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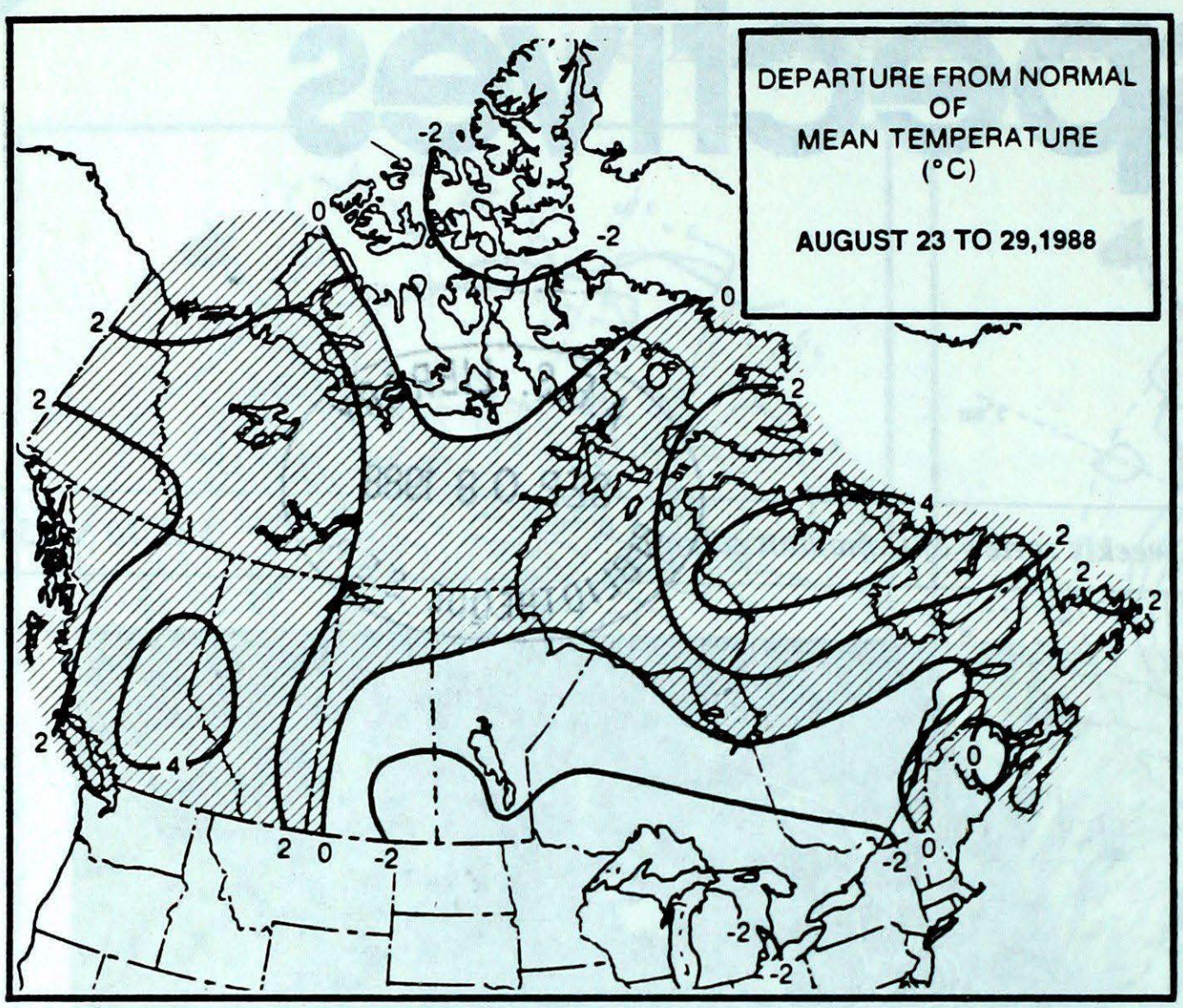
Climatic Perspectives

August 23 to 29, 1988 | *A weekly review of Canadian climate* | *Vol. 10 No. 35*

This GOES satellite photo of August 28, 1988, shows tropical storm Chris moving northward towards the American southeast coast. The storm was upgraded from a tropical depression Sunday morning after brushing past the Bahamas earlier. The thick cloud across the lower Great Lakes is associated a cold front. More details on page 3.

- **Severe thunderstorms hit the Okanagan**
- **Dry weather aids harvesting in the Prairies**
- **Locally heavy downpours in Eastern Canada**

Canada



Weekly Temperature Extreme (°C)

	MAXIMUM		MINIMUM	
BRITISH COLUMBIA	LYTTON	38	DEASE LAKE	−1
YUKON TERRITORY	MAYO	24	BEAVER CREEK	−5
NORTHWEST TERRITORIES	HAY RIVER	30	ALERT	−8
ALBERTA	MEDICINE HAT	33	FORT MCMURRAY	1
SASKATCHEWAN	KINDERSLEY	32	HUDSON BAY	1
MANITOBA	PORTAGE LA PRAIRIE	28	THOMPSON	3
ONTARIO	WINDSOR	27	NAGAGAMI	4
QUEBEC	GASPE	26	CHIBOUGAMAU	1
NEW BRUNSWICK	CHATHAM	27	FREDERICTON	3
NOVA SCOTIA	GREENWOOD	28	SHELBURNE	2
PRINCE EDWARD ISLAND	CHARLOTTETOWN	26	CHARLOTTETOWN	5
NEWFOUNDLAND	GOOSE	27	ST ANTHONY	1

ACROSS THE NATION

WARMEST MEAN TEMPERATURE	24	LYTTON	BC
COOLEST MEAN TEMPERATURE	−4	ALERT	NWT

ACROSS THE COUNTRY . . .

Yukon and Northwest Territories

In the Yukon, the week started out cloudy and cool. A ridge of high pressure gave sunshine during the middle of the week, but damp weather returned by the weekend. Temperatures ranged from the mid-twenties to several degrees below freezing. Record warm weather was experienced in the eastern Arctic. Temperatures nudged twenty degrees on southern Baffin Island. In contrast, below freezing maximum temperature readings have become common in the high Arctic.

British Columbia

For the most part, a high pressure ridge produced pleasant weather during the middle of the week. In fact, a large portion of the province received no precipitation at all. A few daily high temperature records were broken. A disturbance moving across the northwestern States on the 25th, affected the southern fringes of the province, triggering scattered, but locally severe thunderstorms in the Okanagan. Strong gusty winds capsized a number of boats on Lake Okanagan. As well, severe turbulence flipped a small plane over in flight; luckily the pilot was able to bring it under control. In the Kootenays, weather conditions were favorable for slash burning.

Prairie Provinces

In Alberta, it was a generally sunny and pleasant week, allowing harvesting to get into full swing. Temperatures slowly moderated during the period, climbing to the mid- to high twenties. A number of new daily maximum temperature records were broken over the weekend in the more northern districts. An area of shower and thunderstorm activity moved across the central portions of Alberta on the evening of the 29th. There were reports of some wind damage in the vicinity of Edmonton, with reported gusts as high as 90 km/h.

In Manitoba and Saskatchewan, it was a cool week as a brisk northwesterly circulation pushed cold Arctic air southward. Minimums dropped to near freezing in the northern areas on Sunday. There was a considerable amount of cloud everywhere, with gradual clearing occurring from the west. Northern regions received occasional rain, while showers were abundant in the south.

Ontario

A nearly stationary atmospheric disturbance plagued the province, resulting in a cool unsettled week, with showers and thundershowers occurring almost every day. Several destructive thunderstorms occurred on August 24 and 25. At Rockland, east of Ottawa, strong winds on the 25th took down trees and power lines. At Gooderham, just south of Algonquin Park a boat was lifted out of the water and at least 30 large trees were knocked down. Despite the current cool trend in temperatures, August's mean temperatures are still well above normal. At Toronto this is the warmest August since 1973.

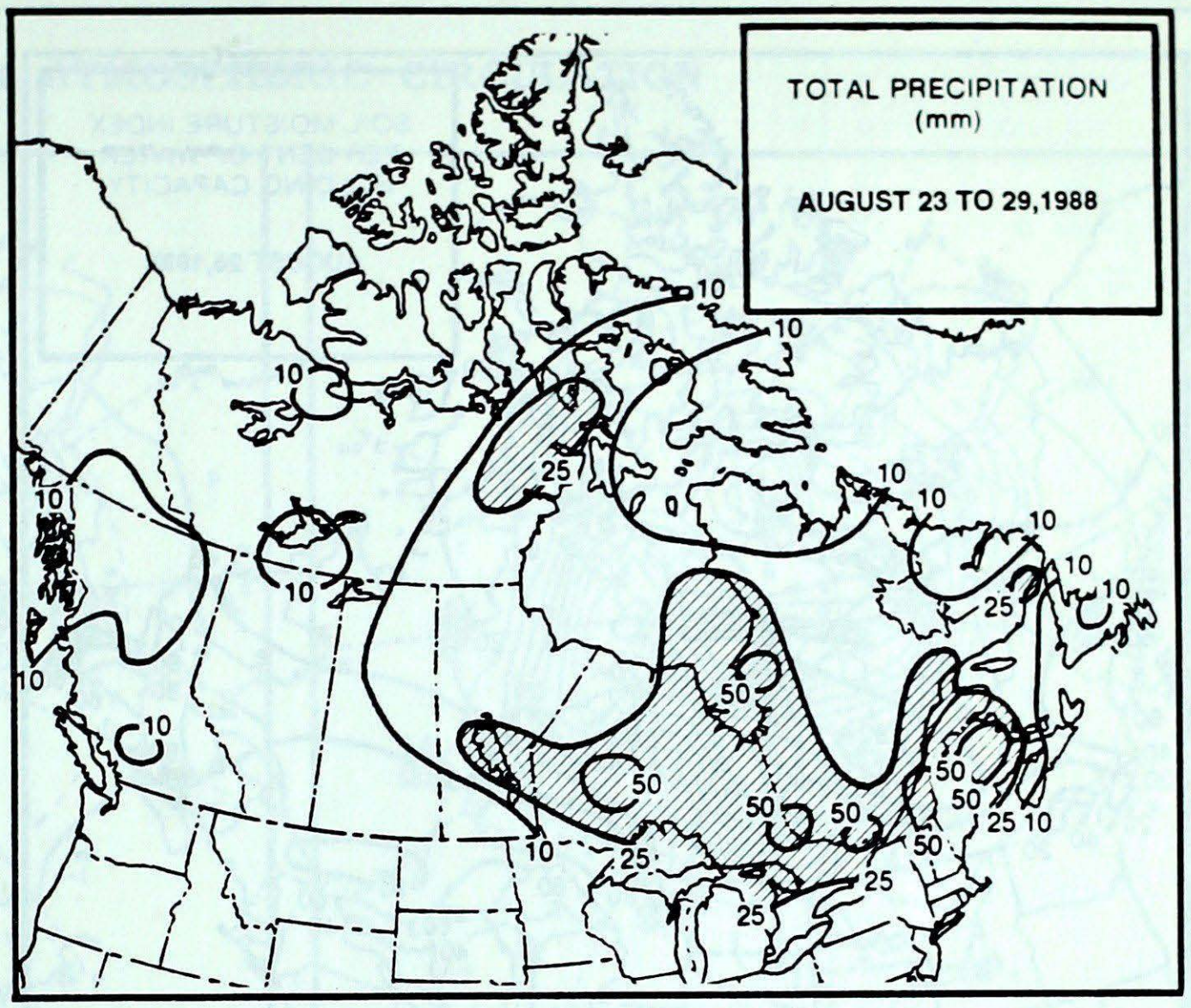
Quebec

It was a cool unsettled period as an atmospheric trough settled over the Great Lakes Basin. Predominantly cloudy skies and scattered showers plagued the province frequently during the afternoons. Thunderstorms crossing southwestern Quebec late Saturday were associated with hail and strong winds, gusting to 90 km/h, which were attributed for the power failures in the Chateauguay Region. Heaviest rainfall amounts of between 40 and 60 millimetres fell in the southwest corner of the province

Atlantic Canada

In the Maritimes, it was a variable week with very cool temperatures during the early part of the period. The first two days of the week and the weekend were mostly sunny. Locations in northern New Brunswick reported near freezing temperatures. Heavy showers and thundershowers moved across New Brunswick on Thursday, Chatham received 50 mm of rain in a 6-hour period Thursday night.

An area of high pressure produced mainly sunny weather across Newfoundland. Maximum readings climbed from the teens early in the week to the twenties. A weak disturbance touched off some showers over the weekend. In Labrador, the weather was fair to begin with, but showers and thundershowers moved in for the weekend. Temperatures climbed to the mid- to high twenties during the middle of the week. The week ended on a pleasant note.

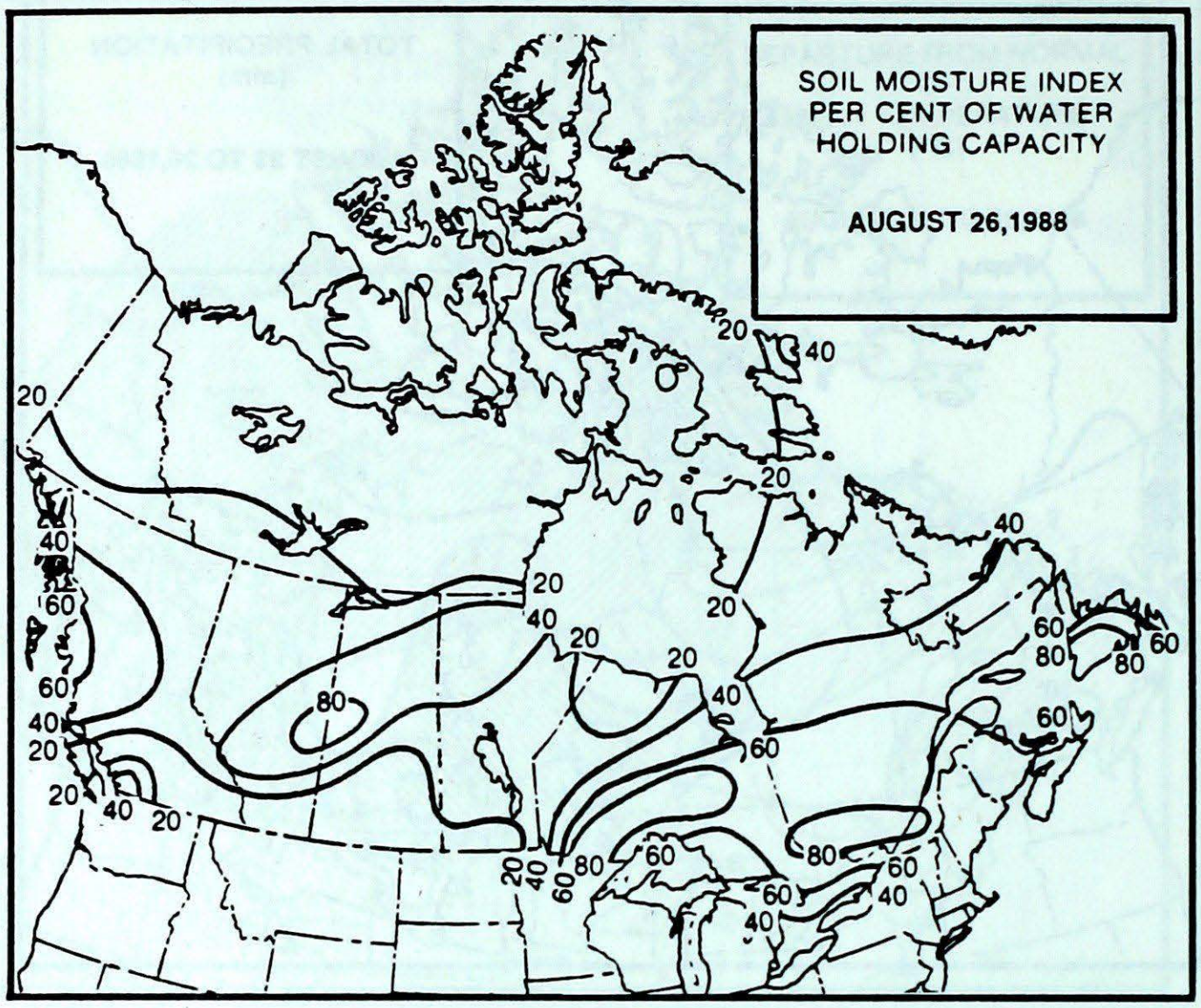


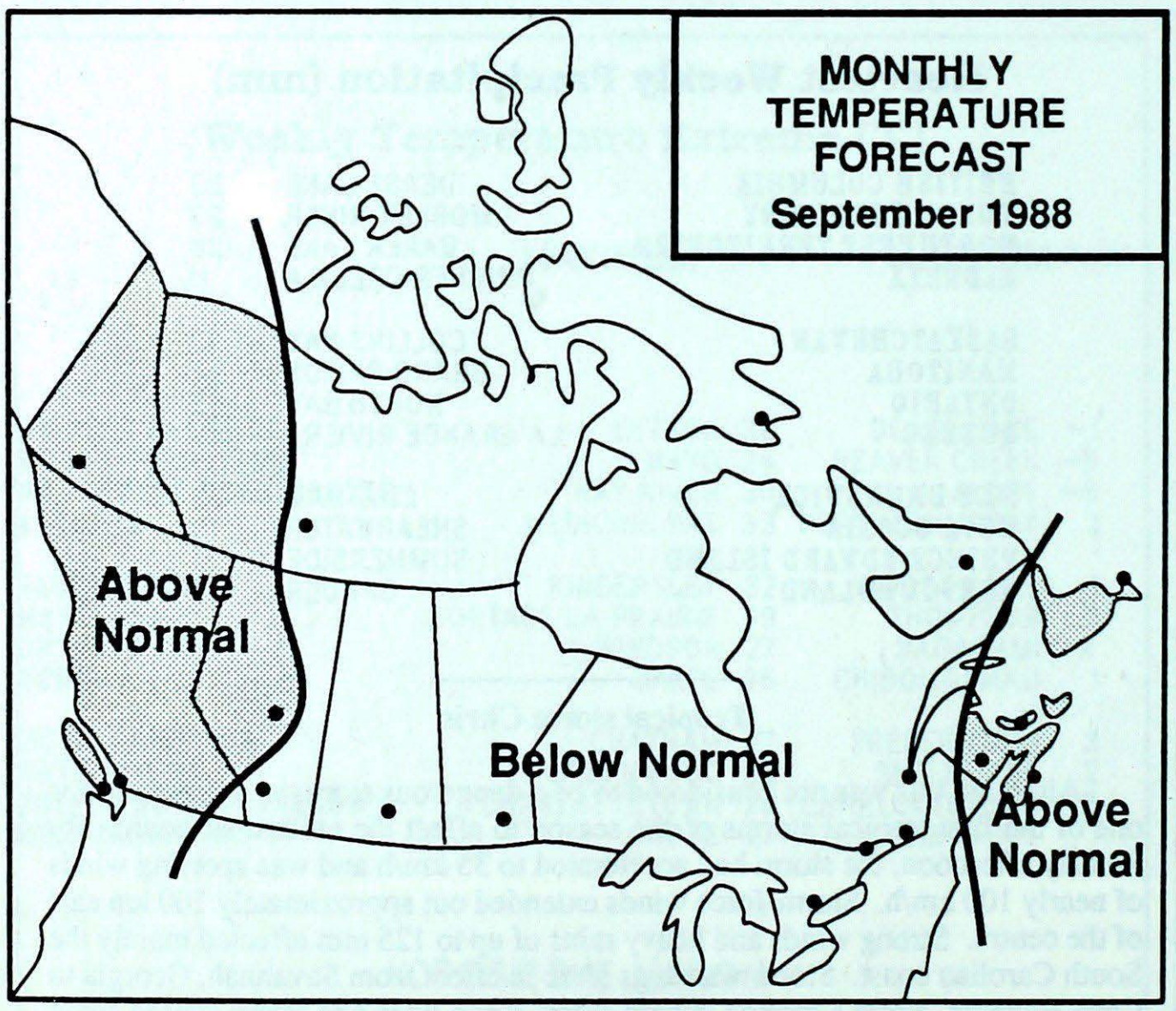
Heaviest Weekly Precipitation (mm)

BRITISH COLUMBIA	DEASE LAKE	23
YUKON TERRITORY	MORLEY RIVER	23
NORTHWEST TERRITORIES	BAKER LAKE	28
ALBERTA	PINCHER CREEK A	11
SASKATCHEWAN	COLLINS BAY	13
MANITOBA	GRAND RAPIDS	34
ONTARIO	NORTH BAY	58
QUEBEC	LA GRANDE RIVIERE	69
NEW BRUNSWICK	CHATHAM	93
NOVA SCOTIA	SHEARWATER	13
PRINCE EDWARD ISLAND	SUMMERSIDE	15
NEWFOUNDLAND	GANDER	17

Tropical storm Chris

Although this was not considered to be a dangerous storm by any means it is one of the first tropical storms of the season to affect the eastern seaboard. By Sunday afternoon, the storm had accelerated to 35 km/h and was sporting winds of nearly 100 km/h. Storm-force winds extended out approximately 160 km east of the centre. Strong winds and heavy rains of up to 125 mm affected mainly the South Carolina coast. Storm warnings were in effect from Savannah, Georgia to Cape Hatteras, North Carolina, where storm surge tides one metre caused some coastal flooding and beach erosion. By Sunday evening Chris moved inland and was located over central South Carolina, with winds subsiding to 50 km/h.





Normal temperatures for the month of September, °C

Whitehorse	8	Edmonton	10	Quebec	13
Yellowknife	7	Regina	12	Fredericton	13
Iqaluit	2	Winnipeg	12	Halifax	15
Vancouver	14	Toronto	16	Charlottetown	14
Victoria	14	Ottawa	14	Goose Bay	9
Calgary	11	Montreal	15	St. John's	12

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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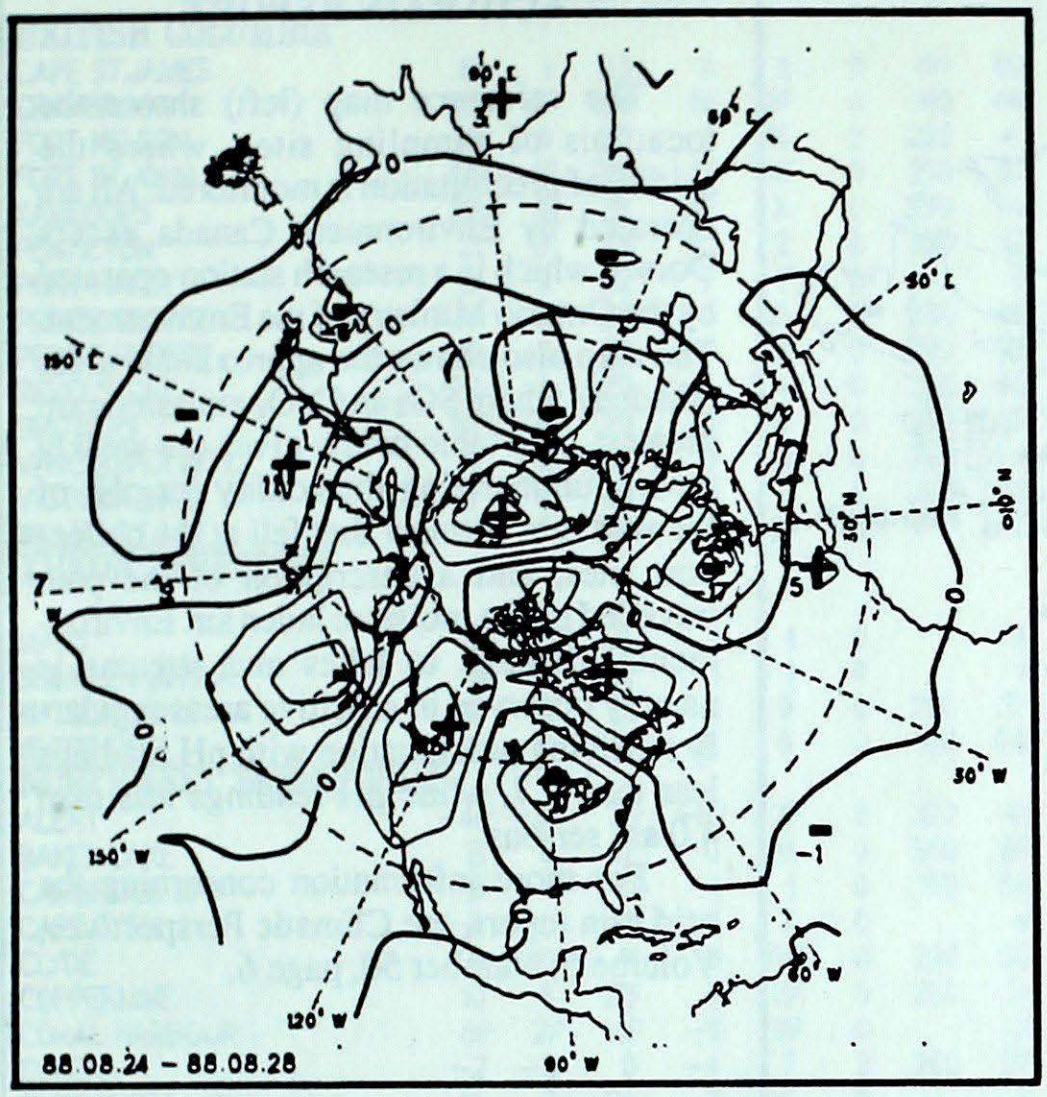
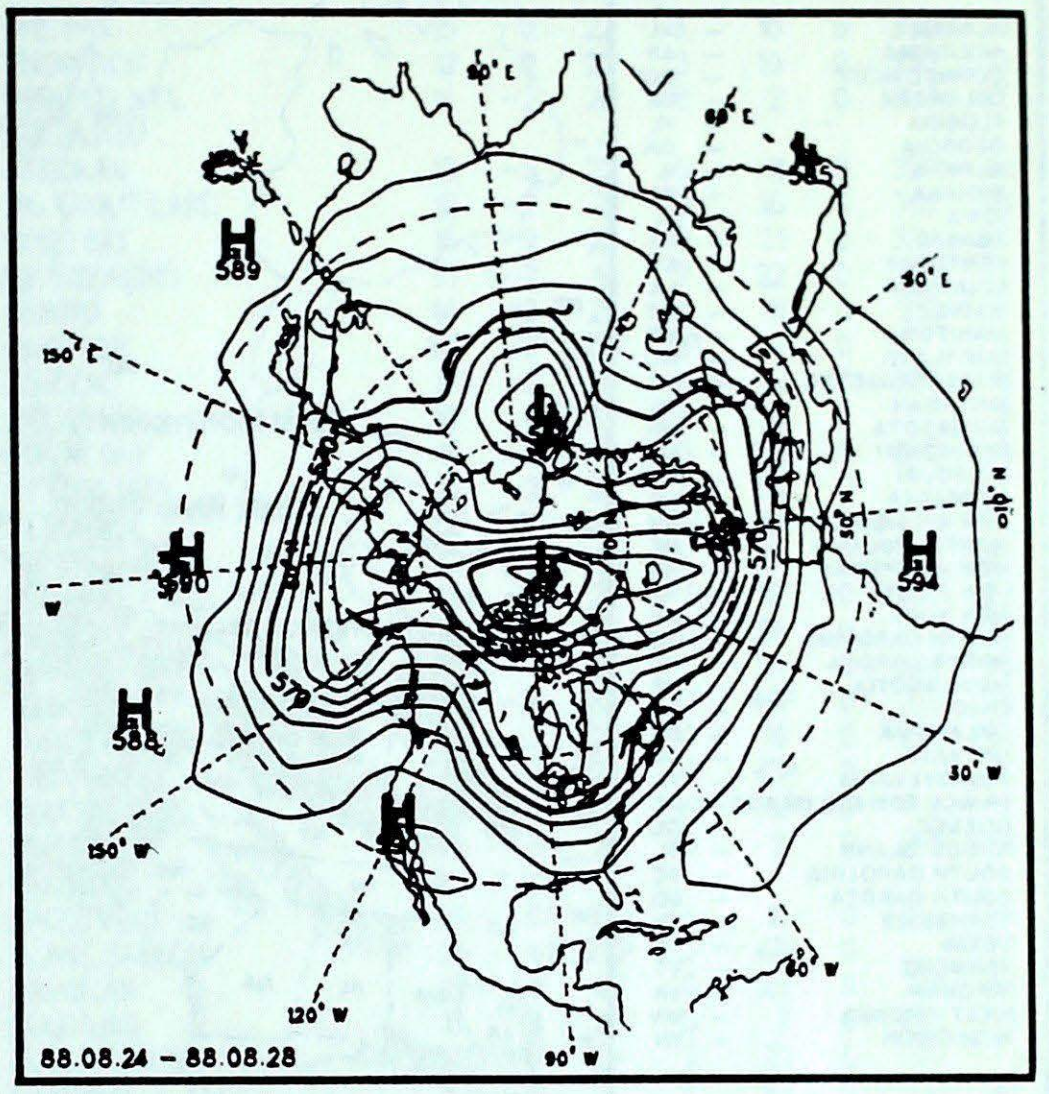
50 kPa ATMOSPHERIC CIRCULATION



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



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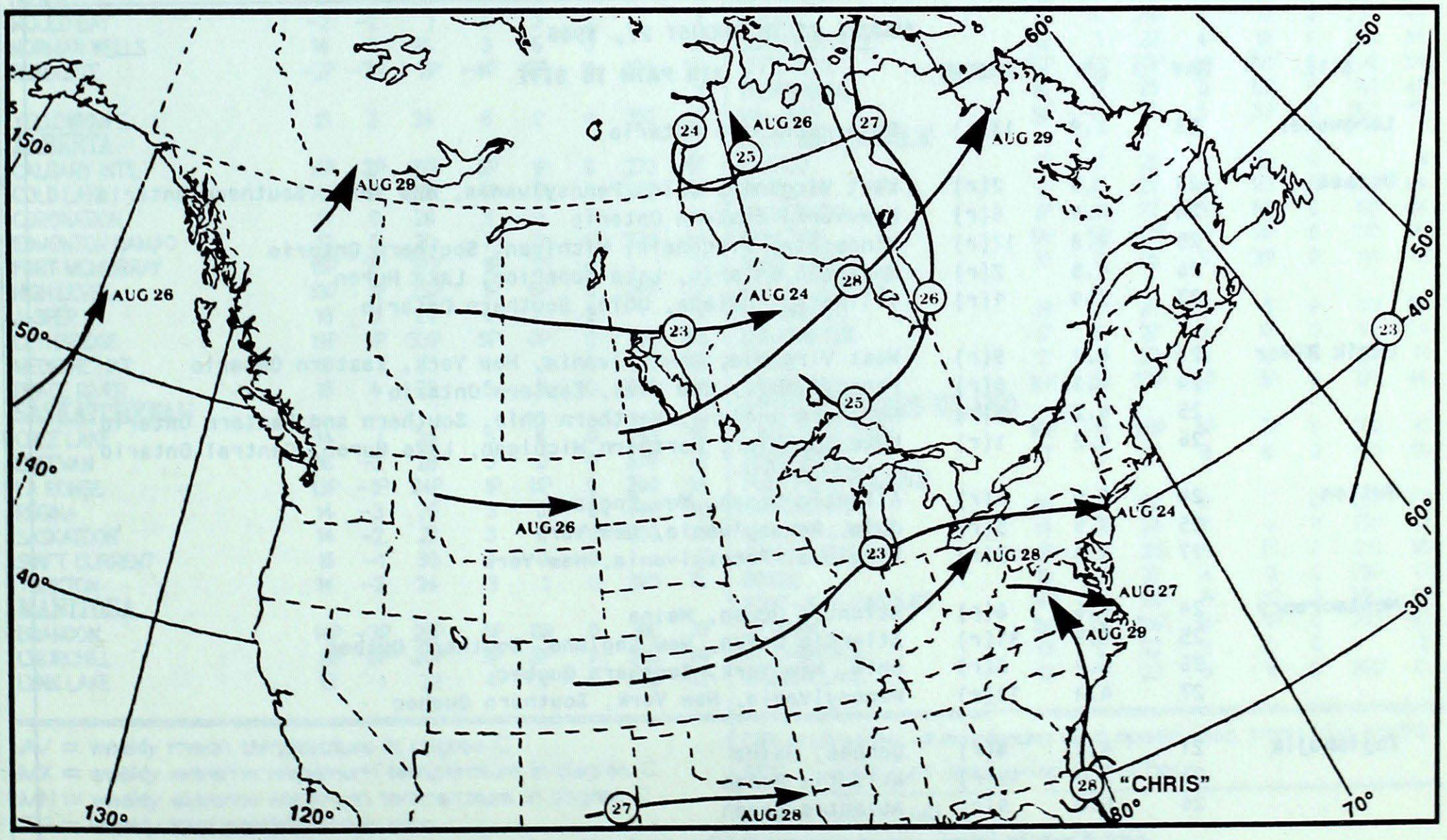
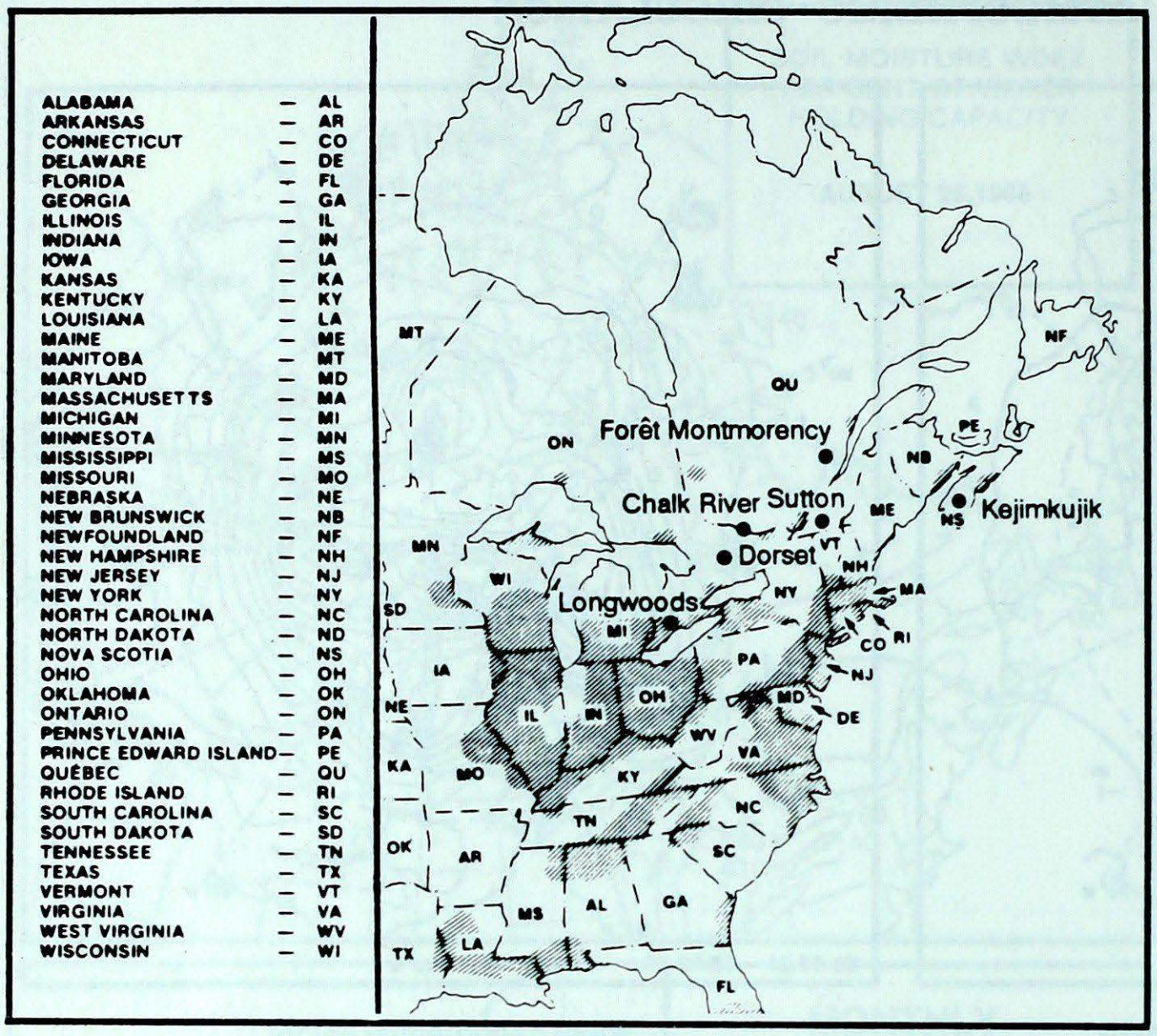


Storm track - Position of storm at 12 GMT during the period: August 23 to 29, 1988



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.

AUGUST 21 TO AUGUST 27, 1988

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	23	3.9	13(r)	Ohio, Southern Ontario
Dorset	23	3.9	2(r)	West Virginia, Ohio, Pennsylvania, New York, Southern Ontario
	24	4.4	8(r)	New York, Eastern Ontario
	25	4.8	17(r)	Minnesota, Wisconsin, Michigan, Southern Ontario
	26	4.8	2(r)	Northern Ontario, Lake Superior, Lake Huron
	27	3.9	1(r)	Illinois, Indiana, Ohio, Southern Ontario
Chalk River	23	4.1	9(r)	West Virginia, Pennsylvania, New York, Eastern Ontario
	24	4.1	6(r)	Pennsylvania, New York, Eastern Ontario
	25	4.2	5(r)	Northern Indiana, Northern Ohio, Southern and Eastern Ontario
	26	4.2	1(r)	Lake Superior, Northern Michigan, Lake Huron, Central Ontario
Sutton	24	3.9	3(r)	Atlantic Ocean, New England
	25	3.9	5(r)	Ohio, Pennsylvania, New York
	27	3.8	15(r)	Virginia, Pennsylvania, New York
Montmorency	24	4.6	8(r)	Atlantic Ocean, Maine
	25	4.3	31(r)	Atlantic Ocean, New England, Southern Quebec
	26	4.4	6(r)	Ohio, New York, Southern Quebec
	27	4.4	13(r)	Pennsylvania, New York, Southern Quebec
Kejimkujik	21	4.1	4(r)	Quebec, Maine
	25	5.0	12(r)	Atlantic Ocean
	26	6.0	9(r)	Atlantic Ocean

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

STATISTICS FOR THE WEEK ENDING 0600 GMT August 30, 1988

STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
BRITISH COLUMBIA								
CAPE ST.JAMES	15	1	23	11	11	0	190	89
CRANBROOK	21P	5P	33P	8P	0P	0	190	46
FORT NELSON	16	3	25	5	15	0	280	41
FORT ST.JOHN	17P	4P	28P	5P	0P	0	250	57
KAMLOOPS	22	4	35	12	5	0	230	74
PENTICTON	21	3	33	10	2	0	330	52
PORT HARDY	15	2	22	7	7	0		*
PRINCE GEORGE	16	4	29	3	13	0	230	46
PRINCE RUPERT	15	2	22	7	22	0	170	52
REVELSTOKE	20	4	29	10	4	0	360	48
SMITHERS	15P	3P	29	3P	4	0	240	65
VANCOUVER INT'L	19	3	27	13	0	0	290	44
VICTORIA INT'L	17	2	28	10	0	0	260	43
WILLIAMS LAKE	19P	5	31P	8P	9P	0		X
YUKON TERRITORY								
MAYO	13	3	24	1	1	0		X
SHINGLE POINT A	6	-2	22	1	1	0		*
WATSON LAKE	12	1	21	1	9	0	290	37
WHITEHORSE	11	0	19	2	8	0	170	44
NORTHWEST TERRITORIES								
ALERT	-4P	-3P	2P	-8P	2P	8	320	41
BAKER LAKE	8	0	17	0	28	0	360	65
CAMBRIDGE BAY	5	-1	13	-1	1	0	160	56
CAPE DYER	4	1	13	0	7	0		*
CLYDE	3	0	11	0	9P	0	220	56
COPPERMINE	10	4	23	4	15	0	200	59
CORAL HARBOUR	8P	2P	14P	-1P	9P	0		X
EUREKA	-2	-3	0	-4	7	3	260	37
FORT SMITH	14	2	28	3	15	0		X
IQALUIT	9	3	20	4	1P	0	320	50
HALL BEACH	4	0	8	1	12	0	290	61
INUVIK	10	1	23	5	9	0		X
MOULD BAY	-2	-2	1	-6	3	0		X
NORMAN WELLS	14	2	24	3	6	0		X
RESOLUTE	-2P	-3P	2P	-4P	12P	11	020	70
								X
YELLOWKNIFE	15	3	24	8	0	0	150	46
ALBERTA								
CALGARY INT'L	16P	2P	27P	6P	1P	0	270	87
COLD LAKE	14P	0P	25P	4P	0P	0	340	46
CORONATION	15	0	29	3	0	0		*
EDMONTON NAMAO	17	3	29	7	0	0	300	69
FORT MCMURRAY	15P	2P	27P	1P	1P	0		X
HIGH LEVEL	13P	1P	25P	1P	6P	0	240	37
JASPER	18	5	29	6	6	0		X
LETHBRIDGE	19P	2P	33P	5P	0P	0	010	43
MEDICINE HAT	18	1	33	4	1	0	010	48
PEACE RIVER	16	4	29	5	3	0	280	74
SASKATCHEWAN								
CREE LAKE	14	1	24	5	6	0	290	59
ESTEVAN	16	-2	28	3	0	0	330	72
LA RONGE	13P	-1P	24P	1P	11P	0	300	56
REGINA	14	-3	26	3	0	0	340	61
SASKATOON	14	-2	27	3	0	0	330	59
SWIFT CURRENT	16	-1	30	4	0	0		X
YORKTON	14	-2	24	3	1	0	320	72
MANITOBA								
BRANDON	14P	-3P	25P	4P	0P	0	290	76
CHURCHILL	11P	0P	20P	3P	8P	0	340	54
LYNN LAKE	13	1	22	4	9	0	360	67

STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
THE PAS	15	0	23	6	10	0	330	61
THOMPSON	12	0	23	3	19	0	330	59
WINNIPEG INT'L	16	-2	28	8	2	0	320	67
ONTARIO								
ATIKOKAN	13	-3	22	5	11	0	320	41
BIG TROUT LAKE	12	-2	21	6	16	0	300	61
GORE BAY	16	-2	22	8	31	0	300	56
KAPUSKASING	13	-2	19	7	22	0	270	37
KENORA	14	-3	25	8	11	0	310	44
KINGSTON	18P	-1P	22P	11P	*	0		X
LONDON	18	-2	24	11	22	0	300	61
MOOSONEE	14	0	23	9	10	0		*
NORTH BAY	15	-2	21	8	58	0	240	43
OTTAWA INT'L	16	-3	24	8	55	0		X
PETAWAWA	15P	-2P	24P	7P	35P	0		X
PICKLE LAKE	13	-2	21	8	51	0	330	52
RED LAKE	13	-3	23	7	42	0	330	63
SUDBURY	15	-2	23	8	26	0		X
THUNDER BAY	15	-1	23	6	24	0	330	43
TIMMINS	13P	-2P	20P	7P	49P	0	270	31
TORONTO INT'L	18	-2	25	10	14	0	270	52
TRENTON	17	-2	24	9	47P	0		X
WIARTON	16P	-2P	22P	9P	49P	0		X
WINDSOR	20	-2P	27	13	11	0	250	63
QUEBEC								
BAGOTVILLE	15	0	24	4	15	0	100	35
BLANC SABLON	12P	*	20P	2P	47P	0		X
INUKJUAK	13	4	22	6	28	0	270	46
KUUJJUAQ	15	5	25	5	7	0	240	59
KUUJJUARAPIK	14	4	24	7	31	0	170	41
MANIWAKI	15	-2	22	5	36	0	210	41
MONT JOLI	15	0	23	5	30	0	160	72
MONTREAL INT'L	17P	-2P	24P	7P	60P	0	230	46
NATASHQUAN	12	0	20	5	23	0	180	56
QUEBEC	16	0	24	0	59	0	230	44
SCHEFFERVILLE	12	3	22	4	18	0	270	56
SEPT-ILES	13P	0P	20P	4P	28P	0	090	54
SHERBROOKE	16	0	25	2	63	0	140	46
VAL D'OR	14	-2	21	5	33	0	260	57
NEW BRUNSWICK								
CHARLO	15	0	25	5	22	0		*
CHATHAM	17	0	27	4	93	0	210	44
FREDERICTON	17	0	27	3	56	0	170	44
MONCTON	17P	0P	27P	5P	14P	0	130	41
SAINT JOHN	16	0	25	5	39	0	110	46
NOVA SCOTIA								
GREENWOOD	18	1	28	4	5	0	110	59
SHEARWATER	17	0	27	9	13	0	110	44
SYDNEY	17	0	27	5	0	0	160	41
YARMOUTH	16P	0P	23P	6P	5P	0	120	46
PRINCE EDWARD ISLAND								
CHARLOTTETOWN	16P	-1P	26P	5P	7P	0	160	41
SUMMERSIDE	17	0	25	8	15	0	140	46
NEWFOUNDLAND								
CARTWRIGHT	14	3	25	5	7	0	230	43
CHURCHILL FALLS	14	3	24	6	9	0	270	43
GANDER INT'L	16	2	26	5	17	0	210	50
GOOSE	18	5	27	4	2	0	250	61
PORT-AUX-BASQUES	14P	0P	18P	7P	5P	0	090	46
ST JOHN'S	15P	0P	23P	6P	1P	0	260	63
ST LAWRENCE	13	0	22	5	5	0		X
WABUSH LAKE	12	2	22	3	11	0	260	61

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