



Environment  
Canada

Environnement  
Canada

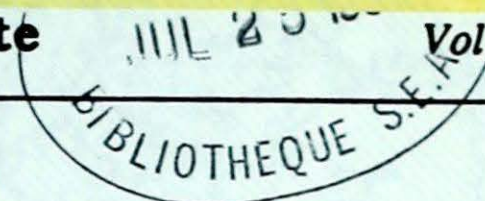
# Climatic Perspectives

MONTHLY  
SUPPLEMENT  
INCLUDED

July 12 to 18, 1988

A weekly review of Canadian climate

Vol. 10 No. 29



Environment  
Canada

Environnement  
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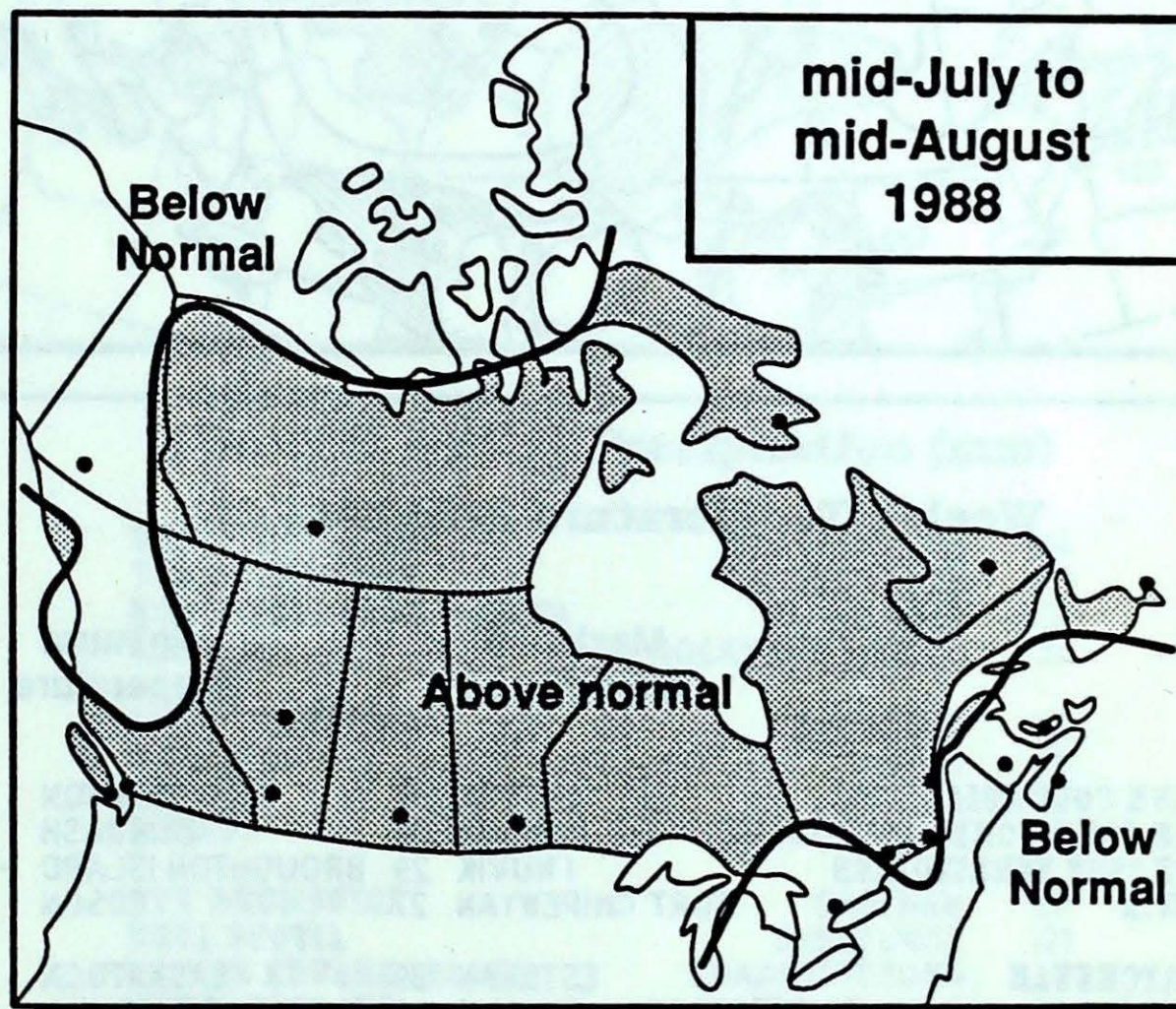
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## MONTHLY TEMPERATURE FORECAST

*Normal temperatures for  
mid-July to mid-August, °C*

Whitehorse	13	Toronto	20
Yellowknife	15	Ottawa	20
Iqaluit	7	Montreal	20
Vancouver	17	Quebec	18
Victoria	16	Fredericton	19
Calgary	16	Halifax	18
Edmonton	16	Charlottetown	18
Regina	18	Goose Bay	15
Winnipeg	19	St. John's	15



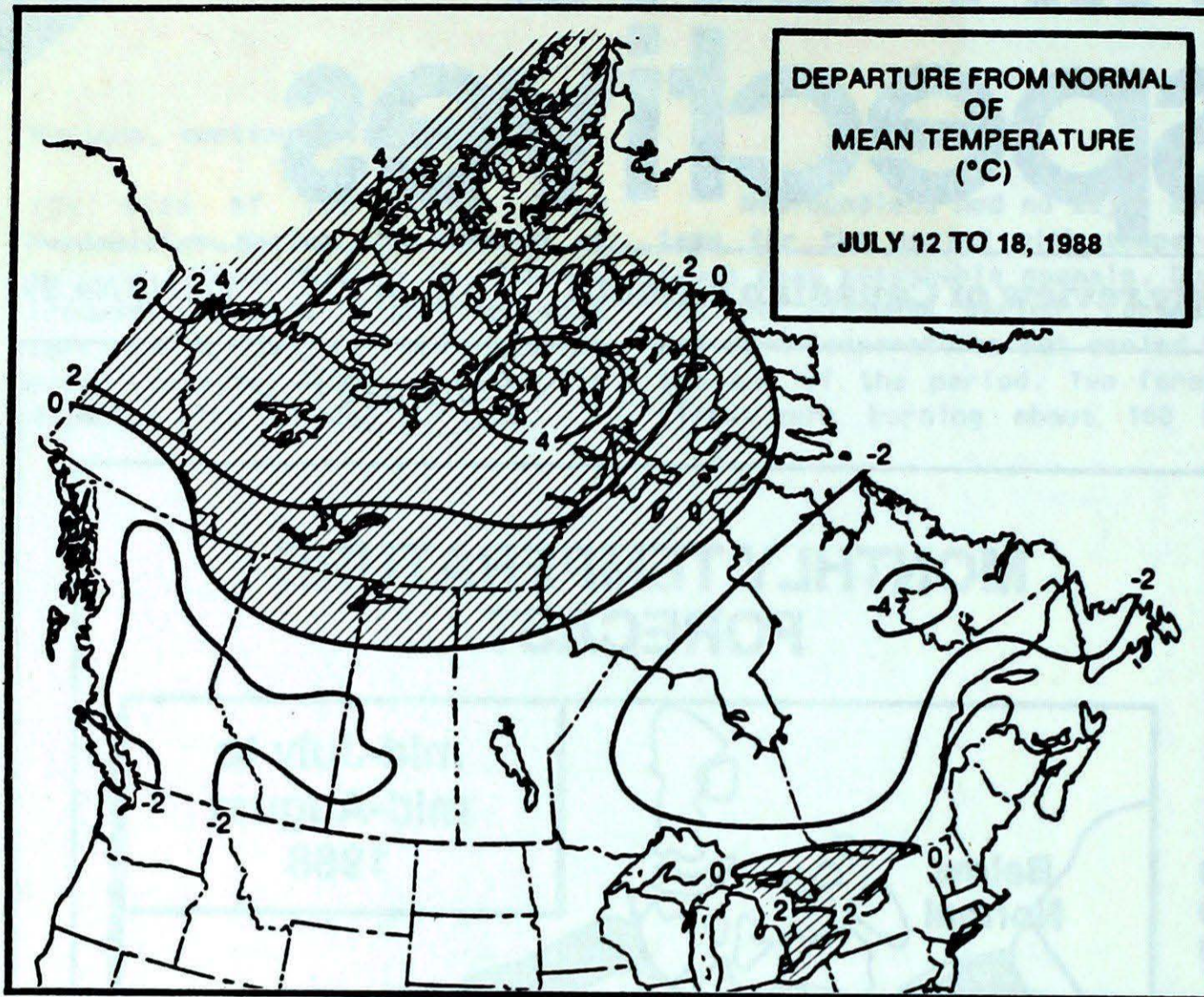
# Canada

In May 1988, the first official monthly temperature forecast was made public, and is now available at all A.E.S. weather centres and offices in a map version transmitted on the national facsimile network, and a text version on the national telecommunications network.

### ● *Unsettled weather across Canada*

- Deluges in the northwest
- Drought relief in southern Ontario

Canada



### Across the country...

#### Yukon and Northwest Territories

In the Yukon and NWT, temperatures were above normal except in the southern Yukon and eastern Baffin Island.

Cloudy, cool and wet conditions prevailed for the southern Yukon with record amounts of rainfall reported by most stations (see page 3). The heaviest precipitation, 71.1 mm, fell at Watson Lake. A weak stationary low over the northern tip of Quebec kept the skies mainly cloudy over southern Baffin Island and gave a few periods of rain over eastern Baffin Island. On July 12, while Resolute had a record maximum temperature 16.6°C, Iqaluit (Frobisher Bay) experienced a record minimum of -0.8°C.

#### British Columbia

Once again the weather story was cool and wet throughout the province. Heavy rain and thunderstorms pounded the north with copious amounts of precipitation. See page 3 for further details. On the 12th, a funnel cloud or possible tornado, associated with a heavy thunderstorm, was reported just west of Fort Nelson. By the weekend, sunshine and warm temperatures returned, much to the relief of everyone.

#### Prairie Provinces

It was a cool, showery week across Alberta with several record daily minimum temperatures near 5°C in northern Alberta on the 14th and further south on the 15th. Up to 100 basements were flooded in Wetaskwin when 76 mm of rain fell in a three-hour thunderstorm on July 12th. On the 14th, a mini tornado destroyed buildings on a farm near Athabasca.

Tornadoes were also reported in Saskatchewan on July 14th with several reports from Saskatoon. On the 16th, there were several waterspouts observed on the southern end of Lake Winnipegosis. The central parts of Saskatchewan received enough rainfall to push them a little closer to their normal accumulation to date.

### Weekly Temperature extreme (°C)

	Maximum temperature	Minimum temperature
<b>BRITISH COLUMBIA</b>	LYTTON 34	CLINTON 1
<b>YUKON TERRITORY</b>	DAWSON 32	BURWASH 3
<b>NORTHWEST TERRITORIES</b>	INUVIK 29	BROUGHTON ISLAND -3
<b>ALBERTA</b>	FORT CHIPEWYAN 27	EDSON 2
<b>SASKATCHEWAN</b>	ESTEVAN 29	SASKATOON 1
<b>MANITOBA</b>	PORTAGE LA PRAIRIE 29	CHURCHILL 1
	WINNIPEG INT'L	
<b>ONTARIO</b>	WINDSOR 38	MOOSONEE 1
<b>QUEBEC</b>	MONTREAL INT'L 31	LA GRANDE RIVIERE 2
<b>NEW BRUNSWICK</b>	CHATHAM 30	CHARLO 8
<b>NOVA SCOTIA</b>	SYDNEY 29	SYDNEY 8
<b>PRINCE EDWARD ISLAND</b>	SUMMERSIDE 28	CHARLOTTETOWN 8
<b>NEWFOUNDLAND</b>	DEER LAKE 29	DEER LAKE 2

#### Across the nation

<b>WARMEST MEAN TEMPERATURE</b>	26	WINDSOR	ONT
<b>COOLEST MEAN TEMPERATURE</b>	3	CAPE HOOPER	NWT

**Ontario**

Crucial farming areas of southwestern and southern Ontario received heavy rain last week which at least temporarily allowed a reprieve from the drought. For the week, Sarnia recorded 115 mm of which, 86 mm fell on July 17th, breaking the all-time one day record for July. Intense lightning, hail and high winds knocked down trees and interrupted electrical services from London to Niagara Falls on the afternoon and evening of July 16th. Regarding the hot summer, Toronto city has endured 7 days with maximums above 35°C. The greatest number of days above 35°C prior to this year was 6, during the infamous hot summer of 1936.

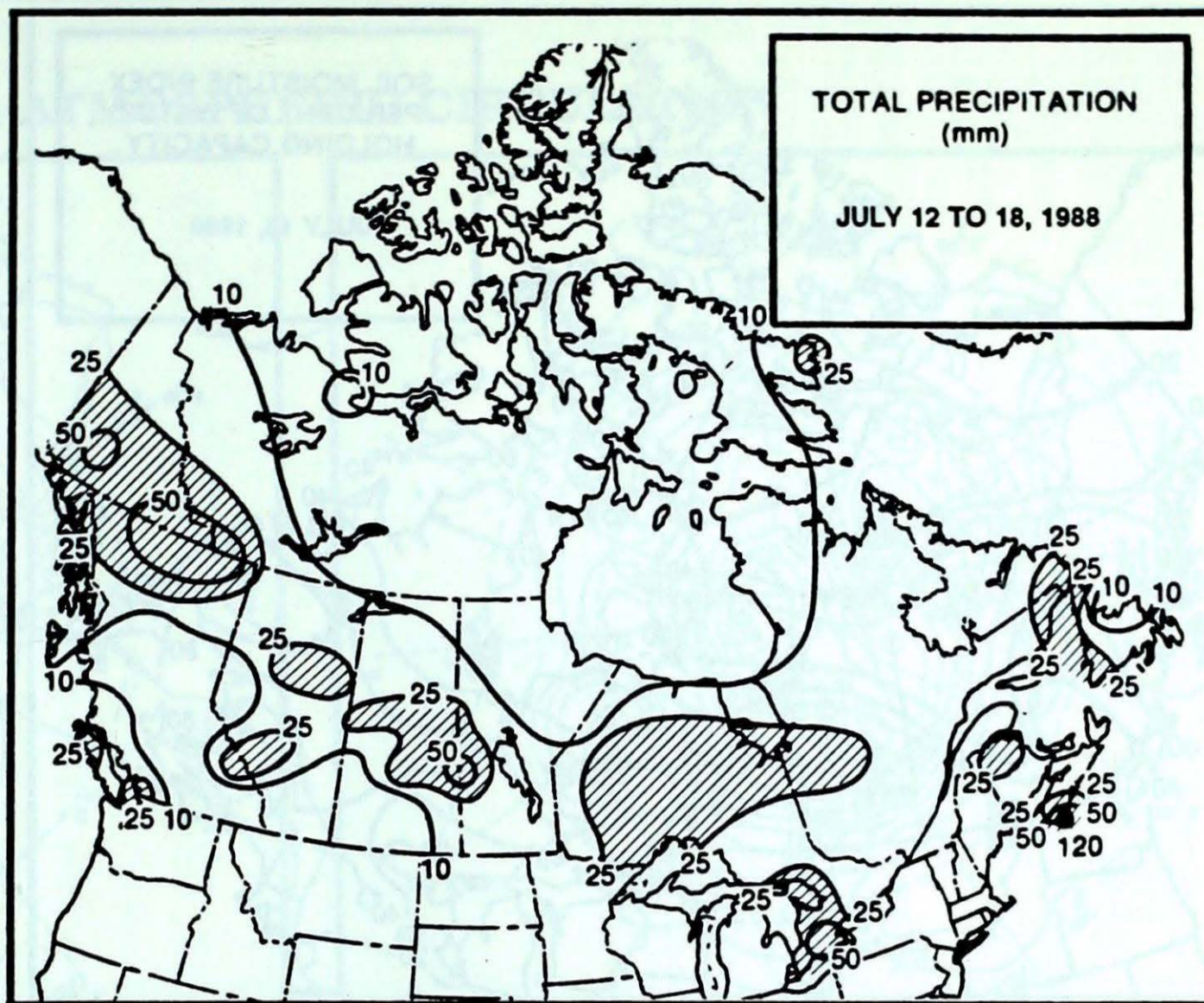
**Quebec**

The heat wave of the preceding week gave way to considerably cooler temperatures which dropped maximum daily temperatures to the low 20's at the middle of the period over southern Quebec. Nonetheless, there was considerable sunshine in this region and precipitation was light. On July 14th, one year after the famous deluge at Montreal, some thunderstorms occurred over southwestern Quebec. At St-Marc-des-Carrières, located half-way between Quebec City and Trois-Rivières, wind damage to roofs was reported.

**Atlantic Provinces**

Unsettled weather dominated the Maritimes this week. Showers caused a wide variety of rainfall amounts ranging from 121.1 mm at Shelburne, N.S. to only 5.7 mm at Saint John, N.B. Thunderstorms again this week highlighted the weather. On the 12th, storms knocked out more than 20 hydro transformers in the Yarmouth N.S. area. Overall though, temperatures averaged near normal.

In Newfoundland, the week began with warm, humid air until a sharp cold front arrived Tuesday night. Frequent thunderstorms with this front dumped as much as 60 mm at Springdale in Western Newfoundland. Labrador was generally cool due to a northeasterly onshore flow. Record daily low maximums were set at both Hopedale and Cartwright.

**Heaviest Weekly Precipitation (mm)**

<b>BRITISH COLUMBIA</b>	FORT NELSON	54
<b>YUKON TERRITORY</b>	WATSON LAKE	71
<b>NORTHWEST TERRITORIES</b>	CAPE DYER	31
<b>ALBERTA</b>	ROCKY MTN. HOUSE	35
<b>SASKATCHEWAN</b>	LA RONGE	46
<b>MANITOBA</b>	THE PAS	24
<b>ONTARIO</b>	LONDON	62
<b>QUEBEC</b>	BLANC SAELON	41
<b>NEW BRUNSWICK</b>	CHATHAM	28
<b>NOVA SCOTIA</b>	SHELBURNE	121
<b>PRINCE EDWARD ISLAND</b>	CHARLOTTETOWN	13
<b>NEWFOUNDLAND</b>	STEPHENVILLE	70

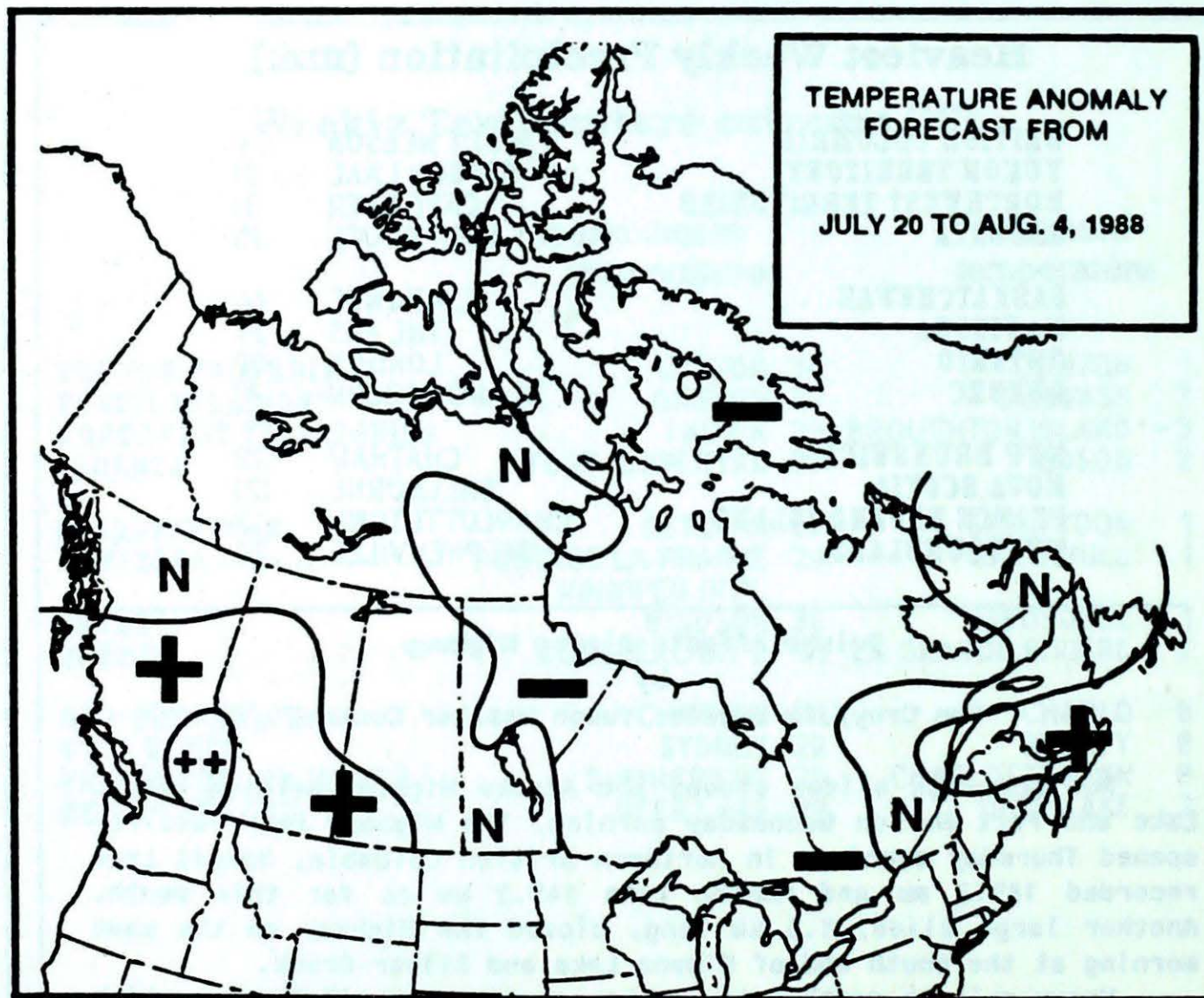
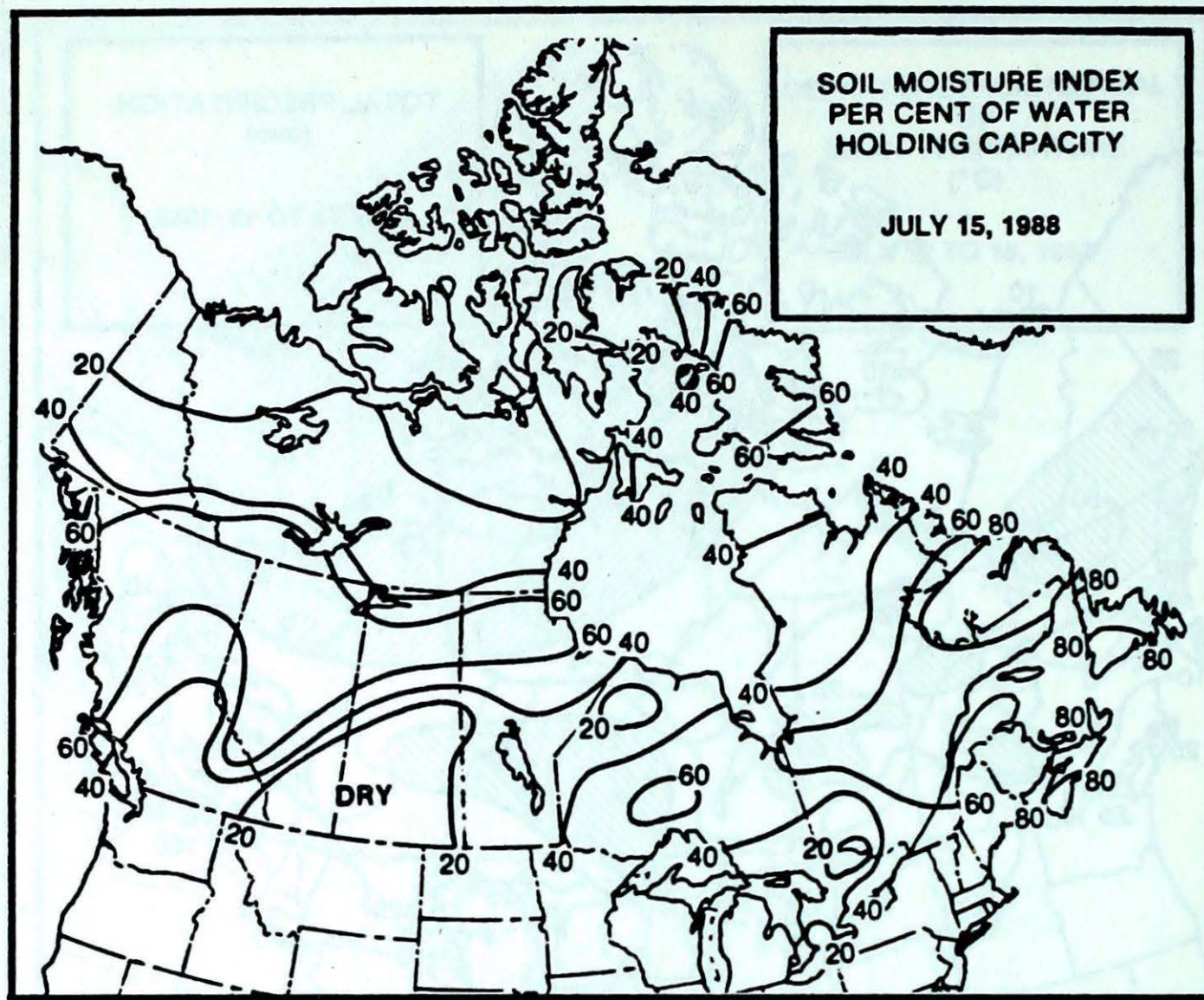
**Deluge Affects Alaska Highway**

by

Ron Croy/Jim Steele, Yukon Weather Centre

Mud and rock slides closed the Alaska Highway between Watson Lake and Fort Nelson Wednesday morning. The Highway there was re-opened Thursday evening. In northern British Columbia, Summit Lake recorded 185.3 mm and Muncho Lake 149.2 mm so far this month. Another large slide, 1.5 km long, closed the Highway on the same morning at the south end of Kluane Lake and Silver Creek.

Heavy rain in southwestern Yukon continued until Friday, which prevented the Highway from reopening, but by Saturday the weather system responsible for the precipitation moved into northern British Columbia. Sunday at 04:00 p.m. the Highway officially re-opened. Some flooding was reported at Destruction Bay. As of July 18th, the Highway from Haines Junction to Beaver Creek was at risk because of high water levels in the creeks and rivers.



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

**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.

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 VOLUME 10**

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ISBN 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, Ontario, Canada M3H 5T4

(416) 739-4438/4436

The purpose of the publication is to make topical information available to the public concerning the Canadian Climate and its socio-economic impact.

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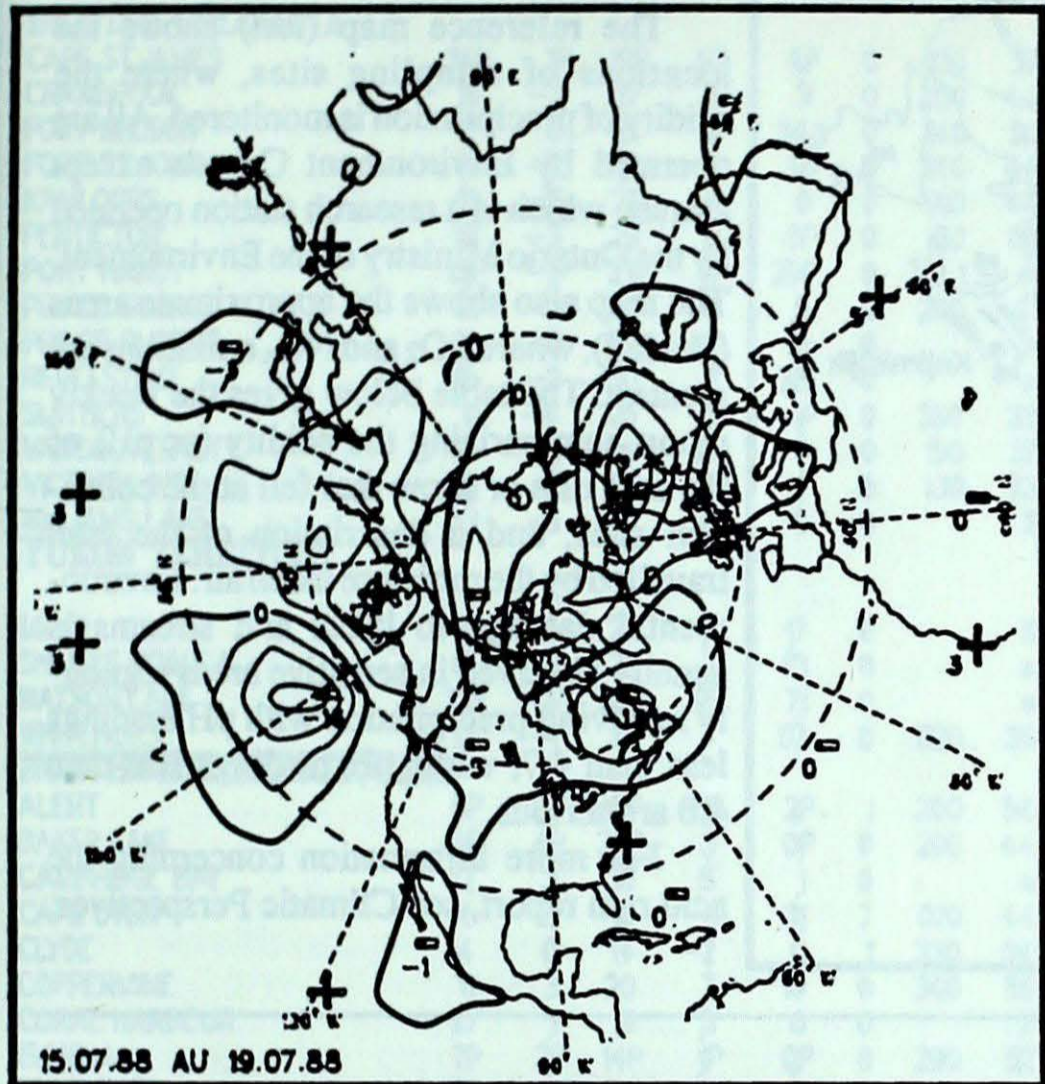
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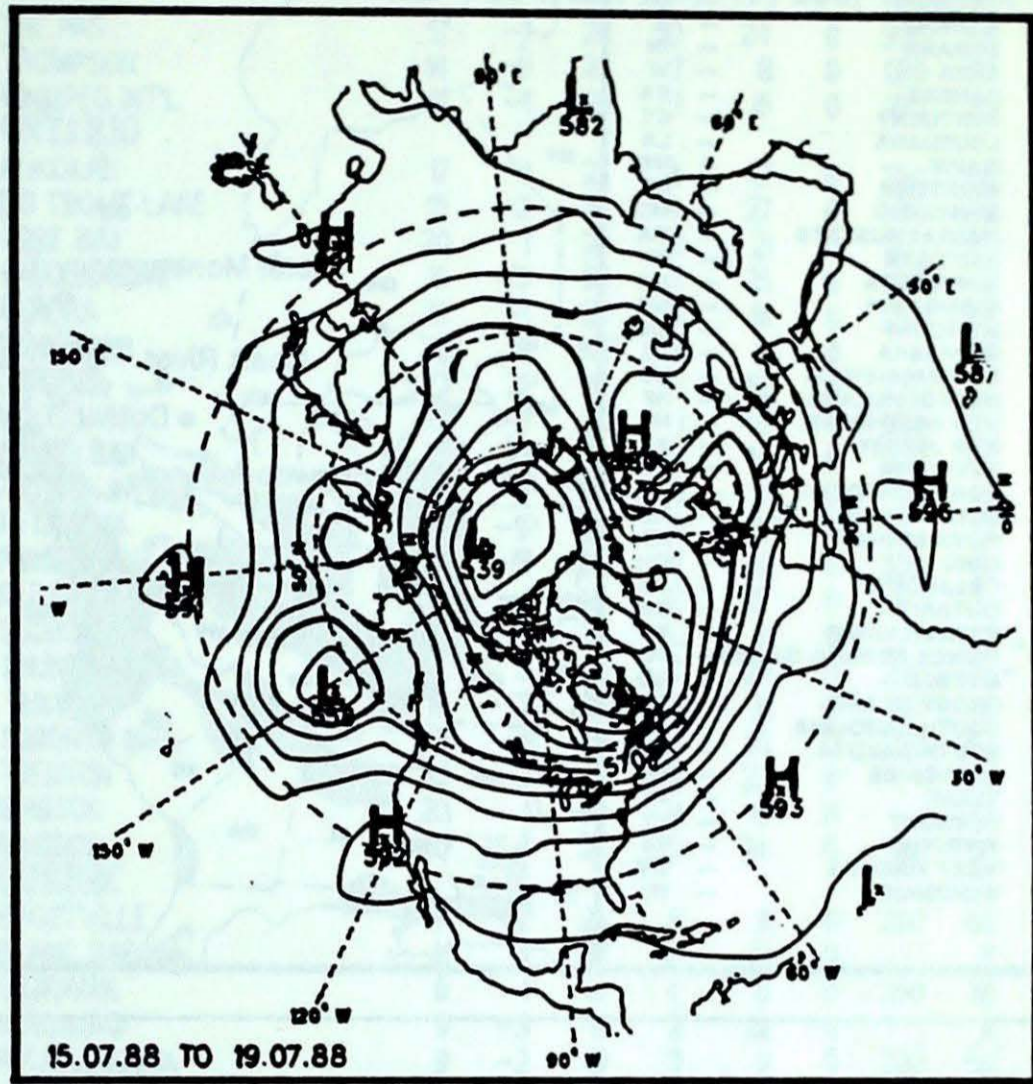
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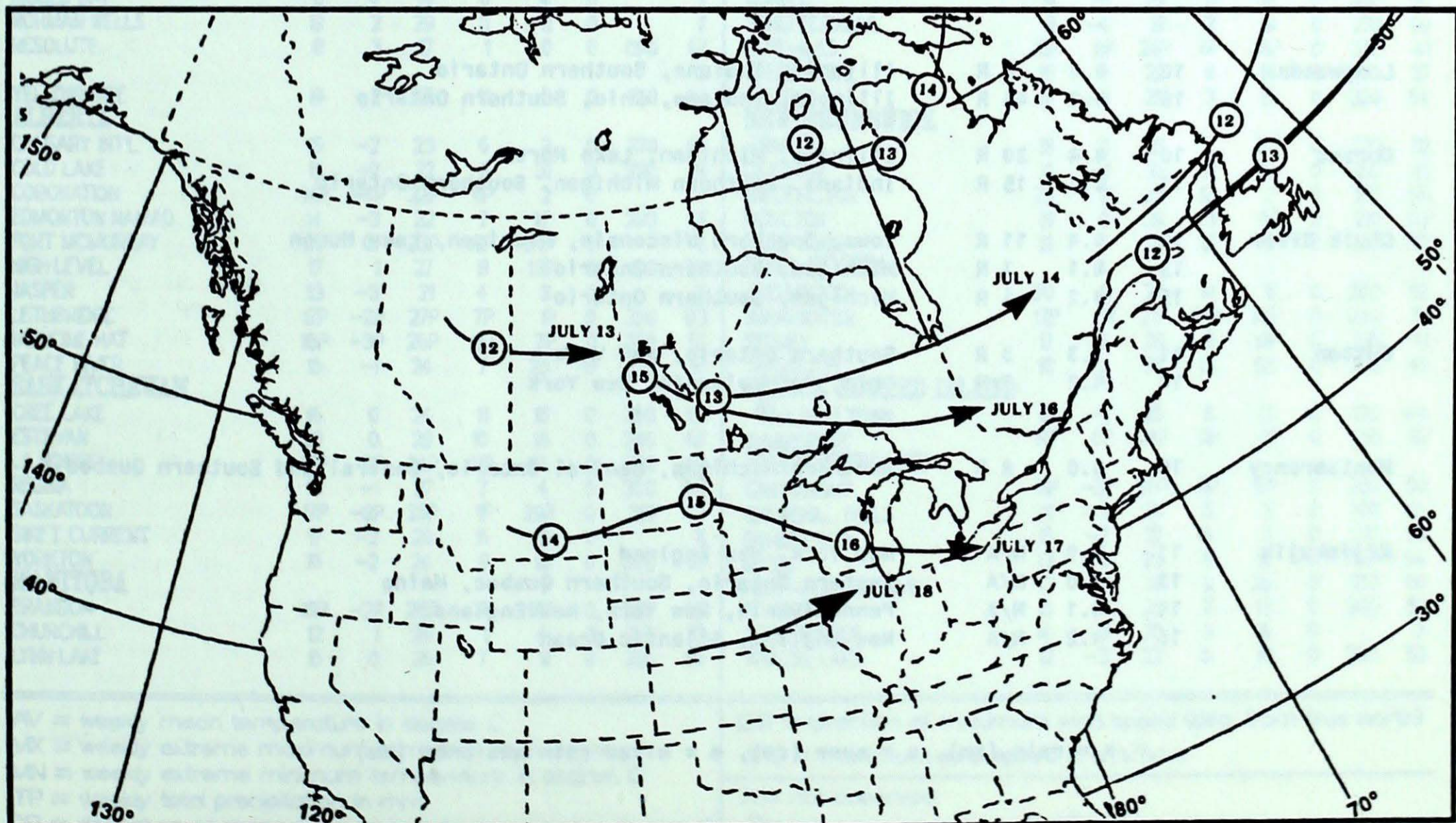
### 50 kPa ATMOSPHERIC CIRCULATION



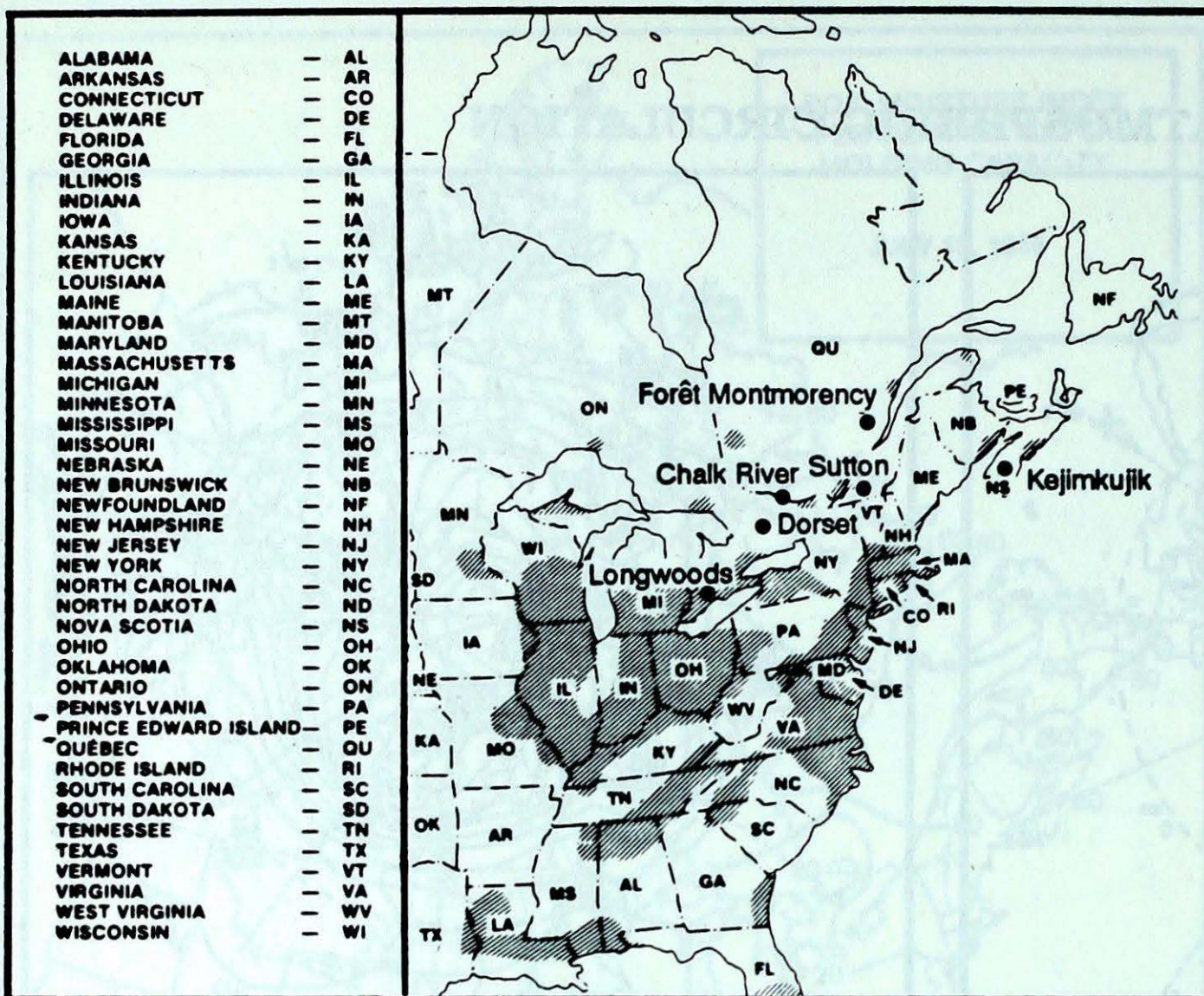
Mean geopotential height anomaly  
50 kPa level (5 decameter intervals)



Mean geopotential height  
50 kPa level (5 decameter intervals)



Storm track - Position of storm at 12 GMT during the period: July 12 to 18, 1988



**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 acid 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 readings less than 4.7, while pH readings less than 4.0 are serious.

For more information concerning the acid rain report, see Climatic Perspectives,

JULY 10 TO JULY 16, 1988

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	10	4.8	8 R	Illinois, Indiana, Southern Ontario
	16	4.2	48 R	Illinois, Indiana, Ohio, Southern Ontario
Dorset	10	4.4	30 R	Illinois, Michigan, Lake Huron
	13	4.1	15 R	Indiana, Southern Michigan, Southern Ontario
Chalk River	10	4.4	11 R	Iowa, Southern Wisconsin, Michigan, Lake Huron
	13	4.1	1 R	Michigan, Southern Ontario
	15	4.2	6 R	Michigan, Southern Ontario
Sutton	11	3.3	3 R	Southern Ontario, New York
	14	4.2	9 R	Ohio, Pennsylvania, New York
Montmorency	10	4.0	8 R	Northern Michigan, Central Ontario, Central and Southern Quebec
Kejimikujik	11	3.9	N/A	New York, New England
	13	4.0	N/A	Eastern Ontario, Southern Quebec, Maine
	14	4.1	N/A	Pennsylvania, New York, New England
	16	4.2	N/A	New England, Atlantic Ocean

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

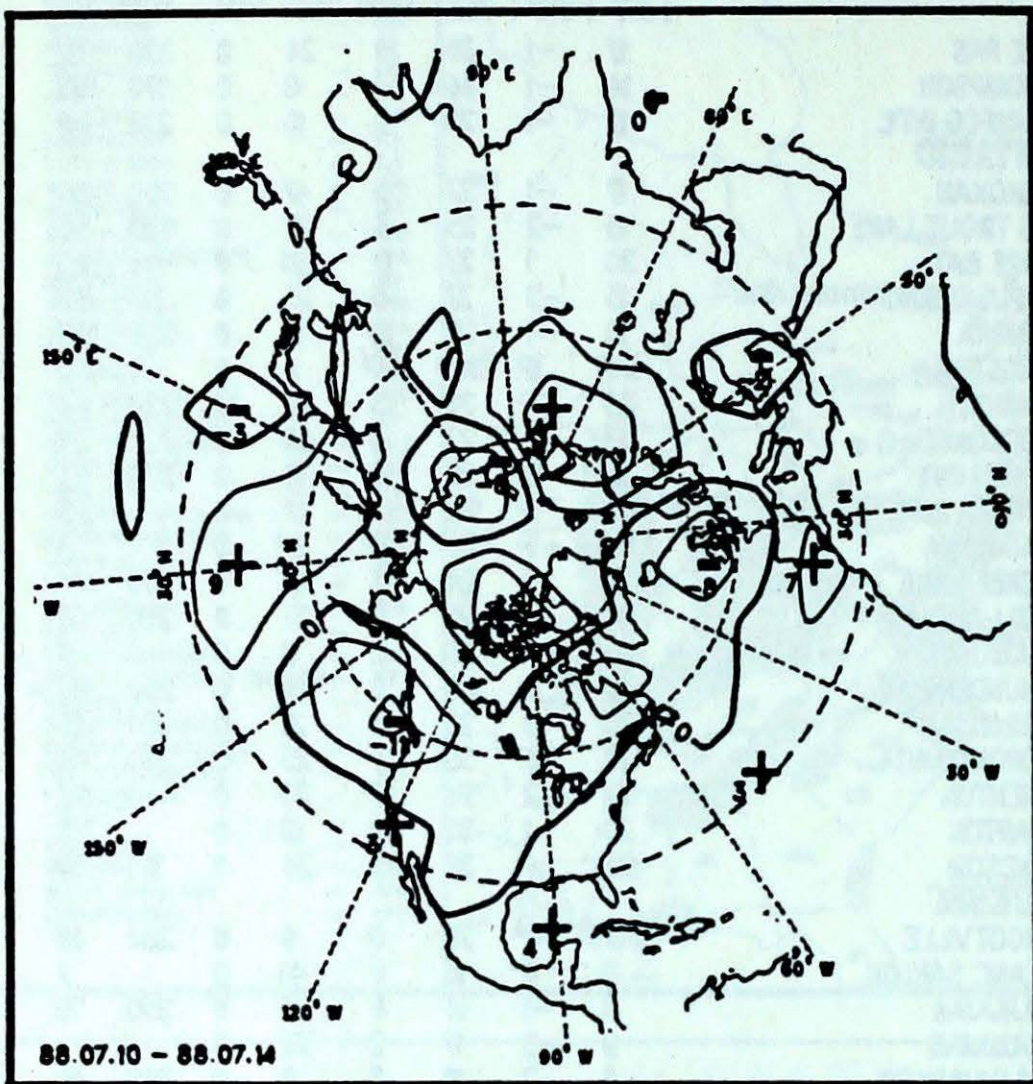
TEMPERATURE, PRECIPITATION AND MAXIMUM WIND DATA FOR THE WEEK ENDING 0600 GMT JULY 19, 1988

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	7	-1	26	10	24	0	330	52
CAPE ST. JAMES	14P	1P	19P	9P	6P	0	130	37	THOMPSON	14	-1	24	2	8	0	070	56
CRANEPOOK	16	-2	27	6	3	0	200	44	WINNIPEG INTL	19	-1	29	9	16	0	270	63
FORT NELSON	7	0	27	9	54	0	140	59	<b>ONTARIO</b>								
FORT ST. JOHN	14	-2	24	8	17	0	240	44	ATKOKAN	7	-1	27	5	47	0	260	56
KAMLOOPS	18	-3	29	9	0	0	210	44	BIG TROUT LAKE	15	-2	25	4	27	0	030	50
PENTICTON	18	-3	29	8	6P	0	180	56	GORE BAY	20	1	27	12	21	0	190	60
PORT HARDY	13P	-1P	21P	7P	29P	0	*	*	KAPUSKASING	15	-3	27	6	25	0	310	43
PRINCE GEORGE	13	-3	24	4	5	0	200	41	RENORA	19	-1	26	12	16	0	280	46
PRINCE RUPERT	12	0	20	8	10	0	*	*	KINGSTON	21P	1P	30P	13P	*	0	*	*
REVELSTOKE	16	-2	30	8	38	0	*	*	LONDON	23	2P	36	13	62	0	230	44
SMITHERS	11	-4	26	3	1P	0	350	33	MOOSONEE	13	-3	23	1	46	0	330	33
VANCOUVER INTL	16	-1	24	10	7	0	150	37	NORTH BAY	18	0	26	10	14	0	300	44
VICTORIA INTL	16	-1	29	8	4	0	130	33	OTTAWA INTL	21	1P	30	13	10	0	*	*
WILLIAMS LAKE	13	-3	27	4	8	0	*	*	PETAWAWA	19P	-1P	31P	7P	8P	0	*	*
<b>YUKON TERRITORY</b>									PICKLE LAKE	16	-1	24	7	19	0	300	46
MAYO	18	3	27	7	7	0	*	X	RED LAKE	18	-1	25	8	37	0	260	37
SHINGLE POINT A	14	2	22	7	13	0	*	*	SUDEBURY	20	1	29	11	11	0	*	X
WATSON LAKE	15P	0P	25P	9P	71	0	*	*	THUNDER BAY	7	0	29	6	25	0	280	94
WHITEHORSE	13	-1	23	7	57	0	020	35	TIMMINS	15	-3	28	5	21	0	180	46
<b>NORTHWEST TERRITORIES</b>									TORONTO INTL	23	2P	35	14	25	0	340	44
ALERT	6P	2P	15P	-1P	2P	1	200	54	TRENTON	23	2	34	12	23	0	*	X
BAKER LAKE	15P	4P	23P	3	0P	0	290	44	WARTON	20	1	30	9	19	0	*	X
CAMBRIDGE BAY	12	3	18	5	1	0	*	*	WINDSOR	26	4	38	15	24	0	310	59
CAPE DYER	4	-1	10	-1	31	7	070	44	<b>QUEBEC</b>								
CLYDE	4	0	14	-2	0	1	330	54	BAGOTVILLE	17	-2	26	8	9	0	280	48
COPPERMINE	11	3	20	7	10	0	340	56	BLANC SAERON	11	*	18	6	41	0	*	X
CORAL HARBOR	10	1	19	3	6	0	*	X	INUKJUAQ	8	-1	14	4	5	0	350	78
EUREKA	7P	2P	14P	1P	0P	0	290	52	KUJUAJUAQ	9	-3	17	2	22	0	*	X
FORT SMITH	17P	1P	25P	10P	7P	0	*	X	KUJUAJARAPIK	9	-2	19	3	9	0	290	50
IQALUIT	6	-1	14	-1	5	0	080	39	MANIWAKI	18	-1	29	7	13	0	300	39
HALL BEACH	7	2	16	2	0	0	360	33	MONT JOLI	7	0	27	9	13	0	240	46
INUVIK	17	2	29	5	14	0	*	X	MONTREAL INTL	21	-1	31	10	3	0	340	37
MOULD BAY	8	4	14	0	4	0	*	X	NATASHQUAN	14	0	21	7	2	0	170	67
NORMAN WELLS	19	2	29	11	11	0	*	X	QUEBEC	19	-1	29	11	18	0	280	50
RESOLUTE	8	3	17	1	0	0	090	67	SCHIEFFERVILLE	9	-4	19	2	19	0	270	69
YELLOWKNIFE	19	2	27	11	5	0	310	44	SEPT-ILES	15P	0P	26P	6P	18P	0	320	41
<b>ALBERTA</b>									SHERBROOKE	18	0	29	9	16	0	310	37
CALGARY INTL	15	-2	23	6	2	0	270	65	VAL D'OR	14	-3	25	3	15	0	320	54
COLD LAKE	15	-2	22	6	31	0	280	70	<b>NEW BRUNSWICK</b>								
CORONATION	14P	-4P	22P	6P	2	0	*	*	CHARLO	18	0	28	8	27	0	220	52
EDMONTON NAMAO	14	-3	22	7	14	0	290	67	CHATHAM	19	-1	30	11	28	0	280	61
FORT McMURRAY	17P	0P	23P	10P	34P	0	*	X	FREDERICTON	20	1P	29	12	2	0	180	56
HIGH LEVEL	17	1	27	8	13P	0	120	50	MONCTON	19	0	29	11	6P	0	210	63
JASPER	13	-3	21	4	3	0	*	X	SANT JOHN	19	1	29	12	9	0	200	52
LETHBRIDGE	17P	-2P	27P	7P	1P	0	250	83	<b>NOVA SCOTIA</b>								
MEDICINE HAT	18P	-3P	26P	8P	7P	0	290	52	GREENWOOD	20	0	27	10	6	0	300	52
PEACE RIVER	15	-1	24	7	25	0	250	37	SHEARWATER	17P	0P	27P	10P	24P	0	240	35
<b>SASKATCHEWAN</b>									SYDNEY	7	-2	29	8	19P	0	210	41
OREI LAKE	16	0	24	11	15	0	360	63	YARMOUTH	18	2	26	13	58	0	240	46
ESTEVAN	20	0	29	10	16	0	340	69	<b>PRINCE EDWARD ISLAND</b>								
LA RONGE	17P	0P	24P	11P	46	0	340	63	CHARLOTTE TOWN	18	-1	25	8	13	0	180	44
REGINA	18	-1	27	7	4	0	300	54	SUMMERSIDE	19P	0P	28P	11P	9P	0	210	59
SASKATOON	17P	-2P	25P	1P	29P	0	310	67	<b>NEWFOUNDLAND</b>								
SWIFT CURRENT	17	-2	26	6	9	0	*	X	CARTWRIGHT	11P	-2P	20P	5P	15P	0	200	50
YORKTON	16	-2	24	9	12	0	300	65	CHURCHILL FALLS	11	-3	20	5	11	0	190	65
<b>MANITOBA</b>									GANDER INTL	15	-2	27	5	7	0	210	50
BRANDON	18P	-2P	28P	7P	18P	0	280	63	GOOSE	13	-3	23	6	16	0	180	54
CHURCHILL	12	1	24	1	4	0	260	37	PORT-AUX-BASQUES	13	-1	19	9	36	0	180	50
LYNN LAKE	15	0	25	7	9	0	250	56	ST JOHN'S	15	-1	25	7	13	0	240	59
									ST LAWRENCE	14	1	20	9	16	0	*	X
									WARJSH LAKE	12	-3	22	5	18	0	280	59

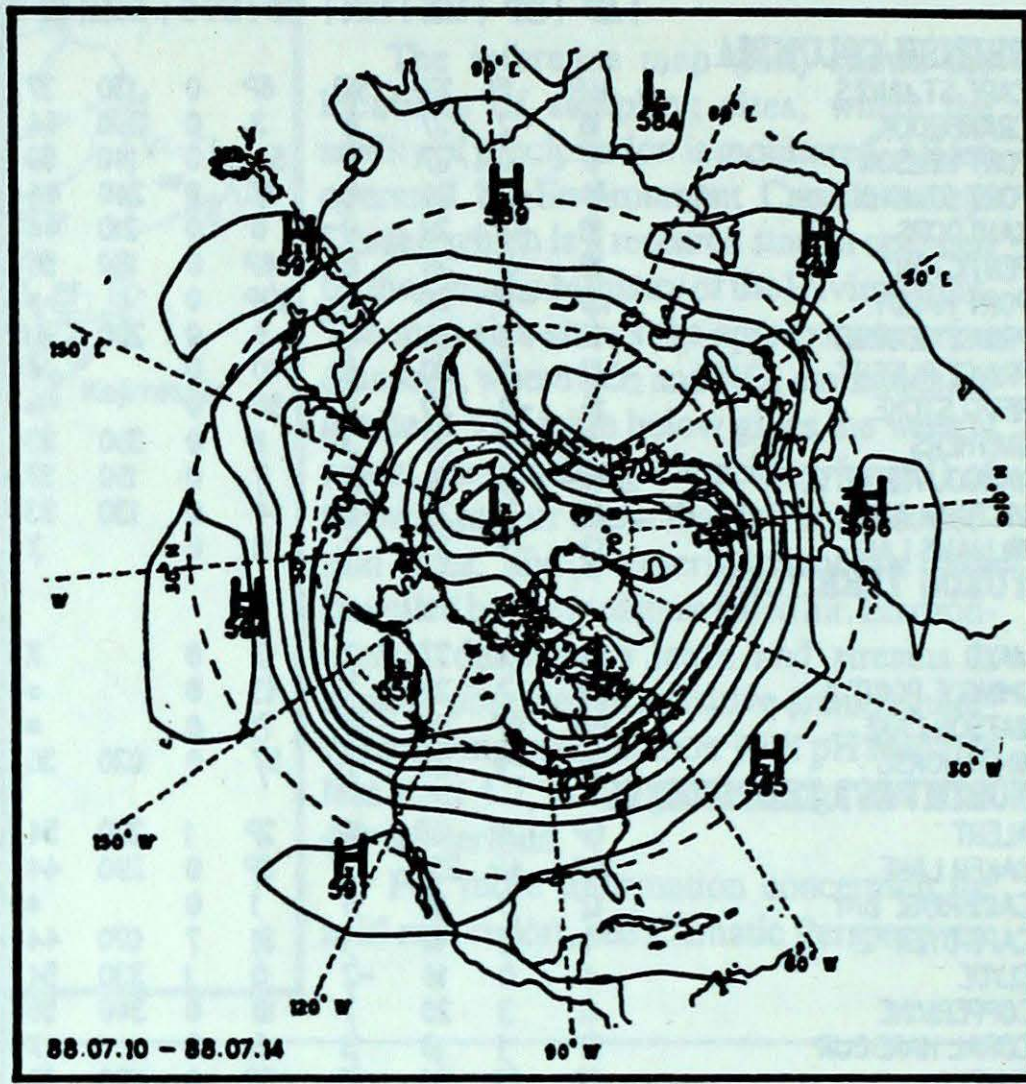
AV = weekly mean temperature in degree C  
 MX = weekly extreme maximum temperature in degree C  
 MN = weekly extreme minimum temperature in degree C  
 TP = weekly total precipitation in mm  
 DP = departure of mean temperature from normal in degree C  
 SOG = snow depth on ground in cm, last day of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

### 50 kPa ATMOSPHERIC CIRCULATION



Mean geopotential height anomaly  
50 kPa level (5 decameter intervals)



Mean geopotential height  
50 kPa level (5 decameter intervals)

