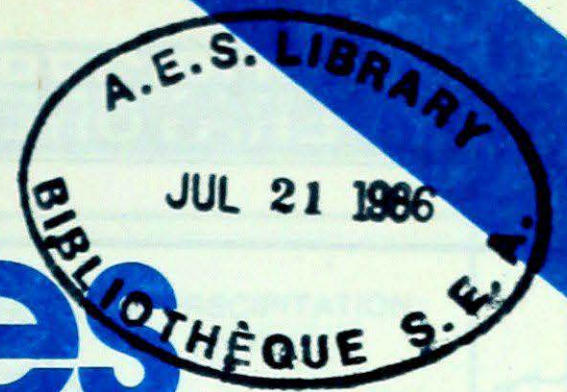


# Climatic Perspectives



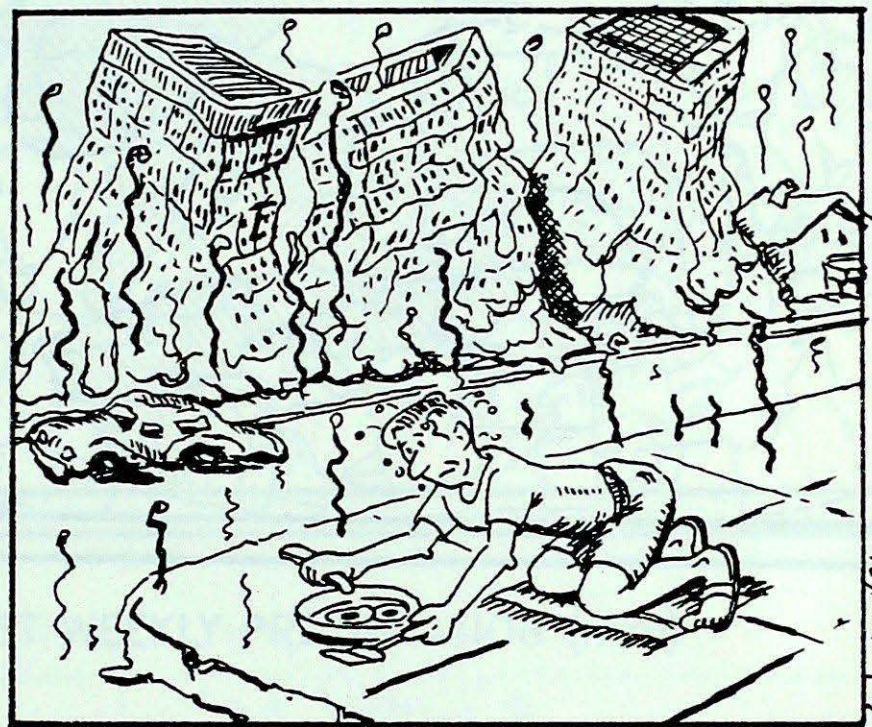
A weekly review of Canadian climate

July 1 to 7, 1986

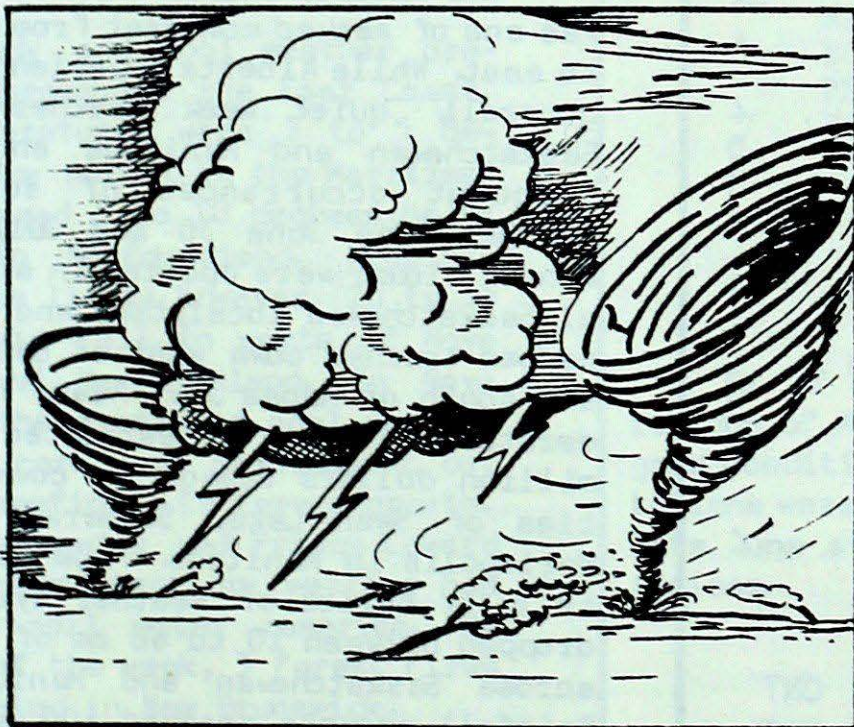
Vol.8 No.27

## ● *Hot Hazy Humid weather covers Southern Ontario*

Oppressively hot and humid air arrived in southern Ontario over the weekend. Several daily high temperature records were established as the mercury climbed above 30 degrees. On July 6, afternoon readings reached 34.3° at Toronto surpassing the previous record of 32.8° set in 1946; the humidex, a measure of discomfort, registered at 41°. The same night, the temperature failed to drop below 20°. Under the intense heat, roads in Toronto buckled causing traffic accidents. The most intense heat wave in Toronto occurred in July 1936 when daytime temperatures remained above 40° for 3 consecutive days.

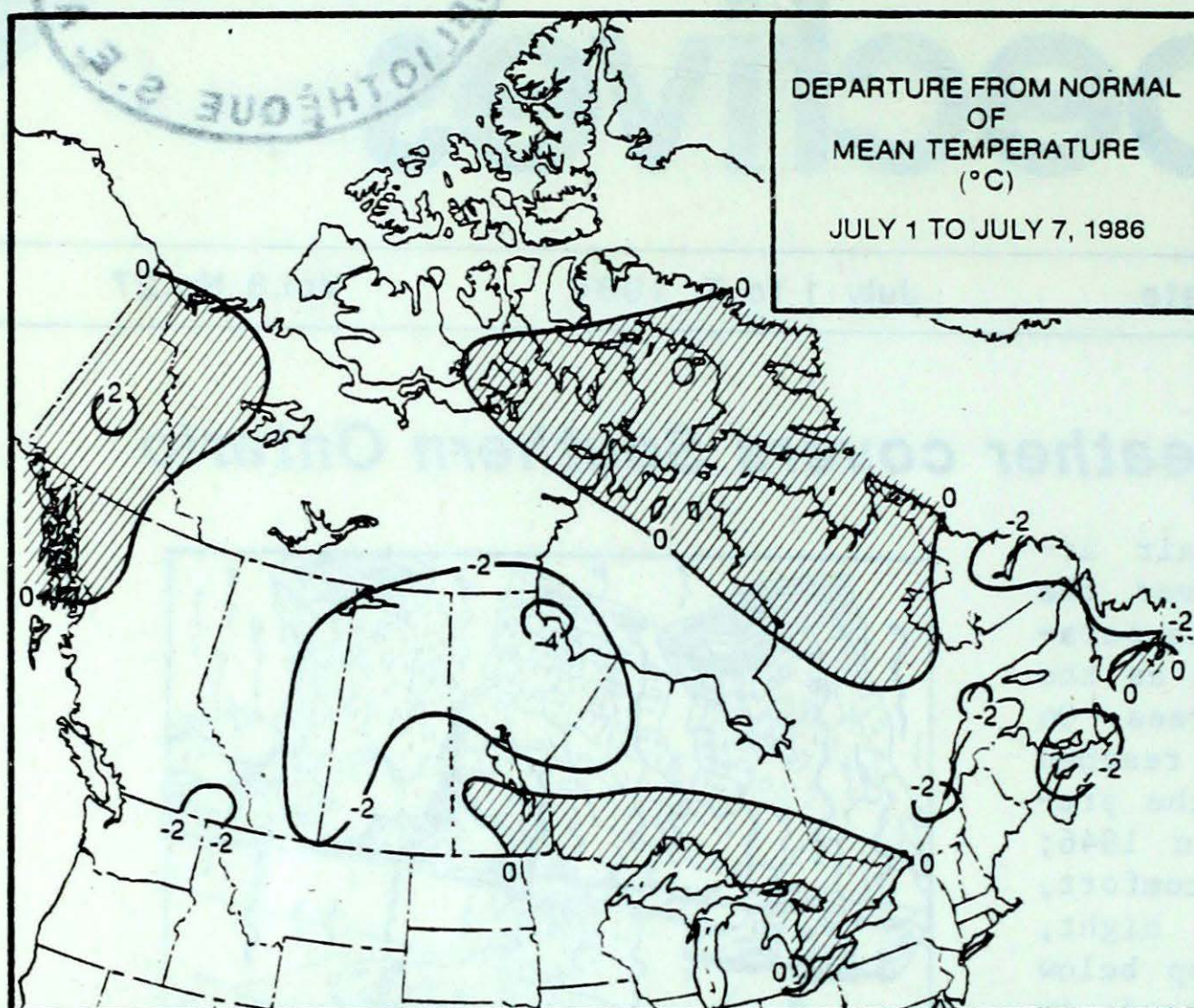


## ● *Severe weather hits Eastern Prairies*



Outbreak of severe thunderstorms spawned two tornadoes and several funnel clouds in southern Saskatchewan on June 30. A tornado was sighted west of Estevan and another tornado touched down just south of Moose Jaw. On July 3, destructive storms caused an estimated one million dollars damage in southern Manitoba communities of Swan Lake, Somerset and Mariapolis. In Somerset, three massive wooden structures were uprooted, roofs were blown off a local hockey arena and a school. In Mariapolis, winds destroyed steeple of a local church and tore trees from ground. Heavy deluges of 100 mm at Baldwin, southeast of Brandon, caused flash floods.

# TEMPERATURE



## ACROSS THE COUNTRY...

### Yukon and Northwest Territories

Heavy rains of 30 to 60 mm and cool temperatures dominated the weather in the southern Yukon and the Mackenzie District. Watson Lake was deluged with nearly 70 mm of rain. In the central and northern Yukon record daily maximum temperatures were established as the mercury reached near 30°. Lightning strikes in the hot weather helped ignited several major forest fires near the Alaska border. Smoke from these fires hampered flight operations in parts of the Yukon. In the eastern Arctic, the temperatures climbed above 10° for the first time this year. June's cool weather has delayed break up of ice in the Davis Strait this year.

### British Columbia

The weather was cool and generally damp across most of the province. The temperature were a few degrees below normal. Precipitation amounts ranged from 20 to 40 mm in the South but less than 10 mm were recorded in the North. Hours of sunshine were below normal, especially in the southern Interior. Due to excessive rains, up to 40 percent of the cherry crops suffered from splitting in the Okanagan Valley.

### Prairie Provinces

The weather across the Prairies was one of marked contrast from west to east. While Alberta experienced a generally quiet week weatherwise, Saskatchewan and Manitoba endured frequent occurrences of severe weather. On June 30 and July 1, funnel clouds were spotted in several Saskatchewan localities and tornadoes touched down west of Estevan and south of Moose Jaw. Heavy thunderstorms caused an estimated one million dollars damage to communities of Swan Lake, Somerset and Mariapolis in Manitoba. From July 3 to 6, a series of weather systems dropped between 10 to 60 mm of rain across Saskatchewan and Manitoba. Rainfall amounts reached 100 mm at Baldr Manitoba. The temperatures were near normal except in Alberta where cool weather prevailed.

## WEEKLY TEMPERATURE EXTREME (C)

	MAXIMUM	MINIMUM
BRITISH COLUMBIA	PENTICTON 31	QUESNEL 2
YUKON TERRITORY	DAWSON 30	KOMAKUK BEACH A SHINGLE POINT A 0
NORTHWEST TERRITORIES	INUVIK 28	POND INLET -6
ALBERTA	MEDICINE HAT 31	ROCKY MTN. HOUSE 4
SASKATCHEWAN	SASKATOON 33	COLLINS BAY 4
MANITOBA	PORTAGE LA PRAIRIE 31	CHURCHILL 0
ONTARIO	WINDSOR 34	TIMMINS 1
QUEBEC	MANIWAKI 30	QUAQTAQ -1
NEW BRUNSWICK	CHATHAM 25	CHATHAM 6
NOVA SCOTIA	SYDNEY 25	SYDNEY 5
PRINCE EDWARD ISLAND	CHARLOTTETOWN 23	CHARLOTTETOWN 6
NEWFOUNDLAND	BADGER 25	GOOSE 1
	DEER LAKE	

## ACROSS THE NATION

WARMEST MEAN TEMPERATURE	22	WINDSOR	ONT
COOLEST MEAN TEMPERATURE	2	RESOLUTE	NWT

**Ontario**

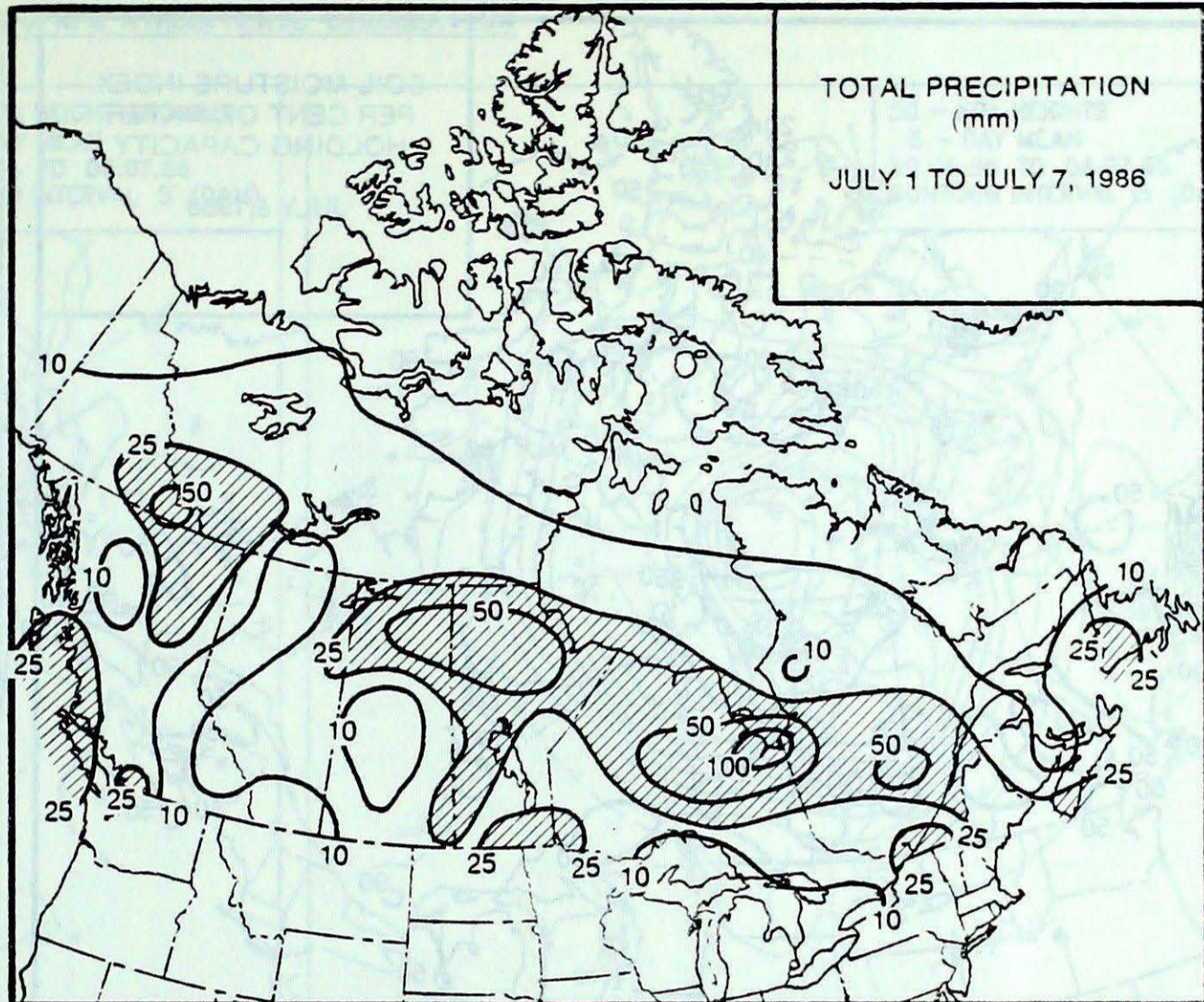
After a cool and showery start, the weather turned hot across southern Ontario over the weekend. A warm and humid air mass produced record-high temperatures in southern Ontario. In Toronto, the mercury climbed to 34° on July 6, breaking the old record of 32° set in 1946. The temperatures were seasonable in northern Ontario. Storms crossing central and northern regions dropped 25-115 mm of rain during the week. On July 5, severe thunderstorms dumped 144 mm of rain in 6 hours at Moosonee.

**Quebec**

Cool and cloudy weather covering the province set several low daytime temperature records. Over the weekend, very warm air mass reached southwestern areas, and near 30° readings were common along the lower St. Lawrence Valley. Mean temperatures in northern Quebec were 1 to 3 degrees above normal. Heavy rains in the 30 to 65 mm range fell along the St. Lawrence Valley, elsewhere less than 20 mm were recorded. On July 6, weather systems deposited 50 to 65 mm of rain in the Forêt Montmorency area. By the end of the week, 8 forest fires were burning. This brings the seasonal total to 708 fires compared to the five-year average of 560 fires.

**Atlantic Provinces**

Cloudy and cool weather prevailed throughout the East Coast. The temperatures were 3 to 5 degrees below normal in the Maritimes and averaged 5 to 10 degrees below normal in Newfoundland. Precipitation was light; however, 20 to 35 mm of rain fell in parts of Nova Scotia and Newfoundland. In Nova Scotia, the continued cool weather hampered corn crop development but it was beneficial to forage growth. In New Brunswick and Prince Edward Island, persistent dry weather has depleted soil water reserves. By the end of the week, 3 forest fires were burning in New Brunswick.

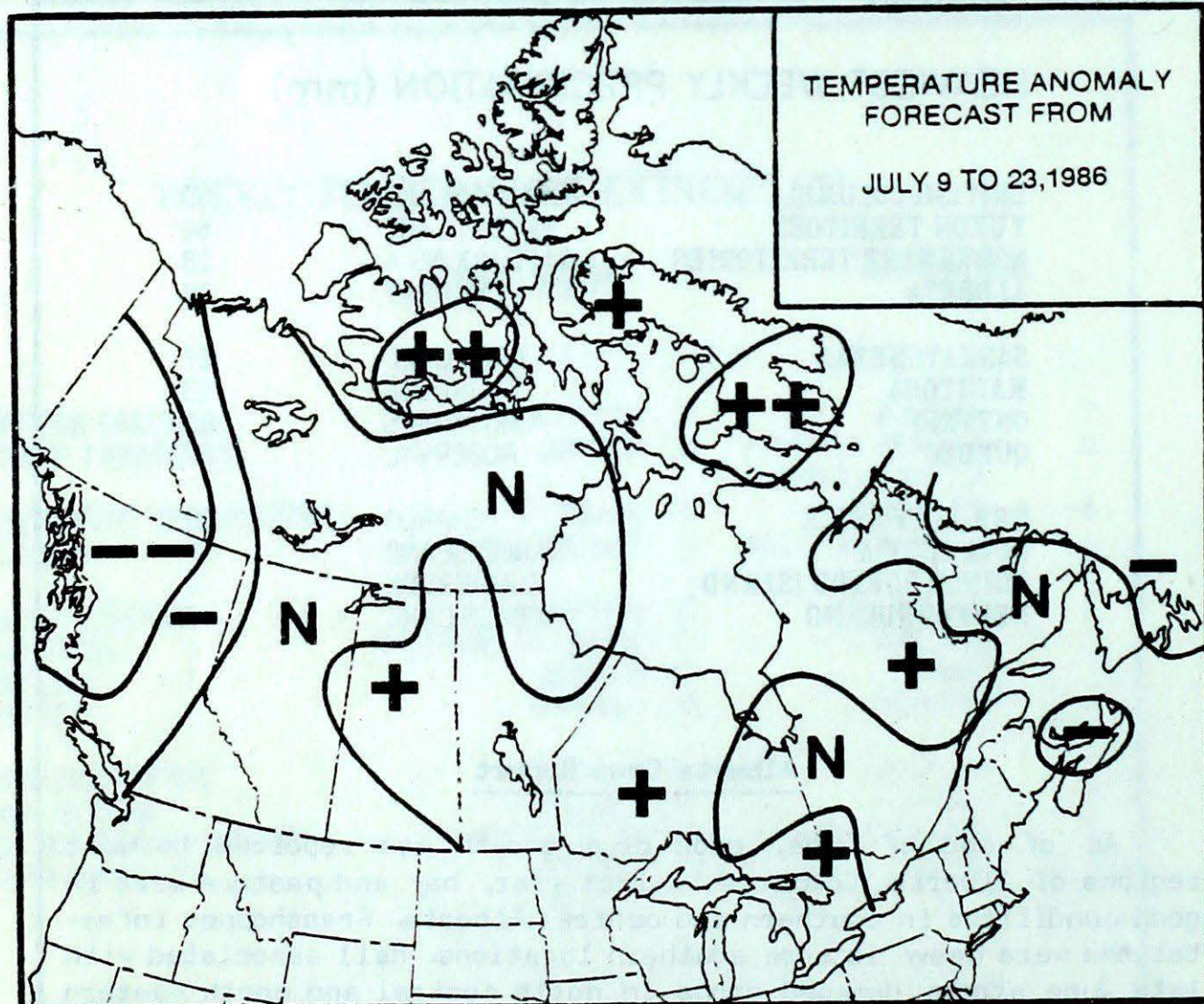
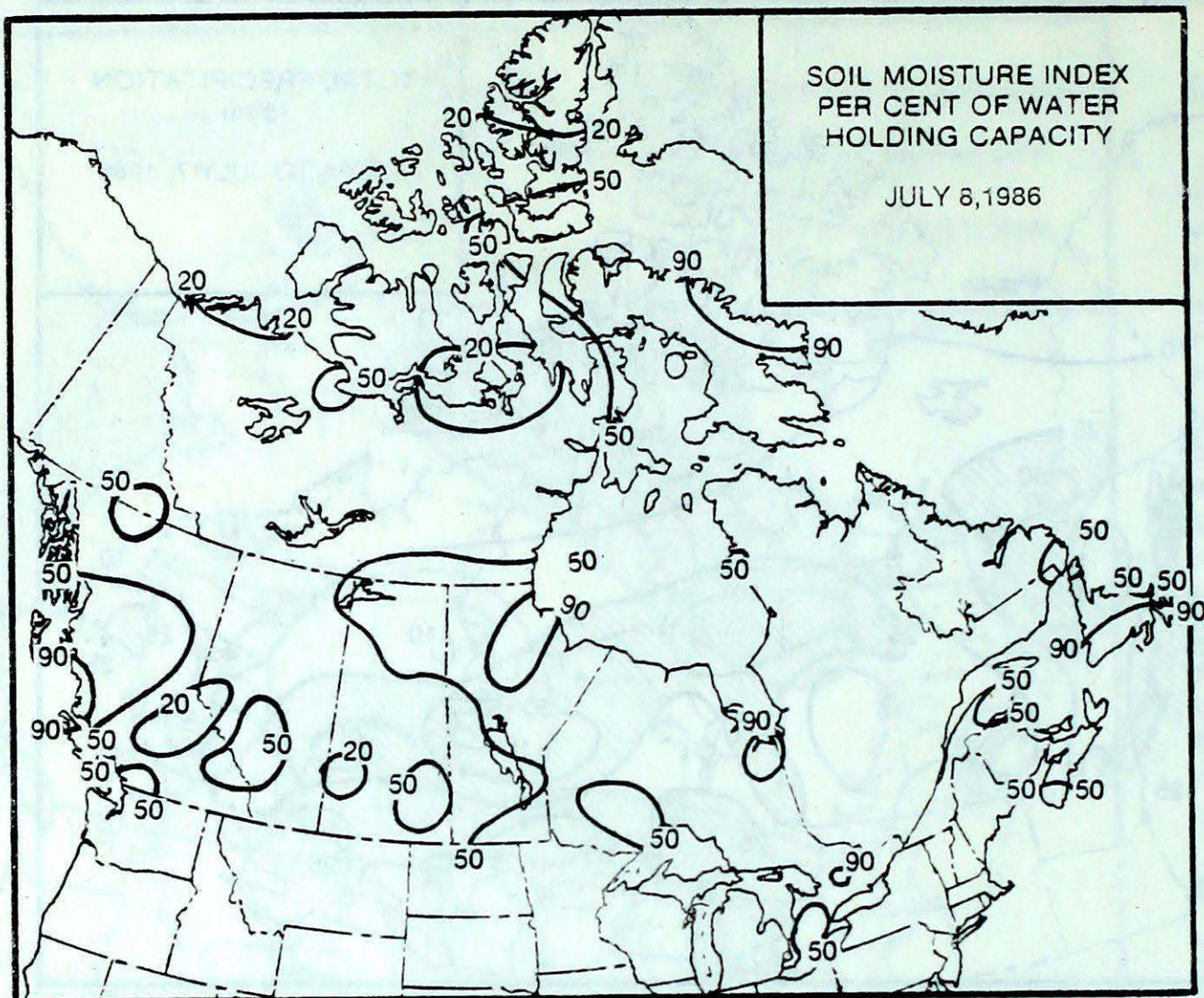
**HEAVIEST WEEKLY PRECIPITATION (mm)**

BRITISH COLUMBIA	MCINNES ISLAND	50
YUKON TERRITORY	WATSON LAKE	69
NORTHWEST TERRITORIES	CAPE YOUNG A	28
ALBERTA	FORT MCMURRAY	38
SASKATCHEWAN	CREE LAKE	87
MANITOBA	THOMPSON	83
ONTARIO	MOOSONEE	163
QUEBEC	ROBERVAL	67
NEW BRUNSWICK	CHARLO	22
NOVA SCOTIA	SABLE ISLAND	56
PRINCE EDWARD ISLAND	SUMMERSIDE	10
NEWFOUNDLAND	WABUSH LAKE	43

**Alberta Crop Report**

As of end of June, good crop growth was reported in most regions of Alberta. Compared to last year, hay and pasture were in good conditions in southern and central Alberta. Grasshopper infestations were heavy in some southern locations. Hail associated with late June storms damaged crops in north central and north eastern regions.

# 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.

### CLIMATIC PERSPECTIVES VOLUME 8

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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.

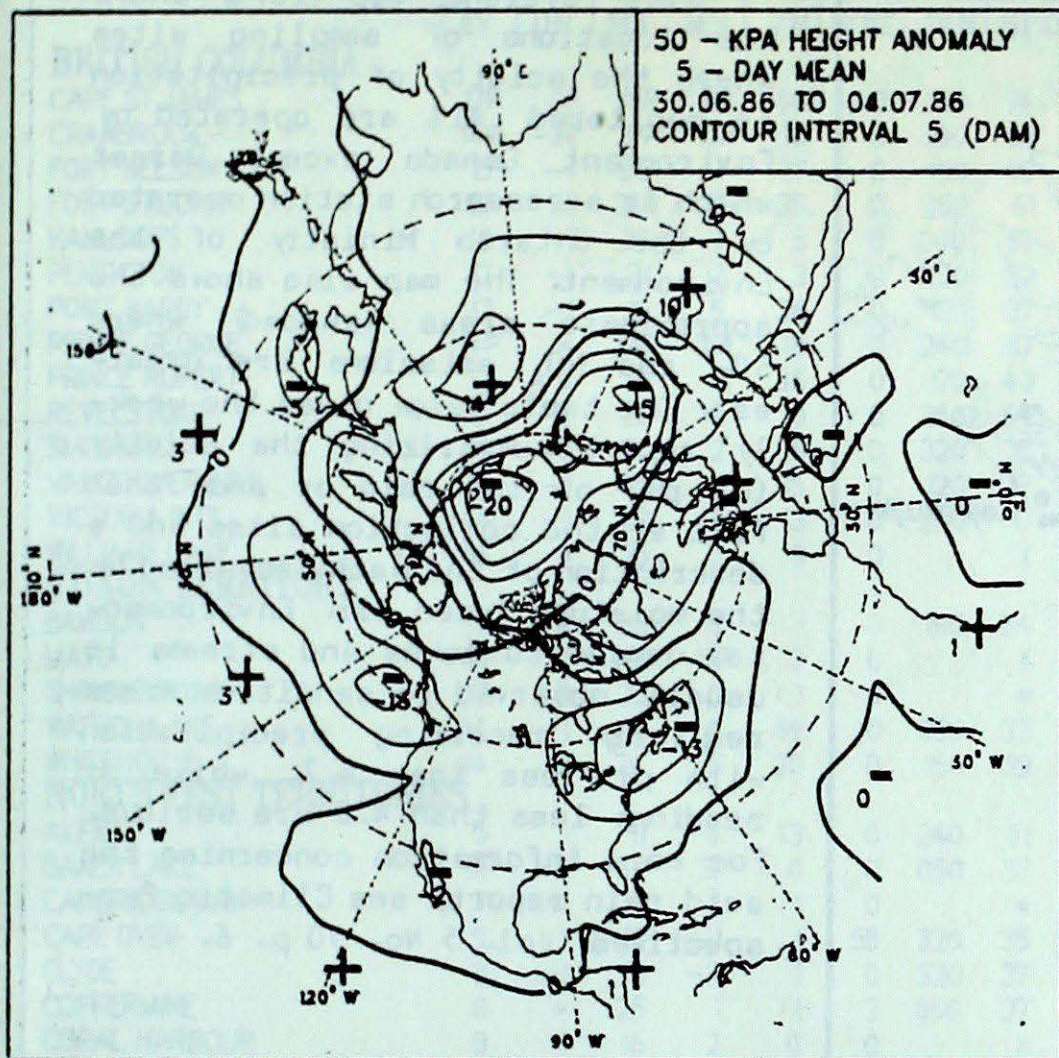
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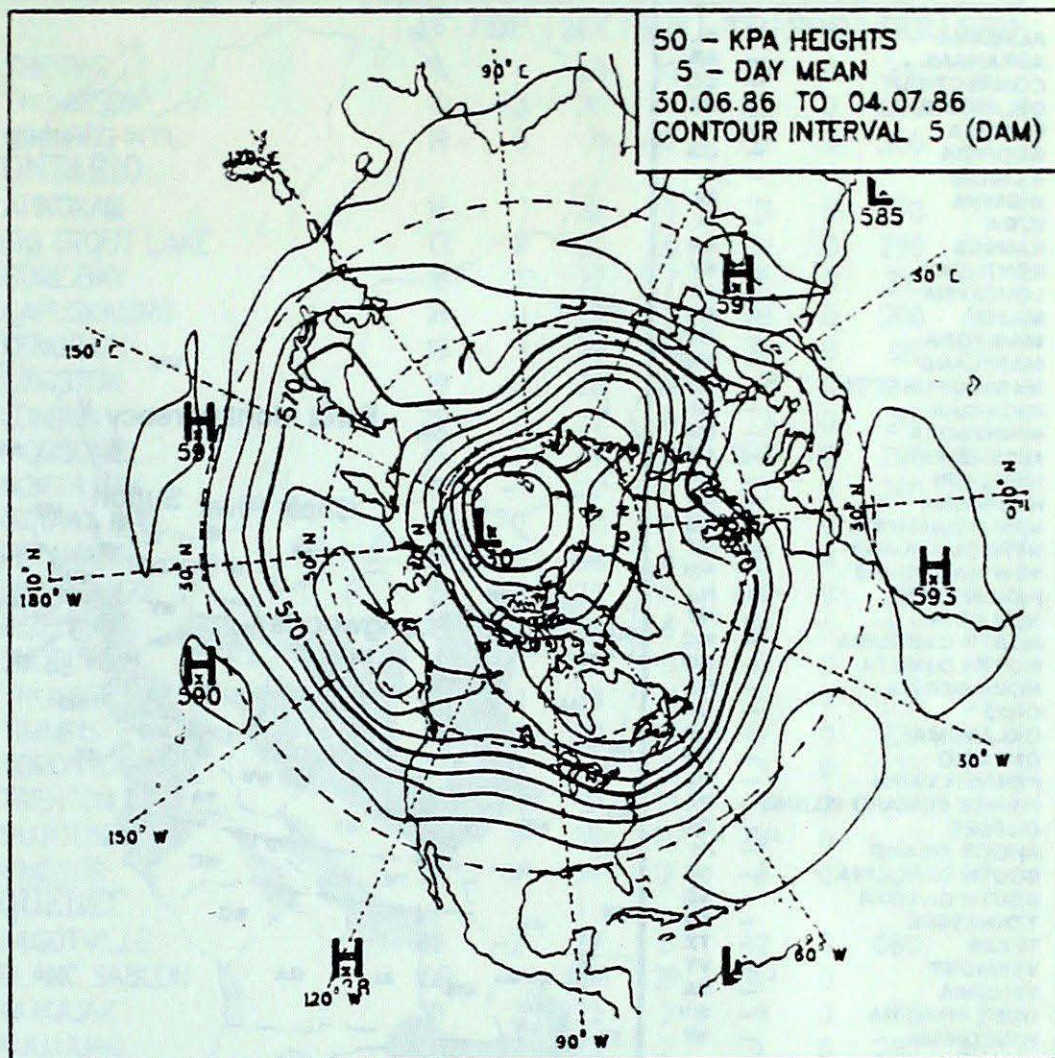
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# CIRCULATION

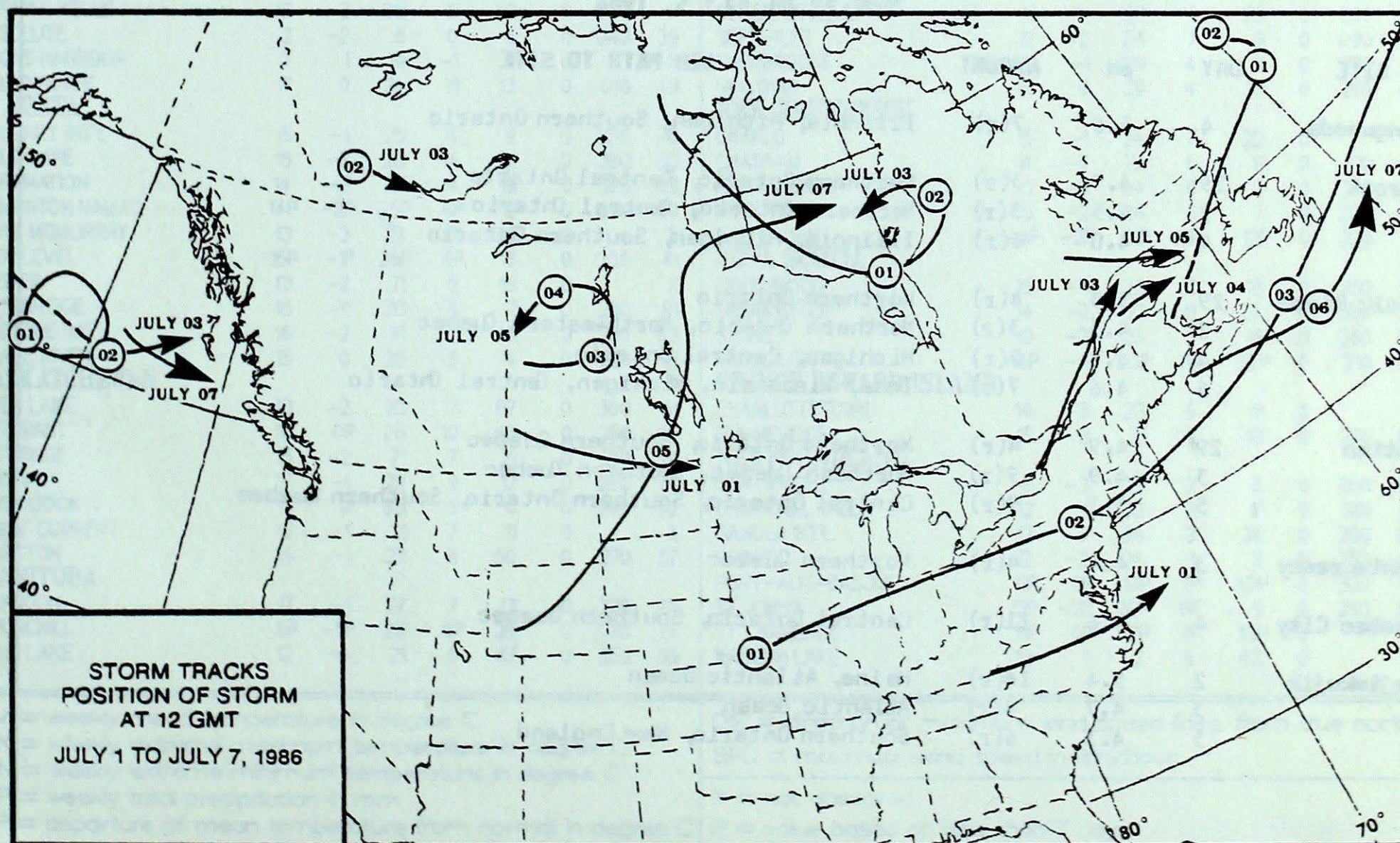
## 50 KPa ATMOSPHERIC CIRCULATION



MEAN 50 KPa HEIGHT ANOMALY (dam)  
June 30 to July 4, 1986



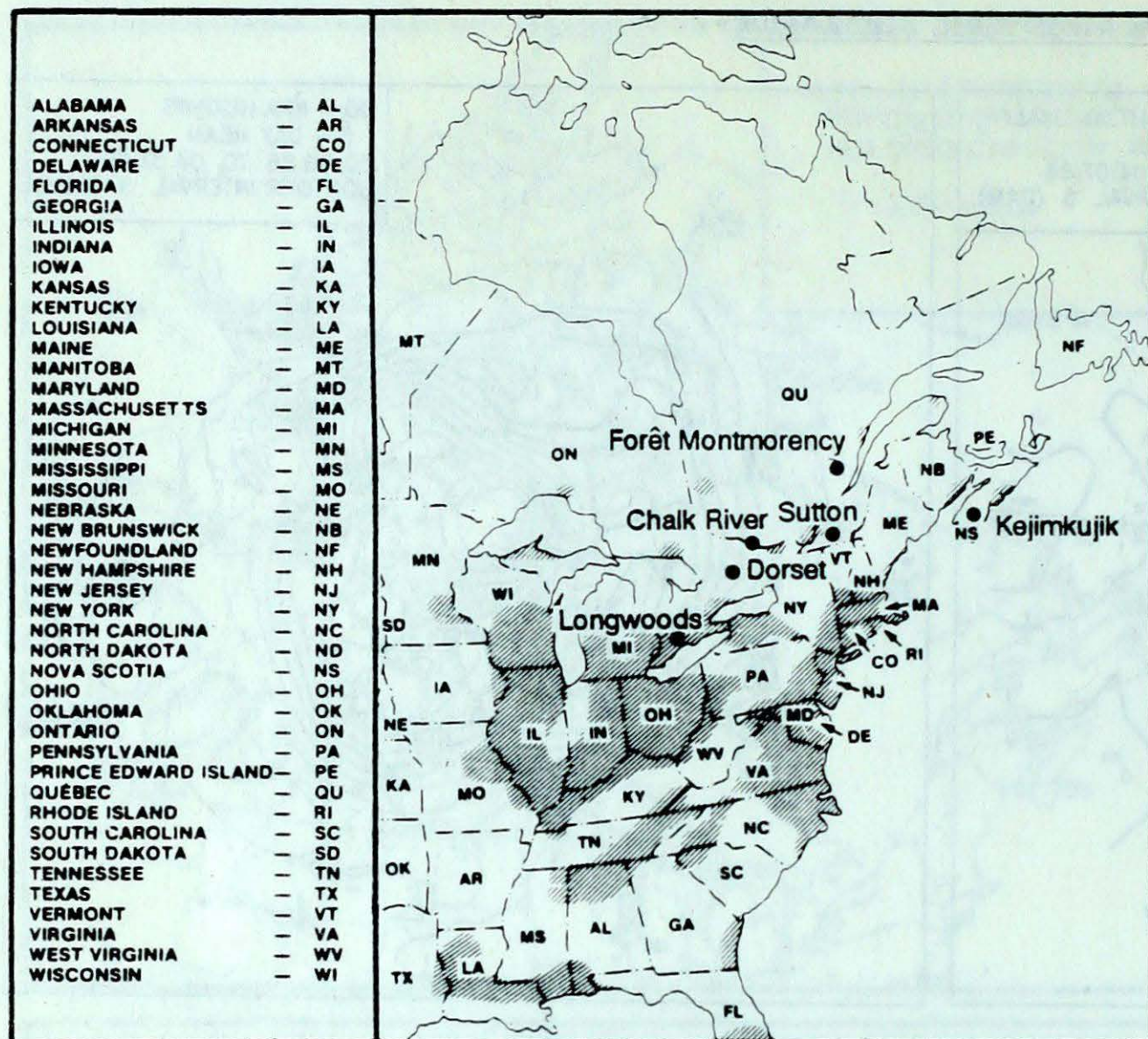
MEAN 50 KPa HEIGHTS (dam)  
June 30 to July 4, 1986



STORM TRACKS  
POSITION OF STORM  
AT 12 GMT  
JULY 1 TO JULY 7, 1986

# 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<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 29 TO JULY 5, 1986

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	4	5.6	7(r)	Illinois, Michigan, Southern Ontario
Dorset	29	4.7	3(r)	Northern Ontario, Central Ontario
	2	4.5	3(r)	Northern Ontario, Central Ontario
	4	4.0	6(r)	Illinois, Michigan, Southern Ontario
Chalk River	29	5.3	4(r)	Northern Ontario
	2	4.3	3(r)	Northern Ontario, Northwestern Quebec
	4	4.4	5(r)	Michigan, Central Ontario
	5	4.6	7(r)	Iowa, Wisconsin, Michigan, Central Ontario
Sutton	29	4.9	4(r)	Northern Ontario, Southern Quebec
	3	4.9	9(r)	Northern Quebec, Southern Quebec
	5	3.5	9(r)	Central Ontario, Southern Ontario, Southern Quebec
Montmorency	3	4.4	4(r)	Northern Quebec
Quebec City	4	4.6	21(r)	Central Ontario, Southern Quebec
Kejimikujik	2	5.4	16(r)	Maine, Atlantic Ocean
	3	4.7	4(r)	Atlantic Ocean
	5	4.3	6(r)	Southern Ontario, New England

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

## TEMPERATURE, PRECIPITATION AND MAXIMUM WIND DATA FOR THE WEEK ENDING 0600 GMT JULY 8, 1986

STATION	TEMPERATURE				PRECIP.		WIND MX		STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD		AV	DP	MX	MN	TP	SOG	DIR	SPD
<b>BRITISH COLUMBIA</b>									THE PAS	16	*	28	10	20	0	310	59
CAPE ST. JAMES	12P	0P	16P	9P	40	0	160	74	THOMPSON	12	-3	24	1	83	0	050	56
CRANBROOK	14P	-3P	27P	5P	10	0	360	65	WINNIPEG INT'L	19	0	31	10	17	0	300	83
FORT NELSON	15	-1	26	7	27	0	150	46	<b>ONTARIO</b>								
FORT ST. JOHN	15P	0P	24P	7P	35	0	260	61	ATIKOKAN	18	1	28	5	11	0	270	57
KAMLOOPS	18	-1	30	9	5	0	040	57	BIG TROUT LAKE	13	*	20	6	32	0	250	78
PENTICTON	17	-1	31	7	3	0	320	52	GORE BAY	18	0	27	7	16	0	210	65
PORT HARDY	12	-1	19	5	26	0	120	37	KAPUSKASING	16	0	28	3	28	0	260	48
PRINCE GEORGE	14P	*	24P	6P	18	0	240	67	KENORA	19	1	29	11	47	0	120	48
PRINCE RUPERT	12	0	16	8	36	0	170	43	KINGSTON	19	0	28	10	7	0		X
REVELSTOKE	15	-2	26	8	19	0	350	54	LONDON	20	1	32	8	1	0	210	52
SMITHERS	14	0	24	2	5	0	320	35	MOOSONEE	14	0	29	3	163	0	260	54
VANCOUVER INT'L	16	-1	25	8	15	0	120	37	NORTH BAY	17	-1	26	6	23	0	240	56
VICTORIA INT'L	14	-1	22	6	13	0	230	37	OTTAWA INT'L	19	0	31	10	47	0		X
WILLIAMS LAKE	14	*	25	3	9	0		X	PETAWAWA	19	0	33	6	20	0		X
<b>YUKON TERRITORY</b>									PICKLE LAKE	15	-1	23	4	49P	0	250	76
DAWSON	17	*	30	5	1	0	100	54	RED LAKE	18	0	28	6	18	0	240	70
MAYO	19P	4P	30P	8P	2	0		X	SUDBURY	18	0	29	5	12	0		X
SHINGLE POINT A	12	2	23	0	0	0		*	THUNDER BAY	17	1	29	5	5	0	270	59
WATSON LAKE	14	-1	23	4	69	0	050	33	TIMMINS	16	0	30	1	17	0	220	41
WHITEHORSE	14	0	24	6	20	0	160	39	TORONTO INT'L	21	1	34	8	5	0	230	52
<b>NORTHWEST TERRITORIES</b>									TRENTON	21	1	31	11	7	0		X
ALERT	5	1	11	0	13	0	240	81	WIARTON	18P	1P	31P	6P	4P	0		X
BAKER LAKE	9P	-1P	18P	3P	0	0	050	37	WINDSOR	22	0P	34	12	6	0	200	57
CAMBRIDGE BAY	7	0	16	2	1	0		*	<b>QUEBEC</b>								
CAPE DYER	5	1	12	-1	1	55	320	35	BAGOTVILLE	15	-2	27	5	42	0	060	41
CLYDE	3	-1	10	-3	1	0	320	37	BLANC SABLON	10P	*	18P	2P	4P	0		X
COPPERMINE	8	*	25	1	1	3	090	37	INUKJUAK	10	2	22	2	9	0	110	52
CORAL HARBOUR	8	1	16	2	0	0		X	KUUJUAQ	11	2	23	2	4	0	280	46
EUREKA	4	-1	8	1	5	0	170	50	KUUJUJARAPIK	9	-1	25	0	18	0	150	83
FORT SMITH	16	0	26	7	3	0		X	MANIWAKI	17	-1	30	5	4	0	190	31
FROBISHER BAY	8P	2P	20P	1P	2	0	310	37	MONT JOLI	15	-1	23	9	19	0	240	39
HALL BEACH	5	0	12	0	0	5		*	MONTREAL INT'L	18	-2	30	9	15	0	240	56
INUVIK	15	2	28	1	0	0		X	NATASHQUAN	12	-1	20	6	8	0	110	41
MOULD BAY	3	-1	7	0	2	0		X	QUEBEC	16	-2	30	6	45	0	250	57
NORMAN WELLS	18	2	28	8	0	0		X	SCHIEFFERVILLE	11	0	22	5	25	0	200	56
RESOLUTE	2	-2	6	0	6	0	040	39	SEPT-ILES	12	-2	24	7	9	0	090	37
SACHS HARBOUR	7	1	19	-1	0	0		X	SHERBROOKE	15	-1	29	4	11	0	270	37
YELLOWKNIFE	17	0	24	11	13	0	010	43	VAL D'OR	16	0	29	4	13	0	270	48
<b>ALBERTA</b>									<b>NEW BRUNSWICK</b>								
CALGARY INT'L	15	-1	25	4	9	0	330	76	CHARLO	15	-1	24	7	22	0		*
COLD LAKE	15	-2	28	4	21	0	280	52	CHATHAM	16	-2	25	6	11	0	310	65
CORONATION	14	-2	27	4	19	0	320	63	FREDERICTON	15	-3	24	8	7	0	210	39
EDMONTON NAMAQ	14P	-2P	25P	6P	12	0	340	59	MONCTON	15	-2	24	8	7	0	200	43
FORT MCMURRAY	13	-3	27	7	38	0		X	SAINT JOHN	14P	-2P	21P	9P	12P	0	220	52
HIGH LEVEL	15P	-1P	26P	6P	16	0	330	41	<b>NOVA SCOTIA</b>								
JASPER	13	-2	21	5	15	0		X	GREENWOOD	15	-3	23	8	18	0	250	59
LETHBRIDGE	16	-1	30	5	7	0	250	81	SHEARWATER	14	-2	22	8	24	0	360	39
MEDICINE HAT	16	-2	31	1	4	0	250	63	SYDNEY	13	-3	25	5	18	0	360	50
PEACE RIVER	15	0	28	5	4	0	220	48	YARMOUTH	14P	-1P	20P	11P	33P	0	210	43
<b>SASKATCHEWAN</b>									<b>PRINCE EDWARD ISLAND</b>								
CREE LAKE	13	-2	23	7	87	0	300	61	CHARLOTTETOWN	14	-3	23	6	9	0		*
ESTEVAN	18	0P	28	10	43	0	250	65	SUMMERSIDE	15	-3	21	9	10	0	220	50
LA RONGE	15	-2	21	7	21	0	210	61	<b>NEWFOUNDLAND</b>								
REGINA	17	-1	29	8	12	0	280	74	CARTWRIGHT	8	-3	23	2	6	0	300	56
SASKATOON	17	0	33	5	0	0	240	52	CHURCHILL FALLS	12	-1	22	3	7	0	310	35
SWIFT CURRENT	16	-1	31	7	11	0		X	GANDER INT'L	12	-4	24	3	24	0	280	59
YORKTON	16	-1	27	8	50	0	270	57	GOOSE	12	-2	24	1	2	0	250	46
<b>MANITOBA</b>									PORT-AUX-BASQUES	11P	0P	19P	7P	33P	0	300	74
BRANDON	17	-1	27	7	13	0	270	70	ST JOHN'S	12P	-2P	20P	6P	9	0	250	80
CHURCHILL	6P	-5P	21P	0P	29	0	070	74	ST LAWRENCE	11P	0P	17P	7P	13P	0		X
LYNN LAKE	12	-4	21	6	67	0	350	69	WABUSH LAKE	13	1	22	5	43	0		*

AV = weekly mean temperature in degree C  
 MX = weekly extreme maximum temperature in degree C  
 MN = weekly extreme minimum temperature in degree C  
 TP = weekly total precipitation in mm  
 DP = departure of mean temperature from normal in degree C  
 SOG = snow depth on ground in cm, last day of the period

DIR = direction of maximum wind speed (deg. from true north)  
 SPD = maximum wind speed in km/hour

X = not observed

P = value based on less than 7 days

\* = missing