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# Climatic Perspectives

May 25 to 31 1992

A weekly review of Canadian climate and water

Vol. 14 No. 22

## Dry weather sustains forest fires

*A prolonged lack of precipitation, low humidities and strong, gusty winds, during the spring and summer months provides ideal conditions for extensive forest fires. Indeed, following four years of soil moisture deficit set off by the 1986/87 El-Niño, an extreme forest fire situation emerged over western Canada in 1989, with more hectares of forest burnt than in any other year, since records began in 1918.*

This year, over southern British Columbia and Alberta, it was during an unseasonably warm and dry March, that the 1992 fire season got an early start. Overall precipitation since last September has been meagre. The summer outlook for this region, suggests a continuation of above-normal temperatures and below-normal precipitation. If the summer unfolds accordingly the forest fire situation in British Columbia and Alberta could be serious - certainly worse than the low incidence of last year.

On the Atlantic coast, scorching temperatures and low amounts of rain during the last few weeks have increased the forest fire potential significantly. On May 21st, residents of Kedgwick in northern New Brunswick began a battle against a raging forest fire which has destroyed 3,035 hectares of woodland. Ignited by lightning and nourished by strong winds, the blaze required the recruitment of 350 volunteers, 10 waterbombers, four helicopters, 32 bulldozers and a number of mobile water tankers to bring the fire under control.

Hot, sunny days and dry forest beds have left the fire index at the high end of the scale across Nova Scotia. At least 20 fires started during the weekend, includ-

ing a stubborn one, near Lockport, which was burning out of control at one time. About 40 firefighters and three aircrafts battled the blaze, which forced the closure of Highway 103. The situation may worsen, unless the province gets some rain.

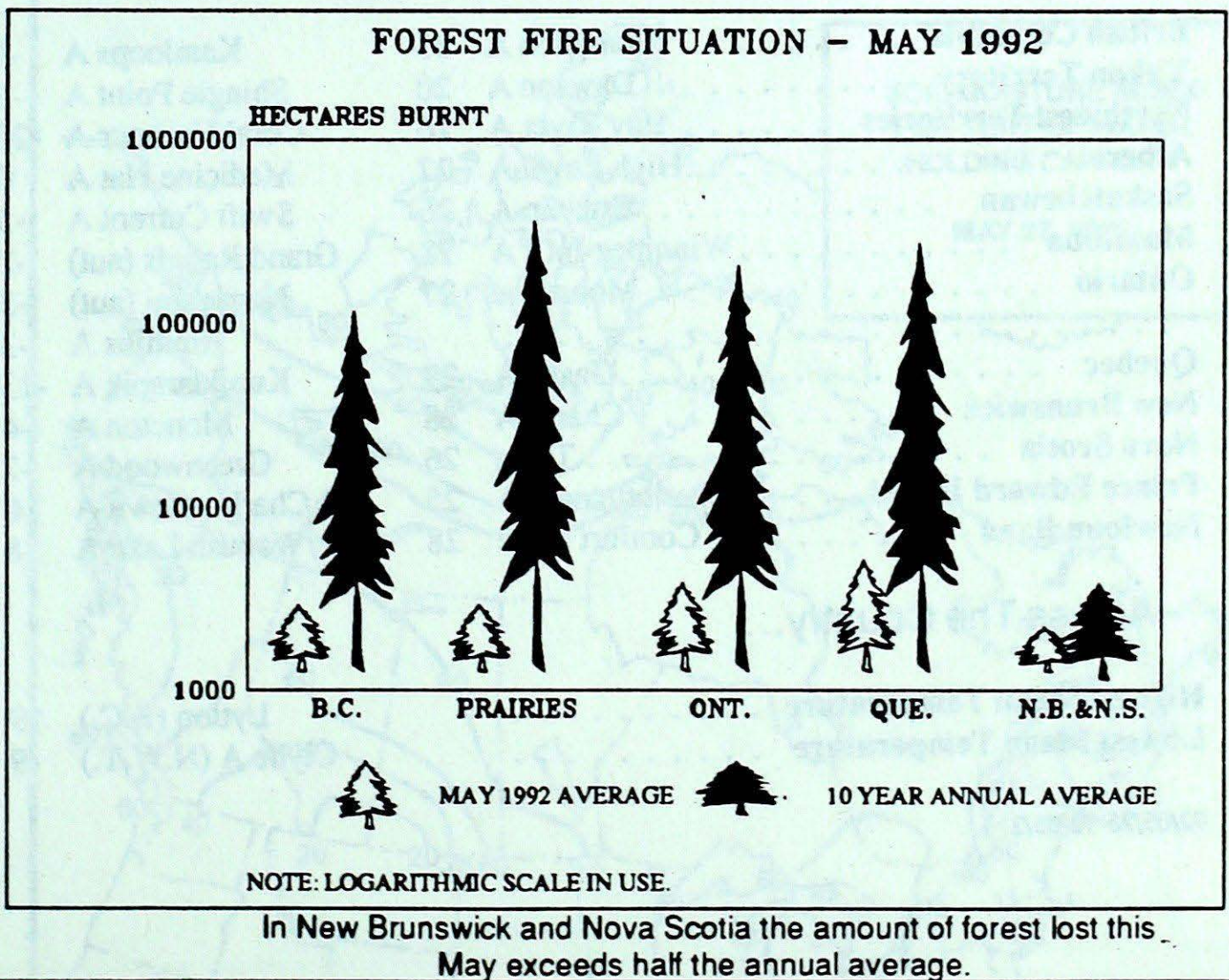
During the week in Ontario, the fire management centre was kept busy as 28 new fires were reported. Ten of the fires were ignited by lightning, as a line of thundershowers passed northwest through Kenora. Further east, near Geraldton, a fire in a logging area, just north of Longlac, quickly consumed 165 hectares of forest and 7000 cords of cut wood.

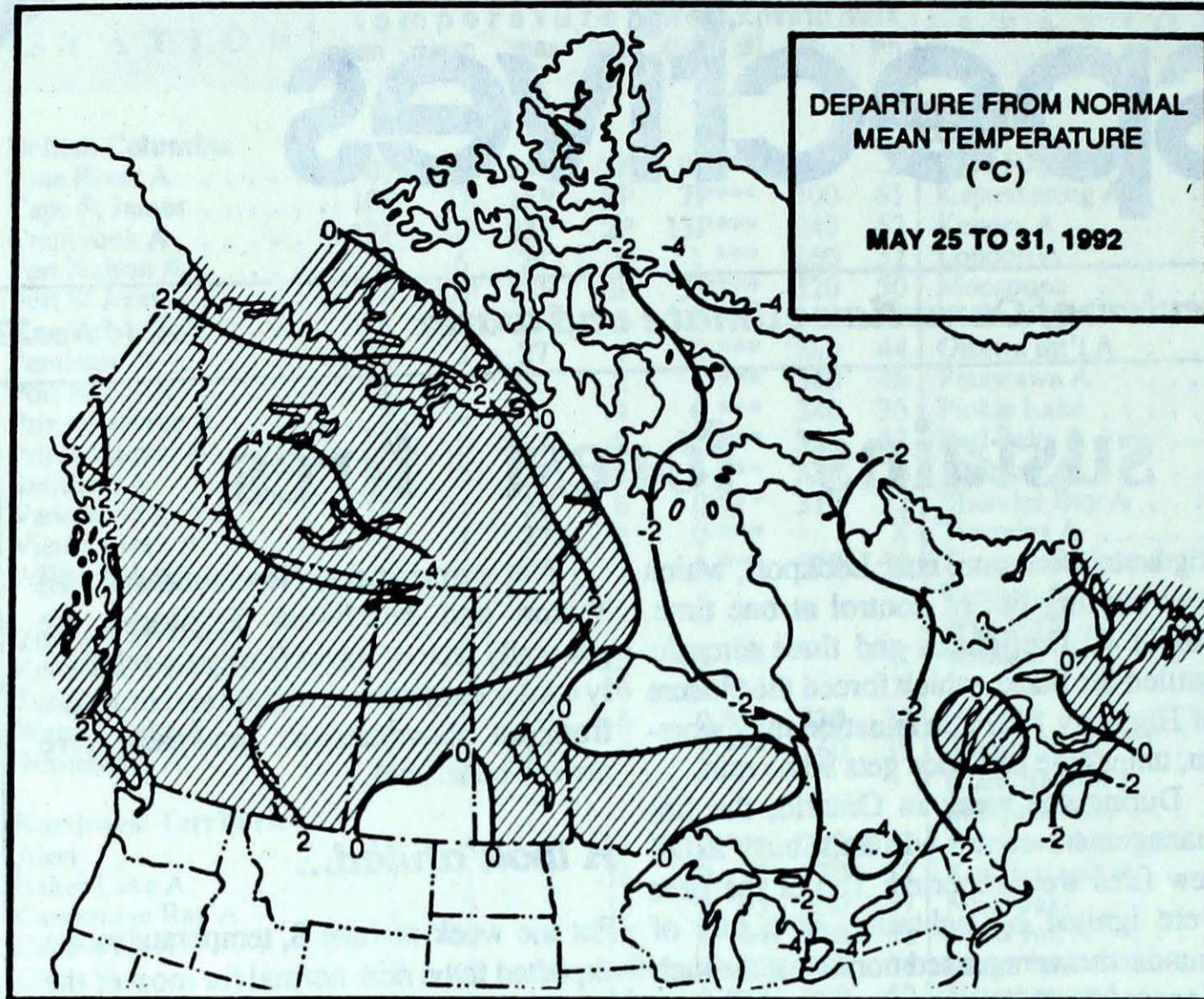
In Quebec, the fire situation is also quite serious, as 5666 hectares of forest have already burnt, surpassing the five-year May average.

Not surprisingly, Newfoundland, the Yukon and Northwest Territories are generally free of forest fires, as a relatively cooler temperature regime and moisture from an above-normal snowpack have proved beneficial.

### A look ahead...

For the week of June 8, temperatures are expected to be near normal for most of the country. Below-normal temperatures are likely across Baffin Island and the high Arctic while above-normal temperatures will occur over the Atlantic provinces. Significant precipitation will likely occur east of Manitoba as well as over the southern parts of British Columbia and Alberta.





**Weekly normal temperatures (°C)**

	max.	min.
Whitehorse A	15.1	2.3
Iqaluit A	2.8	-3.3
Yellowknife A	13.3	3.3
Vancouver Int'l A	17.6	8.8
Victoria Int'l A	17.5	7.5
Calgary Int'l A	17.5	4.7
Edmonton Int'l A	18.5	5.1
Regina A	20.3	5.9
Saskatoon A	20.0	6.3
Winnipeg Int'l A	20.0	7.2
Ottawa Int'l A	20.9	9.2
Toronto (Pearson Int'l A)	20.6	8.2
Montréal Int'l A	20.6	9.6
Québec A	19.2	6.9
Fredericton A	19.9	6.3
Saint John A	16.5	5.4
Halifax (Shearwater)	15.5	6.1
Charlottetown A	15.7	5.6
Goose A	12.3	1.7
St John's A	11.7	2.4

**Weekly temperature and precipitation extremes**

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Penticton A 33	Kamloops A -1	Prince Rupert A 69
Yukon Territory	Dawson A 20	Shingle Point A -2	Teslin (aut) 14
Northwest Territories	Hay River A 26	Coral Harbour A -20	Shepherd Bay A 25
Alberta	High Level A 27	Medicine Hat A 0	Rocky Mountain House 56
Saskatchewan	Estevan A 26	Swift Current A -5	Broadview 26
Manitoba	Winnipeg Int'l A 28	Grand Rapids (aut) -2	Gimli 14
Ontario	Moosonee 27	Nagagami (aut) -3	Point Petre (aut) 26
		Timmins A -3	
Quebec	Gaspé A 29	Kuujuarapik A -13	Montréal Int'l A 20
New Brunswick	Charlo A 28	Moncton A -4	St Stephen (aut) 1
Nova Scotia	Truro 26	Greenwood A -2	Sydney A 27
Prince Edward Island	Charlottetown A 25	Charlottetown A 0	East Point (aut) 5
Newfoundland	Comfort Cove 28	Wabush Lake A -8	Argentia A 51

**Across The Country...**

Highest Mean Temperature	Lytton (B.C.) 19
Lowest Mean Temperature	Clyde A (N.W.T.) -9

92/05/25-92/05/31

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VOLUME 14

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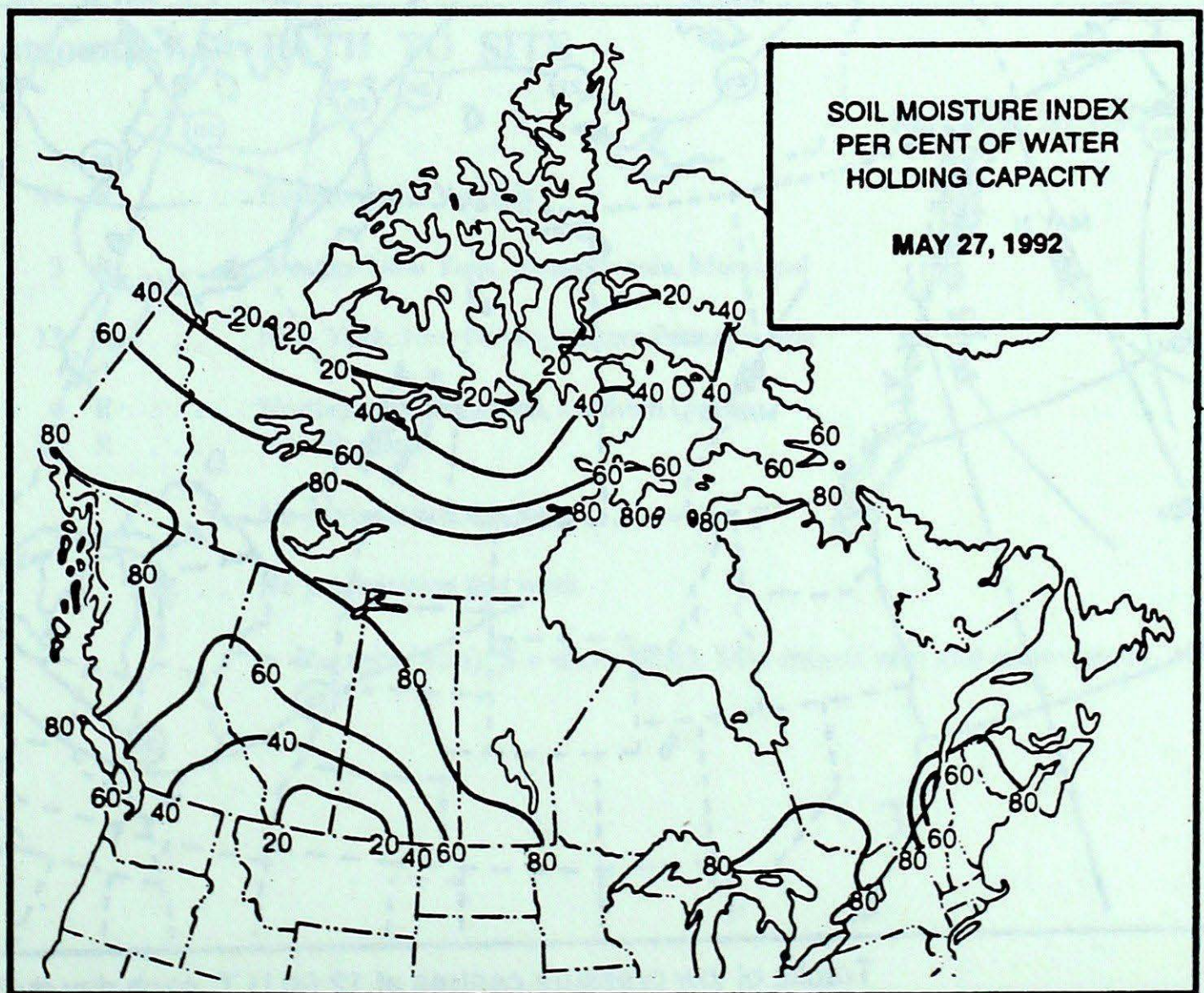
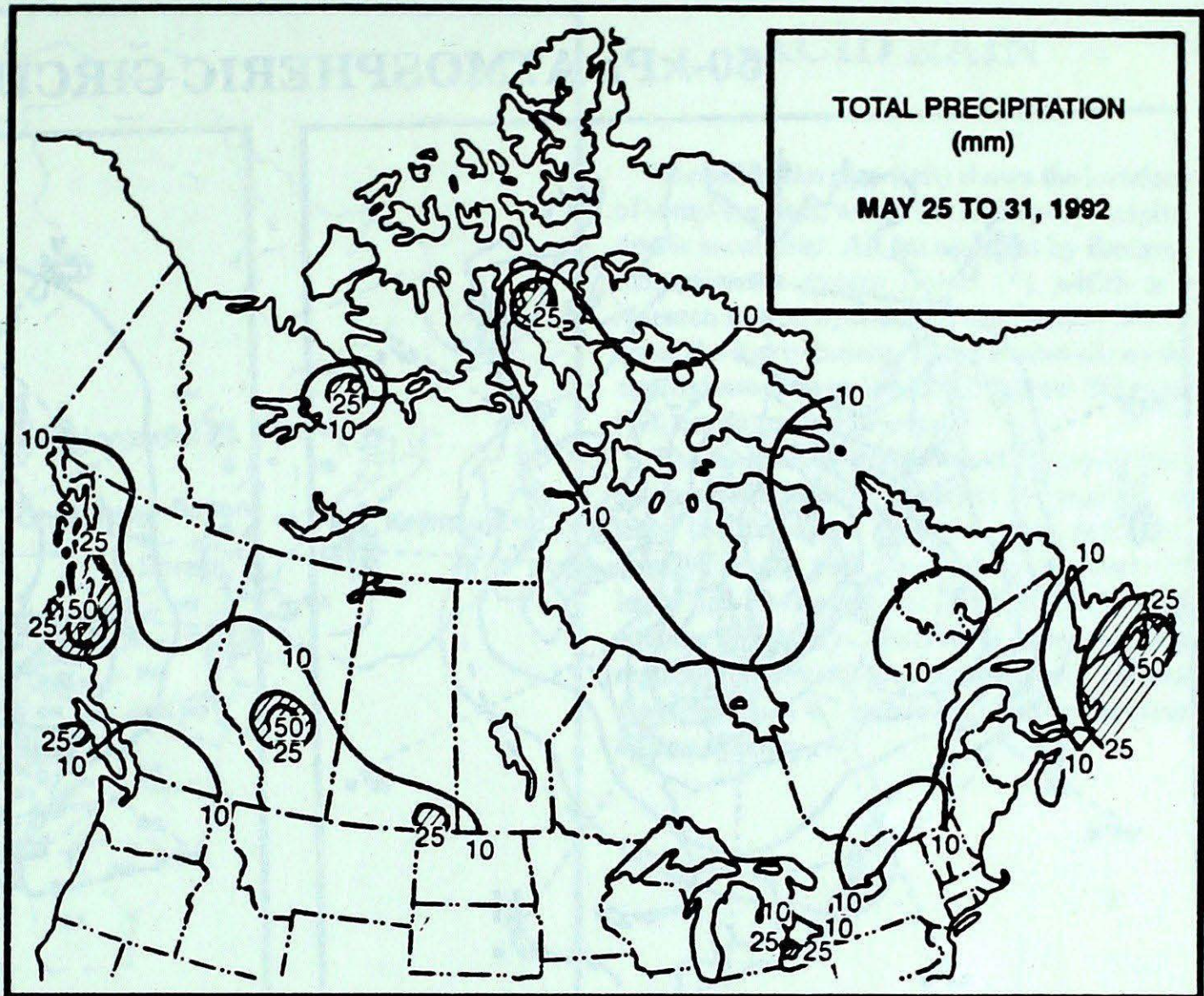
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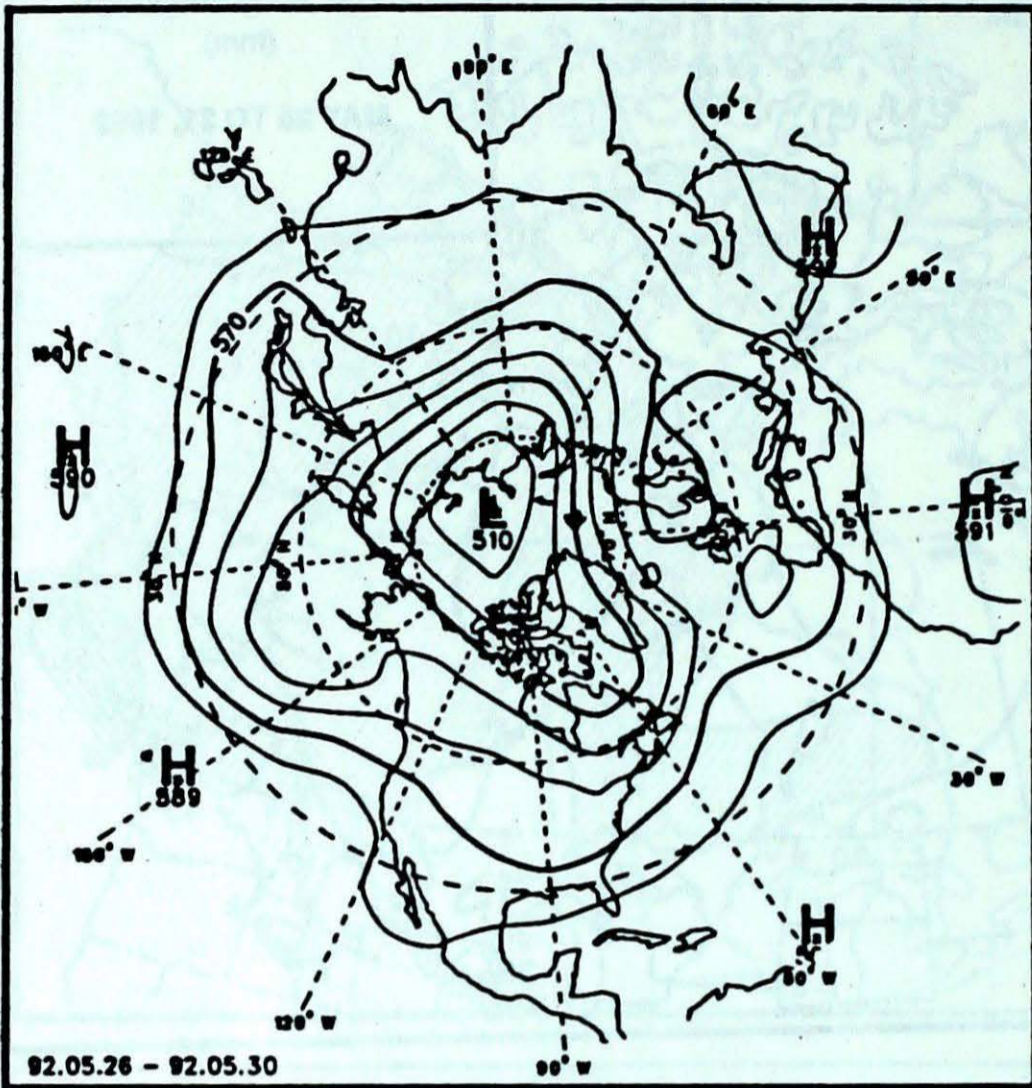
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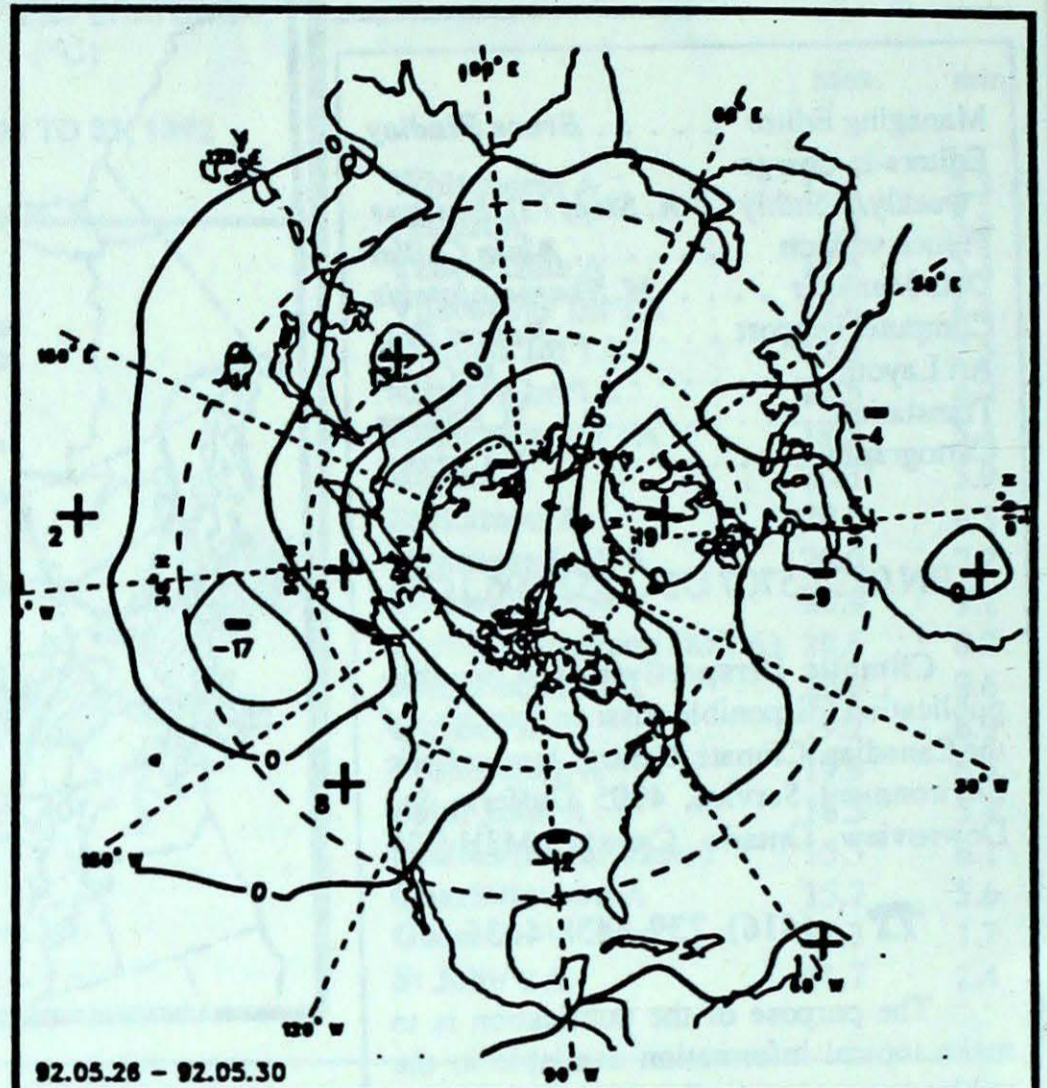
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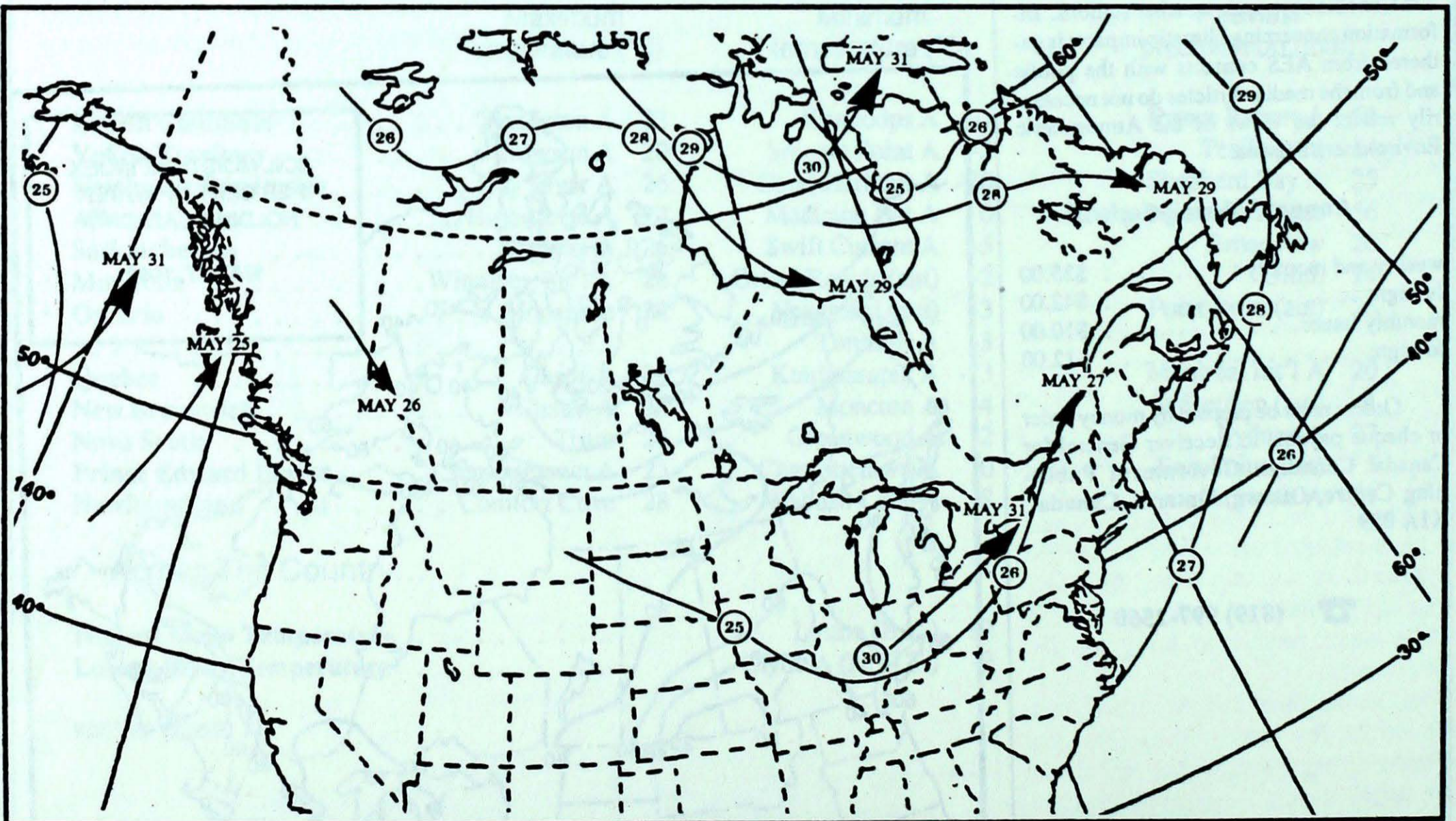
### 50-kPa ATMOSPHERIC CIRCULATION



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



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

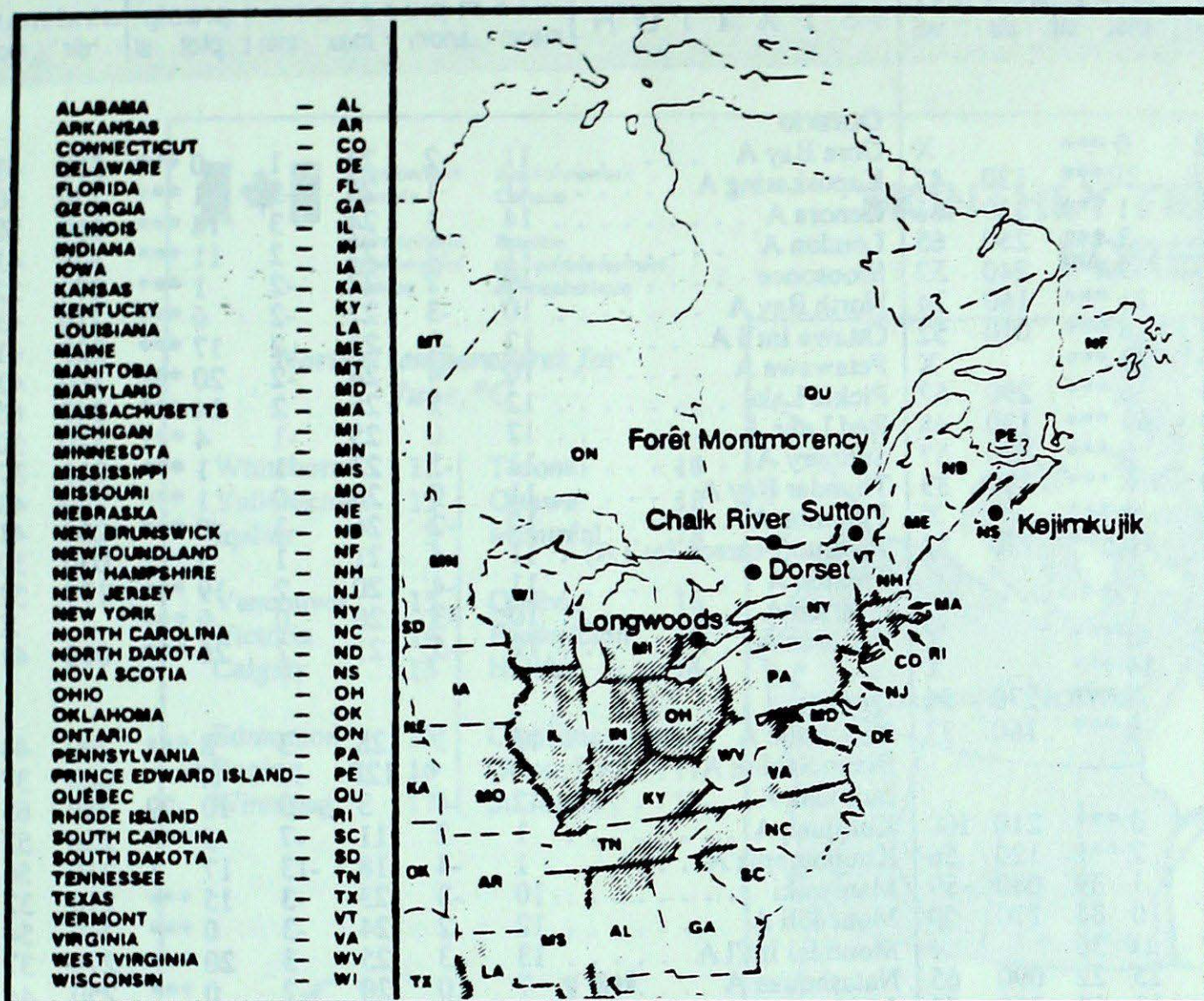


Tracks of low pressure centres at 12:00 U.T. each day during the period.

## 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 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.



SITE	day	pH	amount	AIR PATH TO SITE
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May 24 to 30, 1992

Longwoods	30	4.0	44 R	..... Eastern Ohio, Virginia
Dorset *	30	3.9	3 R	..... Western New York, Pennsylvania, Maryland
Chalk River	30	4.8	13 R	..... New York, New Jersey, eastern Pennsylvania
Sutton	27	4.6	6 R	..... Northern New England, southern Quebec
	40	5.3	13 R	..... New England
Montmorency				..... No precipitation this week
Kejimikujik				..... No precipitation this week

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
<b>British Columbia</b>								<b>Ontario</b>									
Blue River A	13	3	29	2	0 ***		X	Gore Bay A	11	-2	23	1	0 ***	350	41		
Cape St James	11P	1P	15P	8P	2P ***	130	43	Kapuskasing A	11	-1	26	-3	1 ***	250	50		
Cranbrook A	15	3	28	4	11 ***	310	61	Kenora A	14	1	24	3	14 ***	210	50		
Fort Nelson A	15	3	25	3	3 ***	250	65	London A	11	-3	22	2	11 ***	340	41		
Fort St John A	15	4	27	6	3 ***	240	52	Moosonee	10	2	27	-2	1 ***	270	52		
Kamloops A	18	2	33	-1	21 ***	160	74	North Bay A	10	-3	22	-2	6 ***	210	43		
Penticton A	18	4	33	7	6 ***	010	52	Ottawa Int'l A	12	-3	23	2	17 ***	320	41		
Port Hardy A	13	3	20	6	22 ***		X	Petawawa A	10	-4	24	-2	20 ***	180	41		
Prince George A	14	4	29	3	6 ***	290	57	Pickle Lake	12	2	25	2	14 ***	340	65		
Prince Rupert A	12	3	15	8	69 ***	130	48	Red Lake A	12	0	25	-1	4 ***	310	50		
Smithers A	13	2	19	2	6 ***	330	37	Sudbury A	11	-3	23	-1	1 ***	210	37		
Vancouver Int'l A	16	3	25	10	6 ***	290	33	Thunder Bay A	11	0	25	0	1 ***	210	48		
Victoria Int'l A	16	4	26	9	9 ***		X	Timmins A	10	-2	26	-3	0 ***	250	41		
Williams Lake A	13	3	27	2	16 ***	170	52	Toronto(Pearson Int'l A)	11	-4	21	1	5 ***	030	50		
<b>Yukon Territory</b>								<b>Québec</b>									
Komakuk Beach A	1P	3P	4P	-1P	0P ***		X	Bagotville A	13	1	28	-3	8 ***	290	44		
Teslin (aut)	10	*	17	2	14 ***		X	Blanc Sablon A	4P	*	12P	-2P	1P ***	080	37		
Watson Lake A	11	2	19	1	5 ***	270	56	Inukjuak A	-2	-4	3	-10	10 29	280	65		
Whitehorse A	10	2	18	2	8 ***	160	33	Kuujuuaq A	1	-2	11	-7	5 ***	250	52		
<b>Northwest Territories</b>								<b>New Brunswick</b>									
Alert	-6	1	-2	-10	3 ***	210	100	Fredericton A	12	-1	27	-2	0 ***	070	44		
Baker Lake A	-1	1	4	-7	2 ***	120	56	Miscou Island (aut)	10	0	25	-1	0 ***				
Cambridge Bay A	-5	0	3	-10	1 39	080	59	Moncton A	11	-1	26	-4	0 ***	040	46		
Cape Dyer A	-5	-2	1	-11	10 84	270	59	Saint John A	10	-1	22	-1	0 ***	220	44		
Clyde A	-9P	-5P	-1P	-19P	1P 36		X	<b>Nova Scotia</b>									
Coppermine A	1	5	7	-2	25 22	090	65	Greenwood A	10	-3	26	-2	2 ***	070	43		
Coral Harbour A	-7	-4	0	-20	11 62	350	50	Shearwater A	10	0	22	4	9 ***	010	48		
Eureka	-6P	0P	-3P	-9P	1P ***		X	Sydney A	10	0	25	3	27 ***	260	54		
Fort Smith A	15	4	26	0	2 ***	290	56	Yarmouth A	9	-2	18	2	0 ***	050	37		
Hall Beach A	-5	0	-1	-13	2 39	330	39	<b>Prince Edward Island</b>									
Inuvik A	7	3	18	-2	0 1	300	39	Charlottetown A	11	0	25	0	2 ***	240	41		
Iqaluit A	-3	-3	2	-12	9 11	150	46	East Point (auto)	8P	*	20P	2P	5P ***				
Mould Bay A	-8	-2	-3	-12	2 20		X	<b>Newfoundland</b>									
Norman Wells A	13	4	24	1	0 ***	290	69	Cartwright	4	-1	20	-4	5 153	290	46		
Resolute A	-9	-2	-1	-14	3 28	150	43	Churchill Falls A	4	-1	22	-7	12 1	300	52		
Yellowknife A	12	3	20	4	1 ***	340	54	Gander Int'l A	8	0	26	-2	25 ***	220	56		
<b>Alberta</b>								<b>92/05/25-92/05/31</b>									
Calgary Int'l A	12	0	22	2	20 ***	150	65	Goose A	6	-1	23	-5	8 1	180	43		
Cold Lake A	13	1	23	2	0 ***	350	67	St John's A	7	0	23	0	11 ***	250	59		
Edmonton Namao A	14	1	23	5	2 ***	270	46	St Lawrence	7	2	17	2	34 ***		X		
Fort McMurray A	14	3	25	1	0 ***	190	41	Wabush Lake A	5	0	24	-8	11 ***	220	56		
High Level A	14	2	27	3	4 ***	190	46										
Jasper	13	3	27	4	23 ***		X										
Lethbridge A	14	1	24	1	5 ***	350	63										
Medicine Hat A	14	0	25	0	11 ***	160	52										
Peace River A	14	3	25	6	7 ***	270	48										
<b>Saskatchewan</b>																	
Cree Lake	12	2	22	0	2 ***	320	61										
Estevan A	12	-2	26	-4	10 ***	130	61										
La Ronge A	13	1	25	-1	2 ***	190	43										
Regina A	13	-1	25	-2	8 ***	170	69										
Saskatoon A	14	1	24	1	4 ***	160	57										
Swift Current A	12	-1	23	-5	14 ***	150	65										
Yorkton A	12	0	25	0	0 ***	190	39										
<b>Manitoba</b>																	
Brandon A	13	0	26	-2	1 ***	050	56										
Churchill A	5	3	17	-1	1 2	300	59										
Lynn Lake A	12	2	24	-1	0 ***	330	46										
The Pas A	12	1	25	-1	0 ***	210	56										
Thompson A	12	2	26	-2	2 ***	240	46										
Winnipeg Int'l A	15	2	28	-1	1 ***	230	59										

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.



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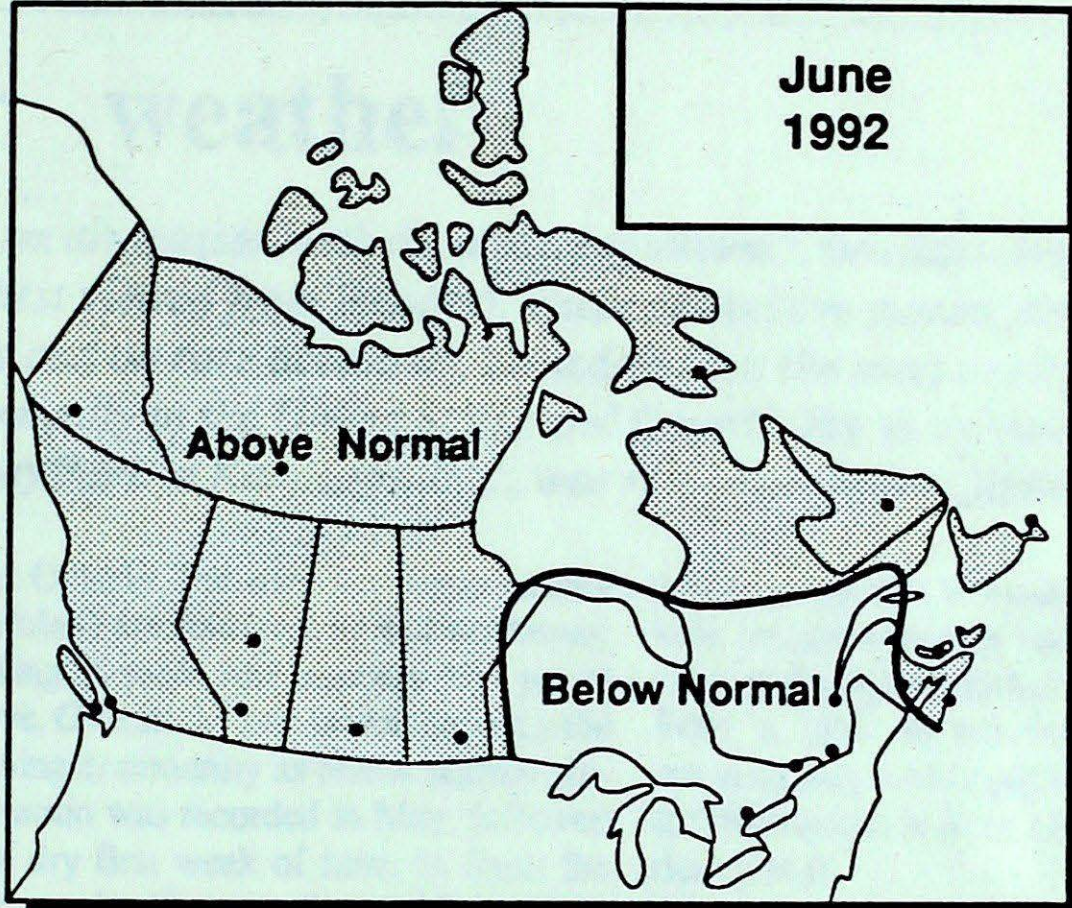
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# MONTHLY TEMPERATURE FORECAST

## 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



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