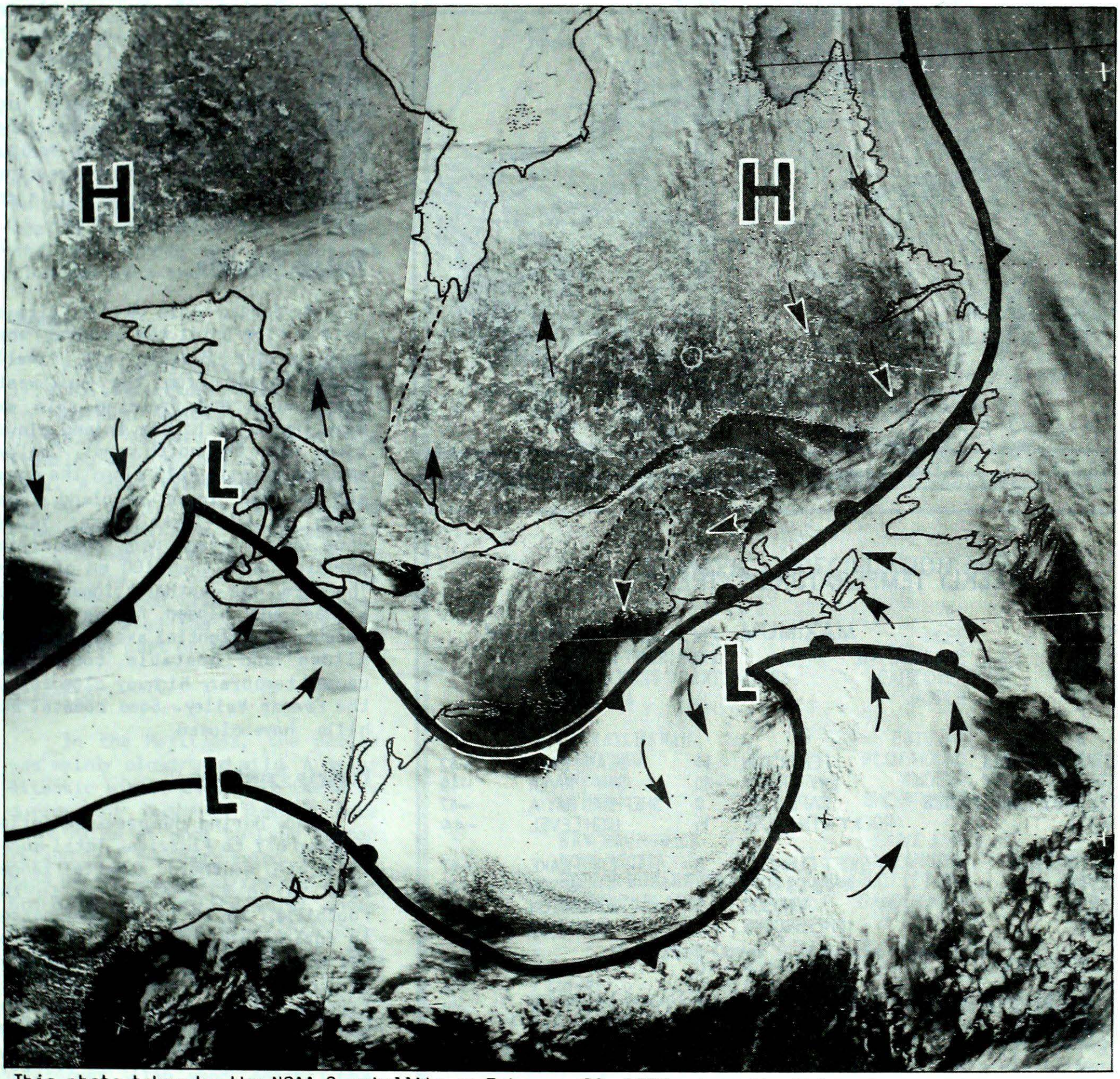
Climatic Perspectives

MONTHLY SUPPLEMENT INCLUDED

A weekly review of Canadian climate | February 18 to 24, 1986 | Vol.8 No.8

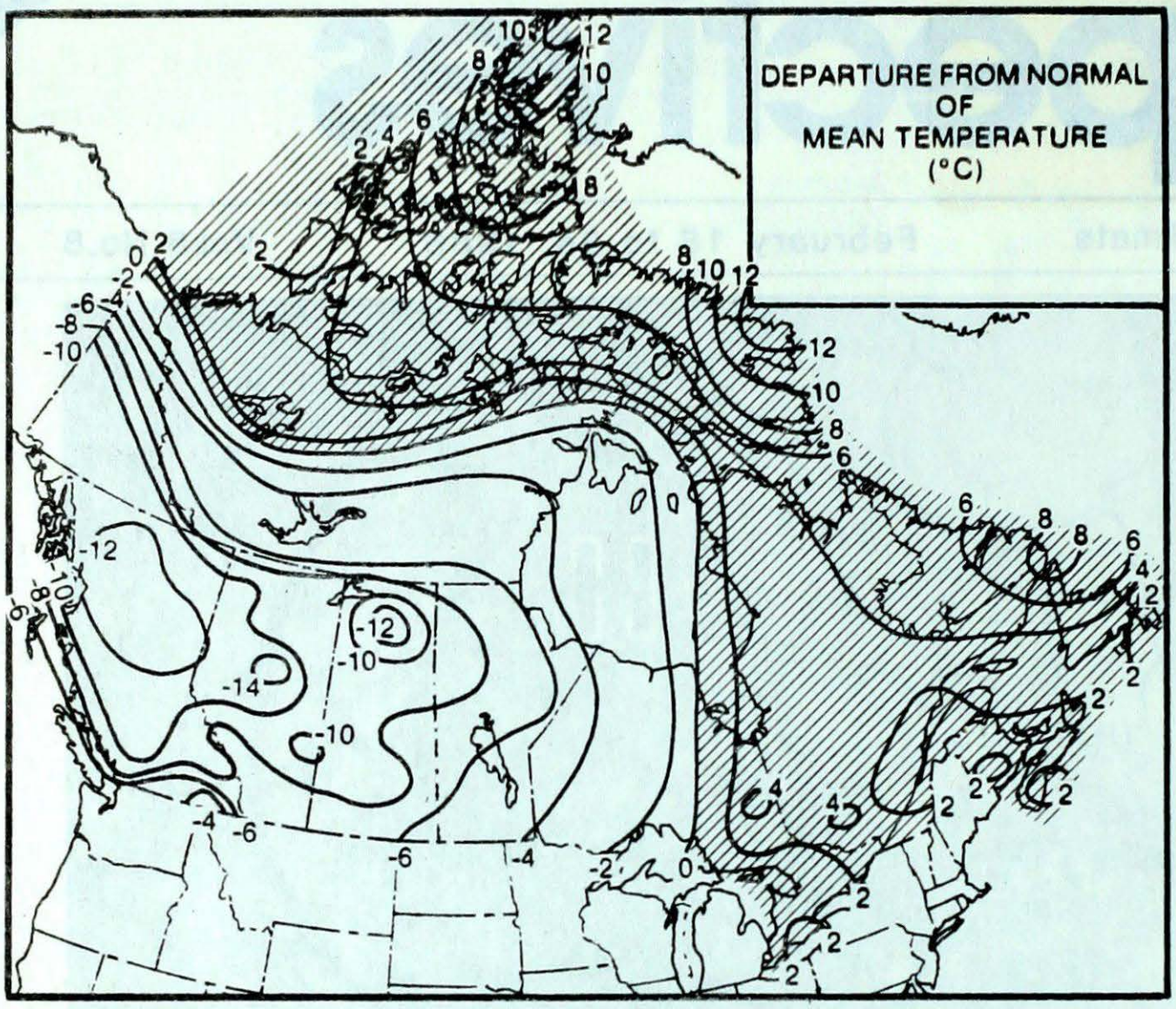


This photo taken by the NOAA 9 satellite on February 22, 1986, shows the thick cloud shield associated with the cyclonic storm, which gave heavy snow and rainfall to Atlantic Canada over the weekend. For more information see page 3.

- ***Snowstorm of the century buries Cape Breton***
- ***Heavy rains trigger mud slides, avalanches in B.C.***

Canada

TEMPERATURE



WEEKLY TEMPERATURE EXTREME (C)

		MAXIMUM		MINIMUM	
BRITISH COLUMBIA	PENTICTON	14	DEASE LAKE	-42
YUKON TERRITORY	SWIFT RIVER	-10	SWIFT RIVER	-49
NORTHWEST TERRITORIES	CAPE DYER	0	SHEPHERD BAY A	-47
ALBERTA	ROCKY MTN HOUSE	15	HIGH LEVEL	-44
SASKATCHEWAN	SWIFT CURRENT	8	CREE LAKE	-47
MANITOBA	WINNIPEG INT'L	-7	THOMPSON	-45
ONTARIO	WINDSOR	5	GERALDTON	-38
QUEBEC	SHERBROOKE	6	KUUJJUAQ	-37
NEW BRUNSWICK	ST STEPHEN	6	CHARLO	-20
NOVA SCOTIA	GREENWOOD	6	SYDNEY	-16
PRINCE EDWARD ISLAND	CHARLOTTETOWN	2	CHARLOTTETOWN	-18
NEWFOUNDLAND	BURGEO	6	WABUSH LAKE	-34

ACROSS THE NATION

WARMEST MEAN TEMPERATURE	5	LAWN POINT	BC
COOLEST MEAN TEMPERATURE	-38	BAKER LAKE	NWT
		FORT ST.JOHN	BC

ACROSS THE COUNTRY...

Yukon and Northwest Territories

The Yukon was once again clear and very cold. Road conditions have been very good because of the sparse precipitation, generally in the 5 cm range. Periods of snow and blowing snow were encountered in the Northwest Territories. On February 19 winds were gusting to 106 km/h at Norman Wells. Many new daily high temperature records were established in the high Arctic, with maximum readings climbing to near freezing. Some areas along the Baffin Island coast received 50 cm of snow.

British Columbia

A record cold Arctic airmass held a firm until the weekend, when much milder Pacific air finally moved inland from the southwest. Heavy snow and freezing rain was experienced at higher inland elevations near the north coast. Copious amounts of rain fell along the coast and on the lower mainland. Some roads in the lower Frazer Valley were under water. Many communities received more than 100 mm of rain. The warm, wet weather triggered snow slides and closed highway passes because of potential avalanches. Mud slides and unstable conditions caused temporary highway closures in the Frazer Valley. Some coastal ski hills have closed.

Prairie Provinces

Snow during the previous period tapered off to flurries. Total snowfalls in southern Alberta ranged from 50 to 70 centimetres in the foothills, to 10 to 20 centimetres in agricultural districts. The snow was very beneficial for the upcoming growing season. A record cold Arctic airmass covered the prairies for most of the week, dropping minimum temperatures to the minus thirties and forties. Some daily temperature records were broken by a substantial margin. Ice fog and ice crystals occurred frequently. Strong westerlies brought moderating temperatures for the weekend. On February 24, wind warnings were posted for southern Alberta because of strong chinooks winds, exceeding 100 km/h.

PRECIPITATION

Ontario

Milder weather, with temperatures hovering near freezing, moved into southern and central Ontario, producing widespread fog, drizzle and freezing drizzle for several days. Dense fog was blamed for a 19 vehicle pile up near Niagara Falls. Pearson Int'l Airport, which normally handles about 1000 flights per day was socked in by fog for two days, stranding many passengers. In northern Ontario snowfalls were in the order of 5 to 10 centimetres. Sunny cold weather covered most of the province over the weekend, but clouds and snowflurries lingered near the Great Lakes.

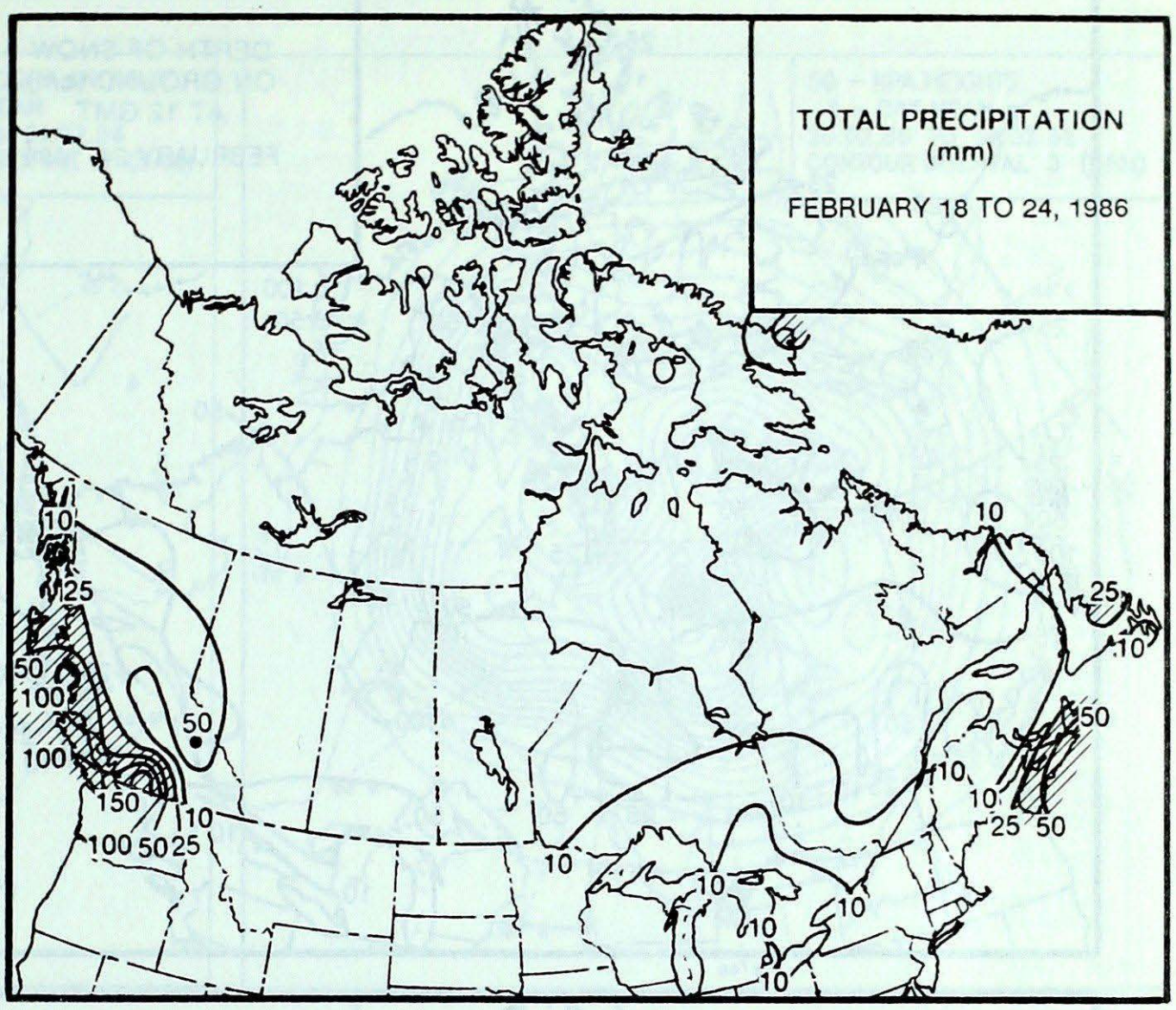
Quebec

Freezing drizzle and relatively mild temperatures were reported in southern Quebec. The mercury gradually climbed up above the freezing mark by the middle of the week. A cold front brought colder weather on February 21, causing freezing conditions, which resulted in treacherous roads. Ten to 15 centimetres of snow fell in the north. A large area of high pressure dominated the weather during the latter part of the week.

Atlantic

In the Maritimes, the period was mainly cloudy and mild. A major Atlantic winter storm hit the area during the weekend, dumping more than 70 cm of snow on Cape Breton Island in a two-day period. Much of Cape Breton was paralyzed and snowbound, by one of the worst snowstorms to hit the area this century. For more information see article on this page.

Very strong winds buffeted Newfoundland and Labrador during the first part of the week. Gusts to 113 km/h were recorded at Cartwright on February 18. Temperatures hovered near freezing, and there were periods of freezing drizzle. Fair weather arrived after midweek, but more snow, up to 15 centimetres, covered the Island on February 24. Heavy ice, spilling through Cabot Strait, caused many problems for the C.N. Ferries. Canadian ice breakers were kept busy working around the clock.



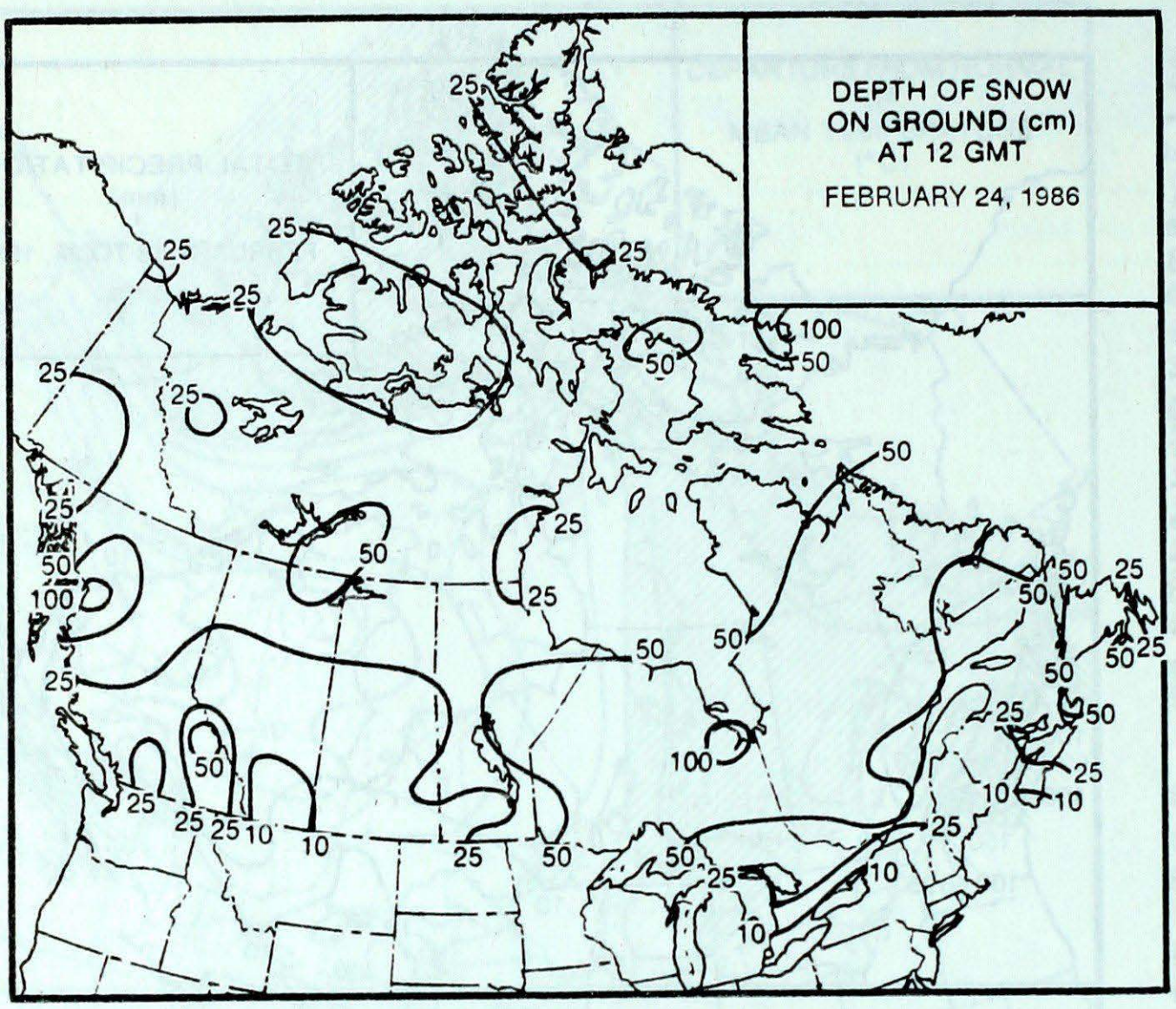
HEAVIEST WEEKLY PRECIPITATION (mm)

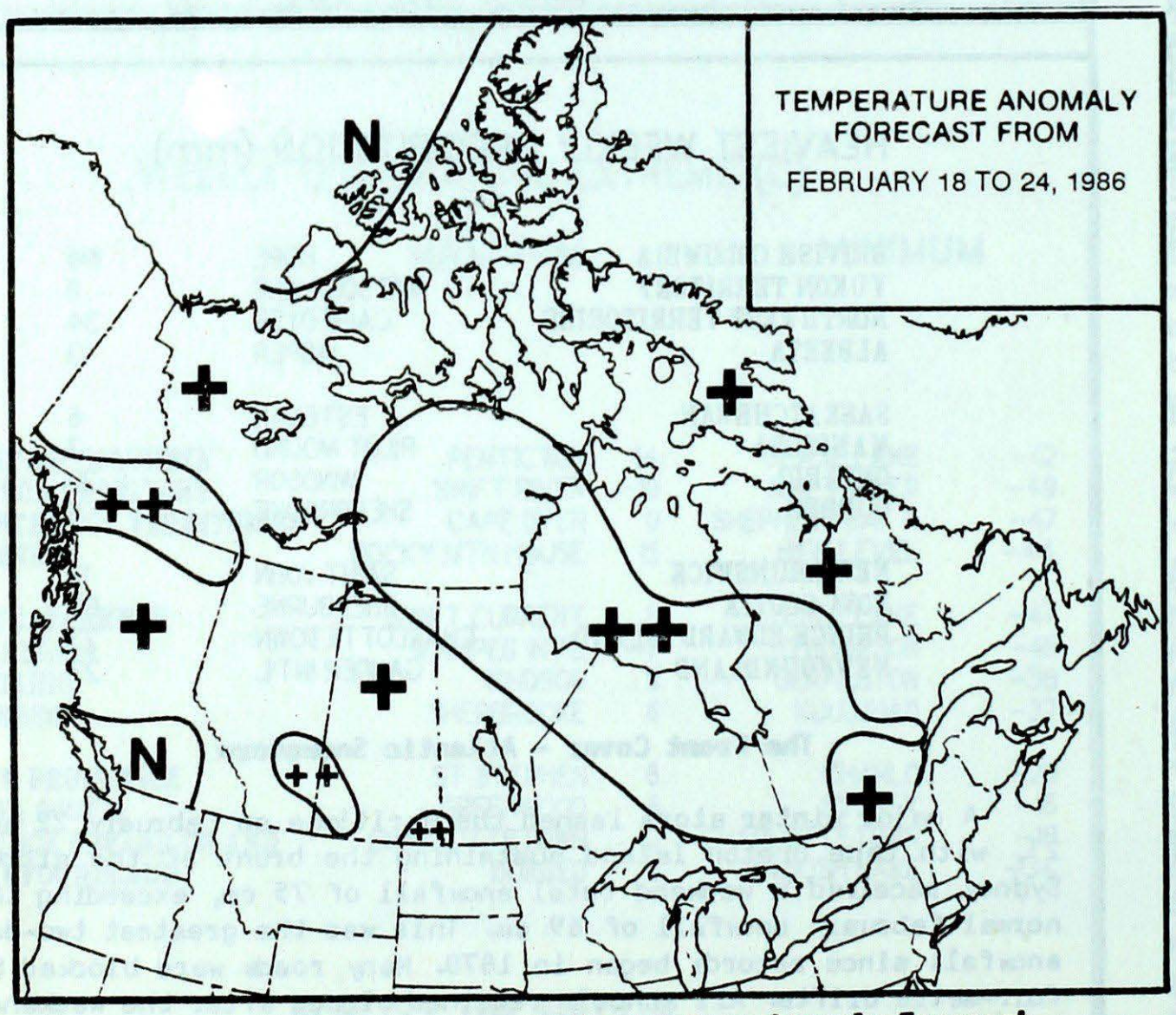
BRITISH COLUMBIA	HOPE	196
YUKON TERRITORY	WATSON LAKE	8
NORTHWEST TERRITORIES	CAPE DYER	34
ALBERTA	JASPER	13
SASKATCHEWAN	ESTEVAN	6
MANITOBA	PILOT MOUND	7
ONTARIO	WINDSOR	22
QUEBEC	SHERBROOKE	21
NEW BRUNSWICK	SAINT JOHN	17
NOVA SCOTIA	SHELBURNE	85
PRINCE EDWARD ISLAND	CHARLOTTETOWN	23
NEWFOUNDLAND	GANDER INT'L	27

The Front Cover - Atlantic Snowstorm

A major winter storm lashed the Maritimes on February 22 and 23, with Cape Breton Island sustaining the brunt of the storm. Sydney received a weekend total snowfall of 75 cm, exceeding the normal February snowfall of 69 cm. This was the greatest two-day snowfall since records began in 1870. Many roads were blocked by four-metre drifts. All schools remained closed after the weekend, and many local roads were still unplowed several days later. The Eastern end of P.E.I. was buried under almost 50 cm of snow, while falls across central Nova Scotia exceeded 30 cm. In southwestern Nova Scotia, many areas received rain. Halifax recorded 33 cm of snow, while Shearwater, 25 cm to the south, had only 9 cm of snow and 42 mm of rain. New Brunswick, on the edge of the storm, escaped with generally less than 20 cm of snow. The storm continued to move northeastward and affected Newfoundland the next day.

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

Managing Editor	M.J. Newark
Editor (English)	A.K. Radomski
Editor (French)	A.A. Caillet
Staff Writer	M. Skarpathiotakis
Art Layout	K. Czaja
Cartography	G. Young/T. Chivers
	B. Taylor
Word Processing	U. Ellis, P. Burke

Regional Correspondents
Atl.: F.Amirault; Que.: J.Miron
Central: F.Luciow; Ont.: A.Radecki
Western: W.Prusak; Pac.: N.Penny
Yukon Weather Centre; Yellowknife Weather Office; Ice Central Ottawa
AES Satellite Data Lab

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. Black and white photographs can be used, but not colour. The contents may be reprinted freely with proper credit.

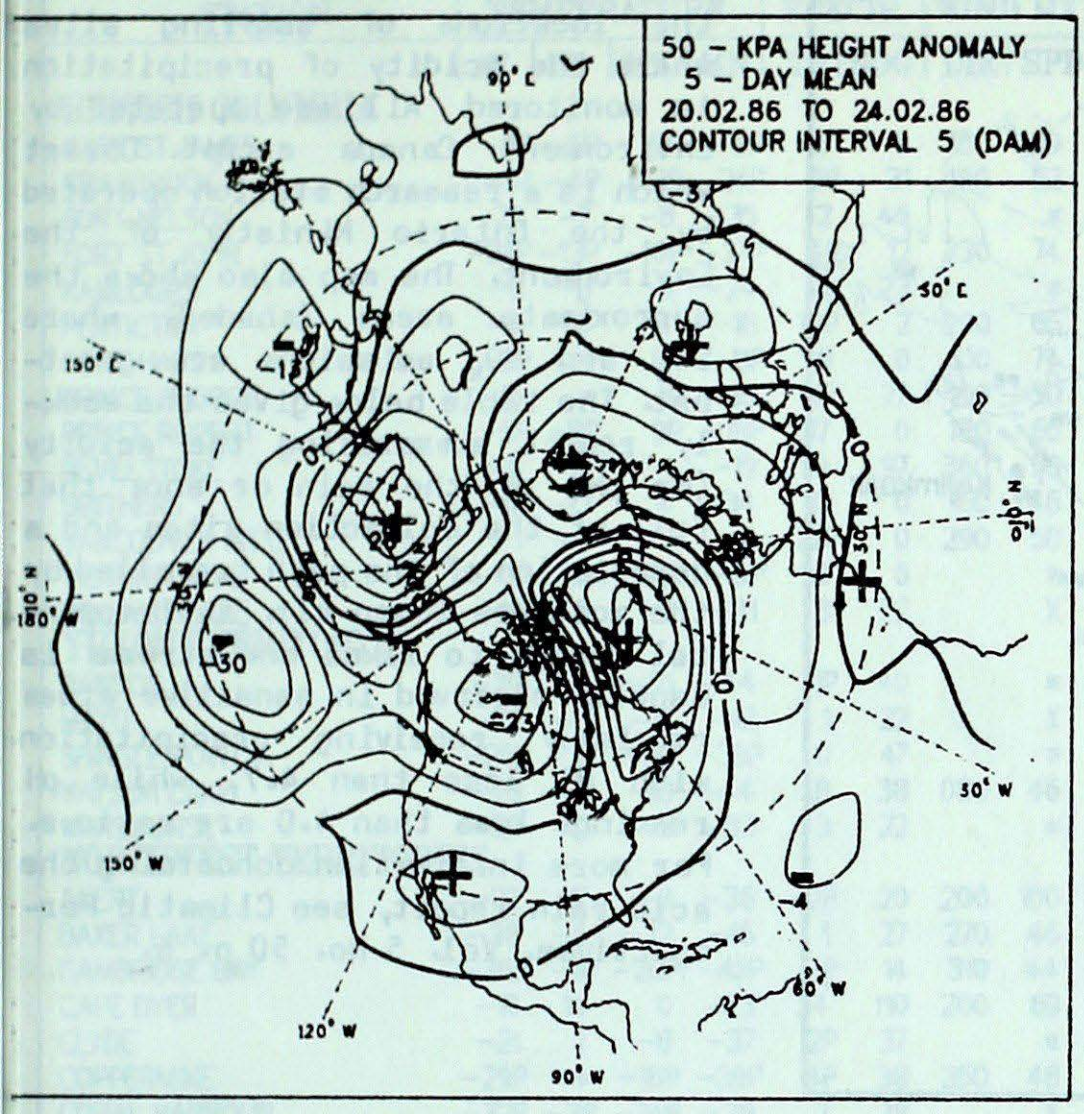
The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic weather stations. Information concerning climatic impacts is gathered from AES contacts with the public and from the media. Articles do not necessarily reflect the views of the Atmospheric Environment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

Annual Subscriptions

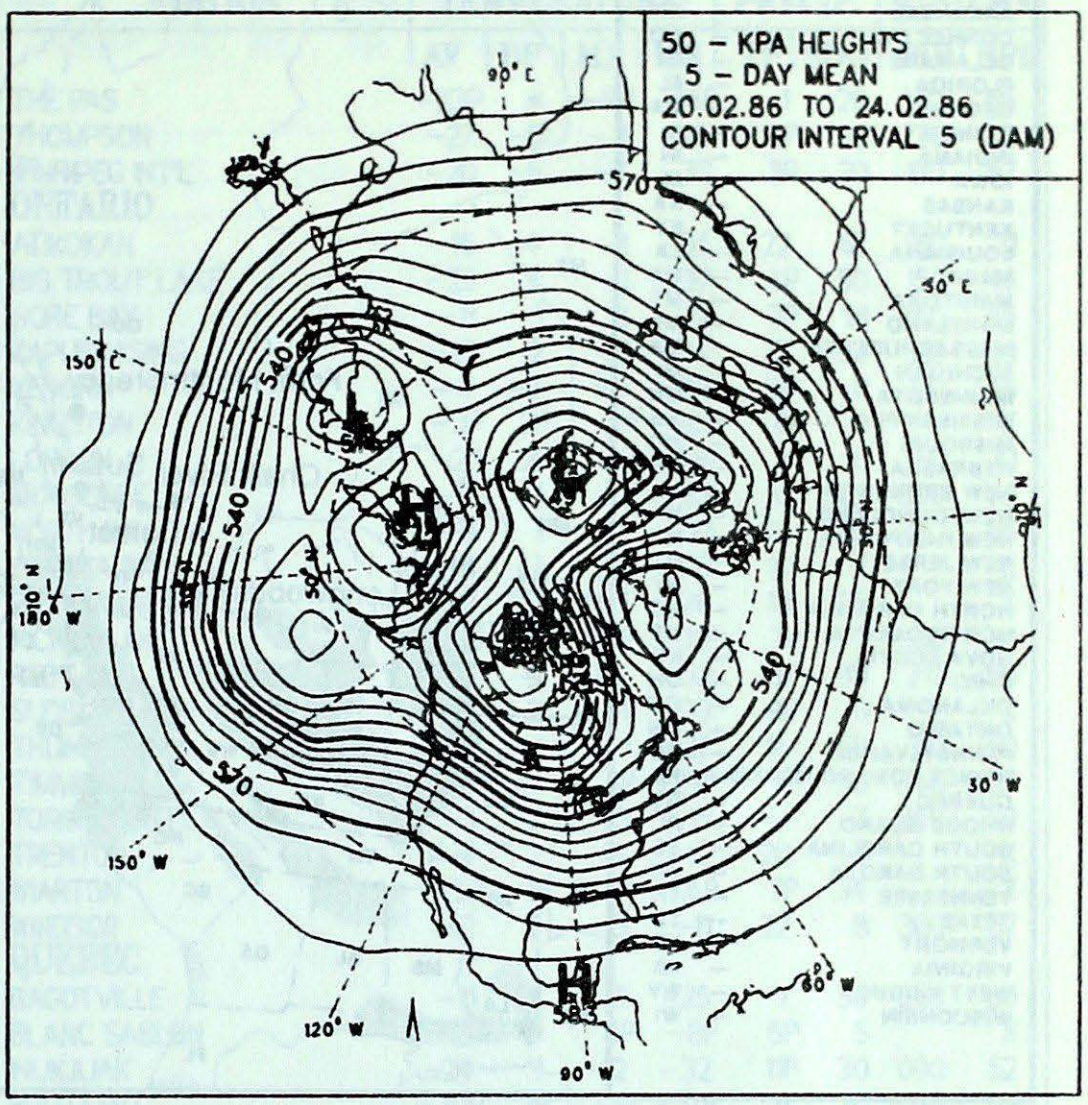
Weekly issue including monthly supplement:	$35.00
Monthly issue only:	$10.00

Subscription enquiries: Supply and Services Canada, Publishing Centre, Ottawa, Ontario, Canada, K1A 0S9. Phone (613)994-1495

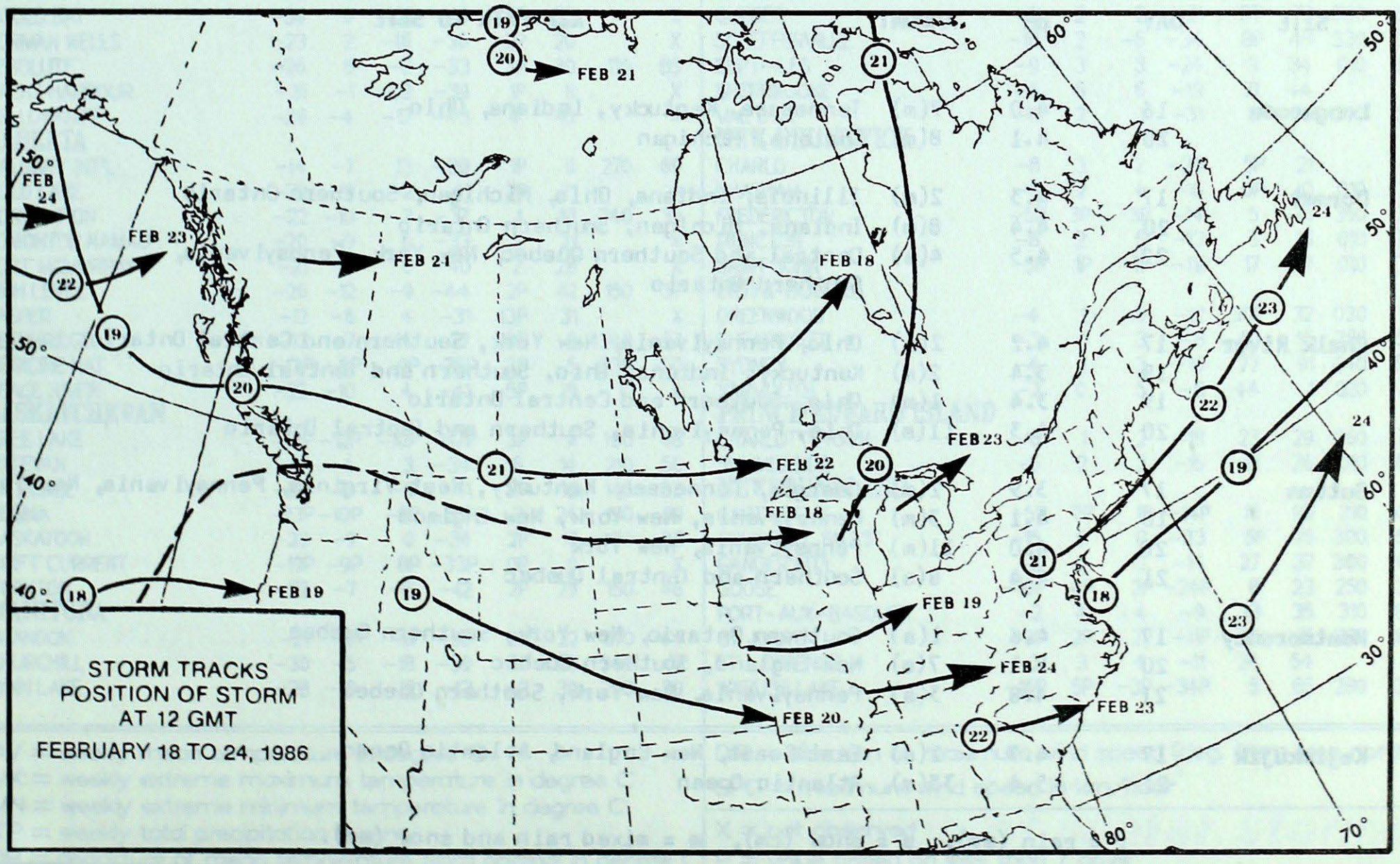
50 KPa ATMOSPHERIC CIRCULATION



MEAN 50 KPa HEIGHT ANOMALY (dam)
February 20 to February 24, 1986

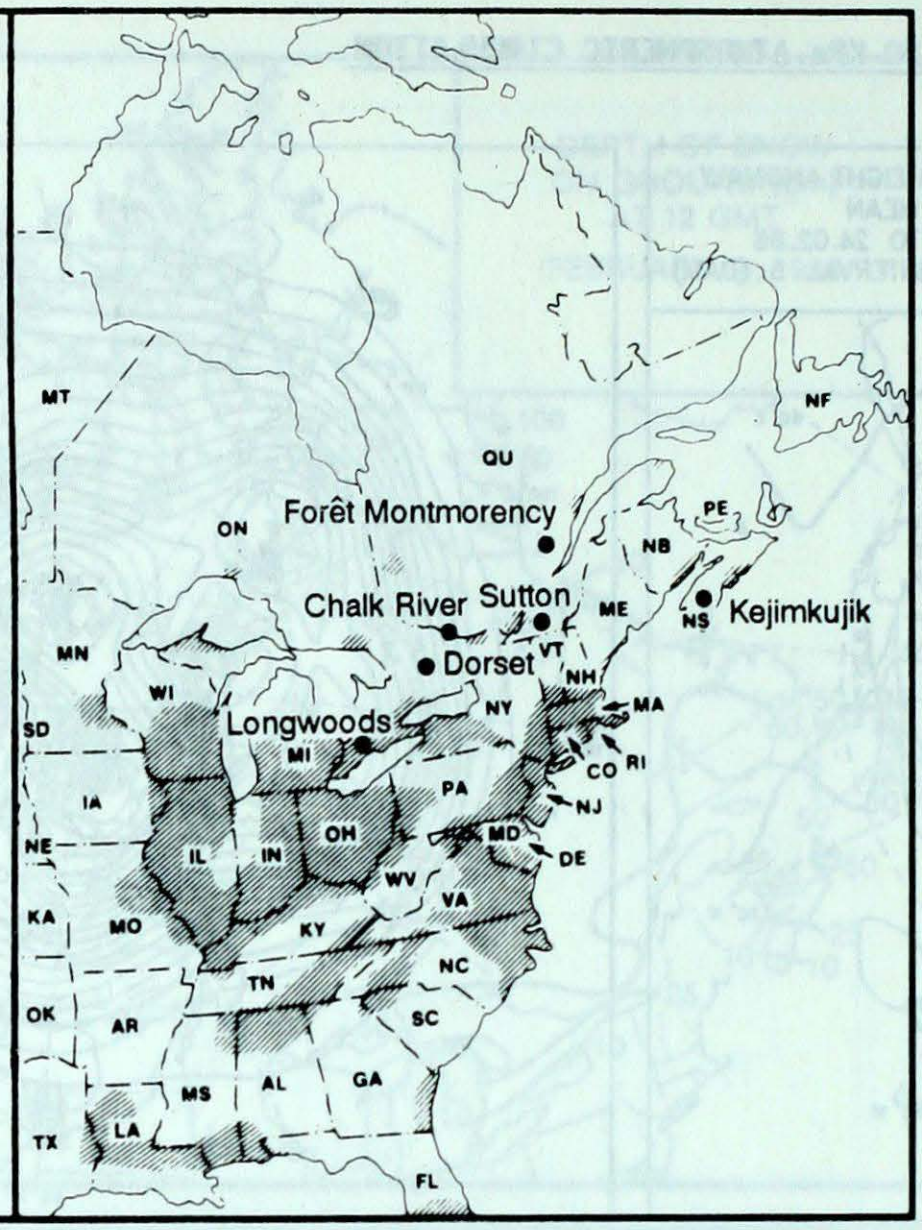


MEAN 50 KPa HEIGHTS (dam)
February 20 to February 24, 1986



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.

FEBRUARY 16, 1986 to FEBRUARY 22, 1986

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	16	4.0	7(m)	Tennessee, Kentucky, Indiana, Ohio
	20	4.1	8(m)	Indiana, Michigan
Dorset	17	4.3	2(m)	Illinois, Indiana, Ohio, Michigan, Southern Ontario
	20	4.4	8(m)	Indiana, Michigan, Southern Ontario
	22	4.5	4(s)	Central and Southern Quebec, New York, Pennsylvania, Southern Ontario
Chalk River	17	4.2	2(s)	Ohio, Pennsylvania, New York, Southern and Central Ontario
	18	3.4	2(m)	Kentucky, Indiana, Ohio, Southern and Central Ontario
	19	3.4	1(m)	Ohio, Southern and Central Ontario
	20	4.3	11(s)	Ohio, Pennsylvania, Southern and Central Ontario
Sutton	17	3.9	2(m)	Georgia, Tennessee, Kentucky, West Virginia, Pennsylvania, New York
	18	4.1	3(m)	Pennsylvania, New York, New England
	20	4.0	11(m)	Pennsylvania, New York
	21	4.4	8(s)	Southern and Central Quebec
Montmorency	17	4.6	1(s)	Southern Ontario, New York, Southern Quebec
	20	5.1	7(s)	New England, Southern Quebec
	21	4.8	3(s)	Pennsylvania, New York, Southern Quebec
Kejimkujik	17	4.7	2(s)	East Coast, New England, Atlantic Ocean
	21	5.4	33(m)	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 FEBRUARY 25,1986

STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
BRITISH COLUMBIA								
CAPE ST.JAMES	0P	-5P	8P	-9P	45	0	130	109
CRANBROOK	-6P	-4P	12P	-24P	3P	31	180	52
FORT NELSON	-22	-7	-8	-35	2	46		*
FORT ST.JOHN	-24P	-13P	-10P	-37P	4P	12	230	74
KAMLOOPS	-8	-8	9	-24	2	23		*
PENTICTON	-4	-6	14	-18	10P	2	200	65
PORT HARDY	-2P	-6P	6P	-11P	58	0	100	74
PRINCE GEORGE	-15	*	8	-35	14P	27	190	50
PRINCE RUPERT	-5P	-8P	9P	-18P	37	0	180	65
REVELSTOKE	-8	-7	1	-19	56	97	360	50
SMITHERS	-17	-13	4	-34	17	0	160	46
VANCOUVER INT'L	1	-4	13	-10	72P	0	290	50
VICTORIA INT'L	-1P	-6P	11P	-9P	90	0		*
WILLIAMS LAKE	-13	*	3	-31	8	32		X
YUKON TERRITORY								
DAWSON	-29	*	-21	-44	1P	40		*
MAYO	-29	-11	-19	-42	1	22		X
SHINGLE POINT A	-25P	1P	-19P	-39P	0	47		*
WATSON LAKE	-28	-11	-13	-44	8	38	080	46
WHITEHORSE	-22	-11	-13	-33	3	22		*
NORTHWEST TERRITORIES								
ALERT	-22	12	-3	-36	2P	20	200	100
BAKER LAKE	-38	-5	-32	-45	1	27	270	46
CAMBRIDGE BAY	-36P	-1P	-20P	-45P	3P	14	310	44
CAPE DYER	-10	14	0	-23	34	110	200	69
CLYDE	-21	7	-8	-37	2P	37		*
COPPERMINE	-29P	*	-18P	-39P	4P	38	350	48
CORAL HARBOUR	-32P	-3P	-24P	-38	2	29		X
EUREKA	-27	11	-15	-39	4	19	150	70
FORT SMITH	-28P	-7P	-14P	-39P	3P	65		X
FROBISHER BAY	-17	9	-3	-30	9	27	150	59
HALL BEACH	-27P	6P	-15P	-38P	3	26	150	76
INUVIK	-28	-1	-18	-45	4P	35		X
MOULD BAY	-36	0	-21	-46	2P	33		X
NORMAN WELLS	-23	2	-16	-36	2P	20		X
RESOLUTE	-26	8	-8	-33	3P	30	110	85
SACHS HARBOUR	-31	-1	-22	-39	1P	8		X
YELLOWKNIFE	-28	-4	-17	-43	4	45		*
ALBERTA								
CALGARY INT'L	-14	-7	13	-38	1P	6	270	69
COLD LAKE	-22	-9	-2	-41	2P	21		*
CORONATION	-22	-10	7	-37	1	13	340	39
EDMONTON NAMAO	-20	-9	6	-33	2	21		*
FORT MCMURRAY	-21	-7	0	-40	2	28		X
HIGH LEVEL	-26	-12	-9	-44	2P	42	150	37
JASPER	-12	-6	4	-31	13P	31		X
LETHBRIDGE	-13	-7	14	-37	0P	9	240	57
MEDICINE HAT	-13P	-5P	9P	-35P	3P	5	230	50
PEACE RIVER	-22	-10	4	-41	5P	19		*
SASKATCHEWAN								
CREE LAKE	-28P	-12P	-10P	-47P	3P	*	180	48
ESTEVAN	-17	-5	3	-34	6	14	210	56
LA RONGE	-23	-9	-9	-41	2P	18	140	33
REGINA	-23P	-10P	-7P	-36P	2	24	150	59
SASKATOON	-23	-9	0	-36	2P	17	180	33
SWIFT CURRENT	-19P	-9P	8P	-33P	0P	0		X
YORKTON	-22	-7	-8	-42	2P	29	150	46
MANITOBA								
BRANDON	-21	-6	-8	-38	2P	22	070	44
CHURCHILL	-30	-5	-18	-39	2P	18	340	31
LYNN LAKE	-28	-10	-15	-42	4P	30	200	39
THE PAS	-23P	*	-11P	-36P	1	20	140	56
THOMPSON	-27	-8	-11	-45	4P	26	220	35
WINNIPEG INT'L	-20	-5	-7	-32	3P	20	170	67
ONTARIO								
ATIKOKAN	-16	-4	-3	-35	22	67	160	31
BIG TROUT LAKE	-25	*	-11	-37	4P	50	150	46
GORE BAY	-8	1	3	-22	7P	18	340	46
KAPUSKASING	-13	2	-2	-34	13	80	310	39
KENORA	-17	-3	-6	-28	6P	0	170	46
KINGSTON	-3P	2P	2P	-10P	0	0		X
LONDON	-2P	2P	4P	-13P	3	8	360	41
MOOSONEE	-17	1	-1	-33	10	129	300	43
NORTH BAY	-9	1	1	-21	13	35	360	56
OTTAWA INT'L	-6	2	2	-18	19	17		X
PETAWAWA	-7	2	1	-26	18	26		X
PICKLE LAKE	-20P	-2P	-8P	-31P	7P	75	180	41
RED LAKE	-20	-5	-7	-32	3P	49	210	50
SUDBURY	-9	2	1	-23	9P	0		X
THUNDER BAY	-13	-1	1	-32	16	50	310	50
TIMMINS	-11P	4P	1P	-29P	8	56	340	37
TORONTO INT'L	-3	2	3	-15	4P	7	350	59
TRENTON	-4	2	4	-17	20	8		X
WIARTON	-5P	1P	2P	-16P	7P	34		X
WINDSOR	-2	0	5	-11	22	8	360	57
QUEBEC								
BAGOTVILLE	-11	2	3	-25	7	30	260	50
BLANC SABLON	-2P	*	4P	-8P	5P	5		X
INUKJUAK	-24	1	-12	-32	11P	30	090	52
KUUJJUAQ	-20P	2P	-1P	-37P	6	70	170	52
KUUJJUARAPIK	-20	2	-7	-32	18	42	170	56
MANIWAKI	-6	5	1	-21	13	39		*
MONT JOLI	-10	-1	2	-22	6	23	160	50
MONTREAL INT'L	-6	2	4	-17	18	16	020	48
NATASHQUAN	-6	5	4	-16	8P	24	290	44
QUEBEC	-8	2	2	-21	17P	72	080	56
SCHEFFERVILLE	-18	2	-5	-34	8P	48	330	52
SEPT-ILES	-9	3	3	-24	9	34	010	54
SHERBROOKE	-5	5	6	-19	21	44		*
VAL D'OR	-11	2	1	-31	11	63	340	52
NEW BRUNSWICK								
CHARLO	-8	3	2	-20	5P	21		*
CHATHAM	-6	2	4	-16	6P	10	010	31
FREDERICTON	-5P	3P	3P	-14	5	13	350	39
MONCTON	-6	2	5	-13	5	15	010	74
SAINT JOHN	-5P	1P	4P	-11P	17	27	010	70
NOVA SCOTIA								
GREENWOOD	-4	1	6	-12	30P	32	030	81
SHEARWATER	-3	1	3	-8	52	16	350	50
SYDNEY	-4	1	3	-16	77	91	040	54
YARMOUTH	-2	0	5	-8	44	1	020	78
PRINCE EDWARD ISLAND								
CHARLOTTETOWN	-6	1	2	-18	23	29	360	61
SUMMERSIDE	-5	2	2	-15	10	26	010	87
NEWFOUNDLAND								
CARTWRIGHT	-5P	7P	1P	-14P	15	95	310	102
CHURCHILL FALLS	-15	5	0	-33	5P	75	300	56
GANDER INT'L	-3	4	2	-14	27	37	300	65
GOOSE	-10P	4P	2P	-24P	8	23	250	37
PORT-AUX-BASQUES	-2	4	4	-9	13	35	310	85
ST JOHN'S	-3P	2P	2P	-11P	15	15	280	93
ST LAWRENCE	-2	3	4	-11	24	54		X
WABUSH LAKE	-16P	5P	-3P	-34P	5	65	280	39

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