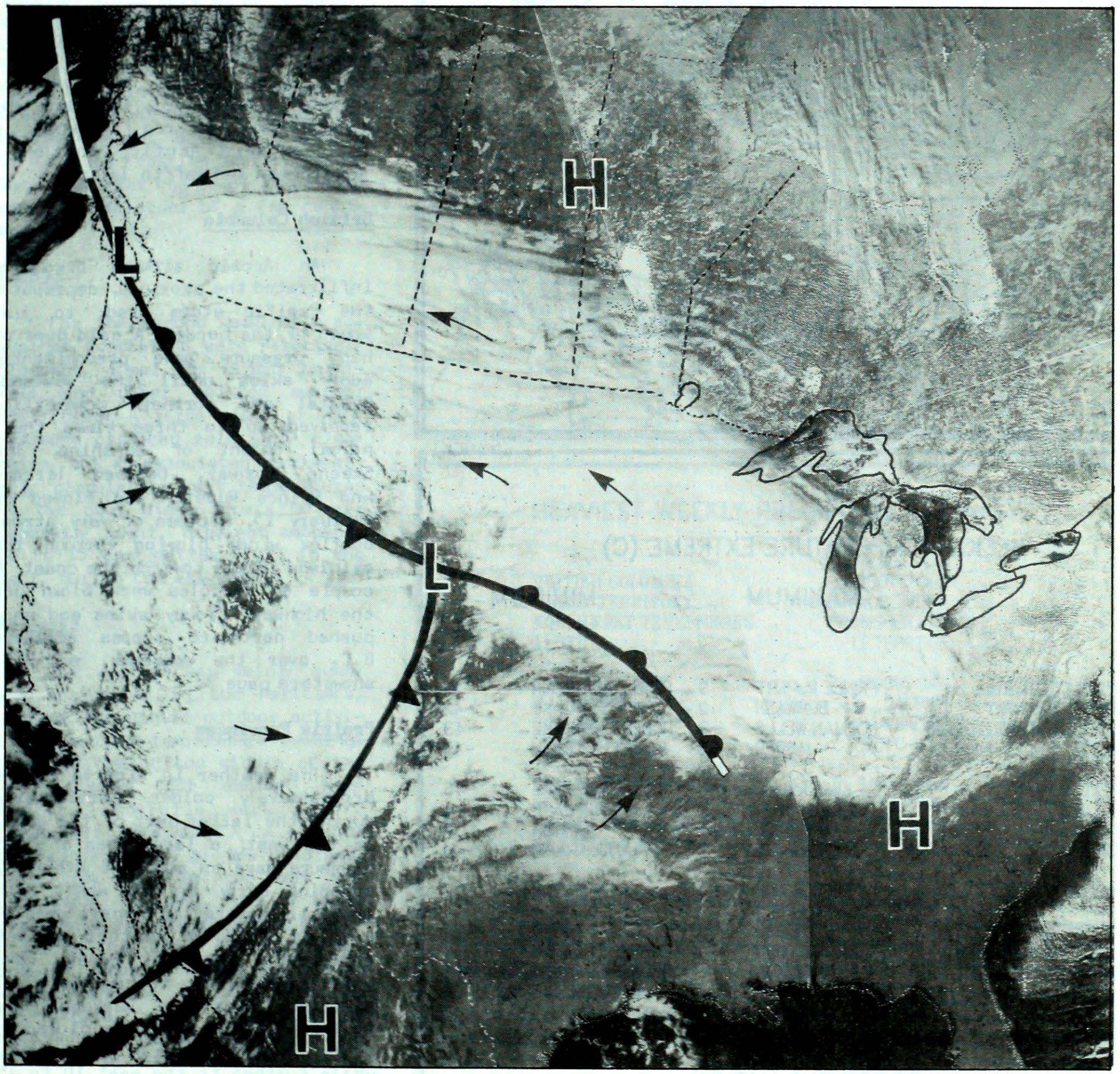
Climatic Perspectives

A weekly review of Canadian climate | February 11 to 17, 1986 | Vol.8 No.7



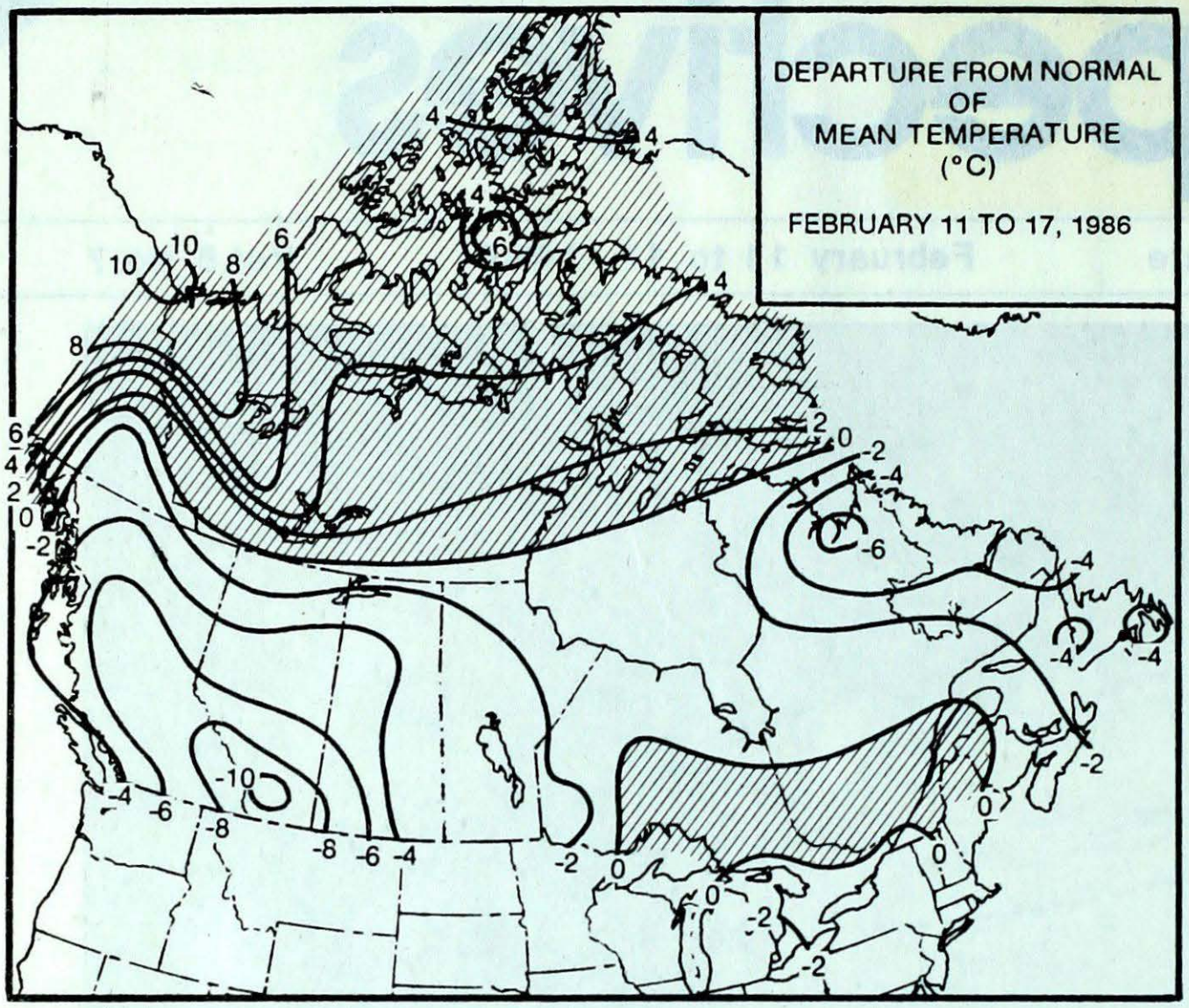
This NOAA 9 satellite photo taken on the afternoon of February 15, 1986 shows a complex storm systems affecting much of the western United States and the southern portions of western Canada. For more information see page 3.

• *Major winter storms lambast East and West Coasts*

- wind gusts to 145 km/h in Newfoundland
- as much as 45cm of snow in B.C.

Canada

TEMPERATURE



WEEKLY TEMPERATURE EXTREME (C)

		MAXIMUM		MINIMUM	
BRITISH COLUMBIA	PRINCE RUPERT	9	PUNTZI MOUNTAIN	−41
YUKON TERRITORY	BURWASH	2	WATSON LAKE	−42
NORTHWEST TERRITORIES	NORMAN WELLS	−2	ROBERTSON LAKE	−43
ALBERTA	JASPER	−3	FORT CHIPEWYAN	−42
SASKATCHEWAN	KINDERSLEY	−6	CREE LAKE	−46
MANITOBA	WINNIPEG INT'L	−7	LYNN LAKE	−44
ONTARIO	GODERICH	1	WINISK	−37
QUEBEC	SHERBROOKE	−2	KUUJJUARAPIK	−41
NEW BRUNSWICK	FREDERICTON	−1	FREDERICTON	−22
	ST STEPHEN			
NOVA SCOTIA	TRURO	1	TRURO	−20
PRINCE EDWARD ISLAND	CHARLOTTETOWN	−1	CHARLOTTETOWN	−16
NEWFOUNDLAND	ARGENTIA	5	CHURCHILL FALLS	−33
	ST JOHN'S		WABUSH LAKE	

ACROSS THE NATION

WARMEST MEAN TEMPERATURE	2	ABBOTSFORD BC
		VANCOUVER INT'L BC
COOLEST MEAN TEMPERATURE	−36	EUREKA NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

After the middle of the week a strong northerly flow cooled temperatures down dramatically in the Yukon and Northwest Territories. Temperatures plunged from record daily high values in the Mackenzie District on February 13, to the mid minus forties by the end of the week. Even though temperatures averaged above normal, blizzards and blowing snow occurred frequently in the southern Arctic, Northwest Territories and Baffin Island.

British Columbia

An Arctic airmass gradually infiltrated the province, depressing the Pacific storm track to just south of the border. A cold dome of high pressure gave predominantly sunny skies until the weekend. Coastal and northern communities received up to three times their normal amount of sunshine. The Skeena Highway, between Terrace and Prince Rupert, was closed on February 15, because of very strong outflow winds blowing through the mainland inlets towards the coast. A couple of vehicles were blown off the highway. Cloudy skies and snow pushed northward across southern B.C. over the weekend. See B.C. snowstorm page 3.

Prairie Provinces

The weather in Alberta became progressively colder, particularly during the latter part of the week. In the east, a large area of high pressure gave an abundant amount of sunshine early in the week, with gradually moderating temperatures. A complex Pacific weather system approaching the west coast, gave heavy snowfalls to agricultural districts over the weekend. The southern Alberta foothills picked up 15 to 35 centimetres of fresh snow, while further to the east 10 to 15 centimetres was more common. Strong winds caused heavy drifting and blowing snow. In the north, bitterly cold Arctic air kept a firm grip. Several minimum temperature records were broken, when readings plunged to the minus forties.

PRECIPITATION

Ontario

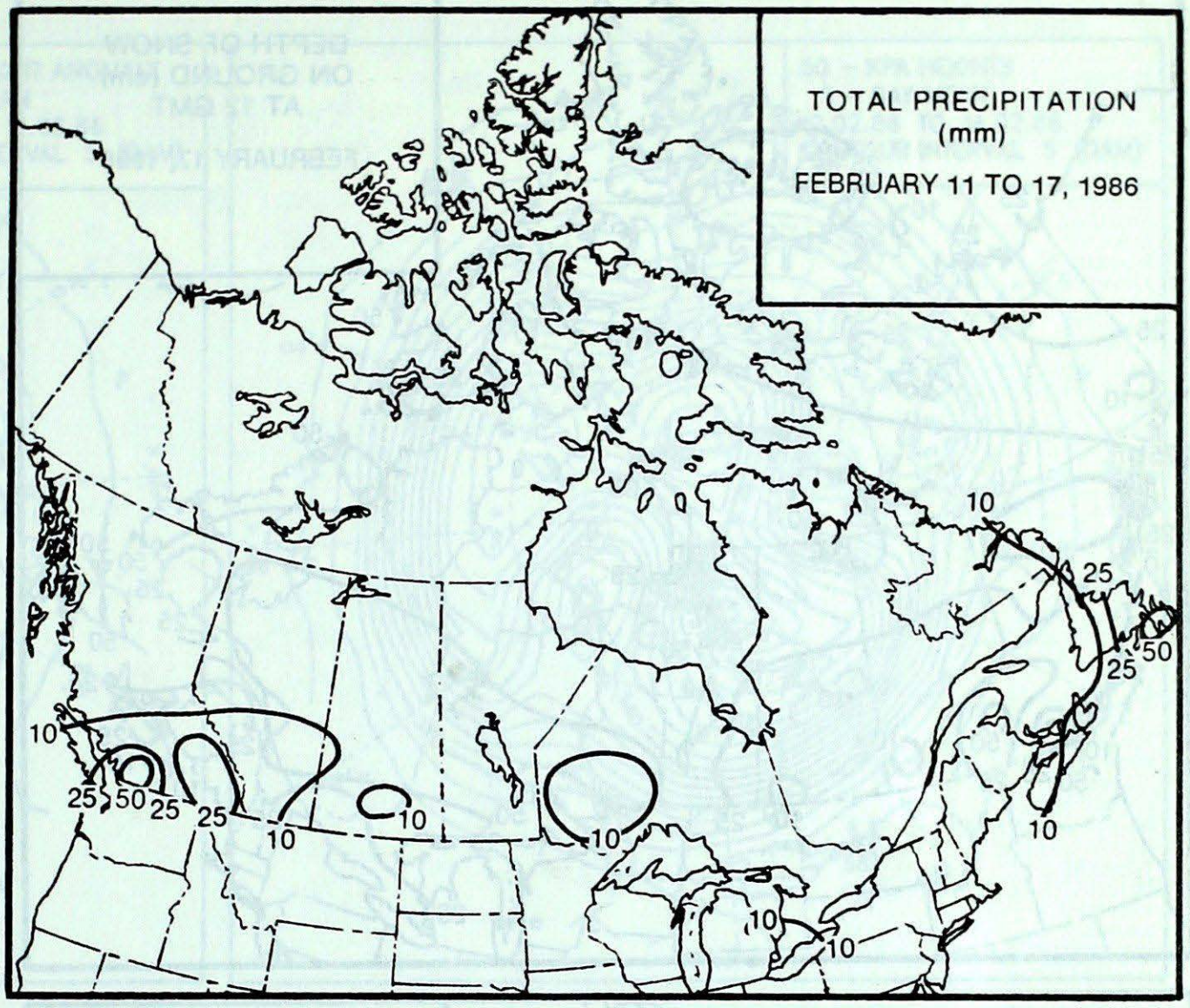
High pressure generally dominanted the weather scene, and the week was frequently sunny but cold. Northwesterly winds blowing across the relatively warm open waters of the Great Lakes triggered snow squalls, which left 10 to 20 centimetres of snow in the snow belt, otherwise snowfalls through most of the week were light. A complex frontal disturbance approached the Great Lakes during the latter half of the weekend, bringing a mixture of snow and freezing precipitation. Snowfalls near the lower lakes were only in the order of a few centimetres.

Quebec

For the second week in a row weather conditions were relatively pleasant, ideal for winter carnivals and other related outdoor activities. A large ridge of high pressure produced relatively clear skies, but an associated northwesterly circulation kept temperatures on the cool side. Snowfalls were generally light, heaviest amounts, 10 to 15 centimetres, fell in the east, during the weekend.

Atlantic

The weather was mainly sunny and seasonable in the Maritimes, perfect for winter outdoor activities. Coldest temperature readings occurred during the middle of the week. Except for eastern Nova Scotia, snowfalls were light. Shearwater received 13 cm of snow on February 15. In Newfoundland, the first part of the week was seasonably pleasant, but a major storm gave atrocious weather conditions to the Island over the weekend. On January 16 snow and strong winds, gusting to 145 km/h at Twillingate, raged over much of Newfoundland. Gander received 45 cm of snow. At St. John's 38 mm of rain was recorded in addition to a 17 cm snowfall. Flooding was a problem in many parts of the city. In rural areas, the blowing snow reduced the visibility to zero. The storm brushed by Labrador on February 17, otherwise the weather in Labrador was bascially fair.



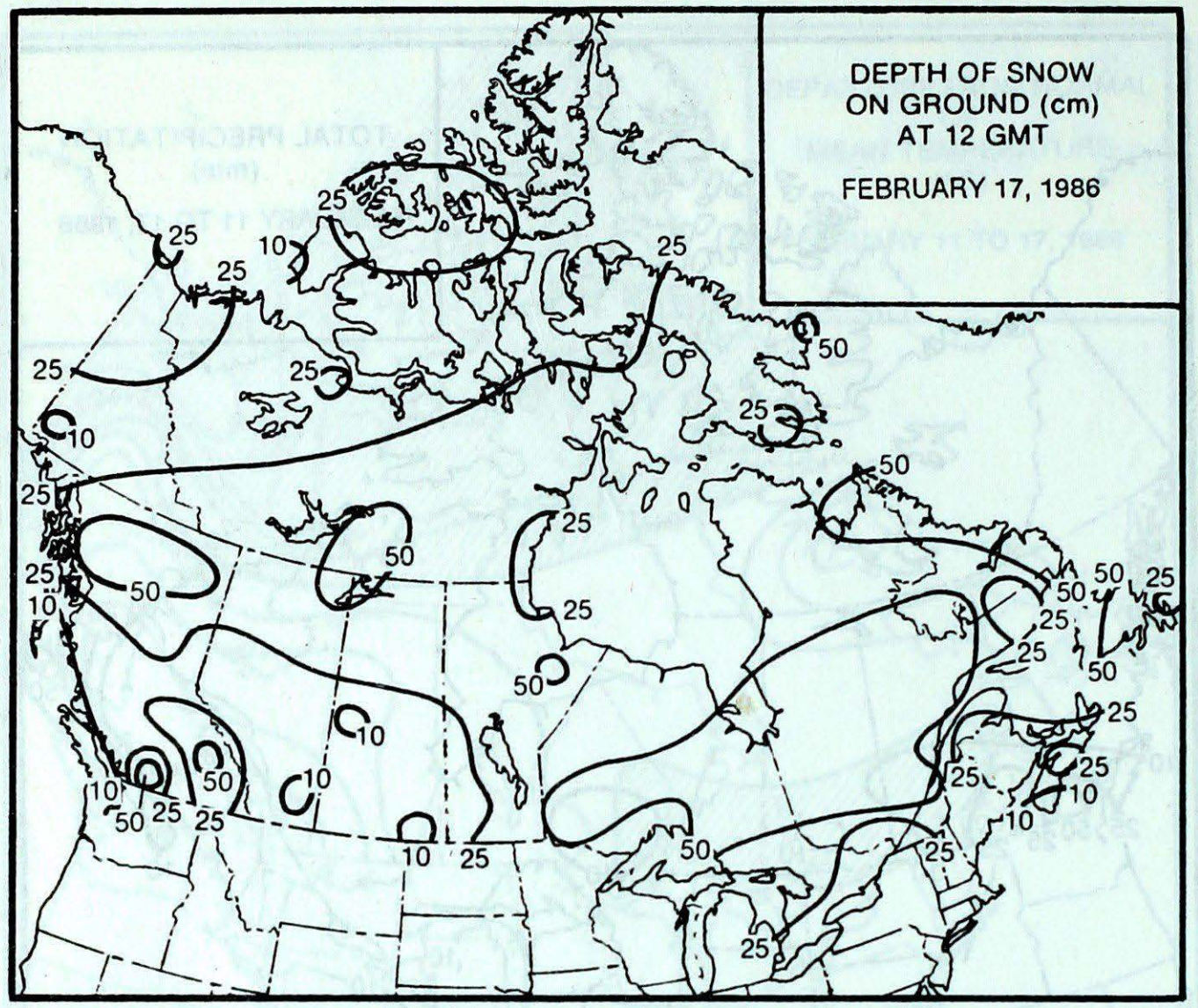
HEAVIEST WEEKLY PRECIPITATION (mm)

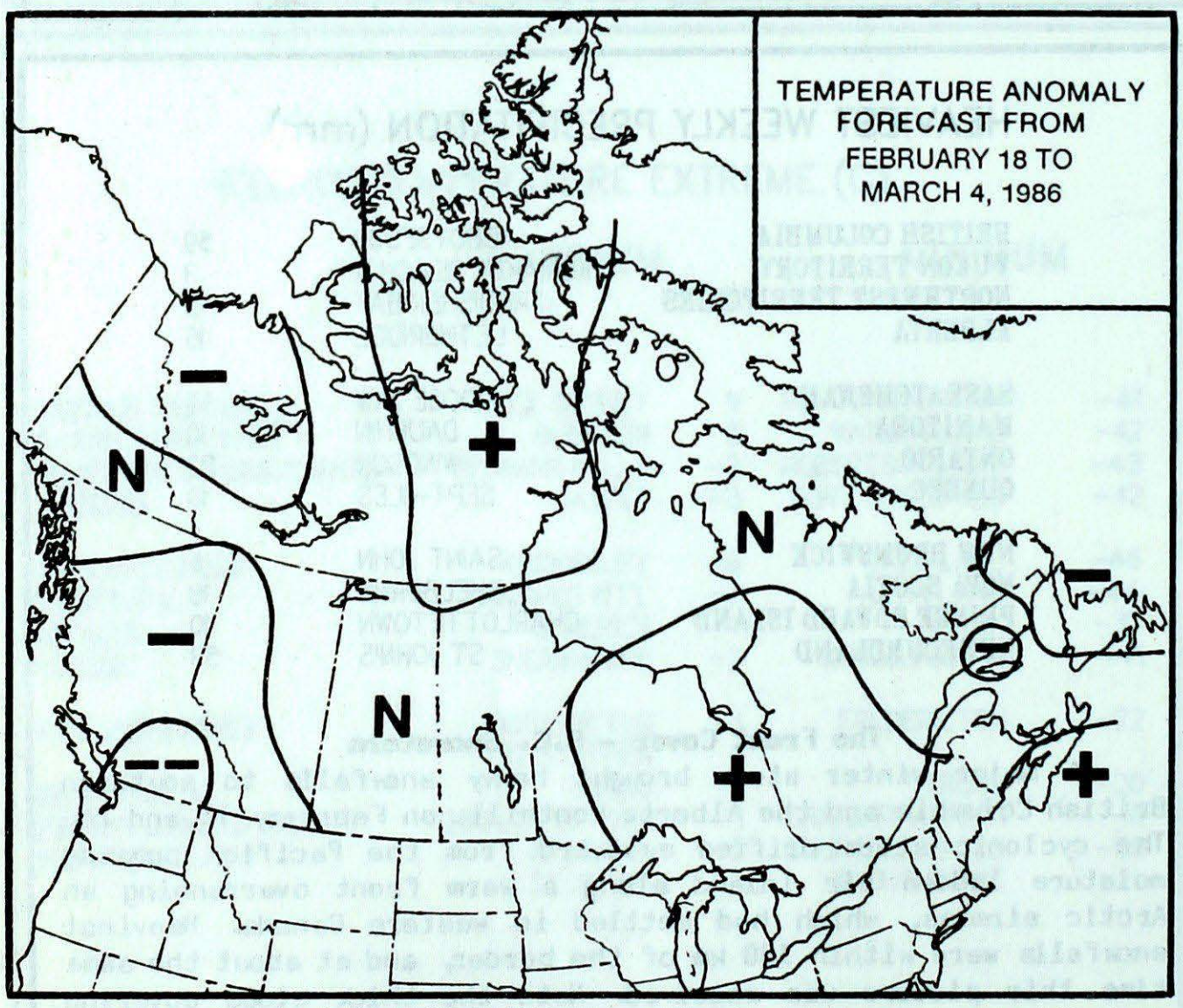
BRITISH COLUMBIA	ABBOTSFORD	59
YUKON TERRITORY	KOMAKUK BEACH A	3
NORTHWEST TERRITORIES	FROBISHER BAY	15
ALBERTA	LETHBRIDGE	15
SASKATCHEWAN	MOOSE JAW	14
MANITOBA	DAUPHIN	10
ONTARIO	WINDSOR	22
QUEBEC	SEPT-ILES	10
NEW BRUNSWICK	SAINT JOHN	6
NOVA SCOTIA	SHELBURNE	18
PRINCE EDWARD ISLAND	CHARLOTTETOWN	10
NEWFOUNDLAND	ST JOHN'S	53

The Front Cover - B.C. Snowstorm

A major winter storm brought heavy snowfalls to southern British Columbia and the Alberta foothills on February 15 and 16. The cyclonic storm drifted eastward from the Pacific, pumping moisture ladden air inland along a warm front overrunning an Arctic airmass, which had settled in western Canada. Heaviest snowfalls were within 300 km of the border, and at about the same time this picture was received. Note the thick cloud covering southwestern Canada. Victoria and Vancouver received 23 and 17 centimetres of snow, respectively. Elsewhere, Hope in the Frazer Valley had to dig out from a astonishing 72 cm snowfall over the weekend; in addition, outflow winds pile snow drifts two metres high. Mountain passes received falls of 40 to 50 cm, while in the valleys 15 to 30 centimetre was common. Castlegar in the Kootenays received 24 cm of snow. Many highways were closed due to avalanches and avalanche control measures.

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

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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
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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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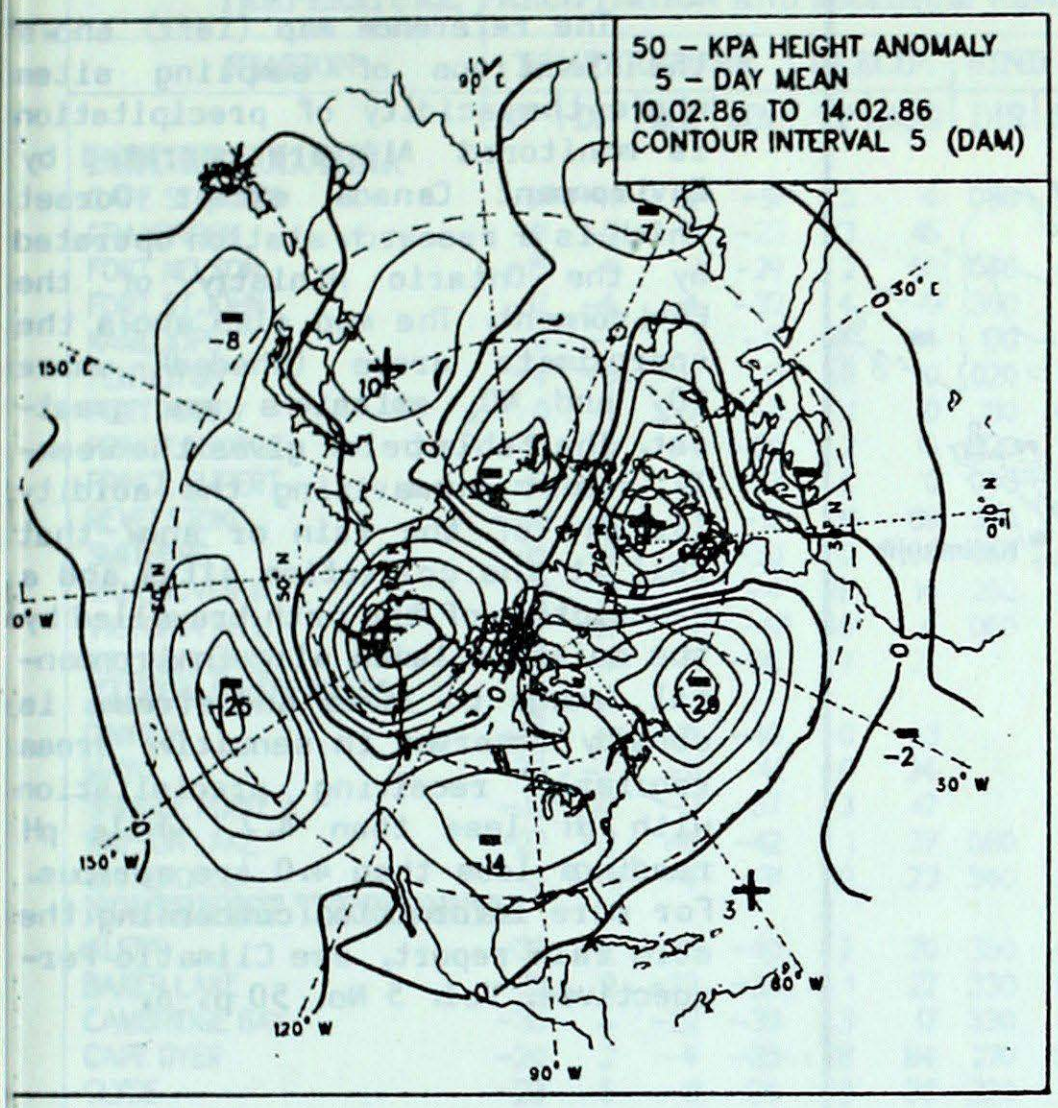
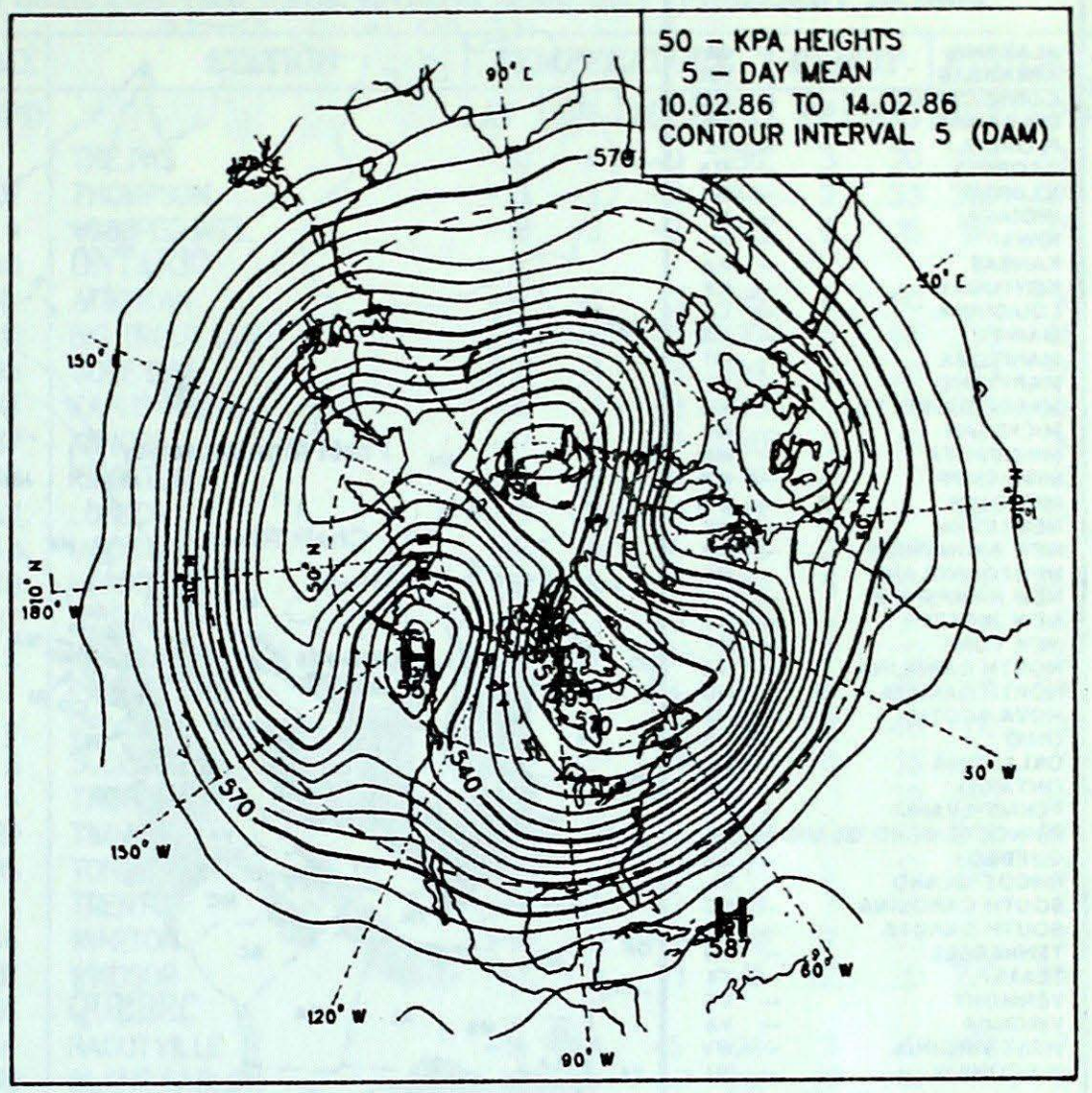
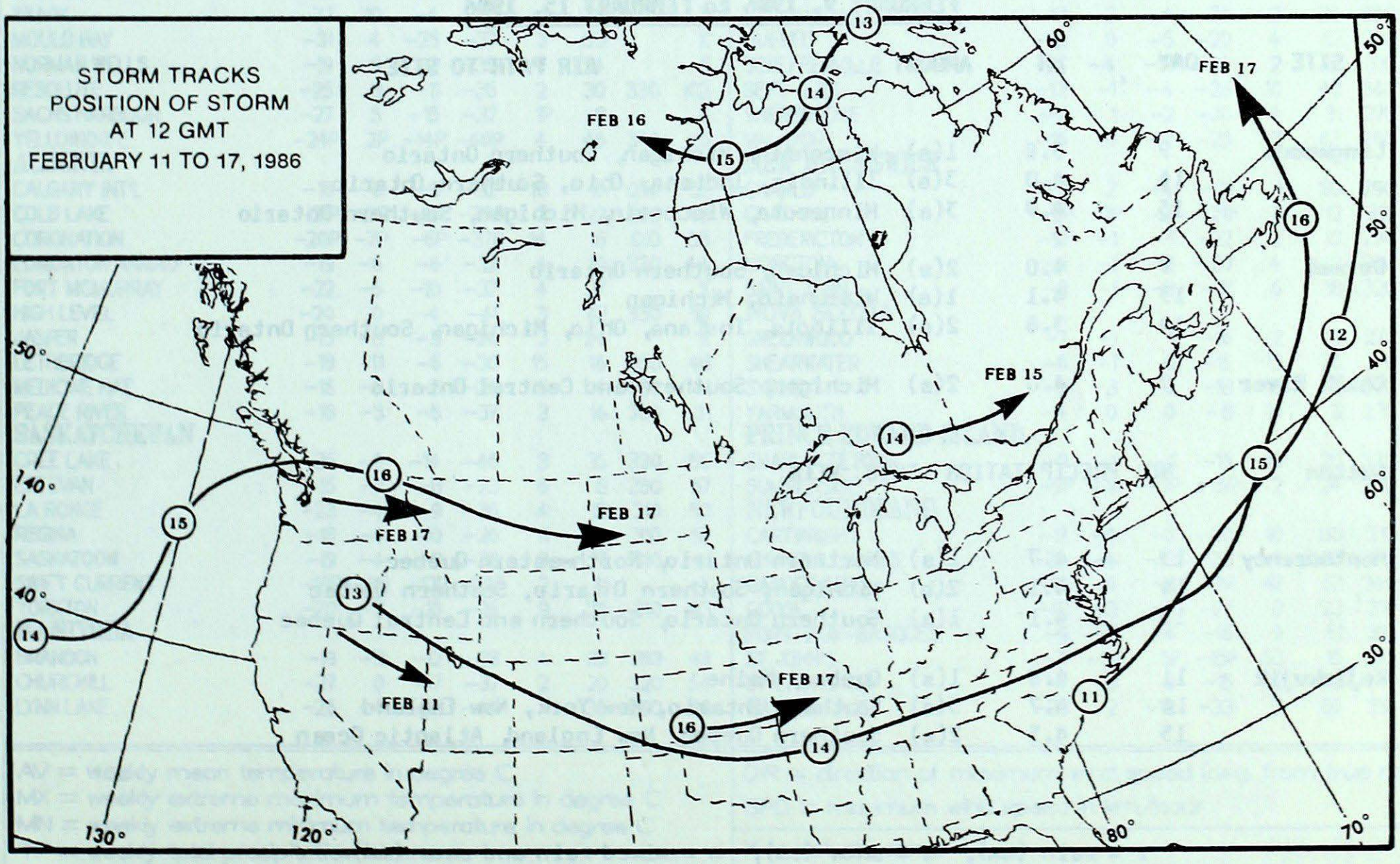
50 KPa ATMOSPHERIC CIRCULATION



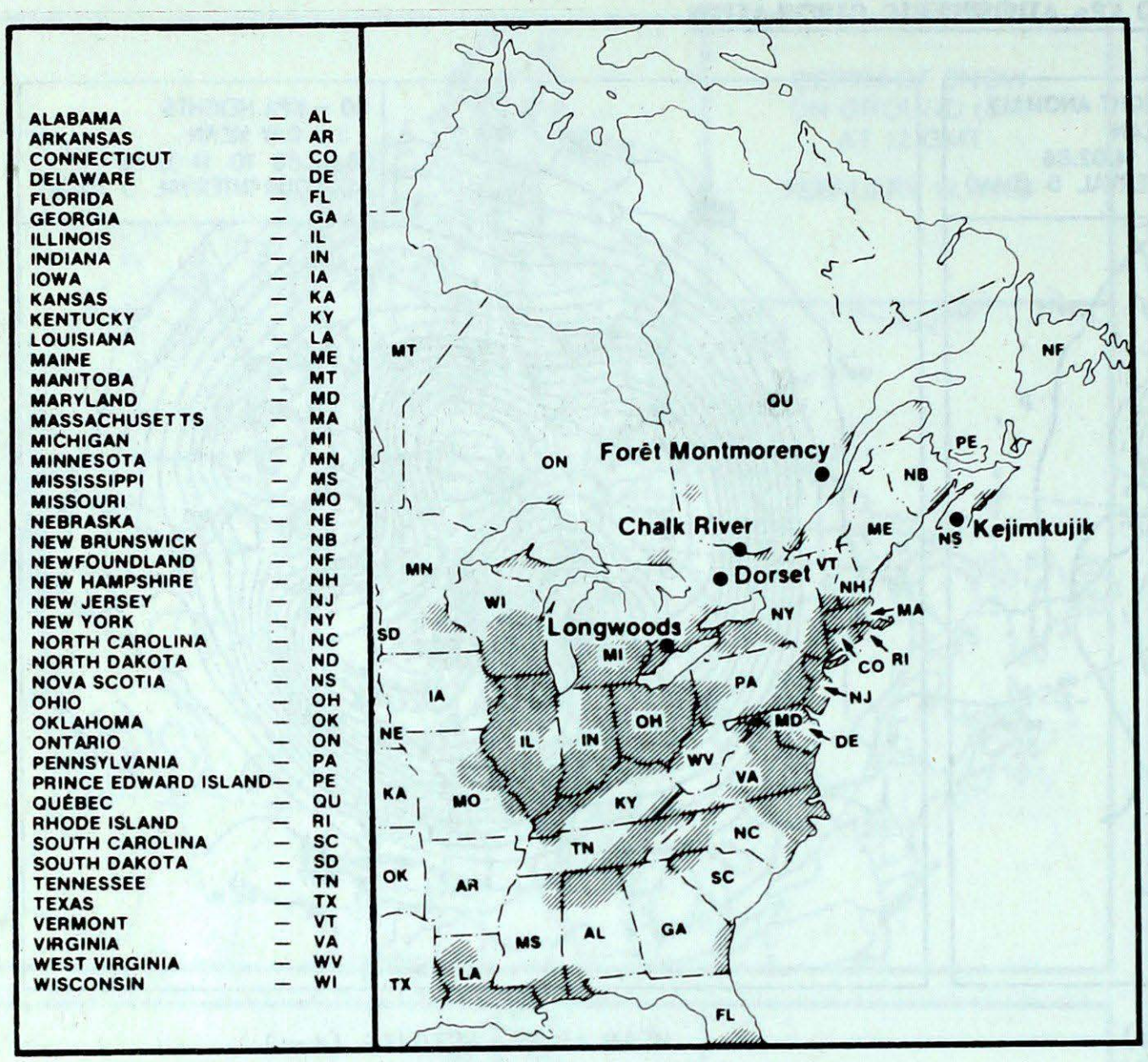
MEAN 50 KPa HEIGHT ANOMALY (dam)
February 10 to February 14, 1986



MEAN 50 KPa HEIGHTS (dam)
February 10 to February 14, 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.

FEBRUARY 9, 1986 to FEBRUARY 15, 1986

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	9	3.8	1(s)	Wisconsin, Michigan, Southern Ontario
	14	4.0	3(s)	Illinois, Indiana, Ohio, Southern Ontario
	15	4.9	3(s)	Minnesota, Wisconsin, Michigan, Southern Ontario
Dorset	9	4.0	2(s)	Michigan, Southern Ontario
	13	4.1	1(s)	Wisconsin, Michigan
	14	3.8	2(s)	Illinois, Indiana, Ohio, Michigan, Southern Ontario
Chalk River	9	4.0	2(s)	Michigan, Southern and Central Ontario
Sutton	NO PRECIPITATION THIS WEEK			
Montmorency	13	4.7	1(s)	Northern Ontario, Northwestern Quebec
	14	4.1	2(s)	Michigan, Southern Ontario, Southern Quebec
	15	4.1	1(s)	Southern Ontario, Southern and Central Quebec
Kejimkujik	11	4.6	1(s)	Quebec, Maine
	14	4.7	3(s)	Southern Ontario, New York, New England
	15	4.5	2(s)	Southern Quebec, 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 FEBRUARY 18,1986

STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
BRITISH COLUMBIA								
CAPE ST.JAMES	0P	-4P	8P	-9P	5	4	030	107
CRANBROOK	-11	-8	-2	-23	33	45		*
FORT NELSON	-15	4	1	-29	2	50	040	48
FORT ST.JOHN	-17	-4	-4	-32	4	9	360	41
KAMLOOPS	-8	-7	1	-17	14	14	170	41
PENTICTON	-4	-5	4	-13	11	10	020	33
PORT HARDY	0	-4	7	-8	1	0	110	44
PRINCE GEORGE	-14	*	-1	-29	2	16	020	67
PRINCE RUPERT	-3	-5	9	-13	0	0	040	48
REVELSTOKE	-8	-6	1	-18	31	89	350	63
SMITHERS	-15	-9	-2	-30	0	24	160	43
VANCOUVER INT'L	2	-3	8	-4	28	14	250	48
VICTORIA INT'L	2P	-3P	6P	-4P	46	4	060	37
WILLIAMS LAKE	-15	*	-5	-26	7	27		X
YUKON TERRITORY								
DAWSON	-25	*	-15	-40	0	43		*
MAYO	-23	-2	-11	-41	0	24		X
SHINGLE POINT A	-19	10	-2	-37	3	47		*
WATSON LAKE	-22	-3	-6	-42	1	37	080	39
WHITEHORSE	-15	-1	-4	-31	0	23	340	35
NORTHWEST TERRITORIES								
ALERT	-32	2	-25	-40	2	20	350	46
BAKER LAKE	-31	2	-23	-38	1	27	330	87
CAMBRIDGE BAY	-30	4	-22	-39	3	17	330	65
CAPE DYER	-20	2	-4	-35	8	84	270	54
CLYDE	-23	5	-11	-34	9	30	320	70
COPPERMINE	-25	*	-13	-42	2	35	340	70
CORAL HARBOUR	-29	1	-21	-36	2	28		X
EUREKA	-36	2	-26	-42	2	17	310	70
FORT SMITH	-25	-1	-13	-41	3	65		X
FROBISHER BAY	-24	3	-7	-35	15	22	340	74
HALL BEACH	-29P	4P	-21P	-37P	2	23	090	61
INUVIK	-22	10	-4	-41	1	35		X
MOULD BAY	-31	4	-25	-37	3	33		X
NORMAN WELLS	-19	9	-2	-35	7	24		X
RESOLUTE	-25	8	-11	-36	2	30	330	102
SACHS HARBOUR	-27	5	-15	-37	1P	8		X
YELLOWKNIFE	-24P	2P	-14P	-40P	4	46	340	46
ALBERTA								
CALGARY INT'L	-16	-8	-5	-32	10	10	050	52
COLD LAKE	-21P	-5P	-8P	-35P	3	22	320	48
CORONATION	-20P	-7P	-6P	-37P	14	16	010	56
EDMONTON NAMAO	-19	-6	-6	-32	4	19	330	44
FORT MCMURRAY	-22	-5	-10	-37	4	27		X
HIGH LEVEL	-20	0	-4	-41	3	42	330	59
JASPER	-15	-8	-3	-26	3	24		X
LETHBRIDGE	-18	-11	-6	-30	15	16	050	48
MEDICINE HAT	-16	-8	-5	-26	5	4	080	41
PEACE RIVER	-18	-3	-5	-37	3	16	360	31
SASKATCHEWAN								
CREE LAKE	-26	-4	-14	-46	3	35	330	56
ESTEVAN	-15	-3	-8	-23	6	8	280	57
LA RONGE	-23	-4	-9	-36	4	18	310	50
REGINA	-18	-4	-10	-26	11	23	310	57
SASKATOON	-19	-4	-9	-30	8	17	310	41
SWIFT CURRENT	-18P	-8P	-12P	-29P	2	11		X
YORKTON	-20	-3	-10	-26	9	29	310	43
MANITOBA								
BRANDON	-19	-3	-12	-28	4	22	260	48
CHURCHILL	-27	0	-17	-37	2	20	320	54
LYNN LAKE	-26	-4	-13	-44	1	36	290	46
THE PAS	-20	*	-9	-30	3	20	340	52
THOMPSON	-25	-3	-9	-44	2	33	320	37
WINNIPEG INT'L	-18	-3	-7	-31	6	15	160	37
ONTARIO								
ATIKOKAN	-16	-1	-3	-35	*	50		*
BIG TROUT LAKE	-21	*	-11	-37	9	44	330	41
GORE BAY	-11	-1	-3	-24	2	20	260	37
KAPUSKASING	-16	1	-3	-28	4	77	250	50
KENORA	-17	-3	-5	-28	3	51		*
KINGSTON	-10	0	-4	-19	0	0		X
LONDON	-9	-2	0	-18	15	24	240	39
MOOSONEE	-19	0	-4	-33	2	117		*
NORTH BAY	-12	0	-5	-20	5	35	240	44
OTTAWA INT'L	-10	1	-3	-18	4	16		X
PETAWAWA	-12P	1P	-3P	-27P	4	12		X
PICKLE LAKE	-19	0	-4	-34	14	65	270	39
RED LAKE	-19	-2	-5	-33	12	48	310	39
SUDBURY	-12P	0P	-4P	-24P	0	35		X
THUNDER BAY	-12	1	-2	-26	1	38	280	39
TIMMINS	-15P	1P	-2	-30P	2	60	240	37
TORONTO INT'L	-8	-2	-1	-17	5	13	260	52
TRENTON	-9	-2	-2	-20	7	14		X
WIARTON	-9P	-1P	-4P	-21P	17	53		X
WINDSOR	-7	-3	1	-15	22	20	220	39
QUEBEC								
BAGOTVILLE	-14	1	-5	-24	3	29	280	37
BLANC SABLON	-16P	*	-4P	-29P	8P	16		X
INUKJUAK	-27	-2	-18	-36	2	29	290	33
KUUJJUAQ	-29P	-6P	-19P	-40P	1	65	270	41
KUUJJUARAPIK	-25	-2	-14	-41	3	39	130	48
MANIWAKI	-13	0	-4	-25	3	25		*
MONT JOLI	-11	0	-5	-18	8	23	310	56
MONTREAL INT'L	-10	-1	-5	-21	4	17	240	43
NATASHQUAN	-13	-2	-4	-24	3	24	280	39
QUEBEC	-12	0	-5	-20	4	62	250	46
SCHEFFERVILLE	-25	-4	-17	-34	2	42	310	37
SEPT-ILES	-13	-1	-4	-26	10	40	340	43
SHERBROOKE	-11	1	-2	-20	4	31	270	35
VAL D'OR	-16	0	-4	-25	3	63	280	41
NEW BRUNSWICK								
CHARLO	-11	2	-4	-21	1	20	290	33
CHATHAM	-9P	0P	-2P	-21P	2	12	310	39
FREDERICTON	-10	-1	-1	-22	2	10	290	44
MONCTON	-9	-1	-3	-20	4	9	280	44
SAINT JOHN	-9	-1	-2	-21	6	18	320	44
NOVA SCOTIA								
GREENWOOD	-7	-1	1	-16	2	13	270	59
SHEARWATER	-6	-1	0	-15	13	26	310	48
SYDNEY	-9	-3	0	-18	15	38	340	70
YARMOUTH	-4	0	0	-8	10	3	330	57
PRINCE EDWARD ISLAND								
CHARLOTTETOWN	-9	-1	-1	-16	10	20	330	46
SUMMERSIDE	-9P	-1P	-3P	-16P	2	24	290	52
NEWFOUNDLAND								
CARTWRIGHT	-17	-4	-5	-30	18	80	310	93
CHURCHILL FALLS	-24	-4	-13	-33	1	73	290	61
GANDER INT'L	-10	-4	-1	-19	47	52	340	94
GOOSE	-18	-3	-7	-27	0	23	310	74
PORT-AUX-BASQUES	-9	-3	-4	-16	9	61	310	102
ST JOHN'S	-7P	-3P	5P	-15P	53	15	270	111
ST LAWRENCE	-7	-3	0	-15	43	48		X
WABUSH LAKE	-23	-2	-13	-33	3	66	310	31

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