Environment Canada Environnement Canada

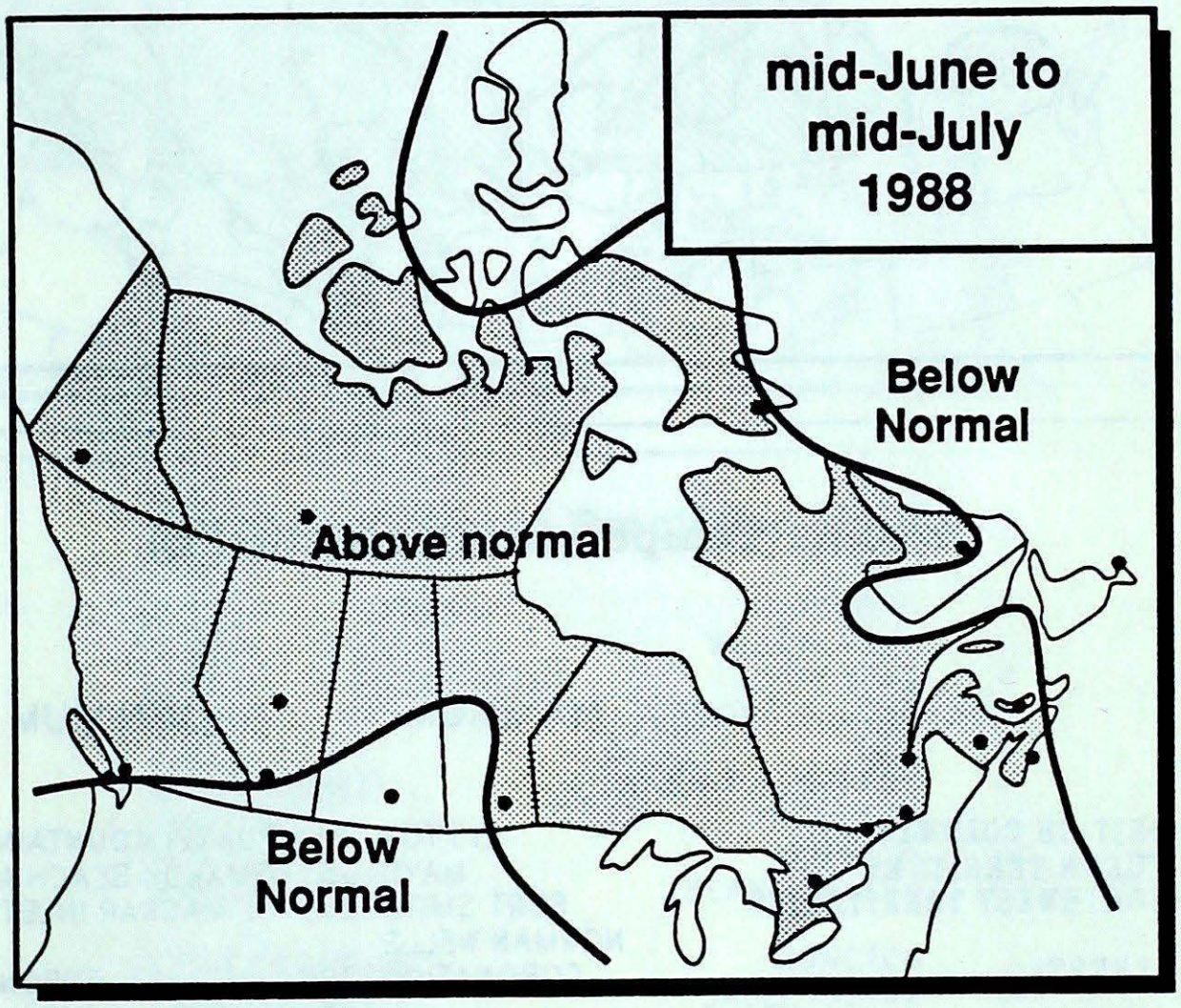
Climatic Perspectives

June 7 to 13, 1988 | *A weekly review of the Canadian climate* | *Vol. 10 No. 24*

Environment Canada Environnement Canada

Atmospheric Environment Service Service de l'environnement atmosphérique

MONTHLY TEMPERATURE FORECAST



Normal temperatures for mid-June to mid-July, °C

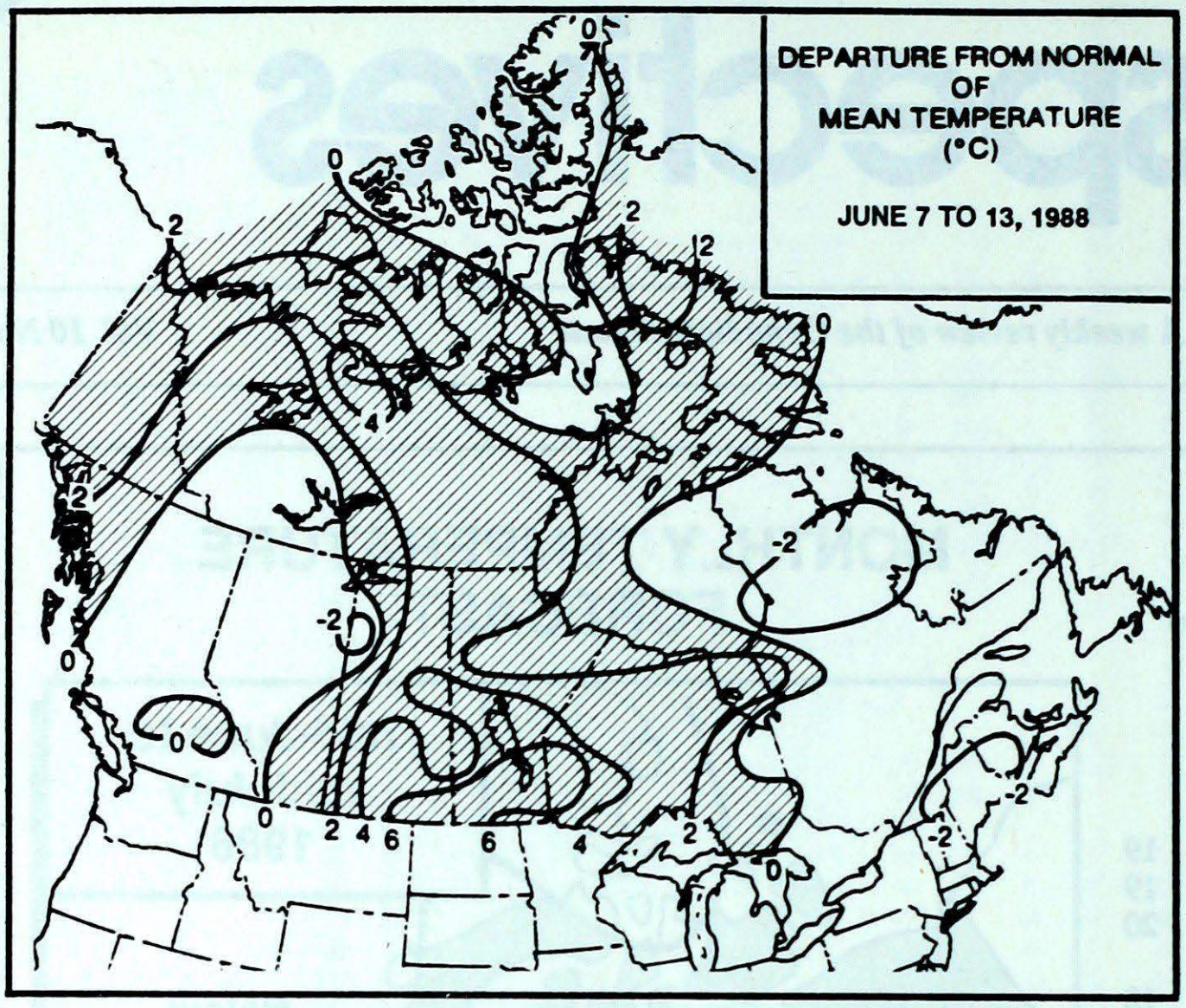
Whitehorse	13	Toronto	19
Yellowknife	15	Ottawa	19
Iqaluit	6	Montreal	20
Vancouver	16	Quebec	18
Victoria	15	Fredericton	18
Calgary	15	Halifax	16
Edmonton	16	Charlottetown	16
Regina	17	Goose Bay	14
Winnipeg	18	St. John's	13

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.

- **Welcome rain alleviates western Prairie drought**
- **Farmers worried by the dry weather in Ontario, Quebec and the Maritimes**

Canada



Weekly Temperature Extreme (°C)

	MAXIMUM		MINIMUM	
BRITISH COLUMBIA	LYTTON	31	PUNTZI MOUNTAIN	−2
YUKON TERRITORY	MAYO	25	KOMAKUK BEACH A	−3
NORTHWEST TERRITORIES	FORT SMITH NORMAN WELLS	26	MACKAR INLET	−7
ALBERTA	CORONATION	29	EDSON	2
SASKATCHEWAN	ESTEVAN	39	COLLINS BAY	1
MANITOBA	PORTAGE LA PRAIRIE	37	GILLAM	−6
ONTARIO	KENORA	34	MOOSONEE	−1
QUEBEC	MANIWAKI	32	SCHEFFERVILLE	−3
NEW BRUNSWICK	CHARLO	29	ST STEPHEN	−1
NOVA SCOTIA	SHELBURNE	31	SHELBURNE TRURO	1
PRINCE EDWARD ISLAND	SUMMERSIDE	23	SUMMERSIDE	3
NEWFOUNDLAND	GOOSE	25	CHURCHILL FALLS	−2

ACROSS THE NATION

WARMEST MEAN TEMPERATURE	24	ESTEVAN	SASK
COOLEST MEAN TEMPERATURE	−4	MACKAR INLET	NWT

ACROSS THE COUNTRY . . .

Yukon and Northwest Territories

A cool, moist air mass covered the Yukon at the beginning of the week, with some snow reported in the north. A ridge of high pressure produced sunny, warmer weather conditions by mid-week. In the Mackenzie Valley, pleasant weather gave way to cooler, cloudy conditions, but sunny weather returned by week's end. It was a windy week in the eastern Arctic, with a mixture of cloud and sun. On southern Baffin Island the snow on the ground has almost disappeared.

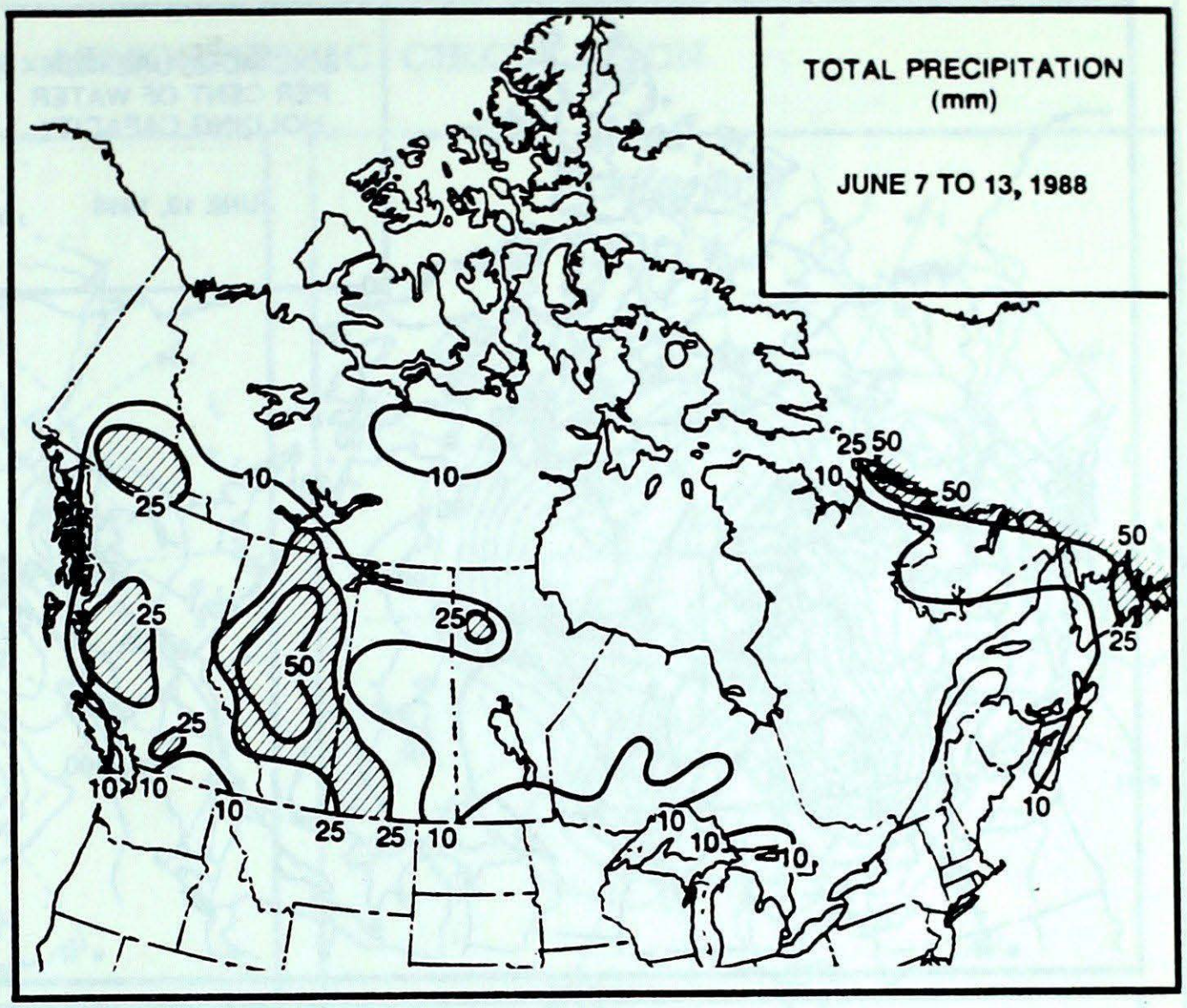
British Columbia

An off-shore atmospheric trough controlled the weather pattern, resulting in unsettled weather conditions and variable amounts of rain. The northern half of the province was mostly cloudy; elsewhere skies were changeable. Snow fell on the higher elevations of the Alaska Highway in northeastern B.C. Forage crops are lush, but warm, dry weather is needed for the hay harvest. The weather showed signs of improvement for the weekend.

Prairie Provinces

It was a cool unsettled week across Alberta, with substantial amounts of rain falling in the parched areas of the southeast. During the first four days of the period many areas received amounts approaching 30 to 60 millimetres. River levels have risen, and in fact in the Peace River district farmers are bemoaning the wet weather.

The week started out extremely hot in southern Saskatchewan and Manitoba, with maximum temperatures in the forties. On the 7th, numerous temperature records, in the mid- to high thirties, were broken. In contrast, northern regions had readings only in the single digits. This much cooler air mass spread southwards, covering the southern agricultural districts by the middle of the week, while temperatures in the north began to move upwards. Showers and thunderstorms accompanied the cooler weather, bringing much needed rain to the drought stricken areas of Saskatchewan. See page 3 for more details.



Ontario

Although daytime temperatures recovered markedly the last two days of the period, for the most part, the week was cool, breezy and not at all summer-like. The early part of the week saw daytime temperatures only climbing into the teens, with overnight frost reported in many rural areas. The prairie heat wave, which affected northwestern Ontario to some extent, finally spread eastwards, and reached southern and central Ontario over the weekend, pushing daytime temperature readings up into the thirties. It has been a dry week, with only isolated showers on June 8 and 9. Critically dry fields are evident in many agricultural districts. In northwestern Ontario, locally heavy showers produced from 10 to 20 millimetres of rain, but a serious forest fire hazard still continues to plague the region. Burning is restricted in many parts of the province.

Quebec

It was a cool, dry week, with significant warming by the weekend. A ban on outdoor open fires is in effect in a number of districts due to the high forest fire hazard. Forty one forest fires are burning in the province, a number of them the result of lightning strikes. Thunderstorms associated with a frontal passage on the 12th produced hail in the Trois-Rivières region. Hay is being harvested in the Eastern Townships.

Atlantic Provinces

In the Maritimes it was a variable week. Temperatures were particularly cool the first four days, with some minimums dropping below freezing in New Brunswick. Rainfall was light, with heaviest amounts falling in Nova Scotia, while parts of New Brunswick did not receive any. An out-of-control forest fire was burning southeast of Bathurst.

Newfoundland was cool and unsettled with showers most days. Record rainfalls of 20 to 35 millimetres were recorded on the 10th. In Labrador, periods of snow and rain fell early in the week. Temperatures rebounded to the mid-twenties over the weekend, but not before Churchill received 7 cm of snow. On Sunday, an approaching cold front produced wind gusts to 122 km/h near Goose Bay.

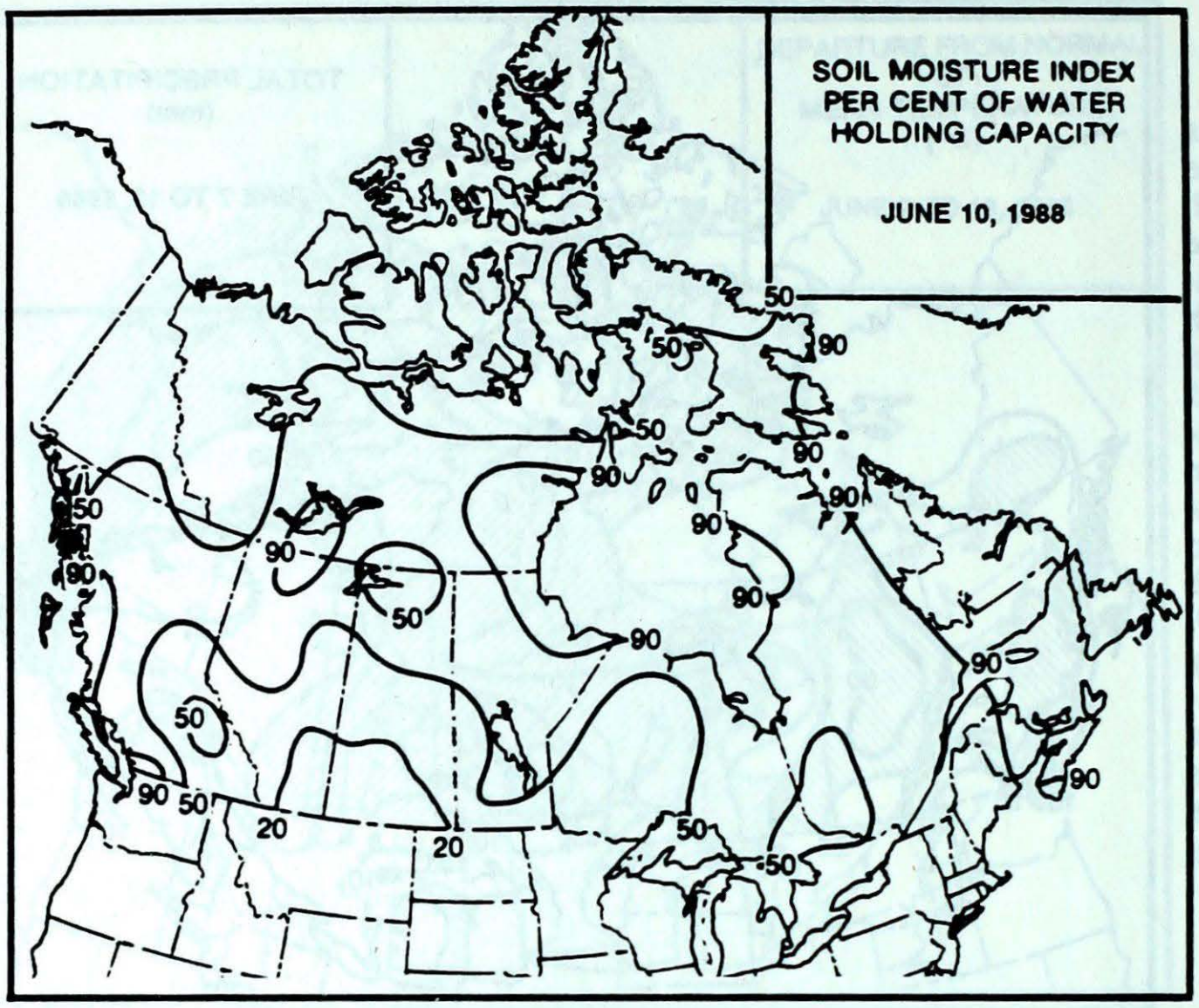
Heaviest Weekly Precipitation (mm)

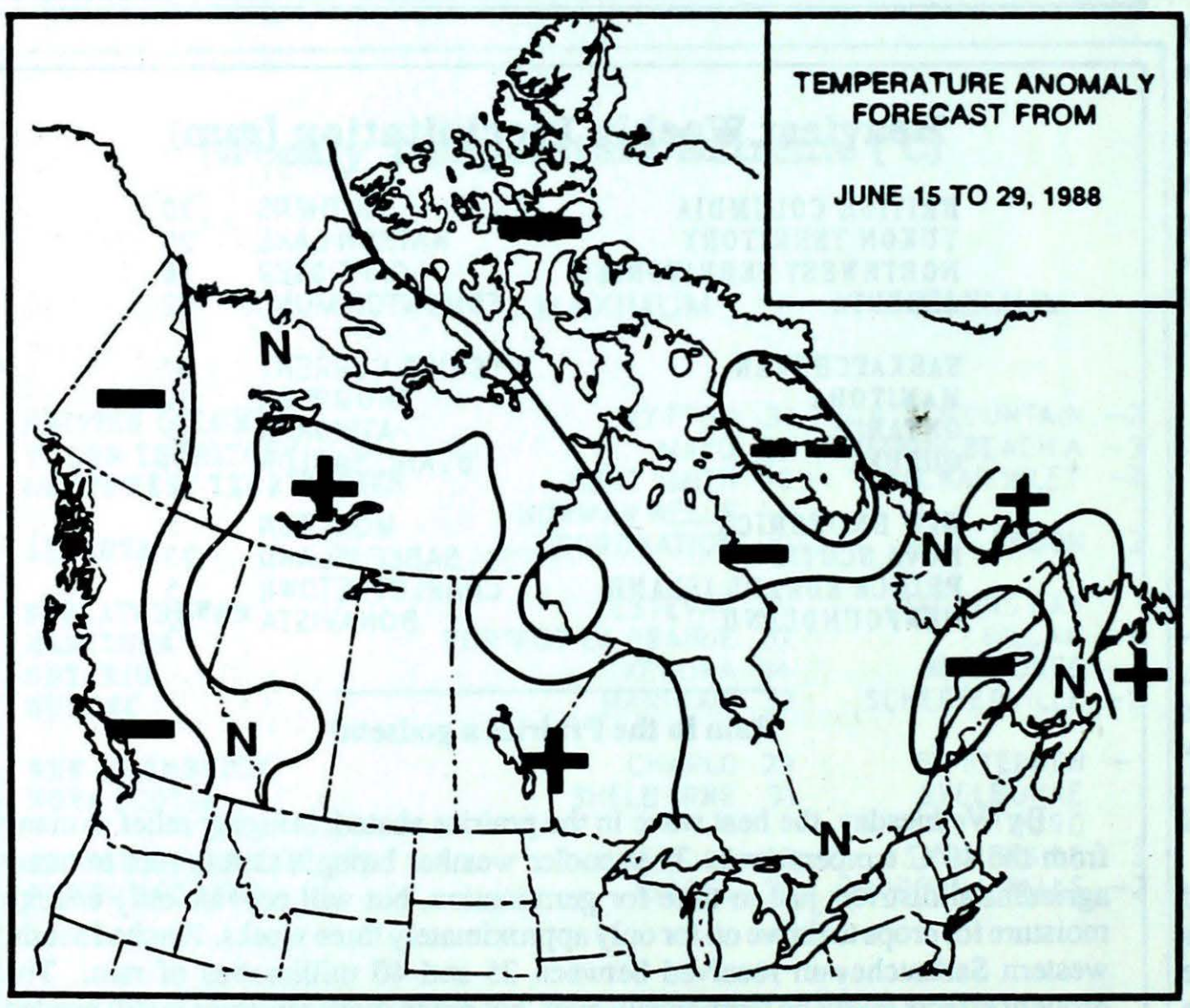
BRITISH COLUMBIA	SMITHERS	30
YUKON TERRITORY	WATSON LAKE	29
NORTHWEST TERRITORIES	CAPE DYER	36
ALBERTA	EDMONTON MUNI.	82
SASKATCHEWAN	SWIFT CURRENT	41
MANITOBA	THOMPSON	39
ONTARIO	ATIKOKAN	35
QUEBEC	BLANC SABLON	21
NEW BRUNSWICK	MONCTON	5
NOVA SCOTIA	SABLE ISLAND	23
PRINCE EDWARD ISLAND	CHARLOTTETOWN	5
NEWFOUNDLAND	BONAVISTA	52

Rain in the Prairies a godsend

By Wednesday, the heat wave in the prairies abated, bringing relief to many from the 40°C temperatures. The cooler weather brought timely rain to many agricultural districts just in time for germination, but will provide only enough moisture for crops to thrive on for only approximately three weeks. Parched southwestern Saskatchewan received between 25 and 40 millimetres of rain. The drought effects might be temporarily over, but much more moisture is still needed over the next month or so, because water supplies are so depleted. Severe storms also accompanied the rain, with a number of funnel clouds and unconfirmed tornados reported near the Alberta - Saskatchewan border Friday evening.

Meanwhile, claims are still coming in to cover damage suffered from the tornadic activity that occurred June 5 in the Camrose area, with damage claims totaling so far $3.3 million.





+ +	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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The purpose of the publication is to make topical information available to the public concerning the Canadian Climate and its socio-economic 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. The contents may be reprinted freely with proper credit.

The data 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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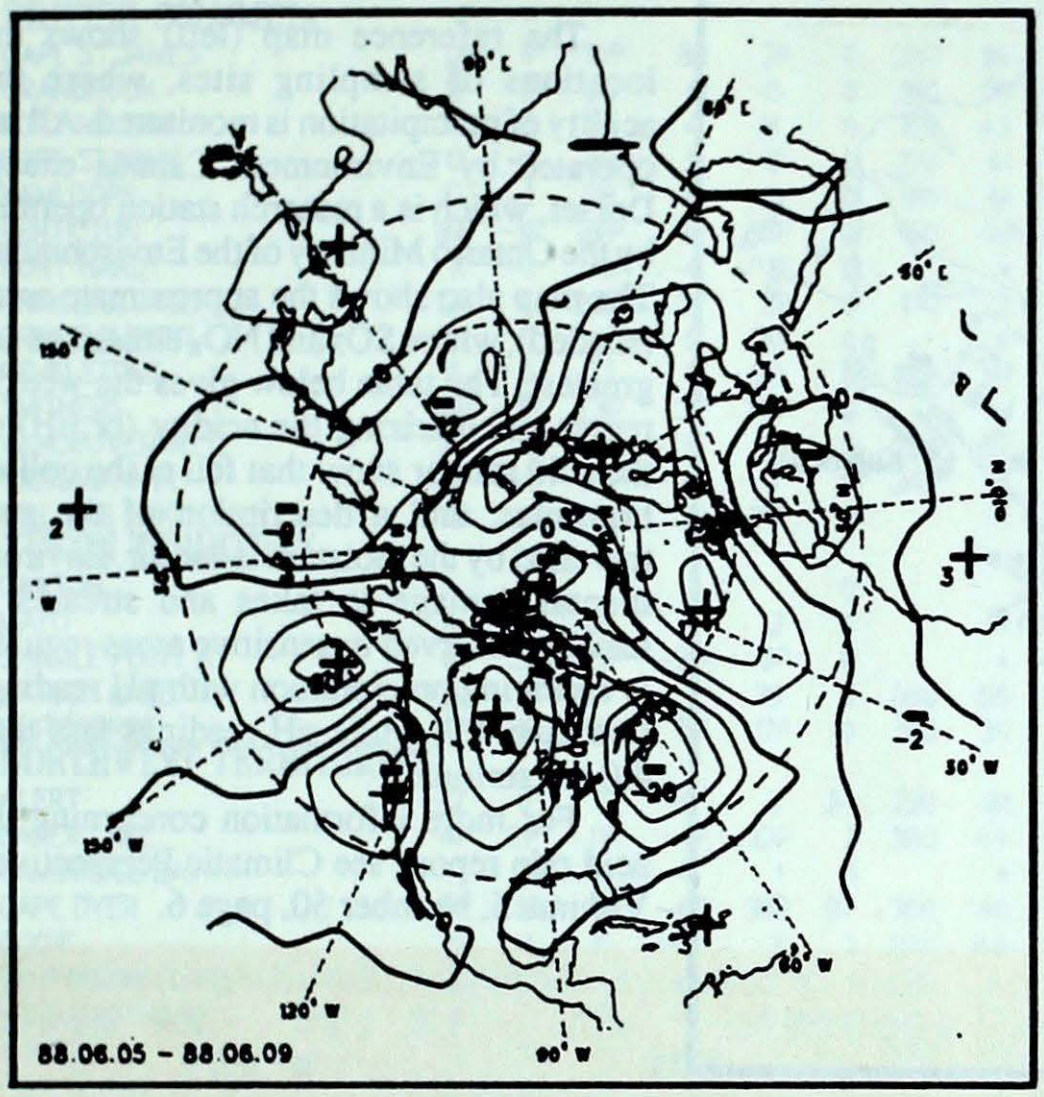
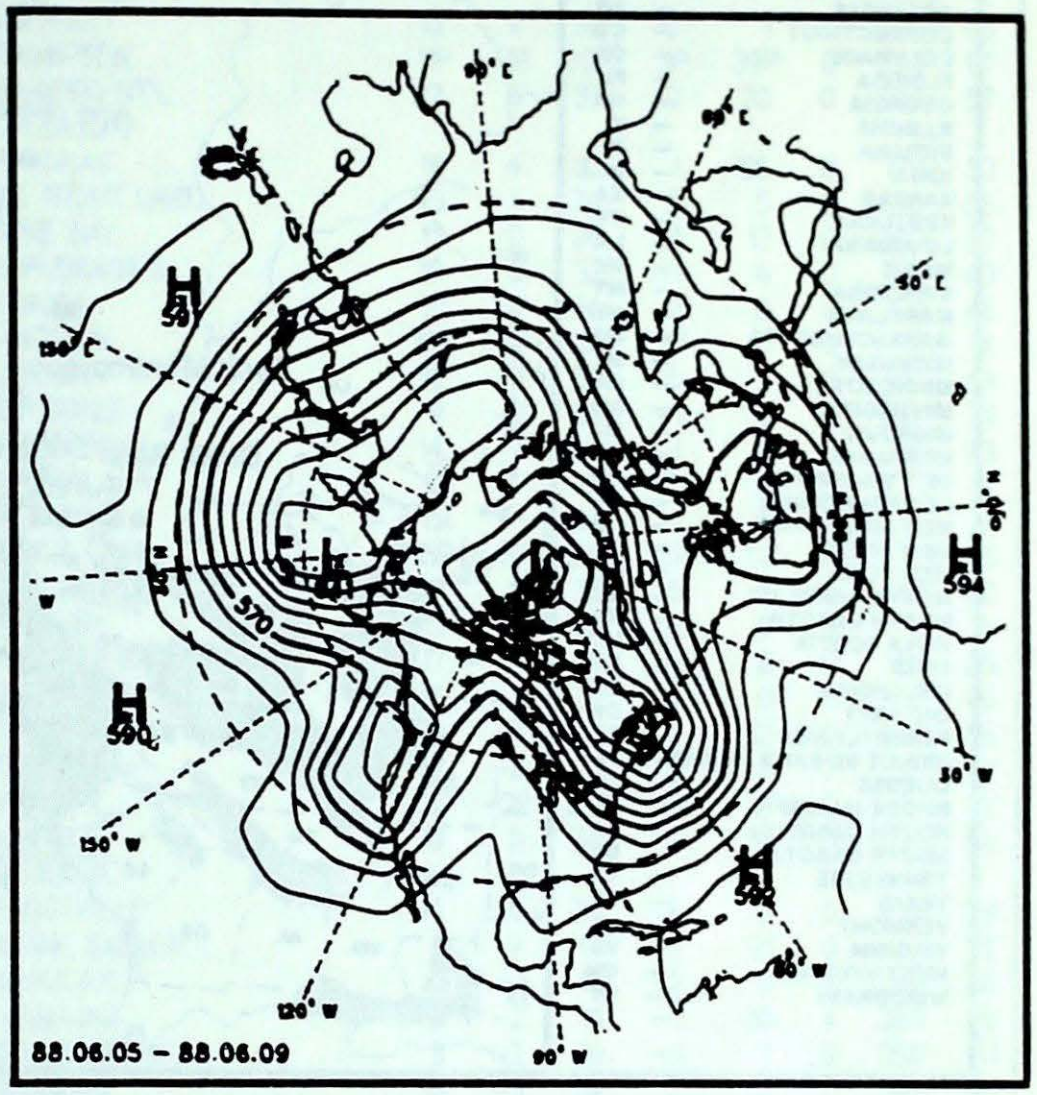
50 kPa ATMOSPHERIC CIRCULATION



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



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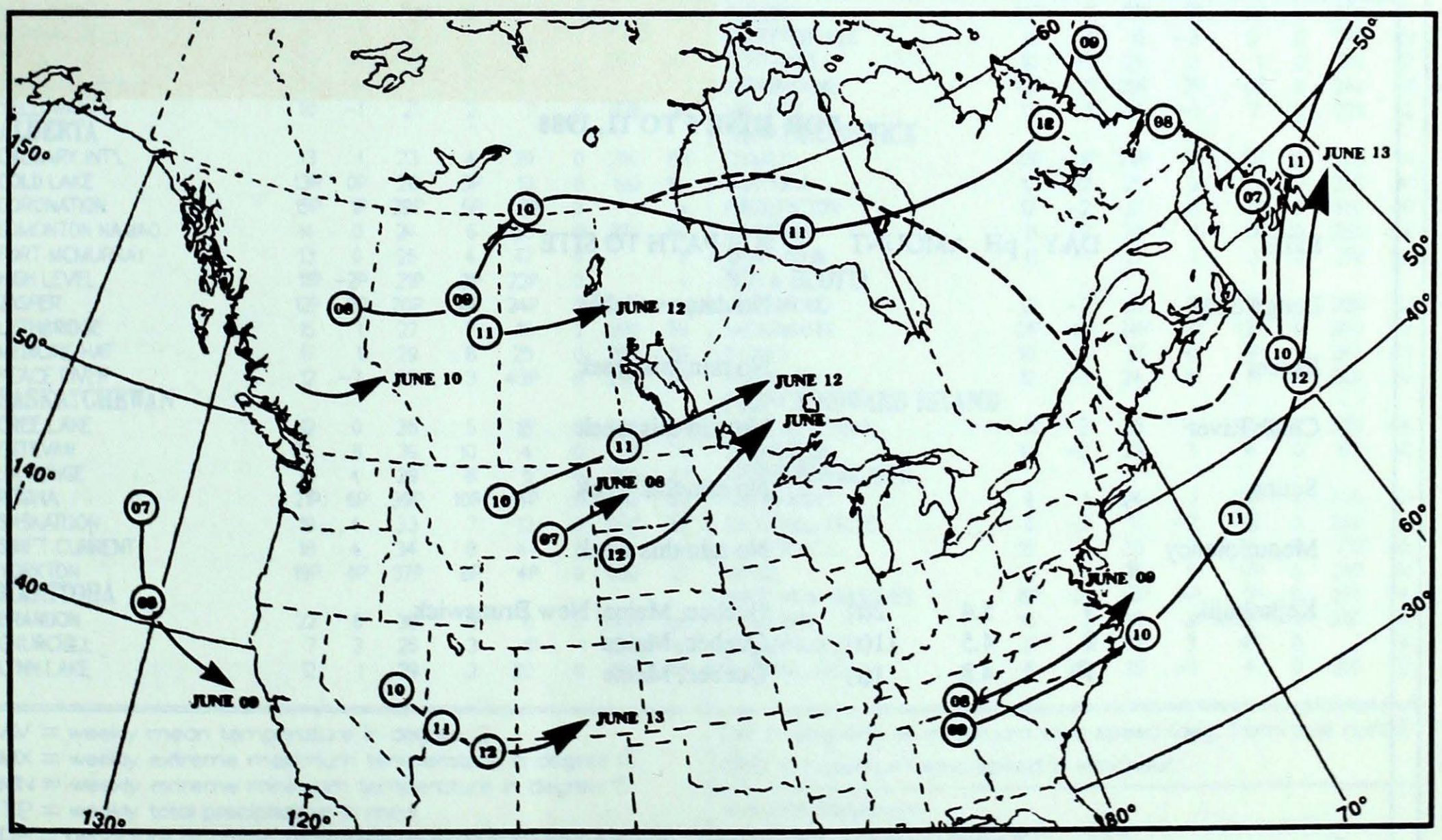
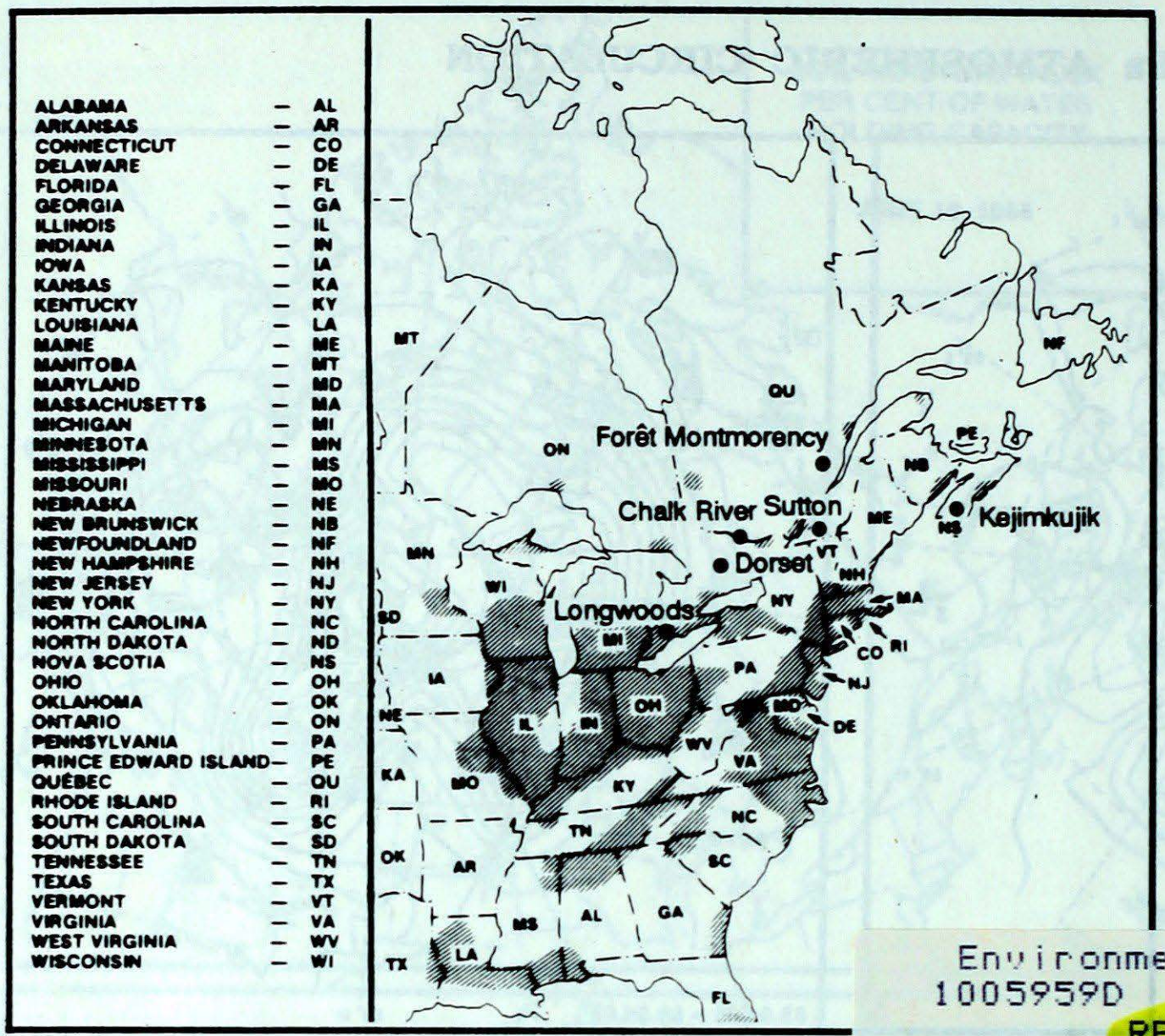


Storm track - Position of storm at 12 GMT during the period: June 7 to 13, 1988



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_2 and NO_x 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 5 TO 11, 1988

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods				No data available
Dorset				No rain this week
Chalk River				No rain this week
Sutton				No rain this week
Montmorency				No rain this week
Kejimkujik	5	5.4	2(r)	Quebec, Maine, New Brunswick
	9	4.5	11(r)	Quebec, Maine
	10	4.8	1(r)	Quebec, Maine

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

STATISTICS FOR THE WEEK ENDING 0600 GMT June 13, 1988

STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
BRITISH COLUMBIA								
CAPE ST.JAMES	11P	1P	16P	8P	2P	0	280	39
CRANBROOK	12	−2	23	4	15	0	190	59
FORT NELSON	13	−1	24	4	14	0	150	43
FORT ST.JOHN	12	−1	20	5	10	0	220	41
KAMLOOPS	17	−1	28	8	10	0	160	41
PENTICTON	16P	−1P	24P	4P	5P	0	160	48
PORT HARDY	11	−1	18	4	1P	0		*
PRINCE GEORGE	12P	*	23P	3P	3P	0	170	72
PRINCE RUPERT	11	1	16	5	20	0		*
REVELSTOKE	15	0	27	6	20	0	180	39
SMITHERS	10P	−2P	23P	3P	30P	0		*
VANCOUVER INT'L	14	0	21	8	17	0	290	37
VICTORIA INT'L	13	−1	23	6	17	0	240	37
WILLIAMS LAKE	11P	*	20P	3P	14P	0		X
YUKON TERRITORY								
DAWSON						0		
MAYO	16	3	25	6	2	0		X
SHINGLE POINT A	6P	2P	21P	−3P	5P	0		*
WATSON LAKE	14	2	24	7	29	0	060	56
WHITEHORSE	14P	2P	23P	5P	17P	0	100	39
NORTHWEST TERRITORIES								
ALERT	−2	0	2	−5	2	24	220	81
BAKER LAKE	4P	2P	11P	−1P	12P	2	260	44
CAMBRIDGE BAY	1	2	10	−3	1	1		*
CAPE DYER	0P	1P	8P	−4P	36P	87	300	46
CLYDE	0	1	10	−3	3	3	330	44
COPPERMINE	5	*	24	−3	3	1	210	67
CORAL HARBOUR	1	1	8	−3	0	1		X
EUREKA	0	0	3	−3	2	1	330	69
FORT SMITH	12	0	26	4	11	0		X
FROBISHER BAY	3	1	8	−2	6	1	320	59
HALL BEACH	0P	2P	3P	−3P	6P	*	340	56
INUVIK	12	3	24	1	1	0		X
MOULD BAY	−2	−1	2	−6	1P	9		X
NORMAN WELLS	14	1	26	5	1	0		X
RESOLUTE	−3P	−1P	−1P	−6P	2P	6	340	65
SACHS HARBOUR	*	*	*	*	0P	0		X
YELLOWKNIFE	10	−1	21	2	3	0	020	41
ALBERTA								
CALGARY INT'L	13	1	23	4	29	0	280	83
COLD LAKE	13P	0P	28	5P	13	0	190	54
CORONATION	15P	1P	29P	5P	3P	0		*
EDMONTON NAMAO	14	0	24	6	80	0	270	67
FORT MCMURRAY	13	0	26	4	47	0		X
HIGH LEVEL	11P	−2P	21P	3P	22P	0		*
JASPER	12P	0P	20P	4P	24P	0		X
LETHBRIDGE	15	1	27	7	18	0	270	98
MEDICINE HAT	17	1	29	8	25	0	360	83
PEACE RIVER	12	−2	23	3	43P	0	290	48
SASKATCHEWAN								
CREE LAKE	12	0	26	5	18	0	200	69
ESTEVAN	24	8	39	10	4	0	110	70
LA RONGE	16	4	29	8	5	0	260	52
REGINA	21P	6P	39P	10P	14P	0	110	67
SASKATOON	19	4	33	7	13	0	060	57
SWIFT CURRENT	18	4	34	8	41	0		X
YORKTON	19P	4P	37P	8P	4P	0	080	81
MANITOBA								
BRANDON	22	6	36	9	0	0	040	50
CHURCHILL	7	3	25	−3	1P	1	320	41
LYNN LAKE	12	1	29	2	30	0	060	48

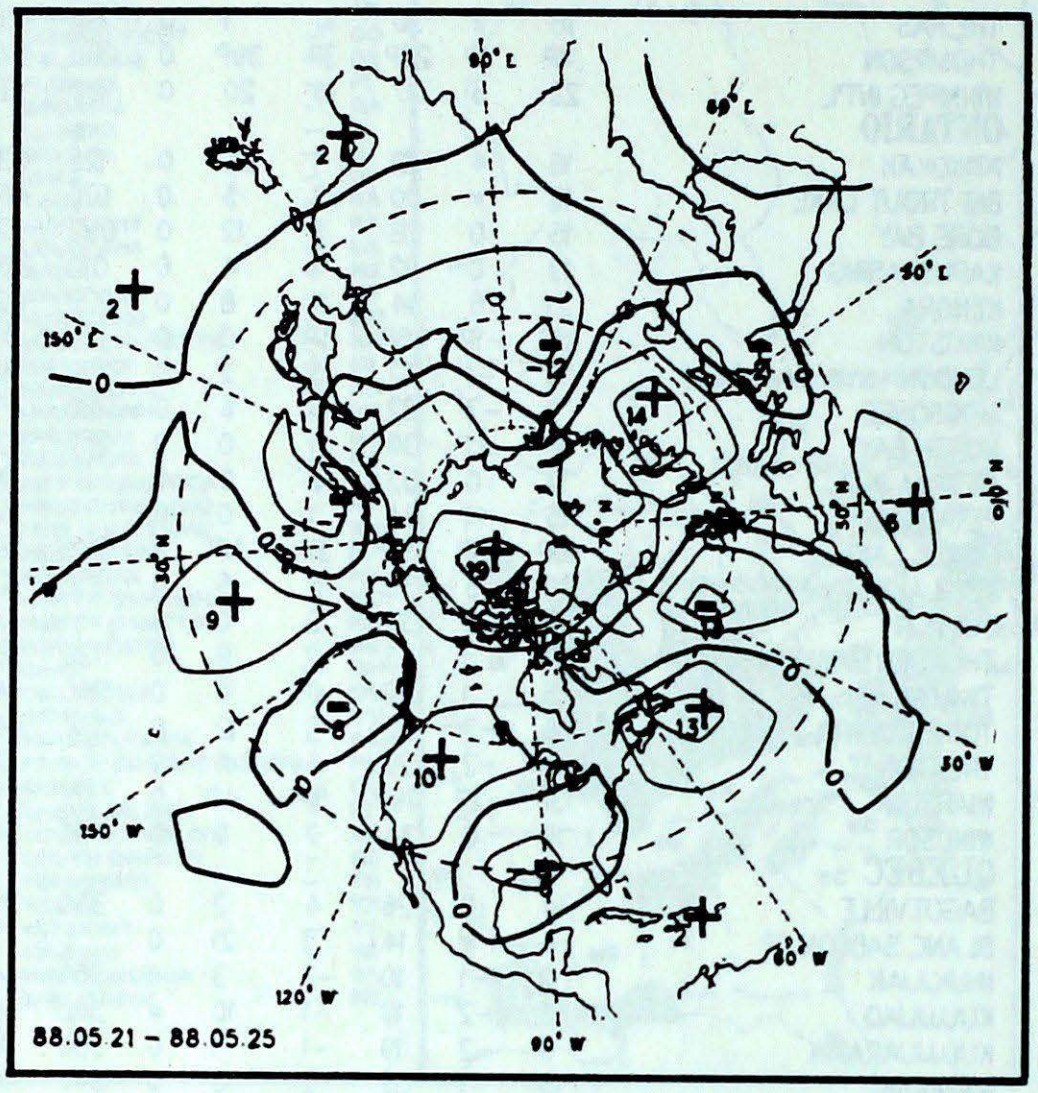
STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
THE PAS	18	*	30	10	1	0	100	48
THOMPSON	11P	1P	26P	3P	39P	0	080	87
WINNIPEG INT'L	22	6	37	10	20	0	190	57
ONTARIO								
ATIKOKAN	18	4	32	1	35	0	120	33
BIG TROUT LAKE	13	*	30	2	5	0	070	56
GORE BAY	15	0	28	3	12	0	030	37
KAPUSKASING	13	0	32	−1	4	0	010	43
KENORA	21	6	34	11	8	0	220	46
KINGSTON	15P	−1P	26P	5P	0	0		X
LONDON	16	−1	32	5	2	0	330	59
MOOSONEE	9	−2	32	−1	6	0	260	39
NORTH BAY	14	−1	30	1	0	0	250	43
OTTAWA INT'L	17	0	33	6	0	0		X
PETAWAWA	15	−1	34	1	0	0		X
PICKLE LAKE	15P	3P	28P	3P	11P	0	330	85
RED LAKE	20	6	33	5	5	0	210	52
SUDBURY	15	0	32	2	0	0		X
THUNDER BAY	17	3	33	2	8	0	130	35
TIMMINS	15	1	32	0	0	0	360	46
TORONTO INT'L	16	−2	32	3	12	0	350	46
TRENTON	16	−2	29	5	0	0		X
WIARTON	13P	−2P	29P	5P	4P	0		X
WINDSOR	19	0	34	7	0	0	030	56
QUEBEC								
BAGOTVILLE	14	0	26	4	2	0	330	39
BLANC SABLON	6	*	14	1	21	0		X
INUKJUAK	2	−1	10	−2	3	1	360	46
KUUJJUAQ	3	−2	10	−1	10	*	360	65
KUUJJUARAPIK	3	−2	19	−1	1	0	350	41
MANIWAKI	15	−1	32	2	0	0	340	46
MONT JOLI	13	0	26	0	0	0	060	46
MONTREAL INT'L	16	−1	30	5	1	0	250	43
NATASHQUAN	9P	0P	16P	4P	0P	0	360	56
QUEBEC	14P	−1P	27P	3P	2P	0	350	44
SCHEFFERVILLE	4	−2	16	−3	12	0	340	69
SEPT-ILES	10	−1	25	3	1	0	310	57
SHERBROOKE	12P	−2P	28P	2P	0P	0	340	41
VAL D'OR	13	−1	30	−1	7	0	320	52
NEW BRUNSWICK								
CHARLO	12P	−1P	29P	3P	0P	0	320	41
CHATHAM	12	−2	29	3	1	0	350	41
FREDERICTON	12	−2	27	0	2	0	300	48
MONCTON	11	−2	26	1	5P	0	280	56
SAINT JOHN	11	−1	27	1	3	0	270	54
NOVA SCOTIA								
GREENWOOD	12	−2	26	2	8	*	280	52
SHEARWATER	12P	0P	24P	5P	13P	0	300	43
SYDNEY	10	−1	21	4	11P	0	240	48
YARMOUTH	12	−1	24	4	11	0	360	46
PRINCE EDWARD ISLAND								
CHARLOTTETOWN	11	−2	23	4	5	0	330	44
SUMMERSIDE	12	−2	23	3	4	0	190	46
NEWFOUNDLAND								
CARTWRIGHT	8	1	24	1	40P	*	300	61
CHURCHILL FALLS	6	−2	17	−2	12	0	300	67
GANDER INT'L	10	0	20	3	24	0	210	65
GOOSE	8	−1	25	0	17P	0	240	41
PORT-AUX-BASQUES	8P	0P	14P	4P	5P	0	290	54
ST JOHN'S	10	1	18	3	34	0	230	70
ST LAWRENCE	9	1	17	3	47	0		X
WABUSH LAKE	6	−2	18	−1	4	0	360	52

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

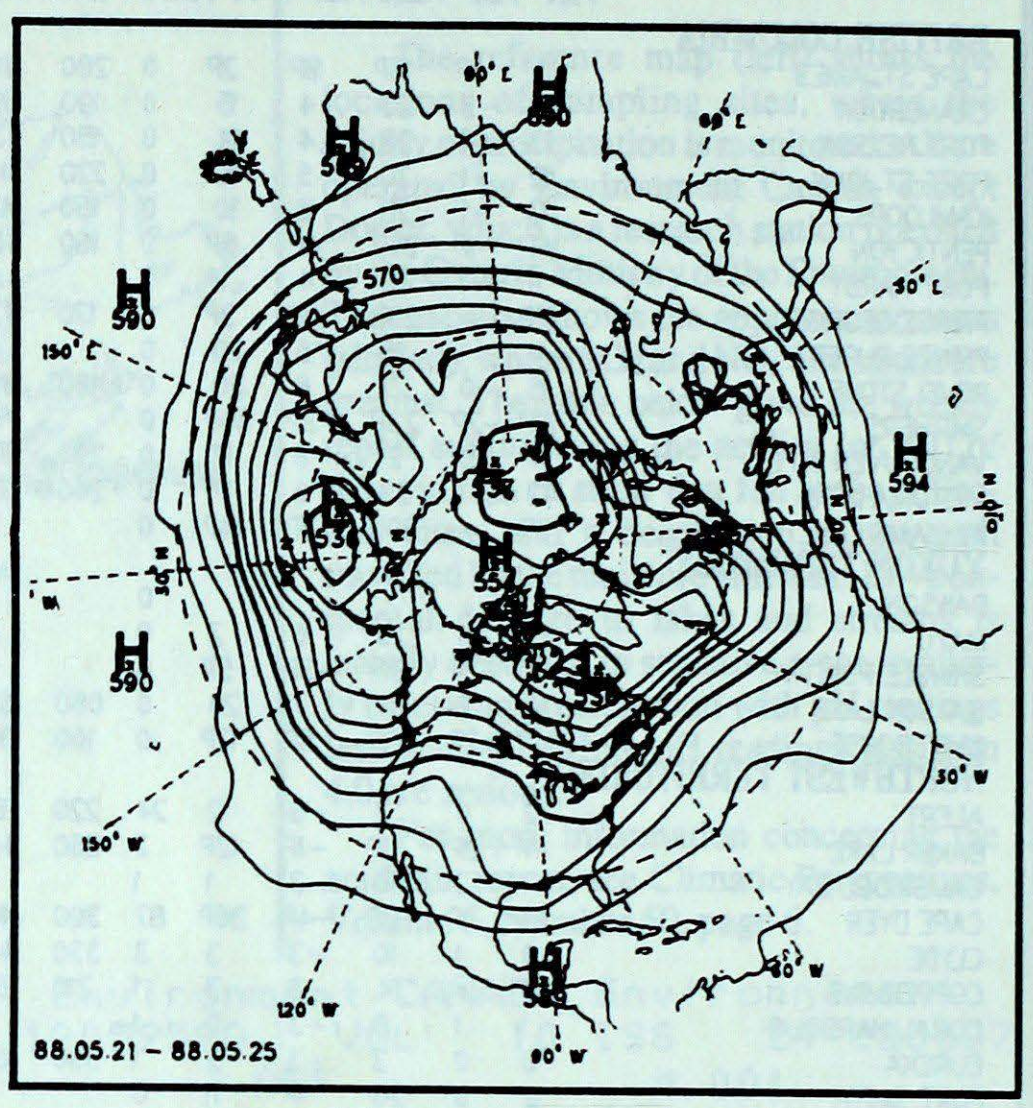
DIR = direction of maximum wind speed (deg. from true north)
SPD = maximum wind speed in km/hour

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)