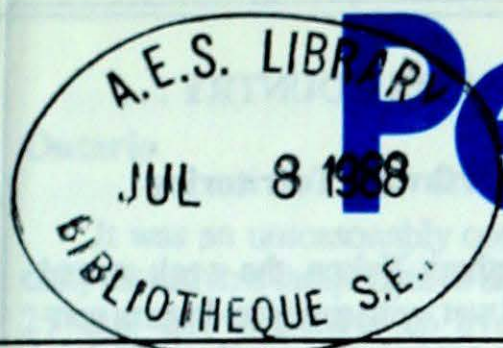


# Climatic Perspectives



June 28 to July 4, 1988

A weekly review of the Canadian climate

Vol. 10 No. 27



Environment  
Canada

Environnement  
Canada

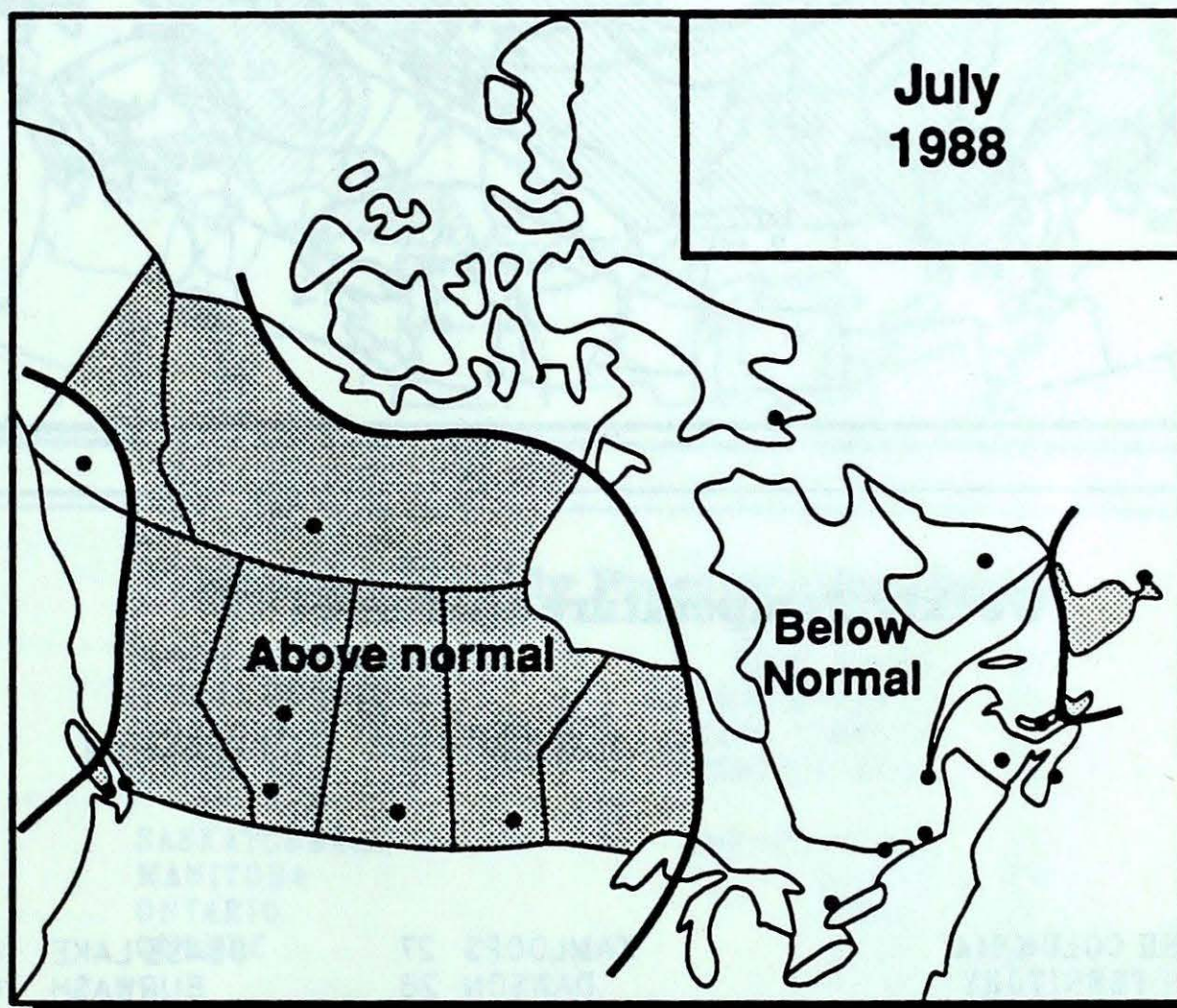
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## MONTHLY TEMPERATURE FORECAST

*Normal temperatures for the month of July, °C*

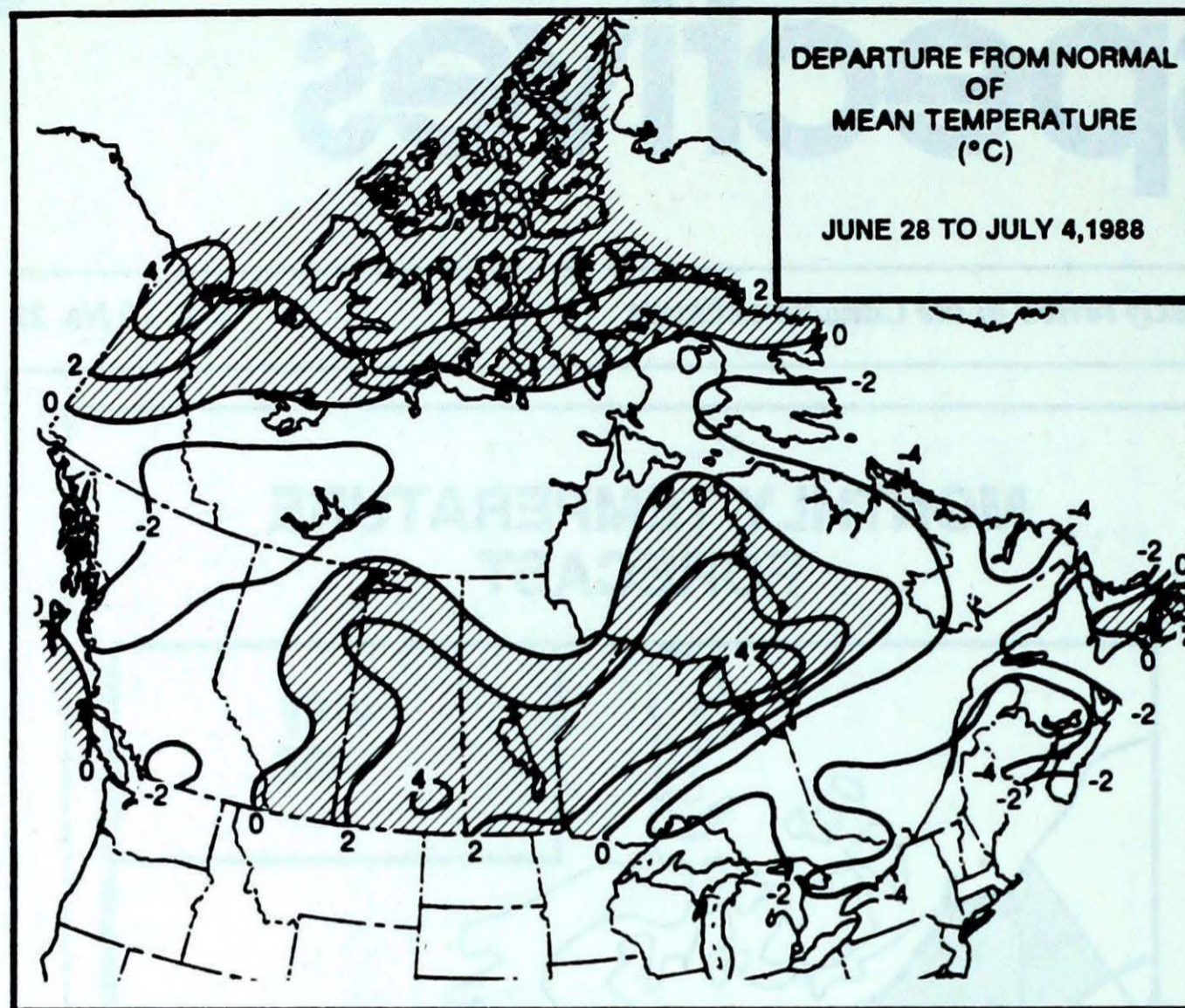
Whitehorse	14	Toronto	21
Yellowknife	16	Ottawa	21
Iqaluit	8	Montreal	21
Vancouver	17	Quebec	19
Victoria	16	Fredericton	19
Calgary	16	Halifax	17
Edmonton	17	Charlottetown	18
Regina	19	Goose Bay	16
Winnipeg	20	St. John's	16



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.

- Record rainfalls northwestern Canada
- Unusual frost in Ontario
- Unsettled in B.C. and western Prairies



**ACROSS THE COUNTRY ...**

**Yukon and Northwest Territories**

In the southern Yukon, the week started out cloudy and wet, with sunny and warm conditions in the central and northern Yukon gradually deteriorating, as the wet weather moved northward. It was wet and windy in the Mackenzie and Great Slave Lake districts. Heavy rainfall warnings were issued for the southern Mackenzie, where more than 100 mm of rain was recorded. Yellowknife set a new daily precipitation record on June 27. There were several road and highway closures due to washouts, with repairs taking as long as three weeks. In the eastern Arctic, the period started out sunny and warm, with the latter half being mostly cloudy and cool.

**British Columbia**

Under the influence of a nearly stationary atmospheric disturbance, weather conditions were not at all favorable for tourism. For the most part, it was cloudy, cool and damp, with only the coast and the central interior remaining relatively dry. In the southern interior, heavy showers provided nearly 70 percent of the normal expected July rainfall in just a couple of days. The moisture was helpful in the dry areas, but the Okanagan orchards have suffered, due to cherry splitting. It was wet in the north.

**Prairie Provinces**

In Alberta, it has been an unsettled, cool week with some improvement in the weather towards the end of the period. The northwest portion of the province received substantial rainfalls, with flooding being a concern near High Level. Heavy thunderstorms accompanied by funnel clouds and frequent lightning moved through parts of central Alberta late Saturday night and early Sunday morning, dumping heavy amounts of rain. More information is found on page 3.

In Saskatchewan and Manitoba, temperatures were not as oppressive as in previous weeks. Thirty-degree maximum readings were only observed during the early and latter parts of the period. The first half of the week was mostly cloudy, with wide spread shower and thunderstorm activity throughout a large portion of Saskatchewan. Heaviest rainfalls occurred on the 29th, when there were also reports of tornados and funnel cloud sightings. Heavy rain moved into Manitoba the last day of the period.

**Weekly Temperature Extreme (°C)**

	MAXIMUM	MINIMUM
BRITISH COLUMBIA	KAMLOOPS 27	DEASE LAKE 0
YUKON TERRITORY	DAWSON 28	BURWASH 0
NORTHWEST TERRITORIES	INUVIK 27	BROUGHTON ISLAND -3
ALBERTA	MEDICINE HAT 31	EDSON 3
SASKATCHEWAN	MOOSE JAW 34	EASTEND CYPRESS 5
MANITOBA	PORTAGE LA PRAIRIE 34	CHURCHILL 1
ONTARIO	ARMSTRONG 33	WINISK -1
QUEBEC	BAGOTVILLE 29	KUUJJUAQ 0
NEW BRUNSWICK	MONCTON 28	CHATHAM 6
NOVA SCOTIA	TRURO 26	SHELBURNE 5
PRINCE EDWARD ISLAND	SUMMERSIDE 27	CHARLOTTETOWN 7
NEWFOUNDLAND	ST JOHN'S 26	CARTWRIGHT 0

**ACROSS THE NATION**

WARMEST MEAN TEMPERATURE	22	MOOSE JAW	SASK
COOLEST MEAN TEMPERATURE	3	CAPE HOOPER	NWT
		DEWAR LAKES	NWT

**Ontario**

It was an unseasonably cool week, with daily record low temperatures broken on June 27 and 28. Pockets of overnight frost developed in a number of agricultural districts, ruining rural vegetable gardens and plots. A slow moving disturbance produced significant rainfalls in northern and eastern Ontario during the first half of the week, but in the southern agricultural districts scattered showers did not produce much rain, and for the most part it was dry. The drought in southwestern Ontario is affecting the agricultural industry. Total June rainfall west of Toronto and south of Georgian Bay is generally less than 20 mm, and as a result a significant reduction in crop yields is now inevitable. More rain is also desperately needed in northern Ontario in order to prevent a forest fire resurgence.

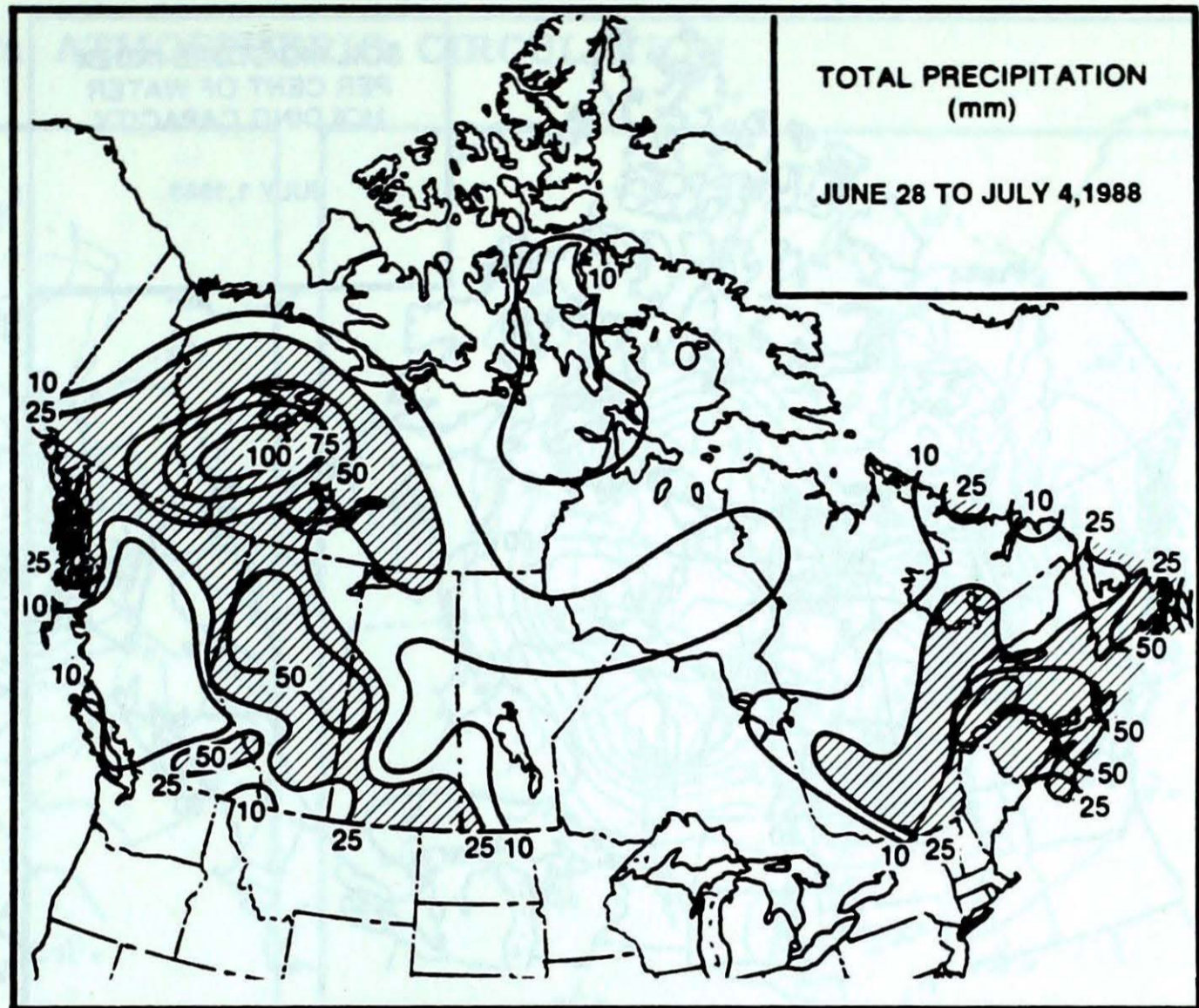
**Quebec**

Last week's unseasonably cold weather persisted, with 42 daily low temperature records broken at 16 different locations across southern Quebec. A slow moving atmospheric disturbance affected the province for much of the week, giving predominantly cloudy showery weather. In many areas, rainfall was abundant, especially near the St. Lawrence Valley and the Gaspé. Thunderstorms with hail were reported at Arthabaska and Victoriaville. At Hull-Ottawa, marble-size hail damaged cars.

**Atlantic Provinces**

In the Maritimes, it was mainly unsettled and cool. At most locations maximum temperatures only managed to reach the mid-teens. At Charlo, a maximum reading of 12C on the 1st was the lowest maximum temperature ever recorded on this date. Heavy thunderstorms dumped 52 mm of rain on the Halifax-Dartmouth area on the 30th. Many city streets were flooded, causing traffic tie-ups. Basements were flooded and there were a number of power outages. On July 1, rain and fog resulted in the postponement of a number of Canada Day celebration events.

It was cloudy and wet in Newfoundland, as disturbances affected the Island, giving precipitation almost every day. Clearing ensued the final day of the period. In Labrador, it was cloudy and cool, with temperatures in the low teens. A significant amount of rain was reported over the weekend, with clearing skies thereafter.



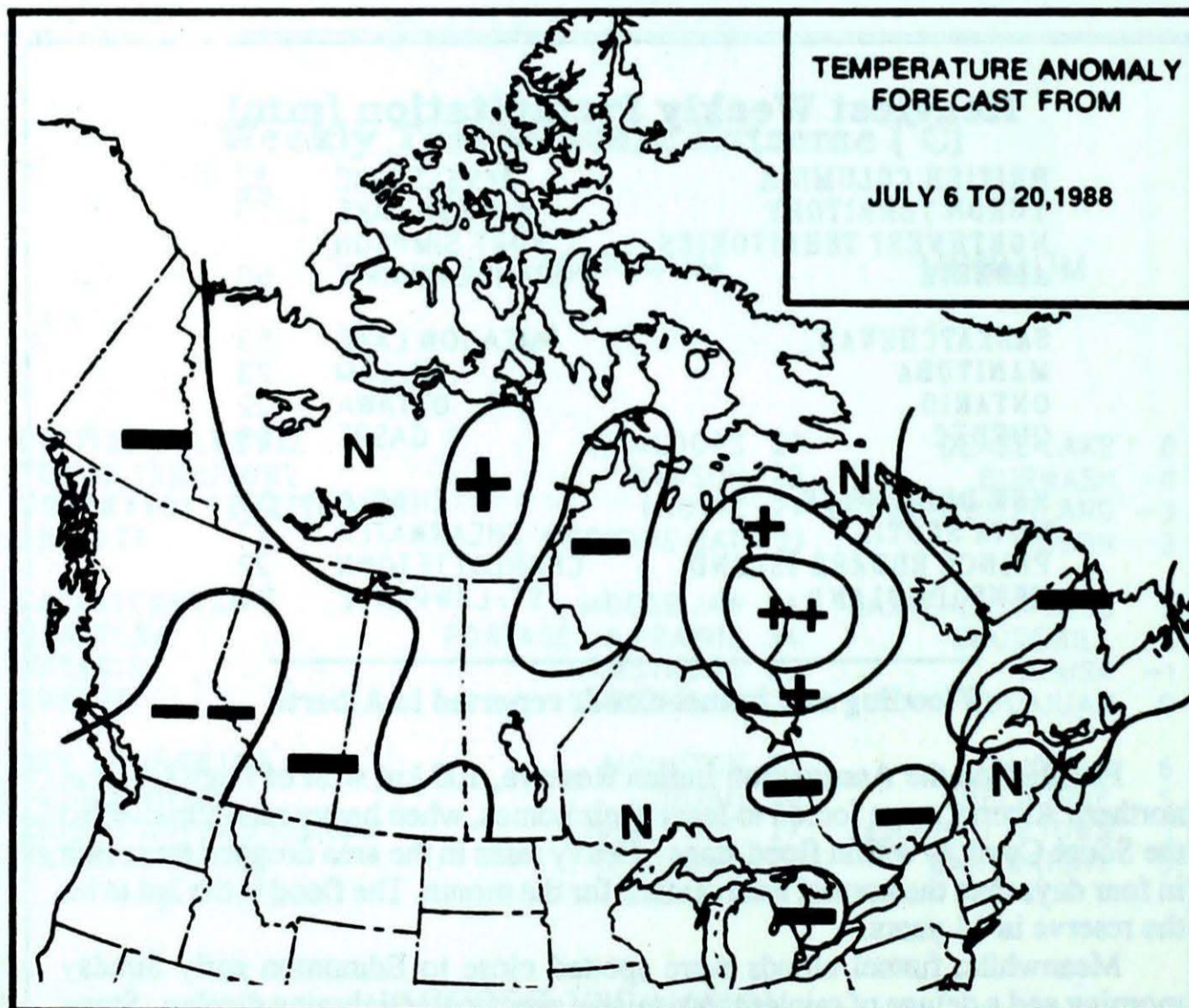
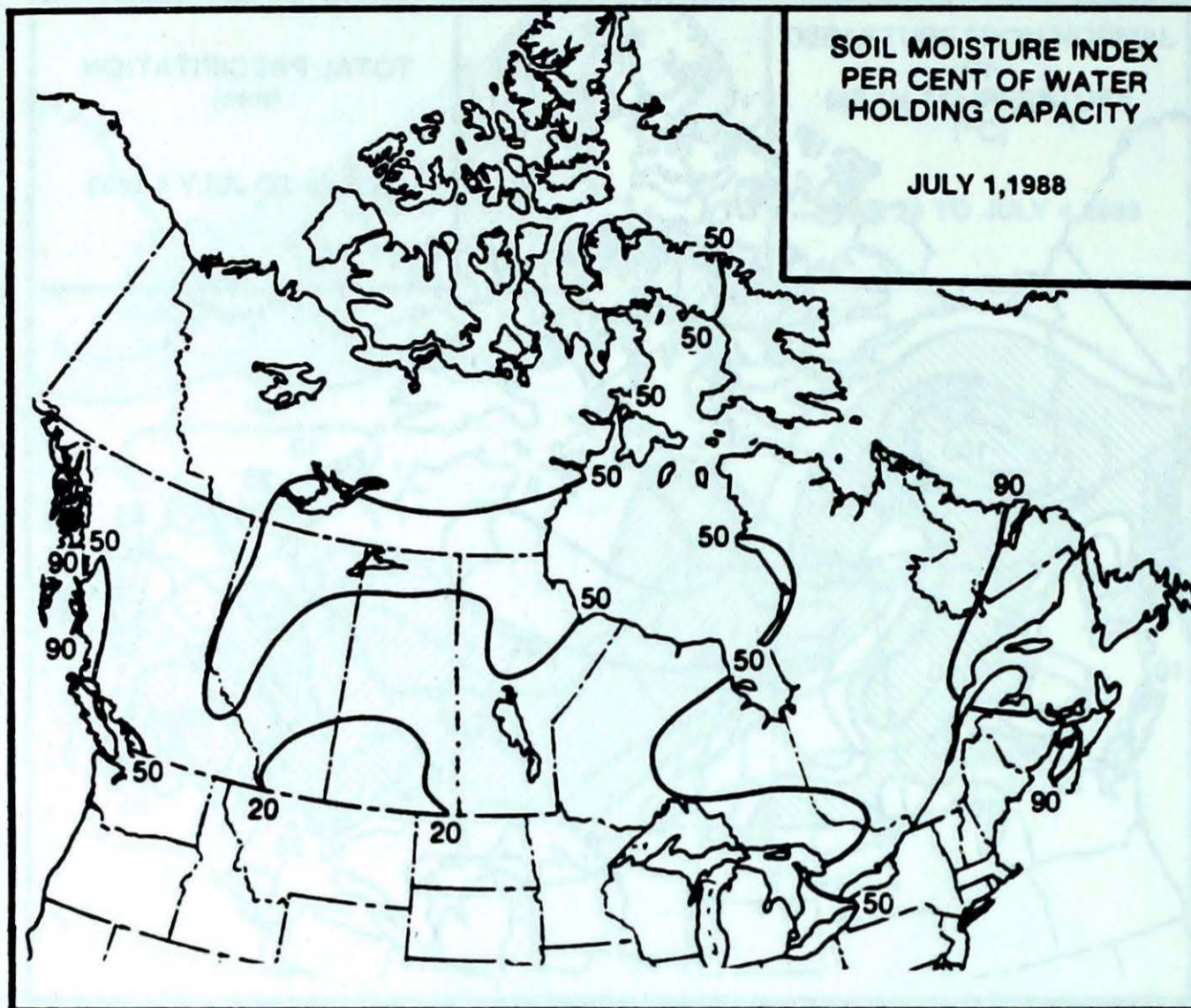
**Heaviest Weekly Precipitation (mm)**

BRITISH COLUMBIA	REVELSTOKE	52
YUKON TERRITORY	WATSON LAKE	65
NORTHWEST TERRITORIES	FORT SIMPSON	131
ALBERTA	GRANDE PRAIRIE	68
SASKATCHEWAN	MEADOW LAKE	53
MANITOBA	GILLAM	23
ONTARIO	OTTAWA	22
QUEBEC	GASPE	69
NEW BRUNSWICK	CHARLO	39
NOVA SCOTIA	SHEARWATER	77
PRINCE EDWARD ISLAND	CHARLOTTETOWN	22
NEWFOUNDLAND	ST. LAWRENCE	84

**Flooding and funnel clouds reported in Alberta**

Families on the Assumption Indian Reserve, 100 km west of High Level in northern Alberta, were forced to leave their homes, when heavy rainfalls swelled the Sousa Creek to within flood stage. Heavy rains in the area dropped more rain in four days than the normal total rainfall for the month. The flood is the 3rd to hit the reserve in 11 years.

Meanwhile, funnel clouds were spotted close to Edmonton early Sunday morning and a deluge of rain accompanied a spectacular lightning display. Stony Plain, west of Edmonton, received 72 mm of rain in one hour, four times as much as Edmonton received during all of May. This area has had one of the wettest June's on record; 158 mm of rain was recorded - double the normal June rainfall amount and eight times as much as in May. The highest June rainfall total on the record books is 216 mm set in 1914, with records dating back to 1880.



- ++ 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.

**CLIMATIC PERSPECTIVES VOLUME 10**

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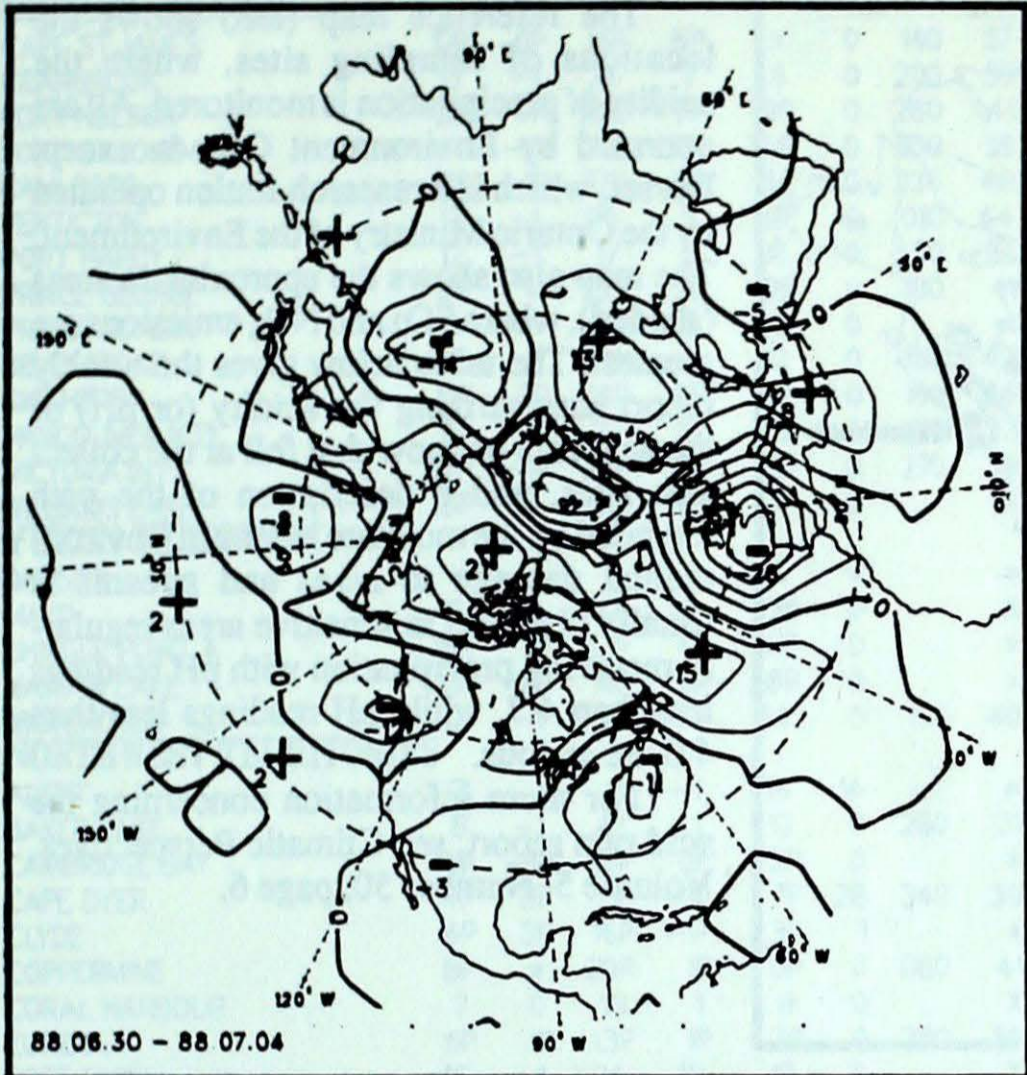
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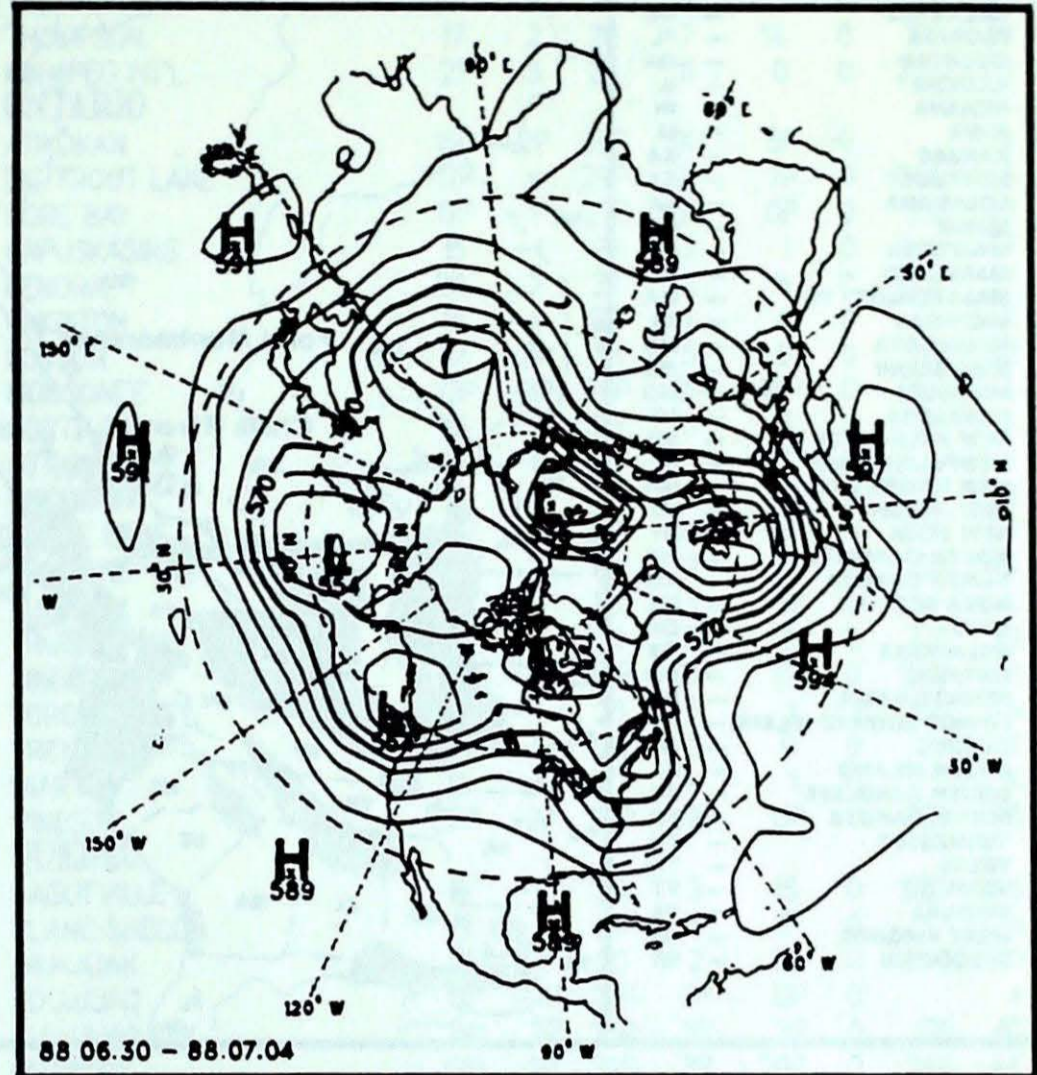
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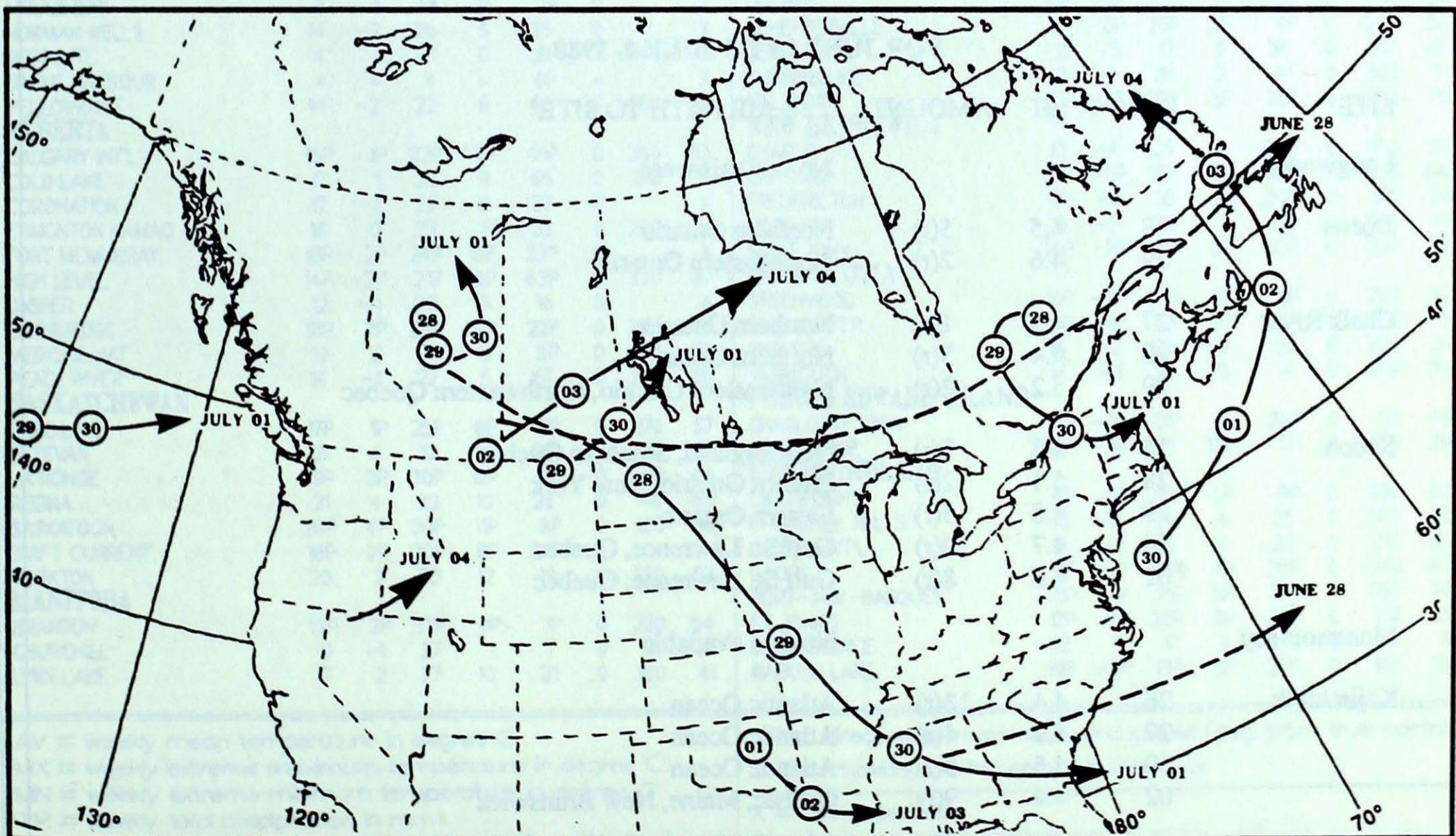
### 50 kPa ATMOSPHERIC CIRCULATION



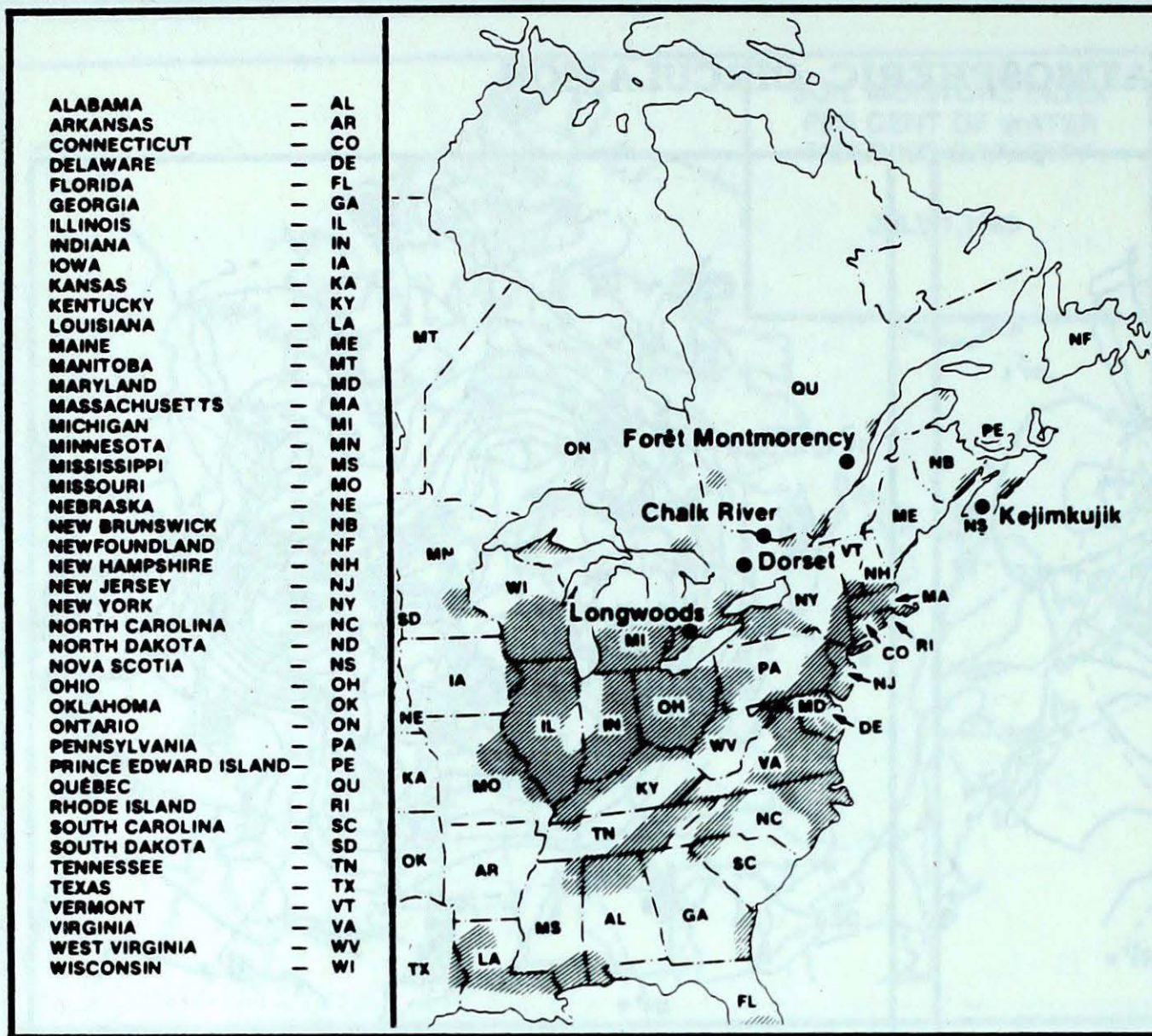
Mean geopotential height anomaly  
50 kPa level (5 decameter intervals)



Mean geopotential height  
50 kPa level (5 decameter intervals)



Storm track - Position of storm at 12 GMT during the period: June 28 to July 4, 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, Volume 5, Number 50, page 6.

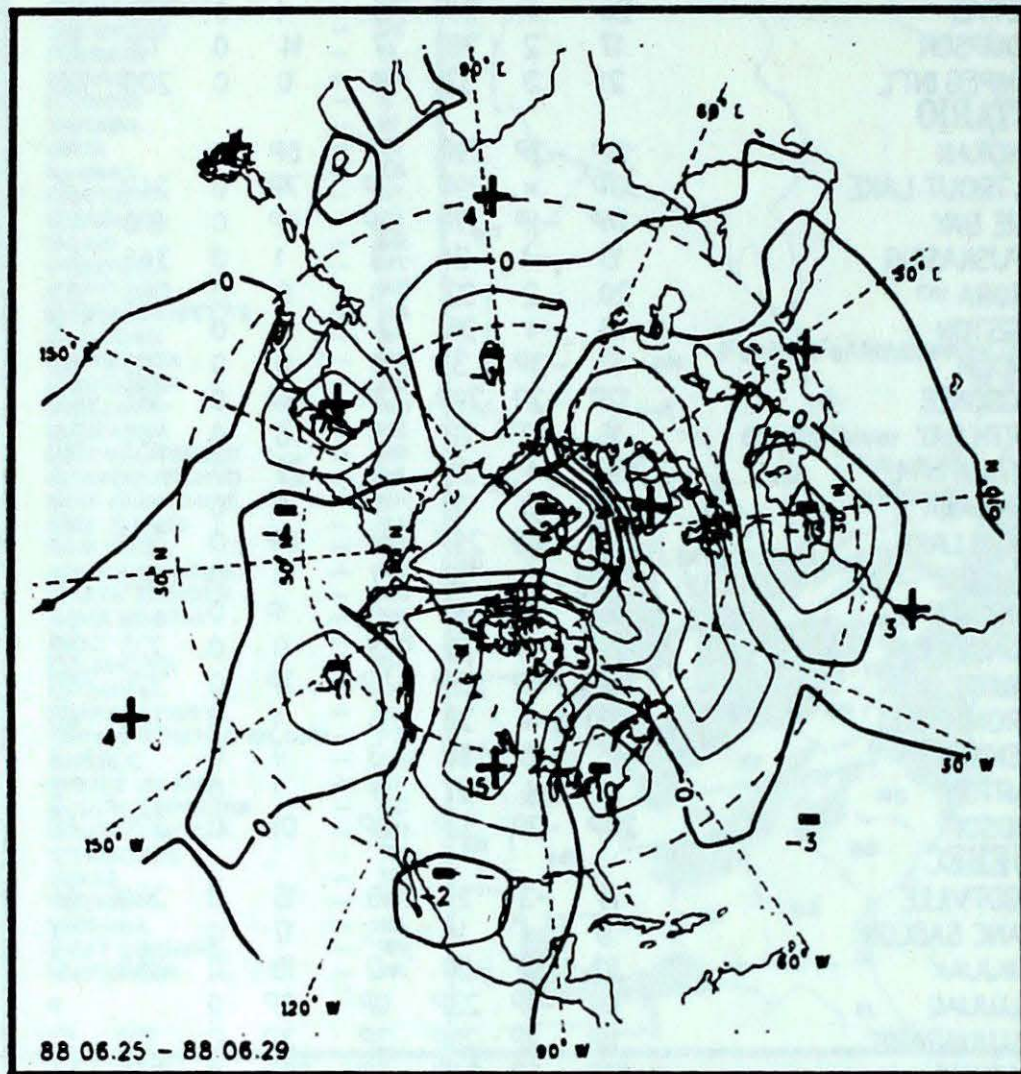
**FOR JUNE 26 TO JULY 2, 1988**

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods				No rain this week
Dorset	28	4.5	5(r)	Northern Ontario
	29	4.6	2(r)	Northeastern Ontario
Chalk River	27	4.5	1(r)	Northern Ontario
	28	4.4	3(r)	Northern Ontario
	29	5.2	2(r)	Northeastern Ontario, Northwestern Quebec
Sutton	26	5.3	2(r)	New England, Southern Quebec
	28	5.1	12(r)	Eastern Ontario, New York
	29	4.8	5(r)	Eastern Ontario
	30	4.7	10(r)	Gulf St. Lawrence, Quebec
	01	4.6	8(r)	Gulf St. Lawrence, Quebec
Montmorency				No data available
Kejimikujik	26	4.4	13(r)	Atlantic Ocean
	27	4.9	4(r)	Atlantic Ocean
	30	4.6	8(r)	Atlantic Ocean
	02	4.4	9(r)	Quebec, Maine, New Brunswick

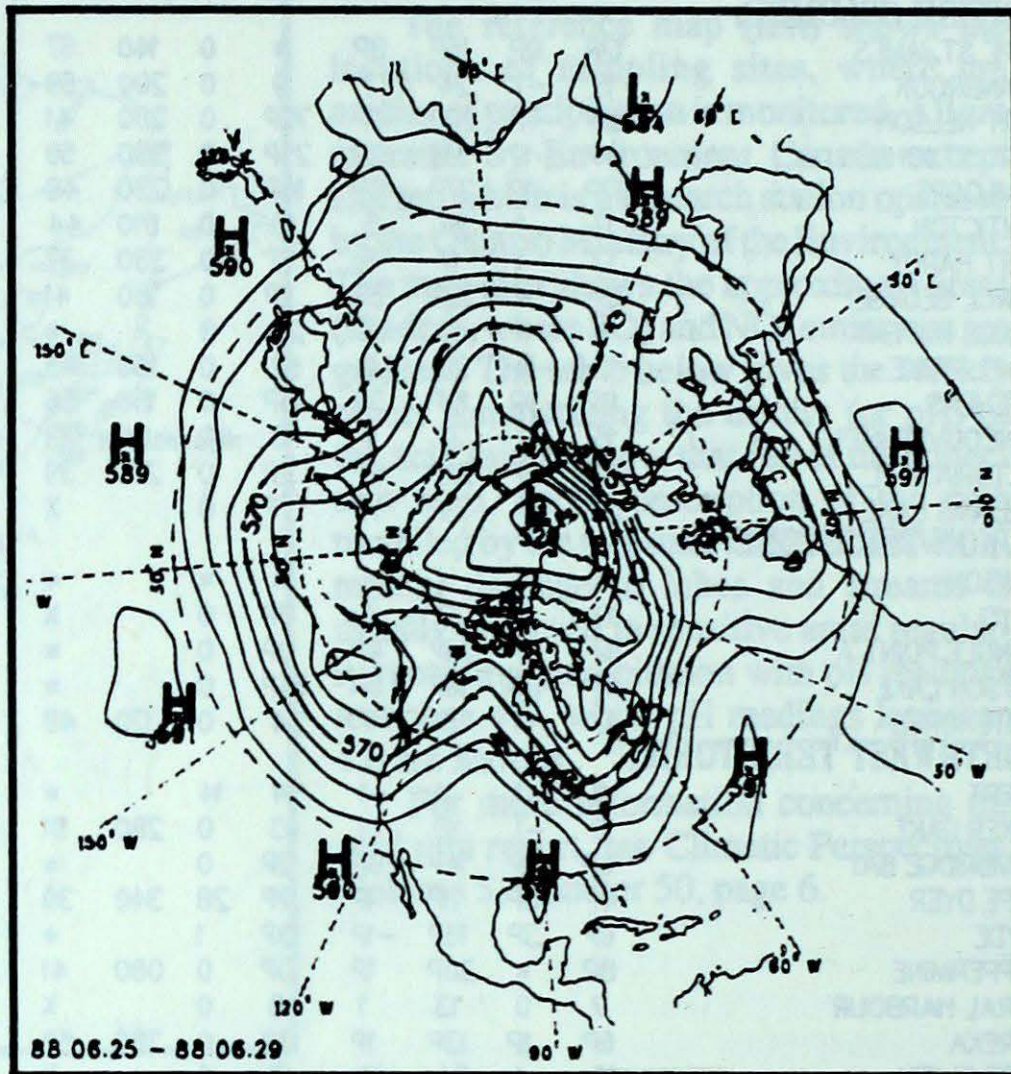
*r = rain (mm), s = snow (cm), m = mixed rain and snow (mm)*



### 50 kPa ATMOSPHERIC CIRCULATION



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



Mean geopotential height  
50 kPa level ( 5 decameter intervals)

