Environmet
 Canada

ment Environnement Canada

Environnement

A WEEKLY REVIEW OF CANADIAN CLIMATE

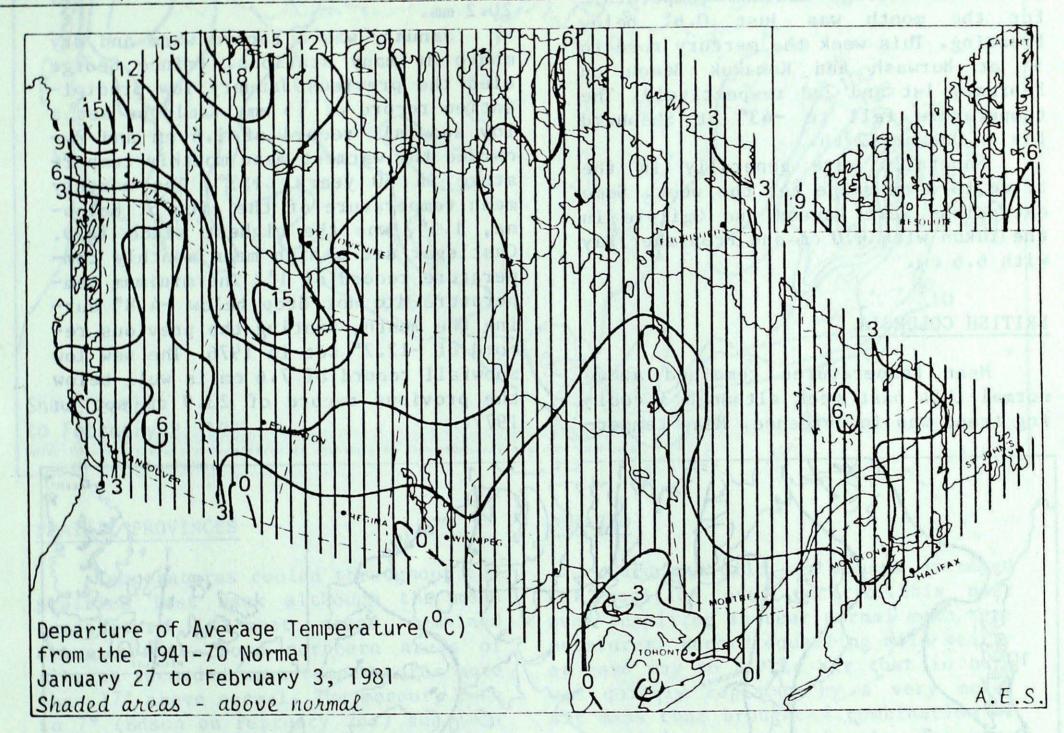
CLIMATIS PERSPECTIVES

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

FEBRUARY 6, 1981

(Aussi disponible en français)

VOL.3 NO.5



WEATHER HIGHLIGHTS FOR THE PERIOD - JANUARY 27 TO FEBRUARY 2, 1981

Most of the country enjoys relatively warm, dry weather

With few expections mean temperatures were above normal throughout the country. Mean temperatures in the Mackenzie delta region exceeded 18° above normal and some areas of the southern Yukon and northern Alberta exceeded 16° above normal. The warm weather began reducing the deep snowcover over Nova Scotia and New Brunswick.

Rain on February 2nd produced a new 24 hour precipitation record of 31.4 mm at Québec City.

Temperatures ranged from a maximum of 17° at Prince George, British Columbia to a minimum of -43° at Shepherd Bay, Northwest Territories. The highest weekly precipitation total was 41.6 mm recorded at Ste-Agathe des Monts.

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

Above normal temperatures continued this week. Most of the Yukon and Mackenzie District remained well above normal. Mean temperatures in the Mackenzie delta region exceeded 18° above normal. Whitehorse experienced the warmest January since records began in 1945. The average maximum temperature for the month was just 0.6° below freezing. This week the mercury rose to 5° at Burwash and Komakuk Beach on February 1st and 2nd respectively. The temperature fell to -43° at Shepherd Bay on January 27th.

Snowfalls were generally in the trace to 2 cm range for the week. Some exceptions were Dawson and Ogilvie in the Yukon with 6.0 cm and Frobisher Bay with 6.6 cm.

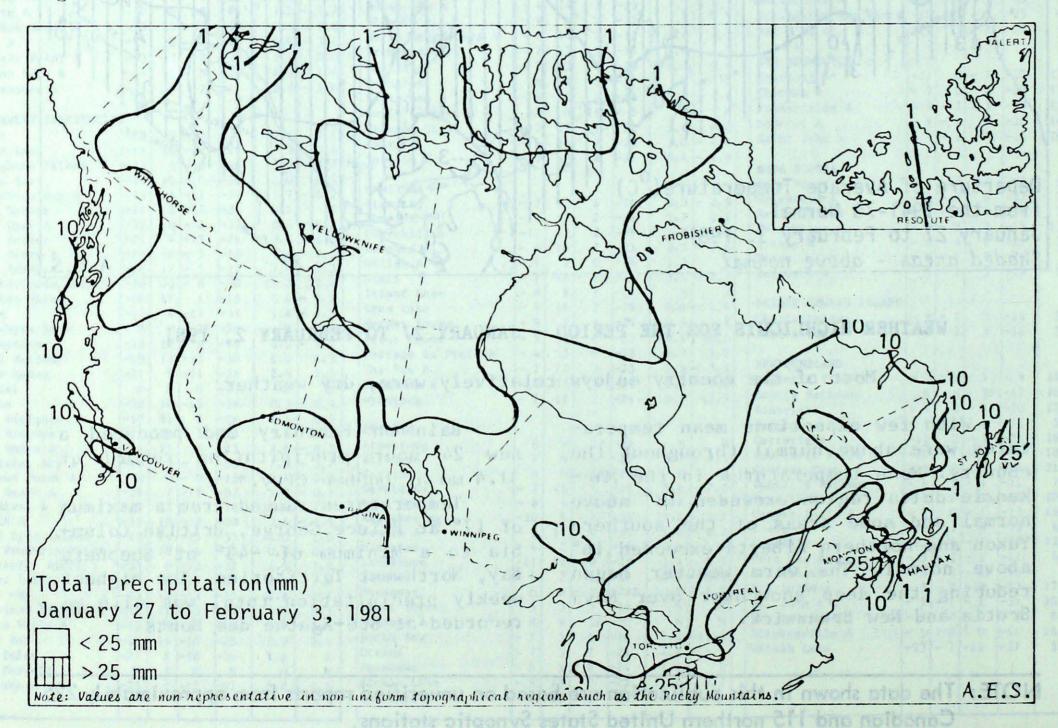
BRITISH COLUMBIA

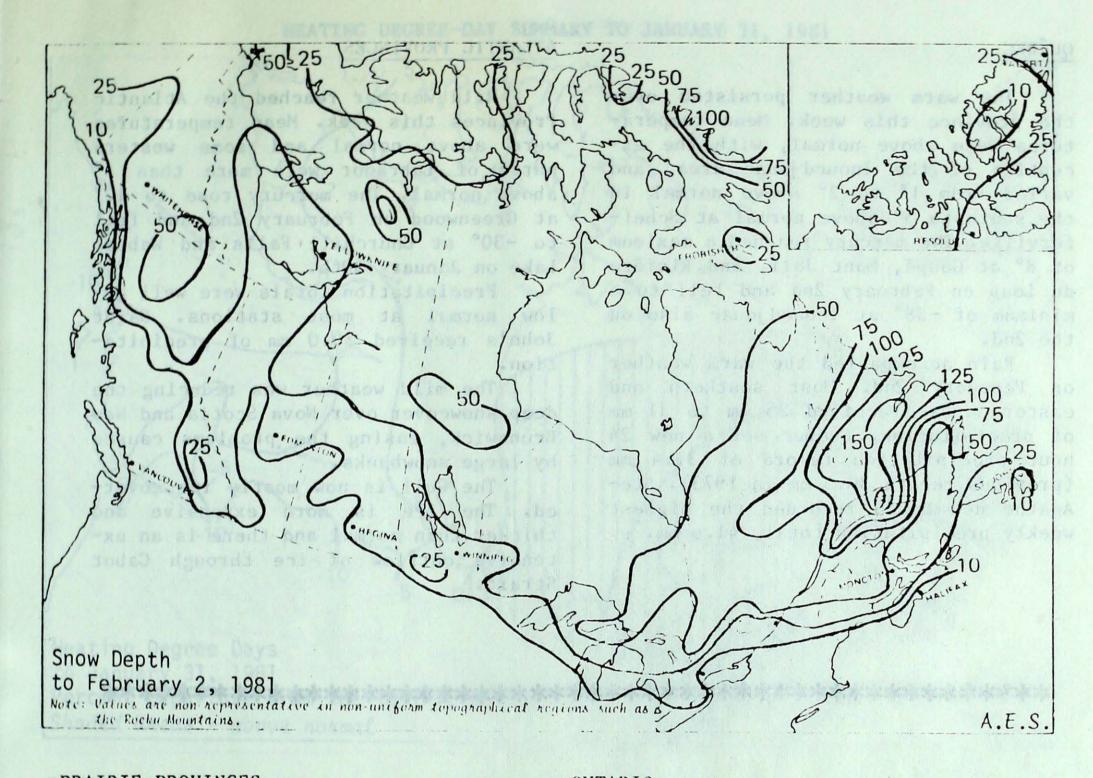
Mean temperatures remained above normal this past week although a cooling trend was in evidence. Mean temper-

atures over most areas were more than 3° above normal with some areas in northeastern B.C. exceeding 10° above normal. The mercury varied from 17° at Prince George on February 1st to -26° at Dease Lake on January 30th.

This was a relatively dry week at most stations. The highest weekly precipitation total was at Vancouver, 20.2 mm.

January was a record warm and dry month at many stations. Prince George tied the previous January low precipitation record of 15 mm. Kamloops set a low snowfall record of 1.4 cm and recorded the warmest mean monthly temperature in 50 years, 1.3°. The monthly mean temperature of the city of Kelowna, 1.5°, was the highest since 1899. Castlegar set a high mean monthly temperature record of 1°. The minimum temperature did not drop below -4.8° during the month, beating the previous record of -12.2° set in 1976. The new low snowfall record of 7.6 cm is well below the previous record of 23.9 cm set in 1977.





PRAIRIE PROVINCES

Temperatures cooled throughout the prairies last week although the mean temperature in most areas remained above normal. Some northern areas of Alberta recorded mean temperatures more than 17° above normal. The mercury rose to 7° (Edson on February 2nd) and fell to -34° (Uranium City on February 1st, Bissett on February 2nd).

Precipitation totals for the week were below normal at all stations. The highest precipitation total was 4.8 mm at Brandon.

Numerous stations in central and northern Alberta set new mean monthly temperature records for January making this the warmest month on record. The mean monthly temperature at Edmonton was -4.0 beating the previous record of -5.3 set in 1931. This is estimated to have saved the city \$500,000 in snow removal costs.

ONTARIO

Cold and mild air masses jockeyed for position over Ontario this past week resulting in near normal mean temperatures. Record equalling mild weather gave way to Arctic air that in turn was quickly replaced by a very moist air mass that brought a combination of snow, freezing rain and rain. The mercury reached 3° at Kingston and Toronto on February 1st and at Ottawa, Trenton and Windsor on January 27th. It fell to -38° at Armstrong on February 2nd.

Despite the conflicting air masses, precipitation totals were close to normal. London recorded 22.3 mm of precipitation.

High winds broke an 8 km stretch of ice free on Lake Erie, near Toledo, Ohio stranding 80 people on the ice floe. American Coast Guard personnel rescued the trapped people although some vehicles were reported lost in the lake.

QUÉBEC

The warm weather persisted over the province this week. Mean temperatures were above normal, with the exception of the Inoucdjouac area, and varied from 1° to 2° above normal in the south to 5° above normal at Schefferville. The mercury reached a maximum of 8° at Gaspé, Mont Joli, and Rivière du Loup on February 2nd and fell to a minimum of -38° at Inoucdjouac also on the 2nd.

Rain accompanied the warm weather on February 2nd. Most southern and eastern areas received 25 mm to 31 mm of precipitation. Québec set a new 24 hour precipitation record of 31.4 mm (previous record 30.5 mm in 1973). Ste-Agathe des Monts recorded the highest weekly precipitation total, 41.6 mm.

ATLANTIC PROVINCES

Mild weather reached the Atlantic Provinces this week. Mean temperatures were above normal and some western parts of Labrador were more than 6° above normal. The mercury rose to 12° at Greenwood on February 2nd and fell to -30° at Churchill Falls and Wabush Lake on January 30th.

Precipitation totals were well below normal at most stations. Saint John's received 29.0 mm of precipitation.

The mild weather was reducing the deep snowcover over Nova Scotia and New Brunswick, easing the problems caused by large snowbanks.

The Gulf is now mostly ice covered. The ice is more extensive and thicker than normal and there is an extensive outflow of ice through Cabot Strait.

removal costs.

CLIMATIC PERSPECTIVES prairies lest week although the mean, Tota position oved Outstin the

desired Lemina reported and liver de Staff beniamen

Editor: Yves Durocher Word Processing: Una Ellis

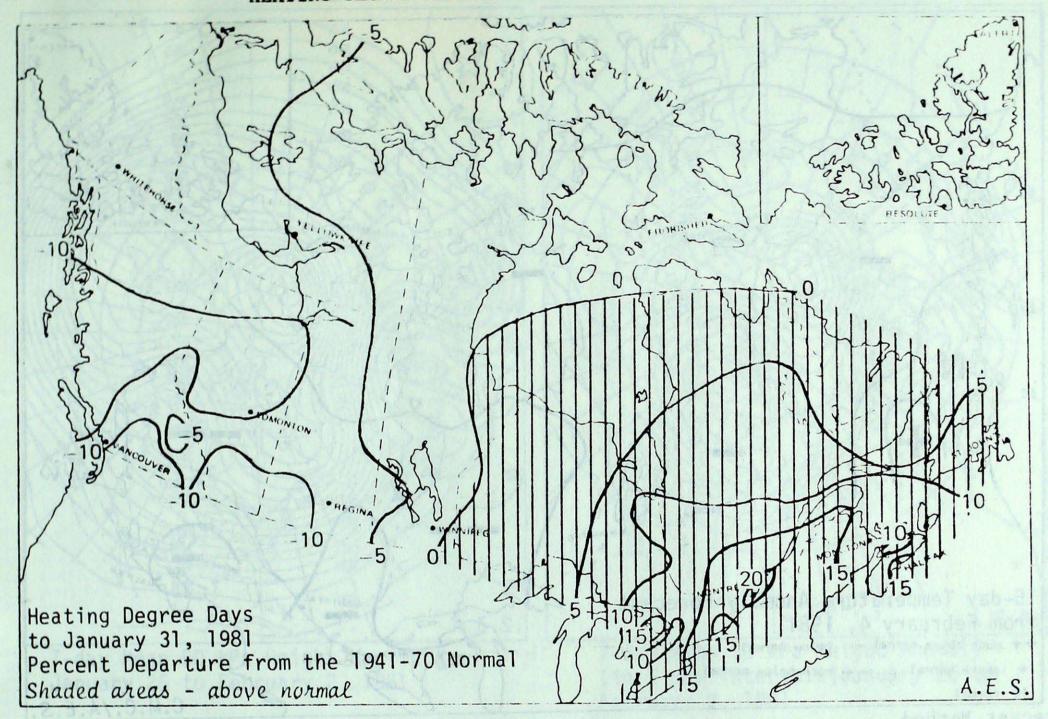
loledo,

Assistant Editor: Bob Paterson, Alain Patoine Technical Staff: Fred Richardson, Andy Radomski Graphics and Layout: Bill Johnson, Debbie Allsopp Precipitation turals for the seak on Mabruary ist and at Ottawa, Itanium i

Correspondents and the in lament of the correspondents dighest peroclatestion total was med and Armedena do provincia de la

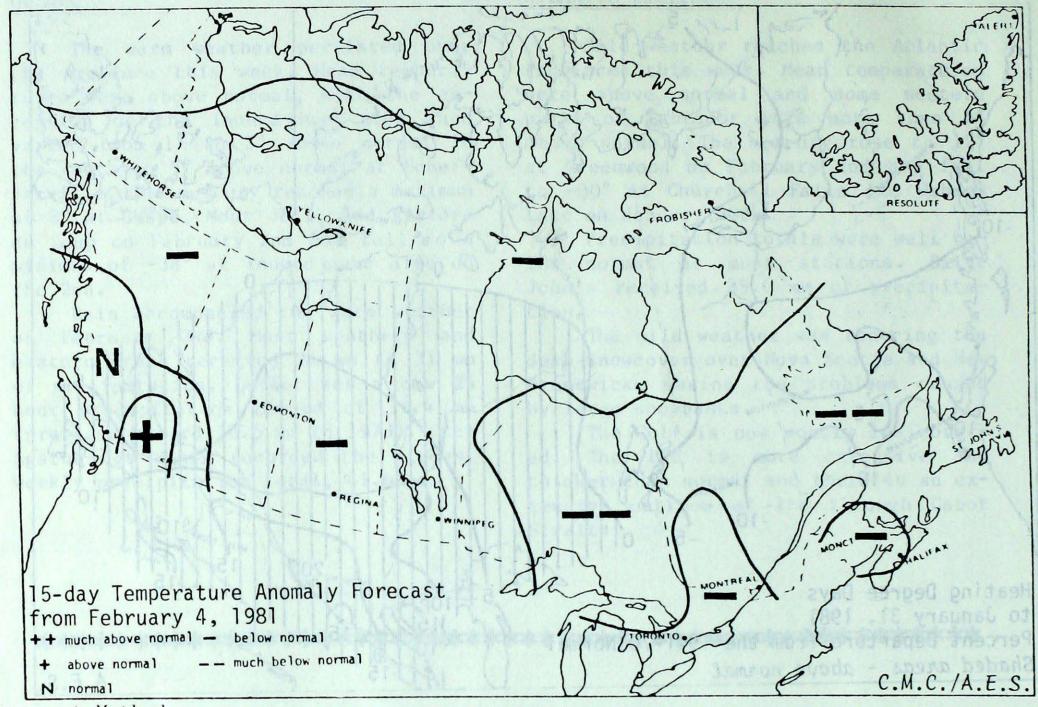
(Ice Forecasting Central) Terry Mullane, Number of sections in control (Whitehorse) H.E. Wahl, (Western Region) Bill Prusak, (Central Region) Fred Luciow, (Ontario Region) Brian Smith (Quebec Region) Jacques Miron, (Atlantic Region) J.F. Amirault, Staff of Prince George, Kamloops, Castlegar, Fort Nelson, Penticton and Kelowna weather office (Pacific Region)

HEATING DEGREE-DAY SUMMARY TO JANUARY 31, 1981



				OD A GOMAL	CEACONAL
- senctions	MONTHLY	MONTHLY DIFF.	SEASONAL	SEASONAL	SEASONAL
	CUMULATIVE	FROM 1941-70	TOTAL	DIFF. FROM	PERCENT
STATION	TOTAL	NORMAL		1941-70 NORMAL	OF NORMAL
Resolute	1406.5	-160.5	6696.0	-200.0	97
Inuvik	978.0	-519.0	5301.5	-421.5	93
Whitehorse	684.5	-458.5	3880.0	-268.0	94
Vancouver Int'l A	388.0	-96.0	1582.5	-133.5	92
Edmonton Mun A	681.5	-344.5	2904.5	-399.5	88
Calgary Int'l A	592.0	-307.0	2684.5	-392.5	87
Regina	898.5	-195.5	3146.5	-270.5	92
Winnipeg Int'l A	995.5	-130.5	3334.0	-39.0	99
Thunder Bay	964.0	-53.0	3301.0	82.0	103
Windsor	773.0	82.0	2224.0	225.0	111
Toronto Int'l A	875.0	120.0	2568.0	327.0	115
Ottawa Int'l A	1006.0	107.0	3060.0	415.0	116
Montreal Int'l A	1024.5	159.5	3060.0	557.0	122
Quebec	1065.0	146.0	3325.0	496.5	118
Saint John, N.B.	909.0	119.0	2880.0	338.0	113
Halifax	768.0	92.0	2429.0	346.0	117
Charlottetown	869.5	102.5	2715.0	351.0	115
St. John's, Nfld.	649.5	-24.5	2627.5	209.5	109

15 DAY TEMPERATURE ANOMALY FORECAST



Forecast Method

Analogue technique based on point prediction at 70 Canadian stations.

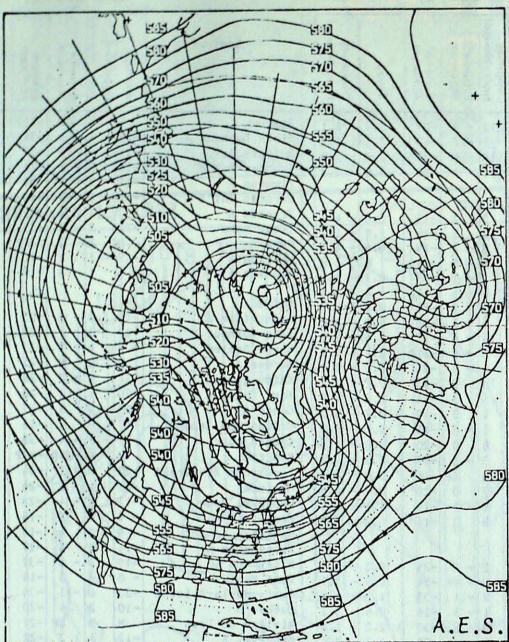
Temperature Scale

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

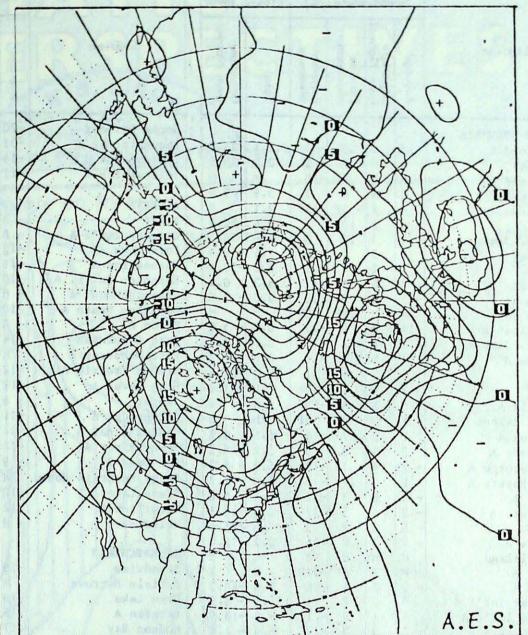
Station	Current	Temperature Anomaly Forecast
Whitehorse	Below Normal	From 1.6° to 5.3° below Normal
Victoria	Near Normal	Within 0.5° of Normal
Vancouver	Near Normal	Within 0.6° of Normal
Edmonton	Below Normal	From 1.3° to 4.5° below Normal
Regina	Below Normal	From 1.2° to 4.2° below Normal
Winnipeg Col	Below Normal	From 1.1° to 3.8° below Normal
Thunder Bay	Much Below Normal	More than 3.0° below Normal
Toronto	Below Normal	From 0.7° to 2.3° below Normal
Ottawa	Below Normal	From 0.8° to 2.7° below Normal
Montreal SS	Below Normal	From 0.8° to 2.6° below Normal
Quebec	Much Below Normal	More than 2.8° below Normal
Fredericton	Below Normal	From 0.8° to 2.8° below Normal
Halifax	Below Normal	From 0.6° to 2.2° below Normal
Charlottetown	Below Normal	From 0.8° to 2.6° below Normal
St. John's	Much Below Normal	More than 2.3° below Normal
Goose Bay	Much Below Normal	More than 4.4° below Normal
Frobisher Bay	Below Normal	From 1.5° to 5.1° below Normal
Inuvik	Near Normal	Within 1.2° of Normal

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

Atmospheric Circulation



7-day Mean 50 kPa Height Map(in dam) January 26 to February 2, 1981



7-day Mean 50 kPa Height Anomaly (in 5 dam intervals) January 26 to February 2, 1981

Precipitation amounts across most of the country were generally light; even the British Columbia coast had considerably less than normal precipitation. In contrast, mean temperatures were above normal most everywhere. The Yukon and parts of northwestern Canada registered the strongest departures from normal; as much as 18°C in the Mackenzie Delta.

A southwesterly on-shore flow continued to pump mild Pacific air inland. Pacific weather systems approaching the Canadian west coast were once again effectively blocked and weakened by the continuing strong influence of the stationary 50 kPa ridge.

During the early part of the period a split in the upper circulation was evident over the western United States. The base of the ridge had more

of a west-east trajectory permitting atmospheric triggering pulses to move inland.

By mid-period a Pacific low pressure system and an associated upper trough took advantage of the situation, crossed the western cordillera, and organized itself in the plain states. During the weekend it tracked northeastward across the Great Lakes reaching northern Québec by Tuesday. Snow fell over much of Ontario and Québec. Rain predominated in areas ajacent to the lower Great Lakes and the St. Lawrence Valley. Québec city set a new 24 hour rainfall record. The mild temperatures were short lived, as a sharp cold front following in the wake of this system reduced temperatures rapidly causing hazardous icing conditions.

	TEM	PERA	ATURE	AND	PRE	CIPITA	
	Ten	nperc	iture (°C)	Precip. (mm)		
Station	Average	Departure from Normal	Extreme	Extreme Minimum	Total	Departure from Normal	
BRITISH COLUMBIA Abbotsford A Alert Bay Blue River Bull Harbour Burns Lake Cape Scott Cape St. James Castlegar A Comox A Cranbrook Dease Lake Estevan Point Fort Nelson A Fort St. John A Kamloops A Langara Lytton Mackenzie A McInnes Island Penticton A Port Hardy A Prince George A Prince Rupert A Quesnel A Revelstoke A Sandspit Smithers A Spring Island Stewart A Terrace A Vancouver Int'l A Victoria Int'l A Williams Lake A	5 4 M M M 6 7 1 4 - 3 - 15 M - 14 - 9 1 5 2 M M 1 3 - 7 2 - 5 5 - 7 M M 2 5 4 5 - 5 5 4 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	M 5 1 4 3 6 4 2 2 M X 2 2 1 1	M 6P 4 7 9	- 6 - 3 -17 - 6 -11 -12 - 3 -16 2	2.0 M 5.9 2.1 9.6 18.6 7.6 8.3 6.2 3.0 0.0 2.6 10.0 3.0 1.6 M 5.6 5.2 5.3 4.0 6.6 6.6 8.3 4.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	- 2.2 -24.8 - 1.9 X M 0.2 -38.2 - 8.9 -46.3 - 5.8 -18.5 -21.6 -12.0 M X -45.3 - 5.7 -15.9	
YUKON Burwash A Dawson A Komakuk Beach A Mayo A Shingle Point A Watson Lake A Whitehorse A	- 6 -17 -10 -16 -11 -23 -10	1 11 0 17 5 10 1 18 3 2	- 1 5 1 1 1-14	-23 -30 -23 -27 -26 -33 -26	5.6 2.6 0.0	1.8 0 - 3.2 5 - 3.4 4 - 8.0	
NORTHWEST TERRITORI Alert Baker Lake Broughton Island Byron Bay Cambridge Bay A Cape Dorset Cape Dyer A Cape Hooper Cape Parry A Cape Young A Chesterfield Iniet Clinton Point Clyde Contwoyto Lake Coppermine Coral Harbour Dewar Lakes Ennadai Eureka Fort Reliance Fort Simpson Fort Smith A Frobisher Bay A Gladman Point A Hall Beach A Hay River A Inuvik A Jenny Lind Island Lady Franklin Point Longstaff Bluff Mackar Inlet Mould Bay Nicholson Peninsula Norman Wells A Pelly Bay Pond Inlet Port Burwell Resolute A	-2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -	5 10 3 2 3 3 10 6 8 8 3 7 14 9 10 10 10 10 10 10 10 10 10 10	2 -17 -13 3 -14 6 -16 1 -15 4 - 6 0 -11 6 -15 0 - 7 5 -18 4 -12 0 - 7 5 -17 6 -20 7 -17 6 -9 3 -10	-33 -27 -37 -34 -32 -31 -29 -23 -32 -36 -24 -35 -34 -32 -36 -27 -28 -30 -27 -28 -30 -36 -21 -20 -25 -33 -31 -38 -37 -23 -38 -37 -38 -38 -39 -39 -39 -39 -39 -39 -39 -39 -39 -39	1. 0. 0. 0. 1. 2. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.	0 - 1.0 0.7 0.3 0.8 0.8 0.8 0.8 0.1 0.1 0.1 0.8 0.8 0.1 0.8 0.8 0.1 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8	

ION DATA FOR THE							-BK
2407 (1937) (1937)	Ten		iture (°C)	Precip	. (mm)	
Station	Average	Departure from Normal	Extreme	Extreme Minimum	Total	Departure from Normal	
Sachs Harbour Shepherd Bay A Tuktoyaktuk Yellowknife A	-20 -32 -14 -17	5 16		-29 -43 -22 -30	2.7 2.3 2.0 2.0	2.1 2.3 1.3 - 0.2	
ALBERTA Banff Calgary Int'l A Cold Lake A Coronation A Edmonton Int'l. A Edmonton 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 Vermilion A Whitecourt	- 5 - 8 -12 -11 -10 - 8 -10 - 7 -14 M -12 - 6 -11 -12 - 9 - 11 - 12 - 12 - 13 - 13 - 14 - 15 - 15	2 6 5 7 6 6 6 6 144 M 5 188 5 - 2 1 1 1 1 2 1 8 2 1 8 2 1 1 1 1 1 1 1 1	- 7 - 6 - 1 - 1 - 2 7 - 8 1 - 6 5 - 2 5 3 0 - 5	-13 -16 -19 -19 -19 -14 -16 -18 -27 -21P -21 -23 -14 -19 -19 -16 -20 -19 -14	0.0 1.4 0.2 0.0 0.7 0.0 0.7 0.0 0.0 1.2	- 1.2 - 4.5 M - 5.1 - 4.6 - 6.8 - 9.0 - 1.1 - 4.2 - 3.2 - 4.7 - 3.5 - 3.3 - 6.2 - 2.4 - 4.6 - 6.5 - 3.1	, , , , , , , , , , , , , , , , , , ,
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 Uranium City Wynyard Yorkton A	-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	9 1 8 8 6 7 7 9 8 5 5 9 3 7 7 7 M 5 1 9 7	2 - 9	-29 -24 -33 -26 -30 -20 -30 -27 -25 -29 -21 -32 -29 -20 -25 -17 -34 -25	0.8 1.0 0.6 2.2 1.1 0.8 3.0 0.0 2.1 1.1	3 - 3.; 5 - 3.; 7 - 3.; 6 - 1.; 6 - 1.; 6 - 2.; 7 - 3.; 6 - 1.; 6 - 2.; 7 - 3.; 6 - 1.; 6 - 2.; 7 - 3.; 6 - 1.; 6 - 2.; 7 - 3.; 8 - 1.; 9 - 4.; 9 - 4.; 9 - 5.; 1 - 5.; 6 - 7.; 9 - 6.; 9 - 7.; 9 -	77 XX 11 144 444 55 XX 55 XX 77 44 99 00 99
MANITOBA Bissett Brandon A Churchill A Dauphin A Gillam A Gimli Island Lake Lynn Lake Norway House Pilot Mound Portage la Prairie The Pas A Thompson A Winnipeg	-2 -1 -2 -1 -2 -1 -1 -2	9 -	3 - 7 1 - 8 6 -11 1 - 8 X -10 3 - 7 X - 8 8 -10 -11 0 - 7 1 - 6 4 -11 6 - 9 1 - 7	-28 -28 -28 -31 -28 -33 -32 -30 -31 -27 -28 -31	4. 2. 1. 0. 3. 0. 2. 3. 4. 1. 0.	8 - 0. 8 - 0. 0. 3 - 4. 6 3 - 1. M 2 - 3. 6 2 - 2. 3 - 2. 2 - 1. 2 - 3.	2 3 8 X 0 X 3 X 9 1 4 2
ONTARIO Armstrong Atikokan Earlton Geraldton Gore Bay A Kapuskasing Kenora A Kingston Lansdowne London Moosonee Mount Forest Muskoka A North Bay Ottawa Petawawa Pickle Lake Red Lake A		20 18 M 19 12 18 17 7 20 8 18 19 11 13 9 12 20 20	1 - 5 1 - 4 M - 3 3 - 4 0 - 1 1 - 3 2 - 5 1 - 3 3 - 4 1 - 3 2 - 5 3 - 4 1 - 2 2 - 3 3 - 4 1 - 2 2 - 3 3 - 4 1 - 2 2 - 3 3 - 4 1 - 4 1 - 6 1 - 6	-34 -37 -27 -37 -33 -31 -17 -35 -22 -23 -20 -26 -18 -25 -37	8. 12. 8. 8. 8. 8. 10. 4. 22. 4. 10. 5. 6. 6.	0 1. M 3. 5 - 3. 3 - 3. 6 4 - 9. 1 - 2. 3 8 - 3. M 2. 8 - 1. 8 - 5. 0 4 0.	6 M O 9 3 O 9 8 1 2 M 1 2 6 X 3

UARY 3, 1981							
	Temp	perati	°C)	Precip. (mm)			
Station	Average	from Normal	Maximum	Extreme	Total	Departure from Normal	
Simcoe Sioux Lookout A Sudbury A Thunder Bay A Timmins A Toronto Int'l A Trenton A Trout Lake Wawa A Wiarton A Windsor A	- 6 -18 -14 -16 -18 - 7 - 7 - 7 -22 M - 9 - 5	0 0 0 - 1 1 1 3 - 1		-15 -34 -27 -28 -31 -15 -17 -35 -30P -20 -14	27.6 7.6 12.2 7.7 9.6 9.9 10.1 8.2 5.0 15.8 17.0	3.3 X - 8.0	
QUEBEC Bagotville A Baie Comeau Blanc Sablon Border Chibougamau Fort Chimo A Gaspé A Grindstone Island Inoucdjouac Koartak La Grande Rivière A Maniwaki Matagami A Mont-Joli A Montréal (A int.) Natashquan A Nitchecun Port Menier Poste-de-la-Baleine Québec A Rivière du Loup Roberval A Schefferville A Sept-Iles Sherbrooke A Ste-Agathe des Mont	-12 -17 - 9 - 9 -11 -19 - 8 -23 -10 M -12 -19 -12	X 0 - 2 X X 1 X 4 2 2 4 3 0 2 M 4 5 4 0 1	3 7 3 M - 2 - 13 8 5 - 14 - 24P - 12 2 - 4 8 4 3 - 6 3 - 11 4 8F 3 - 3 4 9 2 - 1	-34 -26 -28 -18 -19 -27 -32 -18 -36 -20 -21 -22 -33 -24	19.9 13.2 M 15.4 6.6 18.8 0.4 1.0 18.6 14.8 2.6 18.1 17.1 7.2 32.4 6.1 18.3 8.2 9.4 1.4	-14.7 H 2.1 3. -19.0 - 0.8 3. -17.0 - 7.1 6. - 10.0 - 7.1 6. - 10.0 - 3. - 10.0 - 3. - 10.0 - 10.0	
Val d'Or A NEW BRUNSWICK Charlo A Chatham A Fredericton A Moncton A Seint John A	- 9 - 7 - 6 - 6	4 4 4 3	10 9 10 9 8	-21 -22 -19 -20	10. 15. 21. 9.	2 -10. 0 - 6. 7 - 1. 0 -14.	
NOVA SCOTIA Eddy Point Greenwood A Sable Island Shearwater A Sydney A Truro Yarmouth A	- 5 - 4 - 1 - 5 - 6 M	2 0 0 0 M	7 12 6 6 7 101 8	-15 - 8 -16 -17 P -23	12. 9. 0. 0.	0 8 -13. 2 -22. 6 -31. 2 -27. 0 -19. 8 -22.	
PRINCE EDWARD ISLAND Charlottetown Summerside	ND - 7	300	9 7	- 1 To 1 T		2 -24. 6 -15.	
NEWFOUNDLAND Argentia VTMS Battle Harbour Bonavista Burgeo Cartwright Churchill Falls A Comfort Cove Daniel's Harbour Deer Lake Gander Int'l A Goose A Kopedale Port aux Basques St. Albans St. Anthony St. John's A St. Lawrence Stephenville A Wabush Lake	- 2 - 9 - 4 - 5 -12 -16 - 5 - 7 - 5 -14 -13 - 5 - 4 - 4 - 5 - 17	1 1 1 2 7 2 3 2 2 2 3 3 0 0 2 X 1 1 1	1 4 3 5 3 4 9 6	-21 -10 -12 -24 -30 -15 -13 -15 -13 -22 -26 -10 -13 -18 -13 -15 -10	2. 12. 5. 6. 13. 8. 11. 1. 6. 16. 24. 4. 4. 13. 26. 17.	2 -10. 4 -11. 2 -24. 3 -12. 2 - 3. 8 - 3. 6 1. 8 -15. 4 -16. 2 . 4 11. 0 -21. 2 -27. 1	