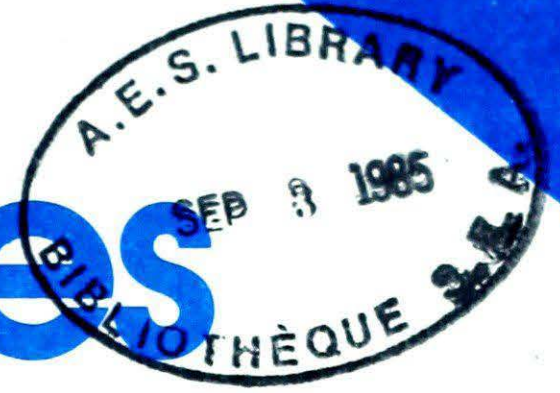


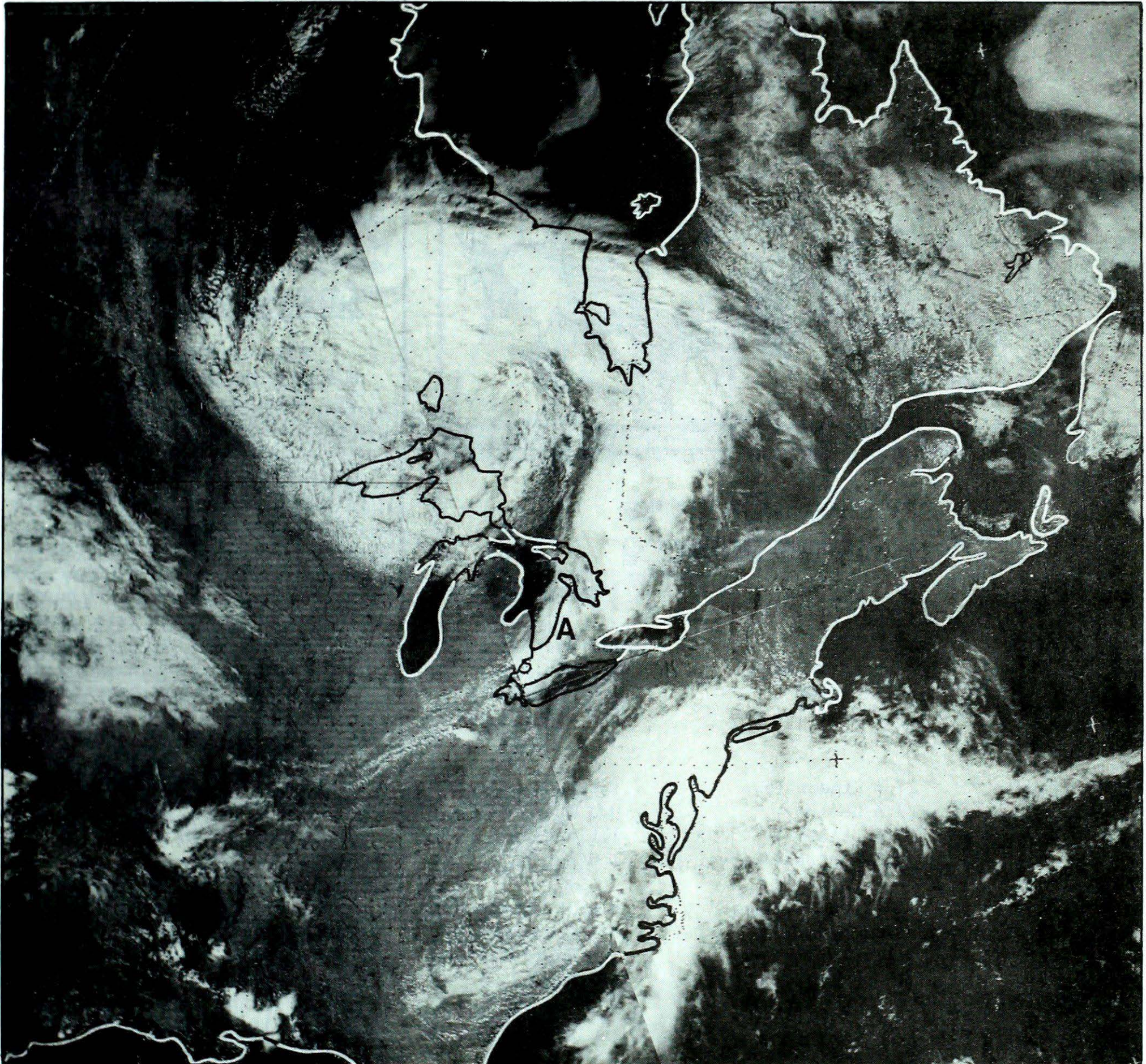
Climatic Perspectives



A weekly review of Canadian climate

August 13 to 19, 1985

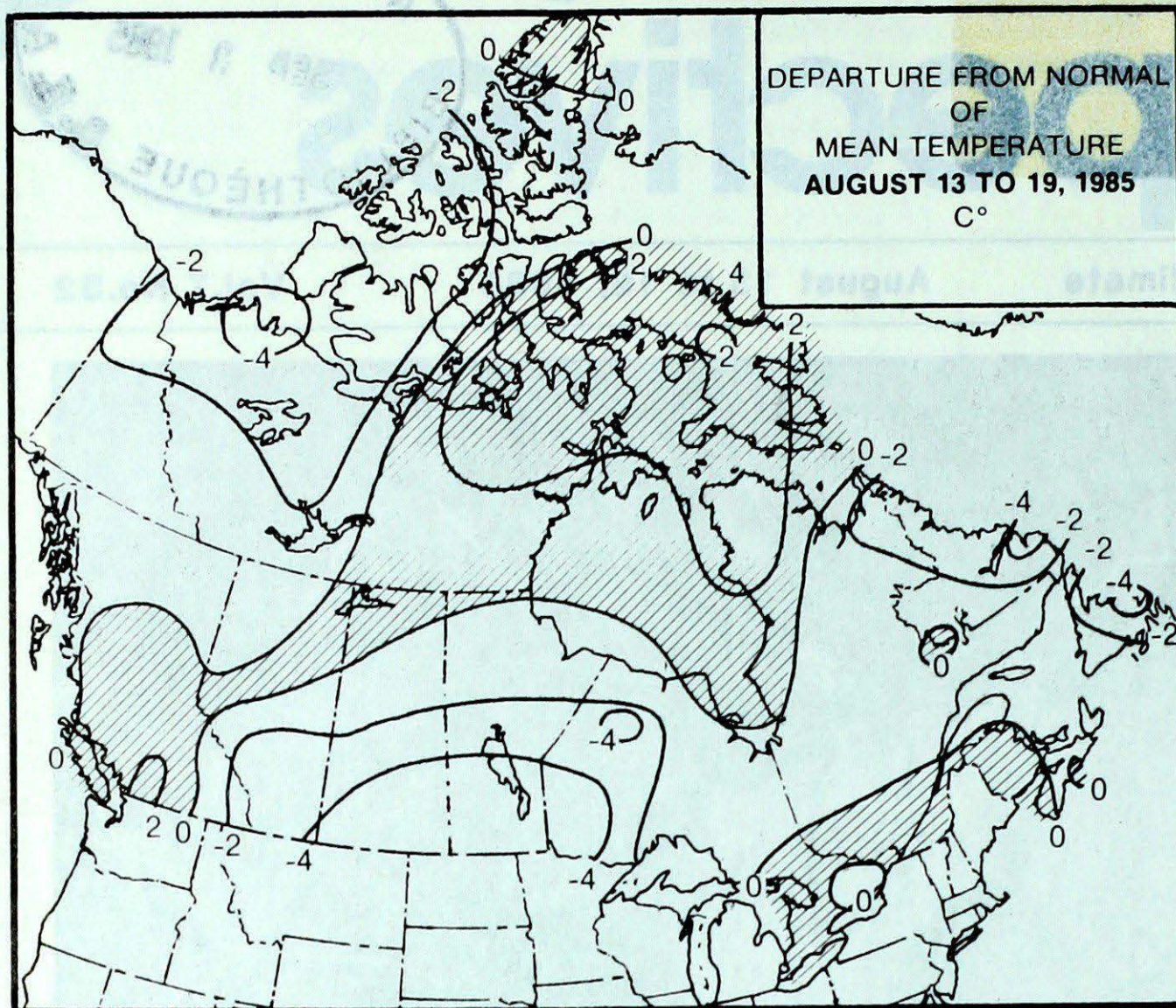
Vol.7 No.32



This NOAA 9 satellite picture taken during the afternoon of August 18, 1985 shows a very active cold front crossing Ontario. For more detail see page 3.

- ***Tornadoes and severe thunderstorms strike Southern Ontario***
- ***Heavy rains cause flooding in Manitoba***
- harvest is delayed

TEMPERATURE



ACROSS THE COUNTRY...

Yukon and Northwest Territories

Several disturbances moved across the Yukon and Northwest Territories, giving 20 to 60 millimetres of precipitation. On August 13, Norman Wells received 78 mm of rain. Low temperature records were broken in the Yukon and Mackenzie District as an Arctic airmass edged southward. On August 17, snow fell in the northern Yukon; elsewhere, fresh snow fell in the mountains above 1200 metres. Water levels in most rivers and lakes are much higher than normal in the Yukon. Above normal temperatures were observed over much of the eastern Arctic and Baffin Island.

British Columbia

Fire indices were on the rise due to a return to warm sunny weather. Most of the south received no precipitation whatsoever. In the north, weather conditions were more unsettled. In the Peace River District farmers were haying and harvesting grain crops. In the southern valleys, the second hay crop harvest was underway. Several hundred fires were still burning in the province, but all have been contained, and the situation was considered under control. To-date 238,000 hectares of forest have been destroyed by fire. Timber losses alone are estimated at \$200 million.

Prairies

Sunny skies during the morning hours frequently gave way to cloud and showers during the afternoons. Some farming communities in southern Alberta received their first significant rains this summer. Temperatures were cool, but gradually moderated in the west. Heavy precipitation fell in southeastern Saskatchewan and southwestern Manitoba over the weekend. Farming districts west of the Red River Valley received 100 to 140 millimeters of rain. Hundreds of homes were flooded at Selkirk. Grain crops have been swathed and many fields were under water, halting the harvest. Winnipeg has already received twice their normal precipitation for the month.

WEEKLY TEMPERATURE EXTREMES (°C)

	MAXIMUM	MINIMUM
YUKON TERRITORY	27.0 Teslin	-3.1 Dawson
NORTHWEST TERRITORIES	24.8 Fort Smith	-5.3 Mould Bay
BRITISH COLUMBIA	33.5 Lytton	-1.0 Dease Lake
ALBERTA	29.4 Medicine Hat	-0.3 Rocky Mountain House
SASKATCHEWAN	27.6 Kindersley	1.1 Hudson Bay
MANITOBA	21.6 Gretna	0.0 Grand Rapids
ONTARIO	33.8 Ottawa	1.1 Upsala
QUÉBEC	31.0 Montreal/Dorval	1.0 Border
NEW BRUNSWICK	31.2 Fredericton	4.0 St. Stephen
NOVA SCOTIA	31.2 Greenwood	5.6 Greenwood
PRINCE EDWARD ISLAND	25.1 Charlottetown	8.8 Charlottetown
NEWFOUNDLAND	22.7 Badger	2.7 Badger

ACROSS THE NATION

Warmest mean temperature	22.4	Lytton, B.C.
Coollest mean temperature	-1.5	Mould Bay N.W.T.

Ontario

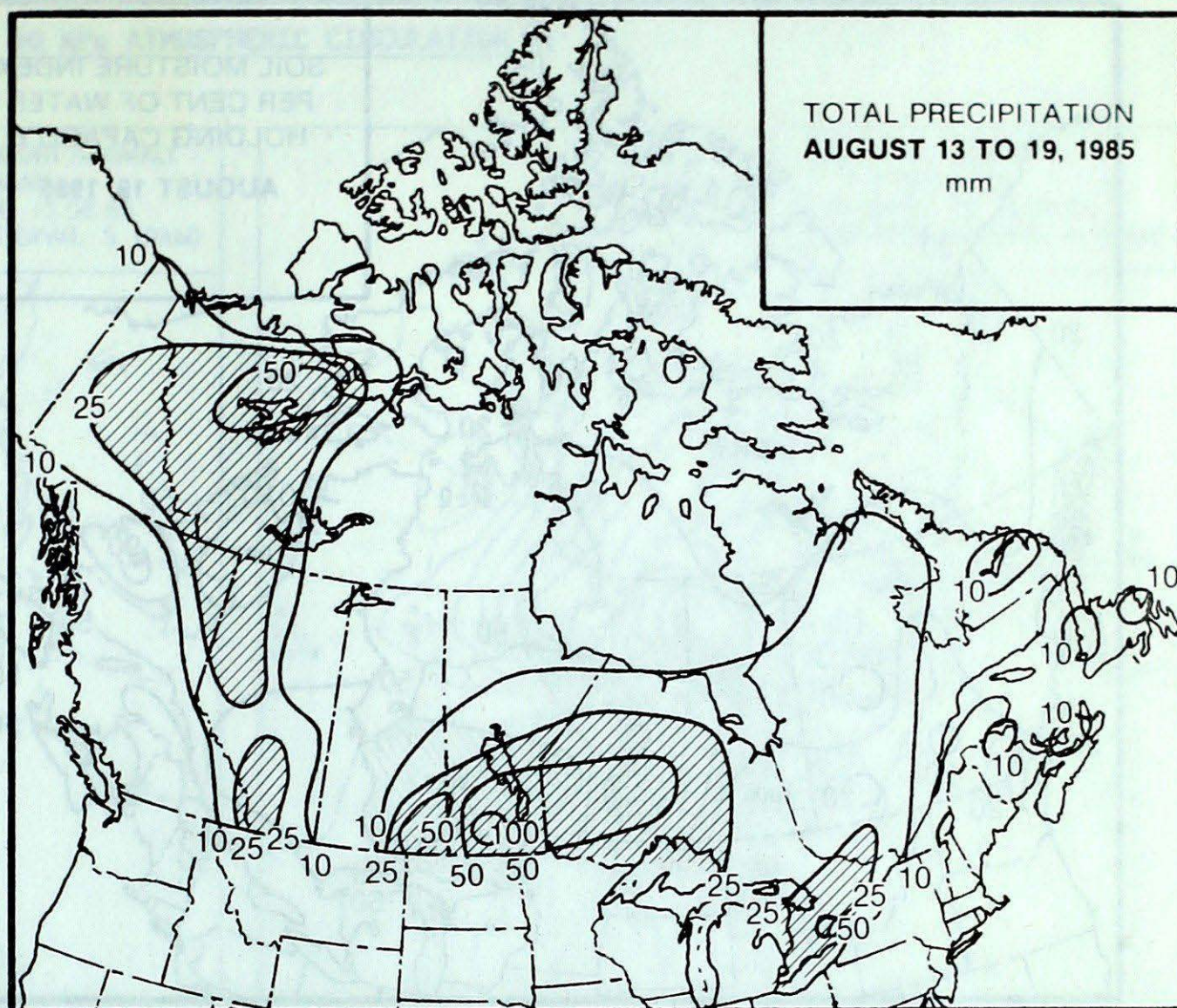
Weather conditions across the north have been cool and wet. Many sites in northwestern Ontario received 40 to 70 millimetres of rain over the weekend alone. Heavy thunderstorms touched off by frontal passages produced heavy showers in southern Ontario. Many locations across the province set new 24-hour precipitation records. A vigorous cold front crossing southern Ontario during the afternoon hours of August 18 touched off a line of severe thunderstorms with hail. Tornadoes were sighted at Exeter and Monkton; a funnel cloud was reported near Lake St. Clair. During the evening of the same day some suburban communities near Toronto were deluged with more than 40 mm in a two-hour period.

Quebec

Several disturbances crossed the province, giving changeable weather conditions. Precipitation mainly in the form of showers has been light. Cool temperatures were experienced throughout most of the province except the northeast. At Val-d'Or, the seasons first hay harvest was in progress. Eight forest fires were reported burning in the province this week, bringing the total number of fires this year to 670, destroying 2454 hectares, well below the five year mean of 52795 hectares. More moisture is needed near Trois-Rivières.

Atlantic Provinces

Skies were predominantly sunny in the Maritimes, but cloudy and cool weather returned to Newfoundland. Early morning temperatures fell to near freezing at a few locations early in the week, but under the influence of a southwesterly flow they gradually climbed to more seasonal values. Thunderstorms moved through the region on the morning of August 16. Lightning strikes caused power outages in southwestern Nova Scotia; however, precipitation was generally scattered and light. Several new low temperature records were set in Labrador and Newfoundland during the week.



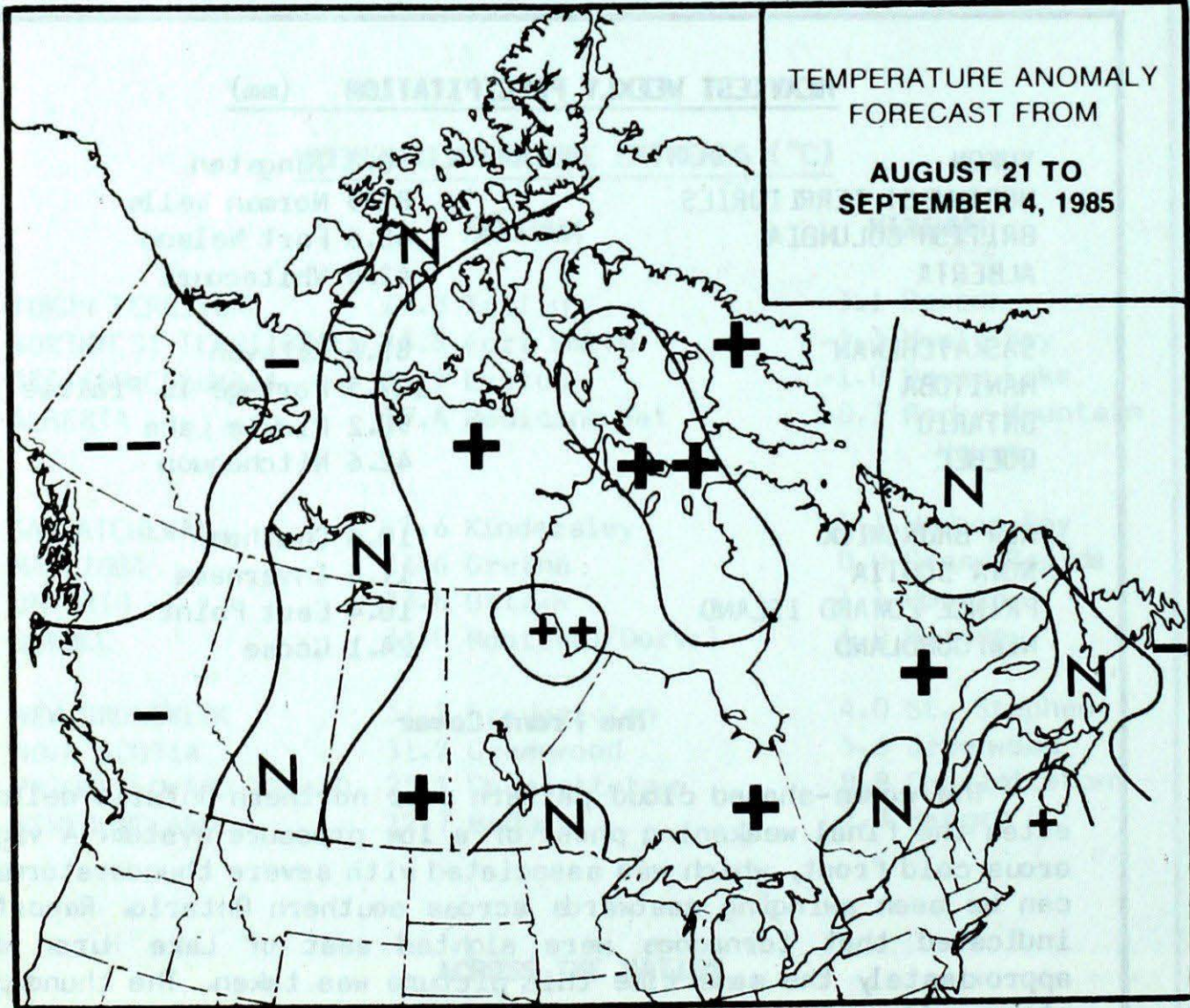
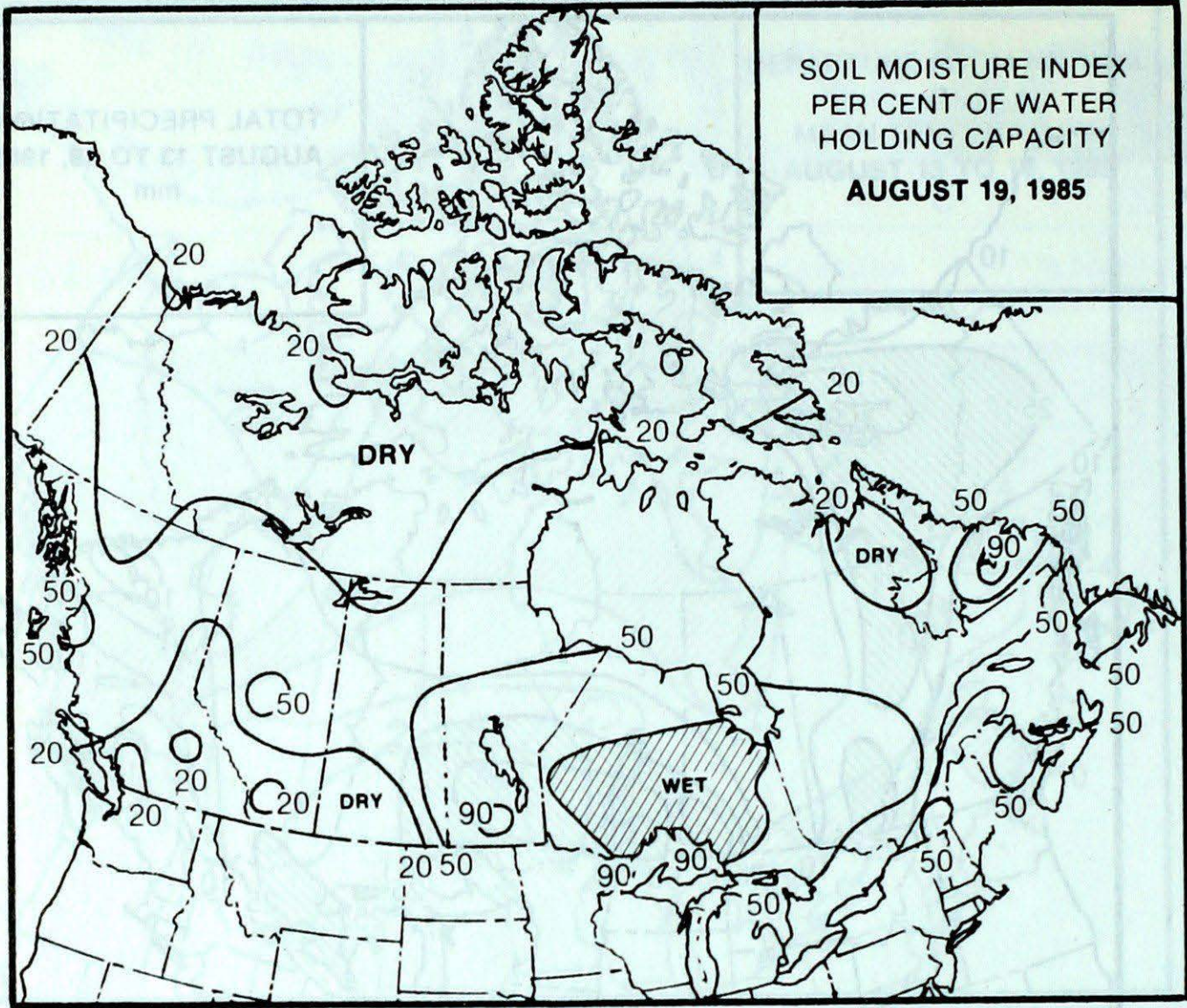
HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON	50.3 Tungsten
NORTHWEST TERRITORIES	82.3 Norman Wells
BRITISH COLUMBIA	48.6 Fort Nelson
ALBERTA	42.5 Whitecourt
SASKATCHEWAN	85.6 Estevan
MANITOBA	127.5 Portage la Prairie
ONTARIO	90.2 Pickle Lake
QUEBEC	42.6 Nitchequon
NEW BRUNSWICK	10.6 Chatham
NOVA SCOTIA	11.6 Inverness
PRINCE EDWARD ISLAND	10.4 East Point
NEWFOUNDLAND	24.1 Goose

The Front Cover

The comma-shaped cloud pattern over northern Ontario delineates the final weakening phase of a low pressure system. A vigorous cold front, which was associated with severe thunderstorms, can be seen swinging eastwards across southern Ontario. Reports indicated that tornadoes were sighted east of Lake Huron at approximately the same time this picture was taken. The thunderstorm cells, which spawned these tornadoes, were embedded in the frontal cloud shield approaching the Niagara Escarpment (A). The moisture laden remnants of hurricane Danny, now just a weak low pressure disturbance, can be seen moving off the eastern seaboard. After hitting the Texas coast last week, the heavy rains moved up the Mississippi Valley over the weekend. Rainfall amounts from this storm have continued to be substantial; Ocean City MD. received more than 130 mm in the past 24-hours.

FORECAST



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.

++	much above normal
+	above normal
N	normal
-	below normal
--	much below normal

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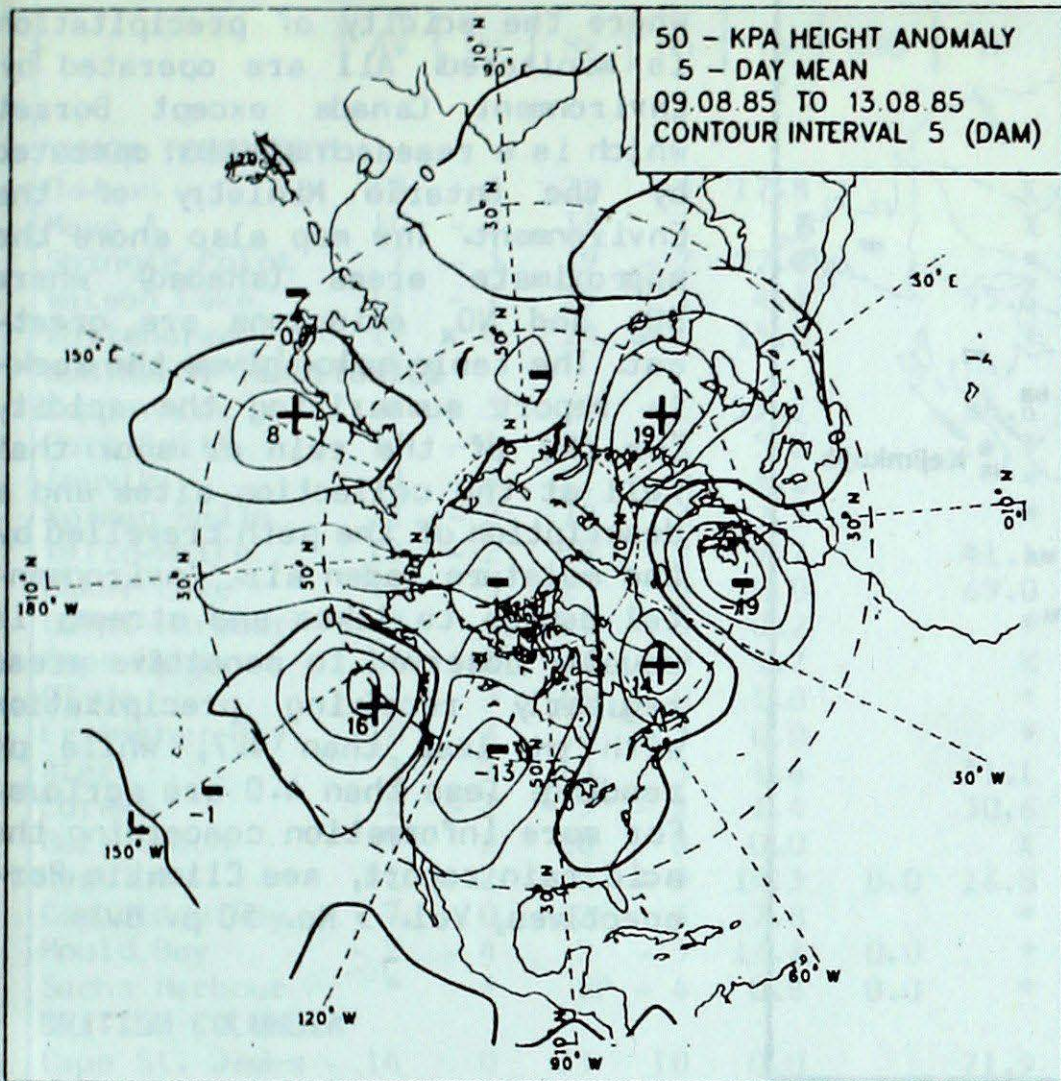
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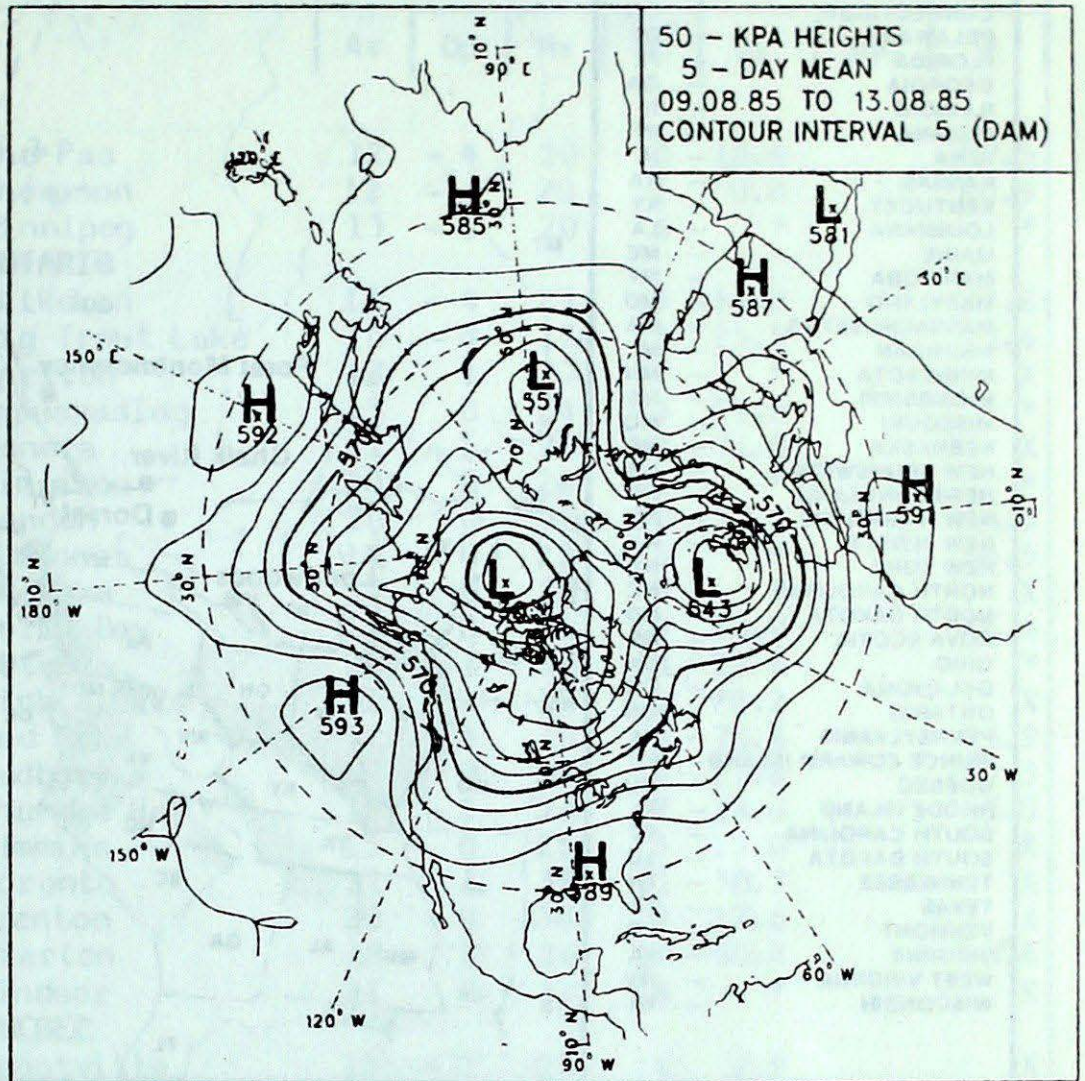
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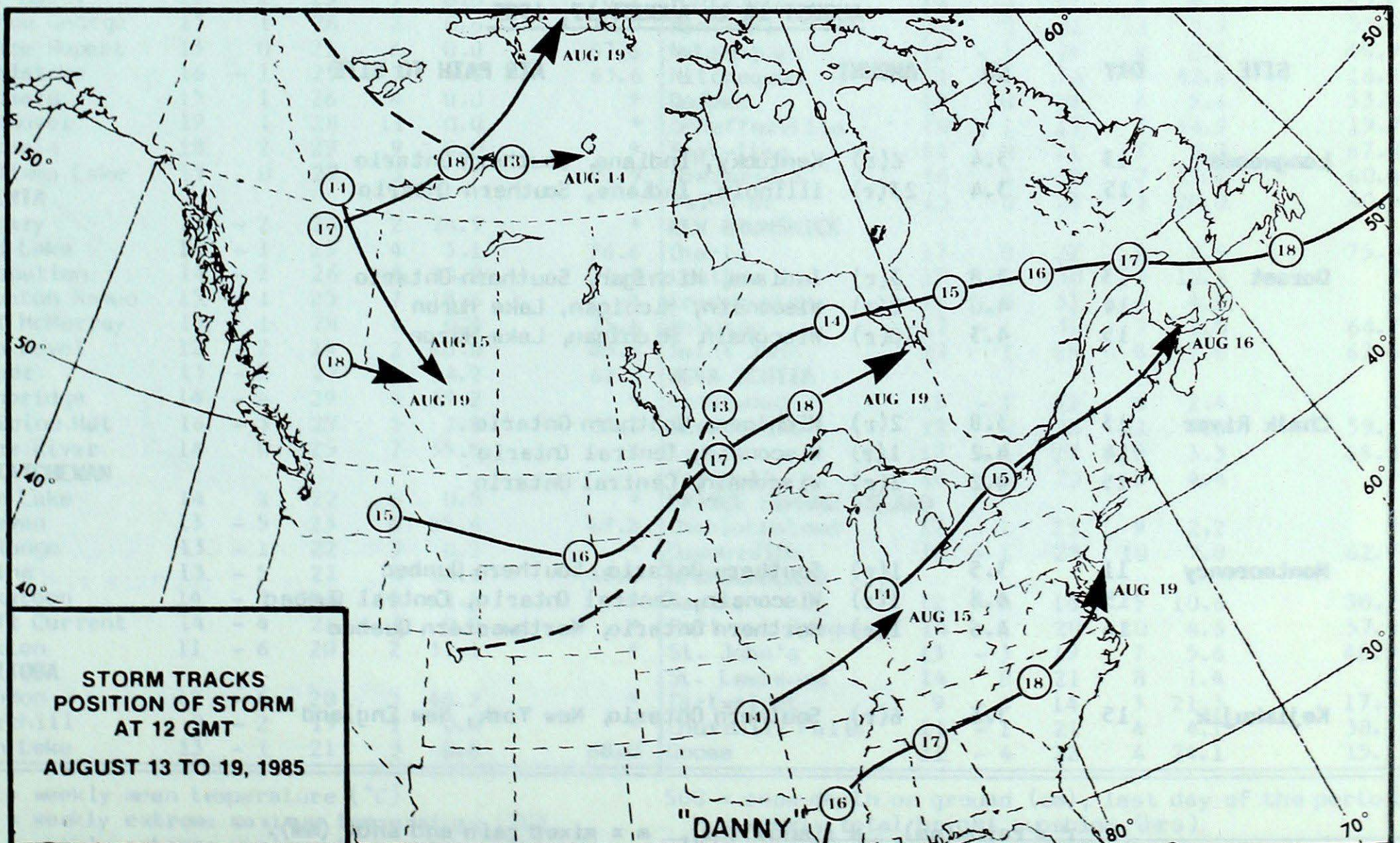
50 KPa ATMOSPHERIC CIRCULATION



MEAN 50 KPa HEIGHT ANOMALY (dam)
August 9 to August 13, 1985

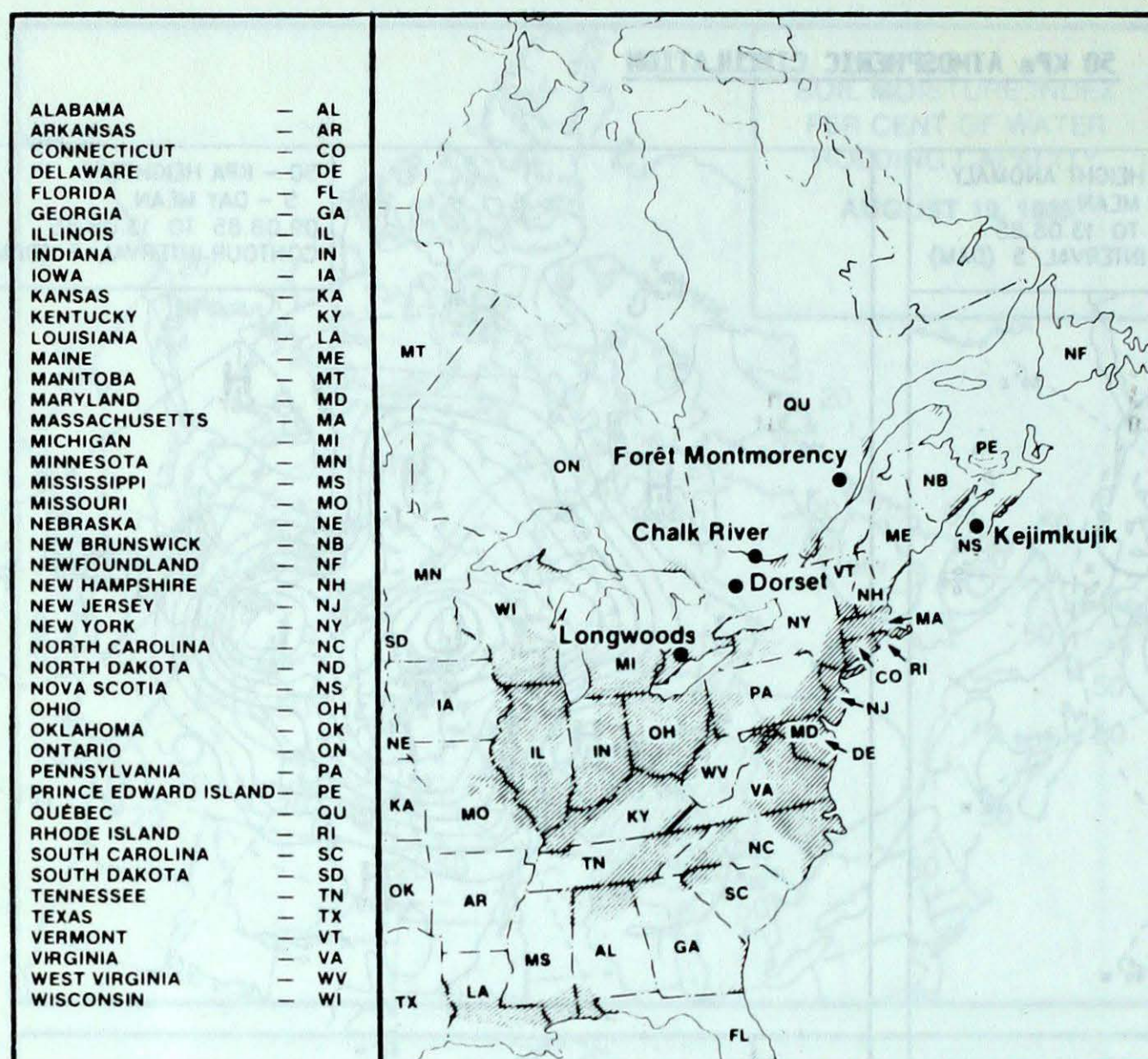


MEAN 50 KPa HEIGHTS (dam)
August 9, August 13, 1985



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 11 to AUGUST 17, 1985

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	13	3.4	6(r)	Kentucky, Indiana, Southern Ontario
	15	3.4	23(r)	Illinois, Indiana, Southern Ontario
Dorset	13	3.8	3(r)	Indiana, Michigan, Southern Ontario
	14	4.0	2(r)	Wisconsin, Michigan, Lake Huron
	15	4.3	10(r)	Wisconsin, Michigan, Lake Huron
Chalk River	13	3.8	2(r)	Michigan, Southern Ontario
	14	4.2	1(r)	Wisconsin, Central Ontario
	15	4.2	2(r)	Wisconsin, Central Ontario
Montmorency	11	3.5	1(r)	Southern Ontario, Southern Quebec
	15	4.8	1(r)	Wisconsin, Central Ontario, Central Quebec
	16	4.6	1(r)	Northern Ontario, Northwestern Quebec
Kejimikujik	15	3.6	6(r)	Southern Ontario, New York, New England

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

STATISTICS

TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT AUGUST 20, 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	12	-4	20	3	18.6		57.5
Dawson	10	-3	21	-3	17.8		X	Thompson	12	-1	20	1	0.0		60.9
Mayo A	10	-2	18	1	*		X	Winnipeg	13	-6	20	6	*		*
Shingle Point	7	-3	19	-2	22.8		*	ONTARIO							
Watson Lake	12	-1	25	1	4.3		55.6	Atikokan	13	-4	23	3	31.8		27.6
Whitehorse	12	0	24	-1	15.8		*	Big Trout Lake	10	-4	17	5	25.5		22.6
NORTHWEST TERRITORIES								Earlton	17	1	27	7	*		X
Coppermine	6	-3	15	-1	55.7		25.6	Kapuskasing	15	0	24	3	31.0		*
Fort Smith	13	-1	25	1	5.0		*	Kenora	12	-5	20	7	71.0		X
Inuvik	8	-4	22	-4	4.8		*	Kingston	20	0	26	12	*		*
Norman Wells	11	-2	19	3	82.3		*	London	20	0	30	10	23.3		44.5
Yellowknife	12	-2	19	7	9.2		41.1	Mosoness	14	0	22	5	*		36.5
Baker Lake	13	3	23	5	0.0		69.0	Muskoka	17	0	28	8	*		X
Coral Harbour	9	1	15	3	0.2		*	North Bay	17	0	26	10	10.0		44.4
Cape Dyer	6	1	14	0	1.2		X	Ottawa	20	1	34	11	22.6		*
Clyde	7	3	16	0	1.0		*	Pickle Lake	11	-4	19	6	90.2		X
Frobisher Bay	10	3	19	3	0.0		*	Red Lake	12	-5	18	5	76.6		13.9
Alert	3	2	10	-3	1.6		31.1	Sudbury	17	0	25	9	11.8		53.3
Eureka	2	-2	5	-2	1.4		30.6	Thunder Bay	15	-2	24	7	14.0		43.0
Hall Beach	7	2	20	0	0.0		X	Timmins	15	0	25	3	19.0		X
Resolute	1	-2	5	-3	14.3	0.0	16.8	Toronto	21	1	33	11	50.7		X
Cambridge Bay	7	0	12	3	7.8		*	Trenton	20	0	30	9	27.6		X
Mould Bay	-2	-4	2	-5	13.4	0.0	*	Warton	18	0	26	10	40.4		45.4
Sachs Harbour	*	*	8P	-4	0.8	0.0	*	Windsor	21	0	32	14	*		X
BRITISH COLUMBIA								QUEBEC							
Cape St. James	14	0	23	10	0.0		71.9	Bagotville	15	-2	27	4	1.9		X
Cranbrook	14	-2	28	3	14.3		59.4	Blanc-Sablon	12	0	18	5	6.8		*
Fort Nelson	13	-2	24	2	48.6		36.9	Inukjuak	12	3	19	6	0.0		51.8
Fort St. John	13	-1	25	5	11.6		X	Kuujuuaq	9	-2	19	1	21.0		*
Kanloops	20	0	33	9	0.0		76.1	Kuujuarapik	12	1	23	5	9.4		56.9
Penticton	20	0	32	7	0.0		70.1	Maniwaki	17	1	30	9	28.2		48.7
Port Hardy	13	-1	23	7	0.0		70.7	Mont-Joli	16	0	27	8	4.2		63.7
Prince George	15	1	26	2	0.6		79.5	Montréal	20	0	31	11	5.9		55.5
Prince Rupert	13	0	21	6	0.0		67.6	Natashquan	12	-1	19	4	0.2		44.9
Revelstoke	16	-1	25	7	4.6		63.6	Nitchequon	11	-1	16	5	42.6		16.2
Smithers	15	1	26	4	0.0		*	Québec	18	0	28	8	5.6		53.4
Vancouver	19	1	28	11	0.0		*	Schefferville	10	-1	17	3	14.9		19.7
Victoria	18	2	29	9	0.0		*	Sept-Iles	14	0	21	7	1.2		67.8
Williams Lake	15	0	27	3	*		71.9	Sherbrooke	18	1	28	7	12.0		60.4
ALBERTA								Val-d'Or	15	0	24	3	20.0		40.5
Calgary	13	-2	26	2	24.9		*	NEW BRUNSWICK							
Cold Lake	14	-1	25	4	3.1		76.6	Charlo	17	0	27	8	2.6		75.9
Coronation	14	-2	26	4	14.2		71.3	Chatham	19	0	30	9	10.6		*
Edmonton Namao	15	-1	25	7	18.6		*	Fredericton	18	0	31	6	4.0		*
Fort McMurray	15	1	28	4	0.4		75.6	Moncton	17	-1	30	7	1.0		64.7
High Level	12	-2	24	2	40.0		43.5	Saint John	17	1	28	8	2.0		62.6
Jasper	13	-2	27	1	14.2		62.7	NOVA SCOTIA							
Lethbridge	14	-4	29	4	39.2		*	Greenwood	18	-1	31	6	2.4		X
Medicine Hat	16	-3	29	5	2.0		65.1	Shearwater	18	0	28	11	9.8		59.1
Peace River	14	0	25	7	35.5		X	Sydney	17	-1	27	9	3.3		68.0
SASKATCHEWAN								Yarmouth	16	0	23	9	4.4		*
Cree Lake	14	X	22	6	0.5		*	PRINCE EDWARD ISLAND							
Estevan	13	-5	23	6	85.6		47.2	Charlottetown	17	-1	25	9	2.2		*
La Ronge	13	-1	22	3	0.2		*	Summerside	18	-1	25	10	7.0		62.7
Regina	13	-5	21	4	18.8		49.6	NEWFOUNDLAND							
Saskatoon	14	-3	23	5	1.8		*	Gander	12	-4	18	5	10.6		30.2
Swift Current	14	-4	26	3	0.0		*	Port aux Basques	14	-1	20	10	4.6		57.8
Yorkton	11	-6	20	2	31.1		*	St. John's	13	-3	19	7	5.6		48.9
MANITOBA								St. Lawrence	14	0	21	8	1.4		X
Brandon	12	-6	20	3	40.2		*	Cartwright	9	-4	14	3	21.3		17.5
Churchill	9	-2	19	2	0.0		*	Churchill Falls	11	-1	21	4	4.1		38.1
Lynn Lake	13	-1	21	3	0.0		68.0	Goose	11	-4	22	4	24.1		15.1

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