Environment Canada Environnement Canada

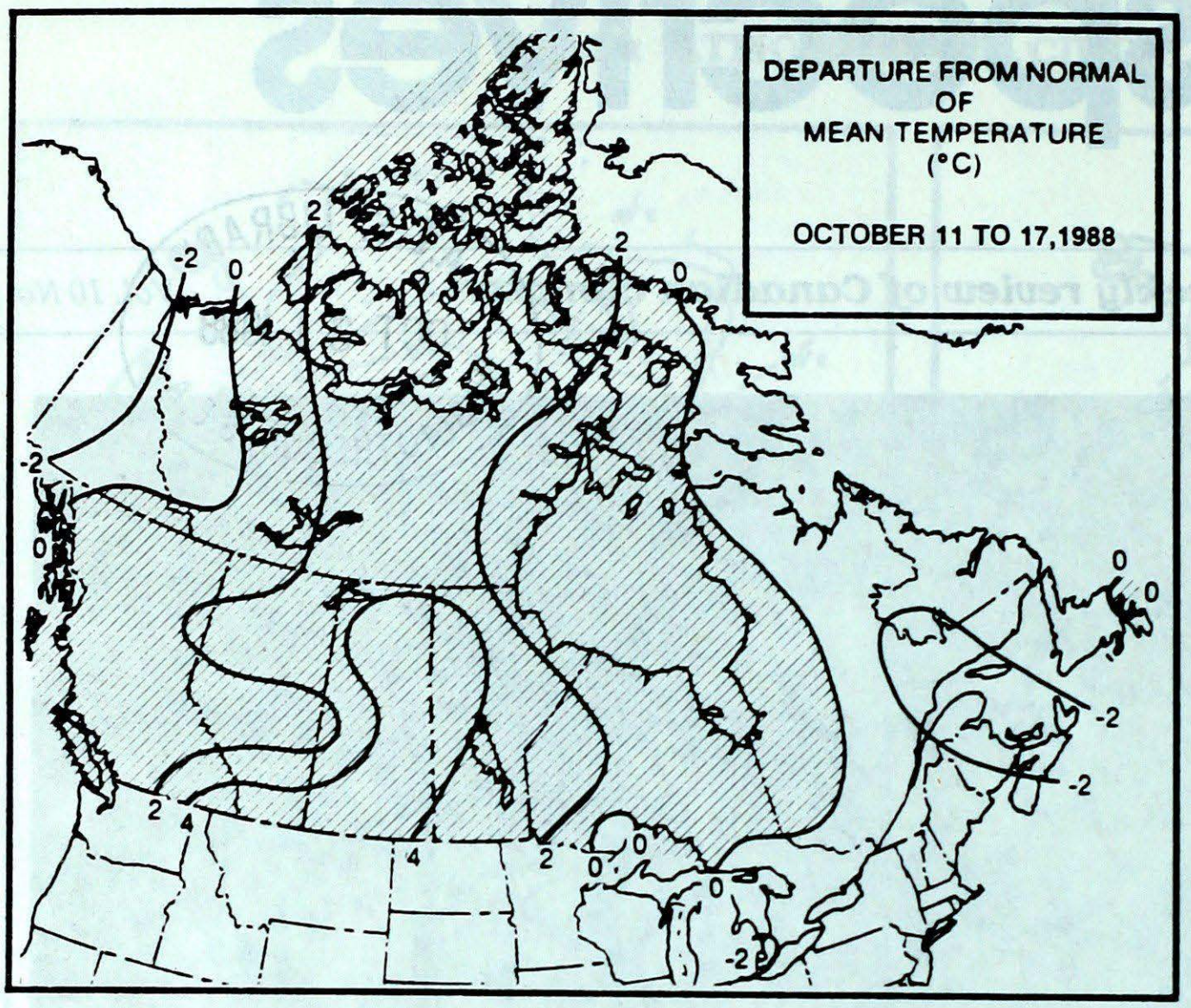
Climatic Perspectives

October 11 to 17, 1988 **A weekly review of Canadian climate** *Vol. 10 No. 42*

Up to 30 cm of snow fell in some parts of southern Ontario Tuesday night and Wednesday morning before tapering off to flurries during the afternoon. The heaviest snowfalls occurred in the southern Georgian Bay snow belt, mainly southwest of Barrie and near London. The snow reached as far south as the northern outskirts of Toronto. The above photo was taken in Alliston, a farming community between Toronto and Barrie. See page 3 for more details. Toronto Star photo.

- **Record warmth on the Prairies – record cold in eastern Canada**
- **Heavy snow squalls surprise southern Ontario**

Canada



Weekly Temperature Extreme (°C)

Location	Maximum		Minimum	
British Columbia	Puntzi Mountain	24	Quesnel	-5
Yukon Territory	Quiet Lake	12	Ogilvie	-30
Northwest Territories	Fort Smith	13	Eureka	-28
Alberta	Medicine Hat	27	Edson	-8
Saskatchewan	Moose Jaw	28	Meadow Lake	-6
Manitoba	Gretna	30	Gillam	-9
Ontario	Timmins	22	Nagagami	-8
Quebec	Montreal Int'l	20	Schefferville	-11
New Brunswick	Chatham	16	Charlo	-7
	Saint John			
Nova Scotia	Western Head	16	Truro	-4
Prince Edward Island	Charlottetown	15	Charlottetown	-4
Newfoundland	Bonavista	16	Wabush Lake	-12
	Comfort Cove			

Across The Country...

Warmest Mean Temperature	Port Weller (ONT)	12
Coolest Mean Temperature	Eureka (NWT)	-18

88/10/11-88/10/17

ACROSS THE COUNTRY . . .

Yukon and Northwest Territories

Winter has become well established in the Arctic. With few exceptions, maximum readings have been unable to climb above freezing, and in the high Arctic the mercury dropped to the mid-minus twenties. Gale, freezing rain and blizzard warnings were issued regularly. Heavy snowfalls and freezing rain were reported in both the Yukon, where the thermometer dipped to -30C, and Mackenzie Valley. In the Beaufort, heavy ice along the Alaskan north shore, which blocked the passage of three ice breakers two weeks ago, has now trapped and prevented the southward migration of several endangered California grey whales near Point Barrow. The whales, which were at one time on the brink of extinction, and must surface to breath, have become encircled by the ice pack and are slowly becoming entombed as the air hole closes in. The rush is on by both Greenpeace and the oil companies drilling in the area to free the whales before they die by having an ice-breaking hovercraft breakup an 11 km path to the open sea.

British Columbia

A Pacific weather system affected the southern portions of the province, resulting in an unsettled week. Some coastal communities received more than a 150 mm of rain. The affect of these disturbances was less pronounced further north, and as a result it was more pleasant. The wet weather put an end to the slash burning in the south, clearing the interior valleys of the smoke that disrupted airline schedules. An Arctic cold front, which sagged southwards, produced wintry conditions across north-eastern B.C., depositing the first substantial covering of snow.

Prairie Provinces

In Alberta, the week started out warm and sunny, with maximum readings in the twenties. A disturbance which moved across southern Alberta on Sunday touched off some thunderstorms. In it's wake, cooler, variably cloudy weather prevailed.

At the beginning of the week temperatures in western Saskatchewan hovered in the twenties, while in southern Manitoba they barely reached ten degrees, and remained near freezing in the north. The

unseasonably warm, summer-like weather slowly spread eastwards, and encompassed the whole region by the weekend, breaking daily temperature records. The end of the period saw another area of wet weather approach from the west.

Ontario

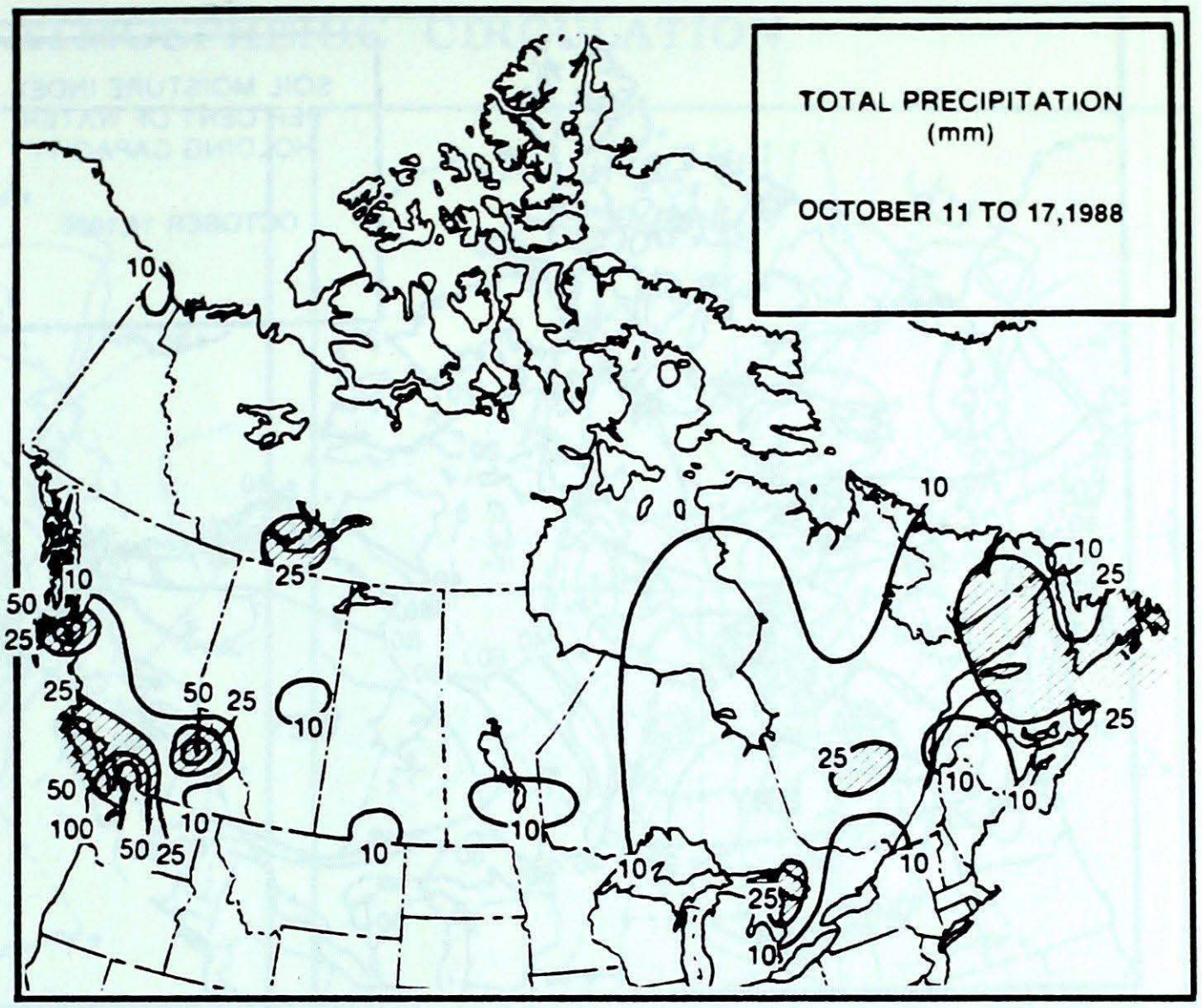
The beginning of the week was marked by cold and blustery weather conditions. In all areas of the province, maximum temperatures during the first three days of the period failed to rise above the single digits. Lake-effect snowfalls were prevalent in the snowbelt regions on October 11 and 12. For more information see the story on this page. By the weekend, a southerly flow caused temperatures to rebound upwards. The brief taste of Indian Summer saw maximum readings hit the twenties at a number of locations across the province, in some cases setting new daily temperature records.

Quebec

For the most part it was an unsettled week, as a slow moving low pressure trough plagued the region. A cold northwesterly flow resulted in numerous daily low temperature records being broken. On the 12th, maximum readings struggled to climb above the freezing mark. A surge of much milder air from the American mid-west over the weekend saw the mercury rebound to the teens. Snowfalls are becoming more prevalent over the north, but accumulations are still minimal. On the morning of the 17th, Schefferville had 5 cm of snow on the ground.

Atlantic Canada

It was a variable week in all four provinces, as a nearly stationary atmospheric trough controlled the weather picture. Maximum temperatures climbed to the teens during the early part of the week, but dropped sharply during mid-week, with minimums falling below freezing. A number of daily low temperature records were broken on the 15th and 16th. Most precipitation fell at the beginning of the week. Some snow fell in New Brunswick on the 13th and 14th. Communities in Labrador reported several centimetres of snow during the week. An area of high pressure dominated the weather pattern towards the latter half of the period.

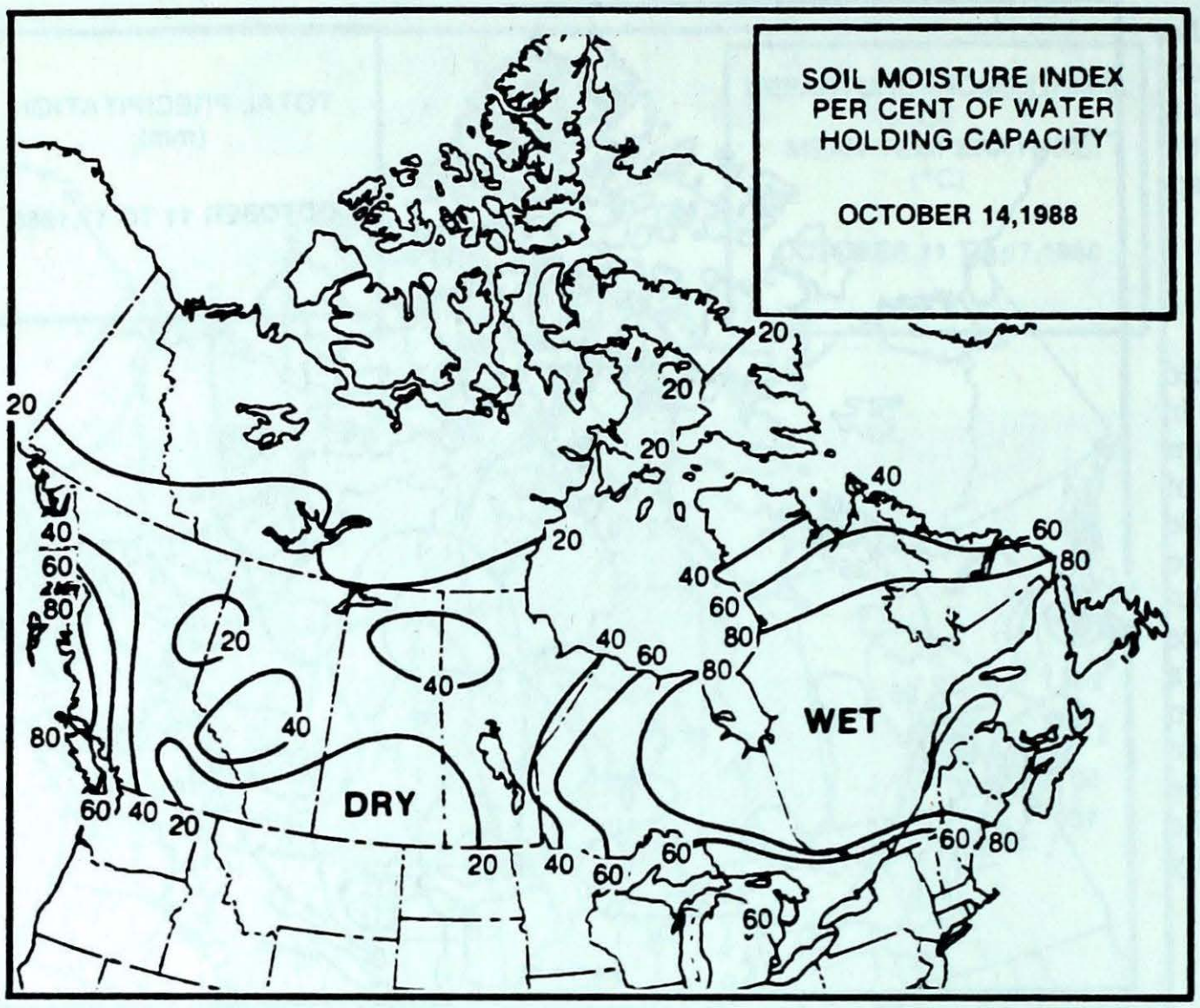


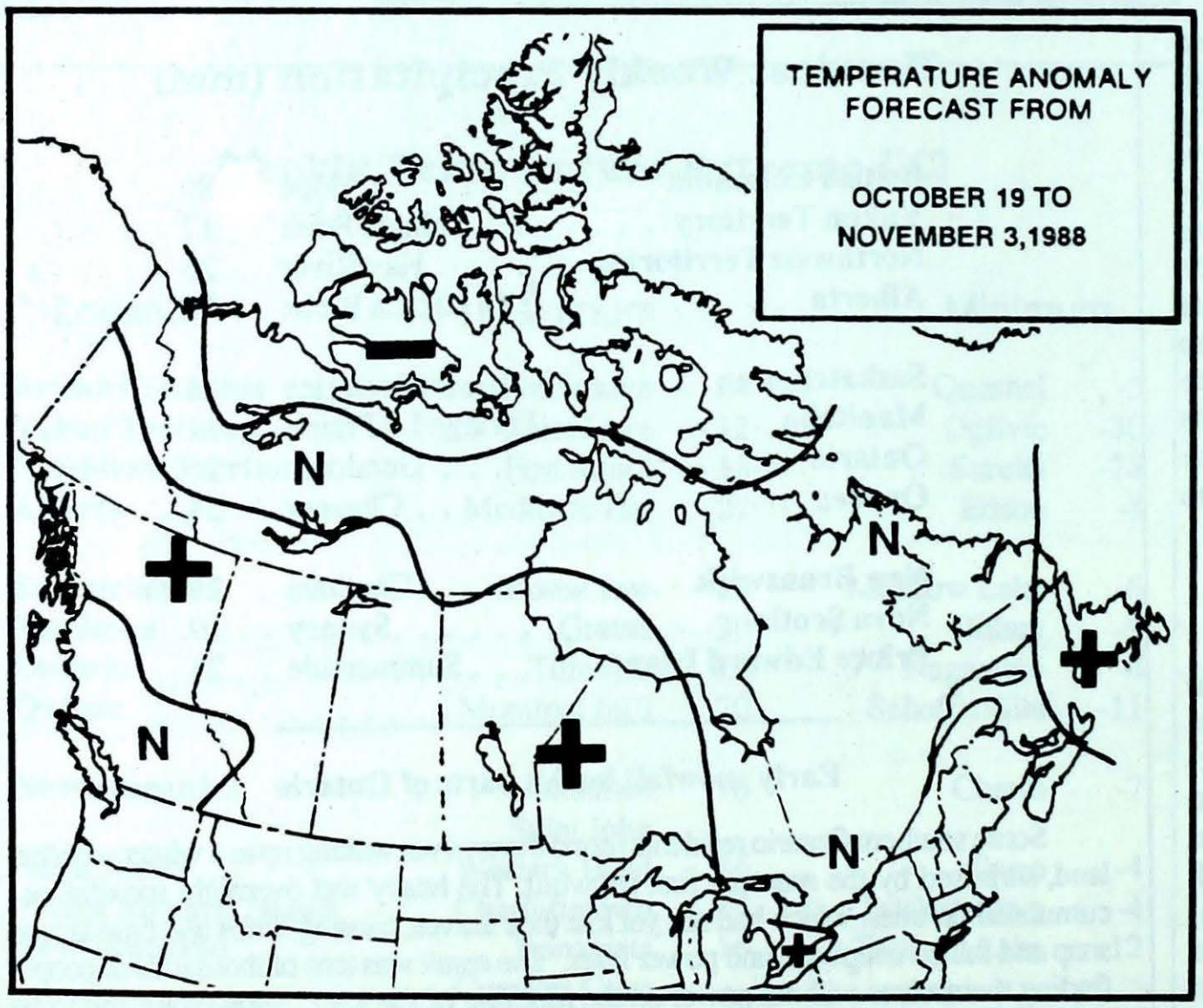
Heaviest Weekly Precipitation (mm)

British Columbia	Hope	180
Yukon Territory	Shingle Point	17
Northwest Territories	Hay River	25
Alberta	Lac La Biche	16
Saskatchewan	Rockglen	11
Manitoba	Portage La Prairie	11
Ontario	Geraldton	36
Quebec	Chevery	58
New Brunswick	Chatham	26
Nova Scotia	Sydney	19
Prince Edward Island	Summerside	24

Early snowfall buries parts of Ontario

Some southern Ontario residents found themselves waking up to a winter wonderland, surprised by the season's first snowfall. The heavy wet overnight snowfall accumulated on trees, which had not yet lost their leaves, causing limbs and branches to snap and fall on telephone and power lines. The result was tens of thousands of people finding themselves without power on the morning of the 12th. Snowplows had to be rushed into operation, and many schools were closed for the day, because of lack of heat and hydro. At least one death was attributed due to the snow and the resultant slippery driving conditions. The snow squalls were caused by cold northwesterly winds sweeping across the still relatively warm waters of Georgian Bay and Lake Huron. The cold air becomes unstable when it is heated from below, and also picks up moisture. When the streamers of cloud move over the higher terrain on the lee side of the lakes they can drop copious amounts of snow on localized areas.





+ + **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.

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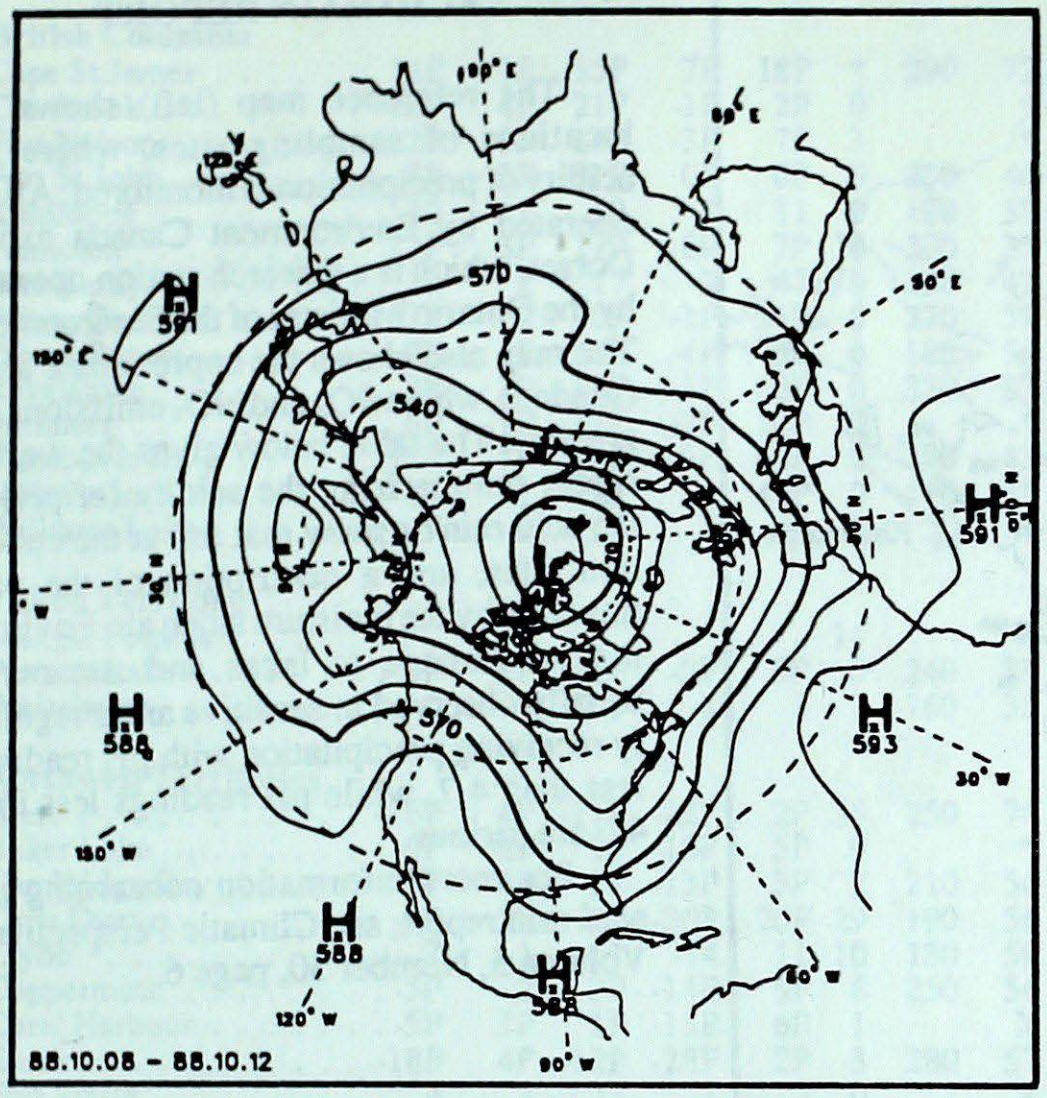
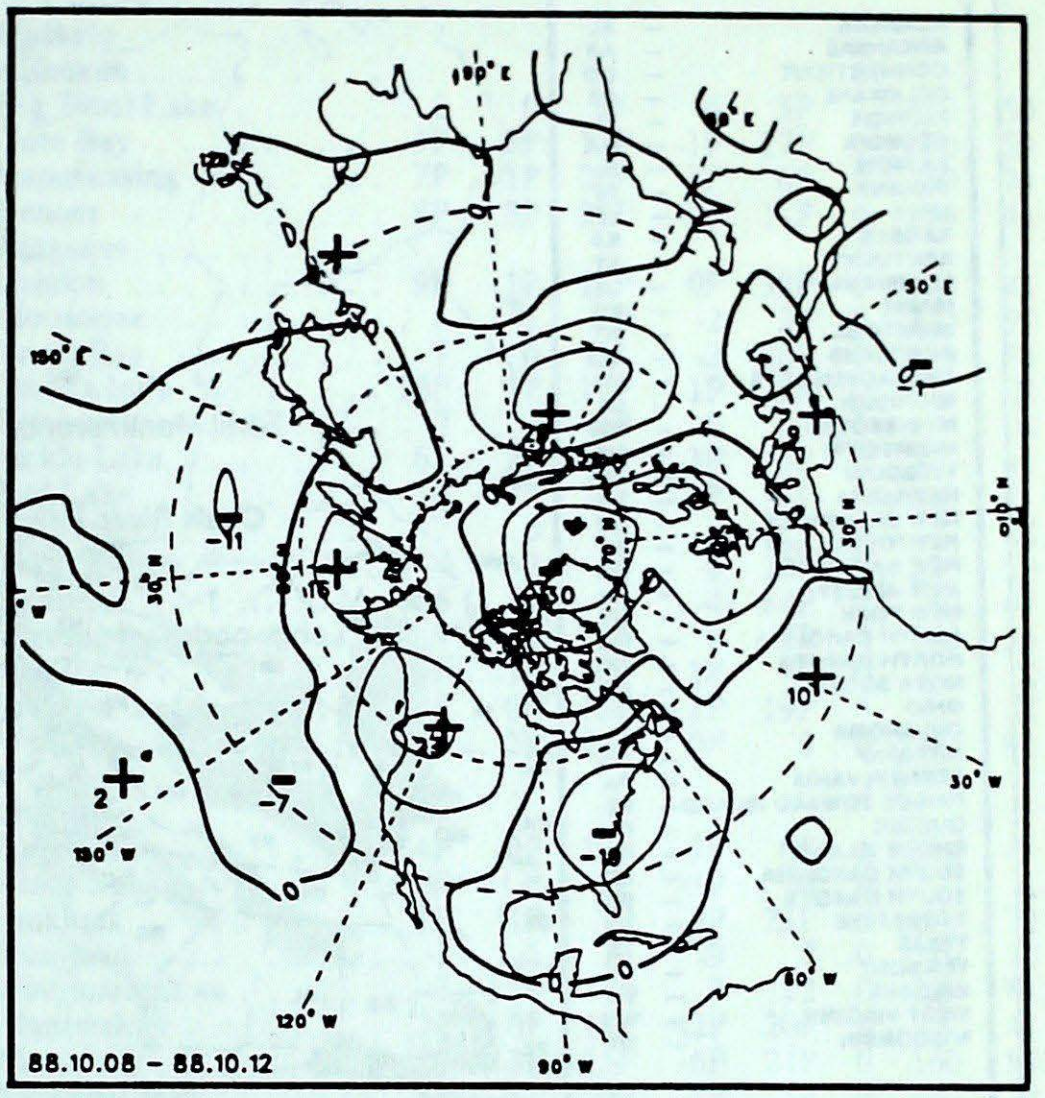
50 kPa ATMOSPHERIC CIRCULATION



Mean geopotential height
50 kPa level (10 decameter intervals)



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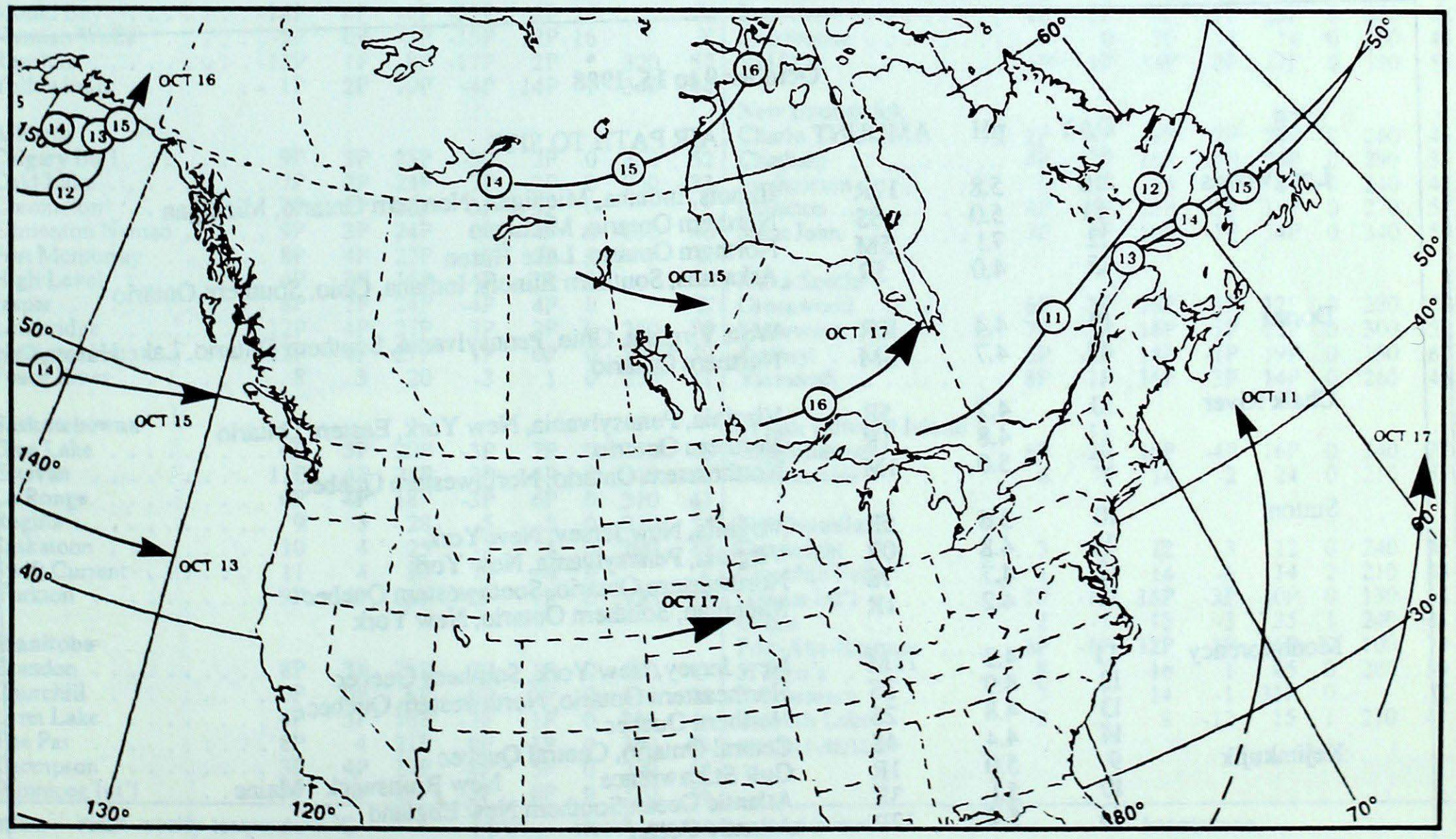
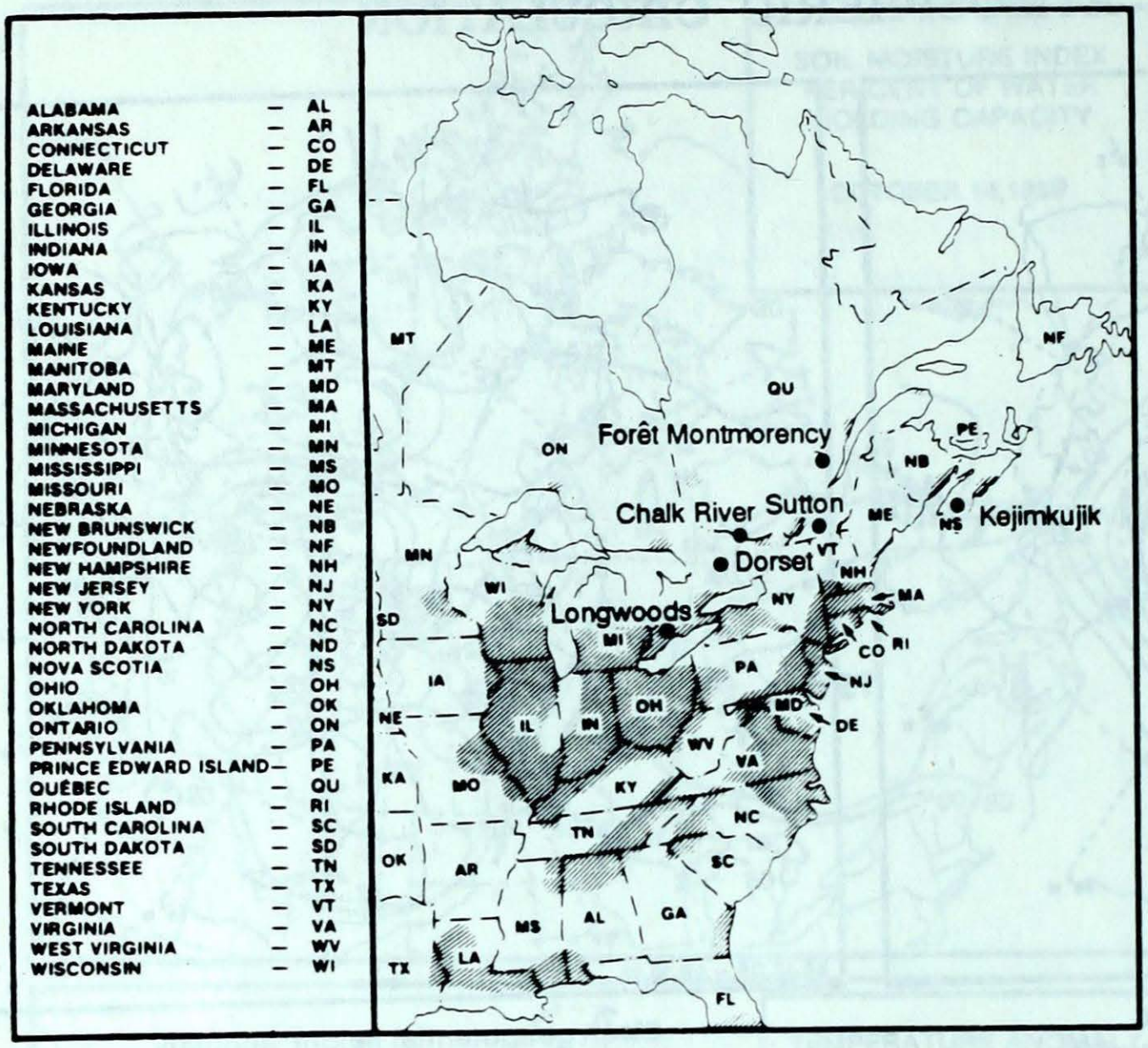


Storm track - Position of storms at 12 GMT for each day of the period.



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.

October 9 to 15, 1988

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	10	5.8	17R	Illinois, Indiana, Michigan, Northern Ontario, Michigan
	11	5.0	8S	Northern Ontario, Michigan
	12	7.1	5M	Northern Ontario, Lake Huron
	15	4.0	5R	Arkansas, Southern Illinois, Indiana, Ohio, Southern Ontario
Dorset	10	4.4	10R	West Virginia, Ohio, Pennsylvania, Southern Ontario, Lake Huron, Central (
	11	4.7	3M	Northern Ontario
Chalk River	10	4.2	5R	Virginia, Pennsylvania, New York, Eastern Ontario
	11	4.8	1R	Northern Ontario
	12	5.0	1M	Northeastern Ontario, Northwestern Quebec
Sutton	10	3.6	5R	Virginia, New Jersey, New York
	11	4.8	10R	Virginia, Pennsylvania, New York
	12	4.7	7S	Northeastern Ontario, Southwestern Quebec
	14	4.2	1R	Michigan, Southern Ontario, New York
Montmorency	11	4.3	11M	New Jersey, New York, Southern Quebec
	12	4.9	3S	Northeastern Ontario, Northwestern Quebec
	13	4.8	2S	Northern Quebec
	14	4.4	4S	Central Ontario, Central Quebec
Kejimkujik	9	5.0	1R	Gulf St.Lawrence New Brunswick Maine
	10	5.1	3R	Atlantic Ocean,Southern New England
	11	5.6	12R	Atlantic Ocean

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

STATION	temperature moy	anom	max	min	precip. ptot	st	wind max dir	vit
British Columbia								
Cape St.James	11P	1P	15P	7P	18P	*	290	72
Cranbrook	10P	4P	21P	-1P	2P	0		*
Fort Nelson	2P	0P	14P	-3P	7P	3		*
Fort St.John	8P	3P	21P	0P	0P	0	250	46
Kamloops	10	1	19	1	11	0	190	37
Penticton	12P	3P	19P	0P	7P	0	300	35
Port Hardy	10	2	17	2	47	0	130	41
Prince George	7P	2	20P	-1P	16P	0	270	39
Prince Rupert	9P	1P	15P	4P	60	0	180	56
Revelstoke	8P	2P	13P	1P	60P	0	330	37
Smithers	6P	1P	12P	-2P	10P	0		*
Vancouver Int'l	11P	1P	15P	5P	64P	0	290	43
Victoria Int'l	11	1	15	3	41P	0	190	35
Williams Lake	7	2	22	-5	8	0		X
Yukon Territory								
Shingle Point A						14		
Watson Lake	3P	2P	11P	-2P	5P	0	240	33
Whitehorse	0	-2	9	-8	3	2	160	33
Northwest Territories								
Alert	-16P	4P	-11P	-22P	2P	36	250	74
Baker Lake	-5P	2P	2P	-10P	5P	9		*
Cambridge Bay	-7P	4P	-1P	-13P	3P	2	210	56
Cape Dyer	-9P	-2P	-2P	-20P	20P	29	190	56
Clyde	-7	-1	1	-14	11	10	130	59
Coppermine	-5P	2	3P	-14P	5P	6	250	56
Coral Harbour	-5P	1P	1P	-13P	6P	1		X
Eureka	-18P	4P	-12P	-28P	2P	3	280	57
Fort Smith	4	3	13	-3	2	0		X
Iqaluit	-5P	-1P	2P	-12P	7P	13	140	50
Hall Beach	-7P	2P	-1P	-15P	5P	5	140	70
Inuvik	*	*	-6P	-19P	3P	24		X
Mould Bay	-14P	4P	-6P	-21P	6P	16		X
Norman Wells	-5P	0P	-3P	-15P	12P	16		X
Resolute	-13P	1P	-8P	-17P	2P	*	320	57
Yellowknife	1P	2P	10P	-4P	14P	1	340	44
Alberta								
Calgary Int'l	9P	3P	25P	-5P	2P	0	350	52
Cold Lake	7P	2P	24P	-7P	2P	0	260	33
Coronation	7P	2P	22P	-3P	9P	0		*
Edmonton Namao	9P	3P	24P	0P	4P	0	250	46
Fort Mcmurray	8P	4P	22P	-1P	5P	0		X
High Level	4P	3P	16P	-4P	1P	0		*
Jasper	8P	2P	24P	-4P	4P	0		X
Lethbridge	12P	4P	27P	3P	2P	0	260	78
Medicine Hat	12P	4P	27P	1P	0P	0	250	59
Peace River	8	3	20	-3	1	0	270	41
Saskatchewan								
Cree Lake	6P	5P	20P	-3P	7P	0	310	48
Estevan	11P	4P	28P	-2P	4P	0	310	61
La Ronge	6P	4P	18P	-3P	6P	0	310	41
Regina	9	3	28	-5	5	0	240	54
Saskatoon	10	4	25	-2	6	0	290	48
Swift Current	11	4	27	-2	4	0		X
Yorkton	9P	4P	26P	-2P	1P	0	130	35
Manitoba								
Brandon	8P	3P	28P	-2P	1P	0	280	41
Churchill	0P	0P	6P	-6P	7P	0	310	56
Lynn Lake	4P	5P	16P	-3P	1P	0	300	46
The Pas	8P	4	21P	0P	1P	0	300	43
Thompson	3P	4P	17P	-8P	5P	0	290	44
Winnipeg Int'l	9P	2P	29P	-5P	8P	0	320	46

STATION	temperature moy	anom	max	min	precip. ptot	st	wind max dir	vit
Ontario								
Atikokan						0		
Big Trout Lake	2	0	16	-6	3P	1	360	50
Gore Bay	9P	0P	17P	-1P	27P	0	180	59
Kapuskasing	7P	1P	20P	-3P	6P	0	150	74
Kenora	8P	3P	20P	-2P	11P	0	270	44
Kingston						0		
London	9P	-1P	18P	0P	39P	0	200	93
Moosonee	4	-1	20	-2	28	0	340	57
North Bay	7	0	21	-3	20P	0	200	54
Ottawa Int'l	10P	1P	18P	1P	5P	0		X
Petawawa	7	2	19	0	7	0		X
Pickle Lake	6P	2P	18P	-3P	7P	0	340	41
Red Lake	7P	3P	21P	-5P	3P	0	340	41
Sudbury	7	0	18	-2	19	0		X
Thunder Bay	4	-2	16	-6	14P	0	290	50
Timmins	6	1	22	-4	14P	0	180	67
Toronto Int'l	9	-1	20	0	6P	0	170	56
Trenton	9P	-1P	20P	1P	7P	0		X
Wiarton	10P	0P	19P	1P	19P	*		X
Windsor	10P	-2P	20P	0P	6	0	200	91
Quebec								
Bagotville	4P	-2P	19P	-7P	6P	0	300	41
Blanc Sablon	2P	*	8P	-3P	7P	0		X
Inukjuak	1P	1P	7P	-4P	23P	0	170	72
Kuujjuaq	-1	-1	12	-9	7	0	210	72
Kuujjuarapik	3	0	14	-3	12	0	220	81
Maniwaki	7P	0P	18P	-2P	20P	0	270	41
Mont Joli	3P	-3P	15P	-6P	24P	0	160	54
Montreal Int'l	8P	-1P	20P	-1P	5P	0	260	70
Natashquan	3P	-1P	11P	-5P	28P	0	240	72
Quebec	5P	-2P	18P	-1P	20P	0	240	50
Schefferville	-2	-2	10	-11	10	3	200	48
Sept-Iles	1P	-3P	9P	-9P	23P	0	080	46
Sherbrooke	7	0	20	-1	14	0	260	44
Val D'or	6P	1P	18P	-2P	17P	0	180	59
New Brunswick								
Charlo	2P	-4P	9P	-7P	14P	0	260	46
Chatham	4P	-3P	16P	-6P	26P	0	290	37
Fredericton	5	-3	15	-3	7	0	240	44
Moncton	4P	-4P	13P	-5P	11P	0	270	54
Saint John	7P	-1P	16P	-1P	14P	0	340	50
Nova Scotia								
Greenwood	6P	-3P	16P	-3P	17P	0	280	59
Shearwater	7P	-2P	16P	1P	12P	0	300	52
Sydney	6P	-2P	14P	-1P	19P	0	150	67
Yarmouth	8P	-1P	16P	3P	14P	0	260	46
Prince Edward Island								
Charlottetown	6P	-2P	15P	-4P	16P	0	140	37
Summerside	6	-3	14	-2	24	0	210	57
Newfoundland								
Cartwright	3	-1	12	-3	12	0	240	48
Churchill Falls	1	1	14	-6	14	2	210	44
Gander Int'l	5P	-1P	15P	-3P	10P	0	130	54
Goose	2	-1	13	-3	35	1	240	41
Port-Aux-Basques	6P	-1P	12P	1P	36P	0	100	74
St John's	8	1	16	1	45	0	260	59
St Lawrence	7	-1	14	-1	31P	0		X
Wabush Lake	-2	-2	9	-12	15	1	210	41

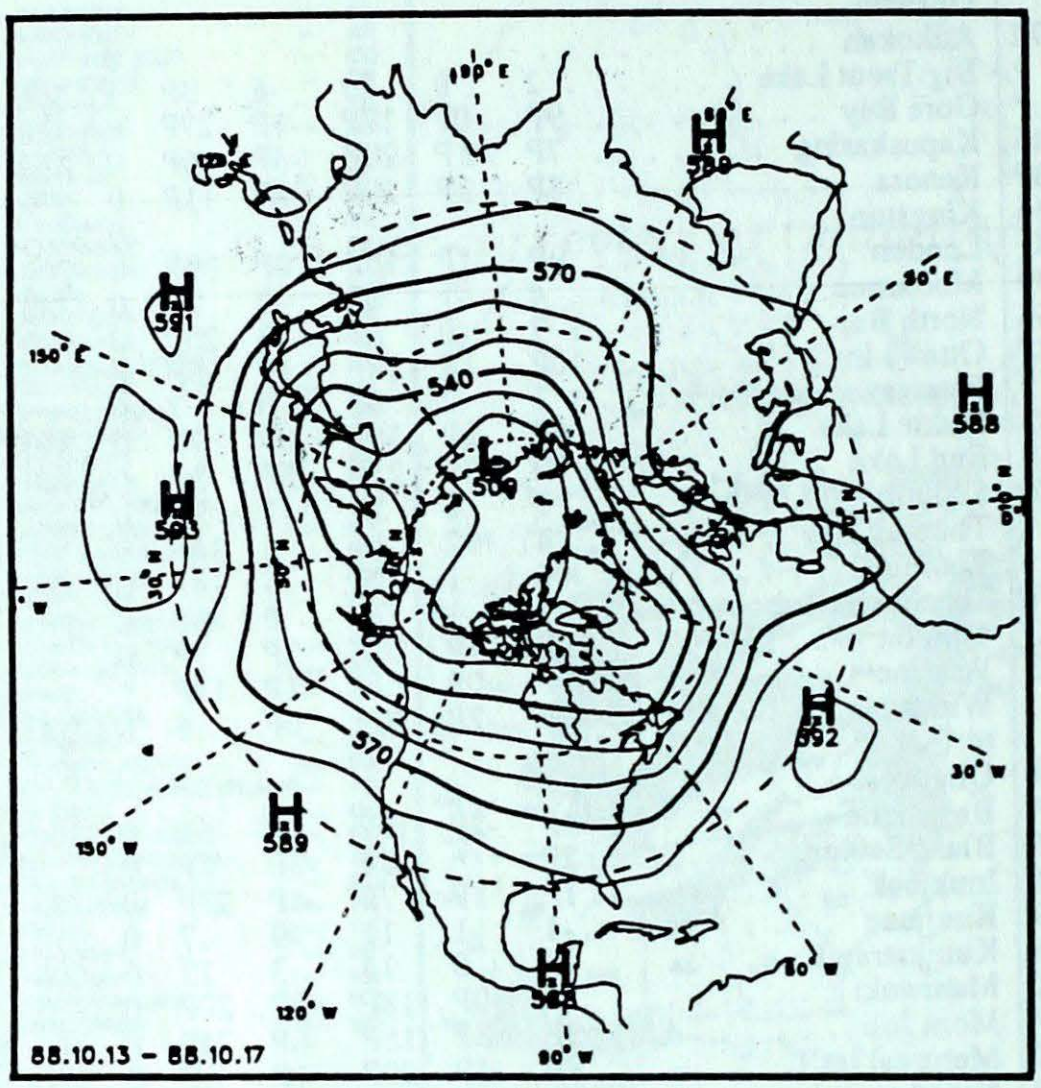
88/10/11-88/10/17

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

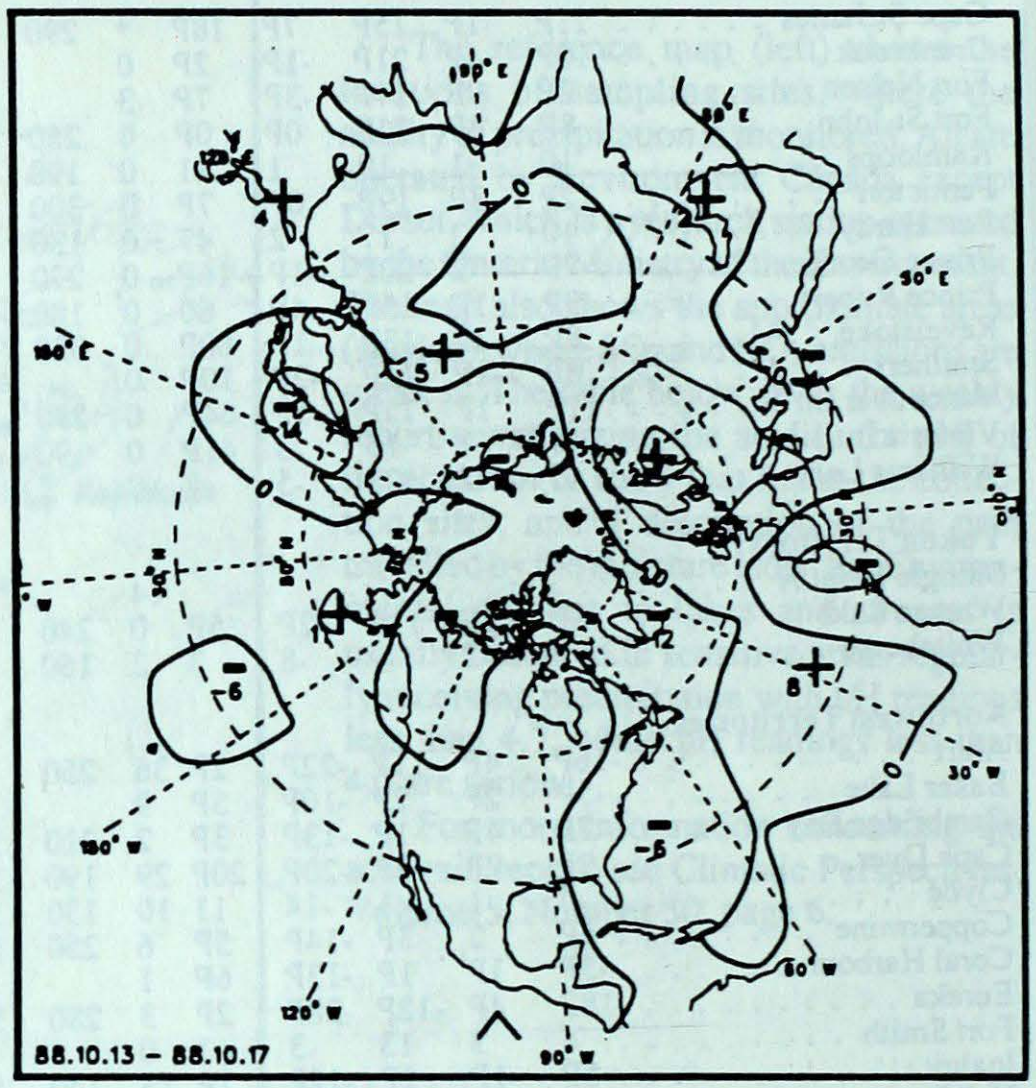
ptot = weekly precipitation total in mm
st = snow thickness on the ground in cm
dir = direction of max wind, deg. from north.
vit = wind speed in km/h

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

50 kPa ATMOSPHERIC CIRCULATION



Mean geopotential height anomaly
50 kPa level (10 decameter intervals)



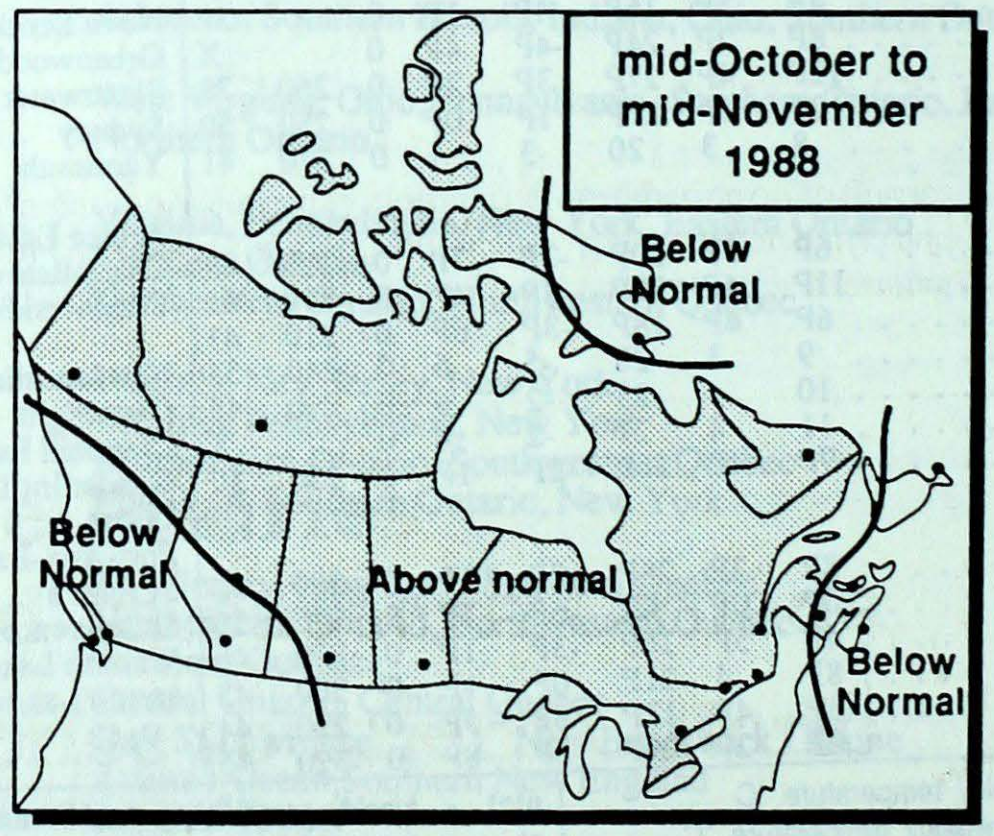
Mean geopotential height
50 kPa level (10 decameter intervals)

Environment Canada / Environnement Canada
Atmospheric Environment Service / Service de l'environnement atmosphérique

MONTHLY TEMPERATURE FORECAST

Normal temperatures for mid-October to mid-November, °C

Whitehorse	-4	Toronto	6
Yellowknife	-8	Ottawa	5
Iqaluit	-9	Montreal	5
Vancouver	8	Quebec	3
Victoria	8	Fredericton	4
Calgary	1	Halifax	7
Edmonton	0	Charlottetown	6
Regina	0	Goose Bay	1
Winnipeg	1	St. John's	5



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