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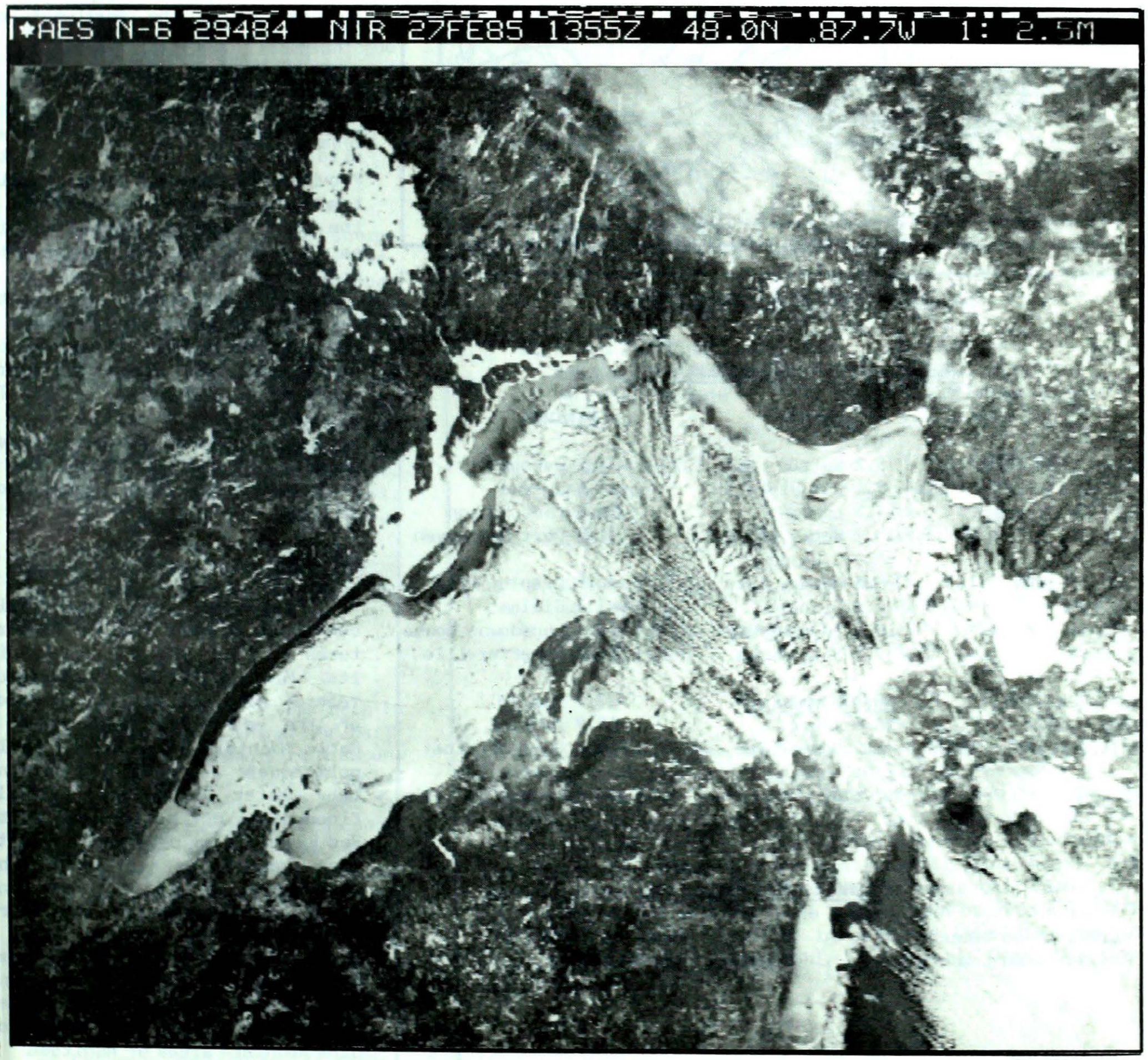
Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

For the period February 26 to March 4, 1985 Vo.7 NO.9

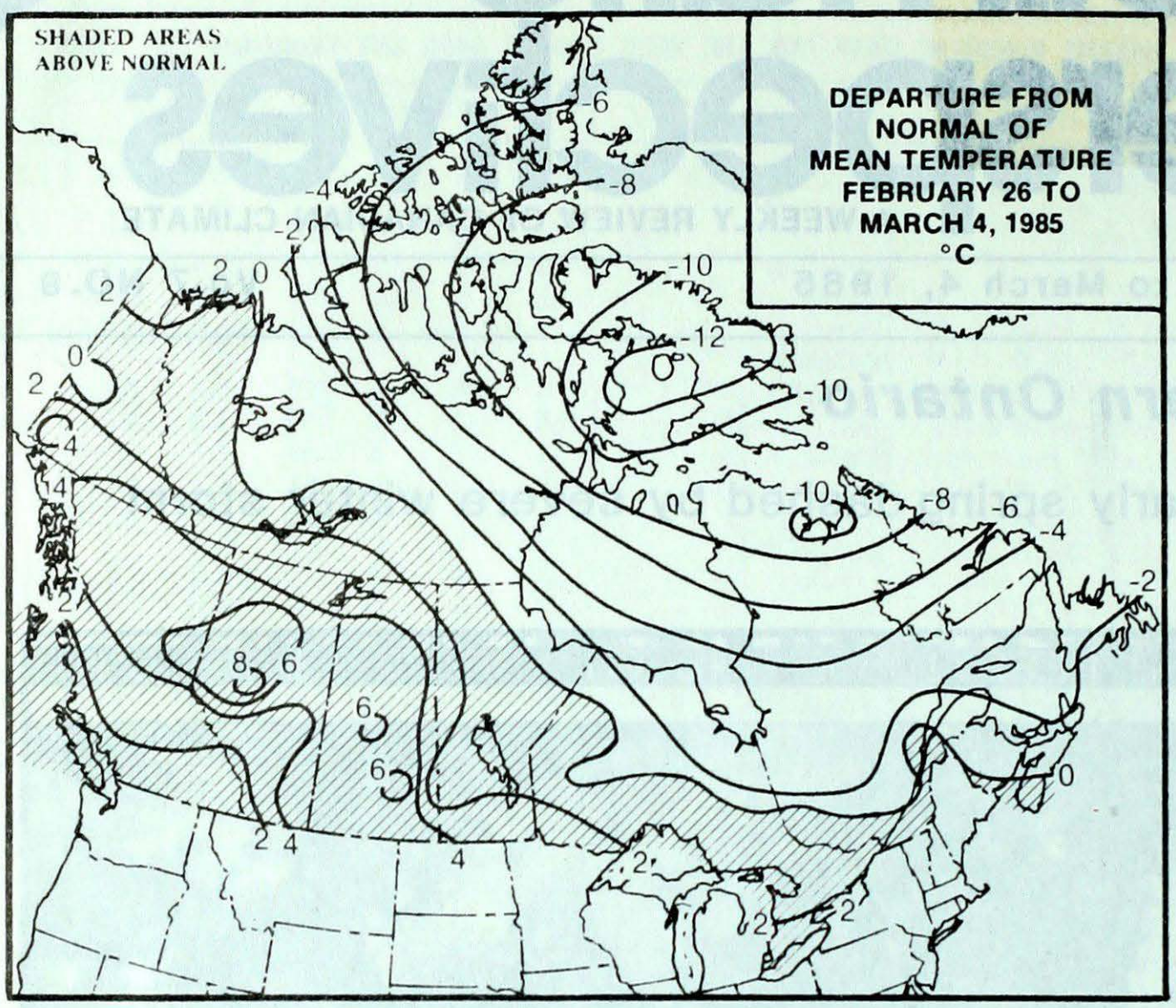
• *Chaos in Southern Ontario*

Hopes of an early spring dashed by severe winter storm



The NOAA 9 satellite image of February 27, 1985 reveals extensive ice in Lake Superior. For more details see page 3.

Canada



WEEKLY TEMPERATURE EXTREMES (°C)

	MAXIMUM		MINIMUM	
YUKON TERRITORY	5.2	Watson Lake	-37.2	Dawson
NORTHWEST TERRITORIES	9.1	Hay River	-49.8	Eureka
BRITISH COLUMBIA	13.3	Lytton	-25.6	Fort Nelson
ALBERTA	15.2	Rocky Mountain House	-31.0	Fort Chipewyan
SASKATCHEWAN	6.6	Meadow Lake	-36.2	Uranium City
MANITOBA	7.6	Bissett	-41.7	Gillam
ONTARIO	10.3	Thunder Bay	-36.1	Lansdowne House
QUÉBEC	9.5	Sherbrooke	-43.0	Schefferville
NEW BRUNSWICK	7.2	Moncton	-22.7	Charlo
NOVA SCOTIA	10.8	Truro	-18.9	Amherst
PRINCE EDWARD ISLAND	4.9	Summerside	-19.1	Charlottetown Summerside
NEWFOUNDLAND	7.2	Argentia	-38.3	Churchill Falls

ACROSS THE NATION

Warmest mean temperature	5.1	Cape St. James, BC
Coolest mean temperature	-45.7	Eureka, NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

Temperatures in the Yukon rebounded to above normal values by the middle of the week. The coldest reading was at Old Crow, -40. Mean temperatures in the eastern and high Arctic were well below normal. The maximum temperature at Eureka failed to climb above -41° all week, while the minimum temperature registered -50. In contrast, daytime temperatures in the Mackenzie Valley reached 9°. Only a dusting of new snow fell in most areas, but several communities in the Northwest received up to 10 cm of new snow.

British Columbia

The first half of the week was mild but damp. All areas of the Province experienced above freezing temperatures, and in many areas of the South readings climbed as high as 10 and 11 degrees, causing the snow cover to dwindle rapidly. A modified Arctic airmass swept southwards encompassing the Province in time for the weekend, dispersing the cloud cover, and dropping temperatures to more seasonal values. The cooler temperatures were welcomed by logging operators, who were threatened with road restrictions due to the unseasonably balmy weather conditions.

Prairies

Frequently sunny, spring-like conditions allowed maximum temperatures to rise into the double digits. Many daily high temperature records were set around the middle of the week. The temperature at Rocky Mountain House soared to 15 on February 27. According to Manitoba Water Resources officials flooding is not anticipated in the Red River Valley provided precipitation amounts are near normal, but flooding of agricultural farm land along the Assiniboine and Souris Rivers west of Brandon will be similar to the floods which occurred back in 1979. Due to a heavy snow pack, there is a high flood potential in the Riding, Duck and Porcupine Mountain areas of Manitoba.

Ontario

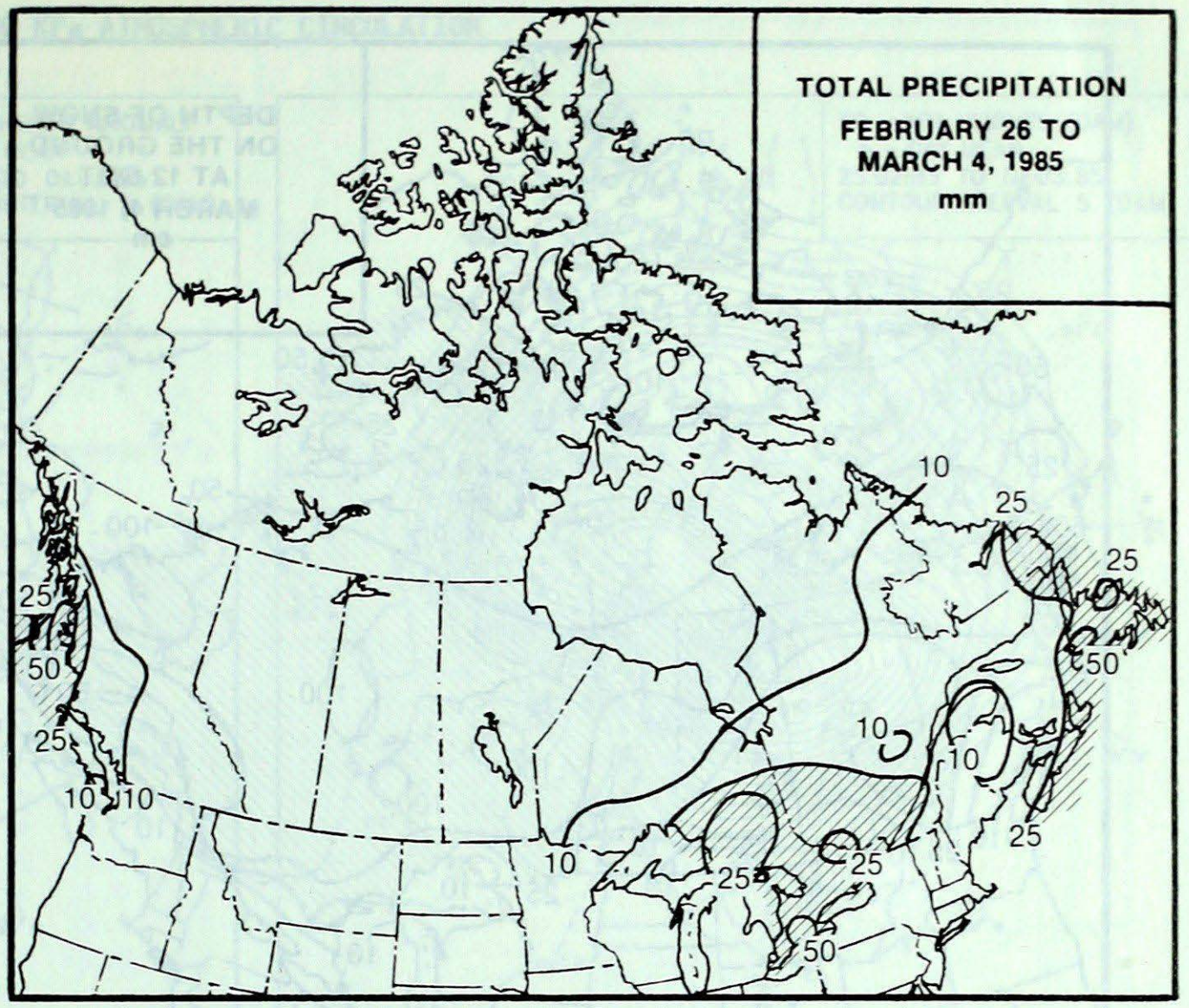
Hopes of an early spring were shattered on March 4, when a fierce late winter storm tracked out of the American mid-west. Heavy snow and blowing snow, not to mention several hours of freezing rain, paralysed southern and central Ontario. Between 25 and 35 centimetres of new snow fell in most areas. Strong winds caused white-outs, whipping the snow into high drifts. Inter-city buses were pulled off the highways. Snow removal at Pearson Int'l airport was suspended for a time due to nil visibility. Traffic in urban areas was chaotic because of numerous abandoned vehicles littering the main arteries. Several new 24-hour precipitation records were established in the South. London recorded 44.2 mm of sleet and snow.

Québec

Temperatures contrasted sharply across the Province. Above normal readings in the South climbed as high as 10° at Sherbrooke, while in the North overnight readings plunged to the minus forties. Precipitation was a mixture of rain or snow depending on the location. Up to 5 cm of ice coated trees near Trois Rivière. Some flooding occurred in the Huntingdon District. An Arctic high pressure cell dropped temperatures sharply over the weekend. The leading edge of a major snow storm reached the southwest corner of the Province the final day of the period.

Atlantic Provinces

It was a variable week both in temperature and sunshine. The Maritimes received a significant amount of rain on March 2. Falling temperatures and light snow the next day caused very slippery driving conditions. Three separate snow storms hit Newfoundland and Labrador, dumping between 10 and 30 cm of new snow. Very strong winds caused blizzard conditions over central and northern portions of the Island and Labrador. On February 28, a drilling rig off the East coast reported sustained southeast winds of 130 km/h, gusting to 157 km/h.

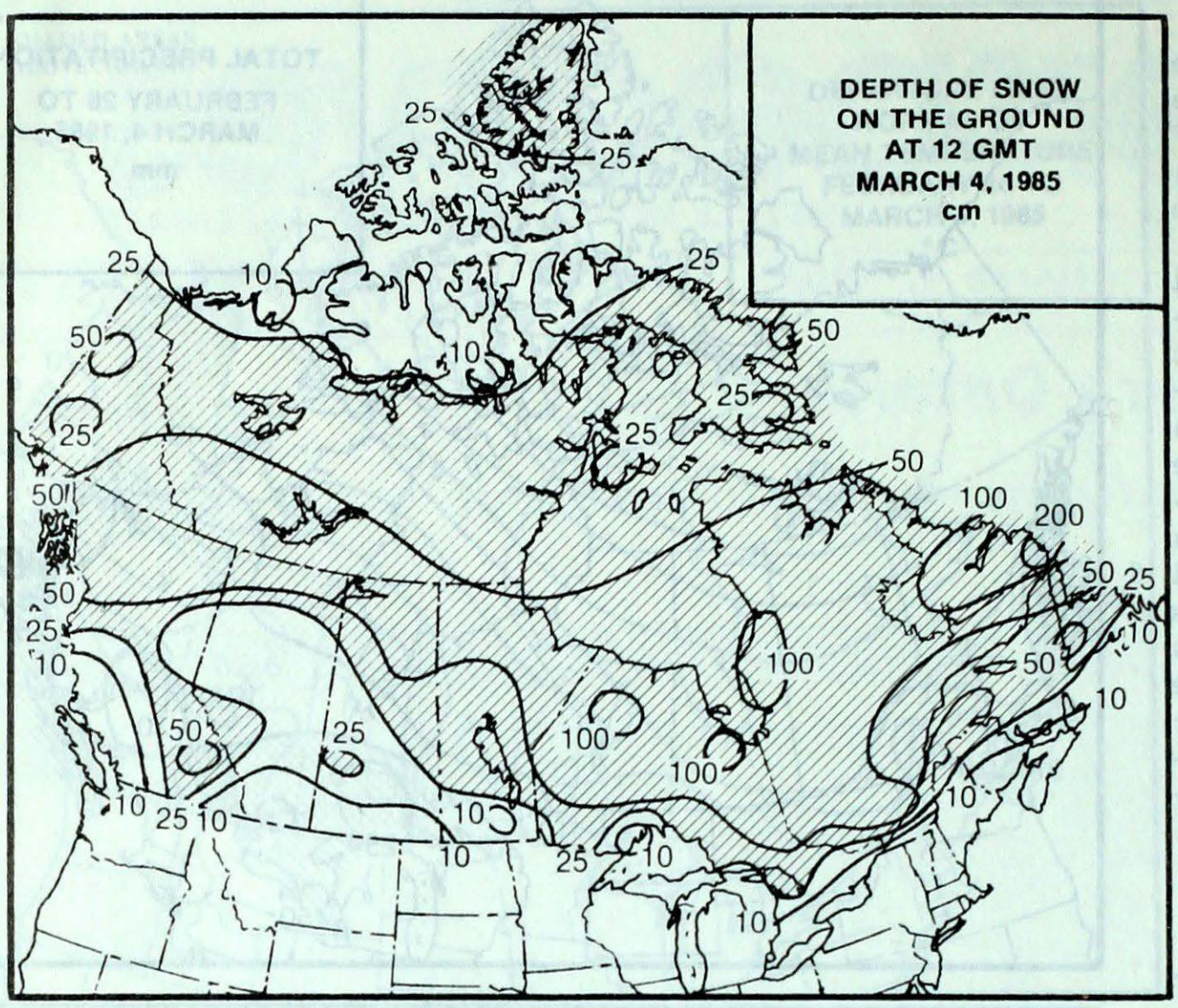


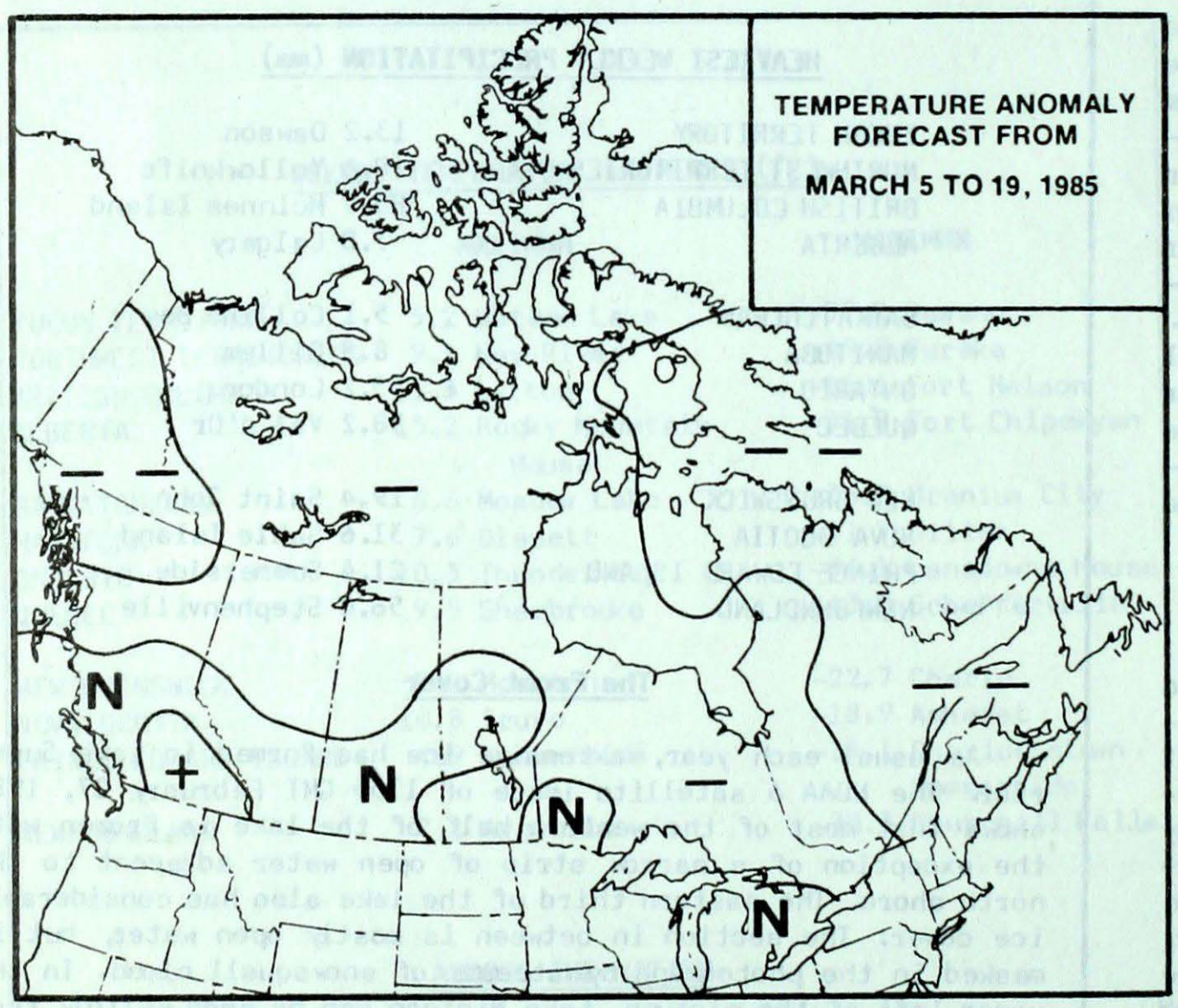
HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON TERRITORY	13.2	Dawson
NORTHWEST TERRITORIES	10.4	Yellowknife
BRITISH COLUMBIA	85.7	McInnes Island
ALBERTA	7.8	Calgary
SASKATCHEWAN	5.1	Collins Bay
MANITOBA	8.8	Gillam
ONTARIO	53.2	London
QUÉBEC	38.2	Val d'Or
NEW BRUNSWICK	19.4	Saint John
NOVA SCOTIA	31.6	Sable Island
PRINCE EDWARD ISLAND	21.4	Summerside
NEWFOUNDLAND	56.0	Stephenville

The Front Cover

As usual each year, extensive ice has formed in Lake Superior. The NOAA 6 satellite image of 1355 GMT February 27, 1985 shows that most of the western half of the lake is frozen with the exception of a narrow strip of open water adjacent to the north shore. The eastern third of the lake also has considerable ice cover. The section in between is mostly open water, but is masked in the photograph by streams of snowsquall cloud. In the upper left of the picture, Lake Nipigon can be seen solidly frozen. There is also ice cover in parts of Lake Michigan (lower right corner of the photograph), particularly Green Bay and the Straits of Mackinaw.





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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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.**

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

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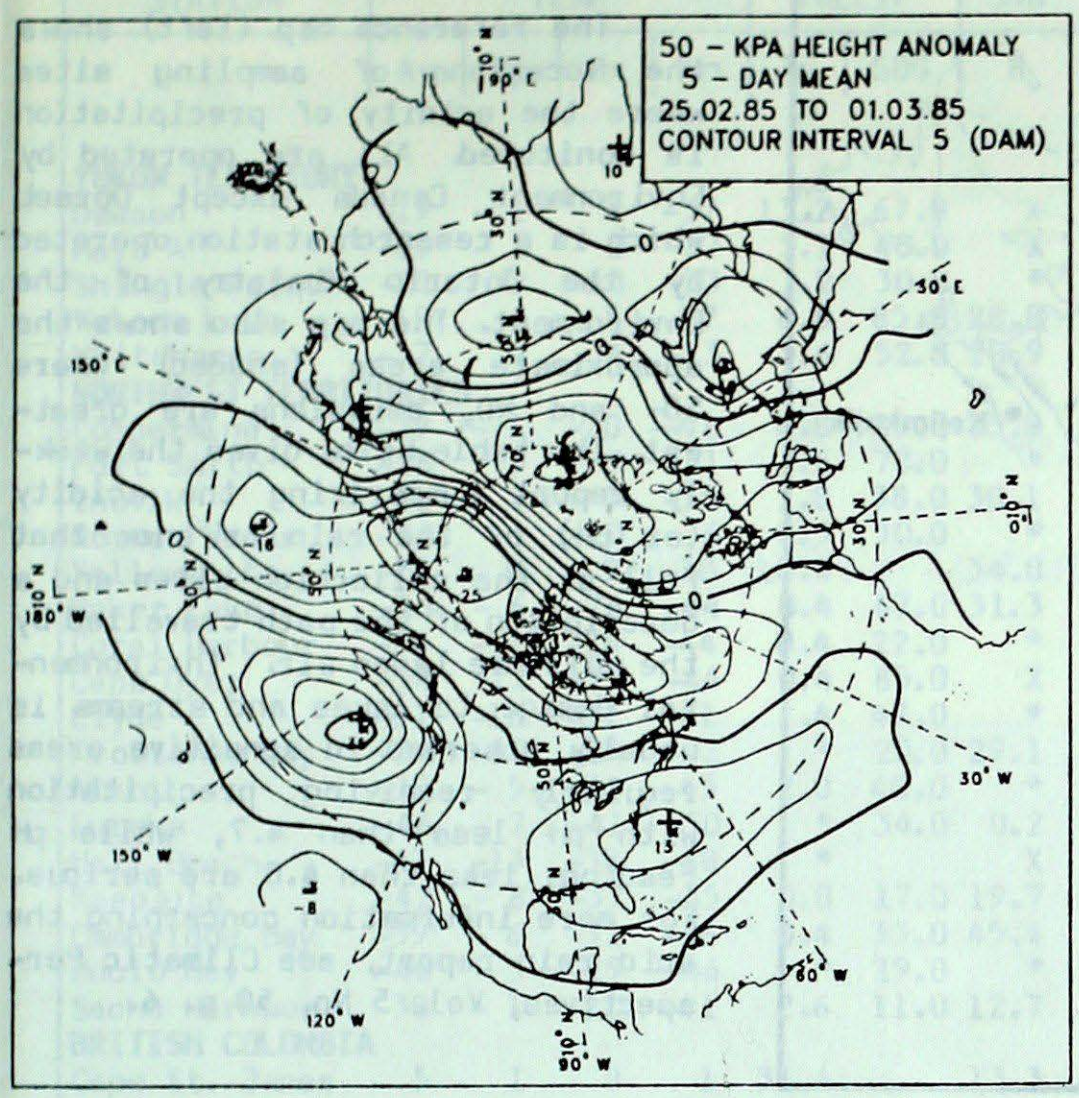
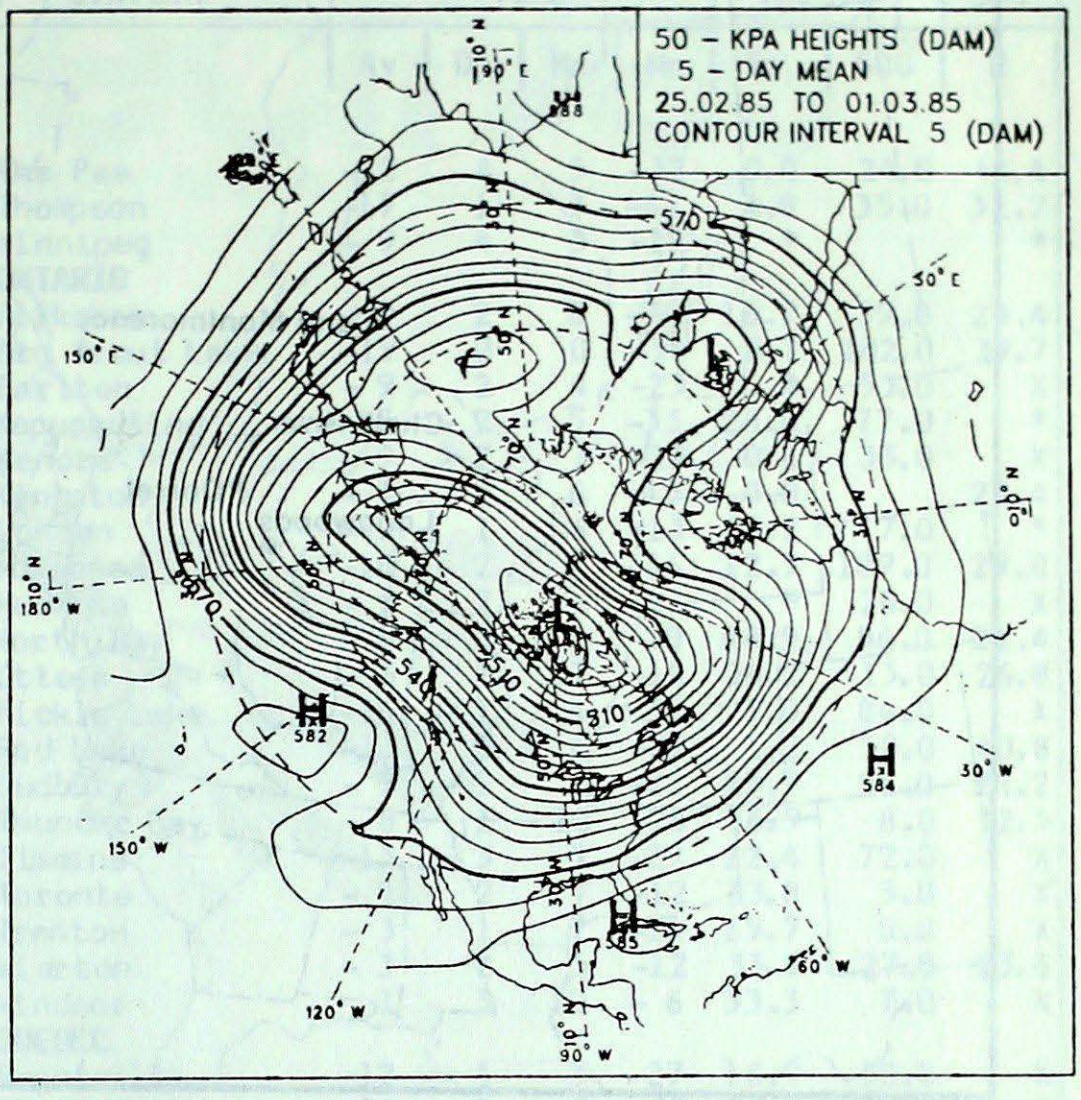
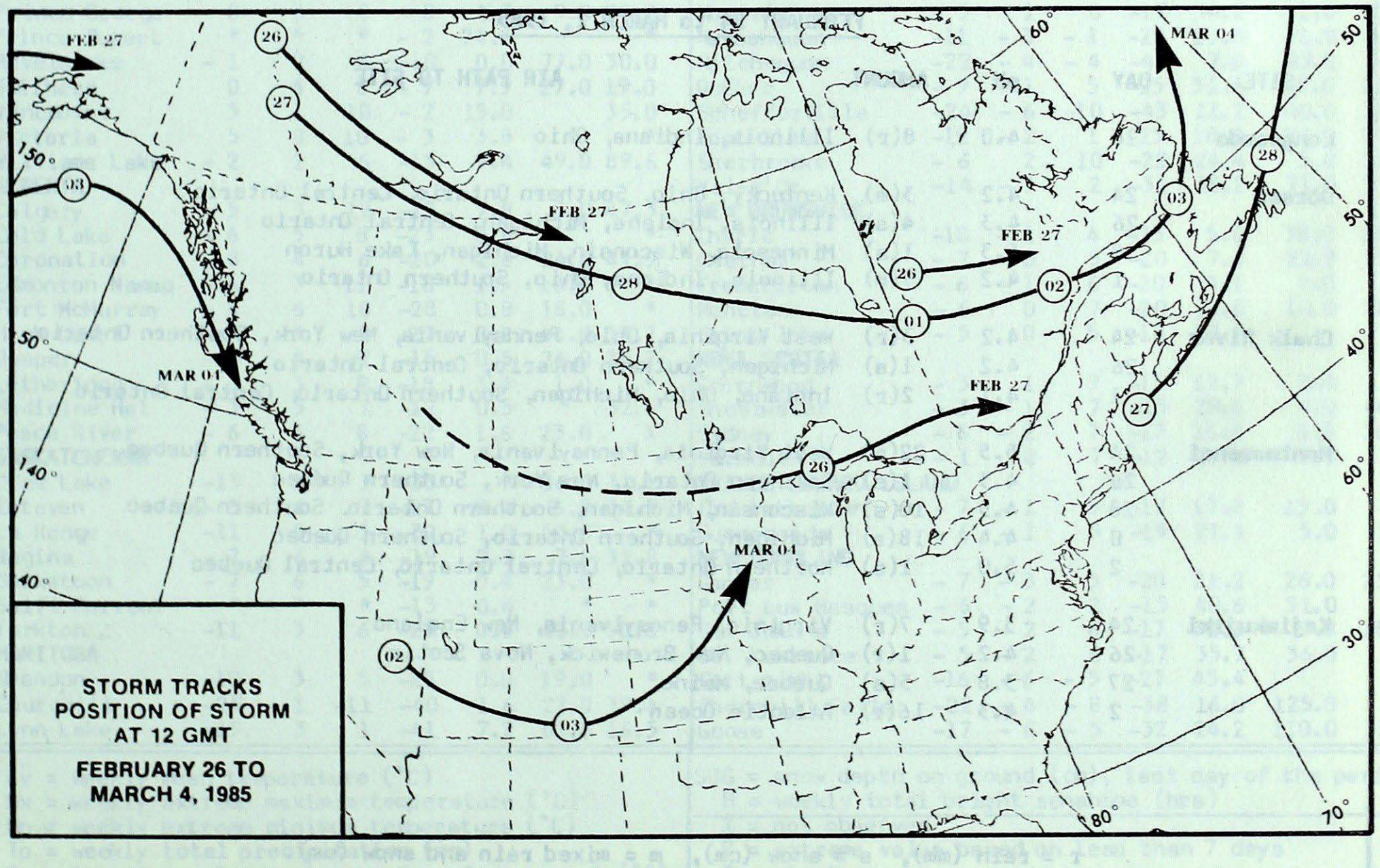
50 KPa ATMOSPHERIC CIRCULATION

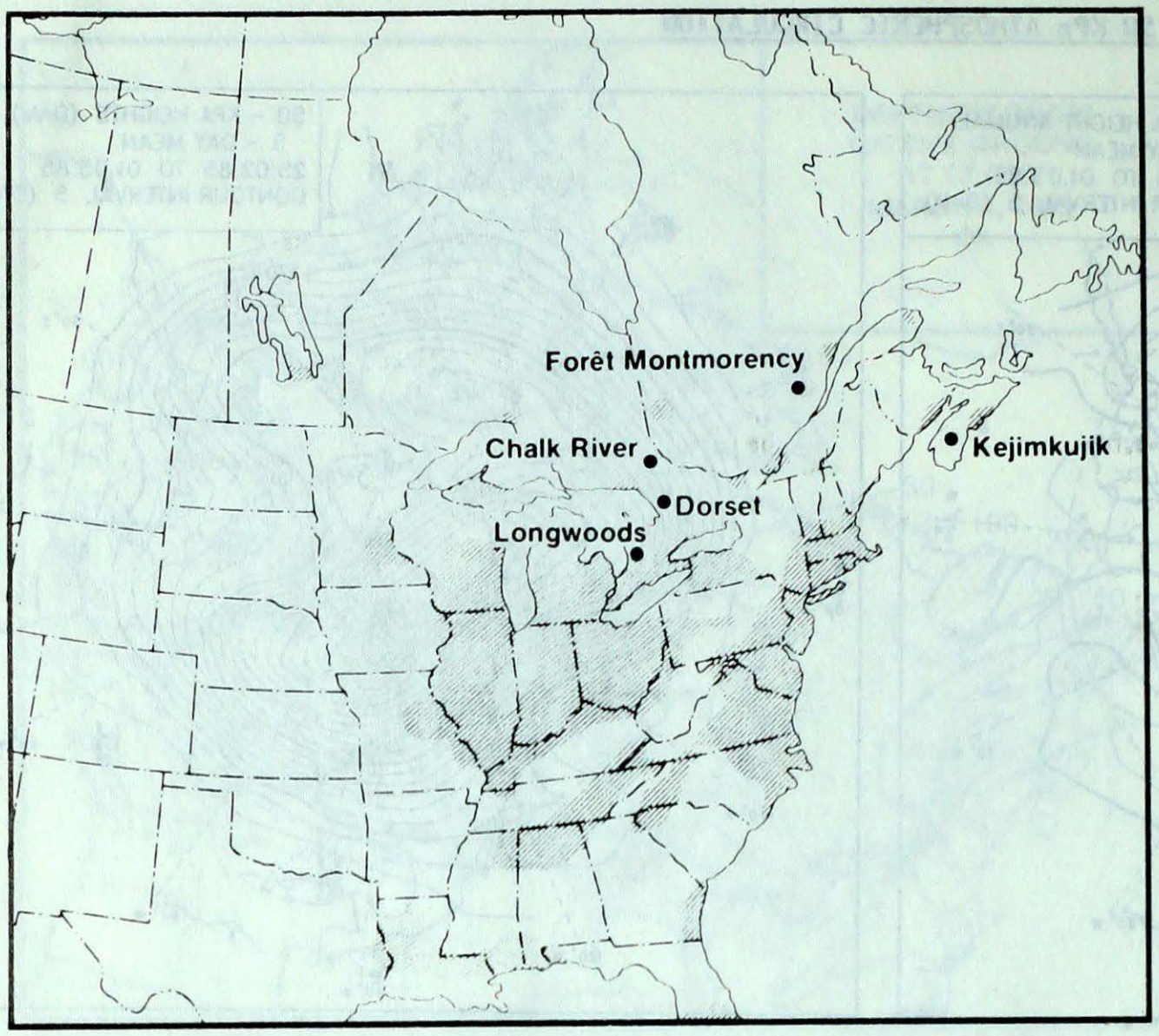


MEAN 50 KPa HEIGHT ANOMALY (dam)
February 25 to March 1, 1985



MEAN 50 KPa HEIGHTS (dam)
February 25 to March 1, 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 24 to MARCH 2, 1985

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	26	4.0	8(r)	Illinois, Indiana, Ohio
Dorset	24	4.2	3(m)	Kentucky, Ohio, Southern Ontario, Central Ontario
	26	4.3	4(s)	Illinois, Indiana, Michigan, Central Ontario
	28	5.3	1(s)	Minnesota, Wisconsin, Michigan, Lake Huron
	1	4.2	7(m)	Illinois, Indiana, Ohio, Southern Ontario
Chalk River	24	4.2	3(r)	West Virginia, Ohio, Pennsylvania, New York, Southern Ontario
	26	4.2	1(s)	Michigan, Southern Ontario, Central Ontario
	1	4.1	2(r)	Indiana, Ohio, Michigan, Southern Ontario, Central Ontario
Montmorenci	24	5.5	22(s)	West Virginia, Pennsylvania, New York, Southern Quebec
	26	4.3	1(s)	Southern Ontario, New York, Southern Quebec
	28	4.5	10(s)	Wisconsin, Michigan, Southern Ontario, Southern Quebec
	0	4.4	18(s)	Michigan, Southern Ontario, Southern Quebec
	2	5.0	1(s)	Northern Ontario, Central Ontario, Central Quebec
Kejimkujiki	24	3.9	7(r)	Virginia, Pennsylvania, New England
	26	4.2	1(r)	Quebec, New Brunswick, Nova Scotia
	27	3.8	5(s)	Quebec, Maine
	2	4.3	16(r)	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 MARCH 5, 1985

STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H
YUKON TERRITORY							
Dawson	-19	- 1	- 6	-37	13.2	67.0	X
Mayo A	-15	- 1	2	-37	5.1	40.0	X
Shingle Point	-21	2	-10	-33	7.2	30.0	*
Watson Lake	-10	4	5	-27	6.8	85.0	28.8
Whitehorse	- 7	2	4	-23	5.6	52.0	20.9
NORTHWEST TERRITORIES							
Coppermine	-29	- 1	-20	-41	0.8	25.0	25.0
Fort Smith	-16	3	9	-31	3.6	70.0	*
Inuvik	-21	3	- 9	-35	1.8	38.0	30.1
Norman Wells	-21	1	-10	-36	2.3	30.0	*
Yellowknife	-21	2	- 9	-30	10.4		34.0
Baker Lake	-36	- 6	-26	-44	0.4	47.0	31.3
Coral Harbour	-38	-11	-28	-44	0.4	22.0	*
Cape Dyer	-34	-12	-22	-44	0.4	85.0	X
Clyde	-37	-10	-32	-41	1.4	47.0	*
Frobisher Bay	-34	-10	-24	-42	*	20.0	29.1
Alert	-39	- 5	-34	-43	2.0	40.0	*
Eureka	-46	- 7	-41	-50	*	34.0	0.2
Hall Beach	-43	-13	-38	-48	*		X
Resolute	-42	- 8	-37	-45	0.0	17.0	19.7
Cambridge Bay	-39	- 6	-32	-46	0.4	33.0	45.4
Mould Bay	-40	- 5	-29	-46	*	19.0	*
Sachs Harbour	-30	- 1	-21	-41	2.6	11.0	12.7
BRITISH COLUMBIA							
Cape St. James	5	1	8	1	31.4		13.3
Cranbrook	- 1	2	9	-13	0.0		42.6
Fort Nelson	- 9	4	11	-26	4.8	61.0	27.6
Fort St. John	- 4	5	9	-17	0.0	0.0	X
Kamloops	2	3	7	- 5	1.2		*
Penticton	2	2	9	- 4	0.0		40.2
Port Hardy	4	1	8	- 1	26.4		17.2
Prince George	0	6	8	- 8	4.3	9.0	20.2
Prince Rupert	*	*	*	- 2	74.6		*
Revelstoke	- 1	2	6	-10	0.0	77.0	30.0
Smithers	0	4	8	- 7	7.9	27.0	19.0
Vancouver	5	1	10	- 2	15.0		35.0
Victoria	5	0	10	- 3	3.8		*
Williams Lake	- 2	2	6	-15	9.4	49.0	89.6
ALBERTA							
Calgary	- 5	3	12	-19	7.8	3.0	47.3
Cold Lake	- 6	5	8	-23	0.8		*
Coronation	- 8	4	6	-20	2.6	24.0	41.9
Edmonton Namao	- 6	3	11	-18	1.5	10.0	*
Fort McMurray	- 8	6	10	-28	0.8	18.0	*
High Level	*	*	*	-27	0.2	44.0	39.7
Jasper	- 3	4	7	-15	0.5	26.0	26.7
Lethbridge	- 3	3	9	-18	3.3	1.0	*
Medicine Hat	- 3	5	7	-12	0.5		32.5
Peace River	- 6	6	8	-22	1.6	23.0	X
SASKATCHEWAN							
Cree Lake	-13	X	3	-33	*	36.0	32.1
Estevan	- 5	6	5	-17	0.4	6.0	34.5
La Ronge	-11	5	5	-32	1.0	53.0	*
Regina	- 7	6	4	-19	0.2	7.0	32.8
Saskatoon	- 7	6	5	-19	0.4	23.0	*
Swift Current	*	*	*	-15	0.4	*	*
Yorkton	-11	3	6	-29	0.4	40.0	50.8
MANITOBA							
Brandon	-10	3	5	-25	0.0	19.0	*
Churchill	-25	- 1	-11	-40	1.6	27.0	39.4
Lynn Lake	-15	3	1	-41	7.2	62.0	16.5
The Pas	-12	4	5	-32	0.0	24.0	44.4
Thompson	-17	1	3	-41	4.8	35.0	31.7
Winnipeg	- 9	4	5	-19	*		*
ONTARIO							
Atikokan	- 9	2	8	-30	16.7	39.0	24.4
Big Trout Lake	-19	0	0	-34	8.7	102.0	39.7
Earlton	- 9	2	4	-23	*	53.0	X
Kapuskasing	-15	- 2	5	-33	28.0	77.0	*
Kenora	- 9	2	7	-23	0.6	33.0	X
Kingston	- 4	0	6	-15	0.0		23.4
London	- 2	1	6	-13	53.2	7.0	*
Moosonee	-18	- 2	2	-36	12.3	109.0	29.8
Muskoka	- 5	2	6	-21	*	28.0	X
North Bay	- 8	0	2	-20	44.9	56.0	21.4
Ottawa	- 6	1	7	-18	34.2	13.0	26.8
Pickle Lake	-16	- 1	4	-39	7.0	84.0	X
Red Lake	-13	0	6	-29	1.2	58.0	40.8
Sudbury	- 9	- 2	2	-22	23.9	58.0	28.2
Thunder Bay	- 8	1	10	-28	16.9	8.0	32.5
Timmins	-13	- 3	5	-29	22.4	72.0	X
Toronto	- 2	2	7	-12	33.8	3.0	X
Trenton	- 3	1	7	-15	25.7	0.0	X
Wiarton	- 3	2	5	-12	33.9	27.0	23.6
Windsor	1	3	10	- 6	33.3	7.0	X
QUEBEC							
Bagotville	-12	- 1	3	-27	16.9	30.0	X
Blanc-Sablon	-12	- 2	0	-29	36.1	83.0	*
Inukjuak	-30	- 7	-19	-36	0.0	57.0	*
Kuujjuaq	-30	-10	-21	-41	1.8	93.0	44.8
Kuujjuarapik	-25	- 5	-10	-42	*	26.0	40.6
Maniwaki	- 9	- 1	8	-27	31.2	37.0	15.7
Mont-Joli	- 8	0	5	-22	3.4	11.0	25.5
Montréal	- 5	1	8	-17	34.2	1.0	23.1
Natashquan	-11	- 3	- 1	-29	13.0	31.0	*
Nitchequon	-22	- 4	- 4	-40	7.0	95.0	*
Québec	- 9	- 1	5	-25	31.6	69.0	22.2
Schefferville	-24	- 6	-10	-43	11.2	40.0	29.9
Sept-Iles	-12	- 2	1	-25	18.8	28.0	25.9
Sherbrooke	- 6	2	10	-22	24.4	5.0	26.4
Val-d'Or	-14	- 3	2	-31	38.2	71.0	23.4
NEW BRUNSWICK							
Charlo	-10	- 1	4	-23	5.6	38.0	29.3
Chatham	- 7	0	5	-20	7.4	22.0	29.9
Fredericton	- 6	- 1	6	-20	4.1	2.0	*
Moncton	- 6	0	7	-20	18.6	10.0	28.7
Saint John	- 5	0	5	-18	19.4		*
NOVA SCOTIA							
Greenwood	- 3	1	9	-15	17.7	1.0	X
Shearwater	- 3	- 1	7	-15	29.6	0.0	40.0
Sydney	- 6	- 2	7	-17	26.4	4.0	36.6
Yarmouth	- 1	0	7	-12	27.0	0.0	37.3
PRINCE EDWARD ISLAND							
Charlottetown	- 7	- 1	5	-19	17.8	15.0	*
Summerside	- 6	- 1	5	-19	21.4	5.0	31.7
NEWFOUNDLAND							
Gander	- 7	- 3	5	-20	21.2	26.0	25.3
Port aux Basques	- 6	- 2	2	-15	40.6	51.0	*
St. John's	- 5	- 2	6	-17	32.8	9.0	38.2
St. Lawrence	- 5	- 2	6	-17	35.7	36.0	X
Cartwright	-16	- 6	- 5	-27	45.4		X
Churchill Falls	-22	- 4	- 8	-38	16.0	125.0	X
Goose	-17	- 6	- 5	-32	24.2	110.0	31.2

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