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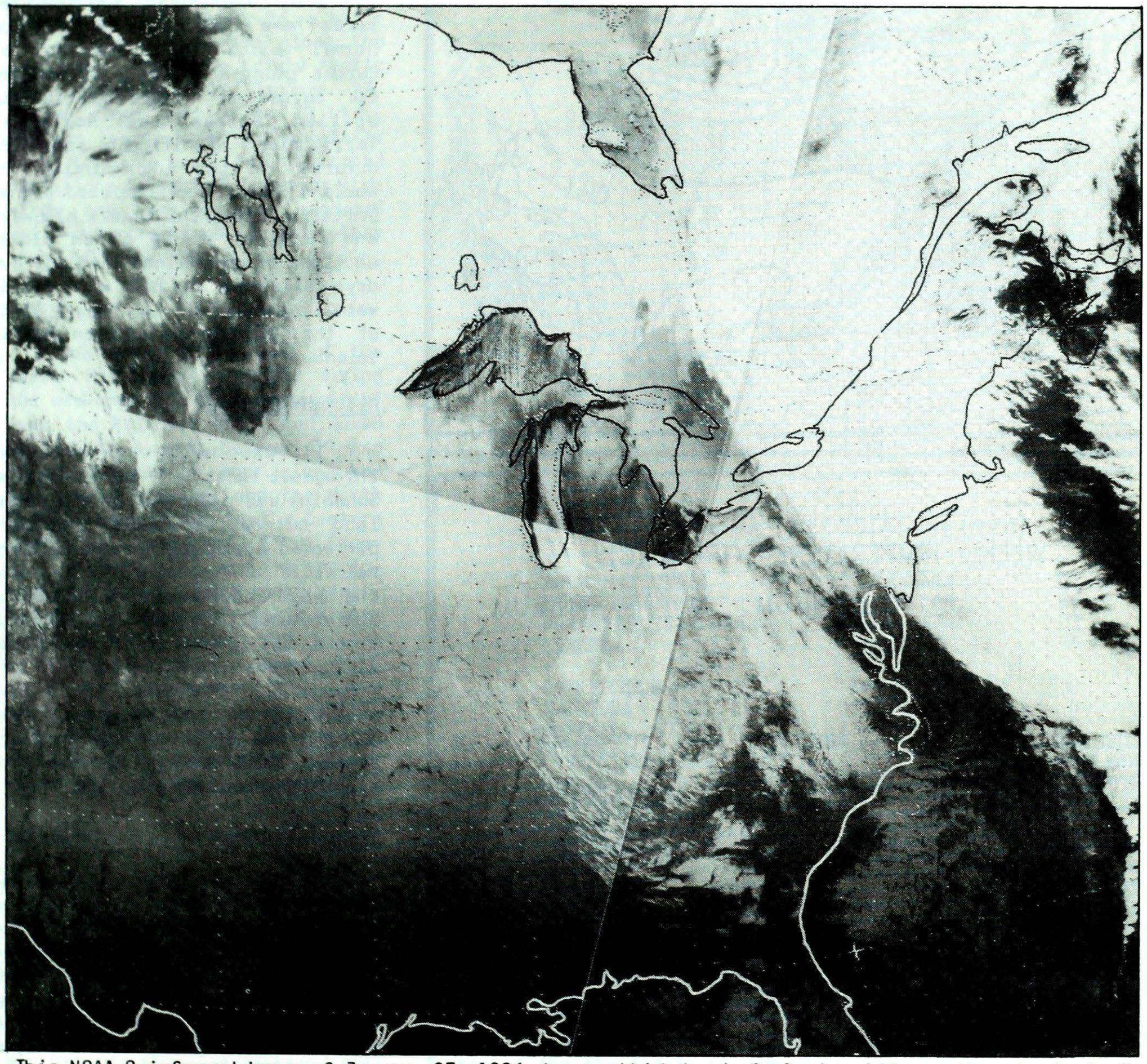
CLIMATIC PERSPECTIVES 0

OTM

Climatic Perspectives

MONTHLY SUPPLEMENT INCLUDED

A weekly review of Canadian climate | January 21 to 27, 1986 | Vol.8 No.4

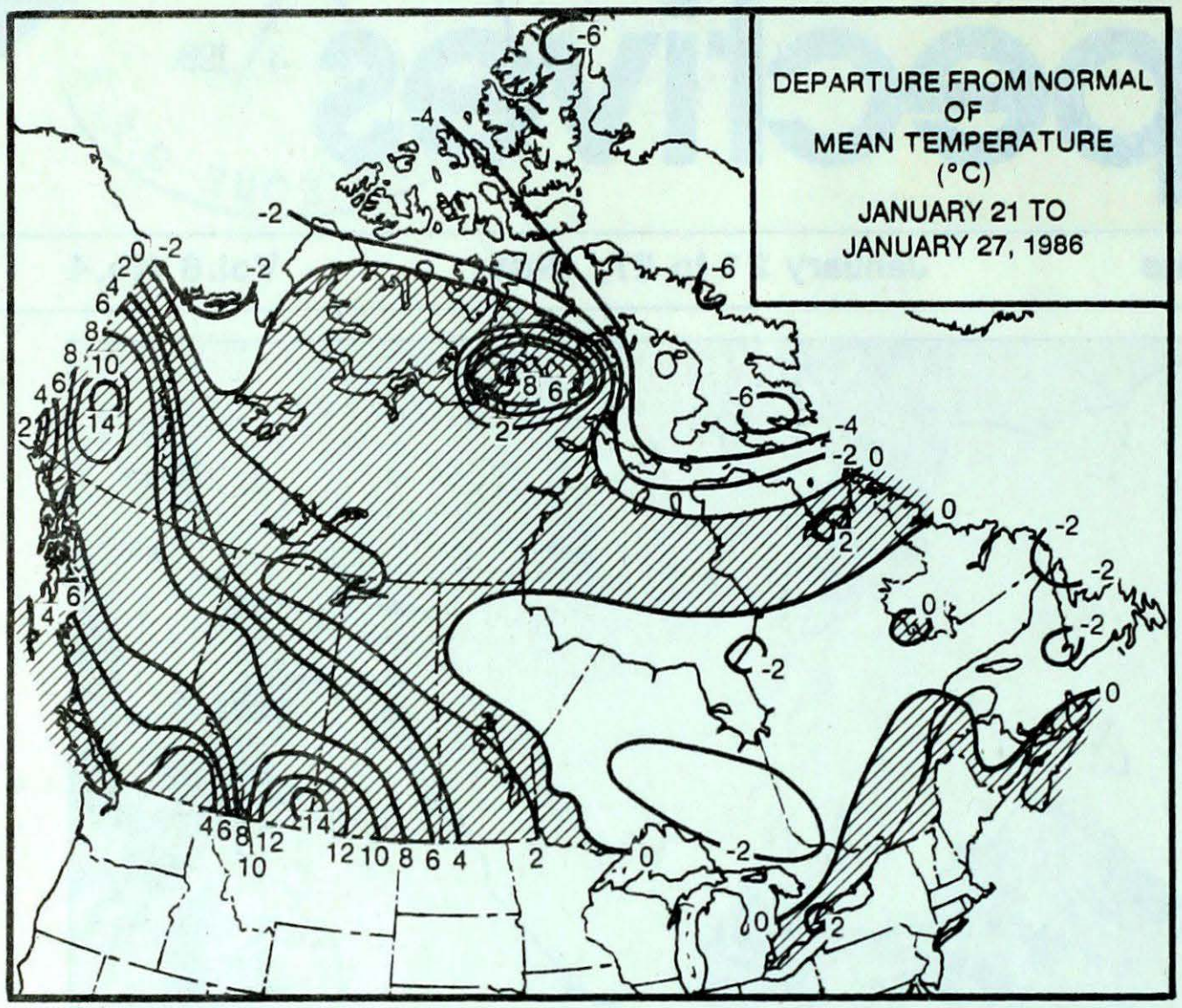


This NOAA 9 infrared image of January 27, 1986 shows a thick band of cloud and the southward extent of the cold air that was associated with the major winter storm that affected eastern Canada.

- ***Quebec takes brunt of major storm***
  - bitter cold follows storm into Ontario
- ***Continuing mild Western Canada***

Canada

TEMPERATURE



WEEKLY TEMPERATURE EXTREME (C)

	MAXIMUM		MINIMUM	
BRITISH COLUMBIA	ABBOTSFORD	13	FORT NELSON	−26
YUKON TERRITORY	TESLIN	3	SHINGLE POINT A	−46
NORTHWEST TERRITORIES	CLINTON POINT	−11	EUREKA	−49
ALBERTA	CALGARY INT'L	14	FORT CHIPEWYAN	−39
SASKATCHEWAN	EASTEND CYPRESS	4	URANIUM CITY	−42
MANITOBA	PORTAGE LA PRAIRIE	−3	LYNN LAKE	−46
ONTARIO	TRENTON	7	ARMSTRONG	−43
QUEBEC	GASPE	10	CHIBOUGAMAU	−39
NEW BRUNSWICK	MONCTON	13	CHATHAM	−28
NOVA SCOTIA	GREENWOOD	14	SHEARWATER	−19
PRINCE EDWARD ISLAND	CHARLOTTETOWN	12	CHARLOTTETOWN	−21
NEWFOUNDLAND	DANIEL'S HARBOUR	13	WABUSH LAKE	−36

ACROSS THE NATION

WARMEST MEAN TEMPERATURE	6	PRINCE RUPERT BC
COOLEST MEAN TEMPERATURE	−43	EUREKA NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

Mild air streamed in from the Gulf of Alaska, making this the sixth consecutive week with above normal temperatures in the Yukon. In the high Arctic, a stagnant airmass has been losing heat, and temperatures have dropped to well below normal values. The temperature at Eureka plunged to -51°C on January 26. Surges of frigid Arctic air spilled across the Northwest Territories. Significant snowfalls occurred in the Yukon during the weekend. Heavy snow hampered transportation along the Alaska highway, and falls of up to 60 cm closed sections of the Haines Road for two days. Blizzards and high wind chills were experienced in many parts of the Territories and on Baffin Island.

British Columbia

It was mild and pleasant throughout most of the province. Sunshine was plentiful on the mainland, but Pacific storms that were deflected northwards produced heavy rainfalls on Vancouver Island and the Queen Charlottes. In the south, temperatures reached the double digits. Ski conditions in the coastal mountains have deteriorated, but fresh snow has covered the higher elevations of the interior. Tree pruning has begun in the southern valleys. Early spring flowers are in bloom on the lower mainland.

Prairie Provinces

In eastern districts, temperatures fell to more normal values over the weekend. Only in the western half of the prairies did temperatures manage to climb above freezing this week. In Alberta, daily temperature records were broken on January 26, when Chinooks allowed temperatures to soar to the mid-teens; at Calgary the mercury reached 14°C. Passing weather systems resulted in varying amounts of cloud and occasional periods of snow. Heaviest snowfalls, of up to 10 cm, fell during the middle of the week. A mixture of rain and freezing rain fell in Alberta on January 27.

PRECIPITATION

Ontario

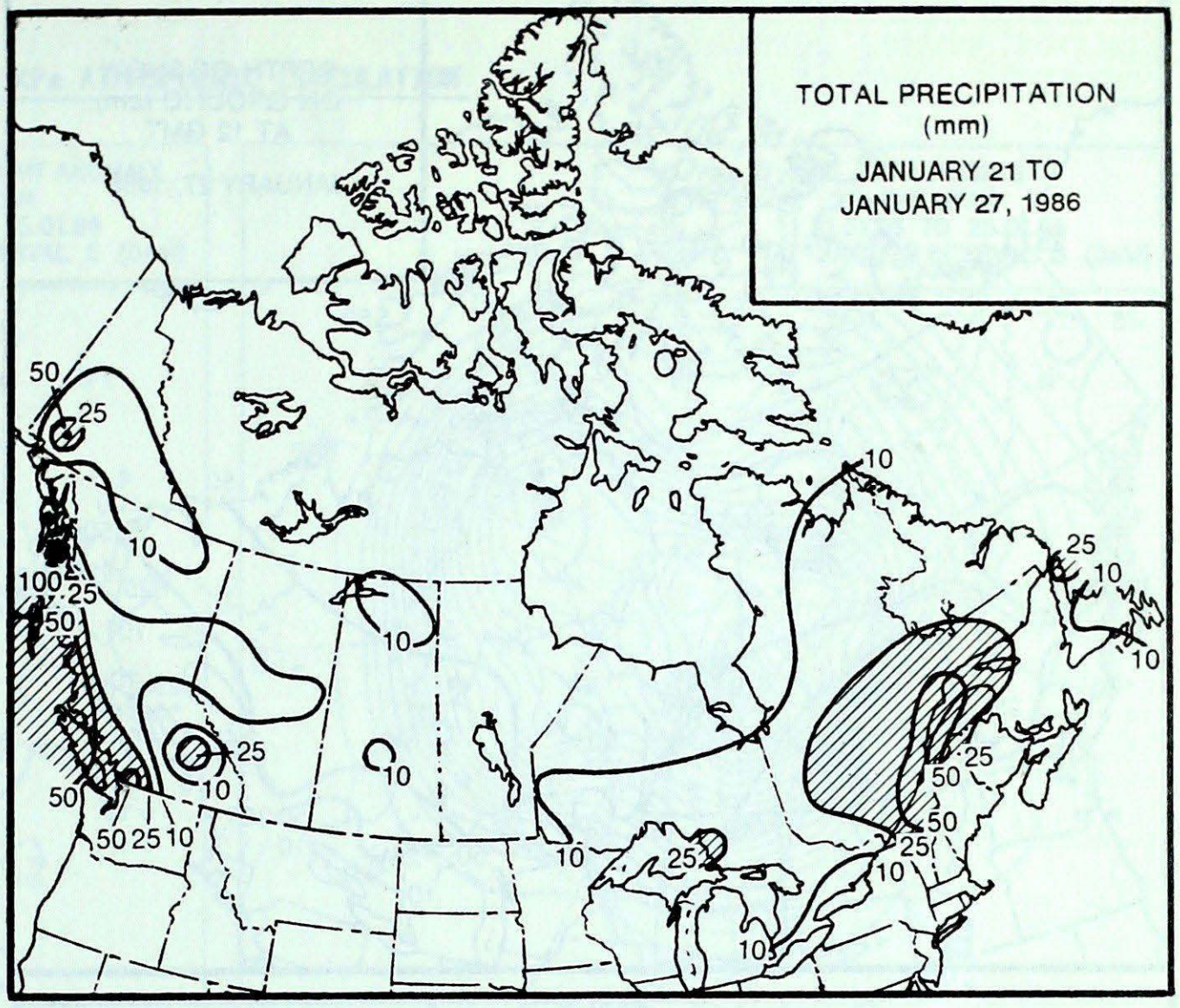
Several disturbances approached the province, giving alternating periods of mild, but predominantly cloudy weather conditions in the south. A complex weather system over the weekend gave widespread snowfalls throughout the Great Lakes Basin. On January 26, a major winter storm developed along the east coast, bringing frigid Arctic air southwards. On January 27, strong winds gusting to 70 km/h, falling temperatures and snowfalls of up to 25 cm resulted in blizzard conditions in eastern Ontario. High winds and blowing snow produced white-out conditions in many other areas of the province.

Quebec

The worst snow storm of the season hit southern Quebec during the weekend. The storm intensified over the Atlantic coast and moved northward, dumping between 30 and 50 centimetres of snow along the St. Lawrence Valley and the North Shore. Temperatures in the Eastern Townships climbed well above freezing on January 27, and the precipitation became predominantly rain. The Eaton and Saint François Rivers rose to flood stage, due to the heavy runoff and ice jams, which had formed downstream. During the early part of the week the weather was changeable. Both minimum and maximum daily temperature records were broken during the period.

Atlantic

In Newfoundland and Labrador the weather was changeable, with occasional periods of rain and snow. Temperatures in the Maritimes fluctuated. Daily low temperature records were broken on January 24 and 25, while new maximum temperature records were set on January 27. Heaviest precipitation fell during the early and latter parts of the period. Flooding was reported near Truro on January 20 and 21. On January 27, an intensifying storm along the eastern sea board pumped very mild air into the region. Coastal fog was prevalent, and rainfalls exceeded 25 mm in some areas.



HEAVIEST WEEKLY PRECIPITATION (mm)

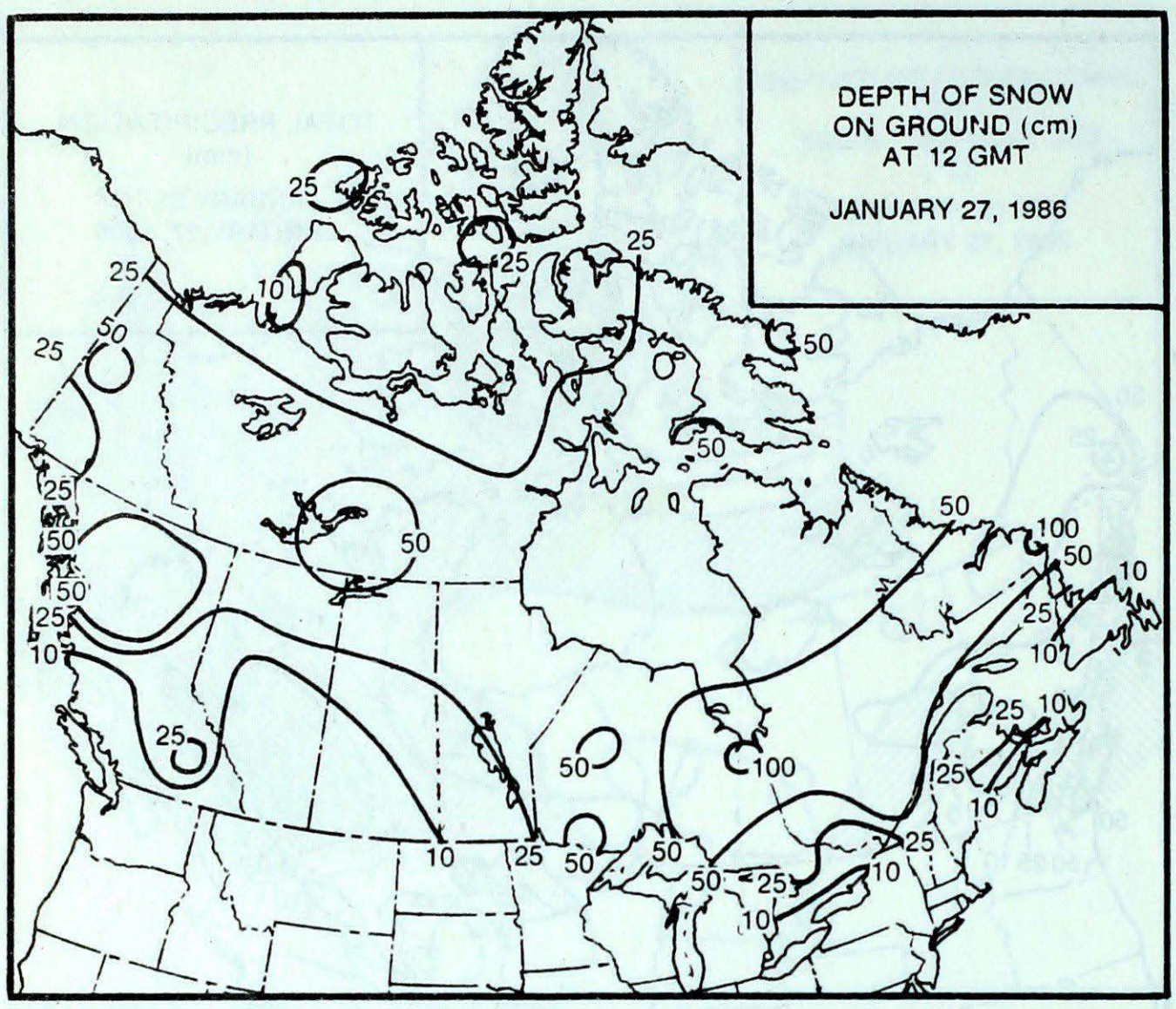
BRITISH COLUMBIA	LANGARA	123
YUKON TERRITORY	HAINES JUNCTION	50
NORTHWEST TERRITORIES	FORT SIMPSON	13
ALBERTA	COLD LAKE	15
SASKATCHEWAN	COLLINS BAY	19
MANITOBA	LYNN LAKE	8
ONTARIO	WAWA	27
QUEBEC	BAIE COMEAU	82
NEW BRUNSWICK	SAINT JOHN	34
NOVA SCOTIA	TRURO	26
PRINCE EDWARD ISLAND	SUMMERSIDE	22
NEWFOUNDLAND	BURGEO	38

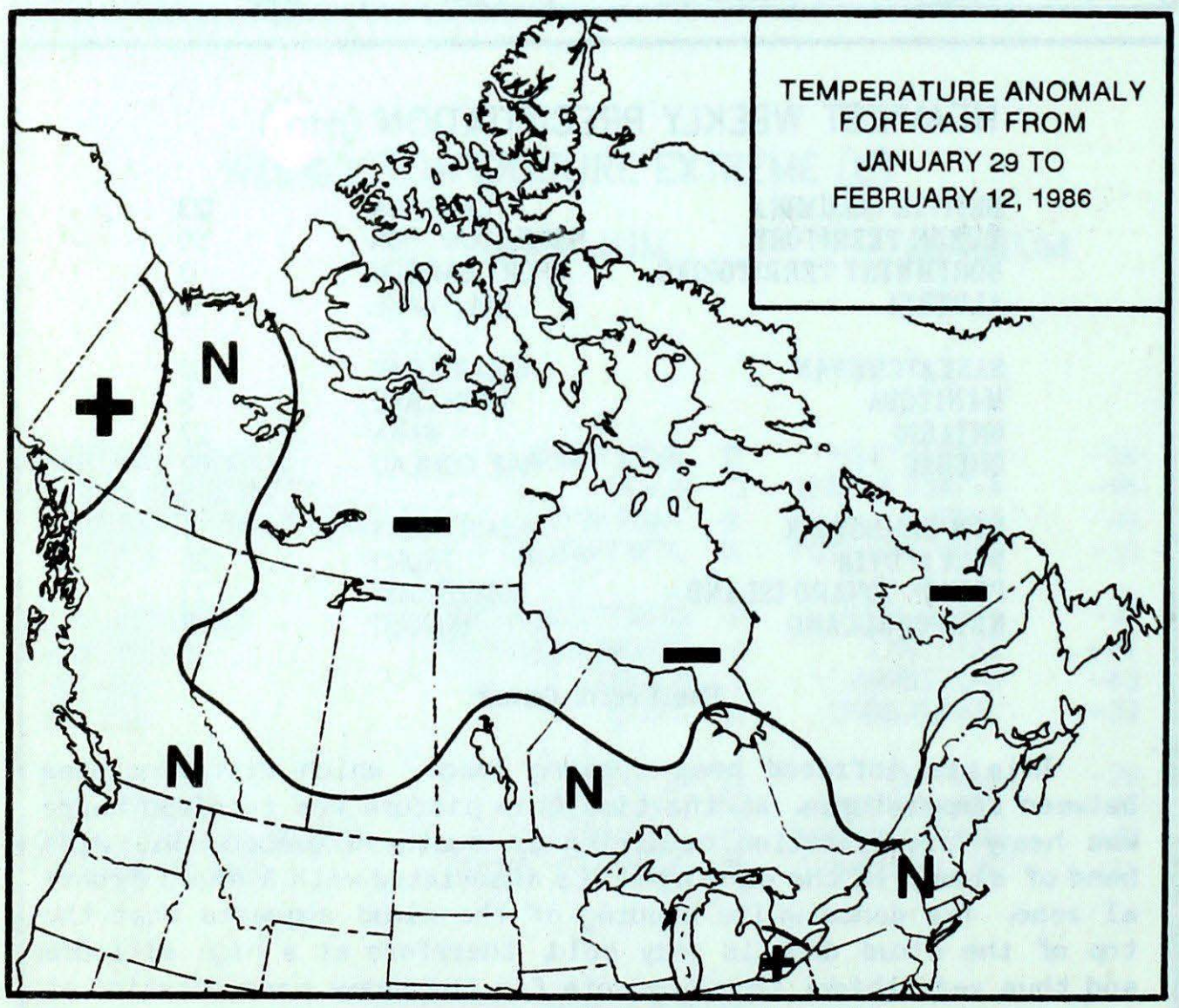
The Front Cover

This is infrared heat sensing image, which differenciates between temperatures. At the time this picture was received there was heavy precipitation occurring in southern Quebec. The wide band of cloud, in the same area, is associated with a sharp frontal zone. The dense white shading of the cloud suggests that the top of the cloud deck is very cold, therefore at a high altitude and thus very thick; this accounts for the heavy precipitation at the surface. A high level jet stream, with winds in excess of 200 km/h is indicated by the sharp curve of cloud winding northward.

In the wake of the system, a very cold airmass spilled southwards across the Great Lakes, eventually reaching Florida. The southward progression of this tongue of Arctic air is quite evident in this photo in the vicinity of the Mississippi. The surface shading in this area of the photograph has become lighter as temperatures plumetted in the southern States.

FORECAST





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 8

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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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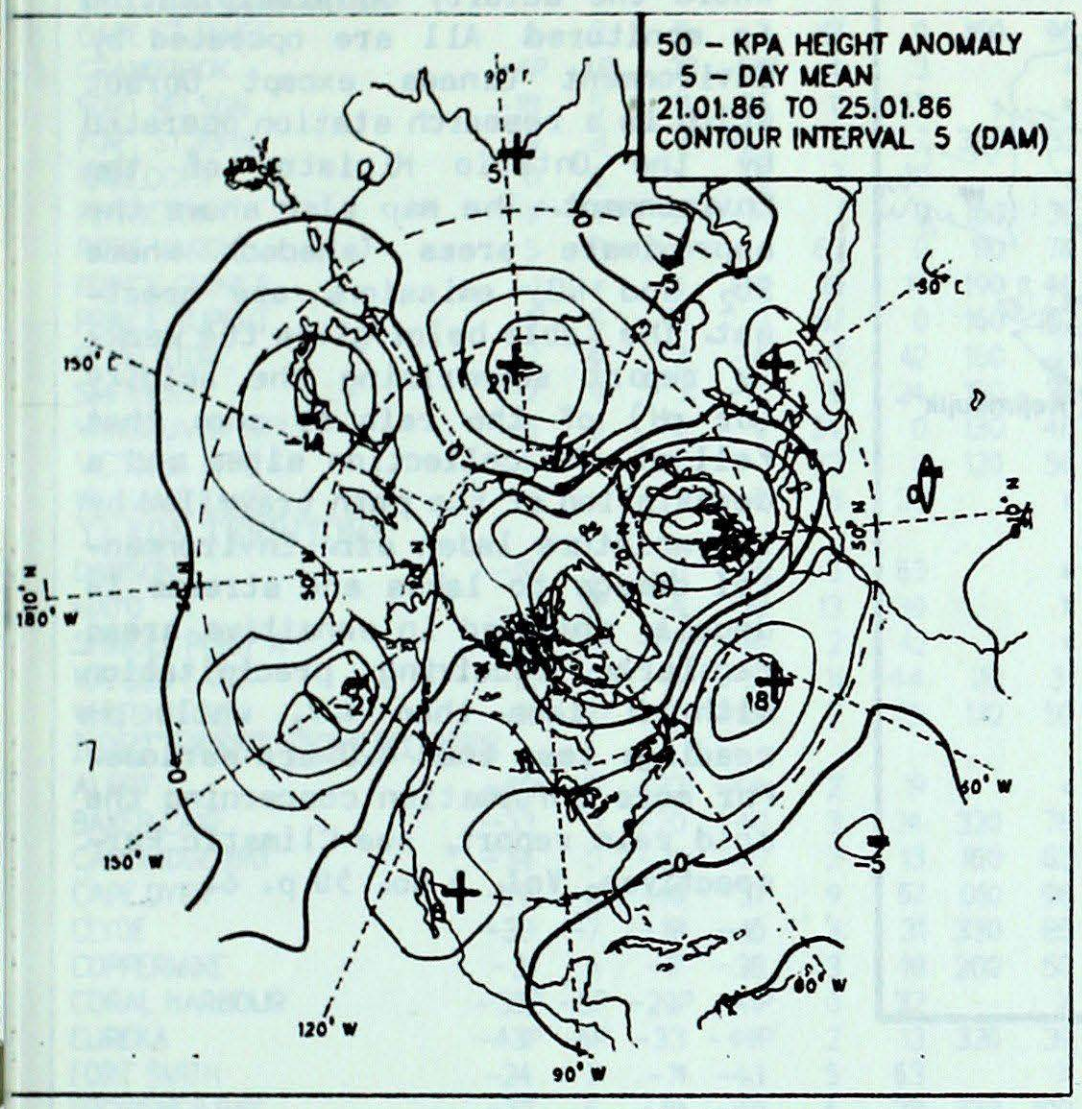
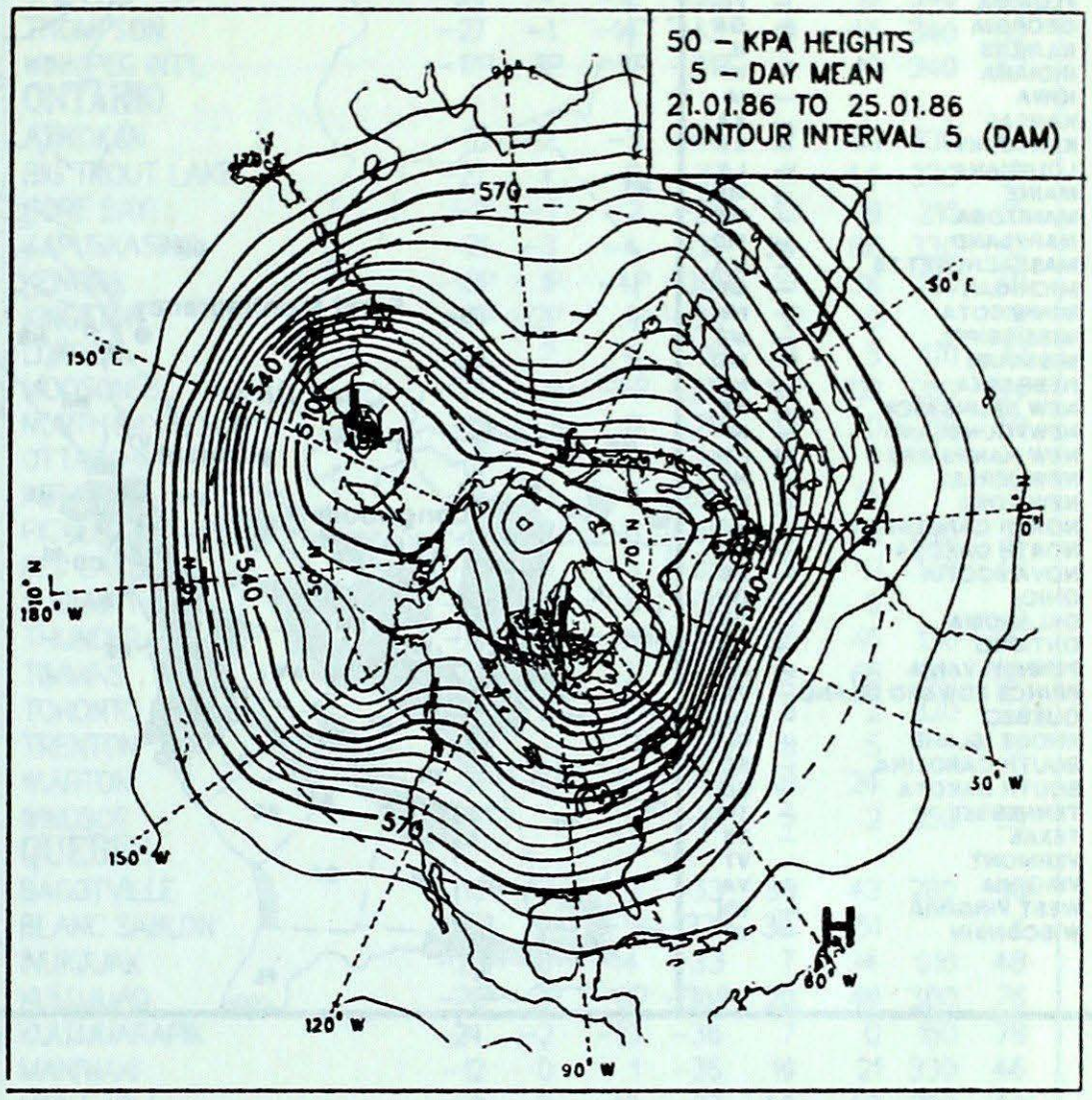
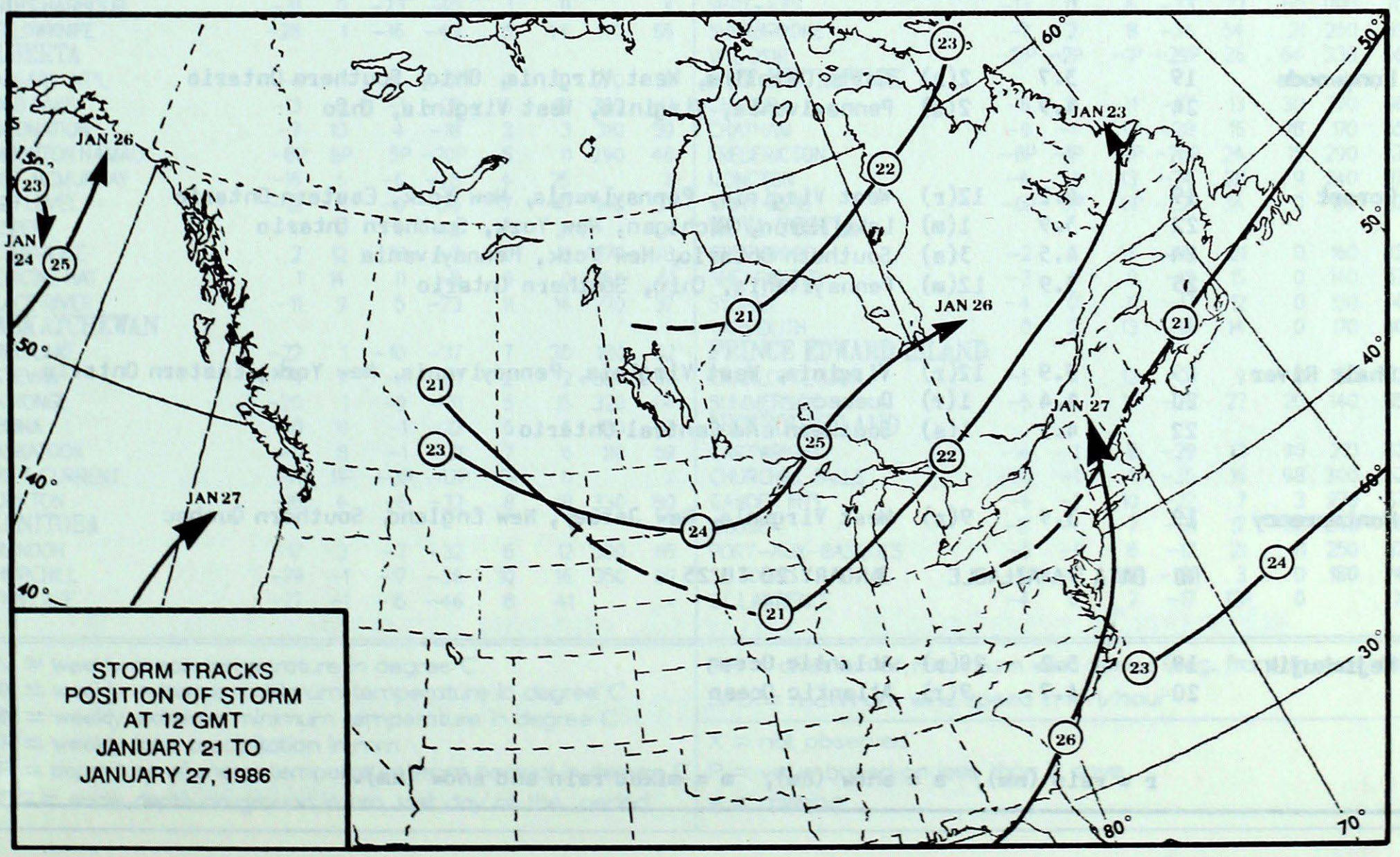
50 KPa ATMOSPHERIC CIRCULATION



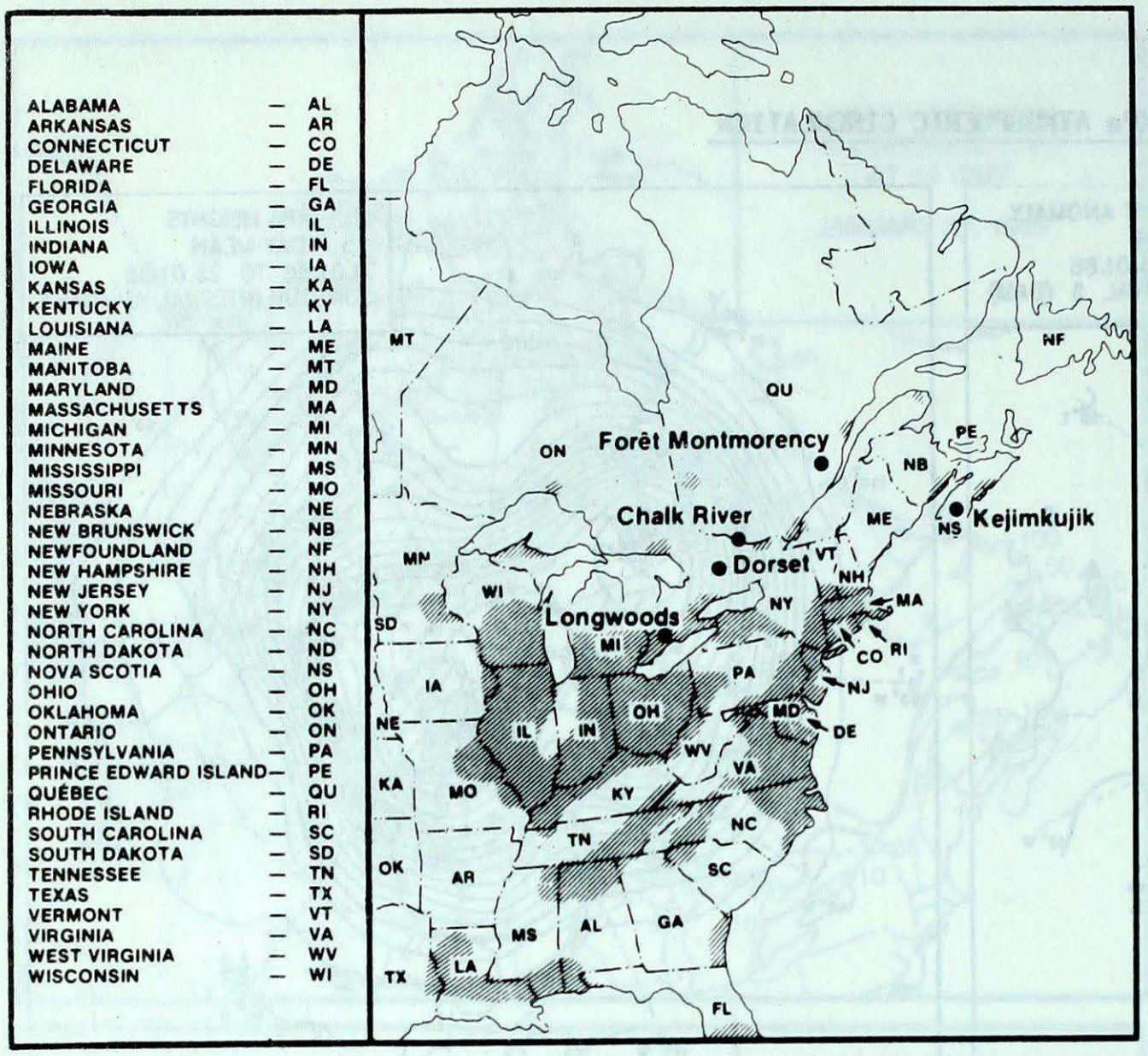
MEAN 50 KPa HEIGHT ANOMALY (dam)
January 21 to January 25, 1986



MEAN 50 KPa HEIGHTS (dam)
January 21 to January 25, 1986



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 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.

JANUARY 19, 1986 to JANUARY 25, 1986

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	19	3.7	2(r)	North Carolina, West Virginia, Ohio, Southern Ontario
	24	4.9	2(s)	Pennsylvania, Virginia, West Virginia, Ohio
Dorset	19	4.2	12(r)	West Virginia, Pennsylvania, New York, Eastern Ontario
	22	3.9	1(m)	Lake Huron, Michigan, New York, Southern Ontario
	24	4.5	3(s)	Southern Ontario, New York, Pennsylvania
	25	3.9	12(m)	Pennsylvania, Ohio, Southern Ontario
Chalk River	19	3.9	12(r)	Virginia, West Virginia, Pennsylvania, New York, Eastern Ontario
	20	4.4	1(r)	Quebec
	22	4.2	1(s)	Southern and Central Ontario
Montmorency	19	3.9	9(r)	West Virginia, New Jersey, New England, Southern Quebec
	NO DATA AVAILABLE			JANUARY 20 TO 25
Kejimkujik	19	5.2	28(r)	Atlantic Ocean
	20	4.7	9(r)	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 JANUARY 28,1986

STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
BRITISH COLUMBIA								
CAPE ST.JAMES	6	2	8	3	47	0	160	96
CRANBROOK	-4P	4P	2P	-13P	4	3		*
FORT NELSON	-18	5	-11	-26	11	53		*
FORT ST.JOHN	-9	8	7	-23	9	7	360	52
KAMLOOPS	0	6	4	-5	7	0		*
PENTICTON	-1P	2P	4P	-6P	1	0	160	39
PORT HARDY	5	3	8	1	63	0	110	74
PRINCE GEORGE	-1	*	4	-9	18	10	190	46
PRINCE RUPERT	6	6	12	3	57	0	160	102
REVELSTOKE	-1	4	3	-6	47	42	160	41
SMITHERS	-2	9	3	-10	9	24	150	39
VANCOUVER INT'L	6	3	11	0	34	0	130	48
VICTORIA INT'L	6	3	12	-1	23	0	120	56
WILLIAMS LAKE	-1	*	2	-7	8	20		X
YUKON TERRITORY								
DAWSON	-19	*	-11	-34	5	63		*
MAYO	-13	15	-4	-29	13	39		X
SHINGLE POINT A	-25P	0P	-15P	-46	2	42		*
WATSON LAKE	-18	9	-4	-31	11	44	110	31
WHITEHORSE	-9P	11P	2P	-16P	7	25	170	59
NORTHWEST TERRITORIES								
ALERT	-40	-8	-33	-44	2	19		*
BAKER LAKE	-33	1	-20	-40	3	24	320	78
CAMBRIDGE BAY	-34	0	-20	-40	2	13	180	63
CAPE DYER	-28	-6	-16	-37	9	67	010	98
CLYDE	-33	-7	-18	-45	3	31	330	85
COPPERMINE	-31	*	-17	-38	3	18	200	50
CORAL HARBOUR	-35P	-5P	-29P	-41P	0	32		X
EUREKA	-43P	-6P	-33	-49P	2	13	320	39
FORT SMITH	-24	3	-11	-43	5	63		X
FROBISHER BAY	-32	-6	-19	-40	4	28	330	100
HALL BEACH	-36	-5	-17	-46	1	21	270	52
INUVIK	-34	-6	-21	-44	2	33		X
MOULD BAY	-36	-2	-26	-42	2	32		X
NORMAN WELLS	-29	-1	-17	-44	7	28		X
RESOLUTE	-35	-3	-23	-44	2	28	180	41
SACHS HARBOUR	-31	0	-23	-40	1	8		X
YELLOWKNIFE	-28	1	-16	-43	5	44	140	65
ALBERTA								
CALGARY INT'L	-1	11	14	-11	0	0	270	57
COLD LAKE	-13	6	-1	-22	15	19	300	41
CORONATION	-7	10	4	-18	3	3	310	59
EDMONTON NAMAO	-8P	8P	5P	-20P	5	11	290	48
FORT MCMURRAY	-16	6	-6	-28	4	25		X
HIGH LEVEL	-19	1	-9	-26	7	45	140	37
JASPER	-4	9	4	-12	3	21		X
LETHBRIDGE	2	12	13	-7	0	0	270	78
MEDICINE HAT	1	14	11	-8	0	0	260	61
PEACE RIVER	-11	9	5	-23	11	14	270	37
SASKATCHEWAN								
CREE LAKE	-22	1	-10	-37	7	30	180	52
ESTEVAN	-9	7	-1	-21	2	2	320	69
LA RONGE	-20	1	-9	-31	5	15	320	44
REGINA	-10	8	-1	-22	5	5	130	67
SASKATOON	-11	8	-1	-21	7	6	110	59
SWIFT CURRENT	-7P	11P	-3P	-12P	0P	0		X
YORKTON	-16	4	-6	-32	8	18	330	80
MANITOBA								
BRANDON	-17	3	-7	-32	6	12	300	65
CHURCHILL	-29	-1	-17	-36	10	16	350	89
LYNN LAKE	-27	-1	-15	-46	8	41		*
THE PAS	-20	*	-12	-33	7	19	340	69
THOMPSON	-27	-1	-14	-43	9	46	340	56
WINNIPEG INT'L	-17P	3P	-3P	-31P	*	10	340	63
ONTARIO								
ATIKOKAN	-18	-2	-3	-40	17	50	330	46
BIG TROUT LAKE	-27	*	-8	-37	7	44	330	65
GORE BAY	-11	-1	2	-26	12	19	210	65
KAPUSKASING	-21	-3	-4	-37	24	86	330	52
KENORA	-18P	1P	-4P	-30P	10	38	130	48
KINGSTON	-8P	-2P	1P	-21P	1P	0		X
LONDON	-4	2	4	-18	9	5	170	61
MOOSONEE	-21P	-2P	-6P	-37P	10P	109	260	54
NORTH BAY	-15	-3	0	-28	12	30	180	59
OTTAWA INT'L	-8	1	5	-24	10	11		X
PETAWAWA	-12	-1	0	-24	12	14		X
PICKLE LAKE	-24	-3	-8	-39	8	60	330	57
RED LAKE	-21	0	-5	-35	11	41	330	48
SUDBURY	-14	-2	0	-31	12	0		X
THUNDER BAY	-15	1	0	-36	25	45	130	69
TIMMINS	-20	-4	-3	-40	12	66	340	48
TORONTO INT'L	-4	2	5	-17	6	2	320	72
TRENTON	-5	1	7	-20	8	5		X
WIARTON	-7P	0P	2P	-19P	18	24		X
WINDSOR	-4	1	5	-19	5	2	350	59
QUEBEC								
BAGOTVILLE	-13	1	9	-33	38	43	280	56
BLANC SABLON	-16P	*	-1P	-32P	34	51		X
INUKJUAK	-25	0	-14	-33	7	34	010	48
KUUJJUAQ	-21P	2P	-6P	-36P	20	49	300	76
KUUJJUARAPIK	-24	-2	-10	-36	7	0	160	78
MANIWAKI	-12	0	1	-26	19	21	330	46
MONT JOLI	-9	2	10	-27	50	48	290	69
MONTREAL INT'L	-7	1	4	-20	33	29	160	69
NATASHQUAN	-12	-1	5	-30	28	38	160	69
NITCHEQUON						*		
QUEBEC	-9	2	6	-24	70	65	310	61
SCHEFFERVILLE	-24P	-2P	-9P	-36P	15	47	280	50
SEPT-ILES	-13	0	6	-33	72	50	090	70
SHERBROOKE	-7	2	8	-24	54	21	250	65
VAL D'OR	-17P	-2P	-1P	-29P	26	64	330	56
NEW BRUNSWICK								
CHARLO	-8	2	11	-27	13	30	270	56
CHATHAM	-9	-1	12	-28	16	28	170	65
FREDERICTON	-8P	-1P	9P	-26P	24	15	290	57
MONCTON	-6	1	13	-24	28	9	240	87
SAINT JOHN	-6P	0P	6P	-22P	34	0	190	57
NOVA SCOTIA								
GREENWOOD	-2	2	14	-18	21	0	160	83
SHEARWATER	-3	0	9	-19	15	0	140	67
SYDNEY	-4	0	11	-17	12	0	150	74
YARMOUTH	0	2	13	-16	14	0	170	80
PRINCE EDWARD ISLAND								
CHARLOTTETOWN	-5	1	12	-21	9	3	150	52
SUMMERSIDE	-5	1	12	-20	22	20	140	85
NEWFOUNDLAND								
CARTWRIGHT	-14	-1	8	-29	13	90	210	83
CHURCHILL FALLS	-20	-1	4	-35	16	98	300	52
GANDER INT'L	-6	-1	10	-22	7	3	270	57
GOOSE	-17	-1	7	-31	17	82	240	56
PORT-AUX-BASQUES	-5	-1	6	-17	21	11	250	87
ST JOHN'S	-5P	-1P	10P	-18P	3	0	180	74
ST LAWRENCE	-4	0	7	-17	12P	0		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

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