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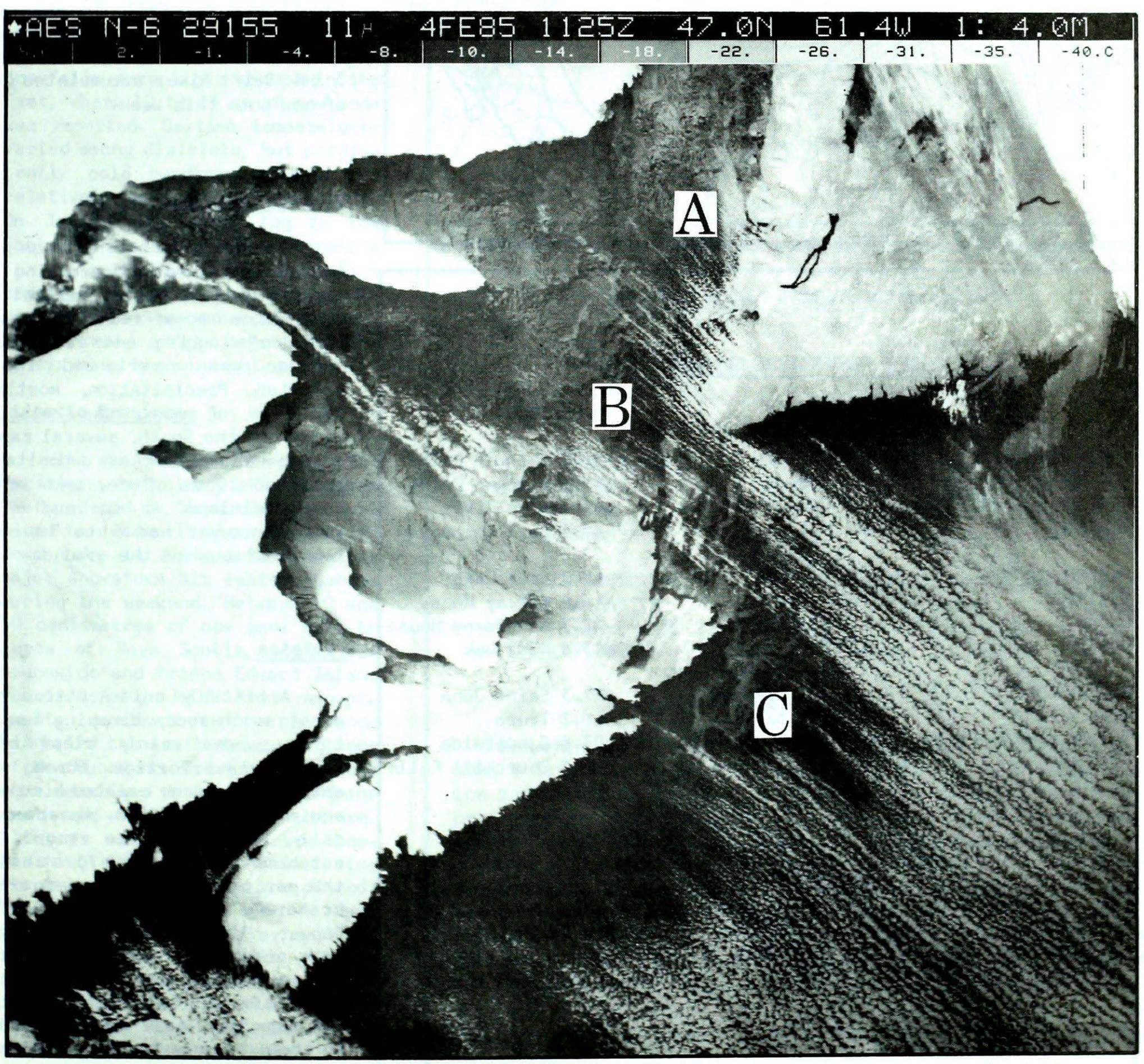
Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

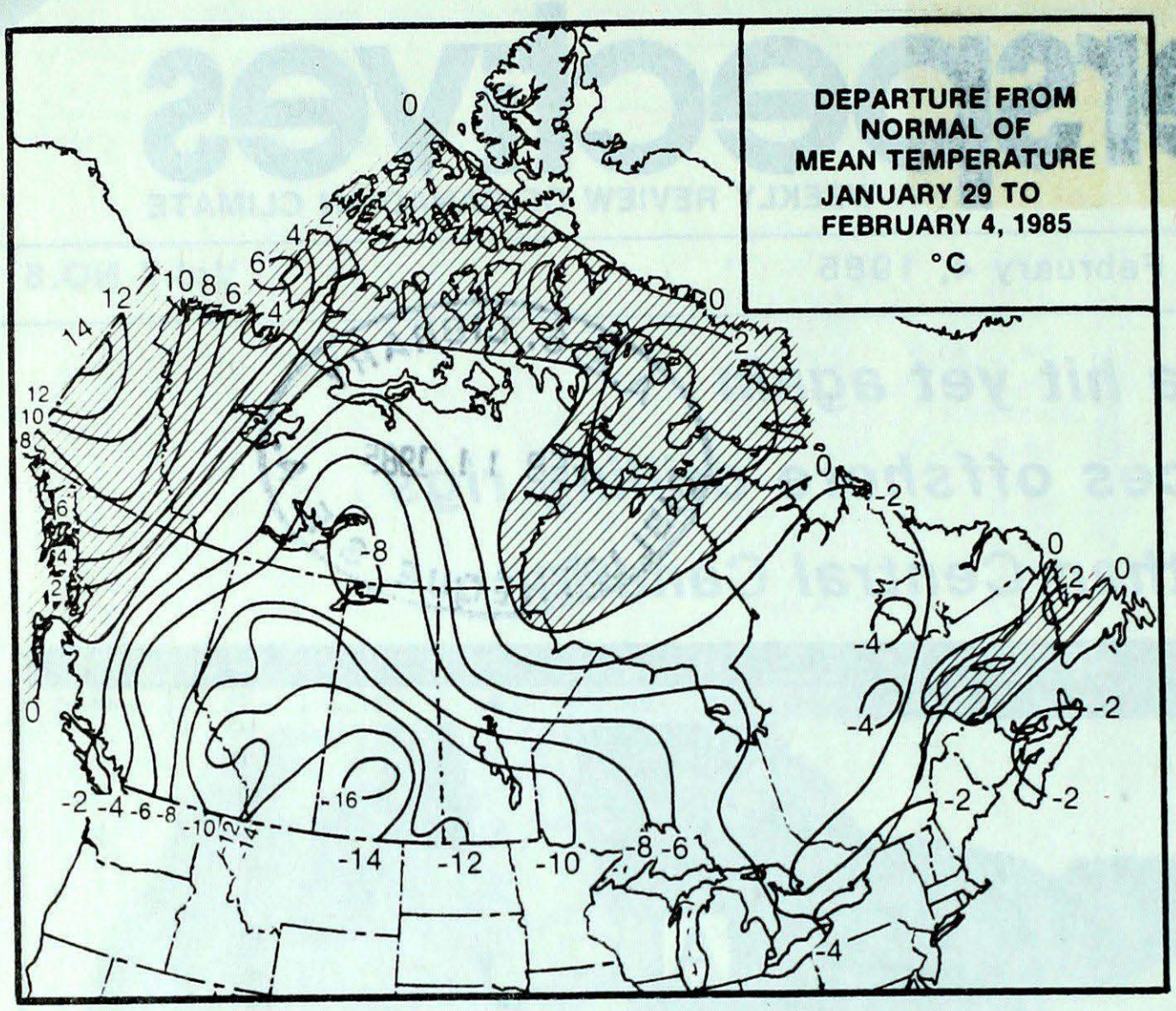
For the period January 29 to February 4, 1985 Vol.7 NO.5

- ***Atlantic Canada hit yet again***
- ***Ice pack menaces offshore drilling rigs***
- ***Yukon warmer than Central Canada***



This NOAA 6 satellite image of February 4, 1985 shows that the Gulf of St. Lawrence is full of first-year ice. For more details see page 3.

Canada



WEEKLY TEMPERATURE EXTREMES (°C)

	MAXIMUM		MINIMUM	
YUKON TERRITORY	2.7	Burwash	-39.4	Shingle Point
NORTHWEST TERRITORIES	- 7.1	Inuvik	-49.2	Gladman Point
BRITISH COLUMBIA	9.7	Cape St. James	-33.6	Blue River
ALBERTA	- 4.1	Calgary	-45.5	Fort Chipewyan
SASKATCHEWAN	- 6.5	Estevan	-45.3	Cree Lake
MANITOBA	- 7.2	Dauphin	-46.6	Norway House
ONTARIO	- 1.1	Windsor	-42.3	Lansdowne House
QUÉBEC	- 2.2	Sherbrooke Sutton Junction	-43.6	Kuujjuak
NEW BRUNSWICK	- 0.9	St. Stephen	-29.3	Saint John
NOVA SCOTIA	1.8	Shelburne	-26.2	Truro
PRINCE EDWARD ISLAND	- 2.9	East Point	-21.8	Summerside
NEWFOUNDLAND	4.0	St. Anthony	-40.7	Churchill Falls

ACROSS THE NATION

Warmest mean temperature	6.0	Cape St. James, BC
Coolest mean temperature	-37.9	Eureka, NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

Once again above normal temperatures were experienced in the Yukon averaging up to 10 degrees above normal in the South and across parts of the Mackenzie District. Daily temperatures ranged from -49° at Gladman Point in the southern Arctic to a high of 4° at Haines Junction in the Yukon. On February 1, a rapidly moving frontal system gave significant snowfalls to many areas of the Yukon, while elsewhere across the North snowfalls were less than 3 cm. Swift River accumulated 24 cm of new snow this week.

British Columbia

A modified Arctic airmass penetrated the Province, dropping mean temperatures to below seasonal values. Skies became relatively sunny, and good logging and recreational weather was experienced in the interior. Precipitation, mostly in the form of snow, was relatively light. In the South, several rapidly moving disturbances deposited a total of 20 cm of new snow on the lower mainland. At the end of the week Vancouver had 5 to 10 centimetres of snow on the ground.

Prairies

A bitterly cold Arctic airmass swept southwards, dropping temperatures, under mainly clear skies, to the minus forties. Strong winds early in the week created wind chill equivalents to -65°C. Numerous new daily low temperature records were established during the first half of the period. The minimum temperature at Norway House dropped to -47° on January 31. Skiing in the mountain park areas of Alberta was temporarily curtailed due to the extreme cold. Numerous water main breaks in the Edmonton area were attributed to the extremely low temperatures of this past week.

Ontario

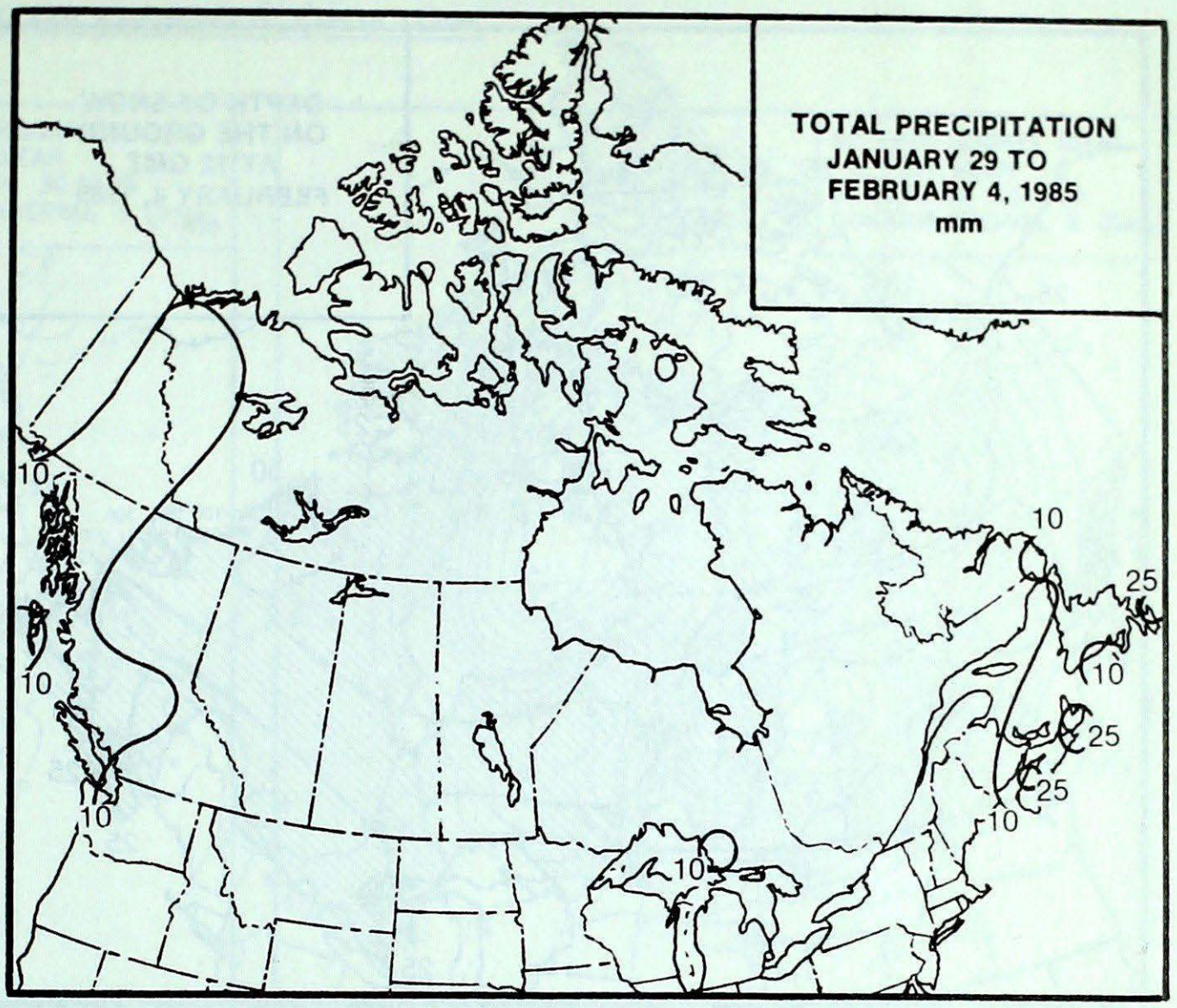
A large Arctic high pressure cell gave cold, but dry weather conditions. During the middle of the period, many new low temperature records were set in northern Ontario. The mercury at Geraldton on February 1 dropped to -42°, breaking the old record of -40° set in 1962. Local snow squalls persisted in some areas; the Niagara Peninsula received 12 cm of new snow. Skiing continues to be very good.

Québec

It was a predominantly cloudy, but relatively tranquil period. Snowfalls were light except in the East, where 10 to 15 cm of new snow was reported. Daytime temperatures varied among districts, but persistently cold readings allowed for relatively good skiing conditions. On January 29, dense fog in the Eastern Townships was responsible for a multi-car accident, which resulted in two deaths. Ice conditions in the St. Lawrence river are near normal, and no major shipping delays have been encountered.

Atlantic Provinces

It was mostly sunny in the Maritimes, but cloudy skies plagued Newfoundland. Temperatures were close to seasonal values but cooled down late in the period. Another major snowstorm hit eastern Canada during the weekend. Between 20 and 30 centimetres of new snow fell in parts of Nova Scotia, while New Brunswick and Prince Edward Island received only half that amount. Twenty centimetres of new snow blanketed the southeastern sections of Newfoundland. Driving conditions were described as hazardous and one death was attributed to the storm. Although many residents are complaining about too much snow, winter carnival officials are elated. Heavy ice conditions off the East Coast have forced five drilling rigs to move off site. Strong northerly winds pushed heavy pack ice into southern portions of the Gulf of St. Lawrence, disrupting shipping and ferry services.

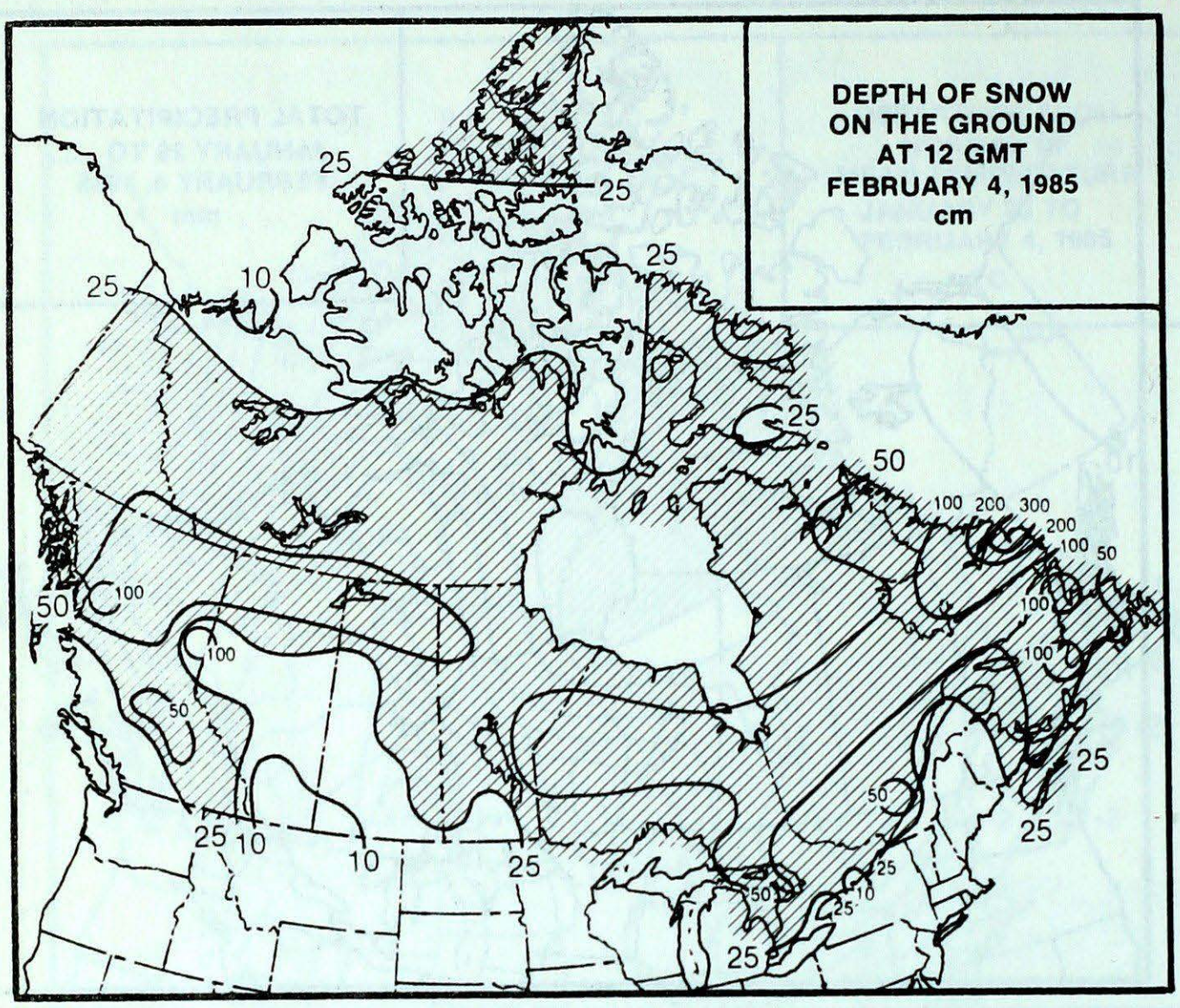


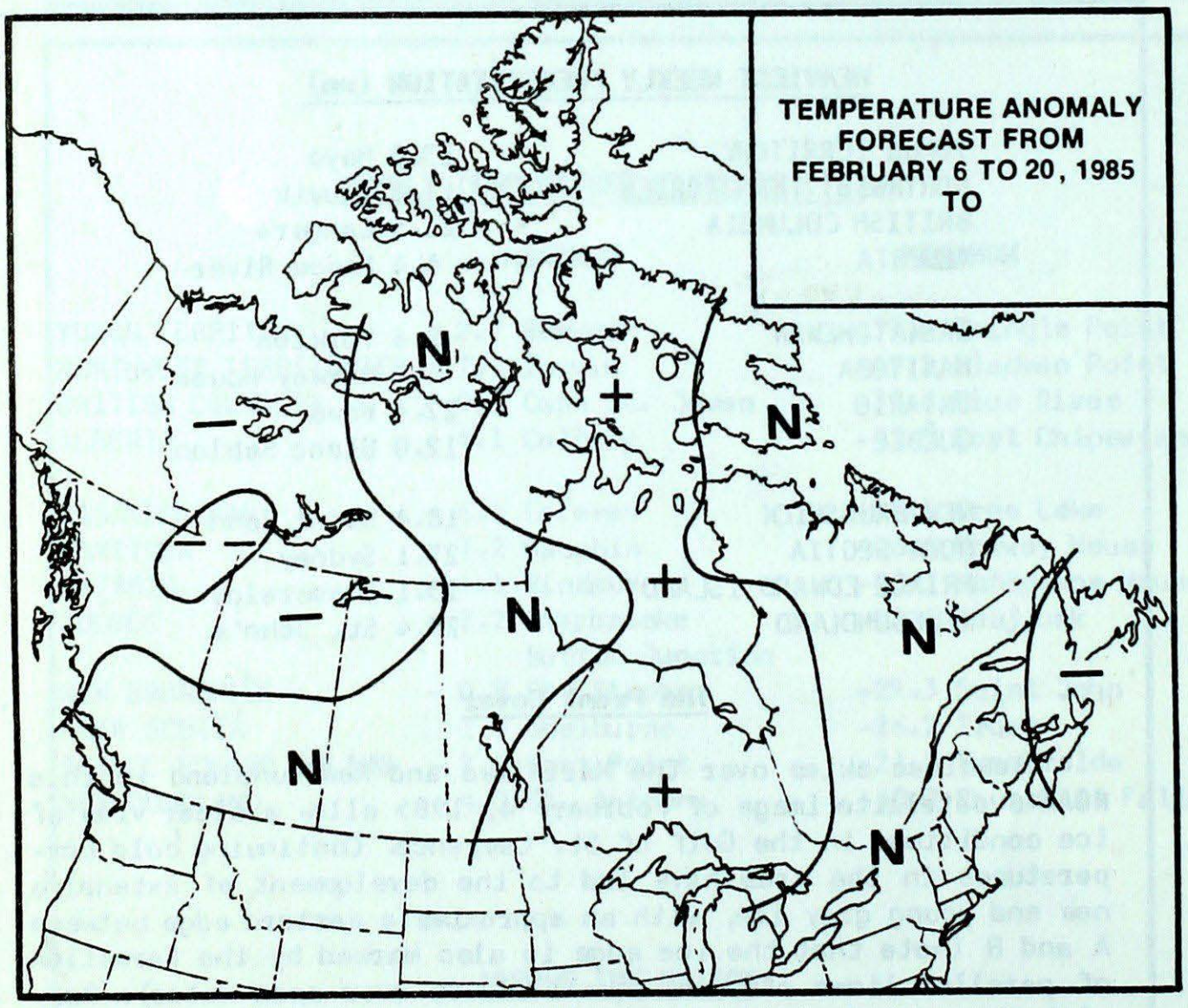
HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON TERRITORY	13.0	Mayo
NORTHWEST TERRITORIES	11.8	Inuvik
BRITISH COLUMBIA	21.5	Langara
ALBERTA	4.4	Peace River
SASKATCHEWAN	2.6	Yorkton
MANITOBA	4.0	Norway House
ONTARIO	22.4	Wawa
QUÉBEC	12.0	Blanc Sablon
NEW BRUNSWICK	18.4	Saint John
NOVA SCOTIA	27.1	Sydney
PRINCE EDWARD ISLAND	13.1	Summerside
NEWFOUNDLAND	29.4	St. John's

The Front Cover

Cloudless skies over the Maritimes and Newfoundland in this NOAA 6 satellite image of February 4, 1985 allow a clear view of ice conditions in the Gulf of St. Lawrence. Continuing cold temperatures in the area have led to the development of extensive new and young gray ice, with an approximate eastern edge between A and B (note that the ice edge is also marked by the formation of parallel lines of snow squall clouds over open water). Persistent northerly winds have driven ice through the Cabot Strait into the open Atlantic Ocean (C) south of Cape Breton Island. This is further south than normal, and is within 30 to 60 km of oil drilling operations.





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.

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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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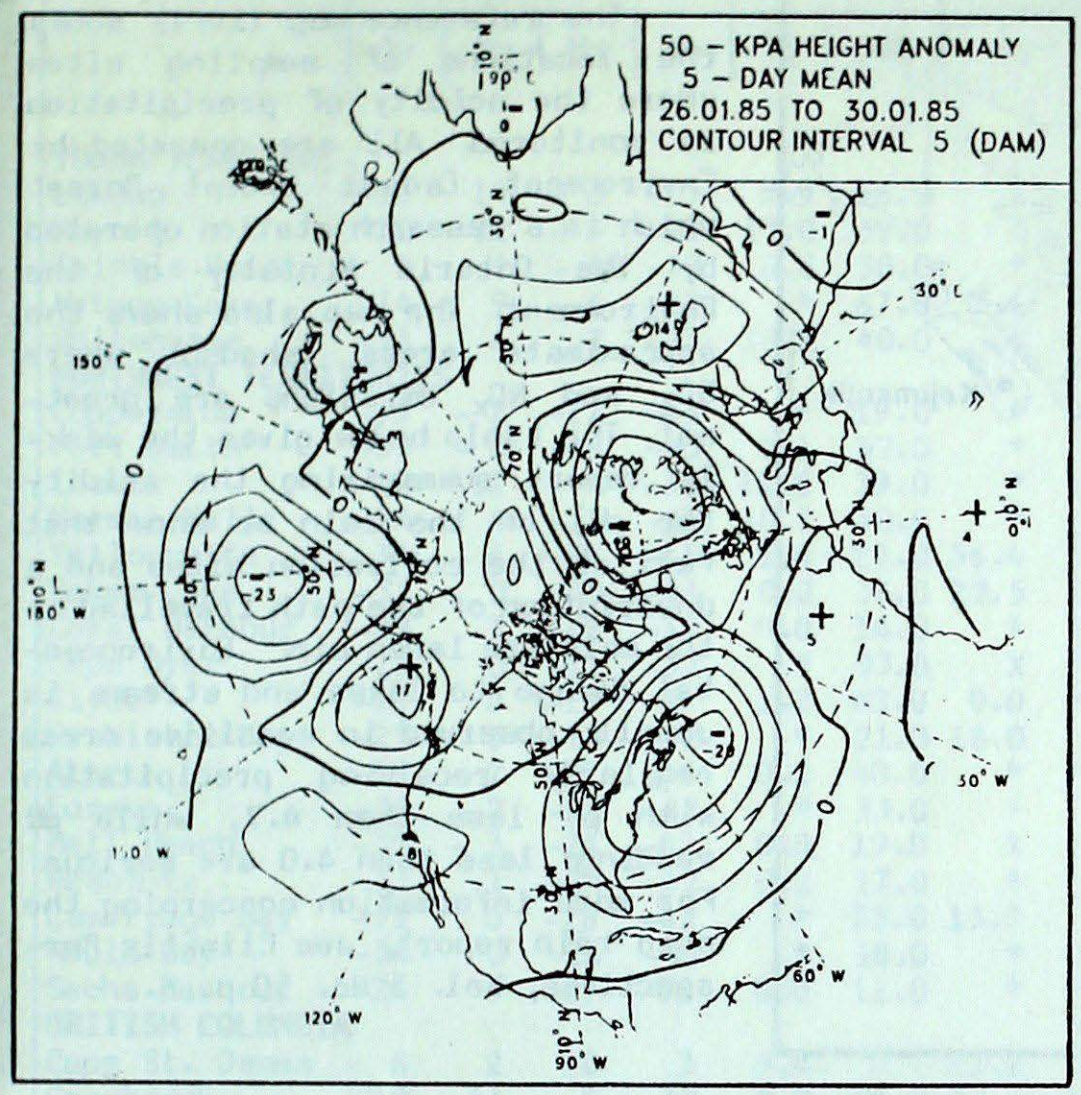
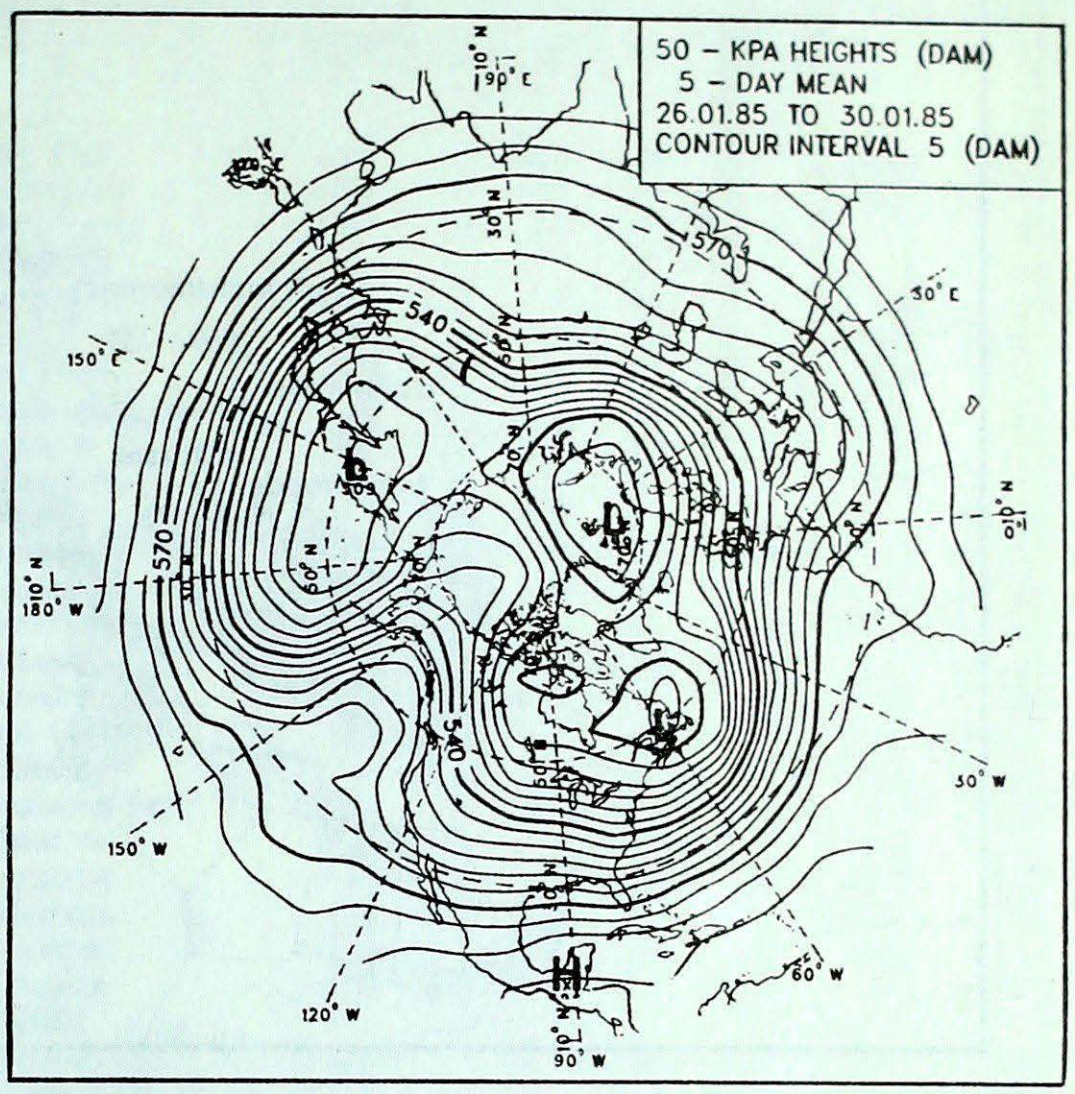
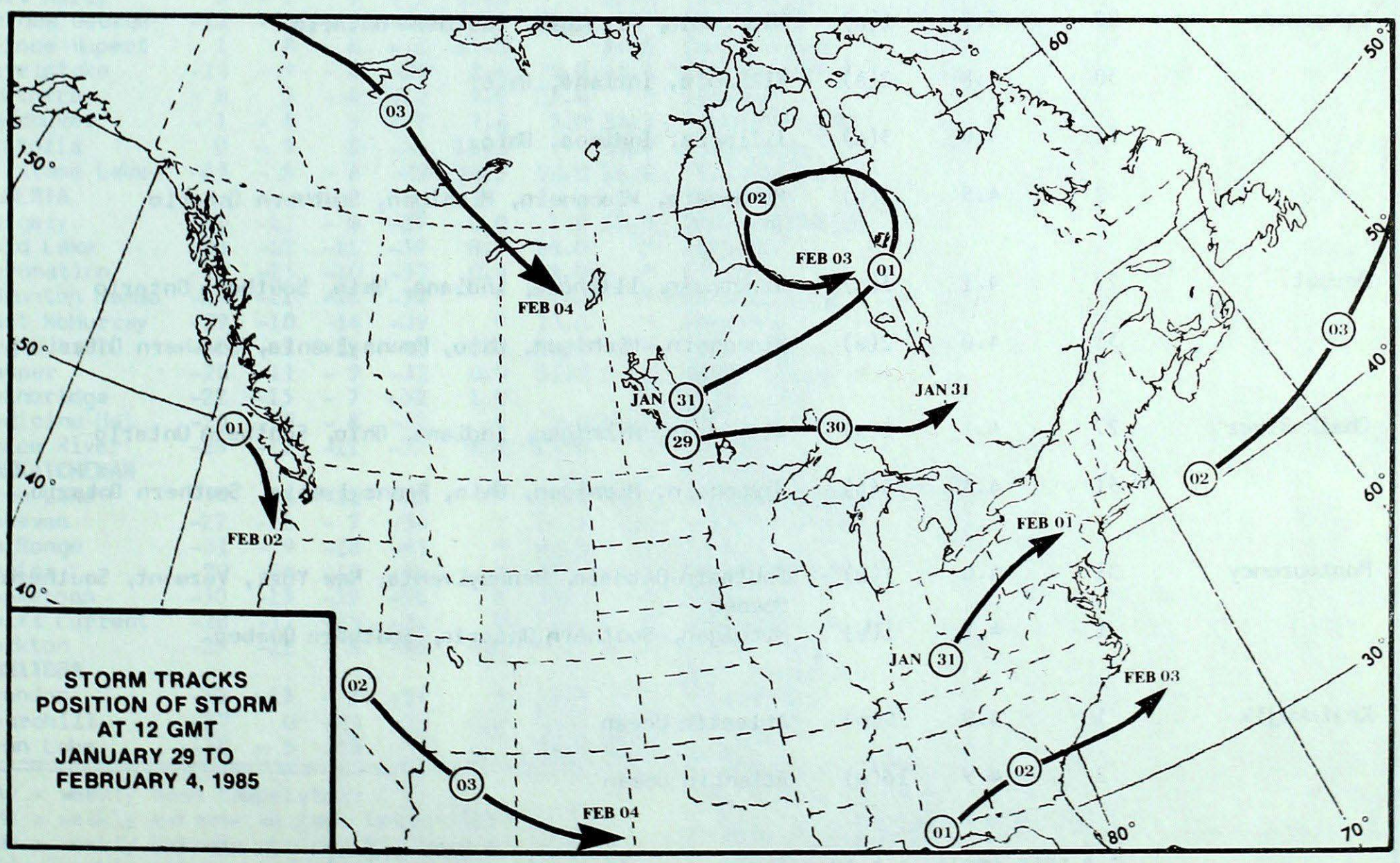
50 KPa ATMOSPHERIC CIRCULATION

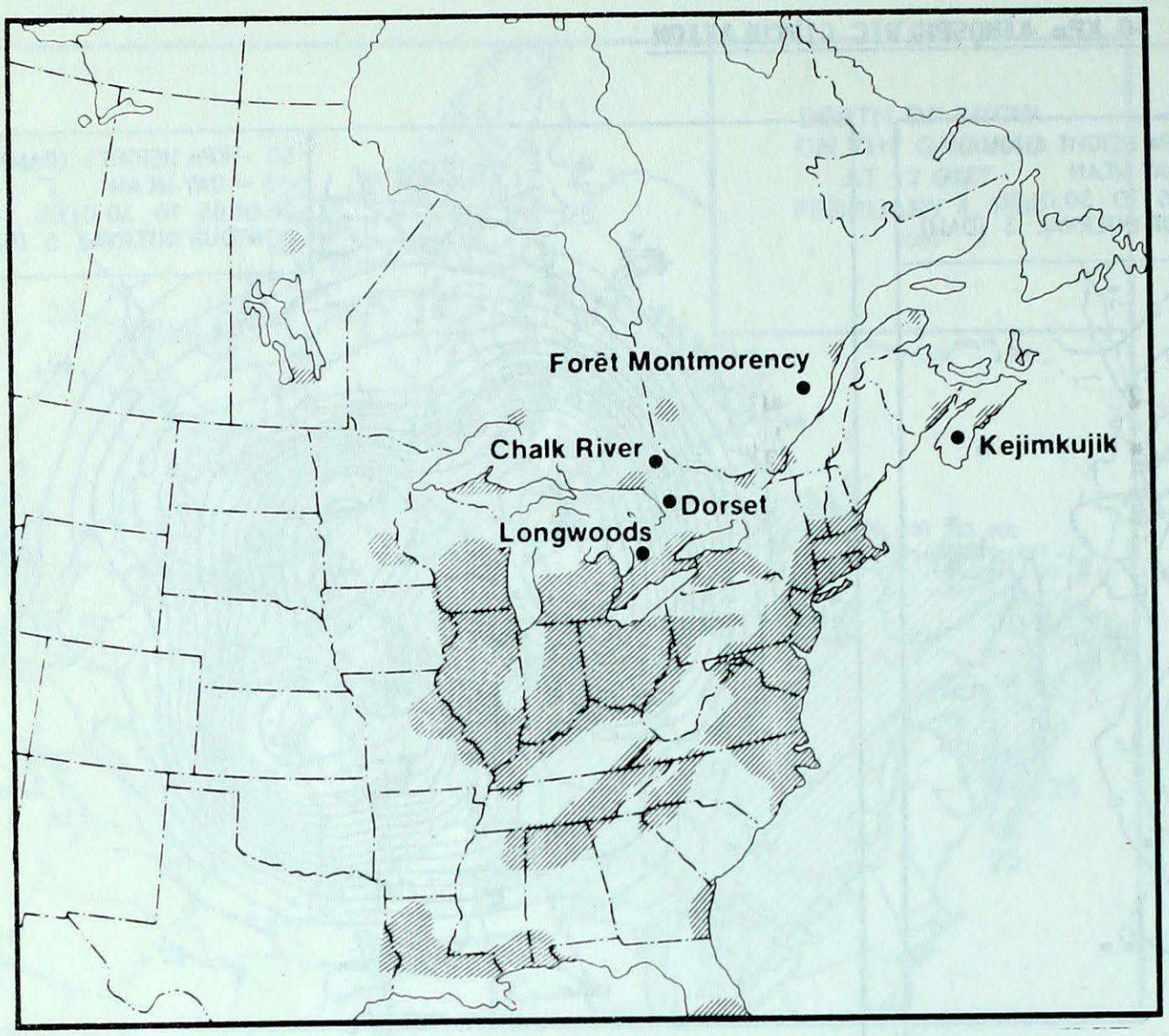


MEAN 50 KPa HEIGHT ANOMALY (dam)
January 26 to January 30, 1985



MEAN 50 KPa HEIGHTS (dam)
January 26 to January 30, 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.

JANUARY 27, to FEBRUARY 2, 1985

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	29	3.7	1(s)	Wisconsin, Michigan, Southern Ontario
	30	3.8	2(s)	Illinois, Indiana, Ohio
	31	3.8	3(s)	Illinois, Indiana, Ohio
	2	4.5	2(s)	Minnesota, Wisconsin, Michigan, Southern Ontario
Dorset	27	4.1	3(s)	Wisconsin, Illinois, Indiana, Ohio, Southern Ontario
	31	4.0	2(s)	Wisconsin, Michigan, Ohio, Pennsylvania, Southern Ontario
Chalk River	27	4.1	2(s)	Wisconsin, Michigan, Indiana, Ohio, Southern Ontario
	31	4.3	3(s)	Wisconsin, Michigan, Ohio, Pennsylvania, Southern Ontario
Montmorency	31	4.0	1(s)	Southern Ontario, Pennsylvania, New York, Vermont, Southern Quebec
	1	4.1	1(s)	Michigan, Southern Ontario, Southern Quebec
Kejimkujik	1	4.8	9(m)	Atlantic Ocean
	2	4.9	16(m)	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 5, 1985

STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H
YUKON TERRITORY							
Dawson	-13	14	- 6	-23	8.3	56.0	X
Mayo A	-12	12	- 5	-21	13.0	39.0	X
Shingle Point	*	*	- 4P	-39	6.6	38.0	*
Watson Lake	-14	9	- 6	-22	*	67.0	7.1
Whitehorse	-11	6	2	-23	10.2	40.0	*
NORTHWEST TERRITORIES							
Coppermine	-33	- 2	-17	-43	*	19.0	*
Fort Smith	-33	- 8	-18	-43	2.1	57.0	*
Inuvik	-22	11	- 7	-36	11.8	39.0	*
Norman Wells	-24	4	-15	-41	10.2	40.0	*
Yellowknife	-34	- 6	-22	-41	1.4	25.0	36.4
Baker Lake	-35	0	-30	-41	0.0	36.0	22.5
Coral Harbour	-29	3	-19	-35	0.0	14.0	*
Cape Dyer	-23	0	-11	-32	*	93.0	X
Clyde	-29	0	-19	-37	1.2	42.0	0.0
Frobisher Bay	-25	3	-16	-32	*	21.0	18.0
Alert	-39	- 7	-27	-44	0.2	40.0	*
Eureka	-38	- 2	-22	-47	*	33.0	*
Hall Beach	-35	- 3	-24	-42	0.0	19.0	X
Resolute	-33	1	-24	-42	0.2	17.0	*
Cambridge Bay	-35	0	-28	-42	*	33.0	13.7
Mould Bay	-34	0	-26	-40	*	18.0	*
Sachs Harbour	-26	6	-17	-38	0.0	11.0	*
BRITISH COLUMBIA							
Cape St. James	6	2	10	3	9.4		22.2
Cranbrook	-19	-11	- 8	-30	0.0	29.0	46.6
Fort Nelson	-23	- 2	-11	-33	4.4	53.0	*
Fort St. John	-21	- 6	- 8	-32	2.6	6.0	X
Kamloops	- 9	- 6	0	-17	4.7	4.0	23.9
Penticton	- 8	- 6	- 1	-16	2.6	4.0	25.4
Port Hardy	3	- 1	7	- 2	15.5		22.0
Prince George	-12	- 3	- 8	-23	*	28.0	*
Prince Rupert	1	0	6	- 6	15.0		24.6
Revelstoke	-14	- 9	- 4	-24	1.6	70.0	41.0
Smithers	- 8	0	- 4	-13	5.0	25.0	*
Vancouver	- 1	- 4	5	- 7	7.6	5.0	34.1
Victoria	0	- 3	6	- 6	14.6		35.9
Williams Lake	-13	- 8	- 8	-22	14.5	52.0	16.8
ALBERTA							
Calgary	-20	-11	- 4	-29	0.0	1.0	53.3
Cold Lake	-28	-12	-11	-39	0.2	26.0	*
Coronation	-27	-13	-10	-37	0.4	18.0	*
Edmonton Namao	-24	-11	-10	-34	*	11.0	*
Fort McMurray	-29	-10	-14	-39	*	23.0	*
High Level	-31	- 1	-15	-41	0.0	50.0	*
Jasper	-20	-11	- 9	-32	0.0	31.0	37.7
Lethbridge	-22	-15	- 7	-32	1.0		*
Medicine Hat	-24	-15	- 8	-32	*	3.0	40.0
Peace River	-28	-12	-11	-37	4.4	25.0	X
SASKATCHEWAN							
Cree Lake	-34	X	-20	-45	*	31.0	32.9
Estevan	-27	-12	- 7	-34	*	24.0	27.6
La Ronge	-31	- 9	-18	-41	*	44.0	X
Regina	-29	-14	-13	-38	*	20.0	31.1
Saskatoon	-30	-13	-19	-38	*	23.0	*
Swift Current	-28	-17	-15	-36	*	7.0	*
Yorkton	-29	-12	- 9	-36	2.6	41.0	43.3
MANITOBA							
Brandon	-30	-13	- 9	-37	*	25.0	*
Churchill	-27	0	-21	-33	1.2	28.0	16.9
Lynn Lake	-32	- 5	-23	-39	1.1	50.0	31.7
The Pas	-29	- 9	-19	-37	*	44.0	74.6
Thompson	-29	- 2	-22	-37	3.5	25.0	27.3
Winnipeg	-27	-10	-11	-35	*		*
ONTARIO							
Atikokan	-27	- 8	- 9	-42	*	37.0	41.4
Big Trout Lake	-29	- 6	-14	-40	3.5	82.0	32.4
Earlton	-20	- 3	- 8	-31	*	42.0	X
Kapuskasing	-21	- 4	- 6	-36	6.2	48.0	*
Kenora	-28	-11	- 8	-39	1.3	43.0	X
Kingston	-12	- 3	- 1	-23	0.0	55.0	*
London	-12	- 4	- 3	-21	5.6	26.0	20.6
Moosonee	-24	- 4	- 9	-34	4.9	66.0	40.9
Muskoka	-13	- 2	- 6	-23	*	45.0	X
North Bay	-16	- 2	- 6	-25	3.4	35.0	29.4
Ottawa	-14	- 2	- 7	-21	3.4	37.0	36.4
Pickle Lake	-28	- 8	-10	-42	*	67.0	X
Red Lake	-29	-11	- 9	-41	*	57.0	39.3
Sudbury	-16	- 2	- 6	-27	*	46.0	28.0
Thunder Bay	-24	- 9	-10	-36	0.2	34.0	52.0
Timmins	-20	- 4	- 6	-33	7.2	51.0	X
Toronto	-10	- 2	- 3	-18	2.0	11.0	X
Trenton	-12	- 3	- 4	-23	2.9	20.0	X
Wiarton	-10	- 2	- 2	-21	5.6	75.0	8.0
Windsor	-10	- 5	- 1	-20	4.2	6.0	X
QUEBEC							
Bagotville	-17	- 1	- 7	-28	0.6	19.0	X
Blanc-Sablon	- 9	4	- 3	-24	12.0	50.0	*
Inukjuak	-26	0	-13	-40	1.0	46.0	27.9
Kuujjuaq	-29	- 4	-20	-44	0.4	74.0	26.9
Kuujjuarapik	-26	- 3	-13	-40	0.0	25.0	19.4
Maniwaki	-17	- 4	- 5	-29	2.0	40.0	29.8
Mont-Joli	-13	- 1	- 5	-21	3.6	13.0	24.3
Montréal	-13	- 2	- 6	-20	5.2	17.0	29.5
Natashquan	-13	0	- 4	-27	2.4	38.0	37.5
Nitchequon	-26	- 3	-14	-40	2.4	78.0	23.4
Québec	-13	0	- 5	-23	5.4	52.0	37.9
Schefferville	-32	- 9	-16	-36	0.8	41.0	*
Sept-Iles	-14	0	- 5	-27	5.4	12.0	26.4
Sherbrooke	-15	- 5	- 2	-27	5.4	23.0	36.7
Val-d'Or	-20	- 4	- 9	-31	4.8	44.0	45.2
NEW BRUNSWICK							
Charlo	-13	0	- 4	-25	3.6	14.0	22.2
Chatham	-12	- 1	- 1	-26	3.0	35.0	*
Fredericton	-12	- 2	- 1	-29	4.6	14.0	*
Moncton	-11	- 2	- 3	-25	14.5	45.0	*
Saint John	-11	- 2	- 2	-29	18.4	32.0	*
NOVA SCOTIA							
Greenwood	-10	- 3	0	-25	27.0	52.0	X
Shearwater	- 7	- 2	0	-18	20.0	20.0	39.8
Sydney	- 8	- 2	- 1	-17	27.1	39.0	20.8
Yarmouth	- 5	- 1	1	-14	18.2	*	*
PRINCE EDWARD ISLAND							
Charlottetown	-11	- 3	- 3	-22	12.8	50.0	*
Summerside	-10	- 2	- 3	-22	13.1	58.0	35.5
NEWFOUNDLAND							
Gander	- 7	0	- 1	-21	*	46.0	10.1
Port aux Basques	- 6	- 1	- 2	-14	11.6	138.0	*
St. John's	- 5	0	- 1	-16	29.4	46.0	13.4
St. Lawrence	- 5	- 1	- 1	-14	9.4	77.0	X
Cartwright	*	*	- 1P	-27P	*	313.0	X
Churchill Falls	-25	- 2	-11	-41	2.8	148.0	X
Goose	-17	0	- 5	-37	8.9	110.0	20.6

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