



Environment  
Canada

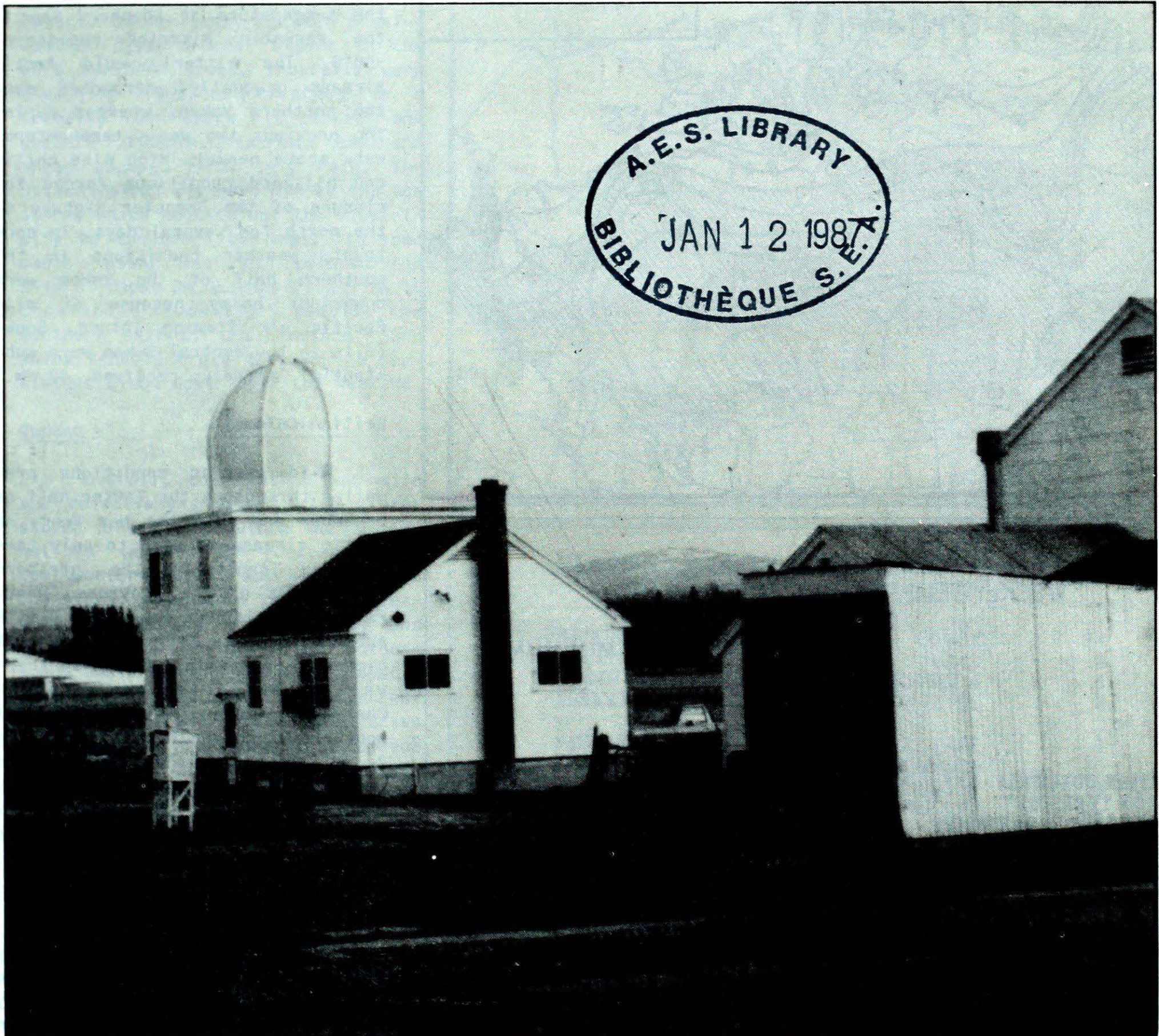
Environnement  
Canada

# Climatic Perspectives

A weekly review of Canadian climate

December 30, 1986 to January 5, 1987

Vol.9 No.1



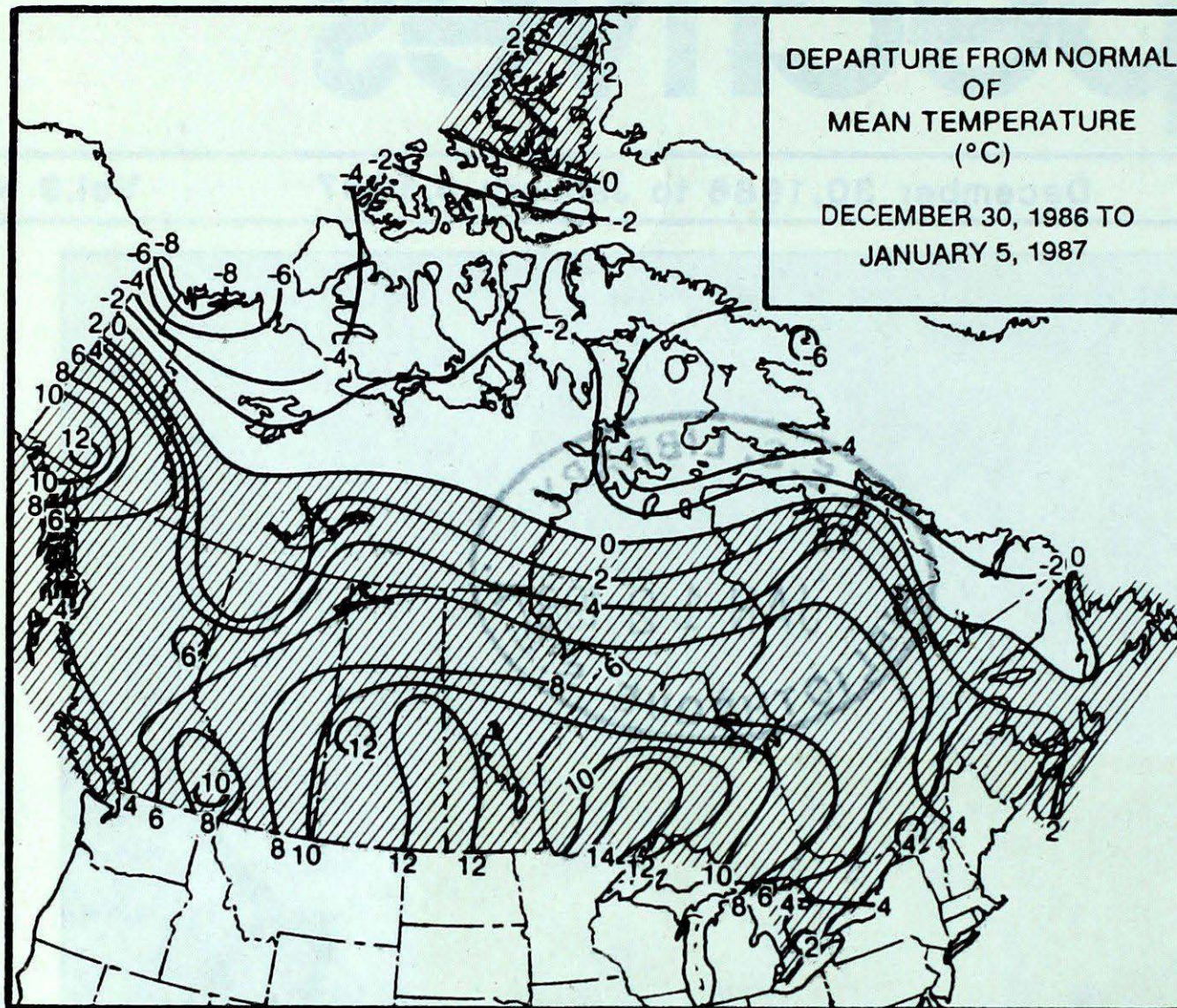
This soon to be dismantled Prince George upper air station was originally built in 1943. The station was opened along with a network of many others during World War II, when it was realized that upper level winds play an important role in controlling our weather, and the subsequent success of bombing missions. For more information see pages 3 and 9.

- ***Mild weather conditions across much of Canada***
- ***Christmas ice storm paralyses the Ottawa Valley***

Canada



# TEMPERATURE



## ACROSS THE COUNTRY...

### Yukon and Northwest Territories

Minimum temperatures in the minus forties were common place throughout the Arctic. On January 3, the temperature at Shepherd Bay in the Keewatin District registered  $-50^{\circ}\text{C}$ . The bitterly cold Arctic airmass gradually encroached upon the northern Yukon, whereas during the previous two weeks temperatures were above normal. High wind chills and blizzard conditions forced the closure of the Dempster Highway to the north for several days. In contrast, weather conditions in the southern half of the Yukon were downright balmy because of mild Pacific air flowing inland. Snowfalls in the central Yukon were substantial. Klondike received 40 cm.

### British Columbia

Mild weather conditions prevailed throughout the latter half of December and into the New Year. An Arctic airmass managed to only temporarily penetrate the northern extremities of the province. Heavy rains fell along the coast, with substantial snowfalls reported at higher elevations. Most southern valleys experienced a green Christmas. A damaging wind storm hit southern Vancouver Island on January 2. At Victoria, winds were clocked gusting up to 117 km/h at Gonzales, trees were blown over onto houses and cars, and there were many power outages.

### Prairies

Unusually warm and relatively dry weather conditions prevailed throughout most of the holiday period. Temperatures in the southern agricultural districts, where little or no snow remains, climbed well above freezing this past week. A number of new daily high temperature records were set during each of the last three weeks. In Alberta, it was a mostly sunny three-week period. Southern areas of Saskatchewan and Manitoba had some light snowfalls. Freezing rain fell on December 30. Snowfalls in more northern districts were more substantial.

## WEEKLY TEMPERATURE EXTREME (C)

	MAXIMUM		MINIMUM	
BRITISH COLUMBIA	LAWN POINT	12	FORT NELSON	-29
YUKON TERRITORY	WHITEHORSE	3	SHINGLE POINT A	-40
NORTHWEST TERRITORIES	FORT SMITH	-8	SHEPHERD BAY A	-50
ALBERTA	LETHBRIDGE	9	HIGH LEVEL	-27
SASKATCHEWAN	ESTEVAN	6	URANIUM CITY	-27
MANITOBA	DAUPHIN	5	CHURCHILL	-33
ONTARIO	TORONTO INT'L	4	WINISK	-28
QUEBEC	MONTREAL INT'L	1	LA GRANDE RIVIERE	-33
NEW BRUNSWICK	MONCTON	4	CHATHAM	-18
NOVA SCOTIA	SABLE ISLAND	8	SHELBURNE	-14
PRINCE EDWARD ISLAND	CHARLOTTETOWN	3	SUMMERSIDE	-8
NEWFOUNDLAND	ST JOHN'S	4	WABUSH LAKE	-34

## ACROSS THE NATION

WARMEST MEAN TEMPERATURE	6	CAPE ST. JAMES	BC
COOLEST MEAN TEMPERATURE	-38	MOULD BAY	NWT



Ontario

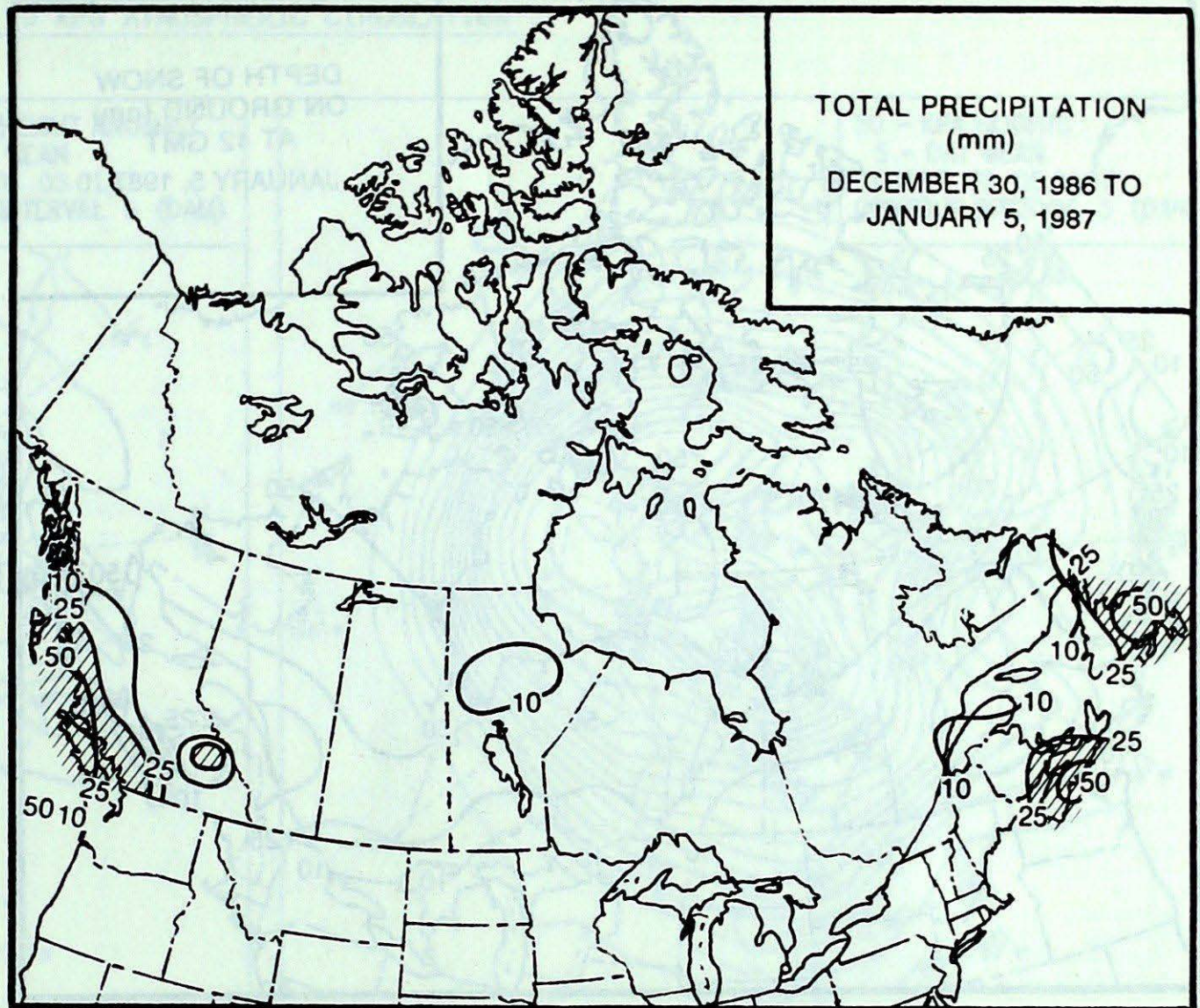
Although it was mild, overcast conditions plagued most of southern and central Ontario since well before Christmas, especially near the Great Lakes. In contrast, areas in northern Ontario became sunny between passing weather disturbances. Except in the more northern areas, snowfalls were unusually light. On Christmas Eve, a freezing rain storm hit central and eastern Ontario. Extreme southern areas escaped with only rain. The Ottawa Valley was hard hit by the ice storm, which knocked out the electricity to thousands of homes. In some cases, power was not restored for several days. On January 2, a 5 to 15 centimetre snowfall covered the southern half of the province. Sunshine finally broke through the persistent cloud cover over the weekend.

Quebec

Overall, the weather was mild and relatively pleasant. Two winter storms hit the province during the holiday period. On December 25, southwestern Quebec was struck by an ice storm, with up to 30 mm of freezing rain falling in the Ottawa and St. Lawrence Valleys. The outdoor scene Christmas Day was rather mystical, but at the same time distressing, as hundreds of ice laden trees pulled down hydro and telephone lines, isolating thousands of residents. On January 2 and 3, another storm moving up the east coast dumped 10 to 20 centimetres of snow on the Gaspé and the Eastern Townships.

Atlantic

On New Year's Eve a storm dumped 15 to 20 centimetres of snow on the Avalon Peninsula and parts of Nova Scotia, slowing down the festivities. Winds gusting over 100 km/h and unusually high tides in the Bay of Fundy and Minas Basin, battered some shore front properties. A section of wharf at Harbourville, Nova Scotia, was damaged during the storm. Another slow moving storm affected the region over the weekend. Some areas in New Brunswick received more than 20 cm of snow on January 2, while Newfoundland received a mixture of rain, freezing rain and snow.



## HEAVIEST WEEKLY PRECIPITATION (mm)

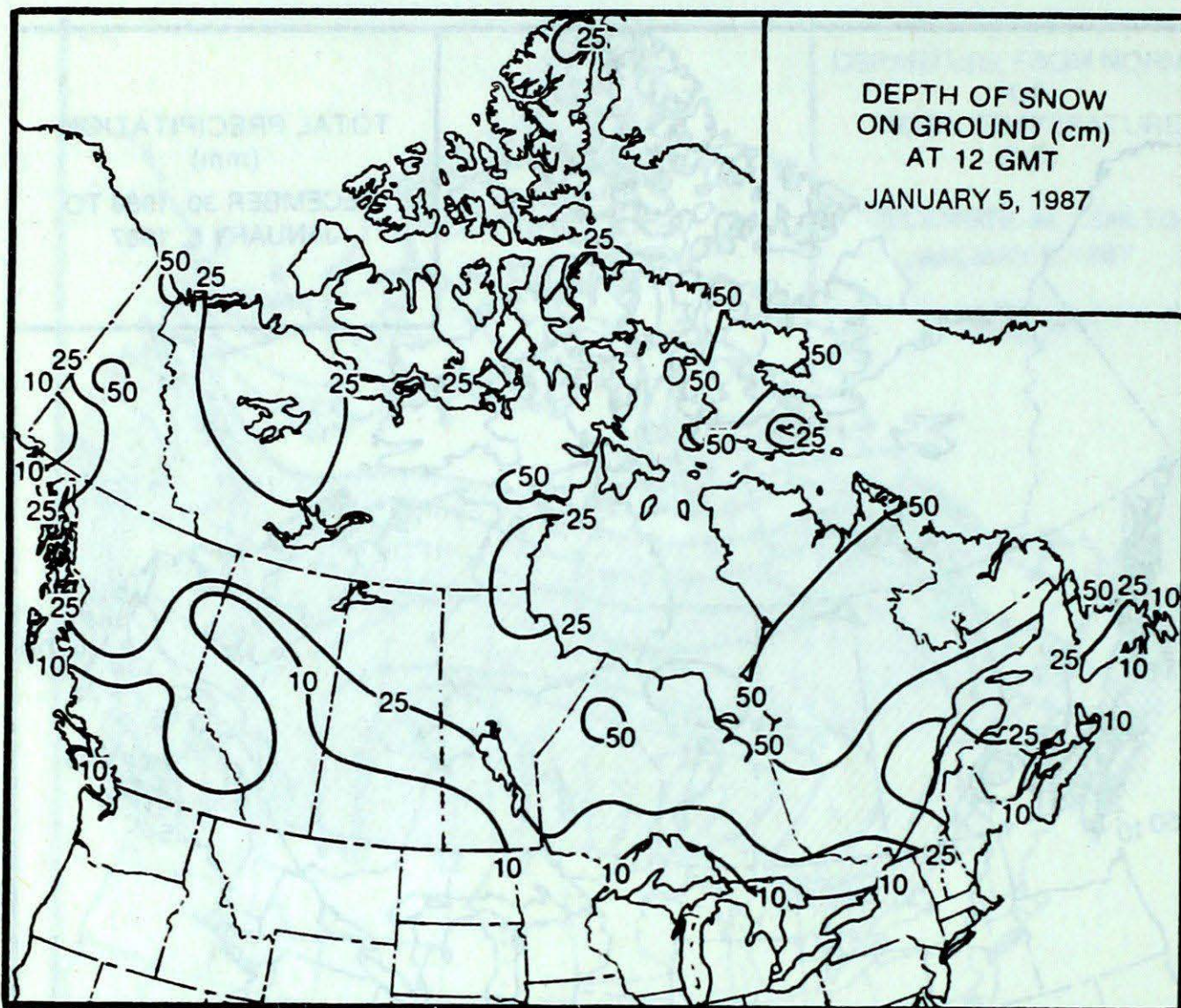
BRITISH COLUMBIA	COMOX	84
YUKON TERRITORY	MAYO	9
NORTHWEST TERRITORIES	CAPE DORSET A	6
ALBERTA	HIGH LEVEL	6
SASKATCHEWAN	CREE LAKE	9
MANITOBA	THOMPSON	10
ONTARIO	WINDSOR	9
QUEBEC	MONT JOLI	15
NEW BRUNSWICK	CHATHAM	31
NOVA SCOTIA	SABLE ISLAND	82
PRINCE EDWARD ISLAND	SUMMERSIDE	15
NEWFOUNDLAND	COMFORT COVE	67

## Front Cover - Prince George

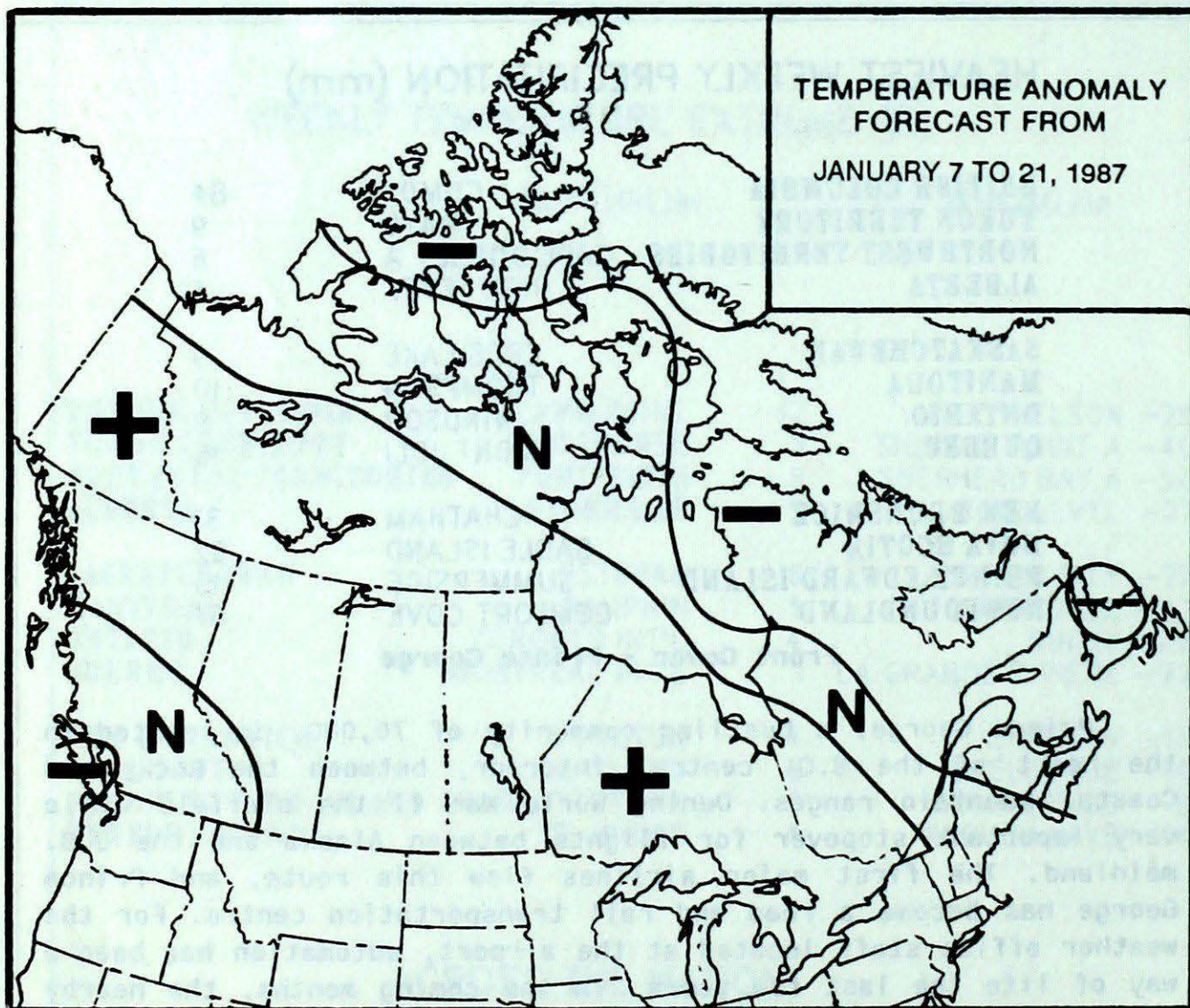
Prince George, a bustling community of 70,000, is located in the heart of the B.C. central interior, between the Rocky and Coastal mountain ranges. During World War II the airfield was a very important stopover for flights between Alaska and the U.S. mainland. The first major airlines flew this route, and Prince George has become a road and rail transportation centre. For the weather office staff located at the airport, automation has been a way of life the last few years. In the coming months, the nearby upper air station staffed by three specialists will be amalgamated with the weather office, which has been equipped with the latest up-to-date radiosonde sounding equipment. Two years ago the weather office was the first station in B.C. to have access to relayed satellite pictures from the Pacific Weather Centre. Prince George is also one of seven stations testing a new experimental satellite communications network for A.E.S. called METSIS.



# FORECAST



DEPTH OF SNOW  
ON GROUND (cm)  
AT 12 GMT  
JANUARY 5, 1987



TEMPERATURE ANOMALY  
FORECAST FROM  
JANUARY 7 TO 21, 1987

**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 9**

Managing Editor P.R. Scholefield  
 Editors-in-charge  
     weekly A.K. Radomski  
     monthly A. Shabbar  
     french A.A. Caillet  
 Data Manager M. Skarpathiotakis  
 Art Layout M. Baptiste  
 Word Processing N. Khaja  
 Translation D. Pokorn  
 Cartography G. Young/T. Chivers  
                   C. Czaja

**Regional Correspondents**  
 Atlantic: F.Amirault; Que.: J.Miron  
 Ont.: B.Smith; Central: B.Tortorelli;  
 Western: W.Prusak; Pac.: E.Coatta;  
 Yukon Weather Centre; Frobisher Bay  
 & Yellowknife Weather Offices;  
 Newfoundland Weather Centre:  
 G.MacMillan; AES Satellite Data Lab;  
 Ice Central Ottawa  
 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)667-4906/4711.

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. The contents may be reprinted freely with proper credit.

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.

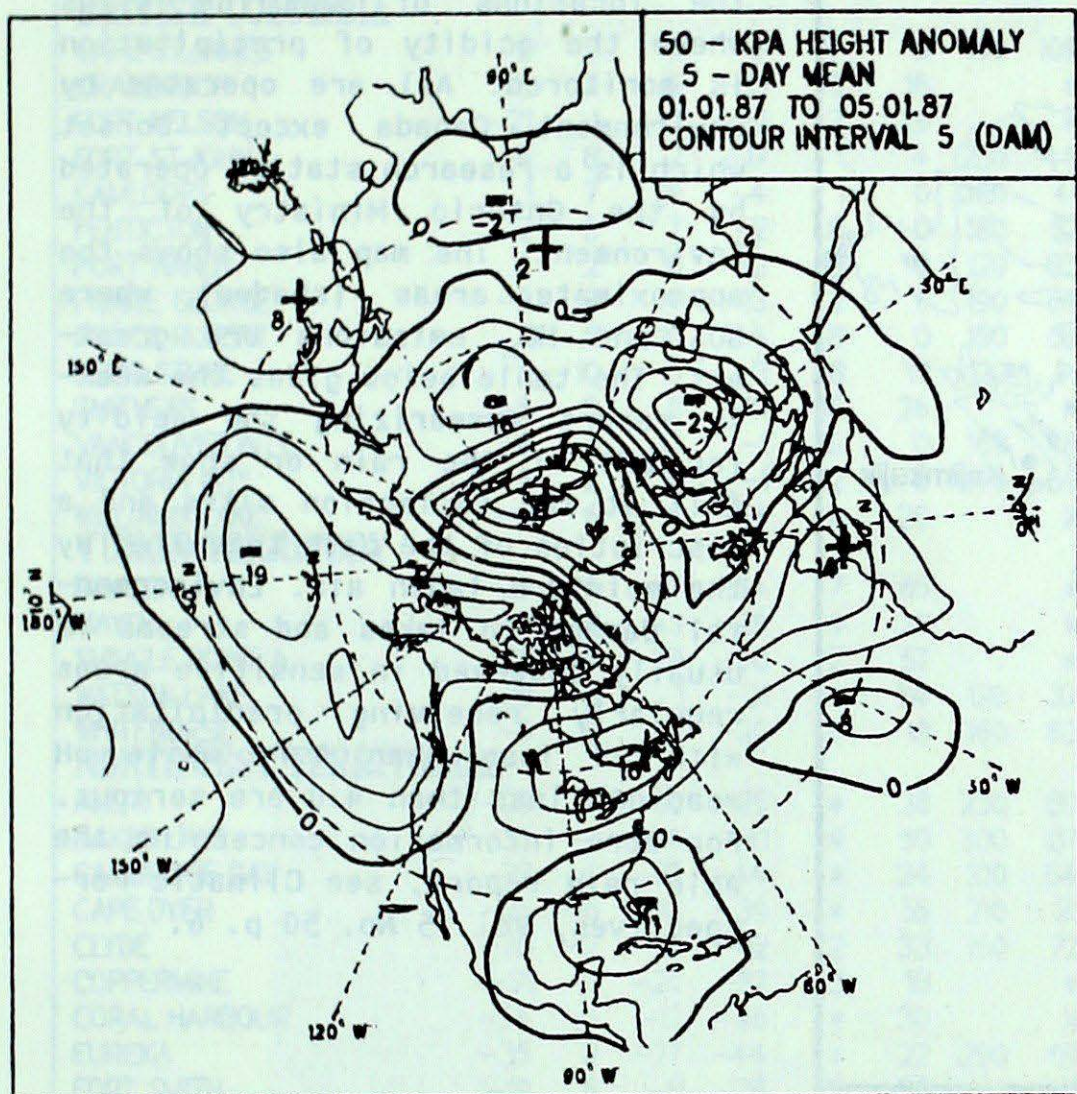
**Annual Subscriptions**

weekly & monthly supplement: \$35.00  
   foreign: \$42.00  
 Monthly issue: \$10.00  
   foreign: \$12.00

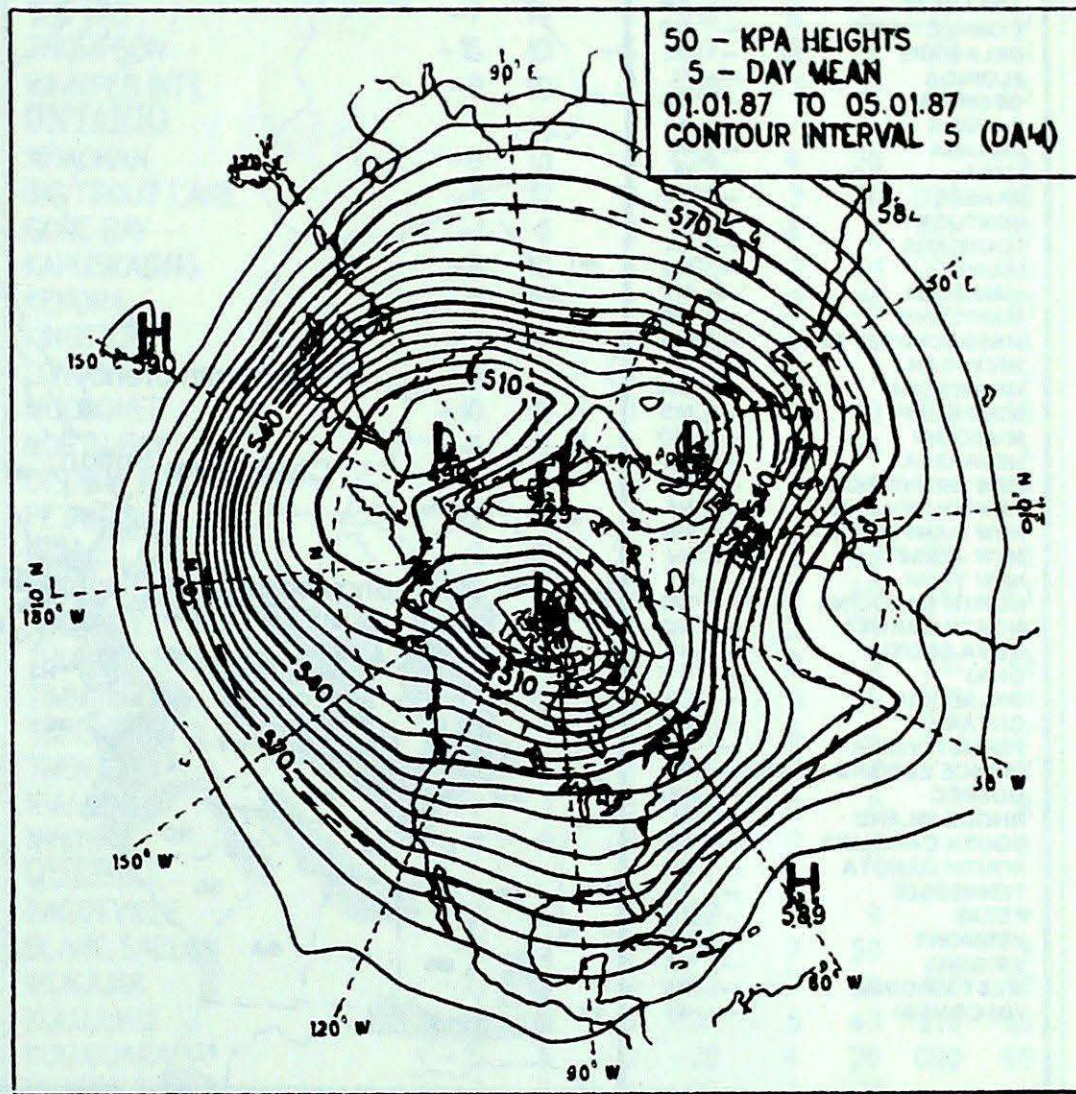
Orders must be prepaid by money order or cheque payable to Receiver General for Canada. **Canadian Government Publishing Centre, Ottawa, Ontario K1A 0S9** (613)994-1495



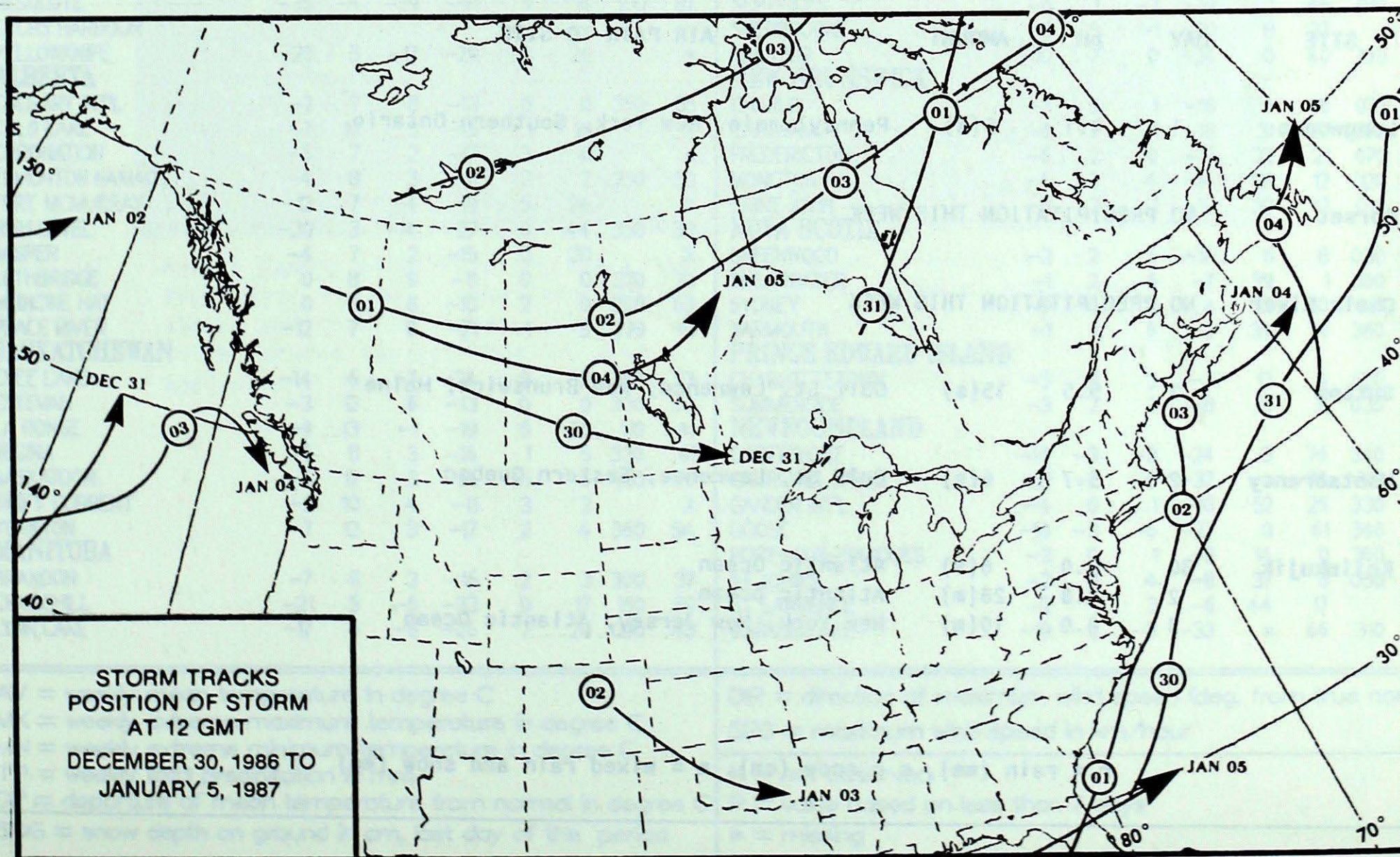
**50 KPa ATMOSPHERIC CIRCULATION**



MEAN 50 KPa HEIGHT ANOMALY (dam)  
January 1 to January 5, 1987



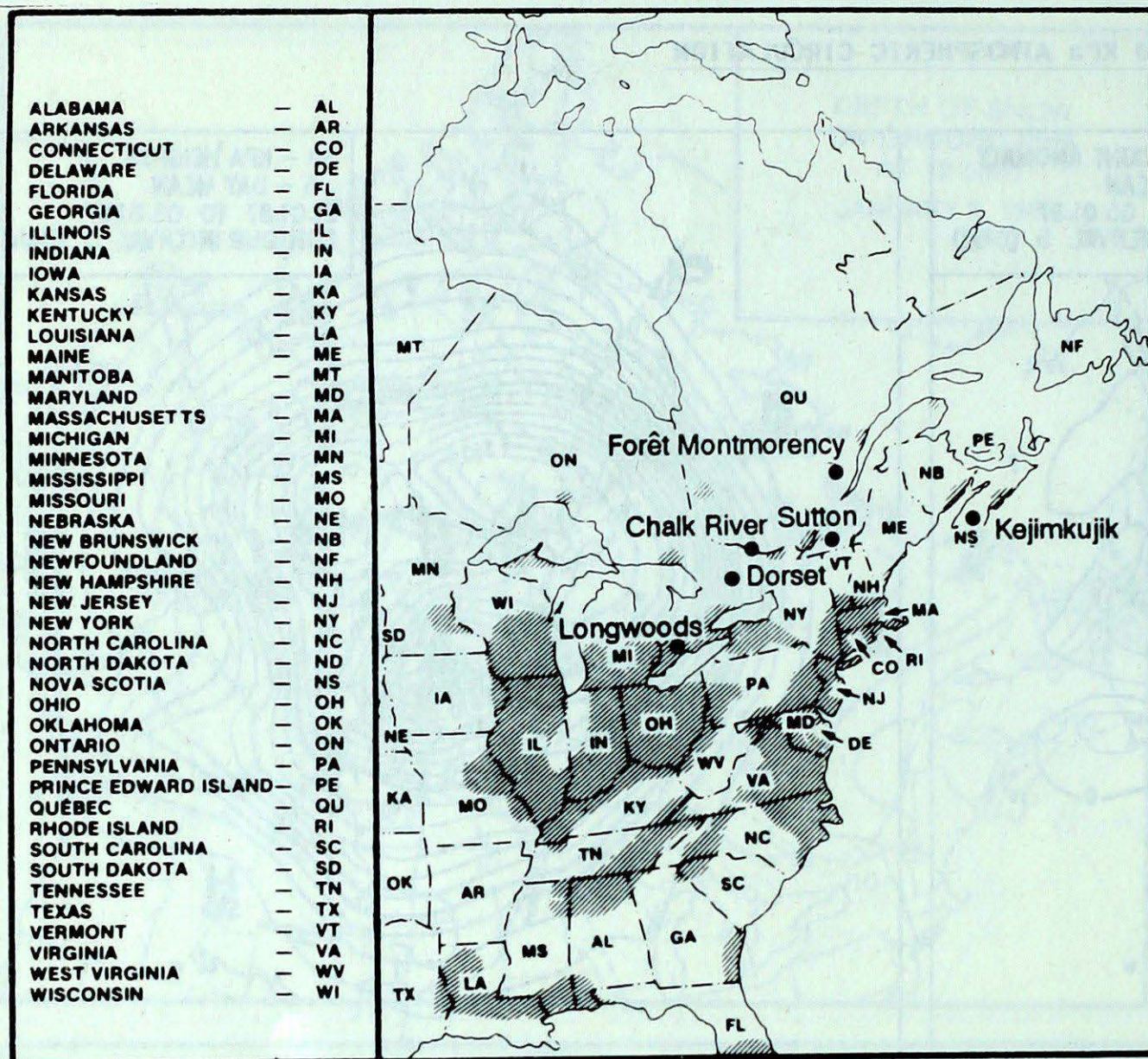
MEAN 50 KPa HEIGHTS (dam)  
January 1 to January 5, 1987





# ACID RAIN

## 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  $\text{SO}_2$  and  $\text{NO}_x$  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 28, 1986 TO JANUARY 3, 1987

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	1	4.1	5(s)	Pennsylvania, New York, Southern Ontario
Dorset	NO PRECIPITATION THIS WEEK			
Chalk River	NO PRECIPITATION THIS WEEK			
Sutton	2	5.5	15(s)	Gulf St. Lawrence, New Brunswick, Maine
Montmorency	2	5.7	6(s)	Gulf St. Lawrence, Eastern Quebec
Kejimikujik	30	5.0	6(s)	Atlantic Ocean
	2	4.8	28(m)	Atlantic ocean
	3	4.0	10(m)	New York, New Jersey, Atlantic Ocean

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



## TEMPERATURE, PRECIPITATION AND MAXIMUM WIND DATA FOR THE WEEK ENDING 0600 GMT JANUARY 6, 1987

STATION	TEMPERATURE				PRECIP.		WIND MX		STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD		AV	DP	MX	MN	TP	SOG	DIR	SPD
<b>BRITISH COLUMBIA</b>									THE PAS	-7	14	0	-13	8	20	110	50
CAPE ST. JAMES	6	2	9	4	47	0	140	109	THOMPSON	-15	10	-5	-27	13	36	190	41
CRANBROOK	-3	11	5	-13	8	16		*	WINNIPEG INT'L	-8	10	2	-18	1	12	160	85
FORT NELSON	-21	1	-15	-29	2	29		*	<b>ONTARIO</b>								
FORT ST. JOHN	-6	8	2	-17	1	4	250	44	ATIKOKAN	-6	13	1	-24	4	20		*
KAMLOOPS	1	7	10	-4	1	0	080	41	BIG TROUT LAKE	-11	12	1	-24	3	56	030	43
PENTICTON	2	5	7	-2	8	0	180	52	GORE BAY	-1	6	3	-10	4	8	200	52
PORT HARDY	4	2	8	-2	68	0	120	83	KAPUSKASING	-8	10	3	-25	2	21	200	33
PRINCE GEORGE	-3	7	4	-13	2	6	190	59	KENORA	-8	10	0	-20	2	29	180	41
PRINCE RUPERT	3	5	10	-4	48	0	150	59	KINGSTON	-3	4	2	-14	0	0		X
REVELSTOKE	0	10	5	-3	28	13	120	41	LONDON	-4	1	1	-16	*	7		*
SMITHERS	-5	5	0	-10	10	26		*	MOOSONEE	-10	10	3	-21	1	42	330	48
VANCOUVER INT'L	6	3	10	-1	45	0	160	48	NORTH BAY	-6	7	0	-17	0	25		*
VICTORIA INT'L	5	2	10	-1	42	0	140	59	OTTAWA INT'L	-5	5	0	-13	0	14		X
WILLIAMS LAKE	-4	6	4	-14	0	20		X	PETAWAWA	-5	6	1	-18	0	12		X
<b>YUKON TERRITORY</b>									PICKLE LAKE	-9	12	0	-25	2	53	160	43
DAWSON	-20	5	-12	-34	7	65		*	RED LAKE	-10	11	0	-26	2	40	160	43
MAYO	-16	8	-3	-29	9	23		X	SUDBURY	-4	9	1	-17	2	24		X
SHINGLE POINT A	-33	-9	-28	-40	2	57		*	THUNDER BAY	-3	10	2	-14	0	2	210	41
WATSON LAKE	-19	5	1	-31	0	34	120	37	TIMMINS	-7	10	3	-26	1	25	210	41
WHITEHORSE	-5	12	3	-20	0	18	160	63	TORONTO INT'L	-2	3	4	-12	6	4	340	57
<b>NORTHWEST TERRITORIES</b>									TRENTON	-3	3	2	-16	7	8		X
ALERT	-29	4	-18	-35	*	28	230	89	WIARTON	-2	3	3	-13	0	0		X
BAKER LAKE	-33	-1	-16	-41	*	50	300	87	WINDSOR	0	3	3	-6	2	0		*
CAMBRIDGE BAY	-37	-4	-22	-44	*	24	310	54	<b>QUEBEC</b>								
CAPE DYER	-25	-6	-12	-39	*	55	210	31	BAGOTVILLE	-12	3	0	-22	1	9		*
CLYDE	-28	-2	-17	-42	2	33	160	72	BLANC SABLON	-11	-2	-2	-20	7	50		X
COPPERMINE	-31	-2	-20	-37	3	18		*	INUKJUAQ	-21	1	-9	-32	7	30	160	52
CORAL HARBOUR	-34	-6	-12	-46	*	30		X	KUWJUAQ	-19	3	-6	-30	5	43	270	65
EUREKA	-35	2	-27	-44	*	22	290	69	KUWJUAPIK	-15	5	-3	-28	4	26	090	46
FORT SMITH	-19	6	-8	-28	2	36		X	MANIWAKI	-7	6	0	-22	0	21		*
FROBISHER BAY	-28	-5	-14	-38	5	22	330	78	MONT JOLI	-7	2	0	-16	15	12	060	80
HALL BEACH	-35	-7	-16	-45	*	31	290	91	MONTREAL INT'L	-6	3	1	-15	0	14	030	44
INUVIK	-36	-5	-23	-45	3	35		X	NATASHQUAN	-10	1	-3	-19	1	25	360	61
MOULD BAY	-38	-3	-32	-44	*	33		X	QUEBEC	-8	3	0	-16	2	36	070	69
NORMAN WELLS	-28	1	-21	-35	*	19		X	SCHEFFERVILLE	-20	2	-8	-30	2	77	210	52
RESOLUTE	-35	-4	-29	-41	*	14	100	87	SEPT-ILES	-11	1	-2	-19	1	46	010	31
SACHS HARBOUR									SHERBROOKE	-6	5	-1	-20	8	27		*
YELLOWKNIFE	-23	5	-17	-29	4	20		*	VAL D'OR	-10	7	0	-24	0	40	190	37
<b>ALBERTA</b>									<b>NEW BRUNSWICK</b>								
CALGARY INT'L	-2	7	8	-13	0	0	350	65	CHARLO	-7	5	1	-16	*	46	070	43
COLD LAKE	-7	10	3	-15	1	10		*	CHATHAM	-6	2	-1	-18	31	37	050	80
CORONATION	-6	7	2	-17	3	0		*	FREDERICTON	-6	2	0	-17	22	21	070	63
EDMONTON NAMAQ	-4	8	3	-11	2	2	250	50	MONCTON	-4	3	4	-14	28	12	020	89
FORT MCMURRAY	-12	7	-4	-19	5	24		X	SAINT JOHN	-5	2	1	-17	22	12	010	83
HIGH LEVEL	-20	3	-14	-27	6	44	350	33	<b>NOVA SCOTIA</b>								
JASPER	-4	7	2	-15	0	20		X	GREENWOOD	-2	2	5	-10	11	8	030	106
LETHBRIDGE	0	8	9	-11	0	0	270	78	SHEARWATER	-1	2	6	-7	39	1	360	89
MEDICINE HAT	0	11	8	-10	2	0	280	63	SYDNEY	-9	-6	2	*	22	10	010	78
PEACE RIVER	-12	7	0	-21	1	5	270	41	YARMOUTH	-1	1	6	-9	39	0	360	78
<b>SASKATCHEWAN</b>									<b>PRINCE EDWARD ISLAND</b>								
CREE LAKE	-14	6	-7	-24	9	33	200	33	CHARLOTTETOWN	-3	2	3	-7	12	4	020	83
ESTEVAN	-3	12	6	-13	0	0	330	59	SUMMERSIDE	-3	2	3	-8	15	8	030	72
LA RONGE	-9	13	-1	-19	6	35	110	41	<b>NEWFOUNDLAND</b>								
REGINA	-6	11	3	-16	1	5	330	61	CARTWRIGHT	-14	-3	-3	-24	3	74	340	85
SASKATOON	-6	12	3	-14	5	6	160	50	CHURCHILL FALLS	-21	-2	-9	-32	*	73	310	65
SWIFT CURRENT	-3	10	4	-11	3	2		X	GANDER INT'L	-4	0	1	-10	52	25	330	96
YORKTON	-7	12	3	-17	2	4	360	54	GOOSE	-16	-3	-6	-27	0	61	340	43
<b>MANITOBA</b>									PORT-AUX-BASQUES	-3	0	1	-8	14	11	360	85
BRANDON	-7	11	2	-16	2	3	300	37	ST JOHN'S	-2	0	4	-8	37	8	030	87
CHURCHILL	-21	5	-5	-33	9	17	150	59	ST LAWRENCE	-2	1	3	-6	44	17		X
LYNN LAKE	-17	6	-8	-26	7	20	090	48	WABUSH LAKE	-19	2	-8	-33	*	66	310	56

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

X = not observed

P = value based on less than 7 days

\* = missing



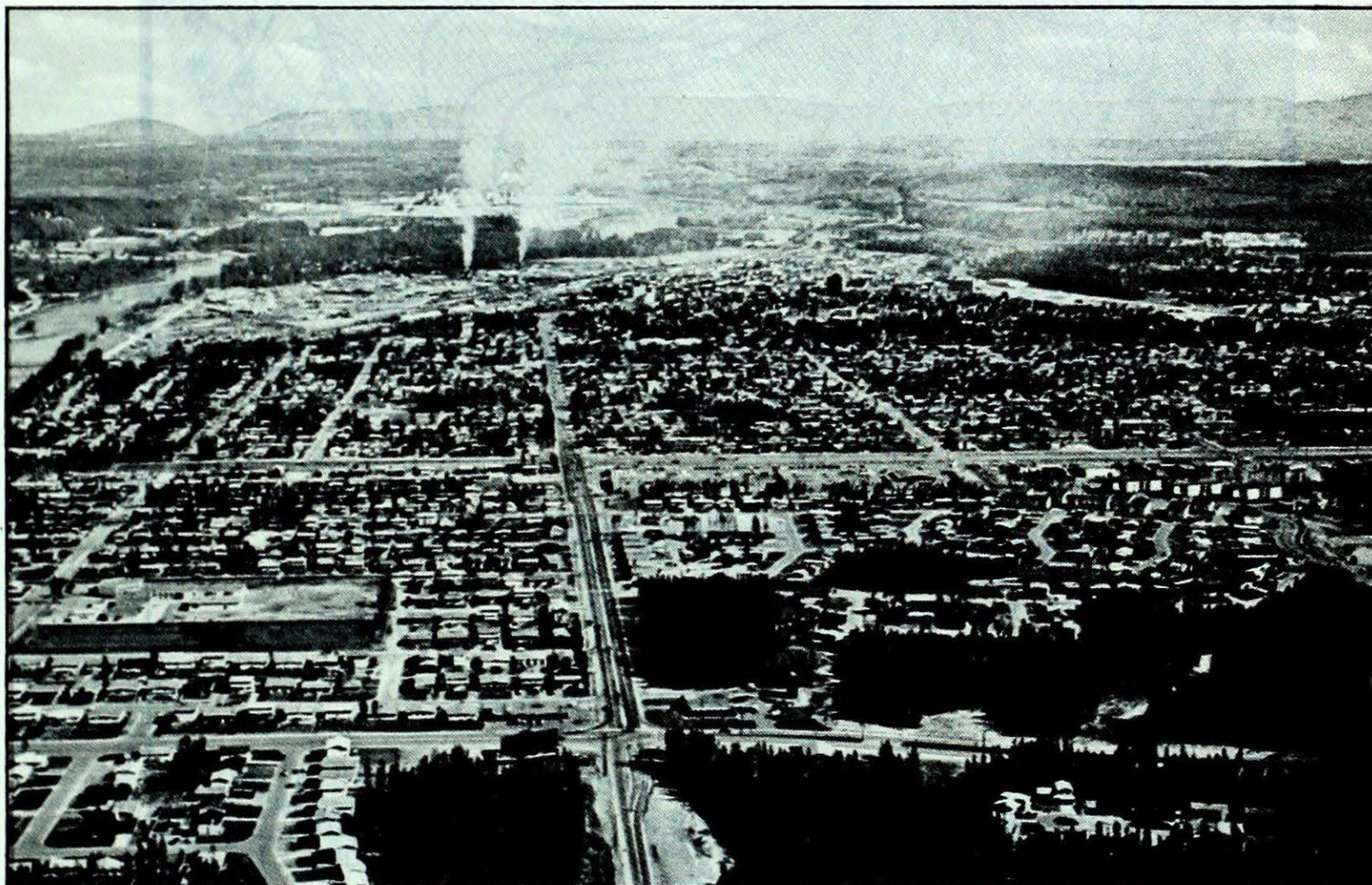




**Maps and tables for the  
Christmas - New Year periods...**

**December 16 - 22, 1986**

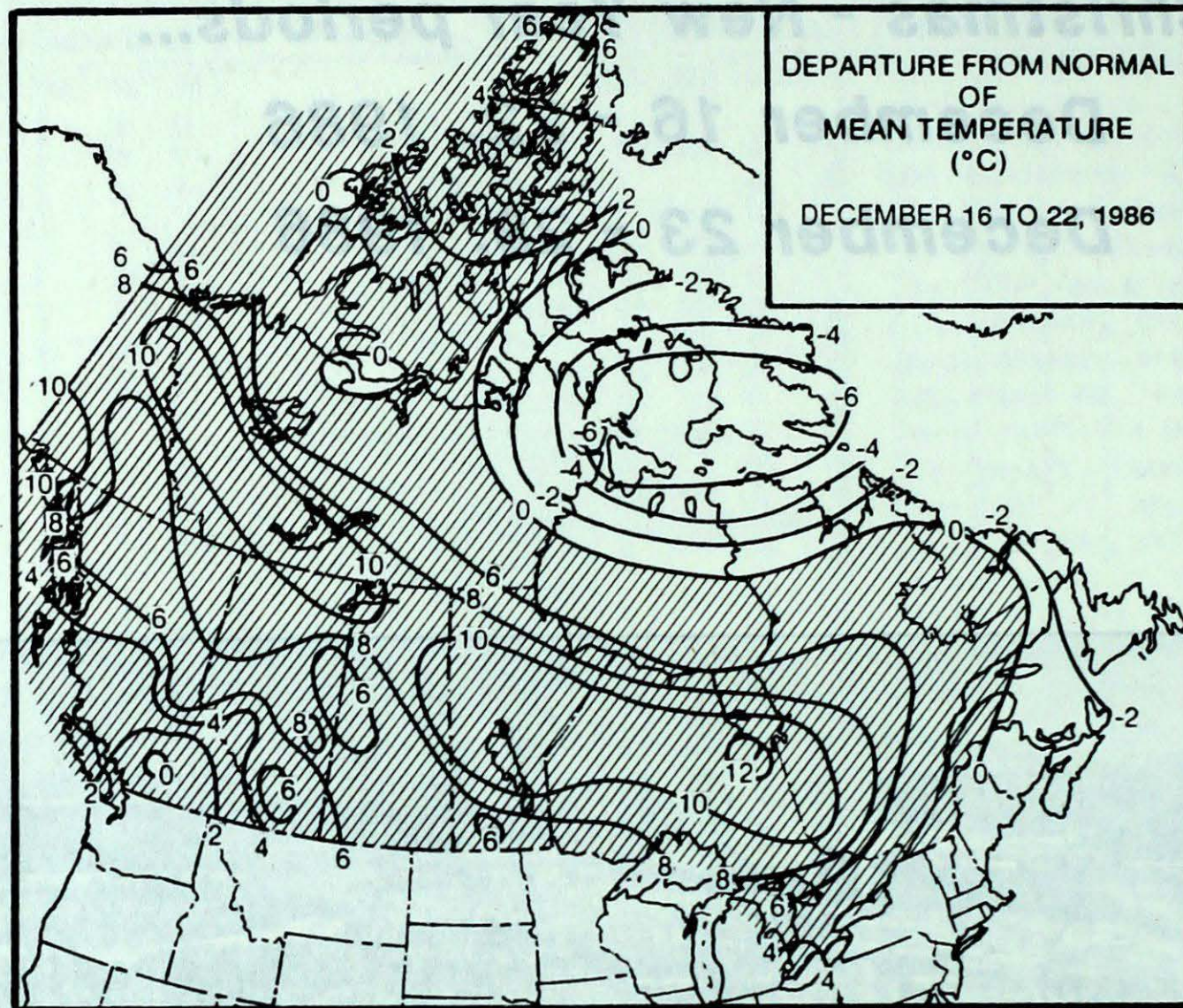
**December 23 - 29, 1986**



Prince George situated along the Frazer River at an elevation of approximately 700 metres is the thunderstorm capital of British Columbia; crossroads to the Alaska and Cariboo Highway. Logging is the main industry, with three huge pulp mills located nearby. This is also big cattle country, with a fair amount of agricultural farming to the south and west. Photo courtesy K. Buchanan.



**TEMPERATURE**



**WEEKLY TEMPERATURE EXTREME (C)**

**MAXIMUM**

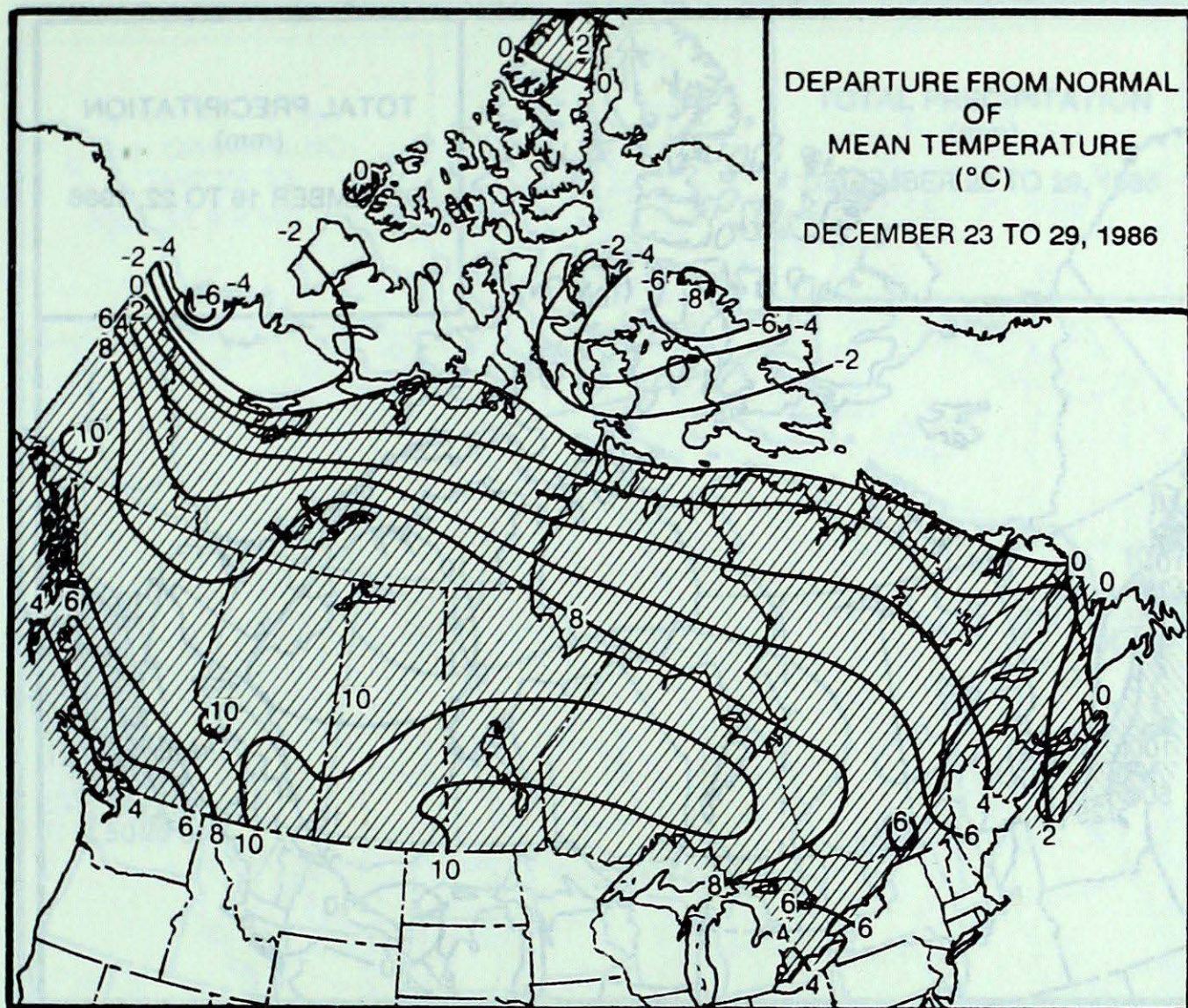
**MINIMUM**

<b>BRITISH COLUMBIA</b>	VICTORIA	11	FORT NELSON	-22
<b>YUKON TERRITORY</b>	BURWASH	4	SHINGLE POINT	-32
<b>NORTHWEST TERRITORIES</b>	HAY RIVER	4	MOULD BAY	-44
<b>ALBERTA</b>	LETHBRIDGE	9	FORT CHIPEWYAN	-23
<b>SASKATCHEWAN</b>	ROCKGLEN	4	LA RONGE	-23
<b>MANITOBA</b>	DAUPHIN	3	GILLAM	-30
<b>ONTARIO</b>	THUNDER BAY	5	WINISK	-27
<b>QUEBEC</b>	ROBERVAL	3	INUKJUAK	-30
<b>NEW BRUNSWICK</b>	ST STEPHEN	2	CHARLO	-24
<b>NOVA SCOTIA</b>	SABLE ISLAND	5	TRURO	-20
<b>PRINCE EDWARD ISLAND</b>	CHARLOTTETOWN	1	CHARLOTTETOWN	-17
<b>NEWFOUNDLAND</b>	PORT AUX BASQUES	6	WABUSH LAKE	-31

**ACROSS THE NATION**

<b>WARMEST MEAN TEMPERATURE</b>	8	CAPE ST JAMES	BC
<b>COOLEST MEAN TEMPERATURE</b>	-32	MOULD BAY	NWT





**WEEKLY TEMPERATURE EXTREME (C)**

**MAXIMUM**

**MINIMUM**

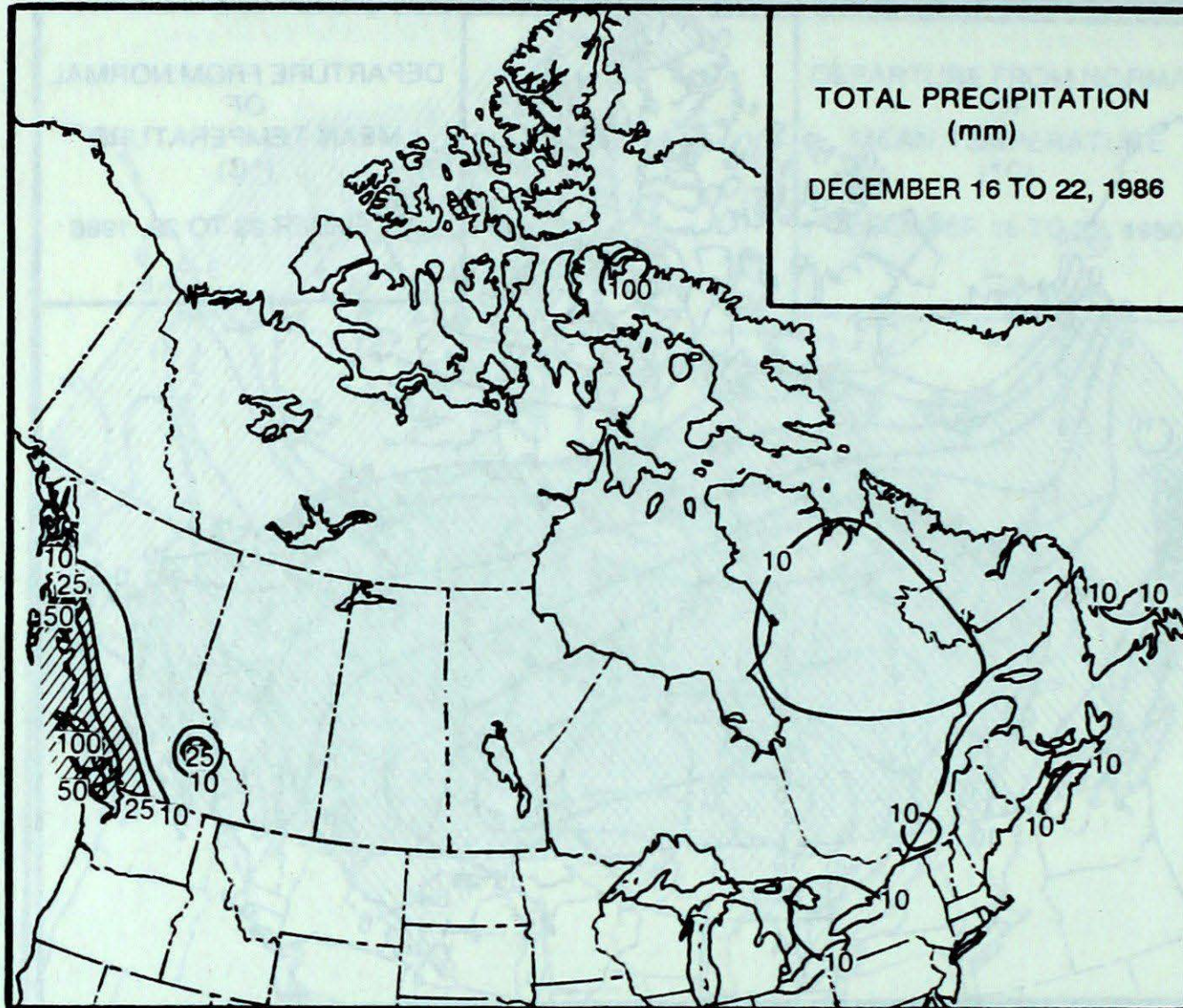
<b>BRITISH COLUMBIA</b>	PRINCE RUPERT 13	FORT NELSON -21
<b>YUKON TERRITORY</b>	CARCROSS 4	SHINGLE POINT A -47
<b>NORTHWEST TERRITORIES</b>	HAY RIVER 2	INUVIK -45
<b>ALBERTA</b>	LETHBRIDGE 13	FORT CHIPEWYAN -22
<b>SASKATCHEWAN</b>	MOOSE JAW 6	COLLINS BAY -27
<b>MANITOBA</b>	PORTAGE LA PRAIRIE 3	THOMPSON -32
<b>ONTARIO</b>	OTTAWA INT'L 4	ARMSTRONG -28
<b>QUEBEC</b>	SHERBROOKE 6	SCHEFFERVILLE -33
<b>NEW BRUNSWICK</b>	SAINT JOHN 9	CHARLO -21
<b>NOVA SCOTIA</b>	GREENWOOD 11	AMHERST -12
		SYDNEY
<b>PRINCE EDWARD ISLAND</b>	SUMMERSIDE 7	CHARLOTTETOWN -12
<b>NEWFOUNDLAND</b>	DANIEL'S HARBOUR 8	WABUSH LAKE -32

**ACROSS THE NATION**

<b>WARMEST MEAN TEMPERATURE</b>	10	LAWN POINT	BC
<b>COOLEST MEAN TEMPERATURE</b>	-37	POND INLET	NWT



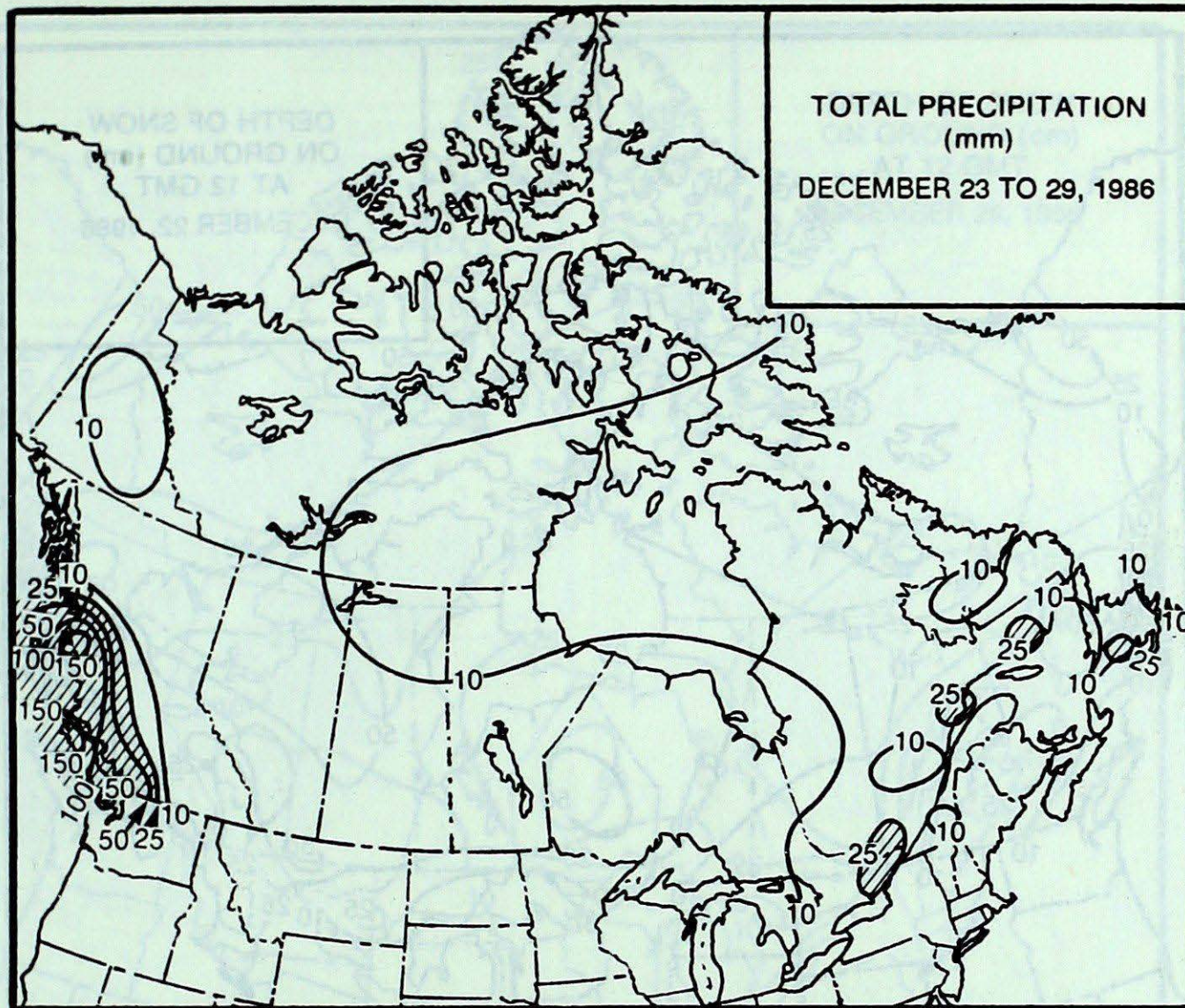
# PRECIPITATION



## HEAVIEST WEEKLY PRECIPITATION (mm)

BRITISH COLUMBIA	COMOX	137
YUKON TERRITORY	SHINGLE POINT	9
NORTHWEST TERRITORIES	POND INLET	12
ALBERTA	JASPER	1
SASKATCHEWAN	COLLINS BAY	2
MANITOBA	CHURCHILL	4
ONTARIO	LONDON	14
QUEBEC	SEPT ILES	20
NEW BRUNSWICK	SAINT JOHN	4
NOVA SCOTIA	SHELBURNE	38
PRINCE EDWARD ISLAND	CHARLOTTETOWN	6
NEWFOUNDLAND	BONAVISTA	15

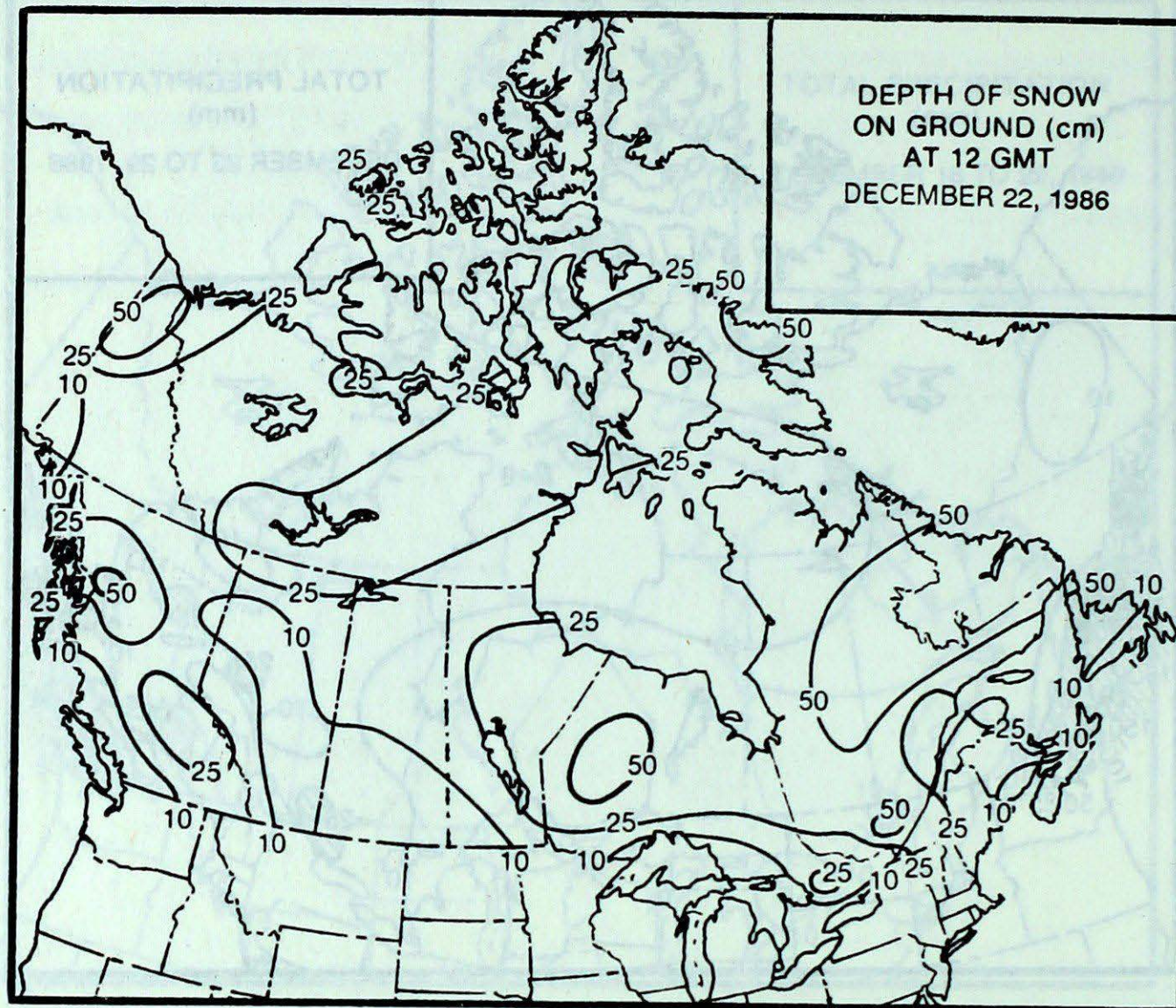




### HEAVIEST WEEKLY PRECIPITATION (mm)

<b>BRITISH COLUMBIA</b>	<b>PORT HARDY</b>	<b>174</b>
<b>YUKON TERRITORY</b>	<b>DAWSON</b>	<b>13</b>
<b>NORTHWEST TERRITORIES</b>	<b>FORT SMITH</b>	<b>15</b>
<b>ALBERTA</b>	<b>FORT CHIPEWYAN</b>	<b>7</b>
<b>SASKATCHEWAN</b>	<b>COLLINS BAY</b>	<b>16</b>
<b>MANITOBA</b>	<b>CHURCHILL</b>	<b>10</b>
<b>ONTARIO</b>	<b>OTTAWA INT'L</b>	<b>30</b>
<b>QUEBEC</b>	<b>NATASHQUAN</b>	<b>29</b>
<b>NEW BRUNSWICK</b>	<b>SAINT JOHN</b>	<b>30</b>
<b>NOVA SCOTIA</b>	<b>YARMOUTH</b>	<b>27</b>
<b>PRINCE EDWARD ISLAND</b>	<b>SUMMERSIDE</b>	<b>11</b>
<b>NEWFOUNDLAND</b>	<b>BURGEO</b>	<b>26</b>



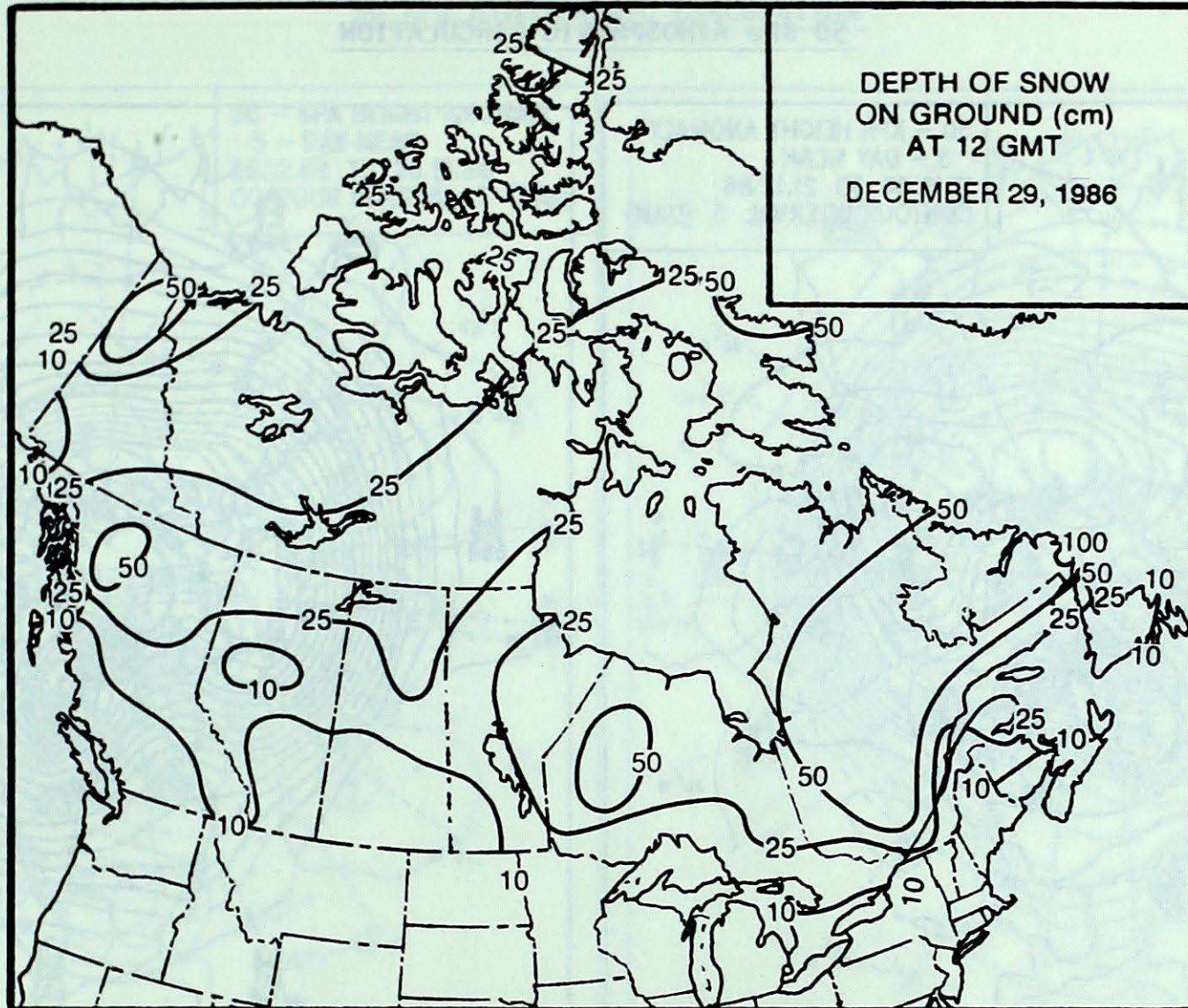


DECEMBER 14 TO DECEMBER 20, 1986

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
<b>Longwoods</b>	17	3.9	10(r)	Illinois, Indiana, Ohio
	18	4.0	3(r)	Kentucky, Ohio, Southern Ontario
<b>Dorset</b>	14	4.2	2(s)	Illinois, Indiana, Michigan, Southern Ontario
	15	3.7	1(m)	Wisconsin, Michigan, Lake Huron
	16	3.8	1(m)	Wisconsin, Michigan, Lake Huron
	17	3.8	2(m)	Indiana, Ohio, Southern Ontario
	18	4.3	3(m)	Kentucky, Ohio, Pennsylvania, Southern Ontario
<b>Chalk River</b>	14	4.0	1(s)	Illinois, Indiana, Ohio, Michigan, Southern Ontario
	18	3.8	3(m)	Ohio, Pennsylvania, New York, Eastern Ontario
<b>Sutton</b>	14	3.8	2(s)	Ohio, New York
	18	4.8	3(s)	Atlantic Ocean, New England
	19	4.0	1(m)	Northwestern Quebec, Southern Quebec
<b>Montmorency</b>	14	4.5	5(s)	Michigan, Southern Ontario, Southern Quebec
	18	4.3	4(m)	Atlantic Ocean, Maine, Southern Quebec
	19	4.4	1(s)	Northern Quebec, Central Quebec
<b>Kejimikujik</b>	19	5.1	14(r)	Atlantic Ocean

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





DECEMBER 21 TO DECEMBER 27, 1986

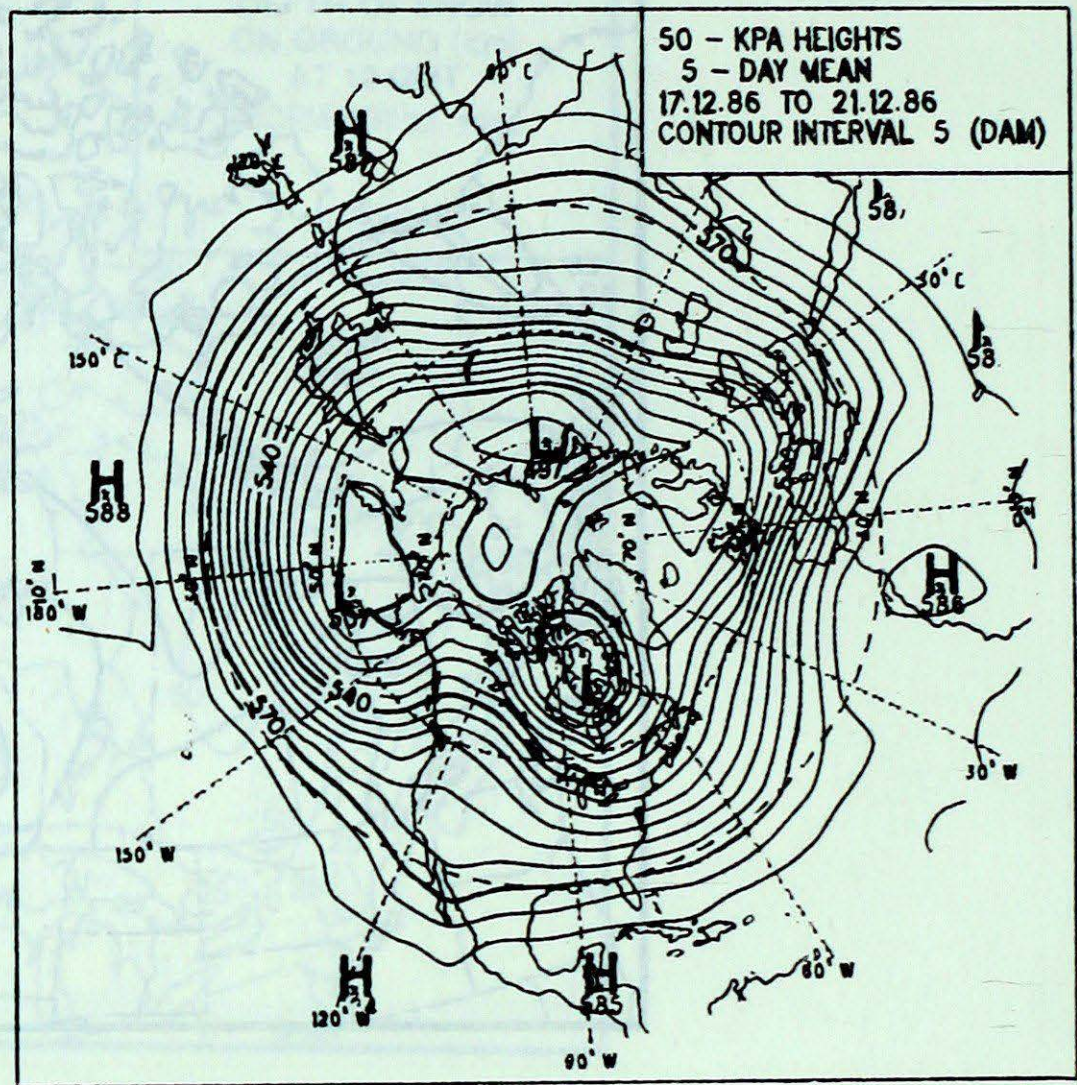
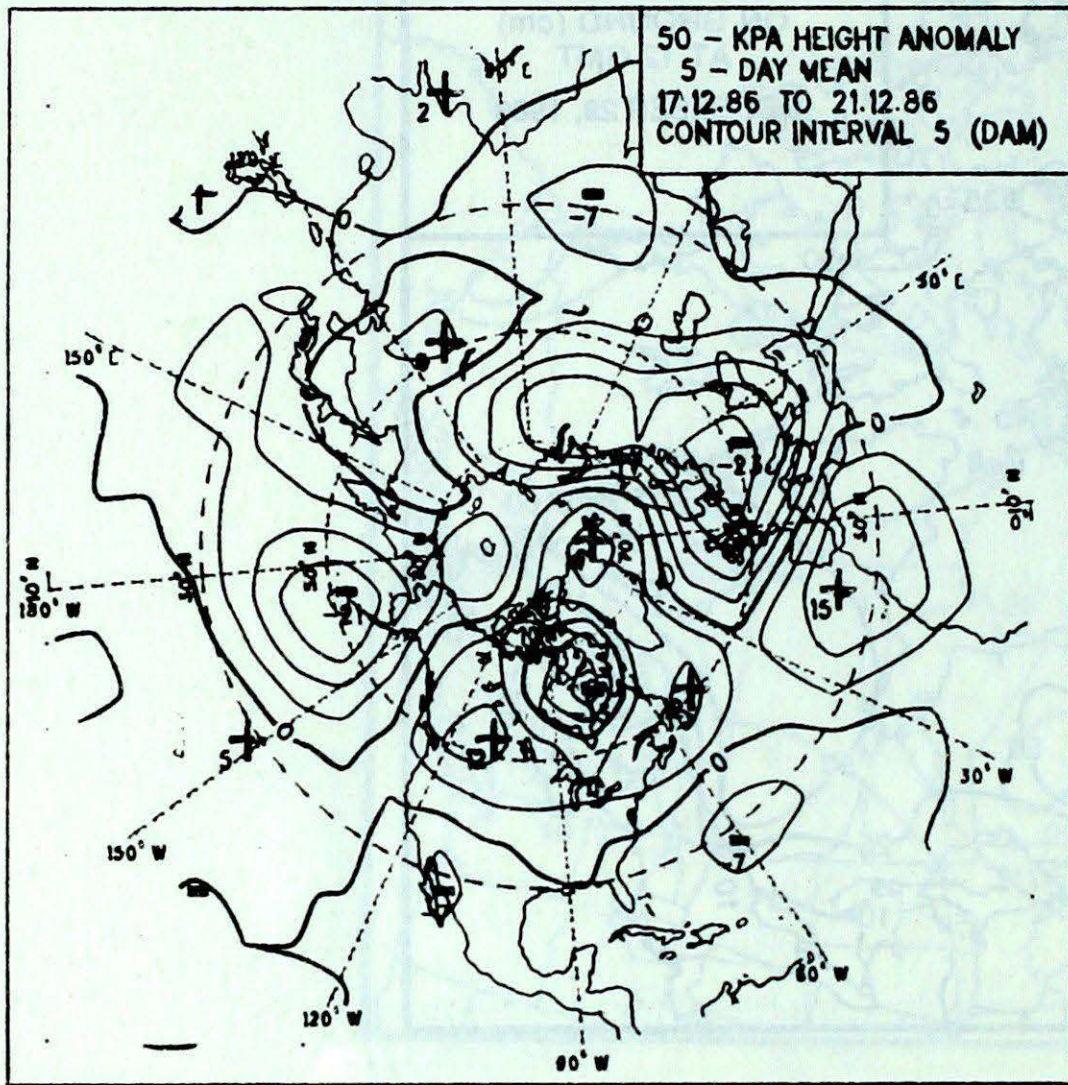
SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	NO DATA AVAILABLE			
Dorset	25	4.8	15(m)	Atlantic Ocean, Virginia, Pennsylvania, Eastern Ontario
Chalk River	NO DATA AVAILABLE			
Sutton	21	4.7	1(s)	Northern Ontario, Central and Southern Quebec
	23	5.2	2(r)	Wisconsin, Lake Huron, Eastern Ontario, Southern Quebec
	24	4.6	3(m)	Atlantic Ocean, New England
	25	4.4	1(s)	Central Ontario, Central Quebec, Southern Quebec
Montmorency	NO DATA AVAILABLE			
Kejimikujik	25	5.0	27(r)	Atlantic Ocean

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



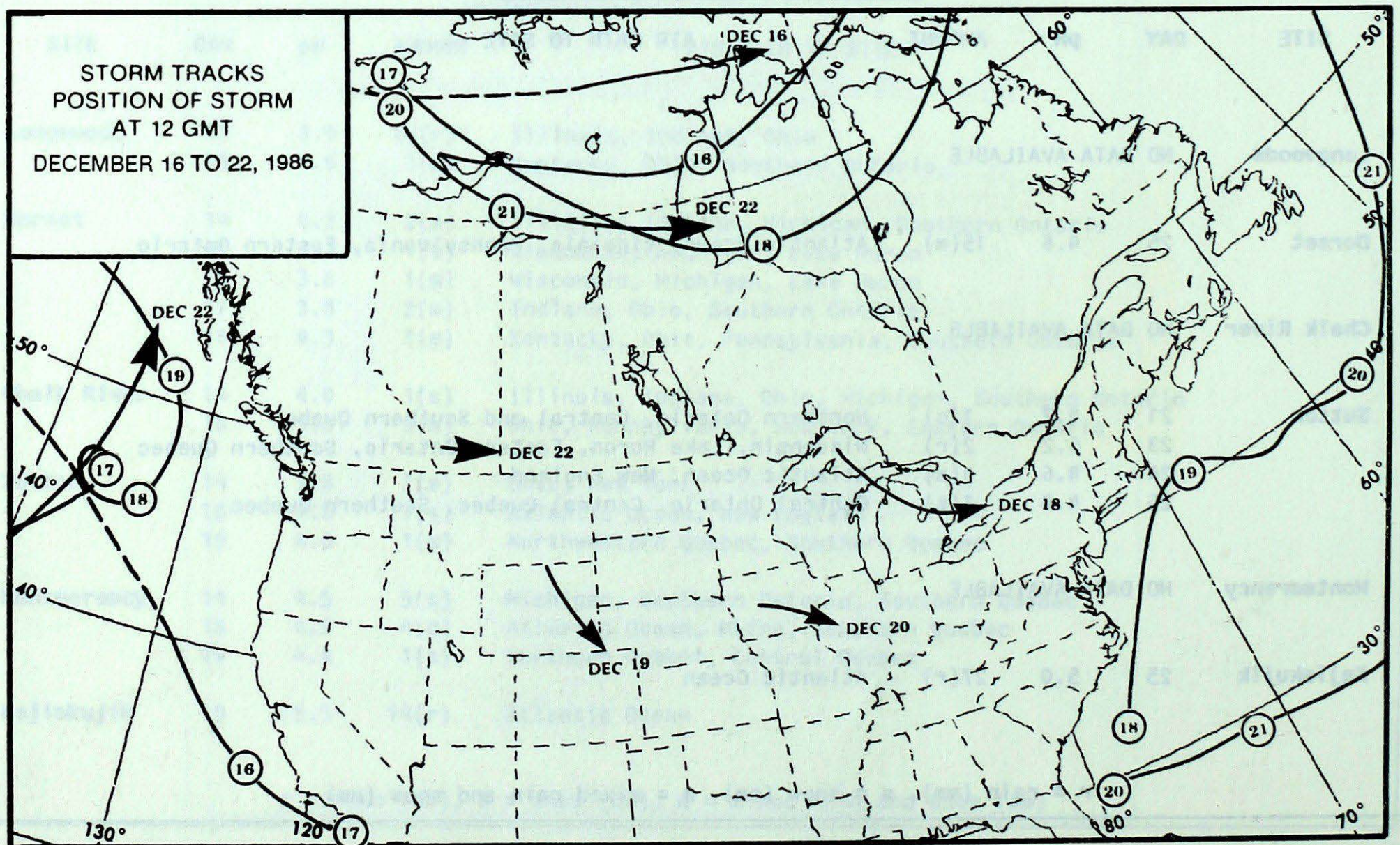
# CIRCULATION

## 50 KPa ATMOSPHERIC CIRCULATION



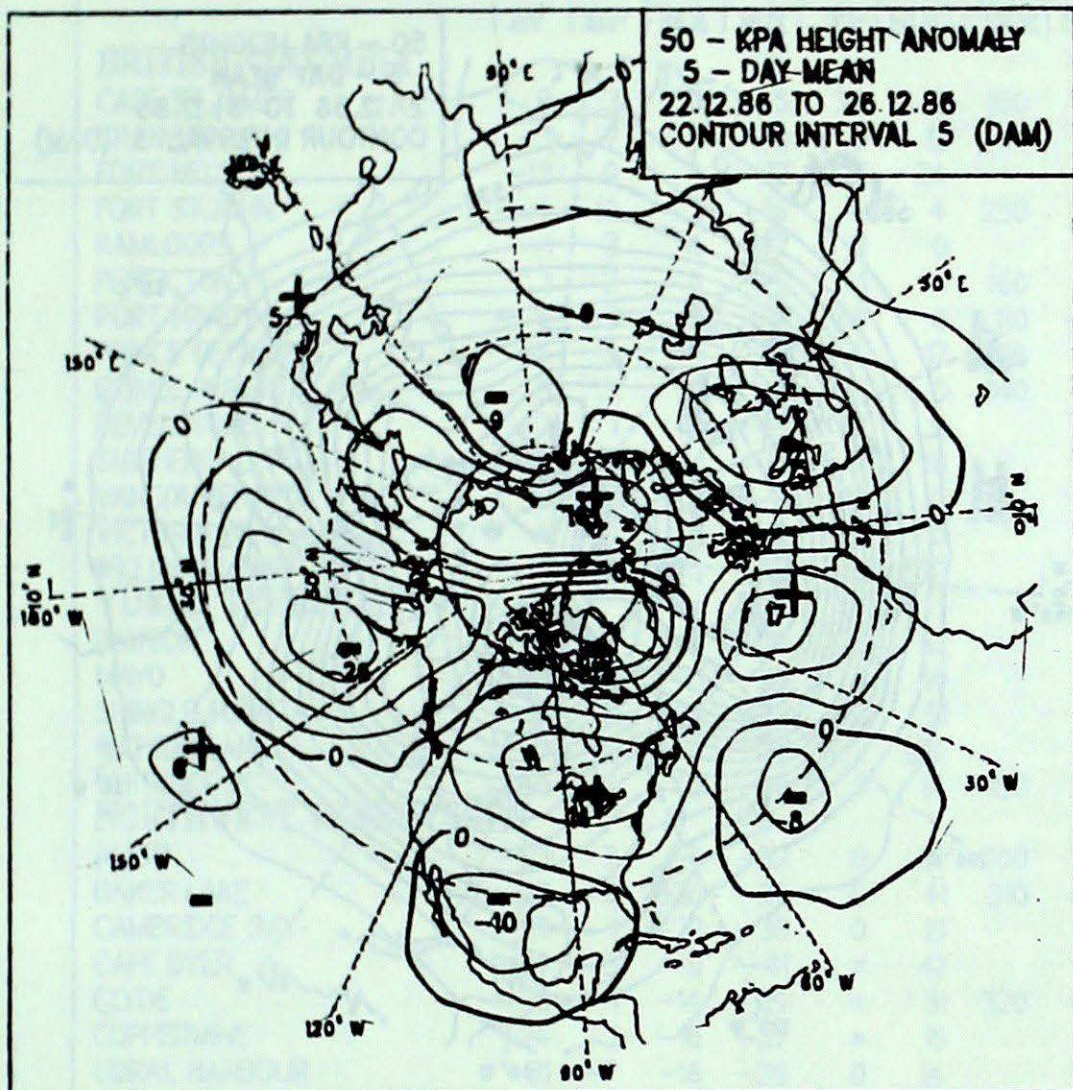
MEAN 50 KPa HEIGHT ANOMALY (dam)  
December 17 to December 21, 1986

MEAN 50 KPa HEIGHTS (dam)  
December 17 to December 21, 1986

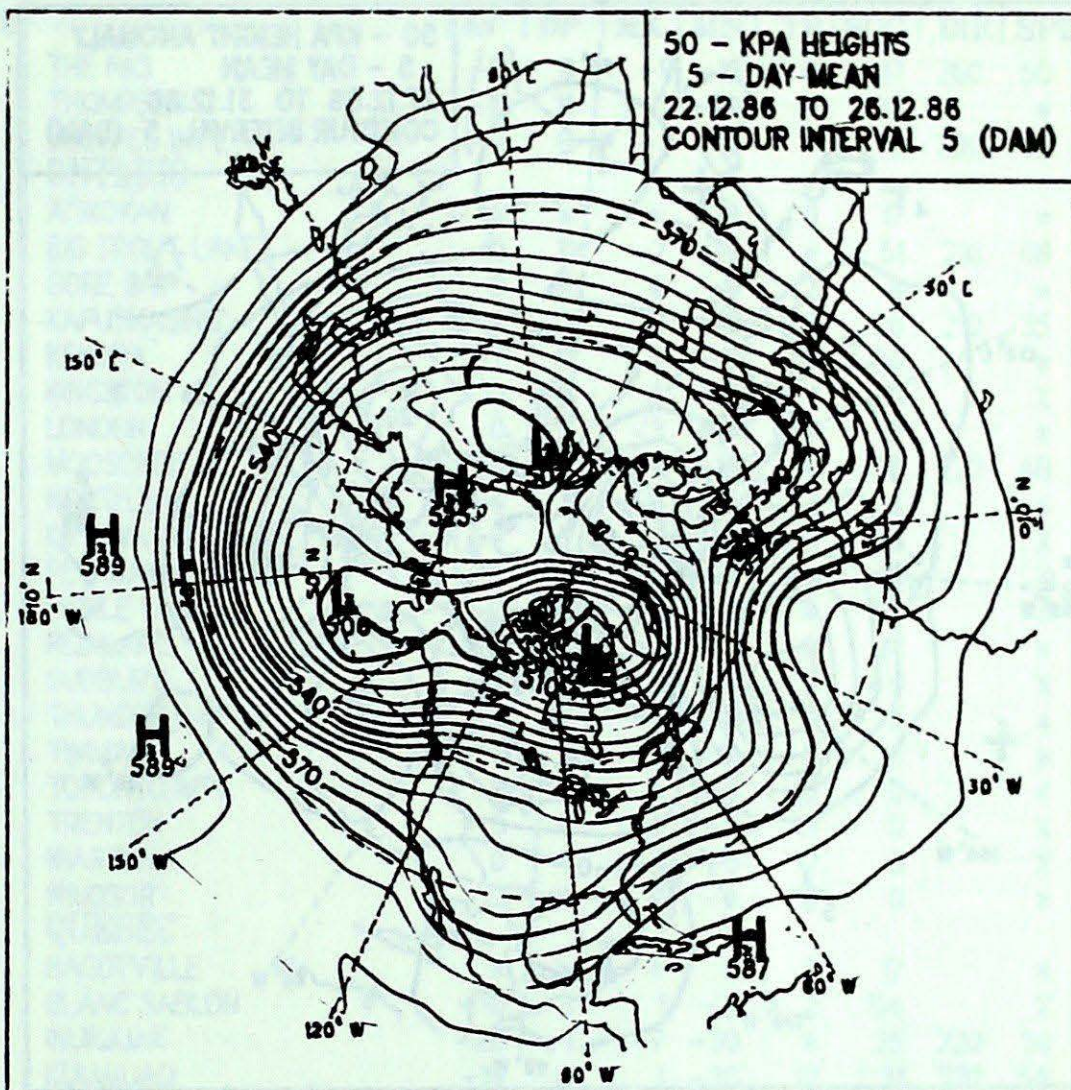




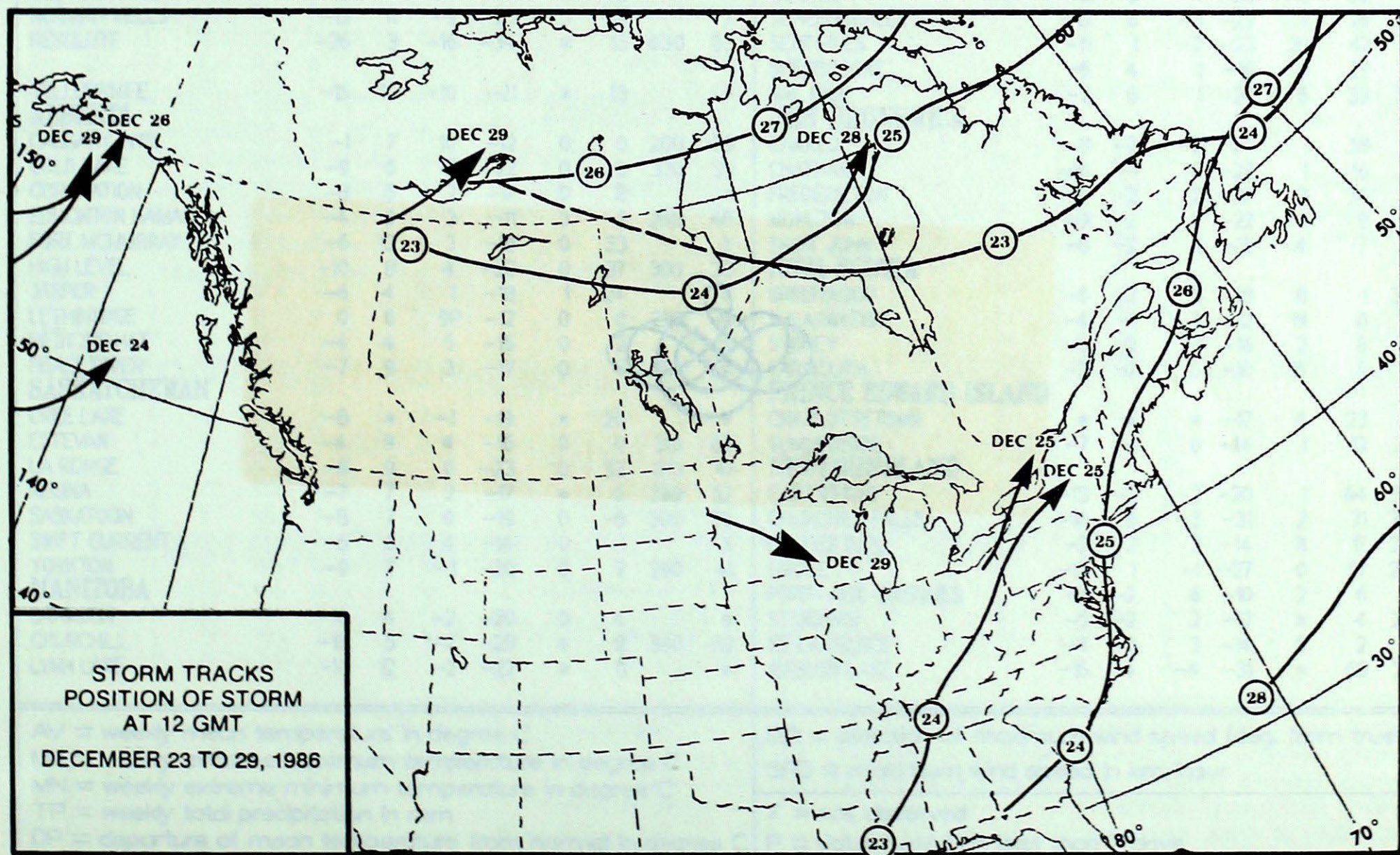
50 KPa ATMOSPHERIC CIRCULATION



MEAN 50 KPa HEIGHT ANOMALY (dam)  
December 22 to December 26, 1986



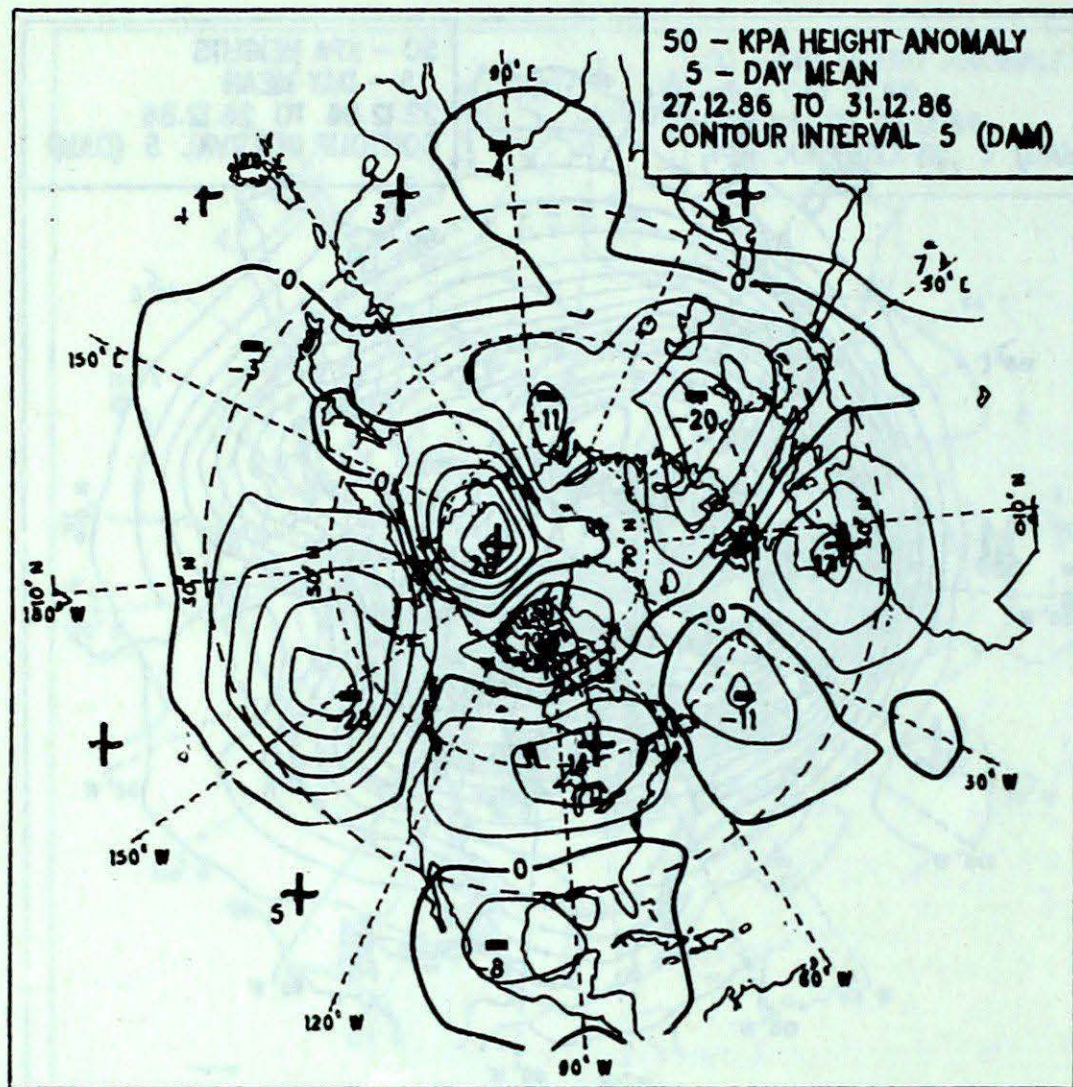
MEAN 50 KPa HEIGHTS (dam)  
December 22 to December 26, 1986



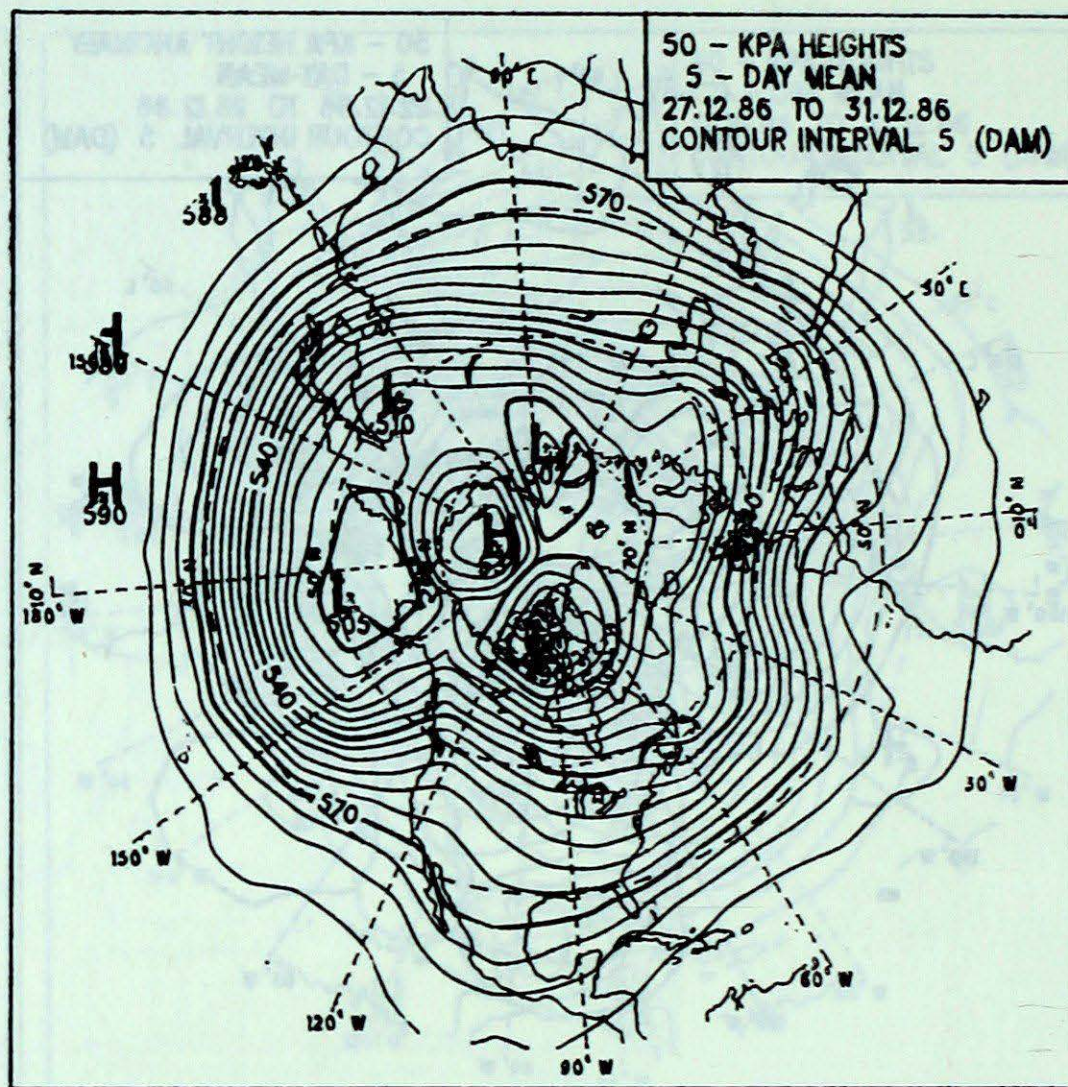


# CIRCULATION

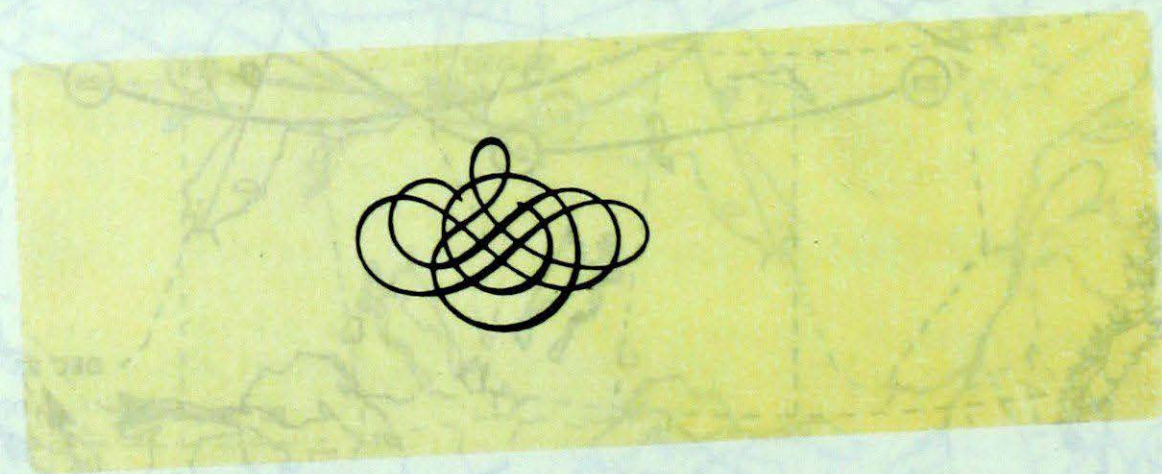
## 50 KPa ATMOSPHERIC CIRCULATION



MEAN 50 KPa HEIGHT ANOMALY (dam)  
December 27 to December 31, 1986



MEAN 50 KPa HEIGHTS (dam)  
December 27 to December 31, 1986



EXACT LOCATION OF STORM TRACKS  
 POSITION OF STORM  
 ALL OUT  
 DECEMBER 27 TO 31, 1986



## TEMPERATURE, PRECIPITATION AND MAXIMUM WIND DATA FOR THE WEEK ENDING 0600 GMT DECEMBER 23, 1986

STATION	TEMPERATURE				PRECIP.		WIND MX		STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD		AV	DP	MX	MN	TP	SOG	DIR	SPD
<b>BRITISH COLUMBIA</b>									THE PAS	-8	11	-1	-19	*	17	260	50
CAPE ST. JAMES	8	3	10	5	34	0	160	61	THOMPSON	-11	11	-1	-29	*	28	*	
CRANBROOK	-3	2	5	-9	0	12	*	*	WINNIPEG INT'L	-7	8	-1	-14	*	0	280	33
FORT NELSON	-13	9	4	-22	1	24	*	*	<b>ONTARIO</b>								
FORT ST. JOHN	-4	10	3	-16	4	4	230	57	ATIKOKAN	*	*	*	-25	0	17	*	
KAMLOOPS	-1	3	4	-7	3	0	*	*	BIG TROUT LAKE	-10	11	-2	-26	*	51	210	48
PENTICTON	1	2	6	-5	1	1	160	31	GORE BAY	0	6	4	-8	2	4	*	
PORT HARDY	6	3	9	1	88	0	110	43	KAPUSKASING	-4	12	3	-21	1	26	210	35
PRINCE GEORGE	-4	5	5	-17	4	17	200	41	KENORA	-7	8	2	-17	0	30	*	
PRINCE RUPERT	5	5	9	0	56	0	140	41	KINGSTON	0	6	4	-8	1	31	X	
REVELSTOKE	-2	1	3	-8	42	31	*	*	LONDON	0	5	3	-7	14	2	*	
SMITHERS	-5	4	1	-13	11	18	*	*	MOOSONEE	-6	12	3	-15	4	38	220	48
VANCOUVER INT'L	5	2	11	-3	67	0	*	*	NORTH BAY	-4	7	1	-16	1	16	*	
VICTORIA INT'L	4	0	11	-2	22	0	*	*	OTTAWA INT'L	-4	5	2	-12	6	17	X	
WILLIAMS LAKE	-4	6	3	-11	8	30	X	X	PETAWAWA	-5	5	-3P	-19	4	13	X	
<b>YUKON TERRITORY</b>									PICKLE LAKE	-7	12	-2	-17	*	53	*	
DAWSON	-17	9	-10	-25	8	52	*	*	RED LAKE	-8	9	-1	-20	0	47	*	
MAYO	-15	8	-1	-25	3	16	X	X	SUDBURY	-3	8	2	-14	2	9	X	
SHINGLE POINT A	-16	8	-4	-32	9	51	*	*	THUNDER BAY	-5	7	5	-18	0	5	*	
WATSON LAKE	-17	7	-2	-27	2	24	*	*	TIMMINS	-4	11	2	-19	0	30	*	
WHITEHORSE	-6	10	3	-20	0	14	150	56	TORONTO INT'L	0	5	4	-6	13	0	*	
<b>NORTHWEST TERRITORIES</b>									TRENTON	0	6	4	-7	13	0	X	
ALERT	-23	7	-7	-32	0	32	200	78	WIARTON	0	4	3	-5	12	3	X	
BAKER LAKE	-28	0	-20	-37	0	41	310	46	WINDSOR	0	4	4	-4	8	0	*	
CAMBRIDGE BAY	-29	1	-20	-38	0	19	*	*	<b>QUEBEC</b>								
CAPE DYER	-24	-5	-8	-41	*	42	*	*	BAGOTVILLE	*	*	*	*	2	17	*	
CLYDE	-26	-1	-14	-39	*	31	320	46	BLANC SABLON	-10	-3	1	-21	2	54	X	
COPPERMINE	-24	1	-16	-37	*	15	*	*	INUKJUAQ	-20	-1	-7	-30	*	25	220	59
CORAL HARBOUR	-31	-7	-16	-39	0	14	X	X	KUWJUAQ	-19	0	1	-30	12	31	270	54
EUREKA	-31	4	-22	-36	1	16	160	50	KUWJUAPIK	-13	4	-1	-28	*	23	190	54
FORT SMITH	-12	11	2	-23	4	30	X	X	MANIWAKI	-7	4	2	-21	2	22	*	
FROBISHER BAY	-27	-6	-9	-38	*	23	150	44	MONT JOLI	-7	2	1	-17	6	8	*	
HALL BEACH	-30	-5	-21	-37	*	19	300	35	MONTREAL INT'L	-4	4	3	-15	10	16	*	
INUVIK	-17	10	-4	-38	0	36	X	X	NATASHQUAN	-10	1	-1	-23	1	25	260	37
MOULD BAY	-32	-1	-22	-44	0	32	X	X	QUEBEC	-8	3	1	-20	2	39	*	
NORMAN WELLS	-15	11	-9	-25	5	19	X	X	SCHIEFFERVILLE	-15	6	-3	-29	*	76	230	67
RESOLUTE	-26	3	-16	-34	*	13	030	63	SEPT-ILES	-11	1	-2	-23	20	42	*	
YELLOWKNIFE	-15	10	-10	-21	*	13	*	*	SHERBROOKE	-6	4	1	-16	4	27	*	
<b>ALBERTA</b>									VAL D'OR	-7	8	1	-20	5	39	190	35
CALGARY INT'L	-1	7	10	-12	0	0	280	59	<b>NEW BRUNSWICK</b>								
COLD LAKE	-9	5	2	-22	0	0	320	39	CHARLO	-11	-2	-2	-24	1	38	*	
CORONATION	-8	5	2	-17	0	8	*	*	CHATHAM	-10	-1	0	-22	1	16	*	
EDMONTON NAMAO	-4	9	3	-11	0	2	280	48	FREDERICTON	-10	-2	2	-24	3	14	*	
FORT MCMURRAY	-6	12	3	-19	0	23	X	X	MONCTON	-9	-2	0	-22	4	9	*	
HIGH LEVEL	-10	8	4	-22	0	37	300	33	SAINT JOHN	-8	-2	1	-21	4	7	*	
JASPER	-6	4	1	-18	1	24	X	X	<b>NOVA SCOTIA</b>								
LETHBRIDGE	0	6	9P	-12	0	0	270	70	GREENWOOD	-6	-2	3	-18	8	1	320	31
MEDICINE HAT	-4	4	5	-15	0	2	*	*	SHEARWATER	-4	-1	3	-12	19	0	*	
PEACE RIVER	-7	9	3	-17	0	4	250	44	SYDNEY	-5	-2	1	-16	2	6	*	
<b>SASKATCHEWAN</b>									YARMOUTH	-2	-0	5	-10	15	0	*	
CREE LAKE	-8	*	-1	-19	*	20	*	*	<b>PRINCE EDWARD ISLAND</b>								
ESTEVAN	-4	9	4	-16	0	0	310	48	CHARLOTTETOWN	*	*	*	-17	6	23	*	
LA RONGE	-8	9	0	-23	0	33	310	41	SUMMERSIDE	-7	-1	0	-14	1	12	310	31
REGINA	-7	7	2	-17	*	5	290	52	<b>NEWFOUNDLAND</b>								
SASKATOON	-8	7	0	-19	0	5	300	39	CARTWRIGHT	-13	-2	-2	-20	1	64	220	65
SWIFT CURRENT	-5	6	4	-14	0	1	X	X	CHURCHILL FALLS	-16	3	-3	-31	2	71	230	46
YORKTON	-9	7	-1	-20	0	7	290	41	GANDER INT'L	-7	-2	2	-14	11	17	290	50
<b>MANITOBA</b>									GOOSE	-13	1	-1	-27	0	57	230	63
BRANDON	-10	4	-2	-20	0	4	*	*	PORT-AUX-BASQUES	-4	-2	6	-10	2	6	*	
CHURCHILL	-18	5	-7	-28	4	8	340	52	ST JOHN'S	-5	-2	2	-12	*	4	270	48
LYNN LAKE	-10	12	-2	-22	*	11	*	*	ST LAWRENCE	-4	-3	3	-14	5	2	X	
									WABUSH LAKE	-15	4	-4	-31	*	68	210	52

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

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



## TEMPERATURE, PRECIPITATION AND MAXIMUM WIND DATA FOR THE WEEK ENDING 0600 GMT DECEMBER 30, 1986

STATION	TEMPERATURE				PRECIP.		WIND MX		STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD		AV	DP	MX	MN	TP	SOG	DIR	SPD
<b>BRITISH COLUMBIA</b>									THE PAS	-9	*	1	-21	0	0	300	52
CAPE ST. JAMES	7	3	10	4	57	0	220	102	THOMPSON	-13	10	-2	-32	2	0	340	33
CRANBROOK	1	8	8	-5	2	0	170	43	WINNIPEG INT'L	-6	10	2	-15	0	0	180	46
FORT NELSON	-14	8	0	-21	3	0	350	37	<b>ONTARIO</b>								
FORT ST. JOHN	-1	12	5	-14	0	0	230	56	ATIKOKAN	-6	10	1	-18	0	0	230	31
KAMLOOPS	3	7	11	-3	6	0	090	52	BIG TROUT LAKE	-10	*	-2	-26	1	0	320	50
PENTICTON	3	5	6	2	1	0	190	57	GORE BAY	1	8	3	-2	5	0		*
PORT HARDY	7	4	9	2	174	0	120	74	KAPUSKASING	-7	10	3	-21	2	0	170	56
PRINCE GEORGE	2	*	7	-3	9	0	190	76	KENORA	-6	10	1	-13	0	0	210	46
PRINCE RUPERT	7	6	13	2	94	0	150	98	KINGSTON	0	8	4	-4	0	0		X
REVELSTOKE	2	7	6	0	17	0	160	67	LONDON	0	4	2	-2	21	0	110	44
SMITHERS	0	9	5	-6	11	0	170	41	MOOSONEE	-9	9	2	-23	1	0	280	46
VANCOUVER INT'L	7	4	10	4	61	0	050	44	NORTH BAY	-5	7	0	-18	12	0	110	39
VICTORIA INT'L	7	3	11	1	22	0	250	41	OTTAWA INT'L	-2	7	4	-10	30	0		X
WILLIAMS LAKE	2	*	6	-2	10	0		X	PETAWAWA	-4	7	4	-19	18	0		X
<b>YUKON TERRITORY</b>									PICKLE LAKE	-9	11	-1	-27	5	0	280	63
DAWSON	-22	*	-14	-34	13	0		*	RED LAKE	-9	9	1	-20	1	0	320	37
MAYO	-15	9	-2	-25	10	0		X	SUDBURY	-4	8	3	-17	20	0		X
SHINGLE POINT A	-29	-3	-20	-47	4	0		*	THUNDER BAY	-4	9	2	-17	0	0	290	31
WATSON LAKE	-17	7	-8	-26	10	0		*	TIMMINS	-6	10	4	-21	0	0	330	35
WHITEHORSE	-6	11	1	-16	6	0	150	74	TORONTO INT'L	1	6	3	-1	21	0	260	57
<b>NORTHWEST TERRITORIES</b>									TRENTON	1	7	4	-4	27	0		X
ALERT	-28	3	-19	-34	3	0	210	83	WIARTON	1	5	3	-2	9	0		X
BAKER LAKE	-27	3	-8	-38	11	0	300	96	WINDSOR	0	3	3	-2	10	0	250	39
CAMBRIDGE BAY	-32	0	-27	-39	1	0	020	57	<b>QUEBEC</b>								
CAPE DYER	-28	-8	-15	-40	2	0	200	56	BAGOTVILLE	-8	6	2	-24	7	0	280	54
CLYDE	-33	-8	-25	-45	2	0	320	39	BLANC SABLON	-8	*	2	-21	17	0		X
COPPERMINE	-30	*	-20	-40	3	0	340	56	INUKJUAQ	-17	4	-4	-30	14	0	180	65
CORAL HARBOUR	-27	-1	-14	-37	12	0		X	KULUJUAQ	-16	3	-7	-29	10	0	350	54
EUREKA	-37	-2	-24	-46	3	0	140	67	KULUJUAPIK	-14	5	-3	-24	5	0	160	67
FORT SMITH	-11	12	1	-22	15	0		X	MANIWAKI	-4	7	3	-18	18	0		*
FROBISHER BAY	-25	-3	-10	-40	*	0	330	76	MONT JOLI	-5	4	2	-13	10	0	260	52
HALL BEACH	-33	-5	-19	-39	2	0	140	54	MONTREAL INT'L	-3	6	3	-12	20	0	240	54
INUVIK	-35	-8	-22	-45	1	0		X	NATASHQUAN	-8	2	1	-21	29	0	170	54
MOULD BAY	-30	2	-23	-37	2	0		X	QUEBEC	-6	4	2	-17	15	0	250	65
NORMAN WELLS	-28	-2	-17	-35	8	0		X	SCHIEFFERVILLE	-16	4	-8	-33	13	0	350	44
RESOLUTE	-30	0	-26	-37	2	0	110	63	SEPT-ILES	-9	3	-1	-20	17	0	110	59
YELLOWKNIFE	-17	8	-6	-26	9	0	290	70	SHERBROOKE	-4	6	6	-14	4	0	120	59
<b>ALBERTA</b>									VAL D'OR	-6	9	1	-21	17	0	290	44
CALGARY INT'L	3	11	11	-5	0	0	280	78	<b>NEW BRUNSWICK</b>								
COLD LAKE	-6	9	3	-15	1	0	280	43	CHARLO	-7	3	2	-21	12	0	300	52
CORONATION	-5	8	3	-13	0	0		*	CHATHAM	-6	2	3	-18	15	0	320	44
EDMONTON NAMAQ	-2	10	5	-8	0	0		*	FREDERICTON	-6	2	6	-18	16	0	310	41
FORT MCMURRAY	-3	15	8	-10	2	0		X	MONCTON	-3	3	8	-14	4	0	140	74
HIGH LEVEL	-9	10	3	-20	6	0	300	46	SAINT JOHN	-3	2	9	-13	30	0	220	67
JASPER	1	11	6	-6	0	0		X	<b>NOVA SCOTIA</b>								
LETHBRIDGE	4	10	13	-3	0	0	270	91	GREENWOOD	-1	2	11	-12	10	0	150	89
MEDICINE HAT	2	10	8	-4	0	0	210	56	SHEARWATER	-1	1	8	-9	23	0	160	63
PEACE RIVER	-4	12	4	-12	3	0	250	56	SYDNEY	-2	1	7	-12	13	0	180	78
<b>SASKATCHEWAN</b>									YARMOUTH	1	2	10	-7	27	0	140	80
CREE LAKE	-8	11	1	-24	6	0	210	56	<b>PRINCE EDWARD ISLAND</b>								
ESTEVAN	-2	10	6	-10	0	0	310	54	CHARLOTTETOWN	-4	1	6	-12	10	0	140	56
LA RONGE	-9	9	2	-19	2	0	300	59	SUMMERSIDE	-3	2	7	-12	11	0	140	61
REGINA	-4	9	4	-14	0	0	320	54	<b>NEWFOUNDLAND</b>								
SASKATOON	-5	10	2	-10	0	0		*	CARTWRIGHT	-12	-1	-2	-22	15	0	350	83
SWIFT CURRENT	0	11	5	-6	0	0		X	CHURCHILL FALLS	-17	1	-6	-28	8	0	350	56
YORKTON	-7	9	2	-15	0	0	300	52	GANDER INT'L	-4	0	3	-16	20	0	310	74
<b>MANITOBA</b>									GOOSE	-14	0	-2	-26	9	0	020	43
BRANDON	-8	8	1	-18	0	0	280	44	PORT-AUX-BASQUES	-2	0	4	-8	20	0	180	69
CHURCHILL	-16	8	-5	-30	10	0	200	59	ST JOHN'S	-3	0	3	-10	8	0	180	81
LYNN LAKE	-12	10	-3	-31	6	0	170	35	ST LAWRENCE	-2	-1	4	-11	12	0		X
									WABUSH LAKE	-15	5	-6	-32	11	0	280	41

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

X = not observed

P = value based on less than 7 days

\* = missing