Environment Canada Environnement Canada

Climatic Perspectives

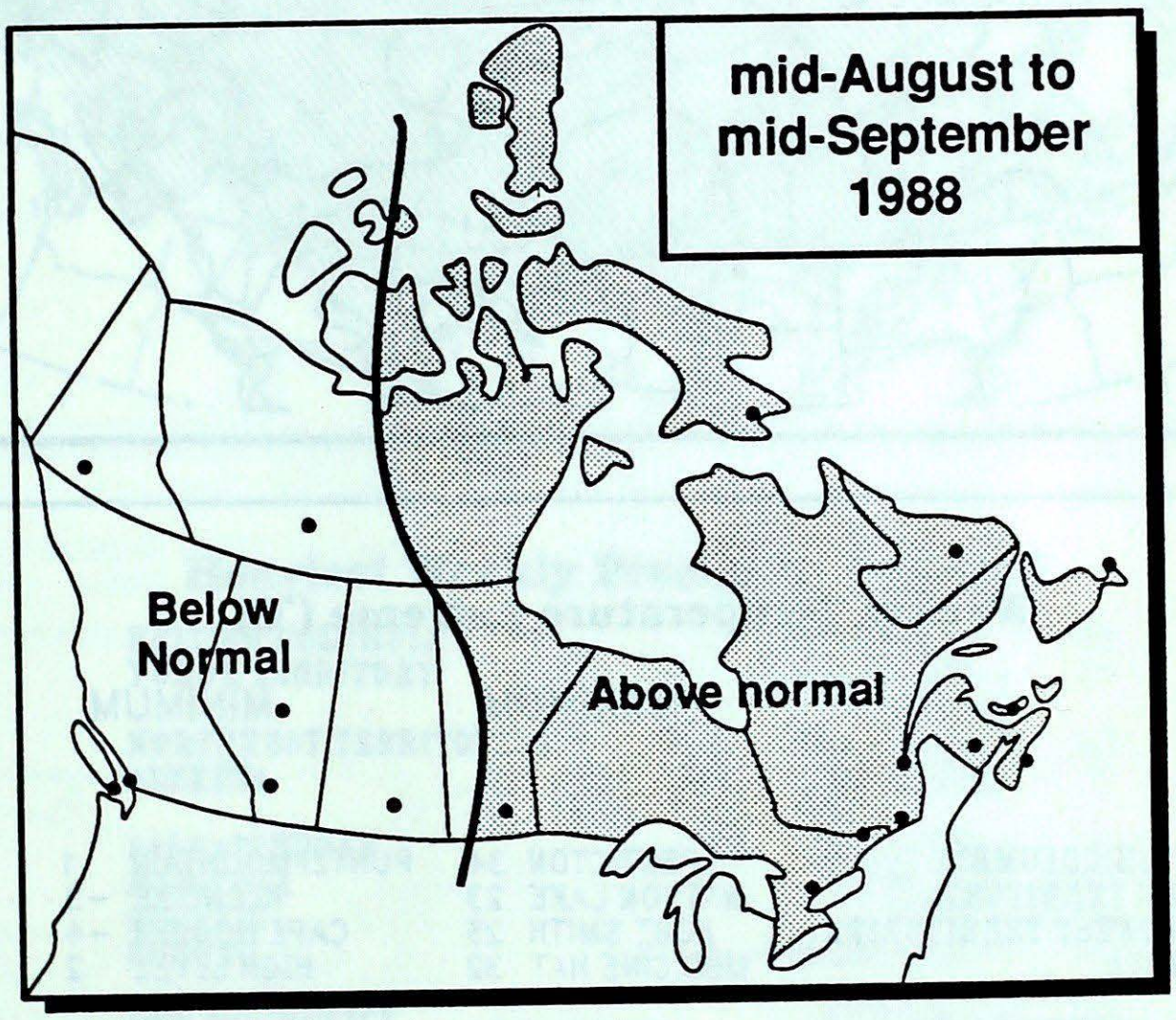
MONTHLY SUPPLEMENT INCLUDED

August 9 to 15, 1988 — *A weekly review of the Canadian climate* — Vol. 10 No. 33

Environment Canada Environnement Canada

Atmospheric Environment Service Service de l'environnement atmosphérique

MONTHLY TEMPERATURE FORECAST



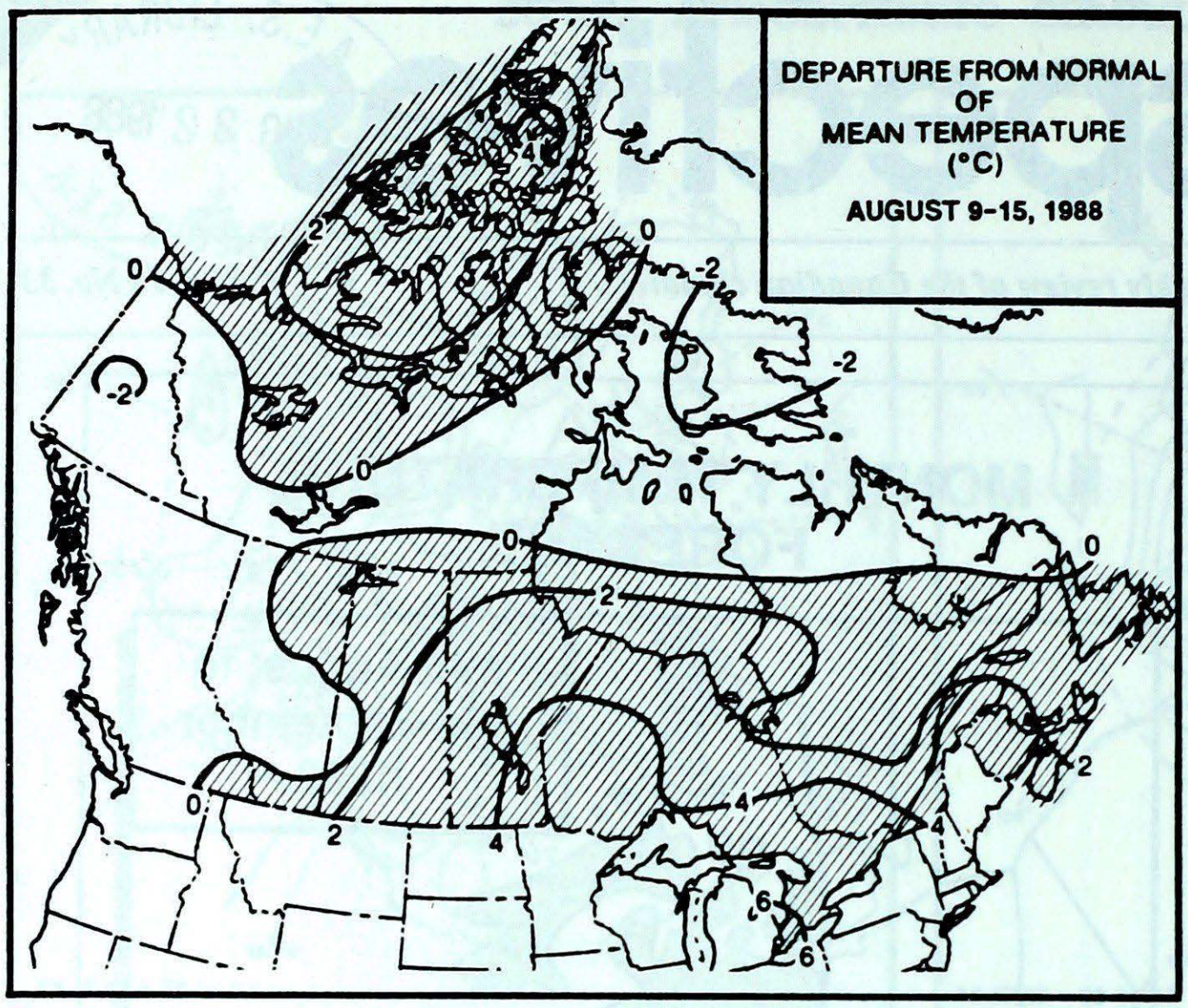
Normal temperatures for mid-August to mid-September, °C

Whitehorse	10	Toronto	18
Yellowknife	10	Ottawa	17
Iqaluit	5	Montreal	17
Vancouver	16	Quebec	15
Victoria	15	Fredericton	16
Calgary	13	Halifax	16
Edmonton	13	Charlottetown	16
Regina	15	Goose Bay	12
Winnipeg	15	St. John's	13

Canada

Official monthly temperature forecasts are available on the 1st and 16th day of each month 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.

- **More hot and humid weather spawns numerous severe thunderstorms over Eastern Canada**



Weekly Temperature extreme (°C)

	MAXIMUM		MINIMUM	
BRITISH COLUMBIA	PENTICTON	34	PUNTZI MOUNTAIN	1
YUKON TERRITORY	WATSON LAKE	23	KLONDIKE	-3
NORTHWEST TERRITORIES	FORT SMITH	25	CAPE HOOPER	-4
ALBERTA	MEDICINE HAT	32	HIGH LEVEL	2
SASKATCHEWAN	ESTEVAN	34	COLLINS BAY	5
			LA RONGE	
MANITOBA	GRETNA	37	THOMPSON	5
ONTARIO	TOPONTO INT'L	35	MOOSONEE	3
QUEBEC	MONTREAL INT'L	32	LA GRANDE RIVIERE	5
NEW BRUNSWICK	FREDERICTON	32	CHARLO	12
NOVA SCOTIA	GREENWOOD	32	WESTERN HEAD	9
PRINCE EDWARD ISLAND	SUMMERSIDE	31	CHARLOTTETOWN	14
NEWFOUNDLAND	GANDER INT'L	32	GOOSE	3

ACROSS THE NATION

WARMEST MEAN TEMPERATURE	28	WINDSOR	ONT
COOLEST MEAN TEMPERATURE	0	CAPE HOOPER	NWT

ACROSS THE COUNTRY . . .

Yukon and Northwest Territories

In the Yukon, cloudy, cool and wet weather persisted. Precipitation continues to be plentiful this month. A dusting of snow was reported at Old Crow on the morning of the 9th. In the Arctic, maximum temperature readings in the teens were common. Gale and wind warnings were issued for the eastern Arctic the first two days of the period, as a stationary low pressure system slowly weakened.

British Columbia

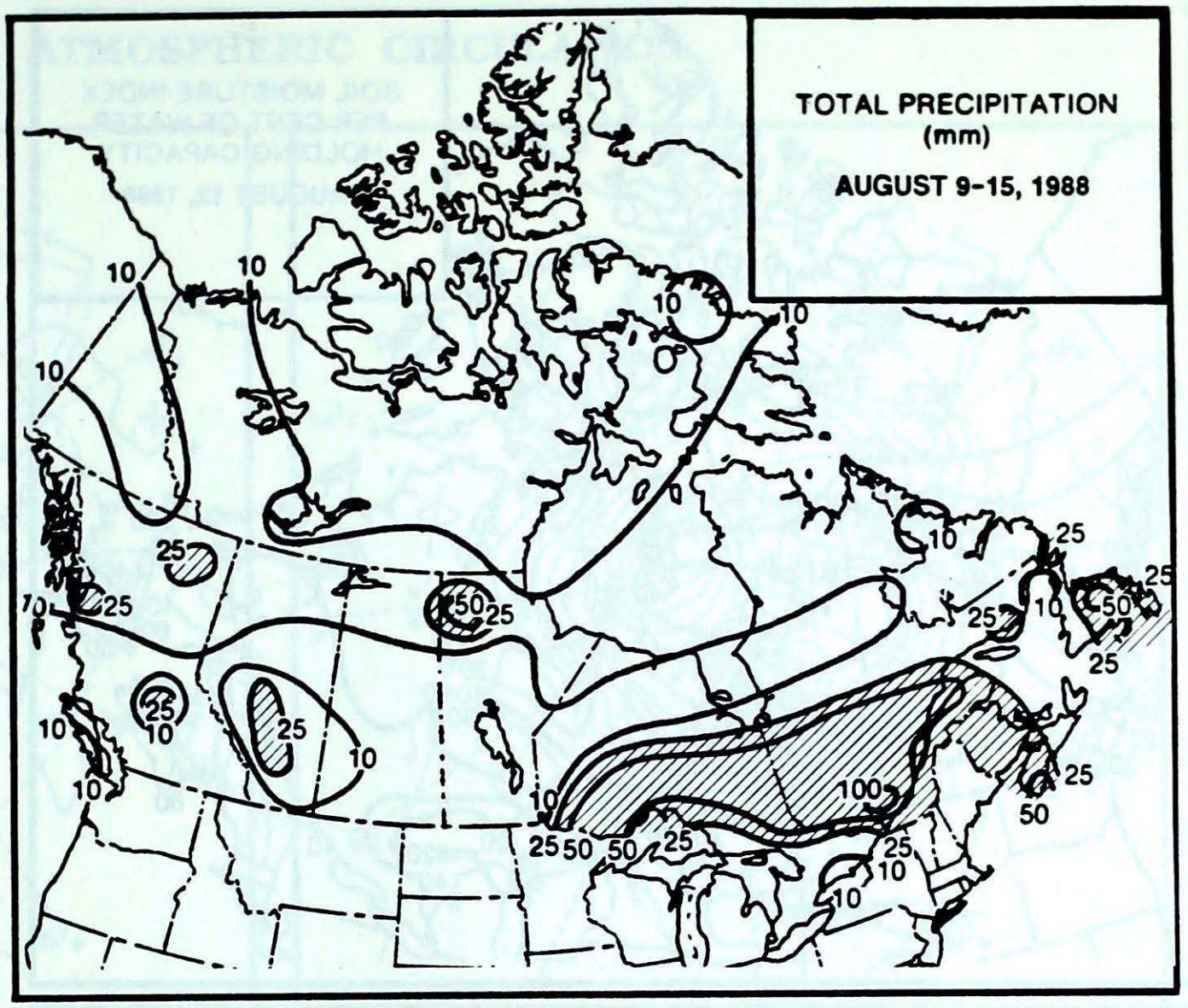
It was another cool, unsettled week throughout most of the province, except in the Okanagan and on southern Vancouver Island. Frequent showers and thundershowers produced significant rainfalls in the interior, hampering logging, road construction and agriculture. By mid-August, Fort Nelson had already exceeded their normal monthly rainfall. In the Kootenays, where temperatures dropped down to the single digits, it is too wet to harvest the mature hay crop. In contrast, on August 15, Victoria had its first significant rainfall in thirty-five days. International Air Shows held at both Abbotsford and Kamloops went off without a hitch weather-wise.

Prairie Provinces

Frontal disturbances associated with weather systems crossing the north brought changeable weather to Alberta. Warmer and more pleasant weather conditions arrived by the middle of the week, but thunderstorms redeveloped over the weekend. The final day of the period saw a significant amount of rain fall in the southeast corner of the province. The autumn harvesting has started with swathing of canola.

In the eastern two thirds of the prairies, a frontal zone separating cool, damp conditions in the north from the hot, dry weather in the south gradually sagged southwards, bringing cloud and showers to the southern half of Saskatchewan by the 11th. Daytime temperatures in the north were cool, generally in the teens. In contrast, maximum readings in the south soared into the thirties, and a number of maximum temperature records were either broken or tied in Manitoba.

Precipitation in the agricultural districts was sparse and scattered, but heavier rainfalls were recorded in central and northern regions, which eventually extended to central and western Saskatchewan over the weekend. Severe weather occurrences were minimal, consisting of locally heavy downpours accompanied by hail, and gusty winds. A waterspout and funnel clouds were sighted near The Pas, Manitoba and Glaslyn, Saskatchewan, respectively.



Heaviest Weekly Precipitation (mm)

BRITISH COLUMBIA	PRINCE RUPERT	38
YUKON TERRITORY	SHINGLE POINT A	20
	WHITEHORSE	
NORTHWEST TERRITORIES	DEWAR LAKES	23
ALBERTA	RED DEER	31
SASKATCHEWAN	COLLINS BAY	17
MANITOBA	LYNN LAKE	55
ONTARIO	UPSALA	125
QUEBEC	STE AGATHE DES MONTS	110
NEW BRUNSWICK	ST STEPHEN	40
NOVA SCOTIA	SHELBURNE	53
PRINCE EDWARD ISLAND	SUMMERSIDE	28
NEWFOUNDLAND	GANDER INT'L	60

Ontario

The whole province continued to swelter in thirty degree temperatures. Increasingly high humidity pushed the humidex into the forties. As the tropical air mass became well established, daily temperature records fell by the wayside right across the province. As is common during hot, humid spells, locally heavy thunderstorms developed during the afternoon and evening hours, producing damaging winds, heavy downpours and hail. A tornado touched down in Stoney Creek near Hamilton on the 11th, damaging several businesses. Funnel clouds were spotted near Chapleau on the 12th and west of Sudbury on the 13th. Also on August 13, strong winds due to thunderstorms caused property damage near Peterborough. On August 14, thunderstorms caused more property damage in Oakville and Mississauga, west of Toronto, and in the Muskokas. Severe thunderstorms associated with a disturbance crossing northern Ontario over the weekend produced significant rainfalls, in some cases more than 100 mm. The hot weather was gradually replaced by more seasonal temperatures by the end of the period.

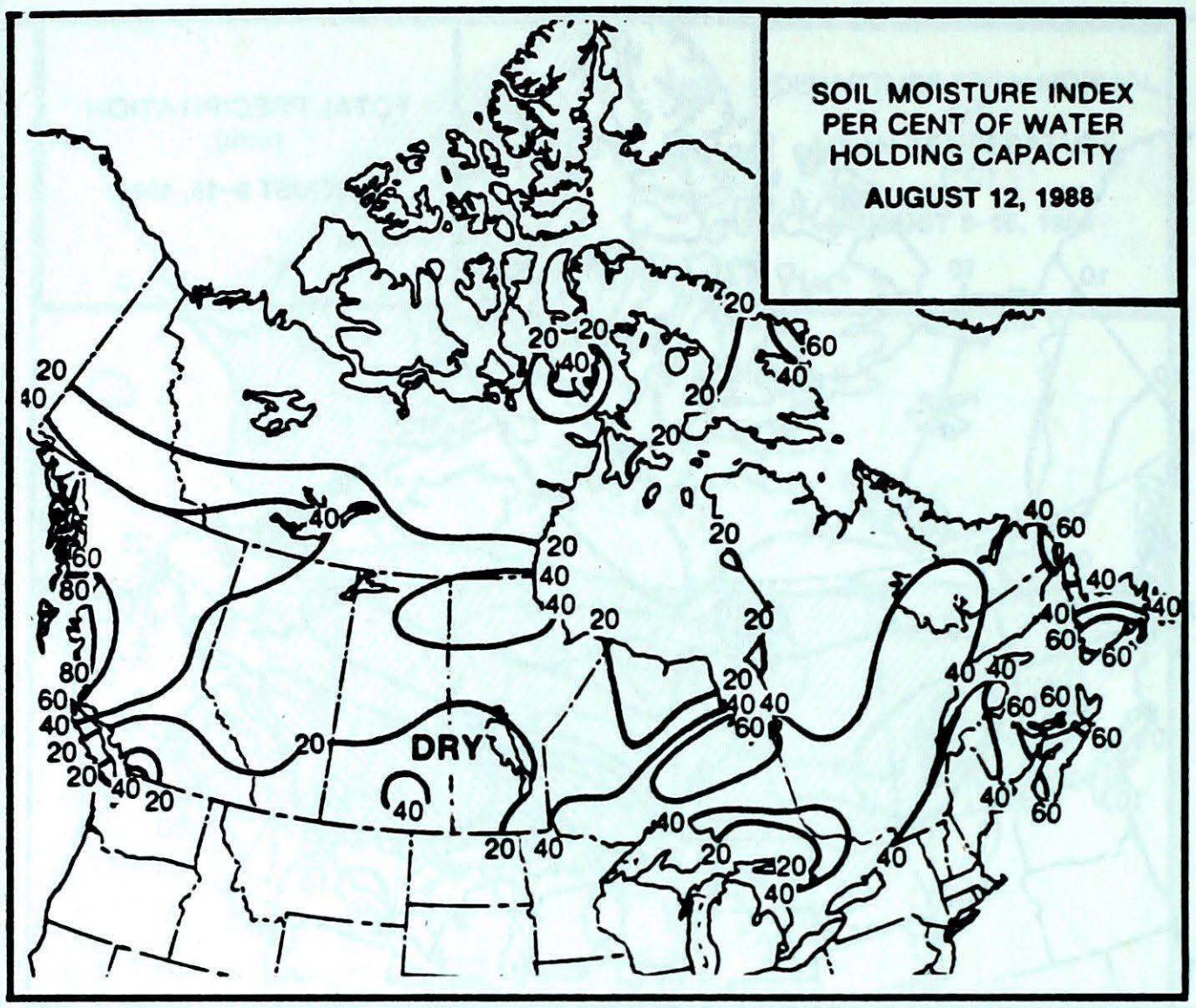
Quebec

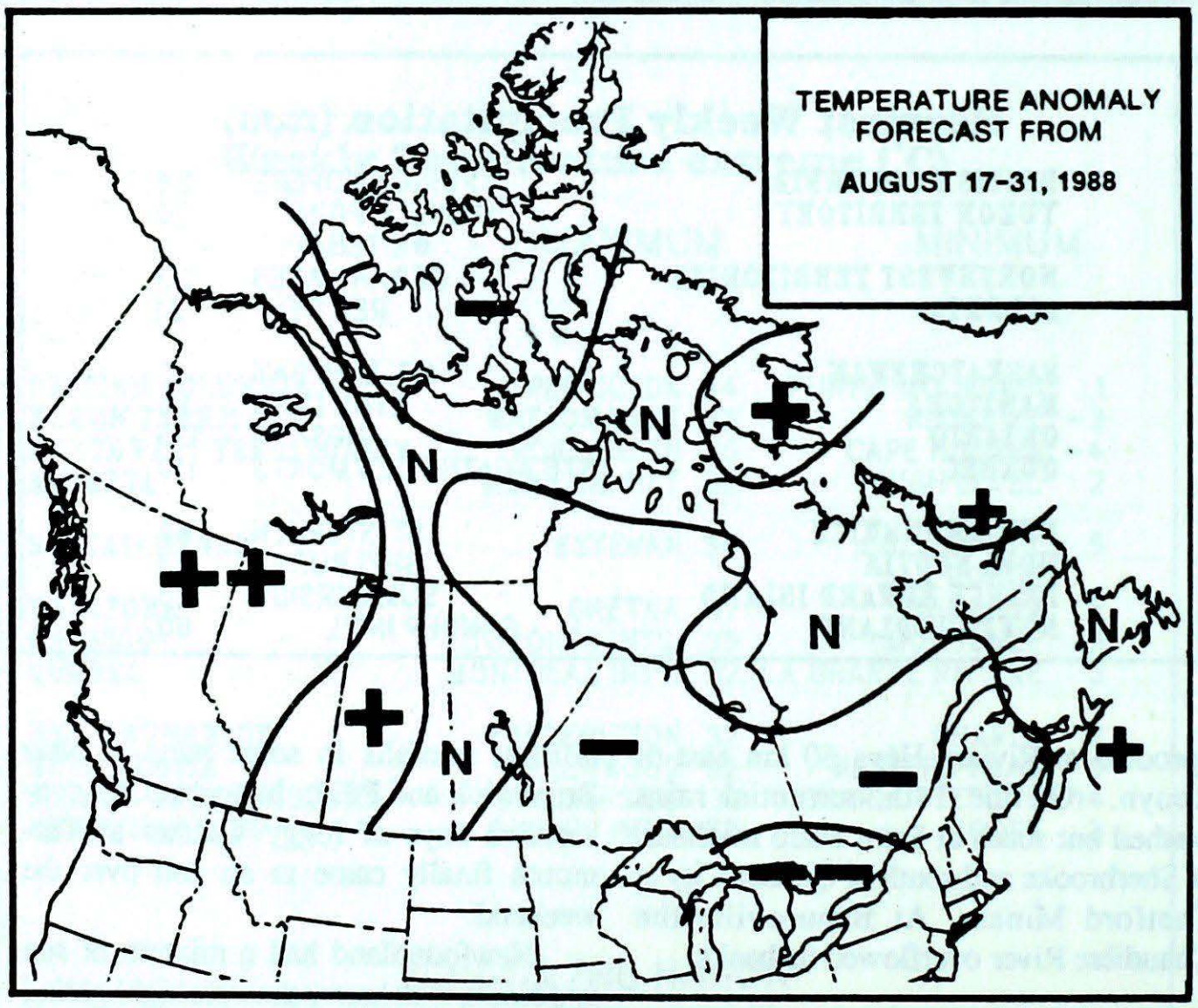
Hot and humid weather predominated, with daily temperature records broken at a number of locations across southern Quebec. For the most part it was mostly sunny, but severe thunderstorms developed on the 13th and 14th. On Lake Francis, northeast of Sherbrooke, three pleasure boats capsized because of strong winds. One to three centimetre hail fell at Lambton, La Patrie and Amos near Sherbrooke. At Rouyn, winds were clocked gusting to 138 km/h. Trees were uprooted at Rivière Héva 60 km east of Rouyn. On the 14th, torrential rains washed out roads at Saint Malo southeast of Sherbrooke and south of Quebec City at Thetford Mines. At Beauceville the Chaudière River overflowed its banks.

Atlantic Canada

Mainly sunny, very warm and humid weather conditions prevailed over the Maritimes until August 13. Maximum temperatures soared into the thirties. Showers and thunderstorms produced significant rainfalls in some parts of New Brunswick and P.E.I. In contrast, 29 consecutive days of foggy weather at Yarmouth finally came to an end over the weekend.

Newfoundland had a mixture of sun and cloud, with heavy showers highlighting the week's weather. On August 9, Gander and Bishop Falls recorded 46 and 77 millimetres of rain, respectively. A weather system gave heavy rainfalls to the Avalon and Burin peninsulas over the weekend. Mostly cloudy weather prevailed over Labrador, with precipitation most days.





++ 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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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.

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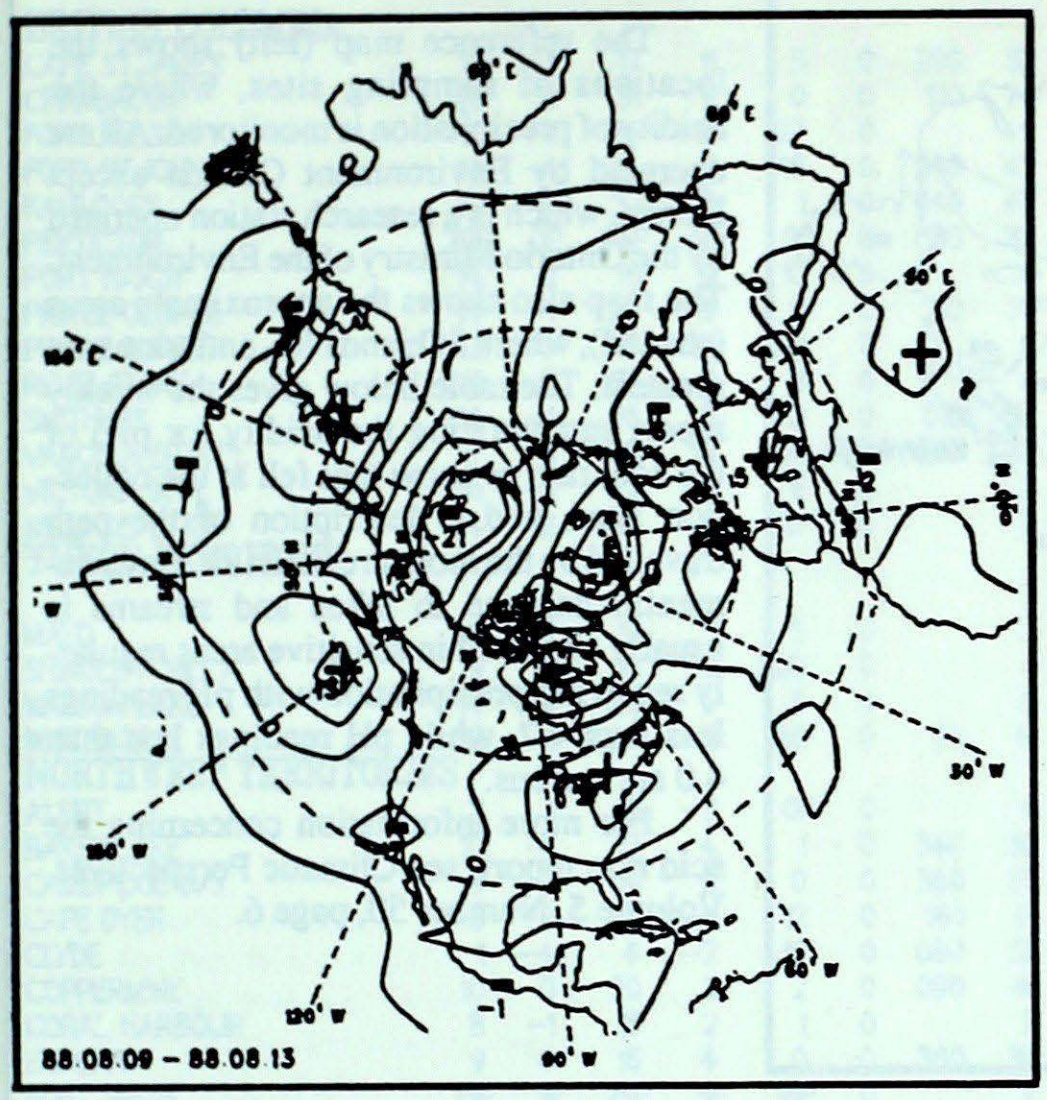
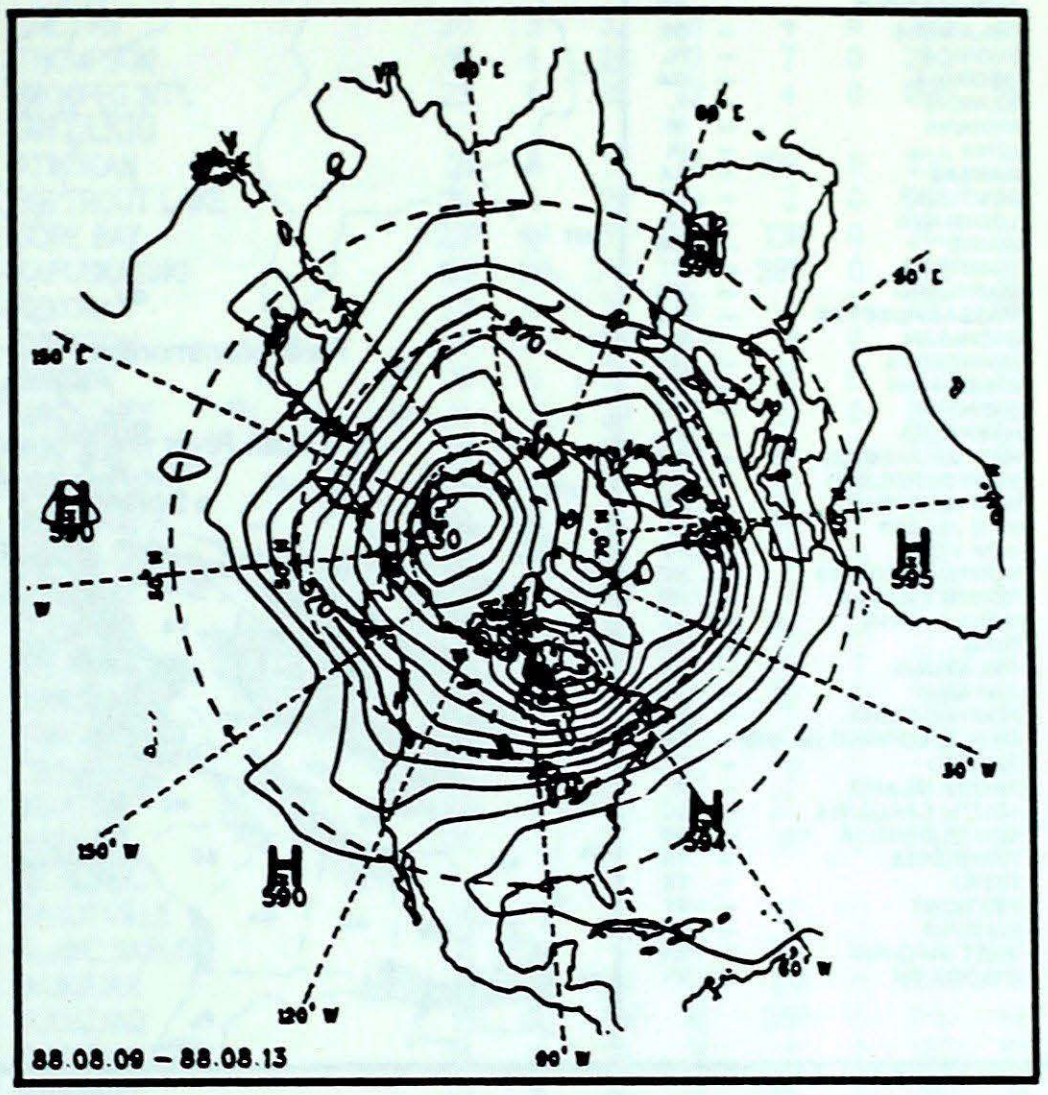
50 kPa ATMOSPHERIC CIRCULATION



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



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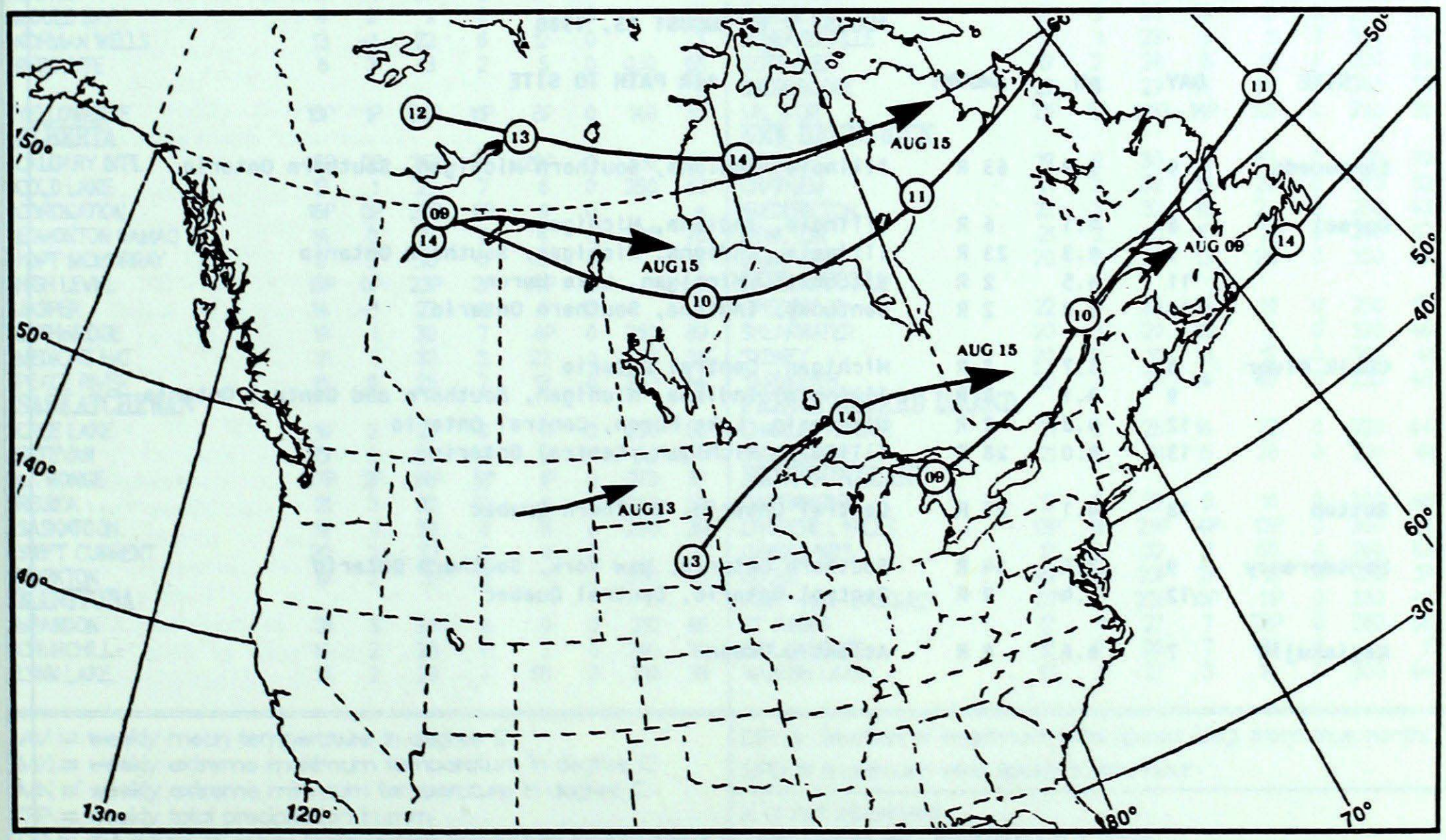
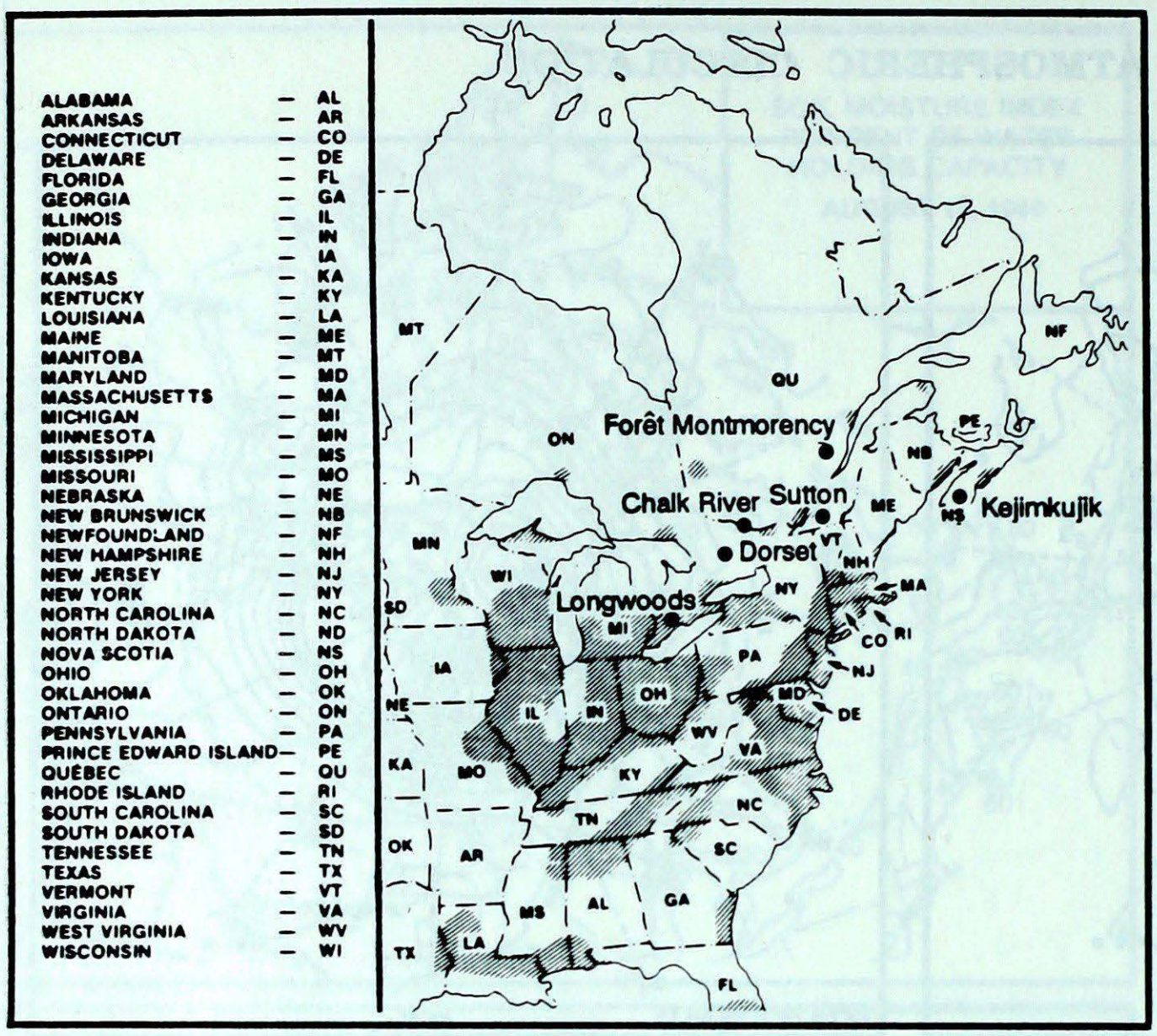


Storm track - Position of storm at 12 GMT during the period: August 9 to 15, 1988



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 7 TO AUGUST 13, 1988

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	9	3.9	63 R	Illinois, Indiana, Southern Michigan, Southern Ontario
Dorset	8	4.1	6 R	Illinois, Indiana, Michigan
	9	4.3	23 R	Illinois, Indiana, Michigan, Southern Ontario
	11	4.5	2 R	Wisconsin, Michigan, Lake Huron
	13	3.8	2 R	Kentucky, Indiana, Southern Ontario
Chalk River	8	3.7	3 R	Michigan, Central Ontario
	9	4.1	8 R	Illinois, Indiana, Michigan, Southern and Central Ontario
	12	4.3	2 R	Wisconsin, Lake Huron, Central Ontario
	13	4.0	28 R	Illinois, Michigan, Central Ontario
Sutton	13	4.1	27 R	Central Ontario, Southern Quebec
Montmorency	9	3.6	14 R	Southern Ontario, New York, Southern Ontario
	12	4.4	9 R	Central Ontario, Central Quebec
Kejimkujik	7	4.6	8 R	Atlantic Ocean

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

STATISTICS FOR THE WEEK ENDING 0600 GMT August 16, 1988

STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
BRITISH COLUMBIA								
CAPE ST.JAMES	13	-1	17	11	5	0	290	52
CRANBROOK	20	2	31	9	0	0	170	74
FORT NELSON	15	-1	24	10	27	0		*
FORT ST.JOHN	14	-1	24	8	18	0	240	43
KAMLOOPS	20	0	32	10	1	0	040	48
PENTICTON	20P	0P	34P	9P	0P	0	180	33
PORT HARDY	14	0	18	9	10	0		*
PRINCE GEORGE	14	-1	25	5	11	0	210	37
PRINCE RUPERT	13	0	17	10	38	0		*
REVELSTOKE	18	0	27	8	8	0		*
SMITHERS	14	-1	26	5	12	0	010	37
VANCOUVER INT'L	17	0	23	12	10	0	290	37
VICTORIA INT'L	16	-1	22	9	6	0		*
WILLIAMS LAKE	14	-2	26	4	27	0		X
YUKON TERRITORY								
MAYO	11	-3	19	1	5	0		X
SHINGLE POINT A.	9	0	18	0	20	0		*
WATSON LAKE	14	-1	23	4	5	0		*
WHITEHORSE	12	-1	20	2	20	0	170	41
NORTHWEST TERRITORIES								
ALERT	3	1	15	-3	0P	0		*
BAKER LAKE	10	-1	17	4	1	0	340	39
CAMBRIDGE BAY	9	2	14	5	0	0	360	37
CAPE DYER	3	-2	9	-1	12	0	160	41
CLYDE	1	-4	4	-2	19	0	080	52
COPPERMINE	10	0	20	3	2	0	090	41
CORAL HARBOUR	8	-1	15	2	1	0		X
EUREKA	9	4	16	4	0	0	360	37
FORT SMITH	15P	1P	25P	5P	16P	0		X
IQALUIT	6	-2	11	2	16	0	280	76
HALL BEACH	6	1	11	2	3P	0	030	37
INUVIK	10	-1	20	2	13	0		X
MOULD BAY	4	2	9	0	2	0		X
NORMAN WELLS	13	-1	22	6	12	0		X
RESOLUTE	6	3	13	2	5	0	050	65
								X
YELLOWKNIFE	15P	1P	23P	11P	8P	0	140	33
ALBERTA								
CALGARY INT'L	16P	0P	26P	7P	29P	0	310	46
COLD LAKE	17	1	27	7	6	0	250	43
CORONATION	16P	0P	28P	6P	9	0		*
EDMONTON NAMAO	16	0	27	9	4	0	290	78
FORT MCMURRAY	17	2	30	6	16	0		X
HIGH LEVEL	15P	0P	23P	2P	14P	0		*
JASPER	14	-1	27	4	6	0		X
LETHBRIDGE	19	1	30	7	4P	0	250	89
MEDICINE HAT	21	1	32	11	22	0	250	59
PEACE RIVER	15	0	25	7	13	0	280	44
SASKATCHEWAN								
CREE LAKE	16	2	27	9	11	0	230	35
ESTEVAN	23	4	34	13	2	0	190	100
LA RONGE	17P	2P	28P	5P	1P	0	270	57
REGINA	21	3	32	12	1	0	060	50
SASKATOON	19	1	30	8	11	0	250	39
SWIFT CURRENT	20	2	32	9	9	0		X
YORKTON	19	2	31	8	1	0	300	43
MANITOBA								
BRANDON	21	3	34	8	9	0	210	46
CHURCHILL	14	2	28	6	7	0	240	35
LYNN LAKE	16	2	29	7	55	0	310	35

STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
THE PAS	20	3	32	11	4	0	310	74
THOMPSON	18	4	29	5	7	0	290	44
WINNIPEG INT'L	23	5	35	13	4	0	090	56
ONTARIO								
ATIKOKAN	21	5	31	12	109	0	320	31
BIG TROUT LAKE	19	4	29	9	2	0	240	46
GORE BAY	22P	4P	31P	14P	13P	0	260	65
KAPUSKASING	18P	3P	28P	5P	38P	0	200	37
KENORA	23	6	32	16	0	0	210	48
KINGSTON	25P	6P	32P	19P	7	0		X
LONDON	25	6	32	18	17	0	310	56
MOOSONEE	16	1	29	3	12	0	220	35
NORTH BAY	21	4	29	13	79	0	270	52
OTTAWA INT'L	24	4	33	18	12	0		X
PETAWAWA	23	5	32	13	65	0		X
PICKLE LAKE	20	5	32	9	5	0	300	94
RED LAKE	21P	4P	33P	12P	1P	0	270	43
SUDBURY	22	5	32	14	86	0		X
THUNDER BAY	20	4	32	9	43	0	220	44
TIMMINS	20	4	30	11	82	0	240	43
TORONTO INT'L	26	6	35	17	11	0	270	57
TRENTON	25	5	33	16	2	0		X
WIARTON	23	5	30	15	22	0		X
WINDSOR	28	7	34	21	9P	0	270	72
QUEBEC								
BAGOTVILLE	18	1	30	11	52	0	120	39
BLANC SABLON	13	*	19	7	43	0		X
INUKJUAK	8P	-1P	13P	4P	17P	0	260	41
KUUJJUAQ	11P	0P	16P	6P	20P	0	250	48
KUUJJUARAPIK	14	4	24	8	11	0	220	57
MANIWAKI	22	4	30	13	54	0	310	39
MONT JOLI	19	2	29	10	51	0	250	69
MONTREAL INT'L	24	4	32	16	42	0	270	56
NATASHQUAN	15	1	24	8	34	0	150	54
QUEBEC	21	3	30	14	49	0	230	37
SCHEFFERVILLE	13	1	23	5	11	0	340	69
SEPT-ILES	17	2	23	8	18	0	300	59
SHERBROOKE	22	5	29	14	82	0	360	39
VAL D'OR	21P	5P	29P	14P	52P	0	230	35
NEW BRUNSWICK								
CHARLO	19	2	30	12	33	0	270	59
CHATHAM	21	3	32	15	28	0	270	52
FREDERICTON	22	3	32	16	23	0	250	43
MONCTON	21	3	31	15	31	0	240	52
SAINT JOHN	20	3	29	13	26	0	350	39
NOVA SCOTIA								
GREENWOOD	22	3	32	16	10	0	250	57
SHEARWATER	20	1	29	13	7	0	320	46
SYDNEY	20	2	31	10	12	0	360	41
YARMOUTH	20	3	27	14	40	0	230	48
PRINCE EDWARD ISLAND								
CHARLOTTETOWN	21	2	28	14	22	0	220	44
SUMMERSIDE	21	2	31	15	28	0	200	61
NEWFOUNDLAND								
CARTWRIGHT	12	0	22	5	16	0	360	46
CHURCHILL FALLS	13P	1P	25P	4P	13P	0	300	67
GANDER INT'L	17	0	32	7	60	0	260	63
GOOSE	14P	0P	25P	7P	9P	0	280	57
PORT-AUX-BASQUES	17P	2P	23P	10P	11P	0	330	46
ST JOHN'S	17	1	27	7	28P	0	260	56
ST LAWRENCE	17	2	26	7	32	0		X
WABUSH LAKE	13	1	27	3	14	0	300	44

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