

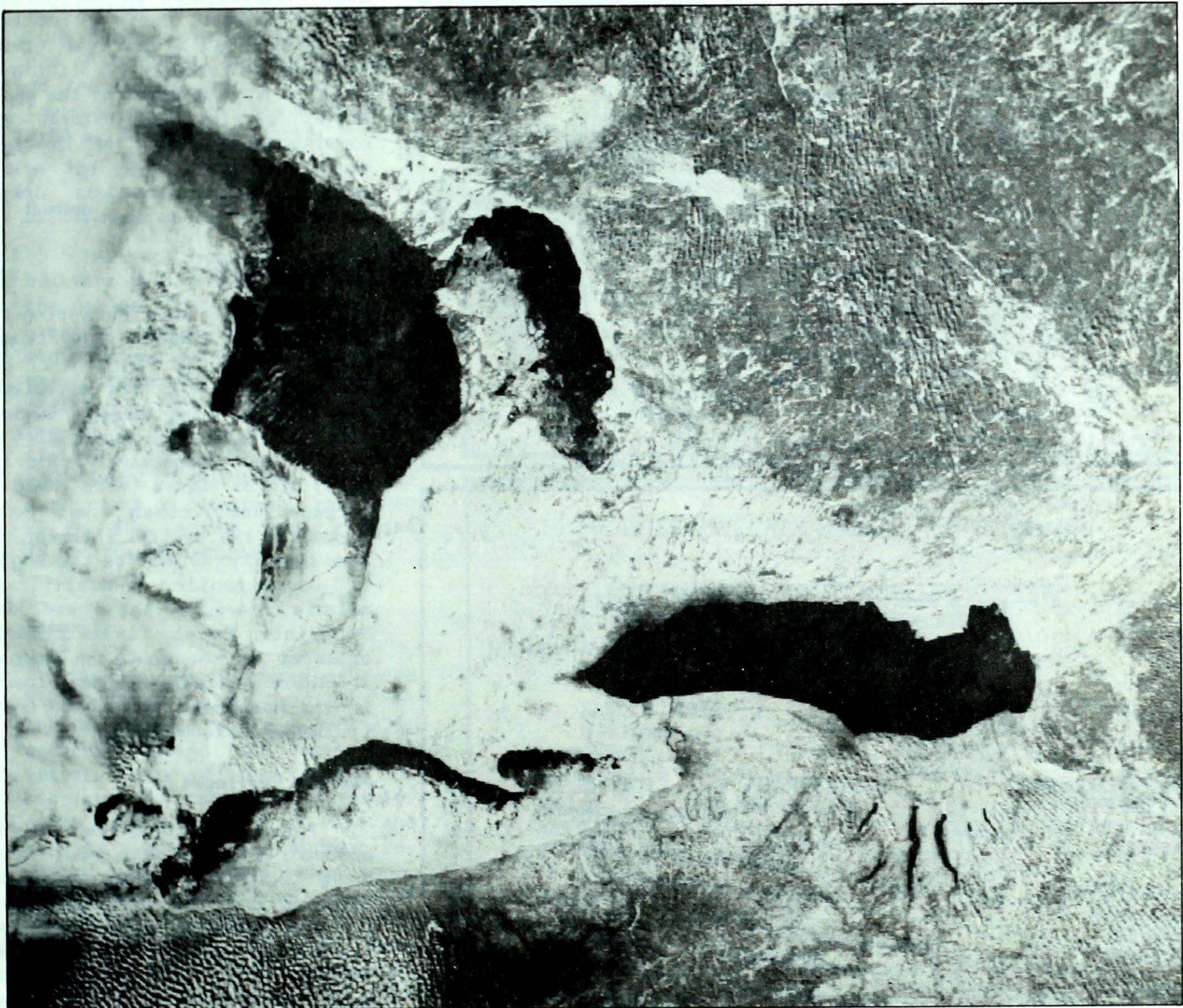
# Climatic Perspectives



A weekly review of Canadian climate

February 25 to March 3, 1986

Vol.8 No.9



This NOAA 9 photograph of February 25, 1986 shows heavy ice congealing sections of the Great Lakes. Thin ice, because of its poor reflectivity, is not easily visible. Clear skies on this day also allowed for an excellent infrared image of Lake Ontario as seen on page 8.

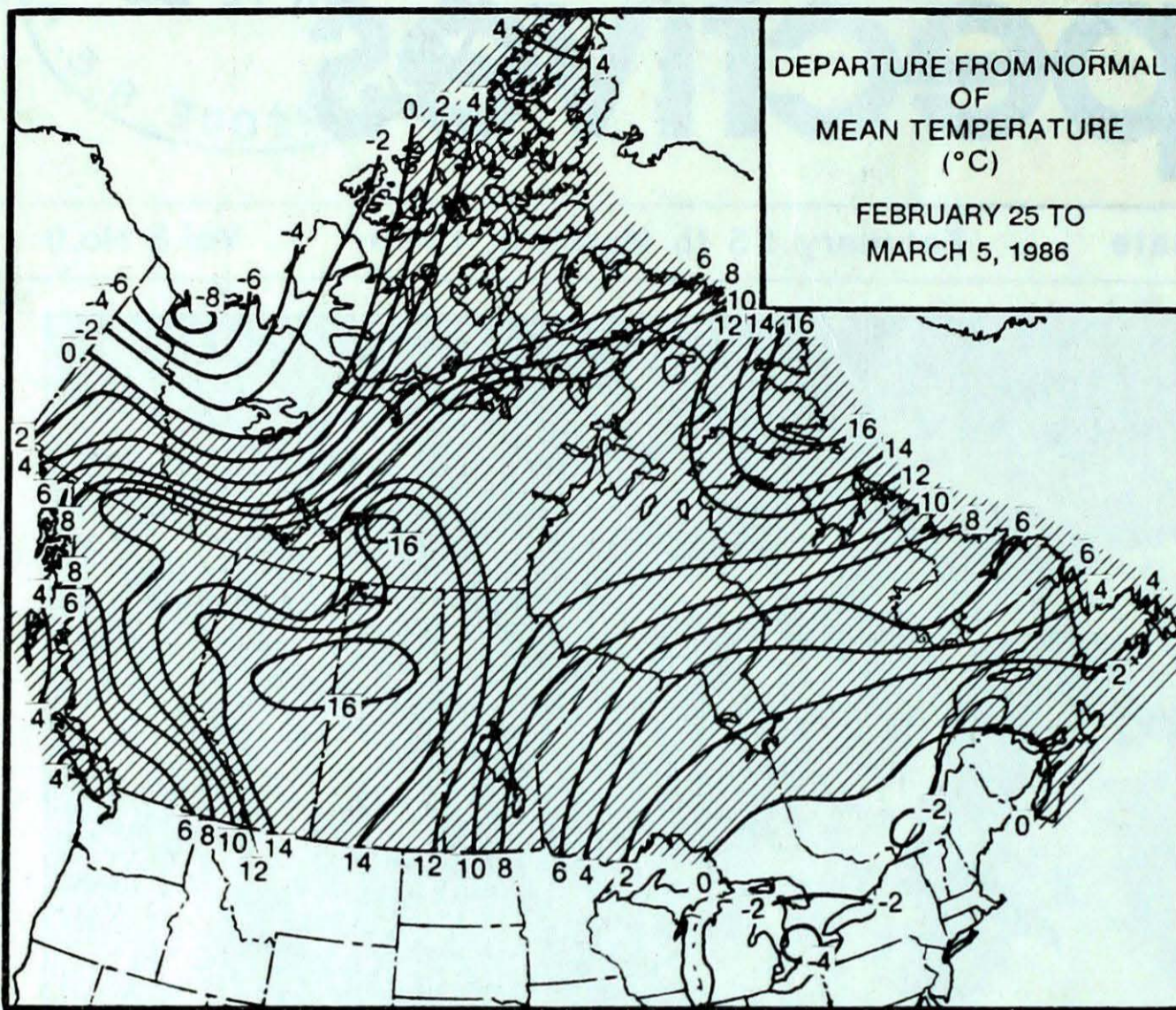
● ***Temperatures in the West soar into the teens***

- snow slides close highways
- local flash floods

● ***Newfoundland suffers a succession of winter storms***



# TEMPERATURE



## ACROSS THE COUNTRY...

### Yukon and Northwest Territories

The eastern Arctic and the Coronation coastal region experienced blizzards most of the week. The western Arctic was clear and cold. Temperatures in the northern Yukon dropped to  $-50^{\circ}\text{C}$ . In contrast, the mercury at Watson Lake climbed to  $9.4^{\circ}\text{C}$  on February 27, tying the all-time high maximum for the month. Above freezing temperatures were experienced for most of the Sourdough Rendezvous week, but melting snow produced hazardous driving conditions after sundown.

### British Columbia

Abnormally warm and spring-like weather broke numerous daily temperature records. On February 27 both Vancouver and Victoria established new all-time high maximum temperature records for the month,  $18.4$  and  $17.4$  degrees respectively. The 1986 B.C. Winter Games were held at Terrace under cloudy, wet conditions. In the central interior, the thaw caused problems for the logging and construction industry, and seismic crews in the Peace River District. Local flash flooding occurred in the south on February 25. There were many highway closures in the Kootenays, due to an uncontrollable avalanche situation.

### Prairie Provinces

Pleasant spring-like weather ensued. Temperatures, under mainly sunny skies, moderated each day, climbing into the teens in Alberta by the weekend. In Manitoba, maximum temperature readings climbed several degrees above the freezing mark. Daily temperature records were broken in all areas of the prairies. On February 28, the temperature climbed to  $18^{\circ}\text{C}$  at Lethbridge, while the thermometer at Calgary registered  $17^{\circ}\text{C}$ . The deep snow cover in southern Alberta melted rapidly. The St. Mary and Oldman Rivers overflowed their banks west of Lethbridge due to a heavy runoff and ice jams. More than 100 head of cattle drowned when flood waters inundated a feed lot. Avalanches were a potential threat in the back country of the Rockies.

## WEEKLY TEMPERATURE EXTREME (C)

	MAXIMUM	MINIMUM
<b>BRITISH COLUMBIA</b>	VANCOUVER INT'L 18	FORT NELSON -19
<b>YUKON TERRITORY</b>	WATSON LAKE 9	OGILVIE -50
<b>NORTHWEST TERRITORIES</b>	HAY RIVER 13	MOULD BAY -47
<b>ALBERTA</b>	LETHBRIDGE 19	FORT CHIPEWYAN -21
<b>SASKATCHEWAN</b>	BUFFALO NARROWS A 13	URANIUM CITY -22
<b>MANITOBA</b>	THE PAS 10	CHURCHILL -30
<b>ONTARIO</b>	TRENTON 6	MOOSONEE -37
<b>QUEBEC</b>	MANIWAKI 5	KUUJUUARAPIK -37
<b>NEW BRUNSWICK</b>	CHATHAM 4	ST STEPHEN -20
<b>NOVA SCOTIA</b>	WESTERN HEAD 4	TRURO -14
<b>PRINCE EDWARD ISLAND</b>	SUMMERSIDE 2	SUMMERSIDE -12
<b>NEWFOUNDLAND</b>	ARGENTIA 9	WABUSH LAKE -28

## ACROSS THE NATION

WARMEST MEAN TEMPERATURE	10	ABBOTSFORD	BC
COOLEST MEAN TEMPERATURE	-36	MOULD BAY	NWT



**Ontario**

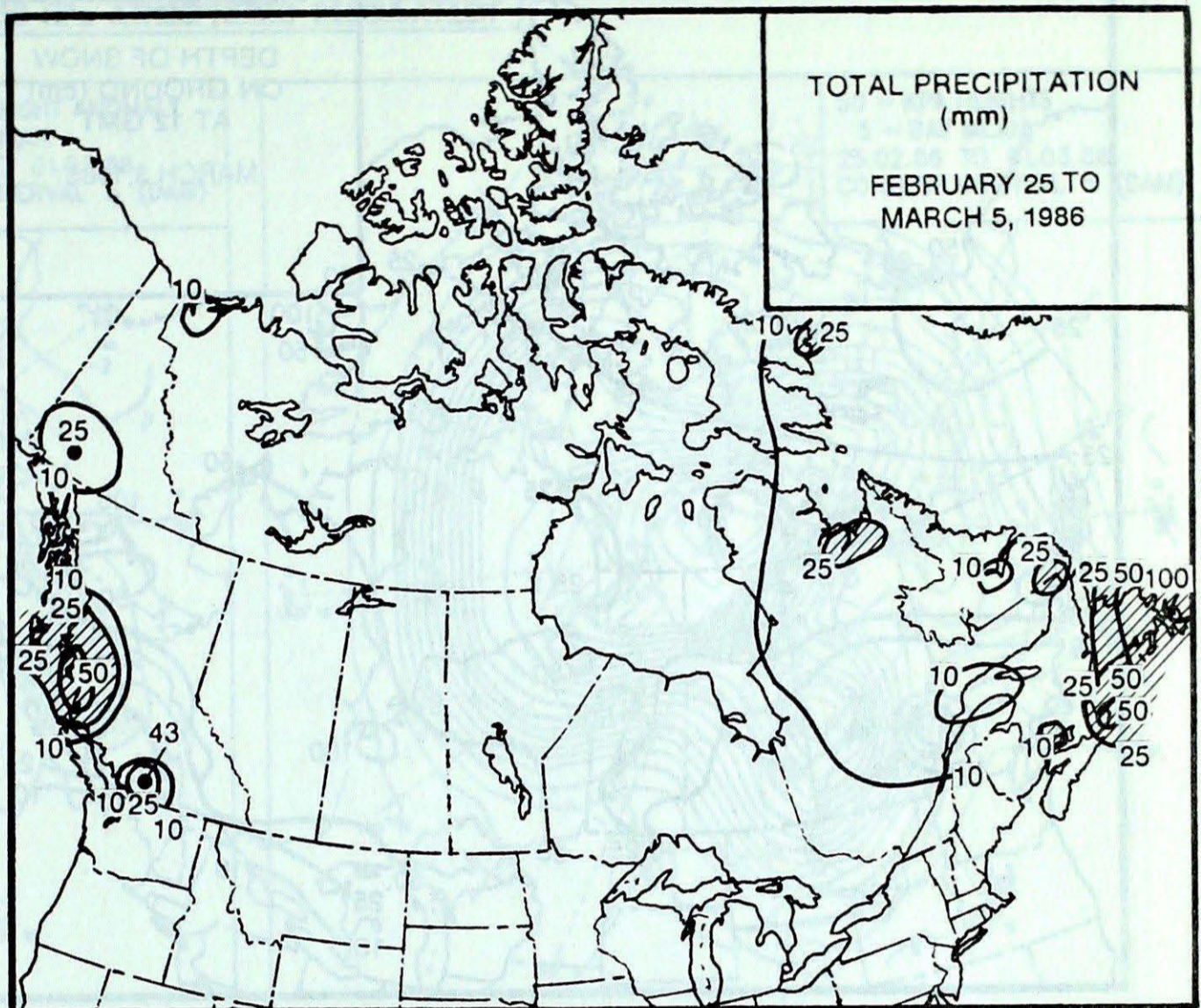
Cold air covered most of the province until the weekend, giving variably sunny skies. Except for flurries near the Great Lakes, snowfalls were very light in southern and central Ontario. Five to 15 centimetres of fresh snow fell in some northern communities. At the end of the week, the depth of snow on the ground ranged from just a few centimetres in the southwest to over a 100 cm in the north.

**Quebec**

The weather was cold and blustery during the first part of the period. A deep slow moving low pressure system, associated with above normal temperatures, brought heavy snowfalls to eastern and northern Quebec, with amounts ranging up to 30 cm. Milder weather arrived in the south over the weekend. Except in the south, where the snow cover is generally less than 20 cm, snow depths ranged between 30 and 80 centimetres.

**Atlantic**

Several major storms affected Newfoundland during the week. In the Maritimes, heaviest snowfalls occurred during the early and latter parts of the period. On February 26, an intense winter storm gave a mixture of rain and snow to Newfoundland; Labrador received 5 to 10 centimetres of snow. On February 28, St. John's received the brunt of another storm, with winds gusting to 130 km/h. There were many reports of wind damage, including a tractor-trailer which flipped over on a highway. Fifteen hours of freezing rain affected the St. John's area on March 2, causing numerous power outages. The same storm gave significant snowfalls to other parts of the Island, and eastern Nova Scotia. Sydney received 27 cm of snow, bringing their seasonal total snowfall to 380 cm, 62 cm above normal. Cold but fair weather moved into Labrador during the latter part of the week.

**HEAVIEST WEEKLY PRECIPITATION (mm)**

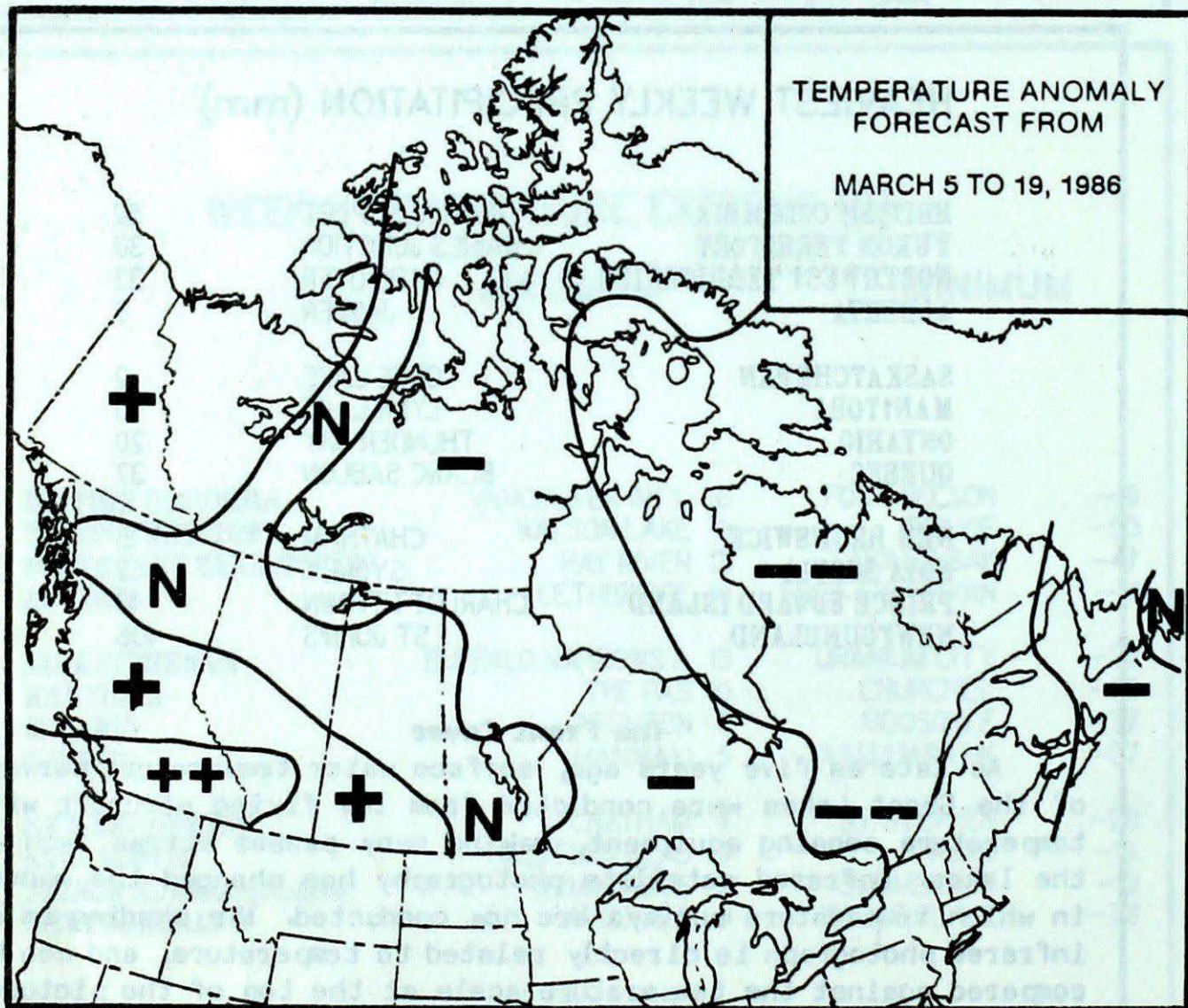
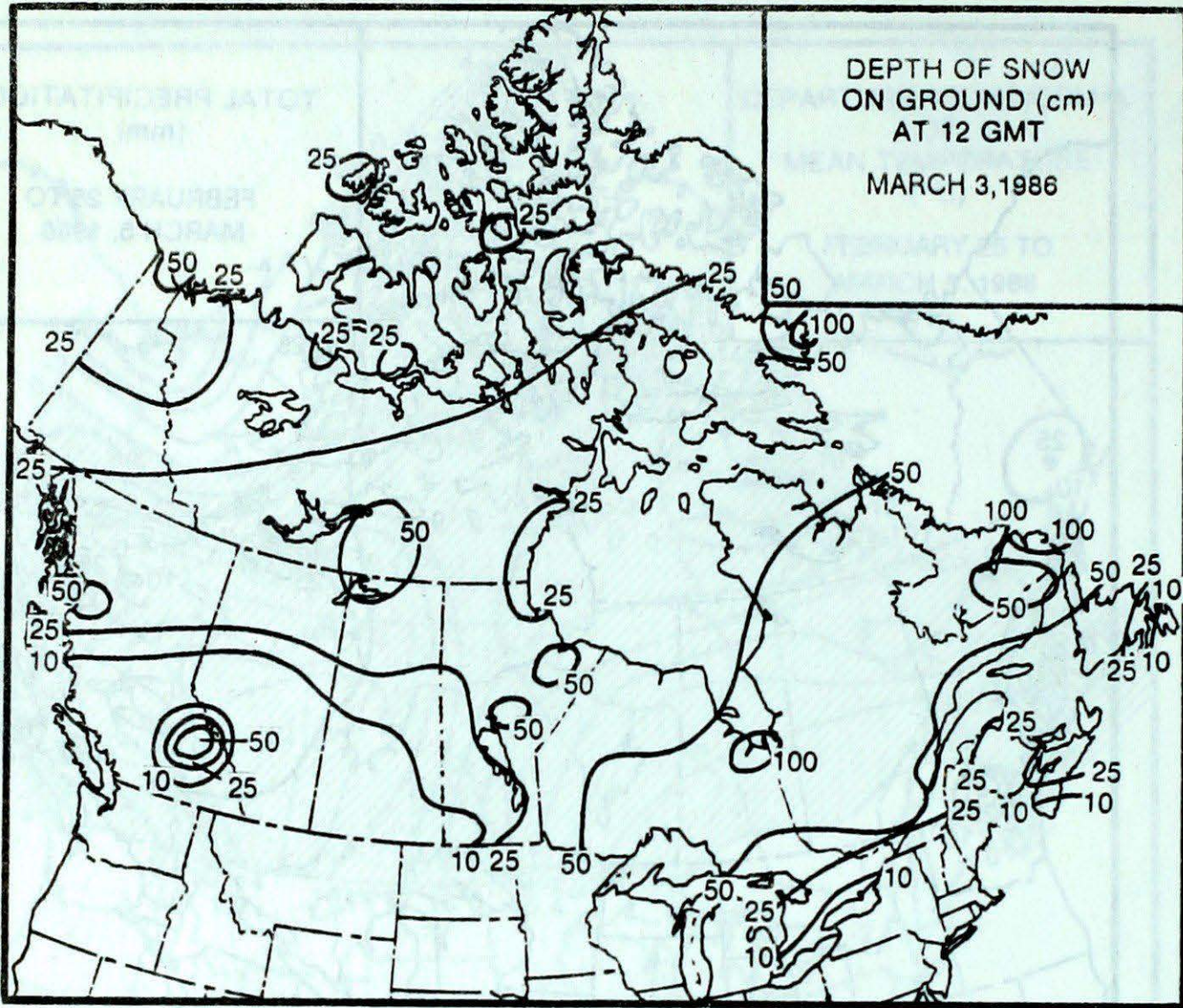
BRITISH COLUMBIA	PRINCE RUPERT	52
YUKON TERRITORY	HAINES JUNCTION	30
NORTHWEST TERRITORIES	CAPE DYER	33
ALBERTA	JASPER	5
SASKATCHEWAN	CREE LAKE	2
MANITOBA	LYNN LAKE	15
ONTARIO	THUNDER BAY	20
QUEBEC	BLANC SABLON	37
NEW BRUNSWICK	CHATHAM	15
NOVA SCOTIA	SYDNEY	62
PRINCE EDWARD ISLAND	CHARLOTTETOWN	13
NEWFOUNDLAND	ST JOHN'S	106

**The Front Cover**

As late as five years ago, surface water temperature surveys of the Great Lakes were conducted from low flying aircraft with temperature sensing equipment, making many passes across each of the lakes. Infrared satellite photography has changed the manner in which temperature surveys are now conducted. The shading in an infrared photograph is directly related to temperature, and can be compared against the temperature scale at the top of the picture. Hence, Lake Ontario is much darker than the surrounding terrain, and the actual shading of the water itself varies, depending on the temperature distribution. The heat-island effect of major cities during cold weather is also very noticeable. Toronto and other surrounding communities in southern Ontario can be easily pin-pointed by the dark areas in the photo. A warm smoke plume from the steel foundries in Hamilton, near the west end of Lake Ontario, stands out quite markedly.



# FORECAST



- ++ much above normal
- + above normal
- N normal
- below normal
- much below normal

**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.

**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. Chivere  
 B. Taylor  
 Word Processing U. Ellis, P. Burke

**Regional Correspondents**  
 Atl.: F. Amrault; Que.: J. Miron  
 Central: F. Luciw; 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.

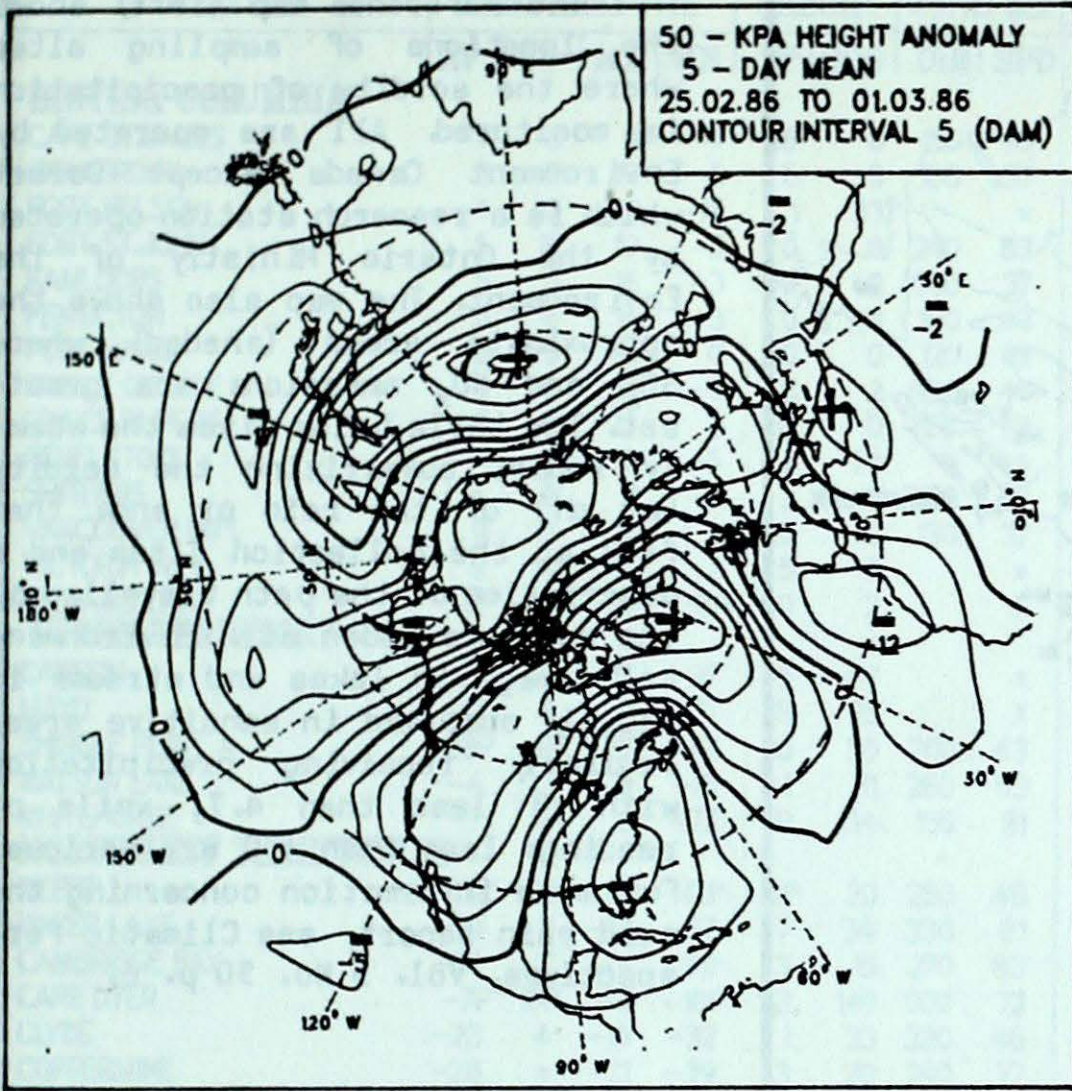
Unsolicited articles are welcome but should be at maximum about 1500 words in length. They will be subject to editorial change without notice due to publishing time constraints. Black and white photographs can be used, but not colour. The contents may be reprinted freely with proper credit.

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.

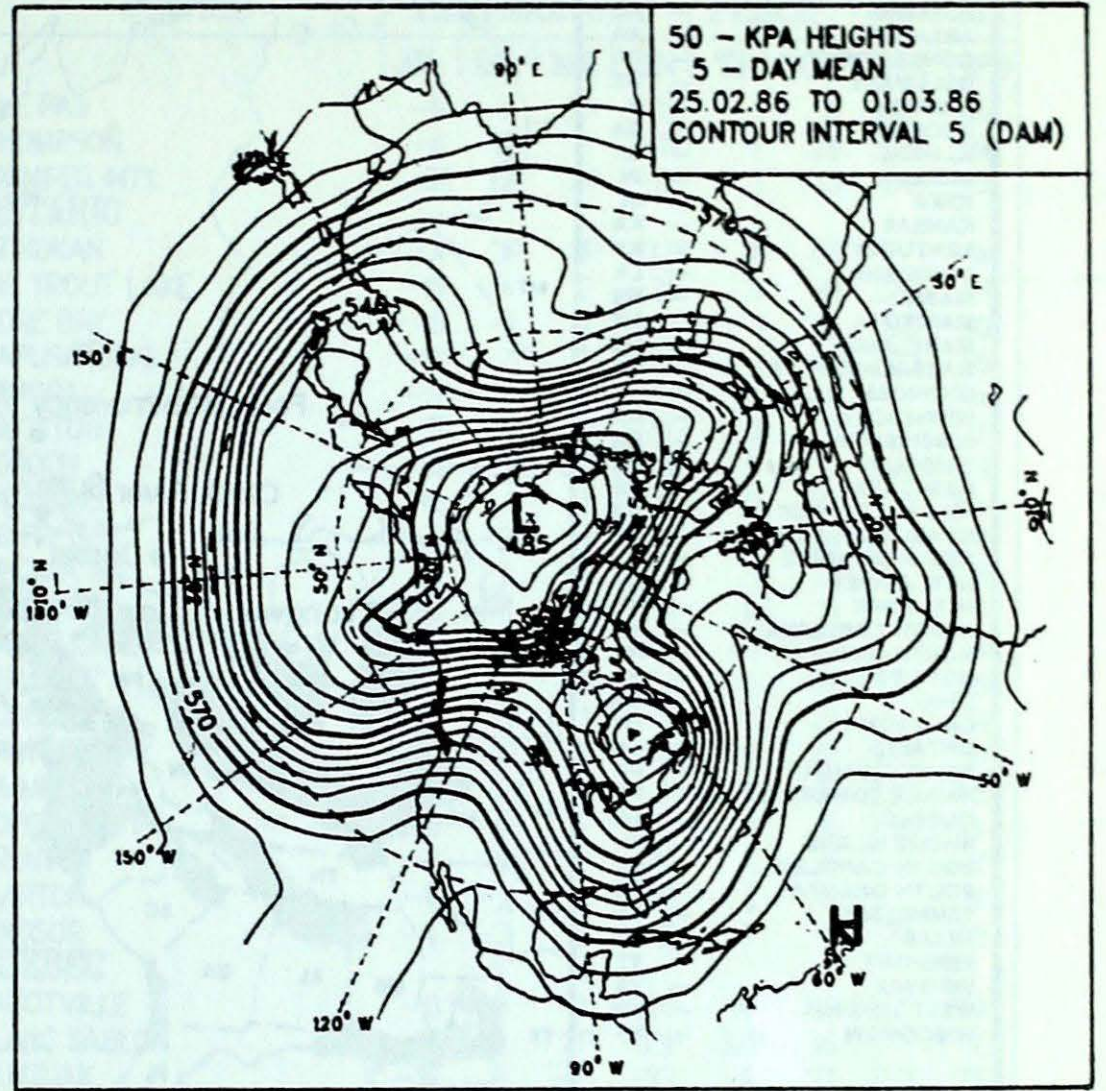
**Annual Subscriptions**  
 Weekly issue including monthly supplement: \$35.00  
 Monthly issue only: \$10.00  
**Subscription enquiries: Supply and Services Canada, Publishing Centre, Ottawa, Ontario, Canada, K1A 0S9. Phone (613)994-1495**



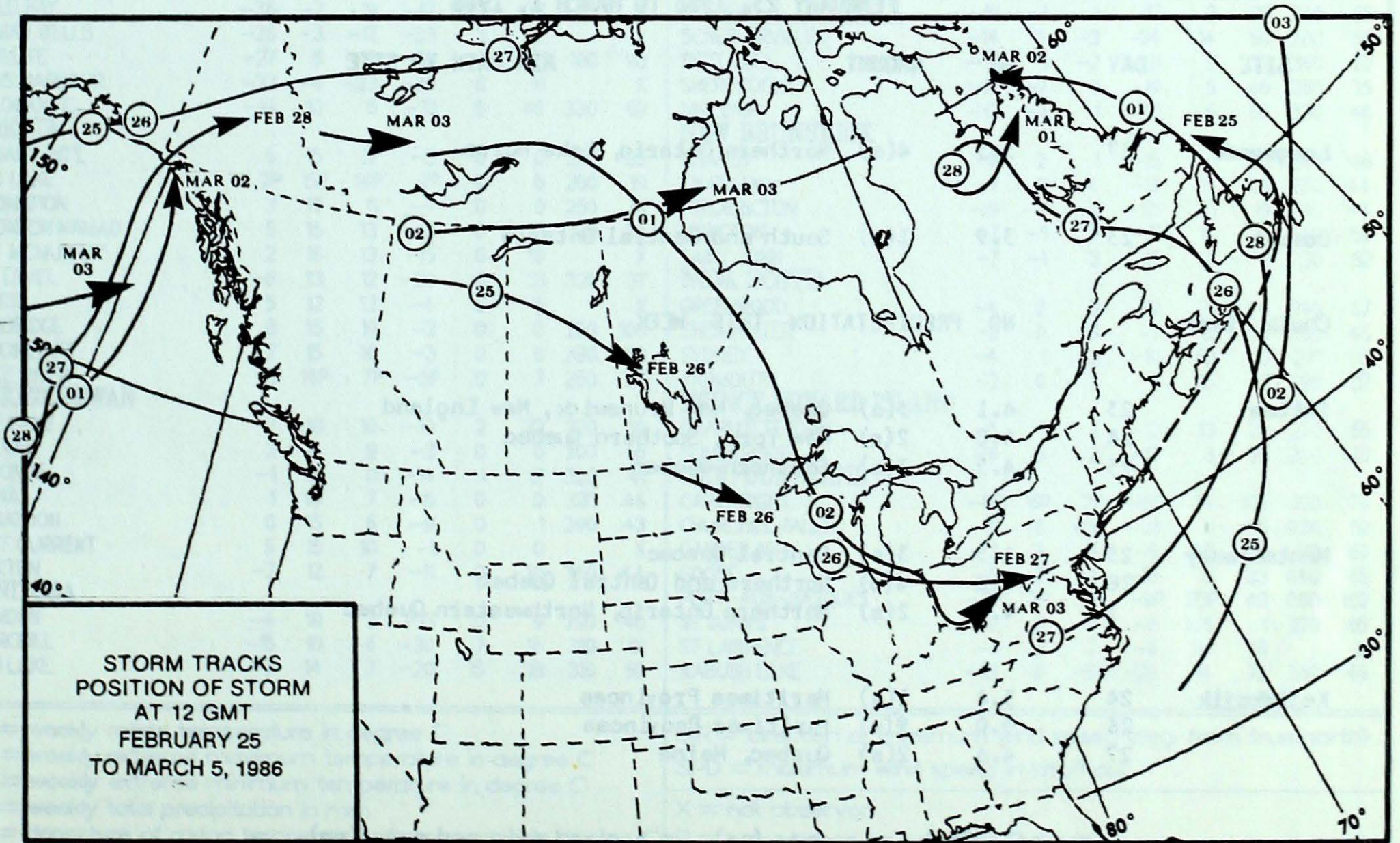
50 KPa ATMOSPHERIC CIRCULATION



MEAN 50 KPa HEIGHT ANOMALY (dam)  
February 25 to March 1, 1986



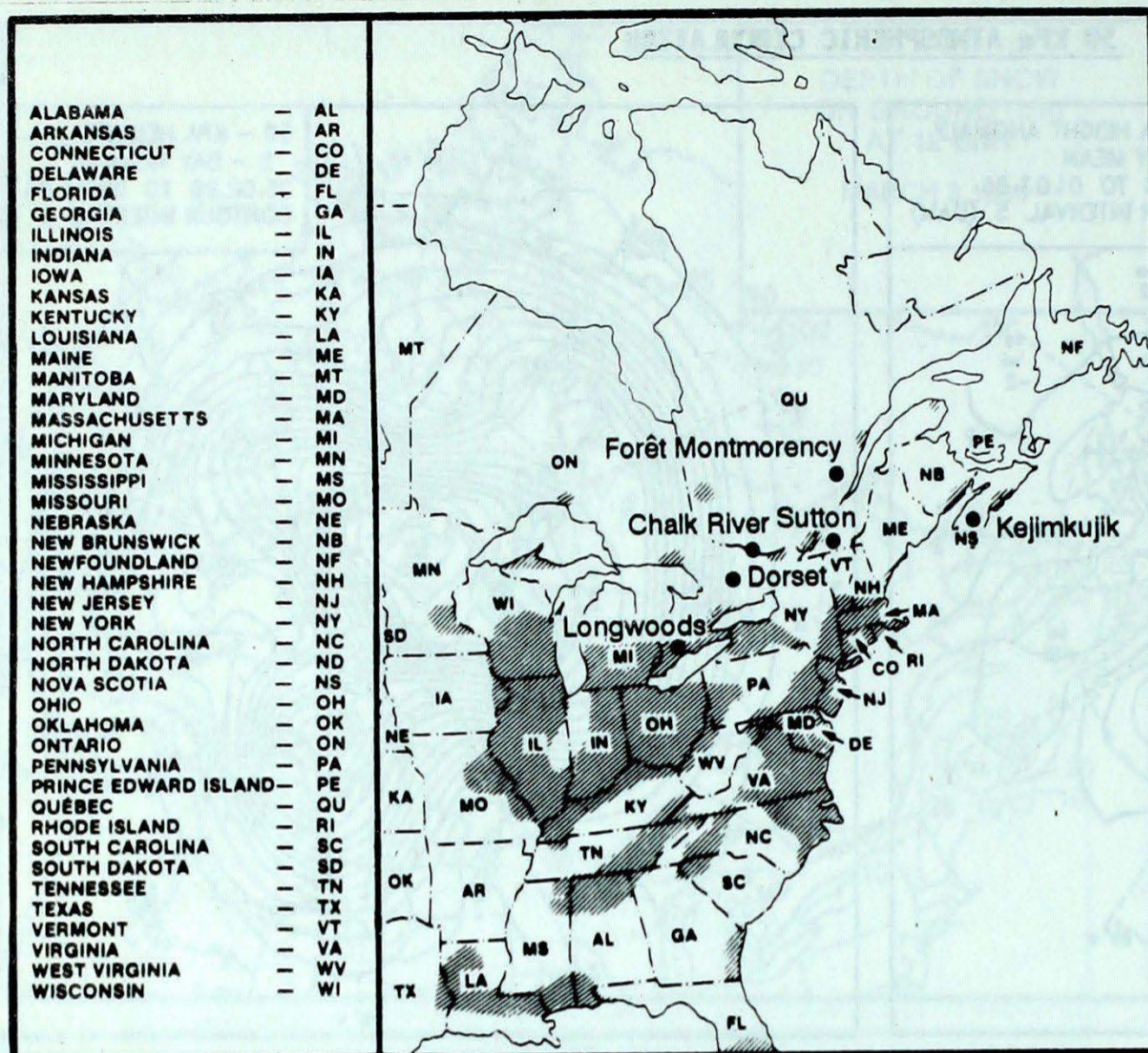
MEAN 50 KPa HEIGHTS (dam)  
February 25 to March 1, 1986





# 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  $\text{SO}_2$  and  $\text{NO}_x$  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 23, 1986 TO MARCH 1, 1986

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	27	5.5	4(s)	Northern Ontario, Lake Huron
Dorset	23	3.9	1(s)	South and Central Ontario
Chalk River			NO PRECIPITATION THIS WEEK	
Sutton	23	4.1	3(s)	Quebec, New Brunswick, New England
	24	4.0	2(s)	New York, Southern Quebec
	25	4.5	3(s)	Southern Quebec
Montmorency	25	4.5	3(s)	Central Quebec
	28	5.2	4(s)	Northern and Central Quebec
	1	4.6	2(s)	Northern Ontario, Northwestern Quebec
Kejimikujik	24	5.4	1(s)	Maritimes Provinces
	26	5.0	9(s)	Maritimes Provinces
	27	4.6	2(s)	Quebec, Maine

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



## TEMPERATURE, PRECIPITATION AND MAXIMUM WIND DATA FOR THE WEEK ENDING 0600 GMT MARCH 4, 1986

STATION	TEMPERATURE				PRECIP.		WIND MX		STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD		AV	DP	MX	MN	TP	SOG	DIR	SPD
<b>BRITISH COLUMBIA</b>									THE PAS	-4	*	10	-13	1	11	300	65
CAPE ST. JAMES	7	3	9	4	18	0	150	96	THOMPSON	-8	12	6	-19	4	29	300	59
CRANBROOK	5	7	13	-5	6	0	180	37	WINNIPEG INT'L	-6P	8P	2P	-12P	1	13	170	43
FORT NELSON	-4	10	13	-19	1	33		*	<b>ONTARIO</b>								
FORT ST. JOHN	5	15	10	-2	0	0	240	83	ATIKOKAN	-10P	3P	2P	-32P	7	65		*
KAMLOOPS	5	6	16	-3	0	0	090	37	BIG TROUT LAKE	-15	*	2	-36	3	41	320	61
PENTICTON	6	4	15	-3	0	0	180	43	GORE BAY	-8	-1	2	-21	1	15	290	50
PORT HARDY	8	5	14	0	20	0	120	65	KAPUSKASING	-13	1	2	-35	1	67	300	46
PRINCE GEORGE	4	*	13	-5	8	2	180	46	KENORA	-5P	7P	2P	-16P	4	48		*
PRINCE RUPERT	8	6	15	2	52	0	150	93	KINGSTON	-7P	-2P	1P	-19P	0	0		X
REVELSTOKE	1	3	6	-5	7	74		*	LONDON	-9P	-5P	1P	-16P	5	10	330	39
SMITHERS	4	9	11	-3	3	0	180	59	MOOSONEE	-15	1	-2	-37	9	137	320	44
VANCOUVER INT'L	9	5	18	2	5	0	130	37	NORTH BAY	-11	-3	1	-26	1	36	330	39
VICTORIA INT'L	9	4	15	2	5	0		*	OTTAWA INT'L	-8	-2	3	-21	1	13		X
WILLIAMS LAKE	3P	*	12P	-3P	0	2		X	PETAWAWA	-10	-1	2	-22	0	19		X
<b>YUKON TERRITORY</b>									PICKLE LAKE	-6P	9P	3P	-19P	2P	65		*
DAWSON	-25	*	-15	-37	5	44		*	RED LAKE	-7P	6P	2P	-22P	6	46	130	35
MAYO	-12	4	8	-27	8	25		X	SUDBURY	-10	-1	1	-25	1	29		X
SHINGLE POINT A	-28P	-4P	-18P	-42	10	56	200	63	THUNDER BAY	-10P	1P	4P	-29P	20	61	060	50
WATSON LAKE	-4	12	9	-18	1	31	280	63	TIMMINS	-12	0	2	-31	4	51	330	46
WHITEHORSE	-7	4	5	-22	18	34	150	81	TORONTO INT'L	-8	-4	5	-15	1	6	280	44
<b>NORTHWEST TERRITORIES</b>									TRENTON	-7	-3	6	-19	1	6		X
ALERT	-32P	2P	-17P	-42P	2P	20	250	48	WIARTON	-8	-2	2	-18	0	26		X
BAKER LAKE	-20	11	-10	-37	7	34	330	81	WINDSOR	-4	-3	3	-12	7	7	020	43
CAMBRIDGE BAY	-26	7	-11	-40	3	15	270	83	<b>QUEBEC</b>								
CAPE DYER	-7P	16P	-1P	-18P	33	149	020	72	BAGOTVILLE	-11	0	0	-20	14	30	270	59
CLYDE	-23	4	-16	-32	1	33	330	46	BLANC SABLON	-5P	*	2P	-13P	37P	16		X
COPPERMINE	-28	*	-21	-39	3	20	240	72	INUKJUAK	-16	8	-2	-33	4	27	350	72
CORAL HARBOUR	-21	7	-5	-39	2	29		X	KUUJUAQ	-10	11	0	-20	25	86	050	46
EUREKA	-34	5	-26	-43	3	20	020	57	KUUJUARAPIK	-18	4	-3	-37	15	59	010	46
FORT SMITH	-8	12	12	-24	2	35		X	MANIWAKI	-9	0	5	-23	1	31		*
FROBISHER BAY	-7	18	2	-24	11	18	060	89	MONT JOLI	-8	0	-1	-14	15	27	240	65
HALL BEACH	-26P	5P	-14P	-38	2	28	300	78	MONTREAL INT'L	-8	-2	2	-19	3	15	250	46
INUVIK	-34	-9	-18	-46	12	42		X	NATASHQUAN	-7	3	1	-16	15	27	180	69
MOULD BAY	-36	-2	-19	-47	2	32		X	QUEBEC	-10	-1	1	-17	3	75	240	65
NORMAN WELLS	-26	-3	-17	-33	3	22		X	SCHEFFERVILLE	-14	5	-3	-24	14	59	280	56
RESOLUTE	-27	6	-16	-39	8	31	100	98	SEPT-ILES	-10	1	-2	-21	8	27	360	52
SACHS HARBOUR	-32	-4	-23	-39	8	11		X	SHERBROOKE	-10	-2	0	-19	5	46	260	35
YELLOWKNIFE	-14	10	6	-31	5	46	330	69	VAL D'OR	-13	-2	1	-30	5	66	330	46
<b>ALBERTA</b>									<b>NEW BRUNSWICK</b>								
CALGARY INT'L	6	15	17	-3	0	0	250	85	CHARLO	-8	2	1	-15	11	22	240	46
COLD LAKE	2P	15P	14P	-7P	0	6	260	39	CHATHAM	-7	0	4	-19	15	24	230	44
CORONATION	3	15	11	-7	0	0	250	41	FREDERICTON	-8P	-1P	2P	-17P	11	19	290	44
EDMONTON NAMAO	5	15	13	-3	0	2	120	35	MONCTON	-7	-1	2	-17	15	19	240	59
FORT MCMURRAY	2	16	13	-15	0	10		X	SAINT JOHN	-7	-1	3	-16	14	32	230	52
HIGH LEVEL	-6	13	12	-20	4	31	320	37	<b>NOVA SCOTIA</b>								
JASPER	5	12	13	-4	5	4		X	GREENWOOD	-4	0	3	-12	21	44	240	67
LETHBRIDGE	8	15	19	-2	0	0	260	106	SHEARWATER	-2	0	3	-7	12	26	350	46
MEDICINE HAT	7	15	16	-3	0	0	280	69	SYDNEY	-4	1	2	-10	62	0	210	85
PEACE RIVER	1P	14P	7P	-5P	0	7	260	37	YARMOUTH	-2	0	3	-7	15	3	290	57
<b>SASKATCHEWAN</b>									<b>PRINCE EDWARD ISLAND</b>								
CREE LAKE	-2	18	10	-19	2	32	320	59	CHARLOTTETOWN	-5	1	1	-12	13	23	220	65
ESTEVAN	3	14	9	-3	0	0	300	46	SUMMERSIDE	-6	0	2	-12	8	30	240	70
LA RONGE	-1	15	11	-14	1	12	320	41	<b>NEWFOUNDLAND</b>								
REGINA	1	14	7	-5	0	0	320	46	CARTWRIGHT	-6P	6P	2P	-16P	14	105	100	74
SASKATOON	0	15	6	-9	0	1	290	43	CHURCHILL FALLS	-11	8	-3	-21	11	76	030	52
SWIFT CURRENT	5	15	10	-1	0	0		X	GANDER INT'L	-3	3	5	-9	48	36	110	69
YORKTON	-2	12	7	-11	0	10	360	44	GOOSE	-6	7	1	-13	5	33	040	65
<b>MANITOBA</b>									PORT-AUX-BASQUES	-3P	2P	2P	-9P	23P	40	080	102
BRANDON	-4	10	3	-13	0	9	290	46	ST JOHN'S	0	3	6	-6	106	1	270	65
CHURCHILL	-15	10	-6	-30	7	16	310	91	ST LAWRENCE	-1	3	7	-6	36	18		X
LYNN LAKE	-7	14	7	-20	15	18	310	59	WABUSH LAKE	-13	6	-5	-28	14	72	360	46

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



◆AES N-9 6212 11H 25FE86 1927Z 43.0N 78.0W 1: 1.11  
5.0 | 4. | 3. | 1. | 0. | -1. | -2. | -3. | -5. | -6. | -7. | -9. | -10



Lake Ontario is one of the few major lakes that remains open throughout the winter months. This infrared close up of Lake Ontario vividly depicts the surface water temperature distribution of the lake by the different degrees of shading. The chart below shows the corresponding temperature analysis as interpolated from the satellite picture. For more detail see page 3.

