

Climatic Perspectives

April 26 to May 2, 1988

A weekly review of Canadian climate

MAY 16 1988

Vol. 10 No. 18

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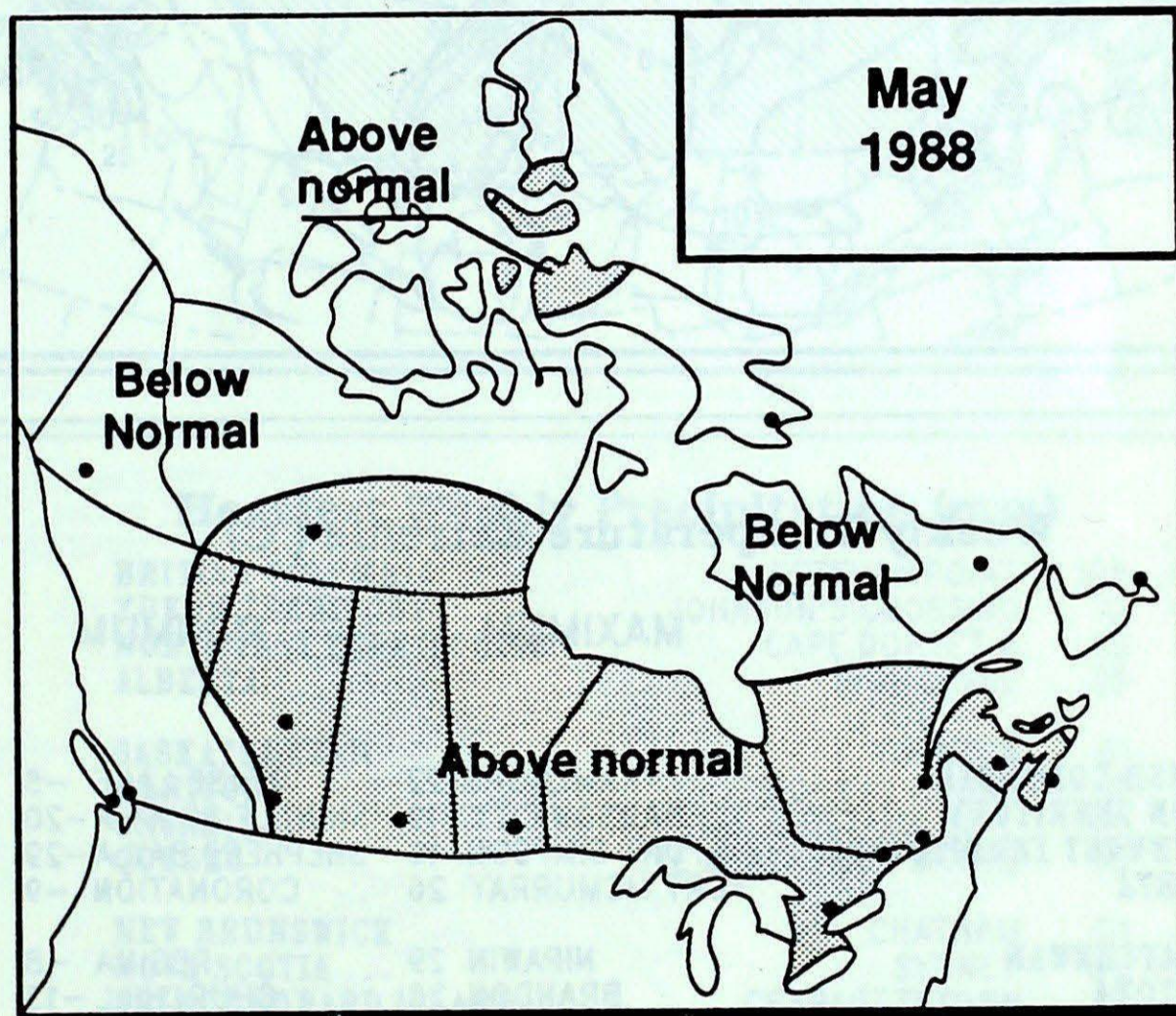
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MONTHLY TEMPERATURE FORECAST

Normal temperatures for May, °C

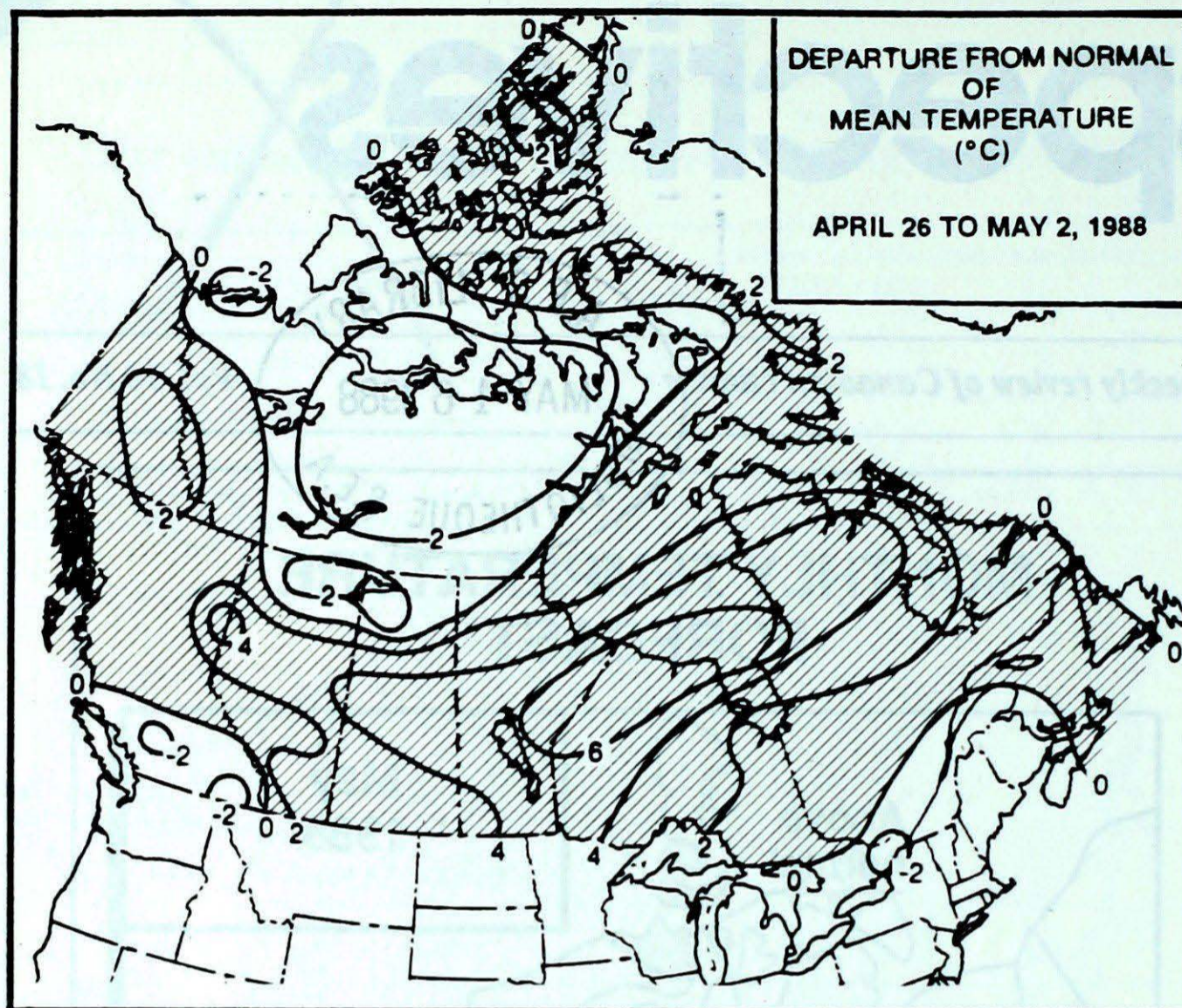
Whitehorse	7	Toronto	12
Yellowknife	5	Ottawa	13
Iqaluit	-3	Montreal	13
Vancouver	12	Quebec	11
Victoria	12	Fredericton	11
Calgary	9	Halifax	9
Edmonton	11	Charlottetown	9
Regina	11	Goose Bay	5
Winnipeg	11	St. John's	5



Canada

The above map is the latest in the evolution towards developing an acceptable format to be used in the official public product which will be formally introduced May 16, 1988. Stations near the line separating the two categories are expected to be in the transition zone between above and below normal averaged temperatures. Please forward any comments to the Canadian Climate Centre at the address or phone number listed on page 4.

- **Forest fire season begins**
- **Small tornado in Vancouver**
- **Substantial rain in western drought areas**



ACROSS THE COUNTRY ...

Yukon and Northwest Territories

In the Yukon, there were significant rainfalls as mild weather continued. There was an early breakup of river ice at Dawson City on May 1. Milder weather penetrated the eastern Arctic. Temperatures on southern Baffin Island climbed above the freezing mark, and the first occurrence of rain since last October was reported. A new daily record of 3°C was recorded at Iqaluit. High pressure predominated over the Territories giving fair, but cool conditions.

British Columbia

An unstable upper trough drifted over the province, producing cool, showery weather conditions by the middle of the week. Showers and thunderstorms were widespread, producing significant amounts of rain in the interior. Heavy snow fell in the mountain passes, disrupting transportation. Some of the drought-stricken areas and the Okanagan received 60 to 80 millimetres of much needed rain. On Sunday just before the noon hour, a small tornado touched down in Vancouver, leaving a 1 1/2 km long swath of property damage. Funnel clouds were also observed.

Prairie Provinces

In Alberta under sunny skies, the thermometer reached the record twenties, even in the more northern communities. An approaching disturbance on the 29th set off widespread shower and thunderstorm activity across the northern two-thirds of the province, but rainfalls of 10 to 25 millimetres bypassed the southern agricultural districts. The tinder-dry vegetation and forests are of great concern now that the forest fire season has arrived. Lightning-caused forest fires were brought under control quickly on Saturday, but there have already been 241 forest fires this year as compared to 149 at the same time last year. Currently, 14 forest fires are burning in the province.

In Saskatchewan and Manitoba, the week began cloudy and cool, but warmed up quickly. It was sunny and dry until the weekend, when a slow moving frontal system approached from the west. Strong southerly winds ahead of this disturbance created a dust storm in southern Manitoba on Sunday, dropping visibilities down to a

Weekly Temperature Extreme (°C)

	MAXIMUM	MINIMUM
BRITISH COLUMBIA	KAMLOOPS 22	DEASE LAKE -5
YUKON TERRITORY	DAWSON CITY 19	SHINGLE POINT A -20
NORTHWEST TERRITORIES	FORT SIMPSON 16	SHEPHERD BAY A -29
ALBERTA	FORT MCMURRAY 26	CORONATION -9
SASKATCHEWAN	NIPAWIN 29	REGINA -8
MANITOBA	BRANDON 28	CHURCHILL -13
ONTARIO	KENORA 26	MOOSONEE -11
	RED LAKE	
QUEBEC	LA GRANDE RIVIERE 21	SCHEFFERVILLE -19
NEW BRUNSWICK	SAINT JOHN 17	ST STEPHEN -3
NOVA SCOTIA	GREENWOOD 18	GREENWOOD -2
PRINCE EDWARD ISLAND	SUMMERSIDE 11	EAST POINT -1
NEWFOUNDLAND	GOOSE 15	CHURCHILL FALLS -14

ACROSS THE NATION

WARMEST MEAN TEMPERATURE	13	WINNIPEG INT'L	MAN
COOLEST MEAN TEMPERATURE	-21	SHEPHERD BAY A	NWT

1/4 km. Accompanying the disturbance was much needed rain, which fell in a band from the southern agricultural districts of eastern Saskatchewan towards the northeast.

Ontario

It was another cold, unsettled week across the eastern half of the province, as a northerly circulation and a slow moving weather system plagued the region. Frost was common, and temperatures dropped to record low daily values. Because of the cool spring in the south, crop and plant growth is one to two weeks behind schedule. High pressure dominated the weather picture in northwestern Ontario, giving sunny, dry weather conditions. A prolonged stretch of dry weather is blamed for a rash of forest fires, which broke out near the Manitoba boarder. A major blaze, whipped by gusty southerly winds, burned out of control northwest of Kenora. Several small Indian communities have been evacuated.

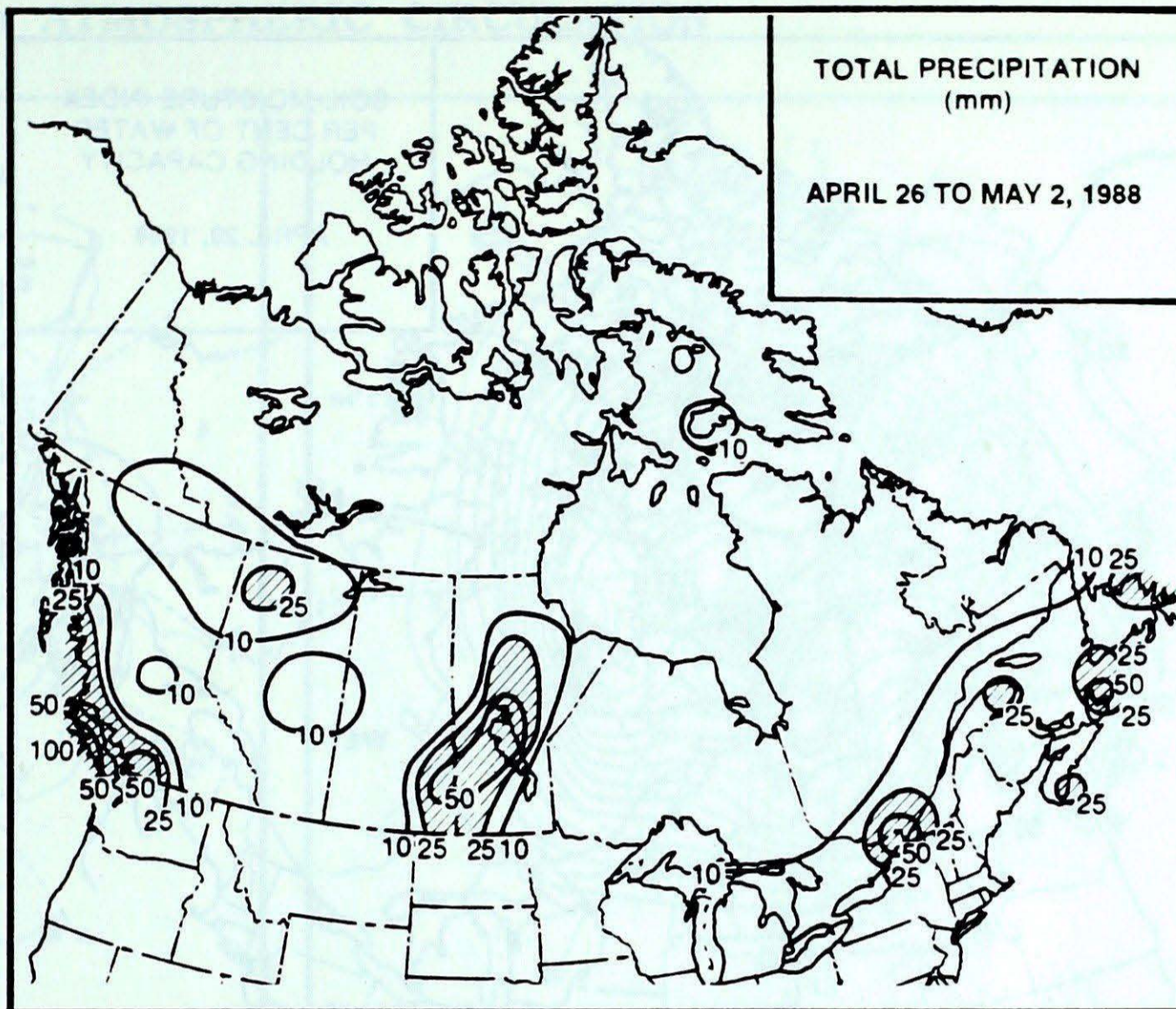
Quebec

It was a cold, dismal week over southern Quebec, raining almost every day as a slow moving cold low drifted south of the province. Heaviest rainfalls occurred on April 28 and 29, exceeding 50 mm in southwestern Quebec. A redeveloping disturbance off the New England States produced strong winds in the Trois-Rivières region on April 29, tearing limbs off trees, which in turn snapped hydro and telephone lines. At Assomption, the metal framework of a new building was destroyed. A ridge of high pressure dominated the weather picture over the northern and eastern parts of the province.

Atlantic Provinces

In the Maritimes, three days of sunshine gave way to an unsettled regime, as rain and cooler temperatures prevailed towards the end of the week.

Slow moving disturbances affected Newfoundland during the early and latter parts of the period, producing cloud and rain, and over the eastern sections of the Island, freezing precipitation and snow. For a change pleasant mild spring-like weather prevailed over the Island during the middle of the week. High pressure dominated the weather picture over Labrador, giving mainly sunny skies except near the southeast coast.



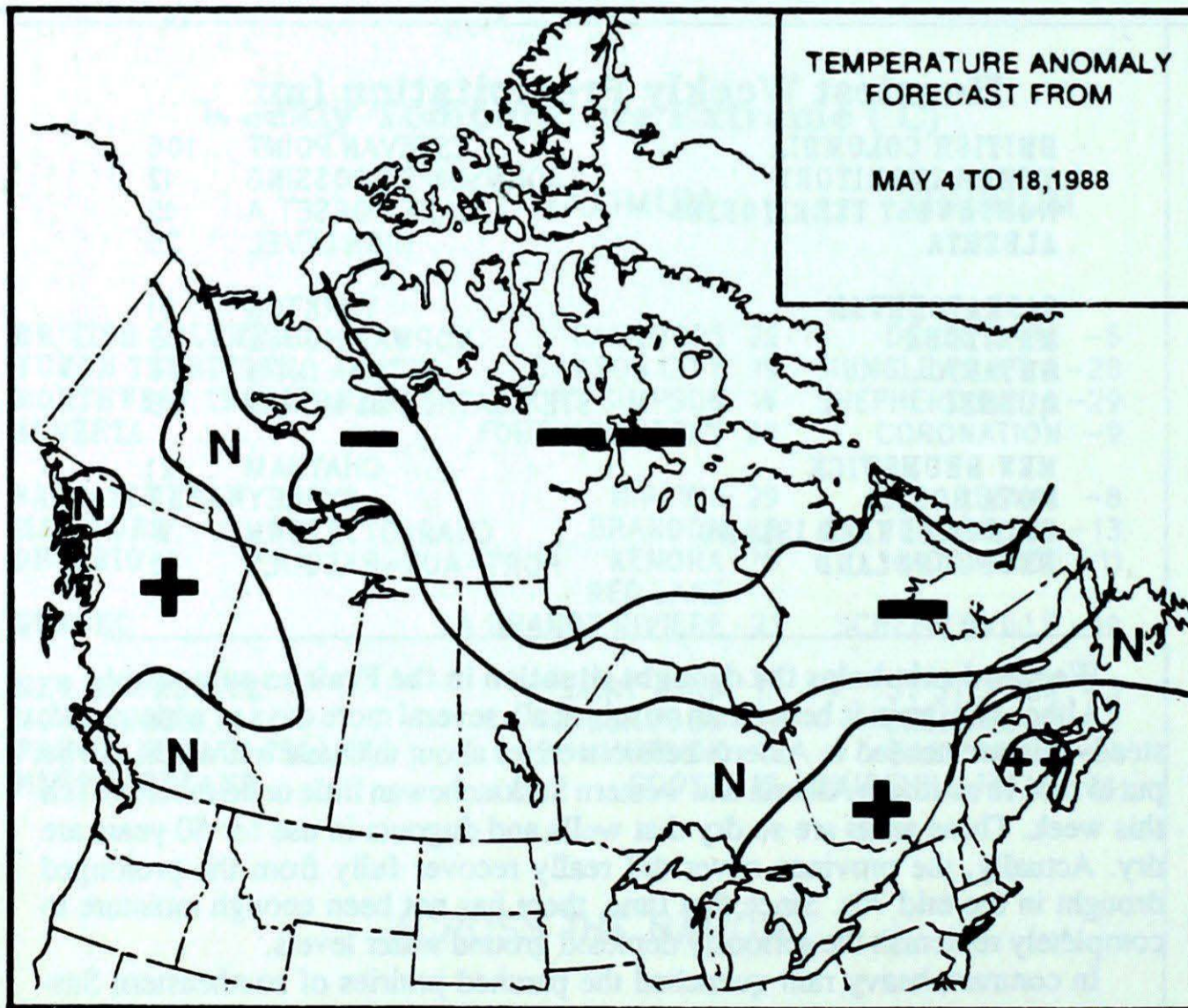
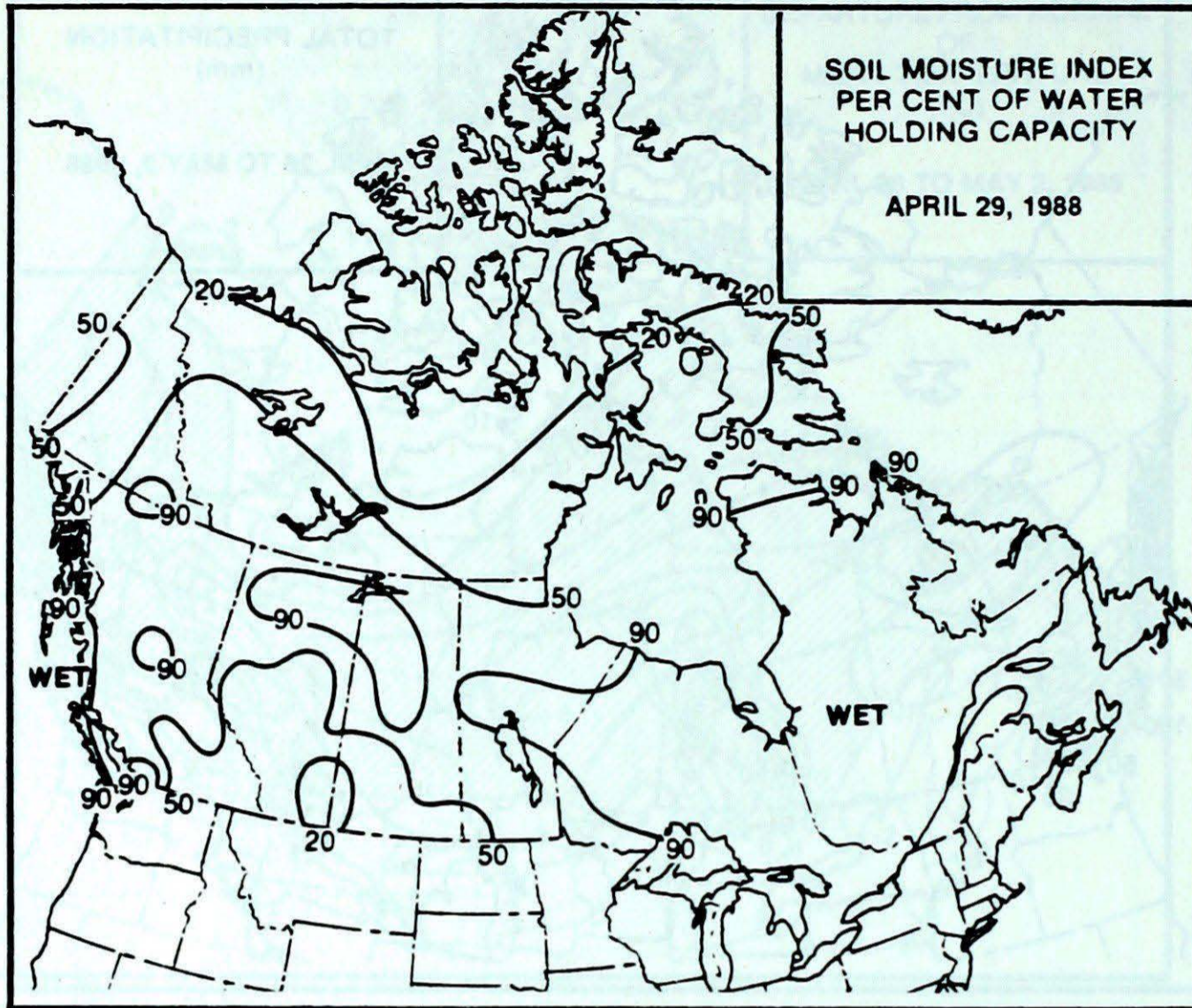
Heaviest Weekly Precipitation (mm)

BRITISH COLUMBIA	ESTEVAN POINT	106
YUKON TERRITORY	JOHNSON'S CROSSING	12
NORTHWEST TERRITORIES	CAPE DORSET A	15
ALBERTA	HIGH LEVEL	25
SASKATCHEWAN	YORKTON	61
MANITOBA	NORWAY HOUSE	65
ONTARIO	OTTAWA INT'L	44
QUEBEC	STE AGATHE DES MONTS	68
NEW BRUNSWICK	CHATHAM	21
NOVA SCOTIA	SYDNEY	83
PRINCE EDWARD ISLAND	CHARLOTTETOWN	17
NEWFOUNDLAND	PORT-AUX-BASQUES	45

Weekend rain helps the drought situation in the Prairies somewhat

Although 10 mm is better than no rain at all, several more days of widespread, steady rain are needed in Alberta before worries about this year's drought can be put to rest. In southern Alberta and western Saskatchewan little or no moisture fell this week. These areas are so dry that wells and dugouts in use for 50 years are dry. Actually, the province never did really recover fully from the prolonged drought in the mid 70s. Since that time, there has not been enough moisture to completely replenish the seriously depleted ground water levels.

In contrast, heavy rain quenched the parched prairies of southeastern Saskatchewan and western Manitoba over the weekend, with amounts ranging upwards from 20 to 40 millimetres. Although the rain was a relief to farmers living in the south, it was not all good news. In the Swan River and Riding Mountain districts of western Manitoba, rainfalls of 50 to 80 millimetres caused localized but serious flash floods, reportedly the worst in 50 years. In western Manitoba, ranchers have had to move cattle to higher ground.



- ++ much above normal
- + above normal
- N normal
- below normal
- much below normal

Temperature Anomaly Forecast

This forecast is prepared by searching historical weather maps to find cases similar to the present. The historical outcome during the 15 days subsequent to the chosen analogues is assumed to be a forecast for the next 15 days from now.

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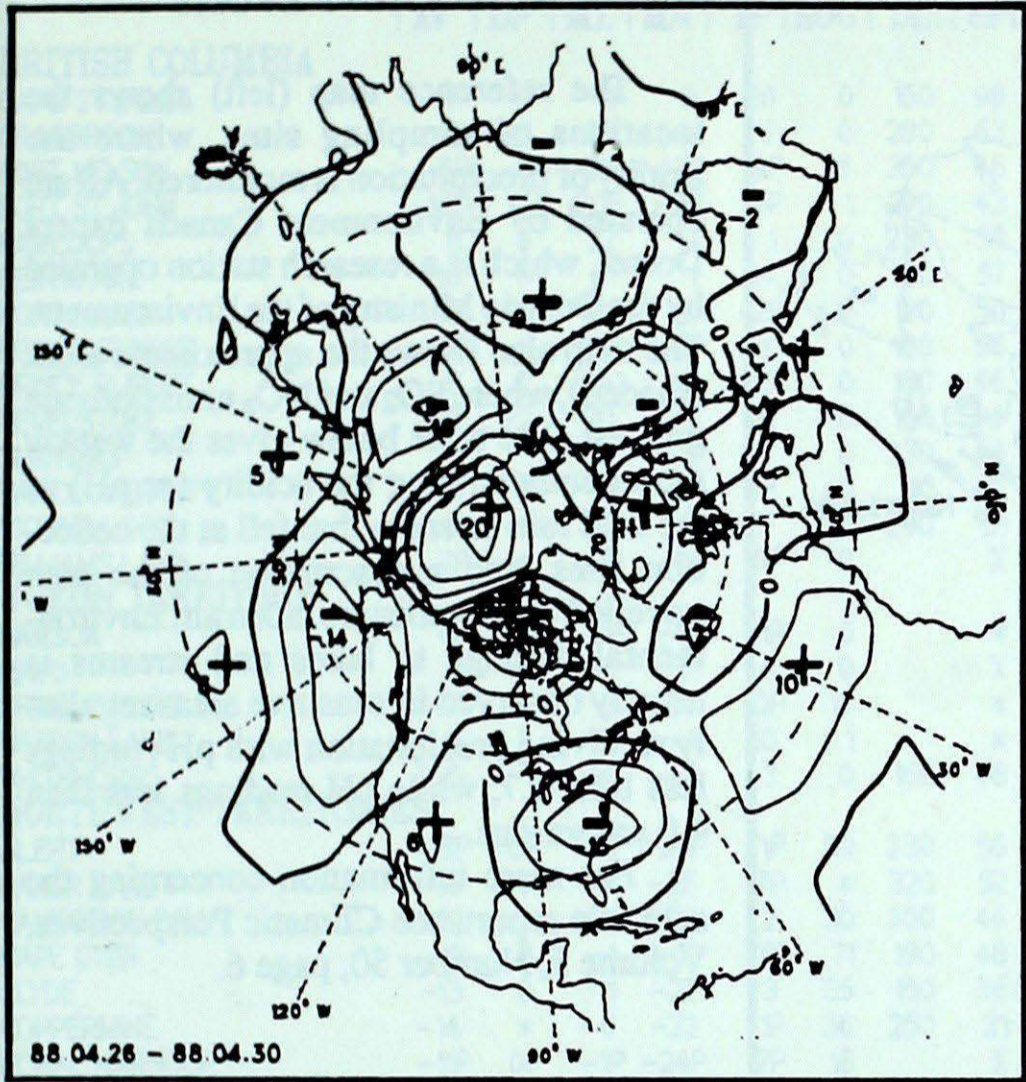
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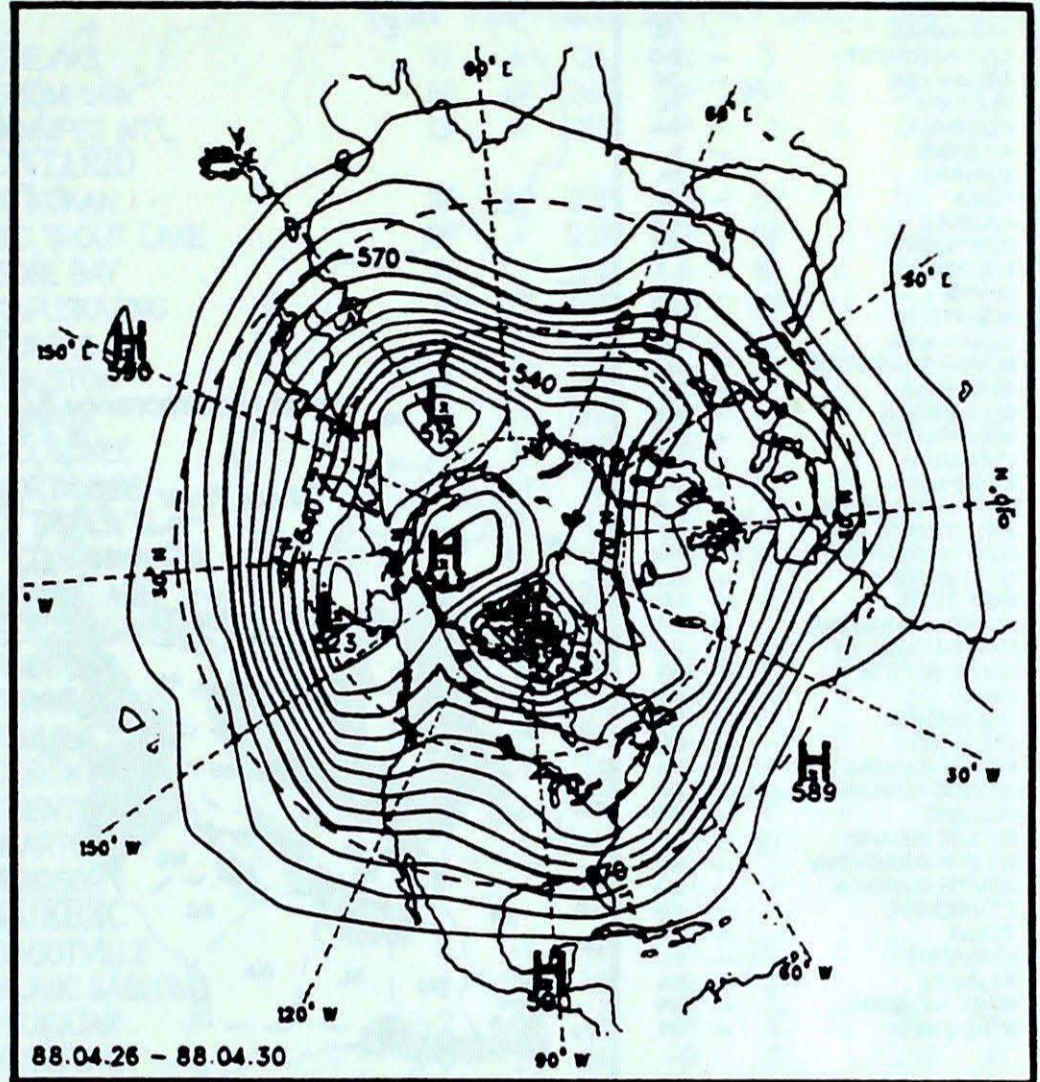
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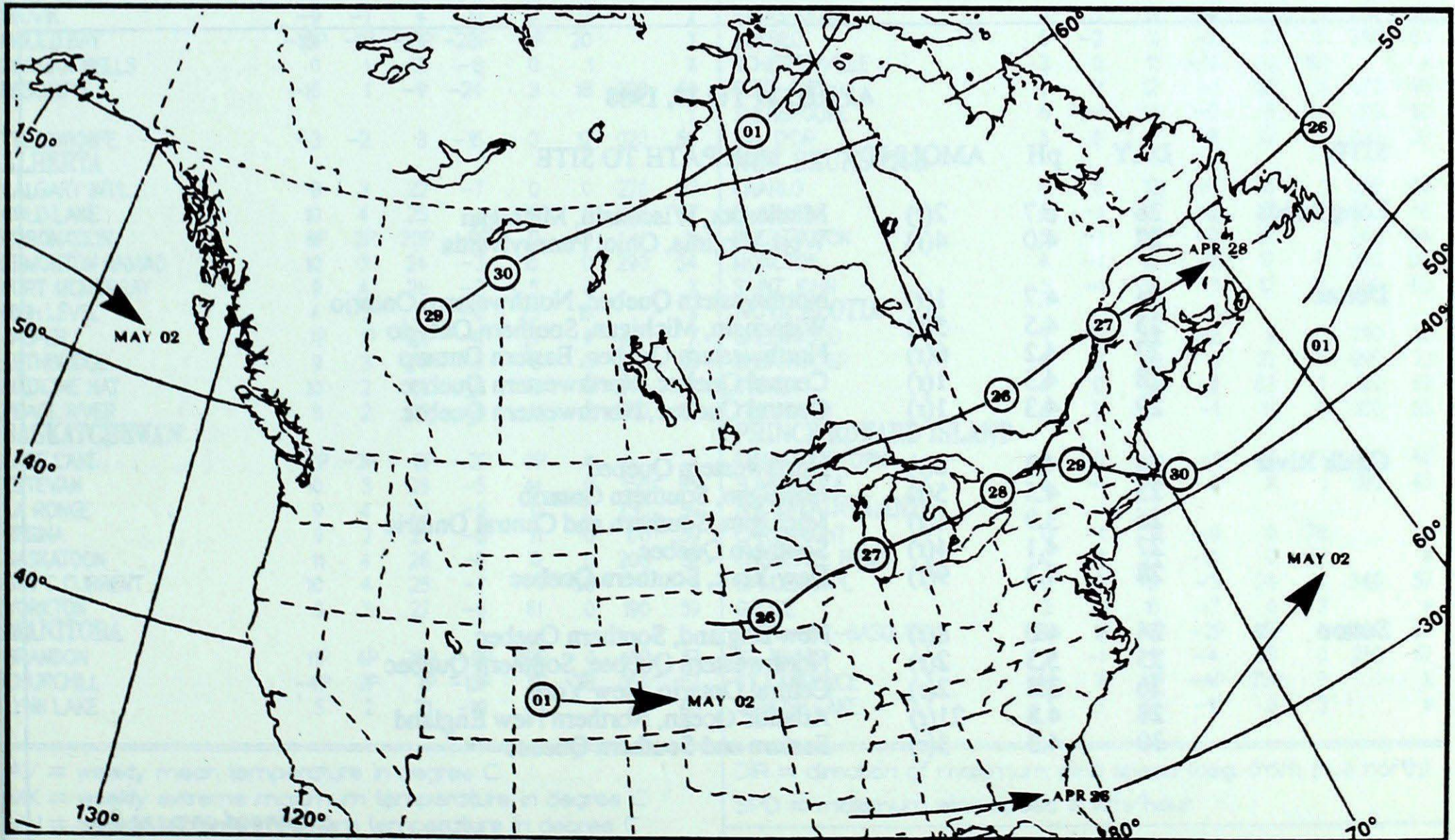
50 kPa ATMOSPHERIC CIRCULATION



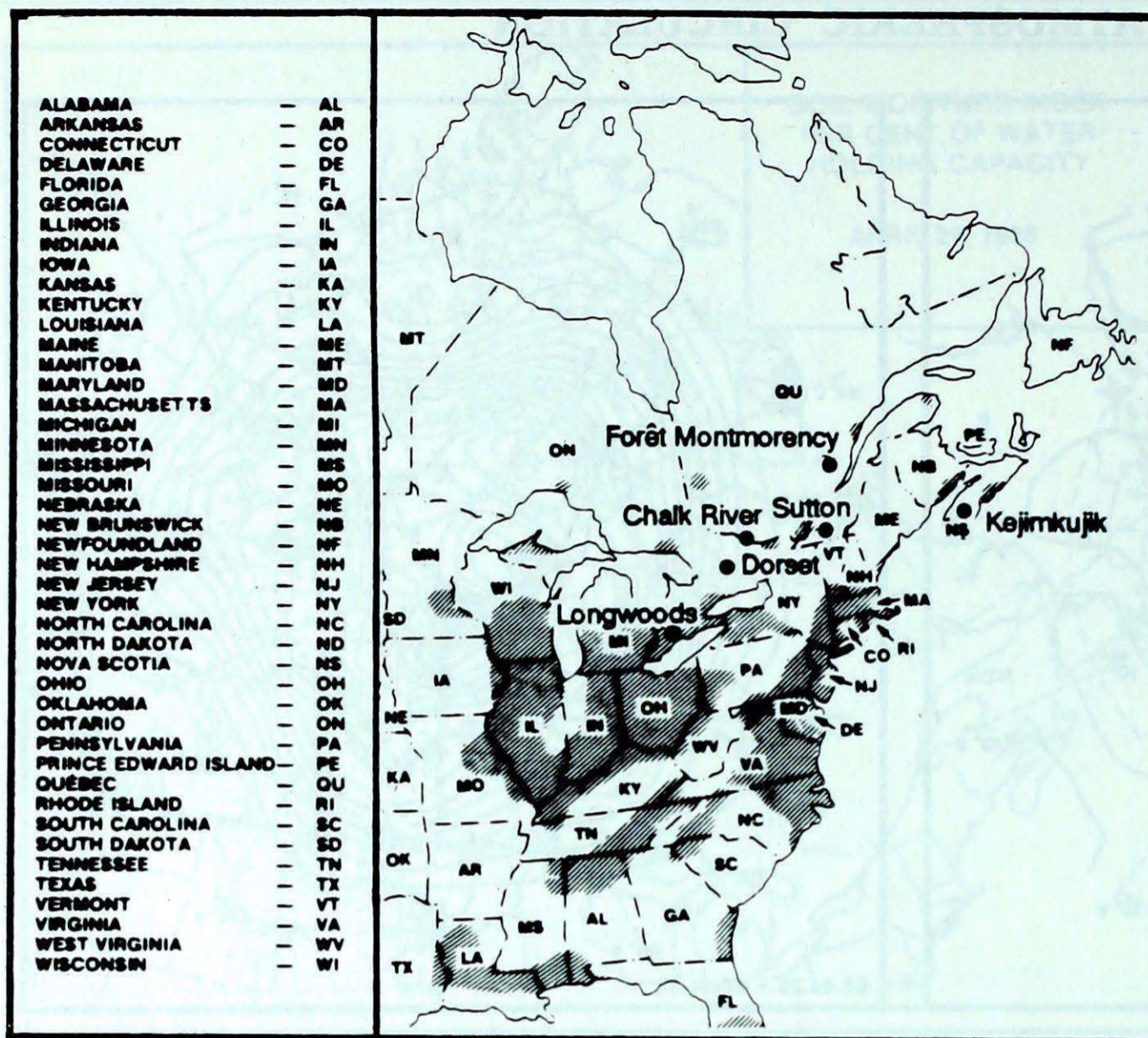
Mean geopotential height anomaly
50 kPa level (5 decameter intervals)



Mean geopotential height
50 kPa level (5 decameter intervals)



Storm track - Position of storm at 12 GMT during the period: April 26 to May 2, 1988



ACID RAIN REPORT

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 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.

For more information concerning the acid rain report, see Climatic Perspectives, Volume 5, Number 50, page 6.

APRIL 24 TO 30, 1988

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	26	6.7	2(r)	Minnesota, Wisconsin, Michigan
	27	4.0	4(r)	West Virginia, Ohio, Pennsylvania
Dorset	24	4.7	1(r)	Northwestern Quebec, Northwestern Ontario
	25	4.5	5(r)	Wisconsin, Michigan, Southern Ontario
	27	4.2	6(r)	Northwestern Quebec, Eastern Ontario
	28	4.3	1(r)	Central Quebec, Northwestern Quebec
	29	4.3	1(r)	Central Quebec, Northwestern Quebec
Chalk River	24	4.3	2(r)	Northwestern Quebec
	25	4.5	5(r)	Michigan, Southern Ontario
	26	3.9	1(r)	Michigan, Southern and Central Ontario
	27	4.1	4(r)	Southern Quebec
	28	4.3	9(r)	New York, Southern Quebec
Sutton	24	4.0	8(r)	New England, Southern Quebec
	25	5.3	2(r)	Northwestern Quebec, Southern Quebec
	26	3.8	2(r)	Central Ontario, New York
	28	4.8	21(r)	Atlantic Ocean, Northern New England
	30	4.3	3(r)	Eastern and Southern Quebec

continued on page 8 . . .

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

STATISTICS FOR THE WEEK ENDING 0600 GMT May 3, 1988

STATION	TEMPERATURE				PRECIP.		WIND MX		STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD		AV	DP	MX	MN	TP	SOG	DIR	SPD
BRITISH COLUMBIA									THE PAS								
CAPE ST. JAMES	7	0	11	3	28	0	150	98	THOMPSON	8P	6P	26P	-8P	35P	0	190	59
CRANBROOK	6	-3	20	-4	2	0	280	63	WINNIPEG INT'L	13	6	27	-7	1	0	170	85
FORT NELSON	6P	1P	21P	-2P	9P	25	350	46	ONTARIO								
FORT ST. JOHN	10P	4P	20P	-2P	6P	1	270	43	ATKOKAN	9P	4P	25P	-6P	0P	0	120	43
KAMLOOPS	11	0	22	1	1	0	230	59	BIG TROUT LAKE	9P	*	23P	-6P	0P	1	200	52
PENTICTON	10	0	21	1	14	0	180	57	GORE BAY	8	1	20	0	10	0	290	46
PORT HARDY	7P	-1P	12P	1P	42P	0	120	50	KAPUSKASING	7P	3P	23P	-4P	2P	1	020	41
PRINCE GEORGE	9P	*	20P	0P	1P	0	180	56	KENORA	13P	7P	26P	-4P	0P	0	190	54
PRINCE RUPERT	8	2	14	3	38	0	180	46	KINGSTON	7P	-1P	14P	-2P	1	0		X
REVELSTOKE	9	-2	20	-1	19	0	160	44	LONDON	8	-1	20	2	17	0	090	56
SMITHERS	7	1	19	-3	4	0	330	48	MOOSONEE	2P	1P	19P	-11P	0P	1		*
VANCOUVER INT'L	10	-1	19	3	38	0	110	44	NORTH BAY	7	1	17	-1	13	0	340	50
VICTORIA INT'L	9	-1	17	1	17	0	240	31	OTTAWA INT'L	7	-2	13	-1	44	0		X
WILLIAMS LAKE	7P	*	17P	-4P	10P	0		X	PETAWAWA	7	-1	16	-5	24	0		X
YUKON TERRITORY									PICKLE LAKE	10	8	26	-7	0	1	170	43
DAWSON	4P	*	11P	-4P	1P	0		*	RED LAKE	11	6	26	-6	0	0	200	63
MAYO	8	4	18	-2	4	0		X	SUDBURY	8P	1P	19P	-1P	3P	*		X
SHINGLE POINT A	-11	0	3	-20	0P	15		*	THUNDER BAY	8P	2P	21P	-4P	0P	0	110	33
WATSON LAKE	6	3	15	-1	10	1		*	TIMMINS	6	2	20	-6	2	0	010	41
WHITEHORSE	5	1	14	-7	3	0	160	48	TORONTO INT'L	8	-1	18	2	16	0	090	56
NORTHWEST TERRITORIES									TRENTON	7	-2	15	-3	19	0		X
ALERT	-18P	0P	-7P	-24P	1P	39	330	56	WIARTON	7	-1	18	-1	19	0		X
BAKER LAKE	-16	-4	-4	-25	7P	*	320	52	WINDSOR	10	-1	20	3	7	0	220	54
CAMBRIDGE BAY	-19	-3	-11	-28	2	30	300	46	QUEBEC								
CAPE DYER	-9	2	-1	-17	3P	71	190	48	BAGOTVILLE	4	-1	14	-3	24	0	090	48
CLYDE	-13	0	-1	-22	3	35	150	56	BLANC SABLON	2	*	10	-6	1P	0		X
COPPERMINE	-14	*	-6	-22	1P	36	250	31	INUKJUAQ	-2	5	6	-9	1P	32	180	61
CORAL HARBOUR	-11P	0P	-1P	-24P	7P	18		X	KULUJUAQ	0	5	14	-9	0	1	210	41
EUREKA	-16	3	-7	-25	1	14	280	67	KULUJUARAPIK	4	6	20	-9	1	1	160	46
FORT SMITH	2P	-1P	14P	-8P	6P	2		X	MANIWAKI	6	-1	15	-3	29	0		*
IQUALUIT	-9	1	6	-21	6	28	150	54	MONT JOLI	3	-1	10	0	16	0	060	63
HALL BEACH	-16P	-1P	-4P	-24P	3P	38	300	59	MONTREAL INT'L	7P	-2P	13P	2P	43P	0	060	56
INUVIK	-9	-1	4	-19	0	17		X	NATASHQUAN	3	1	8	-4	14	1	080	46
MOULD BAY	-18P	-1P	-13P	-23P	2P	20		X	QUEBEC	5	-2	11	-2	17	0	080	63
NORMAN WELLS	0	1	13	-8	0	1		X	SCHIEFFERVILLE	-3	0	11	-19	0	62		*
RESOLUTE	-16	1	-9	-24	3	18	020	59	SEPT-ILES	4	1	12	-1	22	0	070	46
								X	SHERBROOKE	6	-1	13	-3	8	0	080	50
								X	VAL D'OR	5	0	17	-8	22	0	050	39
YELLOWKNIFE	-3	-2	8	-15	0	12	020	50	NEW BRUNSWICK								
ALBERTA									CHARLO	4	0	12	-1	16	1	090	43
CALGARY INT'L	8	3	22	-7	0	0	270	67	CHATHAM	4	-1	13	-2	21	0	080	46
COLD LAKE	10	4	25	-1	18	0	240	67	FREDERICTON	5	-1	14	-2	18	1	060	44
CORONATION	8P	2P	23P	-9P	0	0		*	MONCTON	4	-1	13	-2	17	0	080	54
EDMONTON NAMAO	10	3	24	-3	15	0	290	54	SAINT JOHN	5	-1	17	-1	13	0	090	63
FORT MCMURRAY	9	4	26	-3	5	0		X	NOVA SCOTIA								
HIGH LEVEL	4	-3	21	-8	25	15		*	GREENWOOD	7	0	18	-2	9	0	090	52
JASPER	7P	1P	18P	-4P	2P	0		X	SHEARWATER	6	0	13	1	22	0	090	72
LETHBRIDGE	9	3	24	-5	0	0	260	85	SYDNEY	4	0	12	-2	83	0	120	59
MEDICINE HAT	10	2	25	-8	0	0	240	74	YARMOUTH	6	0	17	-1	18	0	100	65
PEACE RIVER	8	2	22	-4	11	2	250	52	PRINCE EDWARD ISLAND								
SASKATCHEWAN									CHARLOTTETOWN	4	0	11	-1	17	1	090	46
CREE LAKE	2P	-3P	6P	-3P	0P	*		*	SUMMERSIDE	4	-1	11	0	11	1	070	46
ESTEVAN	10	3	28	-5	41	0	350	85	NEWFOUNDLAND								
LA RONGE	9	4	25	-5	0	0	230	59	CARTWRIGHT	0	-1	11	-9	0	78		*
REGINA	9	2	27	-8	11	0	170	59	CHURCHILL FALLS	0	1	13	-14	0	53		*
SASKATOON	11	4	26	-6	0	0	200	52	GANDER INT'L	3	0	12	-3	24	4	340	57
SWIFT CURRENT	10	4	25	-7	1	0		X	GOOSE	3	1	15	-7	0	3		*
YORKTON	9	3	27	-6	61	0	190	59	PORT-AUX-BASQUES	3P	1P	9P	-2P	45P	0	090	85
MANITOBA									ST JOHN'S	2	-1	11	-4	18	0	250	67
BRANDON	11P	4P	28P	-9P	29P	0	160	57	ST LAWRENCE	4P	1P	11P	-4P	23P	0		X
CHURCHILL	-4P	2P	7P	-13P	3P	38	050	57	WABUSH LAKE	1	3	12	-11	0	3		*
LYNN LAKE	5	2	21	-10	0	1	210	46									

AV = weekly mean temperature in degree C
 MX = weekly extreme maximum temperature in degree C
 MN = weekly extreme minimum temperature in degree C
 TP = weekly total precipitation in mm
 DP = departure of mean temperature from normal in degree C
 SOG = snow depth on ground in cm, last day of the period

DIR = direction of maximum wind speed (deg. from true north)
 SPD = maximum wind speed in km/hour

X = not observed
 P = value based on less than 7 days
 * = missing

... continued from page 6

ACID RAIN

April 24 to 30, 1988

Montmorency	24	4.3	9(m)	Eastern Quebec, Maine
	26	4.2	7(s)	Northwestern Quebec, Southern Quebec
	28	4.8	3(s)	Nova Scotia, New Brunswick, Maine
	29	5.0	5(s)	Nova Scotia, New Brunswick, Eastern Quebec
	30	4.5	3(s)	Gulf St. Lawrence, Eastern Quebec
Kejimkujik	24	5.3	26(m)	Gulf St. Lawrence, Atlantic Ocean
	25	5.5	4(r)	Atlantic Ocean, Nova Scotia
	29	5.9	26(r)	Atlantic Ocean
	30	5.2	3(r)	Atlantic Ocean

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

