

# Climatic Perspectives

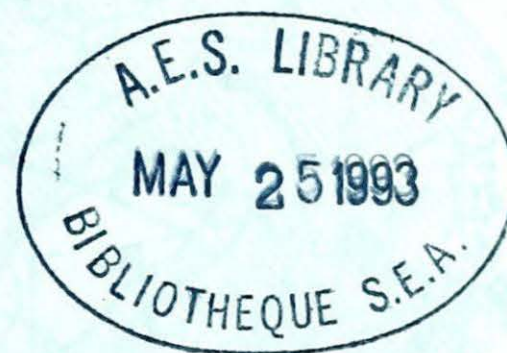
MONTHLY SUPPLEMENT INCLUDED

May 10 to 16, 1993

A weekly review of Canadian climate and water

Vol. 15 No. 20

## Record warmth across western and central Canada



*An upper ridge affected a large portion of the country early in the period, producing warm summer-like weather. The ridge gradually shifted westwards over British Columbia. Replacing it was a pool of cold Arctic air, which became the dominant feature over the Great Lakes Basin.*

### Flooding In the B.C. Interior

After many weeks of gloom and wet, the weather pattern in British Columbia changed. Under mainly sunny skies, temperatures in the central interior soared to the record mid-thirties. This increased the risk of forest fires and caused rapid snowmelt at higher elevations due to rising freezing levels. Many mountain rivers and streams swelled quickly, some overflowing their banks. The Fraser River at Prince George was near flood stage.

Three mud slides closed the Yellowhead Highway between Prince George and Edmonton. Trees, boulders and mud several metres deep covered the roadway near Tete Jaune Cache Junction, 275 km east of Prince George. Several snow avalanches plugged up mountain streams; when the dams broke torrents of water, mud and debris flowed down the mountain sides.

Flooding hit the historic town of Barkerville, (made famous during the 1862 Cariboo Gold rush days) situated in a narrow valley, 90 km east of Quesnel. Flood waters raged down the main street after a thunderstorm added to the deluge. Luckily, many of the buildings were built on

piles, probably reflecting similar experiences during the boom days long ago.

### A brief taste of summer

In the prairie provinces, record-warm temperatures, in the thirties, prevailed during the first half of the period, but then cooled off significantly. The Peace River district has had above-normal temperatures for 12 consecutive weeks.

Temperatures in northeastern Ontario soared into the low thirties on May 10, before cooling off dramatically during the middle of the week. The temperature at Earlton reached 33°C, setting a new daily record. The hot, dry weather sent the forest fire hazard index soaring, resulting in a very active fire period across the northern and central parts of the province. Twenty-seven new fires were reported burning on the morning of the 12th, some as far south as the Parry Sound-Muskoka cottage districts. The largest fire, at Pickle Lake, burned 3100 hectares before being eventually suppressed, with water bombers and the arrival of much colder, damp weather towards the end of the week.

Not only did the weather turn cold, but several centimetres of snow fell in northwestern Ontario. At Petawawa, in eastern Ontario, the temperature dropped from a high of 33°C on May 10, to a record-low of -3°C on the 14th.

### Mackenzie River watershed

Although Great Slave Lake is still covered with ice, the southern reaches of the Mackenzie River are clear of ice. Breakup

reached Fort Good Hope on May 13. The Peel River is moving, although with some ice jamming. However, it looks like the peak water level will remain below last year's record. The Fort Providence ferry was launched on May 5, while the Fort Liard ferry was still out of service last week due to shoreline ice. The Dempster Highway is closed until the Peel River and the Mackenzie Delta breaks up. The Yellowknife River and many of the small lakes in the Territories remain mostly ice covered.

### Elsewhere...

Summer-like weather arrived in the Yukon, with numerous record-high readings in the high twenties. The ferry across the Yukon River at Dawson City is now operational. The ice on many of the lakes is on the verge of breaking up.

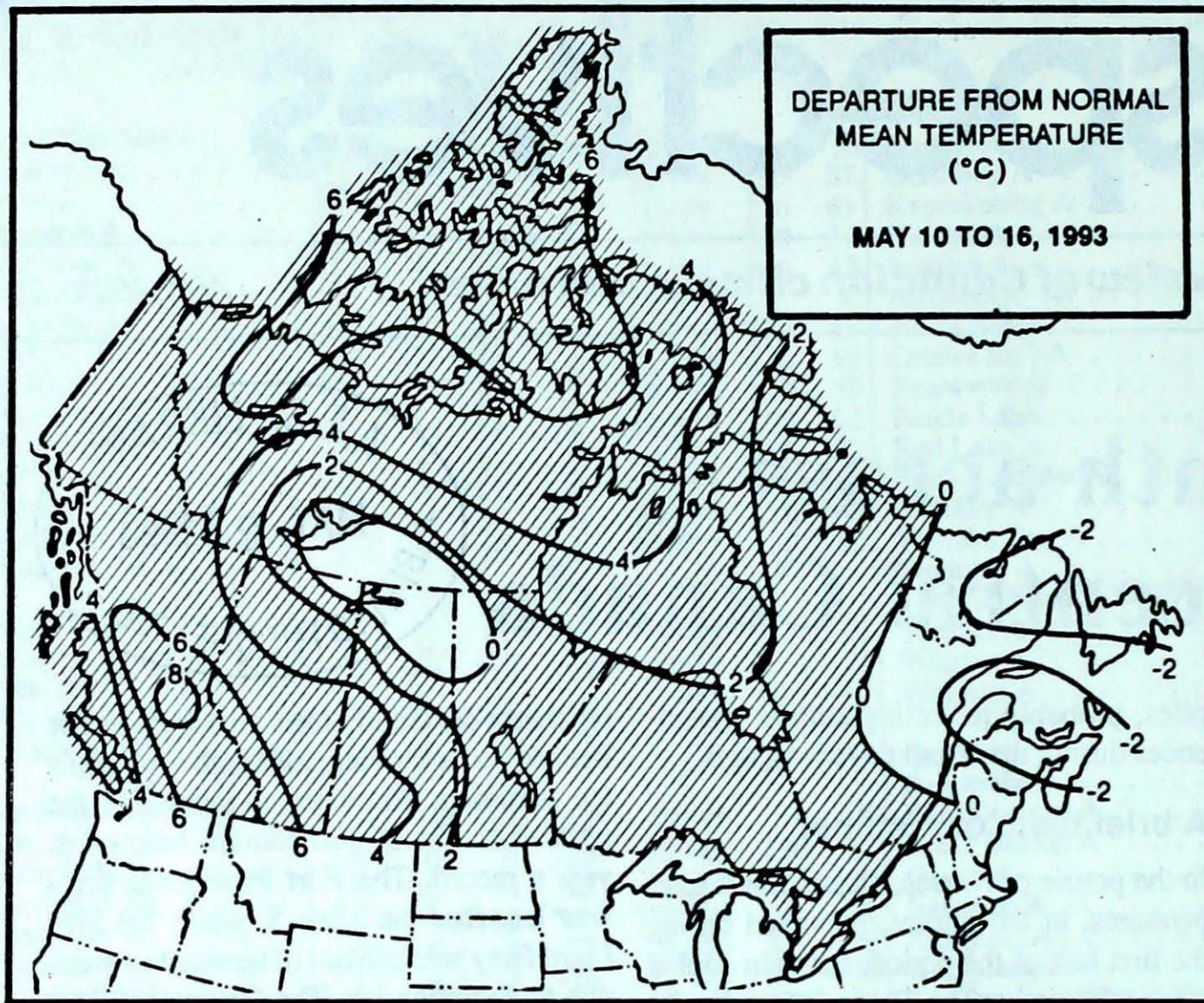
Extensive low cloud dominated the Keewatin, southern Baffin Island and the Arctic coast, causing flight delays to small communities.

Variable weather conditions prevailed across the Maritimes, with temperatures remaining on the cool side. Northerly winds brought flurries and record-cold weather to Newfoundland. Heavy rain fell on the western part of the Island over the weekend.

### A look ahead...

For the week of May 24, below-normal temperatures are expected in south-central and eastern Canada. Under a ridge of high pressure, the Prairies and B.C. will continue to experience above-normal temperatures.





**Weekly normal temperatures (°C)**

	max.	min.
Whitehorse A	12.0	0.2
Iqaluit A	-0.2	-7.1
Yellowknife A	9.1	-0.9
Vancouver Int'l A	16.1	7.7
Victoria Int'l A	16.0	6.5
Calgary Int'l A	15.7	2.1
Edmonton Int'l A	16.9	1.8
Regina A	17.9	3.1
Saskatoon A	17.6	3.4
Winnipeg Int'l A	17.3	3.5
Ottawa Int'l A	17.8	6.2
Toronto (Pearson Int'l A)	17.8	5.5
Montréal Int'l A	18.0	6.9
Québec A	16.4	4.6
Fredericton A	16.7	4.3
Saint John A	13.8	3.4
Halifax (Shearwater)	13.0	4.2
Charlottetown A	13.0	3.4
Goose A	9.4	-0.2
St John's A	9.3	1.0

**Weekly temperature and precipitation extremes**

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Kamloops A 34	Dease Lake -3	Smithers 31
Yukon Territory	Whitehorse A 27	Komakuk Beach A -11	Watson Lake A 3
Northwest Territories	Fort Simpson A 23	Clyde A -22	Coral Harbour A 14
Alberta	Edmonton Int'l A 33	Lloydminster A -2	Pincher Creek (aut) 7
	Fort McMurray A 33		
Saskatchewan	Meadow Lake A 34	Meadow Lake A -6	Collins Bay 5
Manitoba	Brandon A 29	Brandon A -5	Churchill A 10
Ontario	Petawawa A 33	Kenora A -3	Sudbury A 26
Quebec	Maniwaki 33	Kuujuuaq A -16	Baie Comeau A 45
New Brunswick	Moncton A 23	Moncton A -3	Fredericton A 41
Nova Scotia	Greenwood A 24	Greenwood A -1	Yarmouth A 9
		Shearwater A -1	
Prince Edward Island	Charlottetown A 21	Charlottetown A -4	Charlottetown A 10
Newfoundland	Stephenville 16	Goose A -11	Stephenville A 98

Across The Country...

Highest Mean Temperature	Kamloops A (B.C.) 22
Lowest Mean Temperature	Lupin (aut) (N.W.T.) -7

93/05/10-93/05/16



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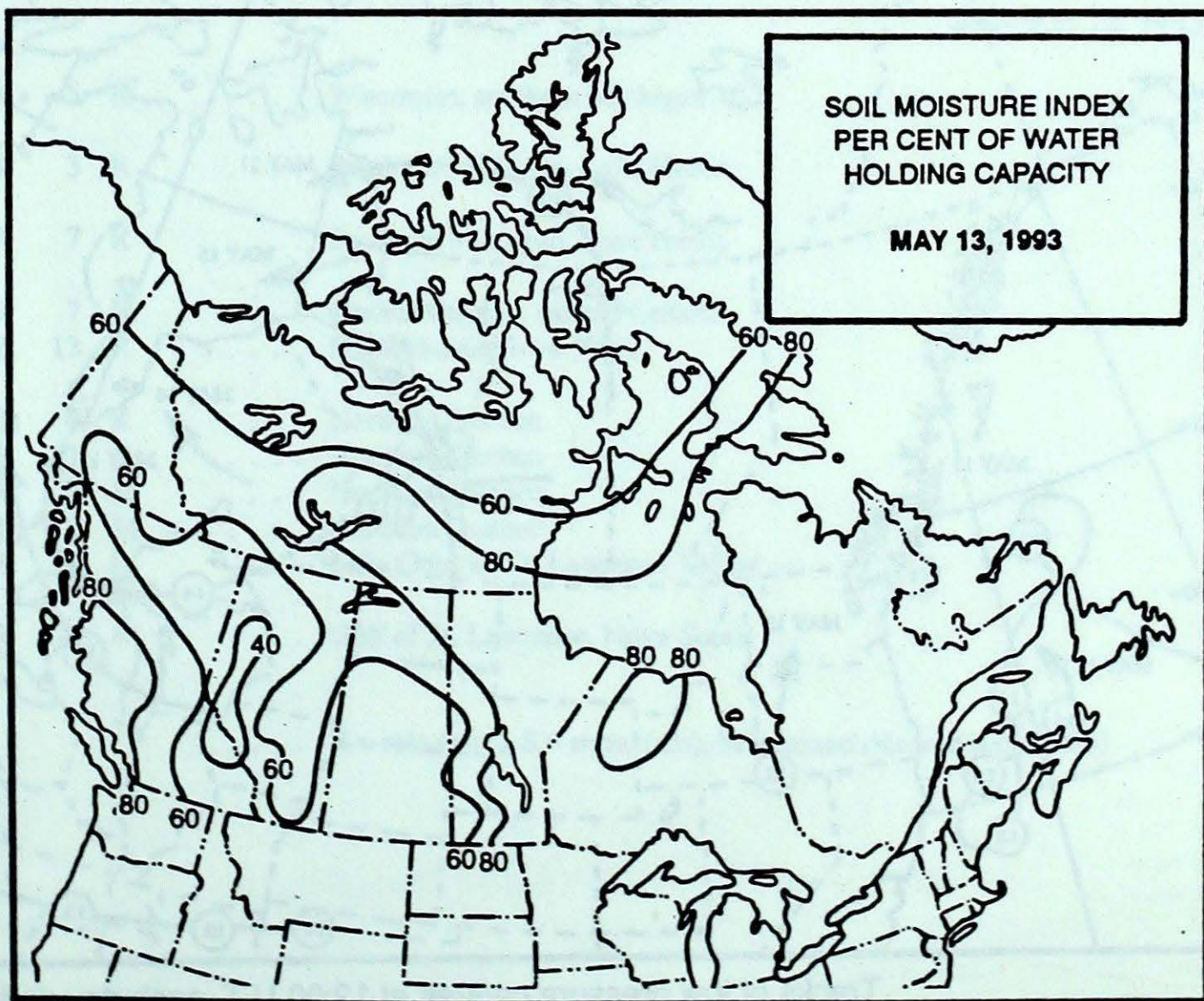
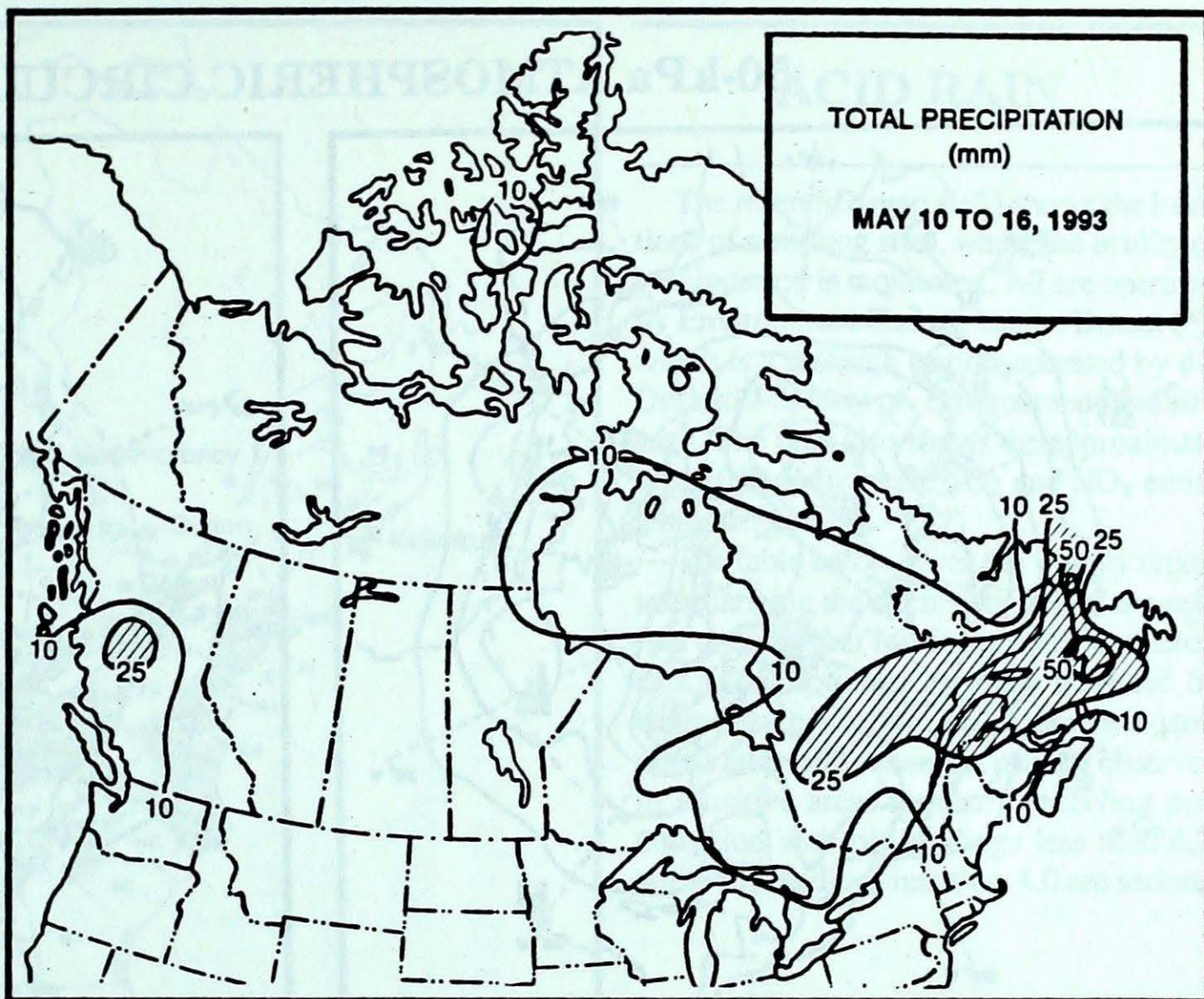
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The data in this publication are based on unverified reports from approximately 225 Canadian synoptic weather stations. Information concerning climatic impacts is gathered from AES contacts with the public and from the media. Articles do not necessarily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

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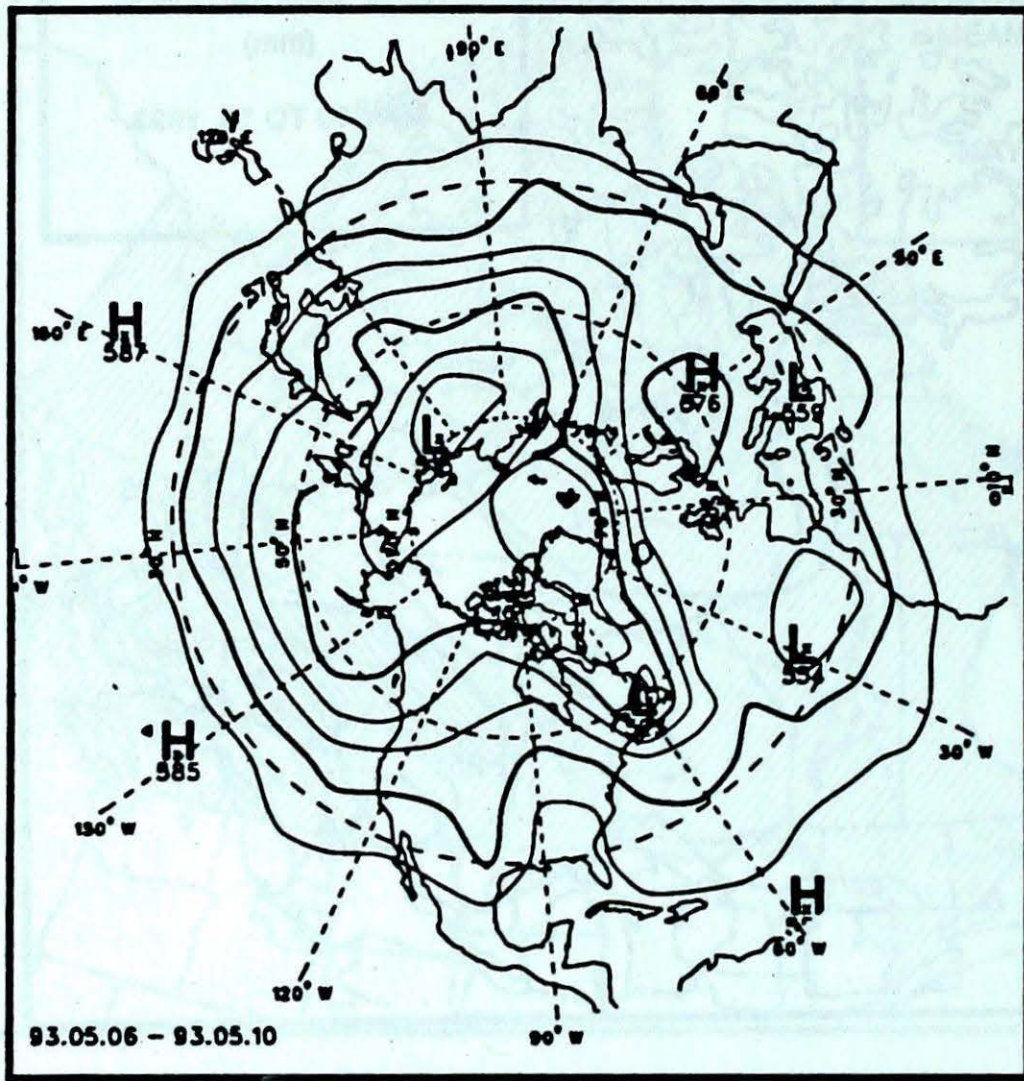
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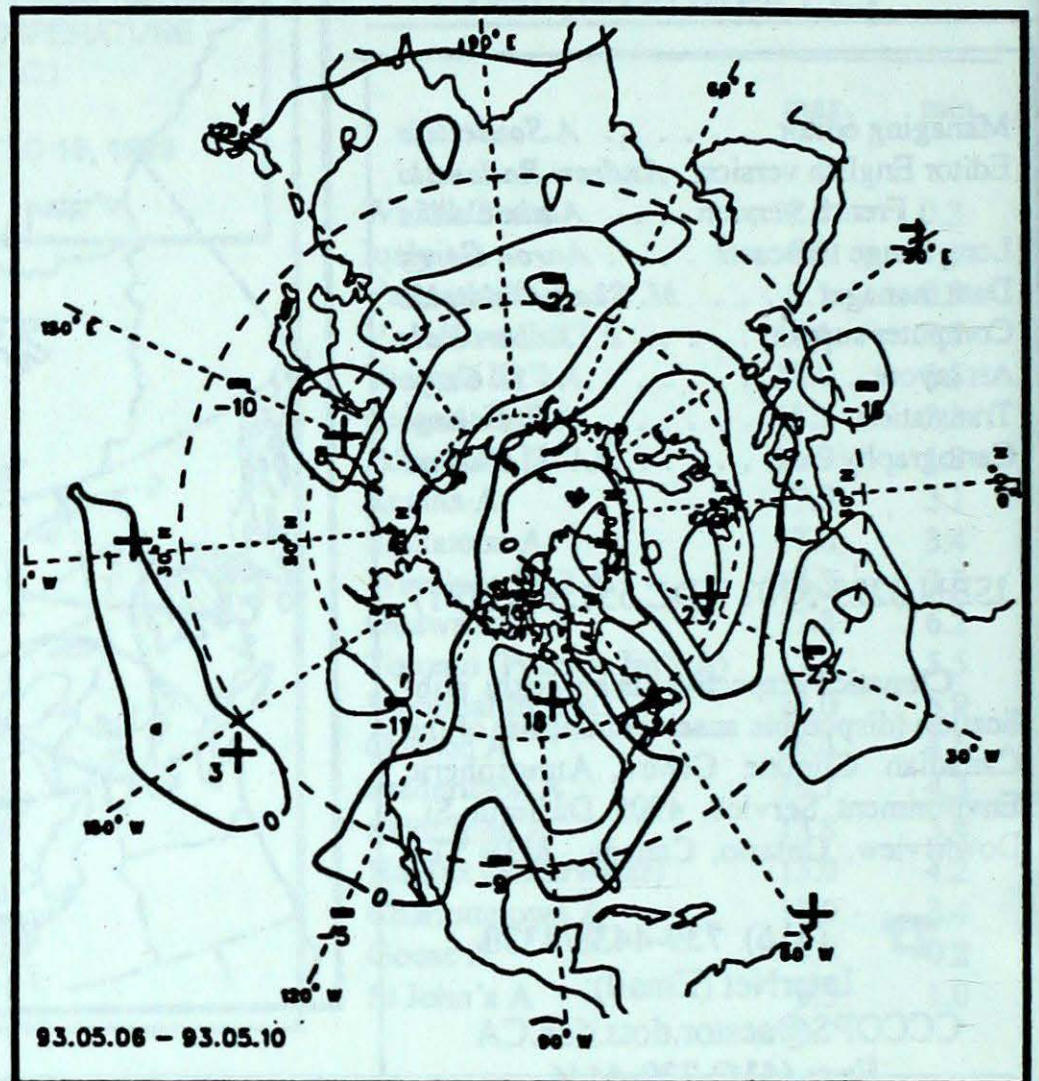




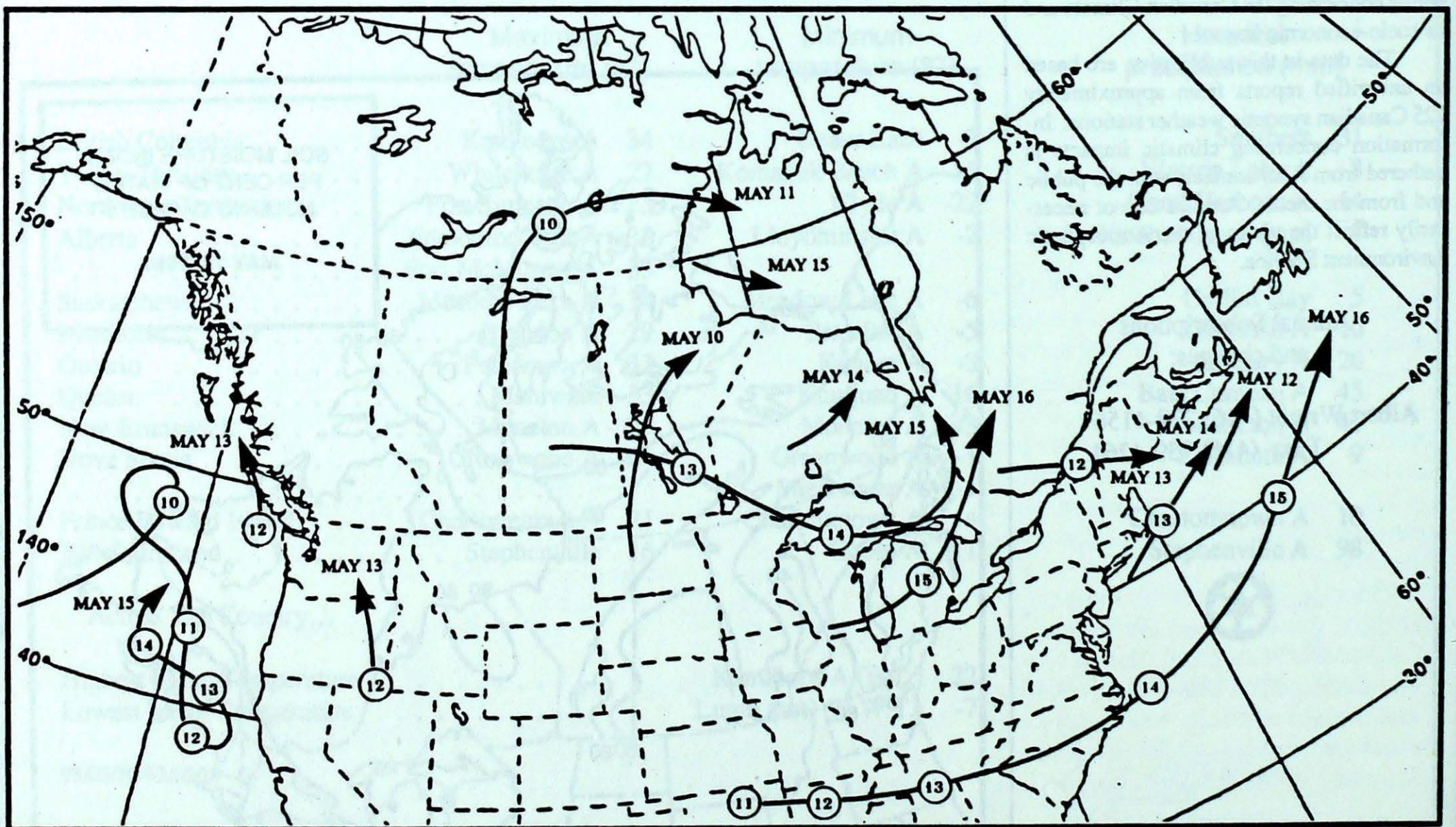
### 50-kPa ATMOSPHERIC CIRCULATION



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



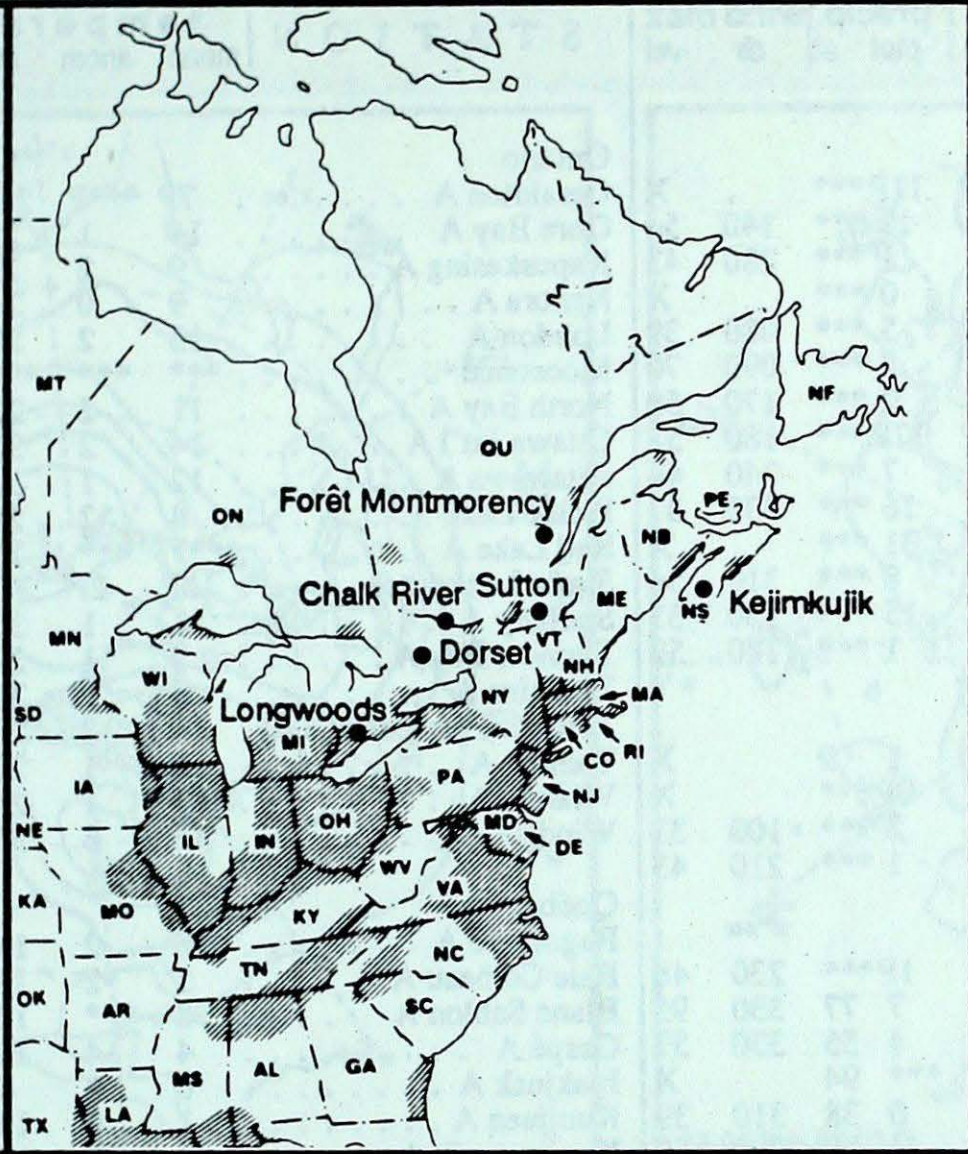
Mean geopotential height anomaly  
50-kPa level (10 decametre intervals)



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



- ALABAMA - AL
- ARKANSAS - AR
- CONNECTICUT - CT
- DELAWARE - DE
- FLORIDA - FL
- GEORGIA - GA
- ILLINOIS - IL
- INDIANA - IN
- IOWA - IA
- KANSAS - KA
- KENTUCKY - KY
- LOUISIANA - LA
- MAINE - ME
- MANITOBA - MB
- MARYLAND - MD
- 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
- QUEBEC - 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
Longwoods	14	4.3	5 R	Wisconsin, southern Michigan
Dorset *	15	5.0	3 R	Southern Michigan, Lake Huron
Chalk River	14	4.7	7 R	Southern Michigan, Lake Huron
Sutton	12	4.9	7 R	Central Ontario, eastern Ontario
	15	4.2	13 R	Pennsylvania, New York
Montmorency	10	4.3	4 R	Northern Quebec
	11	4.4	1 R	Northern Quebec
	12	4.6	17 M	Northern Quebec
	13	5.1	2 M	Northern Quebec
	15	4.8	22 R	Lake Ontario, St. Lawrence Valley
Kejimikujik	11	4.4	6 R	Gulf of St. Lawrence, Nova Scotia

May 9 to 15, 1993

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



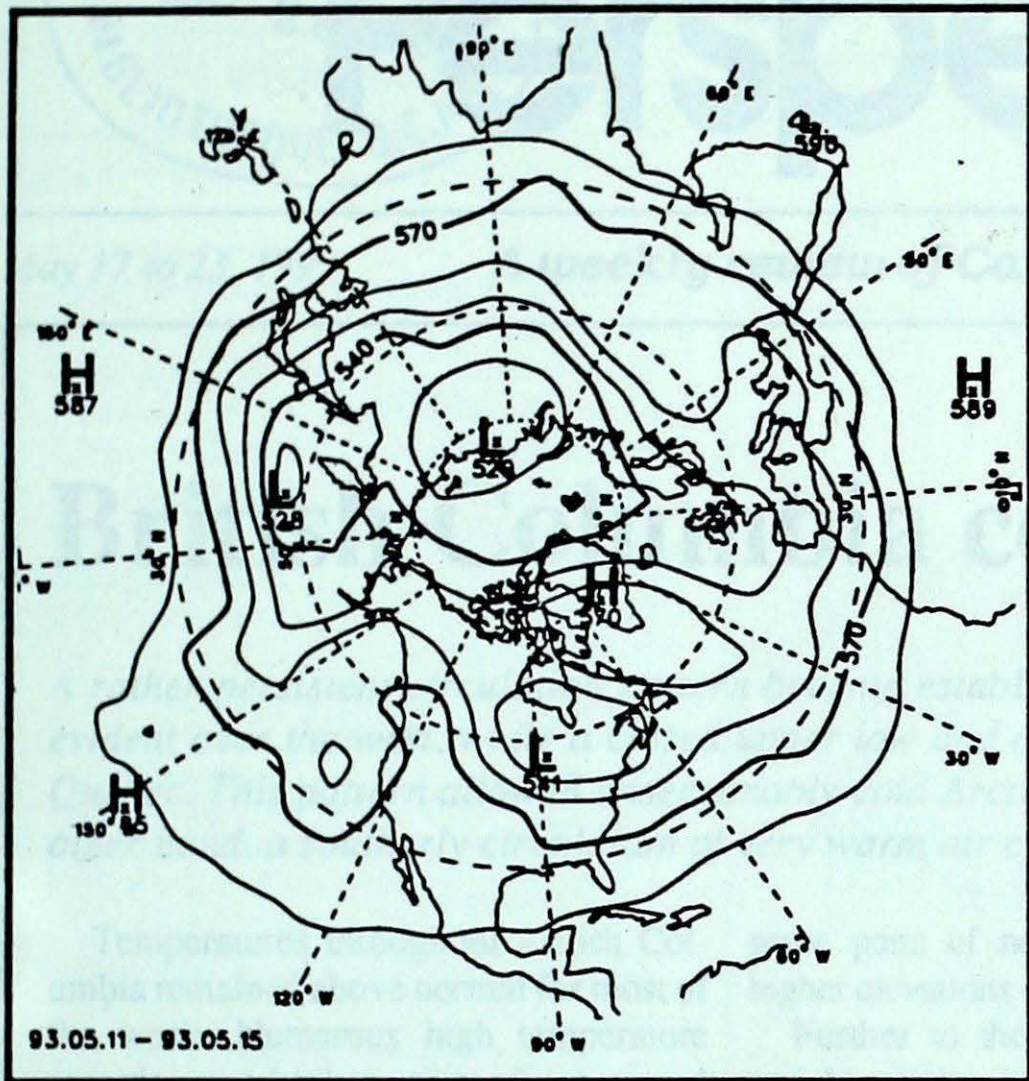
STATION	temperature				precip. plot st	wind max		STATION	temperature				precip. plot st	wind max									
	mean	anom	max	min		dir	vel		mean	anom	max	min		dir	vel								
<b>British Columbia</b>								<b>Ontario</b>															
Blue River A	18P	9P	32P	5P	11P***		X	Geraldton A	7P	***P	25P	-2P	7P***	290	69								
Comox A	15	3	25	7	15 ***	140	54	Gore Bay A	11	1	25	3	9 ***	300	67								
Cranbrook A	19	8	32	3	1 ***	280	43	Kapuskasing A	9	2	29	-1	10 ***	030	65								
Fort Nelson A	13	4	25	1	0 ***		X	Kenora A	9	0	24	-3	2 3	360	52								
Fort St John A	14	4	24	5	5 ***	080	39	London A	13	2	28	3	7 ***	240	50								
Kamloops A	22	8	34	10	2 ***	090	70	Moosonee	***	***	***	***	*** ***		X								
Penticton A	20	8	32	9	2 ***	170	50	North Bay A	11	2	29	1	13 ***	290	59								
Port Hardy A	12P	3P	20P	6P	17P***	180	52	Ottawa Int'l A	14	2	31	3	7 ***	230	52								
Prince George A	17	8	29	7	7 ***	240	44	Petawawa A	12	1	33	-3	8 ***	250	56								
Prince Rupert A	12	4	28	2	16 ***	230	37	Pickle Lake	8	2	21	-1	5 ***	350	54								
Smithers A	14	5	28	4	31 ***		X	Red Lake A	***	***	25	***	*** 3	360	54								
Vancouver Int'l A	15	3	22	9	8 ***	310	56	Sioux Lookout A	10P	2P	27P	-1P	7P***	300	65								
Victoria Int'l A	15	4	28	9	15 ***	130	33	Sudbury A	11	1	30	1	26 ***	270	59								
Williams Lake A	18	10	30	8	1 ***	180	52	Thunder Bay A	9	1	29	-1	8 ***	320	61								
<b>Yukon Territory</b>								<b>Québec</b>															
Komakuk Beach A	-3	4	2	-11	1 9		X	Bagotville A	8	-2	16	3	21 ***	230	69								
Teslin (aut)	10P	***P	27P	-4P	0P***		X	Baie Comeau A	5	-2	15	1	45 ***	220	72								
Watson Lake A	12	5	26	-3	3 ***	100	37	Blanc Sablon A	2	***	10	-11	33 3	090	70								
Whitehorse A	11	5	27	-4	1 ***	210	43	Gaspé A	4	-4	19	-5	32 ***	170	46								
<b>Northwest Territories</b>								<b>New Brunswick</b>															
Alert	-5P	8P	-1P	-9P	1P***	230	46	Fredericton A	8	-2	21	1	41 ***	180	48								
Baker Lake A	-2	6	4	-6	7 77	330	95	Miscou Island (aut)	4P	-3P	11P	1P	35P***		X								
Cambridge Bay A	-5	5	0	-13	4 55	330	57	Moncton A	6	-3	23	-3	14 ***	200	63								
Cape Dyer A	***	***	***	***	*** 94		X	Saint John A	7	-1	17	-1	16 ***	210	48								
Clyde A	-6	2	4	-22	0 38	310	39	St Leonard A	8	***	20	-1	28 ***	130	35								
Coppermine A	-3	6	6	-10	4 88	090	50	<b>Nova Scotia</b>															
Coral Harbour A	-2	5	2	-11	14 26	060	67	Greenwood A	8	-2	24	-1	5 ***	220	57								
Eureka	-6P	6P	-1P	-13P	0P 21		X	Shearwater A	7	-2	16	-1	6 ***	110	50								
Fort Smith A	7	0	19	-4	1 ***	140	41	Sydney A	***	***	7	***	*** ***	120	48								
Hall Beach A	-3	7	2	-7	0 47	120	46	Yarmouth A	9	-1	16	2	9 ***	200	56								
Inuvik A	2P	5P	13P	-8P	0P 22		X	<b>Prince Edward Island</b>															
Iqaluit A	-3	1	5	-19	2 10	130	69	Charlottetown A	5	-4	21	-4	10 ***	130	56								
Mould Bay A	-6	6	0	-15	3 21		X	East Point (auto)	4P	***P	8P	1P	4P***		X								
Norman Wells A	10	7	22	0	1 ***	110	43	<b>Newfoundland</b>															
Resolute A	-5	6	1	-13	11 18	100	74	Cartwright	1	-2	10	-10	47 20	320	63								
Yellowknife A	4	0	18	-3	0 ***	100	63	Churchill Falls A	0P	-4P	9P	-11P	4P***	110	41								
<b>Alberta</b>								<b>Gander Int'l A</b>															
Calgary Int'l A	14	6	30	4	1 ***	340	61	Goose A	2	-2	12	-11	23 ***	050	35								
Cold Lake A	14	5	32	1	1 ***	030	46	Stephenville A	5	-2	16	-7	98 ***	320	50								
Edmonton Namao A	15	5	32	4	1 ***	050	41	St John's A	1	-4	10	-7	7 ***	340	61								
Fort McMurray A	12	3	33	-1	1 ***	110	50	St Lawrence	3	-1	11	-6	22 ***		X								
Grande Prairie A	15	6	28	4	1 ***	080	44	Wabush Lake A	2	-1	14	-11	15 ***	110	37								
High Level A	11	0	23	-1	1 ***	120	46	93/05/10-93/05/16															
Lethbridge A	16	5	31	5	6 ***	340	50																
Medicine Hat A	17	6	32	4	2 ***	030	41																
Peace River A	14	5	26	3	1 ***	360	50																
<b>Saskatchewan</b>								<b>Manitoba</b>															
Cree Lake	6	0	23	-6	2 ***	330	63	Brandon A	12	2	29	-5	1 ***	330	63								
Estevan A	14	4	31	-3	1 ***	310	78	Churchill A	0	2	11	-3	10 3	290	100								
La Ronge A	10	2	28	-1	1 ***	310	56	Lynn Lake A	6	0	21	-4	5 3	280	89								
Regina A	14	4	30	-3	1 ***	320	57	The Pas A	9	1	23	-1	1 ***	280	65								
Saskatoon A	13	3	32	-3	1 ***	330	56	Thompson A	7	1	19	-3	8 ***	300	85								
Swift Current A	15	5	31	-1	1 ***	330	65	Winnipeg Int'l A	12	1	29	-2	1 ***	320	59								
Yorkton A	12	3	30	-5	1 ***	320	52																

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

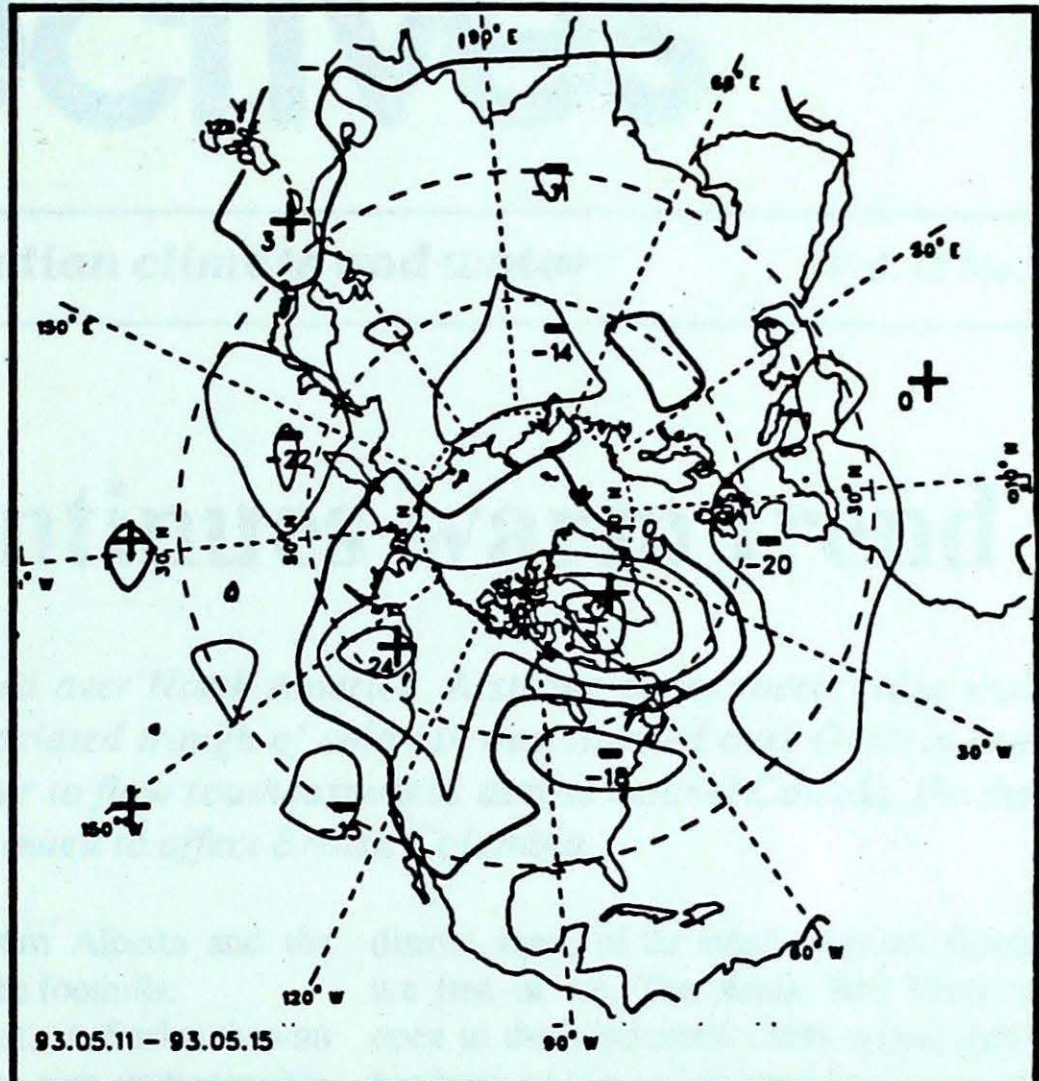
ptot = weekly precipitation total in mm  
 st = snow thickness on the ground in cm  
 dir = direction of max wind, deg. from north.  
 vel = wind speed in km/h

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





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



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

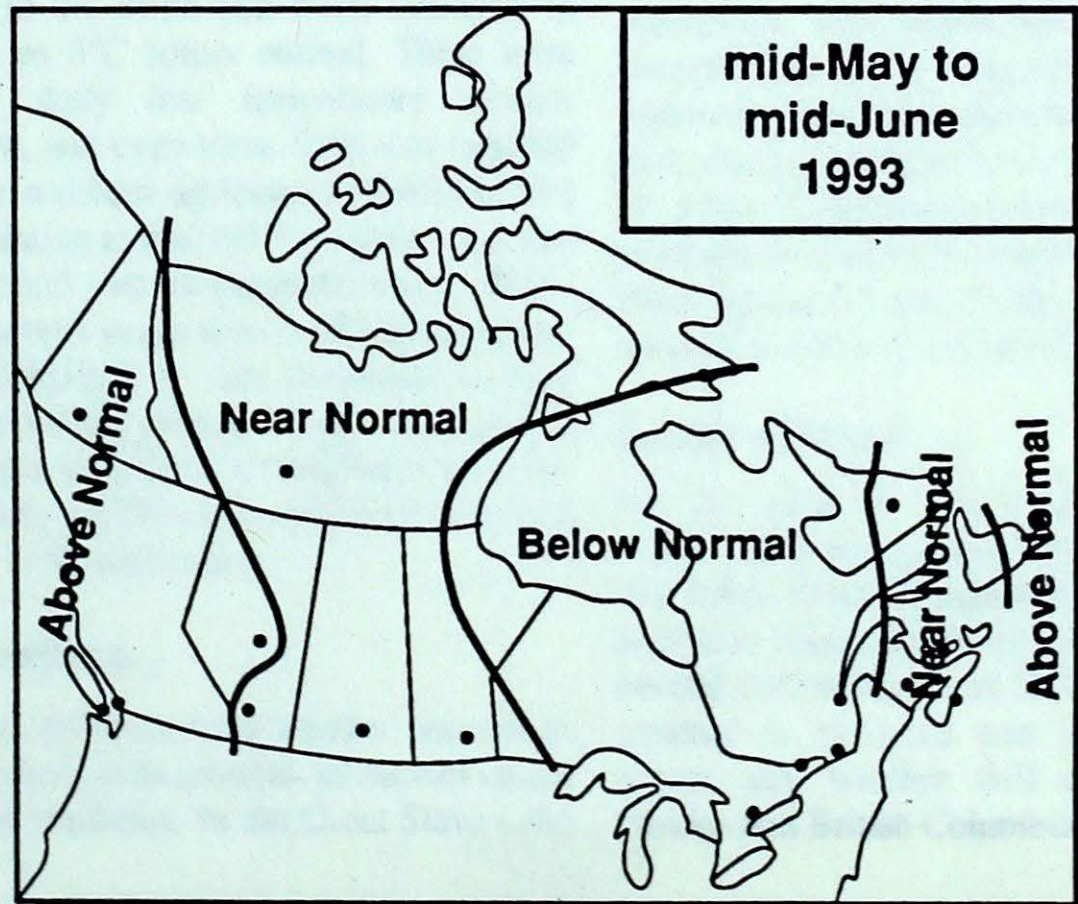


Environment Canada / Environnement Canada  
Atmospheric Environment Service / Service de l'environnement atmosphérique

### MONTHLY TEMPERATURE FORECAST

Normal temperatures for mid-May to mid-June, °C

Whitehorse	9	Toronto	15
Yellowknife	9	Ottawa	15
Iqaluit	-1	Montréal	16
Vancouver	14	Québec	14
Victoria	13	Fredericton	13
Calgary	11	Halifax	11
Edmonton	13	Charlottetown	12
Regina	14	Goose Bay	8
Winnipeg	14	St. John's	8



Canada