Environment Canada | Environnement Canada

dian Climate Centre

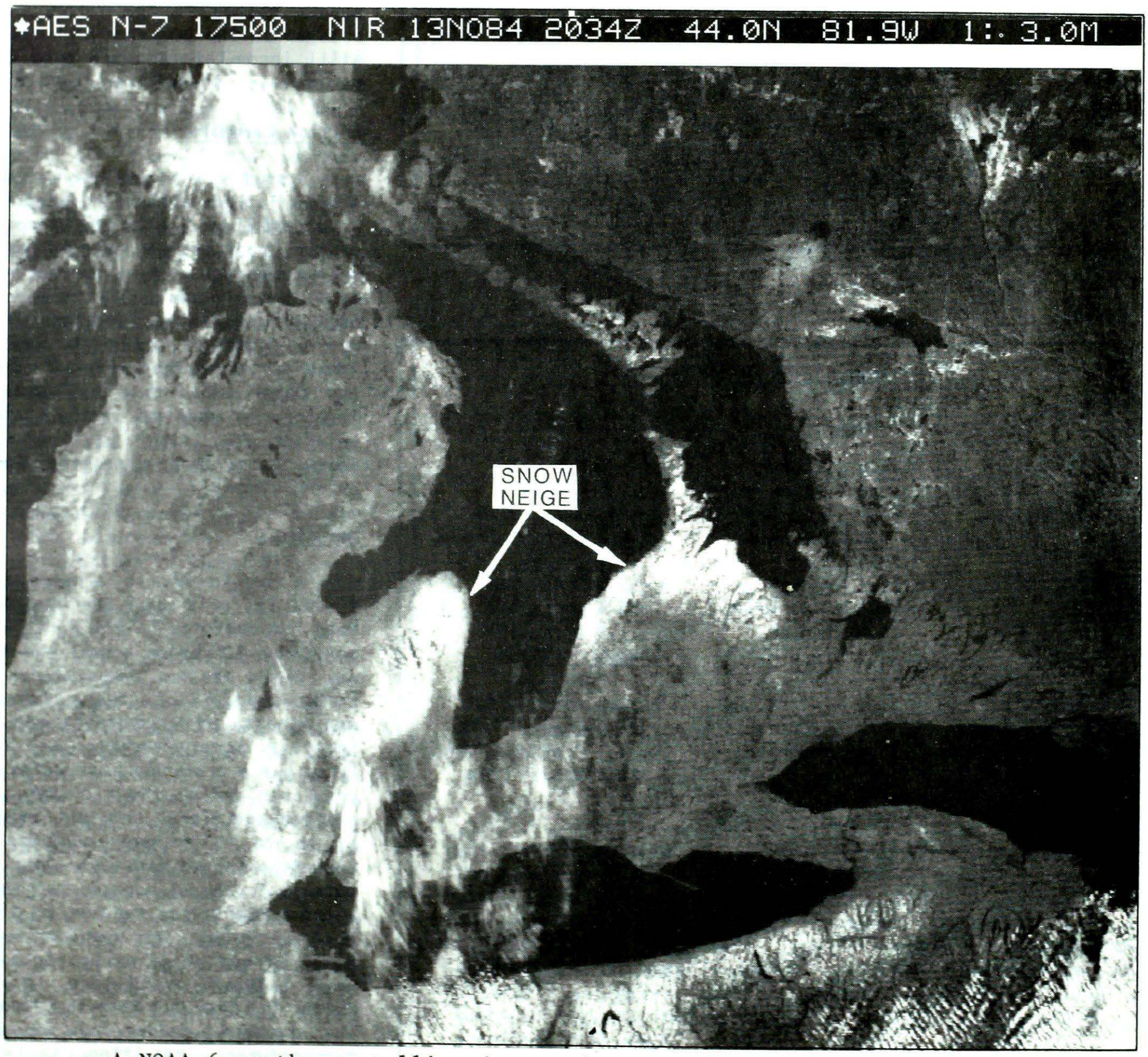
Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

MONTHLY SUPPLEMENT INCLUDED

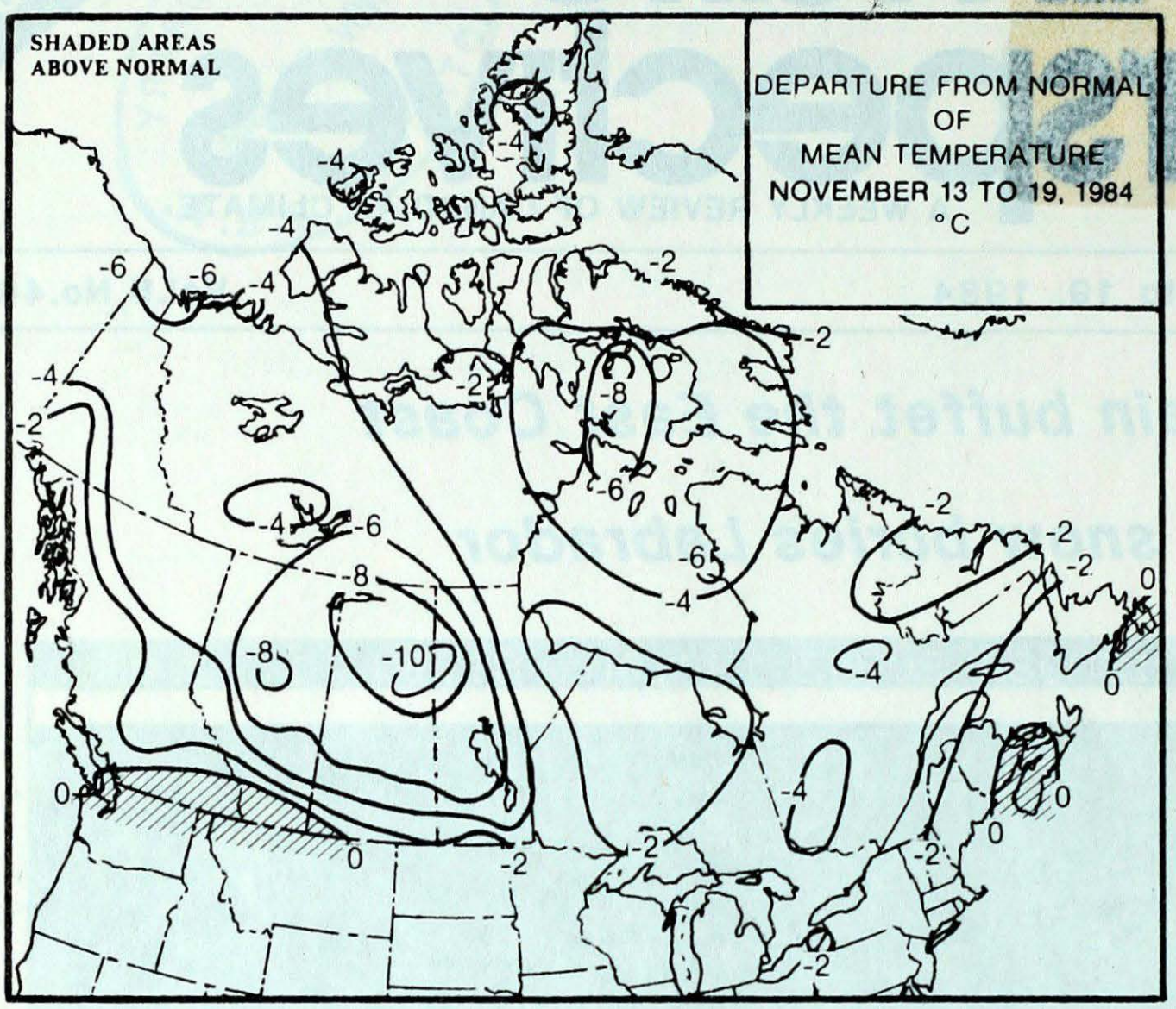
For the period November 13 to 19, 1984 Vol.6 No.46

- ***Wind, snow and rain buffet the East Coast***
- ***Up to 100 cm of snow buries Labrador***



A NOAA 6 weather satellite image of the first real snowcover of the season in the snowbelt regions bordering the Great Lakes (for more detail, see page 3).

Canada



WEEKLY TEMPERATURE EXTREMES (°C)

	MAXIMUM	MINIMUM
YUKON TERRITORY	-4.4 Whitehorse	-44.0 Ogilvie
NORTHWEST TERRITORIES	-2.8 Gladman Point	-42.5 Eureka
BRITISH COLUMBIA	12.0 Victoria	-28.8 Dease Lake
ALBERTA	9.3 Lethbridge	-36.0 Fort Chipewyan
SASKATCHEWAN	9.6 Estevan	-39.6 Cree Lake
MANITOBA	6.6 Pilot Mound	-35.3 Lynn Lake
ONTARIO	11.9 Windsor	-21.0 Atikokan
QUEBEC	9.2 Gaspé	-26.6 Inukjuak
NEW BRUNSWICK	13.2 Moncton	-12.2 Charlo
NOVA SCOTIA	13.7 Shelburne	- 8.0 Truro
PRINCE EDWARD ISLAND	11.6 Summerside	- 7.1 Charlottetown
NEWFOUNDLAND	11.8 Argentia	-22.3 Wabush Lake

ACROSS THE NATION

Warmest mean temperature	6.3	Sable Island, NS
Coolest mean temperature	-36.9	Eureka, NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

Even though mean temperatures were below normal, a moderating trend was evident in the Yukon as daytime readings moved closer to seasonal values. Ogilvie had the distinction of being the coldest spot in Canada this week, -44° on November 16. Snowfalls were generally less than 10 cm but heavier amounts fell along the Baffin Island coast. Occasionally, blowing snow restricted visibilities on major supply routes in the Yukon. Ice bridges on the Dempster Highway are still incomplete and are open only to restricted vehicular traffic.

British Columbia

A southerly circulation allowed a mild Pacific airmass to gradually penetrate inland. With the exception of the Coast and the extreme South, mean temperatures for the week were still below normal. Day time readings climbed above freezing everywhere, except in the North. Maximum temperatures reached near 10° along the Coast. The thaw has created logging road problems in the central interior. Persistant low clouds in southern valleys disrupted local aviation traffic.

Prairies

A frigid Arctic airmass continued its grip over the Prairies. Mean temperatures in the North were more than 10° below normal and many new daily minimum temperature records were set in central and northern Alberta on November 15 and 16. Snowfalls were generally less than 10 cm but a disturbance crossing the provinces during the mid-week, deposited additional snowfall amounts of up to 15 cm over portions of Saskatchewan and Manitoba. Only the extreme Southeast escaped the snow, where temperatures managed to climb above freezing. The combination of snow, strong winds and cold caused near blizzard conditions in the North. The Grey Cup Game in Edmonton was played in colder than expected temperatures, resulting in very slippery field conditions.

Ontario

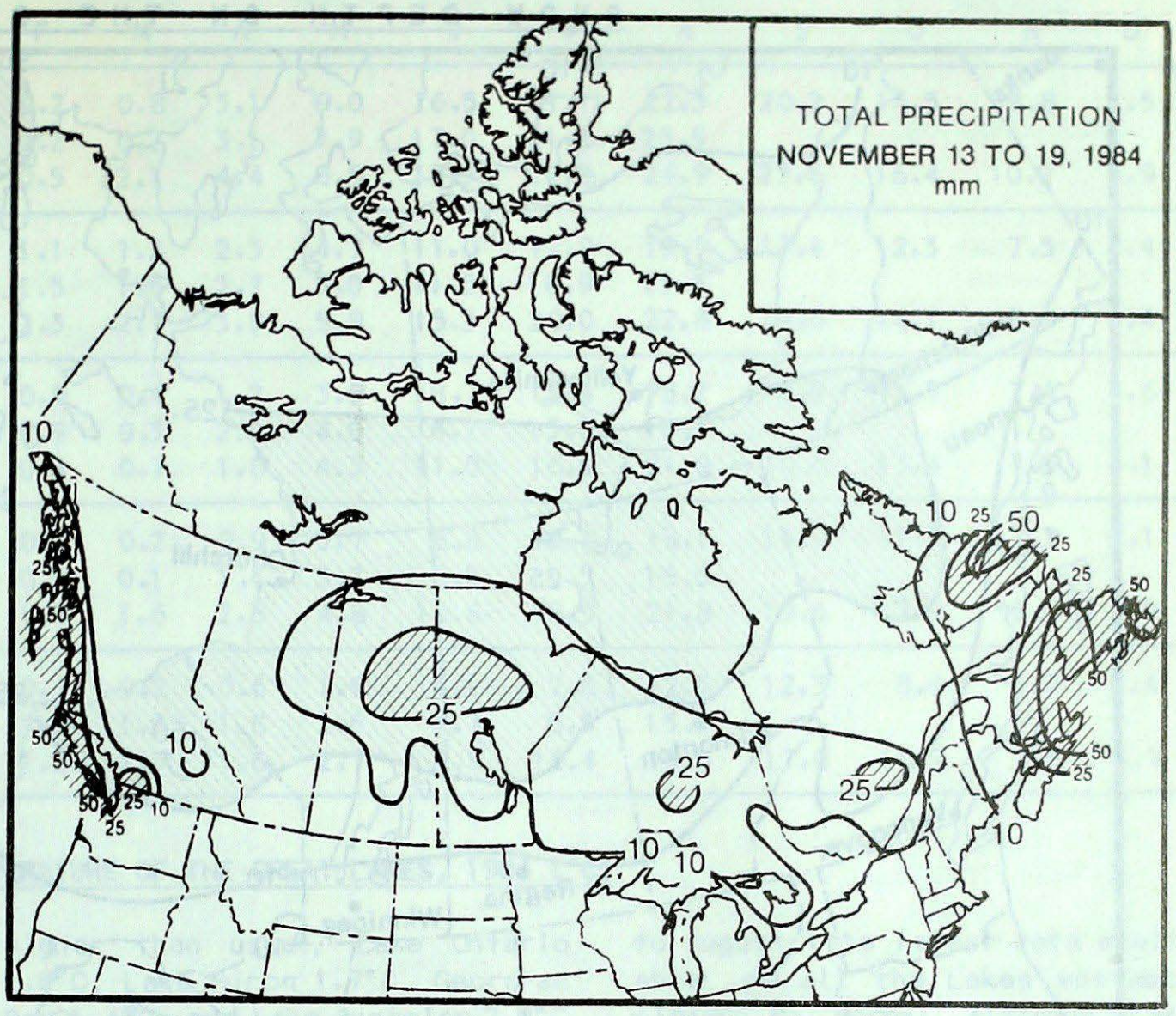
It was a cool week with varying amounts of cloud. Daytime temperatures during the first half of the week remained above freezing. On November 15, temperatures in southern Ontario reached 12°. Heaviest amounts of precipitation, between 15 and 30 mm, fell across central and northern Ontario, predominantly as rain. Cold Arctic air flooded the province over the weekend, triggering snow squall activity to the lea of the Great Lakes.

Québec

The week began on a mild note, with daytime readings in the South reaching 10°. After mid-week cold Arctic air flooded the southern half of the Province and with mainly clear skies at night, temperatures plummeted to the minus twenties, establishing many new daily minimum temperature records between November 15 and 18. Precipitation was variable and mixed. Western Québec and the Lac Saint-Jean District were inundated with 30 to 40 cm of snow, while the lower St. Lawrence Valley received up to 35 mm of rain. There were numerous traffic accidents as a result of the first major snowfall of the season. On November 17, a 30 car pile-up occurred on the Pierre-Laporte bridge in Québec City.

Atlantic Provinces

It was a predominantly cloudy and damp week, with significant daily temperature variations. A strengthening disturbance crossed the East Coast during the early part of the week and inundated Labrador with heavy snow, while Newfoundland and the Maritimes received mostly rain. Between November 12-17, parts of the Labrador Coast received more than 100 cm of snow. In a two day period Goose Bay exceeded their normal monthly snowfall of 57 cm. Owing to strong winds in excess of 100 km/h, ferry services to Prince Edward Island were disrupted. Unusually dry conditions still persist in New Brunswick and Nova Scotia.



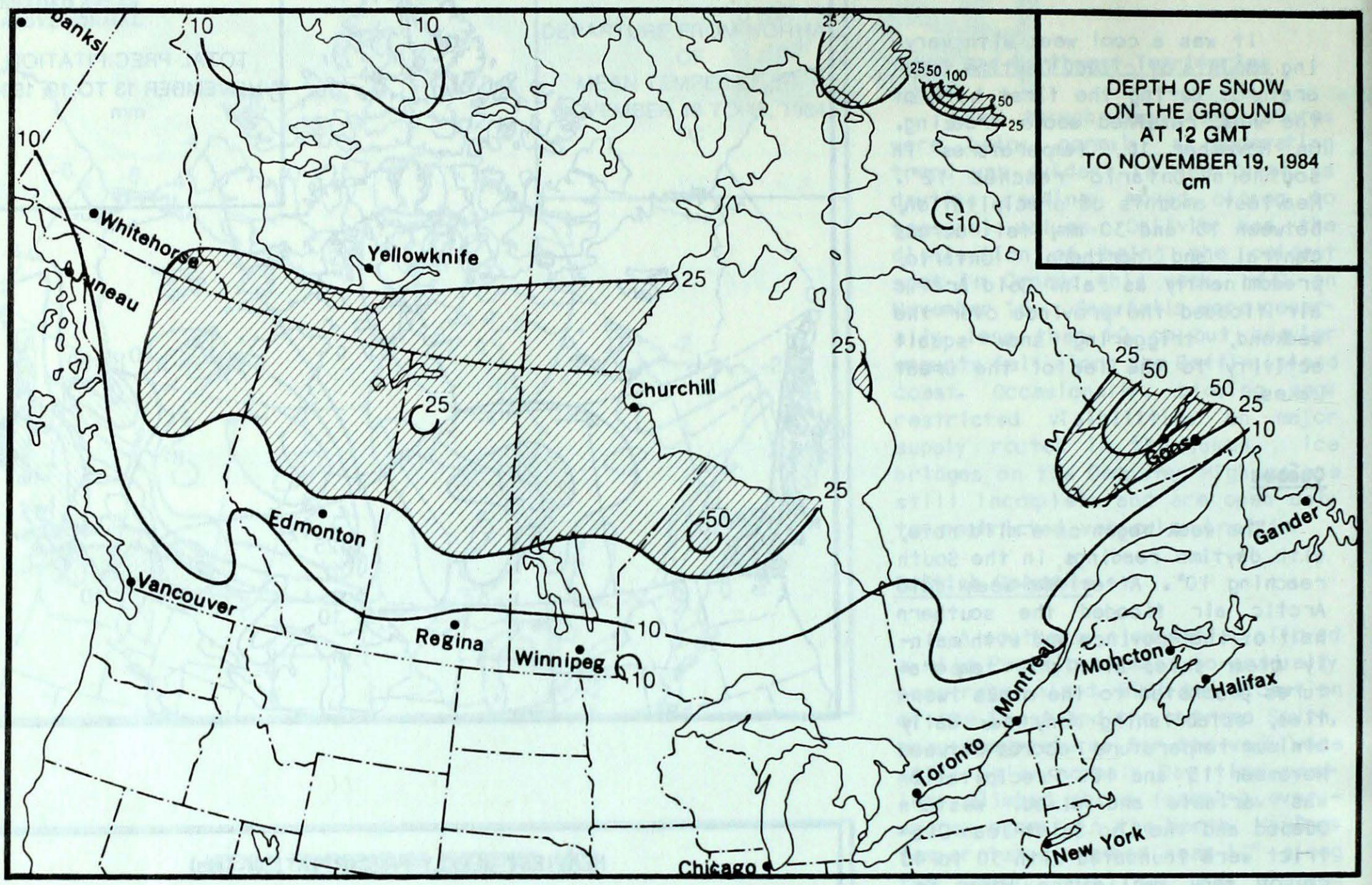
HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON	6.6	Dawson
NORTHWEST TERRITORIES	38.4	Broughton Island
BRITISH COLUMBIA	97.2	Estevan Point
ALBERTA	13.3	Cold Lake
SASKATCHEWAN	26.1	La Ronge
MANITOBA	30.3	Gillam
ONTARIO	30.8	Wiarton
QUEBEC	31.7	Val d'Or
NEW BRUNSWICK	23.4	Moncton
NOVA SCOTIA	78.6	Sable Island
PRINCE EDWARD ISLAND	33.5	Summerside
NEWFOUNDLAND	75.3	Cartwright

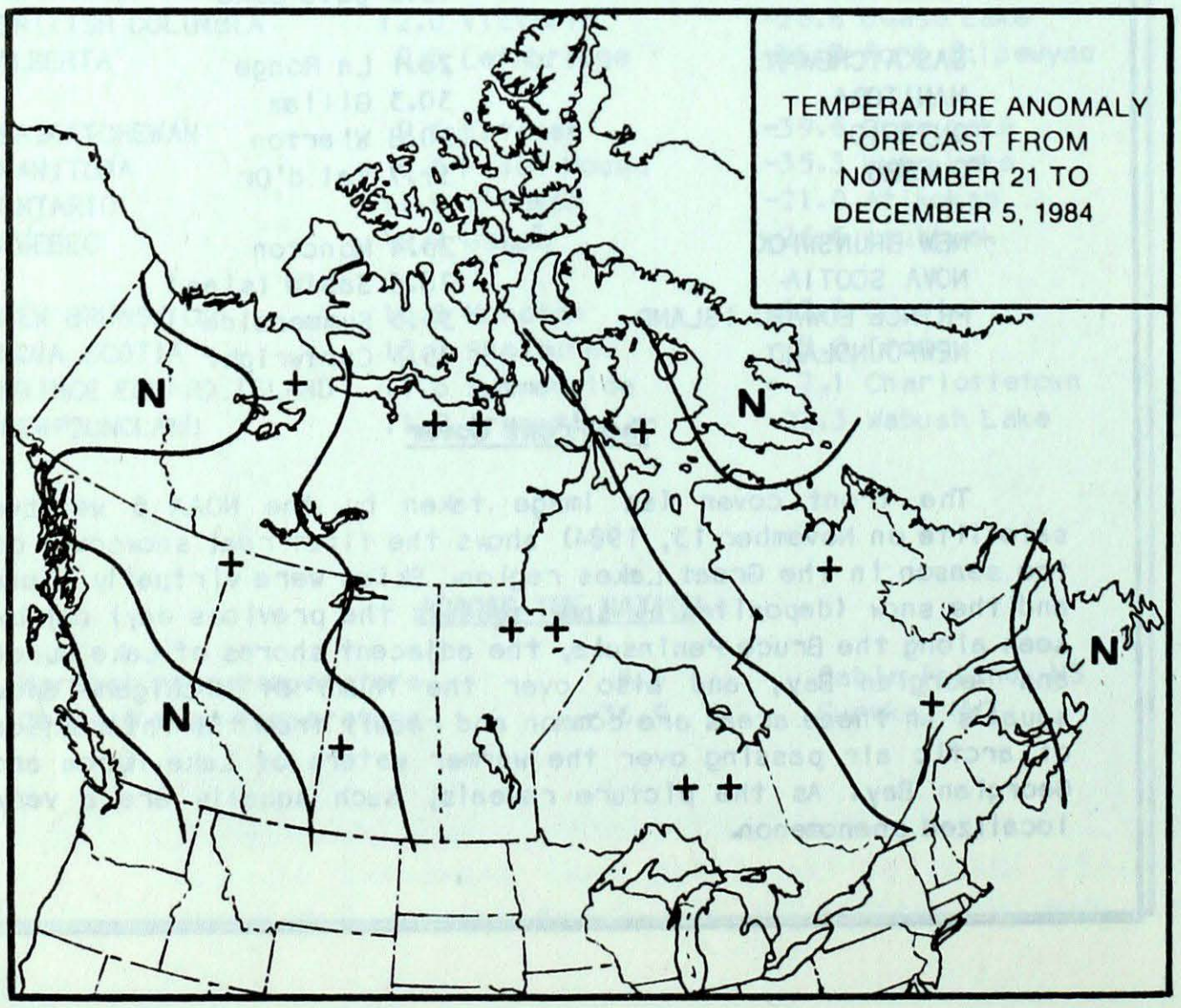
The Front Cover

The front cover (an image taken by the NOAA 6 weather satellite on November 13, 1984) shows the first real snowcover of the season in the Great Lakes region. Skies were virtually clear and the snow (deposited by snow squalls the previous day) can be seen along the Bruce Peninsula, the adjacent shores of Lake Huron and Georgian Bay, and also over the thumb of Michigan. Snow squalls in these areas are common and result from the interaction of arctic air passing over the warmer waters of Lake Huron and Georgian Bay. As the picture reveals, such squalls are a very localized phenomenon.

SNOW DEPTH ON THE GROUND



TEMPERATURE ANOMALY FORECAST



Temperature Anomaly Forecast

The temperature anomaly forecast, for each of the 70 Canadian stations, is prepared by searching historical weather maps to find cases similar to the present one. The principle used is that a prediction for the next 15 days may be based on what is known to have actually happened during 15-day periods. After the five best cases are selected, the surface temperature anomalies are calculated. This results in five separate forecasts, which are averaged to provide the forecast depicted.

++ much above normal

+ above normal

N normal

- below normal

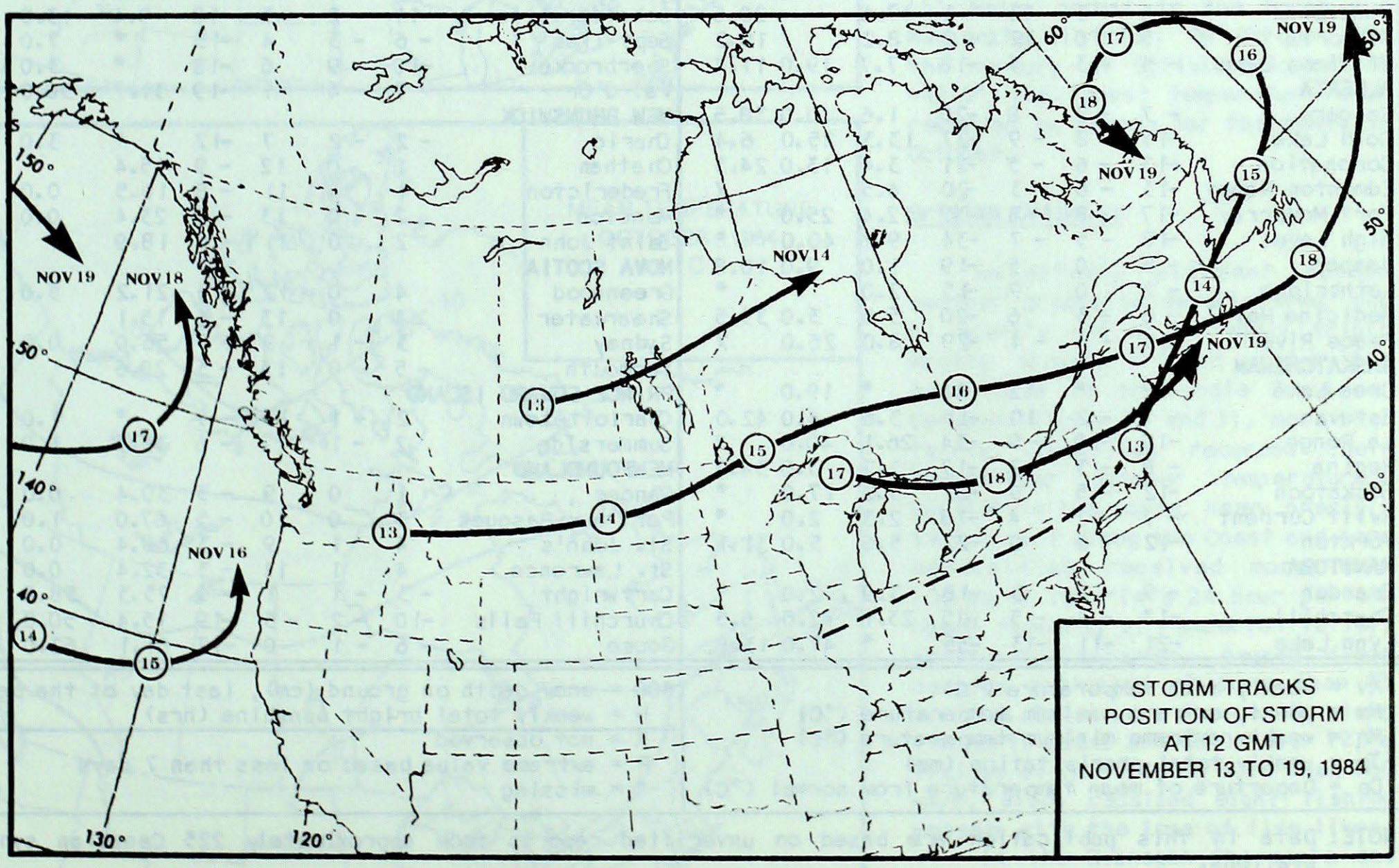
-- much below normal

		J	F	M	A	M	J	J	A	S	O	N	D
Lake Erie	(normal)	1.0	0.2	0.8	3.1	9.0	16.5	21.1	22.3	20.2	14.5	8.8	4.5
	(1984)	0.1	0.2	0.2	3.1	7.9	17.0	21.4	23.5				
	(1983)	2.3	0.5	2.1	4.4	8.9	18.3	22.2	24.9	23.6	16.4	10.2	5.9
Lake Ontario	(normal)	2.2	1.1	1.2	2.3	4.7	11.0	17.9	19.9	17.4	12.3	7.5	4.4
	(1984)	1.5	1.5	1.6	2.7	5.0	11.5	16.9	21.3				
	(1983)	2.9	2.3	2.7	3.8	5.9	15.3	20.0	22.8	19.0	14.1	8.9	5.4
Lake Huron	(normal)	2.6	0.9	0.4	1.2	3.9	8.7	15.4	18.2	16.0	11.5	7.4	4.6
	(1984)	2.0	0.9	0.3	2.0	4.0	8.7	15.0	19.3				
	(1983)	2.9	0.4	0.7	1.8	4.3	11.0	16.9	21.0	20.8	13.4	7.5	4.1
Georgian Bay	(normal)	1.2	0.3	0.2	0.9	3.7	8.8	16.1	18.1	15.9	11.3	7.3	4.1
	(1984)	0.6	0.3	0.1	1.4	3.7	8.8	15.5	18.6				
	(1983)	3.3	1.4	1.6	2.6	4.8	10.6	18.5	21.8	19.6	12.9	8.9	5.9
Lake Superior	(normal)	1.6	0.3	0.2	0.6	1.9	4.1	7.6	12.5	12.3	8.6	5.7	3.4
	(1984)	2.0	1.8	1.0	1.8	2.6	4.7	8.5	15.3				
	(1983)	2.1	1.2	1.3	1.6	2.7	4.9	10.4	18.5	17.0	10.9	7.6	4.9

TEMPERATURE OF THE GREAT LAKES, 1984 (°C)

During 1983, the water surface temperatures of the Great Lakes were the warmest since records began in 1965. Averaged over the year, Lake Erie was 1.5°C higher than usual, Lake Ontario 1.8°C, Lake Huron 1.7°C, Georgian Bay 1.4°C, and Lake Superior 2.0°C warmer than normal. During 1984, the temperature trend from January to August (the latest data available) on all the Lakes was much closer to normal although Lake Superior has continued on the warm side.

STORM TRACKS



TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT NOVEMBER 20, 1984

STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H
YUKON TERRITORY							
Dawson	-23	- 5	-10	-38	6.6	21.0	X
Mayo A	-18	0	- 8	-36	*	19.0	X
Shingle Point	-26	- 8	-20	-33	*	13.0	
Watson Lake	-20	- 4	- 9	-34	*	27.0	5.0
Whitehorse	-12	- 1	- 4	-22	2.5	10.0	*
NORTHWEST TERRITORIES							
Coppermine	-24	- 4	-12	-33	*	11.0	*
Fort Smith	-20	- 7	- 7	-33	7.6	35.0	*
Inuvik	-28	- 6	-19	-33	1.6	9.0	*
Norman Wells	-29	-10	-22	-37	5.3	13.0	*
Yellowknife	-18	- 4	- 4	-29	*	16.0	19.9
Baker Lake	-23	- 3	-15	-30	3.8	24.0	*
Coral Harbour	-24	- 7	-18	-30	0.0	13.0	*
Cape Dyer	-12	2	- 8	-18	7.7	95.0	X
Clyde	-20	- 2	-14	-30	*	34.0	*
Frobisher Bay	-18	- 5	- 6	-25	*	9.0	9.6
Alert	-29	- 2	-23	-35	*	45.0	*
Eureka	-37	- 6	-28	-42	*	28.0	*
Hall Beach	-28	- 9	-22	-32	*	14.0	X
Resolute	-27	- 3	-19	-33	*	10.0	*
Cambridge Bay	-27	- 3	-12	-37	*	15.0	*
Mould Bay	-28	0	-21	-33	*	12.0	*
Sachs Harbour	-28	- 4	-20	-36	0.2	10.0	*
BRITISH COLUMBIA							
Cape St. James	7	1	10	2	55.6		*
Cranbrook	- 1	0	5	- 9	1.0		*
Fort Nelson	-19	- 5	-13	-26	*	35.0	13.0
Fort St. John	-13	- 5	0	-26	*	23.0	X
Kamloops	0	- 2	9	- 8	0.6		10.6
Penticton	3	0	8	- 5	9.8		13.9
Port Hardy	4	0	11	- 2	36.9		12.3
Prince George	- 4	0	4	-15	8.7	17.0	9.9
Prince Rupert	4	0	8	- 8	64.7		8.8
Revelstoke	0	- 1	5	- 5	20.3	28.0	*
Smithers	- 4	- 1	5	-14	7.6	15.0	12.4
Vancouver	6	1	11	- 3	17.6		20.6
Victoria	5	0	12	- 2	8.2		19.2
Williams Lake	- 5	- 3	5	-18	7.7	19.0	11.4
ALBERTA							
Calgary	- 7	- 2	8	-20	1.6	0.0	38.5
Cold Lake	-15	- 8	- 9	-27	13.3	25.0	6.4
Coronation	-13	- 6	- 5	-21	3.4	13.0	24.3
Edmonton Namao	-13	- 6	- 3	-20	4.5		X
Fort McMurray	-17	- 8	- 8	-31	12.4	25.0	*
High Level	-18	- 5	- 7	-34	9.2	40.0	*
Jasper	- 5	0	5	-19	1.0	9.0	10.8
Lethbridge	- 2	0	9	-15	2.0		*
Medicine Hat	- 6	- 3	6	-20	5.5	3.0	35.5
Peace River	-15	- 6	- 4	-29	8.0	26.0	X
SASKATCHEWAN							
Cree Lake	-22	*	-12	-40	*	19.0	*
Estevan	- 7	- 2	10	-15	3.6	4.0	42.0
La Ronge	-19	-10	- 9	-34	26.1	40.0	X
Regina	- 8	- 3	2	-17	1.2	3.0	34.7
Saskatoon	-12	- 5	0	-22	3.2	17.0	*
Swift Current	- 7	- 2	4	-16	2.3	2.0	*
Yorkton	-12	- 6	0	-22	5.6	5.0	31.1
MANITOBA							
Brandon	- 9	- 4	5	-18	3.9	2.0	*
Churchill	-13	- 2	- 5	-25	23.1	42.0	6.5
Lynn Lake	-21	-11	-13	-35	*	47.0	13.8
The Pas	-15	- 7	- 1	-25	14.5	35.0	28.1
Thompson	-16	- 6	- 7	-27	29.2	27.0	*
Winnipeg	- 8	- 4	5	-20	4.6	1.0	32.3
ONTARIO							
Atikokan	- 6	- 2	8	-21	12.6	6.0	28.7
Big Trout Lake	- 9	0	- 1	-19	20.1	50.0	3.6
Earlton	- 4	- 3	3	-12	*	1.0	X
Kapuskasing	- 6	- 2	6	-15	14.3	5.0	*
Kenora	- 7	- 3	6	-18	12.9	10.0	X
Kingston	1	- 2	10	-10	4.4		*
London	1	- 3	10	- 6	5.8		*
Moosonee	- 6	- 2	5	-16	10.4	8.0	3.6
Muskoka	- 2	- 3	7	-15	*	2.0	X
North Bay	- 4	- 4	5	-14	30.6	3.0	29.5
Ottawa	- 1	- 3	9	-10	6.7	2.0	31.5
Pickle Lake	- 9	- 1	3	-18	*	18.0	X
Red Lake	- 9	- 3	4	-19	12.2	3.0	21.3
Sudbury	- 4	- 3	6	-13	17.0	3.0	*
Thunder Bay	- 4	- 2	7	-14	4.3		34.2
Timmins	- 6	- 3	4	-16	8.2	3.0	X
Toronto	1	- 3	10	-10	3.4		X
Trenton	0	- 3	10	- 9	6.2		X
Wiarton	1	- 3	9	- 8	30.8	3.0	25.7
Windsor	2	- 3	12	- 5	2.9		X
QUEBEC							
Bagotville	- 6	- 4	1	-15	26.2	27.0	X
Blanc-Sablon	- 3	- 3	3	-13	*		*
Inukjuak	-14	- 6	- 5	-27	*	27.0	18.2
Kuujjuaq	- 8	1	0	-20	7.7	24.0	1.2
Kuujjuarapik	- 8	- 4	- 2	-19	9.2	11.0	*
Manlwaki	- 3	- 3	7	-13	9.8	1.0	24.3
Mont-Joli	- 3	- 3	1	-10	*	10.0	*
Montréal	- 1	- 4	9	-11	9.8	1.0	15.0
Natashquan	- 4	- 3	3	-12	*	3.0	*
Nitchequon	-13	- 5	- 8	-23	8.2	14.0	18.1
Québec	- 2	- 2	6	-13	12.6	0.0	20.4
Schefferville	-11	- 2	- 5	-18	9.4	13.0	6.5
Sept-Iles	- 6	- 3	4	-15	*	7.0	*
Sherbrooke	-10	- 9	6	-18	*	3.0	*
Val-d'Or	- 7	- 4	1	-19	31.7	30.0	17.4
NEW BRUNSWICK							
Charlo	- 2	- 2	7	-12	*	3.0	*
Chatham	1	0	12	- 9	15.4		25.3
Fredericton	1	0	11	- 8	10.5	0.0	*
Moncton	2	0	13	- 9	23.4	0.0	22.7
Saint John	2	0	11	- 8	18.9		26.1
NOVA SCOTIA							
Greenwood	4	0	12	- 5	21.2	5.0	X
Shearwater	4	0	13	- 6	15.1		29.3
Sydney	3	- 1	9	- 7	56.0	0.0	10.0
Yarmouth	5	0	13	- 3	20.6		*
PRINCE EDWARD ISLAND							
Charlottetown	2	- 1	11	- 7	*	1.0	*
Summerside	2	- 1	12	- 6	33.5	1.0	15.1
NEWFOUNDLAND							
Gander	1	0	9	- 5	30.4	0.0	6.9
Port aux Basques	3	0	10	- 5	67.0	1.0	*
St. John's	4	1	9	- 3	69.4	0.0	*
St. Lawrence	4	1	11	- 3	32.4	0.0	X
Cartwright	- 3	- 1	1	- 9	75.3	58.0	X
Churchill Falls	-10	- 2	- 5	-19	15.4	50.0	X
Goose	- 6	- 1	0	-17	61.1	62.0	11.4

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

NOTE: Data in this publication are based on unverified reports from approximately 225 Canadian synoptic stations.