



Climatic Perspectives



April 19 to 25, 1993

A weekly review of Canadian climate and water

Vol. 15 No. 17

Severe weather strikes Ontario

Two vigorous disturbances emerged out of the American mid-west and tracked northeastwards across the Great Lakes Basin during the early and latter part of period, briefly pumping warm, moist air into southern Ontario.

There were several reports of severe weather over southern and central Ontario during the afternoon of April 20th, as a warm unstable air mass moved across southern portions of the province. A line of thunderstorms, developed ahead of a cold front and tracked eastwards from Lake Huron across Lake Simcoe towards the Ottawa Valley, producing small hail and numerous wind gusts approaching 100 km/h. The heaviest wind damage was reported near the village of Lisle, located north of Toronto and approximately 20 km southwest of Barrie. There, a line of trees was uprooted, and a barn and several greenhouses were destroyed. Winds were clocked gusting to 117 km/h at Lagoon City, situated on the eastern shore of Lake Simcoe, but luckily the boating season had not yet begun and damage at the marina was minimal. Approximately one and a half hours later, two people witnessed a tornado touch down near Bancroft in eastern Ontario. The twister knocked over one person and uprooted a track of trees one kilometre long.

More hefty snowfalls in Ontario and Quebec

For the second week in a row and the third time this month, snow blanketed parts of northeastern Ontario and portions of south-

ern Quebec. The Ottawa Valley received between 10 and 15 centimetres of the white stuff on the 22nd. The hardest hit areas, the Bagotville region of Quebec and the North Shore of the Saint Lawrence, received 30 and 22 cm of snow, respectively. Luckily, with the temperature hovering near freezing, and some help from subsequent rain-falls, most of the snow on the ground melted quickly.

East coast ice update

Ice, which congested the entire east coast of Newfoundland earlier, is beginning to move off due to more favourable winds, but the pack ice is still extensive. With the lobster season underway, longliners operating from St. John's and other east coast harbours are navigating leads of open water, a practise which is potentially hazardous. One vessel suffered damage in thick ice off Newfoundland and had to be escorted to Halifax. On a positive note, shipping routes in the Gulf of St. Lawrence have become navigable without icebreaker escort.

Elsewhere...

The Yukon was sunny and mild, while further to the south, up to 20 cm of snow covered the higher elevations of the Alaska Highway. In the flood-prone Hay River watershed, the snow cover is nearly gone, reducing the likelihood of flooding this spring. It was a sunny but cold week in the eastern Arctic and on Baffin Island, with temperatures dropping to the minus twenties.

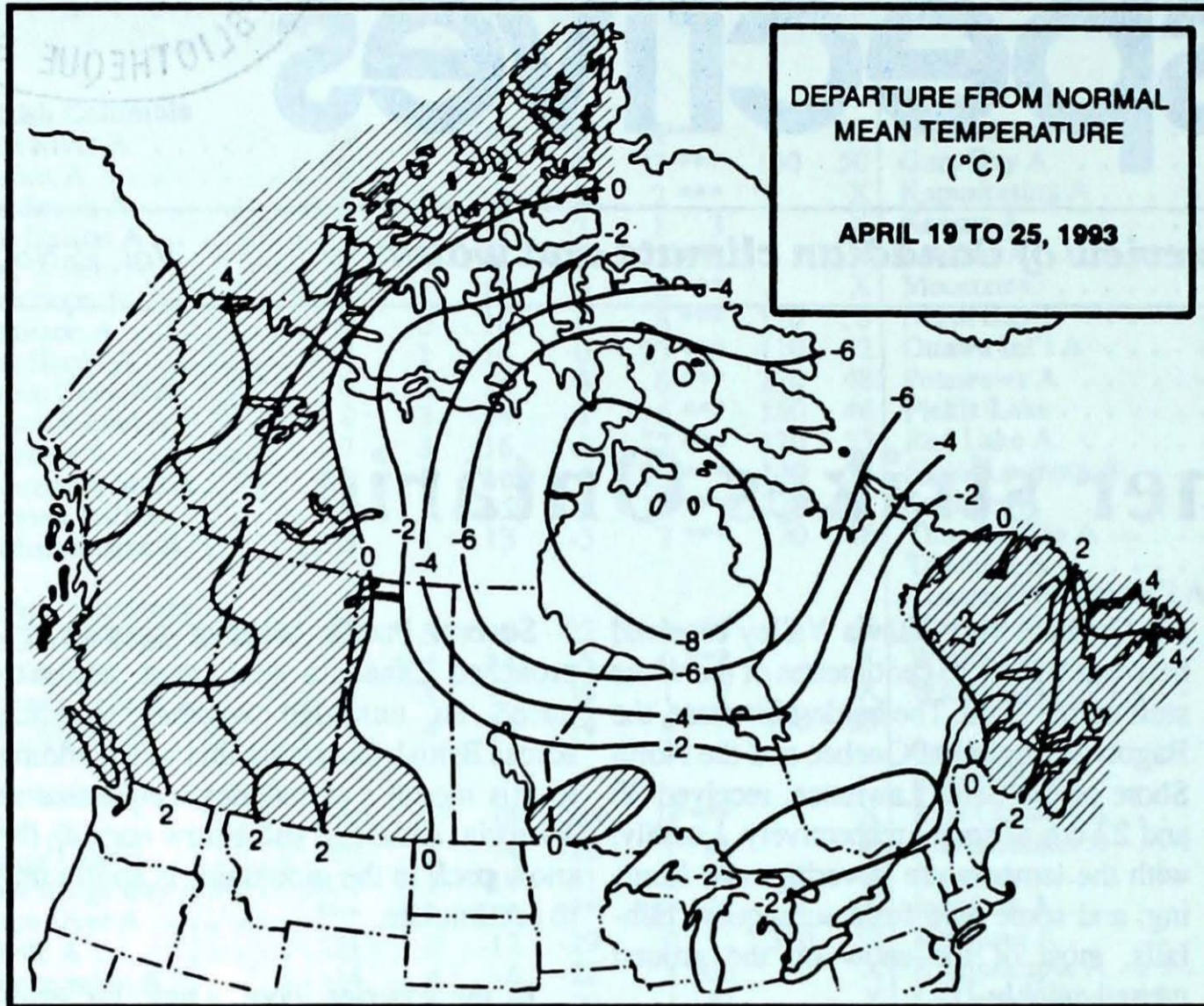
Several Pacific weather systems approached Canada's west coast, and produced an unsettled weather situation across British Columbia this week, adding to this month's abundant precipitation at Victoria. Although still below normal, the snow pack in the mountains is continuing to accumulate.

In the Prairies, cool Arctic air gradually sagged southwards. Temperatures in the north reached the twenties earlier in the week, but established new daily low temperature records over the weekend.

It was an unsettled but mild week across Atlantic Canada, as a series of weather systems made their way across the region. In the Maritimes, precipitation was generally on the high side, with few reports of snow. In Newfoundland, showers, then predominantly mild and sunny weather dominated the weather picture until the middle of the week, with a couple of daily maximum temperature records reported. Heavy rain fell on April 22 and 23. Stephenville and Cartwright set new 24-hour rainfall records of 37 and 26 millimetres, respectively.

A look ahead...

For the week of May 3, near to above-normal temperatures are expected for southwestern Quebec, Ontario, the Prairies and British Columbia. Elsewhere, near to below-normal temperatures are likely. Unsettled weather will occur in the Atlantic region. Some showers are possible across the extreme southern parts of the country.



Weekly normal temperatures (°C)

	max.	min.
Whitehorse A	6.7	-4.3
Iqaluit A	-7.2	-17.1
Yellowknife A	1.4	-9.3
Vancouver Int'l A	13.2	5.1
Victoria Int'l A	13.3	4.2
Calgary Int'l A	10.2	-2.1
Edmonton Int'l A	11.6	-1.4
Regina A	11.3	-1.5
Saskatoon A	10.9	-1.0
Winnipeg Int'l A	11.1	-0.4
Ottawa Int'l A	13.1	2.5
Toronto (Pearson Int'l A)	13.7	2.7
Montréal Int'l A	12.8	2.8
Québec A	10.2	0.3
Fredericton A	11.2	-0.1
Saint John A	9.6	-0.2
Halifax (Shearwater)	9.2	0.9
Charlottetown A	7.7	-0.6
Goose A	4.2	-4.7
St John's A	5.2	-1.7

Weekly temperature and precipitation extremes

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Hope A 23	Puntzi Mountain (aut) -6	Port Alberni A 51
Yukon Territory	Watson Lake A 16	Komakuk Beach A -17	Komakuk Beach A 1
			Whitehorse A 1
Northwest Territories	Fort Simpson A 19	Hall Beach A -32	Inuvik A 4
Alberta	High Level A 21	Calgary Int'l A -7	Pincher Creek (aut) 10
Saskatchewan	Elbow (aut) 23	Collins Bay -17	Cree Lake 10
Manitoba	Dauphin A 21	Thompson A -24	Brandon A 23
Ontario	Simcoe 21	Lansdowne House -14	Ottawa Int'l A 71
Quebec	Maniwaki 18	Inukjuak A -26	Québec A 90
New Brunswick	Moncton A 21	St Stephen (aut) -4	St-Léonard A 59
Nova Scotia	Greenwood A 23	Greenwood A -3	Shearwater A 33
Prince Edward Island	Charlottetown A 20	Charlottetown A -2	Charlottetown A 42
Newfoundland	St John's A 18	Goose A -14	Burgeo 63

Across The Country...

Highest Mean Temperature	Hope A (B.C.) 13
Lowest Mean Temperature	Hall Beach A (N.W.T.) -26

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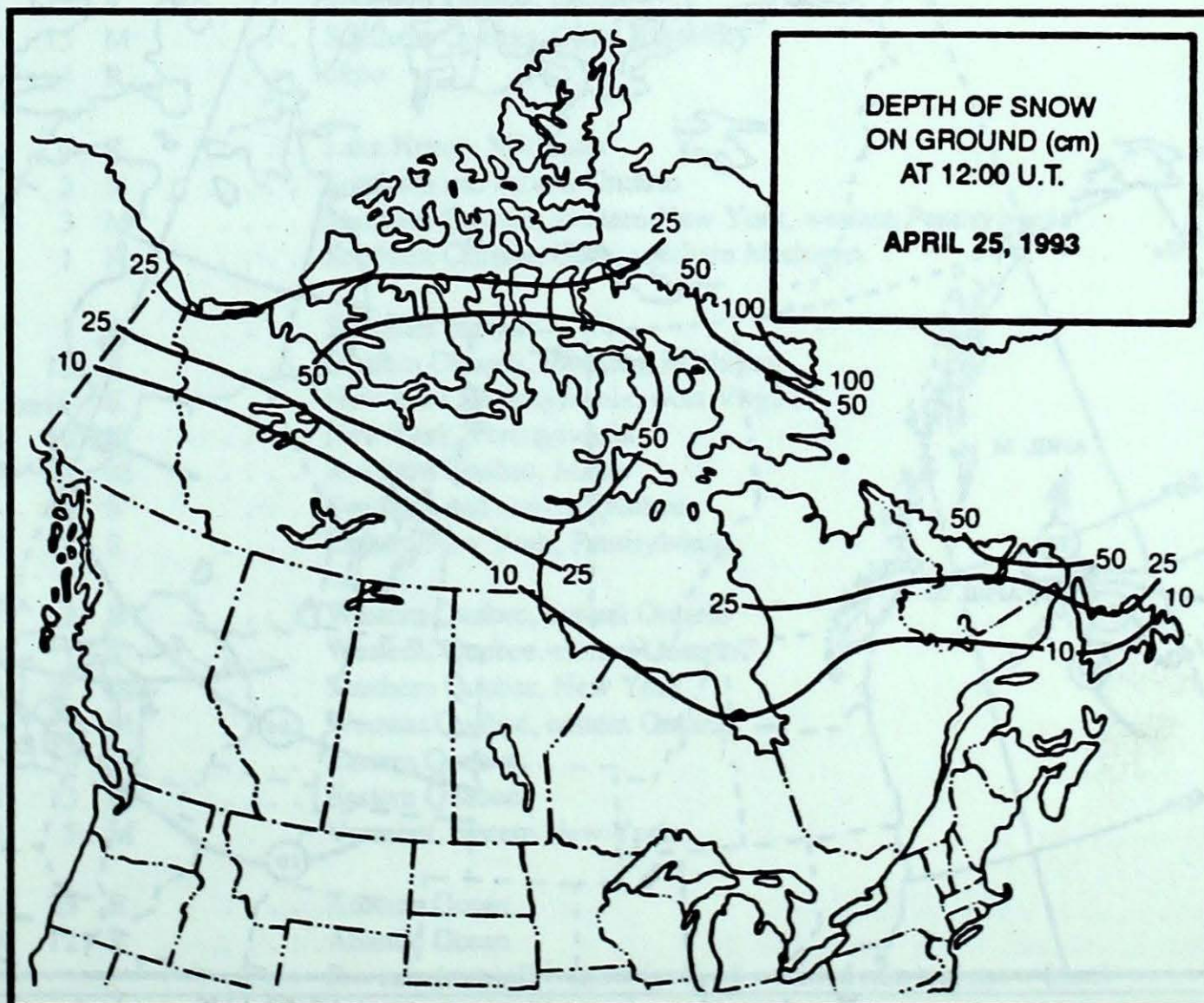
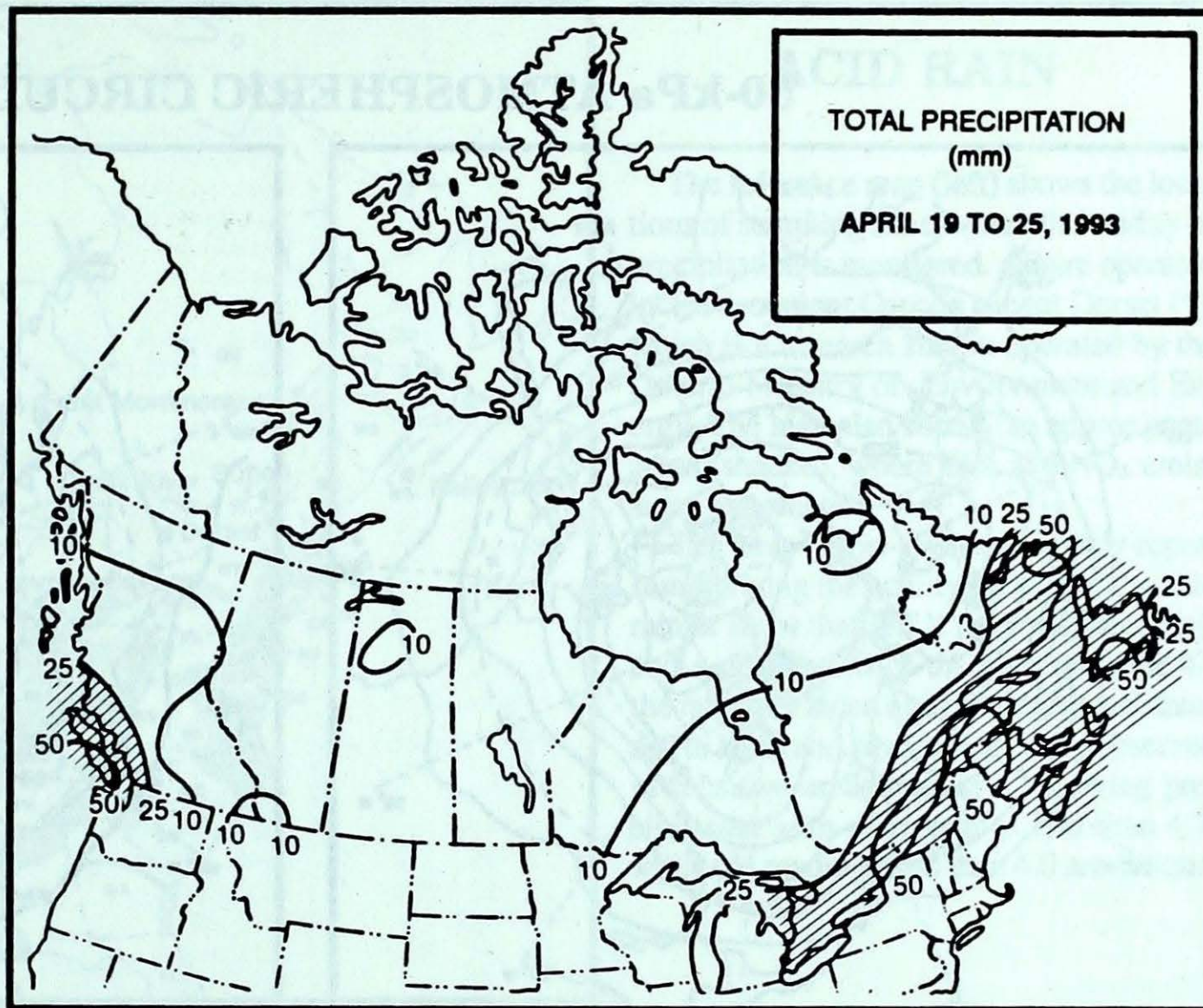
The purpose of the publication is to make topical information available to the public concerning the Canadian Climate and its socio-economic impact.

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.

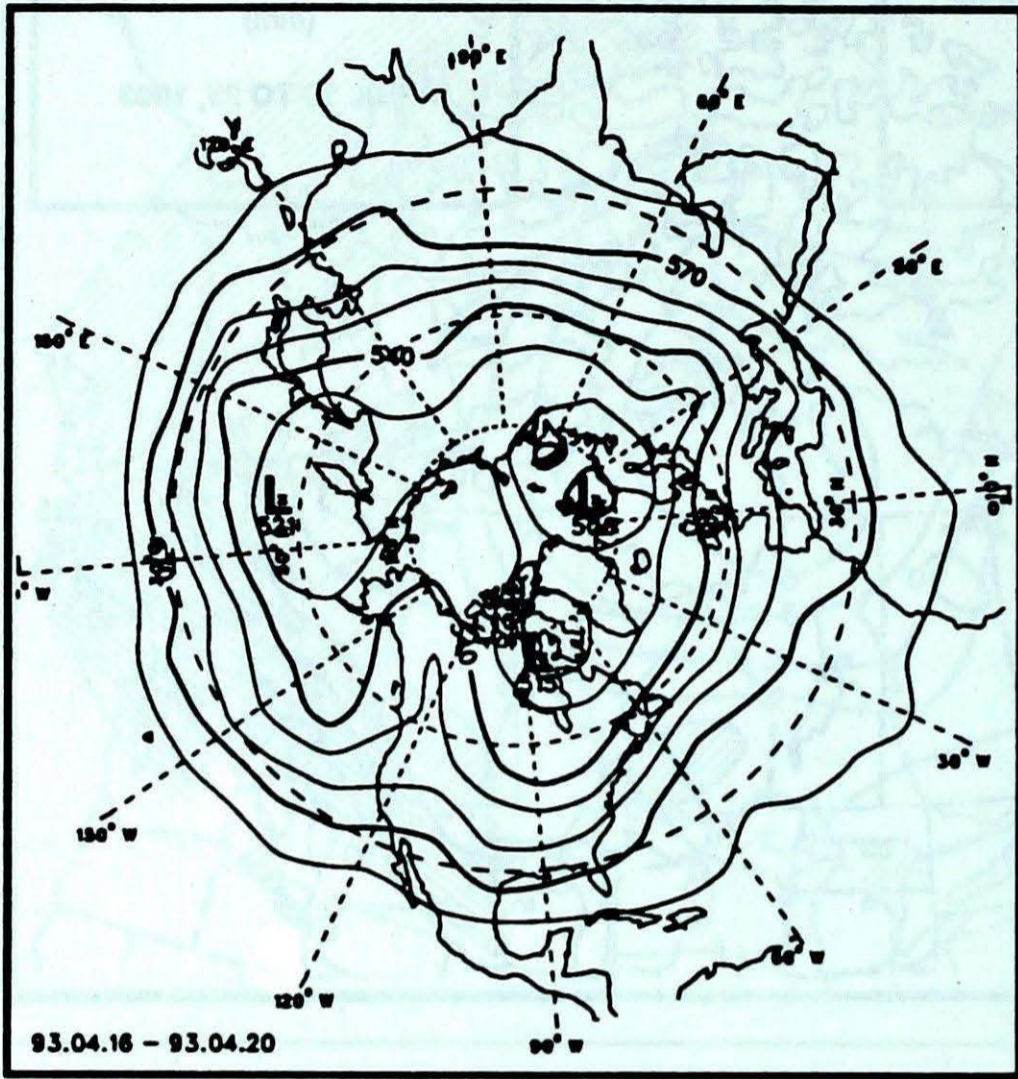
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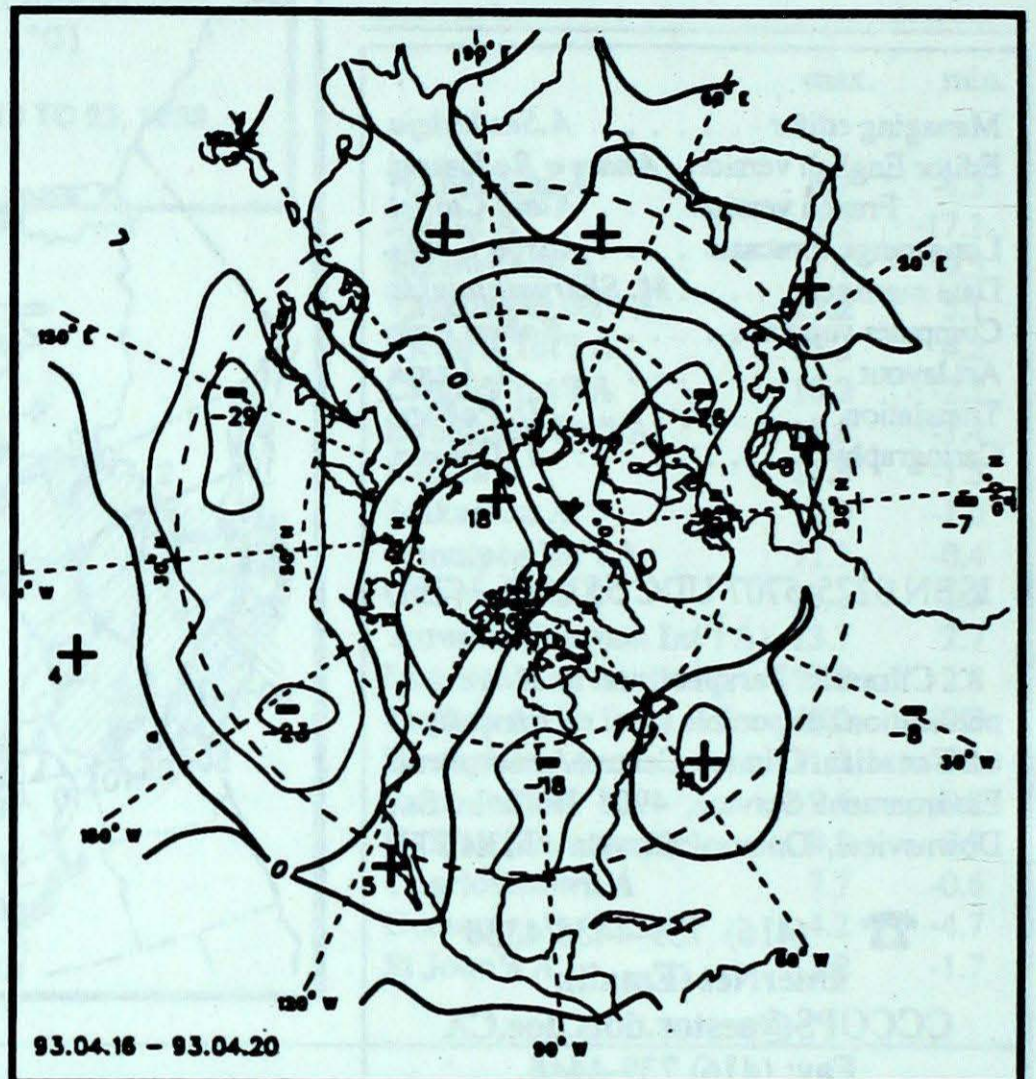
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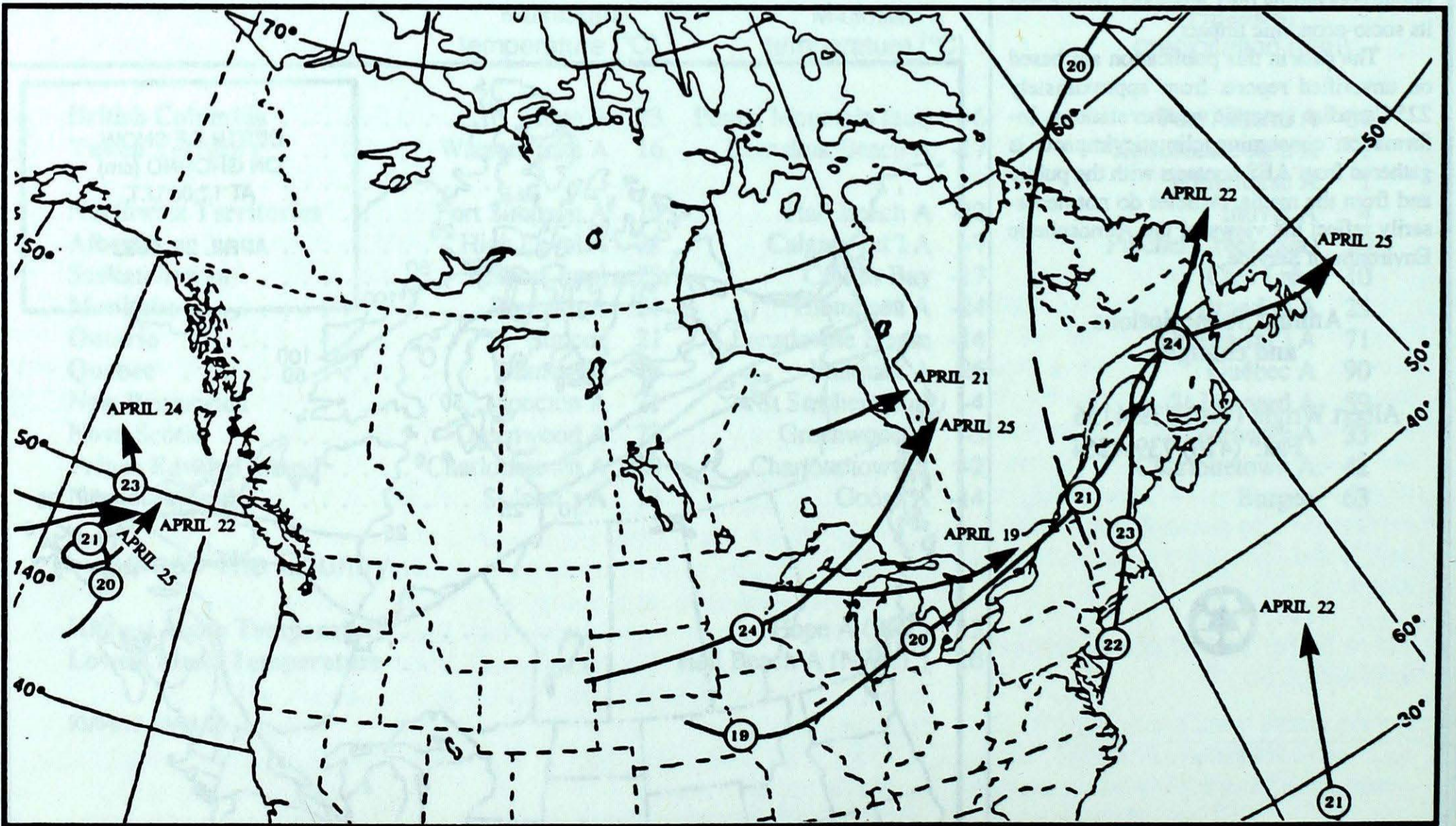
50-kPa ATMOSPHERIC CIRCULATION



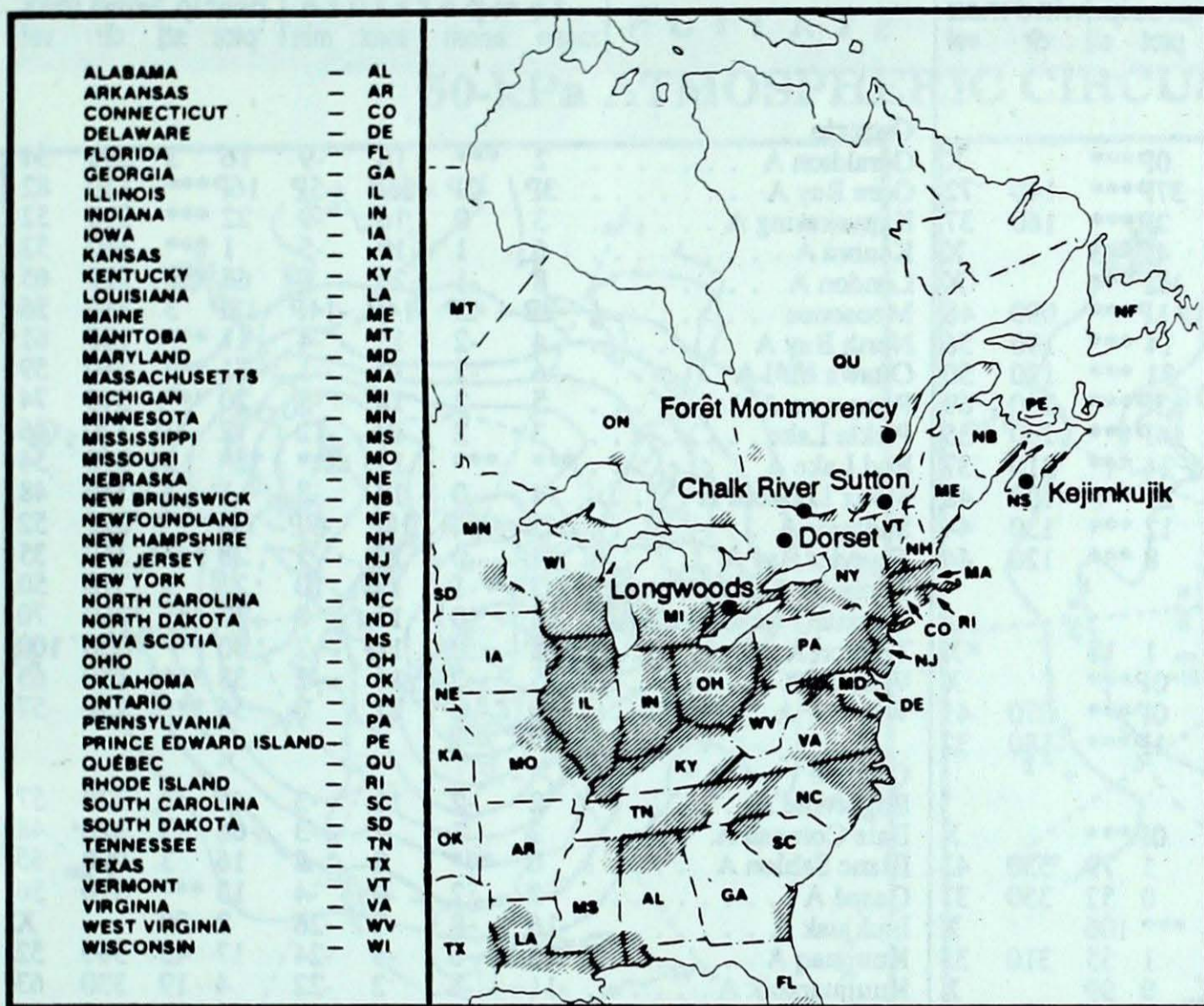
Mean geopotential height
50-kPa level (10 decametre intervals)



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.



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 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
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April 18 to 24, 1993

Longwoods			 Data not available this week
Dorset *	18	4.3	7 R Michigan, southern Wisconsin
	19	4.5	13 R	..... Southern Ontario, Ohio
	20	4.9	15 M	..... Southern Ontario, Ohio, Kentucky
	24	4.1	4 R	..... Ohio
Chalk River	18	4.7	4 R	..... Lake Huron, Michigan
	19	4.6	5 S	..... Southern and central Ontario
	20	4.2	3 M	..... Southern Ontario, western New York, western Pennsylvania
	24	3.9	1 R	..... Southern Ontario, Ohio, southern Michigan
Sutton	18	4.5	3 R	..... Southern Ontario
	19	3.8	13 R	..... Southern Ontario, southern Michigan
	20	4.0	9 R	..... New York, Pennsylvania, west Virginia
	21	3.8	10 R	..... New York, Pennsylvania
	22	4.6	26 M	..... Southern Quebec, Maine
	23	4.6	12 S	..... Southern and eastern Quebec
	24	4.0	12 S	..... Eastern New York, Pennsylvania
Montmorency	18	4.5	3 S	..... Western Quebec, central Ontario
	19	4.1	1 S	..... Western, Quebec, central Ontario
	20	4.3	21 M	..... Southern Quebec, New York
	21	4.5	13 M	..... Western Quebec, eastern Ontario
	22	4.5	16 M	..... Eastern Quebec
	23	5.4	13 M	..... Eastern Quebec
	24	4.2	5 M	..... Vermont, eastern New York
Kejimikujik	21	5.1	23 R	..... Atlantic Ocean
	22	4.9	12 R	..... Atlantic Ocean

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

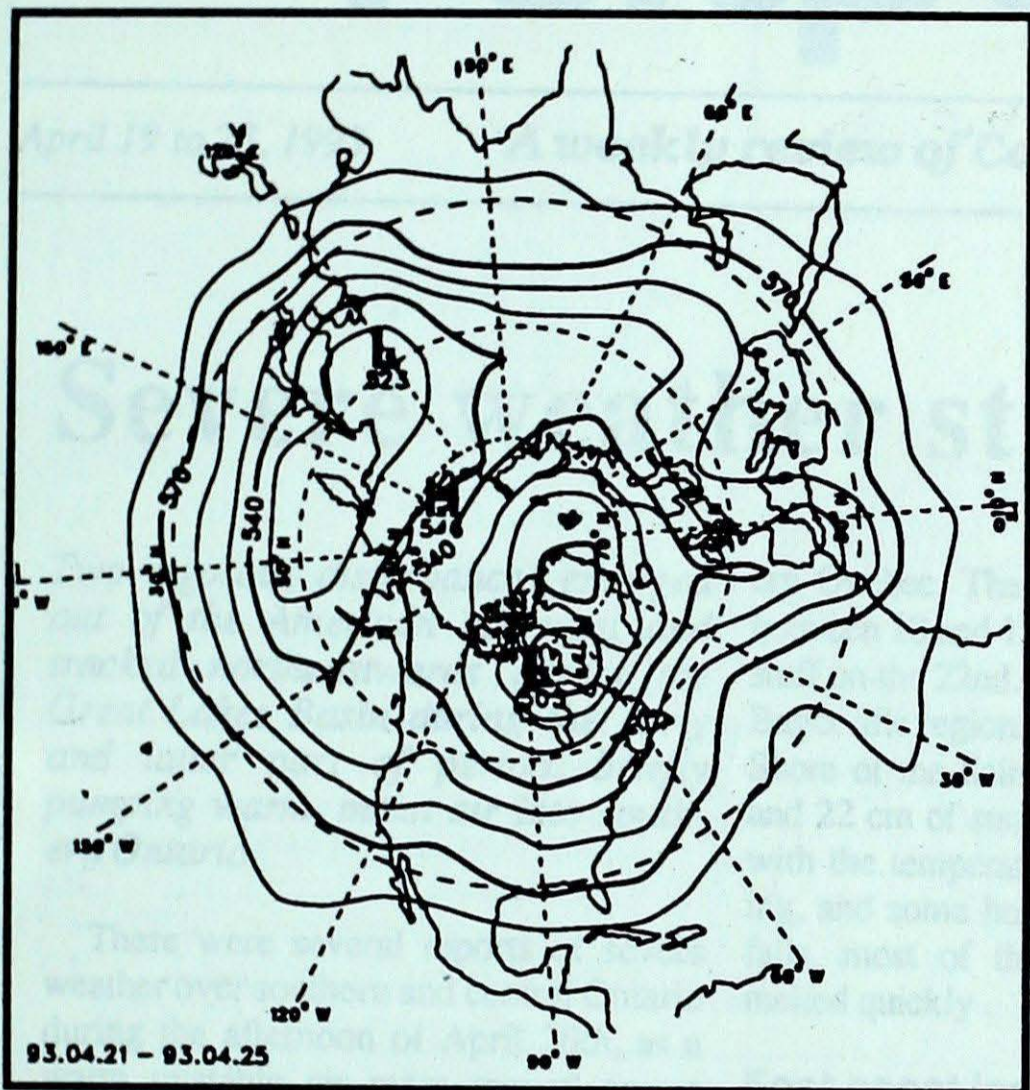
STATION	temperature				precip. ptot st	wind max		STATION	temperature				precip. ptot st	wind max			
	mean	anom	max	min		dir	vel		mean	anom	max	min		dir	vel		
British Columbia								Ontario									
Blue River A	9P	3P	18P	-3P	0P***		X	Geraldton A	2	***	18	-9	16	3	350	54	
Comox A	11P	2P	14P	5P	37P***	140	72	Gore Bay A	3P	-2P	15P	-5P	16P***	130	82		
Cranbrook A	7P	0P	15P	-1P	2P***	160	37	Kapuskasing A	3	0	16	-9	22	***	310	52	
Fort Nelson A	6P	3P	21P	-3P	4P	3	X	Kenora A	6	1	18	-5	1	***	340	52	
Fort St John A	6P	2P	18P	-2P	17P***		X	London A	8	-1	20	0	68	***	220	65	
Kamloops A	11P	1P	20P	2P	1P***	090	48	Moosonee	-2P	-2P	14P	-14P	13P	3	310	56	
Penticton A	10	1	18	1	14	***	190	56	North Bay A	4	-2	15	-4	11	***	180	61
Port Hardy A	10	3	16	0	31	***	120	50	Ottawa Int'l A	6	-2	17	-1	71	***	340	59
Prince George A	8P	3P	18P	-2P	13P***	240	69	Petawawa A	5	-2	18	-5	20	***	340	74	
Prince Rupert A	10P	4P	18P	1P	14P***	200	35	Pickle Lake	3	2	18	-12	2	3	320	46	
Smithers A	8	3	17	-1	24	***	210	37	Red Lake A	***	***	17	***	***	3	310	54
Vancouver Int'l A	12	3	22	6	29	***	100	48	Sioux Lookout A	4	0	18	-8	1	3	360	48
Victoria Int'l A	11	2	18	3	12	***	130	44	Sudbury A	2P	-3P	15P	-9P	12P***	020	52	
Williams Lake A	7	1	15	-1	8	***	120	44	Thunder Bay A	4	0	18	-5	28	***	350	35
Yukon Territory								Quebec									
Komakuk Beach A	-10	6	-3	-17	1	13	X	Bagotville A	2	-2	11	-3	45	3	320	57	
Teslin (aut)	4P	***P	13P	-5P	0P***		X	Baie Comeau A	2	1	9	-3	66	3	320	48	
Watson Lake A	4P	3P	16P	-3P	0P***	070	41	Blanc Sablon A	0	***	8	-8	16	3	090	65	
Whitehorse A	6P	4P	14P	-4P	1P***	180	32	Gaspé A	3	2	9	-4	13	***	310	56	
Northwest Territories								New Brunswick									
Alert	-22P	0P	-16P	-27P	0P***		X	Fredericton A	7	1	20	-3	33	***	330	74	
Baker Lake A	-22	-8	-12	-29	1	79	330	43	Miscou Island (aut)	3P	2P	11P	-2P	16P***		X	
Cambridge Bay A	-24	-4	-16	-32	0	52	350	37	Moncton A	7	3	21	-3	32	***	210	69
Cape Dyer A	***	***	***	***	***	106		Saint John A	8	3	16	-2	43	***	320	59	
Clyde A	-22	-6	-12	-30	1	55	310	35	St Leonard A	4P	***P	17P	-3P	59P***	310	72	
Coppermine A	-17	-1	-10	-25	0	99			Nova Scotia								
Coral Harbour A	-24	-10	-14	-32	0	32	340	33	Greenwood A	11	5	23	-3	15	***	170	69
Eureka	-22P	2P	-15P	-32P	1P	17		X	Shearwater A	8	2	14	-1	33	***	330	52
Fort Smith A	3	2	16	-12	1	***		X	Sydney A	***	***	18	***	***	***	220	56
Hall Beach A	-26	-7	-19	-32	0	59		X	Yarmouth A	8	2	17	0	27	***	290	63
Inuvik A	-7	4	4	-19	4	48		X	Prince Edward Island								
Iqaluit A	-19	-7	-10	-28	1	21		X	Charlottetown A	8P	4P	20P	-2P	42P	3	330	56
Mould Bay A	-20	2	-14	-29	0	14		X	East Point (auto)	4P	***P	8P	0P	17P***		X	
Norman Wells A	1	4	15	-12	4	2	300	39	Newfoundland								
Resolute A	-21	0	-15	-30	1	13	010	63	Cartwright	-1	1	7	-12	53	73	340	61
Yellowknife A	-3	1	10	-15	1	3		X	Churchill Falls A	-2P	2P	7P	-12P	0P***	290	48	
Alberta								93/04/19-93/04/25									
Calgary Int'l A	6P	2P	17P	-7P	5P***	270	48	Annotations									
Cold Lake A	7P	2P	20P	-2P	0P***	030	33	X	= no observation								
Edmonton Namao A	7	2	19	-2	1	***	010	35	P	= less than 7 days of data							
Fort McMurray A	6	2	19	-7	6	***	270	32	*	= missing data when going to printing.							
Grande Prairie A	7P	3P	19P	-4P	3P***	110	35										
High Level A	5P	0P	21P	-7P	1P***	010	32										
Lethbridge A	9P	3P	19P	-4P	4P***	250	74										
Medicine Hat A	8P	2P	18P	-5P	1P***	010	89										
Peace River A	6	3	20	-5	7	***	040	41									
Saskatchewan																	
Cree Lake	0	-2	13	-13	10	3	060	33									
Estevan A	5	0	21	-7	1	***	330	57									
La Ronge A	3	-1	18	-10	2	***	330	39									
Regina A	6	1	19	-6	1	***	180	46									
Saskatoon A	6	1	20	-7	3	***	360	52									
Swift Current A	4	0	18	-7	2	***	260	57									
Yorkton A	4	0	20	-8	1	***	010	39									
Manitoba																	
Brandon A	4	-1	20	-8	23	***	070	54									
Churchill A	-15	-7	-7	-22	0	6	330	32									
Lynn Lake A	-2	-4	13	-18	7	9	290	37									
The Pas A	1	-1	15	-13	2	***	310	39									
Thompson A	-3	-4	11	-24	16	11	040	39									
Winnipeg Int'l A	5	-1	20	-10	1	***	350	56									

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

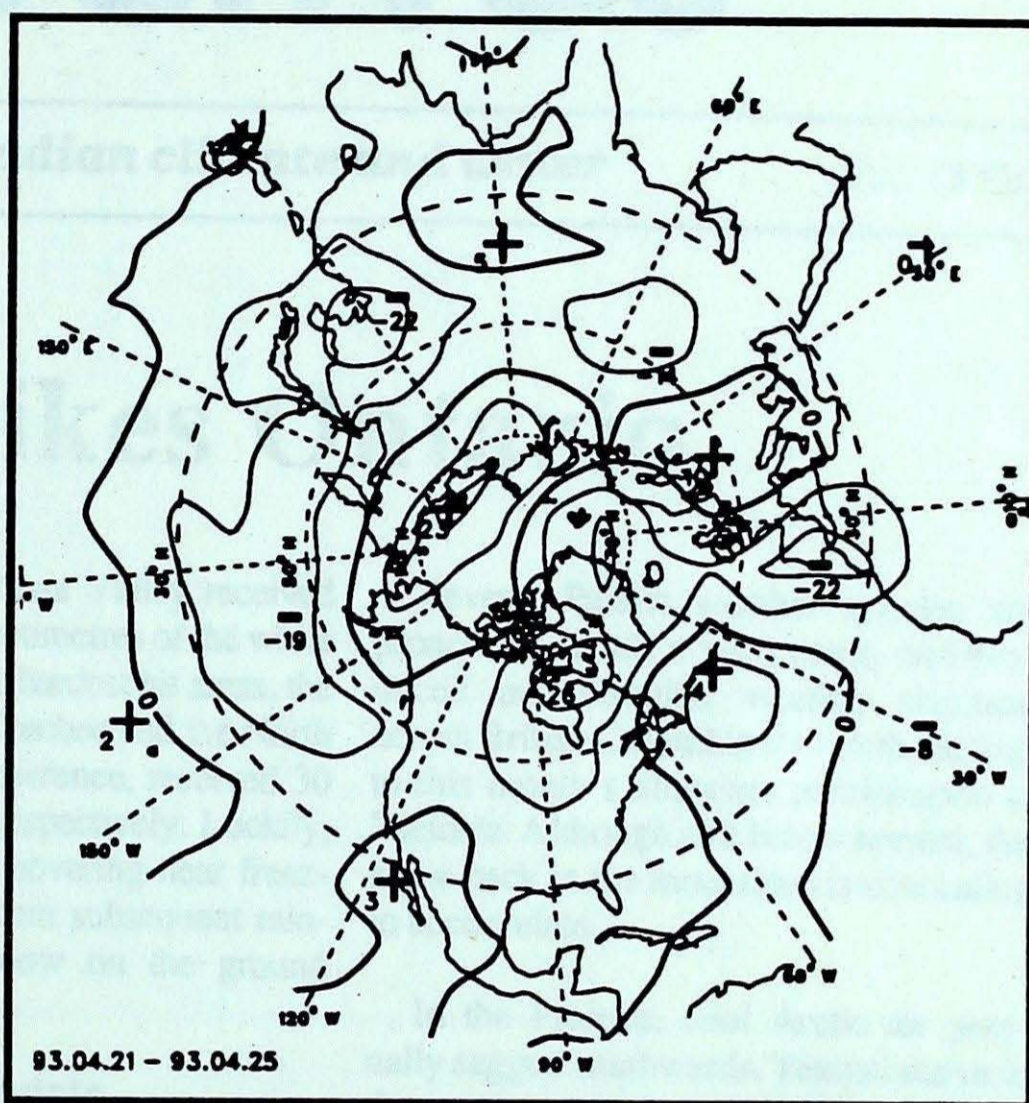
ptot = weekly precipitation total in mm
 st = snow thickness on the ground in cm
 dir = direction of max wind, deg. from north.
 vel = wind speed in km/h

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

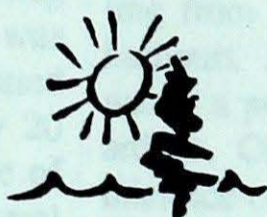
50-kPa ATMOSPHERIC CIRCULATION



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



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



Environmental Citizenship

Here's a good energy saving tip: plant trees around your house. It's a natural way to insulate. Trees act as windbreaks in winter and provide shade in summer. And consider this: A tree can absorb up to 4.5 kilograms of carbon dioxide from the air every year, so they clean the atmosphere too!

An environmental citizenship message from Environment Canada.