



# Climatic Perspectives



MONTHLY  
SUPPLEMENT  
INCLUDED

July 12 to 18, 1993

**A weekly review of Canadian climate and water**

Vol. 15 No. 29

## A cool, wet week

*Temperatures across Canada were below normal this week, with the exception of the northeastern quadrant and extreme northwestern sections of the country.*

British Columbia experienced another cold, damp week. In Victoria, frequent cloud cover during the first five days finally gave way to sunshine on the weekend. In southern B.C., haying is at a standstill, crops are not ripening properly and campgrounds are nearly empty, due to below-normal temperatures and hours of sunshine. Rain showers were recorded on five of the seven days. White Rock, south of Vancouver, recorded 30 mm of rain in just two hours and 50 mm of rain in six hours on the 14th, causing local flooding.

Alberta received significant rainfall, severe weather activity and record breaking low temperatures throughout the week. The week began with 45 mm of rain in the extreme southwest and scattered showers elsewhere on July 12. The skies cleared on July 14, only to give way to record low temperatures at High Level and Grande Prairie. The remainder of the week continued wet and cool. More record low temperatures were recorded on Thursday and Saturday with the lowest temperature (-0.2°C) being recorded in Banff on July 15. Saturday saw most stations reach the 20°C mark for the first time in a week.

Funnel clouds were reported north of Medicine Hat on Tuesday, near Grande Prairie on Wednesday, northwest of Calgary and near Taber on Friday. Funnels developed again over the weekend near

Lethbridge and Calgary on Saturday and east of Camrose on Sunday.

Saskatchewan and Manitoba set numerous record-low temperatures. Showers occurred throughout the week in most areas with a few reports of thunderstorms and small hail. On July 18, Oak Point, located on the southeast shore of Lake Manitoba, reported over 68 mm of rain. On July 15, funnel clouds were sighted in central Saskatchewan near Saskatoon, one of which touched down without causing much damage.

Temperatures were below normal in southern and central Quebec, and above normal in the north. Precipitation was greatest in the central and southeastern regions with heaviest amounts around Gaspé and Ile d'Anticosti.

In the Maritimes, the week began with above-normal temperatures, but ended unseasonably cool. On July 17 and 18, numerous stations in Nova Scotia, P.E.I. and eastern New Brunswick broke or tied their daily low maximum temperature records. Sunny conditions were reported for the first three days of the week, but clouds and showers persisted from Thursday through Sunday in most areas.

Newfoundland reported generally cloudy, cool conditions, throughout the week, with scattered showers. On the weekend, an intense storm entered the area. Gale warnings were issued for some Newfoundland waters. In addition, significant precipitation amounts were reported across the island, with at least one daily maximum precipitation record reported.

Labrador was similarly cloudy and cool for most of the week, with significant rainfall occurring mid-week in the form of thundershowers or heavy showers.

### Elsewhere...

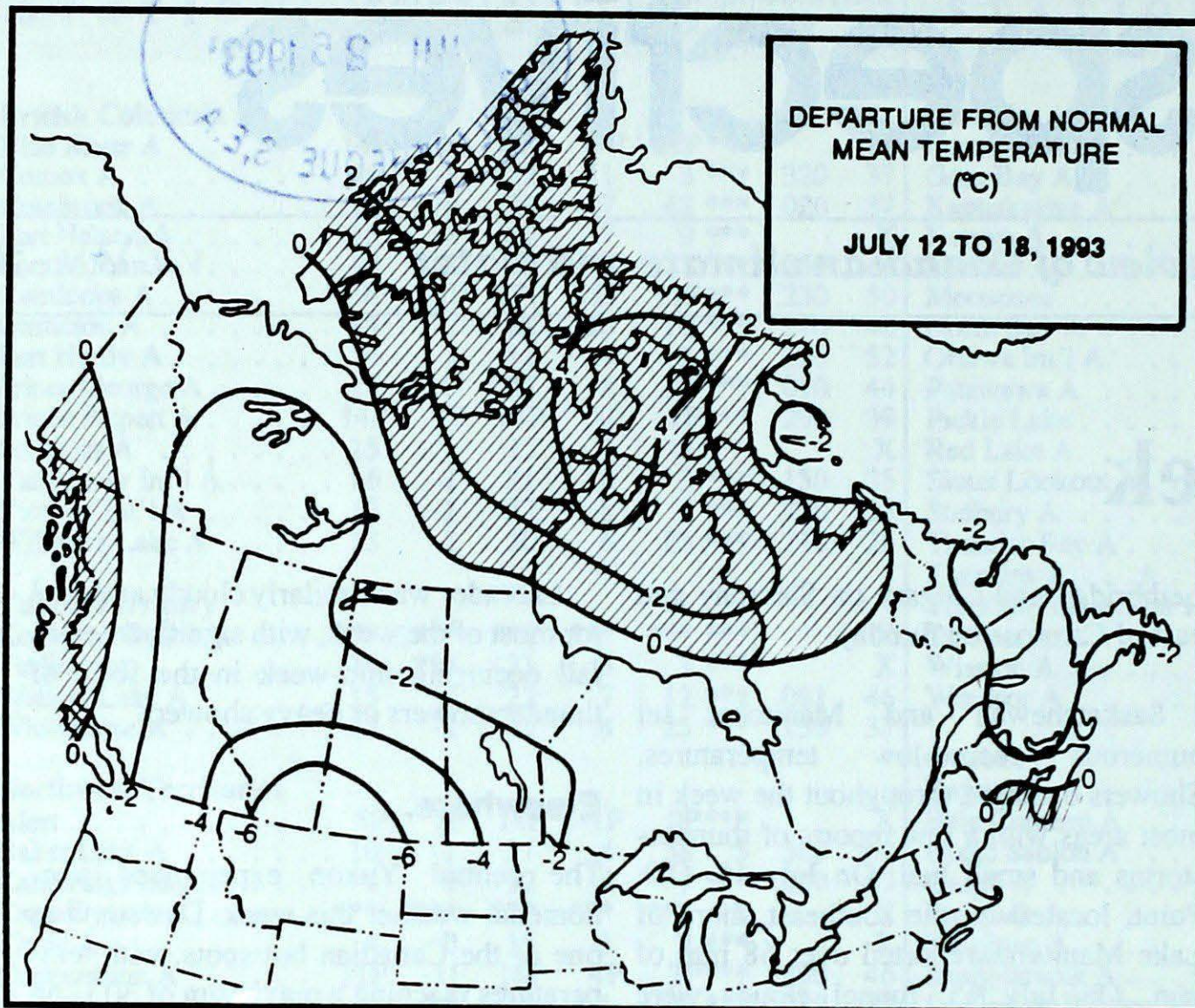
The central Yukon experienced phenomenal weather this week. Dawson was one of the Canadian hot spots, with temperatures reaching a maximum of 30°C on the 14th. The hot weather brought with it thunderstorm activity, which produced many bush fires.

The western half of the Northwest Territories was generally cloud covered for most of the week. Yellowknife received a great deal of rain, which reduced the forest fire risk from extreme to low. The eastern half of the Northwest Territories was generally sunny and warm, although Clyde received 11.5 mm of rain on July 17. Southern Baffin Island maintained a cloudy cool pattern similar to that of the remainder of the country.

Ontario experienced reasonably nice weather this week, although the temperatures were slightly below normal. Heaviest rains were received over the weekend in northern Ontario.

### A Look Ahead ...

For the week of July 26, near-normal temperatures are expected for the Yukon Territory, British Columbia, southern Alberta and Saskatchewan, Ontario, southwestern Quebec and the Atlantic region. Elsewhere, above-normal values are likely.



**Weekly normal temperatures (°C)**

	max.	min.
Whitehorse A	20.2	8.2
Iqaluit A	11.3	3.7
Yellowknife A	20.9	12.1
Vancouver Int'l A	22.1	12.6
Victoria Int'l A	22.0	10.9
Calgary Int'l A	23.8	9.9
Edmonton Int'l A	22.4	9.4
Regina A	26.4	12.0
Saskatoon A	25.6	12.0
Winnipeg Int'l A	26.2	13.8
Ottawa Int'l A	26.9	15.3
Toronto Int'l A	27.4	14.5
Montréal Int'l A	26.7	16.0
Québec A	25.2	13.7
Fredericton A	26.0	13.7
Saint John A	22.4	12.0
Halifax (Shearwater)	22.0	13.2
Charlottetown A	23.2	14.2
Goose A	21.9	10.5
St John's A	21.0	11.3

**Weekly temperature and precipitation extremes**

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Terrace A 27	Hope A 0	Puntzi Mountain (aut) 35
Yukon Territory	Whitehorse A 27	Whitehorse A -2	Watson Lake A 27
Northwest Territories	Fort Smith A 26	Alert 0	Yellowknife A 29
Alberta	Fort McMurray A 25	Banff (aut) 0	Lethbridge A 59
Saskatchewan	Buffalo Narrows A 23	Saskatoon A 4	Nipawin A 42
Manitoba	Gretna (aut) 27	Churchill A 2	The Pas A 54
Ontario	Windsor A 30	Armstrong (aut) 5	Armstrong (aut) 32
Quebec	Montréal Int'l A 29	Chibougamau A 0	Port Menier (aut) 82
New Brunswick	St-Léonard A 30	Moncton A 6	Moncton A 54
	St Stephen (aut) 30		
Nova Scotia	Greenwood A 29	Truro 6	Amherst (aut) 19
Prince Edward Island	Charlottetown A 27	Charlottetown A 10	Charlottetown A 21
Newfoundland	Deer Lake A 25	Daniels Harbour 2	St Anthony 80

**Across The Country...**

Highest Mean Temperature	Windsor A (Ont.) 22
Lowest Mean Temperature	Alert (N.W.T.) 5

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Managing editor . . . . . *A.Saulesleja*  
 Editor English version *Andrew Radomski*  
 French version . . . . . *Alain Caillet*  
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 Art layout . . . . . *K. Czaja*  
 Translation . . . . . *D. Pokorn*  
 Cartography . . . . . *T. Chivers*

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☎ (416) 739-4438/4330

InterNet (Email):

CCCOPS@aestor.dots.doe.CA

Fax: (416) 739-4446

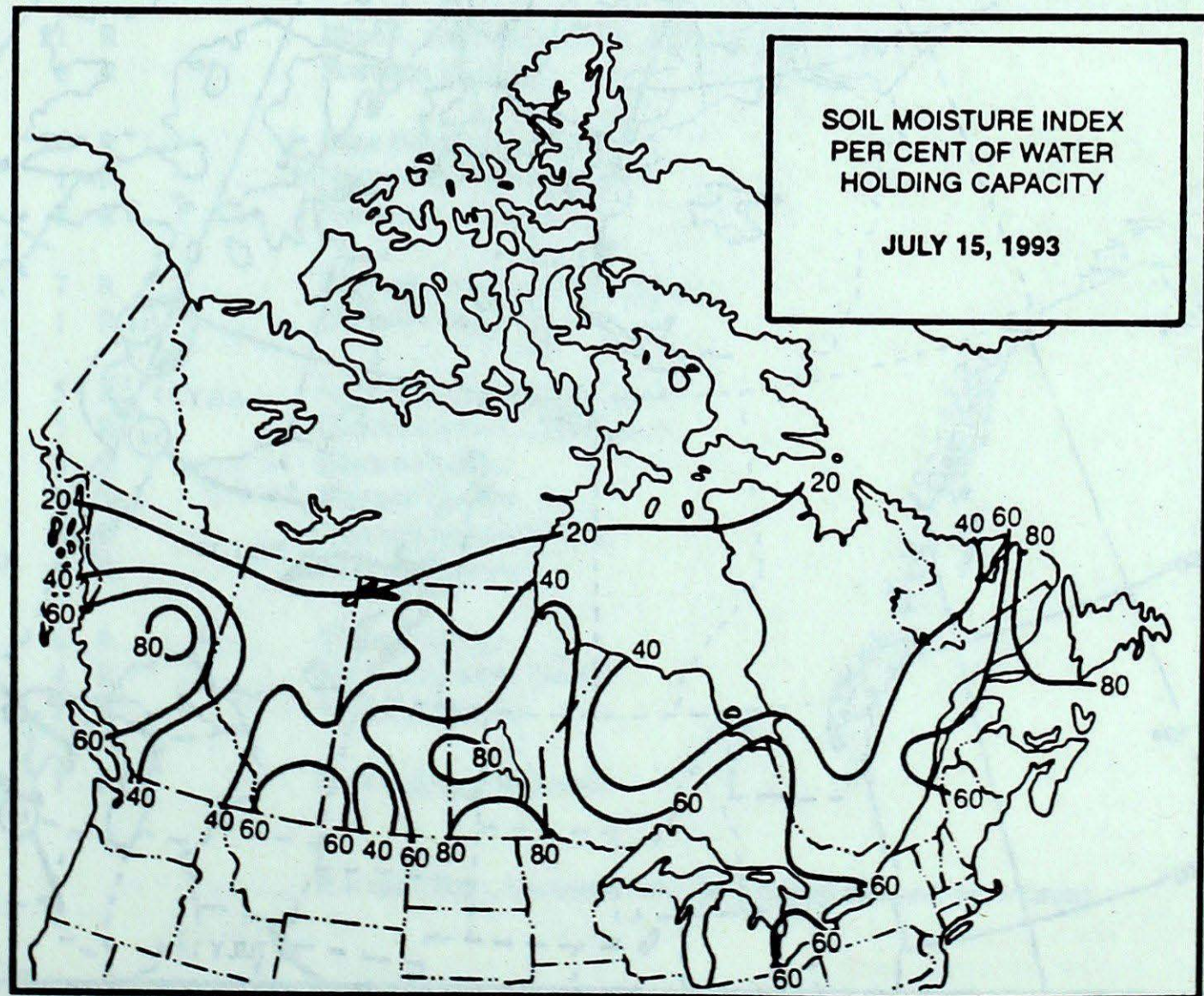
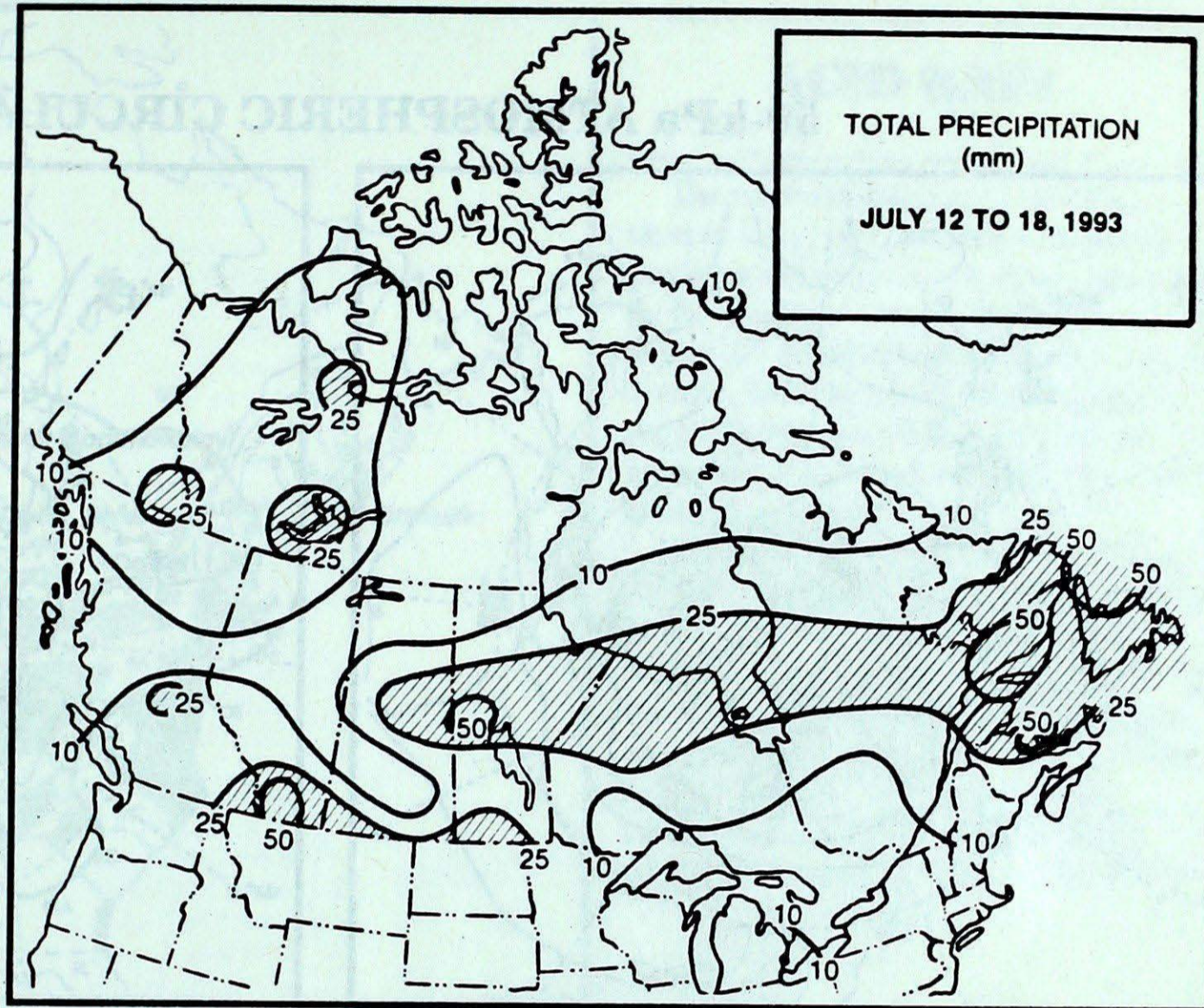
The purpose of the publication is to make topical information available to the public concerning the Canadian Climate and its socio-economic impact.

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.

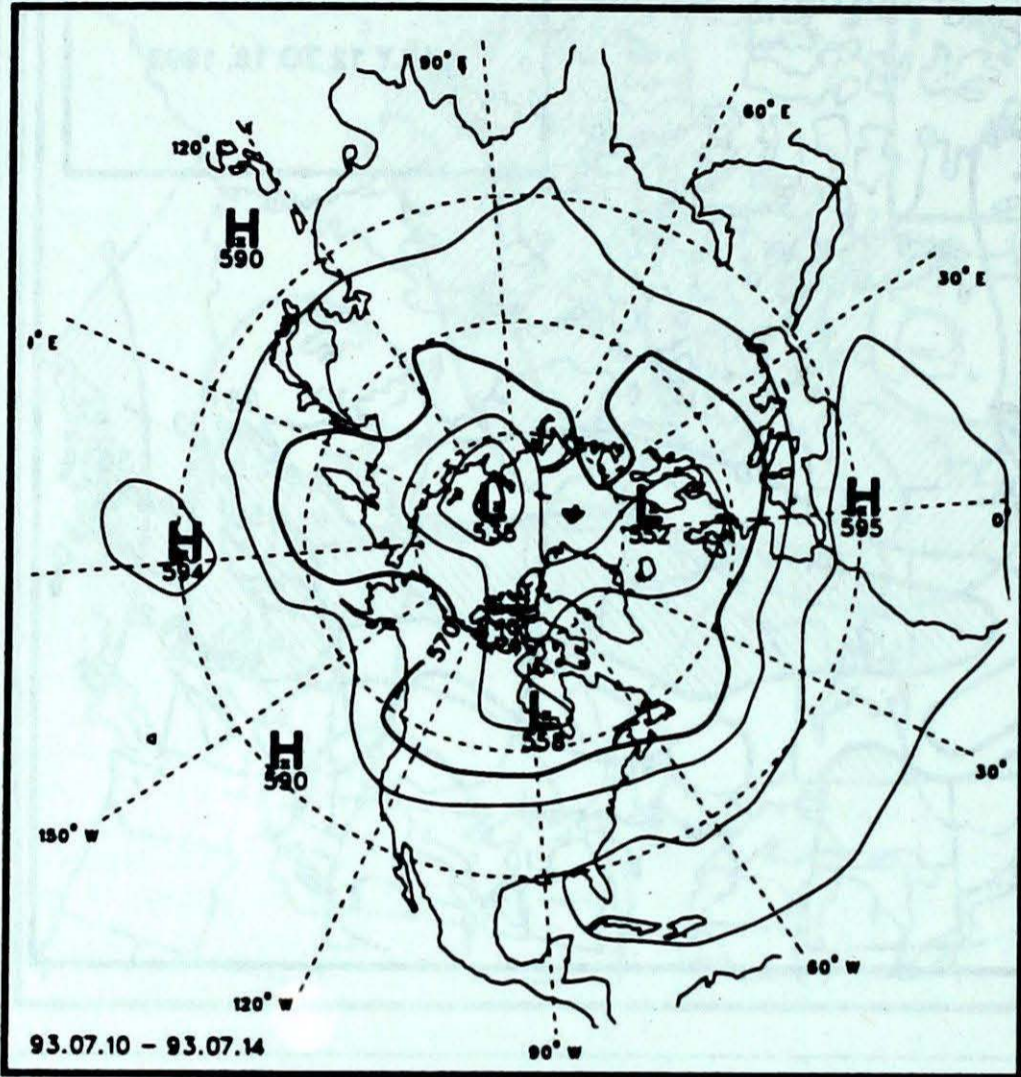
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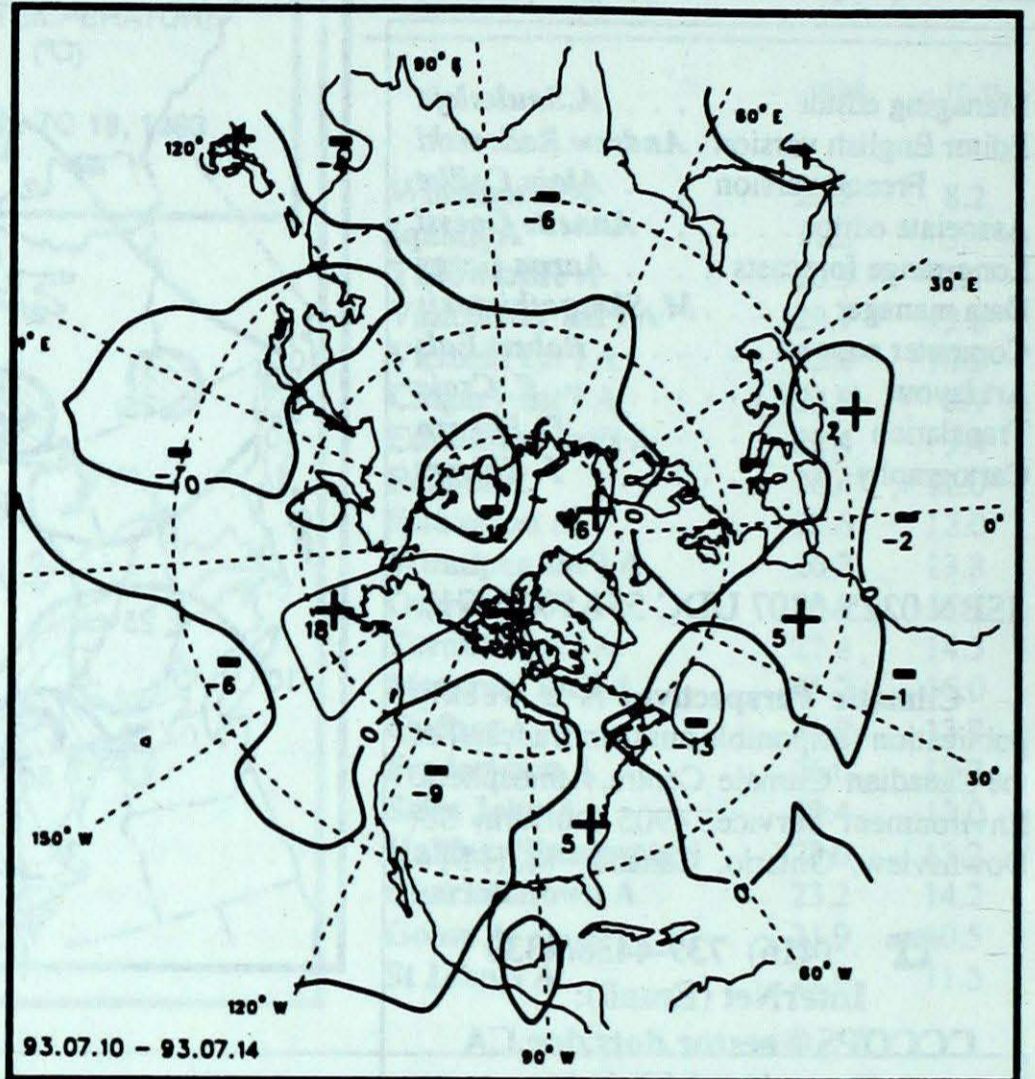
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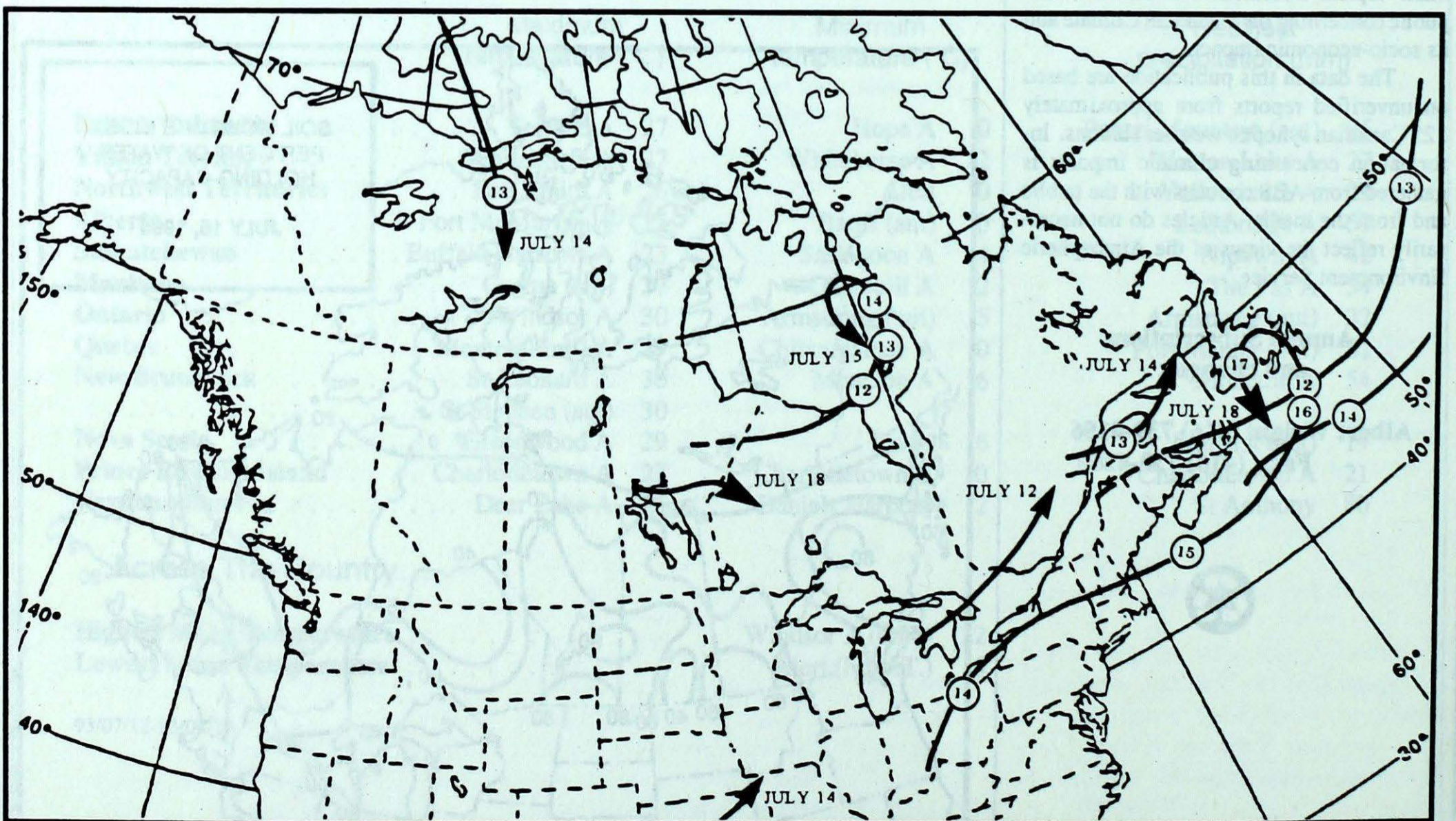
### 50-kPa ATMOSPHERIC CIRCULATION



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

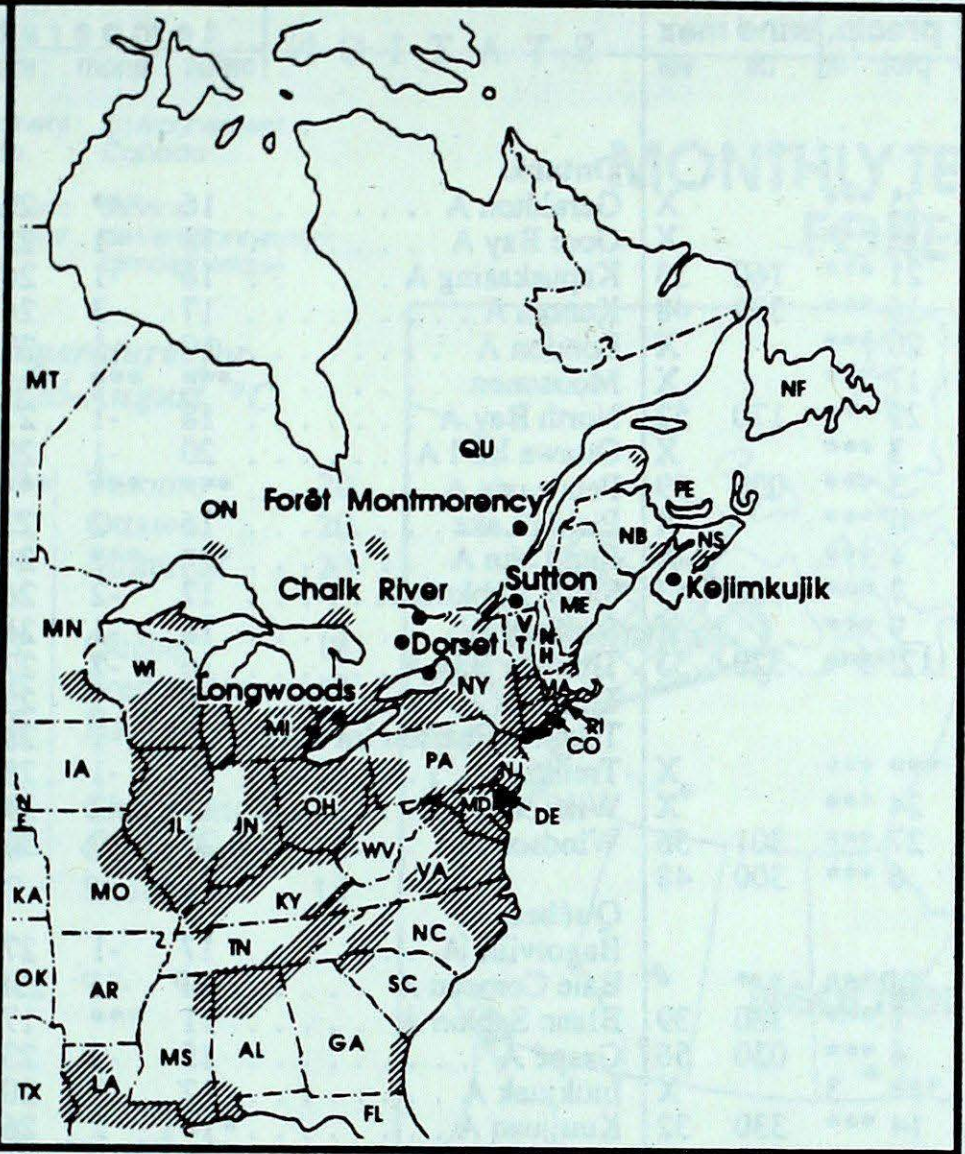


Mean geopotential height anomaly  
50-kPa level (10 decametre intervals)



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 - ME
- MARYLAND - MT
- MASSACHUSETTS - MA
- MICHIGAN - MI
- MINNESOTA - MN
- MISSISSIPPI - MS
- MISSOURI - MO
- NEBRASKA - NE
- NEW BRUNSWICK - NB
- NEW FOUNDLAND - 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 - QC
- 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 Environment and Energy. The map also shows the approximate areas (shaded), where SO<sub>2</sub> and NO<sub>x</sub> 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
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July 11 to 17, 1993

Longwoods	11	4.5	21 R	Illinois, northern Indiana, southern Michigan
	14	4.1	6 R	Southern Michigan
Dorset *	11	4.5	24 R	Lake Huron, Michigan
	13	4.3	1 R	Northern Michigan
	14	4.5	2 R	Northern Michigan
Chalk River	11	4.4	7 R	Northern Michigan, Lake Huron
	15	4.1	1 R	Northern Ontario
Sutton	11	4.6	5 R	Eastern Ontario, Lake Huron
	12	4.7	5 R	Eastern Ontario, Lake Huron
	14	4.4	5 R	Eastern Ontario
	15	5.0	2 R	Western Quebec
	16	5.1	7 R	Northernwestern Quebec
	17	4.9	5 R	Northern Quebec
Montmorency	14	4.7	6 R	Western Quebec
	15	5.0	4 R	Northernwestern Quebec
	16	4.9	1 R	Northern Quebec
Kejimikujik	14	4.0	1 R	Maine, southern Quebec

R = rain (mm), S = snow (cm), M = mixed rain and snow (mm)

STATION	temperature				precip.		wind max		STATION	temperature				precip.		wind max	
	mean	anom	max	min	ptot	st	dir	vel		mean	anom	max	min	ptot	st	dir	vel
<b>British Columbia</b>									<b>Ontario</b>								
Blue River A	14	-2	24	4	25	***		X	Geraldton A	16	***	27	6	24	***	250	52
Comox A	17	-1	22	11	18	***		X	Gore Bay A	18	-1	25	12	2	***	280	33
Cranbrook A	12	-5	20	5	21	***	160	33	Kapuskasing A	16	-1	26	6	24	***	240	37
Fort Nelson A	14	-3	23	4	16	***	300	48	Kenora A	17	-3	26	10	17	***	280	37
Fort St John A	12	-4	22	5	20	***		X	London A	19	-1	27	11	11	***		X
Kamloops A	18	-4	25	10	17	***		X	Moosonee	***	***	***	***	***	***		X
Penticton A	18	-3	25	9	29	***	170	52	North Bay A	18	-1	27	9	2	***	320	41
Port Hardy A	14	1	18	11	3	***		X	Ottawa Int'l A	20	-1	29	12	4	***	300	50
Prince George A	14	-1	24	5	3	***	030	39	Petawawa A	***	***	***	***	***	***		X
Prince Rupert A	14P	2P	19P	10P	4P	***		X	Pickle Lake	16	-2	27	9	20	***	310	43
Smithers A	14	-1	25	5	4	***		X	Red Lake A	***	***	24	***	***	***	300	41
Vancouver Int'l A	17	-1	22	13	7	***	100	43	Sioux Lookout A	17	-2	26	9	7	***	300	52
Victoria Int'l A	16	-1	22	10	9	***		X	Sudbury A	18	-1	26	10	2	***	230	33
Williams Lake A	13P	-2P	23P	6P	12P	***	320	33	Thunder Bay A	16	-2	27	8	1	***		X
<b>Yukon Territory</b>									<b>Québec</b>								
Komakuk Beach A	***	***	***	***	***	***		X	Bagotville A	17	-1	27	8	16	***	200	54
Teslin (aut)	16	***	26	5	24	***		X	Baie Comeau A	16P	-1P	23P	8P	14P	***	240	43
Watson Lake A	13	-2	24	5	27	***	301	56	Blanc Sablon A	11	***	17	7	42	***	060	85
Whitehorse A	15	0	27	-2	6	***	300	48	Gaspé A	15	-2	23	10	55	***	360	37
<b>Northwest Territories</b>									<b>New Brunswick</b>								
Alert	5P	2P	15P	0P	0P	***	*	*	Fredericton A	19	-1	29	9	9	***	010	52
Baker Lake A	14	3	23	7	1	***	360	39	Miscou Island (aut)	16	-3	23	11	32	***		X
Cambridge Bay A	10	2	19	4	4	***	030	56	Moncton A	17	-2	28	6	54	***	010	46
Cape Dyer A	***	***	***	***	***	3		X	Saint John A	19P	2P	27P	9P	11P	***	020	33
Clyde A	5	1	11	2	14	***	330	32	St Leonard A	17	***	30	7	33	***	250	43
Coppermine A	8P	0P	23P	3P	27P	***	360	48	<b>Nova Scotia</b>								
Coral Harbour A	13	4	23	7	3	***	010	46	Greenwood A	19	-1	29	7	9	***	010	61
Eureka	8	3	17	2	1	***		X	Shearwater A	18	1	29	10	8	***	330	59
Fort Smith A	15	-1	26	4	13	***	200	37	Sydney A	***	***	27	***	***	***		X
Hall Beach A	10	5	17	3	2	***	320	39	Yarmouth A	17	0	25	9	5	***	330	50
Inuvik A	14	0	24	7	5	***	060	37	<b>Prince Edward Island</b>								
Iqaluit A	5	-2	9	3	1	***		X	Charlottetown A	16	-3	27	10	21	***	020	41
Mould Bay A	***	***	15	***	***	***		X	East Point (auto)	15P	***P	20P	10P	17P	***		X
Norman Wells A	14	-3	24	6	14	***	320	46	<b>Newfoundland</b>								
Resolute A	7	2	16	1	3	***	100	50	Cartwright	8	-5	18	4	34	***	060	56
Yellowknife A	13	-4	20	9	29	***		X	Churchill Falls A	11P	-4P	17P	5P	39P	***	*	*
<b>Alberta</b>									<b>Gander Int'l A</b>								
Calgary Int'l A	11	-6	19	3	22	***	070	39	Goose A	13	-3	22	6	4	***	060	57
Cold Lake A	14	-4	22	5	6	***	040	39	Stephenville A	15	-1	24	9	39	***	070	37
Edmonton Namao A	14	-3	23	5	2	***	070	48	St John's A	13	-3	19	9	30	***	140	50
Fort McMurray A	14	-2	25	5	8	***	180	35	St Lawrence	14	1	22	8	22	***		X
Grande Prairie A	13P	-3P	23P	5P	3P	***		X	Wabush Lake A	13	-1	24	3	21	***	060	37
High Level A	13	-3	23	3	16	***		X	<b>93/07/12-93/07/18</b>								
Lethbridge A	12	-7	21	5	59	***	340	32									
Medicine Hat A	14	-7	21	6	38	***		X									
Peace River A	13	-4	22	4	15	***	340	46									
<b>Saskatchewan</b>									<b>Manitoba</b>								
Cree Lake	15	-1	22	8	4	***	130	46	Brandon A	15	-5	24	4	20	***		X
Estevan A	15	-5	23	5	23	***	290	46	Churchill A	11	-1	24	2	1	***	100	37
La Ronge A	14	-3	22	7	23	***	050	41	Lynn Lake A	15	-1	25	7	1	***	090	46
Regina A	14	-5	22	5	8	***	250	50	The Pas A	14	-4	21	6	54	***	070	39
Saskatoon A	13P	-6P	21P	4P	13P	***	330	37	Thompson A	14	-2	25	5	24	***	020	37
Swift Current A	13	-5	20	4	12	***	310	41	Winnipeg Int'l A	17	-3	25	7	29	***	230	46
Yorkton A	14	-4	23	6	12	***	080	37									

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.



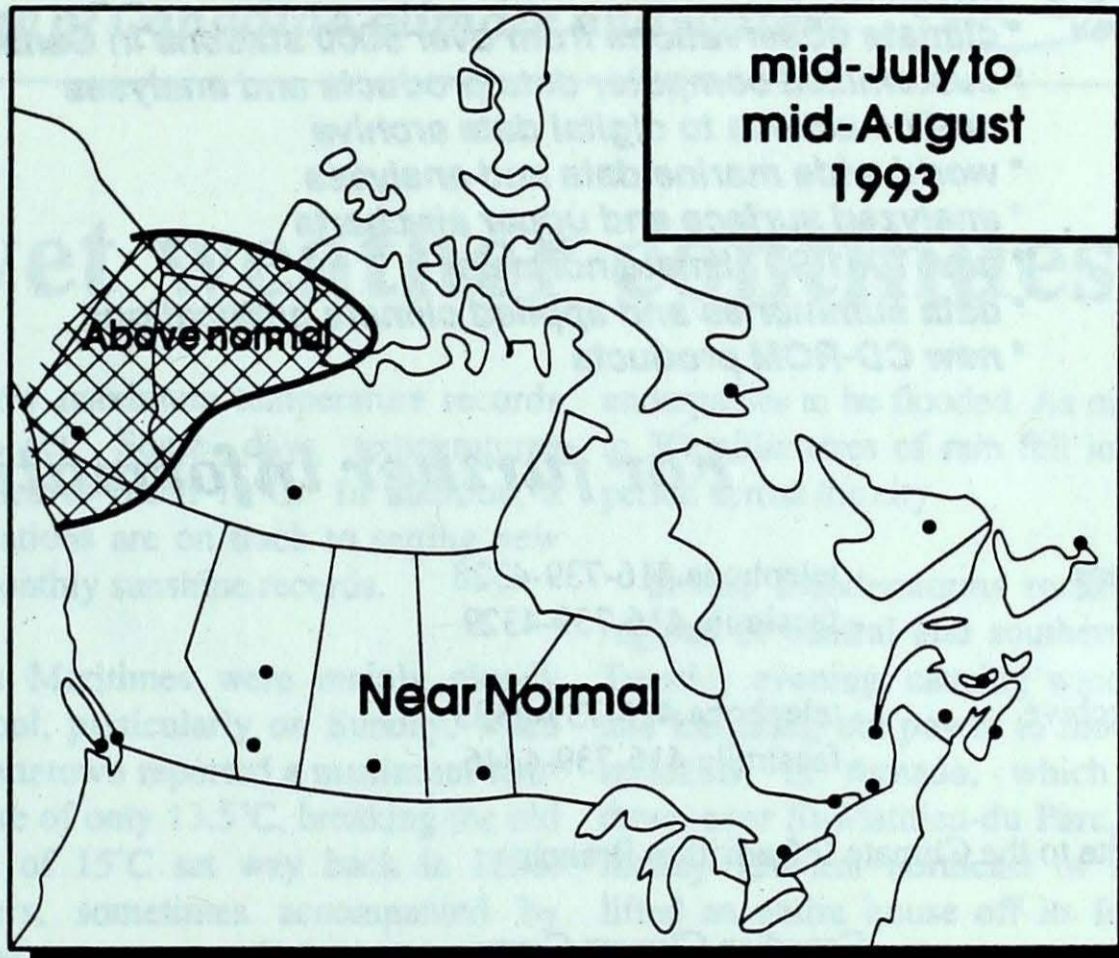
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# MONTHLY TEMPERATURE FORECAST

## Normal temperatures for mid-July to mid-August, °C

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



Canada



## Environmental Citizenship

*Historic sites are endangered by many of the same things that harm the natural environment -- like pollution, acid rain, and urban development. Working together, we can protect our cultural heritage and natural environment.*

*An environmental citizenship message from Environment Canada.*

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 4905 Dufferin Street  
 Downsview, Ontario M3H 5T4

