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dian Climate Centre

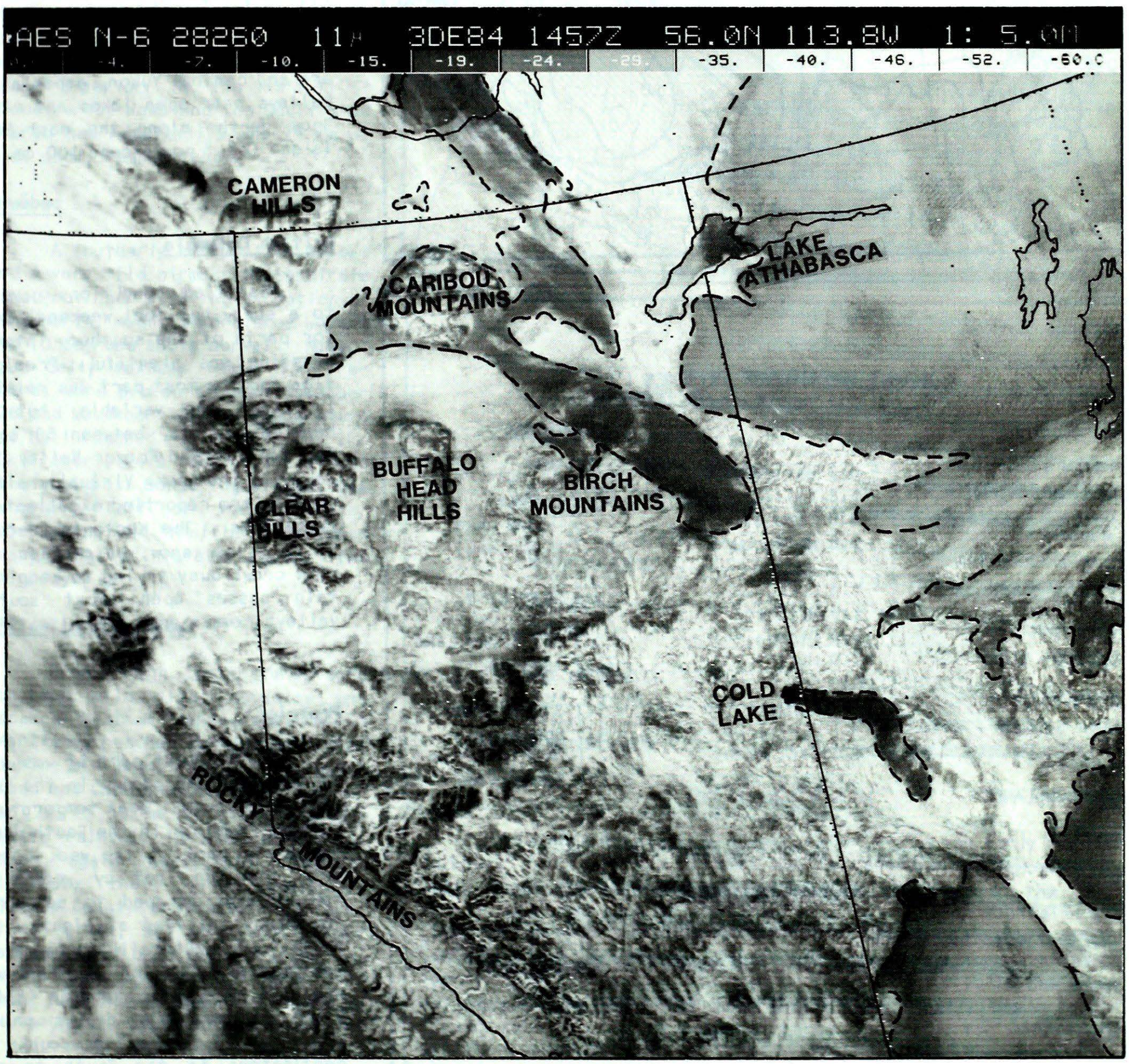
Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

For the period November 27 to December 3, 1984

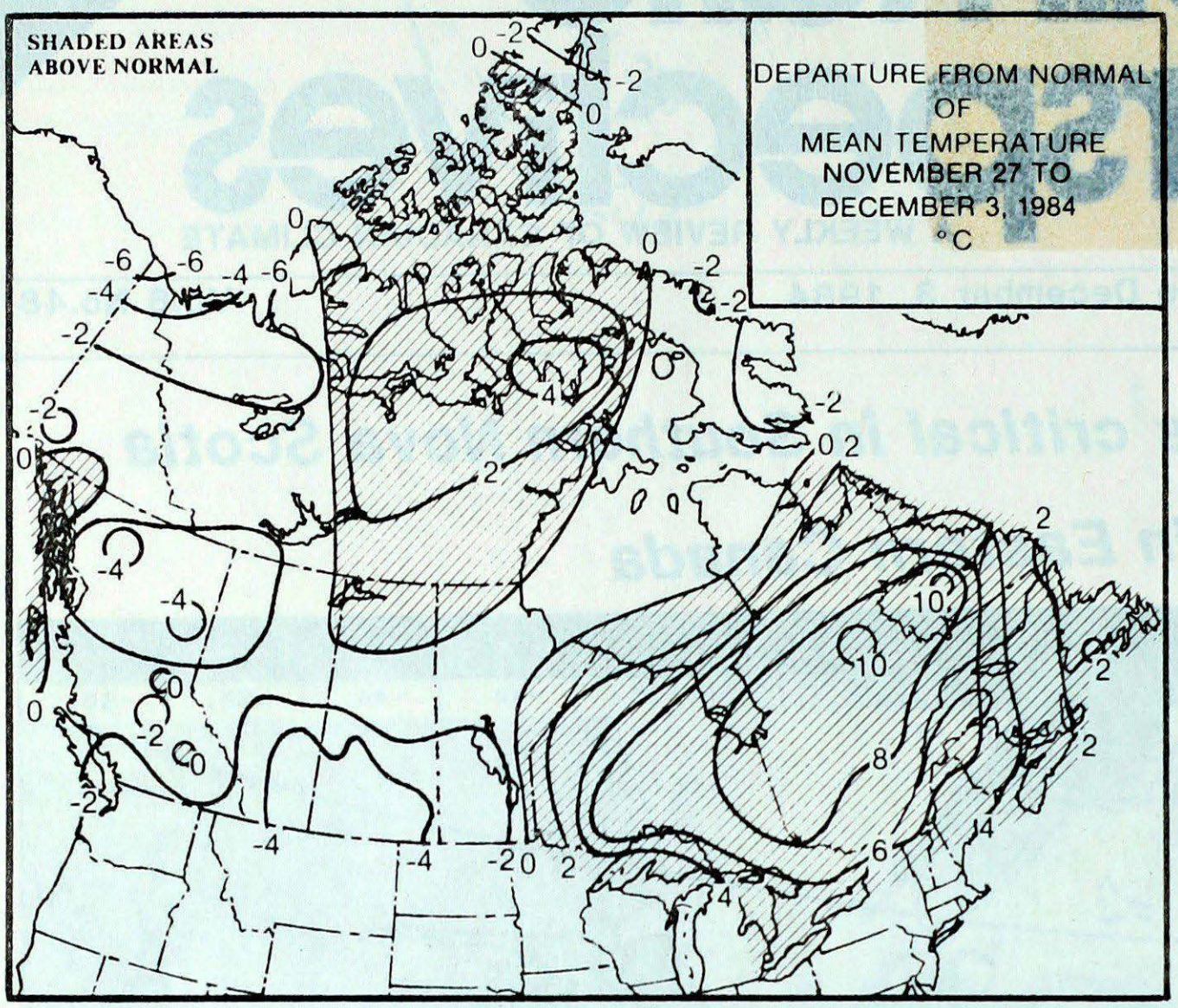
Vo.6 No.48

- ***Drought becomes critical in Southern Nova Scotia***
- ***Widespread fog in Eastern Canada***



This infrared NOAA 6 satellite image reveals the complex early morning temperature structure over northern Alberta and Saskatchewan. For more details, see page 3.

Canada



WEEKLY TEMPERATURE EXTREMES (°C)

	MAXIMUM		MINIMUM	
YUKON TERRITORY	6.3	Whitehorse	-35.6	Shingle Point
NORTHWEST TERRITORIES	5.8	Yellowknife	-44.8	Eureka
BRITISH COLUMBIA	8.9	Cape St. James	-27.6	Dease Lake
ALBERTA	9.8	Whitecourt	-30.7	High Level
SASKATCHEWAN	0.4	Rockglen	-29.8	Cree Lake
MANITOBA	1.5	Bissett	-35.9	Grand Rapids
ONTARIO	18.6	Ottawa	-23.3	Big Trout Lake
QUEBEC	19.0	Hull	-21.7	Inukjuak
NEW BRUNSWICK	13.3	Fredericton	- 7.7	St. Stephen
NOVA SCOTIA	13.1	Shelburne	- 4.5	Shelburne
PRINCE EDWARD ISLAND	9.9	East Point	- 2.1	Charlottetown Summerside
NEWFOUNDLAND	10.5	Argentia	-15.4	Churchill Falls

ACROSS THE NATION

Warmest mean temperature	5.8	Cape St. James, BC
Coolest mean temperature	-41.9	Eureka, NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

Regional temperature variations were evident across the North, but snowfalls were light everywhere. By mid-week a frigid Arctic airmass slowly infiltrated the western portions of the Yukon, dropping temperatures to below-normal values. Temperatures ranged from a high of -6° at Whitehorse and Yellowknife to a frigid -45° at Eureka. Ice bridges are now in place across rivers, and all major surface transportation routes are open. Low cloud hampered aviation in many areas of the southern and central Yukon, especially in valleys near open lakes and rivers. Snow depths along the east Baffin Island Coast now exceed 100 cm.

British Columbia

Unsettled conditions gave way to a sunny but cool weekend. Except for parts of the southern interior, sunshine was plentiful. Precipitation for the most part was relatively light and variable, but much heavier amounts, between 50 and 80 mm, fell in the Frazer Valley Delta early in the week. Virtually all ski resorts are reporting excellent snow conditions. The Kootenays received 27 cm of new snow, which kept snowplow crews busy trying to keep mountain passes open. Most southern valleys remain snow free.

Prairies

For the most part it was sunny in the West and cloudy in the East, with below normal mean temperatures. Daytime readings in the South during the early part of the week hovered near freezing, but by week's end temperatures dropped to as low as the minus thirties at night. Snow falls were generally only a few centimetres, but on November 27, Manitoba received a heavier fall of 5 to 10 cm. Snow depths on the ground ranged from a couple of centimetres in the South to more than 40 cm in the North.

Ontario

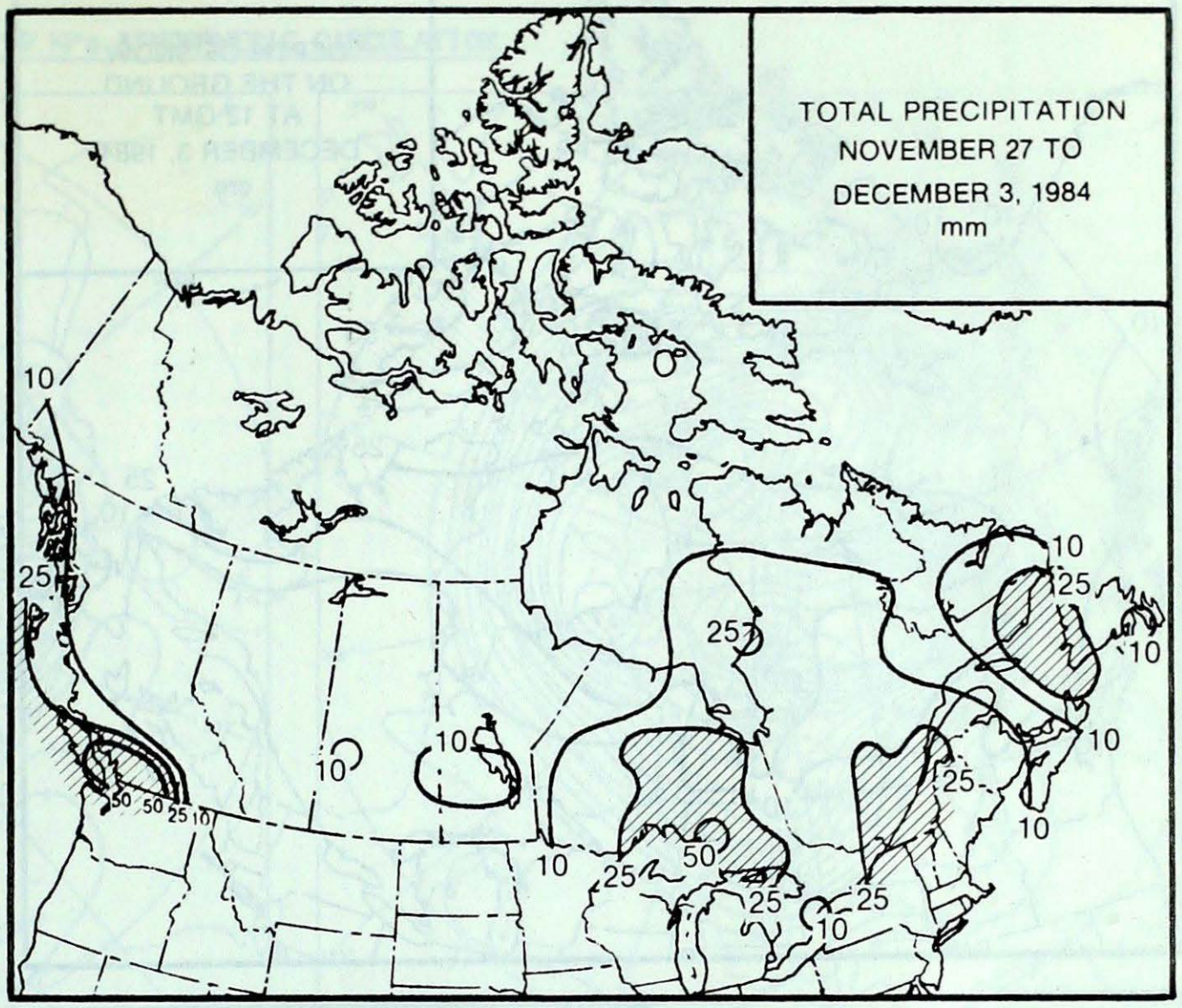
It was a warm and pleasant week until the weekend. On November 28, numerous new daily maximum temperature records were established throughout the Province. At Ottawa and Toronto City, the mercury reached 18.6 and 17.2 degrees respectively. Very favourable late autumn weather allowed most farmers to complete their field work. In addition, winter cereal crops are entering the winter season in excellent shape, thanks to the mild and relatively sunny days. Over the weekend a sharp cold front swept across the Province. Heavy local snowsqualls developed to the lee of Lake Superior. By the morning of December 3, Wawa and the Sault Ste. Marie had received 19 and 25 cm of new snow, respectively.

Québec

A southerly circulation allowed a very mild airmass to penetrate the Province. With the exception of the North, mean temperatures were 5 to 10 degrees above normal. Numerous daily maximum temperature records were broken between November 26 and November 30. The temperature at Hull reached 19° on November 28. Ski resorts have temporarily closed their slopes. Dense fog plagued the southern half of the Province, disrupting air traffic and caused many traffic fatalities on the highways.

Atlantic Provinces

Even though temperatures were on the mild side, sunshine was scarce. Maximum temperatures in the Maritimes reached the double digits during mid-week. Parts of Newfoundland and Cape Breton Island received 20 to 30 mm of precipitation, while rainfall in Nova Scotia was once again negligible. Reports indicate that river levels in Queens County are three feet lower than normal, and many small trout streams and brooks have dried up. Wells have run out of water and many have had to been redrilled. On November 27-28, dense fog and icy road conditions in Nova Scotia caused numerous accidents and disrupted air travel.

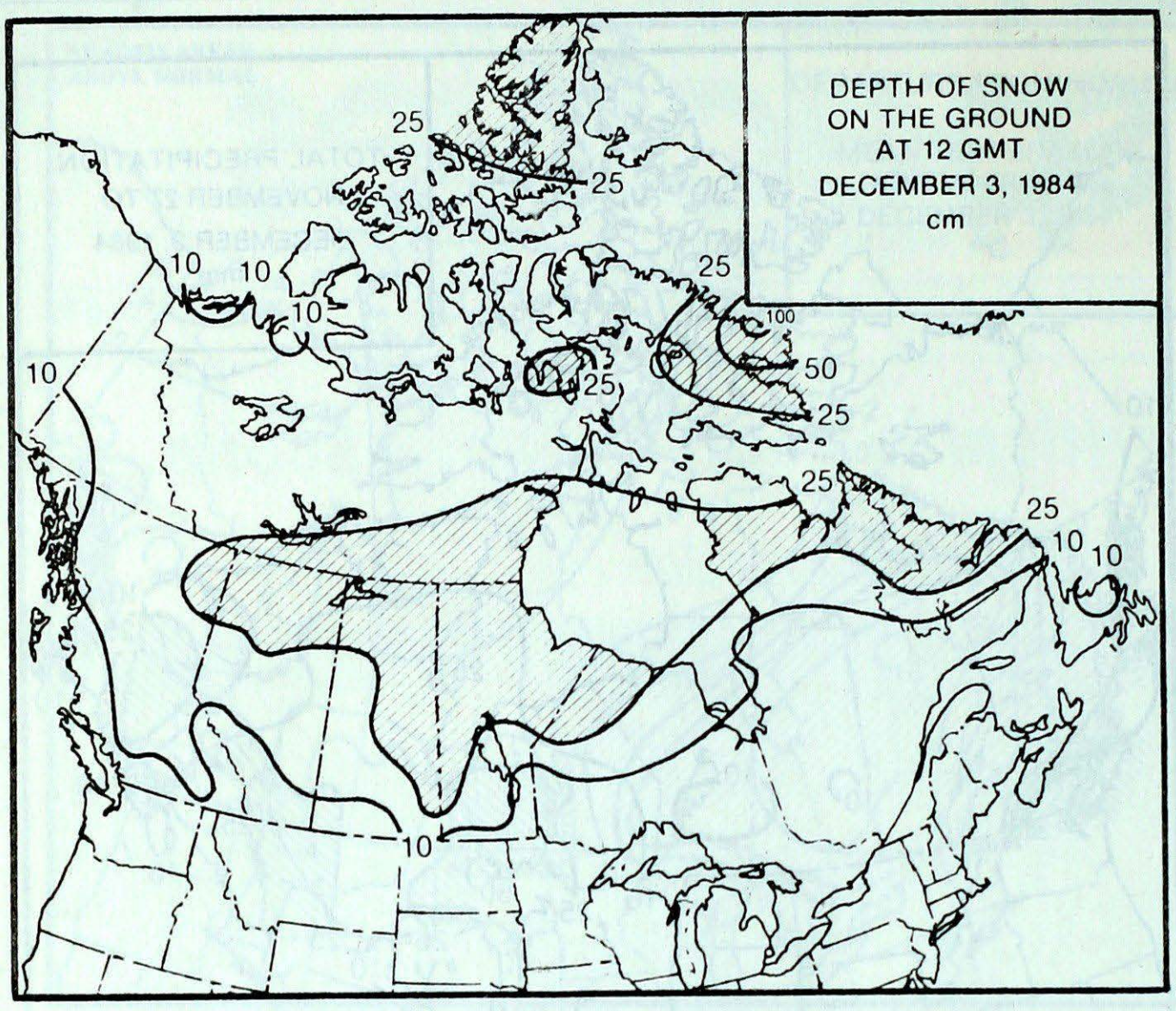


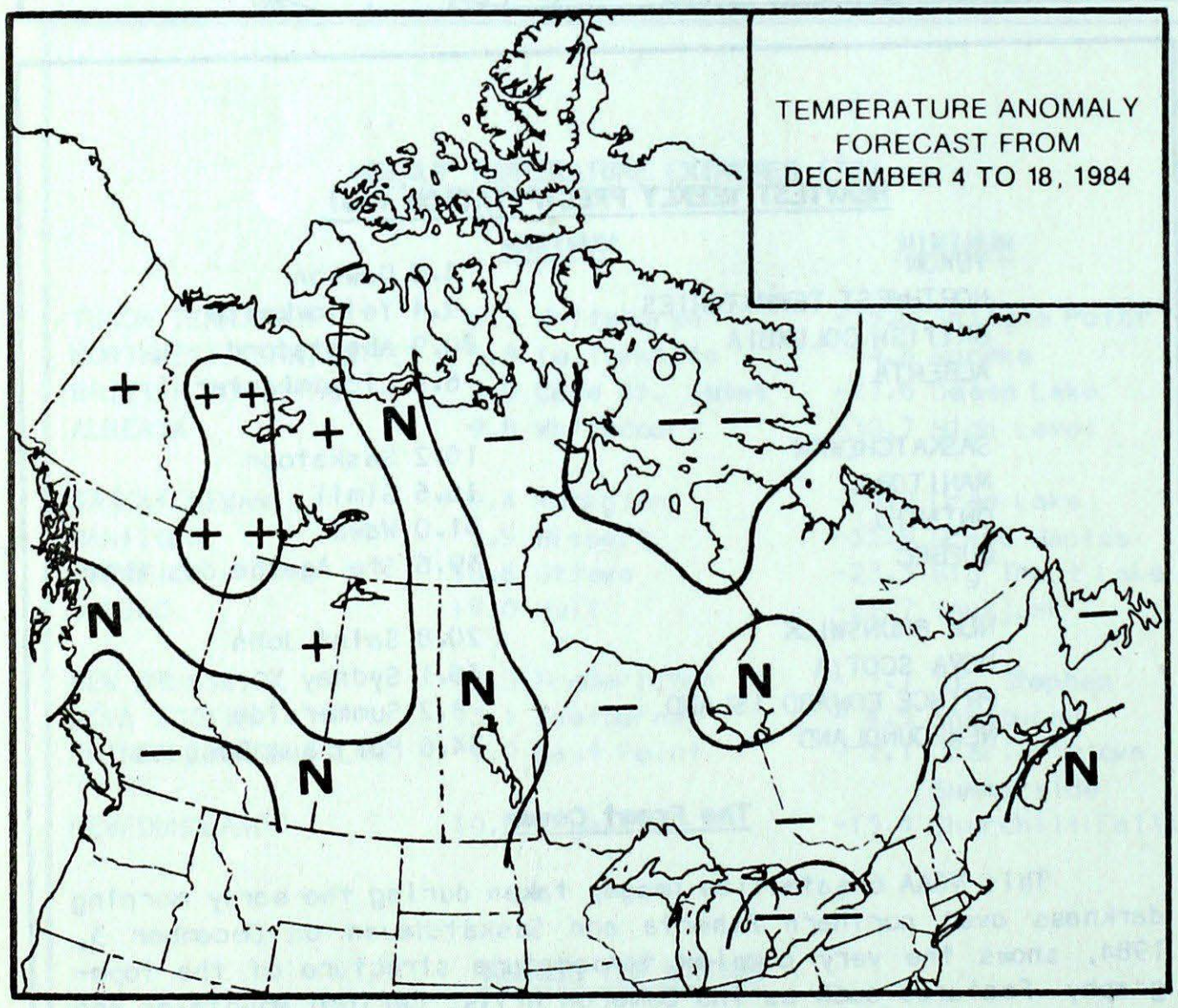
HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON	4.3	Dawson
NORTHWEST TERRITORIES	9.4	Yellowknife
BRITISH COLUMBIA	80.9	Abbotsford
ALBERTA	6.9	Lloydminster
SASKATCHEWAN	10.2	Saskatoon
MANITOBA	10.6	Gimli
ONTARIO	51.0	Wawa
QUEBEC	39.6	Ste Agathe des Monts
NEW BRUNSWICK	20.8	Saint John
NOVA SCOTIA	36.1	Sydney
PRINCE EDWARD ISLAND	8.2	Summerside
NEWFOUNDLAND	34.6	Port aux Basques

The Front Cover

This NOAA 6 satellite image, taken during the early morning darkness over northern Alberta and Saskatchewan on December 3, 1984, shows the very complex temperature structure of the topography. Features such as the Cameron Hills, Caribou Mountains and Clear Hills are revealed by cold air settling in the valleys (white) which contrasts with their relatively warm hilltops (dark). Cold Lake belies its name by the fact that it is the warmest location in the image and in fact is virtually the only unfrozen lake in the photograph. Large areas of fog and/or low stratus cloud have been outlined by dashed lines. The temperature climate of a region is the average value over many years of such complex daily variations.





++	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 6

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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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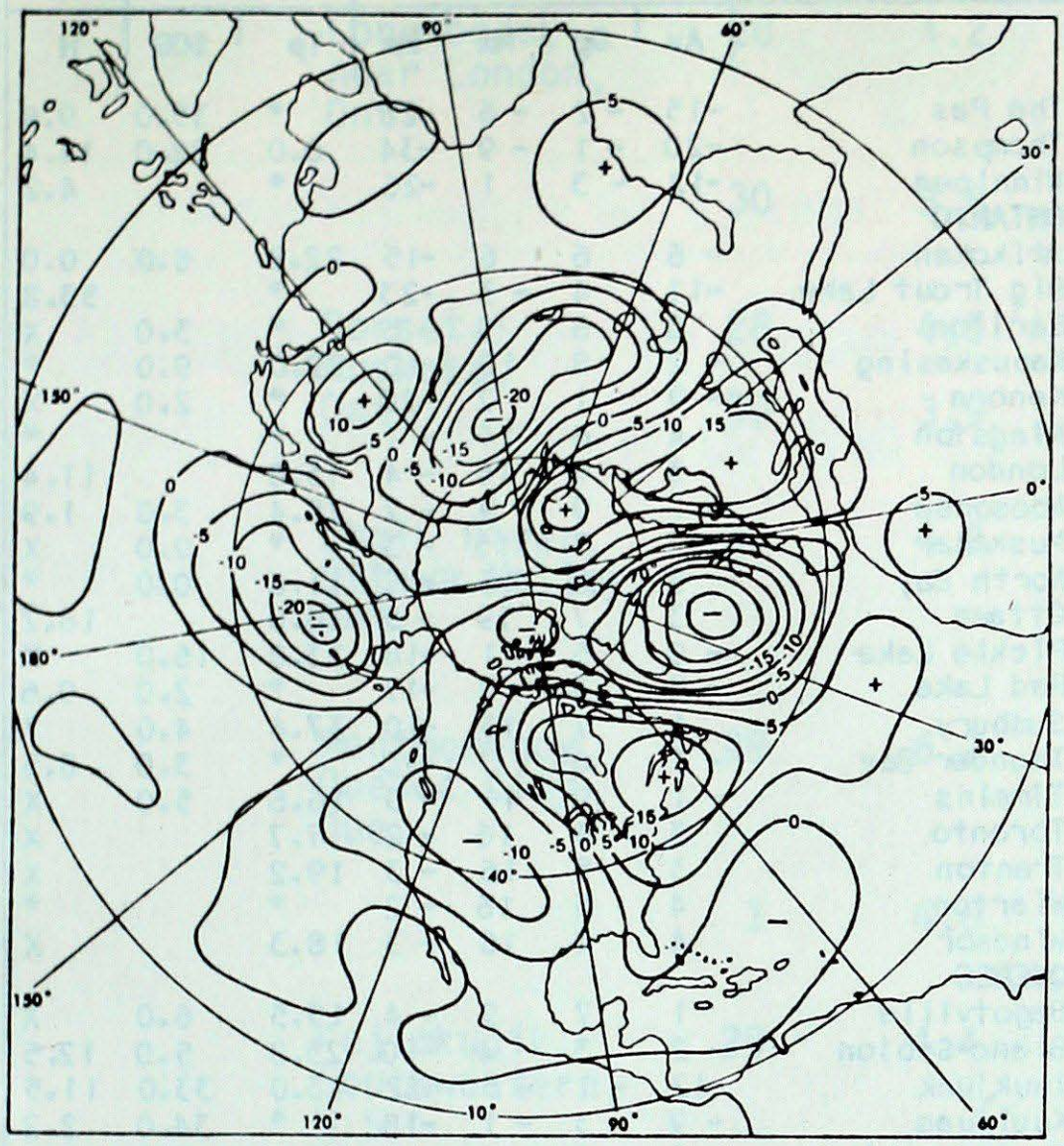
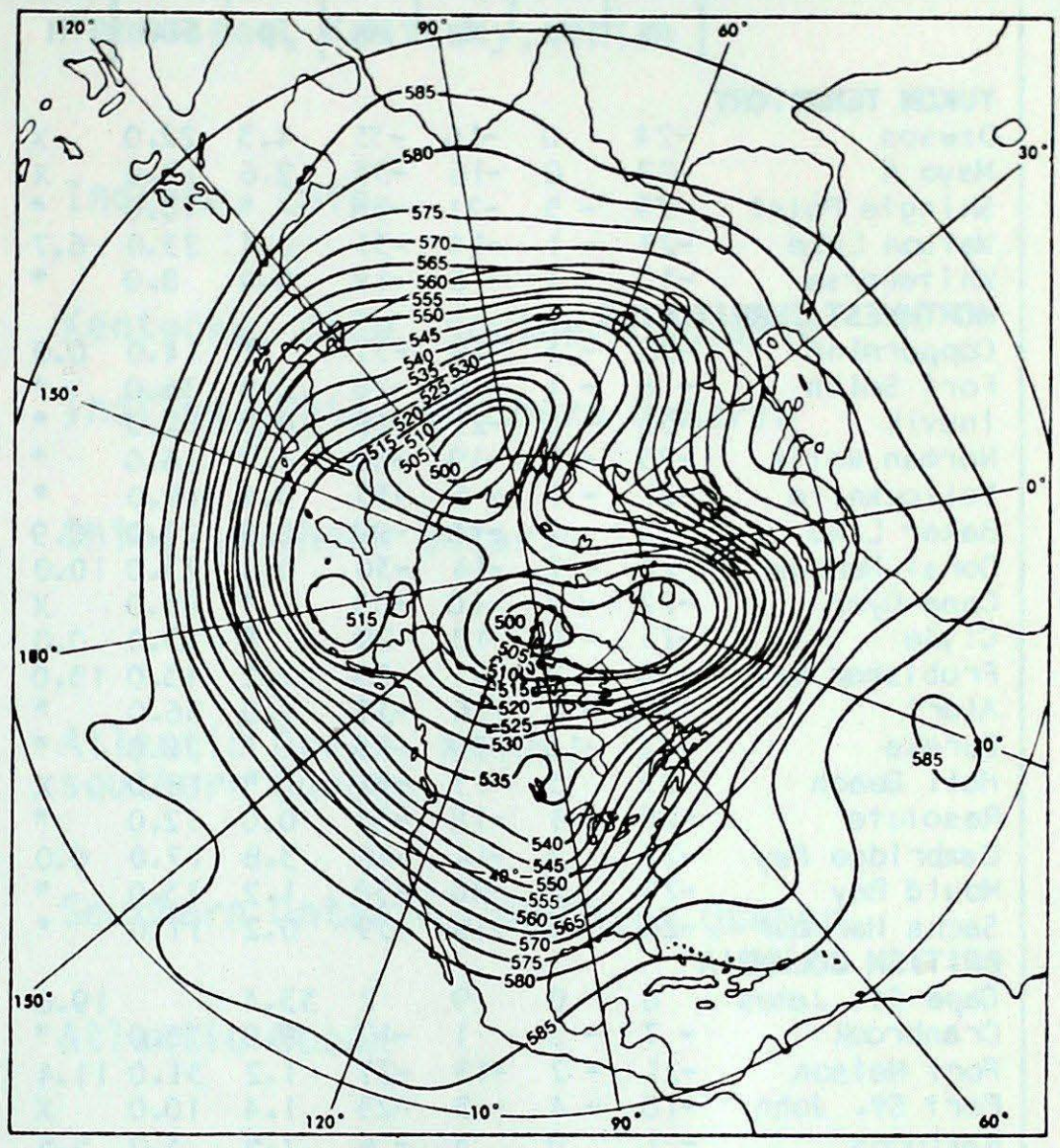
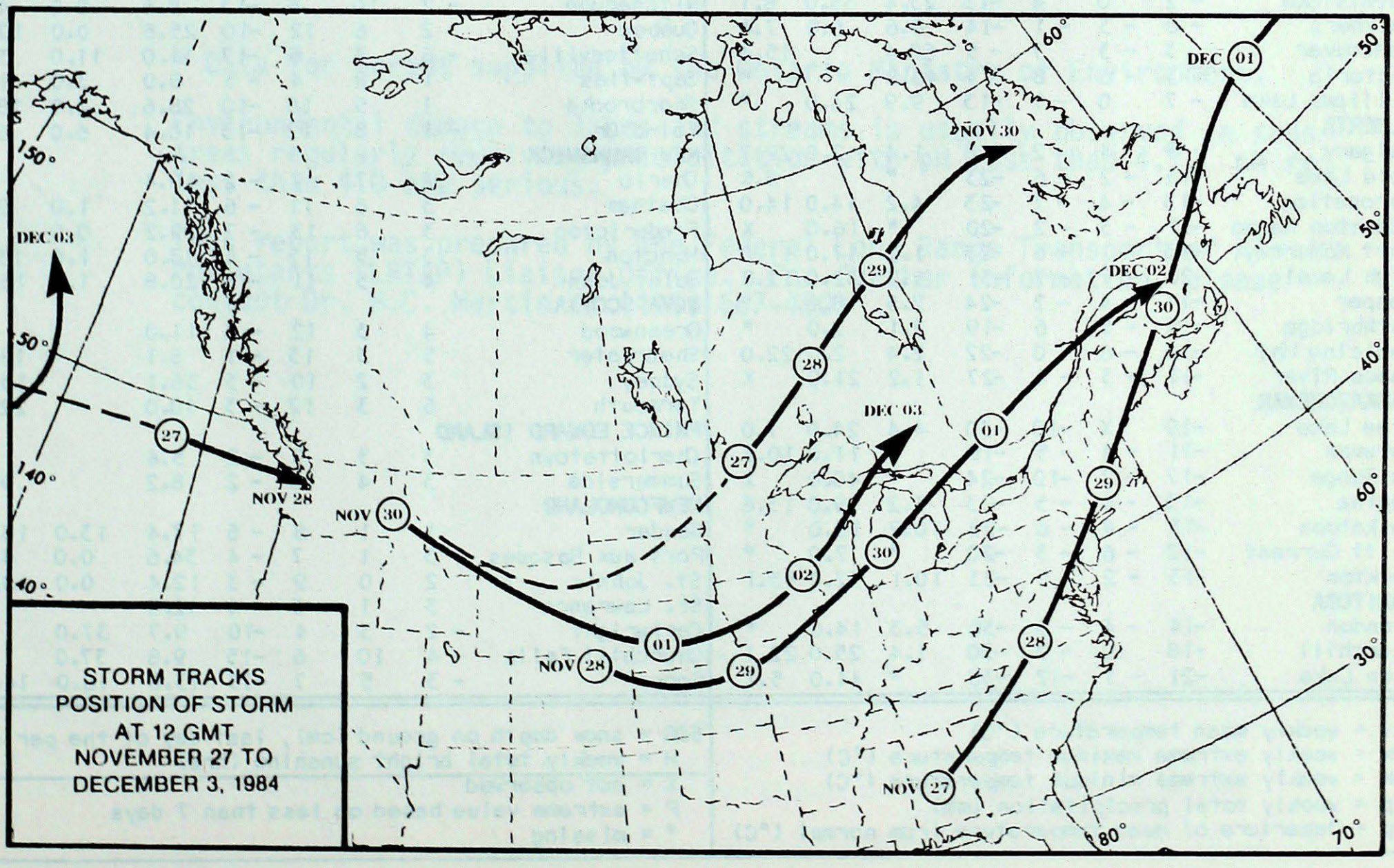
50 KPa ATMOSPHERIC CIRCULATION



MEAN 50 KPa HEIGHT ANOMALY (dam)
NOVEMBER 27 to December 1, 1984



MEAN 50 KPa HEIGHTS (dam)
NOVEMBER 27 to December 1, 1984



TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT DECEMBER 04, 1984

STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H
YUKON TERRITORY							
Dawson	-24	0	-16	-33	4.3	22.0	X
Mayo A	-22	0	-16	-33	2.6	19.0	X
Shingle Point	-29	- 5	-21	-36	*	15.0	*
Watson Lake	-22	- 1	-14	-31	0.4	23.0	6.7
Whitehorse	-13	1	- 6	-19	0.4	8.0	*
NORTHWEST TERRITORIES							
Coppermine	-26	- 3	-19	-37	*	14.0	0.0
Fort Smith	-18	- 1	- 6	-28	2.5	36.0	*
Inuvik	-30	- 4	-21	-38	0.0	12.0	*
Norman Wells	-25	- 1	-19	-35	4.0	16.0	*
Yellowknife	-21	- 1	- 6	-35	9.4	19.0	*
Baker Lake	-23	2	-16	-29	1.9	27.0	0.9
Coral Harbour	-22	- 1	-14	-30	0.8	23.0	10.0
Cape Dyer	-22	- 4	-10	-35	*	95.0	X
Clyde	-23	- 2	-13	-29	*	33.0	0.0
Frobisher Bay	-20	- 2	-11	-28	1.2	13.0	15.0
Alert	-31	- 2	-26	-37	1.0	36.0	*
Eureka	-42	-10	-37	-45	*	28.0	*
Hall Beach	-23	3	-13	-31	*	18.0	X
Resolute	-26	1	-18	-36	0.0	12.0	*
Cambridge Bay	-24	2	-14	-36	3.8	17.0	0.0
Mould Bay	-29	1	-20	-38	1.2	13.0	*
Sachs Harbour	-26	0	-19	-39	0.2	11.0	*
BRITISH COLUMBIA							
Cape St. James	6	0	9	2	33.4		19.6
Cranbrook	- 7	- 2	1	-17	9.8	16.0	*
Fort Nelson	-21	- 2	-13	-27	1.2	31.0	11.4
Fort St. John	-16	- 4	- 5	-25	1.4	10.0	X
Kamloops	- 1	0	3	- 6	7.5	3.0	5.5
Penticton	0	- 2	4	- 6	2.2		9.9
Port Hardy	3	- 1	7	- 2	21.2		24.6
Prince George	- 5	0	- 1	-13	*	10.0	*
Prince Rupert	1	- 1	5	- 5	4.2		13.7
Revelstoke	- 2	0	4	-13	23.4	38.0	8.1
Smithers	- 8	- 3	- 1	-14	0.6	6.0	7.4
Vancouver	3	- 3	7	- 5	68.4		15.4
Victoria	3	- 3	8	- 3	46.8		*
Williams Lake	- 7	0	- 1	-13	9.9	24.0	*
ALBERTA							
Calgary	- 9	- 4	2	-18	1.4	2.0	22.7
Cold Lake	-13	- 2	- 6	-23	*		8.5
Coronation	-13	- 4	- 7	-23	4.2	14.0	14.0
Edmonton Namao	-11	- 3	- 2	-20	*	16.0	X
Fort McMurray	-13	1	- 6	-23	1.0	17.0	11.0
High Level	-20	- 7	- 7	-31	1.0	32.0	12.8
Jasper	-11	- 4	- 2	-24	2.5	8.0	*
Lethbridge	- 8	- 5	6	-19	2.1	2.0	*
Medicine Hat	-10	- 6	0	-22	2.4	2.0	22.0
Peace River	-17	- 3	- 4	-27	1.2	21.0	X
SASKATCHEWAN							
Cree Lake	-19	X	-10	-30	4.4	24.0	7.0
Estevan	-11	- 4	- 5	-19	*	11.0	10.8
La Ronge	-17	- 2	-10	-24	*	40.0	X
Regina	-13	- 4	- 5	-23	3.2	9.0	13.6
Saskatoon	-15	- 4	- 6	-22	10.2	18.0	*
Swift Current	-12	- 6	- 3	-20	*	7.0	*
Yorkton	-13	- 2	- 5	-23	10.1	32.0	53.1
MANITOBA							
Brandon	-14	- 4	- 5	-30	5.3	14.0	*
Churchill	-18	0	- 9	-30	1.4	25.0	22.1
Lynn Lake	-21	- 1	-12	-30	*	44.0	5.1

STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H
The Pas	-15	- 2	- 6	-28	*	35.0	9.8
Thompson	-20	- 1	- 9	-34	0.0	22.0	14.4
Winnipeg	-12	- 3	1	-26	*		4.2
ONTARIO							
Atikokan	- 6	6	6	-15	22.8	6.0	0.0
Big Trout Lake	-11	4	- 3	-23	*		53.8
Earlton	0	8	9	- 6	*	3.0	X
Kapuskasing	- 2	8	10	-10	29.0	9.0	*
Kenora	- 9	1	2	-20	*	2.0	X
Kingston	4	6	14	- 1	*		*
London	3	5	16	- 4	15.8		11.4
Mbosonee	- 1	9	9	- 7	25.4	3.0	1.9
Muskoka	3	7	15	- 3	*	0.0	X
North Bay	2	8	16	- 7	11.6	0.0	*
Ottawa	3	7	19	- 5	16.0		18.2
Pickle Lake	- 9	5	1	-18	23.8	16.0	X
Red Lake	- 9	3	2	-17	*	2.0	9.6
Sudbury	1	7	13	-10	37.4	4.0	*
Thunder Bay	- 1	6	7	-10	*	3.0	8.5
Timmins	- 1	9	11	- 9	16.6	5.0	X
Toronto	3	4	16	- 2	7.7		X
Trenton	3	5	16	- 3	19.2		X
Wiarton	4	5	16	- 2	*		*
Windsor	4	4	16	- 3	18.3		X
QUEBEC							
Bagotville	1	7	9	- 4	15.5	6.0	X
Blanc-Sablon	- 2	3	4	-10	25.8	5.0	12.5
Inukjuak	-12	- 1	- 5	-22	13.0	33.0	11.5
Kuujjuaq	- 9	3	- 1	-18	*	34.0	2.2
Kuujjuarapik	- 2	6	5	- 9	30.2	6.0	3.2
Manlwaki	2	7	16	- 9	10.0	0.0	11.7
Mont-Joli	2	6	11	- 2	25.2	2.0	13.0
Montréal	3	6	15	- 5	34.0		66.9
Natashquan	0	5	5	- 7	25.6	0.0	5.8
Nitchequon	- 2	10	6	-13	8.6	8.0	4.1
Québec	2	6	12	-10	25.6	0.0	12.7
Schefferville	- 6	7	5	-17	11.0	11.0	3.6
Sept-Iles	1	8	4	- 5	8.0	3.0	1.5
Sherbrooke	1	5	16	-10	28.6	2.0	18.7
Val-d'Or	- 1	8	12	-13	16.4	6.0	6.8
NEW BRUNSWICK							
Charlo	2	7	7	- 2	10.4		*
Chatham	3	6	11	- 6	11.2	1.0	9.4
Fredericton	3	6	13	- 7	19.2	0.0	*
Moncton	3	5	11	- 4	13.0	1.0	13.2
Saint John	4	5	11	- 5	20.8	1.0	15.9
NOVA SCOTIA							
Greenwood	4	3	12	- 3	11.0		X
Shearwater	5	3	13	- 1	6.1		18.8
Sydney	3	2	10	- 3	36.1		15.9
Yarmouth	6	3	12	- 3	10.0		22.9
PRINCE EDWARD ISLAND							
Charlottetown	3	3	9	- 2	5.4		*
Summerside	3	4	10	- 2	8.2		9.5
NEWFOUNDLAND							
Gander	1	1	8	- 6	17.4	13.0	18.2
Port aux Basques	3	1	7	- 4	34.6	0.0	4.0
St. John's	2	0	9	- 3	12.4	0.0	10.4
St. Lawrence	3	1	8	- 4	12.9		X
Cartwright	- 2	3	4	-10	9.7	37.0	X
Churchill Falls	- 4	10	6	-15	9.8	37.0	X
Goose	- 3	5	7	-15	13.6	18.0	14.7

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

ACID RAIN REPORT ISSUED BY ENVIRONMENT CANADA
FOR NOV. 25 - DEC. 1, 1984

SITE	DAY	pH	AIR PATH TO SITE
Longwoods, near London, Ont.	28	4.2	Tennessee, Kentucky, Ohio.
	30	3.8	Indiana, Ohio.
Dorset,* Muskoka, Ont.	28	4.5	Kentucky, Ohio, southern Ontario
	30	3.9	Indiana, Ohio, southern Ontario
Chalk River, Ottawa Valley, Ont.	30	4.0	Ohio, southern Ontario
Montmorency, Québec City Que.	29	6.2	Atlantic Ocean, Maine, southern Quebec
	1	4.6	Southern Ontario, southern Quebec
Kejimkujik, Southwestern, N.S.	29	4.4	Atlantic Ocean
	1	3.7	New York, New England States.

* Data for Dorset supplied by the Ontario Ministry of Environment.

Environmental damage to lakes and streams is usually observed in sens areas regularly receiving precipitation with pH less than 4.7. pH re less than 4.0 are serious.

This report was prepared by the Federal Long Range Transport of Air Pollutants (LRTAP) Liaison Office. For further information, please contact Dr. H.C. Martin at (416) 667-4803