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Atmospheric Environnement Environment atmosphérique A WEEKLY REVIEW OF CANADIAN CLIMATE

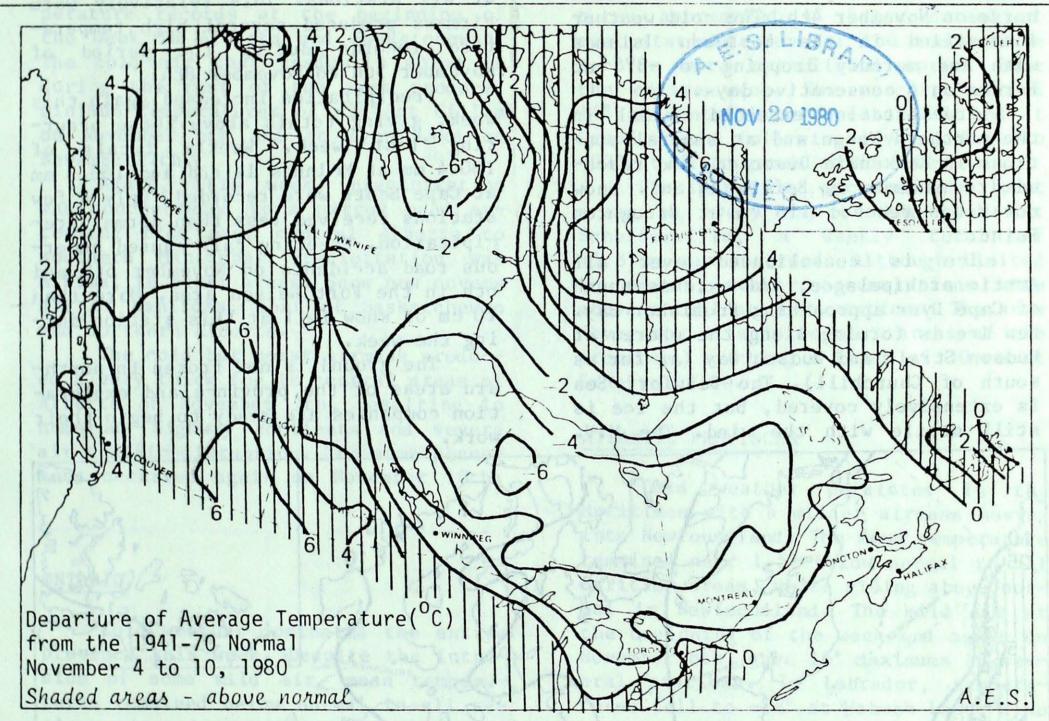
CLIMATUCCICULATING PERSPECTIVES

THE CANADIAN CLIMATE CENTRE, ATMOSPHERIC ENVIRONMENT SERVICE, 4905 DUFFERIN ST., DOWNSVIEW, ONTARIO M3H 5T4

NOVEMBER 14 1980

(Aussi disponible en français)

VOL. 2 NO. 45



WEATHER HIGHLIGHTS FOR THE WEEK - NOVEMBER 4 TO 10, 1980

Warmer in West, Colder in East

The East-West temperature contrast intensified this week as the mild airmass in the West and the cold airmass in the East were reinforced. A new mild airmass infiltrated the province of Newfoundland and the eastern portion of the Franklin district.

This situation produced several low temperature records in Ontario and Québec and relatively high temperatures in the Western provinces. Temperatures fluctuated between 22° (Lethbridge) and -37° (Eureka). A total of 180.4 mm of rain fell at McInnes Island.

NOTE: The data shown in this publication are based on unverified reports from approximately 225

Canadian and 115 northern United States Synoptic stations.

YUKON AND NORTHWEST TERRITORIES

Milder temperatures were experienced in the Arctic this week. The mean temperature rose to more than 4° above normal in Baffin Island, the Yukon and the Mackenzie valley. In contrast, the mean temperature remained below normal in Keewatin district and surrounding areas. The mercury reached 6° at Whitehorse on November 4th. The cold weather intensified in the Northern Islands with the mercury dropping to -37° at Eureka on 4 consecutive days.

Precipitation exceeded normal in the northern Yukon and at several stations in Mackenzie District, and reached its maximum on Baffin Island. Snow cover has reached 118 cm at Broughton Point.

Ice is consolidated over all Arctic archipelagoe, and extends south of Cape Dyer approaching Frobisher Bay. New ice is forming along the shores of Hudson Strait and Hudson Bay (as far as south of Churchill). The Beaufort Sea is extensively covered, but the ice is still mobile with the wind. The M.V.

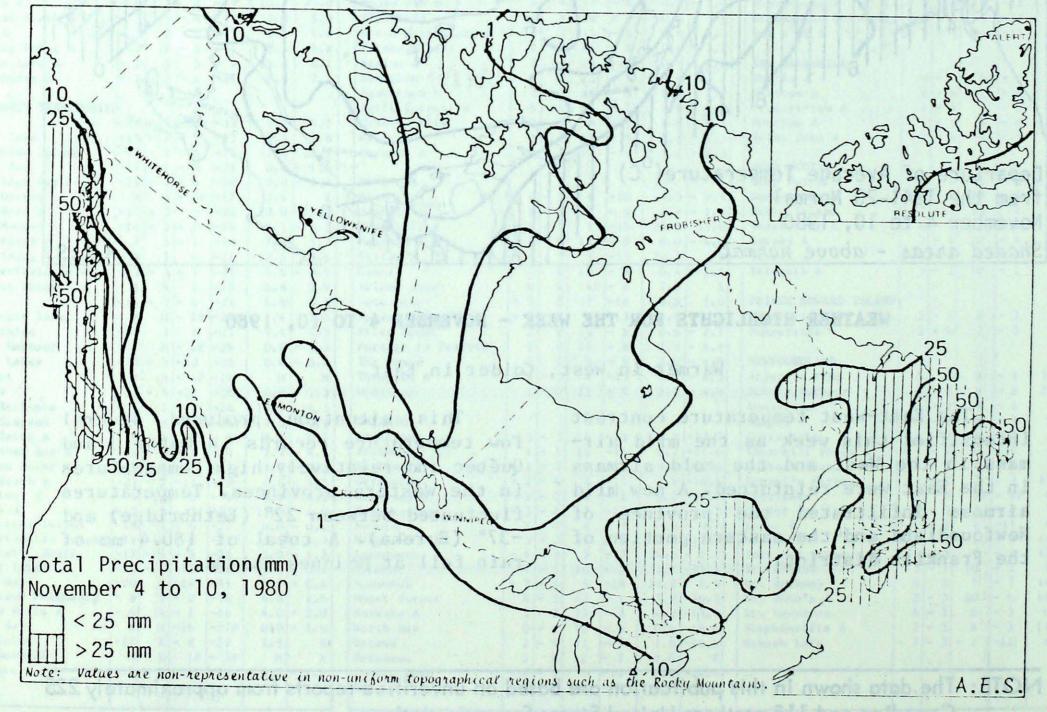
Arctic is being loaded with grain at Churchill.

BRITISH COLUMBIA

The mild weather persisted. Despite a generally progressive decrease of temperature during the week, mean temperatures remained well above normal at all stations. This relatively warm airmass produced several high temperature records during the period of November 5th to November 8th.

Precipitation increased again this week, giving totals above those occurring last week. Weekly totals of 180.4 mm at McInnes Island and 163.3 mm at Cape Scott were recorded. Only a few stations received less than normal precipitation. Freezing rain caused numerous road accidents on November 5th and 6th in the Fort Nelson area. More than 10 cm of snow fell at this station during the week.

The ground is now frozen in northern areas of the province and exploration companies are ready to begin their work.



PRAIRIE PROVINCES

The temperature contrast across the prairies increased this week. Mean temperatures rose to more than 6° above normal in several areas of Alberta, but fell to more than 5° below normal in northern Manitoba. The mercury reached 22° on November 5th at Lethbridge. This warm airmass produced several high temperature records at the beginning of the week in Alberta and Saskatchewan. The cold air that gradually moved in during the rest of the week produced minimum temperatures of -24° at Gillam on November 6th and at Lynn Lake on November 7th.

Again, this week, precipitation was concentrated in a narrow band extending from east central Alberta to southern Manitoba. Precipitation was minimal in other areas. Snow now covers all of Manitoba, most of Saskatchewan and northern Alberta.

The cold but moist airmass produced a very thick fog in central areas of Alberta on November 7th, resulting in numerous highway accidents and severe air traffic disruption. The same phenomena occurred again on November 10th.

ONTARIO

Cold weather dominated the entire province this week. Despite the intrusion of some mild air, mean temperatures remained below normal in all regions, dropping to more than 4° below normal at some stations. Temperatures fluctuated between 16° at Windsor on November 9th, and -24° at Armstrong and Atikokan on November 10th.

The weather was variable this week, with sunny days interspersed with days of rain and snow. The weeks precipitation totals exceeded normal at most stations with Wiarton recording total

of 45.2 mm. The snow cover extended south to lake Ontario at the end of the week with some northern stations reporting accumulations of more than 20 cm.

QUÉBEC

The cold airmass remained anchored over the entire province. Mean temperatures approached 4° below normal at most stations. Several low temperature records were established spread over the entire week. The mercury reached 14° at Montréal on November 4th and at Gaspé on the following day. It fell to -22° at Chibougamau on November 7th.

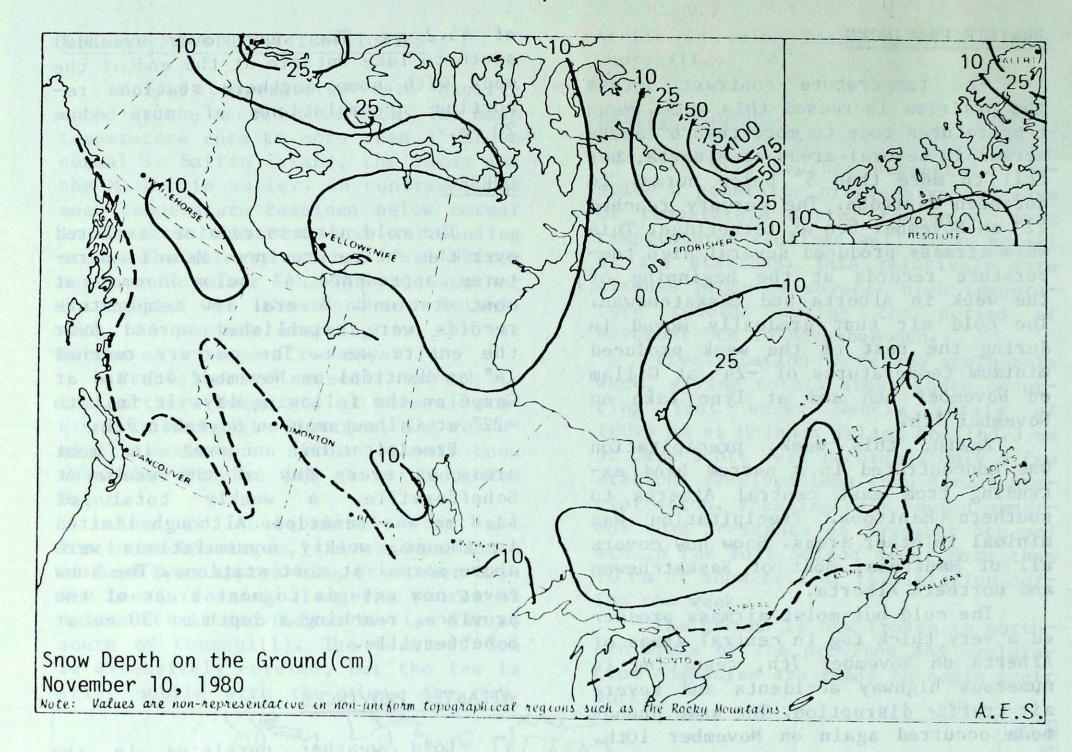
Precipitation occurred in most areas on every day of the week. At Schefferville, a weekly total of 41.8 mm was recorded. Although limited in amount, weekly accumulations were above normal at most stations. The snow cover now extends to most areas of the province, reaching a depth of 30 cm at Schefferville.

ATLANTIC PROVINCES

Cold weather persisted in the Maritimes with a milder airmass moving into Newfoundland. The mean temperature remained near 1.5° below normal in all Maritime areas, while rising above normal in Newfoundland. The mild air at the beginning of the week and again on November 8th, gave 15° maximums at several stations. In Labrador, temperatures fell to -18° at Wabush Lake, also on November 8th.

Interspersed by a few days of sunshine, large amounts of precipitation fell in all areas. Weekly totals exceeded normal at all but one station, reaching 73.2 mm and 73.4 mm at Burgeo and St. Lawrence respectively. The 24 hourly precipitation totals exceeded 50 mm at several stations on November 5th.







CLIMATIC PERSPECTIVES

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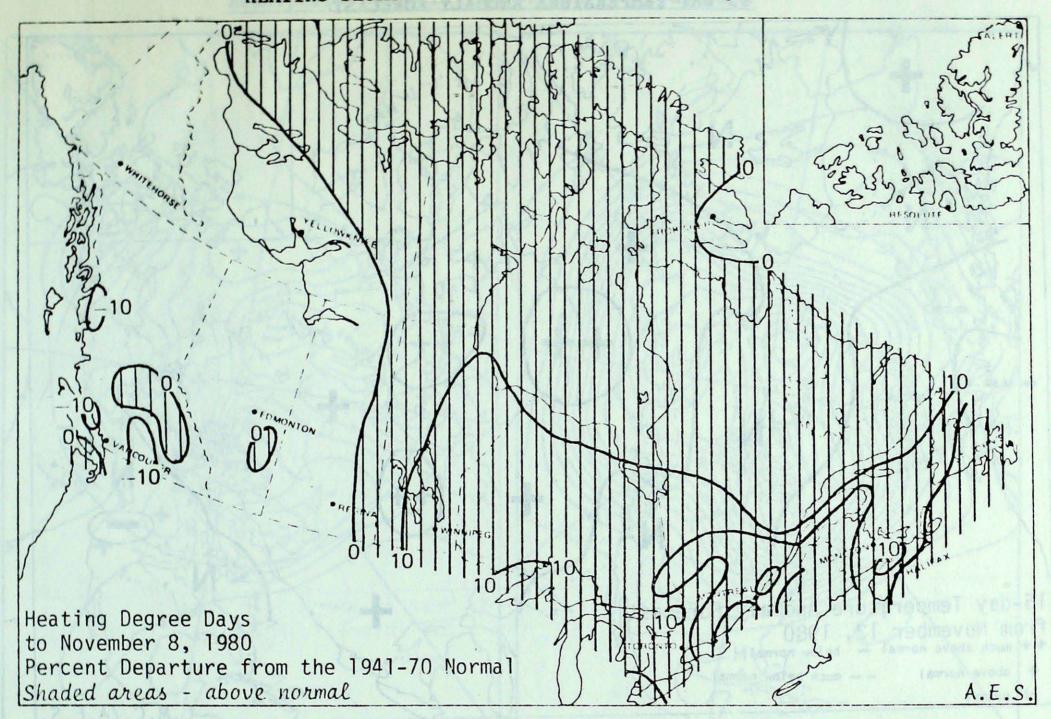
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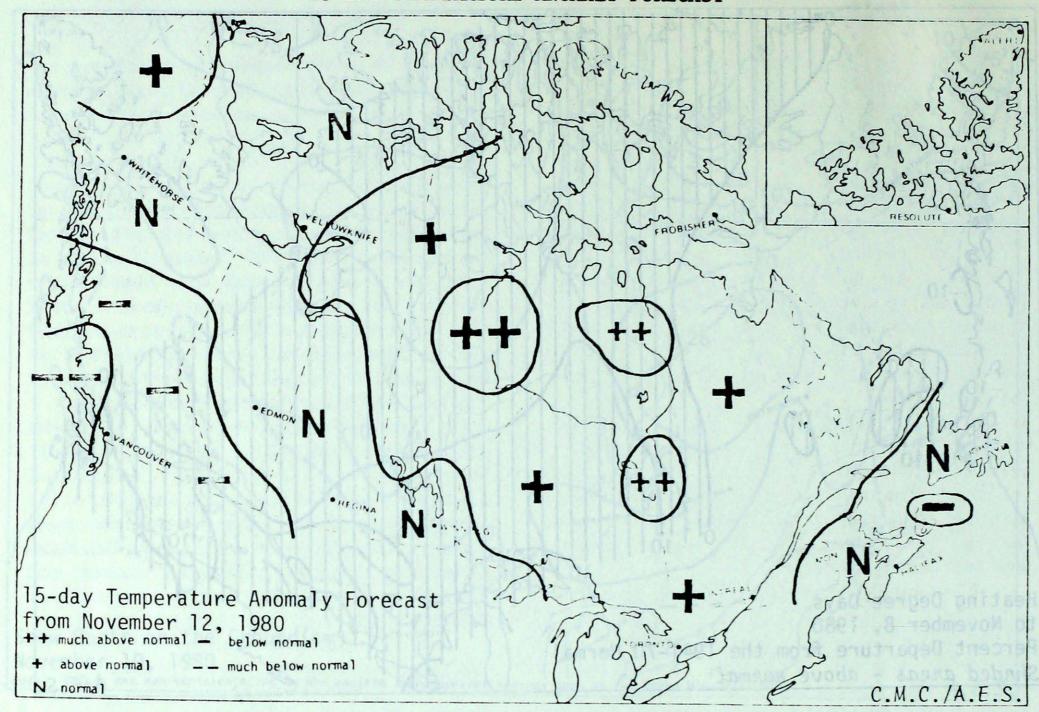
HEATING DEGREE-DAY SUMMARY TO NOVEMBER 8, 1980



	MONTHLY	MONTHLY DIFF	SEASONAL	SEASONAL	SEASONAL PERCENT
COLATION	CUMU LATIVE TOTAL	FROM 1941-70 NORMAL	TOTAL	DIFF. FROM 1941-70 NORMAL	OF NORMAL
STATION	TOTAL	NORTHL		1941 70 NORIBIE	OI NOMINE
Resolute	297.0	-18.0	2946.0	29.0	101
Inuvik	242.0	-40.0	1924.5	5.5	100
Whitehorse	148.0	-40.0	1290.5	-42.5	97
Vancouver Int'l A	51.5	-32.5	500.0	-18.0	97
Edmonton Mun A	103.0	-42.0	829.0	-48.0	95
Calgary Int'l A	75.5	-63.5	837.0	-68.0	92
Regina	112.5	-35.5	797.0	-18.0	98
Winnipeg Int'l A	131.5	-14.5	832.5	96.5	113
Thunder Bay	140.0	8.0	899.5	74.5	109
Windsor	91.5	10.5	444.5	84.5	123
Toronto Int'l A	102.5	9.5	555.0	81.0	117
Ottawa Int'l A	130.5	27.6	666.5	112.5	120
Montreal Int'l A	125.5	25.5	668.5	166.5	133
Quebec	146.0	26.0	812.5	138.5	121
Saint John, N.B.	121.0	17.0	765.0	75.0	111
Halifax	107.0	23.0	614.0	107.0	121
Charlottetown	119.0	21.0	679.5	1sm 97.5	117
St. John's, Nfld.	117.0	14.0	1009.5	196.5	124
The State of the S				Lagrage Sychie	

From L.I' to J.6" above Margal

15 DAY TEMPERATURE ANOMALY FORECAST



Forecast Method

Analogue technique based on point prediction at 70 Canadian stations.

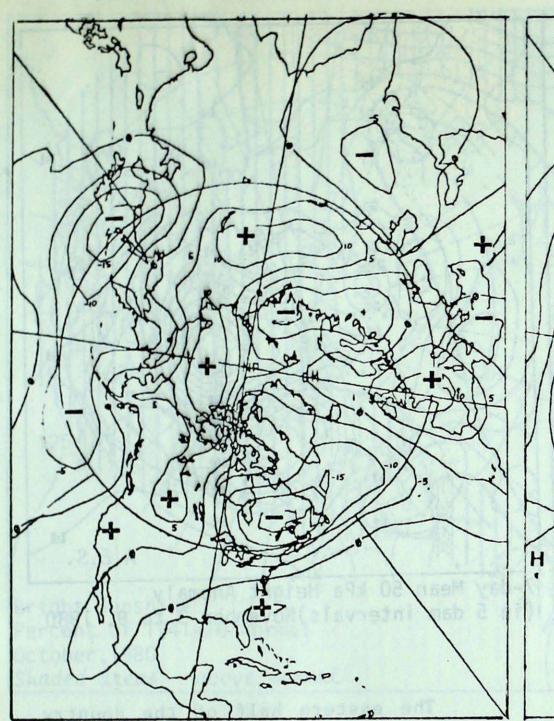
Temperature Scale

Each temperature class is designed to contain 20% of the historically observed 15 day means pertinent to specific location and time of year:

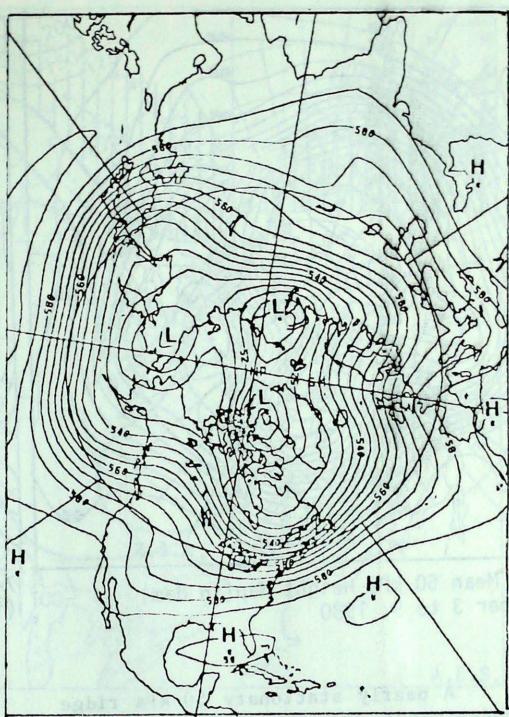
Station		Current Tem	perature Anomaly Forecast
Whitehorse	Near Normal		Within 1.4° of Normal
Victoria	Below Normal		From 0.4° to 1.3° below Normal
Vancouver	Below Normal		From 0.4° to 1.4° below Normal
Edmonton	Near Normal		Within 1.2° of Normal
Regina	Near Normal		Within 1.0° of Normal
Winnipeg	Near Normal		Within 0.9° of Normal
Thunder Bay	Near Normal		Within 0.7° of Normal
Toronto	Above Normal		
Ottawa	Above Normal		From 0.6° to 1.9° above Normal
Montreal	Above Normal		From 0.7° to 2.2° above Normal
Quebec	Above Normal		From 0.6° to 2.2° above Normal
Fredericton	Near Normal		From 0.6° to 2.1° above Normal
Halifax	Near Normal		Within 0.6° of Normal
Charlottetown			Within 0.5° of Normal
St. John's	Near Normal		Within 0.5° of Normal
Goose Bay	Near Normal		Within 0.4° of Normal
Frobisher Bay	Above Normal	1 4 4 424	From 0.7° to 2.4° above Normal
	Above Normal		From 1.0° to 3.3° above Normal
Inuvik	Above Normal		From 1.1° to 3.6° above Normal

Note: Anomaly denotes departure from the 1949-73 mean.

Atmospheric Circulation of the Previous Week



7-day Mean 50 kPa Height Anomaly (in 5 dam intervals)October 27 to November 2, 1980



7-day Mean 50 kPa Height Map(in dam) October 27 to November 2, 1980

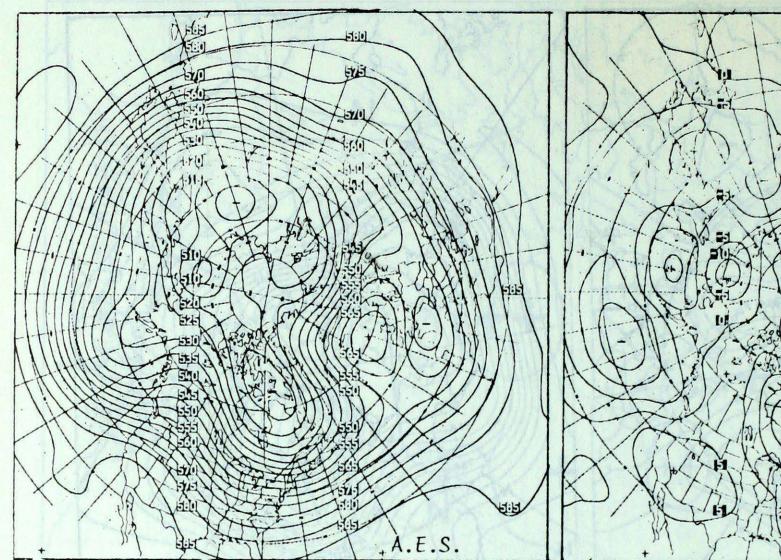
The atmospheric circulation maintained a north-south component of flow across North America.

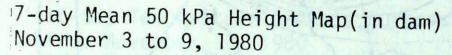
A 50-kPa ridge positioned over the Prairies and the Northwest Territories gave generally higher surface pressures and little significant precipitation. Surface weather systems arriving from the Pacific moved northward across the Yukon and Northwest Territories pushing mild Pacific air inland. As a result, somewhat higher precipitation occurred in a belt across northern areas of central and eastern Canada;

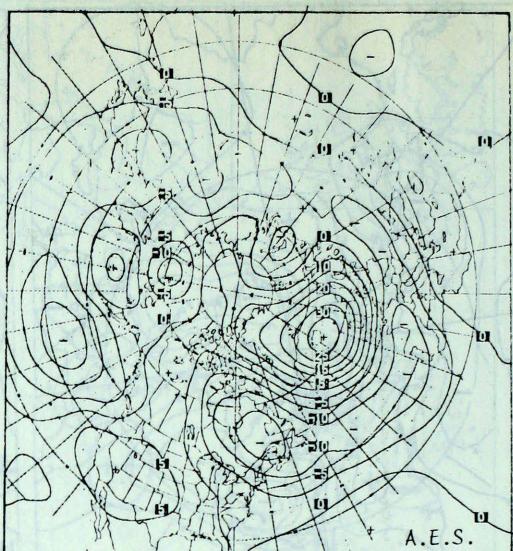
precipitation totals along the West Coast were considerably higher because of the strong onshore flow at the surface and higher levels.

Weather in southeastern Canada was similar to the previous week's under the continuing influence of the 50-kPa trough. Cool changeable conditions were the rule, but precipitation amounts were much less because major weather disturbances took more northerly tracks across northern Quebec.

Andy Radomski





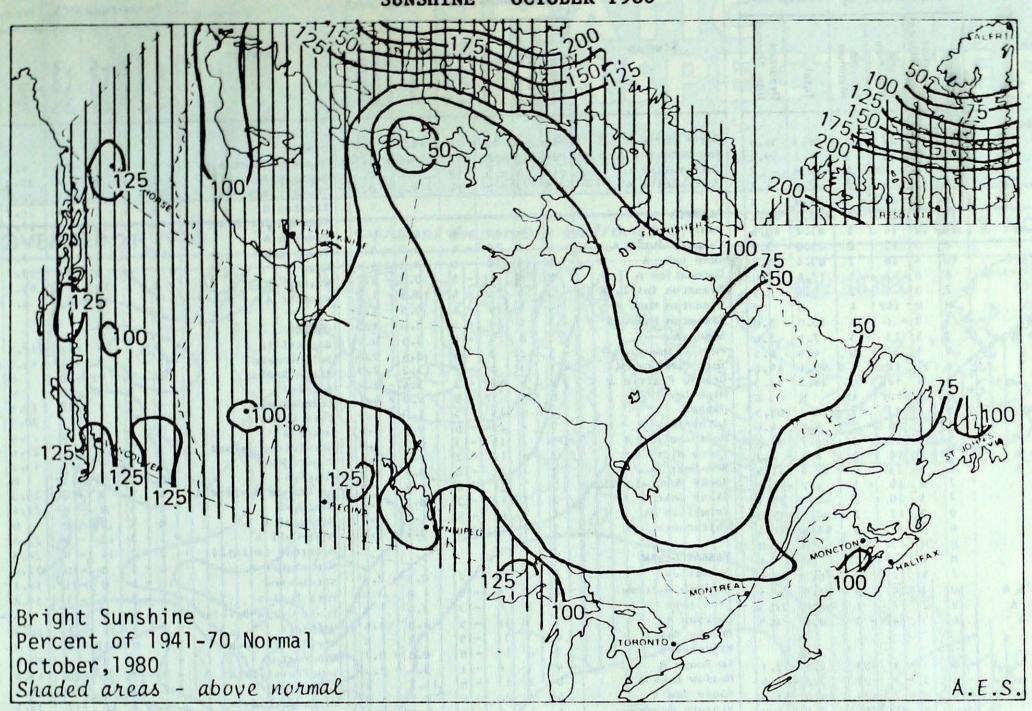


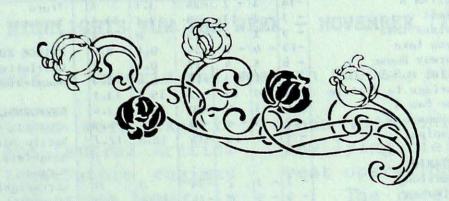
//-day Mean 50 kPa Height Anomaly
(in 5 dam intervals) November 3 to 9, 1980

A nearly stationary 50 kPa ridge predominated the western half of the continent.

At the surface a large high prespure area over the western United States and a stationary deep low pressure system over the Gulf of Alaska, combined to produce a strong southwesterly on-shore flow of mild moist Pacific air. As a result, precipitation amounts along the British Columbia coast were in excess of 50 mm, while amounts in the southern interior were close to 25 mm. Mean temperatures across all of British Columbia, Alberta and the Yukon were as much as 6° above the 30 year normal, contrasting sharply with below normal temperatures in Manitoba. The eastern half of the country once again did not fair nearly as well. Under the influence of a 50 kPa long wave trough, a strong northwesterly upper air flow pushed cold Arctic air southeastward. Mean temperatures from the Keewatin area of the Northwest Territories through to the Maritimes averaged well below normal, consistant with the negative 50 kPa height anomalies.

A low pressure disturbance moving eastward across the country brought unsettled weather with periods of rain or snow depending on temperature. The Atlantic provinces received the bulk of precipitation with amounts generally in excess of 50 mm.





	Ter	mper	Precip. (mm)			
Station	Average	Departure from Normal	Extreme Maximum	Extreme	Total	Departure from Normal
BRITISH COLUMBIA				1345	N.U.	
Abbotsford A	10	3	17	3	79.3	36.8
Alert Bay	9	2	15	3	74.2	39.0
Blue River	M 9	X 2	6P 16	- 1 2	107.6	56.
Bull Harbour	M	X	129	- 3P	M)
Burns Lake Cape Scott	10	3	15	4	163.3	79.6
Cape St. James	10	2	14	5	81.7	40.
Castlegar A	8	5	13	0	25.0	3.5
Comox A	10	4	16	2	63.4	29.4
Cranbrooke	6	6	12	- 1	17.4	10.0
Dease Lake Estevan Point	- 2 M	3 M	149	4	5.4 M	
Fort Nelson A	- 5	3	- 1	-14	10.0	
Fort St. John A	3	5	13	- 5	7.4	1.6
Kamloops A	9	5	17	0	4.6	0.5
langara	8	1	12	2	99.1	49.1
Lytton	9	X X	101	0 - 1P	28. J M	12.5
Mackenzie A McInnes Island	9	2	13	5	180.4	105.
Penticton A	9	5	15	- 2	9.8	4.6
Port Hardy A	9	3	15	1	85.7	41.8
Prince George A	5	5	14	- 4	6.3	
Prince Rupert A	8	3	13	- 1	99.4	51.3 - 4.2
Quesnel A Revelstoke A	7	6	10	- 1 2	44.5	25.
Sandspit	9	2	13	2	30.1	
Smithers A	4	4	14	- 3	41.8	31.4
Spring Island	M	М	134	5	M	1
Stewart A	М	X	101	1000000	14	
Terrace A	7	4	13	2	78.5	45.1
Vancouver Int'l A	10			3	81.8	V
Victoria Int'l A Williams Lake A	6	5	17	- 3	58.8	
YUKON						
Burwash A	- 8	3	5	-23		- 2.
Dawson A	- 9	100		-25		- 5.4
Komakuk beach A	-14		- 7	-25		11.6
Mayo A	- 6	5	5 - 6P	-23	13.8	- 5.6
Shingle Point A Watson Lake A	- 4			-11		12.0
Whitehorse A	- 2		6	- 9	9.3	
NORTHWEST TERRITORIES	S	F 16				
Alert	-23		- 4	-32	9345850ml	- 2.
baker lake .	-19		-12 - 3	-27 -17	19.4	- 2.1
Broughton Island Byron Bay	-23		-15		1.0	All the same of the
Cambridge Bay A				-35		- 1.
Cape Dorset	М		- 1P	I have been been been been been been been be	М	
Cape Dyer A	- 8	5	1	-21	17.9	
Cape Hooper		5		-17		- 1.1
Cape Parry A	-10		- 6	-17	3.5	
Cape Young A	-14		- 7 - 6	-22 -23	6.2	- 0.
Chesterfield Inlet Clinton Point	-11		The second	-18	9.2	
Clyde	-10	1000	- 2	-18	10.3	
Contwoyto Lake	М	M	- 9P	-30	M	1
Coppermine	-13		- 6	-23	7.3	
Coral Harbour	- 8		- 2	-15		- 3.0
Dewar Lakes Ennadai	-12 M		- 4 - 8P	-24 -28	2.6 M	0.
Eureka	-28		-11	-37		- 0.
Fort Keliance	-11	100	1000	-21	2.7	- 4.
Fort Simpson	- 7	4	- 2	-15		- 1.
Fort Smith A	- 5	2	1	-10		- 1.6
Frobisher Bay A	- 4		4	-14		- 1.1
Gladman Point A Hall Beach A	-27 -15		-19 - 3	-31 -28		- 0.0 - 2.
Hay River A	- 5			-10		- 4.0
Inuvik A	-12			-23		3.
Jenny Lind Island			-19	-31	0.0	- 1.
Lady Franklin Point	-17	- 1	-10	-23	2.0	0.
Longstaff Bluff	-12	5		-25		- 2.
Mackar Inlet	-19	2	- 9	-28	9.5	
Mould Bay Nicholson Peninsula	-26		-19 - 5	-32 -16	2.0	- 0.0
Norman Wells A	-10	5	- 5	-16		- 0.
Pelly Bay	-22	- 1	-17	-27		- 0.
Pond Inlet	-13	X	- 2	-25	1.8)
	M	X	N	11	M)
Port Burwell Resolute A	-18		-13	-24	4.1	1 - 1 - 22

ION DATA FOR THE	Temperature (°C) Precip. (n					
Station	Average	Departure from Normal	Extreme	Extreme Minimem	Total	Departure from Normal
Sachs Harbour Shepherd Bay A Tuktoyaktuk Yellowknite A	-16 -24 -10 - 8	- 3 6	-18	-23 -32 -19 -14	9.2 0.0 4.0 5.8	
ALBERTA Banff Calgary Int'l A Cold Lake A Coronation A Elmonton Int'l. A Elmonton Mun. A Edmonton Namao A Edson A Fort Chipewyan Fort McMurray A Grande Prairie A High Level A Jasper Lethbridge A Medicine Hat A Peace River A Red Deer A Rocky Mountain House Slave Lake A Vermillon A Whitecourt	4 7 0 M 3 4 3 3 - 5 - 1 2 M 5 9 9 2 5 5 2 1 2	7 3 M 5 5 5 8 2 3 4 M 6 7 7 6 7 5 7 3	20 14 16P 16 16 15	- 4 - 4 - 5 - 4 - 1 - 1 - 5 - 12 - 7 - 2 - 9 - 5 - 6 - 3 - 2 - 6 - 2 - 5 - 4	6.2 0.0 8.3 0.0 0.2 0.8 3.0 3.5 8.4 13.2 3.4 9.0 0.0 0.2 6.4 3.4 M. 8.2 11.1	- 1.2 - 1.3 1.5 0.5 2.6 7.9 - 1.8 4.1 - 5.3 - 3.6 - 1.8 2.4 1.2 M 2.2
SASKATCHEWAN Broadview Buffalo Narrows Cree Lake Estevan A Hudson Bay Kindersley La Ronge A Meadow Lake A Moose Jaw A Nipawin A North Battleford A Prince Albert Regina A Rockglen Saskatoon A Swift Current A Uranfum City Wynyard Yorkton A	1 - 2 - 6 - 3 - 4 - 0 - 4 - 4 - 0 - 2 - 2 - M O M - 8 O O	1 X 3 1 4 1 X 4 X 2 1 4 X 2 2 M 2 2 2	11 15 6 13 20 9 12 12 17 12P 13 20P - 1 15	- / - 9 -13 - 5 -19 - 8 -11 - 8 - 6 -17 - 7 -11 - 5 - 8 - 5 -16 -10 -10	0.8 M 1.6 4.8 M 0.8 3.4 14.7 0.2 6.8 4.8 13.1 1.8 M 3.8 12.2 6.0	M X 1.6 M - 0.7 - 2.5 X - 1.9 X 1.7 9.1 - 1.1 X 1.0 M - 3.6
MANITOBA Bissett Brandon A Churchill A Dauphin A Gillam A Gimli Island Lake Lynn Lake Norway House Pilot Mound Portage la Prairte The Pas A Thompson A Winnipeg	- 5 - 1 -13 - 3 -14 - 3 - 9 -13 - 8 - 1 - 1 - 6 -12 - 1	1 - 5 - 2 X - 2 X - 6 X 1 0 - 3 - 5	11 - 4 15 - 2 13 0 - 2 4 13 15 - 9 - 1	-21 -13 -20 -21 -24 -15 -24 -17 -12 -15 -20 -22 -16	10.4	- 3.4 16.6 X 13.4 X - 8.0 X 3.3 13.1 3.4 - 5.9
ONTARIO Armstrong Atikokan Earlton Geraldton Gore Bay A Kapuskasing Kenora A Kingston Lansdowne London Moosonee Nount Forest Muskoka A North Bay Ottawa Petawawa Pickle Lake Ked Like A	- 7 - 5 M - 7 - 2 - 6 - 3 4 - 10 4 - 6 2 M - 2 1 0 - 10 - 7	1	8	-24 -24 -12 -21 - 6 -16 -16 - 3 -17 - 4 -17 - 5 - 6 -10 - 0 - 7 - 20 - 22	M 17.4 N 20.2 14.7 28.1 11.4 N 1.0 10.7 14.6 22.6 M 32.2 23.9 23.1 5.0 10.8	

	Temperature (°C)			(°C)	Precip. (mm)		
	1		io i	27-			
Station	Average	Departure	TON HOL	Extreme	Extreme	Total	Departure from Normal
					THE		Trans.
Simcoe Sloux Lookout A	5		1 4	15	- 2 -21	9.6	M - 3.9
Sudbury A Thunder Bay A	- 6 - 2 - 3	-	3	8	- 9 -15	29.0	16.3
Timmins A	- 5	-	4	5	-13	26.2	12.1
Toronto Int'l A Trenton A	4	-	0	15 13	- 2 - 4	17.5	8.7
Trout Lake Wawa A	-12 - 4		6 X	1 5	-20 -13	2.5	- 8.2 X
Wiarton A Windsor A	3	-	1	11	- 3 - 2	45.2	27.0
QUEBEC Bagotville A	- 3 - 2	Q	4		-12	17.5	
Bate Comeau Blanc Sablon	- 2 M		2 M		-11	15.1 M	- 3.9 M
Border Chibougamau	- M		200	- 9P	-15 -22	N 29.8	
Fort Chimo A	- 5		I	1	-12	20.9	12.7
Gaspé A Grindstone Island	3	-	1	10	- 15	22.6	- 0.1
Inoucd Jouac Koartak	- 4 M		1 X	1 P	-17 -15P	13.2 M	
la Grande Rivière A Maniwaki	- 6 - 1	-	3	0	-10 - 8	23.3	2
Matagami A Mont-Joli A	M - 1		X 3	3P		M 23.4	X
Montréal (A int.)	2	-	3	14	- 6	28.8	8.6
Natashquan A Nitchequon	-10	-	14		-10 -21	27.4 19.1	
Port Menier Poste-de-la-Baleine	- 2			7 2	-11	34.8	19.3
Québec A	- 1	-	3	11	-11	26.9	5.0
Rivière du Loup Roberval A	- 3	-	4	9		27.6	11.9
Schefferville A Sept-lies	- 9			2 7	-20 -10	41.8	and the same of
Sherbrooke A Ste-Agathe des Monts	U	-	3	12	-12	32.1	11.4
Val d'Or A	- 0				-15	39.4	
NEW BRUNSWICK			,	11	- 5	22.7	11.7
Charlo A Chatham A	2	-	1	12	- 5	35.9	11.9
Fredericton A Moneton A		-		13	- b - 5		10.1
Saint John A	. 3	-	1	11	- ь	49.4	21.7
NOVA SCOTIA Eddy Point	4		X	15	- 4	64.5	x
Greenwood A	4	-	2	14	- 2	52.4	31.7
Sable Island Shearwater A	5	-	2	15	- 1	39.8	1.5
Sydney A Truro	4	-	1	15	- 5 - 3	67.3	
Yarmouth A	6	-	1	14	0	45.3	16.0
PRINCE EDWARD ISLAND	2	-	2	12	- 3	48.9	20.6
Summers ide		-		11	- 2	42.0	
NEWFOUNDLAND			1		-	20 6	X
Argentia VTMS Battle Harbour	-				- 8	The state of the s	20.5
Bonavista Burgeo	5		1	11	- 2 - 1	38.2 73.2	44.5
Cartwright	1 - 6	_	1	8	- 9 -14	18.4	
Churchill Falls A Comfort Cove	5		2	13	- 6	35.4	19.5
Daniel's Harbour Deer Lake	4	1	2	12P	- 5	62.7	30.1 46.8
Gander Int'l A Goose A	5 - 2		1 0	12	- 6 -12	55.7 26.8	30.2
Hopedale	- 2 5		0	6	- 9	15.5	3.9
Fort aux Basques St. Albans	M		M	148	- 4	M	M
St. Anthony St. John's A	4	-	1	7	- 9 - 5	56.3	19.1
St. Lawrence Stephenville A	6		2	11	- 2 0	73.4	46.9
Wabush Lake	- в	-	3	3	-18	15.8	3.5
					The		
		St. In	1	100			

KIRABE ARABIA KULOKANIA KURKIRABIAN MARIPATAN PARA PARA KURKIRABA MARIPATAN PARA PARA PARA PARA PARA PARA PARA