Environment Canada Environnement Canada

Climatic Perspectives

May 24 to 30, 1993 ***A weekly review of Canadian climate and water*** *Vol. 15 No. 22*

Spring planting almost complete, but conditions poor for growth in most areas

During the past two weeks colder than normal temperatures dominated much of central Canada, due to a persistent northwesterly circulation. Much of the Prairies remained dry.

Ontario farmers welcome rain

Ontario has experienced an excellent planting season but crop growth and emergence has been slowed, in part, by the dry conditions which finally ended this week.

The variable soil moisture levels, which were present prior to this week's rain, had created uneven germination. The rains have encouraged more even growth in crops. Concerns over weed control and herbicide injury were also reduced as the moisture aided in activating herbicides.

Farmers still have to contend with the continuing cool temperatures, which are hampering the emergence of some crops. In fact, frost was reported in some agricultural districts this week. Cold nighttime temperatures yellowed many corn crops and slowed down the growth of alfalfa. Winter wheat, on the other hand, is benefitting nicely from the cool weather.

Northeastern Ontario had received much needed rain but suffers with the rest of the region from cool temperatures. Some heat is now needed to restore growth rates.

Prairies ... in need of moisture

Seeding operations have also gone well in the Prairies. By Victoria Day, seeding in Saskatchewan and Manitoba were 90% complete and in Alberta 80% complete. Although the lack of soil moisture has delayed seeding of oilseed crops in northern Saskatchewan it had allowed seeding of most other crops to advance rapidly across the entire grainbelt.

In the northern and eastern districts of Saskatchewan rain is needed soon to keep pasture conditions from further deterioration. Southwestern Manitoba and southern Saskatchewan are also suffering from extremely dry conditions.

Reseeding of several thousand acres of canola was required due to frost which was reported in all regions of the Prairies over the past two weeks.

Elsewhere...

It was another warm and sunny week across southern British Columbia, with temperatures climbing into the thirties. Mountain snow packs have noticeably decreased. However, an upper cold low brought clouds, showers and lower temperatures for the weekend. On the other hand, cool Arctic air lingered over northeastern British Columbia until warmer drier air returned at the week's end.

The Yukon experienced warm, sunny dry weather until midweek when a cold front stalled over the central Yukon producing some significant rainfall. Faro received the greatest amount at 41mm. The southern portion of the Dempster Highway was closed due to washouts. The rainfall reduced the dangerously high forest fire hazard conditions created by below normal precipitation over the past two months.

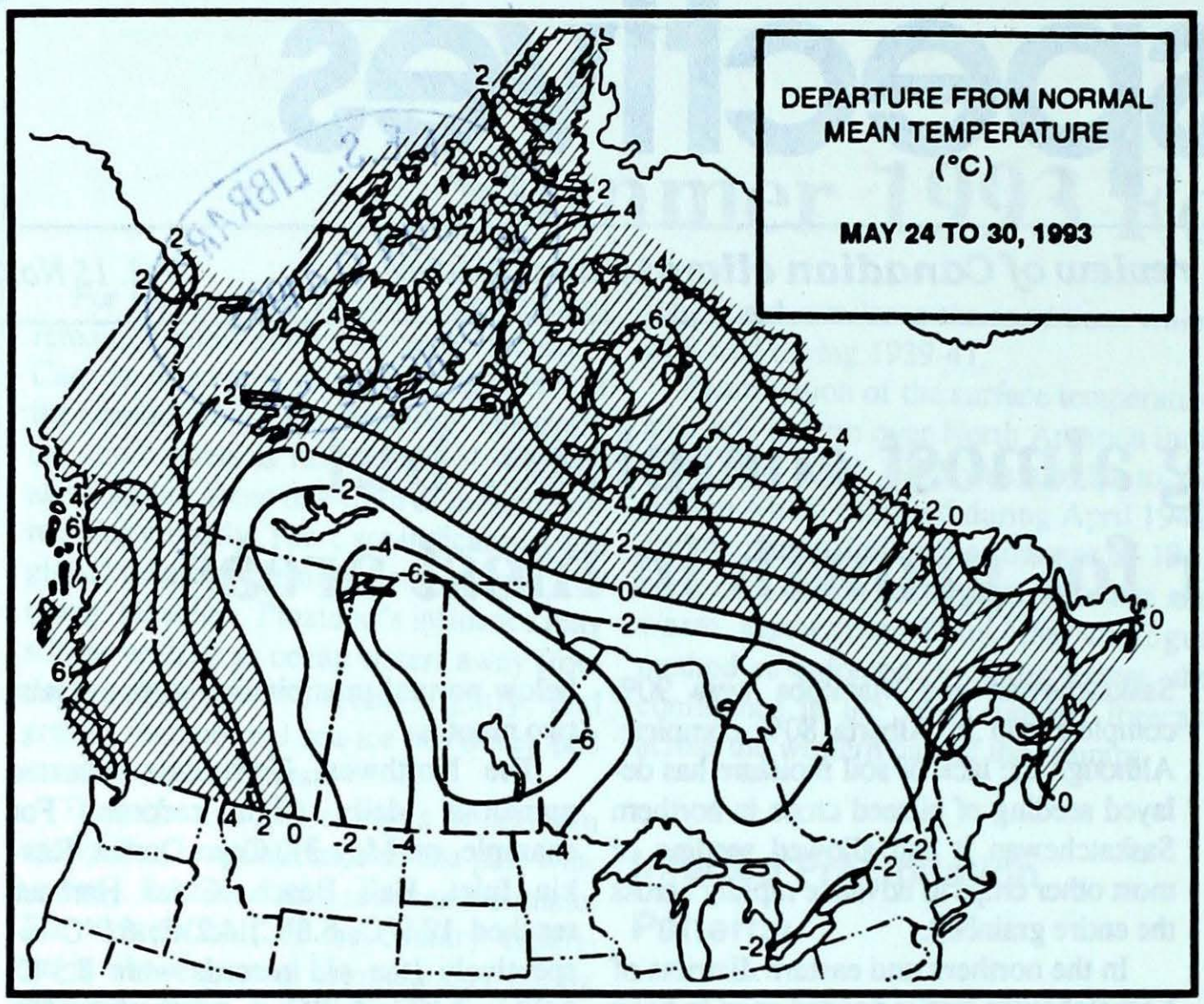
The Northwest Territories reported numerous daily high records. For example, on May 31, Cape Dorset, Rankin Inlet, Hall Beach, Coral Harbour reached 10.9°C, 6.8°C, 4.2°C, 6.9°C respectively (the old records were 8.3°C, 4.9°C, 3.1°C, 6.7°C respectively). The Mackenzie and Keewatin regions were mostly cloudy with showers.

Southwestern Quebec experienced cool and rainy weather but northern regions enjoyed a third week of above normal temperatures..

Cloudy conditions and below seasonal temperatures were predominant in the Maritimes. Newfoundland started off the week with near record high temperatures but by Tuesday, the temperature dropped well below normal and rain, drizzle and fog had settled in for the remainder of the week. A similar pattern was observed in southern coastal Labrador, while the rest of the region was milder than normal.

A look ahead ...

For the week of June 7, temperature anomalies are likely to be divided into two regimes on either side of Manitoba. To the east, below-normal readings will be centred on southeastern Ontario and southern Quebec. Conversely, there will be above-normal temperatures to the west with the coast being warmest. Near-normal temperatures are forecast for Manitoba.



Weekly normal temperatures (°C)

	max.	min.
Whitehorse A	14.9	2.1
Iqaluit A	2.3	-3.9
Yellowknife A	12.9	3.0
Vancouver Int'l A	17.3	8.7
Victoria Int'l A	17.3	7.4
Calgary Int'l A	17.5	4.8
Edmonton Int'l A	18.3	5.4
Regina A	20.6	6.1
Saskatoon A	20.2	6.4
Winnipeg Int'l A	20.3	7.3
Ottawa Int'l A	20.7	8.9
Toronto (Pearson Int'l A)	20.5	7.9
Montréal Int'l A	20.4	9.4
Québec A	19.1	6.7
Fredericton A	19.7	6.1
Saint John A	16.3	5.2
Halifax (Shearwater)	15.3	5.7
Charlottetown A	15.4	5.3
Goose A	11.7	1.4
St John's A	11.4	2.1

Weekly temperature and precipitation extremes

	Maximum temperature (°C)		Minimum temperature (°C)		Heaviest precipitation (mm)	
British Columbia	Lytton	34	Hope A	0	Estevan Point (aut)	38
Yukon Territory	Watson Lake A	25	Komakuk Beach A	-4	Faro (aut)	8
Northwest Territories	Norman Wells A	20	Alert	-14	Clyde A	9
Alberta	Peace River A	24	High Level A	-4	Calgary Int'l A	21
Saskatchewan	North Battleford A	22	Cree Lake	-4	Yorkton A	26
Manitoba	Winnipeg Int'l A	19	Grand Rapids (aut)	-5	Norway House A	18
			Thompson A	-5		
Ontario	Windsor A	26	Upsala (aut)	-3	Thunder Bay A	70
Quebec	Bagotville A	22	Kuujjuarapik A	-4	Gaspe A	82
New Brunswick	Charlo A	24	St-Léonard A	3	Moncton A	62
Nova Scotia	Greenwood A	22	Yarmouth A	5	Greenwood A	23
Prince Edward Island	Charlottetown A	18	Charlottetown A	4	Charlottetown A	40
Newfoundland	Stephenville A	20	Hopedale (auto)	0	St Anthony	56

Across The Country...

Highest Mean Temperature	Lytton (B.C.)	21
Lowest Mean Temperature	Alert (N.W.T.)	-10

93/05/24-93/05/30

CLIMATIC PERSPECTIVES
VOLUME 15

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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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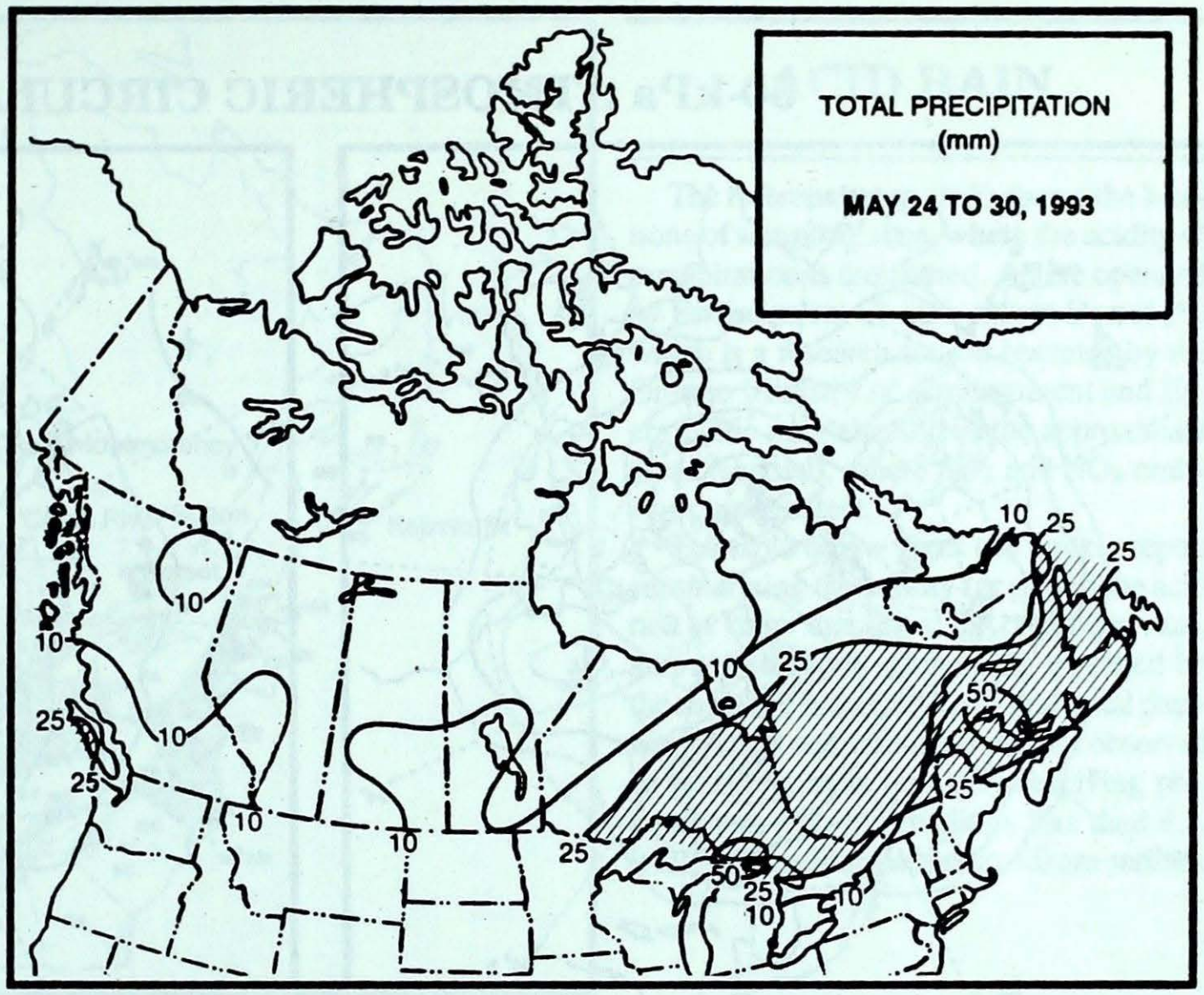
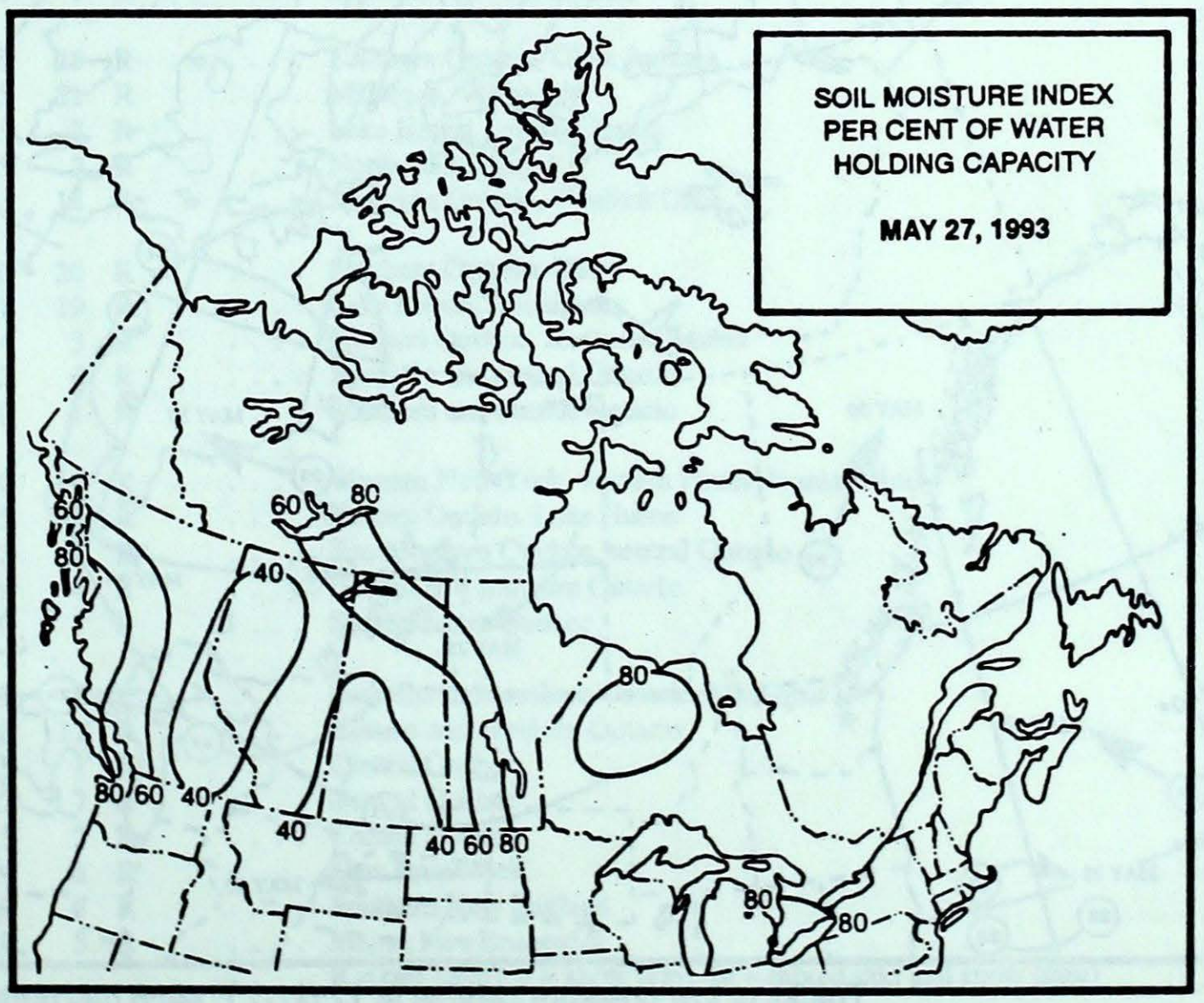
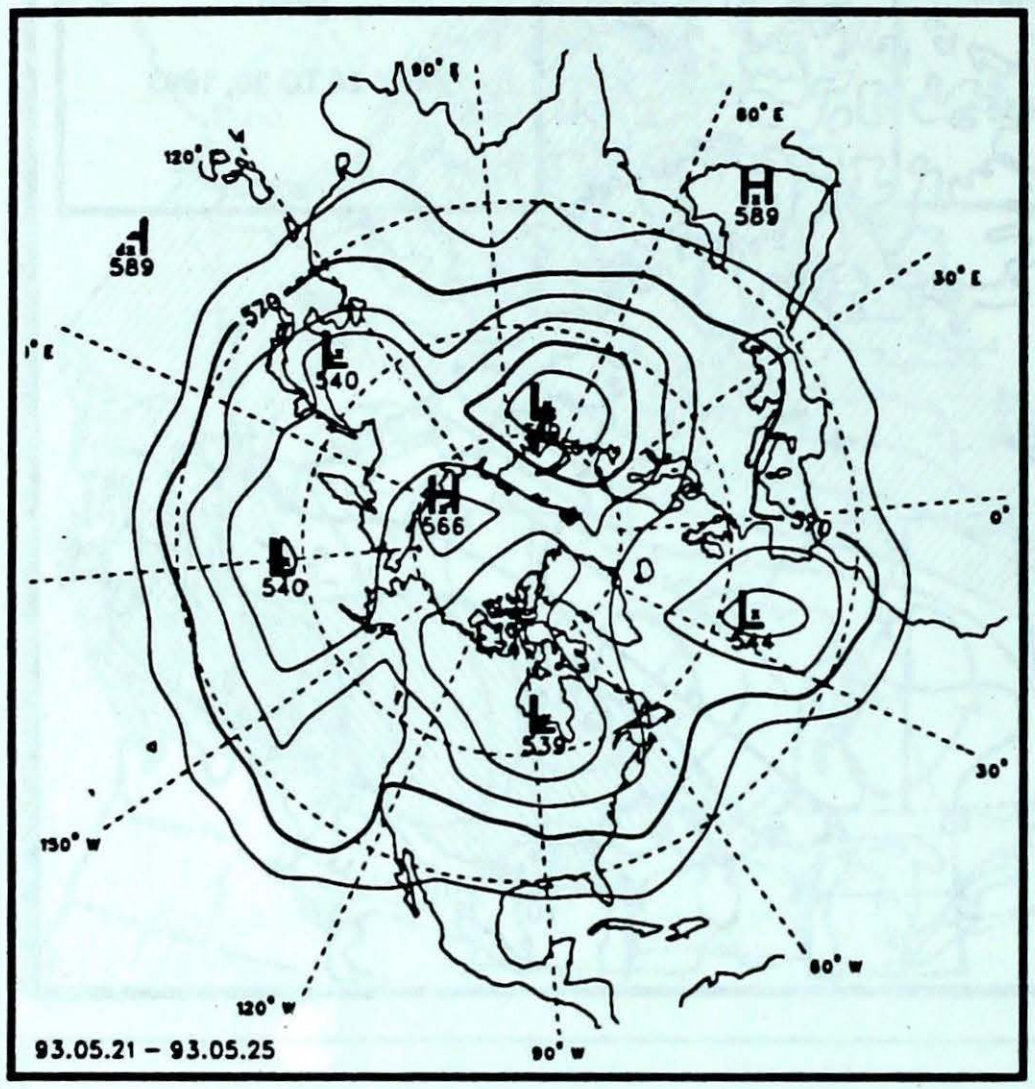
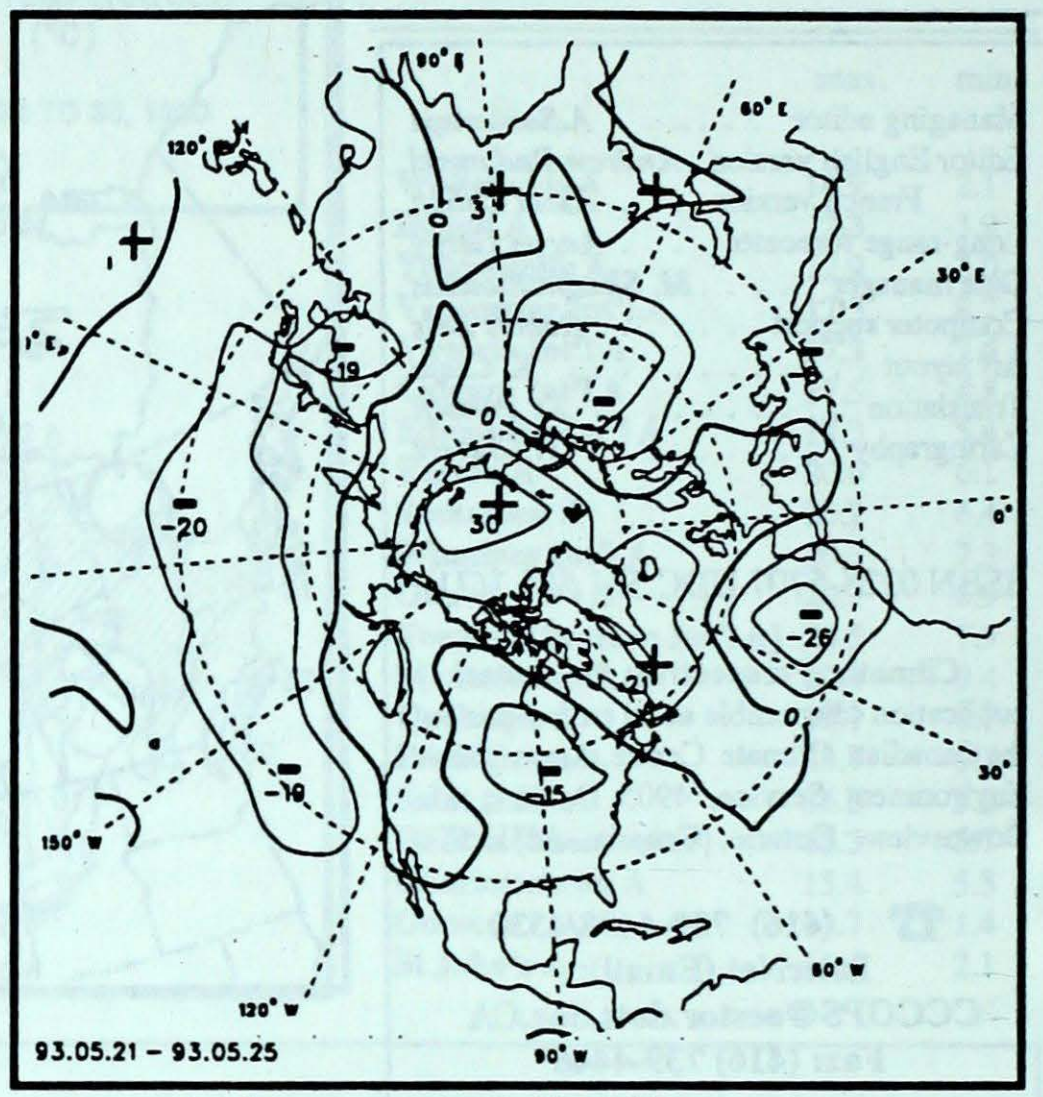




50-kPa ATMOSPHERIC CIRCULATION



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



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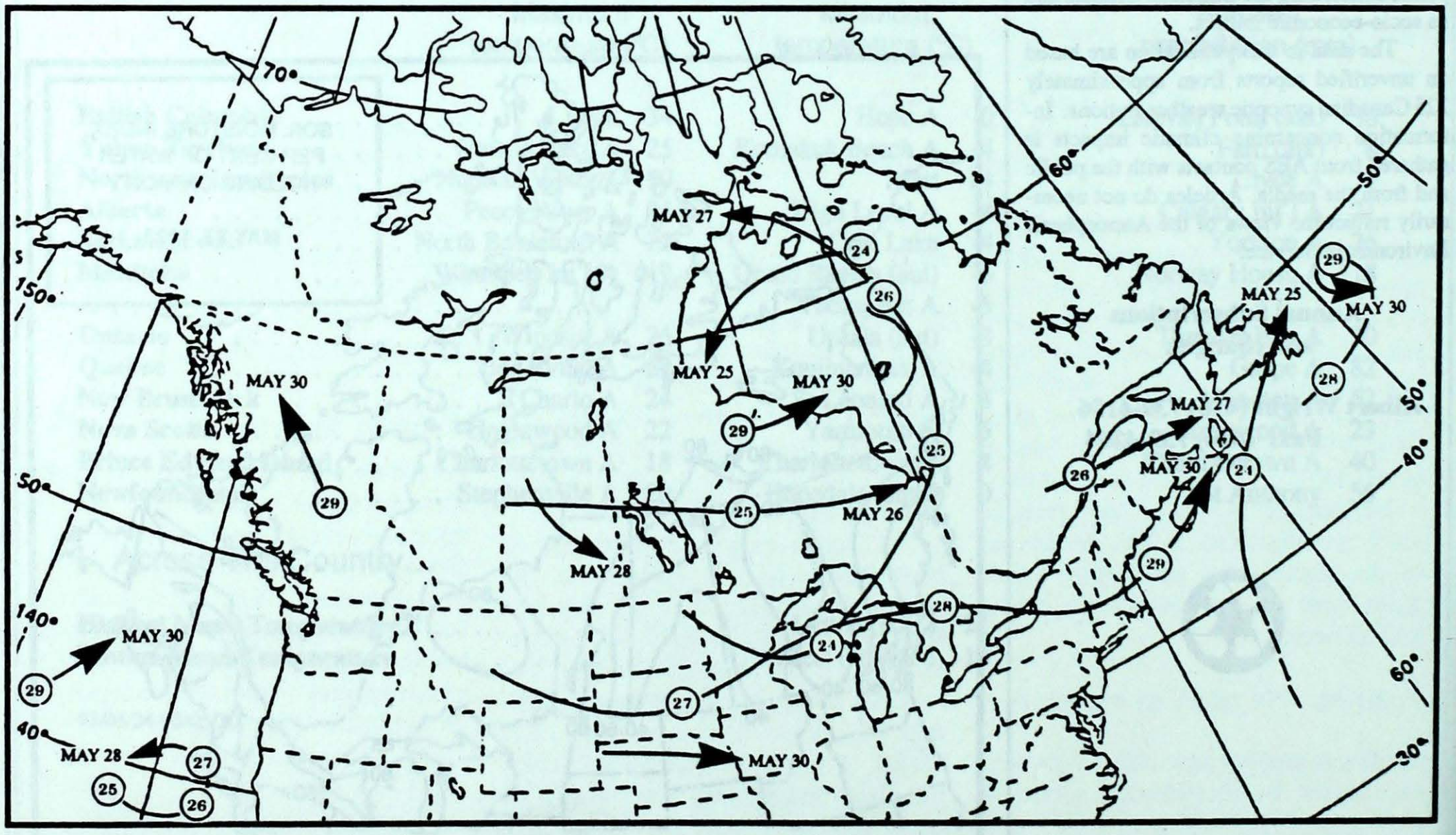
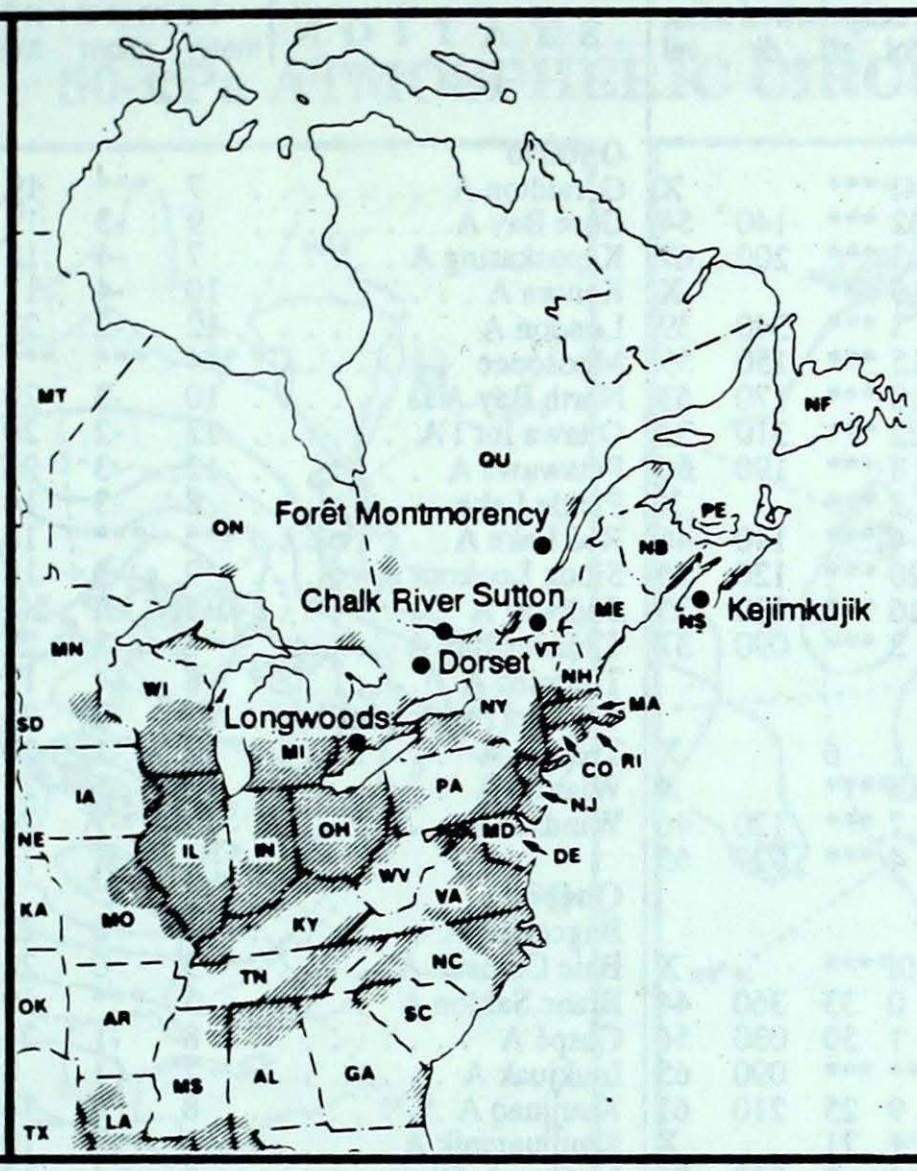


Tracks of low pressure centres at 12:00 U.T. each day during the period.

ALABAMA - AL
ARKANSAS - AR
CONNECTICUT - CO
DELAWARE - DE
FLORIDA - FL
GEORGIA - GA
ILLINOIS - IL
INDIANA - IN
IOWA - IA
KANSAS - KA
KENTUCKY - KY
LOUSIANA - LA
MAINE - ME
MANITOBA - ME
MARYLAND - MT
MASSACHUSETTS - MA
MICHIGAN - MI
MINNESOTA - MN
MISSISSIPI - 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_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
					May 23 to 29, 1993
Longwoods	23	4.0	8	R	Indiana, Illinois, Missouri
Dorset *	23	4.5	25	R	Southern Ontario, Ohio, Indiana
	24	5.5	21	R	Michigan, Wisconsin
	25	4.5	3	R	Lake Huron, central Ontario
	26	4.5	2	R	Northern Michigan
	27	4.3	18	R	Southern Ontario, Western Ohio
Chalk River	23	4.2	20	R	Southern Ontario, Ohio
	24	5.5	19	R	Lake Huron, Michigan
	25	4.4	3	R	Western Quebec, northern Ontario
	27	4.2	4	R	Southern and central Ontario
	28	4.0	1	R	Southern and central Ontario
Sutton	24	4.0	16	R	Western New York, western Pennsylvania, Ohio
	25	4.5	3	R	Eastern Ontario, Lake Huron
	26	4.2	2	R	Southwestern Quebec, central Ontario
	28	3.9	4	R	Eastern and southern Ontario
	29	5.0	1	R	Southwestern Quebec
Montmorency	24	4.2	8	R	Easstern and southern Ontario, Michigan
	25	4.5	12	R	Eastern and southern Ontario
	26	4.5	1	R	Central Quebec
	28	4.7	7	R	Central Quebec
	29	4.5	2	R	Central Quebec
Kejimkujik	23	4.6	2	R	New Brunswick
	24	3.9	2	R	Southern New England
	29	4.0	5	R	Maine, NewBrunswick
					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	15P	5P	29P	4P	4P	***		X
Comox A	17	5	27	9	32	***	140	54
Cranbrook A	16	5	26	4	15	***	200	67
Fort Nelson A	11	-1	23	2	13	***		X
Fort St John A	11	0	23	2	3	***	340	39
Kamloops A	20	5	32	9	15	***	150	59
Penticton A	19	4	30	7	10	***	170	63
Port Hardy A	14	4	24	6	22	***	310	32
Prince George A	16	6	26	4	8	***	190	56
Prince Rupert A	13	4	21	6	2	***		X
Smithers A	17	7	29	5	4	***	140	46
Vancouver Int'l A	18	5	24	11	20	***	120	46
Victoria Int'l A	17	4	28	10	16	***	130	35
Williams Lake A	15	5	26	3	3	***	090	37
Yukon Territory								
Komakuk Beach A	0	2	3	-4	1	6		X
Teslin (aut)	12P	***P	21P	3P	0P	***		X
Watson Lake A	14	5	25	4	7	***	120	46
Whitehorse A	12	4	24	3	4	***	020	65
Northwest Territories								
Alert	-10P	-2P	-5P	-14P	0P	***		X
Baker Lake A	1	4	4	-1	0	33	360	44
Cambridge Bay A	-2	3	2	-8	1	50	030	56
Cape Dyer A	***	***	***	***	***	***	090	65
Clyde A	-1	3	6	-7	9	25	210	61
Coppermine A	0	4	5	-7	1	71		X
Coral Harbour A	2	5	6	-2	4	3	050	70
Eureka	-4P	2P	1P	-8P	1P	***		X
Fort Smith A	7	-4	16	-2	1	***		X
Hall Beach A	1	6	5	-2	2	14		X
Inuvik A	7	3	19	-1	1	3		X
Iqaluit A	3	4	8	-1	2	3	150	39
Mould Bay A	-4P	3P	1P	-10P	1P	***		X
Norman Wells A	10	2	20	0	3	***	130	44
Resolute A	-4	3	3	-10	1	9	050	37
Yellowknife A	5	-4	13	-3	1	***	090	37
Alberta								
Calgary Int'l A	11	-1	20	3	21	***	020	57
Cold Lake A	9	-3	20	-2	5	***	030	43
Edmonton Namao A	10	-3	21	3	18	***	330	63
Fort McMurray A	8P	-3P	19P	-1P	8P	***		X
Grande Prairie A	12	0	24	2	2	***	040	50
High Level A	9	-3	20	-4	3	***	130	37
Lethbridge A	13	0	22	1	1	***	320	50
Medicine Hat A	13	-1	22	3	3	***	020	39
Peace River A	10	-1	24	0	2	***	010	48
Saskatchewan								
Cree Lake	3	-6	12	-4	1	***	090	37
Estevan A	10	-4	18	1	8	***	350	54
La Ronge A	6	-5	15	-3	3	***	300	37
Regina A	11	-3	19	0	10	***	070	57
Saskatoon A	10	-4	21	2	17	***	010	50
Swift Current A	10	-3	20	-2	10	***	070	59
Yorkton A	8	-5	18	-4	26	***	360	43
Manitoba								
Brandon A	9	-4	18	-4	15	***	050	43
Churchill A	1	-1	6	-3	10	***	280	50
Lynn Lake A	3	-7	11	-4	0	***	010	48
The Pas A	6	-5	16	-2	8	***	290	43
Thompson A	5	-6	12	-5	3	***	300	61
Winnipeg Int'l A	9P	-5P	19P	-2P	1P	***	340	57

STATION	temperature mean	anom	max	min	precip. ptot	st	wind max dir	vel
Ontario								
Geraldton A	7	***	19	0	54	***	040	50
Gore Bay A	9	-3	19	2	60	***	300	65
Kapuskasing A	7	-4	18	-2	38	***	300	43
Kenora A	10	-4	17	1	15	***	340	35
London A	12	-2	22	3	4	***	200	70
Moosonee	***	***	***	***	***	***		X
North Bay A	10	-3	20	1	52	***	360	48
Ottawa Int'l A	13	-2	20	4	33	***	240	52
Petawawa A	12	-3	23	0	40	***	310	52
Pickle Lake	8	-3	16	0	13	***	250	48
Red Lake A	***	***	18	***	***	***	240	52
Sioux Lookout A	9	-3	18	0	11	***	240	46
Sudbury A	10P	-3P	20P	1P	38P	***	240	48
Thunder Bay A	8	-3	22	0	70	***	100	52
Timmins A	8	-4	17	-2	41	***	310	46
Toronto(Pearson Int'l A)	13	-2	23	4	9	***	220	59
Trenton A	13	-2	20	6	19	***	320	54
Wiarton A	10	-3	23	2	20	***	230	56
Windsor A	15	-1	26	7	6	***	220	56
Québec								
Bagotville A	11	0	22	3	13	***	300	57
Baie Comeau A	9	0	20	4	38	***	060	39
Blanc Sablon A	5	***	10	2	21	***	070	59
Gaspé A	8	-1	21	2	82	***	091	32
Inukjuak A	2	1	8	-3	3	3		X
Kuujjuaq A	8	6	16	-1	2	***	120	39
Kuujjuarapik A	1	-3	10	-4	8	***	250	39
La Grande Rivière A	5	-4	13	-3	9	***	320	33
Mont Joli A	10	0	20	3	44	***	050	44
Montréal Int'l A	13	-2	21	4	22	***	230	50
Natashquan A	8	2	18	4	16	***	070	56
Québec A	12	-1	20	4	38	***	250	48
Schefferville A	6	3	17	-3	15	***	150	56
Sept-Îles A	8	1	18	3	32	***	080	56
Sherbrooke A	11	-2	21	1	28	***	310	56
Val-d'Or A	9	-2	18	-2	35	***	310	46
New Brunswick								
Fredericton A	13	0	24	5	47	***	020	67
Miscou Island (aut)	9P	0P	15P	5P	22P	***		X
Moncton A	12	0	20	4	62	***	360	78
Saint John A	12	1	22	5	35	***	350	65
St Leonard A	10	***	22	3	45	***	300	37
Nova Scotia								
Greenwood A	14	2	22	6	23	***	160	59
Shearwater A	13	2	21	6	15	***	350	72
Sydney A	***	***	19	***	***	***		X
Yarmouth A	11	0	17	5	9	***	340	69
Prince Edward Island								
Charlottetown A	10	0	18	4	40	***	020	56
East Point (auto)	6P	***P	8P	5P	1P	***		X
Newfoundland								
Cartwright	3	-2	8	0	11	***		X
Churchill Falls A	7P	4P	19P	0P	0P	***	110	48
Gander Int'l A	6	-2	17	1	13	***	090	56
Goose A	5	-2	15	0	26	***	060	44
Stephenville A	11	2	20	6	41	***	070	61
St John's A	6	-1	20	3	11	***	070	59
St Lawrence	8	3	17	3	27	***		X
Wabush Lake A	7	3	18	1	12	***	160	37

93/05/24-93/05/30

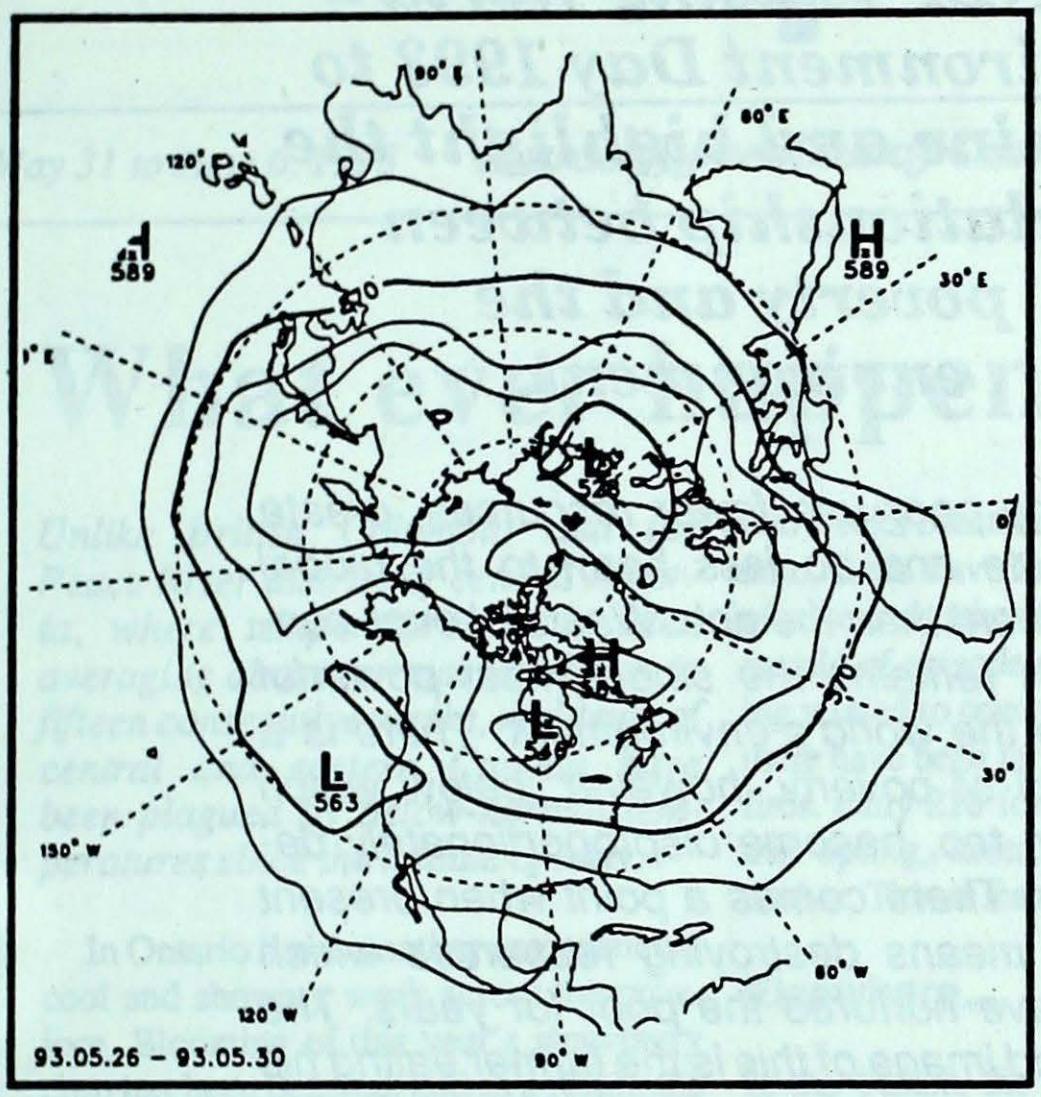
mean = mean weekly temperature, °C
max = maximum weekly temperature, °C
min = minimum weekly temperature, °C
anom = mean temperature anomaly, °C

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

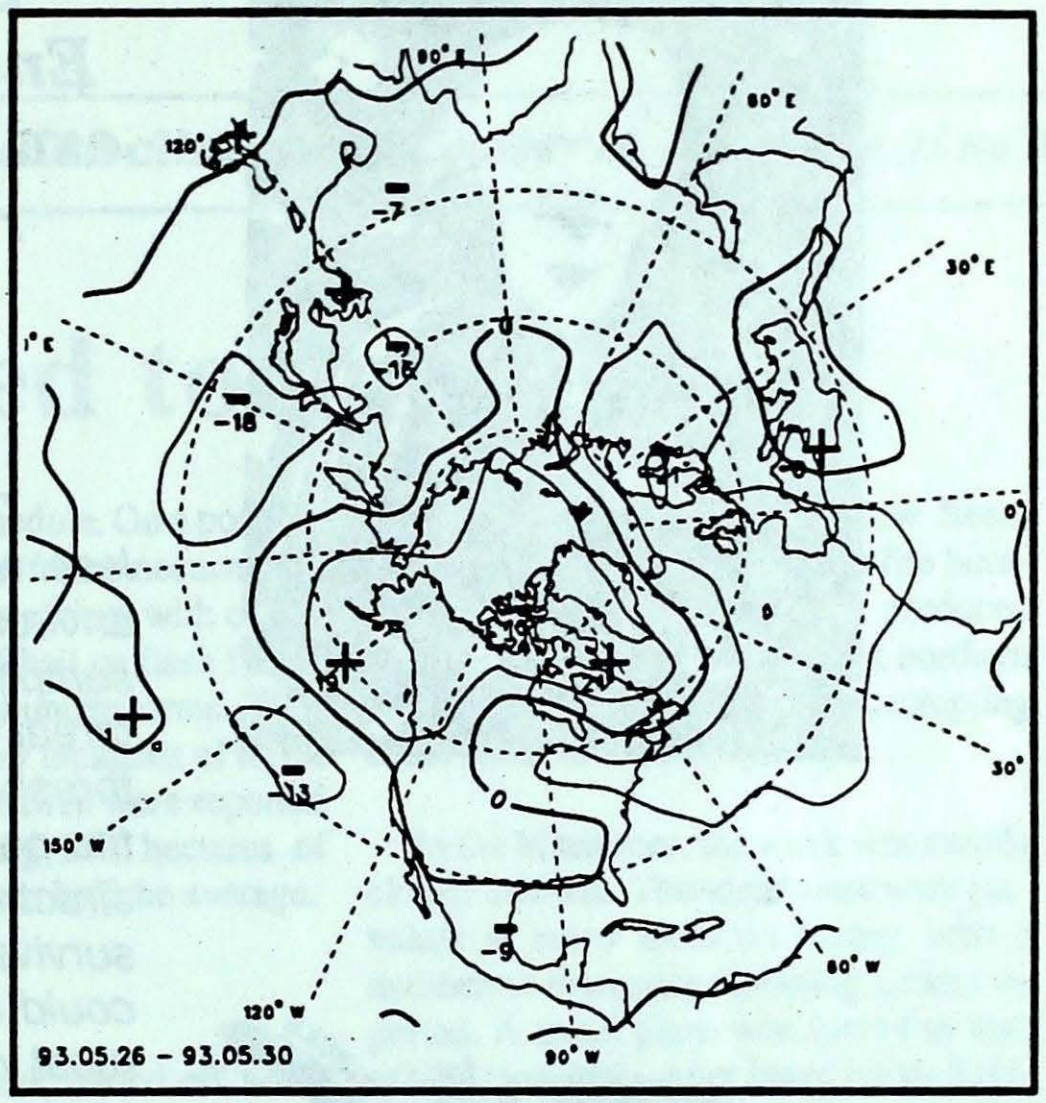
— Annotations —

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

50-kPa ATMOSPHERIC CIRCULATION



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



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

Environmental Citizenship

June 6 is World Environment Day, celebrating the anniversary of the 1972 U.N. Conference on the Human Environment. This year's theme is "Poverty and the Environment". Eliminating poverty is key to securing the health of our global environment.

An environmental citizenship message from Environment Canada.

UNEP is using World Environment Day 1993 to examine and highlight the relationship between poverty and the environment.

"The poor use fewer resources, create less waste and do less harm to the global environment than the rich. Wasteful over-consumption remains the single most powerful threat to the world's environment. There is a threshold of poverty, however, below which the poor, too, become disproportionately destructive. There comes a point when present survival means destroying resources which could have nurtured the poor for years. The most vivid image of this is the farmer eating his next year's seed grain. Other examples, less dramatic, are being repeated around the world."

"There is a growing tide of opinion in the international community that says that poverty is itself one of the greatest causes of poverty. Not until the poor are given the means and opportunity to break out of the vicious circle in which poverty holds them, will real development, sustainable development, become a possibility. The world has the ability to end absolute poverty, and with its end a major threat to the well-being of a large and growing number of people as well as to the world's environment will be eliminated. We must find the will and mobilize the necessary means to match our abilities or else this poverty and degradation will continue to affect us all."

Elizabeth Dowdeswell
United Nations Under-Secretary General
and Executive Director, UNEP