Climatic Perspectives

MONTHLY SUPPLEMENT INCLUDED

A WEEKLY REVIEW OF CANADIAN CLIMATE

JANUARY 20, 1984 (Aussi disponible en français) VOL. 6 NO. 2

FOR THE PERIOD JANUARY 10-16, 1984

• Storm dumps heavy snow, rain over Atlantic Canada

A fierce but erratic storm crossed Atlantic Canada on January 11, dumping up to 40 cm of snow on some locations and heavy rains on others. Heavy snow blanketed most of Prince Edward Island, New Brunswick and central Nova Scotia. Southern Newfoundland and parts of Nova Scotia had a mixed bag of precipitation. Freezing rain lasting nearly 5 hours created treacherous roads in Nova Scotia. Students in Prince Edward Island and most of New Brunswick got an unexpected day off school. The same storm lashed Newfoundland with heavy snow and strong winds. On Fogo Island, Nfld. about 1,200 residents were snow bound for nearly a week, streets were blocked with snow and schools remained closed for several days. Accompanying the storm, very mild air reached southern Newfoundland; at St. John's, the temperature rose to a record 13.3° on January 11.

• Piercing cold air returns to Eastern Canada

INSIDE THE DECEMBER MONTHLY SUPPLEMENT.....

- A measure of wind chill cooling rates
- Climatic impacts of 1983 in summary
- A look at weather radar
- Ice forecast for January '84

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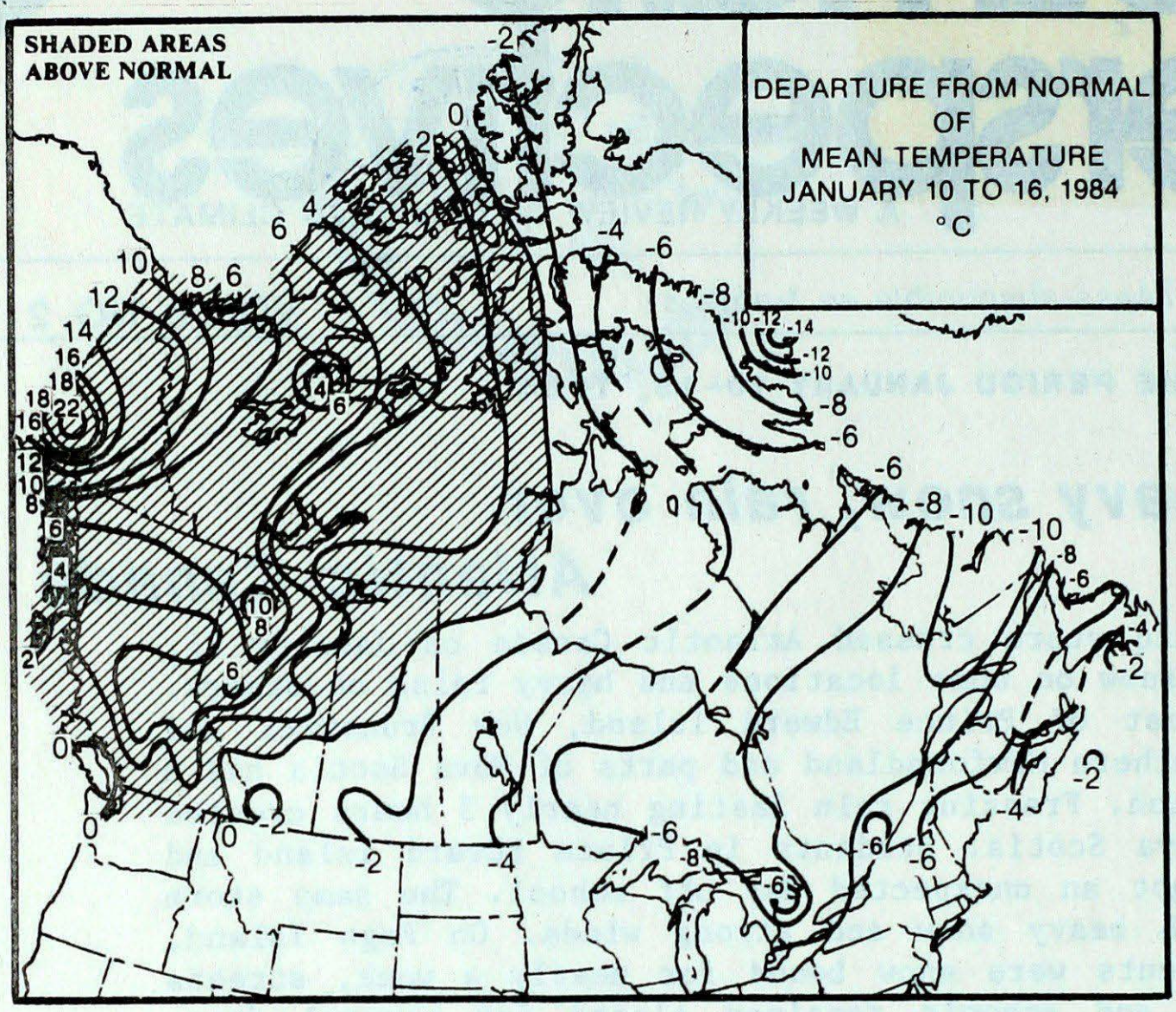
NOTE: The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic stations.

Canada



WEEKLY TEMPERATURES EXTREMES (°C)

	MAXIMUM		MINIMUM	
YUKON TERRITORY	6.3	Burwash	-32.4	Dawson
NORTHWEST TERRITORIES	-1.5	Clinton Point	-48.0	Shepherd Bay
BRITISH COLUMBIA	9.5	Victoria	-26.9	Puntzi Mountain
ALBERTA	6.7	Lethbridge	-37.0	Fort Chipewyan
SASKATCHEWAN	-0.3	Eastend Cypress	-43.6	Cree Lake
MANITOBA	-8.8	Portage La Prairie	-43.8	Lynn Lake
ONTARIO	-0.7	Port Weller	-43.4	Geraldton
QUÉBEC	-3.4	Grindstone Island	-45.3	Nitchequon
NEW BRUNSWICK	0.6	Saint John	-30.7	Charlo
NOVA SCOTIA	10.9	Sable Island	-23.0	Amherst
PRINCE EDWARD ISLAND	0.6	Charlottetown	-21.7	Summerside
NEWFOUNDLAND	13.3	St. John's	-43.6	Wabush Lake

ACROSS THE NATION

Warmest mean temperature	6.6	Cape St. James	BC
Coolest mean temperature	-37.1	Eureka, NWT	

ACROSS THE COUNTRY...

Yukon and Northwest Territories

An influx of mild Pacific air produced much-above normal temperatures throughout the Yukon and the Mackenzie District. Only Baffin Island had below normal readings. Several Yukon locations experienced temperatures that were 15 to 20 degrees above normal. At Burwash, the average value was 25° above the norm, and on January 13, a daytime temperature of 6° at the same place was the highest so far this year across the North. Light rain accompanied the warmth in the southern Yukon. Only 2 to 5 cm of snow fell throughout most of the Arctic; Beaver Creek had the most, 8 cm. To the dismay of cross-country skiers, snow depth remained much below normal at Whitehorse, only 13 cm.

British Columbia

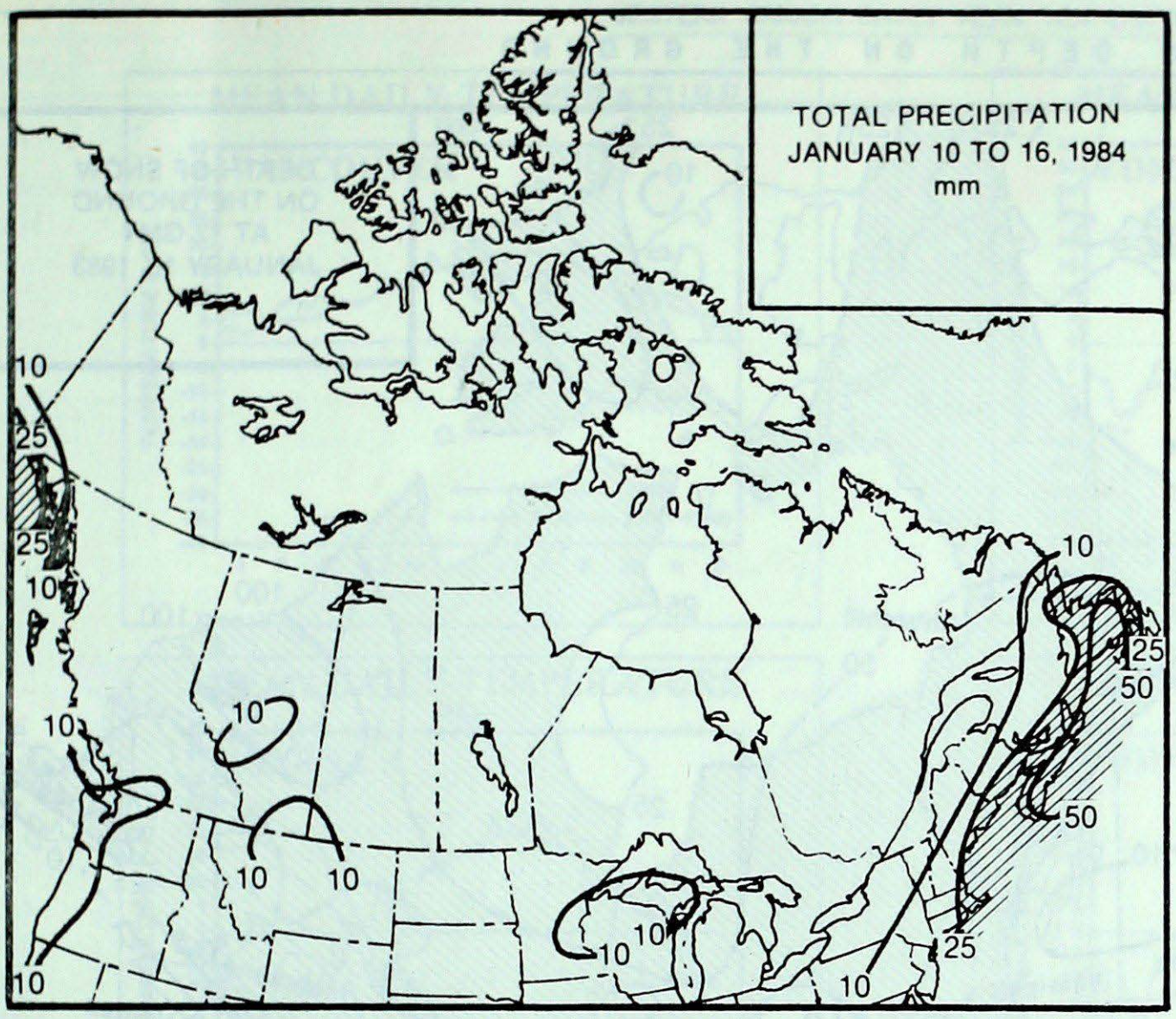
Very mild weather early in the week yielded to a cold brand of Arctic air that penetrated the province during the latter half of the period. Only the South Coast remained mild and fair. Precipitation was light. Sunshine was plentiful especially along the Coast, but low clouds plagued parts of the central interior. Victoria recorded more than four times its normal sunshine. This fine weather has forced commercial nurseries to spray a retardant on Easter flowers that have sprouted prematurely.

Prairies

The west was predominantly cloudy with variable amounts of light snow, while the east was mostly sunny, dry and cold. Mean temperatures ranged from 10° above normal in the northwest to below normal in the southeast. Several daily maximum temperatures were broken in northern Alberta. Since November 1, many areas in southern Manitoba have received less than half their normal precipitation.

Ontario

Bitter cold dominated Ontario's weather. On January 11, Geraldton's



HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON	5.6	Mayo
NORTHWEST TERRITORIES	6.9	Frobisher Bay
BRITISH COLUMBIA	24.2	McInnes Island
ALBERTA	13.7	Lethbridge
SASKATCHEWAN	8.5	Estevan
MANITOBA	3.6	Gimli
ONTARIO	9.6	Wiarton
QUEBEC	12.1	Sherbrooke
NEW BRUNSWICK	40.2	Moncton
NOVA SCOTIA	69.8	Shearwater
PRINCE EDWARD ISLAND	30.3	Charlottetown
NEWFOUNDLAND	63.0	Burgeo

Ice Growth in Eastern Waters

Very cold temperatures, departures from normal nearly 15°, and light winds accelerated ice growth and formation over the Eastern Canadian waters. In the Gulf of St. Lawrence, ice cover was more extensive than normal and the eastern boundary of the pack ice was about 50 km east of Grindstone Island. In the east Newfoundland waters, ice growth was rapid and was 3 to 4 weeks ahead of normal. Accumulated freezing degree-days at Goose Bay was 1002 - the highest in the last 10 years.

temperature plunged to -42.2° setting a record for the day, as well as being the coldest reading in the Province this winter. On January 16, the temperature dropped to -37.9° at Peterborough - the lowest reading for any January. Several other all-time record cold temperatures were broken in southwestern Ontario. Plenty of sunshine accompanied the cold. Snowfall was light everywhere; however, a blinding snow squall contributed to a massive 200-car pile-up on the Queen Elizabeth Way near Burlington. At least 80 people were taken to hospitals in the area and damage was estimated to be well over $1 million. With the very cold weather, the snow cover remained steadfast. Depth of snow on the ground ranged from 101 cm at Timmins to 7 cm at St. Catharines.

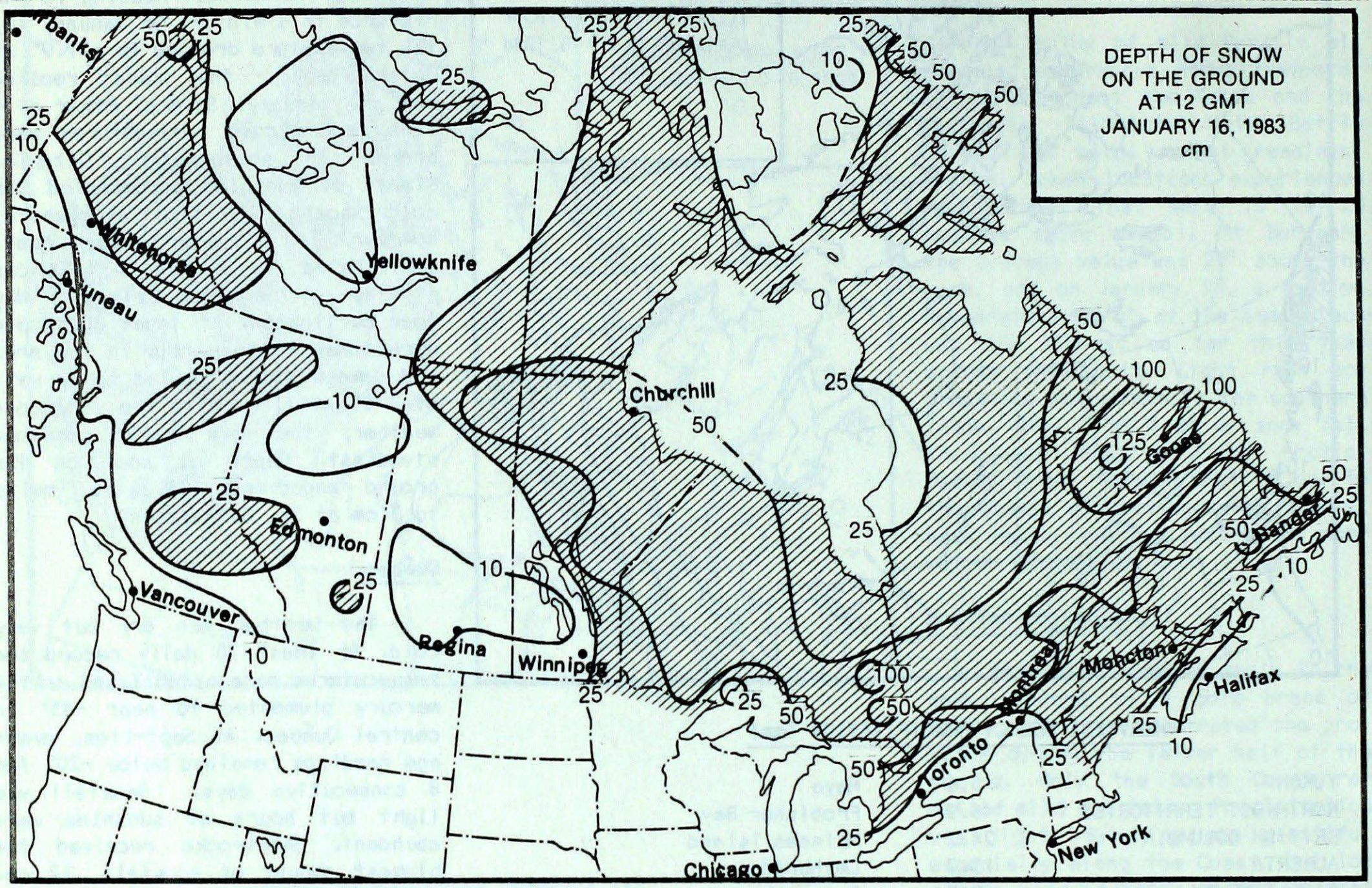
Québec

The weather was dry but very cold. At least 15 daily record low temperatures were established as the mercury plummeted to near -45° in central Québec. At Sept-Iles, average readings remained below -20° for 8 consecutive days. Snowfall was light but hours of sunshine were abundant. Sherbrooke received the highest amount of snowfall, 12 cm. Owing to the deep snow cover, 50 to 80 cm at the resorts, skiing was good to excellent.

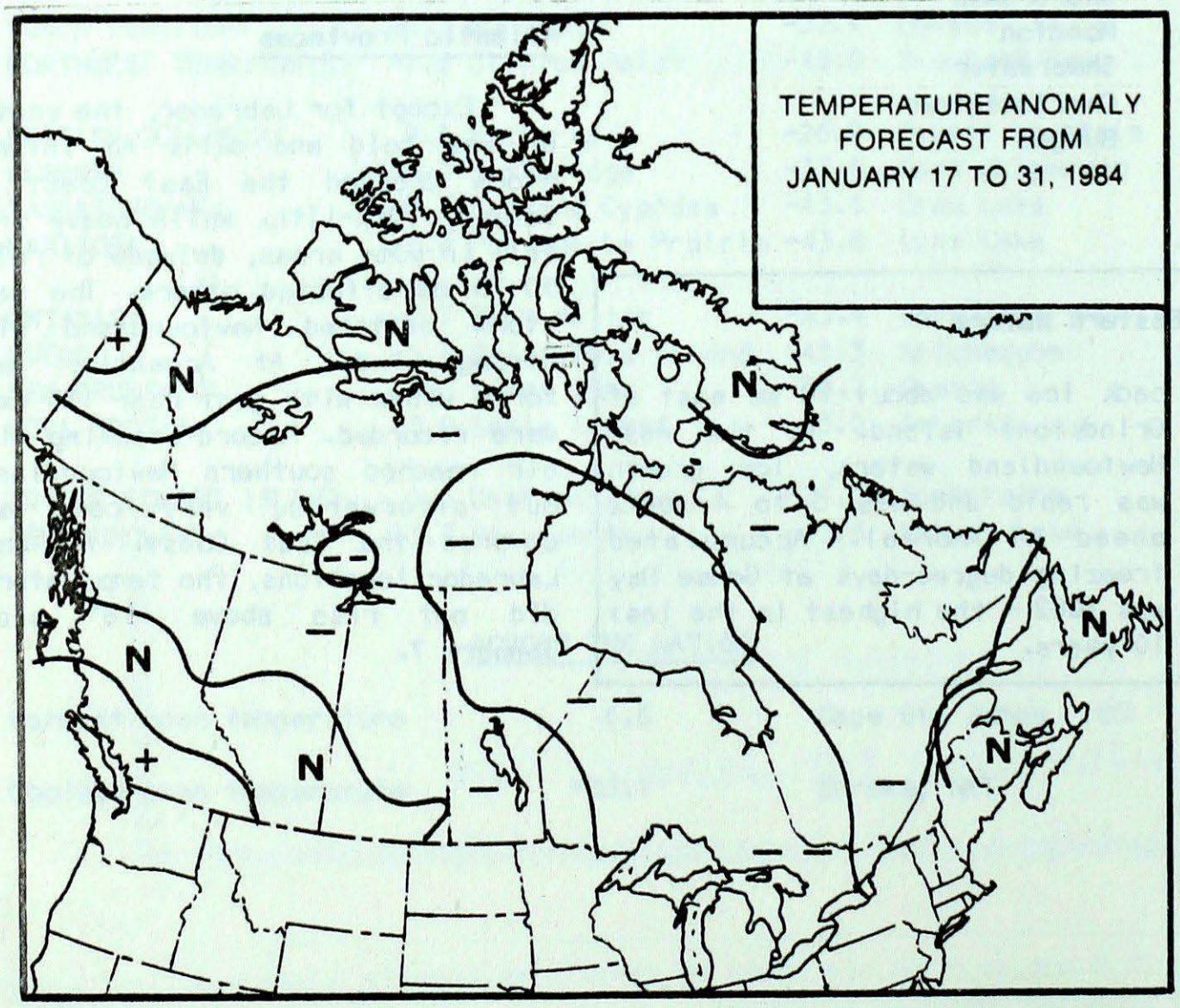
Atlantic Provinces

Except for Labrador, the weather was cold and dull. An intense storm crossed the East Coast on January 10th-11th. While heavy snow fell in some areas, deluges of rain, 50-70 mm affected others. The same storm battered Newfoundland with strong winds. At Argentia, gale force winds with gust near 115 km/h were recorded. Record-breaking mild air reached southern Newfoundland. But afterwards, very cold air covered the East Coast. At many Labrador locations, the temperatures did not rise above -18° since January 7.

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**

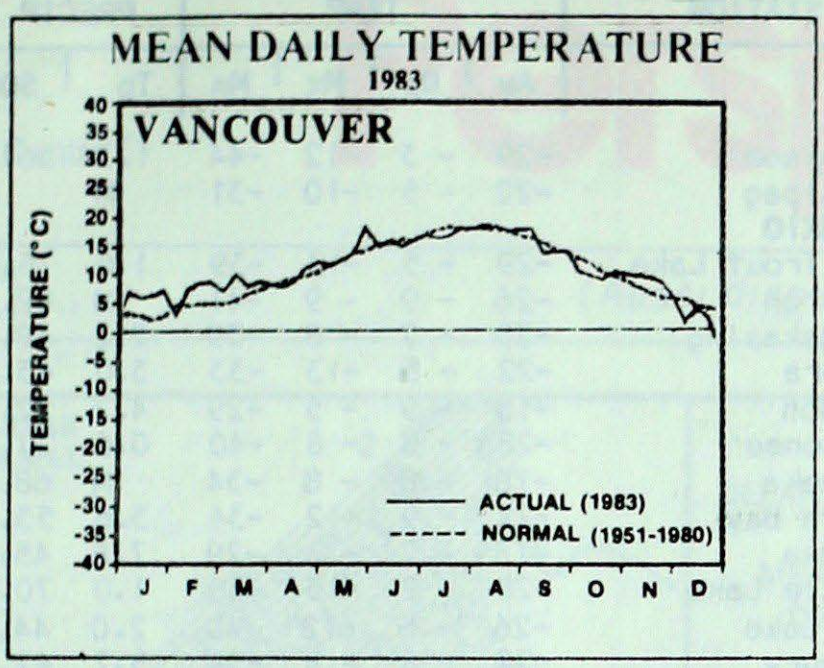
+ **above normal**

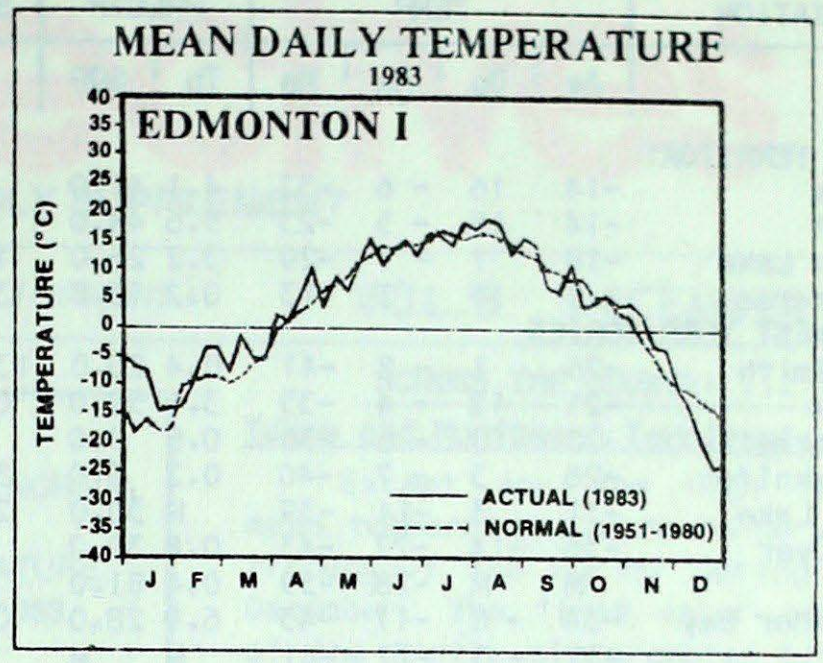
N **normal**

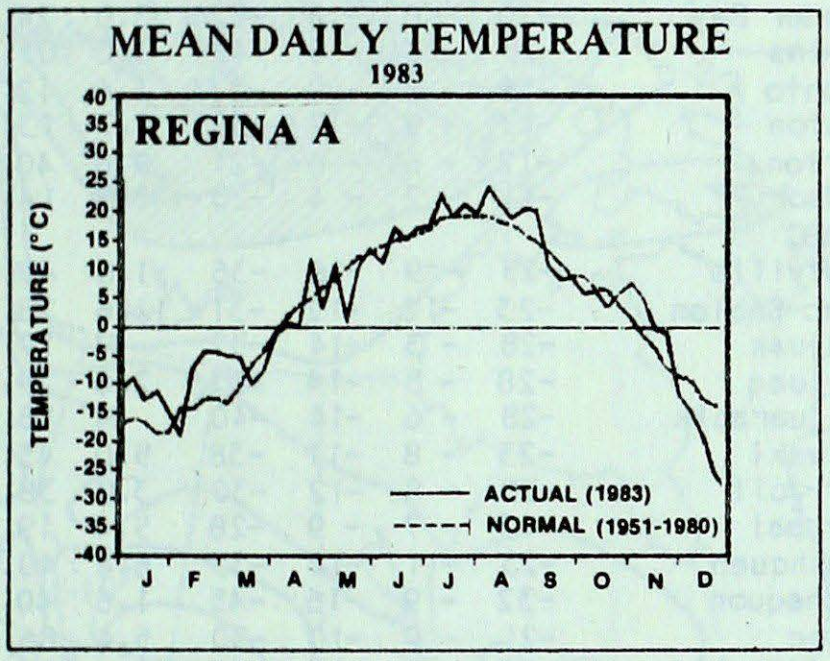
- **below normal**

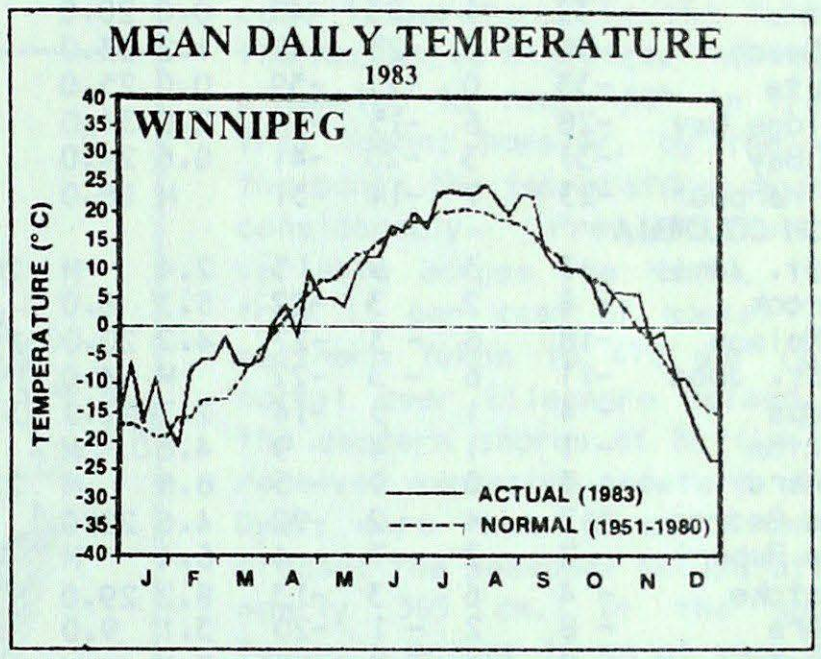
-- **much below normal**

WESTERN CANADA DAILY MEAN TEMPERATURES

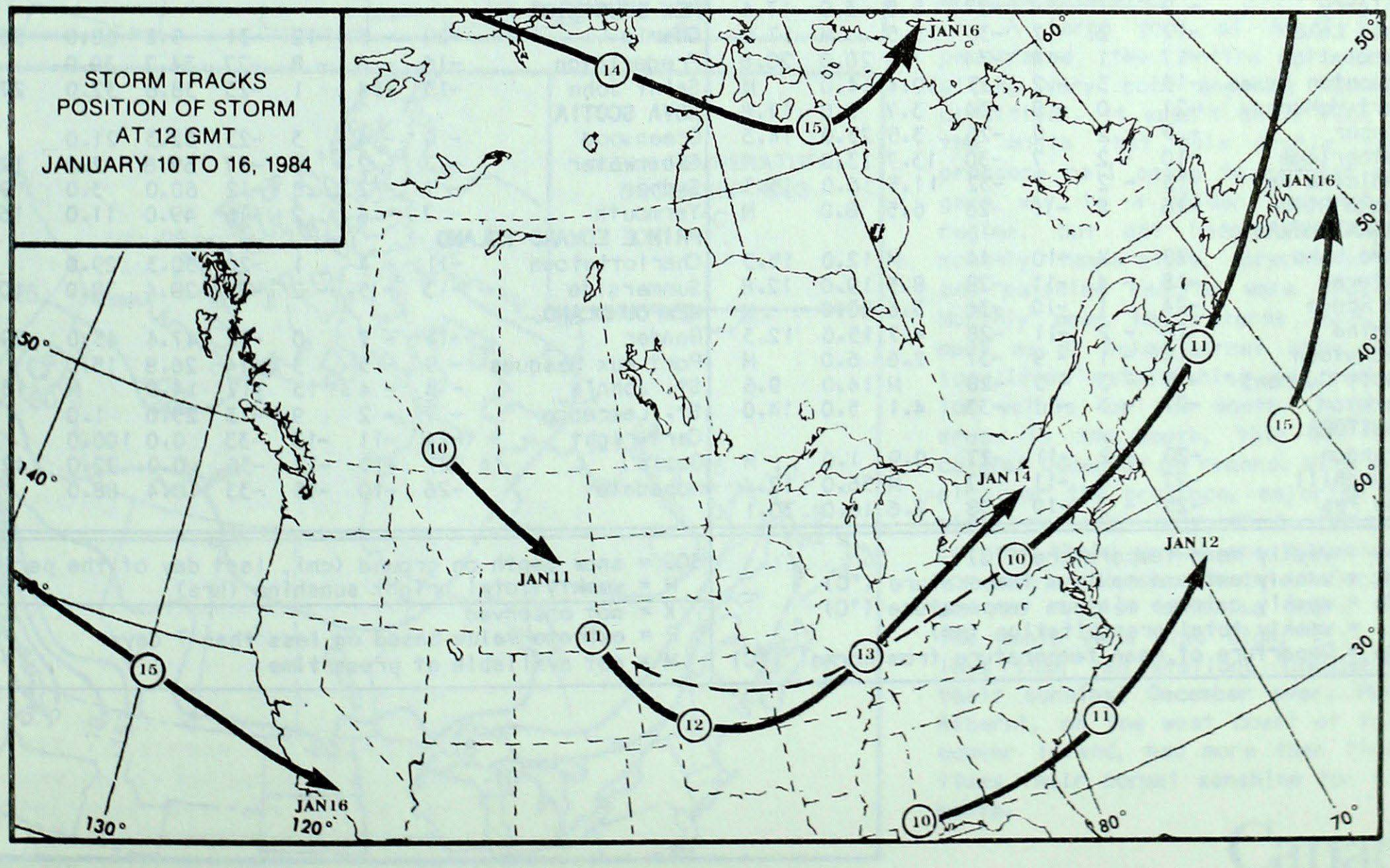








STORM TRACKS



TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT JANUARY 17, 1984

STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H
YUKON TERRITORY							
Dawson	-14	16	- 6	-32	4.1	41.0	M
Mayo A	-14	15	- 5	-23	5.6	44.0	M
Watson Lake	-18	7	- 7	-29	3.2	26.0	1.8
Whitehorse	- 5	15	3	-13	0.2	13.0	3.6
NORTHWEST TERRITORIES							
Fort Smith	-26	1	- 8	-41	0.4	20.0	13.5
Inuvik	-21	12	- 4	-35	3.1	59.0	0.0
Norman Wells	-20	10	- 6	-30	0.8	9.0	M
Yellowknife	-26	3	- 7	-40	0.2	8.0	3.5
Baker Lake	-31	3	-14	-39	M	30.0	2.2
Cape Dyer	-36	-14	-27	-43	0.8	39.0	M
Clyde	M	M	-28P	-39	0.4	81.0	M
Frobisher Bay	-34	- 8	-17	-45	6.9	28.0	0.0
Alert	-35	- 3	-27	-41	M	M	M
Eureka	-37	- 1	-23	-45	0.0	20.0	M
Hall Beach	-36	- 4	-25	-47	1.2	23.0	M
Resolute	-33	0	-27	-39	0.0	25.0	M
Cambridge Bay	-28	6	-15	-34	2.0	34.0	0.0
Mould Bay	-31	3	-20	-41	0.6	24.0	M
Sachs Harbour	-23	7	-14	-31	M	18.0	M
BRITISH COLUMBIA							
Cape St. James	7	3	9	3	2.4	M	26.3
Cranbrook	- 8	2	3	-22	5.3	8.0	M
Fort Nelson	-18	6	- 3	-27	4.2	20.0	12.5
Fort St. John	-11	6	- 3	-22	M	14.0	M
Kamloops	- 4	1	5	-14	2.7	9.0	31.7
Penticton	- 1	1	4	- 9	4.6	M	M
Port Hardy	3	0	9	- 5	8.6	M	22.5
Prince George	- 7	4	2	-22	4.6	22.0	7.4
Prince Rupert	2	2	7	- 4	6.4	M	M
Revelstoke	- 4	6	3	-13	8.2	29.0	M
Smithers	- 8	2	- 1	-20	3.1	9.0	M
Vancouver	2	- 1	8	- 5	7.7	M	M
Victoria	3	0	10	- 5	4.0	M	M
Williams Lake	- 8	1	2	-20	7.1	43.0	M
ALBERTA							
Calgary	- 9	1	4	-27	5.5	3.0	17.6
Cold Lake	-17	2	- 7	-30	5.5	M	17.9
Coronation	-17	- 1	- 4	-34	7.8	28.0	20.8
Edmonton Namao	-13	3	- 2	-25	10.4	14.0	M
Fort McMurray	-21	0	- 8	-34	3.7	5.0	11.8
Jasper	- 9	2	0	-26	3.5	25.0	14.3
Lethbridge	-10	- 2	7	-30	13.7	13.0	M
Medicine Hat	-13	- 2	1	-32	11.5	16.0	15.3
Peace River	-16	4	- 1	-26	6.5	8.0	M
SASKATCHEWAN							
Cree Lake	-28	X	-10	-44	M	12.0	15.5
Estevan	-18	- 4	-11	-28	8.5	19.0	12.8
La Ronge	-24	1	-10	-36	3.6	20.0	M
Regina	-18	- 2	-11	-28	4.7	15.0	12.3
Saskatoon	-19	- 1	- 9	-31	2.6	6.0	M
Swift Current	-15	- 3	- 5	-28	M	14.0	9.6
Yorkton	-21	- 3	-11	-33	4.1	5.0	14.0
MANITOBA							
Brandon	-20	- 2	-11	-27	0.9	1.0	M
Churchill	-27	0	-11	-37	M	56.0	17.4
The Pas	-25	- 3	-10	-38	2.6	16.0	30.1
Thompson	-29	- 3	-12	-44	1.3	36.0	36.6
Winnipeg	-22	- 5	-10	-31	M	M	31.2
ONTARIO							
Big Trout Lake	-29	- 5	-13	-39	1.0	75.0	M
Earlton	-26	- 9	- 9	-41	M	62.0	M
Kapuskasing	-25	- 7	- 8	-39	2.2	48.0	M
Kenora	-22	- 5	-13	-33	3.0	43.0	M
London	-15	- 9	- 5	-29	4.2	22.0	29.8
Moosonee	-28	- 8	- 8	-40	0.6	27.0	27.3
Muskoka	-18	- 8	- 8	-34	M	68.0	M
North Bay	-22	- 9	-12	-34	3.6	53.0	28.2
Ottawa	-18	- 7	- 8	-29	7.8	45.0	27.7
Pickle Lake	-28	- 8	-13	-40	1.0	70.0	M
Red Lake	-26	- 6	-12	-40	2.0	44.0	39.4
Sudbury	-22	- 8	- 8	-34	5.2	41.0	31.9
Thunder Bay	-20	- 6	- 6	-32	3.0	24.0	35.8
Timmins	-25	- 7	- 8	-42	3.0	101.0	M
Toronto	-15	- 8	- 2	-27	3.6	12.0	M
Trenton	-17	- 9	- 7	-30	7.7	13.0	M
Wiarton	-12	- 6	- 6	-21	9.6	40.0	22.5
Windsor	-11	- 7	- 4	-20	1.6	14.0	M
QUEBEC							
Bagotville	-25	- 9	-16	-36	1.6	49.0	M
Blanc-Sablon	-23	-10	-12	-31	11.6	28.0	M
Inukjuak	-28	- 3	-14	-37	M	19.0	8.7
Kuujjuaq	-28	- 5	-14	-37	2.6	29.0	8.0
Kuujjuarapik	-28	- 6	-14	-40	M	18.0	20.2
Manlwaki	-23	- 8	-11	-38	5.0	45.0	28.3
Mont-Joli	-20	- 8	-12	-30	3.9	38.0	24.5
Montréal	-17	- 7	- 9	-28	5.4	19.0	21.7
Natashquan	-23	-11	-14	-33	8.4	40.0	38.4
Nitchequon	-32	- 9	-16	-45	1.6	40.0	29.9
Québec	-21	- 9	-10	-30	5.4	86.0	16.6
Schefferville	-30	- 8	-16	-40	0.4	57.0	M
Sept-Iles	-24	-11	-13	-37	0.4	60.0	29.9
Sherbrooke	-18	- 3	- 5	-34	12.1	34.0	21.4
Val-d'Or	-26	- 9	-11	-40	4.8	66.0	34.9
NEW BRUNSWICK							
Charlo	-20	- 6	-12	-31	9.2	68.0	36.0
Fredericton	-16	- 6	- 8	-27	34.2	39.0	M
Saint John	-13	-54	1	-23	38.8	32.0	27.1
NOVA SCOTIA							
Greenwood	- 9	- 4	3	-23	32.3	21.0	M
Shearwater	- 7	- 2	8	-17	69.8	2.0	17.1
Sydney	- 7	- 2	8	-12	60.0	3.0	9.0
Yarmouth	- 7	- 4	2	-16	49.0	11.0	16.1
PRINCE EDWARD ISLAND							
Charlottetown	-11	- 4	1	-20	30.3	29.0	M
Summerside	-13	- 5	- 2	-22	29.4	38.0	10.9
NEWFOUNDLAND							
Gander	-14	- 7	0	-22	47.4	45.0	29.4
Port aux Basques	- 9	- 5	3	-14	26.8	15.0	M
St. John's	- 8	- 4	13	-17	14.9	M	18.2
St. Lawrence	- 7	- 2	9	-13	25.0	1.0	M
Cartwright	-24	-11	-13	-33	0.0	100.0	M
Goose	-27	-10	-12	-36	0.0	92.0	42.6
Hopedale	-26	-10	-15	-33	0.4	88.0	M

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
M = not available at press time