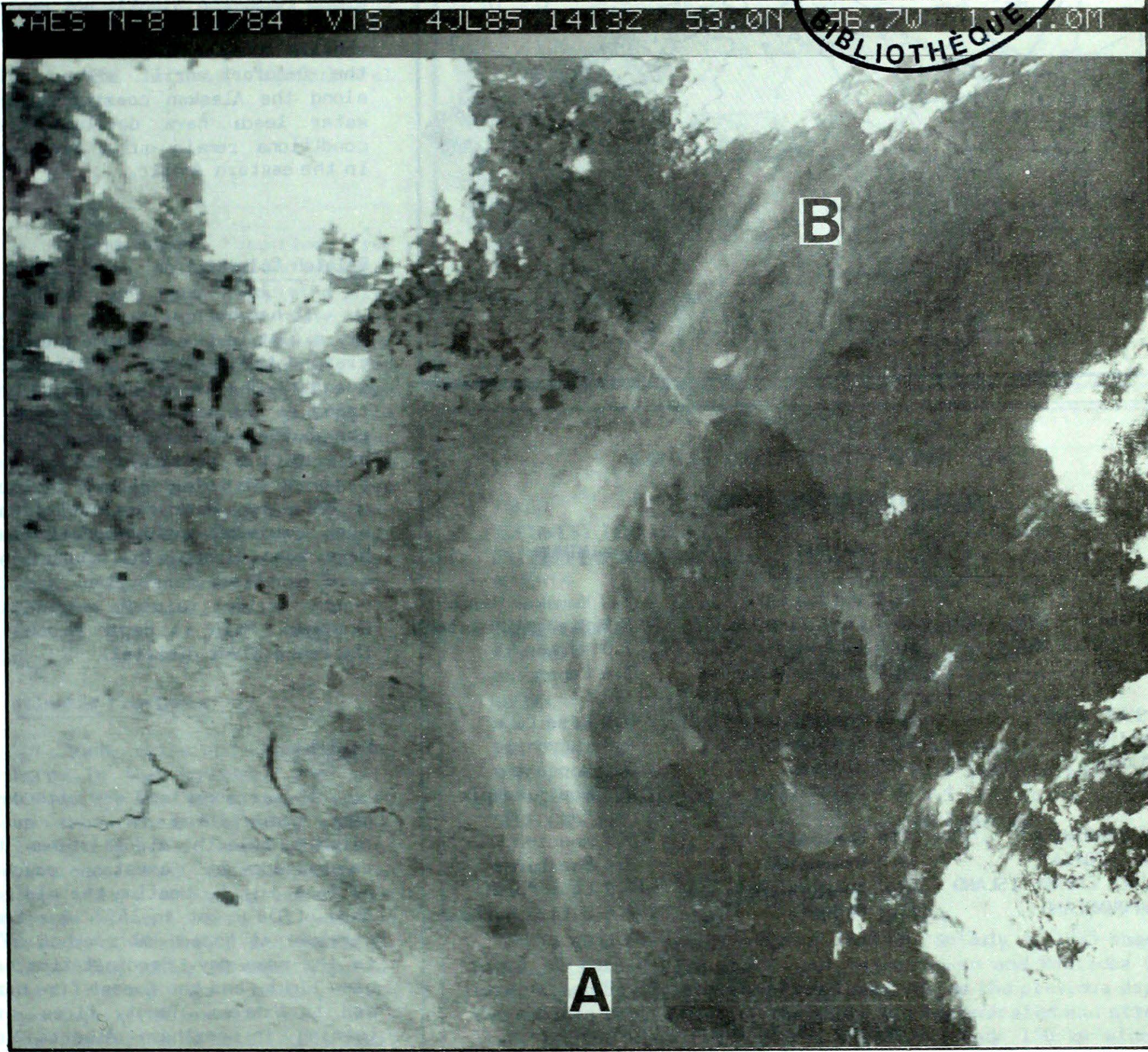
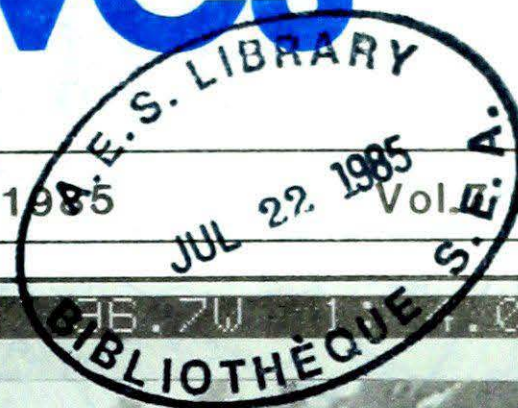


# Climatic Perspectives

A weekly review of Canadian climate

July 2 to 8, 1985

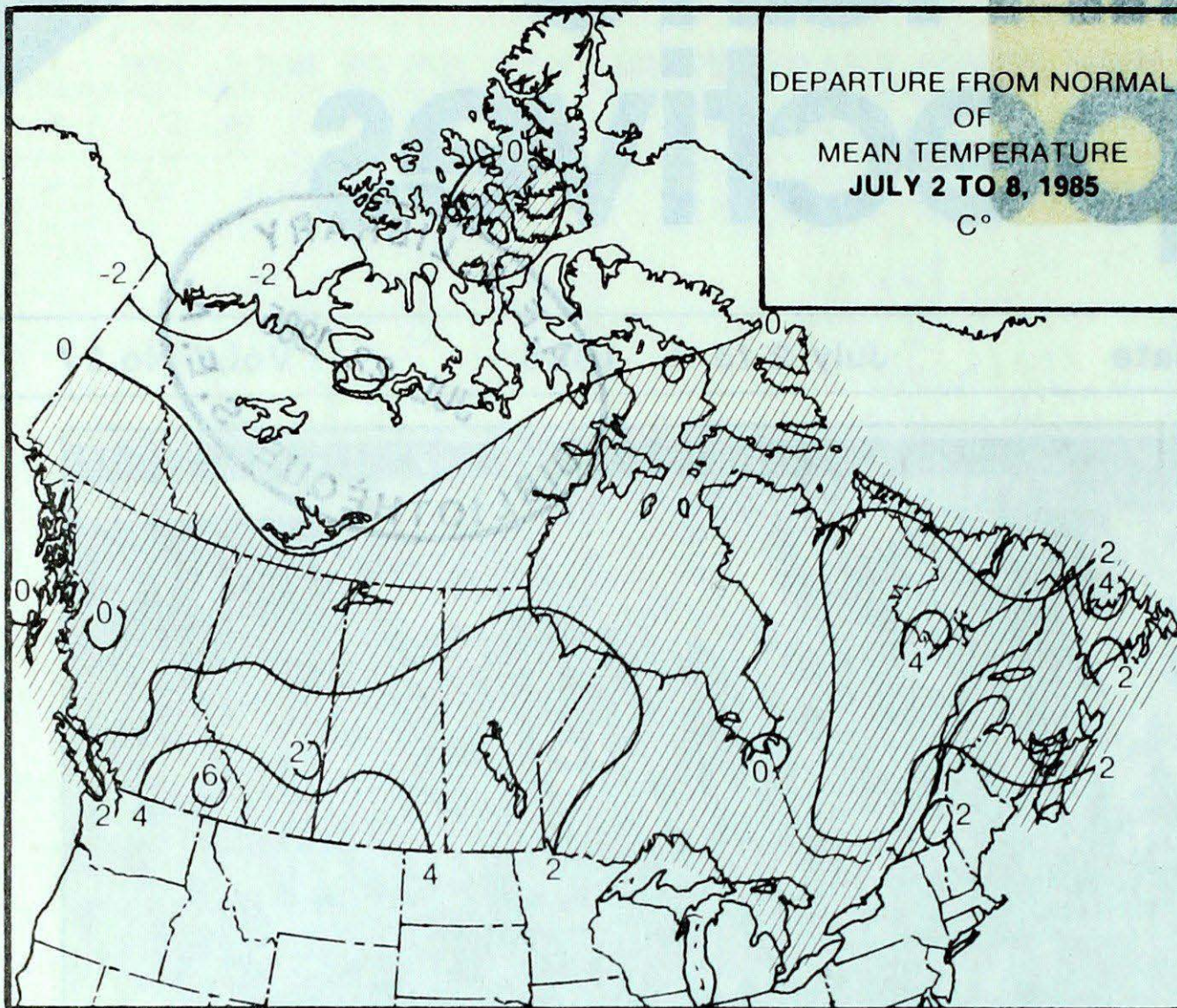
Vol. 1, No. 27



This NOAA 8 satellite image of July 4, 1985 shows a plume of smoke over Saskatchewan and Manitoba from forest fires in the western U.S. See page 3 for more detail.

- **Tornado in Mississauga, Ontario**
- **Forest fires threaten in B.C. and Labrador**

## ACROSS THE COUNTRY...



### Yukon and Northwest Territories

Mean temperature slipped to below normal values in most areas of the Arctic, while in more southern locations temperatures were near normal. Precipitation occurred mostly in the form of showers, with some areas receiving significant amounts of rain. Winds still continue to contain the ice in the vicinity of the Beaufort drill sites, while along the Alaskan coast some open water leads have developed. Ice conditions remain quite favourable in the eastern Arctic.

### British Columbia

It has been primarily sunny and dry except in the north, where showers and thunderstorms occurred frequently. The fire hazard is now rated as extreme in many areas of the southern and the central interior. In the Kootanays 182 forest fires were burning, with 27 of these uncontained. Some communities have been evacuated, and several roads have been closed. The weather has been excellent for haying, and the cherry harvest is under way in the Okanagan. Rain is badly needed in the Peace River district.

### Prairies

It was sunny and dry with daytime temperatures in some cases climbing into the mid thirties. The temperature at Saskatoon reached 37°C on July 5, beating the old record of 36°C set in 1892. The temperature at Moose Jaw reached 38°C on the same day. Precipitation has been light, and the forest fire hazard is extreme. Twenty fires were burning in northern Alberta, of which two were out of control. So far this year 9000 hectares have burned and \$9.4 million has been spent in forest fire fighting. Rain is badly needed everywhere, especially in the Peace River District, where yields will be well below normal.

### WEEKLY TEMPERATURE EXTREMES (°C)

	<u>MAXIMUM</u>	<u>MINIMUM</u>
YUKON TERRITORY	26.2 Watson Lake	- 2.0 Komakuk Beach
NORTHWEST TERRITORIES	28.7 Fort Simpson	- 5.0 Broughton Island
BRITISH COLUMBIA	36.5 Kamloops	1.0 Mackenzie
ALBERTA	36.0 Medicine Hat	2.6 Edson
SASKATCHEWAN	38.4 Moose Jaw	5.8 Cree Lake
MANITOBA	32.5 Brandon	4.8 Churchill
ONTARIO	34.2 Windsor	- 0.1 Moosonee
QUÉBEC	32.9 Bagotville	0.7 Kuujjuarapik
NEW BRUNSWICK	32.4 Chatham	9.5 Moncton
NOVA SCOTIA	30.2 Greenwood	6.4 Shelburne
PRINCE EDWARD ISLAND	29.3 Summerside	10.9 East Point
NEWFOUNDLAND	32.7 Badger	2.8 Battle Harbour

### ACROSS THE NATION

Warmest mean temperature	23.9	Medicine Hat, BC
Coollest mean temperature	2.2	Mould Bay, NWT

**Ontario**

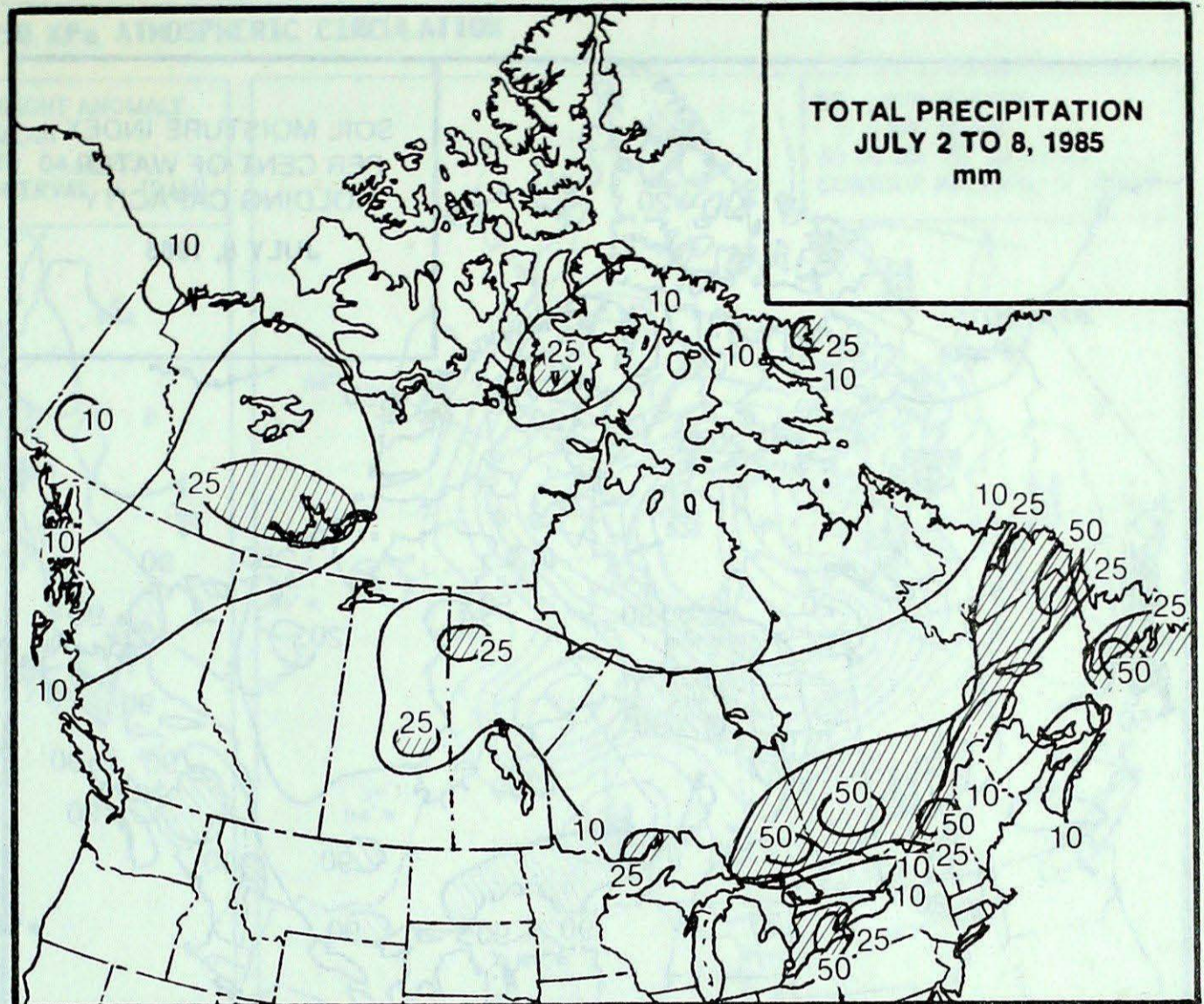
Severe weather once again hit southern Ontario. On July 6 a tornado touched down in Mississauga, just west of Toronto, damaging houses and ripping a roof off a factory. Close by, at Pearson International Airport a new 24-hour precipitation record was broken. Also on July 6, Sudbury received 40 mm of rain, setting a new 24-hour precipitation record. Hail fell in many agricultural districts.

**Quebec**

Thunderstorms occurred frequently in southern and western Quebec, and were associated with strong winds, hail and heavy down pours. Hail was reported in many localities. During some of the heavier thunderstorm activity between July 3-8, winds gusting to between 80 and 100 km/h uprooted trees and damaged buildings. In some communities wind damage was estimated in the thousands of dollars. Rainfall amounts were significant as a result of these storms; many areas received 30 to 75 millimetres of rain.

**Atlantic Provinces**

Sunny skies and warm temperatures in the Maritimes were welcomed. Dry weather allowed farmers to work on their fields and already seeded crops have showed excellent progress. Heavy thunderstorms on July 6 left several areas of Nova Scotia without power. It was hot and dry in Labrador and Newfoundland. Many daily maximum temperature records were broken, with readings climbing to near 30°C. Firefighters were battling at least 40 forest fires during the weekend in Newfoundland, four of them on the Island. A fire which started more than a week ago near Goose Bay is still out of control. Officials say that in Labrador this is one of the worst forest fire years on record.

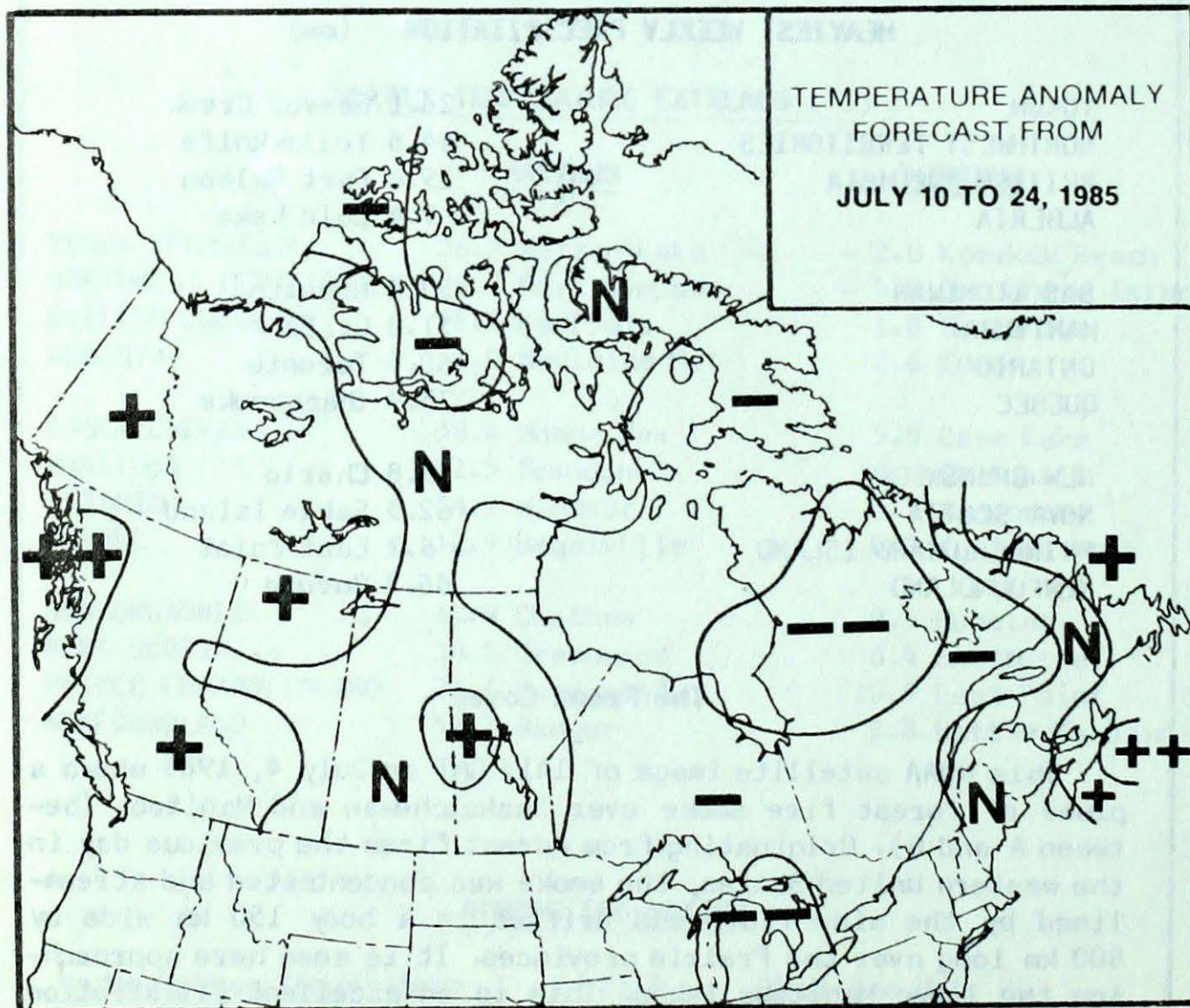
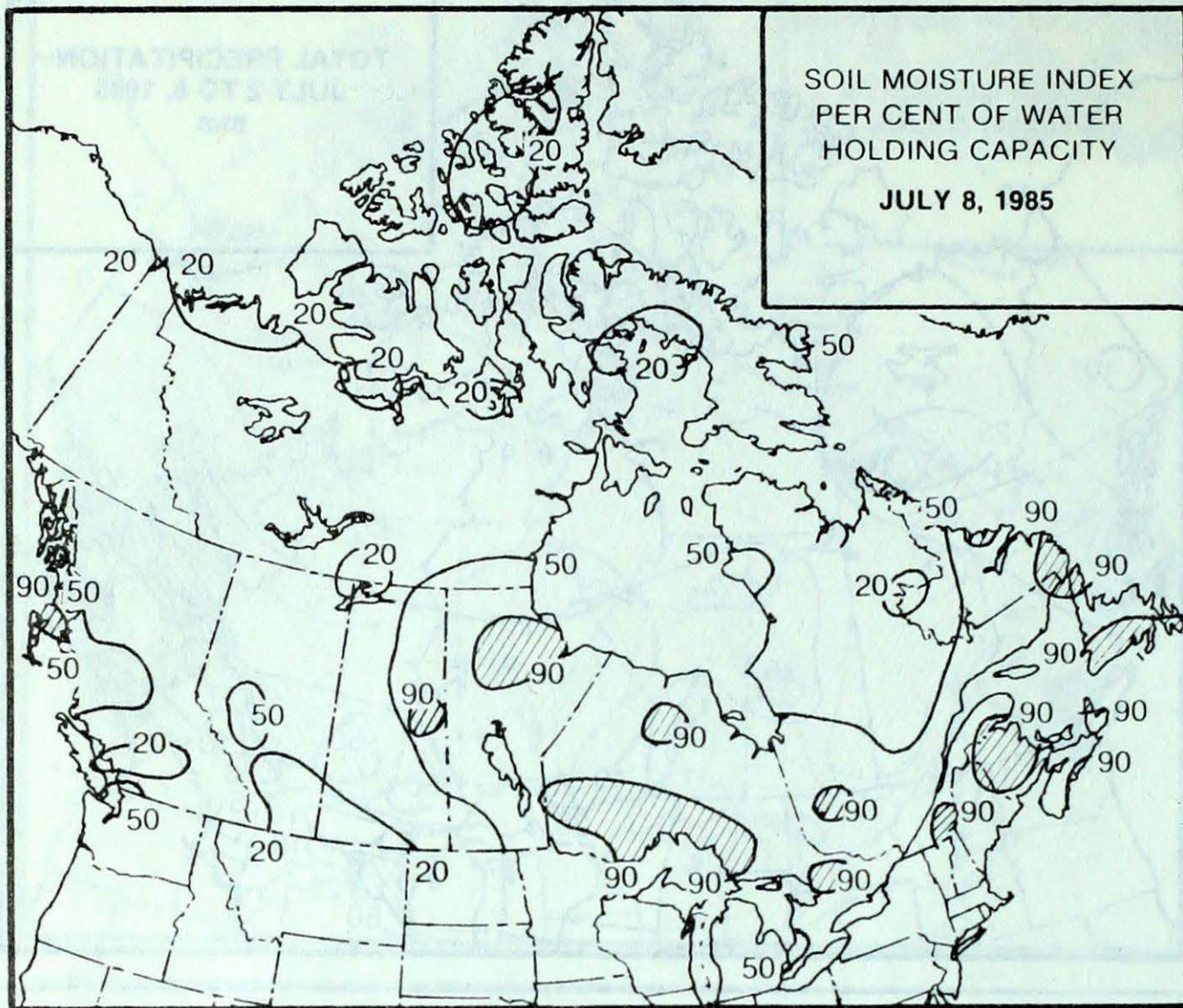
**HEAVIEST WEEKLY PRECIPITATION (mm)**

YUKON	26.1 Beaver Creek
NORTHWEST TERRITORIES	44.8 Yellowknife
BRITISH COLUMBIA	19.4 Fort Nelson
ALBERTA	7.4 Cold Lake
SASKATCHEWAN	37.2 Nipawin
MANITOBA	31.0 Gillam
ONTARIO	60.5 Toronto
QUEBEC	73.9 Sherbrooke
NEW BRUNSWICK	35.8 Charlo
NOVA SCOTIA	62.3 Sable Island
PRINCE EDWARD ISLAND	6.2 East Point
NEWFOUNDLAND	66.7 Burgeo

**The Front Cover**

This NOAA satellite image of 1413 GMT on July 4, 1985 shows a plume of forest fire smoke over Saskatchewan and Manitoba (between A and B). Originating from forest fires the previous day in the western United States, the smoke was concentrated and streamlined by the wind flow, and drifted in a body 150 km wide by 800 km long over the Prairie provinces. It is seen here approaching the large Manitoba lakes. This is an excellent illustration of how a pollutant can be carried in a very concentrated form through the atmosphere from one area to another. Rather than the visible smoke particles in this case (which act as a convenient "tracer") the pollution cloud could also be composed of invisible polluting gases.

# 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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 ISSN 0225-5707 UDC 551.506.1(71)

**Climatic Perspectives** is a weekly bilingual publication of the Canadian Climate Centre, Atmospheric Environment Service, 4905 Dufferin St., Downsview, Ont. Canada M3H 5T4. Phone (416)667-4906/4711.

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.

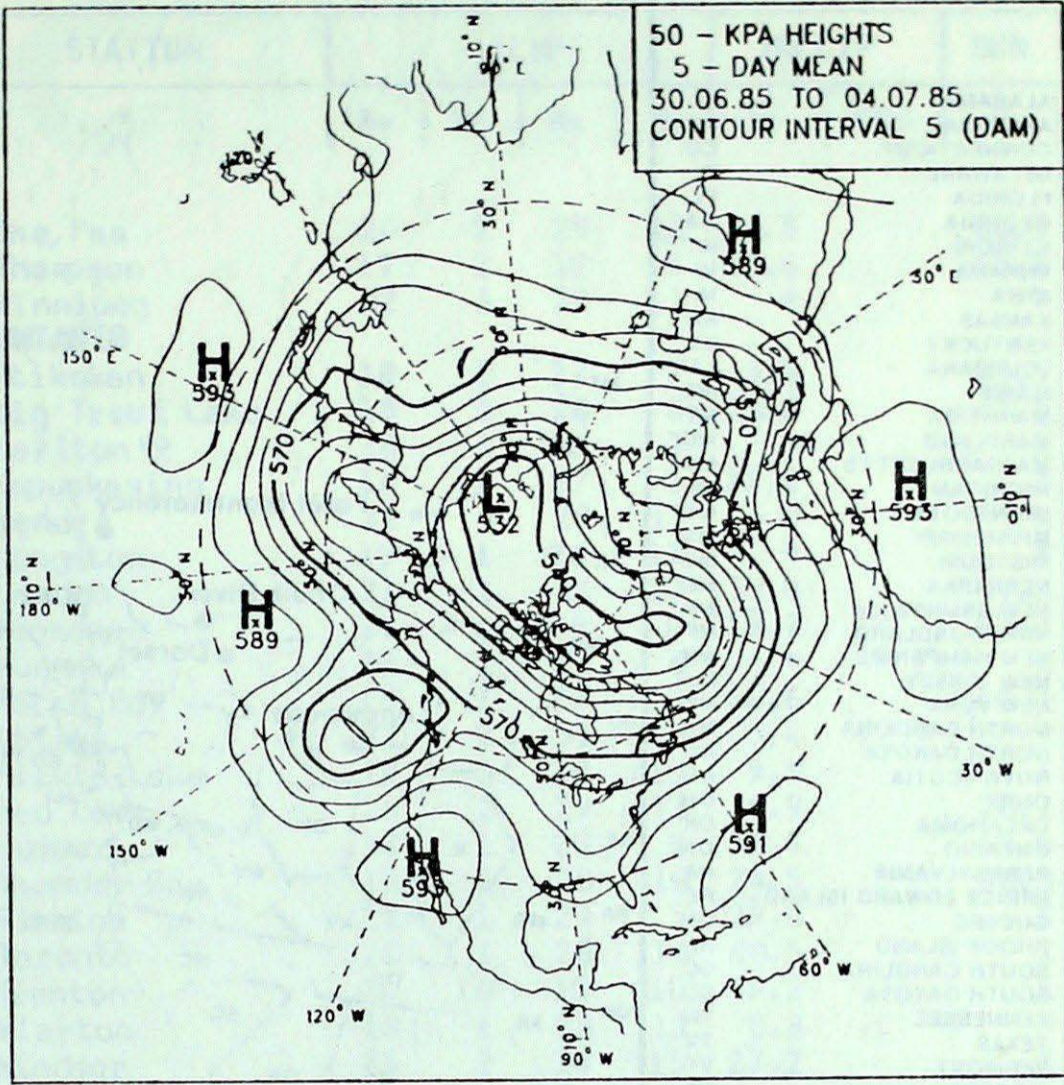
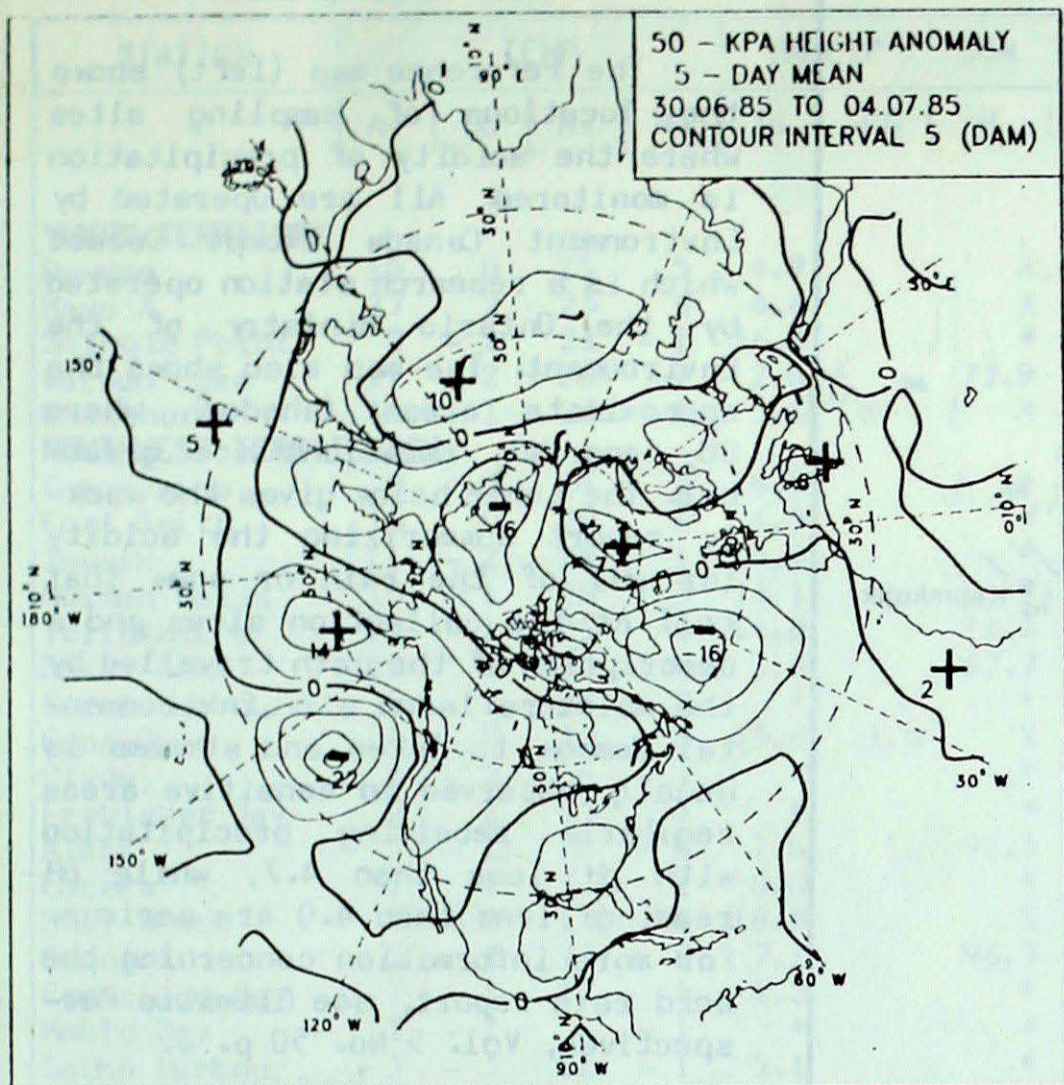
The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic weather stations. Information concerning climatic impacts is gathered from AES contacts with the public and from the media. Articles do not necessarily reflect the views of the Atmospheric Environment Service.

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Weekly issue including  
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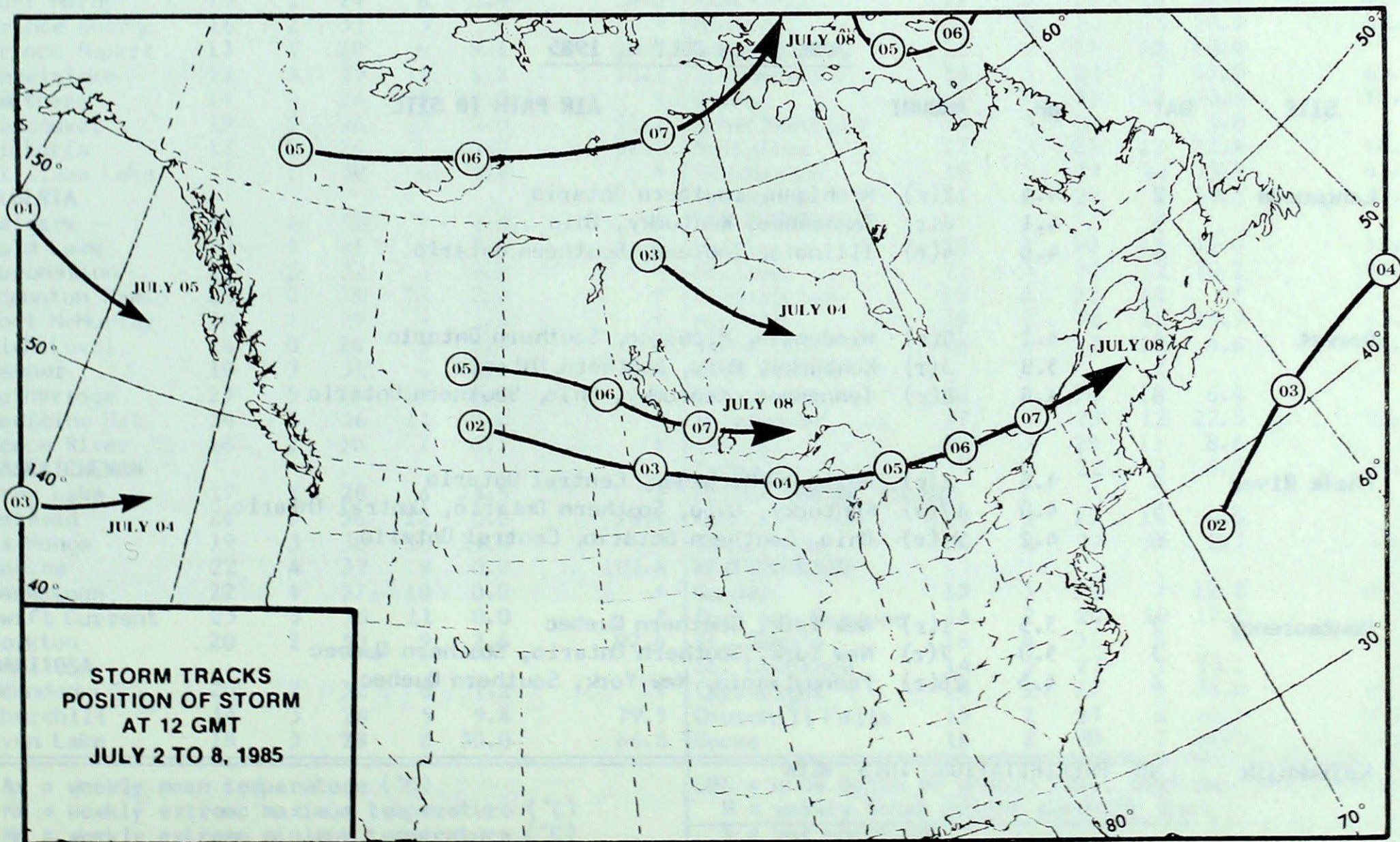
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**50 KPa ATMOSPHERIC CIRCULATION**

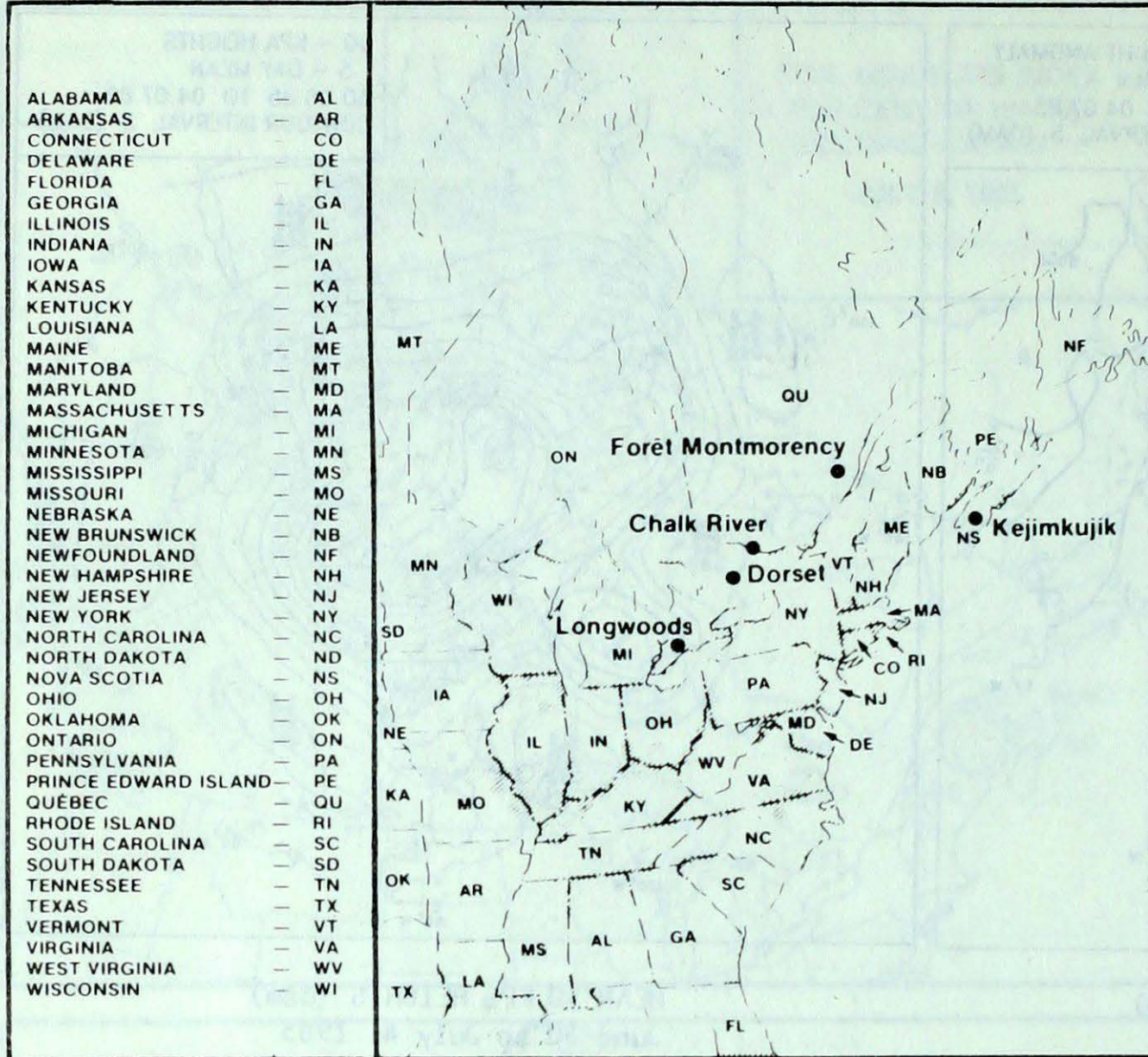


MEAN 50 KPa HEIGHT ANOMALY (dam)  
June 30 to July 4, 1985

MEAN 50 KPa HEIGHTS (dam)  
June 30 to July 4, 1985



## 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<sub>2</sub> and NO<sub>x</sub> 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.

### JUNE 30 to JULY 6, 1985

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	2	4.4	2(r)	Michigan, Southern Ontario
	5	4.1	6(r)	Tennessee, Kentucky, Ohio
	6	4.0	4(r)	Illinois, Indiana, Southern Ontario
Dorset	4	4.2	8(r)	Wisconsin, Michigan, Southern Ontario
	5	3.8	3(r)	Kentucky, Ohio, Southern Ontario
	6	4.4	8(r)	Tennessee, Kentucky, Ohio, Southern Ontario
Chalk River	4	4.6	1(r)	Northern Michigan, Central Ontario
	5	4.0	17(r)	Kentucky, Ohio, Southern Ontario, Central Ontario
	6	4.2	21(r)	Ohio, Southern Ontario, Central Ontario
Montmorency	2	3.5	1(r)	New York, Southern Quebec
	3	5.0	7(r)	New York, Southern Ontario, Southern Quebec
	6	4.5	26(r)	Pennsylvania, New York, Southern Quebec
Kejimikujik	NO PRECIPITATION THIS WEEK			

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

## TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT JULY 9, 1985

STATION	TEMP				PRECIP		SUN	STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H		Av	Dp	Mx	Mn	Tp	SOG	H
<b>YUKON TERRITORY</b>															
Dawson	15	0	25	5	4.9		X	The Pas	20	2	29	12	15.5		80.3
Mayo A	17	2	25	6	4.6		X	Thompson	17	2	30	6	22.6		65.8
Shingle Point	8	-2	21	-1	16.6		*	Winnipeg	22	3	32	11	*		*
Watson Lake	17	2	26	7	2.8		73.9	<b>ONTARIO</b>							
Whitehorse	14	1	23	4	5.4		*	Atikokan	18	1	27	7	3.6		75.5
<b>NORTHWEST TERRITORIES</b>															
Coppermine	9	0	24	1	18.5		*	Big Trout Lake	18	3	28	8	16.0		61.5
Fort Smith	16	0	28	6	6.9		*	Earlton	18	1	28	7	*		X
Inuvik	11	-2	24	1	5.0		*	Kapuskasing	16	1	27	1	24.2		*
Norman Wells	15	-1	28	3	14.1		*	Kenora	21	3	29	13	5.0		X
Yellowknife	15	-1	25	4	44.8		71.7	Kingston	19	-1	26	12	*		*
Baker Lake	10	1	25	0	1.0		67.7	London	21	1	28	13	35.0		47.0
Coral Harbour	9	2	20	2	*		*	Mosonee	14	-1	28	0	19.7		62.4
Cape Dyer	4	0	12	0	25.6	1.0	X	Muskoka	18	1	28	6	*		X
Clyde	2	-2	6	-1	*		*	North Bay	18	1	27	10	46.6		64.3
Frobisher Bay	8	1	15	3	*		*	Ottawa	22	2	31	13	3.4		*
Alert	3	-1	15	-4	7.6		92.3	Pickle Lake	19	3	28	10	9.8		X
Eureka	7	1	13	2	0.0		*	Red Lake	20	2	29	12	8.9		78.2
Hall Beach	5	0	12	1	18.8		X	Sudbury	18	1	28	9	51.4		68.4
Resolute	5	1	13	0	7.1		96.3	Thunder Bay	18	1	28	10	24.5		66.0
Cambridge Bay	7	-1	17	1	1.2		*	Timmins	17	1	29	5	29.8		X
Mould Bay	2	-2	6	-1	*		*	Toronto	20	1	28	14	60.5		X
Sachs Harbour	3	-3	11	-1	5.1		*	Trenton	20	0	30	10	9.2		X
<b>BRITISH COLUMBIA</b>															
Cape St. James	13	1	18	9	15.3		53.5	Warton	18	1	28	11	8.8		*
Cranbrook	23	6	35	11	0.0		97.3	Windsor	23	1	34	15	27.2		X
Fort Nelson	17	0	29	7	19.4		*	<b>QUEBEC</b>							
Fort St. John	17	1	29	2	1.6		X	Bagotville	20	3	33	13	36.1		X
Kamloops	23	3	36	10	0.0		92.9	Blanc-Sablon	11	1	16	3	60.6		20.8
Penticton	24	4	36	9	0.0		84.2	Inukjuak	8	1	16	3	1.6		84.7
Port Hardy	15	2	24	8	0.8		78.0	Kuujuuaq	14	3	25	3	9.2		61.5
Prince George	16	2	31	3	*		*	Kuujuarapik	10	1	28	1	5.2		55.0
Prince Rupert	13	1	20	6	9.1		55.6	Maniwaki	20	3	29	13	63.2		*
Revelstoke	22	5	35	11	1.2		76.5	Mont-Joli	19	3	28	10	37.9		42.7
Smithers	14	0	26	3	13.2		*	Montréal	21	1	30	15	24.4		52.0
Vancouver	19	2	28	12	0.0		91.1	Natashquan	16	3	25	10	40.8		*
Victoria	17	1	26	8	0.2		91.1	Nitchequon	16	3	26	7	19.0		65.1
Williams Lake	17	1	30	6	0.0		*	Québec	19	1	31	11	30.6		38.1
<b>ALBERTA</b>															
Calgary	22	6	32	9	0.0		*	Schefferville	14	3	24	4	5.0		*
Cold Lake	20	3	31	9	7.4		86.6	Sept-Iles	17	3	25	12	22.4		48.1
Coronation	19	2	32	8	0.2		*	Sherbrooke	19	3	29	12	73.9		42.7
Edmonton Namao	20	2	30	10	0.0		*	Val-d'Or	18	2	28	8	59.2		69.7
Fort McMurray	18	1	29	9	3.3		*	<b>NEW BRUNSWICK</b>							
High Level	16	0	28	6	5.4		*	Charlo	20	2	30	13	35.8		52.2
Jasper	18	3	31	6	0.2		93.6	Chatham	21	3	32	12	10.2		56.7
Lethbridge	23	5	35	10	0.0		*	Fredericton	20	2	32	10	*		*
Medicine Hat	24	4	36	11	0.0		*	Moncton	19	2	30	10	15.9		63.0
Peace River	18	2	30	7	6.3		X	Saint John	16	0	27	10	4.6		39.6
<b>SASKATCHEWAN</b>															
Cree Lake	17	X	28	6	14.5		*	<b>NOVA SCOTIA</b>							
Estevan	24	5	36	12	0.0		98.4	Greenwood	20	2	30	10	6.4		X
La Ronge	19	3	30	10	11.8		*	Shearwater	17	1	28	12	22.5		53.4
Regina	22	4	37	8	0.2		101.4	Sydney	20	3	29	11	8.6		*
Saskatoon	22	4	37	10	0.0		*	Yarmouth	15	0	22	8	5.0		37.0
Swift Current	23	5	36	11	0.0		*	<b>PRINCE EDWARD ISLAND</b>							
Yorkton	20	2	30	9	2.6		97.4	Charlottetown	20	3	29	14	4.0		*
<b>MANITOBA</b>															
Brandon	20	2	32	8	1.2		*	Summerside	20	2	29	13	2.3		61.0
Churchill	14	3	28	5	9.4		79.5	<b>NEWFOUNDLAND</b>							
Lynn Lake	18	3	28	8	30.0		66.8	Gander	19	3	30	9	12.8		60.1
								Port aux Basques	14	2	20	10	17.2		*
								St. John's	18	4	31	8	*		70.3
								St. Lawrence	14	3	23	7	33.1		X
								Cartwright	13	1	27	5	35.0		40.9
								Churchill Falls	15	2	27	6	13.5		65.7
								Goose	16	2	30	7	39.9		44.8

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