Environment Canada Environnement Canada

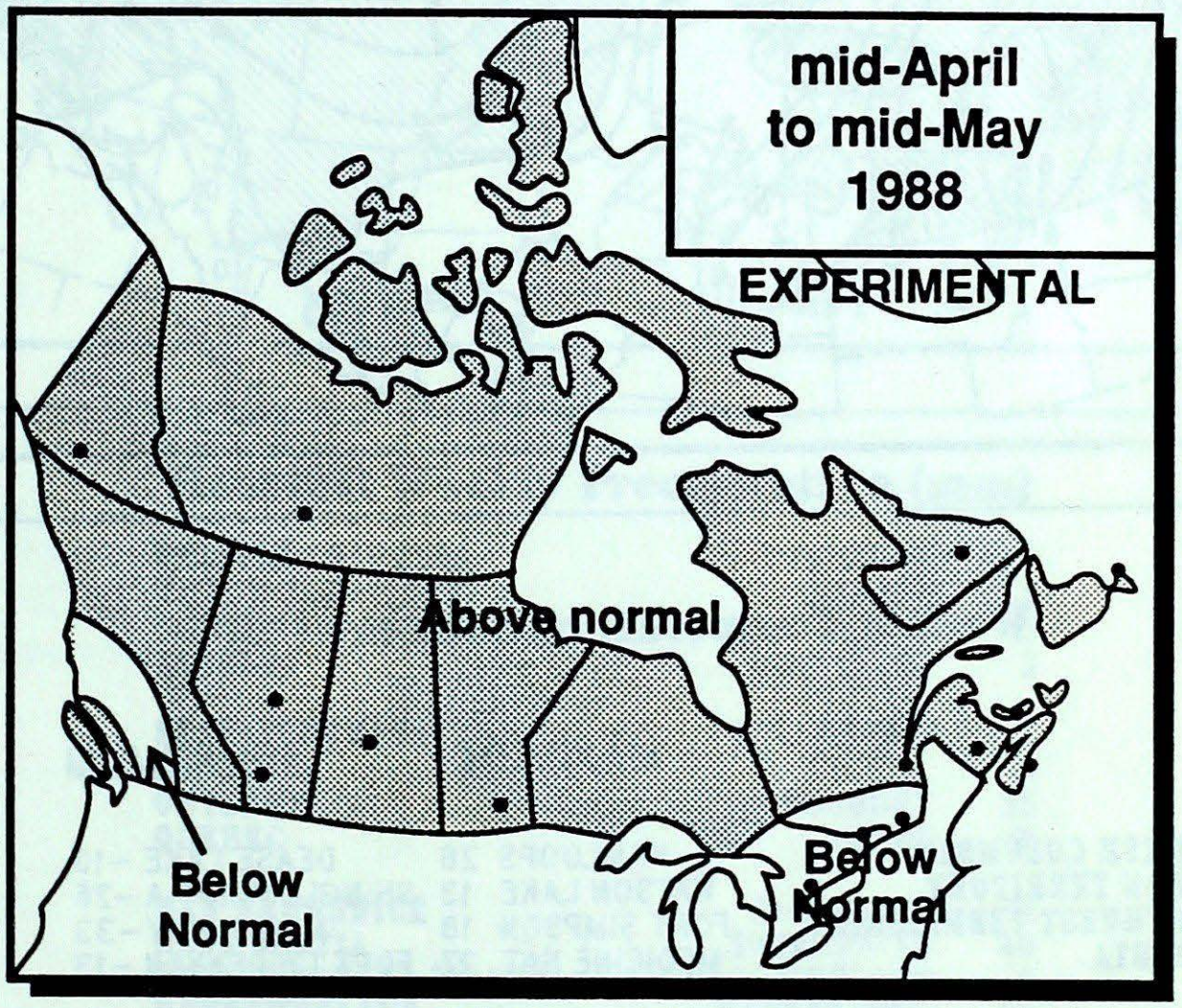
Climatic Perspectives

April 12 to 18, 1988 — *A weekly review of Canadian climate* — *Vol. 10 No. 16*

Environment Canada Environnement Canada

Atmospheric Environment Service Service de l'environnement atmosphérique

MONTHLY TEMPERATURE FORECAST



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

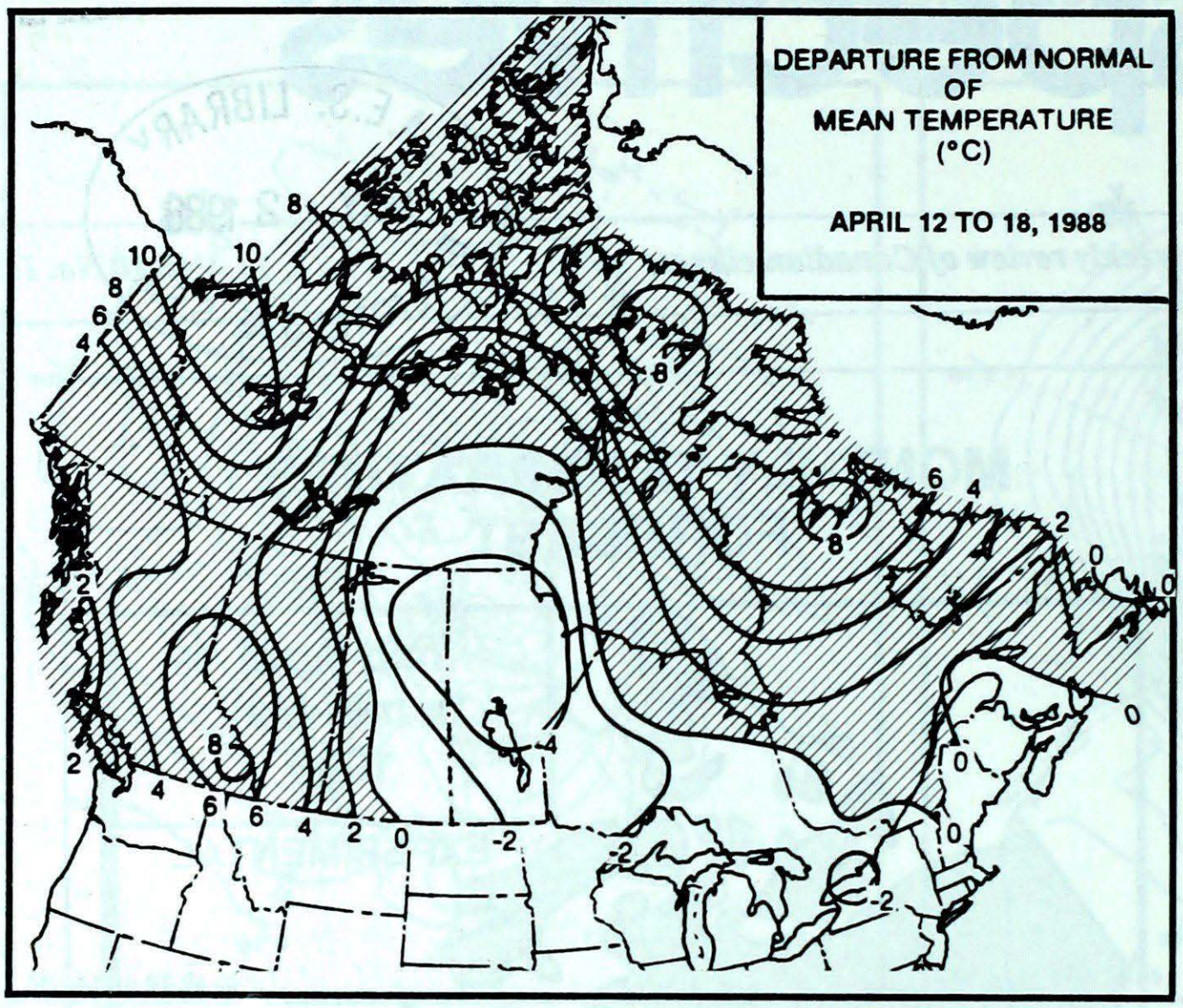
Whitehorse	4	Toronto	9
Yellowknife	-1	Ottawa	9
Iqaluit	-9	Montreal	9
Vancouver	11	Quebec	7
Victoria	10	Fredericton	7
Calgary	6	Halifax	6
Edmonton	7	Charlottetown	5
Regina	7	Goose Bay	2
Winnipeg	7	St. John's	3

Canada

The above new temperature forecast format is the one currently proposed for the official public product to be released effective May 15, 1988. Please forward any comments to the Canadian Climate Centre at the address listed on page 4.

- **Winter returns to the East**
- **Freezing rain causes power blackouts in Newfoundland and Quebec**

Canada



Weekly Temperature extreme (°C)

	MAXIMUM		MINIMUM	
BRITISH COLUMBIA	KAMLOOPS	28	DEASE LAKE	−10
YUKON TERRITORY	WATSON LAKE	13	SHINGLE POINT A	−26
NORTHWEST TERRITORIES	FORT SIMPSON	18	MOULD BAY	−33
ALBERTA	MEDICINE HAT	27	FORT CHIPEWYAN	−13
SASKATCHEWAN	KINDERSLEY	24	CREE LAKE	−20
MANITOBA	GRETNA	24	CHURCHILL	−20
ONTARIO	THUNDER BAY	21	BIG TROUT LAKE	−17
QUEBEC	MANIWAKI	15	SCHEFFERVILLE	−21
NEW BRUNSWICK	FREDERICTON	12	MONCTON	−8
NOVA SCOTIA	GREENWOOD	11	GREENWOOD	−7
PRINCE EDWARD ISLAND	CHARLOTTETOWN	12	SUMMERSIDE	−5
NEWFOUNDLAND	STEPHENVILLE WABUSH LAKE	8	WABUSH LAKE	−17

ACROSS THE NATION

WARMEST MEAN TEMPERATURE	16	KAMLOOPS BC
COOLEST MEAN TEMPERATURE	−21	EUREKA NWT

ACROSS THE COUNTRY . . .

Yukon and the Northwest Territories

A ridge of high pressure extended northwards into the western Arctic, resulting in mainly sunny skies. Spring weather conditions covered the Yukon and Mackenzie District, rapidly depleting the snow cover, as temperatures soared to the double digits. Snow and freezing rain affected the Great Slave Lake area on the 15th. Daily temperature records were broken in the Mackenzie Valley and the western Arctic. Wind and blizzard warnings were issued for northern Hudson Bay. In the eastern Arctic, a southerly circulation nudged temperatures up close to the freezing mark on Baffin Island, where snowfalls ranged between 5 and 15 centimetres. In contrast, readings in the high Arctic registered in the minus thirties.

British Columbia

It started out as a gorgeous spring week, with lots of sunshine. Weather conditions deteriorated towards the end of the period, as the ridge of high pressure moved eastwards. New daily record high temperatures were established in the southern interior, with readings climbing to the mid-to high twenties. Heaviest precipitation, in the form of scattered thundershowers during the weekend, fell in the drought stricken areas of the southern interior. Fruit trees are blooming in the southern valleys about ten days ahead of normal. In the south, the snowpack remains 10 to 20 percent below the long term average, but is closer to normal further north.

Prairie Provinces

In Alberta, a ridge of high pressure dominated the weather picture, giving mostly sunny skies and above normal temperatures. In the south, daytime readings climbed to the mid-twenties. The continuing dry weather is blamed for an out break of forest and brush fires in the province. The largest blaze was a 95 hectare fire west of Slave Lake, northwest of Edmonton. Fire fighters have responded to a number of grass fires, which have been burning near populated areas. In the Edmonton area alone there have been more than 20 fires during the weekend.

In Saskatchewan and Manitoba, the passage of two Arctic cold fronts insured that temperatures remained on the cool side. The south was predominantly sunny, dry and breezy. A few new daily high temperature records were set early in the week. Fields in the south are very dry. Light snow fell in the north. Churchill picked up an additional 20 cm.

Ontario

As is typical for this time of year it was a changeable week. Record warm temperatures gave way to near record cold by Friday, as a sharp cold front accompanied by thunderstorms swept the province. Hail was reported in a number of areas of southern and central Ontario late on the 14th. Brief downpours produced 10 to 20 millimetres of rain. Daytime temperatures in the teens at the beginning of the week, barely climbed above the freezing mark on Friday. In Toronto, the Blue Jays baseball game was cancelled Friday evening as a result of the cold and windy weather. On Sunday, daytime readings rebounded upwards once again, only to be suppressed by the passage of another sharp cold front the following day.

Quebec

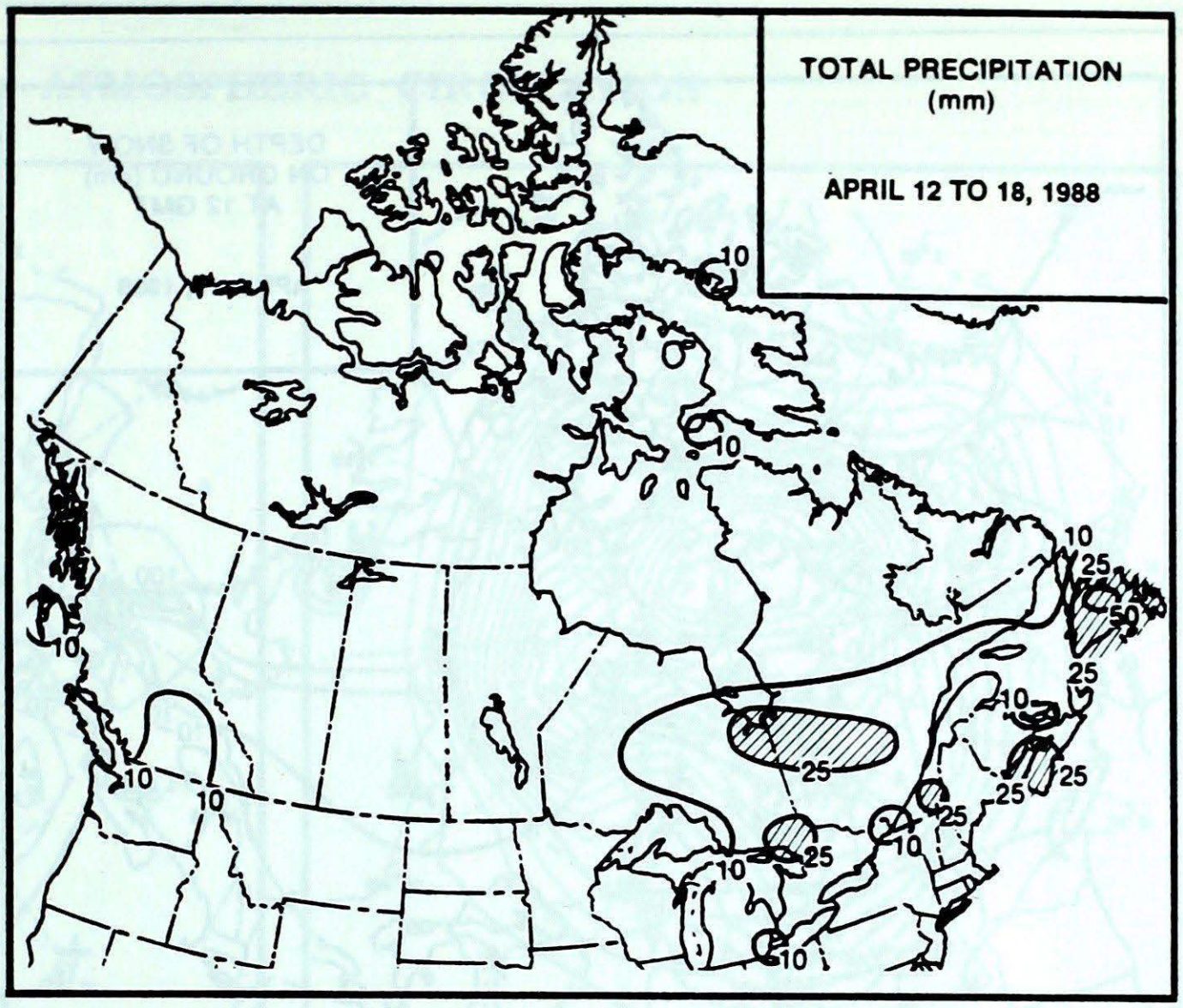
A spring snow storm hit southern Quebec during the weekend, dumping 15 to 20 centimetres of fresh snow in the Eastern Townships on April 16. The mountainous areas along the north shore and the north coast received 10 to 15 centimetres of snow, respectively. Traffic accidents and several fatalities are attributed to the storm. A ridge of high pressure affected the province earlier in the week, giving sunny skies and warm temperatures. Record warm, above freezing temperatures were recorded in northern Quebec. There is speculation that the weather may have been a contributing factor for the widespread power blackout across the province late on the 18th.

Maritime Provinces

Weather conditions were variable, with disturbances producing mixed precipitation during the early and latter parts of the period. Fair, but cool conditions dominated the weather picture between weather systems. On the April 16, 5 to 10 centimetres of snow fell on Saint John, N.B., causing traffic tie-ups. On April 14 and 15, minimum temperatures dropped to near record low values.

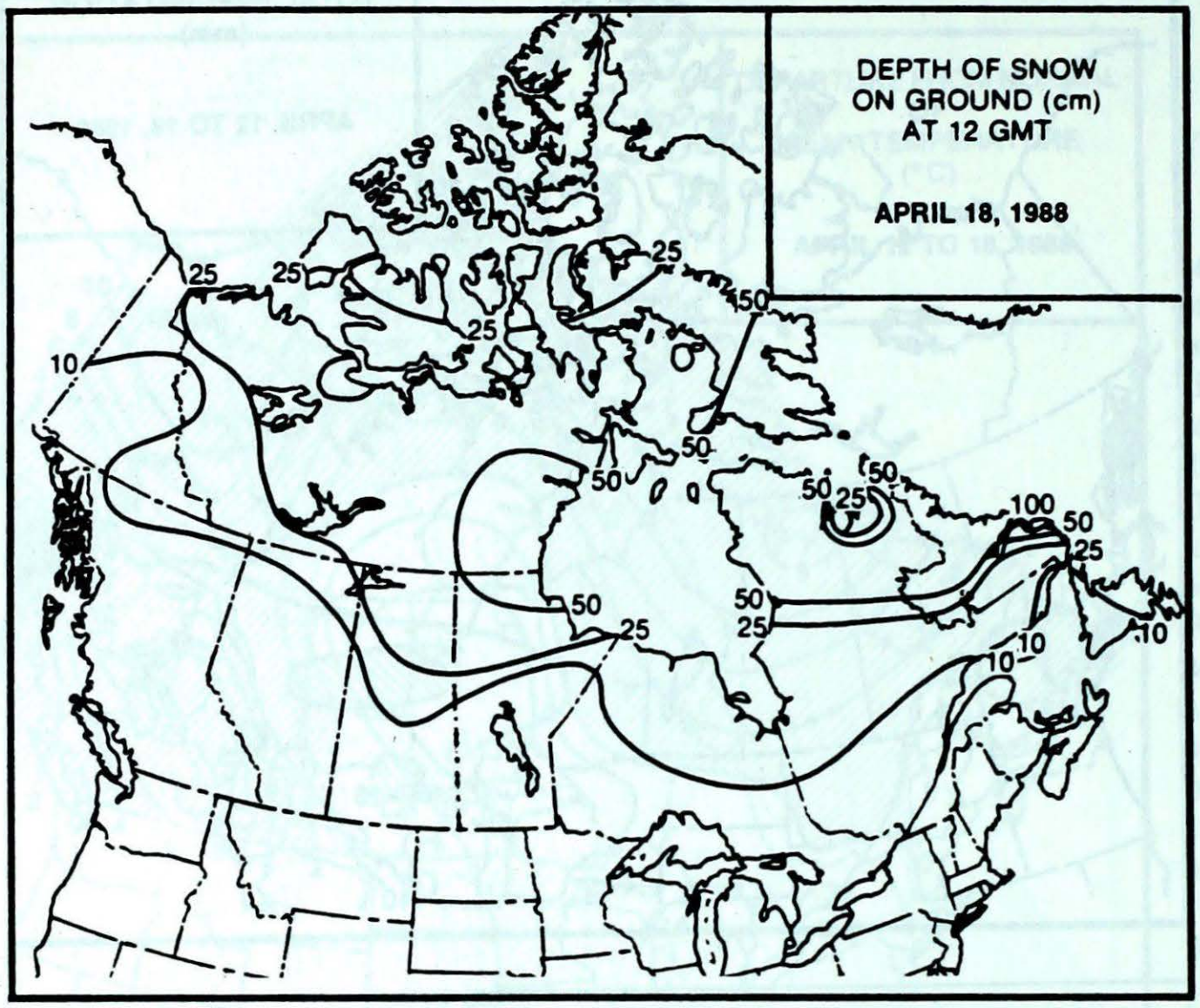
Newfoundland

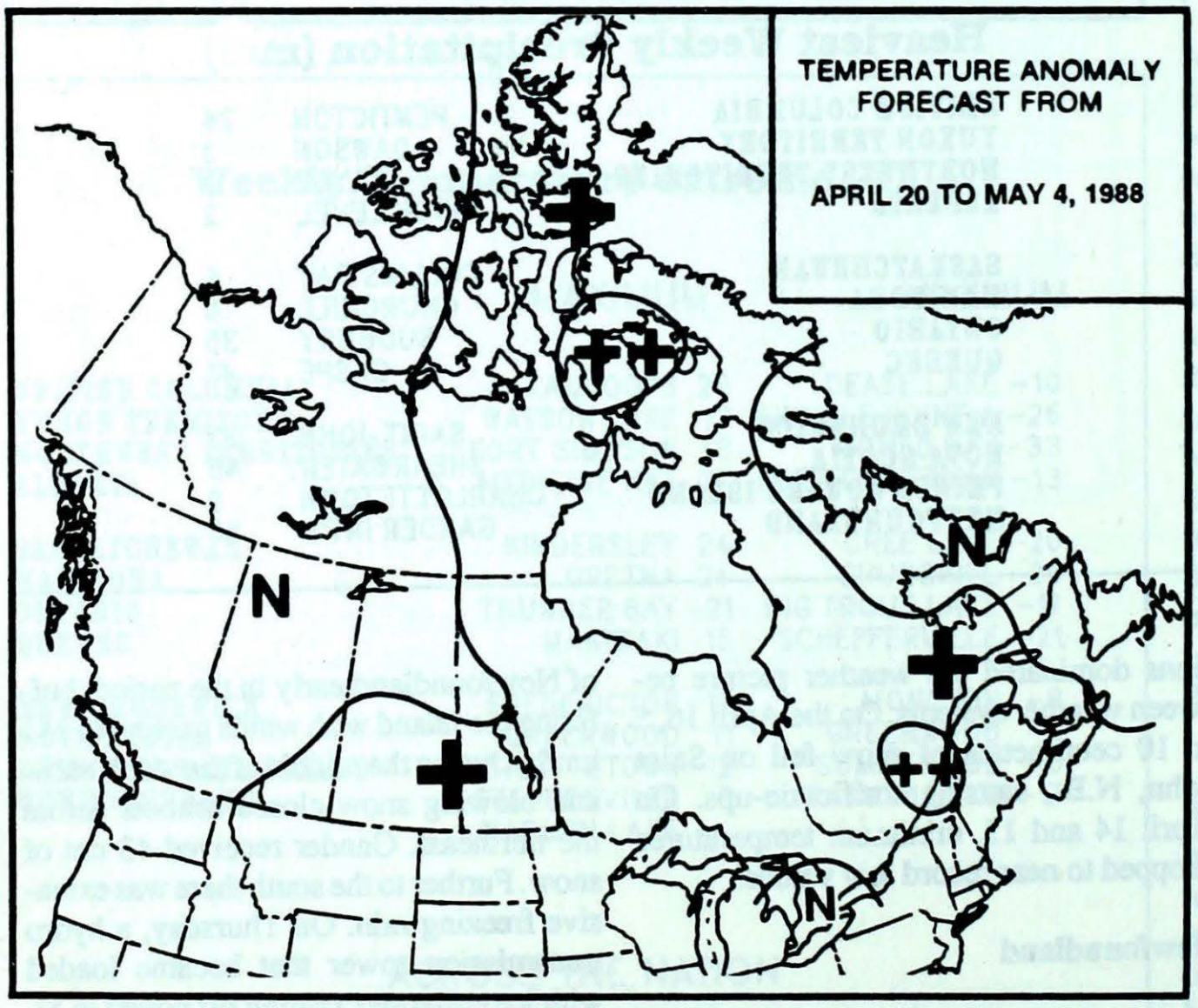
The unsettled weather pattern of last week continued, with periods of snow, rain, drizzle and freezing precipitation. The fierce slow moving storm, which affected the Maritimes last week, moved east of Newfoundland early in the period, buffeting the Island with winds gusting to 141 km/h. During the middle of the week, snow and blowing snow closed schools across the northeast. Gander received 43 cm of snow. Further to the south there was extensive freezing rain. On Thursday, a hydro transmission tower that became loaded with ice collapsed, cutting off power to St. John's and most of the Avalon Peninsula. Hydro was off for nearly 8 hours, forcing many businesses to close. In Labrador, it was generally fair until the weekend, when 5 cm of fresh snow covered the ground.



Heaviest Weekly Precipitation (mm)

BRITISH COLUMBIA	PENTICTON	24
YUKON TERRITORY	DAWSON	3
NORTHWEST TERRITORIES	CLYDE	12
ALBERTA	HIGH LEVEL	2
SASKATCHEWAN	COLLINS BAY	4
MANITOBA	CHURCHILL	6
ONTARIO	SUDBURY	35
QUEBEC	GASPE	47
NEW BRUNSWICK	SAINT JOHN	32
NOVA SCOTIA	SHEARWATER	46
PRINCE EDWARD ISLAND	CHARLOTTETOWN	9
NEWFOUNDLAND	GANDER INT'L	50





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

Unsolicited articles are welcome but should be at maximum about 1500 words in length. They will be subject to editorial change without notice due to publishing time constraints. The contents may be reprinted freely with proper credit.

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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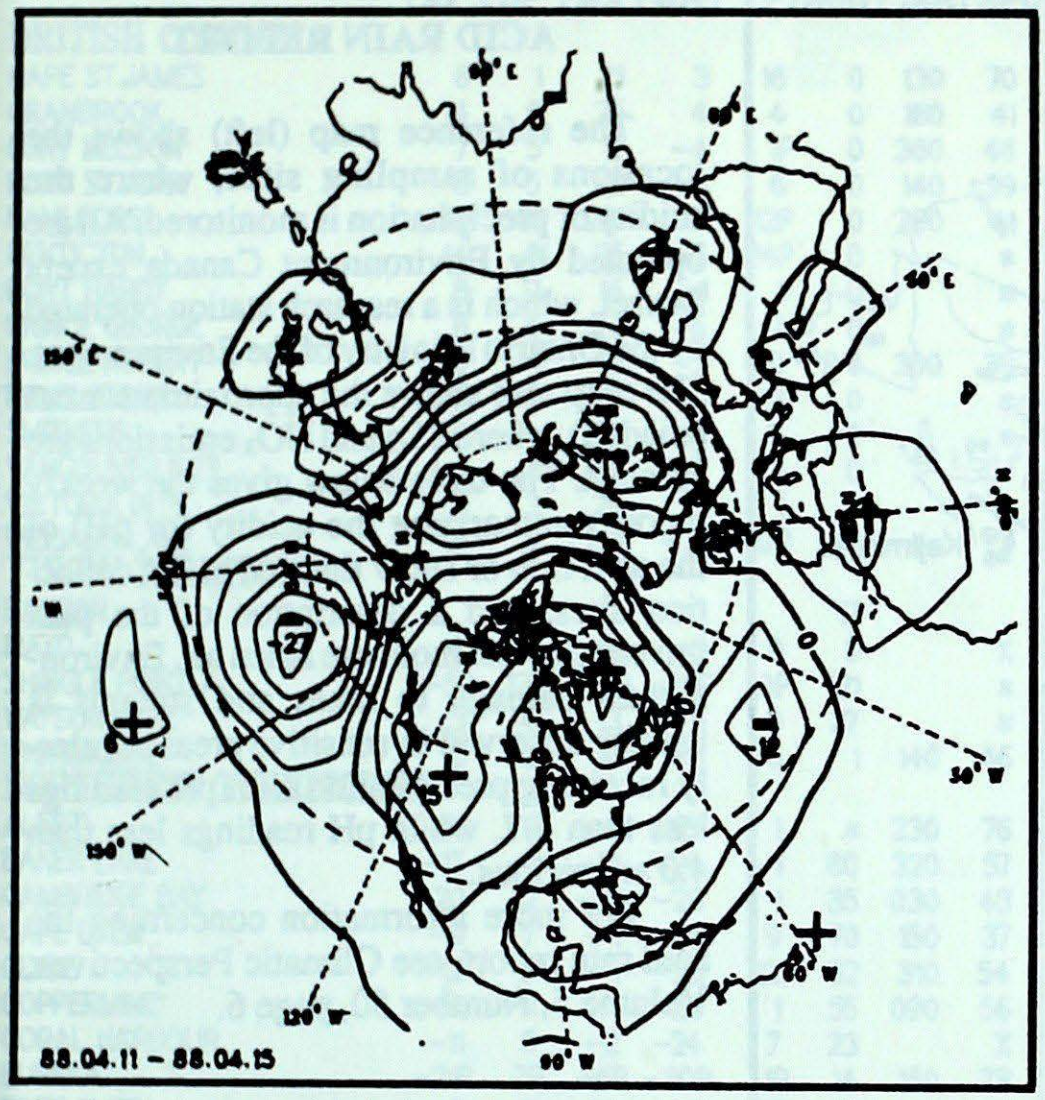
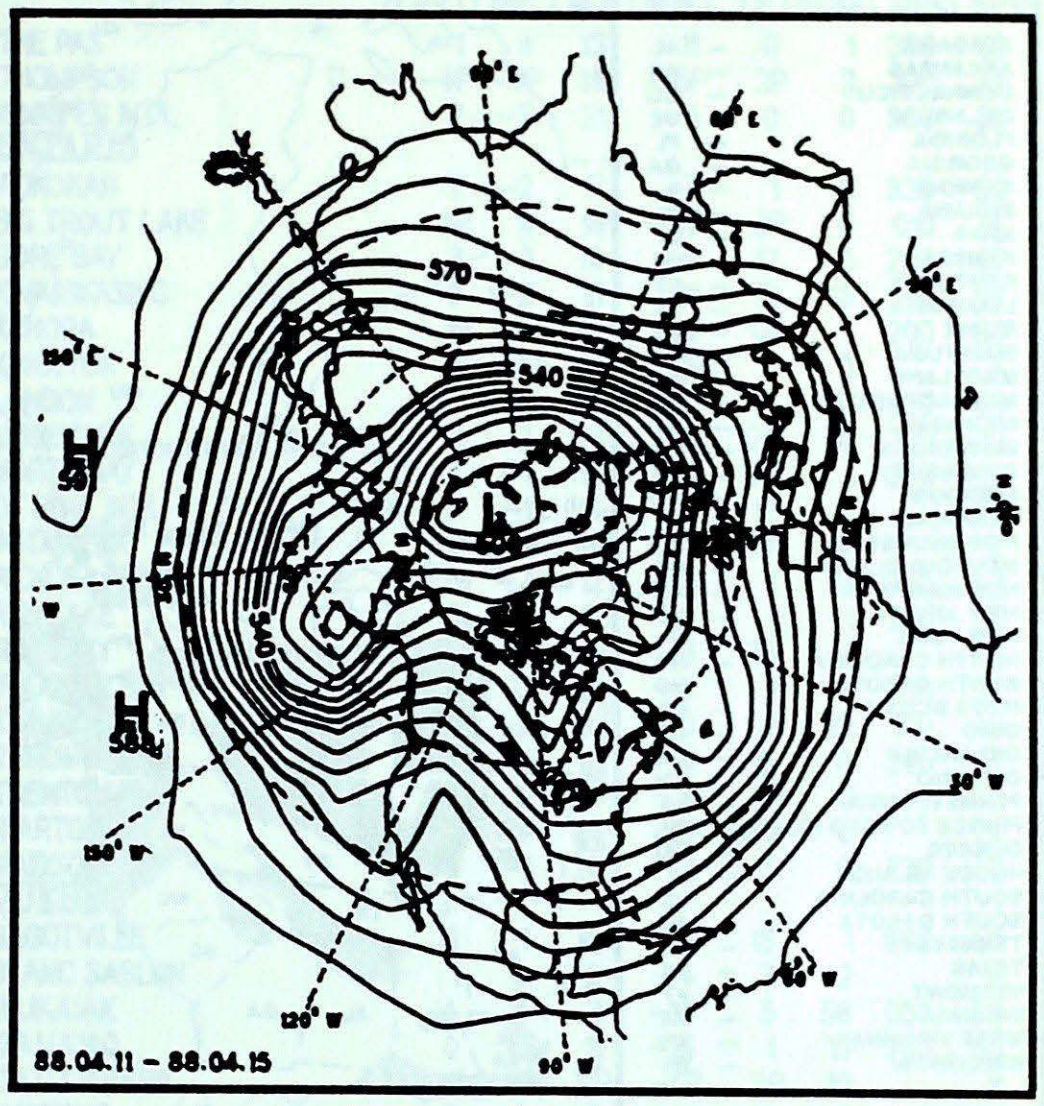
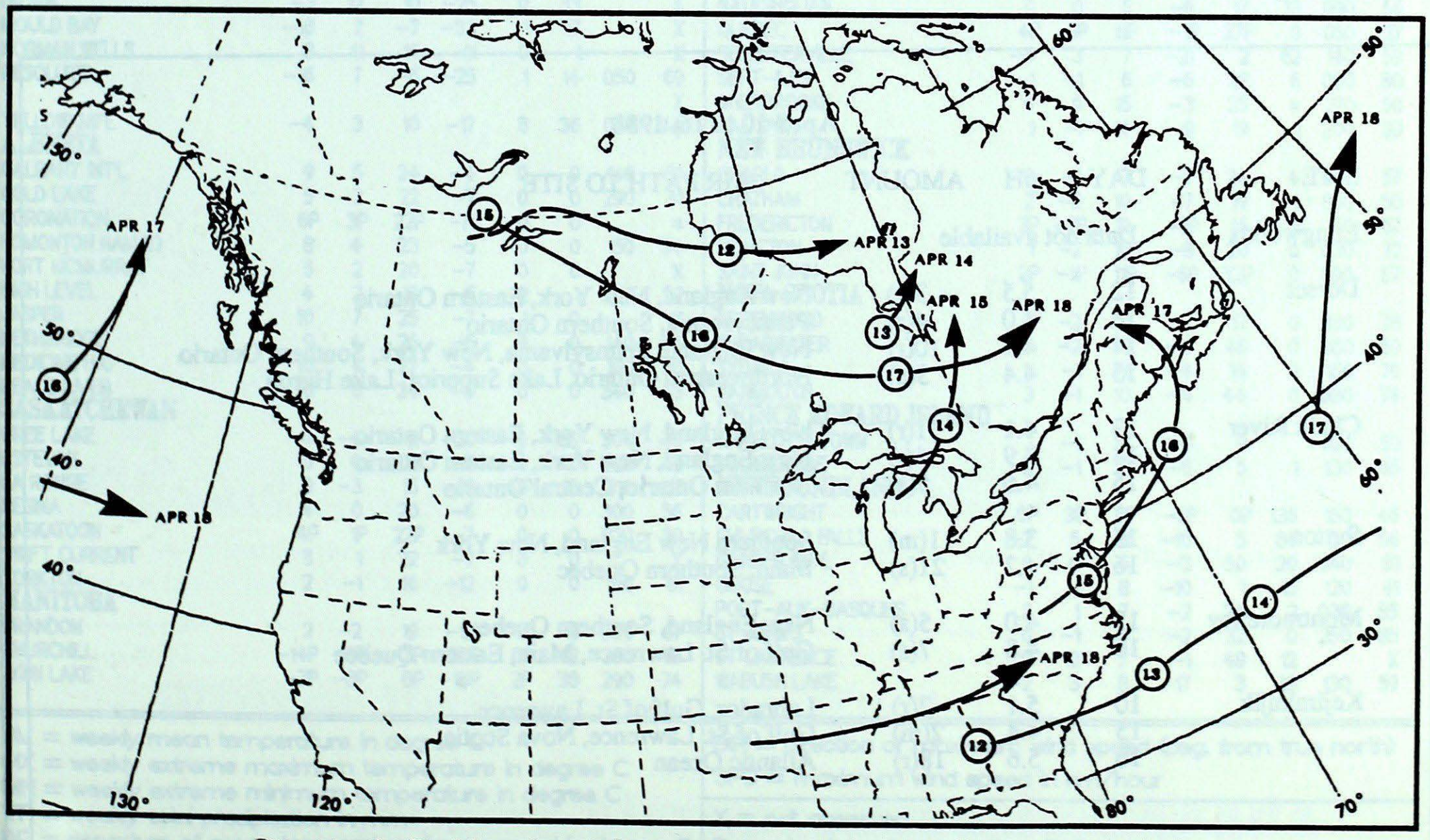
50 kPa ATMOSPHERIC CIRCULATION



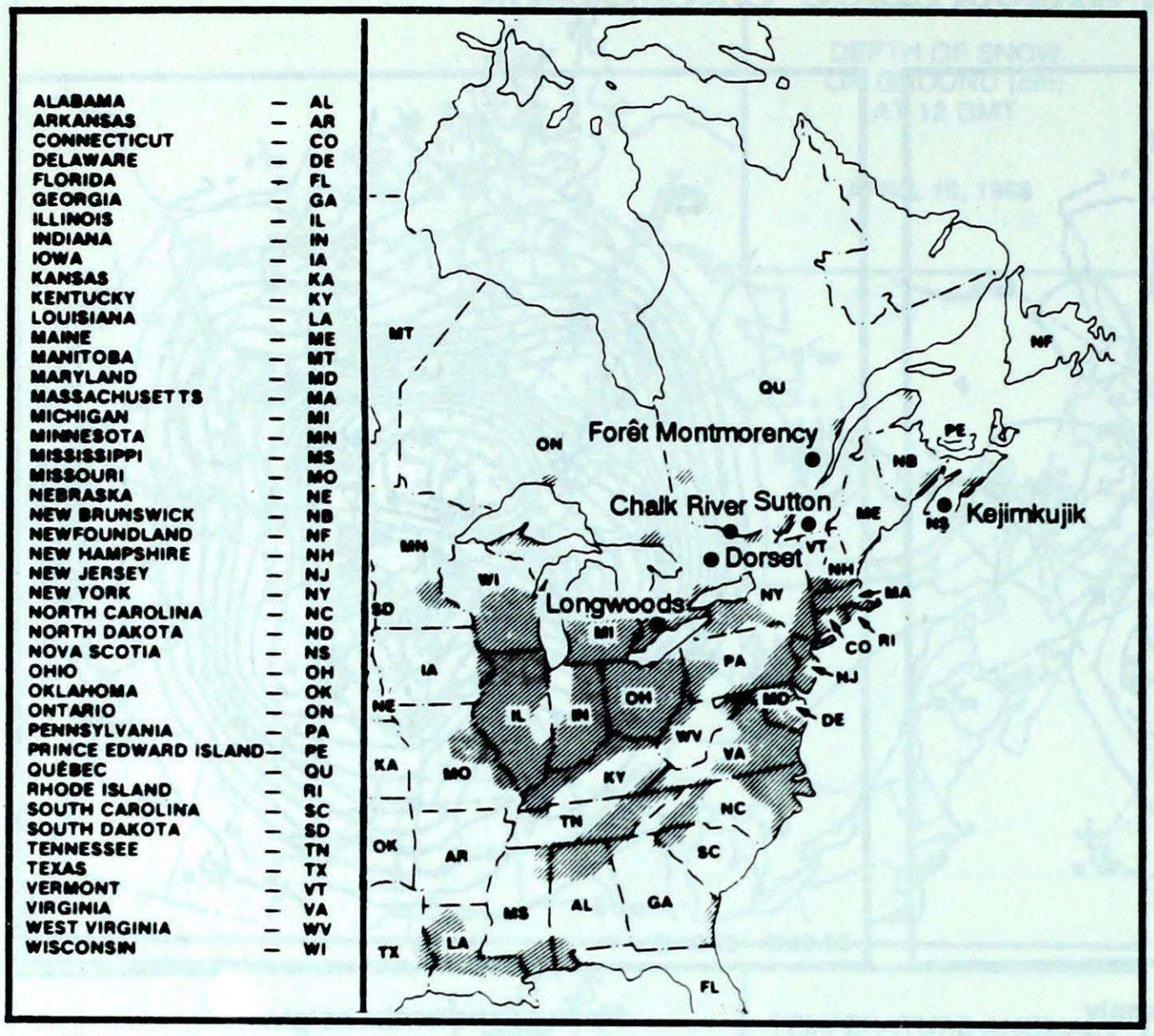
Mean geopotential height anomaly
50 kPa level (5 decameter intervals)



Mean geopotential height
50 kPa level (5 decameter intervals)



Storm track - Position of storm at 12 GMT during the period: April 12 to 18,1988



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 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.

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

April 10 to 16, 1988

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	Data not available			
Dorset	12	5.5	3(r)	New England, New York, Eastern Ontario
	13	4.0	4(r)	Pennsylvania, Southern Ontario
	14	4.1	10(r)	New England, Pennsylvania, New York, Southern Ontario
	15	4.4	3(s)	Northwestern Ontario, Lake Superior, Lake Huron
Chalk River	13	4.1	1(r)	New England, New York, Eastern Ontario
	14	3.9	4(r)	New England, New York, Eastern Ontario
	15	4.6	5(s)	Northern Ontario, Central Ontario
Sutton	15	3.8	11(m)	Southern New England, New York
	16	4.2	21(s)	Main, Southern Quebec
Montmorency	15	4.0	5(s)	New England, Southern Quebec
	16	4.8	7(s)	Gulf of St. Lawrence, Main, Eastern Quebec
Kejimkujik	10	5.1	2(r)	Labrador, Gulf of St. Lawrence
	15	4.4	2(m)	Gulf of St. Lawrence, Nova Scotia
	16	5.6	18(r)	Atlantic Ocean

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

STATISTICS FOR THE WEEK ENDING 0600 GMT APRIL 19,1988

STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
BRITISH COLUMBIA								
CAPE ST.JAMES	8	1	13	3	16	0	130	70
CRANBROOK	14	9	26	4	4	0	160	41
FORT NELSON	7	5	17	-4	1P	0	360	46
FORT ST.JOHN	8	5	21	-3	6	0	140	39
KAMLOOPS	16P	8P	28P	6P	12P	0	280	41
PENTICTON	14	6	25	5	24P	0		*
PORT HARDY	8	2	16	-1	1	0		*
PRINCE GEORGE	8	*	20	-6	7	0		*
PRINCE RUPERT	6	1	13	-3	0	0	300	33
REVELSTOKE	11	5	23	1	23	0		*
SMITHERS	8	4	20	-6	0	0		*
VANCOUVER INT'L	11	3	16	7	3	0		*
VICTORIA INT'L	11	3	20	3	1	0		*
WILLIAMS LAKE	9P	*	20P	-3P	17P	0		X
YUKON TERRITORY								
DAWSON						17		
MAYO	4	5	12	-6	0	3		X
SHINGLE POINT A	-5P	12P	5P	-26P	0P	21		*
WATSON LAKE	3	4	13	-11	0	27		*
WHITEHORSE	3	3	10	-8	0	1	140	46
NORTHWEST TERRITORIES								
ALERT	-16	9	-4	-25	1	*	230	76
BAKER LAKE	-17	-1	-10	-24	1	80	320	57
CAMBRIDGE BAY	-20	2	-10	-28	1	35	030	43
CAPE DYER	-9	7	-1	-18	9	70	150	37
CLYDE	-12	7	-1	-23	12	32	310	54
COPPERMINE	-11	*	1	-20	1	55	090	56
CORAL HARBOUR	-11	5	-2	-24	7	23		X
EUREKA	-21P	7P	-6P	-30P	1P	14	160	78
FORT SMITH	0	2	14	-12	2P	17		X
IQALUIT	-8	7	2	-19	7	52	130	72
HALL BEACH	-11P	10P	-3P	-22P	3P	36	030	65
INUVIK	-3	12	10	-25	0	33		X
MOULD BAY	-18	7	-7	-33	1	17		X
NORMAN WELLS	3	11	16	-11	0	1		X
RESOLUTE	-16	7	-6	-25	1	14	050	69
								X
YELLOWKNIFE	-4	3	10	-17	8	36	020	44
ALBERTA								
CALGARY INT'L	9	5	24	-4	0	0	140	59
COLD LAKE	5	2	22	-7	0	0	290	41
CORONATION	6P	3P	22P	-7P	0	0		*
EDMONTON NAMAO	8	4	23	-5	0	0	150	54
FORT MCMURRAY	5	2	20	-7	0	0		X
HIGH LEVEL	4	2	15	-6	2	1	320	37
JASPER	10	7	25	-7	1	0		X
LETHBRIDGE	9	4	26	-6	0	0	140	54
MEDICINE HAT	10	4	27	-4	0	0	160	50
PEACE RIVER	8	6	24	-4	0	0	340	43
SASKATCHEWAN								
CREE LAKE	-4	-4	11	-20	0	32	300	72
ESTEVAN	5	0	21	-9	0	0	320	59
LA RONGE	0	-3	15	-13	0P	15	310	67
REGINA	4	0	20	-6	0	0	300	56
SASKATOON	4P	1P	22P	-7	0	0	320	59
SWIFT CURRENT	5	1	22	-7	0	0		X
YORKTON	2	-1	16	-12	0	0	160	61
MANITOBA								
BRANDON	2	-2	19	-12	0	0	300	67
CHURCHILL	-14P	-5P	-3P	-20P	6P	62	350	65
LYNN LAKE	-7P	-8P	8P	-18P	2P	38	290	74

STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
THE PAS	-1	*	13	-11	0	1	300	69
THOMPSON	-4P	-4P	11P	-16P	2P	2	290	59
WINNIPEG INT'L	2	-3	21	-11	0	0	360	59
ONTARIO								
ATIKOKAN	2	-2	17	-7	1	0	330	56
BIG TROUT LAKE	-3P	*	9P	-17P	9P	6	010	74
GORE BAY	3	-1	14	-6	12	0	280	67
KAPUSKASING	0	-2	15	-11	13	13	290	56
KENORA	2P	-1P	17P	-9P	0P	1	200	56
KINGSTON	4P	-2P	13P	-1P	0	0		X
LONDON	5	-1	17	-2	16	0	250	78
MOOSONEE	1	2	14	-8	26	4	320	39
NORTH BAY	3	-1	15	-6	23	1	280	39
OTTAWA INT'L	5	-1	14	-2	12	0		X
PETAWAWA	5P	0P	19P	-4P	18P	0		X
PICKLE LAKE	-1	-2	12	-13	1	13	340	63
RED LAKE	0	-3	17	-10	1	1	350	56
SUDBURY	2	-2	16	-8	35	1		X
THUNDER BAY	4	0	21	-6	1	0	330	54
TIMMINS	0	-2	16	-10	12P	22	310	43
TORONTO INT'L	5	-1	18	-3	15	0	240	67
TRENTON	5P	-3P	13P	-2P	11P	0		X
WIARTON	5P	0P	16P	-2P	20P	0		X
WINDSOR	8	-1	20	-1	5	0	230	72
QUEBEC								
BAGOTVILLE	3	1	11	-5	18	1	080	44
BLANC SABLON	1	*	5	-4	7	2		X
INUKJUAK	-4	6	3	-16	5	56	050	56
KUUJJUAQ	0	10	11	-15	1	15	200	50
KUUJJUARAPIK	1P	6P	9P	-6P	3P	10		*
MANIWAKI	5	0	15	-3	14	0	190	41
MONT JOLI	1P	-1P	9P	-8P	14P	0	150	78
MONTREAL INT'L	6	0	14	-2	9	0	240	48
NATASHQUAN	0	0	5	-6	17	13	090	56
QUEBEC	4P	0P	11P	-1P	37P	0	050	37
SCHEFFERVILLE	-4	3	7	-21	2	62	140	59
SEPT-ILES	-1	-1	6	-6	38	6	090	80
SHERBROOKE	4	0	15	-3	25	*	270	50
VAL D'OR	1	-1	14	-9	19	1	200	39
NEW BRUNSWICK								
CHARLO	0	-1	7	-7	24	4	080	57
CHATHAM	2	-2	10	-7	19	1	060	50
FREDERICTON	3P	-2P	12	-7P	16	0	150	67
MONCTON	1	-2	10	-8	20	0	030	72
SAINT JOHN	2P	-1P	11P	-6P	32P	0	090	87
NOVA SCOTIA								
GREENWOOD	3	-2	11	-7	17	0	130	78
SHEARWATER	2	-2	8	-4	46	0	360	69
SYDNEY	1	-1	7	-4	14	0	150	70
YARMOUTH	3	-1	10	-4	44	0	080	74
PRINCE EDWARD ISLAND								
CHARLOTTETOWN	1	-1	12	-4	9		020	59
SUMMERSIDE	2	-1	11	-5	5	1	130	65
NEWFOUNDLAND								
CARTWRIGHT	0P	3P	5P	-6P	0P	136	150	46
CHURCHILL FALLS	-2	5	8	-16	5	80	120	56
GANDER INT'L	0	0	6	-3	50	20	340	81
GOOSE	-1	1	8	-10	1	15	120	41
PORT-AUX-BASQUES	2	1	7	-2	24	2	030	85
ST JOHN'S	0	-1	4	-2	32	0	350	85
ST LAWRENCE	2	2	7	-1	48	12		X
WABUSH LAKE	-2	3	8	-17	3	18	130	59

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