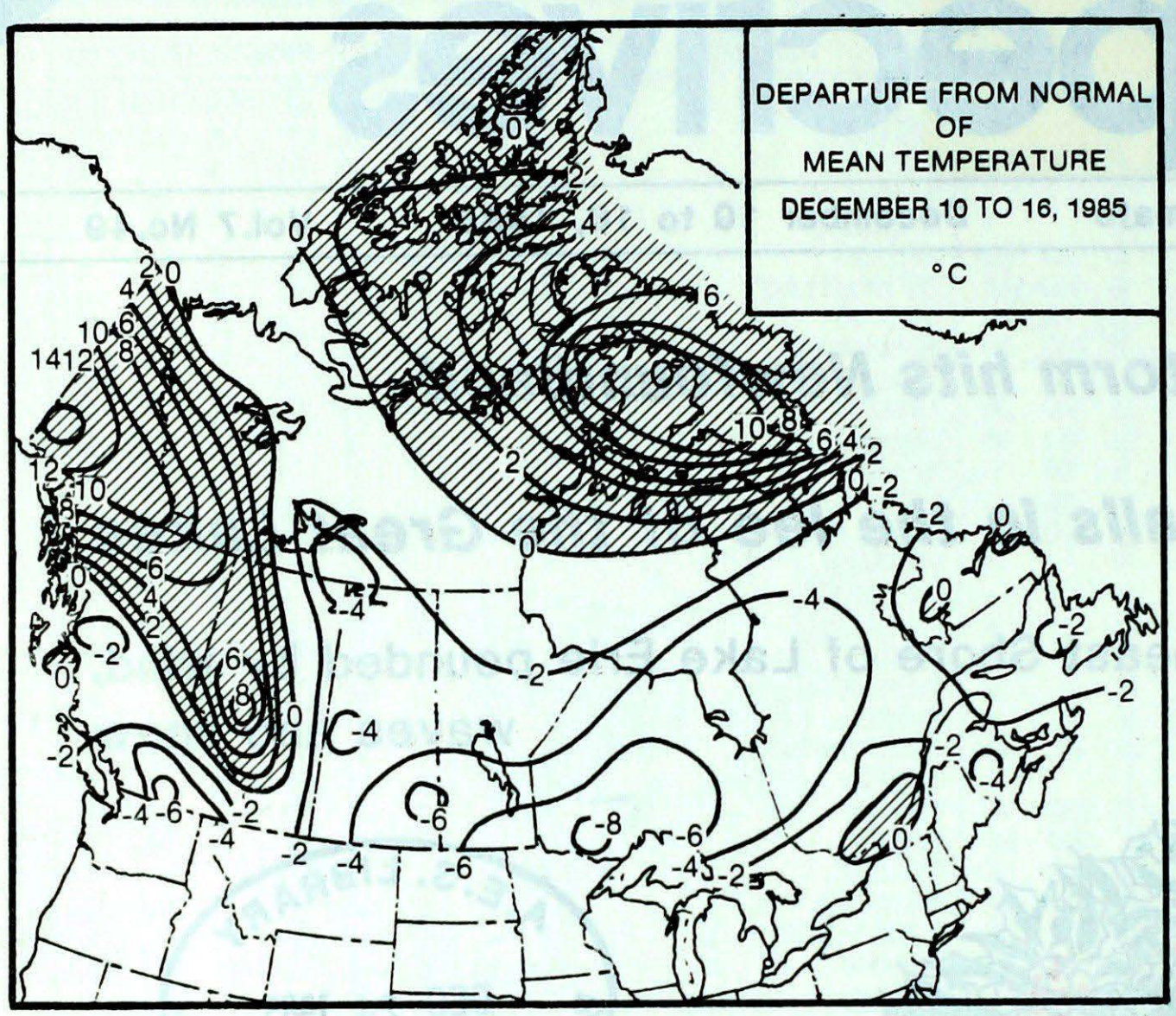


Dreaming of a White Christmas?

See Page 10B

Canada

TEMPERATURE



WEEKLY TEMPERATURE EXTREME (C)

	MAXIMUM		MINIMUM	
BRITISH COLUMBIA	LAWN POINT	9	PUNTZI MOUNTAIN	-27
YUKON TERRITORY	BURWASH	4	SHINGLE POINT A	-37
NORTHWEST TERRITORIES	FROBISHER BAY	-1	SHEPHERD BAY A	-44
ALBERTA	EDSON	5	FORT CHIPEWYAN	-37
SASKATCHEWAN	KINDERSLEY	0	URANIUM CITY	-39
MANITOBA	GRETNA	-9	THOMPSON	-36
ONTARIO	WINDSOR	5	MOOSONEE	-37
QUEBEC	MONTREAL INT'L	0	LA GRANDE RIVIERE	-38
NEW BRUNSWICK	SAINT JOHN	1	CHARLO	-23
NOVA SCOTIA	SABLE ISLAND	9	GREENWOOD	-15
PRINCE EDWARD ISLAND	CHARLOTTETOWN	0	CHARLOTTETOWN	-15
NEWFOUNDLAND	ARGENTIA	6	WABUSH LAKE	-35

ACROSS THE NATION

WARMEST MEAN TEMPERATURE	5	CAPE ST.JAMES	BC
COOLEST MEAN TEMPERATURE	-37	EUREKA	NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

A mild Pacific airmass covered the Yukon. Temperatures in the south climbed above freezing, and several new maximum temperature records were established. A strong Arctic high pressure cell crossed the Northwest Territories giving clear, but very cold conditions. Blizzards occurred in the southern Arctic and the Keewatin District. In the eastern Arctic, temperatures continued on the mild side. Baffin Island received the heaviest snowfalls, while ice crystals were commonly observed elsewhere.

British Columbia

A northwesterly flow gave cool and dry weather conditions. Amounts of sunshine were variable, depending on the location. It was a particularly sunny week in Victoria, the lower main land and the Okanagan. Victoria received three times the normal sunshine allotment. It was mostly cloudy in the central interior. Prince George received 13 cm of wet snow, but the lack of an adequate snow cover to-date has allowed frost to penetrate and heave city water mains. Many of the valleys in the south are snow free. Little snow remains in Victoria and along the lower mainland. Ski areas in the Kootenays have closed some ski runs do to lack of snow.

Prairie Provinces

It was a rather uneventful week, with varying amounts of sunshine. Snowfalls were variable, but generally less than 5 cm. The Edmonton area received 15 cm of snow over the weekend, while at the same time temperatures in southern and central Alberta climbed above the freezing mark. In the east, seasonal temperature readings gave way as a cold Arctic airmass spilled southeastwards. Blizzards and record low temperatures occurred in the north. Daytime temperatures in southern Manitoba over the weekend remained near the minus twenty degree range.

PRECIPITATION

Ontario

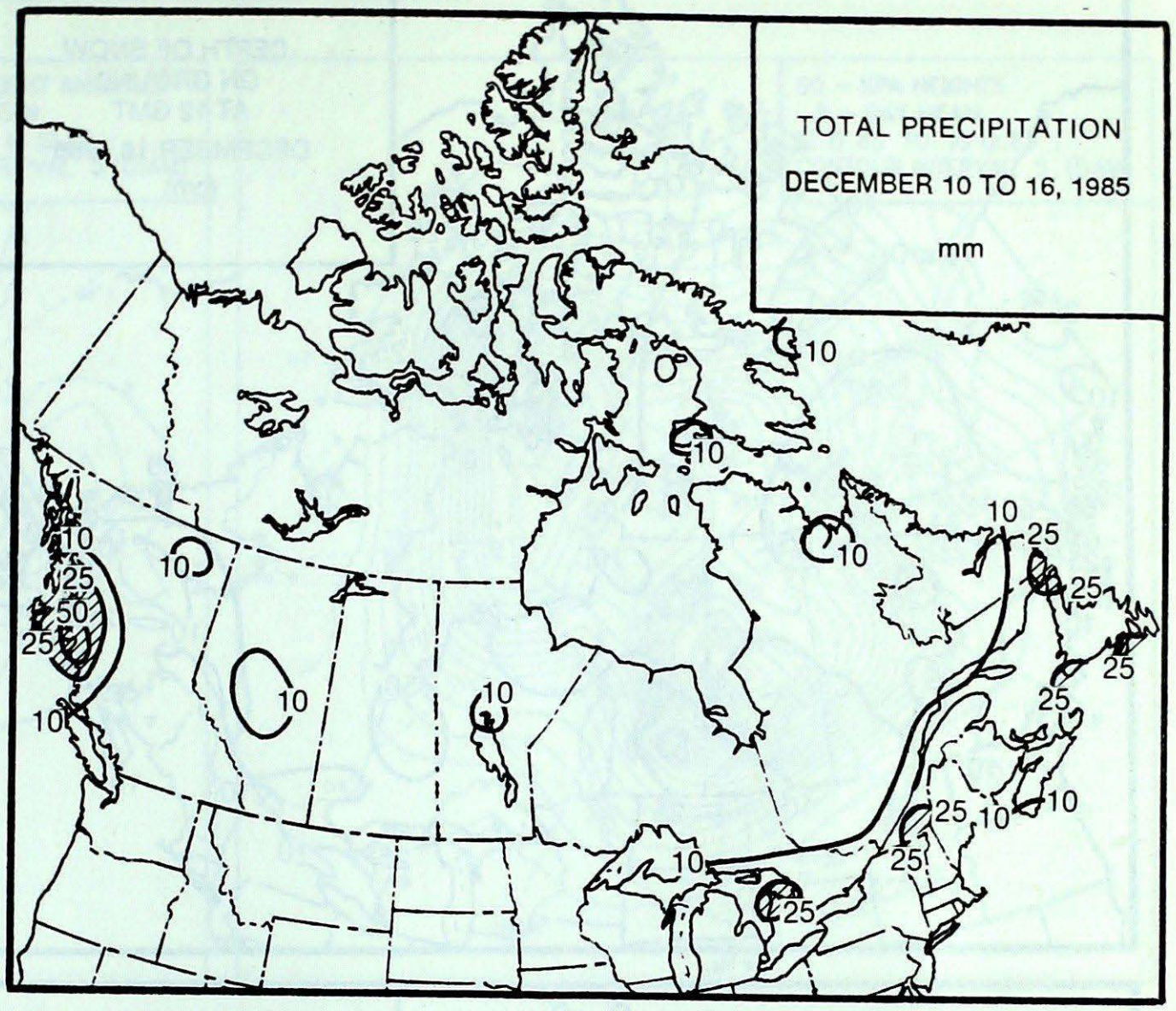
Temperatures gradually fell during the period from above freezing values in the south down to the minus thirties in the north. Several daily low temperature records were broken over the weekend. Passing disturbances gave light snowfalls in the province. On December 13, a strengthening weather system deposited 10 cm of snow on the Niagara Peninsula. In its wake, strong winds and heavy snow squalls developed to the lee of the Great Lakes. Snow belt communities received 15 to 30 centimetres of snow over the weekend. For the second time in two weeks, winds gusting to 100 km/h resulted in damaging waves pounding the north shore of Lake Erie.

Quebec

The weather was ideal for outdoor activities. Temperatures in the south were seasonal. Daytime readings hovered near freezing during the mid-week. An intensifying storm dumped 10 to 25 cm of snow across southern and eastern regions of the province over the weekend. On December 13, a small plane crashed during the snow storm near Matane. As the system moved eastwards, strong northwesterly winds allowed much colder air to flood across the province.

Atlantic

Two weather systems marred an otherwise sunny, but cold week. On December 12, a disturbance gave a mixture of snow and rain to the Maritimes, and the next day 4 to 8 centimetres of snow to southern Newfoundland. On December 14, a more vigorous storm skirting Nova Scotia dumped an additional 10 to 20 centimetres of snow on the Maritimes. The storm strengthened as it approached Newfoundland, giving heavy snowfalls to the northern parts of the Island and southern Labrador over the weekend. Snowfalls on the windward coasts ranged between 20 and 35 centimetres. In addition, winds gusting to 128 km/h caused heavy blowing and drifting snow. Heavy seas off the coast disabled two ocean-going vessels.



HEAVIEST WEEKLY PRECIPITATION (mm)

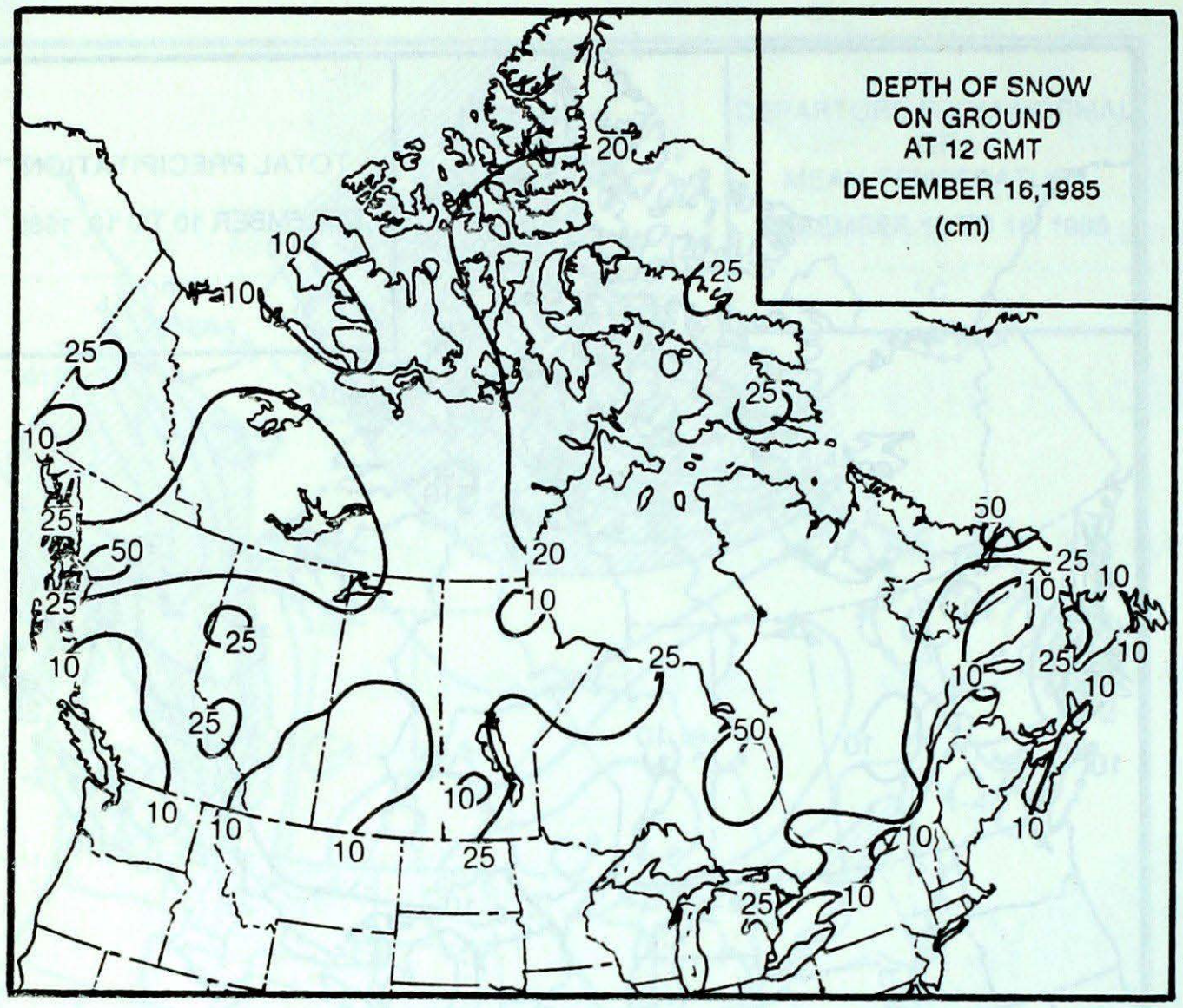
BRITISH COLUMBIA	PRINCE RUPERT	73
YUKON TERRITORY	MAYO	6
NORTHWEST TERRITORIES	CAPE DYER	17
ALBERTA	EDMONTON MUNI.	17
SASKATCHEWAN	MOOSE JAW	8
MANITOBA	NORWAY HOUSE	14
ONTARIO	WIARTON	39
QUEBEC	BLANC SABLON	31
NEW BRUNSWICK	SAINT JOHN	21
NOVA SCOTIA	SHELBURNE	24
PRINCE EDWARD ISLAND	CHARLOTTETOWN	19
NEWFOUNDLAND	ST. ANTONY	39

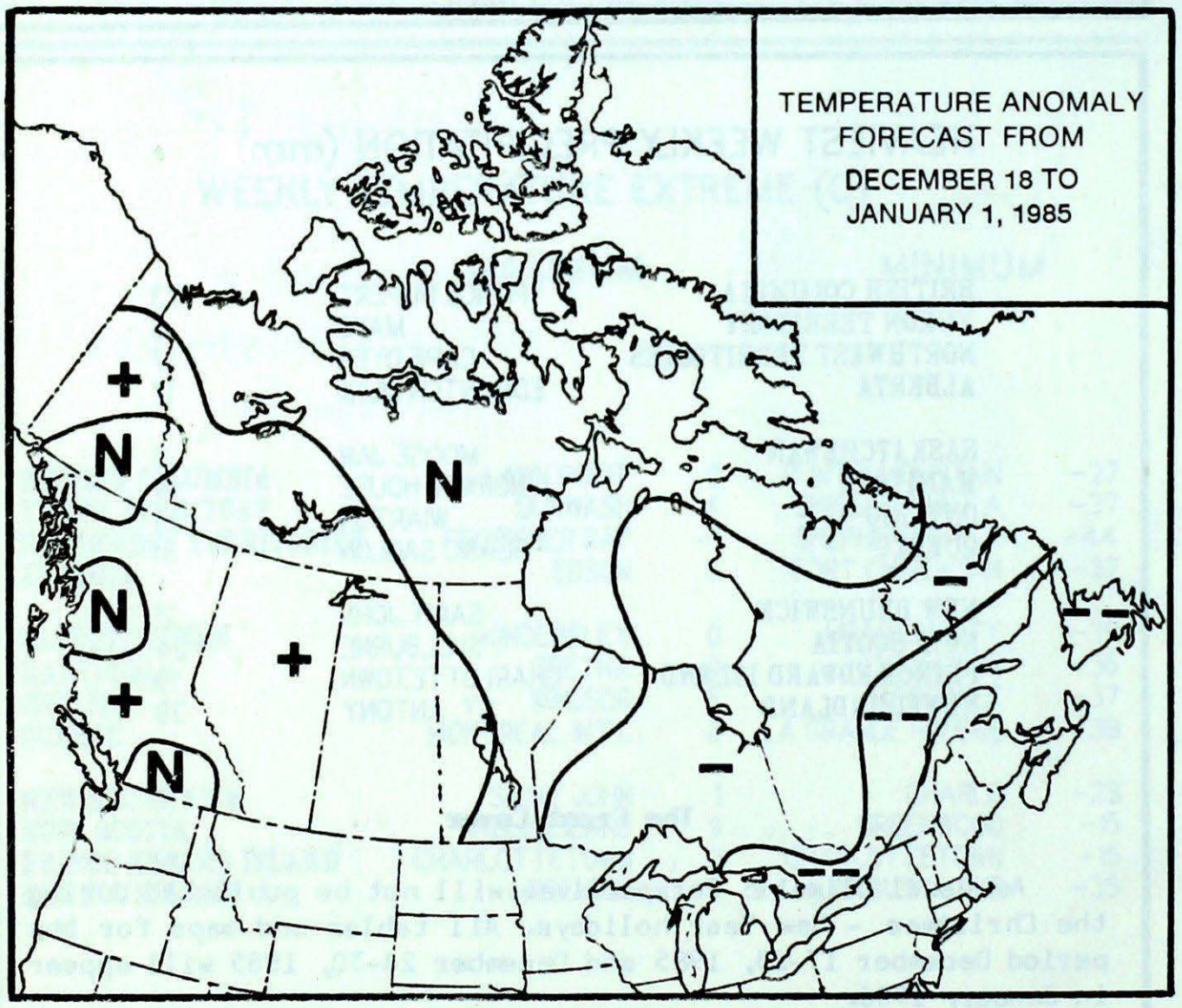
The Front Cover

As usual Climatic Perspectives will not be published during the Christmas - New Year holidays. All tables and maps for the period December 17-23, 1985 and December 24-30, 1985 will appear in January 1986.

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 very best wishes for the season and a prosperous New Year.

FORECAST





Temperature Anomaly Forecast

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.

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

CLIMATIC PERSPECTIVES VOLUME 7

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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.

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.

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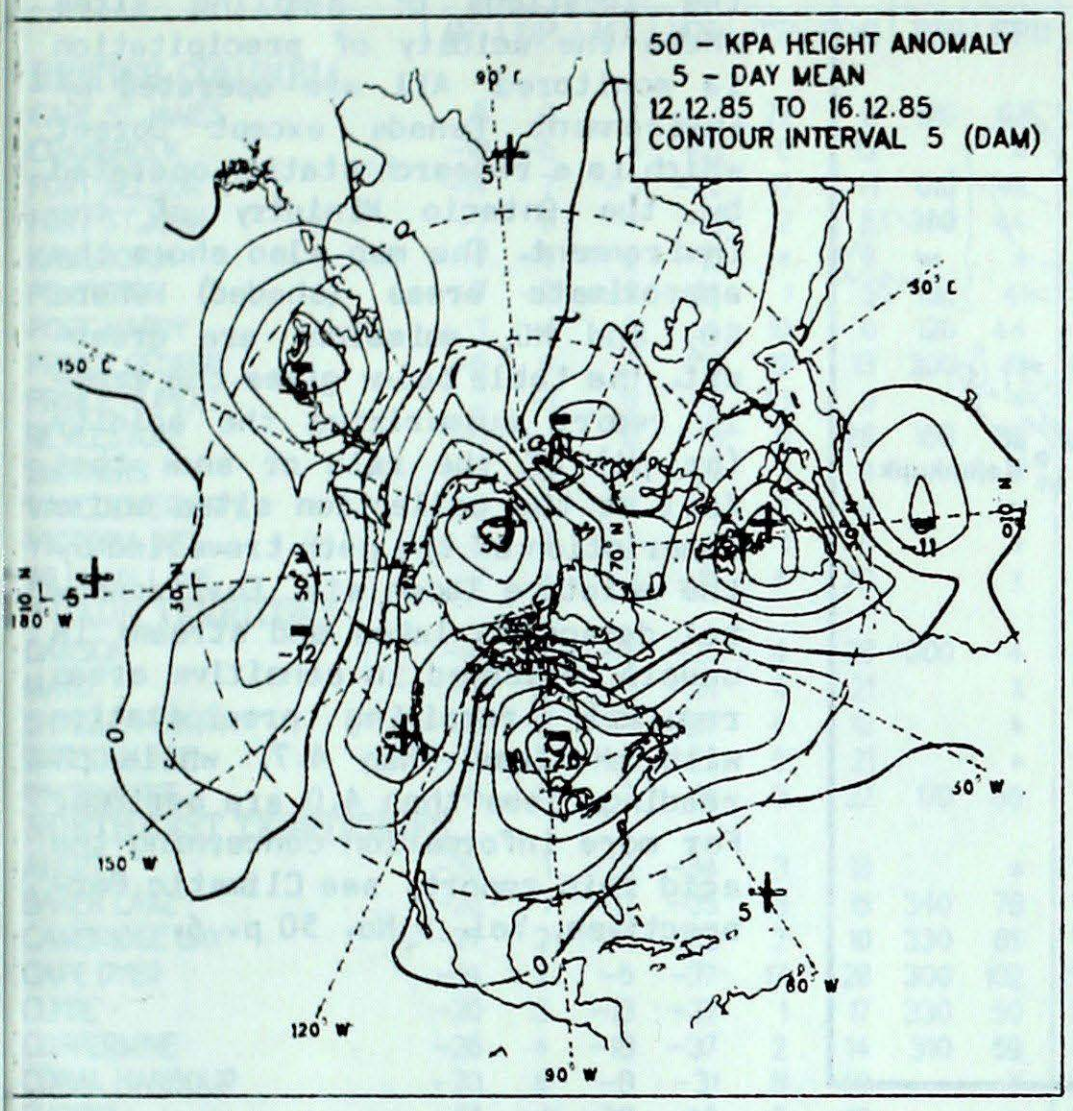
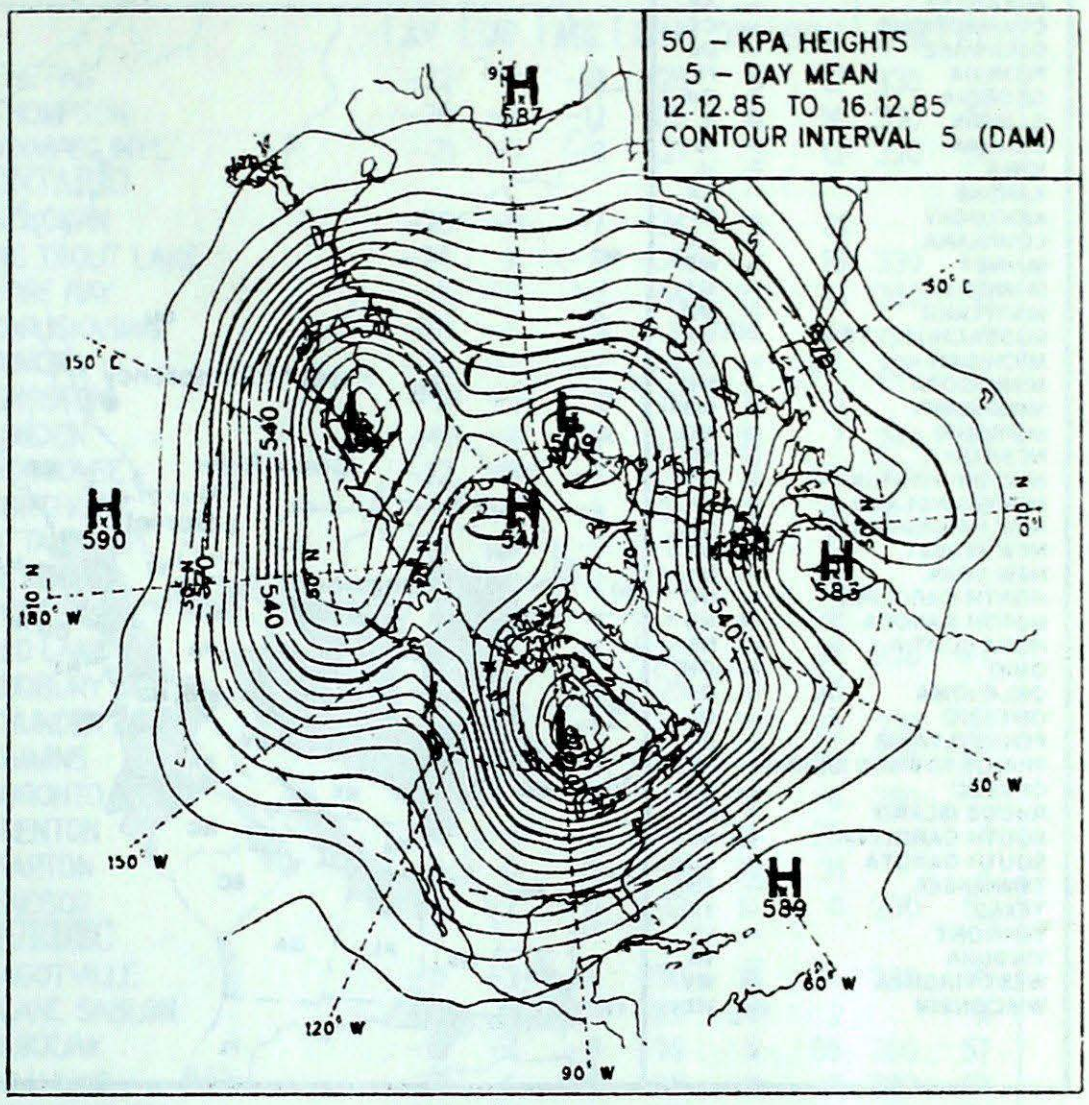
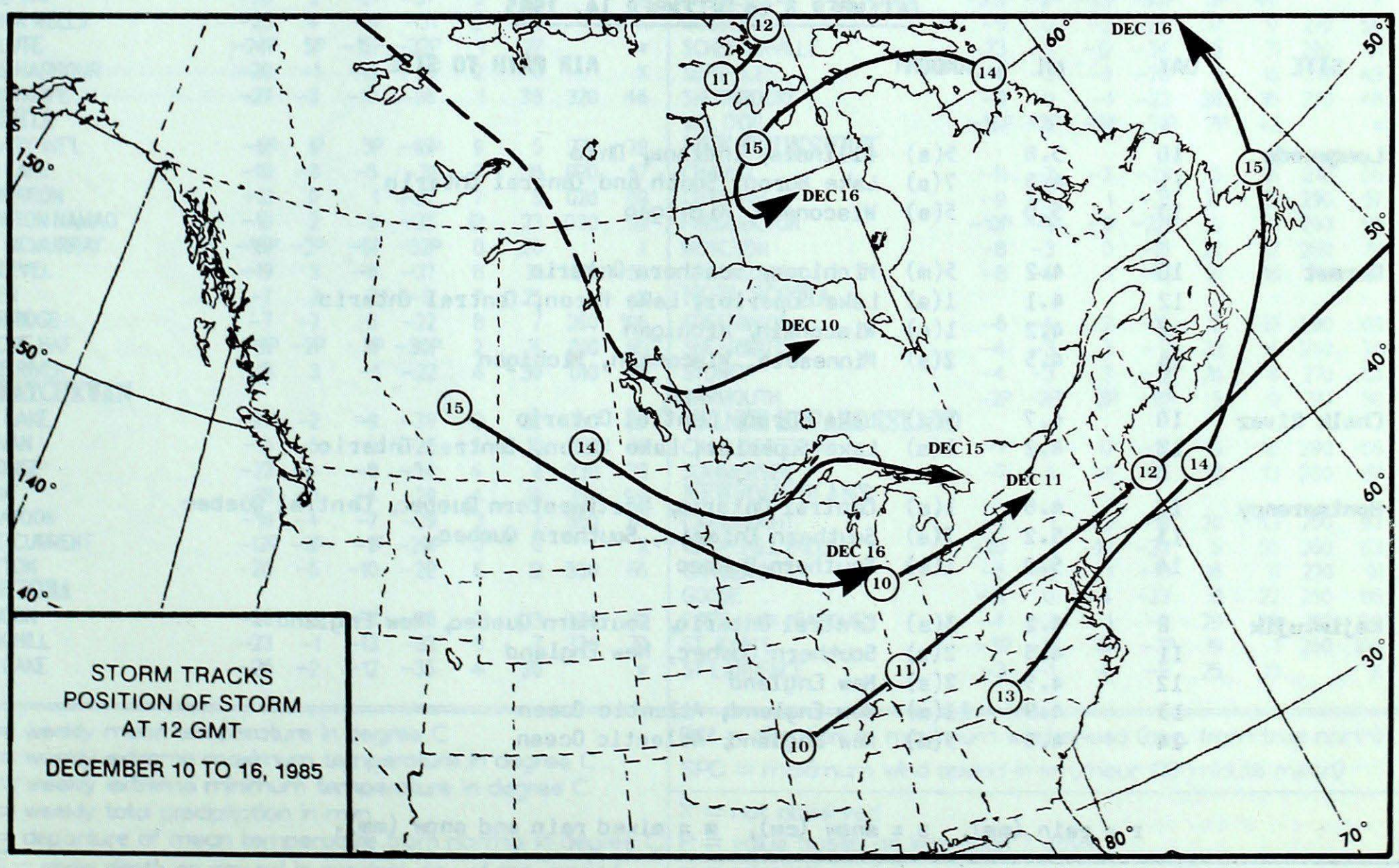
50 KPa ATMOSPHERIC CIRCULATION



MEAN 50 KPa HEIGHT ANOMALY (dam)
December 12 to December 16, 1985

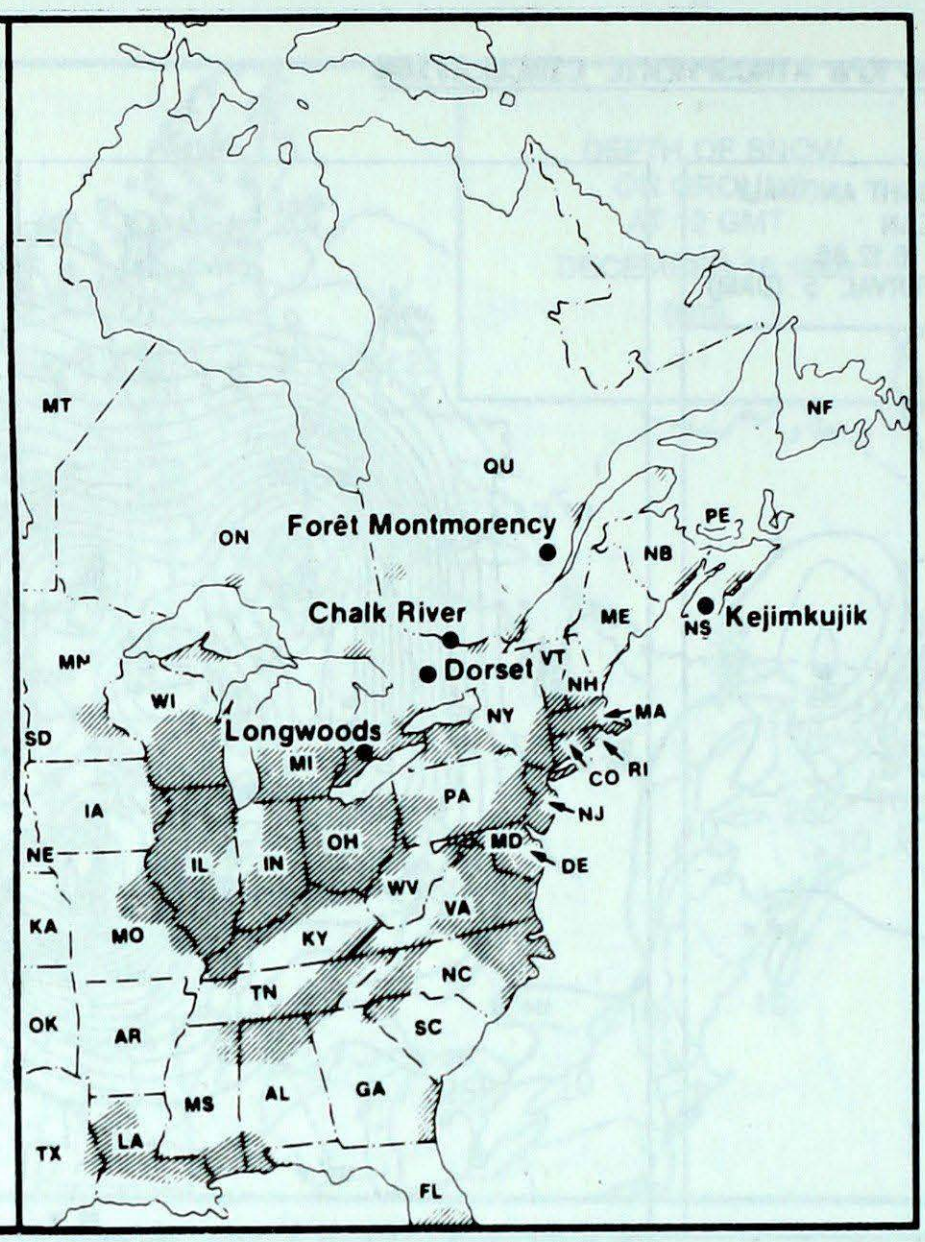


MEAN 50 KPa HEIGHTS (dam)
December 12 to December 16, 1985



ACID RAIN

ALABAMA	—	AL
ARKANSAS	—	AR
CONNECTICUT	—	CO
DELAWARE	—	DE
FLORIDA	—	FL
GEORGIA	—	GA
ILLINOIS	—	IL
INDIANA	—	IN
IOWA	—	IA
KANSAS	—	KA
KENTUCKY	—	KY
LOUISIANA	—	LA
MAINE	—	ME
MANITOBA	—	MT
MARYLAND	—	MD
MASSACHUSETTS	—	MA
MICHIGAN	—	MI
MINNESOTA	—	MN
MISSISSIPPI	—	MS
MISSOURI	—	MO
NEBRASKA	—	NE
NEW BRUNSWICK	—	NB
NEWFOUNDLAND	—	NF
NEW HAMPSHIRE	—	NH
NEW JERSEY	—	NJ
NEW YORK	—	NY
NORTH CAROLINA	—	NC
NORTH DAKOTA	—	ND
NOVA SCOTIA	—	NS
OHIO	—	OH
OKLAHOMA	—	OK
ONTARIO	—	ON
PENNSYLVANIA	—	PA
PRINCE EDWARD ISLAND	—	PE
QUÉBEC	—	QU
RHODE ISLAND	—	RI
SOUTH CAROLINA	—	SC
SOUTH DAKOTA	—	SD
TENNESSEE	—	TN
TEXAS	—	TX
VERMONT	—	VT
VIRGINIA	—	VA
WEST VIRGINIA	—	WV
WISCONSIN	—	WI



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 8 to DECEMBER 14, 1985

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	10	3.8	5(s)	Illinois, Indiana, Ohio
	11	4.3	7(s)	Lake Huron, South and Central Ontario
	13	5.0	5(s)	Wisconsin, Michigan
Dorset	10	4.2	5(m)	Michigan, Southern Ontario
	12	4.1	1(s)	Lake Superior, Lake Huron, Central Ontario
	13	4.2	1(s)	Wisconsin, Michigan
	14	4.5	2(s)	Minnesota, Wisconsin, Michigan
Chalk River	10	4.7	5(s)	Lake Huron, Central Ontario
	12	4.2	1(s)	Lake Superior, Lake Huron, Central Ontario
Montmorency	12	4.8	1(s)	Central Ontario, Northwestern Quebec, Central Quebec
	13	5.2	7(s)	Southern Ontario, Southern Quebec
	14	5.8	1(s)	Southern Quebec
Kejimkujik	8	4.2	3(s)	Central Ontario, Southern Quebec, New England
	11	4.5	2(s)	Southern Quebec, New England
	12	4.5	2(s)	New England
	13	4.9	11(m)	New England, Atlantic Ocean
	14	4.5	3(m)	New England, Atlantic Ocean

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

STATISTICS

TEMPERATURE, PRECIPITATION AND MAXIMUM WIND DATA FOR THE WEEK ENDING 0600 GMT DECEMBER 17,1985

STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
BRITISH COLUMBIA								
CAPE ST.JAMES	5	0	7	1	22	0	190	63
CRANBROOK	-10	-5	1	-21	0	13		*
FORT NELSON	-14	7	-3	-22	10	41	010	48
FORT ST.JOHN	-7	6	4	-18	2	6	360	44
KAMLOOPS	-7	-4	-2	-15	*	8		*
PENTICTON	-7	-7	-3	-14	1	5	180	41
PORT HARDY	3	-1	7	-4	10	0	120	44
PRINCE GEORGE	-6	*	2	-13	19	13	200	41
PRINCE RUPERT	2	-1	8	-7	73	0		*
REVELSTOKE	-5	-1	0	-13	8	28	180	39
SMITHERS	-9	-3	1	-20	1	9		*
VANCOUVER INT'L	2	-3	7	-5	6	0		*
VICTORIA INT'L	2	-3	7	-4	1	0		*
WILLIAMS LAKE	-7	*	1	-15	6	20		X
YUKON TERRITORY								
DAWSON	-14	*	-8	-25	4	28	000	4
MAYO	-11	13	-6	-24	6	21		X
SHINGLE POINT A	-26	-2	-17	-37	4	10		*
WATSON LAKE	-12	11	-3	-25	5	21		*
WHITEHORSE	-5	11	2	-14	3	22	170	56
NORTHWEST TERRITORIES								
ALERT	-30	1	-23	-34	3	18		*
BAKER LAKE	-26	1	-17	-35	3	15	340	78
CAMBRIDGE BAY	-27	2	-19	-32	2	10	330	65
CAPE DYER	-14	7	-5	-27	17	28	300	102
CLYDE	-20	5	-13	-27	1	17	330	50
COPPERMINE	-26	*	-18	-37	2	14	310	59
CORAL HARBOUR	-20	6	-8	-31	8	40		X
EUREKA	-37	-1	-28	-40	2	13		*
FORT SMITH	-25	-4	-8	-37	1	30		X
FROBISHER BAY	-11	12	-1	-21	5	20	080	63
HALL BEACH	-18P	11P	-9P	-34P	3	0	300	56
INUVIK	-27	0	-15	-36	6	22		X
MOULD BAY	-28	2	-21	-37	3	21		X
NORMAN WELLS	-23	4	-11	-31	12	26		X
RESOLUTE	-24P	5P	-15P	-32P	1	27		*
SACHS HARBOUR	-28	-1	-19	-39	2	6		X
YELLOWKNIFE	-27	-3	-10	-36	1	38	320	46
ALBERTA								
CALGARY INT'L	-6P	1P	3P	-16P	9	5	270	78
COLD LAKE	-18	-3	-5	-31	7	18	020	67
CORONATION	-12	0	1	-32	7	5	020	69
EDMONTON NAMAO	-10	2	3	-26	12	23	030	59
FORT MCMURRAY	-18P	-2P	-5P	-32P	8	20		X
HIGH LEVEL	-19	3	-6	-37	8	31	010	59
JASPER	-7	2	2	-17	7	25		X
LETHBRIDGE	-7	-2	5	-22	8	7	260	106
MEDICINE HAT	-9P	-2P	3P	-30P	2	4	010	65
PEACE RIVER	-12	3	-1	-22	6	30	010	46
SASKATCHEWAN								
CREE LAKE	-24	-2	-9	-38	3	22	350	89
ESTEVAN	-16	-5	0	-26	6	10	320	78
LA RONGE	-22	-4	-8	-34	4	8	330	78
REGINA	-18	-5	-4	-29	4	10	350	94
SASKATOON	-18	-4	-7	-29	3	7	360	67
SWIFT CURRENT	-12P	-2P	-1P	-29P	0	0		X
YORKTON	-20	-5	-10	-28	6	12	330	65
MANITOBA								
BRANDON	-20	-6	-11	-28	2	13	330	70
CHURCHILL	-23	-1	-13	-32	9	7	330	70
LYNN LAKE	-26	-2	-12	-35	4	20		*
THE PAS	-22	*	-10	-28	5	17	330	81
THOMPSON	-26	-3	-12	-36	6	14	350	57
WINNIPEG INT'L	-21	-6	-9	-27	2	13	320	54
ONTARIO								
ATIKOKAN	-23	-9	-7	-34	3	31		*
BIG TROUT LAKE	-24	*	-11	-34	3	18	330	44
GORE BAY	-6	-1	-1	-14	12	41	280	56
KAPUSKASING	-20	-5	-5	-31	294	58		*
KENORA	-22	-7	-7	-31	3	44	200	37
KINGSTON	-5P	-1P	1P	-15P	12	0		X
LONDON	-4P	-1P	3P	-13P	18	7	240	56
MOOSONEE	-22	-5	-9	-37	6	60	270	44
NORTH BAY	-11	-2	-4	-23	12	25		*
OTTAWA INT'L	-7	0	-1	-18	15	17		X
PETAWAWA	-10	0	-2	-23	11	11		X
PICKLE LAKE	*	*	*	*	*	38		*
RED LAKE	-22	-6	-6	-30	2	35	330	44
SUDBURY	-12	-2	-5	-25	9	26		X
THUNDER BAY	-19	-8	-4	-28	1	25	270	50
TIMMINS	-20P	-6P	-4P	-35P	3	69	300	46
TORONTO INT'L	-4	-1	3	-12	18	6	280	57
TRENTON	-5	-1	1	-14	24	25		X
WIARTON	-4	0	2	-9	39	31		X
WINDSOR	-4	-2	5	-12	16	0	230	52
QUEBEC								
BAGOTVILLE	-15	-3	-6	-30	10	14	280	46
BLANC SABLON	-8P	*	-2P	-18P	31P	2		X
INUKJUAK	-19	-1	-8	-35	5	35	200	57
KUUJJUAQ	-23	-4	-10	-35	11	47	280	67
KUUJJUARAPIK	-23P	-7P	-10	-38P	4	23	110	41
MANIWAKI	-11	-1	0	-23	7	16		*
MONT JOLI	-11P	-3P	-4P	-24P	11	8	290	69
MONTREAL INT'L	-6	0	0	-17	18	5	270	57
NATASHQUAN	-12	-1	-3	-20	4	2	300	52
NITCHEQUON	-25P	-5P	-12P	-36P	3P	44		*
QUEBEC	-9	0	-2	-24	17	17	270	56
SCHEFFERVILLE	-23	-3	-12	-34	5	31	290	61
SEPT-ILES	-14	-3	-5	-28	9	16	310	48
SHERBROOKE	-8	0	-1	-23	26	35	270	48
VAL D'OR	-16P	-3P	-6P	-31P	7P	43		*
NEW BRUNSWICK								
CHARLO	-11	-2	-3	-23	15	16	270	56
CHATHAM	-9	-3	1	-21	12	25	290	57
FREDERICTON	-10P	-4P	-1P	-22P	20	14	290	59
MONCTON	-8	-3	0	-16	20	17	260	78
SAINT JOHN	-8	-4	1	-18	21	18	310	57
NOVA SCOTIA								
GREENWOOD	-6	-4	2	-15	13	13	290	69
SHEARWATER	-4	-3	3	-11	22	4	290	78
SYDNEY	-4	-3	3	-12	15	6	270	69
YARMOUTH	-2P	-2P	3P	-8P	9	0	310	80
PRINCE EDWARD ISLAND								
CHARLOTTETOWN	-7	-3	0	-15	19	10	280	56
SUMMERSIDE	-7	-3	-1	-15	18	13	280	87
NEWFOUNDLAND								
CARTWRIGHT	-9	1	-3	-19	20	53	250	93
CHURCHILL FALLS	-20	1	-10	-32	5	55	260	63
GANDER INT'L	-5	-1	1	-10	16	11	270	91
GOOSE	-15	0	-4	-23	8	22	250	85
PORT-AUX-BASQUES	-4	-2	1	-7	29	29	100	94
ST JOHN'S	-3P	-1P	4P	-7P	19	1	260	106
ST LAWRENCE	-3	-1	4	-8	25	10		X

AV = weekly mean temperature in degree C
MX = weekly extreme maximum temperature in degree C
MN = weekly extreme minimum temperature in degree C
TP = weekly total precipitation in mm
DP = departure of mean temperature from normal in degree C
SOG = snow depth on ground in cm, last day of the period

DIR = direction of maximum wind speed (deg. from true north)
SPD = maximum wind speed in km/hour (10 minute mean)

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