



Climatic Perspectives



ARCH. C-2

June 4 to 10, 1990

A weekly review of Canadian climate and water

Vol.12 No.23

Persistent rains hamper agriculture and cause flooding in B.C.

Five weeks ago there was concern about a drought. Now many reservoirs and rivers are overflowing due to record rainfalls.

Heavy rains are causing washouts, mud slides and flooding in many parts of B.C. There have been record rainfalls in the Okanagan Valley in May and June, as well as in a number of other areas of the province. In the first ten days Kelowna has already set a new June precipitation record, and both May and June, 1990, are tied as the fourth wettest months ever. Lake Okanagan and other valley lakes have been rising 2 to 5 centimetres per day, and there is serious flooding around Lake Okanagan. The water level of Lake Okanagan is 61 cm higher now than it was two years ago, and the lake is expected to rise as much as another half-metre before it peaks within the next two weeks. Luckily, freezing levels have been relatively low, delaying melting of the high mountain snowpack. But at the same time, snow continues to accumulate above the 1500-metre level, and the snowpack is now at near-record levels.

The combination of a lack of sunshine, cool temperatures and soggy weather is taking its toll on local fruit crops, especially cherries. Spraying operations are being hampered. Farmers

are unable to harvest the lush hay crop the wet weather has produced, and in some cases pastures are under water.

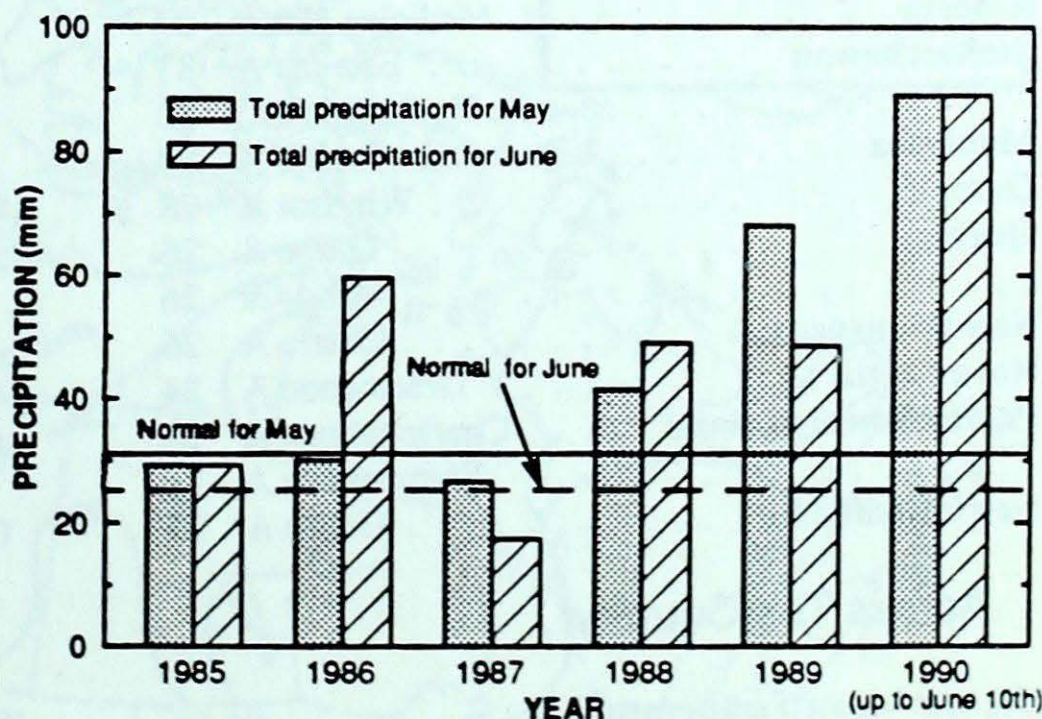
For more information contact:
A. Nourse (604) 765-3792

More severe weather

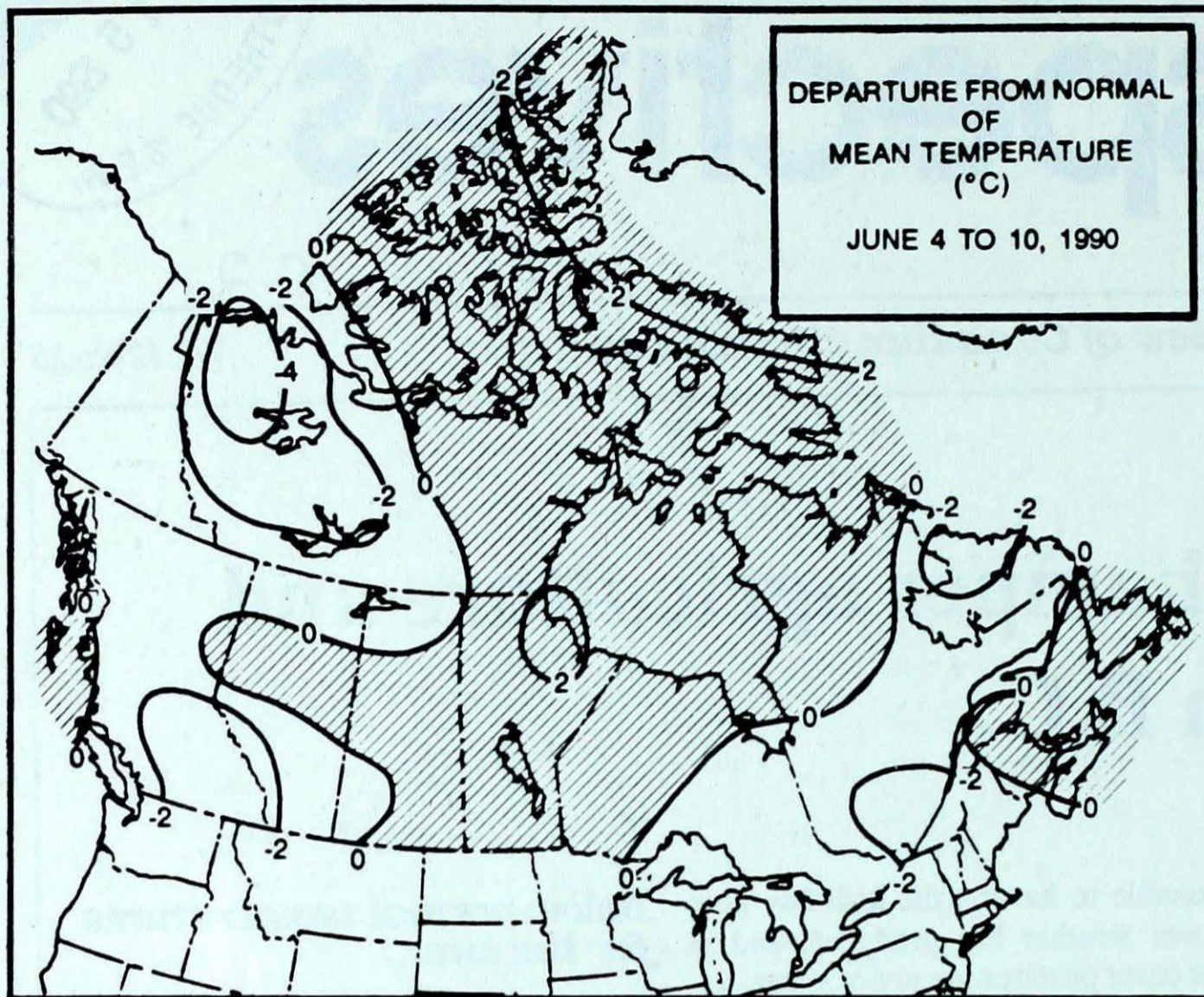
In Alberta a squall line formed west of Red Deer on June 10, with several sightings of funnel clouds in the Olds - Sylvan Lake areas. A tornado briefly touched down near Olds. On June 4 and 5, and again on June 9, heavy thunderstorms spawned funnel clouds and produced golf-ball size hail in a number of Saskatchewan and Manitoba locations. In Ontario, a line of thunderstorms, which developed in the southern Georgian Bay area on June 9, were associated with golf-ball size hail and strong winds. In the Lake Simcoe area, hail covered the ground and heavy downpours caused flooding.

Below-normal temperatures for the west...

For the week of June 18, below-normal temperatures are forecast across most of British Columbia, the Prairies, Yukon and the Northwest Territories. Precipitation is likely for British Columbia, the Prairies and Nova Scotia. Ontario, the southern half of Quebec and the Atlantic provinces will experience above-normal temperatures. Newfoundland can expect temperatures 2 to 4 degrees above the normal.



Record amounts of rain have fallen at Kelowna during May and the first 10 days of June, 1990.



Weekly normal temperatures (°C)

	max.	min.
Whitehorse A	18.3	4.7
Iqaluit A	4.5	-1.2
Yellowknife A	16.1	6.1
Vancouver Int'l A	18.8	10.4
Victoria Int'l A	18.8	9.0
Calgary Int'l A	19.2	6.2
Edmonton Int'l A	20.5	6.8
Regina A	21.9	8.5
Saskatoon A	21.5	8.4
Winnipeg Int'l A	22.1	9.7
Ottawa Int'l A	23.1	11.0
Toronto (Pearson Int'l A)	23.5	10.6
Montréal Int'l A	22.6	11.0
Québec A	20.7	8.5
Fredericton A	20.7	7.8
Saint John A	17.5	7.2
Halifax (Shearwater)	17.0	8.0
Charlottetown A	17.0	7.5
Goose A	14.8	3.8
St John's A	13.3	4.1

Weekly temperature and precipitation extremes

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Kamloops A 23	Smithers A 1	Estevan Point (aut) 88
Yukon Territory	Whitehorse A 24	Komakuk Beach A -4	Watson Lake A 15
Northwest Territories	Hay River A 27	MacKar Inlet -8	Fort Simpson A 31
Alberta	Medicine Hat A 27	High Level A 0	Red Deer A 61
Saskatchewan	Estevan A 33	Cree Lake 0	North Battleford A 32
	Rockglen (aut) 33		
Manitoba	Portage La Prairie A 30	Thompson A -2	Portage La Prairie A 55
Ontario	Windsor A 28	Moosonee -2	Pickle Lake 41
Québec	Gaspe A 26	La Grande Rivière -5	Sherbrooke A 64
	Val-d'Or 26		
New Brunswick	Charlo A 26	St Stephen (aut) 3	Miscou Island (aut) 27
Nova Scotia	Greenwood A 24	Truro 5	Sable Island 45
Prince Edward Island	Charlottetown A 23	Charlottetown A 6	Charlottetown A 11
	Summerside A 23		
Newfoundland	Goose A 25	Churchill Falls A -4	St Lawrence 81

Across The Country...

Highest Mean Temperature	Windsor A(ONT)	18
Lowest Mean Temperature	Resolute A(NWT)	-3

CLIMATIC PERSPECTIVES
VOLUME 12

Managing Editor **Amir Shabbar**
Editor-in-charge
- weekly/monthly **Andy Radomski**
French version **Alain Caillet**
Data Manager **M. Skarpathiotakis**
Computer support **Tommy Jang**
Art Set-up **K. Czaja**
Translation **D. Pokorn**
Cartography **T. Chivers**

ISBN 0225-5707 UDC 551.506.1(71)

Climatic Perspectives is a weekly publication (disponible aussi en français) of the Canadian Climate Centre, Atmospheric Environment Service, 4905 Dufferin St., Downsview, Ontario, Canada M3H 5T4

☎ (416) 739-4438/4436

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

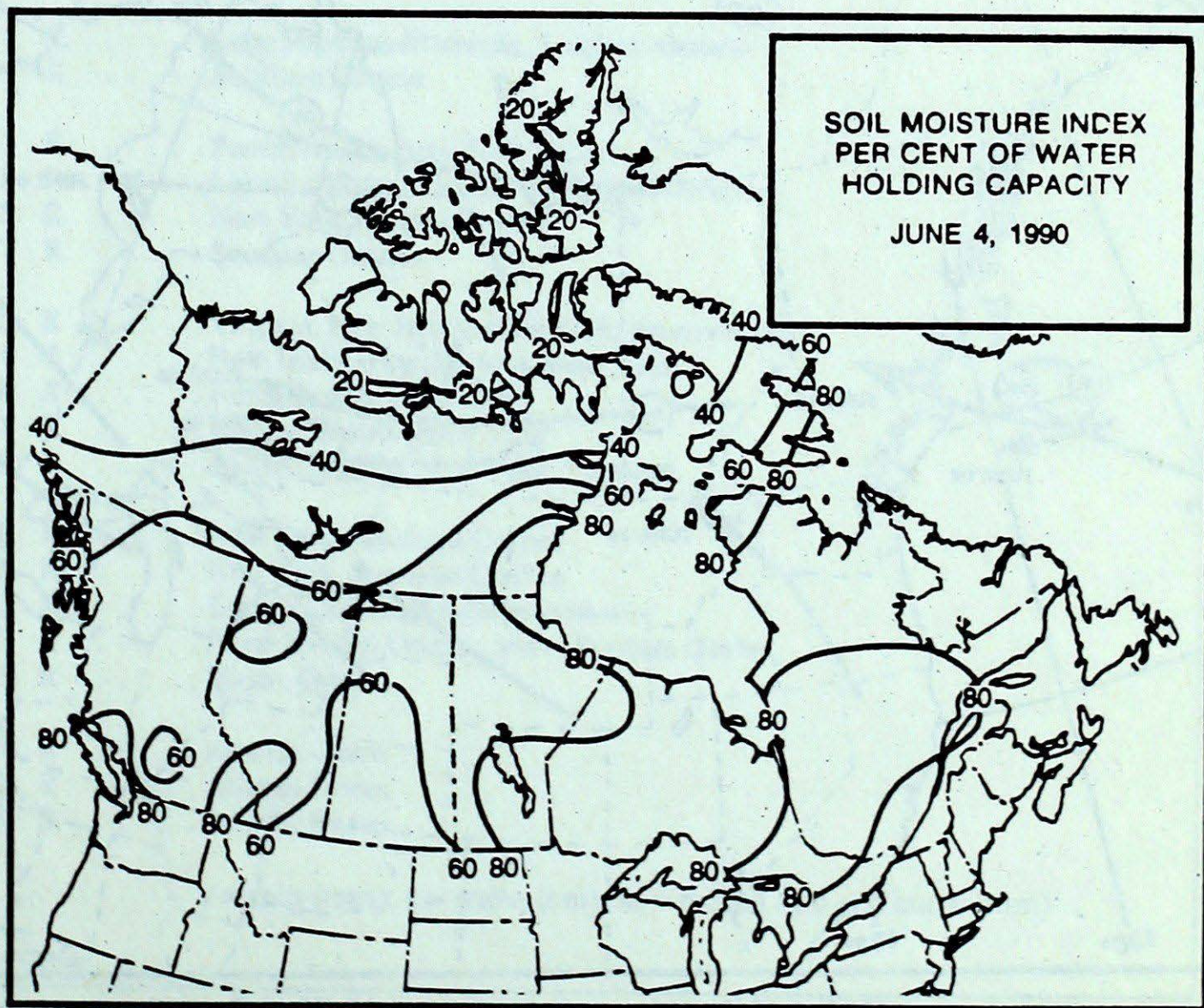
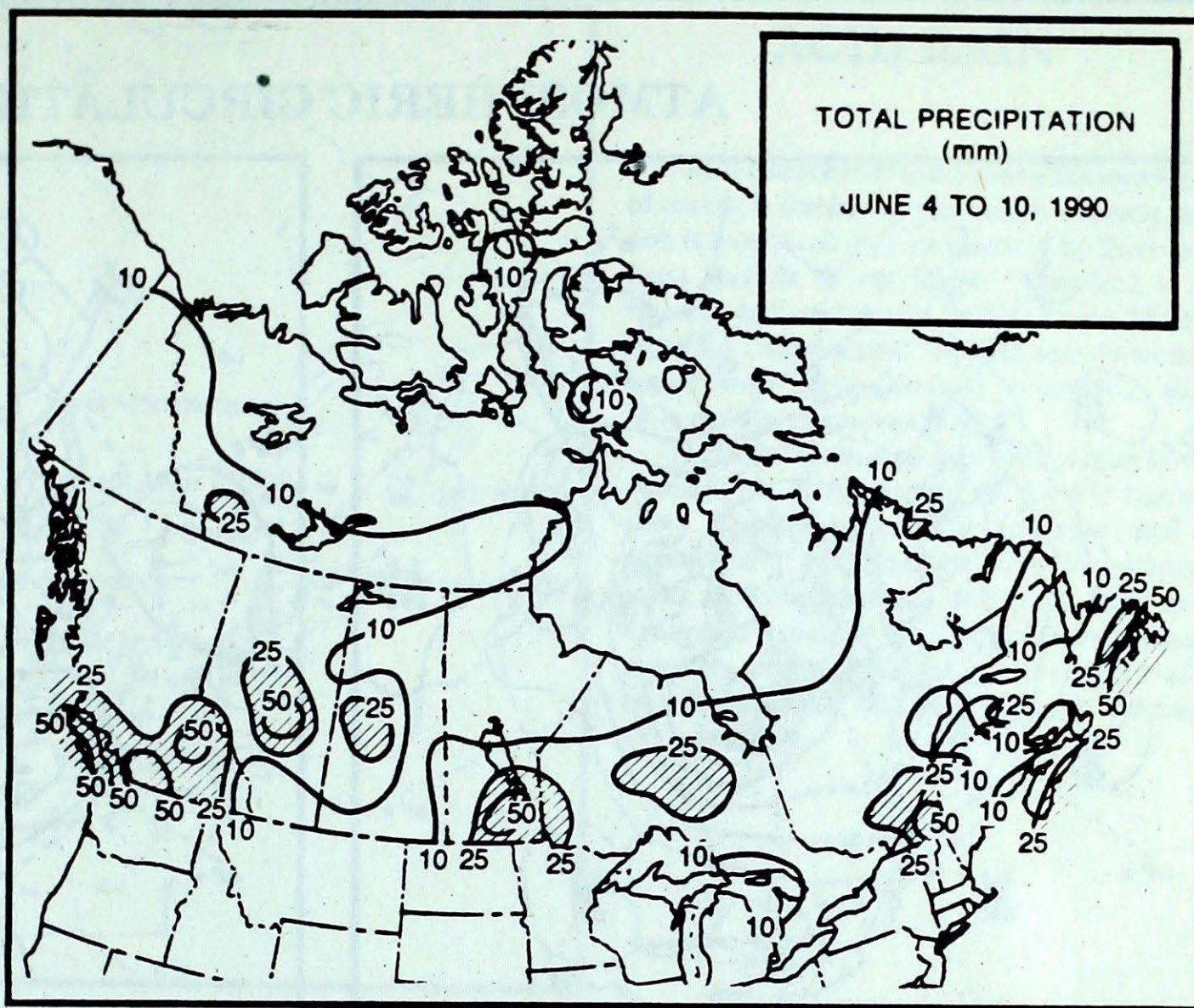
The data in this publication are based on unverified reports from approximately 225 Canadian synoptic weather stations. Information concerning climatic impacts is gathered from AES contacts with the public and from the media. Articles do not necessarily reflect the views of the Atmospheric Environment Service.

Annual Subscriptions

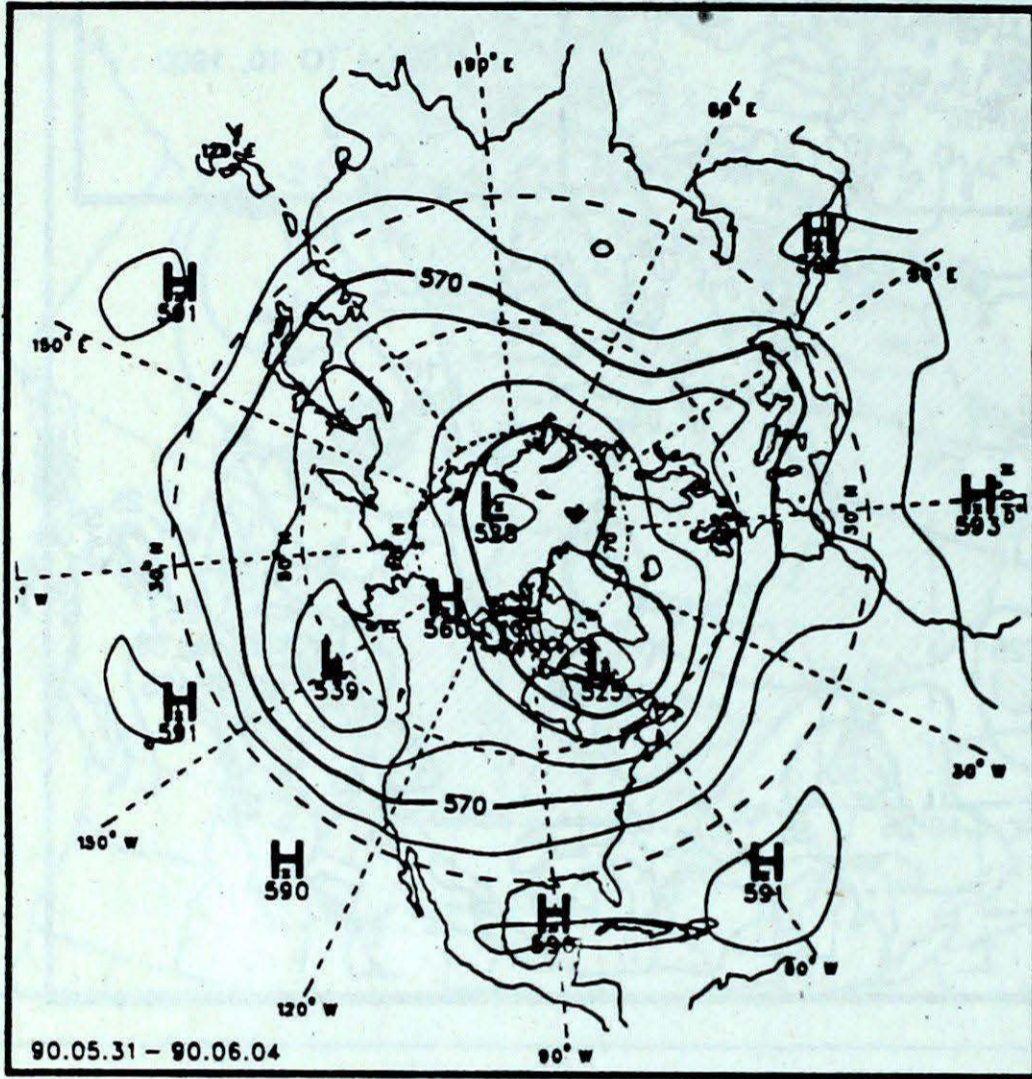
weekly and monthly : \$35.00
foreign: \$42.00
monthly issue: \$10.00
foreign: \$12.00

Orders must be prepaid by money order or cheque payable to Receiver General for Canada. Canadian Government Publishing Centre, Ottawa, Ontario, Canada K1A 0S9

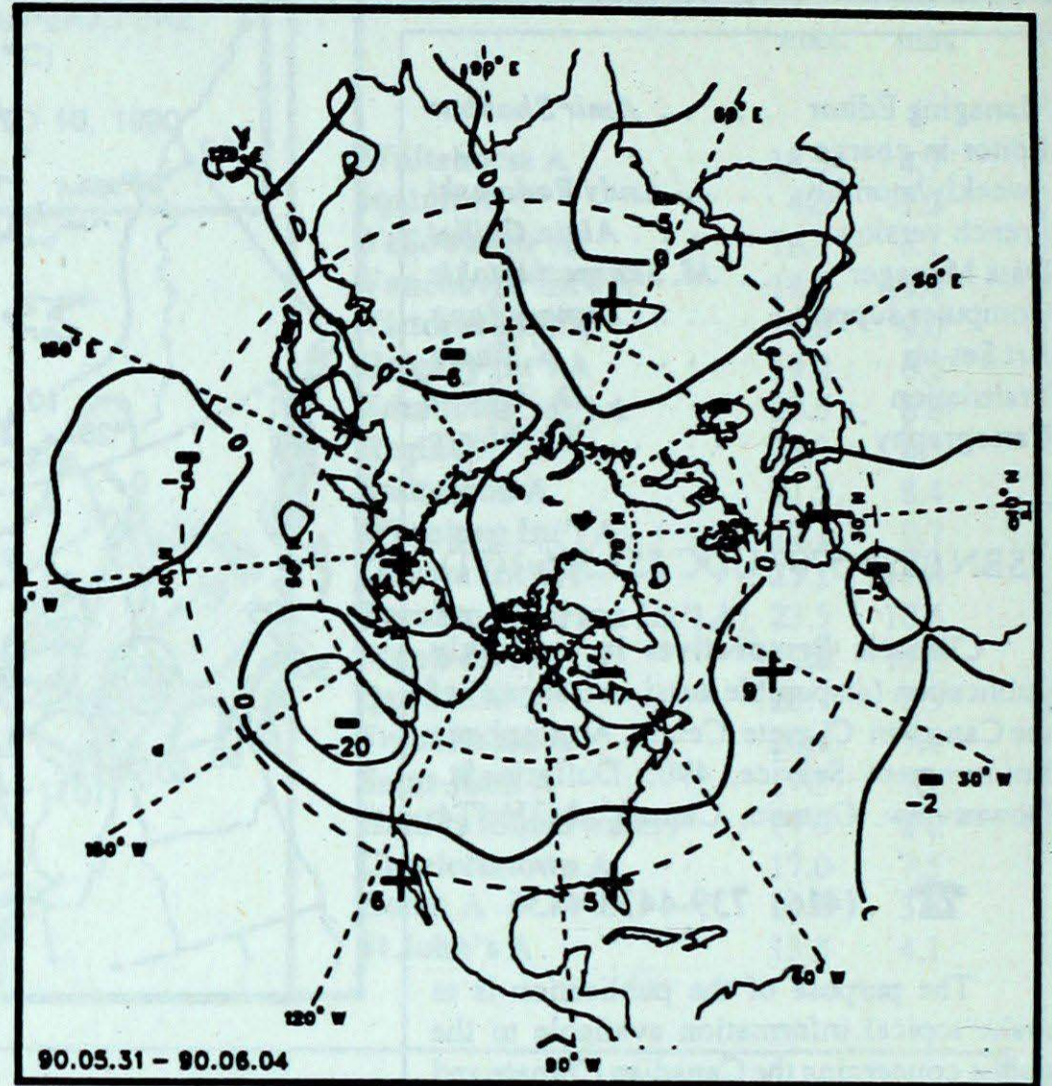
☎ (819) 997-2560



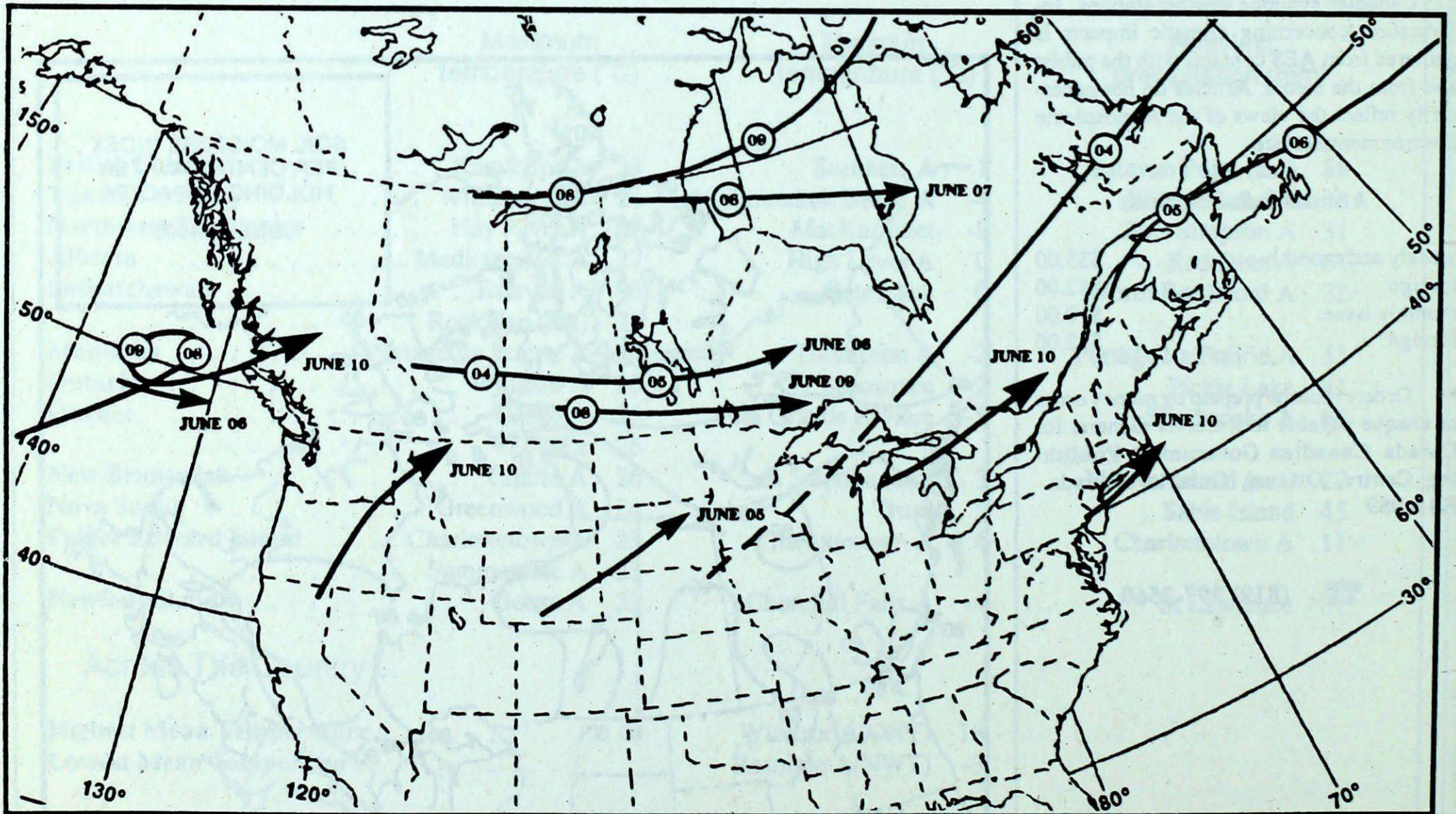
ATMOSPHERIC CIRCULATION



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



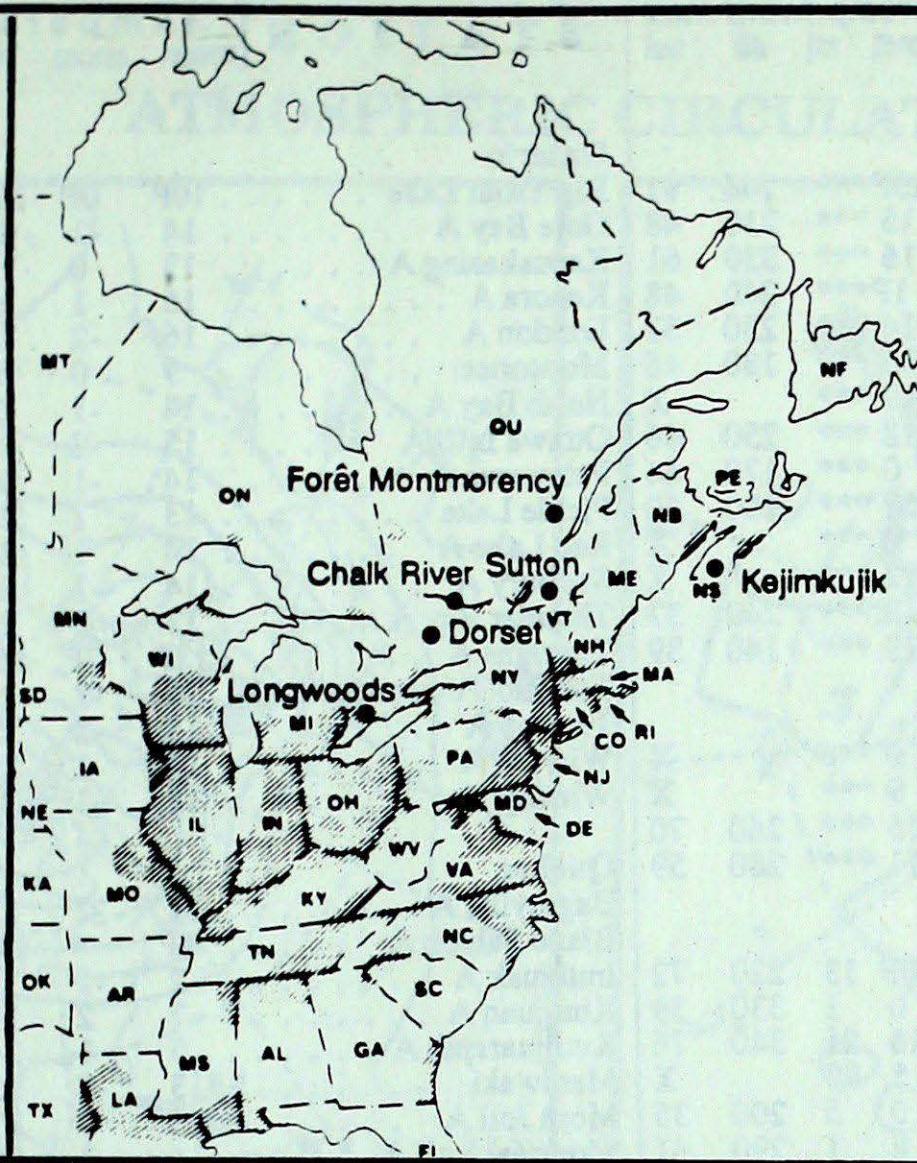
Mean geopotential height anomaly
50-kPa level (10-decametre intervals)



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

ACID RAIN

- 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
- QUEBEC -- QC
- RHODE ISLAND -- RI
- SOUTH CAROLINA -- SC
- SOUTH DAKOTA -- SD
- TENNESSEE -- TN
- TEXAS -- TX
- VERMONT -- VT
- VIRGINIA -- VA
- WEST VIRGINIA -- WV
- WISCONSIN -- WI



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 SO₂ 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	June 3 to 9, 1990
Longwoods	8	4.1	10 R	..... Kentucky, Indiana, Ohio, Southern Ontario	
Dorset *	5	4.3	1 R	..... Lake Superior, Michigan, Southern Ontario	
	8	3.7	1 R	..... Southern Ontario	
Chalk River	3	5.9	1 R	..... Pennsylvania, New York, Ontario	
	5	4.9	2 R	..... Lake Superior, Lake Huron, Central Ontario	
	8	4.2	5 R	..... New York, Eastern Ontario	
	9	4.5	17 R	..... Southern Ontario	
Sutton	3	4.2	15 R	..... Virginia, New Jersey, New York, Pennsylvania	
	4	4.4	4 R	..... New Jersey, Pennsylvania, New York	
	6	3.6	2 R	..... Pennsylvania, New York	
	8	3.9	1 R	..... Eastern Ontario, New York	
	9	4.1	3 R	..... Eastern Ontario, New York, Vermont	
Montmorency	3	4.1	8 R	..... New York, Southern Quebec	
	4	4.5	8 M	..... New York, Southern Quebec	
	6	3.8	1 R	..... Eastern Ontario, Southern Quebec	
	7	5.0	5 R	..... North Eastern Ontario, North Western Quebec	
	9	4.8	13 R	..... Maine, Quebec	
Kejimikujik	3	4.5	15 R	..... Atlantic Ocean	
	4	4.4	2 R	..... Atlantic Ocean	
	7	3.9	3 R	..... Atlantic Ocean	

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

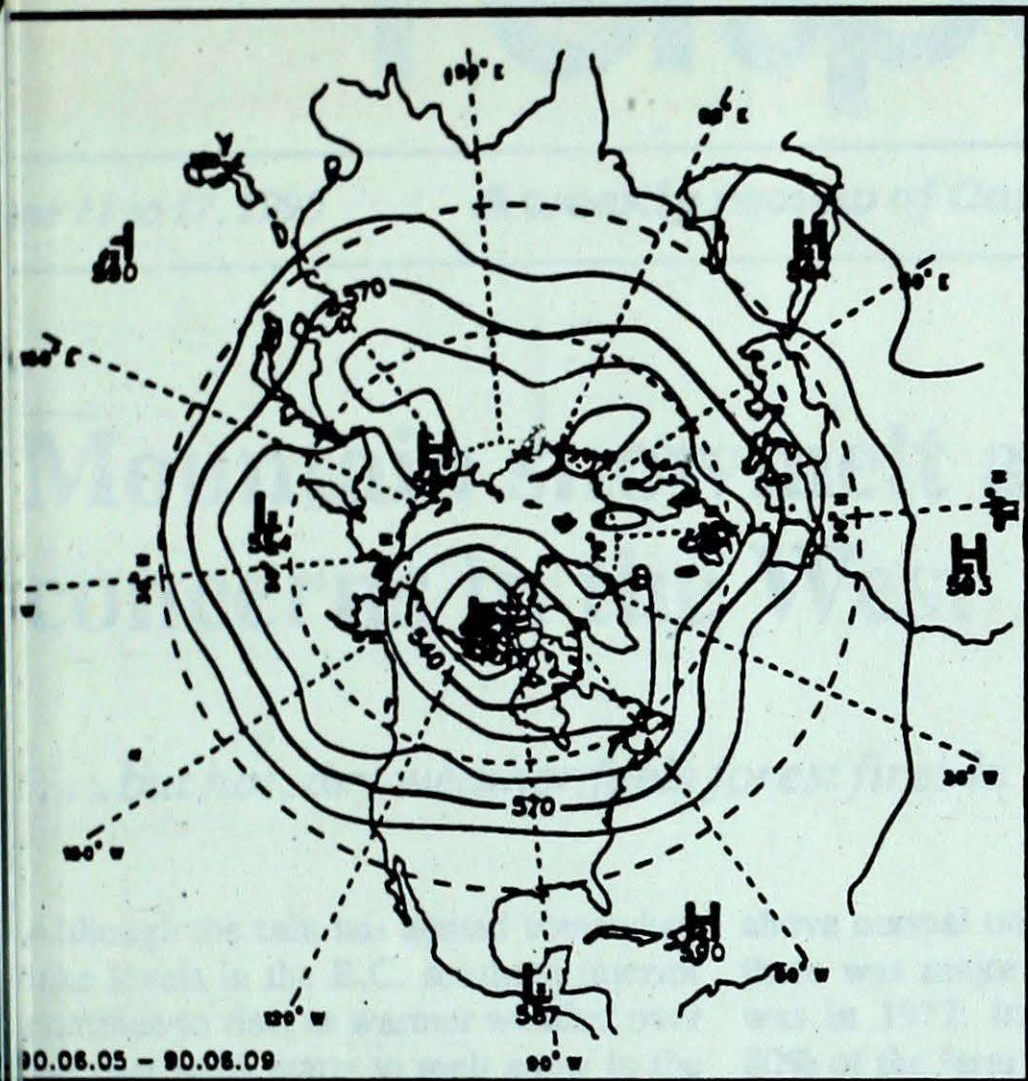
STATION	temperature				precip.		wind max		STATION	temperature				precip.		wind max									
	mean	anom	max	min	ptot	st	dir	vel		mean	anom	max	min	ptot	st	dir	vel								
British Columbia									Ontario																
Cape St James	11P	1P	15P	8P	13P***		140	91	Big Trout Lake	10P	0P	22P	1P	5P***	330	52									
Cranbrook A	11	-3	22	2	15***		210	48	Gore Bay A	14	-1	24	3	7***	190	52									
Fort Nelson A	13	-1	23	4	16***		330	61	Kapusking A	13	0	26	-1	25***	230	59									
Fort St John A	13P	1P	22P	6P	1P***		240	48	Kenora A	16	1	28	4	29***	230	46									
Kamloops A	15	-3	23	6	14***		230	37	London A	16	-2	26	4	16***	220	59									
Penticton A	14	-3	22	5	38***		180	46	Moosonee	9	0	22	-2	12***	350	33									
Port Hardy A	12	0	17	5	47***		X		North Bay A	14	-1	23	1	12***	020	50									
Prince George A	12	-1	21	2	18***		250	46	Ottawa Int'l A	15	-2	23	6	8***	270	59									
Prince Rupert A	11	1	19	4	0***		170	44	Petawawa A	14	-1	24	3	11***	300	43									
Revelstoke A	12	-3	22	4	57***		100	50	Pickle Lake	13	1	24	4	41***	300	52									
Smithers A	11	-1	21	1	2***		X		Red Lake A	14	1	26	1	19***	200	41									
Vancouver Int'l A	13	-2	17	8	72***		X		Sudbury A	14	-1	24	1	12***	010	52									
Victoria Int'l A	13	-1	17	8	19***		240	37	Thunder Bay A	13	0	26	2	8***	300	44									
Williams Lake A	10	-2	19	3	19***		140	39	Timmmins A	12P	-2P	26P	-1P	18P***	360	56									
Yukon Territory									Toronto (Pearson Int'l A)																
Komakuk Beach A	1	-1	10	-4	0***		X		Trenton A	15	-2	25	7	18***	270	46									
Teslin (aut)	12	*	22	2	9***		X		Warton A	14	-1	22	4	1***	260	41									
Watson Lake A	12	0	23	3	15***		260	70	Windsor A	18	-1	28	8	24***	290	59									
Whitehorse A	12	0	24	3	11***		280	59	Québec																
Northwest Territories									Bagotville A																
Alert	3P	6P	8P	-5P	0P	13	220	72	Blanc Sablon A	6P	*	15P	1P	2P***	220	41									
Baker Lake A	3	2	17	-5	0	1	330	59	Inukjuak A	2	-1	13	-4	0***	320	52									
Cambridge Bay A	-1	1	2	-5	16	25	340	76	Kuujuuaq A	7	2	19	-1	2***	300	59									
Cape Dyer A	*	*	4	*	*	99	X		Kuujuarapik A	5	1	24	-3	4***	140	41									
Clyde A	1	2	6	-4	0	5	200	35	Maniwaki	13	-2	25	4	21***	290	44									
Coppermine A	*	*	*	-3	8	1	290	61	Mont Joli A	13	0	22	6	7***	240	50									
Coral Harbour A	0	1	4	-6	4	18	310	44	Montréal Int'l A	14	-3	23	4	10***	230	74									
Eureka	2	3	9	-3	2	4	170	50	Natashquan A	8	-1	16	1	4***	220	50									
Fort Smith A	12	0	23	2	14***		X		Québec A	12	-3	22	0	37***	240	43									
Hall Beach A	-1	1	2	-6	6	38	270	63	Schefferville A	5	-1	19	-4	13***	290	50									
Inuvik A	3	-5	15	-3	14***		310	44	Sept-Îles A	10	0	19	2	8***	020	43									
Iqaluit A	2	0	7	-3	1	1	150	43	Sherbrooke A	11	-3	22	-2	64***	260	50									
Mould Bay A	-2	1	1	-6	1	2	310	44	Val-d'Or A	12	-1	26	0	18***	320	37									
Norman Wells A	8	-4	16	1	8***		290	76	New Brunswick																
Resolute A	-3	0	-1	-8	11	30	200	57	Charlo A	13	0	26	5	4***	290	48									
Yellowknife A	8	-3	20	1	3***		320	63	Chatham A	15	1	25	5	1***	270	46									
Alberta									Fredericton A																
Calgary Int'l A	13	0	22	6	8***		290	63	Moncton A	15	0	23	4	4***	050	46									
Cold Lake A	14	1	24	5	8***		330	41	Moncton A	14	1	23	4	2***	250	61									
Edmonton Namao A	14	0	23	8	32***		360	56	Saint John A	13	0	23	4	17***	200	48									
Fort McMurray A	14P	1P	24P	5P	23P***		200	43	Nova Scotia																
High Level A	13	-1	22	0	17***		330	67	Greenwood A	15	1	24	8	14***	220	52									
Jasper	11	-1	20	3	6***		X		Shearwater A	13	1	21	7	35***	200	54									
Lethbridge A	14	0	26	5	1***		260	107	Sydney A	12	1	23	6	22***	210	78									
Medicine Hat A	15	-1	27	4	10***		260	78	Yarmouth A	12	0	19	6	19***	200	56									
Peace River A	14	1	24	5	7***		220	37	Prince Edward Island																
Saskatchewan									Charlottetown A																
Cree Lake	12	0	23	0	12***		340	46	Summerside A	14P	2P	23P	8P	11***	040	44									
Estevan A	16	0	33	6	5***		270	63	Newfoundland																
La Ronge A	14	2	28	1	2***		250	37	Cartwright	5	-2	21	-2	15***	010	46									
Regina A	16	1	31	6	12***		290	74	Churchill Falls A	5	-2	20	-4	11	1	340	59								
Saskatoon A	16P	1P	28P	7P	25P***		250	72	Gander Int'l A	11	1	20	2	12***	230	78									
Swift Current A	14	0	27	5	11***		260	82	Goose A	7	-2	25	-1	23***	270	63									
Yorkton A	16	1	28	7	10***		290	56	Port Aux Basques	7	0	17	2	4***	260	48									
Manitoba									St John's A																
Brandon A	16	1	29	5	20***		300	63	St Lawrence	9	2	21	1	81***	X										
Churchill A	10	6	21	0	7***		210	78	Wabush Lake A	7	-1	21	-2	10***	300	56									
Lynn Lake A	12P	1P	27P	1P	6P***		220	52	90/06/04-90/06/10																
The Pas A	14	1	27	3	4***		150	43																	
Thompson A	11	1	27	-2	3***		340	48																	
Winnipeg Int'l A	15P	-1P	29P	1P	45P***		300	56																	

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

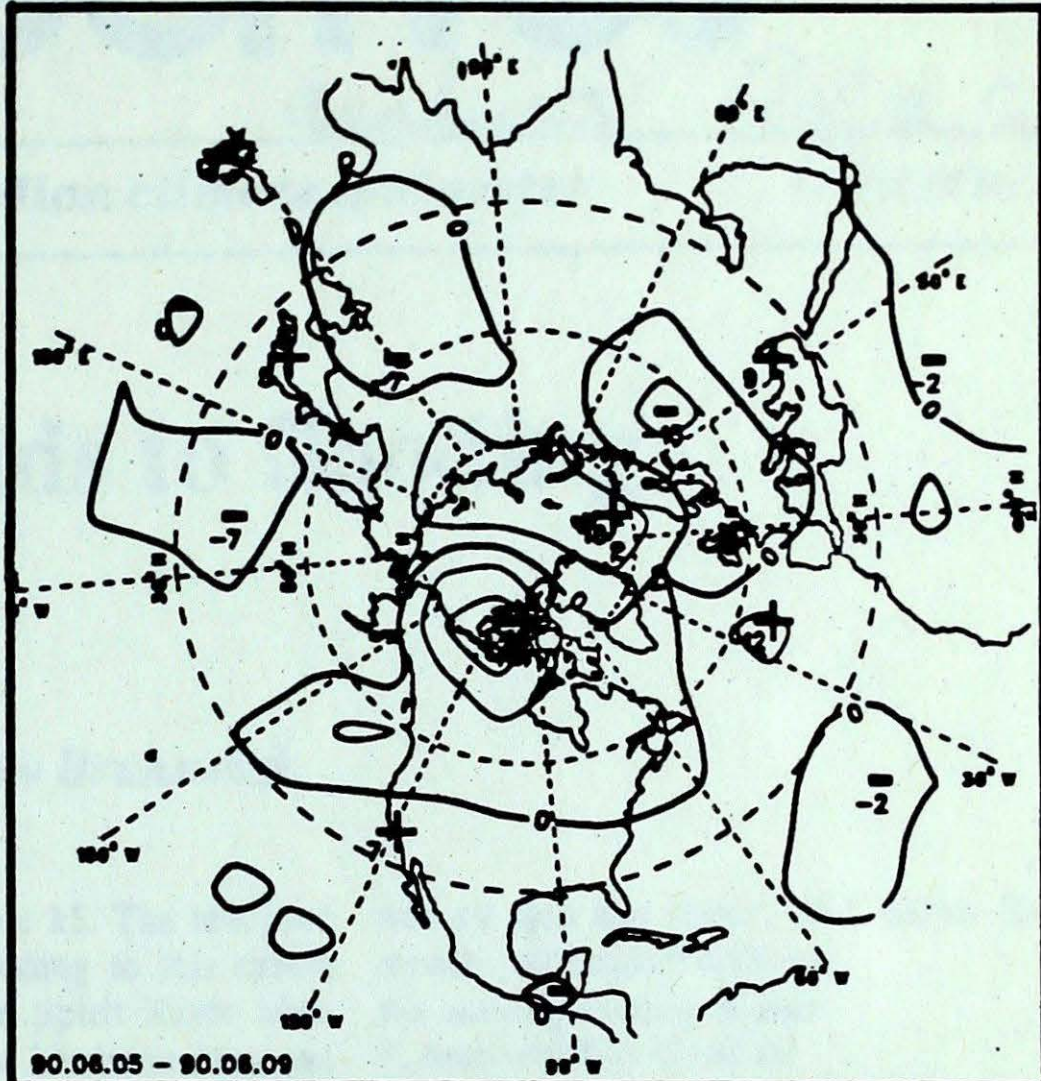
ptot = weekly precipitation total in mm
 st = snow thickness on the ground in cm
 dir = direction of max wind, deg. from north.
 vel = wind speed in km/h

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

ATMOSPHERIC CIRCULATION

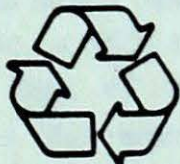


Mean geopotential height
50-kPa level (10-decametre intervals)



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

Think recycling



Pensez à recycler