Environment Canada Environnement Canada

Climatic Perspectives

July 24 to 30, 1989 — *A weekly review of Canadian climate* — Vol. 11 No 31

Hot weather continues to fuel forest fires

Forest fires continued to burn in northern Manitoba which pushed the total area burned in Canada so far this year to 3.3 million hectares, compared to an annual average (1976-1986) of 2 million hectares. During the recent rash of fires, more than 23,000 people were evacuated, but by the 30th, about 10,000 had been granted permission to return to their homes in Norway House, Leaf Rapids, Snow Lake, and Gillam. On the 28th, there were 245 fires burning, but the number had dropped to 222 by the 30th, of which 61 were out of control. A weather system on the 25th brought relief from the heat wave and 43.8 mm of rain at Lynn Lake, but most other stations reported less than 3 mm. Warm weather returned again on the weekend

The heat wave which affected the area from the 14th to the 23rd of July, was not the most severe on record, despite several consecutive days when daily temperature records were broken. In June and July of 1878, York Factory, on Hudson Bay, experienced 2 separate periods of 17 and 16 consecutive days when the temperature reached 30°C or better. These 2 periods were separated by only one day. For the second of these periods, the temperature reached 32°C or better every day.

Dry, warm weather and lightning have been responsible for forest fires in northern Ontario, and as far south as Parry Sound. On the 27th, lightning ignited forest fires, and fanned by strong northwest winds, threatened Ontario's famed cottage country. The area from the Bruce Peninsula and Manitoulin Island, east to the Algonquin Highlands, and the Kawartha Lakes are tinder dry. From July 1st to 30th, Wiarton has received only 0.2 mm of rain, Peterborough, 5 mm, and Muskoka, only 7 mm.

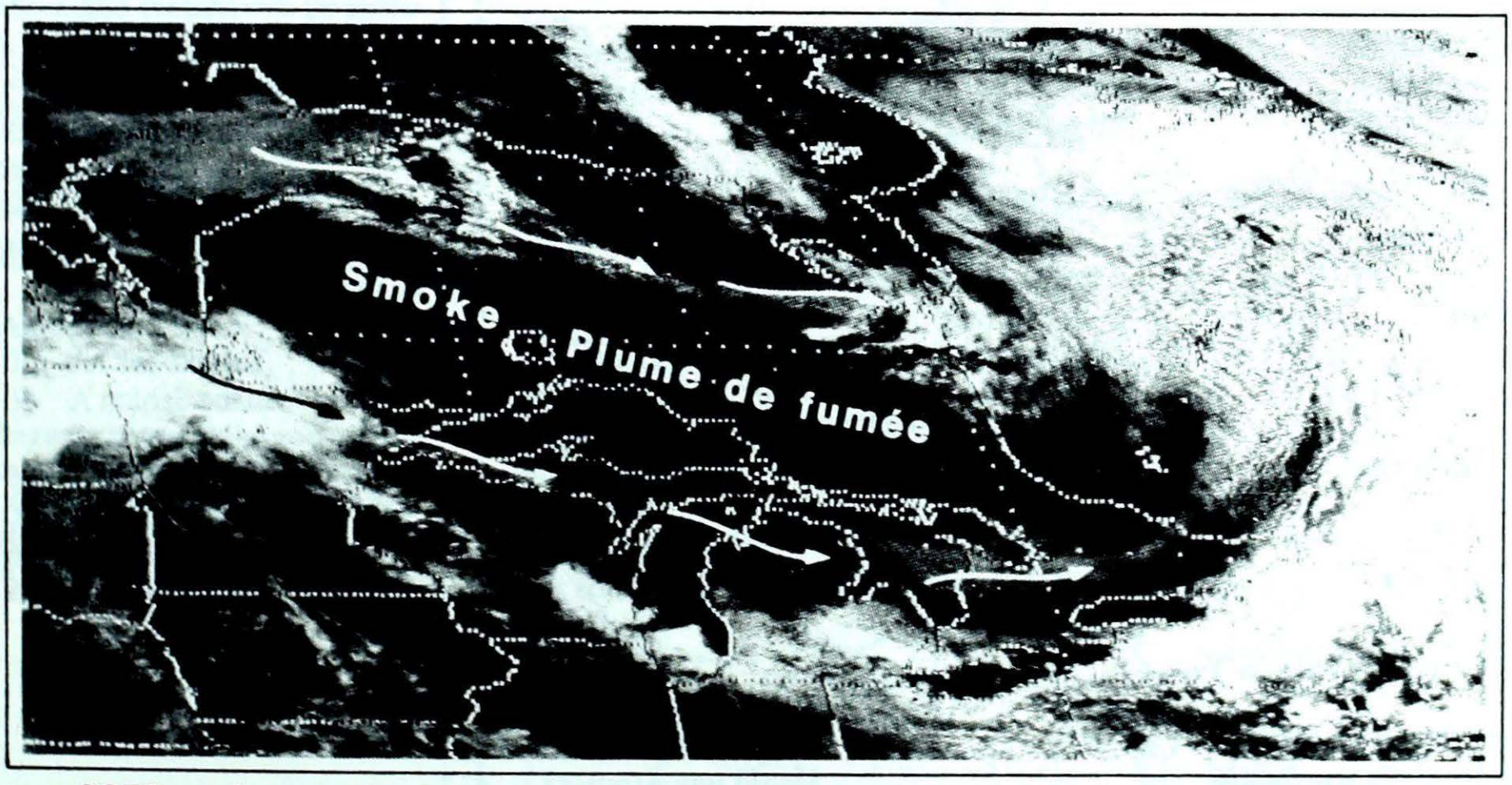
John Bendell, Winnipeg Climate Centre, and Bryan Smith, Ontario Climate Centre

No relief in sight for forest fires...

Average temperatures for the week of August 7th are expected to be near normal for most of Canada, except below normal over Baffin Island. Continuing dry weather expected over the major forest fire areas of Central Canada will not help efforts to fight forest fires. Precipitation is likely over British Columbia, southern Ontario, and Québec.

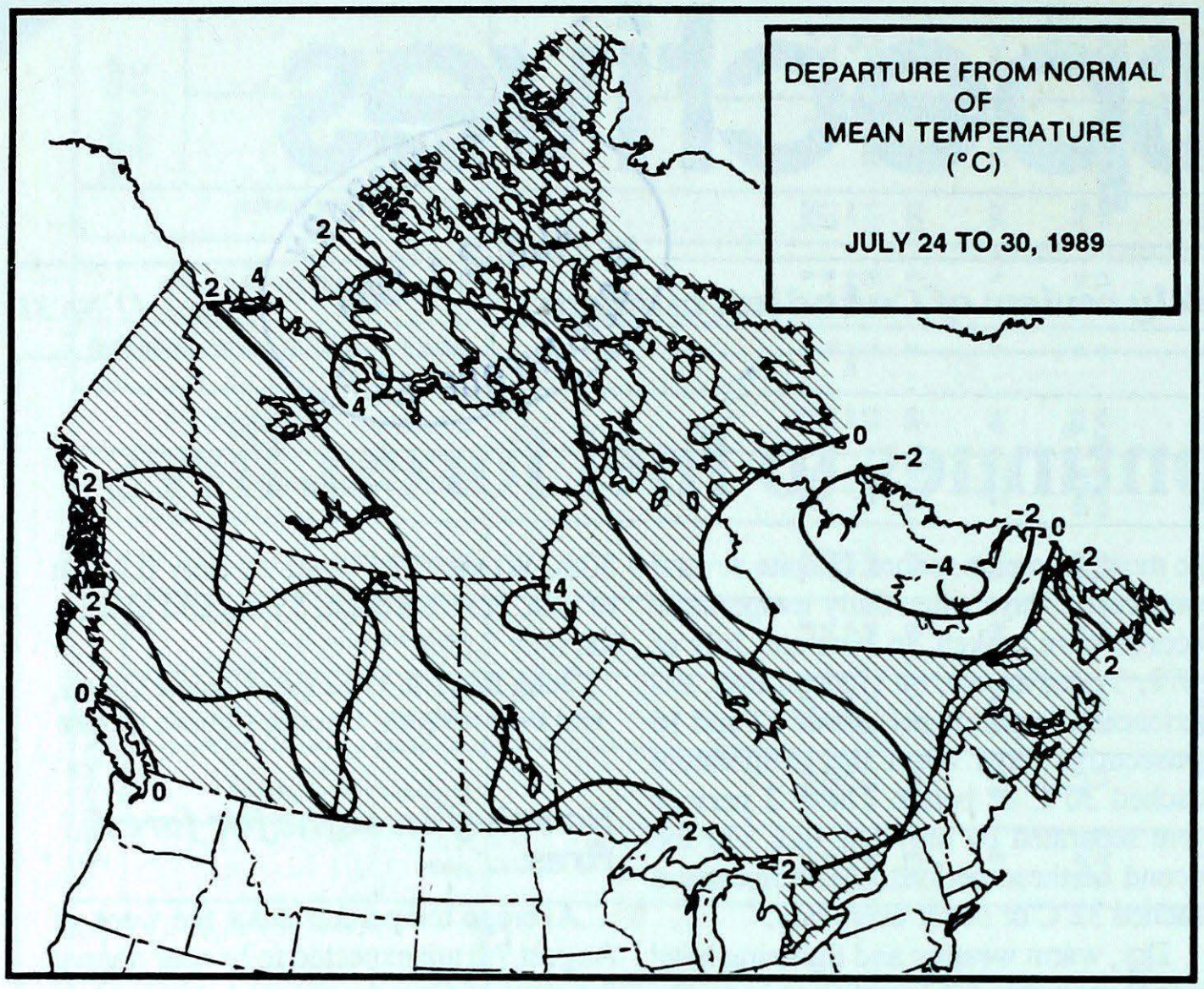
— *prepared August 1, 1989*

Aaron Gergye, Canadian Climate Centre



GOES weather satellite photo taken on July 28, 1989, shows smoke from forest fires in northern Manitoba drifting southeastward through Minnesota, Michigan, Ontario, and Québec

Canada



Elsewhere ...

Tornadoes in Edmonton and Saskatchewan

In the afternoon of the 27th, a Pacific disturbance moved through north-central Alberta causing strong convective activity. There were many reports of hail as well as a small tornado which touched down in the west end of Edmonton. Two people were injured and approximately $500,000 damage was caused when the twister hit. It was only 2 years ago, July 31, 1987, that a devastating tornado struck Edmonton, killing 27 people.

In Saskatchewan on the 29th, a tornado damaged or destroyed buildings in Balgonie. Tornadoes were also reported at Lumsden Beach and Condie.

Weekly temperature and precipitation extremes

	Maximum temperature (°C)		Minimum temperature (°C)		Heaviest precipitation (mm)	
British Columbia	Kamloops A	36	Puntzi Mountain (aut)	2	Smithers A	15
Yukon Territory	Watson Lake A	28	Komakuk Beach A	2	Komakuk Beach A	12
Northwest Territories	Fort Simpson A	31	Clyde A	-2	Coral Harbour A	28
					Iqaluit A	28
Alberta	Medicine Hat A	35	Jasper	4	Fort Chipewyan A	54
Saskatchewan	Regina A	35	Nipawin A	4	Collins Bay	34
	Saskatoon A	35				
Manitoba	Gretna (aut)	37	Grand Rapids (aut)	0	Lynn Lake A	44
Ontario	Ottawa Int'l A	34	Armstrong	2	Toronto Int'l A	50
Québec	Bagotville A	34	Inukjuak A	3	Blanc Sablon A	60
	Maniwaki	34				
New Brunswick	Chatham A	34	St Stephen (aut)	6	Chatham A	65
Nova Scotia	Greenwood A	33	Sydney A	9	Sable Island	10
Prince Edward Island	Charlottetown A	31	Charlottetown A	11	Summerside A	16
Newfoundland	Deer Lake A	31	Nain A	2	Goose A	65

Across The Country...

Highest Mean Temperature	Kamloops A(BC)	24
Lowest Mean Temperature	Mould Bay A(NWT)	3

89/07/24-89/07/30

CLIMATIC PERSPECTIVES
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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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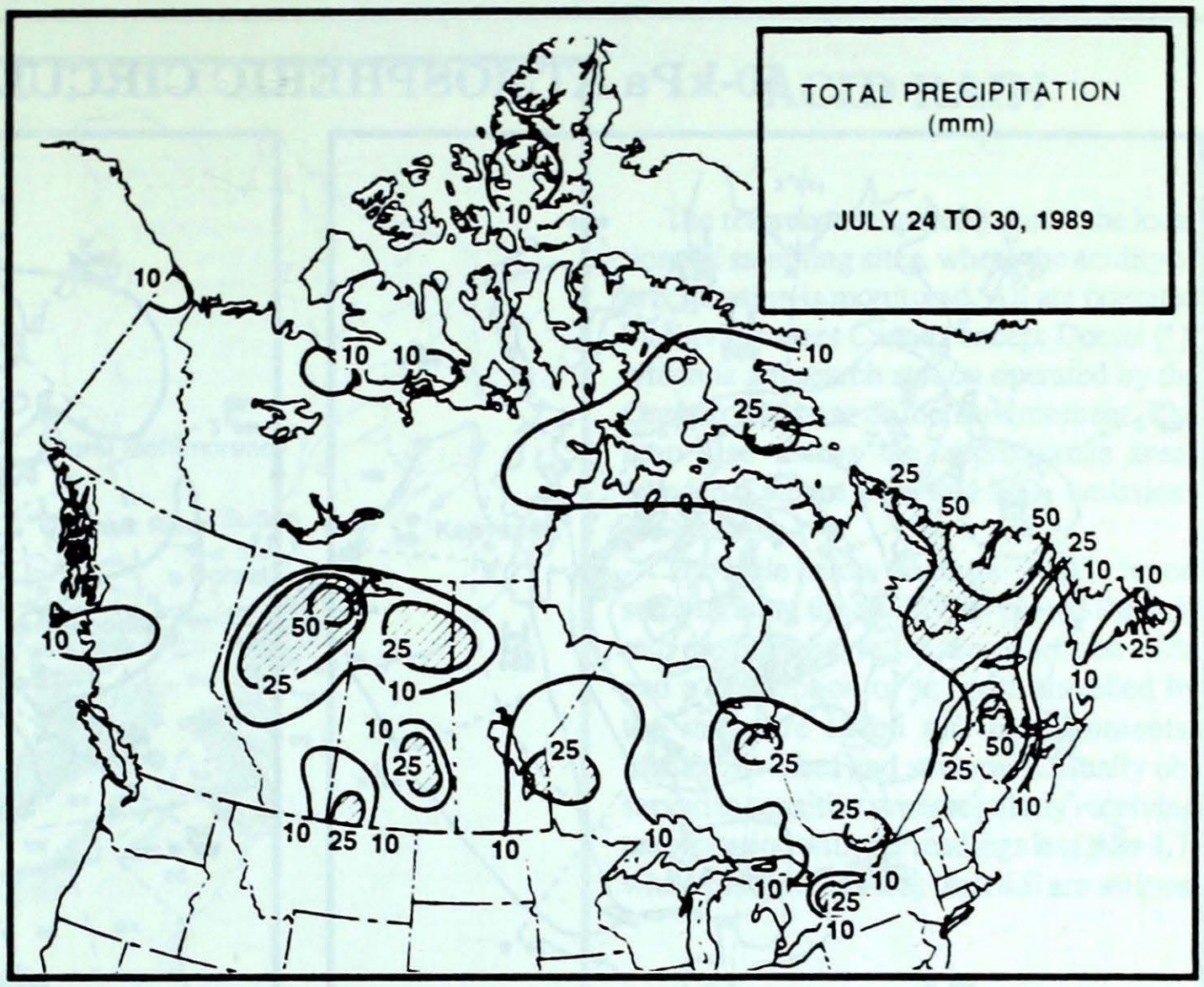
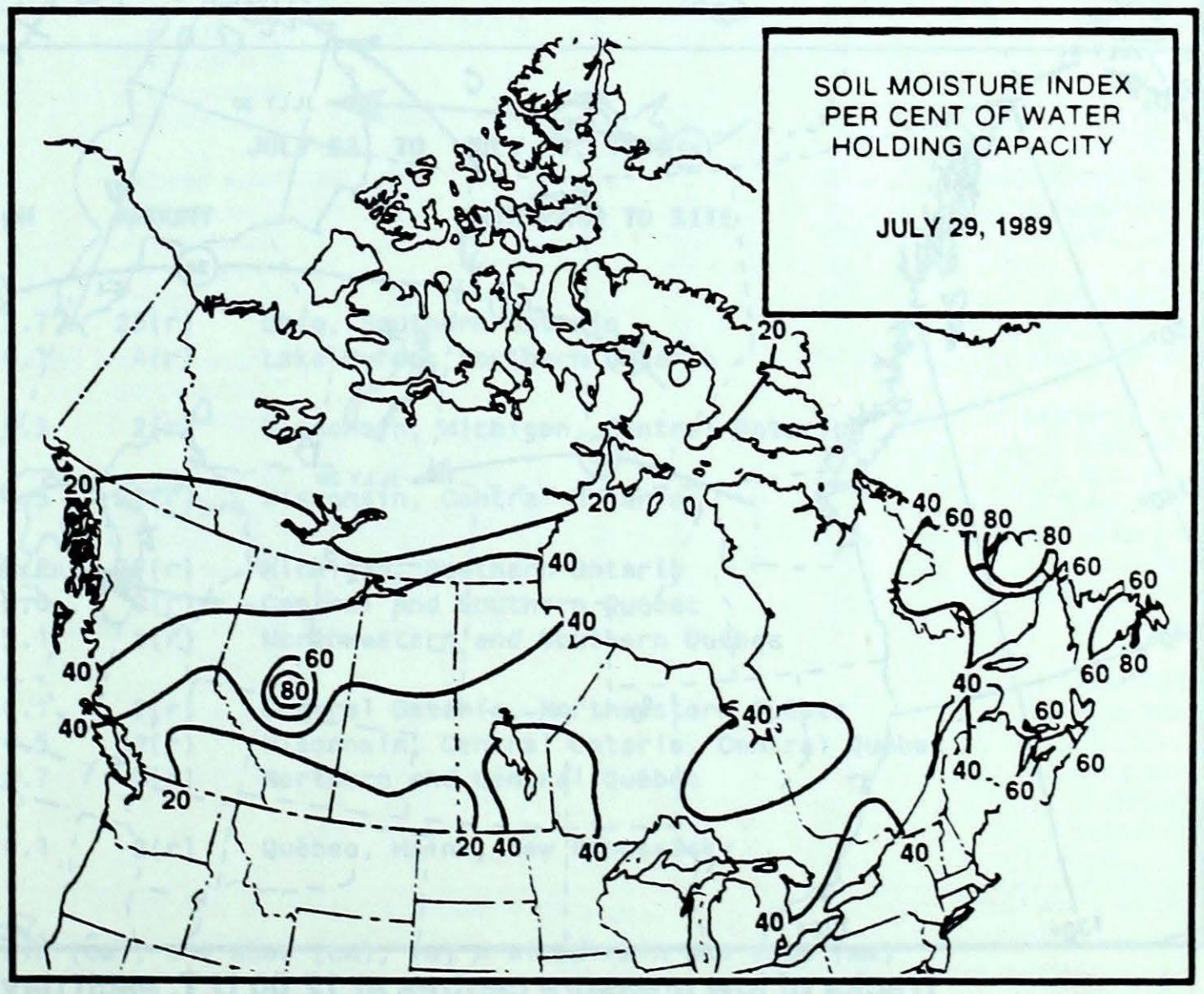
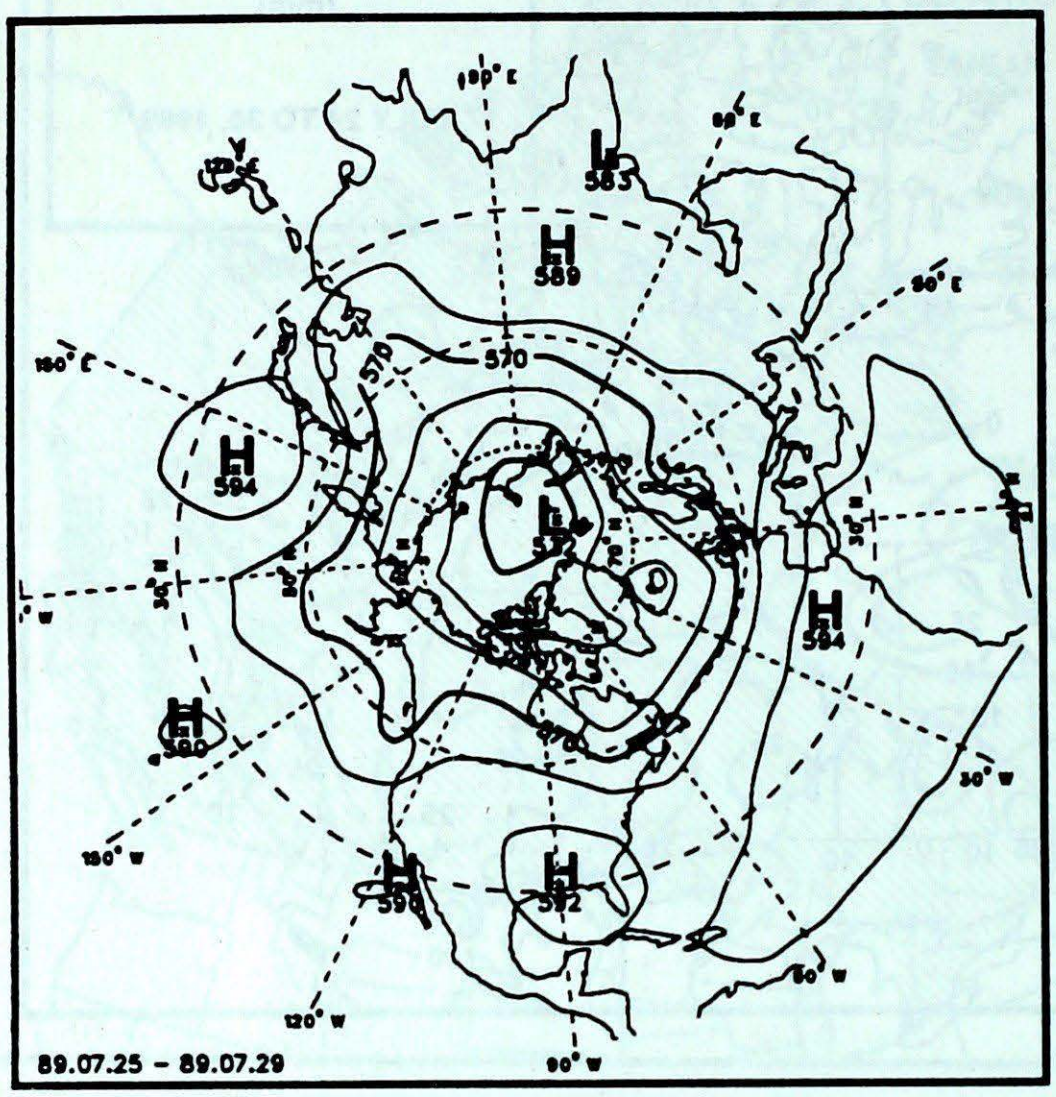
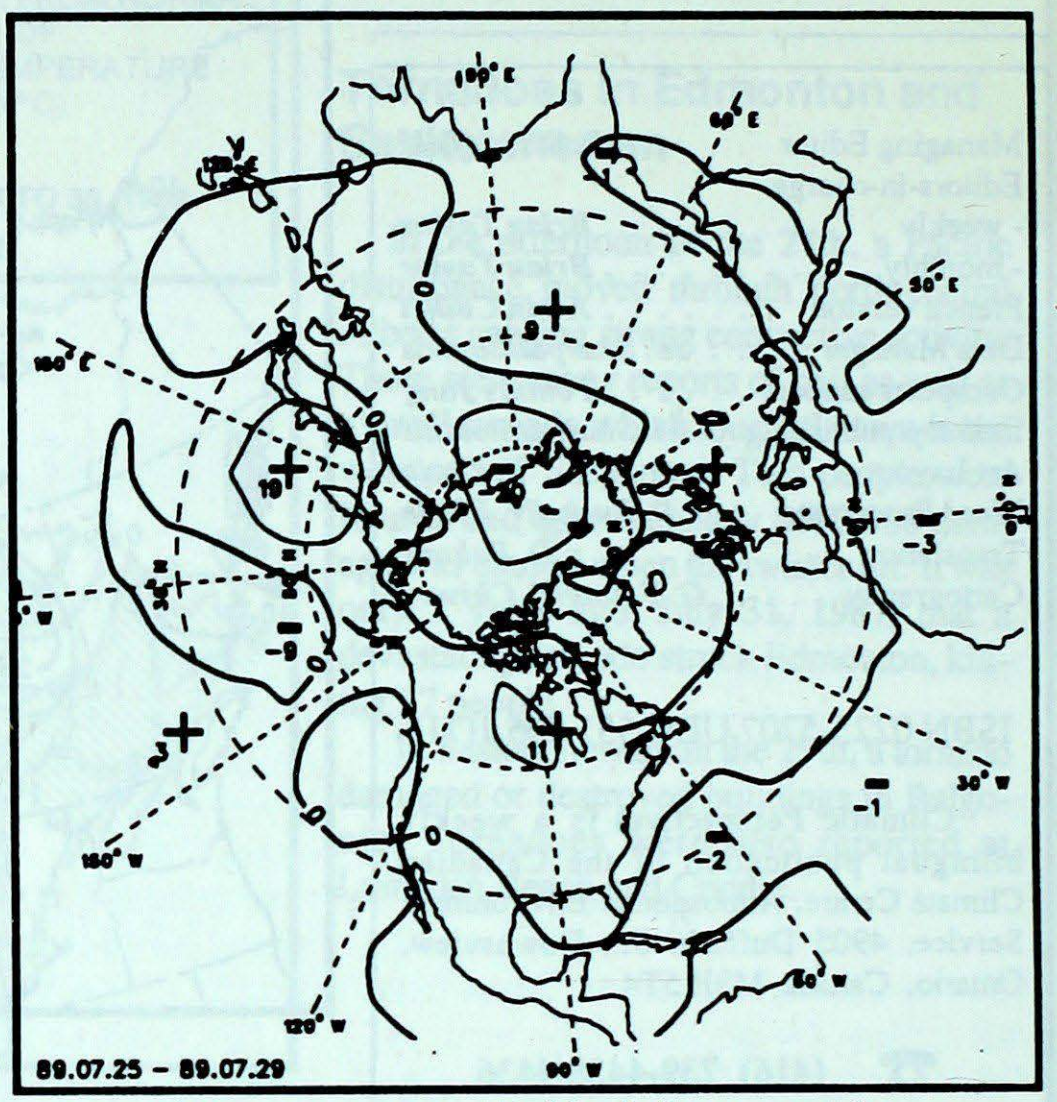




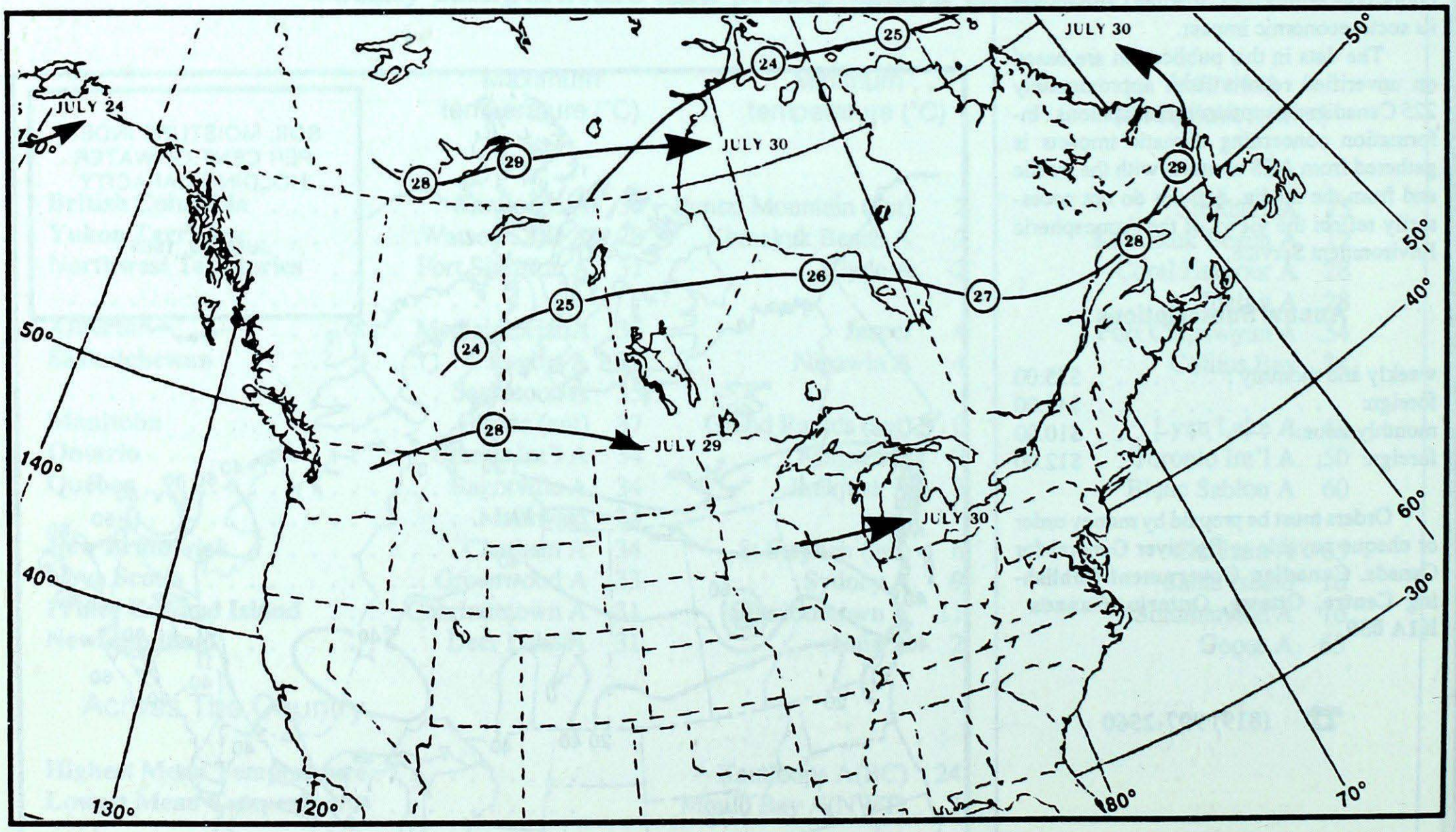
50-kPa ATMOSPHERIC CIRCULATION



Mean geopotential height
50-kPa level (10 decametre intervals)

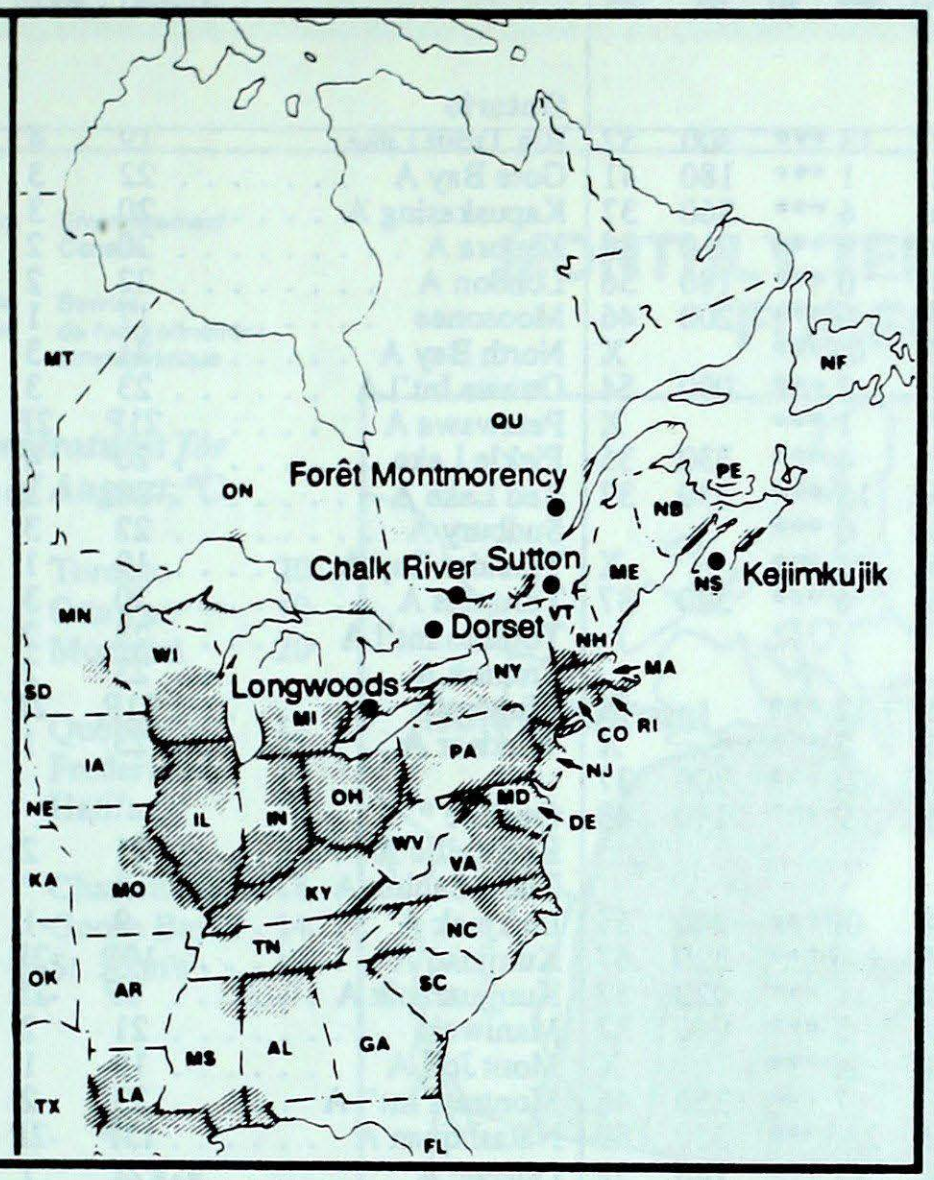


Mean geopotential height anomaly
50-kPa level (10 decametre intervals)



Tracks of low pressure centres at 12:00 U.T. each day during the period.

ALABAMA — AL
ARKANSAS — AR
CONNECTICUT — CO
DELAWARE — DE
FLORIDA — FL
GEORGIA — GA
ILLINOIS — IL
INDIANA — IN
IOWA — IA
KANSAS — KA
KENTUCKY — KY
LOUISIANA — LA
MAINE — ME
MANITOBA — MT
MARYLAND — MD
MASSACHUSETTS — MA
MICHIGAN — MI
MINNESOTA — MN
MISSISSIPPI — MS
MISSOURI — MO
NEBRASKA — NE
NEW BRUNSWICK — NB
NEWFOUNDLAND — NF
NEW HAMPSHIRE — NH
NEW JERSEY — NJ
NEW YORK — NY
NORTH CAROLINA — NC
NORTH DAKOTA — ND
NOVA SCOTIA — NS
OHIO — OH
OKLAHOMA — OK
ONTARIO — ON
PENNSYLVANIA — PA
PRINCE EDWARD ISLAND — PE
QUÉBEC — QU
RHODE ISLAND — RI
SOUTH CAROLINA — SC
SOUTH DAKOTA — SD
TENNESSEE — TN
TEXAS — TX
VERMONT — VT
VIRGINIA — VA
WEST VIRGINIA — WV
WISCONSIN — WI



ACID RAIN

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.

JULY 23 TO JULY 29, 1989

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	25	3.7	28(r)	Ohio, Southern Ontario
	29	4.1	4(r)	Lake Huron, Southern Ontario
Dorset	27	4.3	2(r)	Wisconsin, Michigan, Central Ontario
Chalk River	27	4.5	22(r)	Wisconsin, Central Ontario
Sutton	27	4.2	19(r)	Michigan, Southern Ontario
	28	5.0	9(r)	Central and Southern Québec
	29	5.1	2(r)	Northwestern and Southern Québec
Montmorency	25	4.1	2(r)	Central Ontario, Northwestern Québec
	27	4.5	11(r)	Wisconsin, Central Ontario, Central Québec
	28	4.7	5(r)	Northern and Central Québec
Kejimkujik	28	4.1	2(r)	Québec, Maine, New Brunswick

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

STATION	temperature mean	anom	max	min	precip. ptot	st	wind max dir	vel
British Columbia								
Cape St James	14	1	19	11	13	***	300	52
Cranbrook A	21	1	33	12	1	***	180	41
Fort Nelson A	17	1	31	6	6	***	360	37
Fort St John A	17	1	28	9	9	***	010	35
Kamloops A	24	2	36	13	0	***	180	56
Penticton A	23	1	34	10	0	***	200	46
Port Hardy A	15P	1P	20P	9P	0P	***		X
Prince George A	18	3	30	7	2	***	090	54
Prince Rupert A	14	1	21	7	1	***		X
Revelstoke A	22	3	35	12	4	***	330	35
Smithers A	16	1	32	6	15	***	330	37
Vancouver Int'l A	18	0	24	13	0	***		
Victoria Int'l A	16	0	25	8	1	***		X
Williams Lake A	18	2	31	6	6	***	320	37
Yukon Territory								
Komakuk Beach A	8	0	17	2	12	***		X
Teslin (aut)	15	*	26	5	2	***		X
Watson Lake A	17P	3P	28P	7P	2P	***	300	37
Whitehorse A	15	0	26	4	9	***	140	48
Northwest Territories								
Alert	4P	1P	15P	0P	0P	***	240	65
Baker Lake A	13P	2P	22P	5P	14P	***	320	67
Cambridge Bay A	10	2	18	4	11	***	020	57
Cape Dyer A	7	1	16	0	5	***	060	37
Clyde A	5P	1P	15P	-2P	2P	***		X
Coppermine A	13	5	27	1	7	***	350	46
Coral Harbour A	11P	2P	21P	5P	28P	***	350	89
Eureka	5	-1	12	0	11	***	140	52
Fort Smith A	17	2	31	2	7	***	300	46
Hall Beach A	9	3	16	3	3	***	330	43
Inuvik A	14P	1P	29P	0P	7P	***		X
Iqaluit A	9	1	18	3	28	***	060	41
Mould Bay A	3	-1	11	-1	1	***	190	41
Norman Wells A	17	1	29	7	8	***	300	46
Resolute A	4	-1	10	-2	0	***	010	50
Yellowknife A	17	2	27	8	0	***	320	46
Alberta								
Calgary Int'l A	20P	3P	32P	12P	7P	***	330	57
Cold Lake A	19	3	29	10	4	***	270	43
Edmonton Namao A	18	2	26	10	19	***	230	63
Fort McMurray A	18	3	28	9	25	***	150	46
High Level A	17P	1P	28P	9P	2P	***	330	41
Jasper	18	2	30	4	4	***		X
Lethbridge A	20	1	31	11	19	***	320	50
Medicine Hat A	23	3	35	12	18	***	220	52
Peace River A	18P	2P	27P	9P	6P	***	340	50
Saskatchewan								
Cree Lake	16	1	25	6	14	***	320	46
Estevan A	21	1	34	9	11	***	130	50
La Ronge A	18	2	30	10	17	***	310	56
Regina A	20	2	35	8	13	***	360	65
Saskatoon A	20	2	35	9	6	***	360	72
Swift Current A	20	1	33	9	3	***	200	56
Yorkton A	19	1	32	5	4	***	140	43
Manitoba								
Brandon A	20	2	32	8	4	***	330	39
Churchill A	18	6	27	9	3	***	290	44
Lynn Lake A	17	2	26	8	44	***	030	39
The Pas A	18	0	30	5	7	***	240	43
Thompson A	18P	4P	30P	5P	1P	***	260	44
Winnipeg Int'l A	22	3	36	13	1	***	320	44

STATION	temperature mean	anom	max	min	precip. ptot	st	wind max dir	vel
Ontario								
Big Trout Lake	19	4	27	7	21	***	160	44
Gore Bay A	22	3	32	11	3	***	030	41
Kapuskasing A	20	3	34	4	8	***	300	69
Kenora A	20	2	32	3	14	***	210	46
London A	22	2	32	11	13	***	020	37
Moosonee	17	1	33	4	36	***	320	65
North Bay A	21	3	32	10	13	***	360	48
Ottawa Int'l A	23	3	34	12	37	***	310	85
Petawawa A	21P	2P	34P	8P	22P	***	290	67
Pickle Lake	20	4	31	9	12	***	320	41
Red Lake A	20	3	33	7	25	***	290	44
Sudbury A	22	3	34	10	37	***	290	67
Thunder Bay A	19	1	33	6	20	***	350	70
Timmins A	20	3	33	6	9	***	340	48
Toronto Int'l A	23	2	33	11	50	***	270	69
Trenton A	23	2	32	12	2	***	300	56
Wiarton A	21P	2P	32P	8P	0P	***	280	32
Windsor A	23	1	32	13	6	***	320	50
Québec								
Bagotville A	21	2	34	8	11	***	260	43
Blanc Sablon A	13	*	20	7	60	***	070	65
Inukjuak A	9	-1	17	3	0	***	310	48
Kuujjuaq A	10P	-2P	23P	4P	1P	***	160	59
Kuujjuarapik A	9P	-2P	23P	4P	7P	***		X
Maniwaki	21	2	34	9	20	***	360	48
Mont Joli A	19	1	31	10	10	***	260	41
Montréal Int'l A	23	2	33	10	12	***	230	
Natashquan A	13P	-2P	26P	4P	12P	***	190	33
Québec A	21	1	32	9	21	***	300	61
Schefferville A	12P	-1P	22P	5P	15P	***	270	67
Sept-Îles A	16	0	25	7	23	***	330	91
Sherbrooke A	20	2	33	7	9	***	280	56
Val-d'Or A	20	2	32	8	22	***	020	65
New Brunswick								
Charlo A	20	1	33	8	20	***		X
Chatham A	21	1	34	9	65	***	360	57
Fredericton A	20	1	33	8	22	***	200	44
Moncton A	19	1	32	8	56	***	220	56
Saint John A	18	1	27	8	38	***	220	33
Nova Scotia								
Greenwood A	21	1	33	9	0	***	210	46
Shearwater A	18	0	25	11	7	***	210	44
Sydney A	19	1	31	9	1	***	230	50
Yarmouth A	16	-1	23	10	1	***	210	52
Prince Edward Island								
Charlottetown A	20	1	31	11	14	***	190	56
Summerside A	20	1	29	12	16	***	200	52
Newfoundland								
Cartwright	12	-1	27	5	60	***	270	41
Churchill Falls A	11	-4	24	3	17	***	260	6
Gander Int'l A	19	2	30	9	2	***	220	56
Goose A	13	-4	29	4	65	***	280	46
Port Aux Basques	15	1	22	9	2	***	090	52
St John's A	18	2	27	9	18	***	240	83
St Lawrence	15	2	21	10	14	***		X
Wabush Lake A	14	0	23	6	30	***	270	44

89/07/24-89/07/30

mean = mean weekly temperature, °C
max = maximum weekly temperature, °C
min = minimum weekly temperature, °C
anom = mean temperature anomaly, °C

ptot = weekly precipitation total in mm
st = snow thickness on the ground in cm
dir = direction of max wind, deg. from north.
vel = wind speed in km/h

— Annotations —
X = no observation
P = less than 7 days of data
* = missing data when going to printing.

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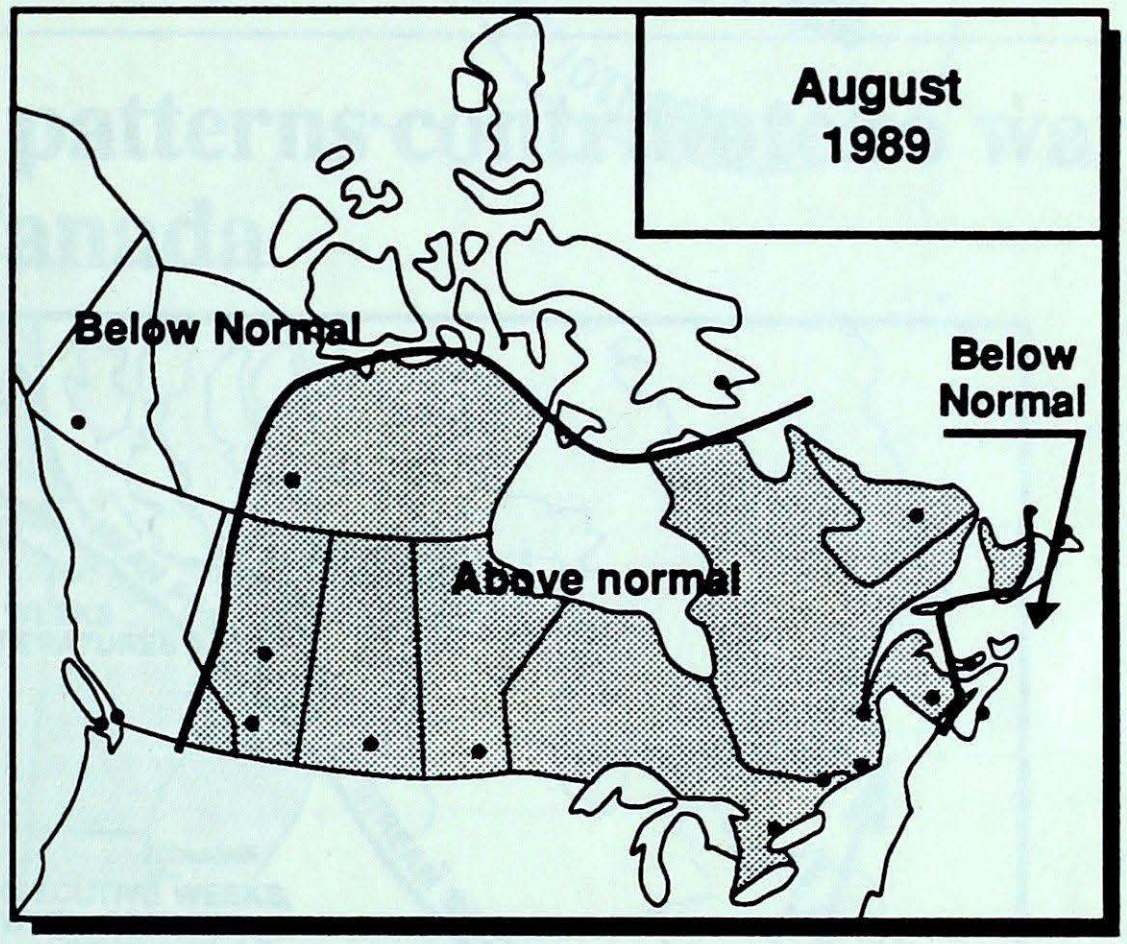
Atmospheric Environment Service / Service de l'environnement atmosphérique

MONTHLY TEMPERATURE FORECAST



Normal temperatures for the month of August, °C

Whitehorse	13	Toronto	20
Yellowknife	14	Ottawa	19
Iqaluit	7	Montréal	20
Vancouver	17	Québec	18
Victoria	16	Fredericton	18
Calgary	15	Halifax	18
Edmonton	16	Charlottetown	18
Regina	18	Goose Bay	14
Winnipeg	18	St. John's	15

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