

Climatic Perspectives

MONTHLY SUPPLEMENT INCLUDED

A weekly review of Canadian climate

August 20 to 26, 1985

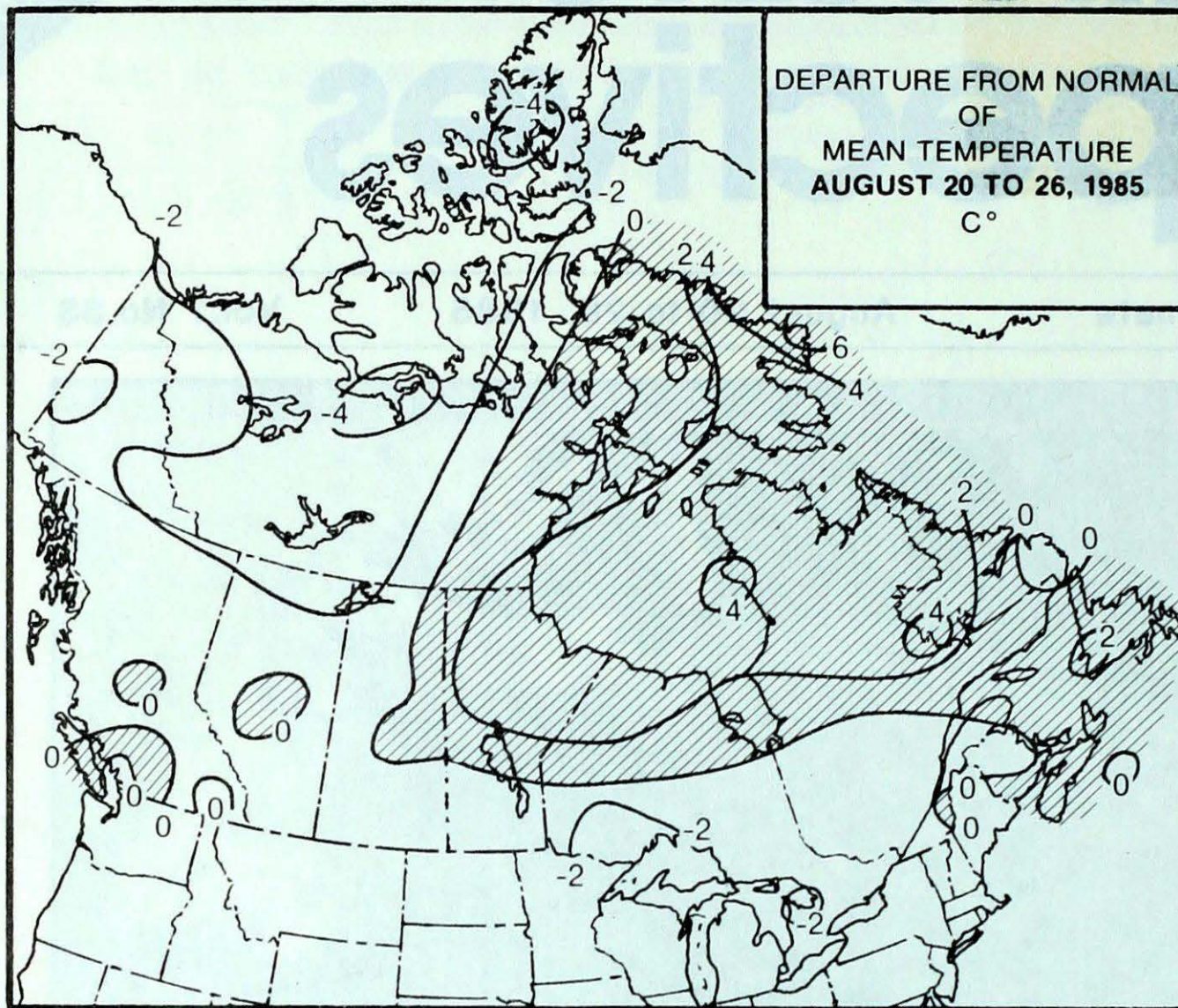
Vol.7 No.33



This striking infrared image of Newfoundland and surrounding waters was taken by the NOAA 9 satellite 850 km above the earth's surface on August 26, 1985. For more detail see page 3.

- ***Severe weather in Southern Ontario***
- ***First snowfall in the Arctic***
- ***Poor harvesting weather continues in Manitoba***

TEMPERATURE



ACROSS THE COUNTRY...

Yukon and Northwest Territories

With the approach of the autumn equinox, temperatures in the Arctic have begun their slow decline. Minimum temperatures in the north were frequently dropping below freezing. Several centimetres of fresh snow fell in the high Arctic. On August 22, supply ships lead by the ice-breaker C.C.G.S. John A. MacDonald reached Eureka. The converted ice strengthened tanker M.V. Arctic, escorted by the ice breaker C.C.G.S. Des Groseillier, reached the oil drilling fields at Cameron Island this week to load the first commercial shipment of Arctic crude. In the Beaufort, periods of offshore winds resulted in improved ice conditions near the vicinity of the drill site.

British Columbia

The week was much the same, but cooler than the previous period. It was cloudy and wet in the north, sunny and more settled in the south. Ground frost was reported in the Peace River District on August 20. A camp fire ban was still in effect in the central interior. The very dry summer weather in the southern interior this year presented problems to the cattle ranchers in the form of dried up watering holes and poor quality grazing land.

Prairies

A strengthening weather system deposited a band of heavy rain across the southern agricultural districts. Between 20 and 40 millimetres of rain fell in the drought stricken areas of the southwest, but for the most part it was too late to be of much help. Elsewhere, especially in southern Manitoba, where it has been unusually wet this month, harvesting operations continued to be hampered because of excessively soggy fields. Winnipeg received 43.2 mm of rain on August 23, making this the wettest August since records began in 1872. A hail storm hit the community of Lafleche, Saskatchewan, on August 25.

WEEKLY TEMPERATURE EXTREMES (°C)

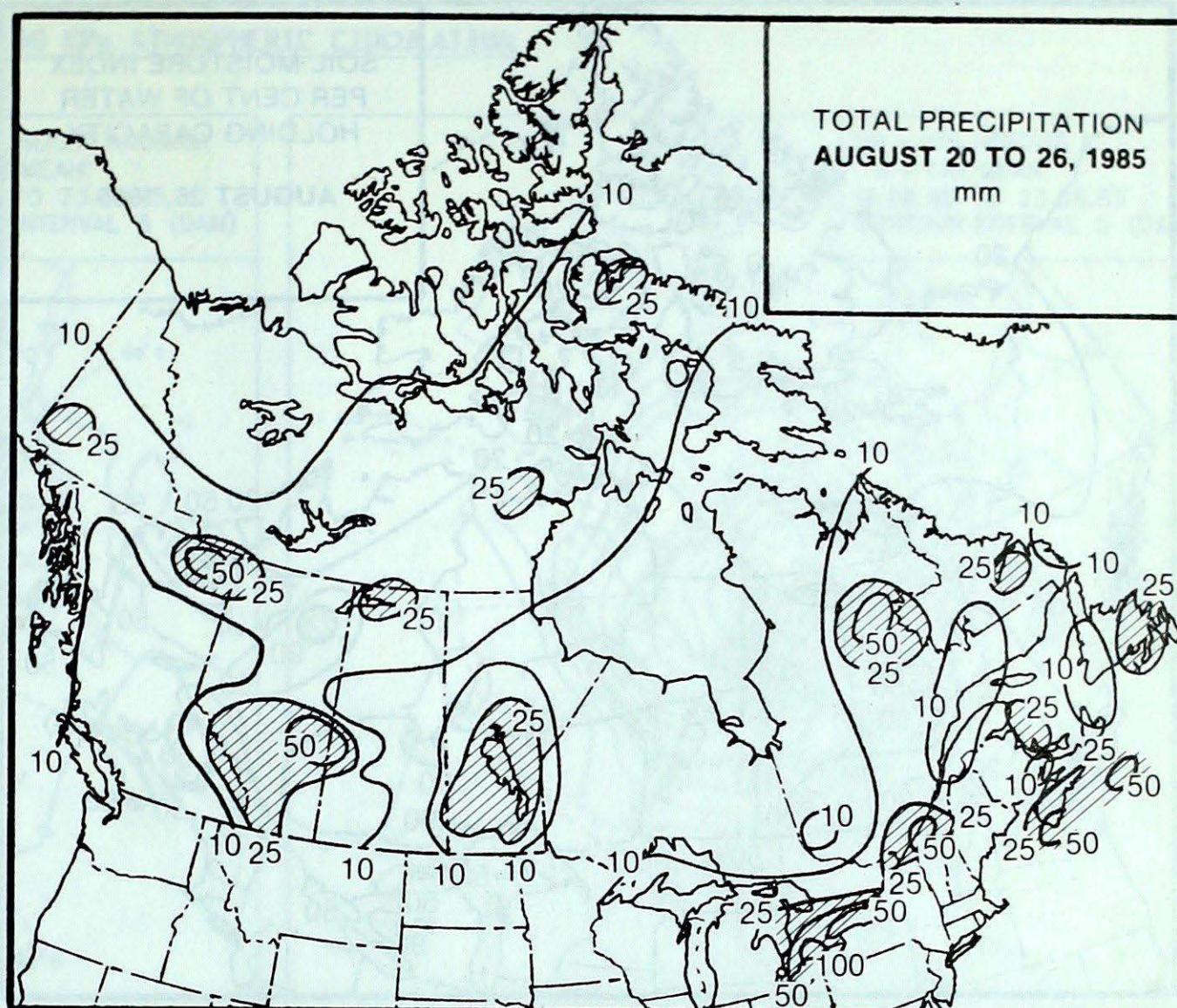
	MAXIMUM	MINIMUM
YUKON TERRITORY	18.5 Dawson	-4.0 Klondike
NORTHWEST TERRITORIES	23.5 Hay River	-8.6 Alert Bay
BRITISH COLUMBIA	34.5 Kamloops	-2.5 Puntzi Mountain
ALBERTA	31.9 Medicine Hat	-1.4 Grand Prairie
SASKATCHEWAN	34.4 Moose Jaw	-3.5 La Ronge
MANITOBA	27.6 Gillam	-0.8 Grand Rapids
ONTARIO	26.6 Landsdowne House	2.3 Armstrong
QUÉBEC	25.6 Kuujuaupik	1.0 Border Schefferville
NEW BRUNSWICK	25.3 Moncton	4.8 St. Stephen
NOVA SCOTIA	25.7 Greenwood	6.4 Shelburne
PRINCE EDWARD ISLAND	25.4 Charlottetown	11.1 Charlottetown
NEWFOUNDLAND	26.4 Battle Harbour	1.0 Cartwright

ACROSS THE NATION

Warmest mean temperature	21.2	Lytton, B.C.
Coollest mean temperature	-3.3	Alert, N.W.T.

Ontario

Relatively pleasant, but cool weather settled in across the north. In the south, fair weather gave way, allowing a slow moving disturbance to plague most of southern and central Ontario over the weekend. The weather system produced copious amounts of rain, in some instances more than 100 mm. The heavy rains were beneficial for late maturing fruits and farm crops, but scorned by vacationers. On August 26, a very unstable airmass produced heavy thunderstorms with torrential downpours. Kitchener received 33 mm of rain in 25 minutes. Several funnel clouds were sighted in southwestern Ontario the same day. High winds associated with a squall line caused considerable damage in the northeast section of London. Some tobacco and tomato fields were devastated by golfball size hail in southwestern Ontario. Damage estimates run around a quarter million

Quebec

Weather conditions were unsettled, keeping forest fire activity to a minimum. Precipitation was generally light. Heaviest amounts, between 20 and 70 millimetres, fell in the southwest. Because of frequently cloudy skies, daytime temperatures only managed to reach the mid-twenties in the south. Mean temperatures were as high as to 5°C above normal in the north.

Atlantic Provinces

Changeable skies and scattered showers and thundershowers moved through the region. Temperatures were close to seasonal values, climbing to the mid-twenties during the day in the Maritimes, but only the teens in Newfoundland. Rainfalls were below normal in New Brunswick; however, vegetable and cereal crops were doing well. The harvesting of barley and oats is well under way in the upper Saint John River Valley. Early potato and grain crops were being harvested on Prince Edward Island. Fair weather returned to Newfoundland over the weekend.

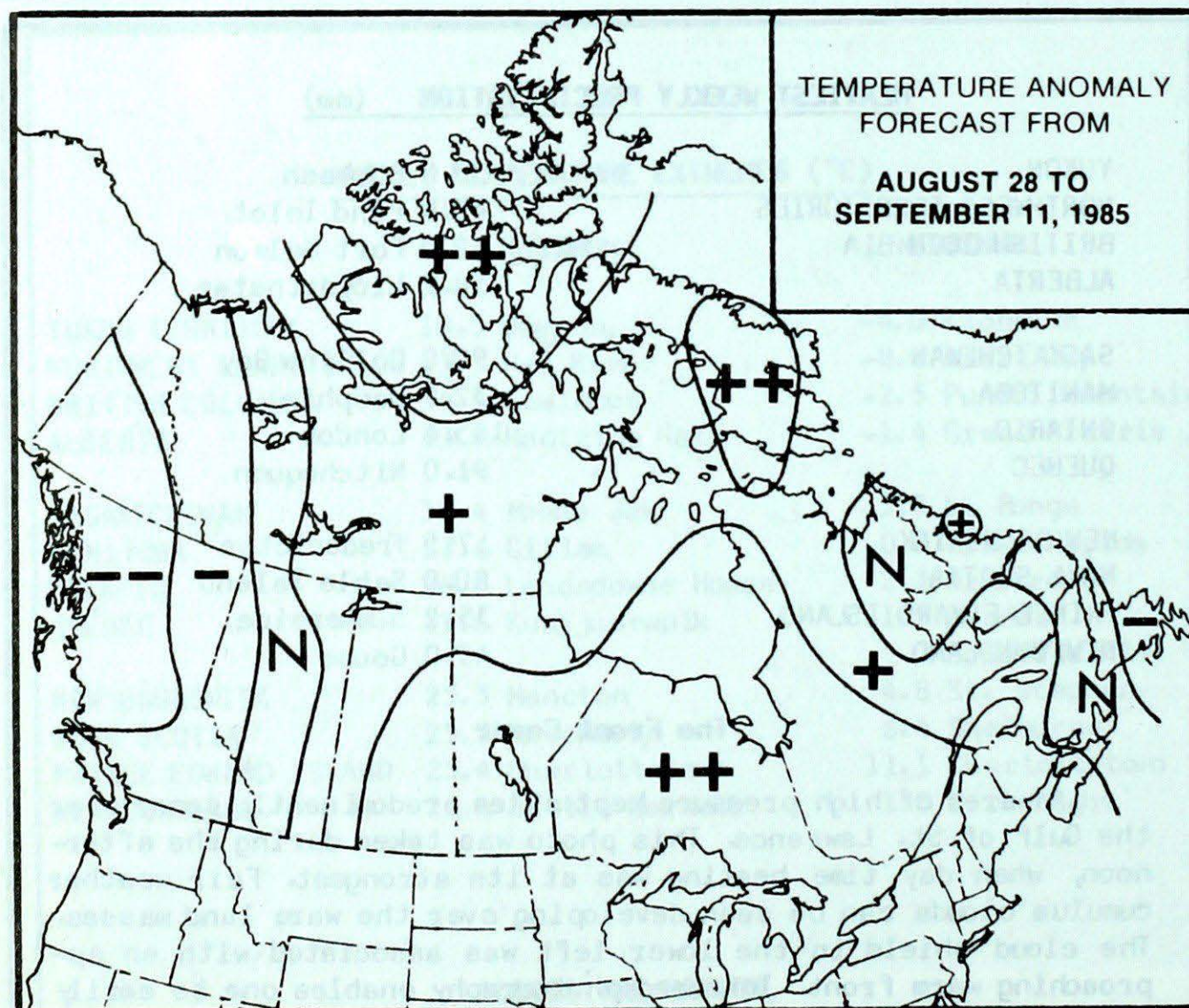
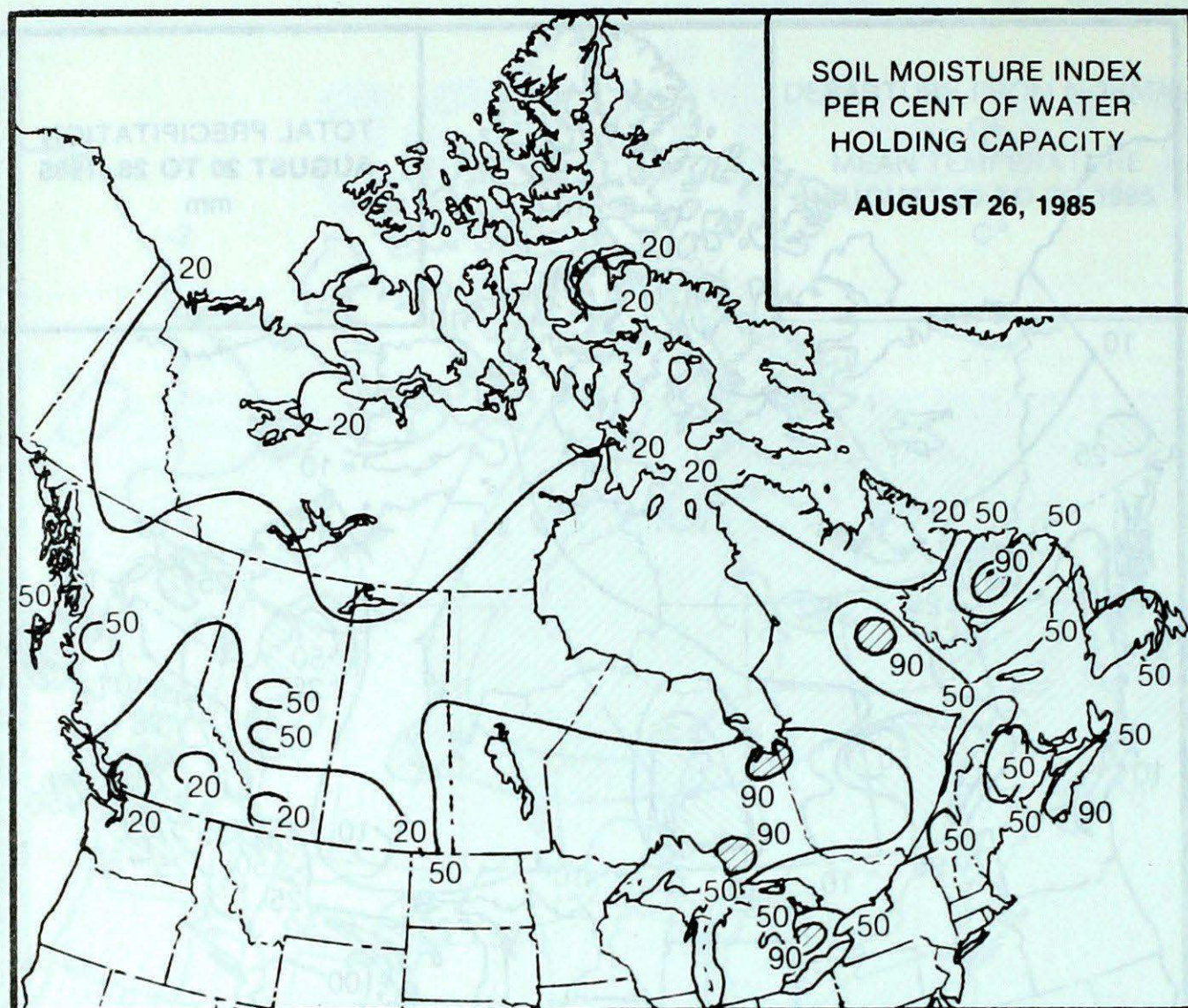
HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON	30.0 Burwash
NORTHWEST TERRITORIES	48.0 Pond Inlet
BRITISH COLUMBIA	68.0 Fort Nelson
ALBERTA	54.2 Lloydminster
SASKATCHEWAN	90.0 Collins Bay
MANITOBA	32.9 Dauphin
ONTARIO	115.4 London
QUEBEC	91.0 Nichequon
NEW BRUNSWICK	17.5 Fredericton
NOVA SCOTIA	80.0 Sable Island
PRINCE EDWARD ISLAND	35.2 Summerside
NEWFOUNDLAND	49.0 Goose

The Front Cover

An area of high pressure kept skies predominantly sunny over the Gulf of St. Lawrence. This photo was taken during the afternoon, when day time heating was at its strongest. Fair weather cumulus clouds can be seen developing over the warm land masses. The cloud shield in the lower left was associated with an approaching warm front. Infrared photography enables one to easily differentiate between varying surface water temperatures by comparing the surface shading in the picture to the temperature scale at the top. The cold Labrador current (light grey) can be seen flowing through the strait of Belle Isle, and mixing with the warmer waters (dark grey) of the Gulf. Likewise, off eastern Newfoundland contrasting water temperatures are evident, frequently showing up in the form of swirls and eddies.

FORECAST



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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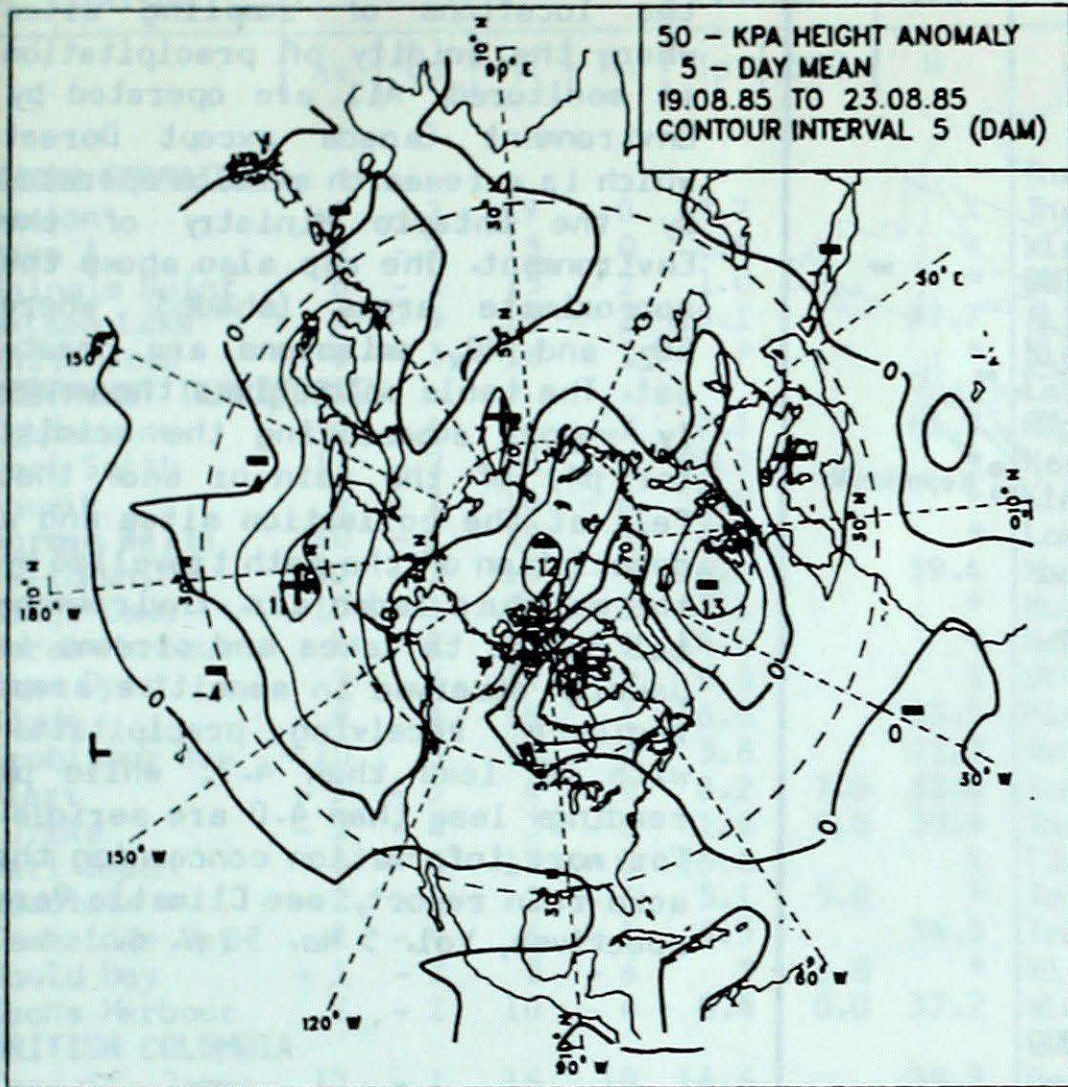
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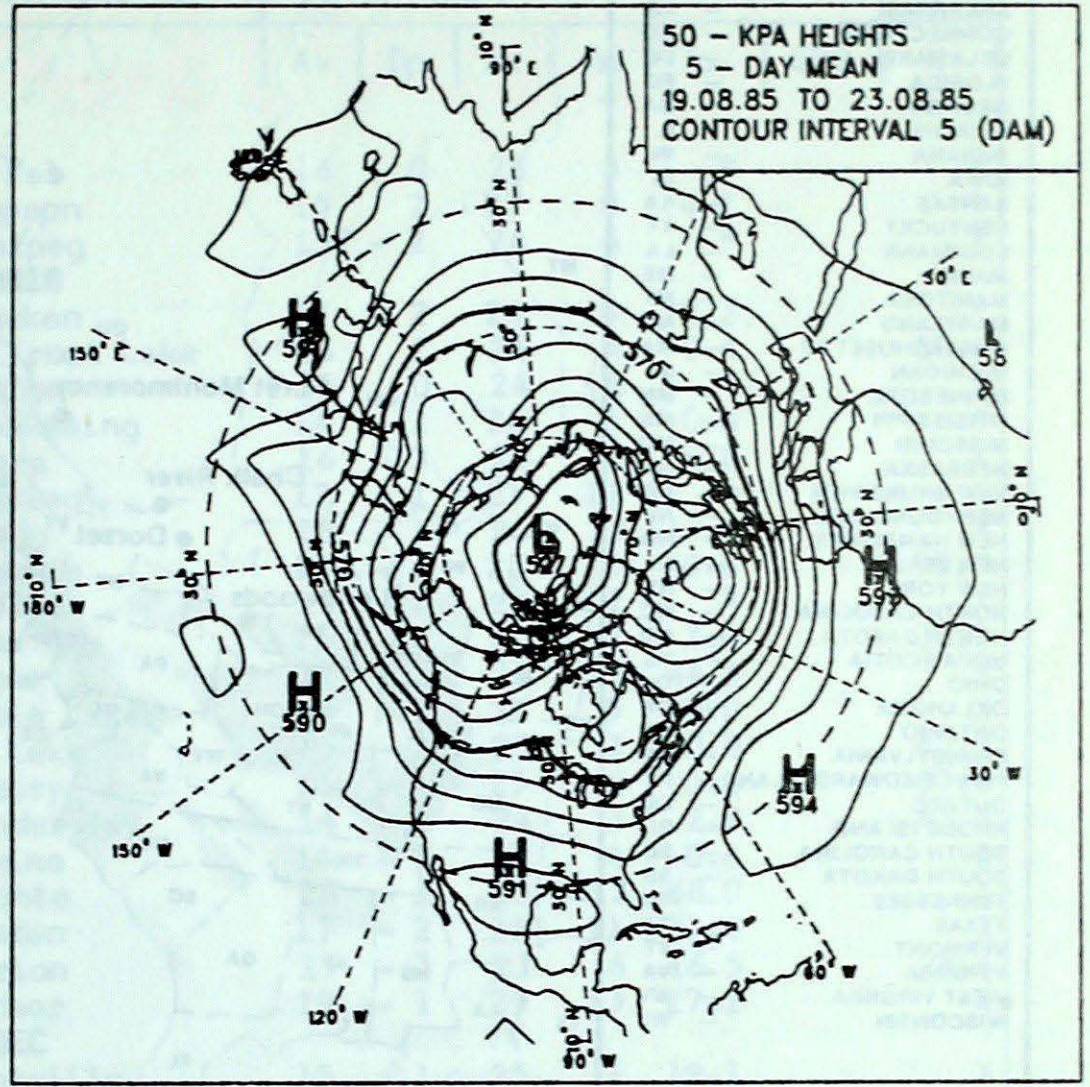
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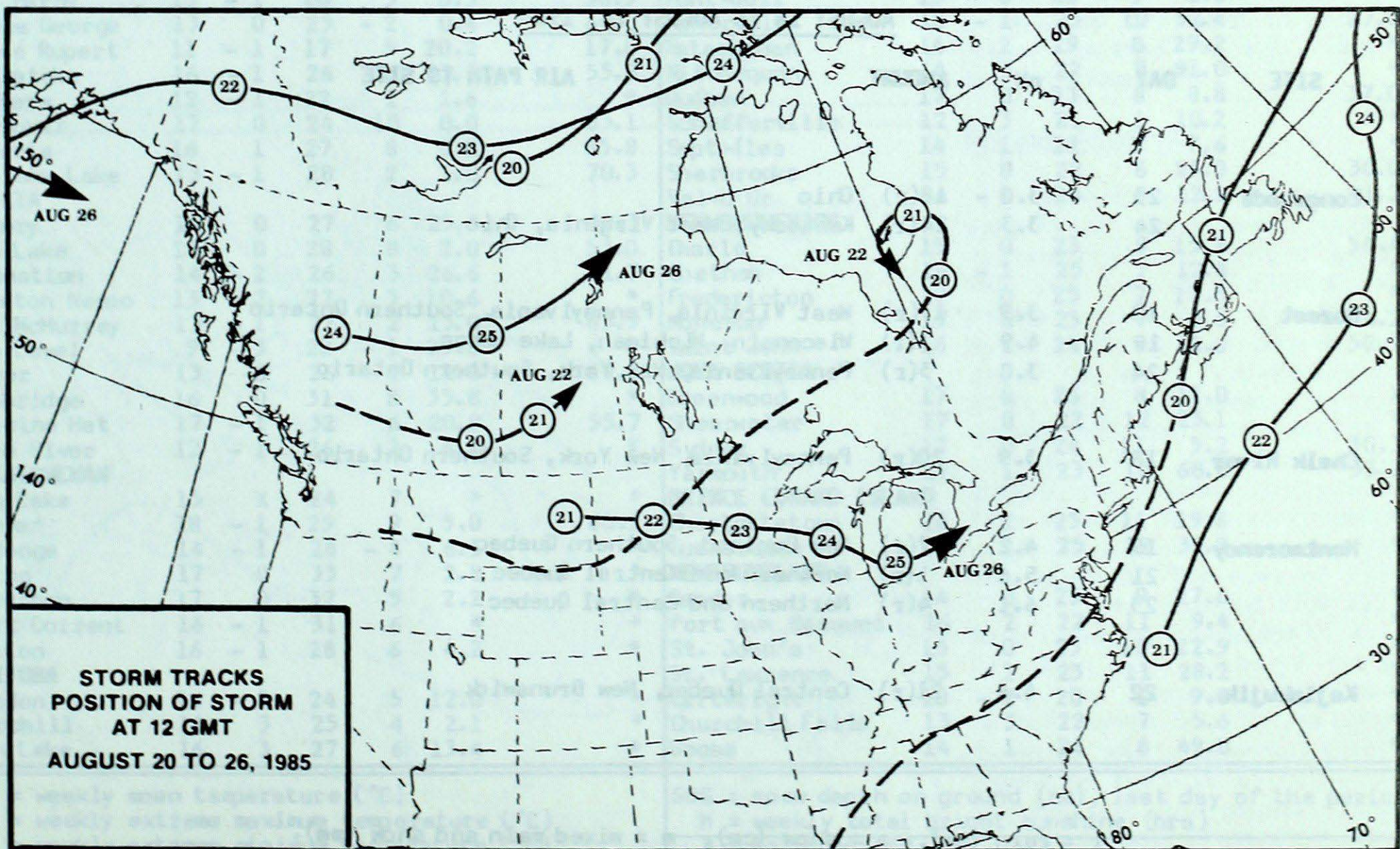
50 KPa ATMOSPHERIC CIRCULATION



MEAN 50 KPa HEIGHT ANOMALY (dam)
August 19 to August 23, 1985



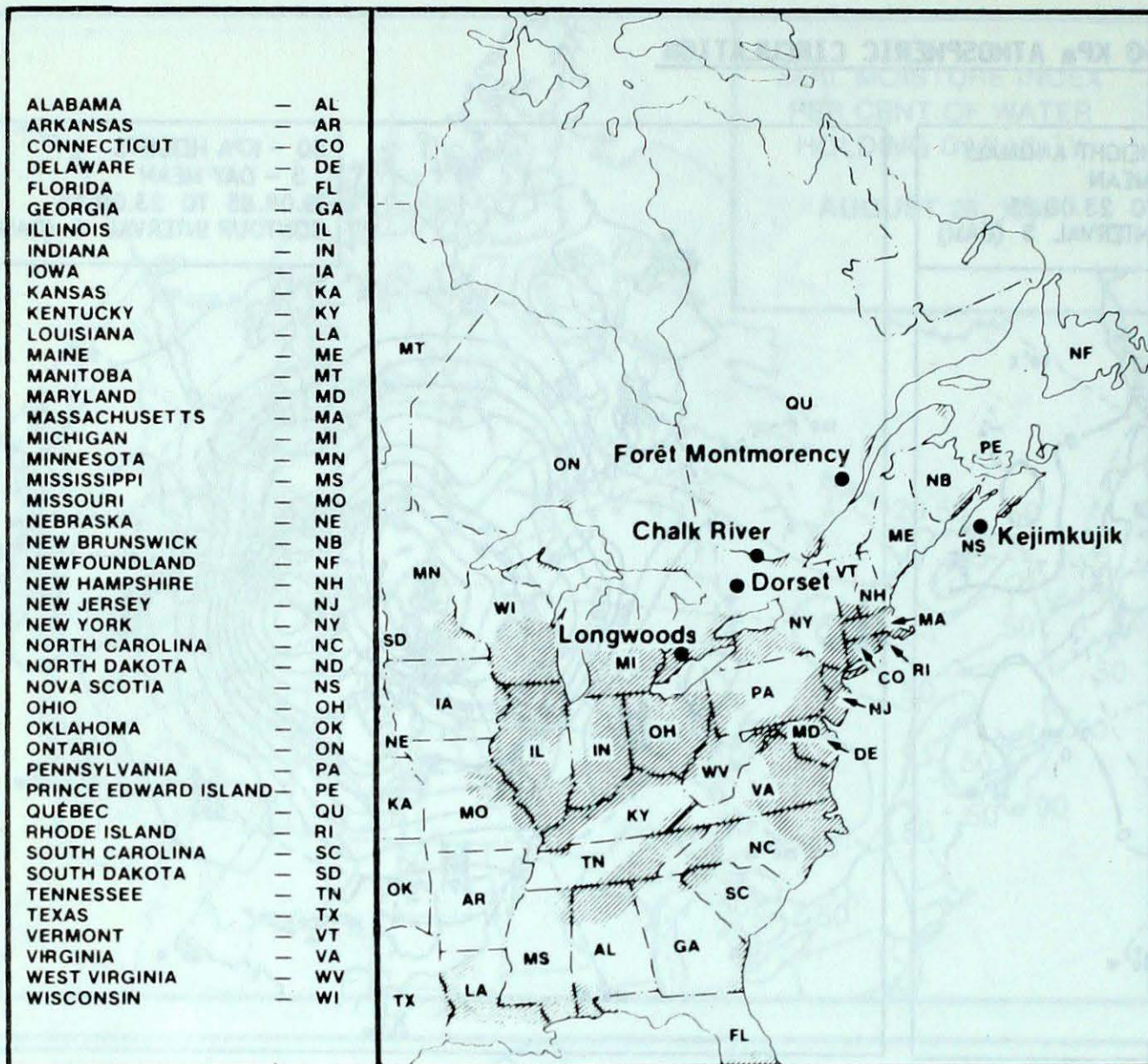
MEAN 50 KPa HEIGHTS (dam)
August 19, August 23, 1985



STORM TRACKS
POSITION OF STORM
AT 12 GMT
AUGUST 20 TO 26, 1985

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 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.

AUGUST 18 to AUGUST 24, 1985

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	23	3.0	18(r)	Ohio
	24	3.3	24(r)	Kentucky, West Virginia, Ohio
Dorset	18	3.9	17(r)	West Virginia, Pennsylvania, Southern Ontario
	19	4.9	3(r)	Wisconsin, Michigan, Lake Huron
	24	3.0	3(r)	Pennsylvania, New York, Southern Ontario
Chalk River	18	3.9	20(r)	Pennsylvania, New York, Southern Ontario
Montmorency	19	4.2	7(r)	New England, Southern Quebec
	21	5.6	1(r)	Northern and Central Quebec
	23	6.1	4(r)	Northern and Central Quebec
Kejimikujik	22	4.6	21(r)	Central Quebec, New Brunswick

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

TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT AUGUST 27, 1985

STATION	TEMP				PRECIP		SUN	STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H		Av	Dp	Mx	Mn	Tp	SOG	H
YUKON TERRITORY								The Pas	16	0	26	8	*		*
Dawson	9	-2	19	0	19.2		X	Thompson	15	2	27	0	4.2		*
Mayo A	9	-2	18	0	6.9		X	Winnipeg	137	-2	24	6	*		*
Shingle Point	6	-2	15	-2	1.0		*	ONTARIO							
Watson Lake	9	-3	18	2	15.1		37.7	Atikokan	13	-2	24	4	2.2		*
Whitehorse	8	-3	16	1	*		*	Big Trout Lake	16	2	26	4	0.4		80.6
NORTHWEST TERRITORIES								Earlton	15	0	24	8	*		X
Coppermine	4	-4	13	-2	7.1		43.2	Kapuskasing	14	-1	24	5	0.0		*
Fort Smith	11	-2	23	1	23.2		*	Kenora	16	-2	24	9	8.8		X
Inuvik	8	-2	18	-4	0.0		*	Kingston	17	-1	25	11	*		*
Norman Wells	10	-2	19	2	4.2		*	London	18	-1	26	12	115.4		*
Yellowknife	10	-3	15	3	16.6		39.4	Mosoness	13	-1	27	3	6.6		53.9
Baker Lake	10	1	22	1	47.2		*	Muskoka	15	-2	22	7	*		X
Coral Harbour	8	2	17	-1	14.6		*	North Bay	15	-1	21	7	2.0		20.5
Cape Dyer	9	6	17	2	0.8		X	Ottawa	17	-1	24	12	44.3		*
Clyde	8	4	18	1	16.8		33.3	Pickle Lake	15	1	26	5	0.0		X
Frobisher Bay	10	3	23	3	3.8		72.7	Red Lake	15	-2	25	3	0.0		47.3
Alert	-3	-3	4	-9	8.2	7.0	32.8	Sudbury	16	-1	23	6	0.2		47.8
Eureka	-2	-4	3	-6	1.4	0.0	37.4	Thunder Bay	14	-2	24	3	2.9		45.4
Hall Beach	5	0	17	0	16.6		X	Timmins	14	-1	23	4	0.6		X
Resolute	-2	-4	2	-6	5.1	5.0	*	Toronto	18	-1	25	12	68.0		X
Cambridge Bay	2	-4	6	-1	6.3		34.3	Trenton	17	-2	25	11	23.4		X
Mould Bay	-1	-2	2	-6	*	1.0	*	Warton	15	-3	21	6	16.5		28.6
Sachs Harbour	2	-2	10	-4	0.4	0.0	37.7	Windsor	19	-1	25	13	27.2		X
BRITISH COLUMBIA								QUEBEC							
Cape St. James	13	-1	16	10	14.6		38.9	Bagotville	15	-1	25	6	19.1		X
Cranbrook	17	1	30	7	1.6		59.4	Blanc-Sablon	11	0	19	5	10.8		*
Fort Nelson	12	-2	24	1	68.0		58.1	Inukjuak	13	5	20	8	2.4		54.9
Fort St. John	13	-1	24	0	0.4		X	Kuujuuaq	12	3	20	3	10.8		*
Kamloops	19	1	35	8	7.6		74.8	Kuujuarapik	13	2	26	8	5.0		*
Penticton	18	0	32	6	5.0		60.2	Maniwaki	16	0	22	8	4.8		24.5
Port Hardy	13	-1	20	5	0.3		58.9	Mont-Joli	15	0	22	9	0.6		*
Prince George	13	0	25	-2	0.4		62.0	Montréal	18	-1	25	10	52.4		27.0
Prince Rupert	11	-1	17	5	20.2		17.0	Natashquan	14	2	19	8	29.2		*
Revelstoke	16	-1	26	6	13.3		55.8	Nitchequon	14	3	22	9	91.0		*
Smithers	12	-1	22	1	1.6		*	Québec	17	0	23	8	8.8		37.0
Vancouver	17	0	24	10	0.0		83.1	Schefferville	12	3	21	1	10.2		*
Victoria	16	1	27	8	0.0		85.8	Sept-Iles	14	1	22	9	7.6		*
Williams Lake	13	-1	28	2	1.0		70.3	Sherbrooke	15	0	22	6	25.0		30.0
ALBERTA								Val-d'Or	14	-1	24	5	12.2		41.2
Calgary	14	0	27	6	25.6		42.3	NEW BRUNSWICK							
Cold Lake	15	0	28	8	2.0		53.0	Charlo	15	0	23	9	15.8		54.4
Coronation	14	-2	26	3	26.6		61.7	Chatham	16	-1	25	7	12.4		*
Edmonton Nameo	13	-2	27	3	10.6		*	Fredericton	17	0	25	7	17.5		*
Fort McMurray	13	-1	27	2	13.0		45.9	Moncton	17	0	25	7	5.6		34.2
High Level	9	-3	22	-1	23.8		*	Saint John	16	1	24	9	12.6		50.3
Jasper	13	0	26	1	11.0		69.1	NOVA SCOTIA							
Lethbridge	16	0	31	8	35.8		*	Greenwood	17	0	26	8	32.0		X
Medicine Hat	17	-1	32	6	20.9		55.7	Shearwater	17	0	22	12	23.1		*
Peace River	12	-1	26	2	6.0		X	Sydney	17	0	24	11	5.2		30.3
SASKATCHEWAN								Yarmouth	17	1	23	10	68.8		33.1
Cree Lake	15	X	24	7	*		*	PRINCE EDWARD ISLAND							
Estevan	18	-1	29	9	5.0		60.3	Charlottetown	18	1	25	11	19.6		*
La Ronge	14	-1	28	-4	6.1		*	Summerside	18	1	25	12	35.2		*
Regina	17	0	33	7	2.8		*	NEWFOUNDLAND							
Saskatoon	17	0	32	5	2.2		*	Gander	14	0	25	9	27.6		*
Swift Current	16	-1	31	6	*		*	Port aux Basques	16	2	22	11	9.4		*
Yorkton	16	-1	28	6	4.2		*	St. John's	15	0	23	10	22.9		*
MANITOBA								St. Lawrence	15	2	23	11	28.2		X
Brandon	16	-2	24	5	12.0		*	Cartwright	10	-2	20	1	9.8		*
Churchill	14	3	25	4	2.1		*	Churchill Falls	13	3	22	7	5.6		*
Lynn Lake	16	3	27	6	13.4		*	Goose	14	1	24	8	49.0		*

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