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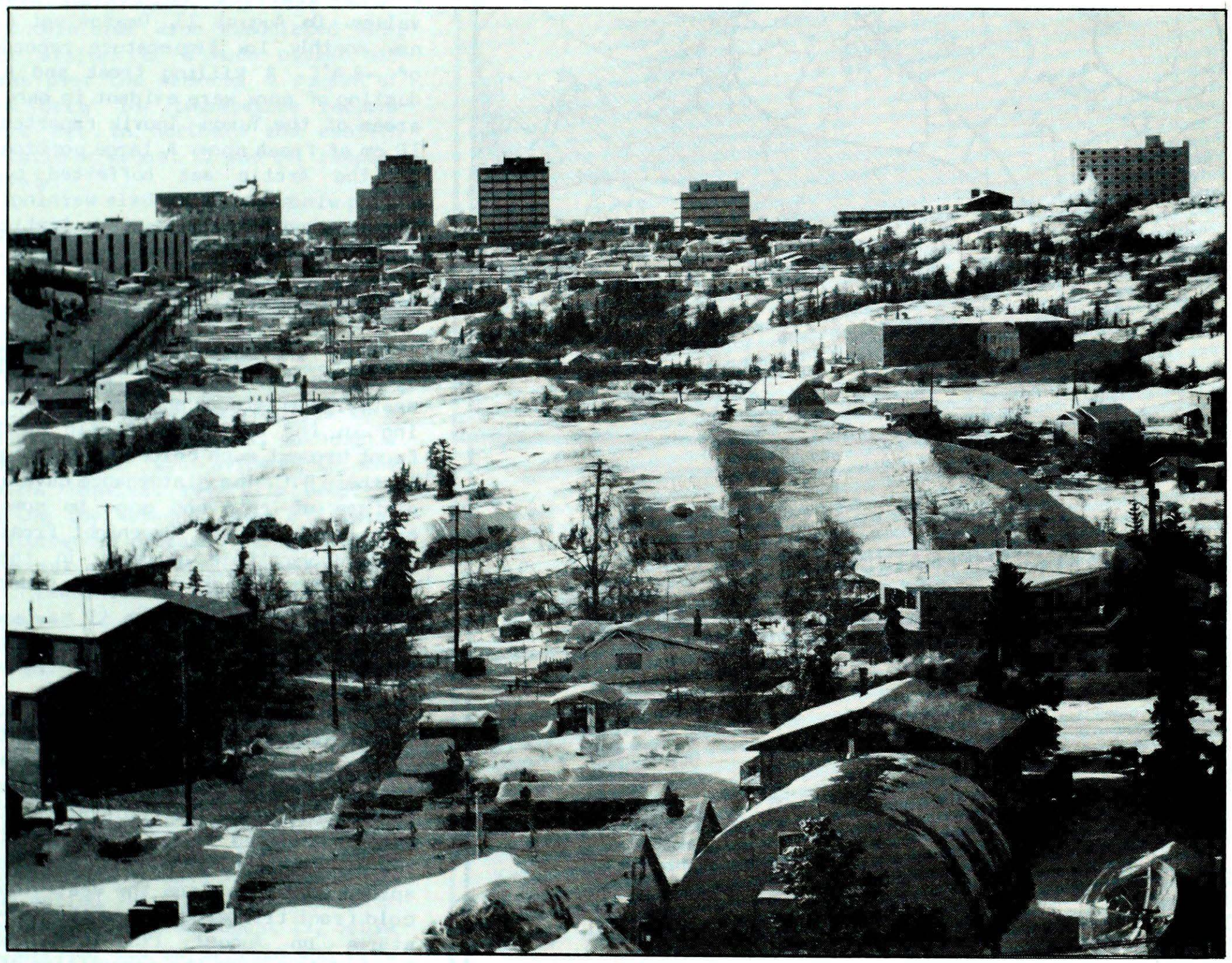
Climatic Perspectives

A weekly review of Canadian climate | August 19 to 25, 1986 | Vol.8 No.34



The Yellowknife weather office is located at the airport approximately 5 km northwest of the city proper. It serves the growing financial hub of Canada's Northwest Territories. More information on page 3.

- ***Tropical storm Charley brushes past Atlantic Canada***

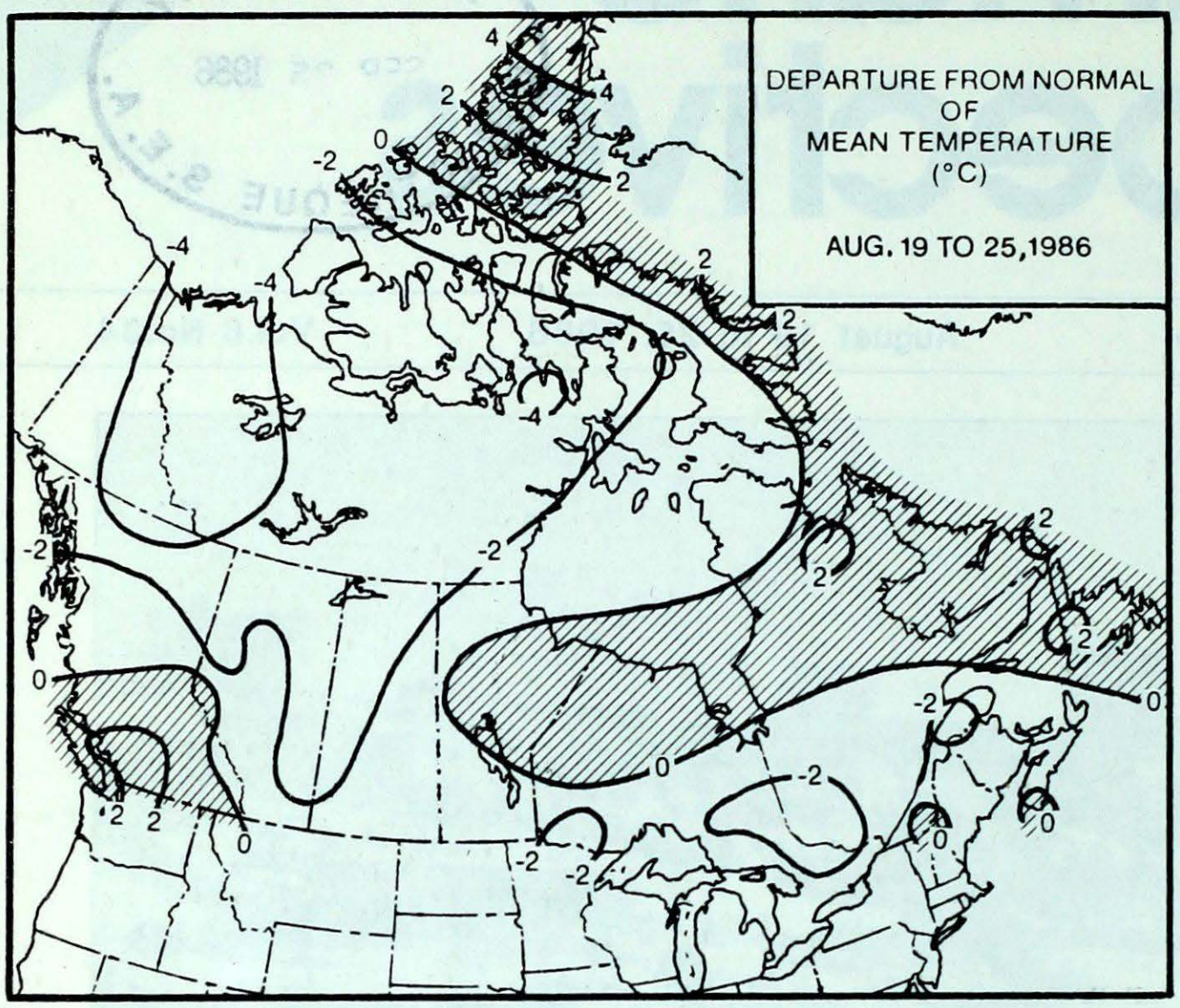
  – strongest winds and torrential rains remain offshore

- ***Cold Arctic air encompasses the Northwest***

  – snow and record low temperatures

Canada

PRECIPITATION



WEEKLY TEMPERATURE EXTREME (C)

		MAXIMUM		MINIMUM	
BRITISH COLUMBIA	LYTTON	35	DEASE LAKE	-3
YUKON TERRITORY	CARMACKS	21	SHELDON	-10
NORTHWEST TERRITORIES	HAY RIVER	25	PELLY BAY	-5
ALBERTA	MEDICINE HAT	32	FORT CHIPEWYAN	-3
SASKATCHEWAN	ESTEVAN	36	CREE LAKE	0
MANITOBA	BRANDON	35	THOMPSON	0
ONTARIO	LONDON	28	MOOSONEE	-2
QUEBEC	SHERBROOKE	27	KUUJJUARAPIK	-1
NEW BRUNSWICK	CHATHAM	26	CHARLO	5
NOVA SCOTIA	SHEARWATER	24	TRURO	7
PRINCE EDWARD ISLAND	SUMMERSIDE	24	SUMMERSIDE	10
NEWFOUNDLAND	GOOSE	30	WABUSH LAKE	0

ACROSS THE NATION

WARMEST MEAN TEMPERATURE	23	LYTTON	BC
COOLEST MEAN TEMPERATURE	-1	MOULD BAY	NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

Wintery weather invaded Canada's northwest after a relatively mild, but damp start to the period. On August 22, an Arctic cold front swept southwards, dropping temperatures in the Yukon and Mackenzie District to record low values. On August 23, Dawson set a new monthly low temperature record of -8.4°C. A killing frost and a dusting of snow were evident in many areas of the Yukon. Inuvik reported 10 cm of fresh snow. A large portion of the Arctic was buffetted by strong winds and snow. Gale warnings were posted for the eastern Arctic and the shores of Hudson Bay.

British Columbia

For the most part the weather continued hot and dry, with only scattered afternoon showers developing in the south. An Arctic cold front brought much colder weather to northern B.C. The disturbance gave a mixture of rain and snow to some northern locations. Overnight frost damaged vegetable gardens. In the south the harvest continues under ideal weather conditions.

Prairie Provinces

Hot weather conditions existed in the eastern Prairies at the start of the period, with daytime readings soaring to the record mid-thirties in the southeast. The temperature at Estevan climbed to 36°C on August 19. A much cooler Arctic airmass spread eastwards from the west. The cold front triggered severe thunderstorms on August 19. Tornadoes touched down near the communities of Glenboro and Stockton, southeast of Brandon, while funnel clouds were sighted at Neepawa and Erickson. In other areas, golf ball sized hail dented cars and damaged crops almost ready for harvest. A cool high pressure area gave mostly sunny skies later in the period. During the middle of the week, overnight readings dropped to near freezing in many areas; frost was also reported. On August 24, a return to warmer weather once again triggered thunderstorms, with heavy downpours and hail in southern Manitoba.

TEMPERATURE

Ontario

High pressure dominated the province for most of the week, producing mostly sunny, fair weather, with near seasonal temperatures. A few scattered showers and thundershowers occurred during the middle of the week. In the south, temperatures climbed during the period, and it became progressively more humid. Thunderstorms were associated with the arrival of a much cooler air mass over the weekend. A couple of new daily low temperature records were set in northern and eastern Ontario on August 22 and 24, respectively.

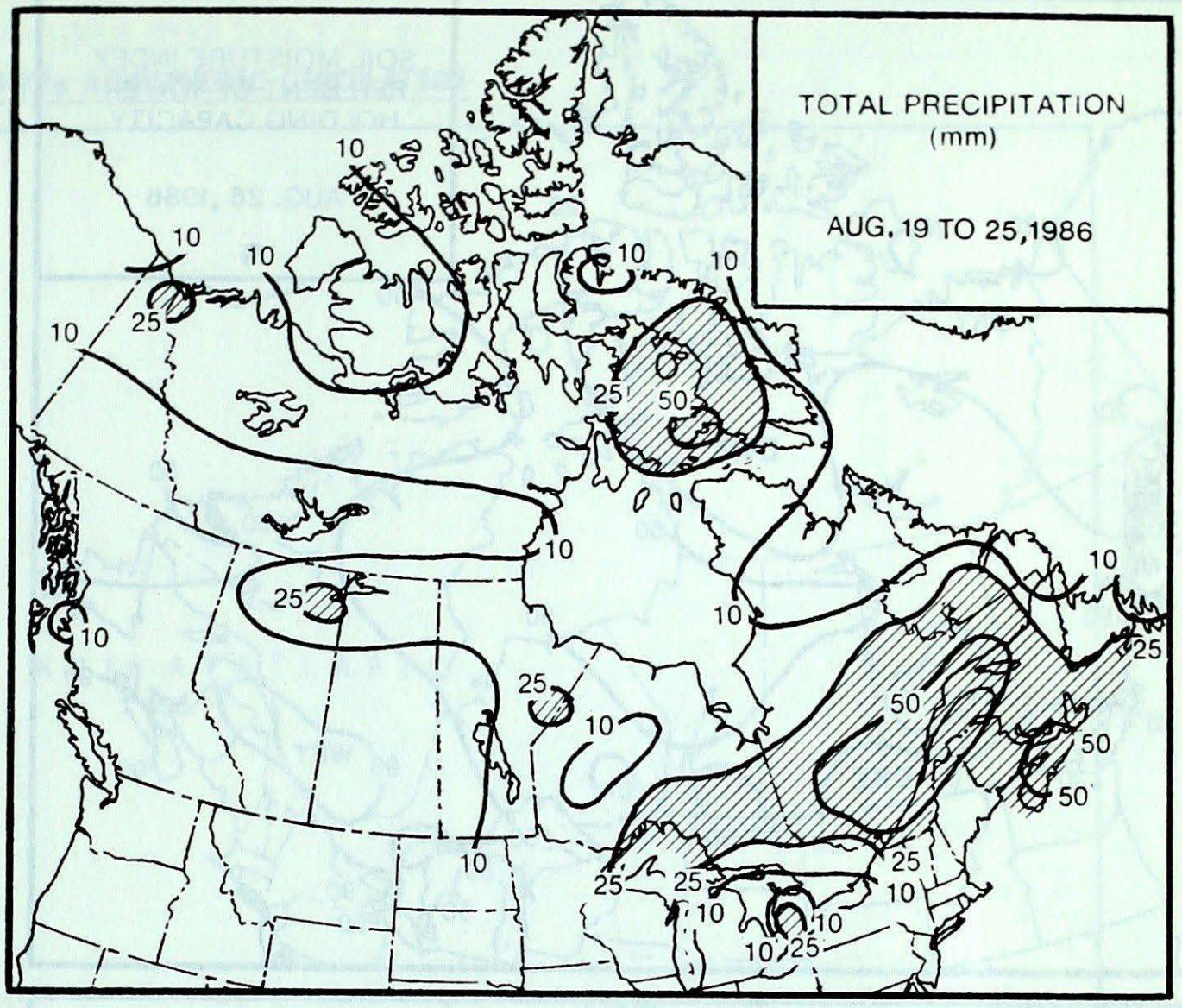
Correction ... the rainfall amount for southern Ontario on last weeks front page (Vol. 8 No.33) should have read 100 mm

Québec

Higher pressures resulted in a relatively pleasant week, although a cooling tend was evident in the south. Heaviest rainfalls occurred during the weekend, when a frontal disturbance crossed the province. Heaviest amounts occurred along the St. Lawrence Valley. Quebec City received 72 mm in a two-day period. Totals for the week ranged up to 100 mm.

Atlantic Provinces

Several weather systems affected the Maritimes and Newfoundland, giving changeable weather conditions throughout. Tropical storm Charley passed south of Nova Scotia early in the period, giving heavy rainfalls and brisk winds. On August 19, Sable Island had 116 mm of rain and wind gusts of more than 100 km/h. Shelburne received 55 mm of rain the same day. The same storm system left 20 mm of rain in some areas of southern Newfoundland. Fair weather returned to the Island by mid-week, with the mercury climbing to the record mid-twenties. Temperatures reached near 30°C in Labrador. A cold front dropped the readings to more seasonal values for the weekend, but not before 40 mm of rain was recorded in Goose Bay on August 22. Another weather system with rain and strong winds moved into the region at the end of the period.



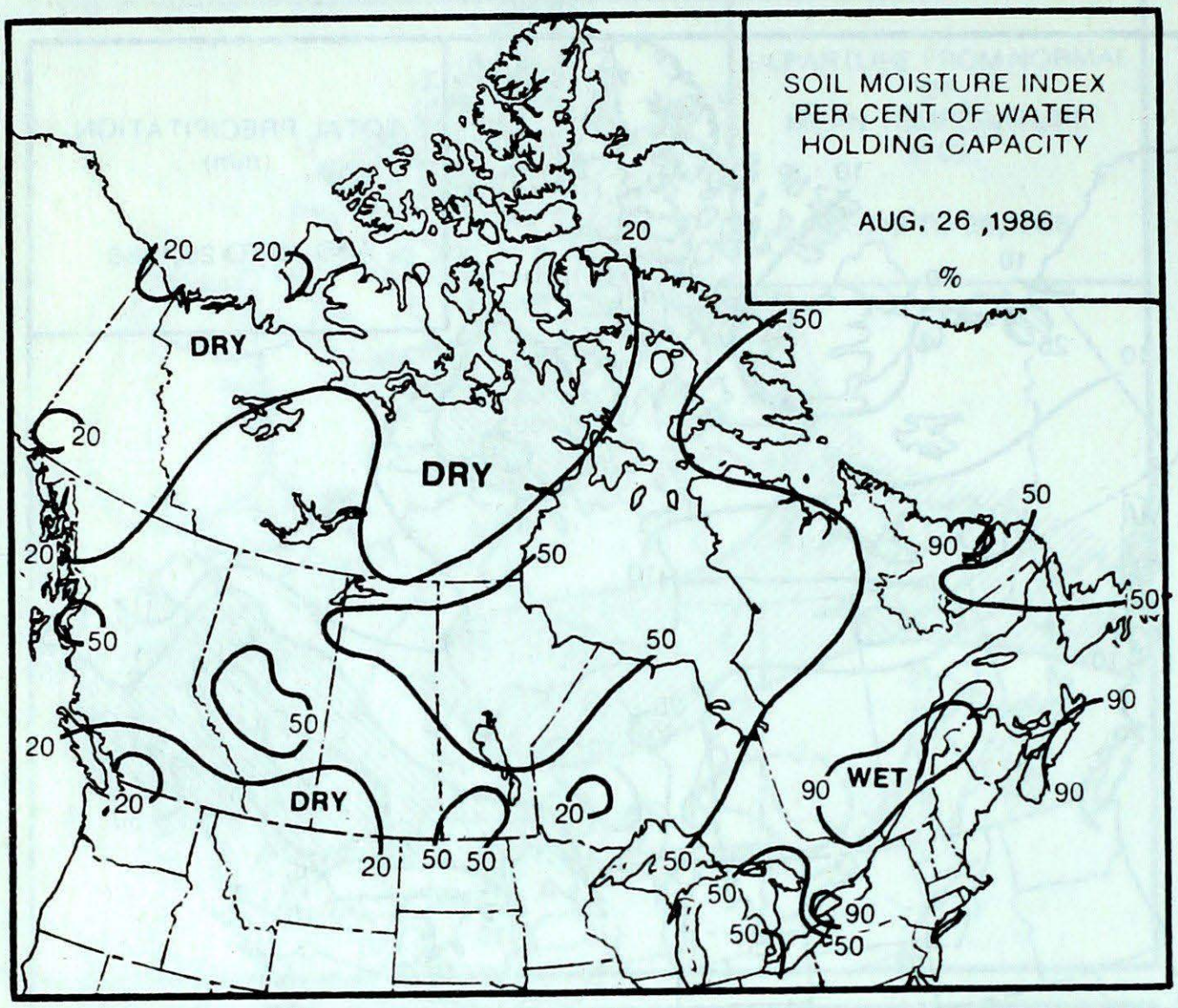
HEAVIEST WEEKLY PRECIPITATION (mm)

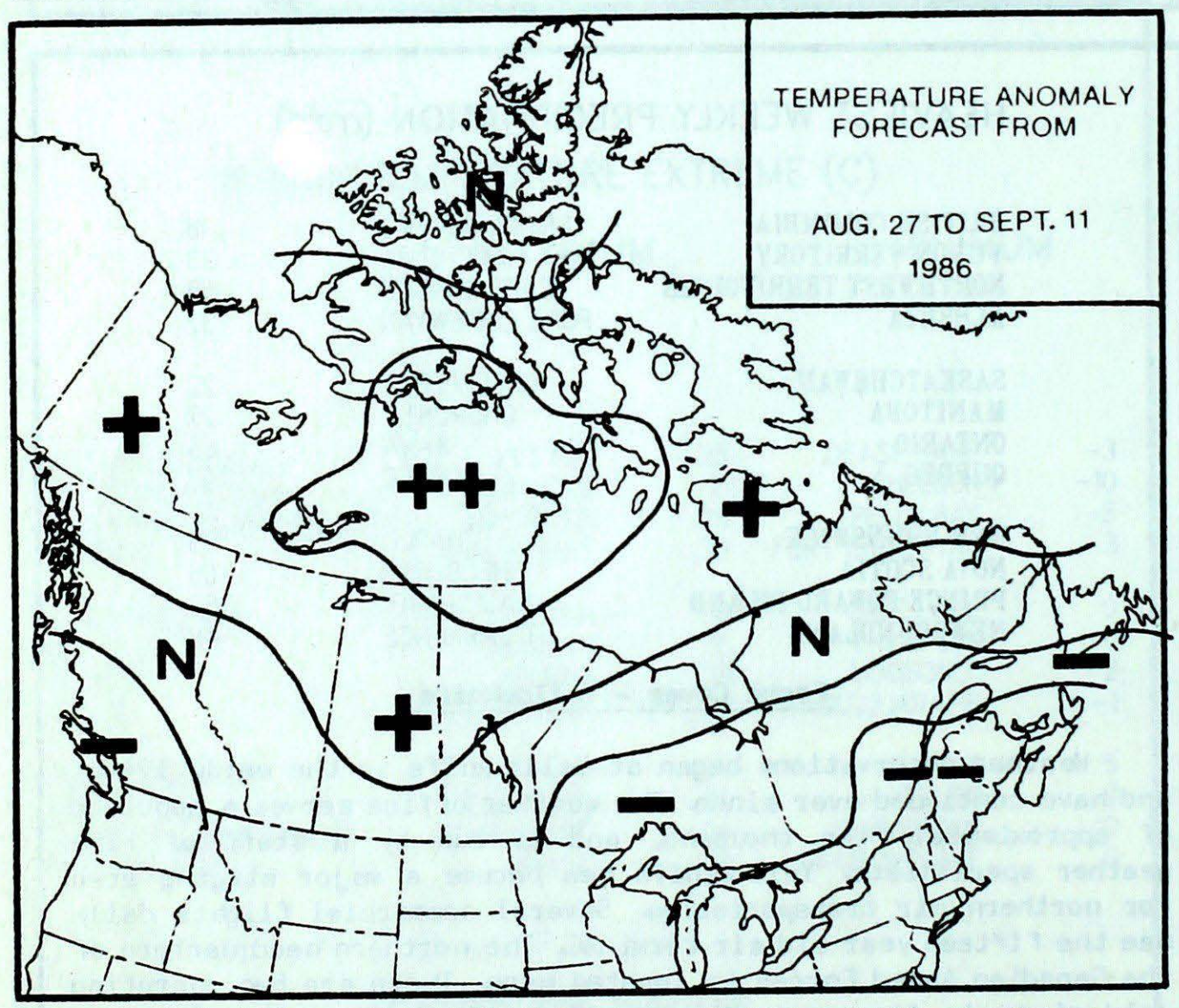
BRITISH COLUMBIA	PRINCE RUPERT	18
YUKON TERRITORY	TUCHITUA	33
NORTHWEST TERRITORIES	CAPE DORSET	58
ALBERTA	FORT CHIPEWYAN	32
SASKATCHEWAN	COLLINS BAY	22
MANITOBA	CHURCHILL	27
ONTARIO	WAWA	65
QUEBEC	QUEBEC	97
NEW BRUNSWICK	CHARLO	75
NOVA SCOTIA	SHELBURNE	65
PRINCE EDWARD ISLAND	EAST POINT	56
NEWFOUNDLAND	ST LAWRENCE	48

Front Cover - Yellowknife

Weather observations began at Yellowknife in the early 1940s, and have continued ever since. The weather office serves a populace of approximately ten thousand, and is run by a staff of five weather specialists. Yellowknife has become a major staging area for northern air transportation. Several commercial flights daily use the fifteen year old air terminal. The northern headquarters of the Canadian Armed Forces is located here. There are two operating gold mines in the area. Since Yellowknife is situated near the shores of Great Slave Lake, summer time temperatures are strongly influenced by the relatively cold waters of the lake. Even at these latitudes heavy thunderstorms are not uncommon during the summer months. In addition to funnel cloud sightings, three tornadoes have ripped through the district.

FORECAST





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.

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

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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 shown 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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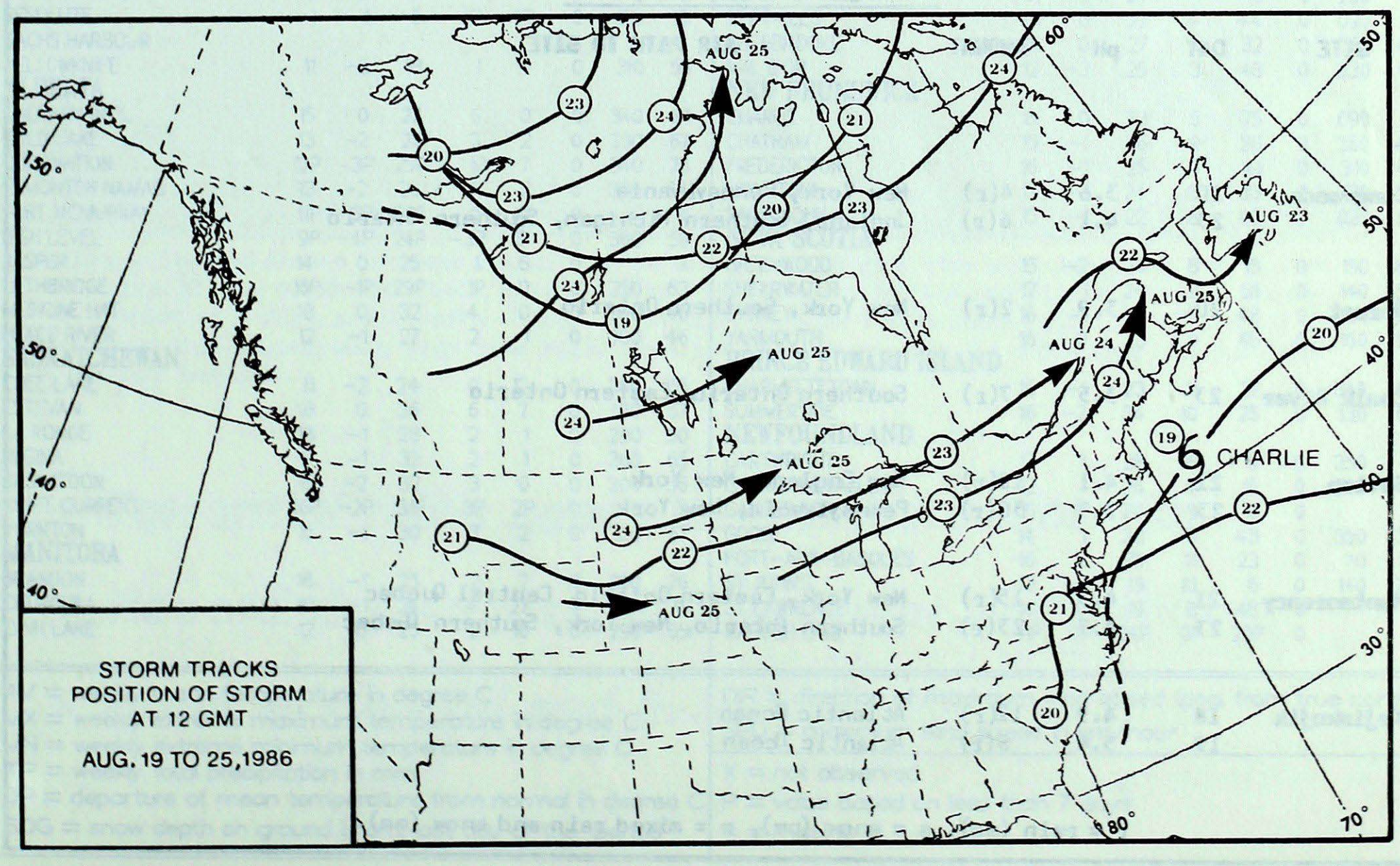
50 KPa ATMOSPHERIC CIRCULATION

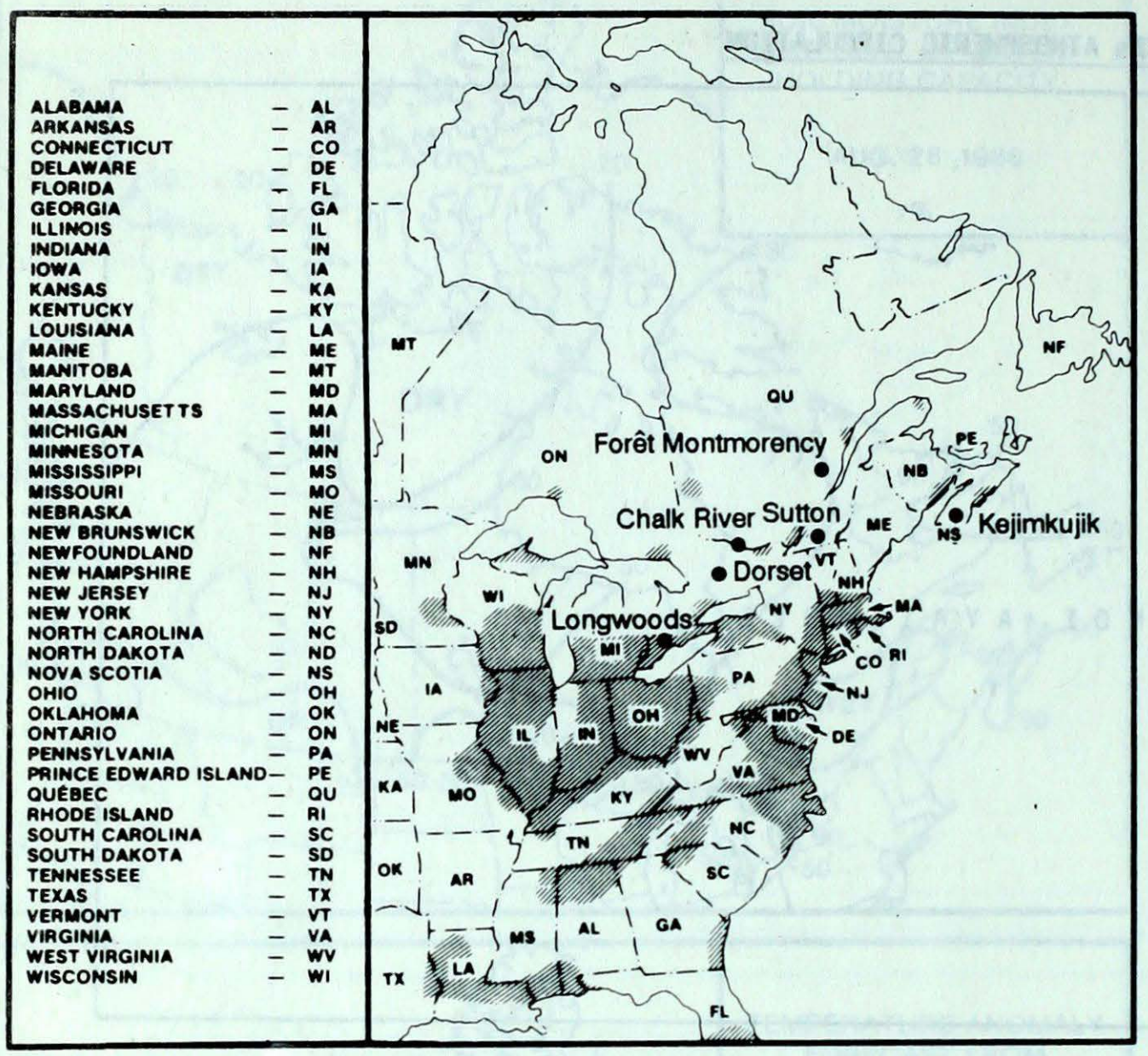
NOT AVAILABLE

MEAN 50 KPa HEIGHT ANOMALY (dam)
August 19 to August 23, 1986

MEAN 50 KPa HEIGHTS (dam)
August 19 to August 23, 1986



ACID RAIN



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 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 less than 4.7, while pH readings less than 4.0 are serious. For more information concerning the acid rain report, see Climatic Perspectives, Vol. 5 No. 50 p. 6.

AUGUST 17 TO AUGUST 23, 1986

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	20	3.6	4(r)	New York, Pennsylvania
	23	4.1	6(r)	Indiana, Southern Michigan, Southern Ontario
Dorset	20	3.9	2(r)	New York, Southern Ontario
Chalk River	23	3.5	7(r)	Southern Ontario, Eastern Ontario
Sutton	21	4.1	12(r)	New England, New York
	23	3.9	30(r)	Pennsylvania, New York
Montmorency	21	4.3	15(r)	New York, Eastern Ontario, Central Quebec
	23	4.7	23(r)	Southern Ontario, New York, Southern Quebec
Kejimkujik	18	4.9	12(r)	Atlantic Ocean
	19	5.4	8(r)	Atlantic Ocean

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

STATISTICS

TEMPERATURE, PRECIPITATION AND MAXIMUM WIND DATA FOR THE WEEK ENDING 0600 GMT AUGUST 26,1986

STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
BRITISH COLUMBIA								
CAPE ST.JAMES	15	1	19	11	0	0	310	39
CRANBROOK	18	1	30	8	0	0	350	37
FORT NELSON	11	−3	28	−2	7	0	290	37
FORT ST.JOHN	11	−3	25	0	1	0	350	69
KAMLOOPS	21	2	31	8	0	0		*
PENTICTON	20	1	31	8	0	0	360	41
PORT HARDY	14P	0P	22P	5P	7	0	320	43
PRINCE GEORGE	13P	*	26P	0P	4	0	230	31
PRINCE RUPERT	12	0	20	5	18	0		*
REVELSTOKE	18	1	31	7	0	0	270	46
SMITHERS	13	−1	23	0	4	0		*
VANCOUVER INT'L	18	2	24	11	0	0	300	33
VICTORIA INT'L	17	1	28	9	0	0		*
WILLIAMS LAKE	15P	*	26P	4P	1	0		X
YUKON TERRITORY								
DAWSON	7	*	18	−8	17	0	270	33
MAYO	8	−4	17	−5	1	0		X
SHINGLE POINT A	3	−6	13	−2	24	0	310	83
WATSON LAKE	8	−4	20	−1	6	0	310	56
WHITEHORSE	8	−4	19	−2	9	0	350	52
NORTHWEST TERRITORIES								
ALERT	5	5	12	−3	0	0	200	100
BAKER LAKE	6	−3	12	1	24	0	330	65
CAMBRIDGE BAY	2	−4	6	−1	8	0	110	74
CAPE DYER	5	2	12	0	2	0	210	91
CLYDE	4	1	13	−2	16	0	210	52
COPPERMINE	5	*	16	−1	22	0	340	83
CORAL HARBOUR	5	−2	11	−1	22	0		X
EUREKA	4	2	8	1	10	0	150	72
FORT SMITH	10	−4	24	−1	20	0		X
FROBISHER BAY	5	−2	9	0	24	0	150	67
HALL BEACH	3P	−2P	7P	0P	19	0	300	74
INUVIK	4	−6	13	−4	23	0		X
MOULD BAY	−1P	−2P	2P	−3P	5P	1		X
NORMAN WELLS	8	−5	18	−1	11	0		X
RESOLUTE	1	−1	6	−2	13	0	120	111
SACHS HARBOUR						*		
YELLOWKNIFE	11	−3	18	1	4	0	310	59
ALBERTA								
CALGARY INT'L	15	0	27	6	0	0	340	69
COLD LAKE	13	−2	27	3	2	0	330	67
CORONATION	12P	−3P	25P	1P	7	0	340	76
EDMONTON NAMAO	13	−2	26	4	2	0	330	54
FORT MCMURRAY	11P	−3P	25P	0	10	0		X
HIGH LEVEL	9P	−4P	24P	−3P	15	0	360	59
JASPER	14	0	25	1	6	0		X
LETHBRIDGE	16P	−1P	29P	1P	0	0	250	63
MEDICINE HAT	18	0	32	4	0	0	320	46
PEACE RIVER	12	−1	27	2	1	0	300	46
SASKATCHEWAN								
CREE LAKE	11	−2	24	0	12	0	300	65
ESTEVAN	18	0	36	6	7	0	180	57
LA RONGE	13	−1	28	2	1	0	290	50
REGINA	17	−1	32	2	1	0	360	65
SASKATOON	15	−2	32	3	0	0	300	56
SWIFT CURRENT	16P	−2P	31P	3P	2P	0		X
YORKTON	15	−1	30	3	2	0	350	67
MANITOBA								
BRANDON	16	−1	35	2	2	0	300	76
CHURCHILL	10	−1	24	4	27	0	350	76
LYNN LAKE	12	0	25	2	10	0	290	65
THE PAS	15	*	28	6	4	0	310	63
THOMPSON	13	0	28	0	16	0	280	76
WINNIPEG INT'L	17	−2	32	7	5	0	160	54
ONTARIO								
ATIKOKAN	13	−2	26	2	21	0	310	43
BIG TROUT LAKE	15	*	26	3	16	0	220	85
GORE BAY	17	−1	24	8	9	0	180	59
KAPUSKASING	14	−1	27	4	21	0	180	46
KENORA	16	−2	24	10	16	0	210	48
KINGSTON	18P	−1P	24P	11P	11	0		X
LONDON	18	−1	28	6	9	0	340	52
MOOSONEE	13	−1	26	−2	19	0	200	48
NORTH BAY	15	−1	24	5	25	0	300	52
OTTAWA INT'L	17	−1	26	9	23	0		X
PETAWAWA	15	−3	26	1	11	0		X
PICKLE LAKE	15P	1P	27P	8P	1P	0		*
RED LAKE	15	−1	25	7	15	0	220	63
SUDBURY	16	−1	26	6	20	0		X
THUNDER BAY	15	−1	24	5	19	0	310	46
TIMMINS	12	−3	26	1	28	0	330	39
TORONTO INT'L	18	−1	26	8	7	0	310	61
TRENTON	18	−1	26	7	3	0		X
WIARTON	17	−1	26	9	5	0		X
WINDSOR	21	0	28	13	3	0	310	54
QUEBEC								
BAGOTVILLE	14	−1	25	5	43	0	090	52
BLANC SABLON	13	*	20	8	7	0		X
INUKJUAK	7	−1	14	4	17	0	220	94
KUUJJUAQ	11	2	26	5	1	0	240	83
KUUJJUARAPIK	11	0	26	−1	10	0	200	81
MANIWAKI	14	−2	25	5	37	0	310	41
MONT JOLI	12	−3	22	4	67	0	320	57
MONTREAL INT'L	18	−1	26	11	36	0	280	54
NATASHQUAN	14P	1P	21	7P	53	0	080	54
QUEBEC	16	0	26	8	97	0	220	93
SCHEFFERVILLE	11	1	24	1	8	0	250	44
SEPT-ILES	13	0	22	4	44	0	090	59
SHERBROOKE	15	0	27	6	32	0	260	44
VAL D'OR	12	−3	25	3	48	0	330	69
NEW BRUNSWICK								
CHARLO	15	0	23	5	75	0	090	61
CHATHAM	15	−1	26	9	38	0	360	44
FREDERICTON	16	−1	25	7	41	0	310	48
MONCTON	15	−1	24	8	33	0	120	54
SAINT JOHN	15	−1	22	8	43	0	020	56
NOVA SCOTIA								
GREENWOOD	15	−2	24	8	15	0	150	85
SHEARWATER	17	−1	24	11	59	0	140	56
SYDNEY	16	−1	24	8	48	0	130	57
YARMOUTH	16	0	23	9	45	0	160	52
PRINCE EDWARD ISLAND								
CHARLOTTETOWN	16	−1	23	11	27	0	040	52
SUMMERSIDE	16	−2	24	10	25	0	130	69
NEWFOUNDLAND								
CARTWRIGHT	12	1	28	6	6	0	350	41
CHURCHILL FALLS	12	1	26	4	15	0	240	48
GANDER INT'L	15	0	24	9	9	0		*
GOOSE	14	1	30	8	43	0	350	37
PORT-AUX-BASQUES	16	2	26	11	23	0	110	111
ST JOHN'S	13	−1	19	10	6	0	140	74
ST LAWRENCE	14	0	19	8	48	0		X
WABUSH LAKE	11P	0P	24P	0P	29P	0		*

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