Environment Canada Environnement Canada

Climatic Perspectives

MONTHLY SUPPLEMENT INCLUDED

August 12 to 18, 1991 — A weekly review of Canadian climate and water — Vol. 13 No 33

Hot, dry weather increases the incidence of forest fires

Above normal temperatures and little or no rain have resulted in a high to extreme forest fire hazard index in northern Ontario and the Prairies.

In Ontario this week, fires have engulfed approximately 150,000 hectares of prime forest, with the worst fires located in northwestern and north-central Ontario. Smoke from these fires continues to be a health concern, and residents from some communities between Lansdowne House and Geraldton were being evacuated. During the weekend 55 new fires were ignited, increasing the total fire count at this time to nearly one hundred. Most of the fires have been caused by lightning. Two serious fires were burning near Sudbury, with one still listed "out of control". Four, 20 man crews from British Columbia, and water bombing aircraft from the Northwest Territories have increased Ontario's fire fighting resources.

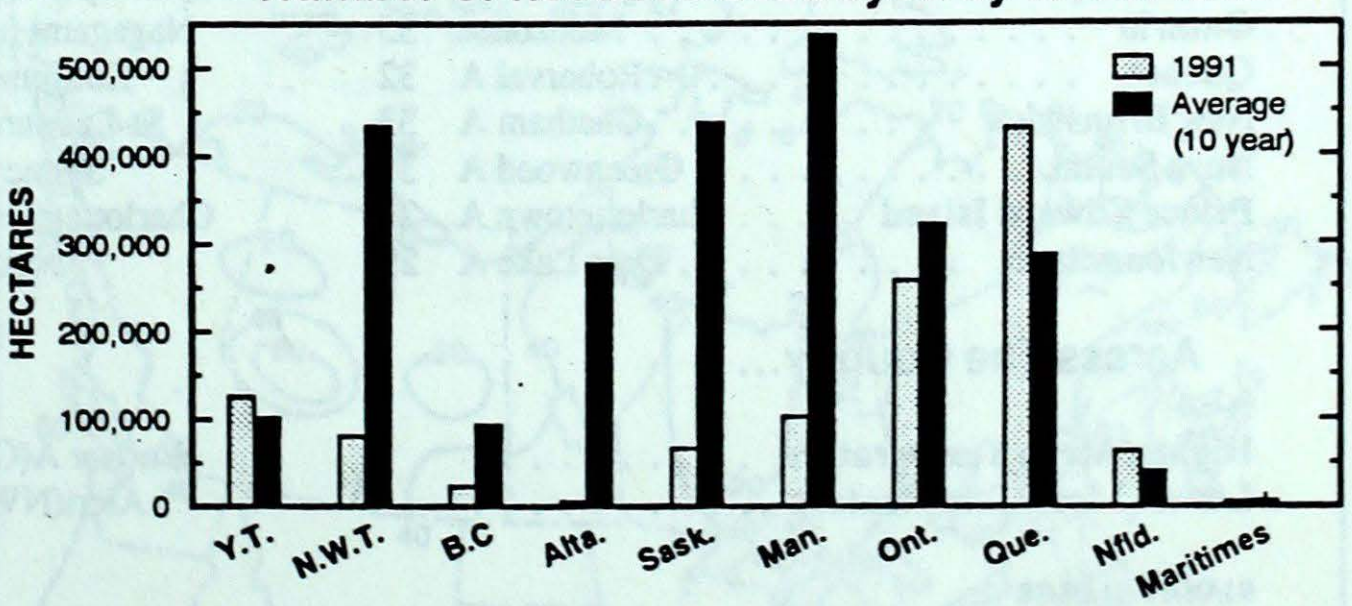
A serious forest fire situation also exists in southern Manitoba and central Saskatchewan, where currently between 60 to 70 fires are burning in each province. Temperatures this week have averaged between 2 and 6 degrees above normal, with daytime readings climbing into the low thirties. There has been little or no rainfall, and windy conditions are not helping the situation. A number of fires are burning out of control, with one of the larger ones, covering 11,000 hectares near Meadow Lake, Saskatchewan.

In central British Columbia and the Peace River district several fires started and spread rapidly over the weekend. Fire fighters were experiencing control problems with several of the fires, but the situation is not considered serious. In northern British Columbia and Alberta, recent rainfalls have eased the forest fire threat. In the southern Yukon, it is wet and the forest fire season is gradually coming to a close. Across eastern Canada, the fire situation has become relatively quiet, with the arrival of unsettled showery weather conditions.

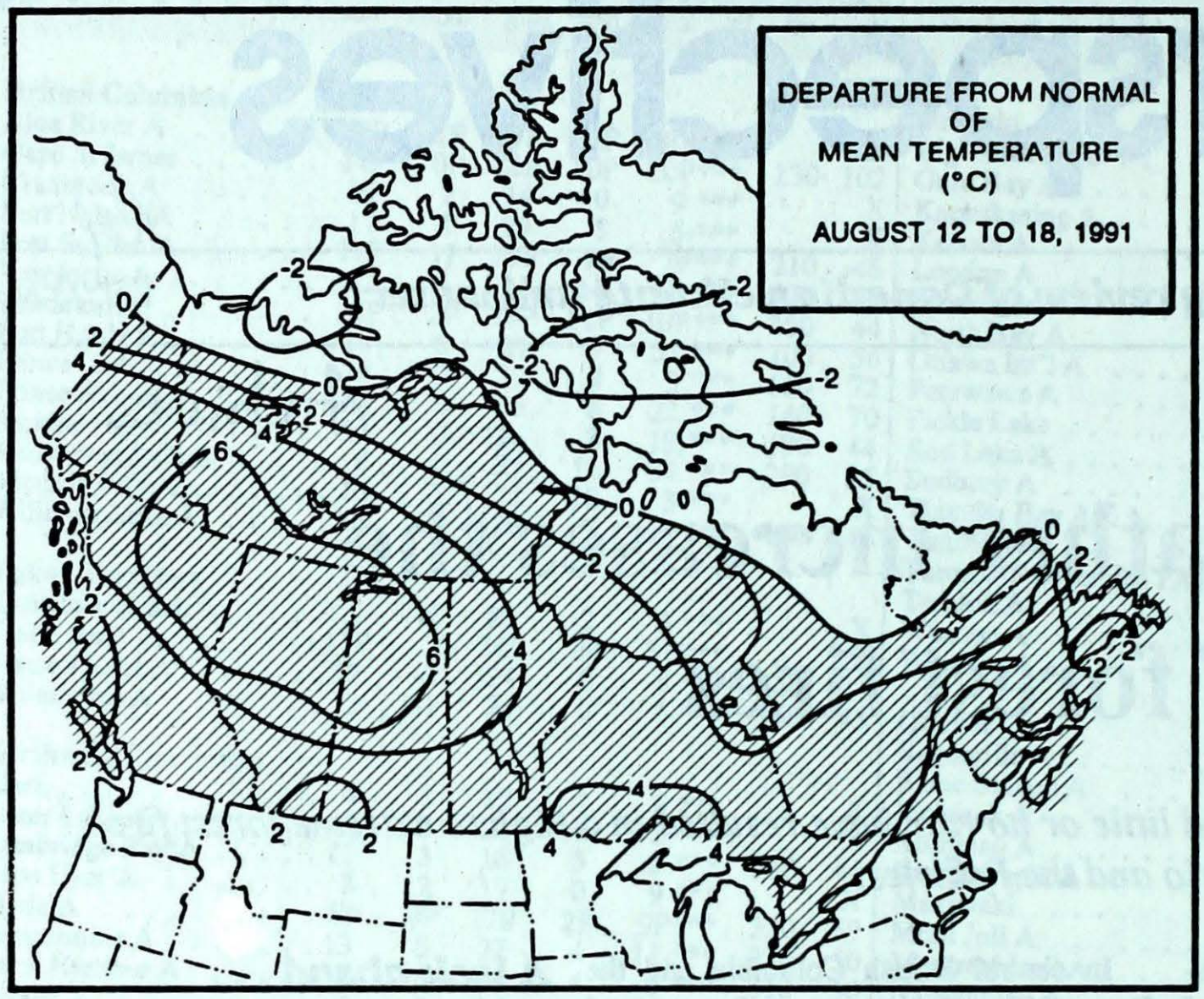
A look ahead . . .

For the week of August 26, a westerly circulation should keep the Yukon, British Columbia and Alberta within the seasonal temperature range. Above normal readings are expected across Saskatchewan, Manitoba, Ontario and southern Quebec, with 4 to 5 degree above-normal temperatures in south-central Ontario. Slightly below normal temperatures are forecast for the Atlantic Provinces, northern Quebec and the Northwest Territories. However, Baffin Island can expect temperatures as much as 5°C below normal.

Number of hectares destroyed by forest fires



To-date, forest fires in western Canada have burned significantly less territory than the ten year average, due to the wet weather experienced earlier this year.



Weekly normal temperatures (°C)

	max.	min.
Whitehorse A	18.8	6.7
Iqaluit A	10.6	3.6
Yellowknife A	18.2	9.9
Vancouver Int'l A	21.6	12.8
Victoria Int'l A	21.3	10.9
Calgary Int'l A	22.5	8.4
Edmonton Int'l A	21.6	7.9
Regina A	25.4	10.3
Saskatoon A	24.4	10.1
Winnipeg Int'l A	24.6	11.6
Ottawa Int'l A	24.5	13.7
Toronto (Pearson Int'l A)	25.6	13.2
Montréal Int'l A	24.7	14.5
Québec A	23.3	12.2
Fredericton A	24.8	12.1
Saint John A	21.8	11.6
Halifax (Shearwater)	22.4	13.9
Charlottetown A	22.6	13.6
Goose A	19.4	9.3
St John's A	19.6	11.8

Weekly temperature and precipitation extremes

	Maximum temperature (°C)		Minimum temperature (°C)		Heaviest precipitation (mm)	
British Columbia	Lytton A	35	Lytton A	5	Clinton (aut)	48
Yukon Territory	Watson Lake A	29	Komakuk Beach A	-3	Shingle Point A	10
Northwest Territories	Fort Smith A	33	MacKar Inlet	-7	MacKar Inlet	27
Alberta	Cold Lake A	34	Banff (aut)	6	Red Deer A	82
Saskatchewan	Saskatoon A	35	Meadow Lake A	7	Eastend Cypress (aut)	18
Manitoba	Winnipeg Int'l A	34	Grand Rapids (aut)	1	Lynn Lake A	40
Ontario	Moosonee	35	Nagagami (aut)	2	Wawa A	85
Québec	Roberval A	32	Kuujjuaq A	1	Chibougamau Chapais a	49
New Brunswick	Chatham A	33	St-Léonard A	7	St Stephen (aut)	10
Nova Scotia	Greenwood A	31	Sydney A	12	Greenwood A	14
Prince Edward Island	Charlottetown A	29	Charlottetown A	12	East Point (aut)	17
Newfoundland	Deer Lake A	29	Nain A	3	Wabush Lake A	81

Across The Country...

Highest Mean Temperature	Wndsor A(ON)	23
Lowest Mean Temperature	Alert(NWT)	-1

91/08/12-91/08/18

CLIMATIC PERSPECTIVES
VOLUME 13

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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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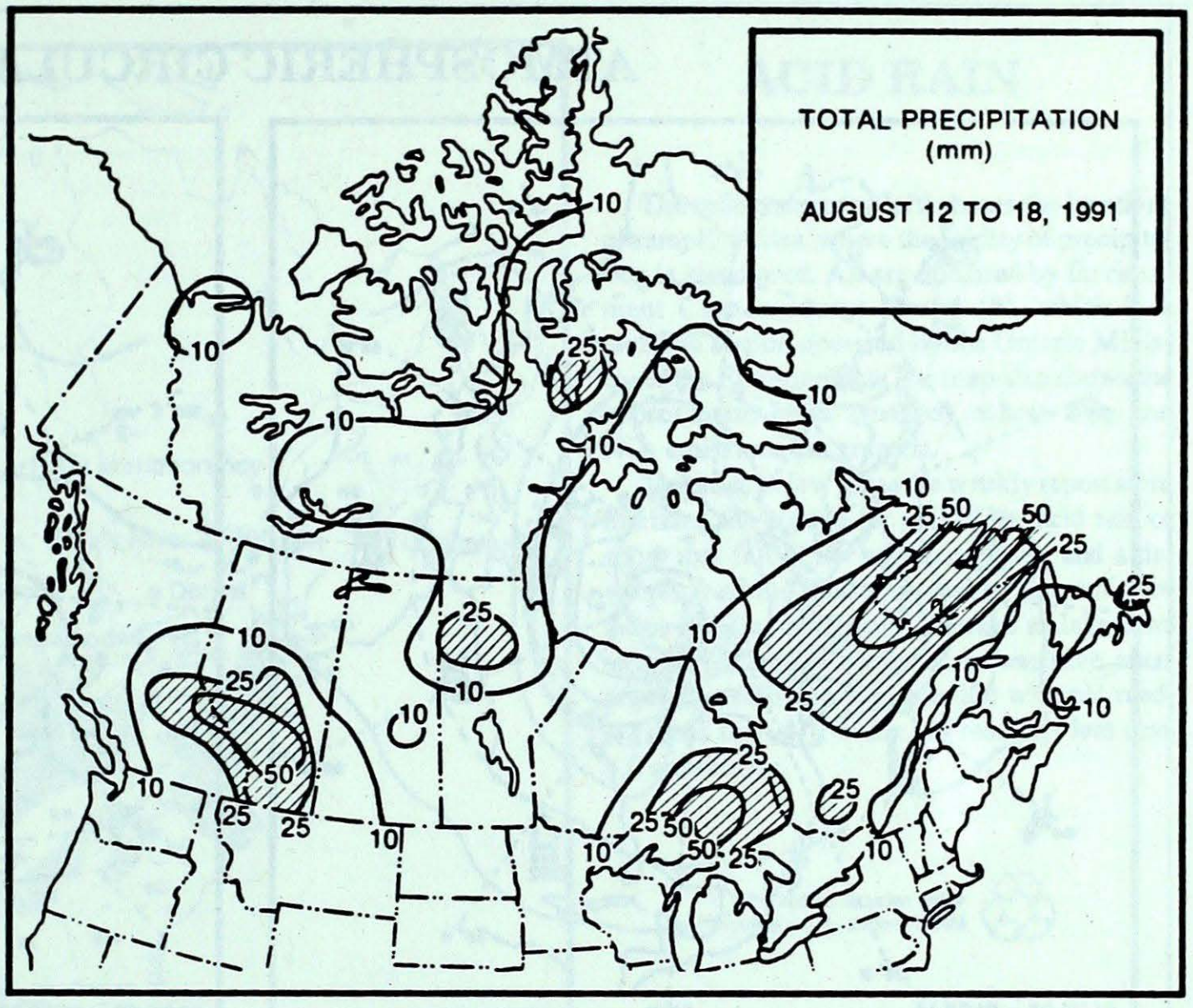
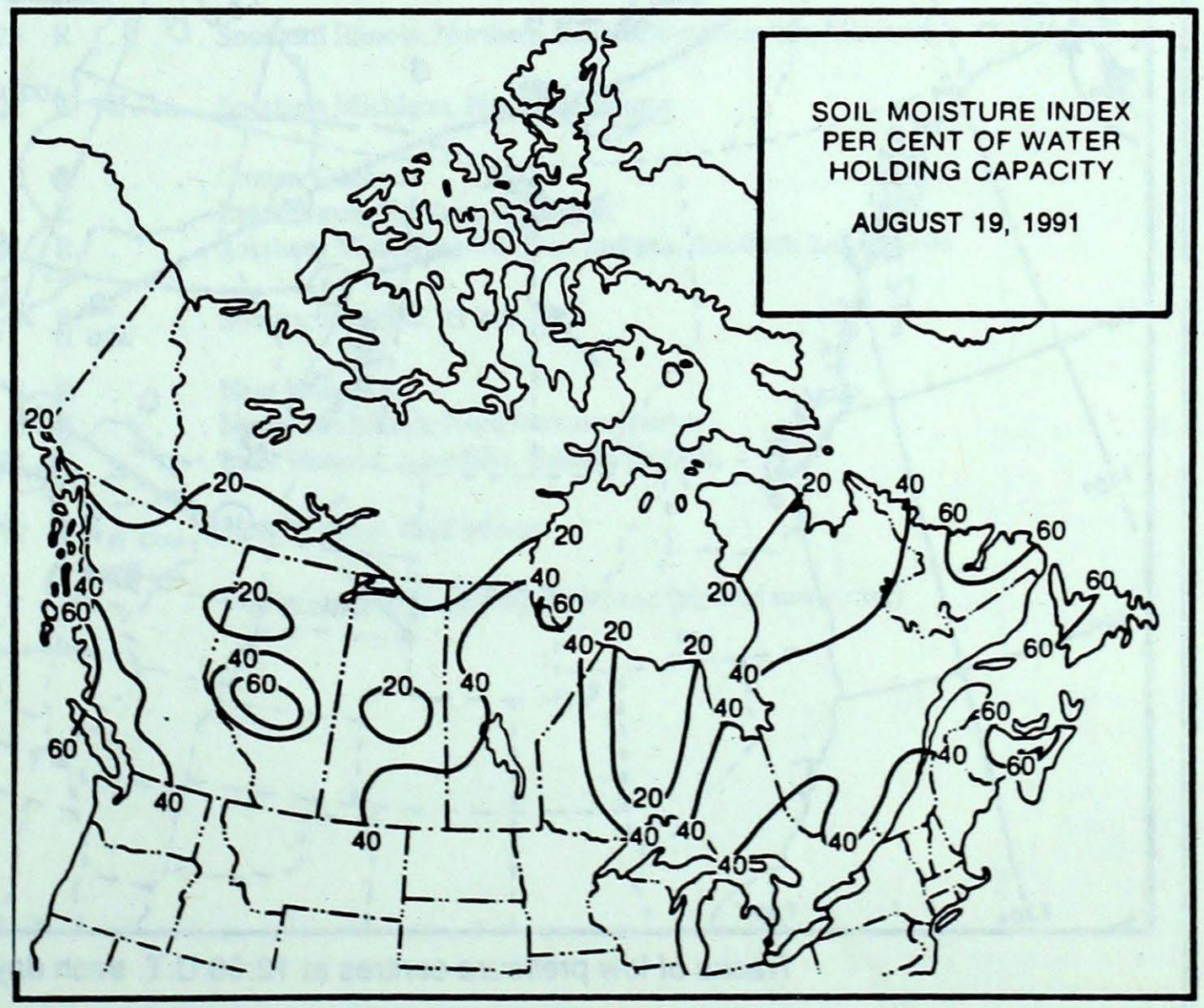
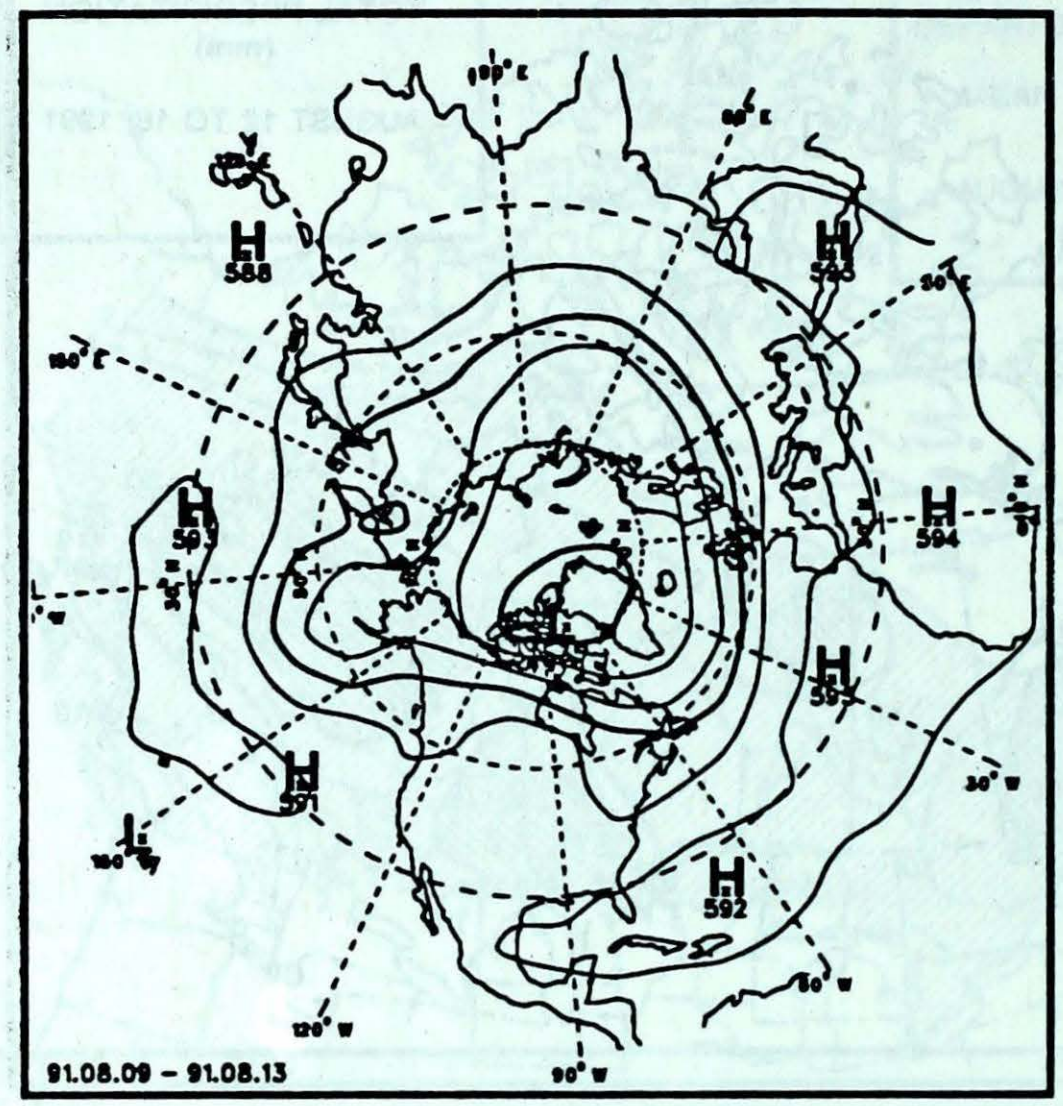
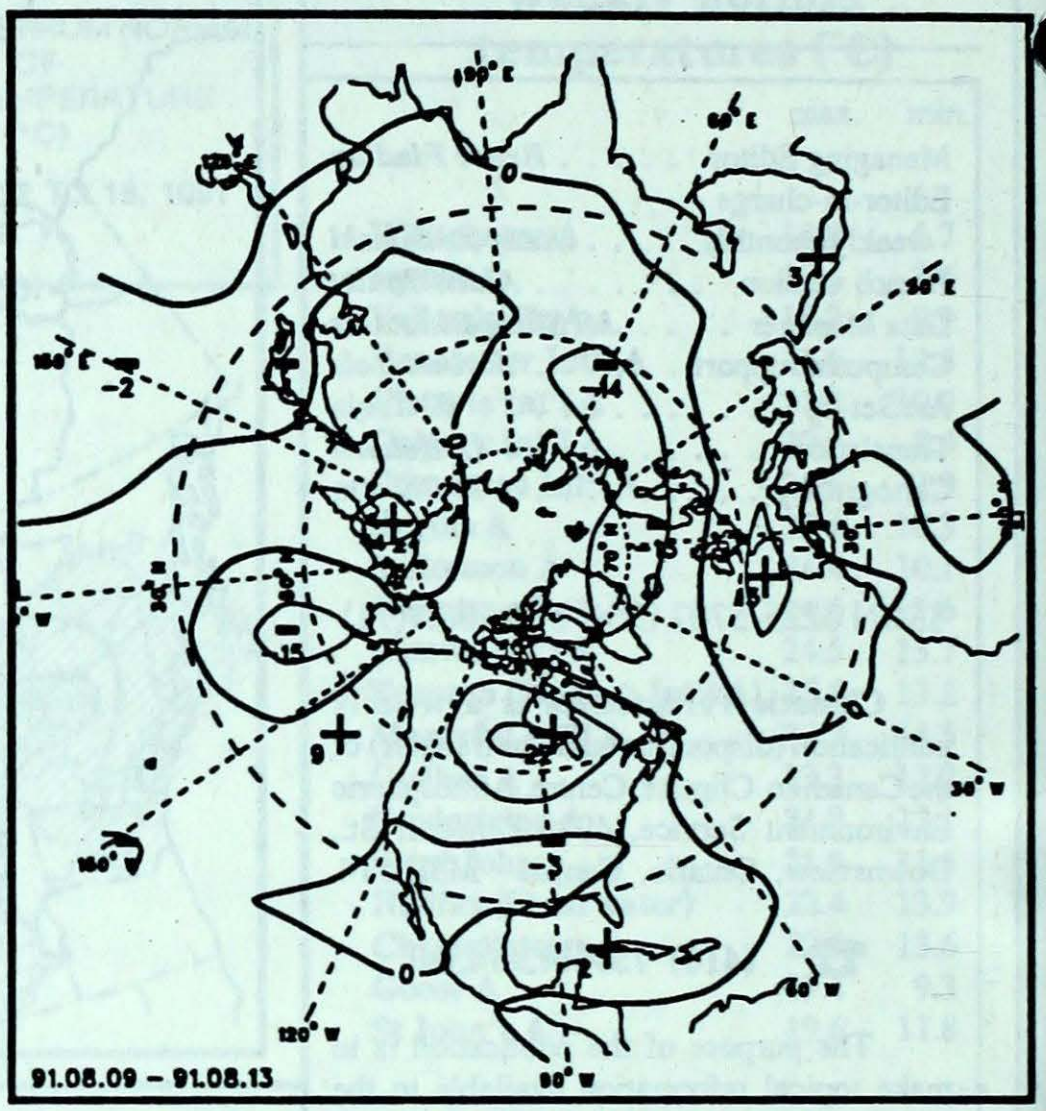




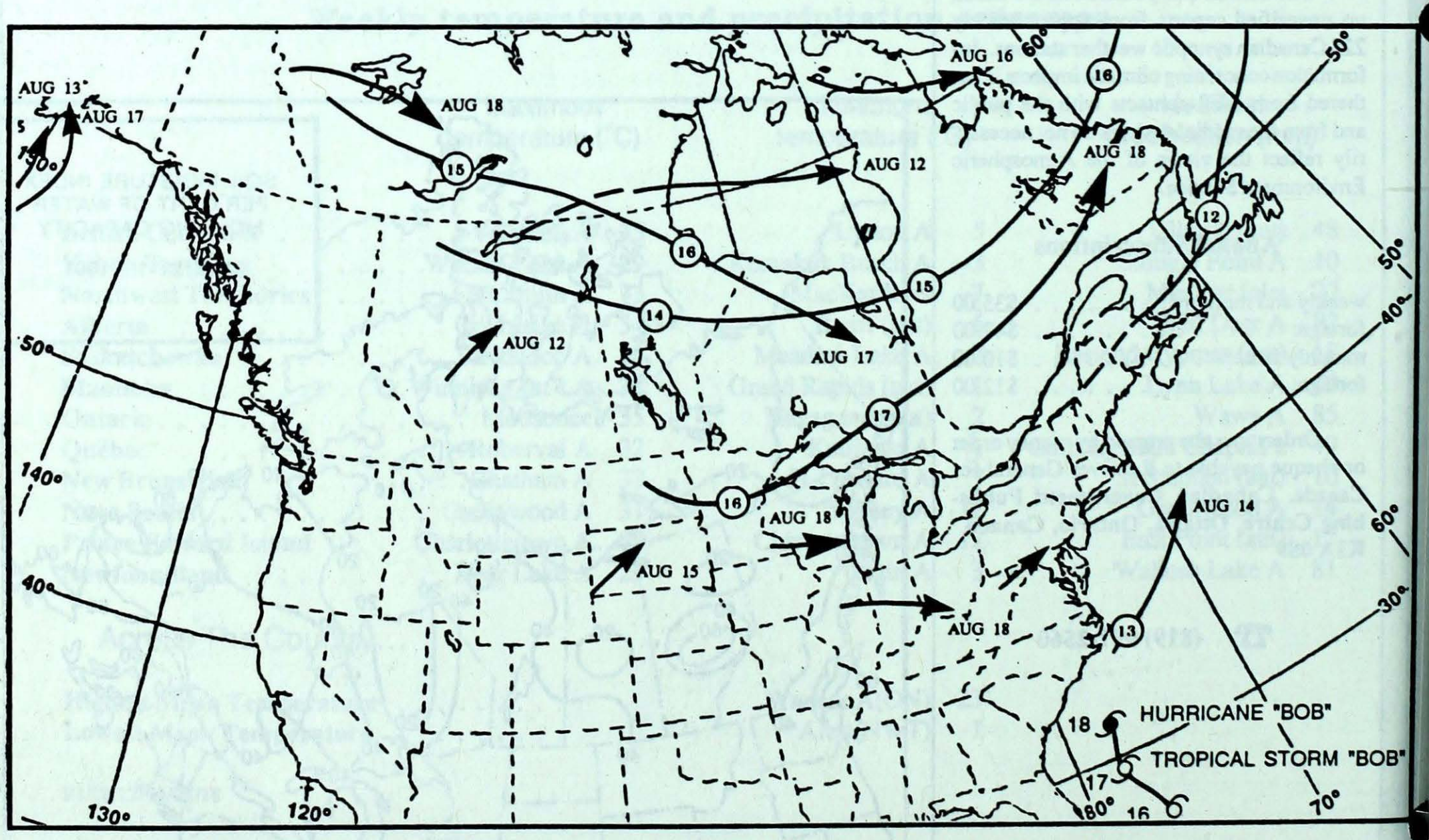
ATMOSPHERIC CIRCULATION



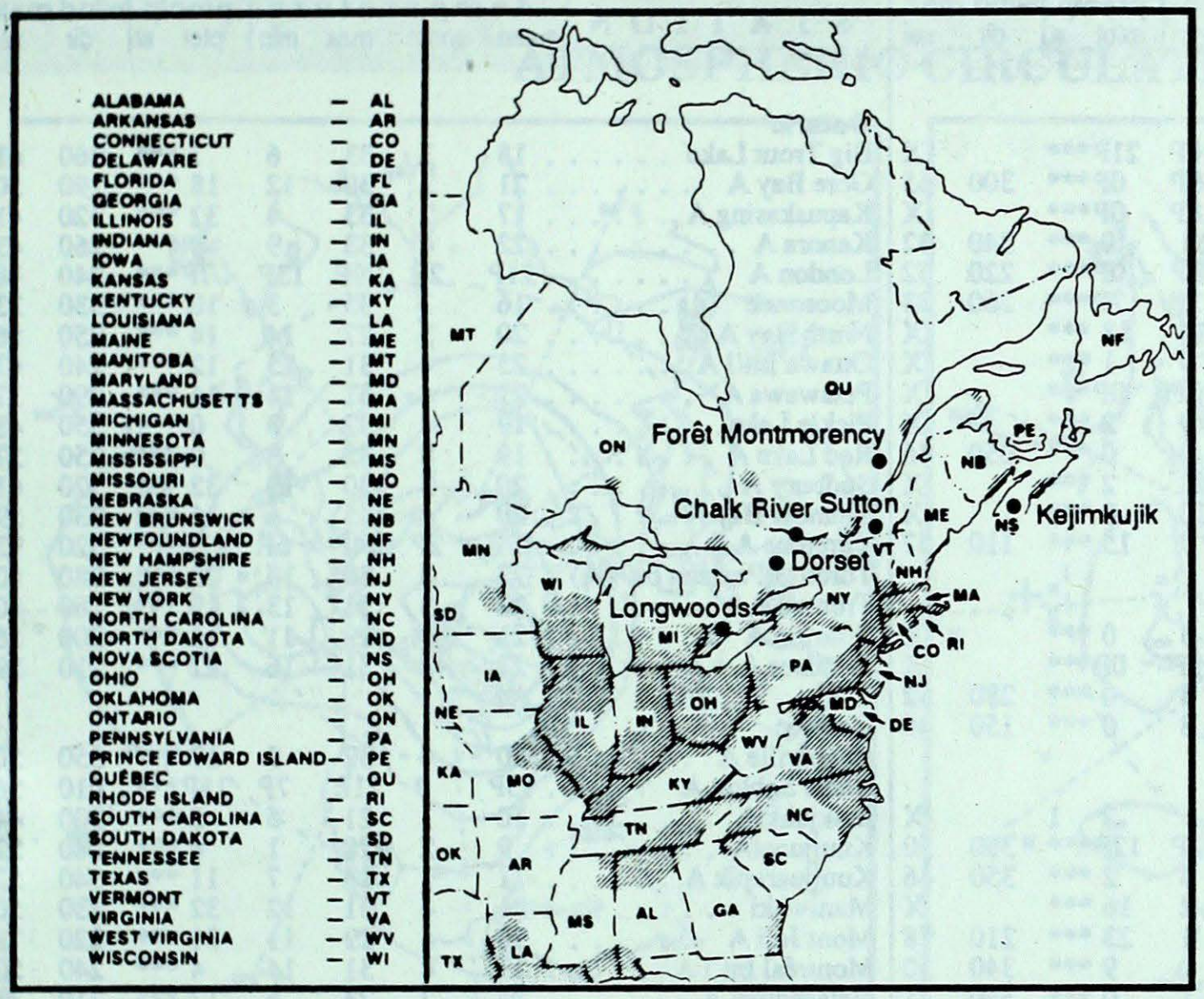
Mean geopotential height
50-kPa level (10-decametre intervals)



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.



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.

Site	day	pH	amount		air path to site
					August 11 to 17, 1991
Longwoods	17	4.0	25	R	. . . . . Southern Illinois, Northern Indiana, Southeastern Missouri
Dorset*	17	4.3	22	R	. . . . . Southern Michigan, Northern Indiana
Chalk River	11	4.6	2	R	. . . . . Center Quebec
	16	4.3	2	R	. . . . . Lake Huron, Northern Michigan
	17	4.7	11	R	. . . . . Southern Michigan, Northern Indiana, Southern Lake Huron
Sutton	11	5.2	4	R	. . . . . Southern Quebec
Montmorency	11	5.4	3	R	. . . . . New Brunswick
	15	4.5	3	R	. . . . . Northern Ontario, Northwestern Quebec
	17	4.1	15	R	. . . . . Lake Ontario, Lake Erie, Eastern Ontario
Kejimkujik	15	4.3	2	R	. . . . . New England, Gulf Maine

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

STATION	temperature mean	anom	max	min	precip. ptot	st	wind max dir	vel
British Columbia								
Blue River A	18P	2P	33P	10P	21P***			X
Cape St James	14P	0P	21P	9P	0P***		300	65
Cranbrook A	19P	2P	31P	8P	0P***			X
Fort Nelson A	22	7	33	11	0 ***		340	32
Fort St John A	19P	4P	32P	12P	0P***		220	52
Kamloops A	21P	1P	34P	13P	7P***		260	33
Penticton A	21	1	34	12	13 ***			X
Port Hardy A	14	0	19	9	1 ***			X
Prince George A	21P	7P	33P	8P	0P***			X
Prince Rupert A	14	1	19	9	2 ***			X
Smithers A	21	6	33	9	0 ***		050	46
Vancouver Int'l A	20	2	26	13	2 ***			X
Victoria Int'l A	18	2	28	10	0 ***			X
Williams Lake A	19	4	31	9	15 ***		110	57
Yukon Territory								
Komakuk Beach A	5	-1	14	-3	0 ***			X
Teslin (aut)	16P	*	25P	9P	0P***			X
Watson Lake A	18	5	29	8	0 ***		280	52
Whitehorse A	17	4	27	8	0 ***		150	46
Northwest Territories								
Alert	-1	-2	5	-5	2	1		X
Baker Lake A	11P	1P	20P	2P	12P***		320	50
Cambridge Bay A	7	1	12	3	2 ***		350	46
Cape Dyer A	3	-3	9	-2	16 ***			X
Clyde A	5	0	13	1	23 ***		210	78
Coppermine A	8	0	20	1	9 ***		340	50
Coral Harbour A	7	-1	19	-1	0 ***		330	41
Eureka	4	0	7	1	0 ***			X
Fort Smith A	20	6	33	11	0 ***		300	48
Hall Beach A	5	0	11	1	10 ***		300	87
Inuvik A	11	0	23	1	15 ***		360	46
Iqaluit A	6	-1	12	1	10 ***		300	69
Mould Bay A	1	-1	6	-4	3	1		X
Norman Wells A	19	5	26	4	6 ***		300	56
Resolute A	1	-1	5	-1	2 ***		340	74
Yellowknife A	19	5	28	12	20 ***		320	59
Alberta								
Calgary Int'l A	18	3	30	9	18 ***		210	50
Cold Lake A	22	7	34	11	0 ***		020	39
Edmonton Namao A	20	5	32	12	31 ***		130	76
Fort McMurray A	21	6	34	8	6 ***		270	35
High Level A	20	6	30	9	0 ***		320	32
Jasper	17	3	30	9	63 ***			X
Lethbridge A	18	0	32	9	33 ***		290	57
Medicine Hat A	20	1	33	11	24 ***			X
Peace River A	22	7	33	12	2 ***			X
Saskatchewan								
Cree Lake	21	7	33	9	0 ***		340	50
Estevan A	20	2	30	10	6 ***		220	43
La Ronge A	22	7	33	13	1 ***		330	35
Regina A	21	3	32	11	0 ***		310	48
Saskatoon A	22	4	35	9	6 ***		220	46
Swift Current A	20	2	31	11	12 ***		260	52
Yorkton A	20	3	32	11	9 ***		280	46
Manitoba								
Brandon A	20	2	31	9	2 ***		350	48
Churchill A	14	3	26	6	8 ***		070	44
Lynn Lake A	18	5	33	6	40 ***		330	48
The Pas A	20	5	32	8	3 ***		250	41
Thompson A	18	4	33	2	20 ***		250	43
Winnipeg Int'l A	21	3	34	7	0 ***		010	59

STATION	temperature mean	anom	max	min	precip. ptot	st	wind max dir	vel
Ontario								
Big Trout Lake	18	3	33	6	7 ***		360	61
Gore Bay A	21	3	30	12	18 ***		190	50
Kapuskasing A	17	2	33	4	32 ***		320	41
Kenora A	22	4	33	9	0 ***		260	43
London A	21P	2P	29P	13P	7P***		240	48
Moosonee	16	1	35	3	10 ***		330	33
North Bay A	20	3	27	14	14 ***		250	56
Ottawa Int'l A	23	4	31	15	12 ***		240	63
Petawawa A	21	4	31	11	16 ***		290	37
Pickle Lake	19	4	32	3	0 ***		350	43
Red Lake A	19	2	32	3	0 ***		250	37
Sudbury A	20	3	30	12	32 ***		320	61
Thunder Bay A	20	4	35	6	16 ***		330	39
Timmins A	17P	2P	34P	6P	41P***		320	93
Toronto(Pearson Int'l A)	23	3	30	15	20 ***		280	80
Trenton A	22	3	31	13	19 ***		280	80
Wiarton A	21	3	29	11	16 ***		200	56
Windsor A	23	2	31	16	22 ***		210	59
Québec								
Bagotville A	20	4	32	9	17 ***		350	50
Blanc Sablon A	13P	*	21P	7P	18P***		010	56
Inukjuak A	10	1	21	5	5 ***		300	44
Kuujjuaq A	9	-2	18	1	6 ***		280	52
Kuujjuarapik A	11	1	24	7	11 ***		340	50
Maniwaki	21	4	31	12	32 ***		230	50
Mont Joli A	20	4	29	11	31 ***		220	78
Montréal Int'l A	23	4	31	14	4 ***		240	50
Natashquan A	16	2	23	6	17 ***		210	33
Québec A	21	4	30	12	9 ***		240	37
Schefferville A	10	-1	19	5	35 ***		310	52
Sept-Îles A	17	2	28	8	11 ***		330	41
Sherbrooke A	20	3	29	12	10 ***		230	41
Val-d'Or A	19	4	32	9	19 ***		210	67
New Brunswick								
Chatham A	22	4	33	10	2 ***		230	43
Fredericton A	22	4	33	10	4 ***		220	48
Miscou Island (aut)	20P	2P	28P	10P	0P***			
Moncton A	21	4	31	12	7 ***		210	65
Saint John A	19P	2P	28P	11P	4P***		220	52
Nova Scotia								
Greenwood A	22	4	31	13	14 ***		240	63
Shearwater A	22	4	29	14	9 ***		220	37
Sydney A	21	3	31	12	5 ***		230	59
Yarmouth A	18	2	25	13	7 ***		220	46
Prince Edward Island								
Charlottetown A	21	3	29	12	6 ***		210	56
East Point (auto)	19P	*	26P	13P	17P***			
Newfoundland								
Cartwright	12	0	22	4	55 ***		160	50
Churchill Falls A	12	-1	21	4	52 ***		020	50
Gander Int'l A	18	2	28	11	14 ***		230	61
Goose A	16	1	26	5	52 ***		330	65
Port Aux Basques	17	2	22	10	12 ***		320	59
St John's A	18	3	26	12	28 ***		240	65
St Lawrence	16	2	23	10	15 ***			X
Wabush Lake A	13	1	23	5	81 ***		290	43

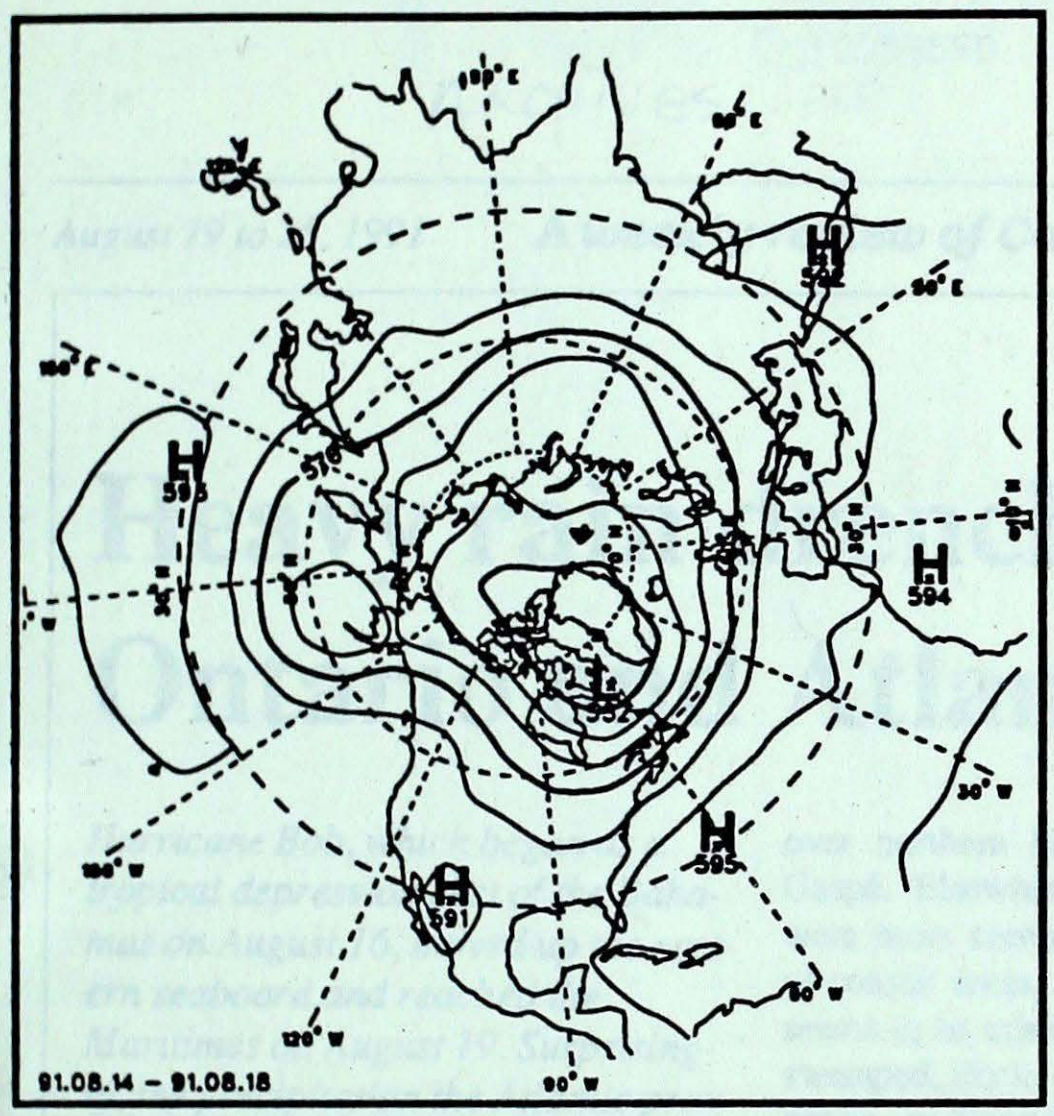
91/08/12-91/08/18

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.

ATMOSPHERIC CIRCULATION



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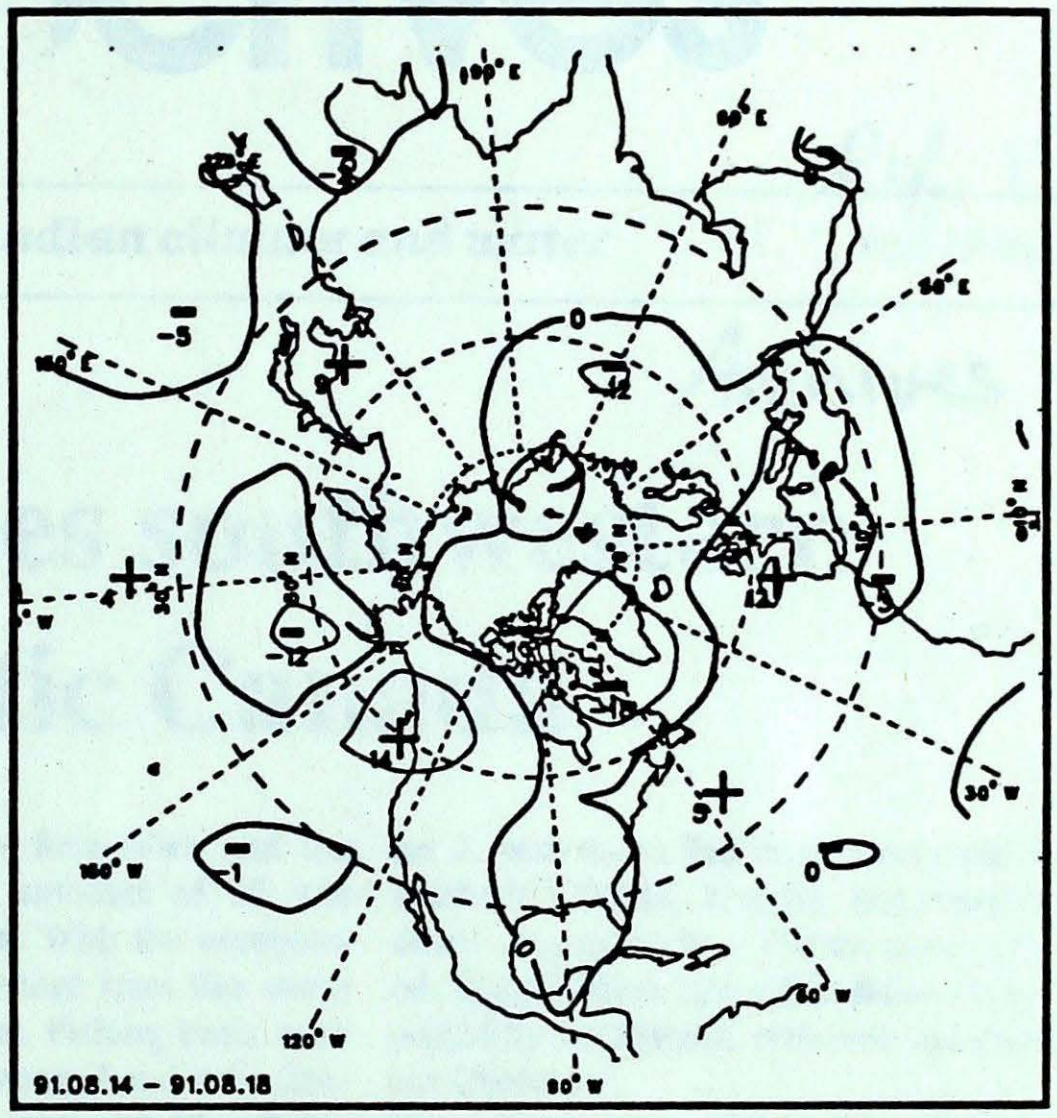


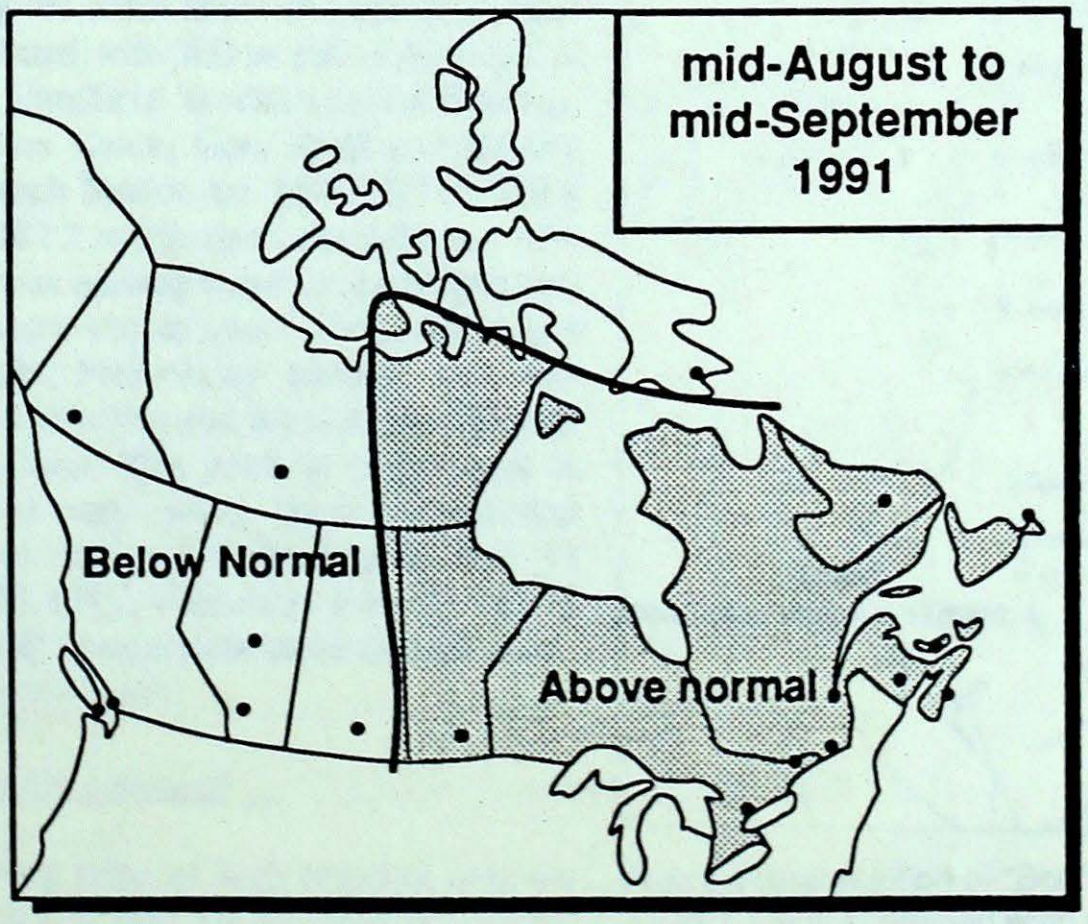
Mean geopotential height anomaly
50-kPa level (10-decametre intervals)

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	Montréal	17
Vancouver	16	Québec	15
Victoria	15	Fredericton	16
Calgary	13	Halifax	16
Edmonton	13	Charlottetown	16
Regina	15	Goose Bay	12
Winnipeg	15	St. John's	13



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