

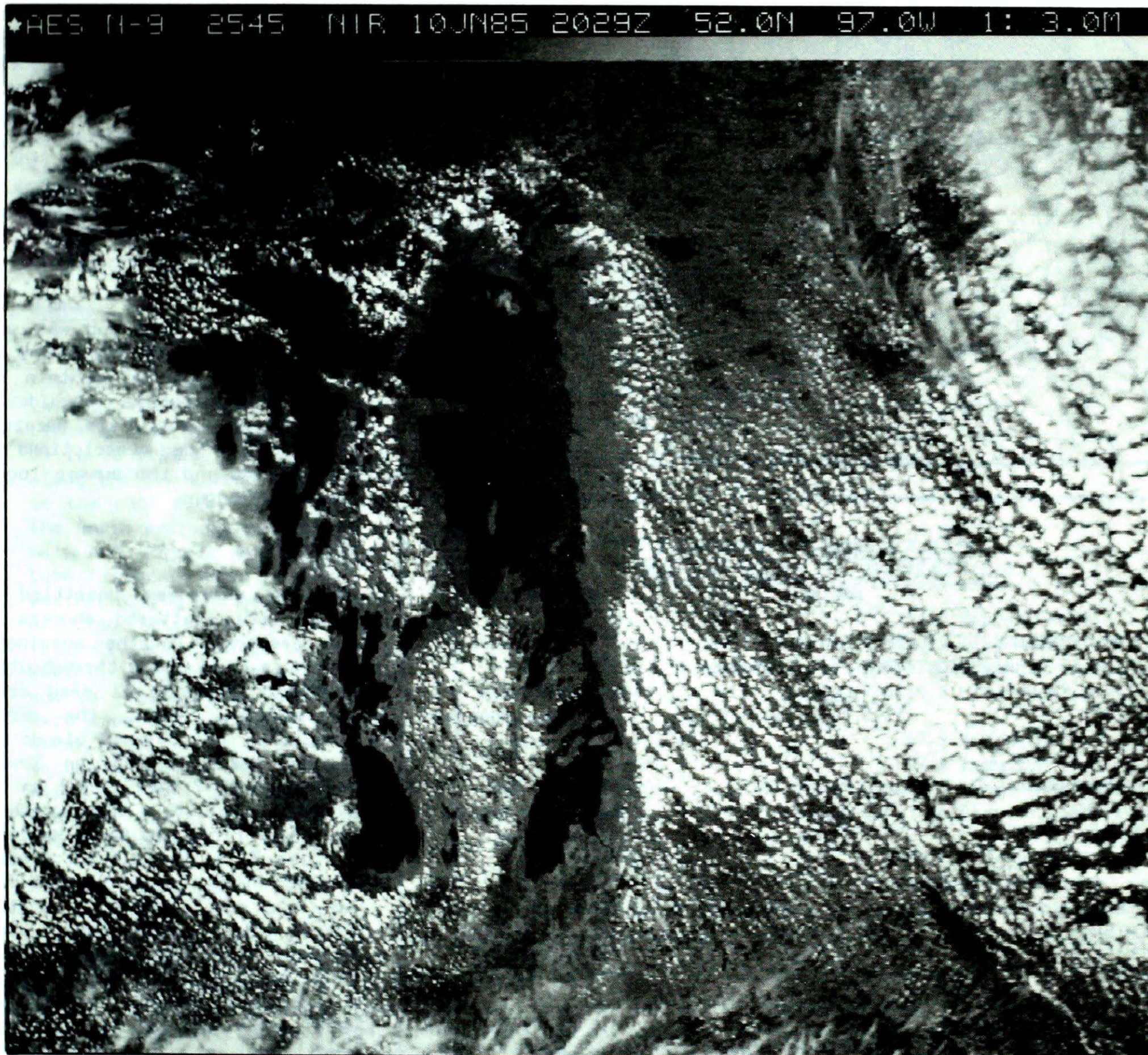


# Climatic Perspectives

A weekly review of Canadian climat

June 4 to 10, 1985

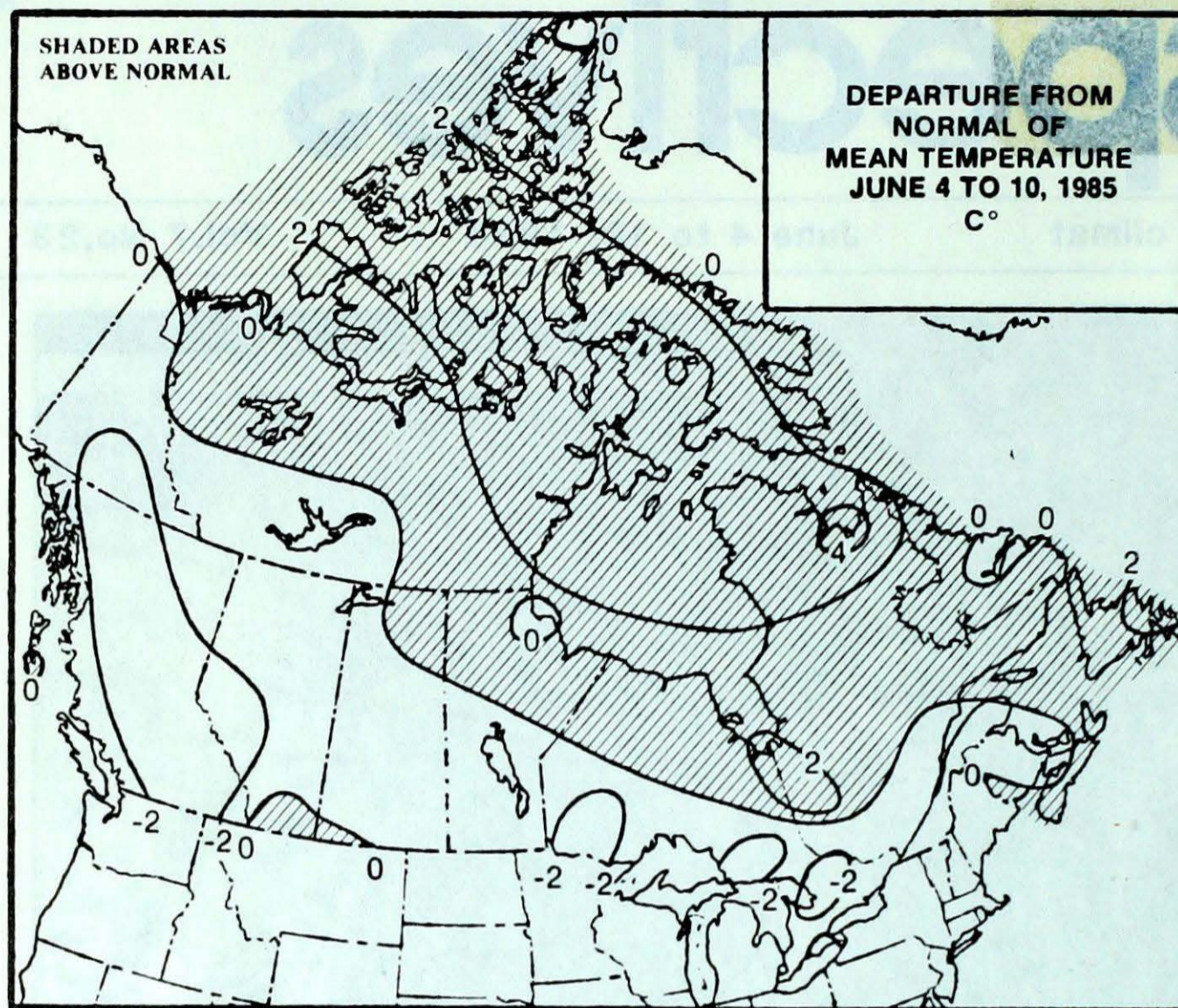
Vol.7 No.23



This NOAA 9 satellite image of June 10, 1985 graphically illustrates the lake breeze effect around the large lakes of Manitoba. See page 3 for more detail.

- ***Blinding Prairie dust storm***
  - Farmers forced to reseed crops
  - Violent winds cause extensive damage
- ***Drenching rains in Atlantic Canada***

# TEMPERATURE



## ACROSS THE COUNTRY...

### Yukon and Northwest Territories

In the Yukon, the week began sunny and warm, with daytime readings climbing to the mid to high twenties. By mid-week it was cool and wet. Many locations in the Yukon and Mackenzie District received between 15 and 50 millimetres of rain. Frost warnings were issued. In contrast, many maximum temperature records were broken in the Arctic. The Dempster Highway to Inuvik was officially open to traffic for the first time this year.

### British Columbia

It was a dull and wet week. Cooler temperatures reduced the risk of flooding due to mountain snow melt. Precipitation considerably lowered the forest fire hazard in the interior. Road restrictions have been lifted and the summer logging season has begun.

### Prairies

The week was unsettled and cool, with scattered showers and thunderstorms. On the morning of June 4, a heavy frost throughout the southeast damaged oil seed crops; at Rosetown, Sask., the mercury dropped to  $-5^{\circ}\text{C}$ . Funnel clouds were sighted near Saskatoon on June 5, and north of Prince Albert on June 6. Also on June 6, a tornado touched down near Piney, southern Manitoba. On June 8, a vigorous low pressure system, which tracked towards James Bay, was associated with hurricane force winds, which swept across southern Saskatchewan and Manitoba. Winds during the afternoon on June 8 were clocked between 70 and 100 km/h with gusts to 130 km/h, causing heavy soil erosion, and damaging buildings and transmission lines. The resultant dust storm severely damaged newly seeded crops. Visibilities were reported near zero in many areas and the sky was obscured for hours. Farmers will have to re-seed many of the crops. Two planes were forced to make emergency landings because of the dust, while others were diverted to other airports.

### WEEKLY TEMPERATURE EXTREMES ( $^{\circ}\text{C}$ )

	MAXIMUM	MINIMUM
YUKON TERRITORY	28.5 Dawson	- 3.4 Komakuk Beach
NORTHWEST TERRITORIES	28.0 Fort Simpson	-10.5 Alert
BRITISH COLUMBIA	26.9 Lytton	- 3.7 Mackenzie
ALBERTA	31.5 Medicine Hat	- 2.0 Rocky Mountain House
SASKATCHEWAN	30.0 Moose Jaw	- 5.0 Rosetown
MANITOBA	28.2 Brandon	- 2.2 Grand Rapids
ONTARIO	30.5 Windsor	- 3.0 Nagagami Timmins
QUÉBEC	25.6 Kuujjuarapik	- 3.0 Border
NEW BRUNSWICK	27.4 Chatham	1.8 St. Stephen
NOVA SCOTIA	25.6 Shelburne	2.7 Greenwood
PRINCE EDWARD ISLAND	21.5 Summerside	5.5 Charlottetown
NEWFOUNDLAND	25.5 Comfort Cove	- 1.3 Churchill Falls

### ACROSS THE NATION

Warmest mean temperature	18.9	Windsor, ONT
Coollest mean temperature	- 3.5	Alert, NWT

### Ontario

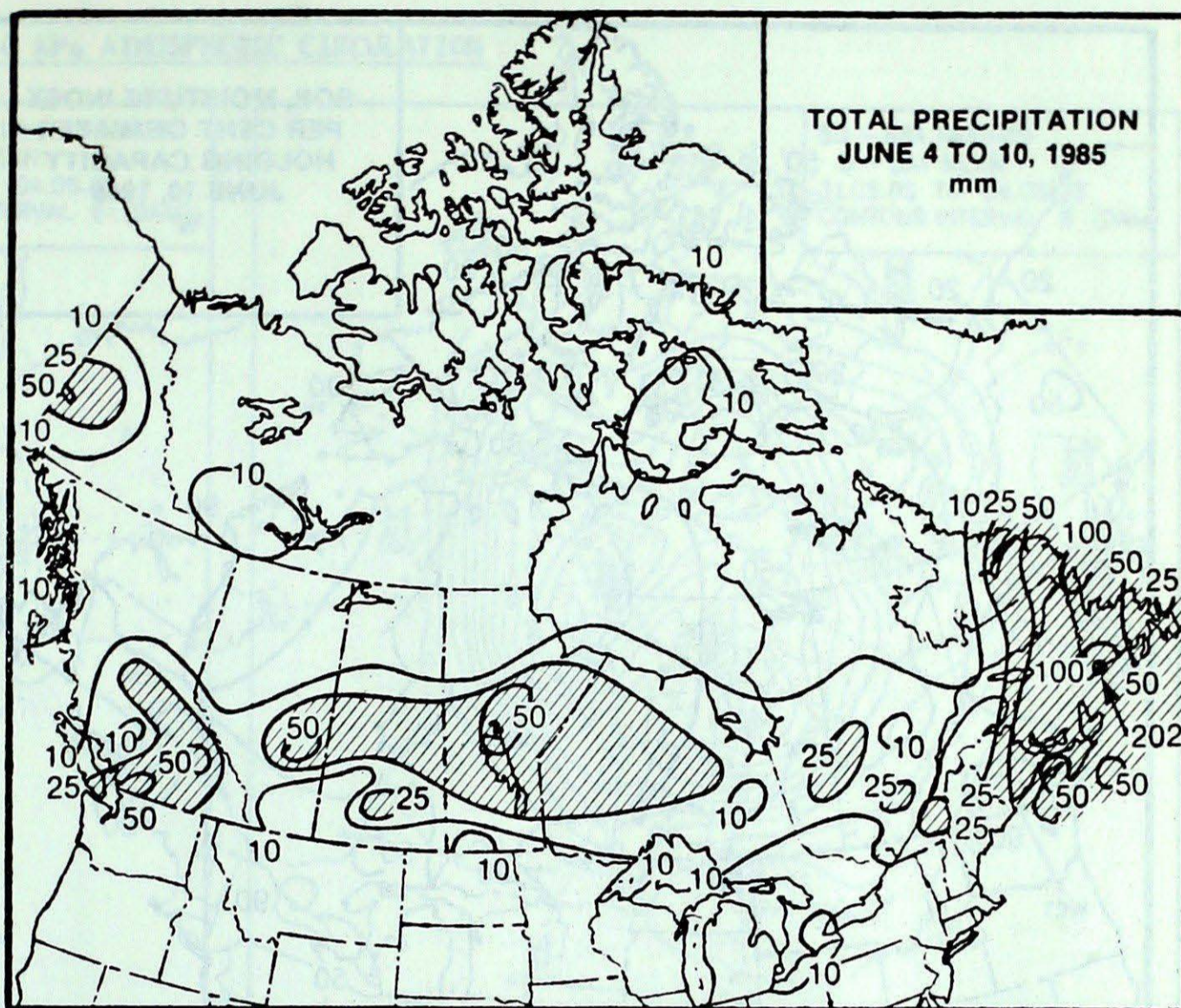
It was a typical late spring week. The weather was relatively uneventful when compared to the previous period. Temperatures were cool at first, but gradually climbed to above normal values. The mercury soared to 31°C at Windsor during the weekend. Precipitation was relatively light in the south, mainly in the form of scattered showers and thundershowers. Rainfalls were substantially higher in central and northern Ontario. Dust from the prairie storm reached southern Ontario on June 9, partially obscuring the sun during the evening hours.

### Québec

Significant amounts of rain fell during the middle of the week in the southern and eastern portions of the province, as much as 35 to 50 millimeters. Temperatures along the St. Lawrence Valley were on the cool side, but readings in the north averaged well above normal, and several maximum temperature records were broken. Dry weather during the month of May has affected the strawberry crop in the Trois-Rivières District. A frost early in the week caused some damage to tobacco. Eight forest fires were reported burning in the province, covering an area of 2,279, hectares. This brings the total of fires so far this season to 430 compared to 349 last year, during the same period.

### Atlantic Provinces

The weather was changeable in the Maritimes, while in Newfoundland it was cloudy and wet. A slow moving disturbance brought heavy rain to the Maritimes on June 6. Amounts ranged from 30 to 60 millimetres; there were numerous reports of flooded streets and basements. Farmers once again had to delay their spring field work. In Newfoundland the first part of the period was excessively wet. Totals for the week ranged from 50 to 200 millimetres. Rainfall for the month of June to-date has already, in many instances, surpassed the normal amounts for the whole month.



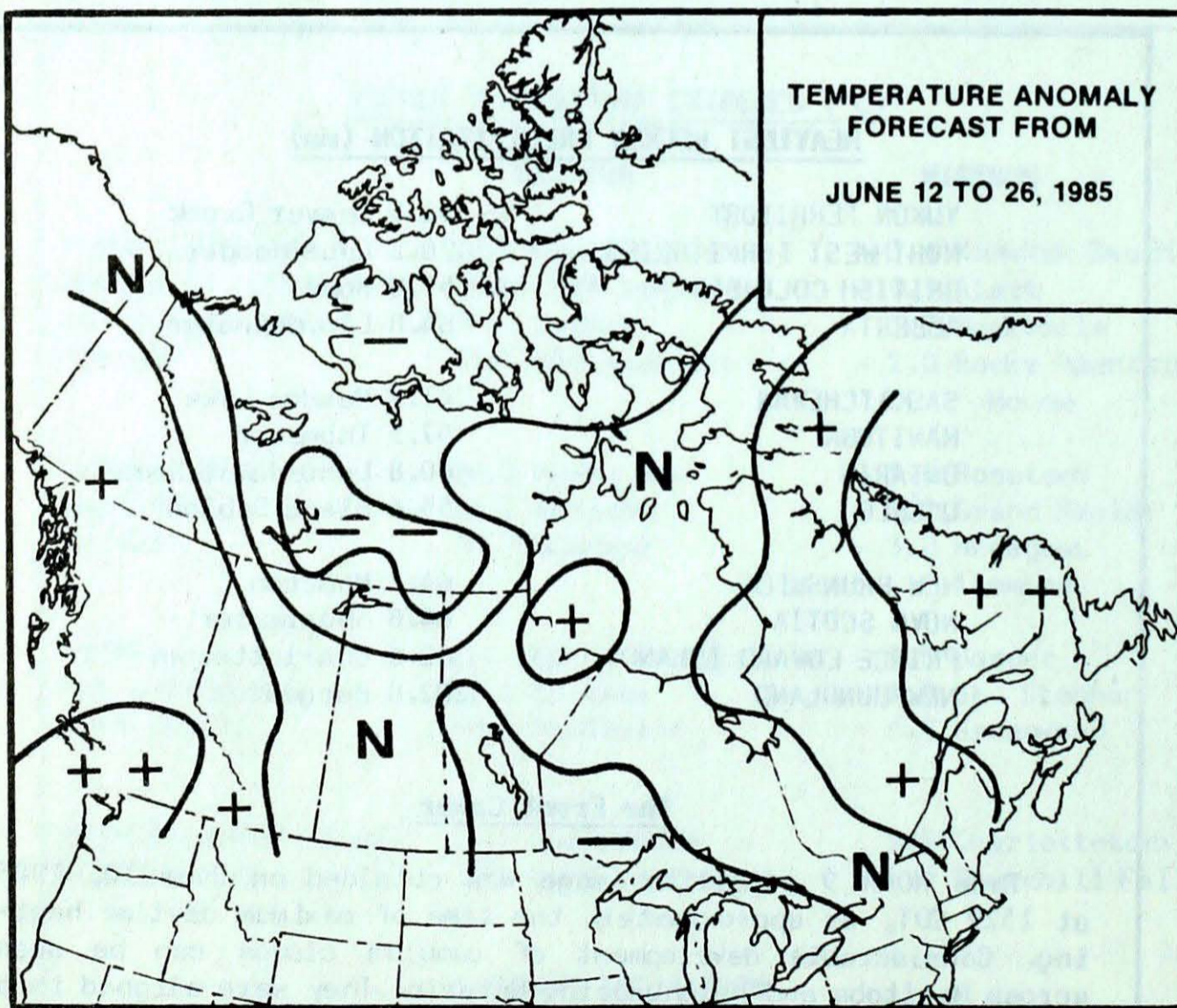
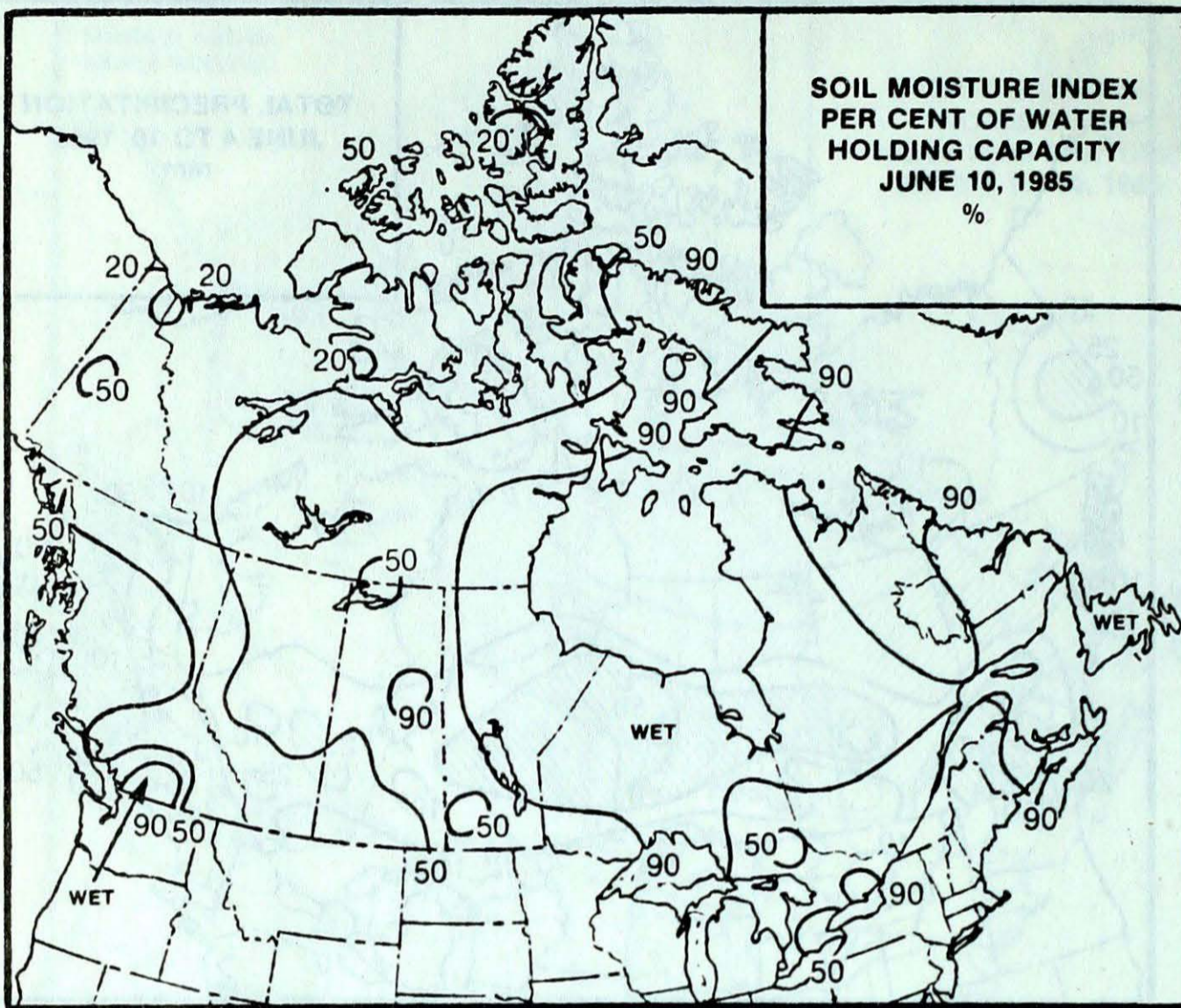
### HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON TERRITORY	51.5 Beaver Creek
NORTHWEST TERRITORIES	20.2 Cape Hooper
BRITISH COLUMBIA	57.0 Hope
ALBERTA	64.8 Lloydminster
SASKATCHEWAN	47.9 Meadow Lake
MANITOBA	57.5 Thompson
ONTARIO	40.8 Landsdowne House
QUÉBEC	53.6 Blanc Sablon
NEW BRUNSWICK	64.2 Moncton
NOVA SCOTIA	64.8 Shearwater
PRINCE EDWARD ISLAND	62.6 Charlottetown
NEWFOUNDLAND	202.0 Burgeo

### The Front Cover

This NOAA 9 satellite image was obtained on June 10, 1985 at 1529 CDT, or approximately the time of maximum daytime heating. Considerable development of cumulus clouds can be seen across Manitoba and neighbouring Ontario. They were aligned into "streets" by the wind and were formed in convective updrafts over the warm land area. However, the cool surface temperature of Lakes Winnipeg, Manitoba, and Winnipegosis inhibit the convective process and skies over the lakes and their surrounding shores remained clear. The effect of such lake breezes is an important factor in modifying the climate of adjacent land areas, and has a substantial impact upon recreational activities, agriculture, and the behaviour of air pollutants.

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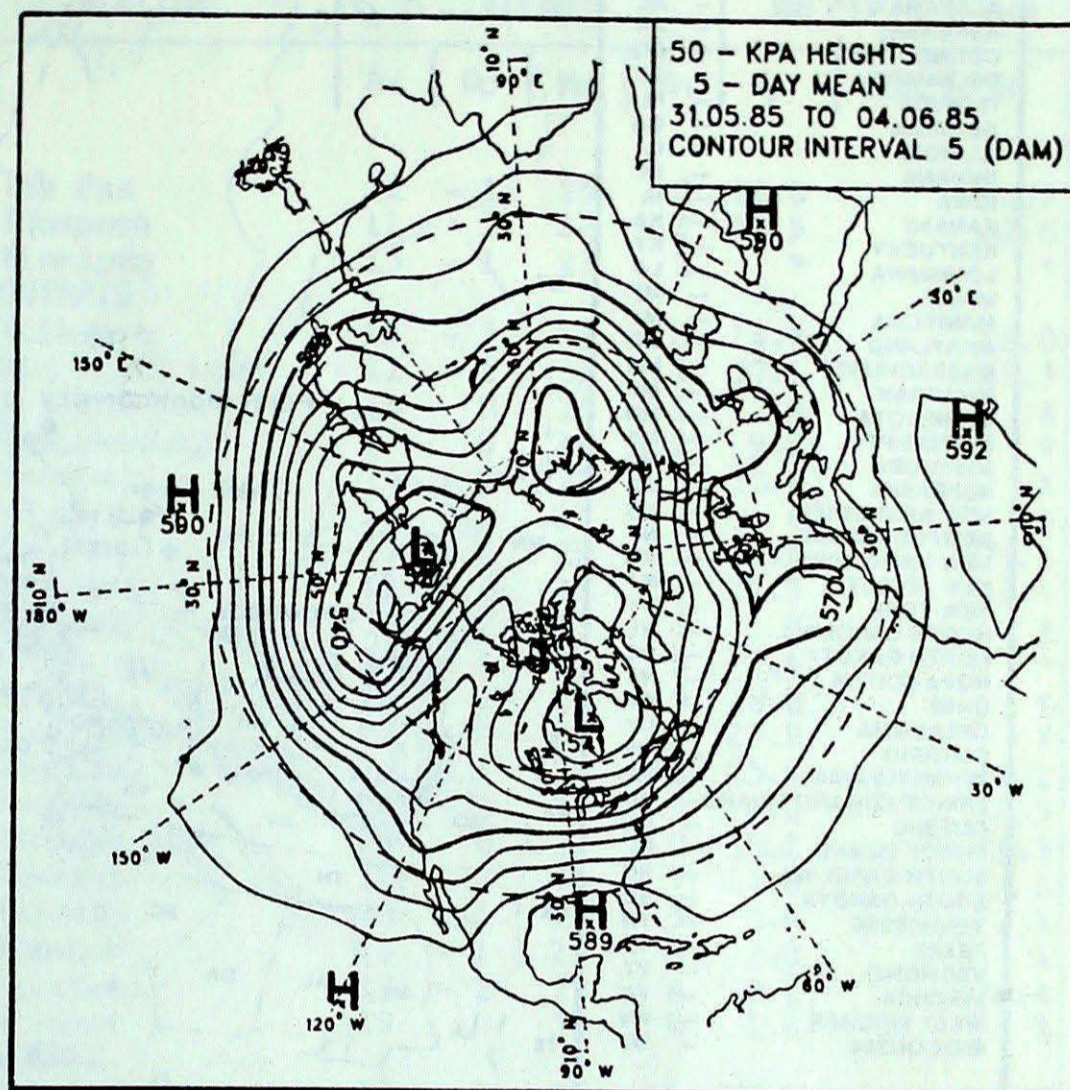
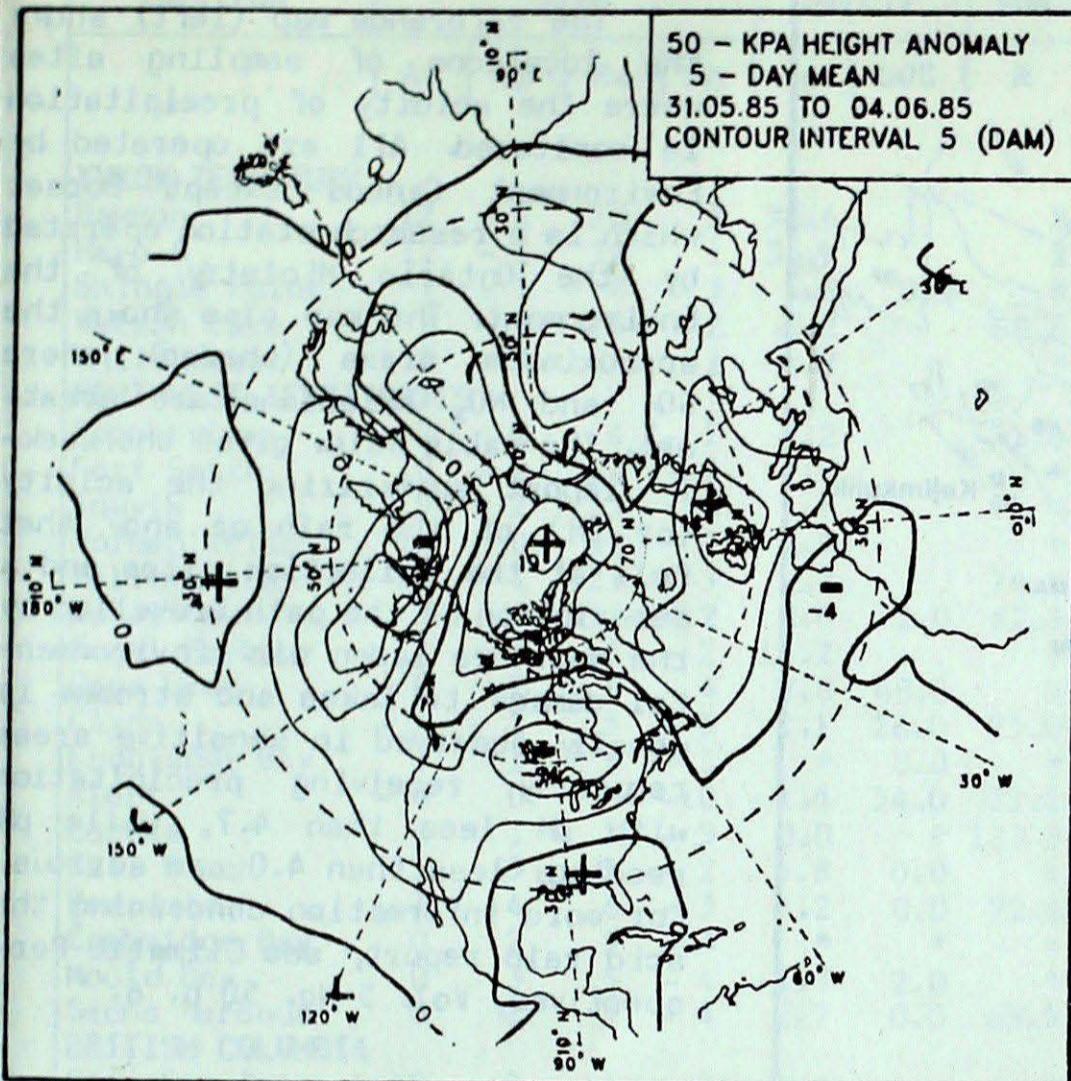
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The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic weather stations. Information concerning climatic impacts is gathered from AES contacts with the public and from the media. Articles do not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

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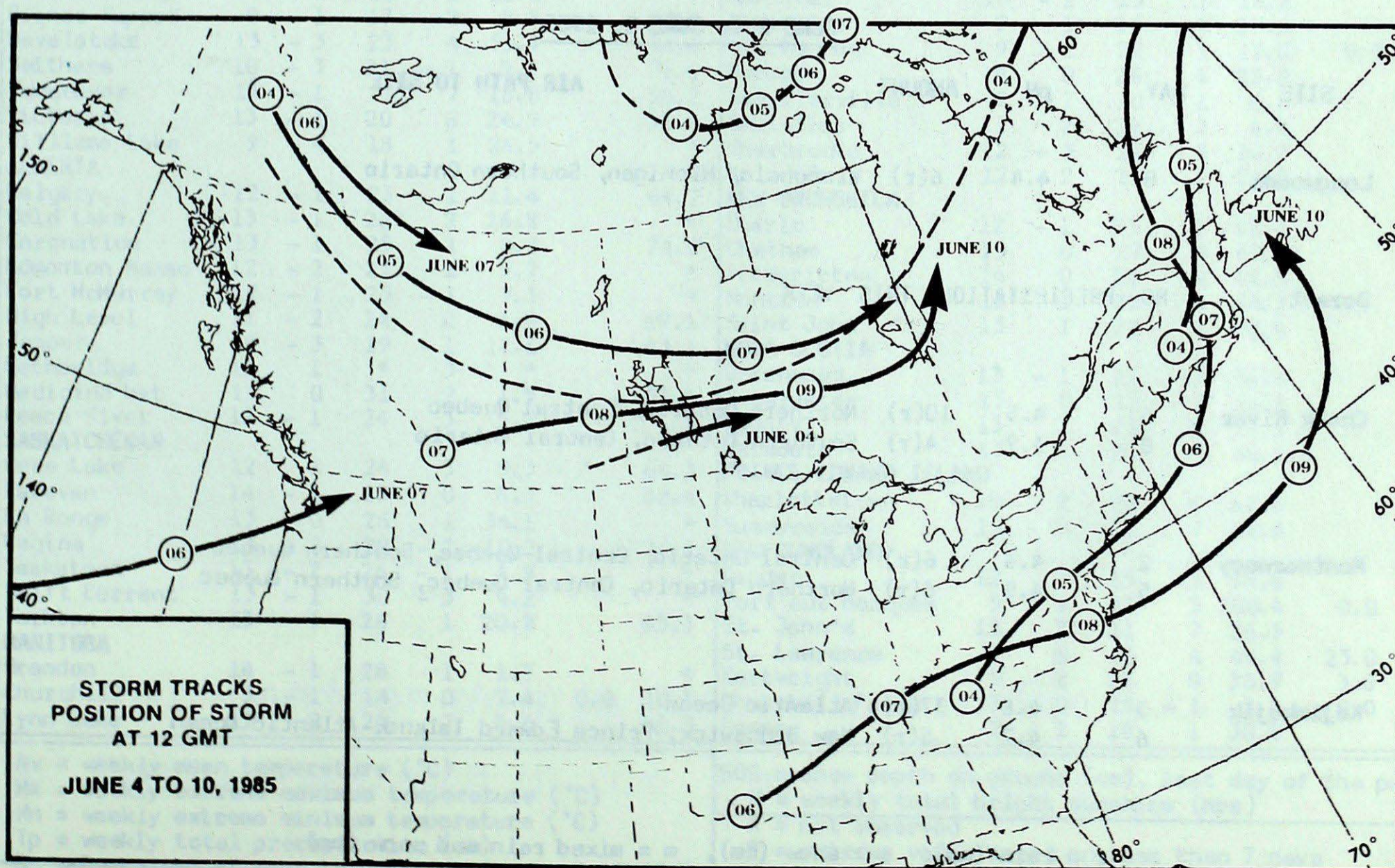
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**50 KPa ATMOSPHERIC CIRCULATION**

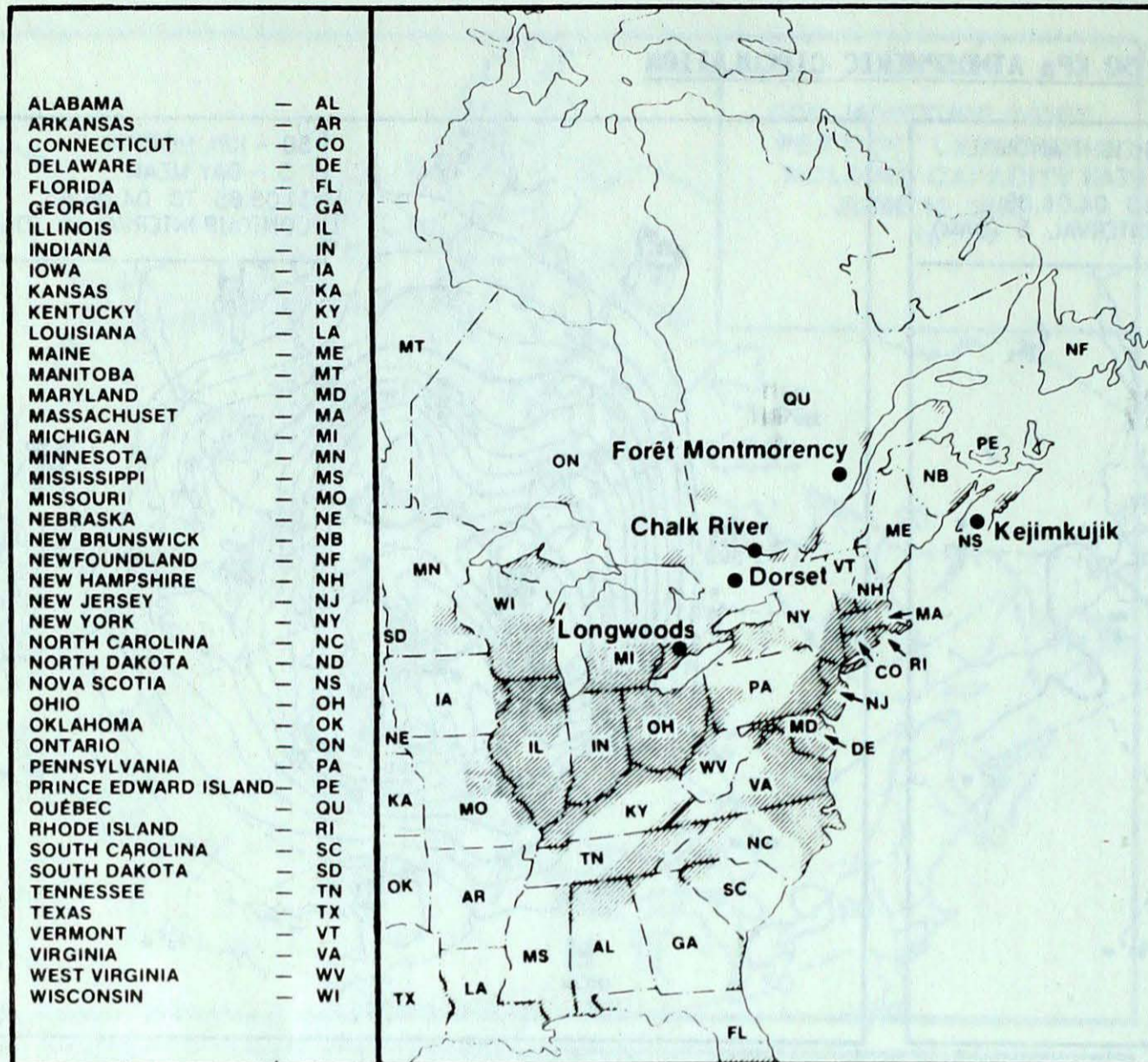


MEAN 50 KPa HEIGHT ANOMALY (dam)  
May 31 to June 4, 1985

MEAN 50 KPa HEIGHTS (dam)  
May 31 to June 4, 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<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 2 to JUNE 8, 1985

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	8	4.4	6(r)	Wisconsin, Michigan, Southern Ontario
Dorset	NO PRECIPITATION THIS WEEK			
Chalk River	5	4.5	10(r)	Northern Ontario, Central Quebec
	8	3.9	4(r)	Southern Ontario, Central Ontario
Montmorency	2	4.6	6(r)	Central Ontario, Central Quebec, Southern Quebec
	5	4.9	6(r)	Northern Ontario, Central Quebec, Southern Quebec
Kejimikujik	5	4.8	37(r)	Atlantic Ocean
	6	4.7	6(r)	New Brunswick, Prince Edward Island, Atlantic Ocean

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 JUNE 11, 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	12	-1	28	3	30.6		X	The Pas	12	-1	25	0	28.8		66.3
Mayo A	12	-1	28	1	35.1		X	Thompson	11	1	23	-2	57.5		62.8
Shingle Point	1	-1	8	-3	3.0	0.0	*	Winnipeg	15	-1	27	2	*		*
Watson Lake	9	-3	26	-2	0.2		60.8	<b>ONTARIO</b>							
Whitehorse	9	-3	22	1	1.7		*	Atikokan	11	-3	25	0	14.4		58.0
<b>NORTHWEST TERRITORIES</b>															
Coppermine	2	0	6	-1	2.2		55.0	Big Trout Lake	11	-1	21	1	37.1		45.3
Fort Smith	10	-2	26	-2	1.0		*	Earlton	14	0	24	1	*		X
Inuvik	9	2	23	0	*		*	Kapuskasing	13	0	24	-2	9.2		*
Norman Wells	12	0	27	2	2.9		*	Kenora	13	-2	25	4	10.8		X
Yellowknife	10	-1	21	3	1.2		74.6	Kingston	14	-1	23	7	*		*
Baker Lake	3	3	12	-2	0.0	2.0	62.3	London	17	-1	28	5	9.4		71.1
Coral Harbour	2	2	7	-2	13.2		*	Moosonee	12	2	25	2	22.3		41.5
Cape Dyer	0	2	8	-4	8.8	48.0	X	Muskoka	13	-2	25	3	*		X
Clyde	-1	-1	5	-5	2.1	26.0	23.0	North Bay	14	-1	22	5	9.4		*
Frobisher Bay	3	1	9	-1	*	0.0	*	Ottawa	16	-1	25	9	18.8		*
Alert	-4	0	5	-10	1.4	34.0	72.8	Pickle Lake	12	0	23	2	27.8		X
Eureka	0	1	5	-5	0.0	*	113.2	Red Lake	12	-1	22	2	25.2		48.2
Hall Beach	1	3	5	-2	5.8	0.0	X	Sudbury	14	-2	24	3	4.2		60.5
Resolute	1	4	6	-3	1.2	0.0	92.6	Thunder Bay	13	0	27	0	10.2		74.3
Cambridge Bay	0	2	3	-3	*	*	*	Timmins	12	-2	24	-3	14.6		X
Mould Bay	0	3	5	-4	1.7	2.0	*	Toronto	16	-1	28	3	0.4		X
Sachs Harbour	0	2	5	-4	2.7	0.0	63.9	Trenton	16	-1	27	6	2.0		X
<b>BRITISH COLUMBIA</b>								<b>WIARTON</b>							
Cape St. James	10	0	14	7	4.6		*	Windsor	19	0	30	9	1.6		X
Cranbrook	12	-3	21	5	13.8		48.7	<b>QUEBEC</b>							
Fort Nelson	12	-1	26	0	3.2		79.0	Bagotville	13	0	25	-1	17.0		X
Fort St. John	11	-2	21	2	4.4		X	Blanc-Sablon	6	1	14	1	53.6		*
Kamloops	15	-3	25	7	25.8		55.6	Inukjuak	6	4	19	-1	6.2	0.0	32.4
Penticton	14	-2	24	5	36.2		50.3	Kuujuaq	9	4	23	1	0.8	4.0	52.6
Port Hardy	11	-1	19	5	8.1		*	Kuujuarapik	13	9	26	-1	2.8		36.6
Prince George	10	-2	18	-2	12.8		*	Maniwaki	14	0	24	1	7.4		57.9
Prince Rupert	9	-1	17	2	8.5		67.4	Mont-Joli	12	0	24	2	12.2		68.1
Revelstoke	13	-3	23	4	53.7		36.6	Montréal	16	-1	23	7	16.2		55.8
Smithers	10	-3	21	-1	9.1		71.6	Natashquan	9	1	16	4	29.6		44.9
Vancouver	14	-1	21	7	18.8		50.2	Nitchequon	9	2	22	-1	12.0	0.0	65.3
Victoria	13	-1	20	6	24.9		58.2	Québec	14	0	26	4	20.0		52.3
Williams Lake	9	-4	18	1	26.5		*	Schefferville	7	1	20	-1	0.8		68.3
<b>ALBERTA</b>								<b>NEW BRUNSWICK</b>							
Calgary	12	-1	23	1	11.4		64.7	Charlo	12	-1	25	2	12.4		52.3
Cold Lake	13	-1	26	2	26.2		*	Chatham	13	0	27	4	62.4		54.4
Coronation	13	-1	25	1	8.8		74.0	Fredericton	14	0	26	4	48.5		*
Edmonton Namao	12	-2	23	2	9.7		*	Moncton	12	-1	25	4	64.2		48.1
Fort McMurray	12	-1	25	-1	7.3		*	Saint John	13	1	22	4	50.6		50.6
High Level	11	-2	24	0	1.9		69.1	<b>NOVA SCOTIA</b>							
Jasper	9	-3	19	-1	12.6		43.1	Greenwood	13	-1	25	3	38.8		X
Lethbridge	15	1	*	3	*		*	Shearwater	13	0	22	7	64.8		*
Medicine Hat	15	0	31	2	1.5		81.4	Sydney	13	1	23	6	58.6		*
Peace River	12	-1	24	3	5.7		X	Yarmouth	13	1	22	7	60.6		40.6
<b>SASKATCHEWAN</b>								<b>PRINCE EDWARD ISLAND</b>							
Cree Lake	12	X	24	3	9.3		64.3	Charlottetown	10	-2	20	6	62.6		*
Estevan	14	-1	29	0	8.3		82.4	Summerside	12	0	22	7	58.0		39.7
La Ronge	13	0	26	1	34.1		*	<b>NEWFOUNDLAND</b>							
Regina	13	-2	29	-2	10.2		74.1	Gander	12	3	25	5	39.8		17.4
Saskatoon	13	-2	26	-1	4.8		*	Port aux Basques	9	1	15	5	100.4	0.0	*
Swift Current	13	-1	30	-3	4.2		*	St. John's	12	3	21	7	26.5		*
Yorkton	13	-1	26	1	20.8		83.3	St. Lawrence	7	0	16	4	46.4	23.0	X
<b>MANITOBA</b>								<b>CARTWRIGHT</b>							
Brandon	14	-1	28	1	1.7		*	Churchill Falls	7	0	18	-1	1.2	0.0	50.7
Churchill	3	-1	14	0	2.4	0.0	30.1	Goose	7	-2	18	1	30.8		28.2
Lynn Lake	11	0	24	-2	5.6		56.3								

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