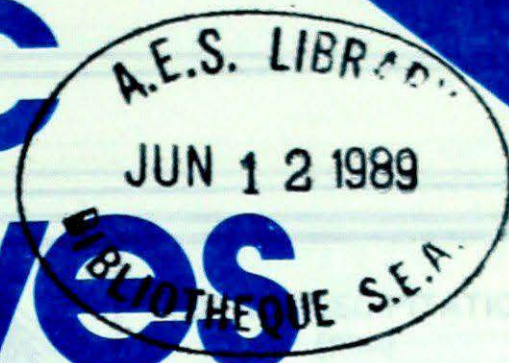


# Climatic Perspectives



May 29 to June 4, 1989

A weekly review of Canadian climate

Vol. 11 No. 23

## What a difference a year makes!

*Last year at this time, in southwestern Ontario, a shortage of precipitation was the major concern, whereas this year, surplus precipitation is causing problems.*

Showers and thundershowers continued to churn through Ontario. Many southern Ontario locations have received more precipitation in the first four days of June than was received for all of June 1988. Agricultural work has been brought to a standstill in southwestern Ontario, as many fields look like rice paddies due to standing-water. Some flooded fields may require replanting of some crops, if and when fields become workable again. In areas where rainfall has been merely abundant, rather than torrential, crops are doing very well.

The heaviest rains have occurred south of Windsor along the north shore of Lake Erie. At Harrow Research Station, 203.8 mm of rain has fallen since May 1st. Rainfall has been in the form of downpours.

The heavy rains have caused problems for farmers, and drying conditions are needed. Standing-water in the fields is drowning tomatoes, but cultivating could save the plants. Both the tomato and potato crops are being affected by the Colorado beetle, but the fields are too wet for accessing in order to spray. With so much moisture, plants do not put down enough roots. If the weather should turn hot and dry in July, plants would not have roots which go deep enough to obtain moisture, and crops could die.

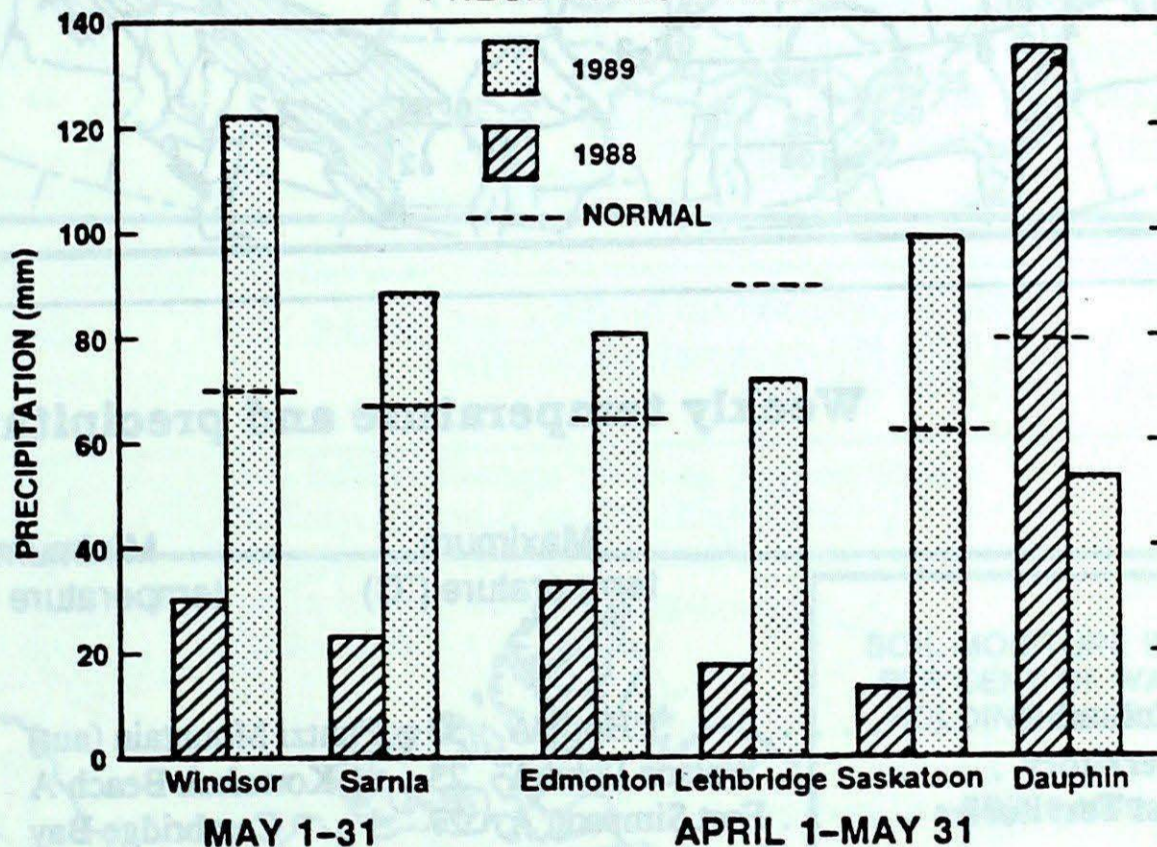
The wet weather has hampered spraying operations for fruit growers. Bacterial diseases are expected this summer on

peaches and apricots. The strawberry crop which should be ready within a week, is showing fruit rot.

The heavy rains have also caused soil compaction which has allowed the crusting over of soils, affecting the soya bean crop. Poorly-drained, heavy soils in Essex and Kent Counties have not been planted which could lead to a repeat of 1968, when a number of fields could not be planted due to too much moisture.

Clement Fisher, Ontario Ministry of Agriculture and Food, Harrow Research Station

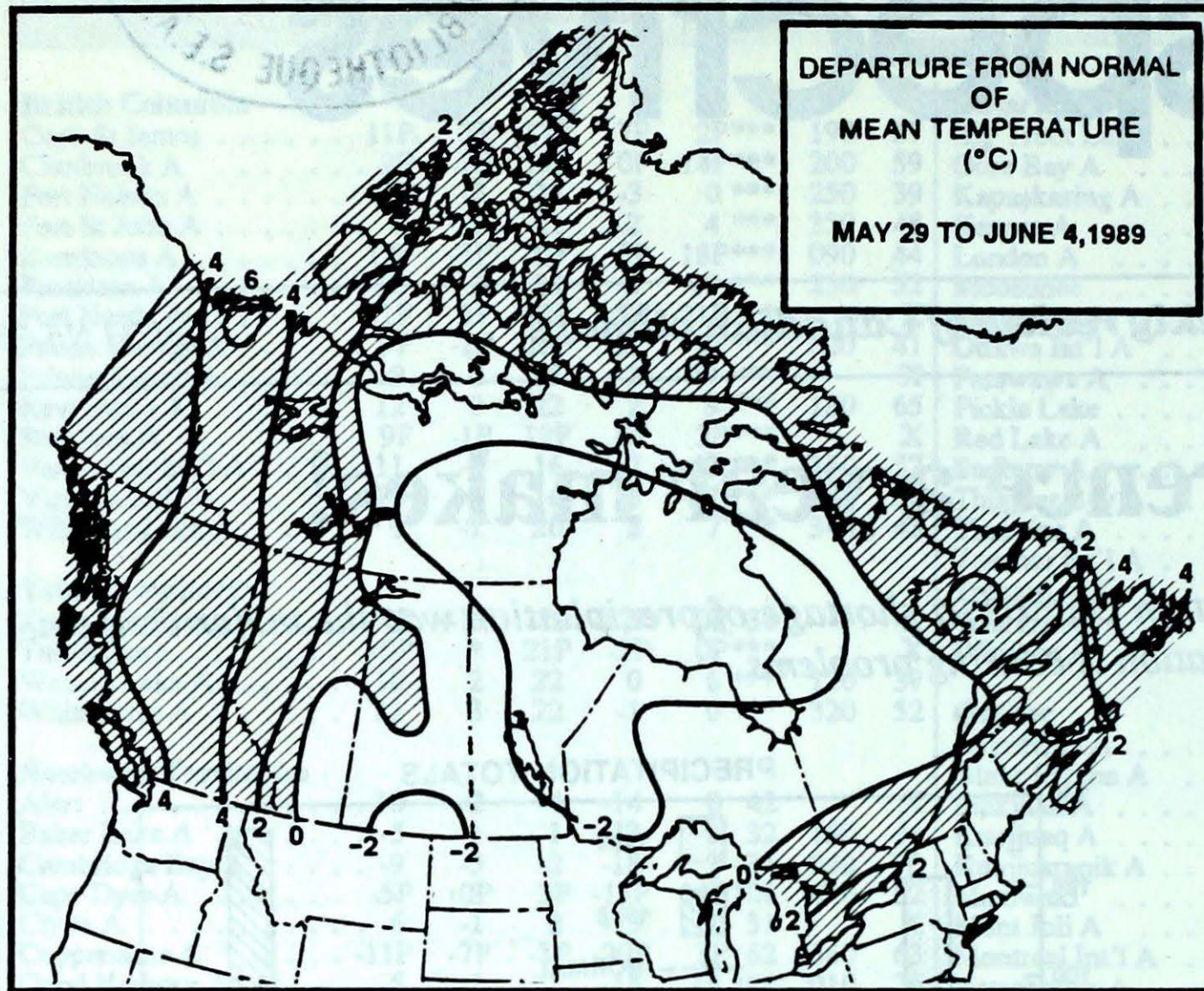
PRECIPITATION TOTALS



### A look ahead...

For the week of June 12, all of Ontario, and the southern half of Québec will experience near-normal temperatures, while the Atlantic provinces will be cool. Elsewhere across the country, above-normal temperatures are expected. The largest departures above normal are expected over the Arctic islands. An upper atmospheric ridge over the Northwest Territories and the Prairies will keep these areas warm and dry.

— prepared June 6, 1989  
A.Gergye, Canadian Climate Centre



### Across the country...

May 29th saw a return to snow in southwestern Saskatchewan. Eastend recorded 10.4 mm of mixed rain and snow, and a high of only 3°C. On June 2nd, a funnel cloud was reported over Briercrest, Saskatchewan. Heavy rain in Sault Ste Marie, Ontario, has resulted in some river bank collapses along the Goulais River. Flooding was reported upriver from the blockages caused by the collapses. Inuvik, Northwest Territories set a new maximum record on May 31st, reaching 24.9°C, beating the old record of 23.4°C, set in 1983. There is a flood watch at Aklavik, waiting for the Mackenzie River ice break-up. Early swimmers are braving a few of the lakes around Yellowknife, while other nearby lakes are predominantly ice-covered. Golf courses remain busy, as Northerners take advantage of the long days of summer.

### Weekly temperature and precipitation extremes

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia . . . . . Hope A	33	Puntzi Mountain (aut) -2	Prince Rupert A 13
Yukon Territory . . . . . Watson Lake A	23	Komakuk Beach A -1	Watson Lake A 3
Northwest Territories . . . . . Fort Simpson A	27	Cambridge Bay -14	Iqaluit A 36
Alberta . . . . . Grande Prairie A	30	Banff (aut) -6	Lethbridge A 13
Saskatchewan . . . . . Estevan A	25	Prince Albert A -2	Moose Jaw A 17
Manitoba . . . . . Winnipeg Int'l A	27	Churchill A -5	Island Lake 5
Ontario . . . . . Windsor A	29	Winisk (aut) -3	Windsor A 70
Québec . . . . . Montréal Int'l A	26	La Grande Riviere A -6	Natashquan A 70
New Brunswick . . . . . Chatham A	25	St Stephen (aut) 2	St-Léonard A 41
. . . . . Fredericton A	25		
Nova Scotia . . . . . Western Head (aut)	26	Truro 6	Shearwater A 42
Prince Edward Island . . . . . Summerside A	23	Charlottetown A 6	Charlottetown A 10
Newfoundland . . . . . Comfort Cove	26	Nain A, Lab. -4	St Lawrence 48

### Across The Country...

Highest Mean Temperature . . . . .	Kamloops A(BC)	21
lowest Mean Temperature . . . . .	Gladman Point A(NWT)	-6

89/05/29-89/06/04

CLIMATIC PERSPECTIVES  
VOLUME 11

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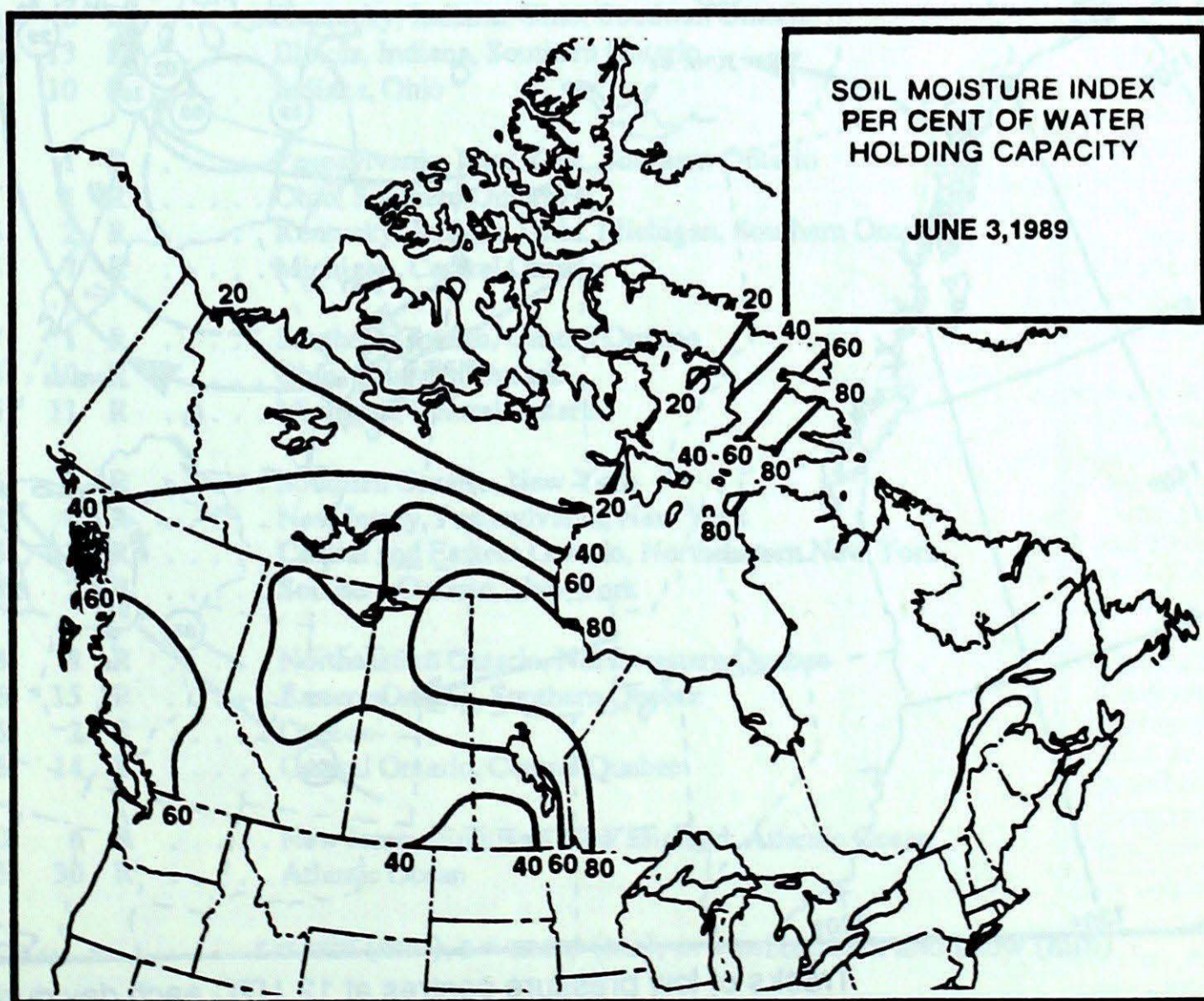
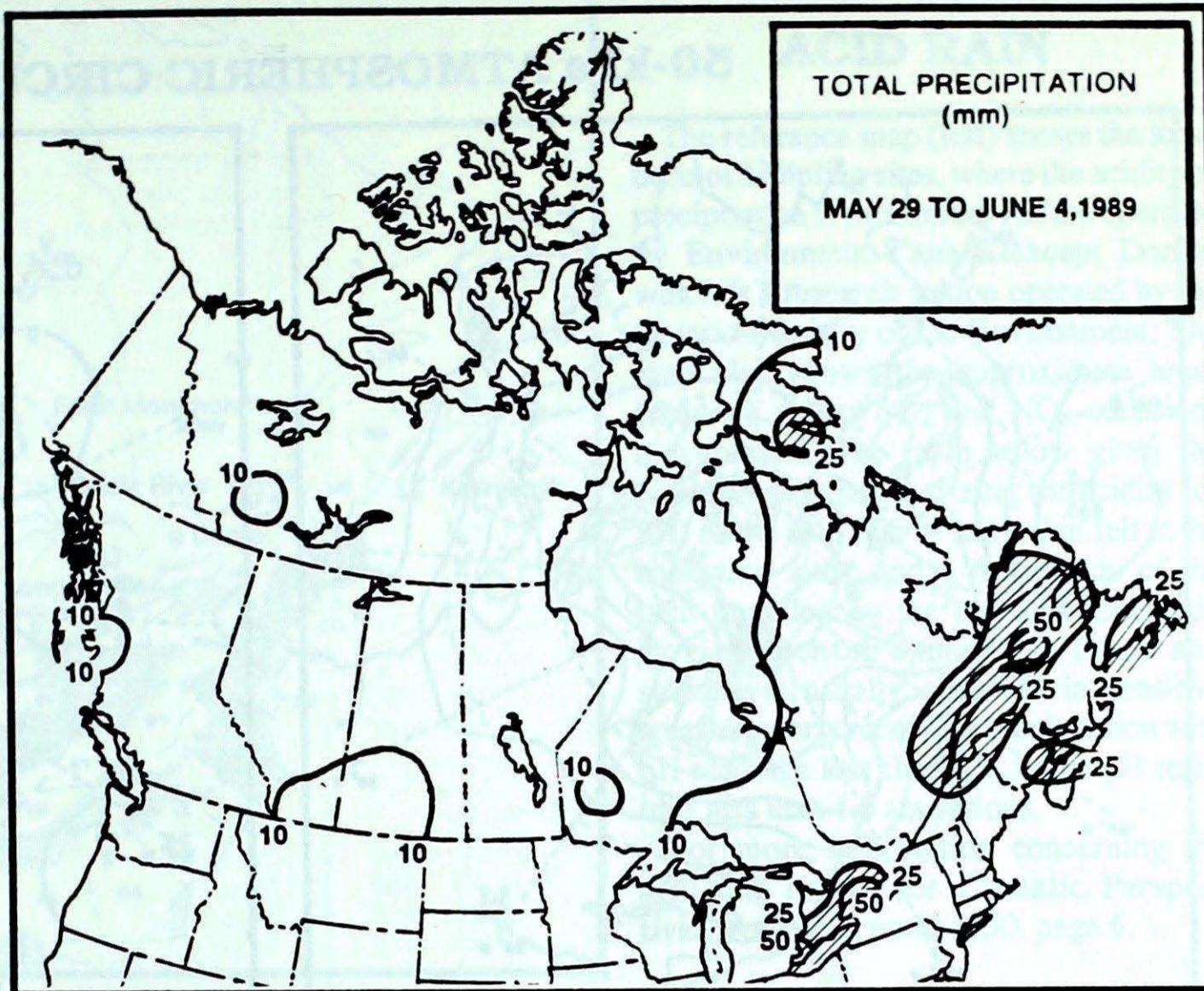
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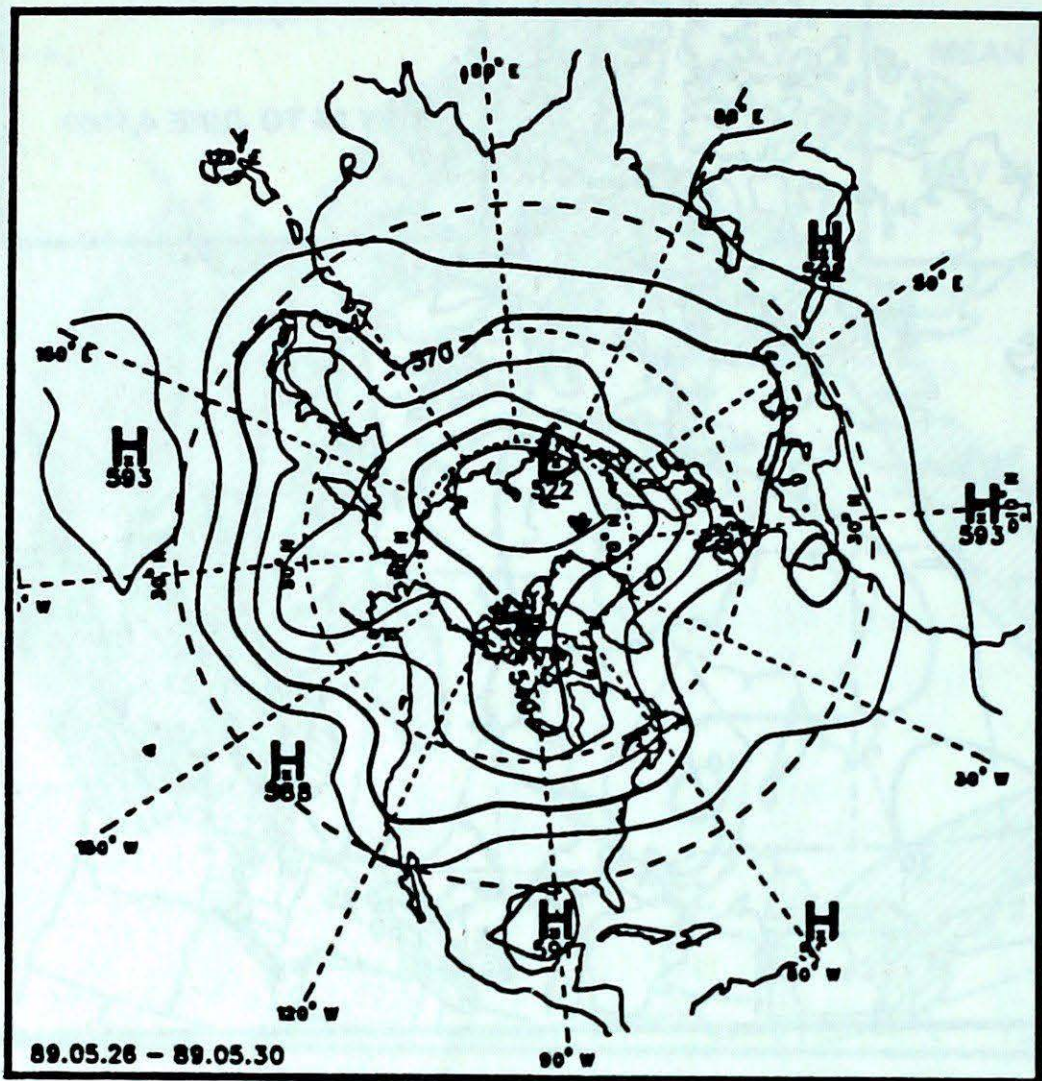
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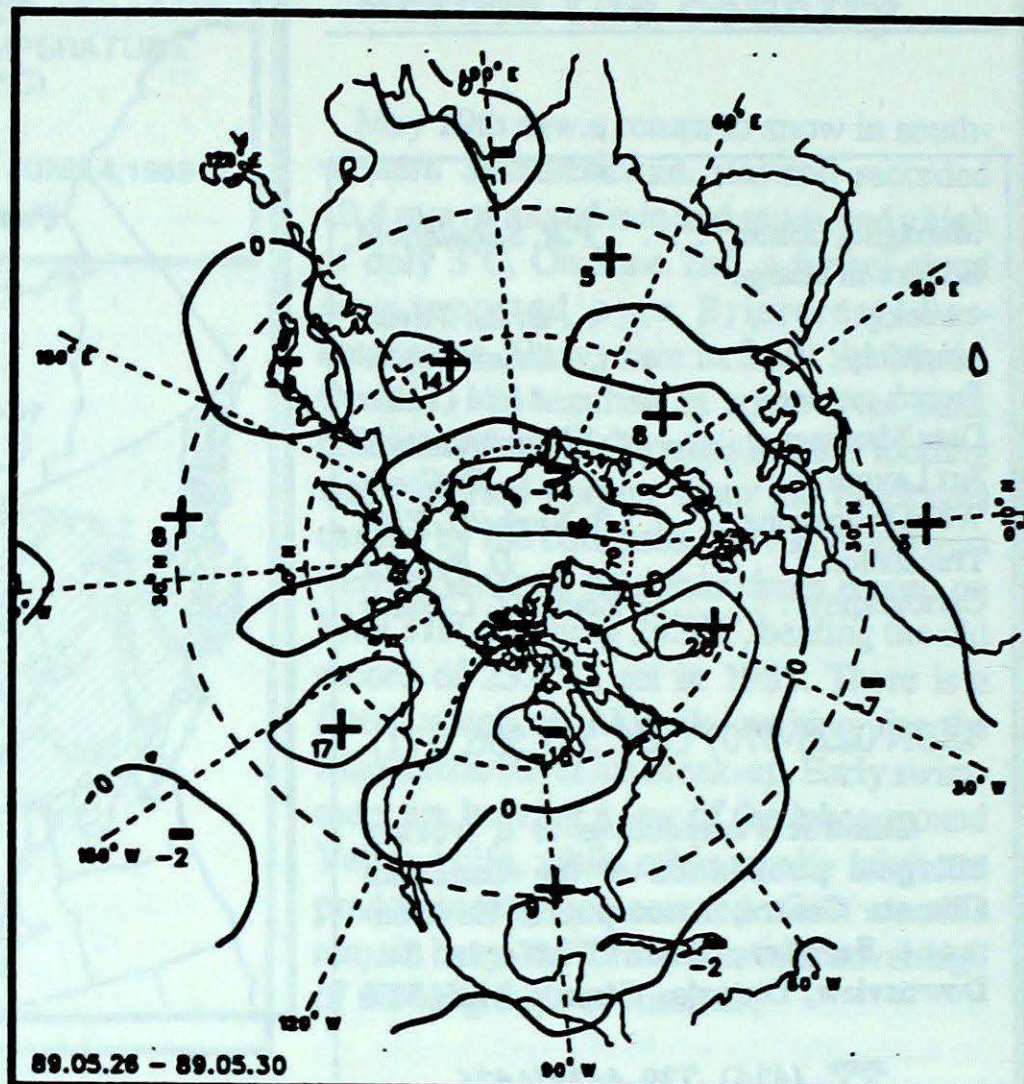
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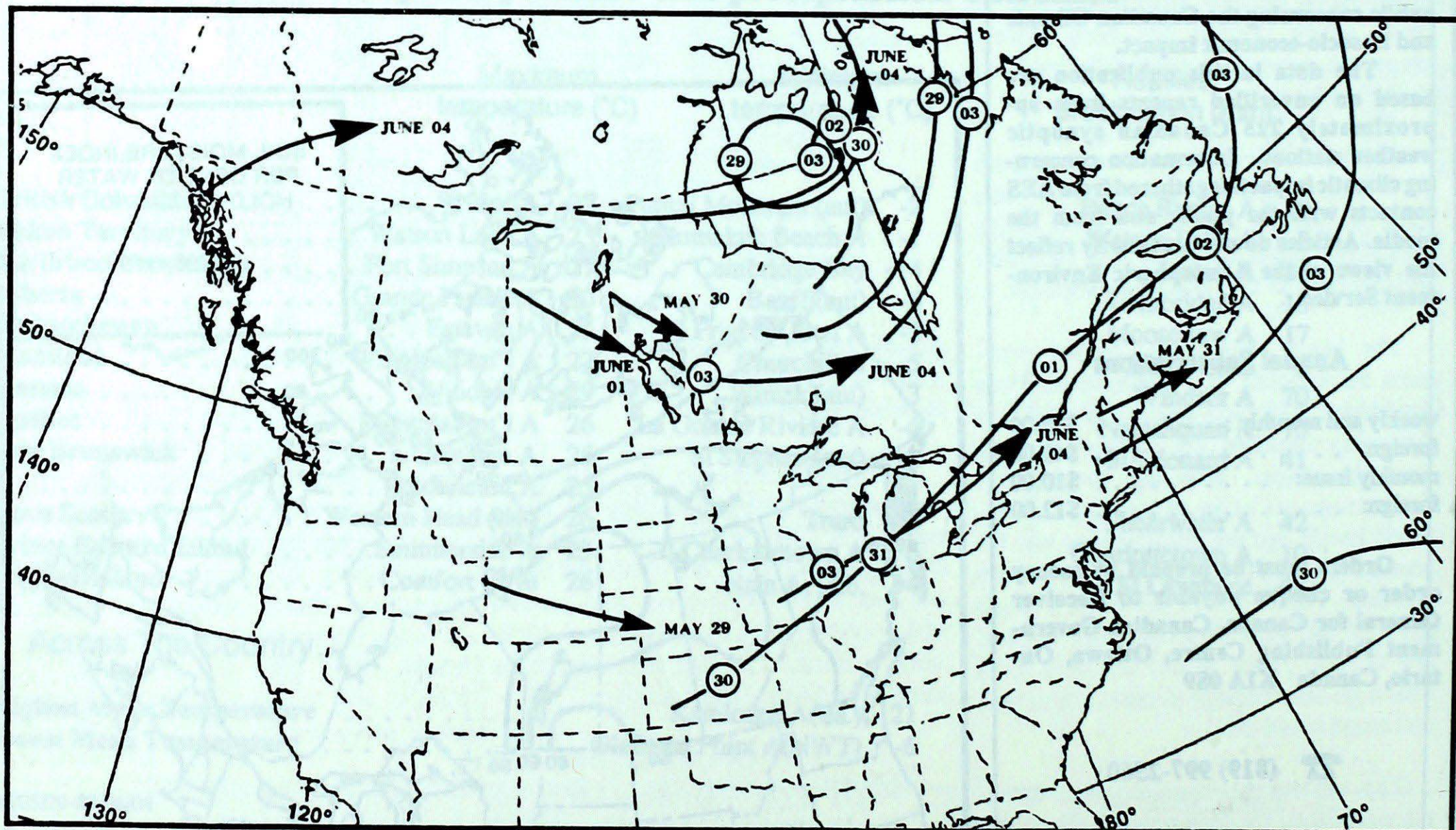
### 50-kPa ATMOSPHERIC CIRCULATION



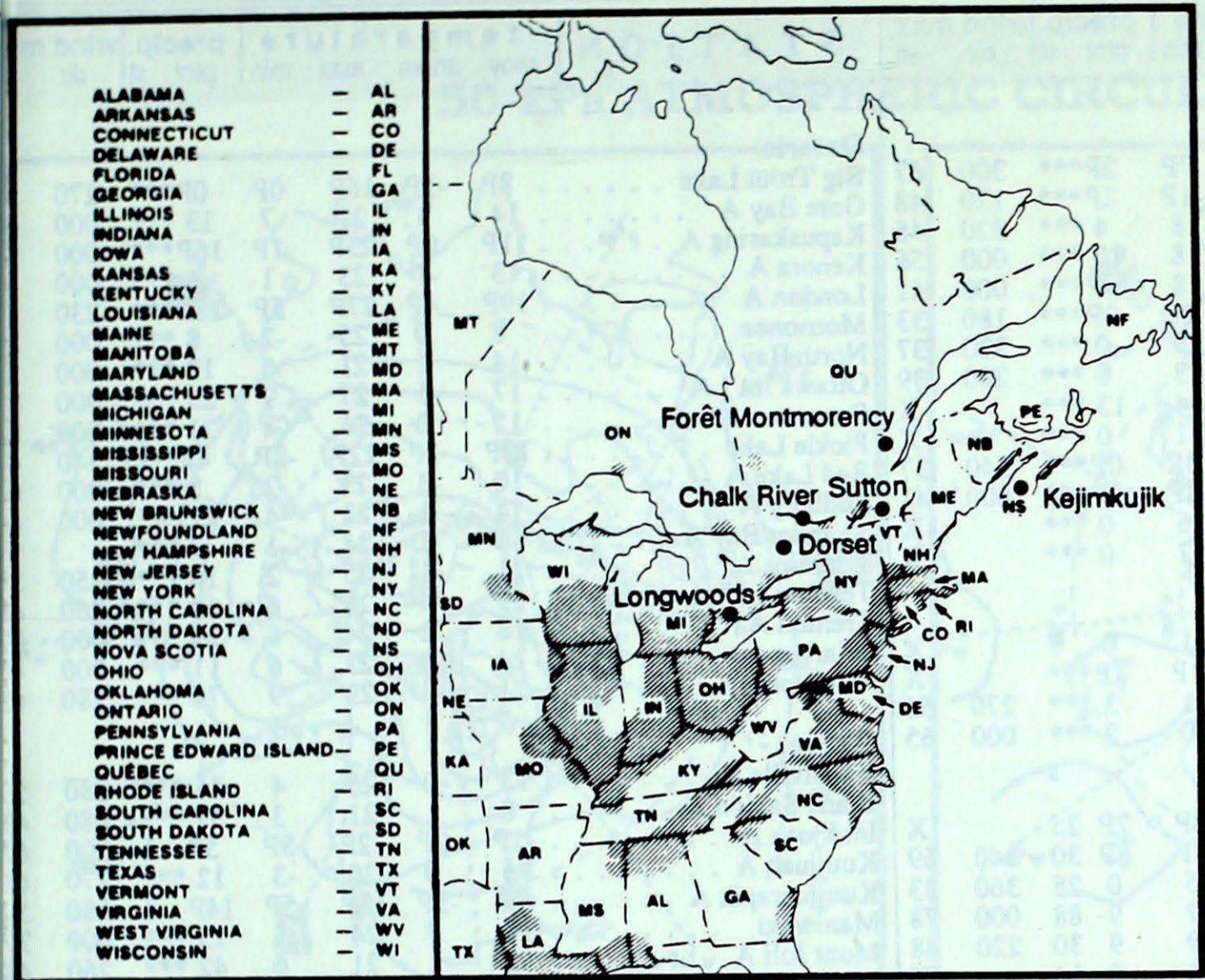
Mean geopotential height  
50-kPa level (10 decametre intervals)



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



Tracks of low pressure centres at 12 UTC 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<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.

For more information concerning the acid rain report, see *Climatic Perspectives*, volume 5, number 50, page 6.

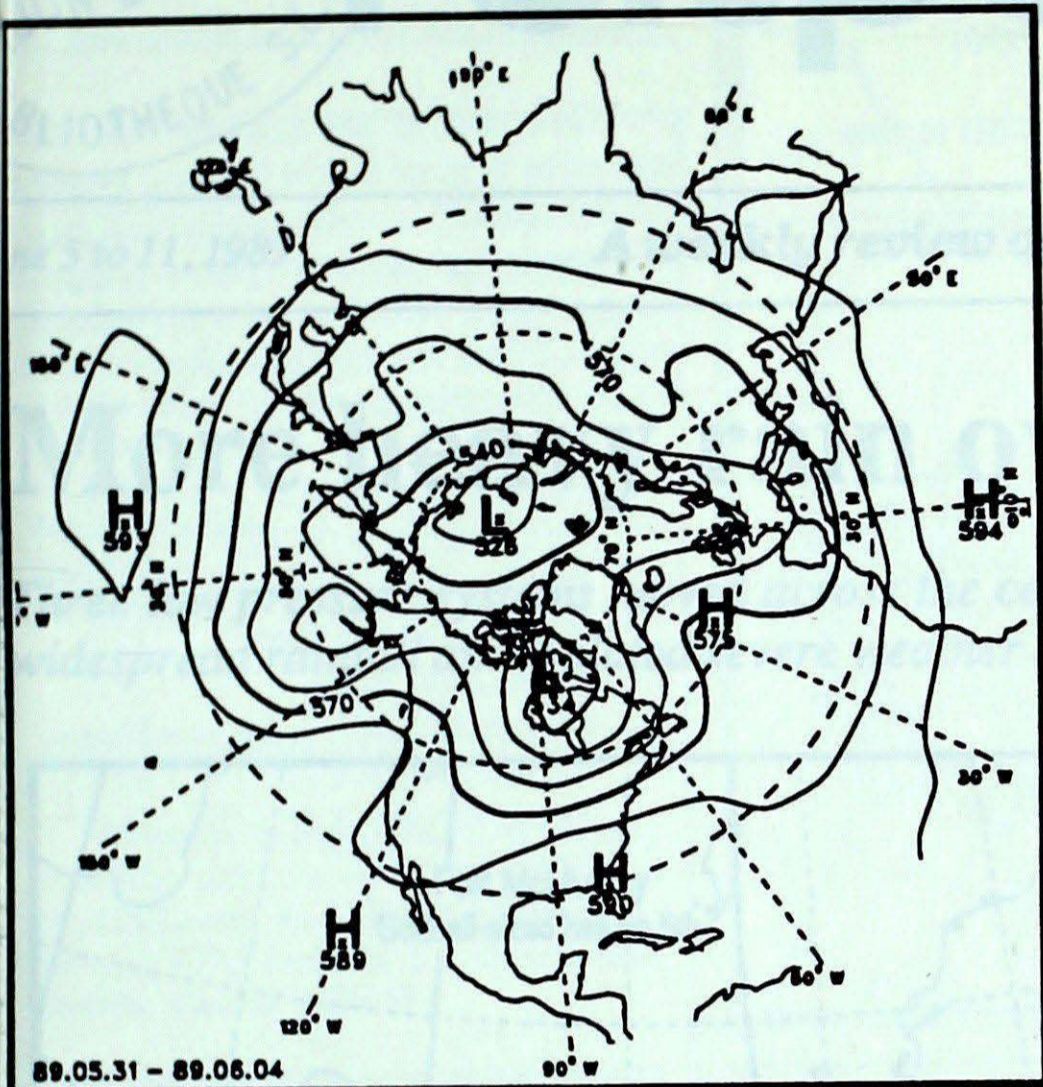
SITE	day	pH	amount	AIR PATH TO SITE	From May 28 to June 3, 1989
Longwoods	29	3.9	11 R	Ohio, Indiana, Southern Michigan, Southern Ontario	
	30	4.3	4 R	Kentucky, Indiana, Ohio, Southern Ontario	
	31	4.3	6 R	Kentucky, Indiana, Ohio, Southern Ontario	
	1	4.1	13 R	Illinois, Indiana, Southern Ontario	
	3	3.5	10 R	Indiana, Ohio	
Dorset *	29	3.5	1 R	Pennsylvania, New York, Southern Ontario	
	30	3.7	1 R	Ohio, Southern Ontario	
	31	4.6	2 R	Kentucky, Indiana, Ohio, Michigan, Southern Ontario	
	3	4.5	7 R	Michigan, Central Ontario	
Chalk River	30	3.7	1 R	Southern Ontario, Central Ontario	
	31	4.5	10 R	Ohio, Southern Ontario	
	3	4.5	11 R	Michigan, Central Ontario	
Sutton	30	3.6	7 R	Southern Ontario, New York	
	1	3.5	8 R	New Jersey, Pennsylvania, New York	
	2	4.5	13 R	Central and Eastern Ontario, Northeastern New York	
	3	3.8	2 R	Southern Ontario, New York	
Montmorency	29	4.3	8 R	Northeastern Ontario, Northwestern Quebec	
	31	4.6	15 R	Eastern Ontario, Southern Quebec	
	2	3.6	2 R	Quebec	
	3	4.6	14 R	Central Ontario, Central Quebec	
Kejimikujik	30	4.0	6 R	New Jersey, Southern New England, Atlantic Ocean	
	2	4.5	30 R	Atlantic Ocean	

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

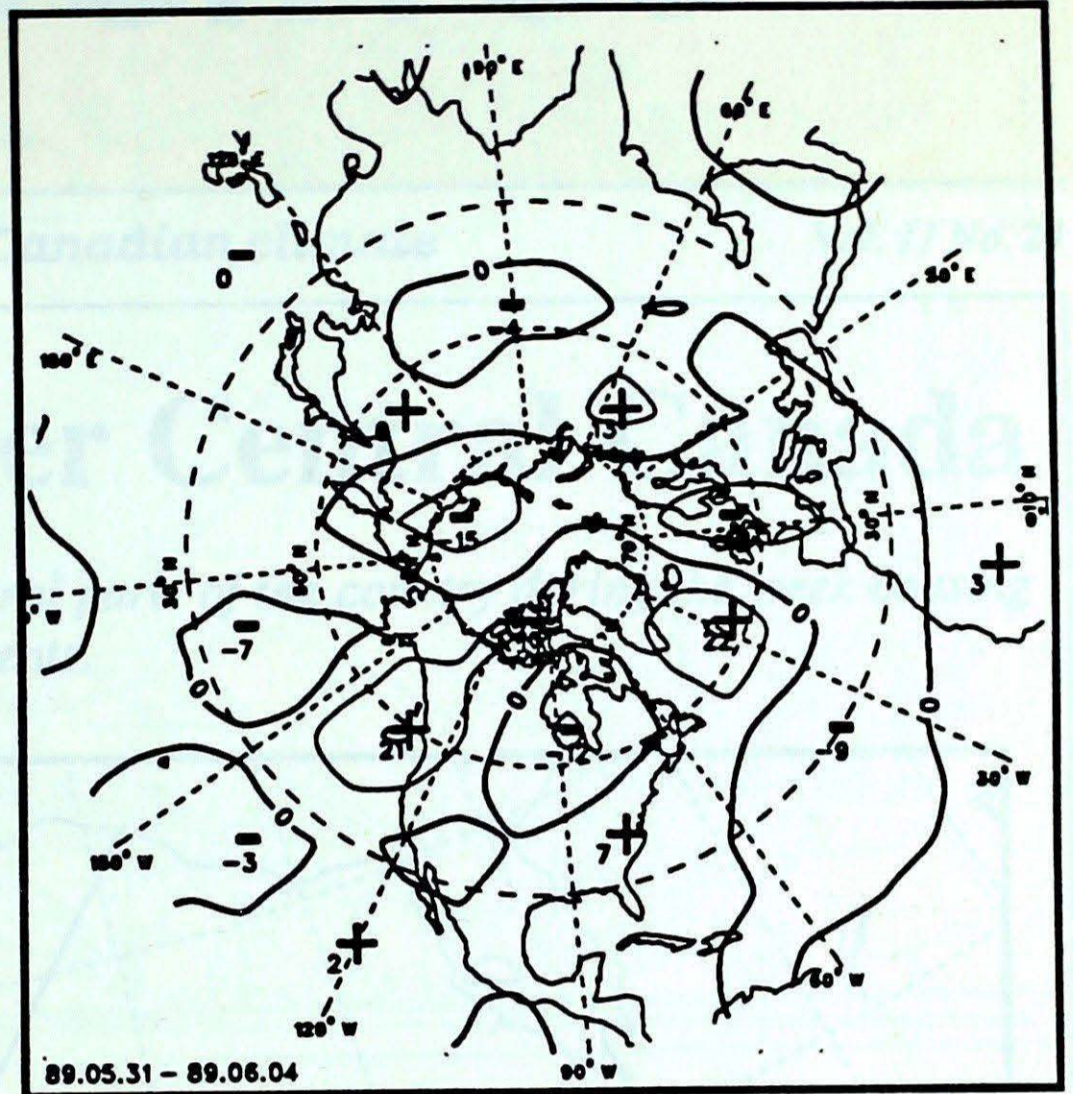
STATION	temperature				precip.		wind max		STATION	temperature				precip.		wind max							
	moy	anom	max	min	ptot	st	dir	vit		moy	anom	max	min	ptot	st	dir	vit						
<b>British Columbia</b>								<b>Ontario</b>															
Cape St James	11P	1P	16P	7P	2P***	300	67	Big Trout Lake	8P	-1P	16P	0P	0P***	270	50								
Cranbrook A	15P	2P	27P	-1P	2P***	120	48	Gore Bay A	14	1	21	7	13 ***	000	46								
Fort Nelson A	18	6	29	8	4 ***	320	46	Kapuskasing A	11P	0P	25P	-1P	16P***	000	50								
Fort St John A	17	5	29	8	10 ***	000	156	Kenora A	13	-1	23	1	6 ***	000	48								
Kamloops A	21	4	33	8	0 ***	000	41	London A	19P	4P	27P	5P	18P***	230	39								
Penticton A	20P	5P	31P	9P	0P***	180	33	Moosonee	8	0	25	-2	8 ***	000	54								
Port Hardy A	14	3	24	5	0 ***	320	37	North Bay A	14	1	21	6	13 ***	000	52								
Prince George A	16	4	30	3	0 ***	280	39	Ottawa Int'l A	17	1	27	9	22 ***	000	37								
Prince Rupert A	11	1	17	4	13 ***		X	Petawawa A	15	0	25	4	21 ***	000	41								
Revelstoke A	18	3	31	1	0 ***		X	Pickle Lake	10P	-1P	22P	-2P	4P***	240	44								
Smithers A	15P	4P	29P	3P	0P***	340	37	Red Lake A	10	-3	23	-2	8 ***	000	63								
Vancouver Int'l A	16P	2P	25P	8P	0P***	000	41	Sudbury A	14	1	23	4	22 ***	000	44								
Victoria Int'l A	16	2	31	6	0 ***		X	Thunder Bay A	10	-1	24	-1	7 ***		X								
Williams Lake A	16	5	29	2	0 ***		X	Timmins A	11	-1	25	2	14 ***	350	37								
<b>Yukon Territory</b>								<b>Québec</b>															
Komakuk Beach A	4	4	13	-1	0 7		X	Bagotville A	13	0	25	4	46 ***	280	50								
Teslin (aut)	12P	*	22P	1P	1P***		X	Blanc Sablon A	8		21	3	37 ***	080	41								
Watson Lake A	13	2	23	1	3 ***	270	56	Inukjuak A	-1P	-2P	2P	-5P	5P 1	200	67								
Whitehorse A	13	4	22	0	2 ***	000	65	Kuujuuaq A	5	0	20	-3	12 ***	270	61								
<b>Northwest Territories</b>								<b>New Brunswick</b>															
Alert	-3P	3P	3P	-8P	2P 25		X	Charlo A	12	0	24	7	27 ***	280	43								
Baker Lake A	-3P	-3P	1P	-7P	8P 30	340	69	Chatham A	15	1	25	8	11 ***	260	46								
Cambridge Bay A	-4	-1	3	-15	0 28	360	33	Fredericton A	16P	2P	25P	5P	4P***	270	39								
Cape Dyer A	-2	0	4	-7	9 88	000	78	Moncton A	15P	2P	25P	7P	3P***	280	52								
Clyde A	-3	-1	4	-9	9 30	220	48	Saint John A	14P	2P	23P	9P	4P***	210	46								
Coppermine A	-3	-1	9	*	2 14		X	<b>Nova Scotia</b>															
Coral Harbour A	-1	1	3	-6	1 26	000	67	Greenwood A	17	2	25	9	29 ***	260	52								
Eureka	-1	3	4	-9	1 1	290	41	Shearwater A	14	2	23	8	42 ***	280	37								
Fort Smith A	12	1	23	-2	4 ***	000	33	Sydney A	13	2	23	8	14 ***	250	46								
Hall Beach A	-2	3	1	-4	3 41	500	48	Yarmouth A	13	1	19	9	20 ***	000	37								
Inuvik A	14P	8P	25P	3P	7P***		X	<b>Prince Edward Island</b>															
Iqaluit A	1	0	6	-4	36 2	000	56	Charlottetown A	14	1	22	6	10 ***	000	39								
Mould Bay A	-2P	2P	3P	-7P	0P 12	190	48	Summerside A	14	1	23	8	6 ***	000	48								
Norman Wells A	16P	5P	24P	8P	4P***	000	56	<b>Newfoundland</b>															
Resolute A	-4P	2P	2P	-12P	0P***	030	54	Cartwright	8P	2P	17P	1P	11P***	220	32								
Yellowknife A	13P	3P	22P	3P	2P***	060	37	Churchill Falls A	9	3	24	-4	5 ***	240	57								
<b>Alberta</b>								<b>89/05/29-89/06/4</b>															
Calgary Int'l A	13	0	26	-2	7 ***	350	52	Gander Int'l A	14	4	25	6	19 ***	210	52								
Cold Lake A	13	-1	23	0	3 ***	290	43	Goose A	10	1	25	2	25 ***	260	41								
Edmonton Namao A	14	0	26	1	8 ***	000	67	Port Aux Basques	9	2	20	5	32 ***	000	48								
Fort McMurray A	13	1	23	-1	3 ***	360	37	St John's A	12P	3P	20P	6P	28P***	000	46								
High Level A	15	3	26	2	1 ***	000	43	St Lawrence	11P	4P	19P	3P	48P***		X								
Jasper	13	2	27	-1	0 ***		X	Wabush Lake A	9	2	22	-4	11 ***	220	46								
Lethbridge A	13	-1	25	-2	13 ***	350	56																
Medicine Hat A	13	-2	25	1	6 ***	300	50																
Peace River A	16	4	27	4	2 ***	000	56																
<b>Saskatchewan</b>																							
Cree Lake							X																
Estevan A	12	-3	25	2	5 ***	240	54																
La Ronge A	11	-1	22	-1	0 ***	000	33																
Regina A	14	0	23	4	4 ***	000	59																
Saskatoon A	14	0	23	2	12 ***	300	59																
Swift Current A	12	-1	23	2	13 ***	300	69																
Yorkton A	13	-1	21	2	0 ***	000	48																
<b>Manitoba</b>																							
Brandon A	12	-2	25	1	2 ***	240	61																
Churchill A	0	-2	13	-5	3 1	320	70																
Lym Lake A	8P	-2P	18P	-2P	3P***	250	65																
The Pas A	10	-2	20	0	0 ***	000	46																
Thompson A	7	-3	21	-4	3 ***	230	52																
Winnipeg Int'l A	13	-1	27	-1	1 ***	000	67																

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.  
 vit = wind speed in km/h  
 — Annotations —  
 X = no observation  
 P = less than 7 days of data  
 \* = missing data when going to printing.

### 50-kPa ATMOSPHERIC CIRCULATION



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



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  
June, °C*

Whitehorse	12	Toronto	18
Yellowknife	13	Ottawa	18
Iqaluit	3	Montréal	18
Vancouver	15	Québec	16
Victoria	14	Fredericton	16
Calgary	13	Halifax	14
Edmonton	15	Charlottetown	15
Regina	16	Goose Bay	11
Winnipeg	17	St. John's	11

Canada

