Environment Canada Environnement Canada

Climatic Perspectives

Oct. 26 to Nov. 1, 1992 ***A weekly review of Canadian climate and water*** *Vol. 14 No. 44*

Autumn tornado in New Brunswick?

In the Maritimes, tornadoes are rare even during the summer months, but this year, there have been two reported cases in New Brunswick alone. The latest tornadic event occurred in mid-October.

On Wednesday, October 14, near Pigeon Hill on Lameque Island off the Acadian Peninsula in northeastern New Brunswick, three tornadic waterspouts developed and touched down between noon and 1 pm local time. Because it was so late in the season, it was believed, at first, that the tornadoes were actually the more common cold air funnels. These often occur at this time of year when a cold air mass crosses a relatively warm body of water. These waterspout funnels, which are not associated with tornadoes, are much weaker and rarely dangerous. Available statistics indicate that residents of Atlantic Canada can expect less than one tornado per year, with the tornado season running primarily from May to August.

A video taping of this latest event indeed did prove, and would convince any sceptic, that in fact, three tornadic funnel clouds did form and touched down during the October 14 thunderstorm that also produced hail. As such, this could possibly be one of the latest annual tornadic events ever documented in the Maritimes.

Elsewhere...

In the Yukon it was a typical fall week, with a mixture of sun and overcast conditions. Some areas received as much as 10 cm of snow. Blizzard or near blizzard conditions were common throughout the Arctic Islands, when the bulk oil/ore carrier, M.V. Arctic, left Little Cornwallis Island on October 26. Sailing out together with the Canadian Coast Guard ice breaker Henry Larson, little difficulty was encountered. In the Great Slave Lake region of the Northwest Territories it was breezy, with temperatures hovering near freezing. The ice on many lakes is thick enough to support light traffic.

Once again, the British Columbia coastline was affected by a number of Pacific weather systems, which produced significant, but not unusual amounts of precipitation. Weather conditions in the southern interior valleys have become typically unsettled for this time of year, while in the north, periods of snow and freezing precipitation were common. Logging roads are very wet and muddy, and a quick freeze would be beneficial to the logging industry.

In the Prairies, where the harvest is now complete, there was a mixed bag of weather this week, which included sun, cloud, brisk winds, showers and some light snowfalls, especially in the foothills and the northern regions.

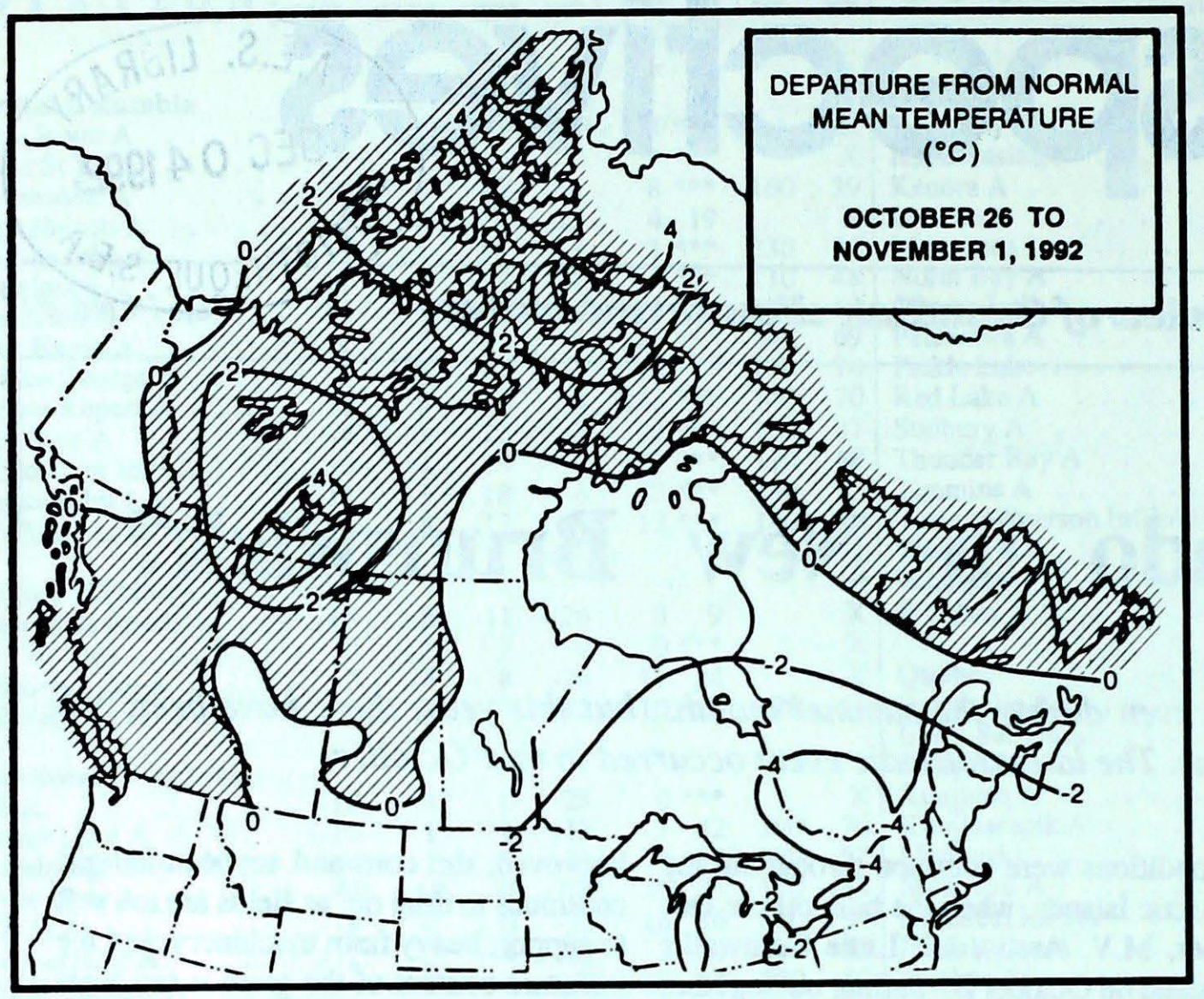
In Ontario, the period was cool, with little precipitation. Traces of snow still remained on the ground from the previous week. Although drying conditions have improved, the corn and soybean harvest continues to drag on, as fields are too soft to support heavy farm machinery, and the moisture content of the grain is too high. Grapes in the Niagara Peninsula have been slow to mature this year, and the sugar content is poor due to the lack of heat and sunshine. As a result, the 1992 grape harvest is the latest on record.

Harvesting weather in the Maritimes continued to be excellent. Rain earlier in the week was welcomed, since the weather has been too dry since July. The potato, corn and apple harvest is almost complete. Nova Scotia apples are a little on the small side, but Prince Edward Island has had a bumper potato crop - a marked improvement over last year.

In Newfoundland, rain early in the week gave way to cooler more settled conditions. Labrador was predominantly cloudy with flurries. Temperatures remained near freezing.

A Look Ahead...

For the week of November 9, near and above-normal temperatures are expected across most of Canada, except cool temperatures will occur across Labrador and the Atlantic provinces. Stormy weather is also likely across the Atlantic region.



Weekly normal temperatures (°C)

	max.	min.
Whitehorse A	0.9	-6.1
Iqaluit A	-5.1	-11.7
Yellowknife A	-2.4	-8.5
Vancouver Int'l A	11.8	4.8
Victoria Int'l A	12.1	4.2
Calgary Int'l A	9.5	-3.7
Edmonton Int'l A	7.6	-4.8
Regina A	7.5	-4.6
Saskatoon A	6.7	-4.3
Winnipeg Int'l A	7.5	-2.3
Ottawa Int'l A	9.6	0.8
Toronto (Pearson Int'l A)	11.4	2.0
Montréal Int'l A	9.9	1.6
Québec A	7.9	-0.4
Fredericton A	10.3	-0.2
Saint John A	9.8	1.0
Halifax (Shearwater)	11.3	3.6
Charlottetown A	10.0	2.1
Goose A	4.0	-3.2
St John's A	8.7	1.9

Weekly temperature and precipitation extremes

	Maximum temperature (°C)		Minimum temperature (°C)		Heaviest precipitation (mm)	
British Columbia	Abbotsford A	16	Fort Nelson A	-10	Estevan Point (aut)	92
Yukon Territory	Mayo	7	Old Crow	-33	Burwash	10
Northwest Territories	Hay River A	10	Alert	-34	Cape Dorset A	17
Alberta	Medicine Hat A	17	Lethbridge A	-9	Medicine Hat A	32
Saskatchewan	Swift Current	17	Meadow Lake A	-9	Broadview	10
Manitoba	Dauphin A	13	Thompson A	-14	Dauphin A	6
Ontario	Windsor A	16	Pickle Lake	-9	Windsor A	24
Quebec	Gaspé A	9	Kuujjuaq A	-14	Gaspé A	44
New Brunswick	Fredericton A	13	St-Léonard A	-9	Moncton A	46
Nova Scotia	Greenwood A	15	Amherst (aut)	-3	Amherst (aut)	36
Prince Edward Island	East Point (aut)	12	Charlottetown A	-3	Charlottetown A	47
Newfoundland	Stephenville A	13	Wabush Lake A	-9	St Lawrence	57

Across The Country...

Highest Mean Temperature	Sable Island (N.S.)	11
Lowest Mean Temperature	Eureka (N.W.T.)	-23

92/10/26-92/11/01

CLIMATIC PERSPECTIVES
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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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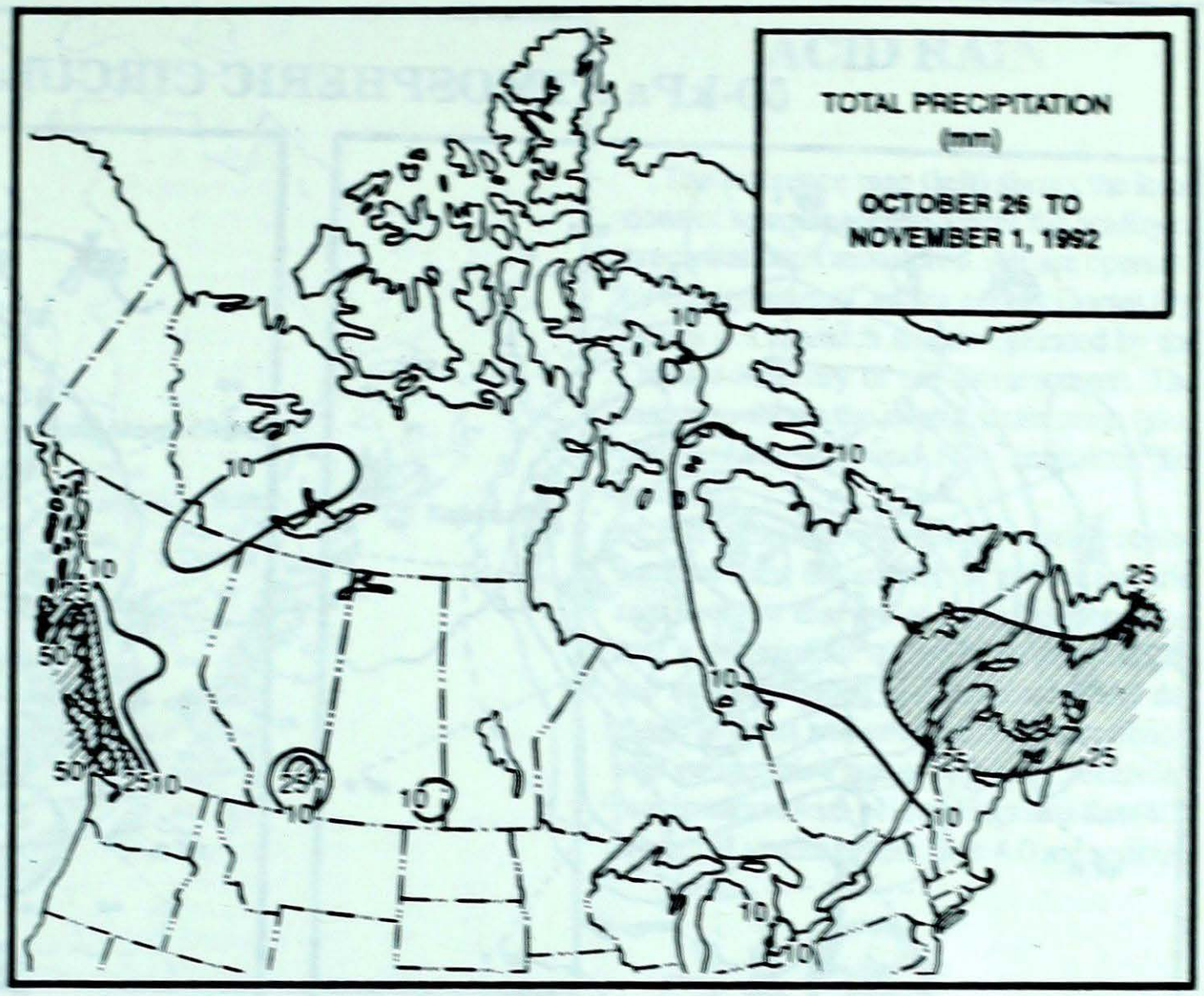
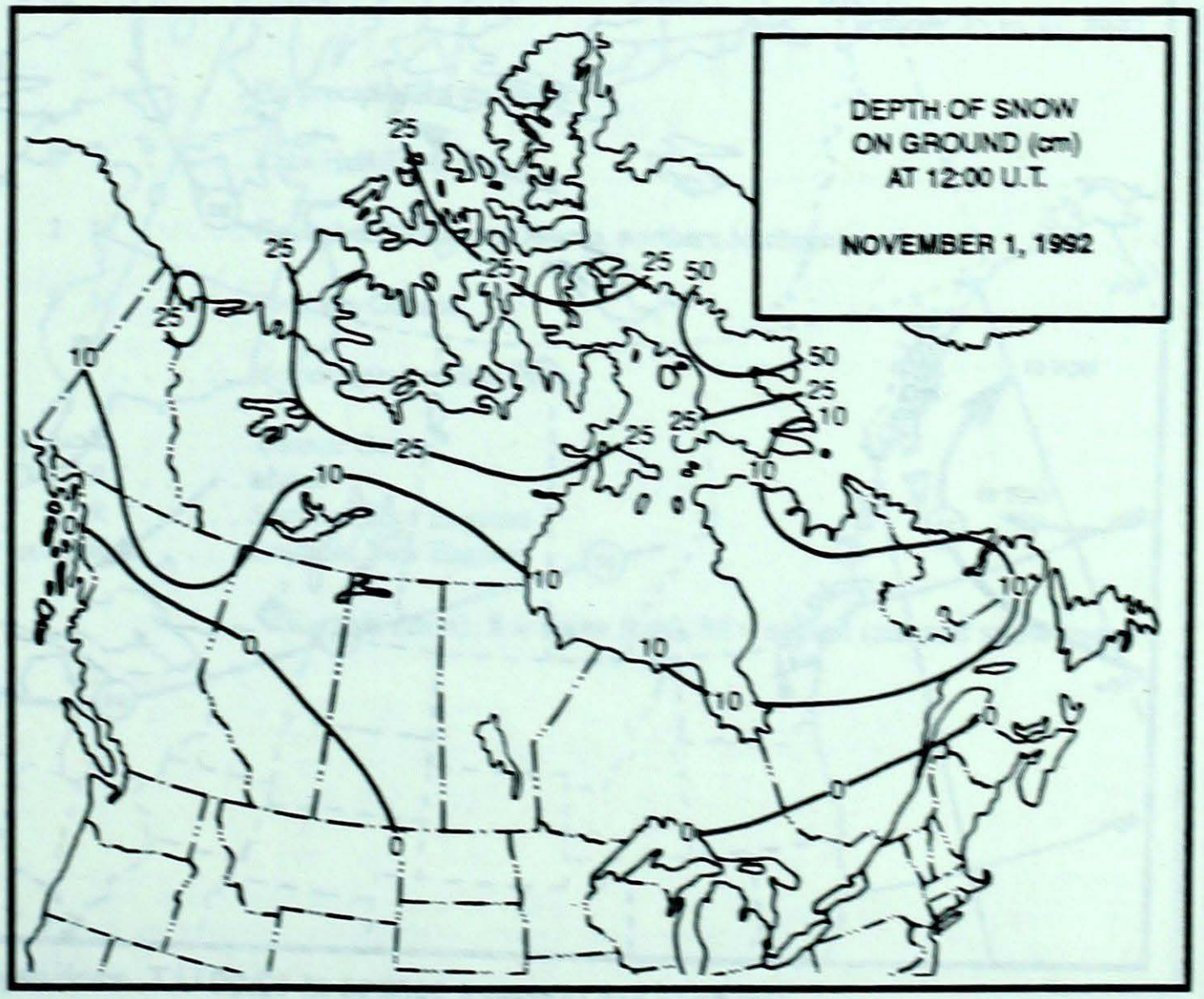
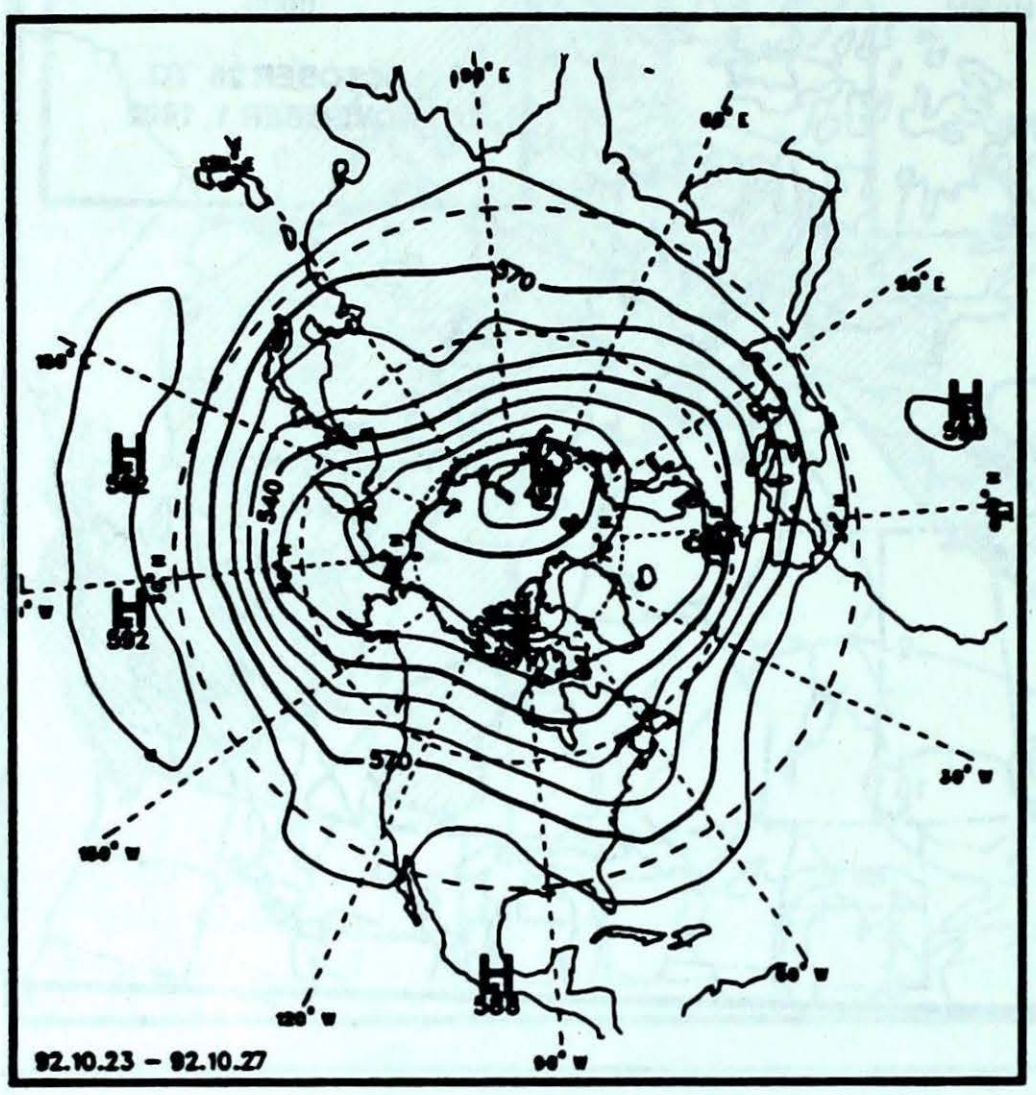
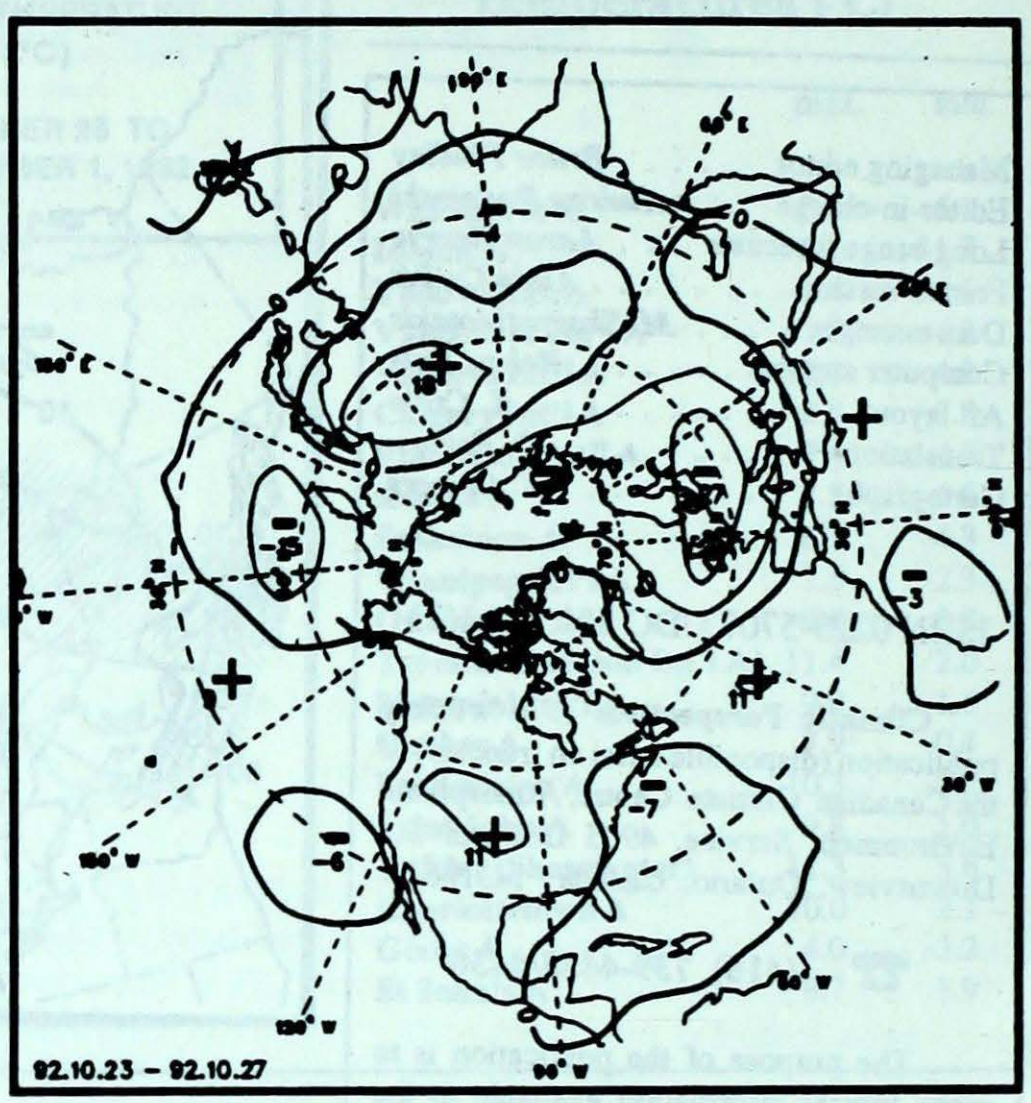




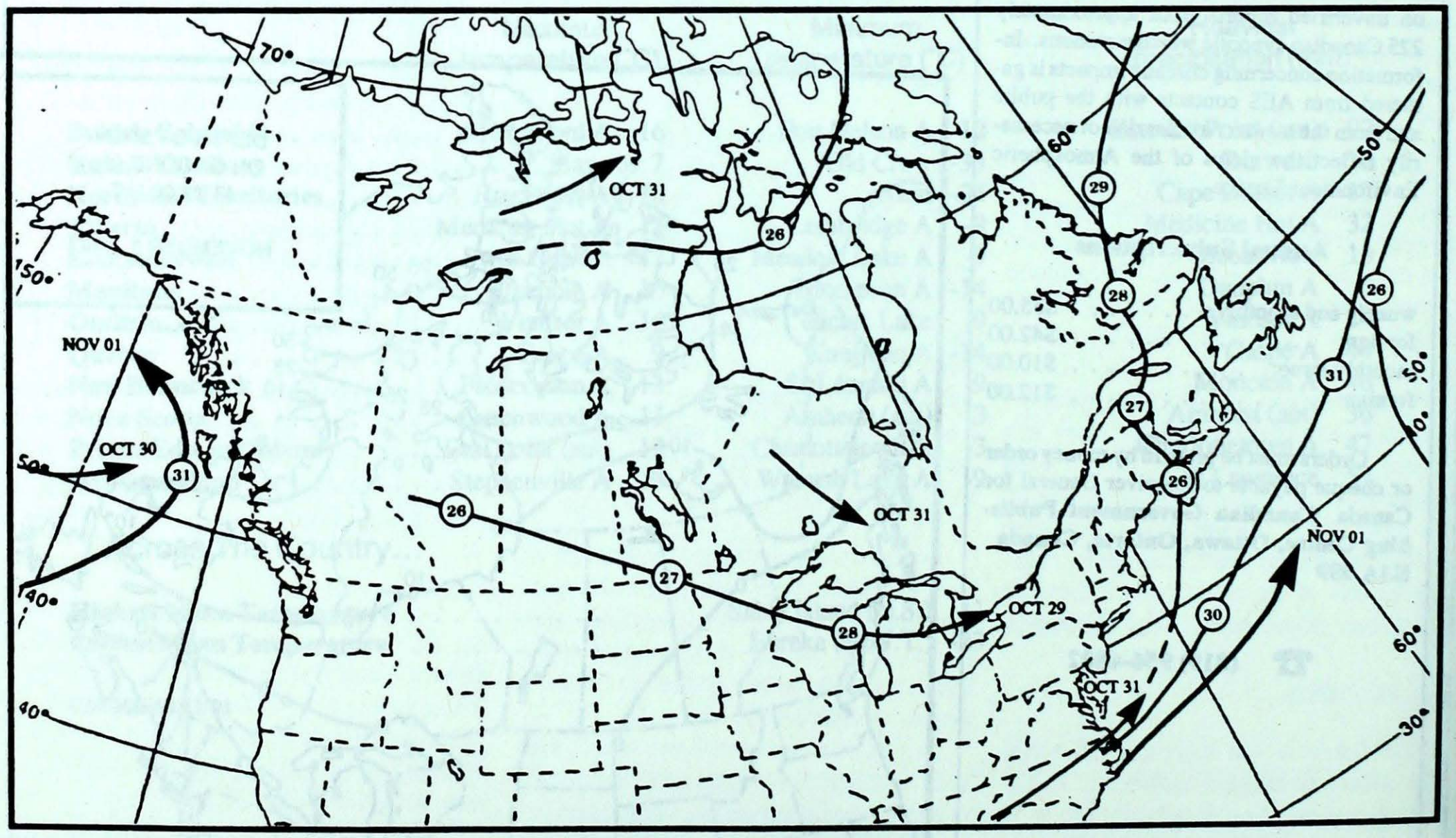
50-kPa ATMOSPHERIC CIRCULATION



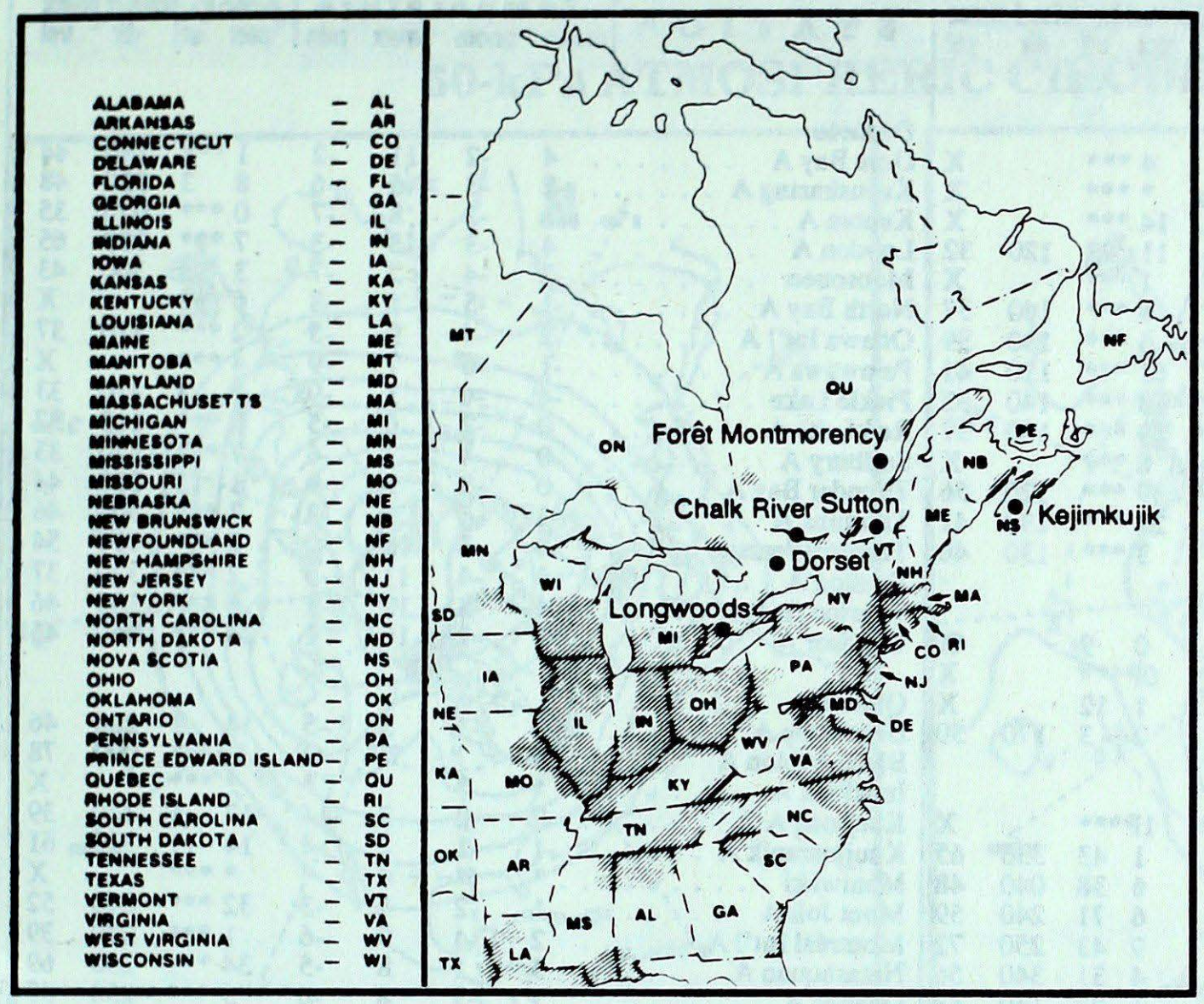
Mean geopotential height
50-kPa level (10 decametre intervals)



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_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.

SITE	day	pH	amount		AIR PATH TO SITE
					October 25 to 31, 1992
Longwoods					. . . . . No precipitation this week
Dorset *	26	4.5	3	R	. . . . . Lake Huron, Michigan
Chalk River	26	4.6	2	M	. . . . . Central and northern Ontario, northern Michigan
Sutton	29	4.0	5	M	. . . . . Southern Ontario
Montmorency					. . . . . No precipitation this week
Kejimkujik	25	5.5	6	R	. . . . . Atlantic Ocean
	26	5.2	1	R	. . . . . Maine
	29	3.8	9	R	. . . . . Southern New England
	30	4.0	3	R	. . . . . Southern New England

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

STATION	temperature mean	anom	max	min	precip. ptot	st	wind dir	max vel
British Columbia								
Blue River A	3	1	9	-2	4	***		X
Cape St James	*	*	*	*	*	***		X
Cranbrook A	4	2	13	-7	14	***		X
Fort Nelson A	-2	2	9	-10	11	23	120	32
Fort St John A	2	0	8	-3	1	***		X
Kamloops A	7	1	14	-2	6	***	140	37
Penticton A	7	1	14	-2	6	***	180	59
Port Hardy A	8	0	12	2	61	***	120	41
Prince George A	4	1	10	-4	18	***	140	33
Prince Rupert A	7	0	13	0	59	***	160	37
Smithers A	4	1	9	-3	8	***		X
Vancouver Int'l A	10	1	13	2	39	***	120	56
Victoria Int'l A	9	1	13	3	23	***	130	41
Williams Lake A	4	1	10	-5	3	***	130	46
Yukon Territory								
Komakuk Beach A	-14	0	-7	-23	0	9		X
Teslin (aut)	-2P	*	6P	-10P	0P	***		X
Watson Lake A	-5	-1	6	-16	1	12		X
Whitehorse A	-3	-1	6	-13	2	3	170	50
Northwest Territories								
Alert	-23P	1P	-11P	-34P	1P	***		X
Baker Lake A	-13	-1	1	-25	1	43	330	65
Cambridge Bay A	-14	2	-4	-24	6	38	040	48
Cape Dyer A	-8	2	-3	-18	6	71	240	59
Clyde A	-10	1	-1	-19	9	43	250	72
Coppermine A	-9	4	3	-15	4	31	340	56
Coral Harbour A	-12	0	-1	-22	1	20	140	43
Eureka	-23P	5P	-11P	-33P	1P	***		X
Fort Smith A	1	4	6	-6	1	***	160	41
Hall Beach A	-12	3	-2	-21	5	37	300	50
Inuvik A	-14	-1	2	-28	2	32		X
Iqaluit A	-5	4	1	-17	4	7	150	65
Mould Bay A	-19	3	-7	-28	6	26		X
Norman Wells A	-7	3	7	-15	5	19	290	41
Resolute A	-16	4	-9	-24	2	12	130	95
Yellowknife A	0	6	5	-6	11	3	170	56
Alberta								
Calgary Int'l A	3	0	13	-5	3	***	150	57
Cold Lake A	2	1	8	-8	3	3	140	43
Edmonton Namao A	2	0	8	-4	4	***	150	50
Fort McMurray A	2	2	8	-6	5	***	120	44
High Level A	2	4	9	-7	2	3	140	37
Jasper	*	*	9	*	*	***		X
Lethbridge A	4	-1	16	-9	2	***	260	74
Medicine Hat A	4	0	17	-7	32	***	270	39
Peace River A	2	1	9	-5	2	***	140	41
Saskatchewan								
Cree Lake	-1	1	5	-5	4	3	200	41
Estevan A	3	0	16	-7	4	3	310	63
La Ronge A	1	1	7	-4	5	***	140	46
Regina A	3	1	15	-5	3	***	120	61
Saskatoon A	3	1	*	-3	6	***	120	54
Swift Current A	3	1	17	-5	2	***	120	61
Yorkton A	2	1	12	-5	3	***	120	37
Manitoba								
Brandon A	1	-1	12	-7	2	***	030	33
Churchill A	-7	-1	-2	-13	1	5	300	78
Lynn Lake A	-4	-1	7	-13	1	3	170	35
The Pas A	1	1	8	-4	1	***	140	44
Thompson A	-4	-1	4	-14	1	3		X
Winnipeg Int'l A	2	-1	11	-8	1	***	100	39

STATION	temperature mean	anom	max	min	precip. ptot	st	wind dir	max vel
Ontario								
Gore Bay A	4	-2	11	-2	1	***	340	44
Kapuskasing A	-2	-3	5	-6	8	3	320	48
Kenora A	1	-2	8	-7	0	***	070	35
London A	4	-3	13	-3	7	***	080	65
Moosonee	-2	-4	2	-7	3	3	300	43
North Bay A	-1	-5	6	-8	6	***		X
Ottawa Int'l A	2	-4	9	-5	2	***	310	37
Petawawa A	-1	-6	7	-9	4	***		X
Pickle Lake	-4	-4	3	-9	1	3	310	33
Red Lake A	0	-2	6	-5	0	***	110	37
Sudbury A	0	-4	7	-6	7	***	340	33
Thunder Bay A	0	-3	9	-9	1	3	090	44
Timmins A	-2	-4	6	-8	7	***	300	46
Toronto(Pearson Int'l A)	4	-3	12	-2	2	***	090	54
Trenton A	3	-4	11	-5	7	***	320	37
Wiarton A	4	-3	12	-1	5	***	100	46
Windsor A	7	-1	16	1	24	***	060	46
Québec								
Bagotville A	0	-3	5	-5	14	3	280	46
Blanc Sablon A	3P	*	7P	-4P	11P	***	090	78
Inukjuak A	*	*	*	*	*	***		X
Kuujjuaq A	-2	2	3	-14	17	5	160	39
Kuujjuarapik A	-1	-1	2	-4	14	11	350	61
Maniwaki	*	*	6	*	*	***		X
Mont Joli A	1	-2	5	-3	32	***	040	52
Montréal Int'l A	2	-4	9	-6	1	***	270	39
Natashquan A	3	1	8	-5	34	***	250	69
Québec A	1	-3	8	-6	3	***	250	37
Schefferville A	-4	0	2	-15	20	11	290	43
Sept-Îles A	2	0	7	-7	32	***	090	69
Sherbrooke A	1	-3	7	-9	5	***		X
Val-d'Or A	-4	-6	2	-12	5	3		X
New Brunswick								
Fredericton A	4	-1	13	-6	31	***	260	50
Miscou Island (aut)	4P	-1P	9P	1P	12P	***		
Moncton A	3	-3	13	-7	46	***	260	56
Saint John A	4	-2	13	-4	25	***	350	43
Nova Scotia								
Greenwood A	5P	-2P	15P	-3P	11P	***	270	54
Shearwater A	6	-1	13	0	35	***	090	59
Sydney A	5	-1	11	-1	20	***	140	63
Yarmouth A	5	-2	12	-2	14	***	280	48
Prince Edward Island								
Charlottetown A	4	-2	11	-3	47	***	230	52
East Point (auto)	6	*	12	3	34	***		
Newfoundland								
Cartwright	2	1	6	-4	8	3	090	56
Churchill Falls A	-2	1	2	-9	17	15	110	44
Gander Int'l A	5	1	10	-2	20	***	090	74
Goose A	2	1	6	-6	16	13	260	48
St John's A	6	0	12	-2	32	***	110	54
St Lawrence	6	1	11	-3	57	***		X
Wabush Lake A	-3	0	2	-9	33	14	350	41

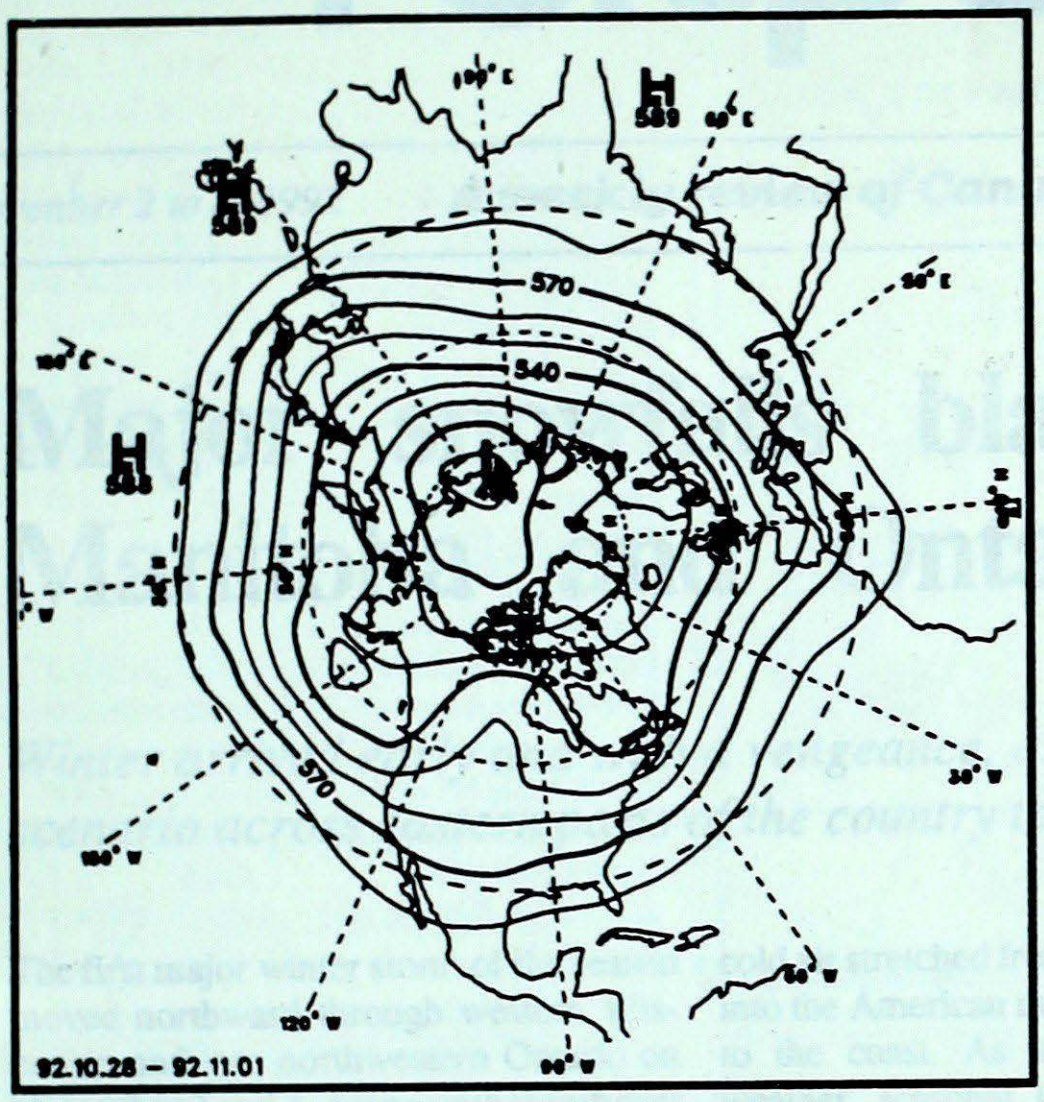
92/10/26-92/11/01

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

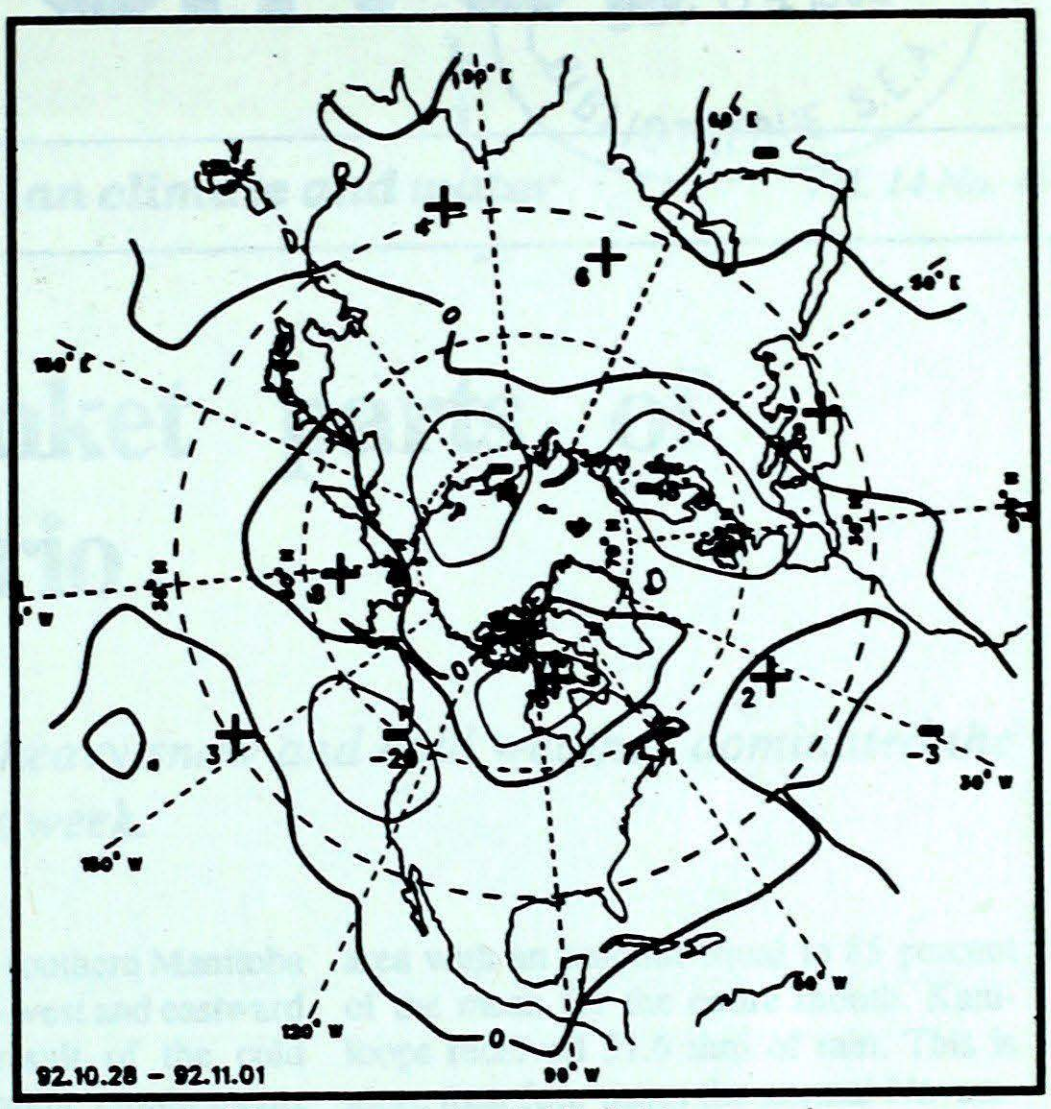
ptot = weekly precipitation total in mm
st = snow thickness on the ground in cm
dir = direction of max wind, deg. from north.
vel = wind speed in km/h

— 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)



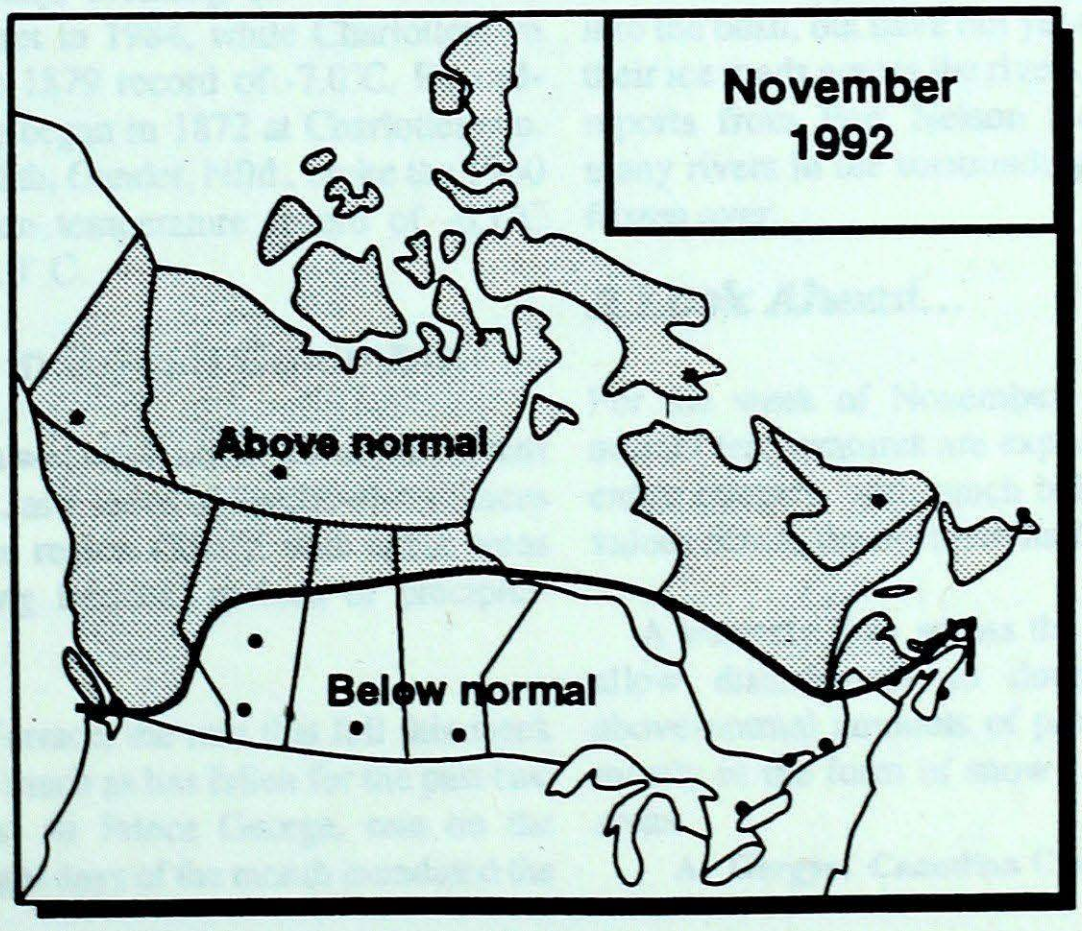
Mean geopotential height anomaly
50 kPa level (10 decametre intervals)

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

MONTHLY TEMPERATURE FORECAST

Normal temperatures for the month of November, °C

Whitehorse	-9	Toronto	3
Yellowknife	-14	Ottawa	1
Iqaluit	-13	Montréal	2
Vancouver	6	Québec	0
Victoria	6	Fredericton	1
Calgary	-3	Halifax	3
Edmonton	-5	Charlottetown	3
Regina	-5	Goose Bay	-4
Winnipeg	-5	St. John's	3



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