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Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

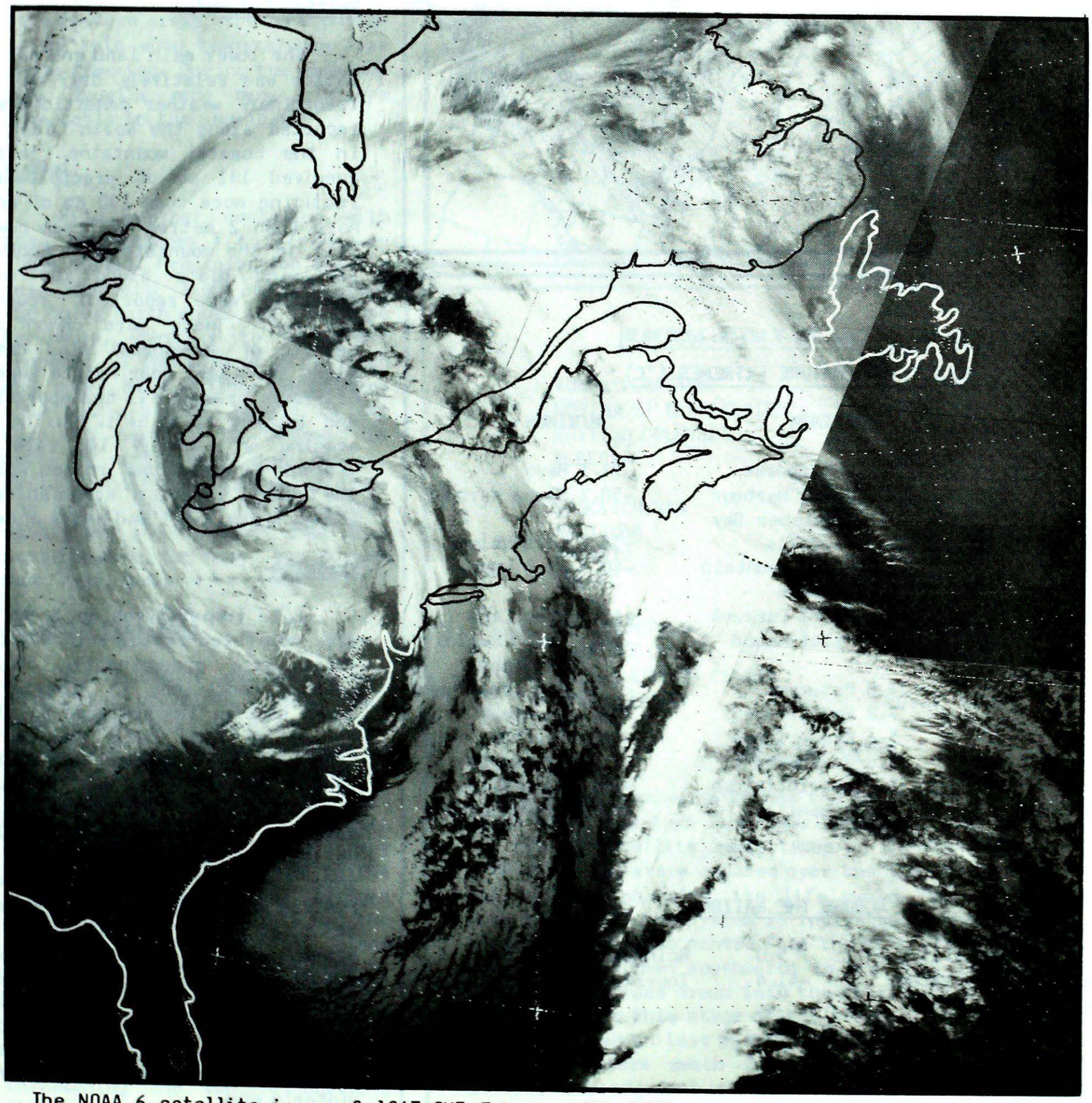
MONTHLY SUPPLEMENT INCLUDED

For the period February 12 to 18, 1985

Vol.7 NO.7

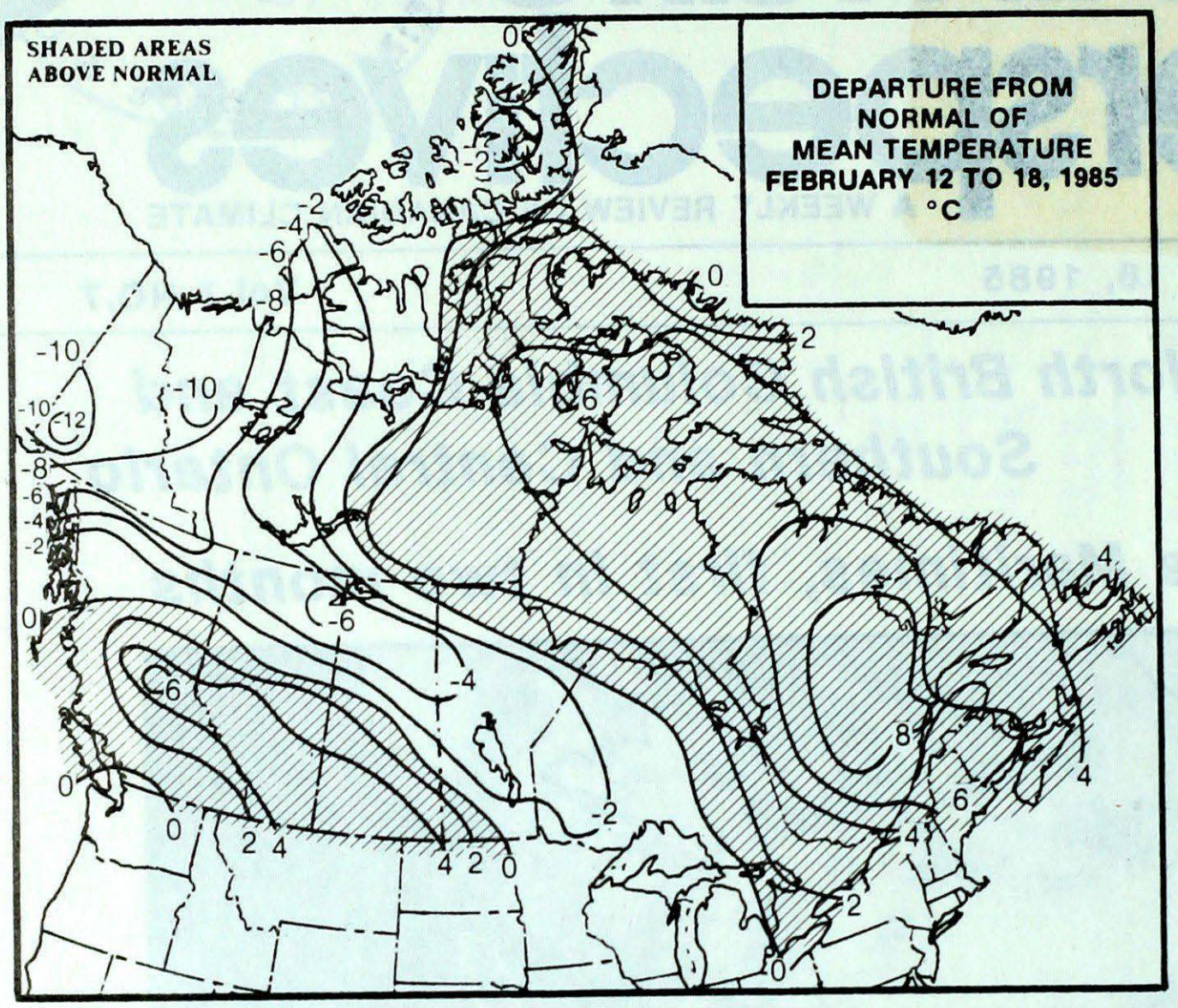
• Major storms hit North British Columbia Coast and Southern and Central Ontario

• Heavy rains deluge Maritimes, first in two months



The NOAA 6 satellite image of 1247 GMT February 13, 1985 shows the same storm depicted on last week's cover, but at a late stage of its life. For more details see page 3.

Canada



WEEKLY TEMPERATURE EXTREMES (°C)

	MAXIMUM		MINIMUM	
YUKON TERRITORY	- 5.2	Whitehorse	-51.1	Mayo
NORTHWEST TERRITORIES	-12.5	Coral Harbour Frobisher Bay	-50.2	Sachs Harbour
BRITISH COLUMBIA	12.5	Victoria	-35.2	Fort Nelson
ALBERTA	15.6	Rocky Mountain House	-40.6	High Level
SASKATCHEWAN	6.5	Swift Current	-42.3	Cree Lake
MANITOBA	- 2.3	Pilot Maund	-38.3	Grand Rapids Thompson
ONTARIO	3.8	Petawawa	-35.3	Big Trout Lake
QUÉBEC	7.8	Sherbrooke	-32.6	Inukjuak
NEW BRUNSWICK	5.6	Fredericton	-14.5	Chatham
NOVA SCOTIA	8.6	Greenwood	-11.6	Greenwood
PRINCE EDWARD ISLAND	5.5	Charlottetown	-15.1	Summerside
NEWFOUNDLAND	9.6	Argentia	-27.5	Wabush Lake

ACROSS THE NATION

Warmest mean temperature	5.0	McInnes Island, BC
Coolest mean temperature	-41.4	Inuvik, NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

Temperatures were 10° below seasonal values in the Yukon, but above normal in the East. At several locations readings plummetted to the minus fifties. Up to 20 cm of snow fell in the Mackenzie District. Once again travellers advisories were issued for the Haines and Dempster Highways due to high wind chills and blowing snow.

British Columbia

The lower main land and the interior was relatively dry, but extraordinary weather conditions were reported along the North Coast and in the coastal mountains. Terrace received 181 mm of precipitation, including more than 100 cm of snow. More than 2 metres of fresh powder fell in the mountains. On February 12, wind gusts along the outer coastline were reportedly reaching 160 km/h. There were unconfirmed reports of widespread wind damage along the coast near Prince Rupert. Blizzards brought all transportation and logging to a halt. During the evening on February 14, rare but violent thunderstorms rolled across the central interior, accompanied by strong winds, hail and heavy snow.

Prairies

Cold temperatures early in the week moderated rapidly. In the East skies were predominantly cloudy. Chinook conditions in Alberta allowed daytime temperatures to climb to record high daily values. On February 13, a minimum temperature record of -23° was set at Rocky Mountain House. In contrast, the next day the mercury soared to 16°. On the evening of February 14, severe thunderstorms hit the Grand Prairie district, a highly unusual event at this time of year. The storms caused considerable wind damage and were accompanied by heavy snow and blowing snow. Biologists fear that due to a heavy snowcover in central Alberta a large number of deer may starve to death before winter's end.

Ontario

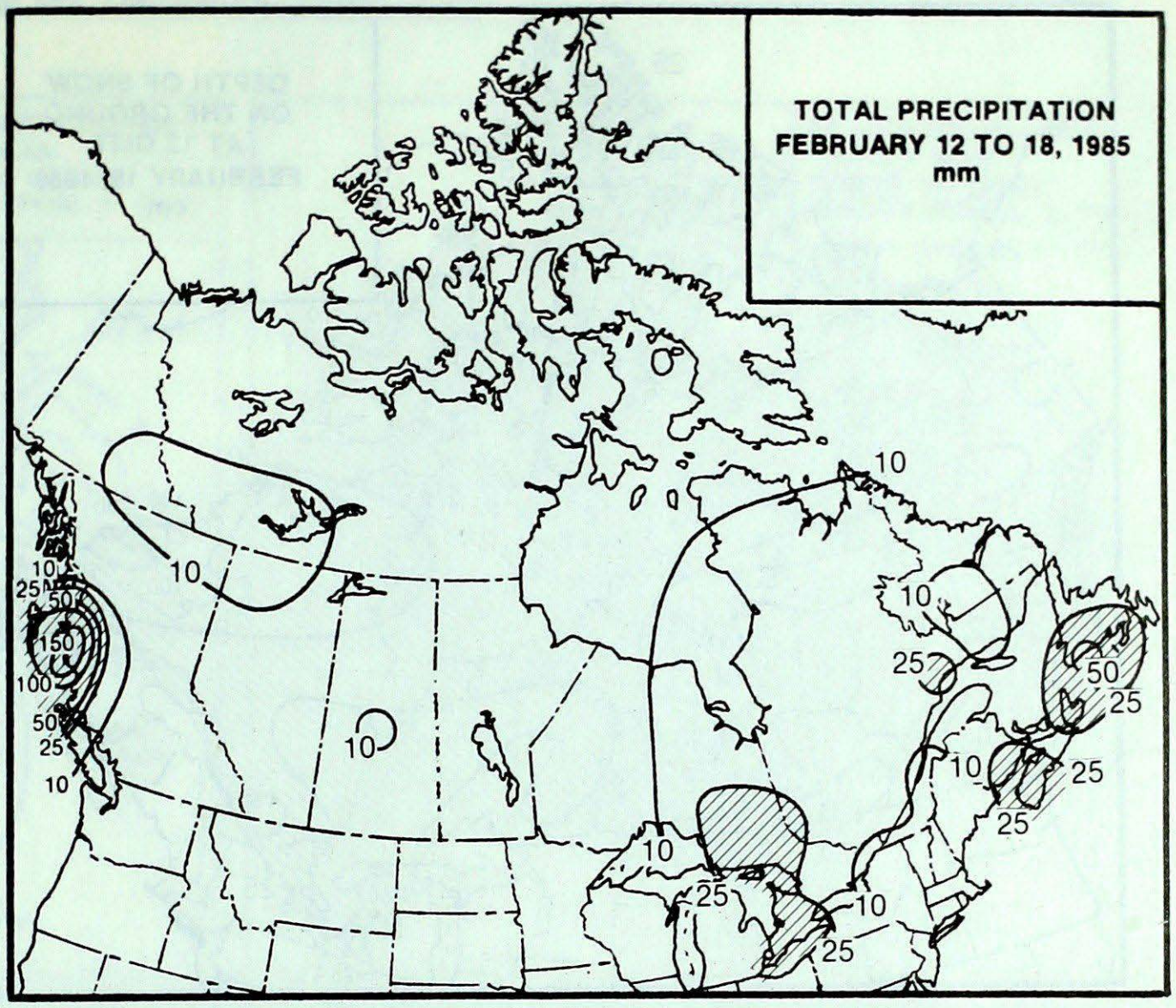
Snowfalls occurred frequently in the southern half of the Province. Temperatures fell to below normal values by the weekend, but averaged near normal for the week. A major winter storm tracked out of the American mid-west on February 12, bringing heavy snow to a large portion of the Province. Many 24-hour precipitation records were broken in southern and central districts. Heaviest snowfalls occurred in southwestern and central Ontario, ranging between 30 and 50 centimetres over a 3-day period. In more eastern areas, the snow changed to rain when temperatures rose above freezing. During the weekend, snow squalls made many highways impassable in the snowbelt.

Québec

Mild weather continued with mean temperatures 3 to 12 degrees above normal. Precipitation amounts were generally light except along the lower North shore and the Gaspé Peninsula, where up to 30 mm was reported in the form of mixed rain and snow. Mild weather lured more than half-a-million people to the Carnival parades in Québec. In spite of artificial snow making, skiing conditions were deteriorating due to the lack of any appreciable new snow. Blowing snow near Sept-Îles on February 14, forced many rural schools to close.

Atlantic Provinces

Mainly cloudy and much milder conditions prevailed. Deep frost penetration has resulted in an epidemic of cracked water pipes in St. John's. Record high temperatures occurred in Newfoundland on February 16. A storm on February 13, brought heavy rains and strong winds in excess of 90 km/h to the region. There were power outages and minor wind damage. This was the first significant rainfall since early December. The combination of above freezing temperatures, heavy rains and melting snow resulted in flooded streets and basements. The ice pack along the East Coast was threatening the Venture drilling fields near Sable Island.

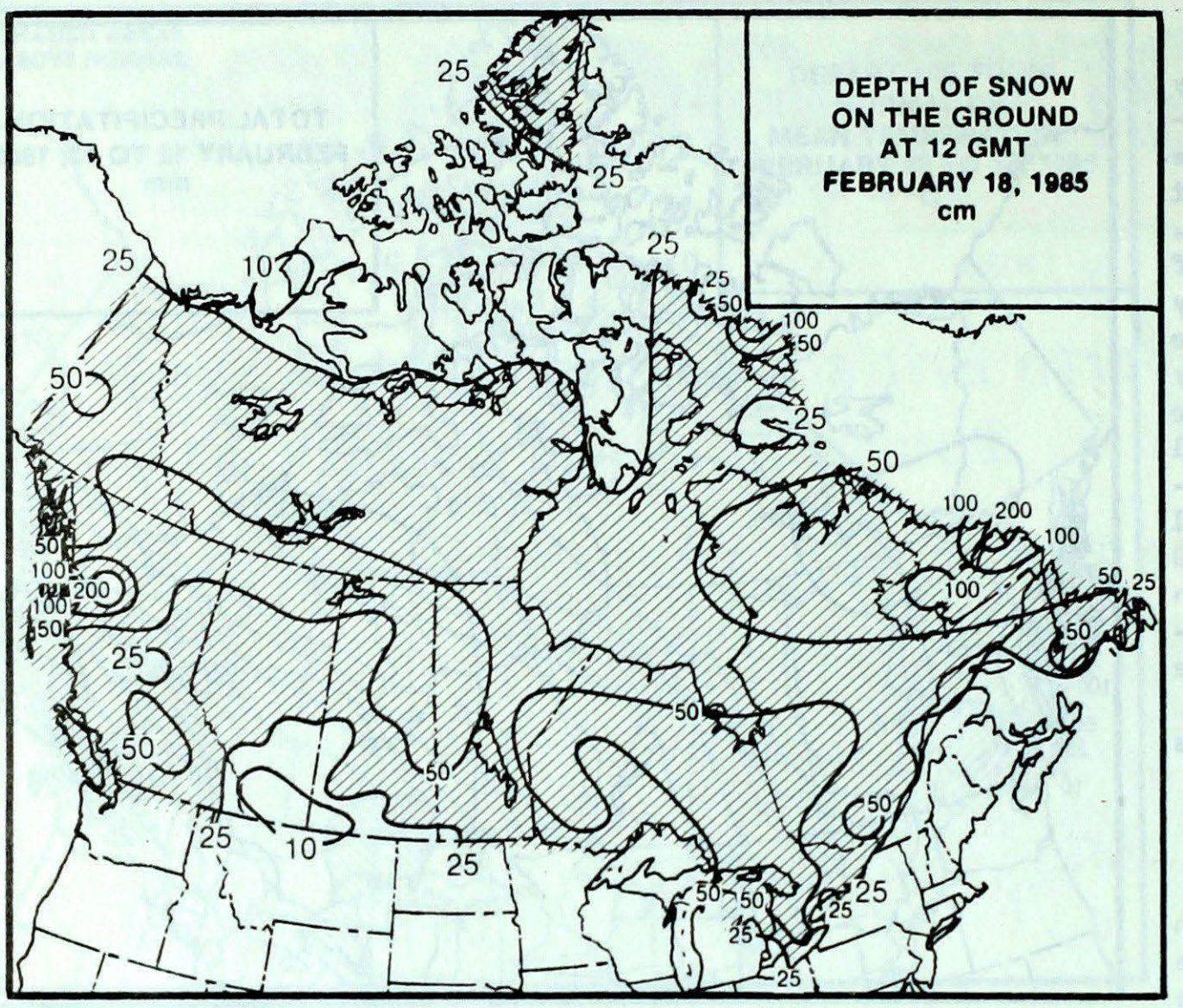


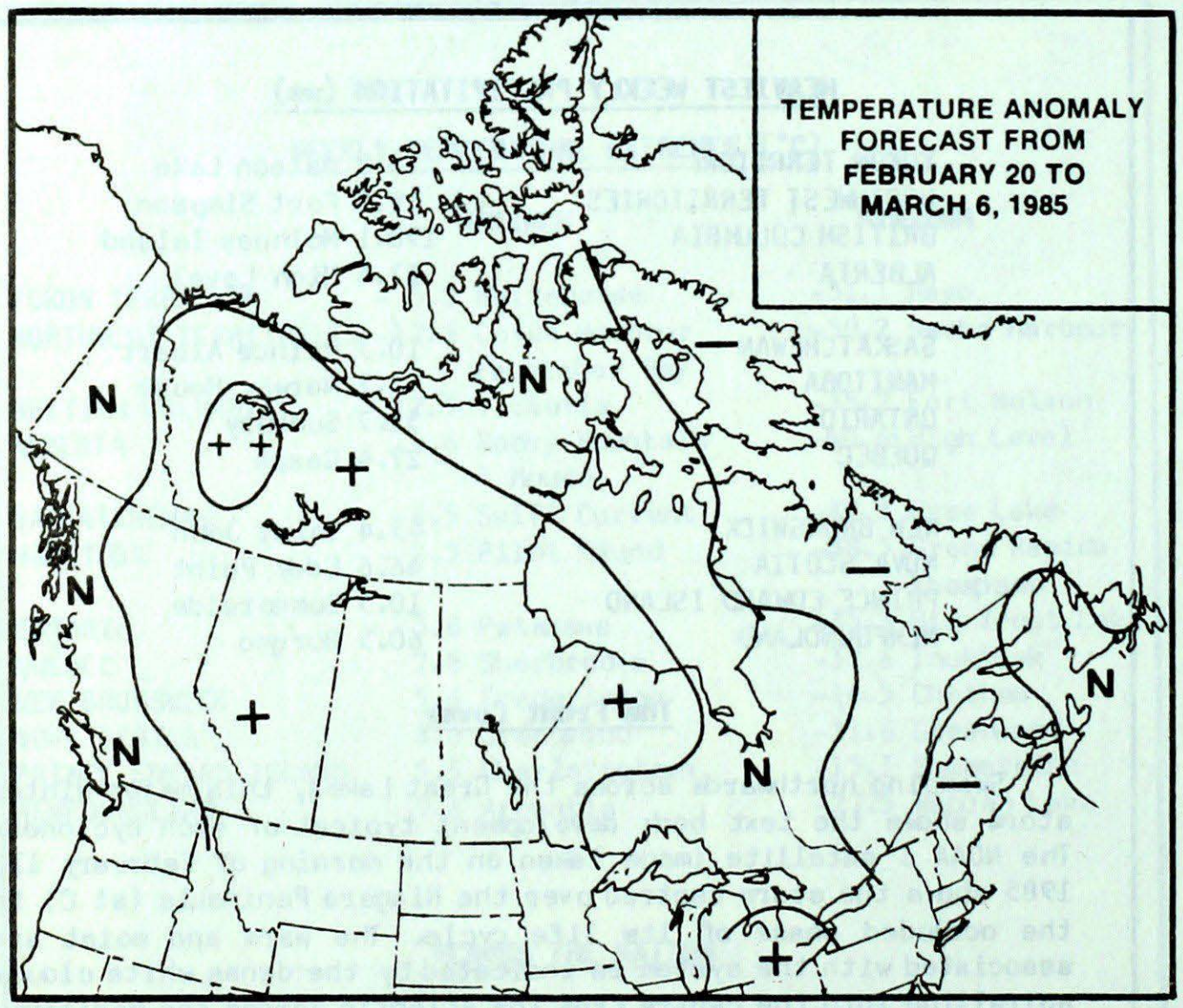
HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON TERRITORY	13.7	Watson Lake
NORTHWEST TERRITORIES	19.2	Fort Simpson
BRITISH COLUMBIA	190.1	McInnes Island
ALBERTA	17.4	High Level
SASKATCHEWAN	10.3	Prince Albert
MANITOBA	6.2	Norway House
ONTARIO	51.7	Sudbury
QUÉBEC	27.4	Gaspé
NEW BRUNSWICK	43.4	Saint John
NOVA SCOTIA	46.6	Eddy Point
PRINCE EDWARD ISLAND	10.5	Summerside
NEWFOUNDLAND	60.5	Burgeo

The Front Cover

Swamping northwards across the Great Lakes, this major winter storm shows the text book development typical of such cyclones. The NOAA 6 satellite image taken on the morning of February 13, 1985 shows the storm centred over the Niagara Peninsula (at C) in the occluded phase of its life cycle. The warm and moist air associated with the system is indicated by the dense white clouds spiralling into the centre from the Atlantic across the Maritimes and James Bay then southwards to Michigan. Cooler and drier air from the north was drawn into the spiral where it shows as darker lanes. Compare this stage of the storm's life to the much earlier phase pictured on last week's cover (Vol.7 No.6). Snowfall totals along the storm swath from southern Ontario to northeastern Ontario and adjacent areas of northwestern Québec ranged from 20 cm to 60 cm.





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 7

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It began in 1978 and in 1983 was expanded to include a monthly supplement (formerly known as the Canadian Weather Review). The purpose of the publication is to make topical information available to the public concerning the Canadian Climate and its socioeconomic 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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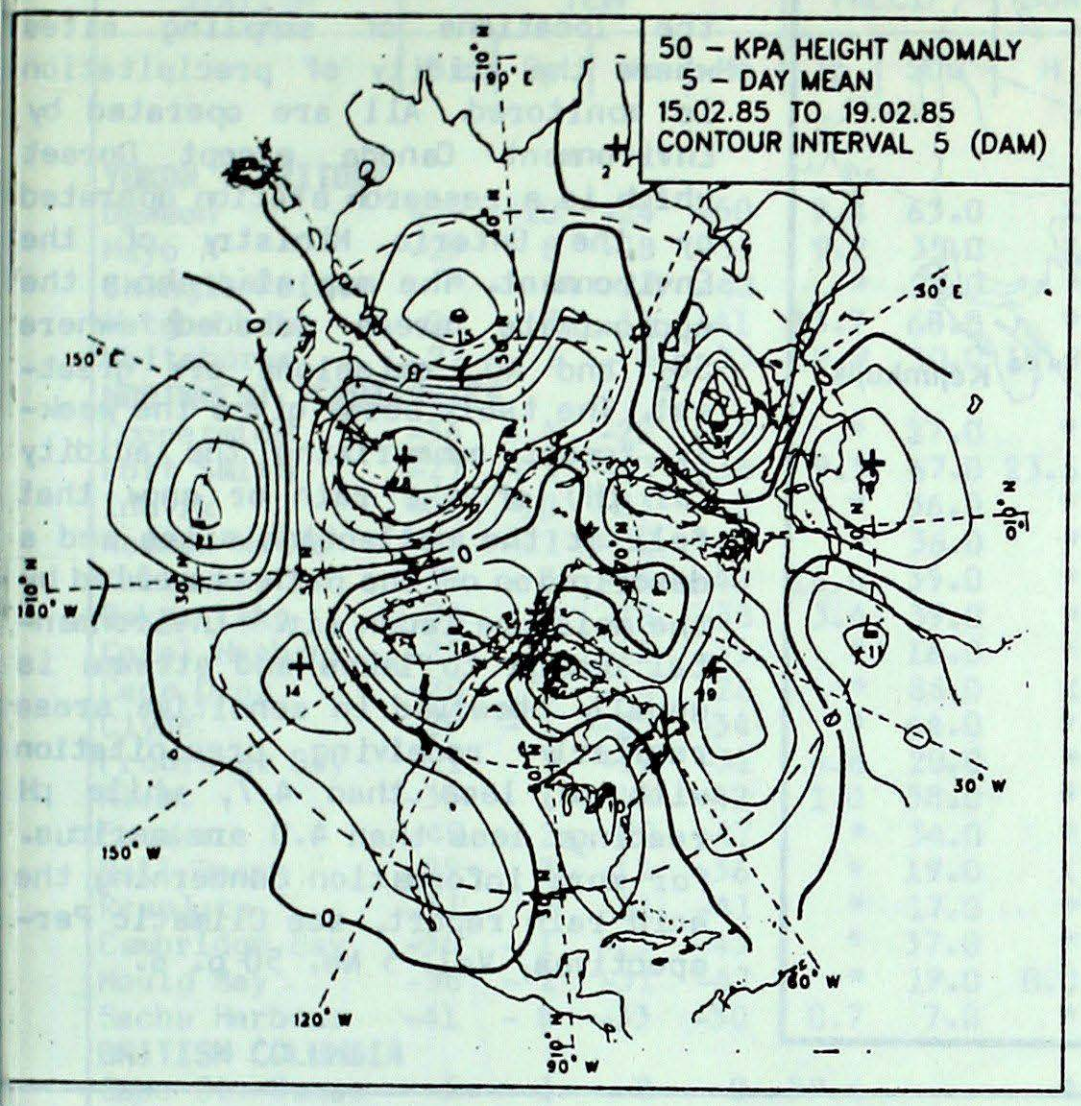
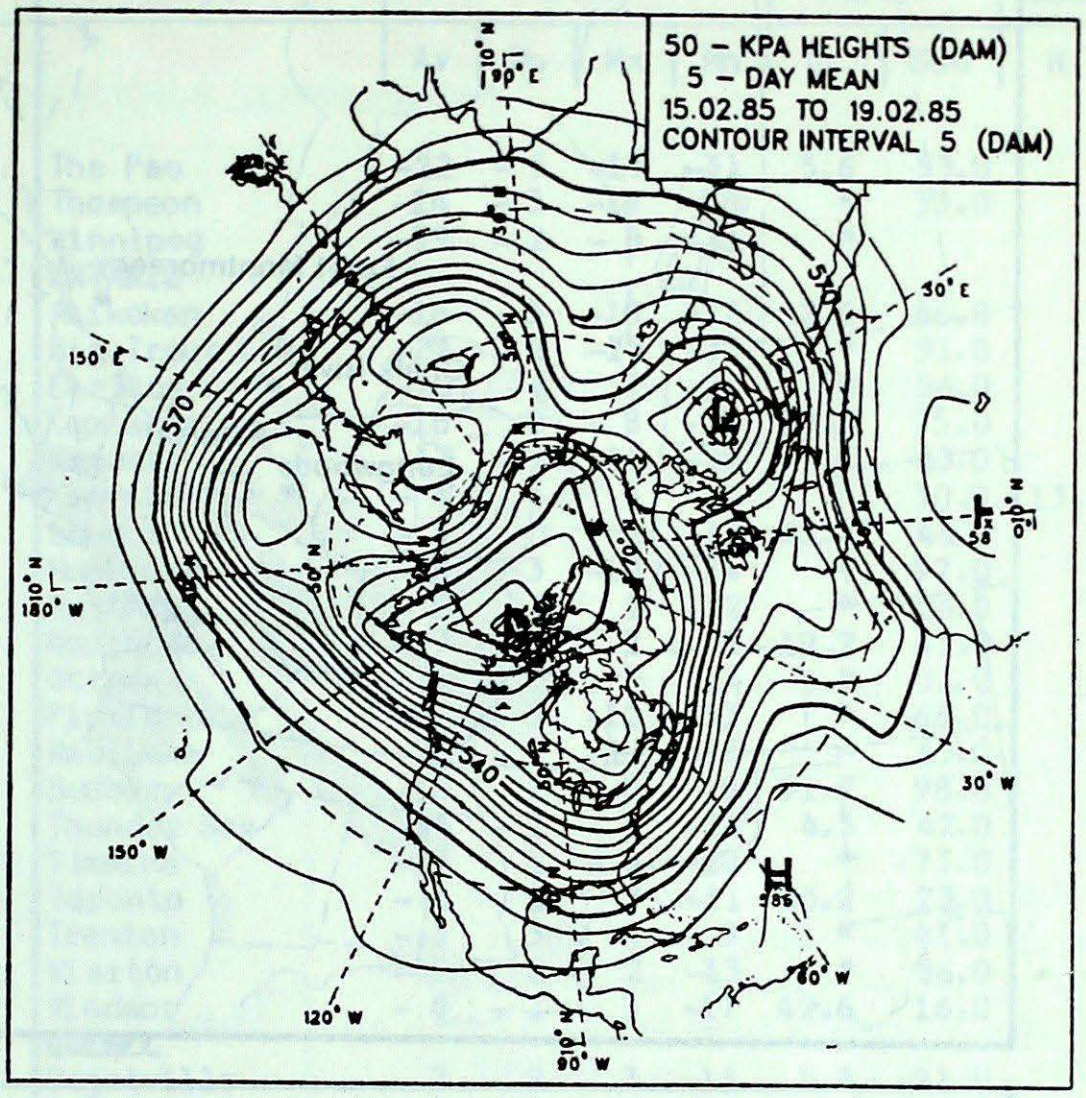
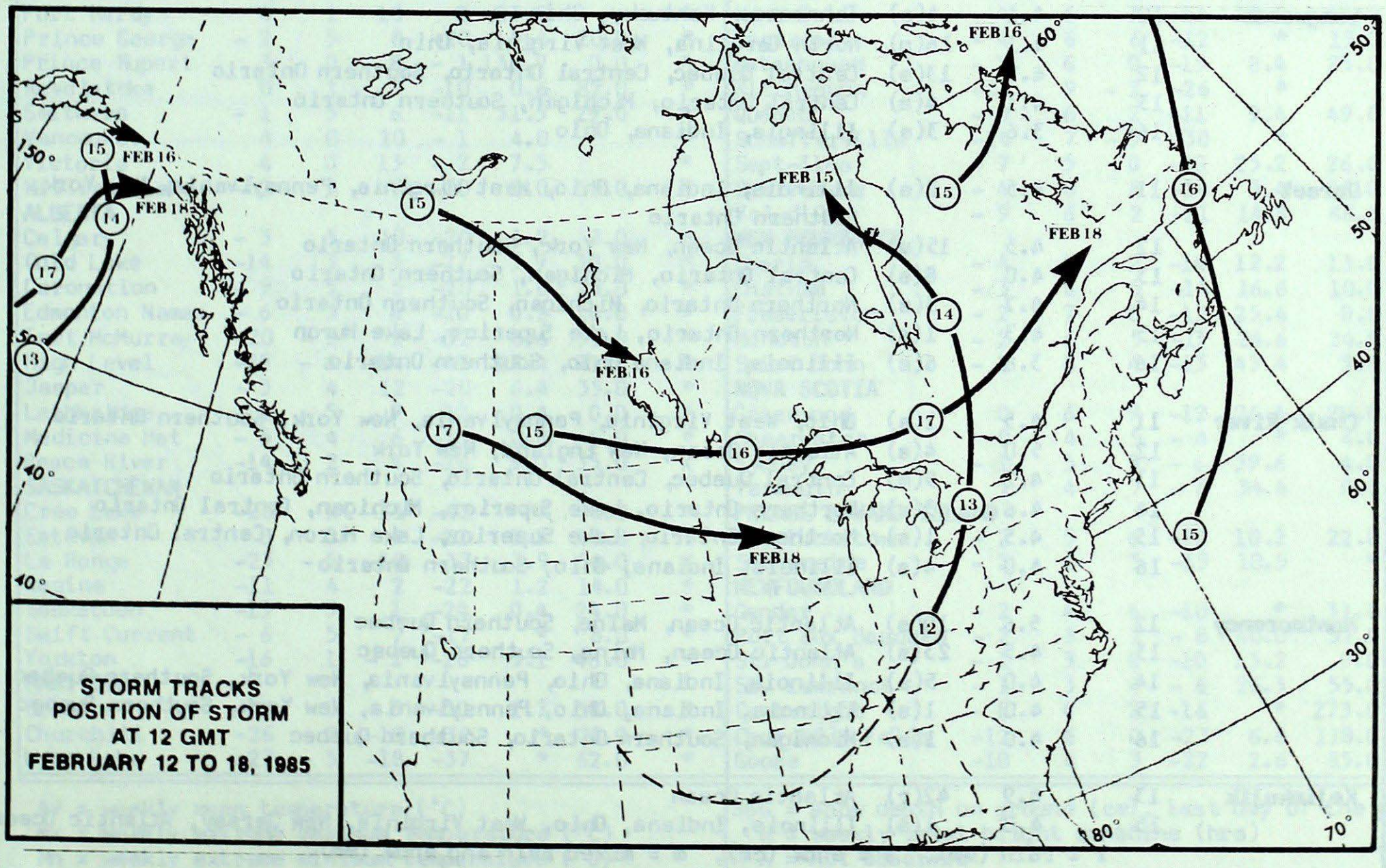
50 KPa ATMOSPHERIC CIRCULATION

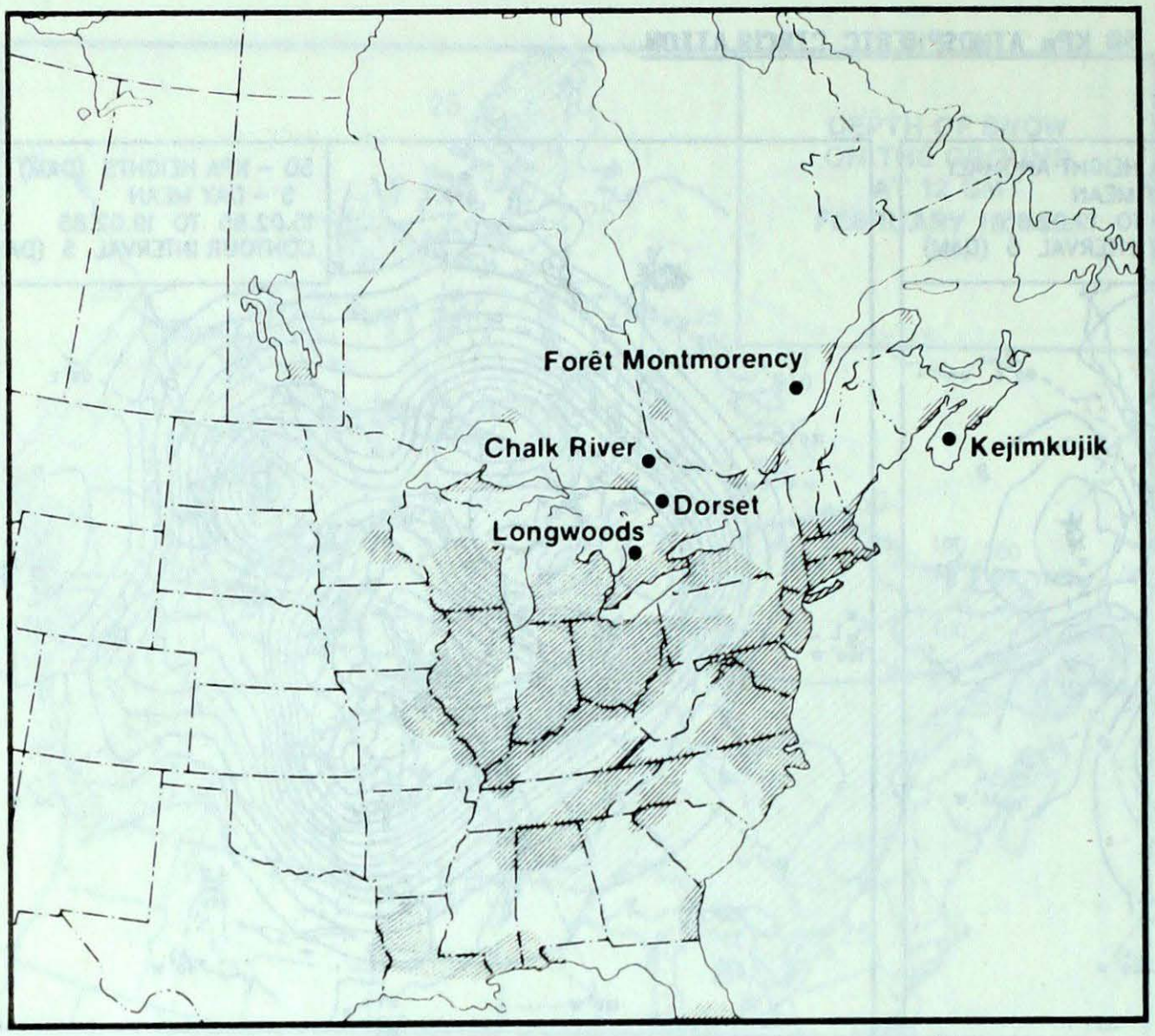


MEAN 50 KPa HEIGHT ANOMALY (dam)
February 15 to February 19, 1985



MEAN 50 KPa HEIGHTS (dam)
February 15 to February 19, 1985





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 10 to FEBRUARY 16, 1985

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	10	4.1	4(s)	Tennessee, Kentucky, Ohio
	11	4.1	16(m)	North Carolina, West Virginia, Ohio
	12	4.2	13(s)	Central Quebec, Central Ontario, Southern Ontario
	13	4.1	4(s)	Central Ontario, Michigan, Southern Ontario
	16	3.6	3(s)	Illinois, Indiana, Ohio
Dorset	11	4.5	2(s)	Illinois, Indiana, Ohio, West Virginia, Pennsylvania, New York, Southern Ontario
	12	4.5	15(m)	Atlantic Ocean, New York, Southern Ontario
	13	4.0	8(s)	Central Ontario, Michigan, Southern Ontario
	14	4.7	3(s)	Northern Ontario, Michigan, Southern Ontario
	15	4.3	1(s)	Northern Ontario, Lake Superior, Lake Huron
	16	3.8	6(s)	Illinois, Indiana Ohio, Southern Ontario
Chalk River	11	4.5	1(s)	Ohio, West Virginia, Pennsylvania, New York, Southern Ontario
	12	5.0	4(s)	Atlantic Ocean, New England, New York
	13	4.2	5(m)	Central Quebec, Central Ontario, Southern Ontario
	14	4.6	3(s)	Northern Ontario, Lake Superior, Michigan, Central Ontario
	15	4.5	1(s)	Northern Ontario, Lake Superior, Lake Huron, Central Ontario
	16	4.0	4(s)	Illinois, Indiana, Ohio, Southern Ontario
Montmorency	12	5.6	10(s)	Atlantic Ocean, Maine, Southern Quebec
	13	4.5	23(s)	Atlantic Ocean, Maine, Southern Quebec
	14	4.0	5(s)	Illinois, Indiana, Ohio, Pennsylvania, New York, Southern Quebec
	15	4.0	1(s)	Illinois, Indiana, Ohio, Pennsylvania, New York, Southern Quebec
	16	4.0	1(s)	Michigan, Southern Ontario, Southern Quebec
Kejimkujik	13	4.9	42(r)	Atlantic Ocean
	15	4.0	1(s)	Illinois, Indiana, Ohio, West Virginia, New Jersey, Atlantic Ocean

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

TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT FEBRUARY 19, 1985

STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H
YUKON TERRITORY							
Dawson	-33	-10	-24	-50	9.4	63.0	X
Mayo A	-29	- 8	-18	-51	9.2	35.0	X
Shingle Point	*	*	-27P	-48	*	25.0	*
Watson Lake	-26	- 7	-13	-41	13.7	68.0	*
Whitehorse	-22	- 7	- 5	-33	9.9	50.0	18.6
NORTHWEST TERRITORIES							
Coppermine	-36	- 4	-22	-47	*	27.0	*
Fort Smith	-27	- 3	-13	-38	9.5	67.0	23.6
Inuvik	-41	-10	-33	-48	*	36.0	*
Norman Wells	-39	-11	-32	-47	*	36.0	*
Yellowknife	-30	- 3	-16	-40	16.6	35.0	*
Baker Lake	-30	4	-19	-38	3.4	39.0	*
Coral Harbour	-25	6	-12	-35	*	16.0	*
Cape Dyer	-20	1	-14	-26	*	86.0	X
Clyde	-29	- 1	-25	-34	*	44.0	*
Frobisher Bay	-21	5	-12	-31	4.6	20.0	*
Alert	-33	1	-19	-42	1.0	38.0	*
Eureka	-40	- 2	-22	-47	*	34.0	*
Hall Beach	-29	3	-13	-36	*	19.0	X
Resolute	-31	2	-21	-41	*	17.0	*
Cambridge Bay	-36	- 1	-23	-43	*	37.0	*
Mould Bay	-38	- 2	-31	-47	*	19.0	0.0
Sachs Harbour	-41	- 8	-33	-50	0.7	7.0	*
BRITISH COLUMBIA							
Cape St. James	5	1	8	0	59.6		*
Cranbrook	- 1	1	7	-11	1.0	37.0	*
Fort Nelson	-26	- 8	-19	-35	*	68.0	*
Fort St. John	-13	0	5	-29	3.7	6.0	X
Kamloops	2	3	9	- 6	0.0	0.0	*
Penticton	0	0	8	- 5	0.0		*
Port Hardy	4	1	10	0	83.8		*
Prince George	- 2	5	8	-20	5.4	20.0	*
Prince Rupert	3	0	8	- 1	136.7	0.0	*
Revelstoke	0	1	7	-10	0.6	82.0	*
Smithers	- 1	5	6	-11	31.5	29.0	*
Vancouver	4	0	10	- 1	4.0		*
Victoria	4	0	13	- 2	7.5		*
Williams Lake	- 2	3	9	-10	0.0	55.0	*
ALBERTA							
Calgary	- 3	5	10	-20	1.2	3.0	*
Cold Lake	-14	3	3	-27	3.9	30.0	*
Coronation	- 9	5	5	-20	1.6	25.0	*
Edmonton Namao	- 6	5	8	-20	0.2	18.0	*
Fort McMurray	-20	- 1	2	-32	8.6	33.0	*
High Level	-25	- 6	-14	-41	17.4	71.0	*
Jasper	- 3	4	12	-20	6.4	35.0	*
Lethbridge	- 1	5	9	-12	0.4	0.0	*
Medicine Hat	- 5	4	6	-15	0.8	5.0	*
Peace River	-14	2	4	-28	9.0	35.0	X
SASKATCHEWAN							
Cree Lake	-26	X	-11	-42	*	34.0	*
Estevan	- 8	5	4	-22	0.8	17.0	*
La Ronge	-23	- 5	-10	-37	7.9	54.0	X
Regina	-11	4	2	-22	1.2	14.0	*
Saskatoon	-13	3	1	-24	0.4	24.0	*
Swift Current	- 6	5	7	-17	*	8.0	*
Yorkton	-16	1	- 2	-28	3.1	46.0	*
MANITOBA							
Brandon	-16	0	- 3	-30	1.7	30.0	*
Churchill	-26	2	-19	-32	*	28.0	*
Lynn Lake	-27	- 5	-18	-37	*	62.0	*
The Pas	-22	- 3	-13	-31	5.6	53.0	*
Thompson	-24	- 3	-14	-38	*	33.0	*
Winnipeg	-19	- 2	- 8	-31	*		*
ONTARIO							
Atikokan	-18	- 3	-10	-32	2.6	46.0	*
Big Trout Lake	-24	- 2	-15	-35	*	91.0	*
Earlton	-10	4	1	-27	*	56.0	X
Kapuskasing	-16	0	- 8	-25	30.2	75.0	*
Kenora	-17	- 2	-10	-29	5.6	43.0	X
Kingston	- 4	4	3	-12	*	30.0	13.7
London	- 5	0	2	-17	41.7	44.0	*
Moosonee	-16	3	-10	-24	*	97.0	*
Muskoka	- 5	4	2	-12	*	56.0	X
North Bay	- 9	3	2	-18	19.2	41.0	*
Ottawa	- 5	5	3	-14	6.8	31.0	*
Pickle Lake	-22	- 3	-12	-33	*	66.0	X
Red Lake	-20	- 2	-11	-35	*	65.0	*
Sudbury	-10	2	0	-20	51.7	98.0	*
Thunder Bay	-14	- 1	- 8	-24	4.5	42.0	*
Timmins	-15	1	- 5	-28	*	73.0	X
Toronto	- 4	1	3	-11	33.2	23.0	X
Trenton	- 3	3	4	- 9	*	41.0	X
Wiarton	- 5	2	2	-13	*	86.0	*
Windsor	- 4	- 1	3	-17	42.6	16.0	X
QUEBEC							
Bagotville	- 7	8	3	-16	5.8	21.0	X
Blanc-Sablon	- 7	3	2	-15	14.3	66.0	*
Inukjuak	-20	6	- 5	-33	*	56.0	*
Kuujjuaq	-15	7	- 4	-26	16.8	89.0	*
Kuujjuarapik	-17	5	1	-30	12.8	28.0	*
Maniwaki	- 6	7	6	-20	12.0	37.0	*
Mont-Joli	- 4	6	3	-13	12.6	14.0	*
Montréal	- 4	6	6	-12	*	13.0	*
Natashquan	- 5	6	0	-15	8.4	25.0	*
Nitchequon	-13	9	- 1	-26	*		*
Québec	- 5	6	2	-11	9.4	49.0	*
Schefferville	-14	7	- 3	-30	*		*
Sept-Iles	- 7	5	0	-20	25.2	26.0	*
Sherbrooke	- 4	8	8	-14	3.4	18.0	*
Val-d'Or	- 9	6	2	-21	14.8	46.0	*
NEW BRUNSWICK							
Charlo	- 4	8	2	-14	12.2	13.0	*
Chatham	- 3	6	5	-14	16.6	10.0	*
Fredericton	- 2	7	6	-13	25.4	0.0	*
Moncton	- 2	6	5	-13	24.6	24.0	*
Saint John	- 2	6	4	-13	43.4	5.0	*
NOVA SCOTIA							
Greenwood	0	6	9	-12	26.6	20.0	X
Shearwater	0	4	5	- 4	*	4.0	21.5
Sydney	- 1	5	5	- 6	39.6	4.0	*
Yarmouth	1	4	7	- 6	34.4	0.0	*
PRINCE EDWARD ISLAND							
Charlottetown	- 2	5	6	-12	10.2	22.0	*
Summerside	- 2	5	5	-15	10.5	*	*
NEWFOUNDLAND							
Gander	- 2	4	6	-10	*	31.0	*
Port aux Basques	- 2	3	2	- 8	40.0	51.0	*
St. John's	- 1	3	8	-10	13.2	9.0	*
St. Lawrence	- 1	3	4	- 6	26.3	55.0	X
Cartwright	- 8	4	2	-16	*	273.0	X
Churchill Falls	-12	6	0	-27	6.6	118.0	X
Goose	-10	4	3	-22	2.6	85.0	*

Av = weekly mean temperature (°C)
Mx = weekly extreme maximum temperature (°C)
Mn = weekly extreme minimum temperature (°C)
Tp = weekly total precipitation (mm)
Dp = Departure of mean temperature from normal (°C)

SOG = snow depth on ground (cm), last day of the period
H = weekly total bright sunshine (hrs)

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