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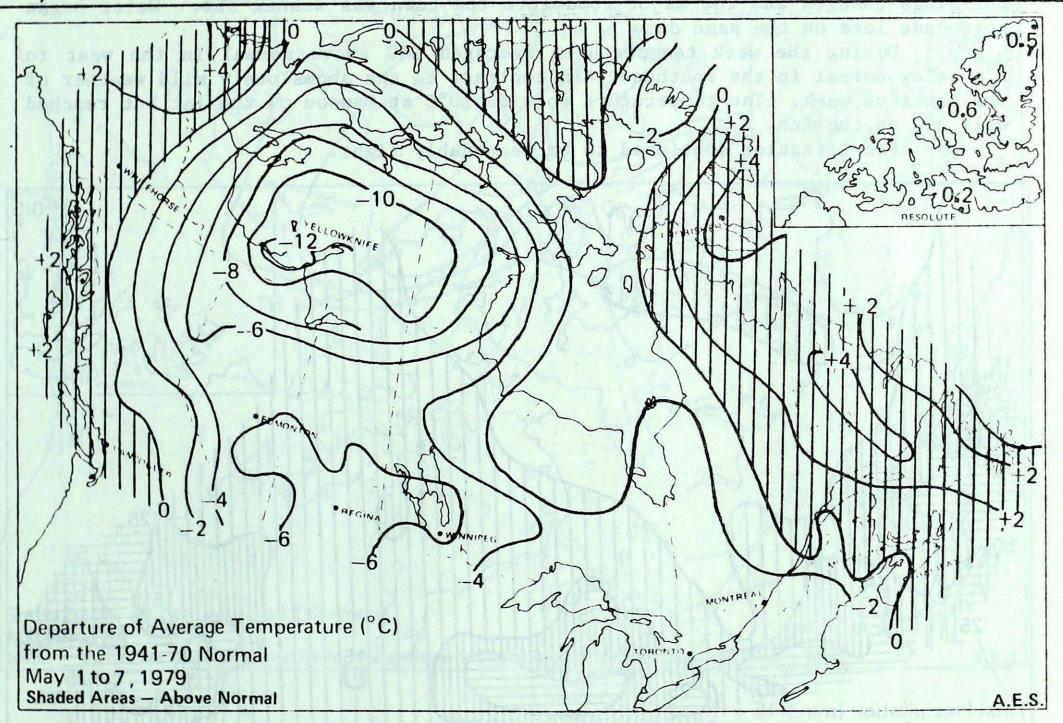
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CLIMATIC
PERSECULATIVES

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

MAY 11,1979

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WEATHER HIGHLIGHTS FOR THE WEEK - MAY 1 - 7, 1979

### Snow on the Prairies

The combination of cold arctic air entrenched throughout the Canadian Prairies, warm moist overrunning air aloft and an easterly upslope flow, caused light snow to fall across the western provinces from May 3 to May 5.

On May 5 a significant surface low began to develop in the Montana-Wyoming portion of the U.S. Great Plains. By May 6 the system had evolved into a 99 kPa low over Wyoming. Thermal advection, overrunning warm moist air and an easterly upslope flow associated with the low pressure system, and instability due to a deep atmospheric upper trough, produced heavy snowfalls up to 30 cm in southern portions of Alberta, Saskatchewan and southwestern Manitoba on the 6th.

During the past week most of the interior of Canada experienced temperatures well below the level expected for this time of the year. Early in the period, a major quasi-stationary upper trough which developed into a closed low

NOTE: The data shown in this publication are based on unverified reports from approximately 170 Surface Synoptic reporting stations of the Atmospheric Environment Service.

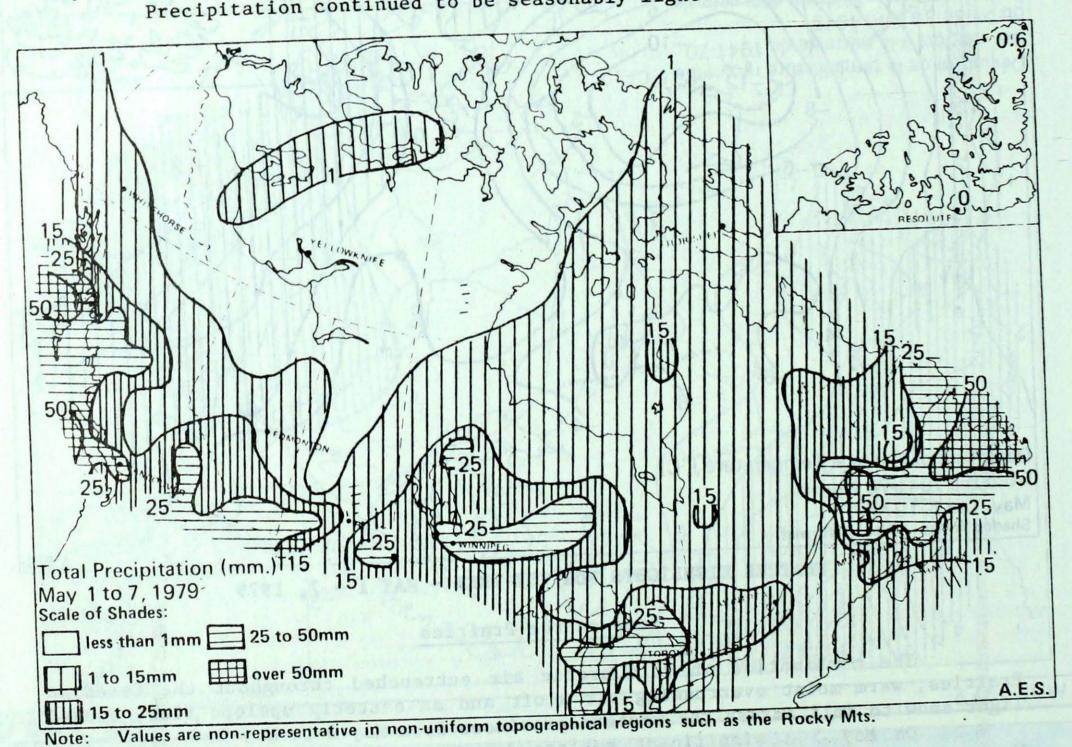
over Central Canada and Hudson Bay, produced a strong cyclonic flow which pumped cold arctic air across the Prairies, Ontario and Quebec. By mid-period, this closed low retrogressed to reinforce a major upper trough forming in the western U.S.A. Downstream an atmospheric ridge developed over Ontario and Quebec thus producing a warming trend in eastern Canada by the end of the period.

# YUKON TERRITORY

Ice jams where Frenchman's Creek flows into the Yukon River caused the Yukon to overflow its banks early on May 3, resulting in downtown Dawson being submerged in 2 to 3 metres of water. Residents were evacuated, many historical buildings damaged and the major road into the town was washed out. Water began to recede late on the same day.

During the week temperatures averaged 2°C above normal in the west to 2°c below normal in the southeast, in contrast to the anomalously mild weather of the previous week. The temperature rose to 20°C at Dawson on the 1st but reached only 3°C on the 7th.

Precipitation continued to be seasonably light.



# NORTHWEST TERRITORIES

Cold arctic air dominated the weather in the eastern half of the District of Mackenzie and the District of Keewatin where weekly temperatures averaged as much as 13°C below the 1941-70 normal. Temperatures averaged up to 5°C above normal in the Mackenzie Delta and southern Baffin Island; elsewhere temperatures were near normal.

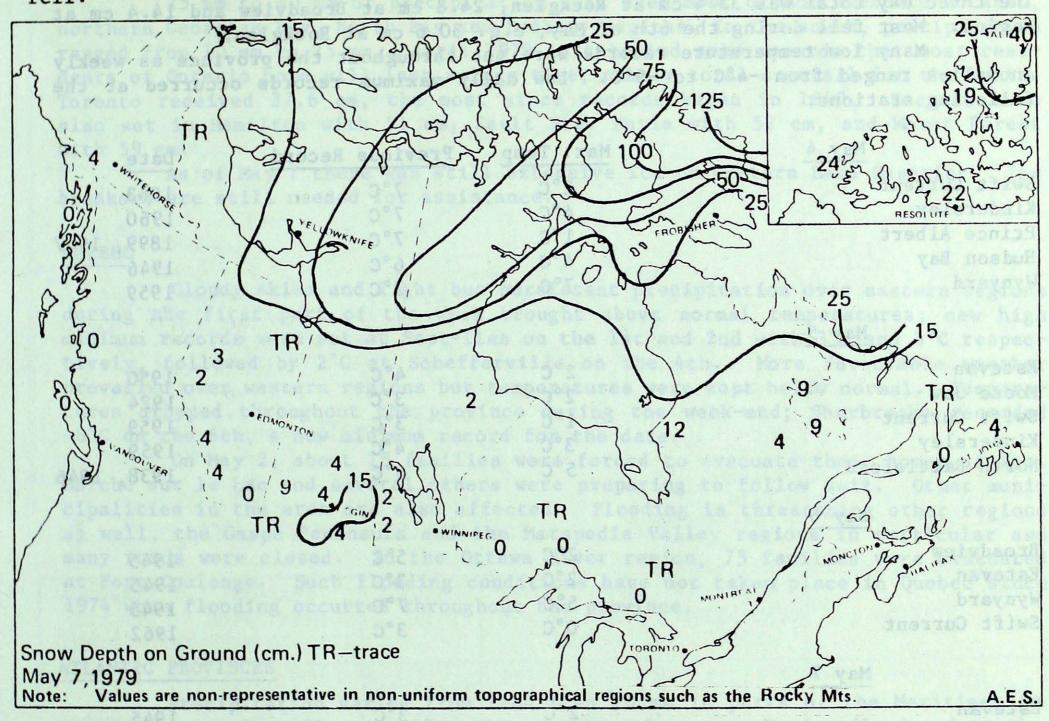
Coppermine recorded the coldest temperature in Canada for the week when the thermometer dipped to -30°C on May 1.

Precipitation was seasonably light throughout the Territories. As of May 7, 146 cm of snow remained on the ground at Cape Dyer.

# BRITISH COLUMBIA

Weekly temperatures averaged 2°C above normal along the coast to 3°C below normal in the extreme southeast, and 6°C below normal in the Fort Nelson - Fort St. John region in the northeast. Elsewhere near normal temperatures prevailed. The warmest reading in the province, 26°C, occurred May 1 at Lytton.

Less than 5 mm of precipitation fell in the far north and in the Lytton - Kamloops region in the south. The remainder of the province received above normal amounts, particularly in some portions of the coastal area where up to 60 mm fell.



#### ALBERTA

15 to 30 cm of snow which fell in southern Alberta on the 5th and 6th, provincial temperatures averaging 4°C to 8°C below normal for the week and wet field conditions throughout the province have further delayed field work in Alberta. To date very little cultivation, fertilizer or herbicide application have been accomplished. The Alberta Wheat Pool reported that not more than 4% of the spring wheat had been planted in southern and southeastern Alberta while elsewhere virtually no seeding had taken place. The snow and rain which fell in the southern part of the province may need up to 2 weeks of ideal drying conditions to sufficiently allow farm machinery to operate. With most spring field work still to be done, depending on weather conditions, seeding may not become general until the third week of May.

As reported in an earlier issue of Climatic Perspectives, serious concern was raised for the over winter survival of winter wheat. From the Alberta Wheat Pool reporting network, estimates of 50% to 70% winter kill of the winter wheat and fall rye crops in southern Alberta were reported, with up to an estimated 95% winter kill in the Drumheller area. Winter kill of these fall planted crops has also extended into the state of Montana.

Alberta Environment Hydrology Branch reported the high water levels due to ice jamming at Peace River and Fort McMurray had dissipated slowly during the past week. Localized flooding of northern rivers near Fort Vermilion had been reported during the week. With a slight moderation in temperatures and the recent snow and rain, higher flows are expected from streams in the western watershed.

## SASKATCHEWAN

Heavy snow fell throughout southern Saskatchewan from May 5 to May 7. The three day total was 35.4 cm at Rockglen, 24.8 cm at Broadview and 14.4 cm at Regina. Most fell during the 6th of May, e.g. 30.6 cm at Rockglen.

Many low temperature records were set throughout the province as weekly anomalies ranged from -4°C to -9°C. Low daily maximum records occurred at the following stations:

May 4	Max. Temp	Previous Record	Date
Swift Current	2°C	7°C	1963
Kindersley	4°C	7°C	1960
Prince Albert	1°C	7°C	1899, 1907
Hudson Bay	4°C	6°C	1946
Wynyard	7°C	7°C	1959
May 5			
Estevan	2°C	4°C	1950
Moose Jaw	2°C	3°C	1924
Swift Current	1°C	3°C	1959
Kindersley	3°C	4°C	1959
North Battleford	5°C	6°C	1938, 1946
May 6			
Broadview	2°C	5°C	1945
Estevan	2°C	3°C	1945
Wynyard	5°C	7°C	1945
Swift Current	0°C	3°C	1962
May 7			
Estevan	2°C	3°C	1945
Hudson Bay	2°C	2°C	1945

## MANITOBA

The flood crest of the Red River passed through Morris on May 7 and was expected to arrive at Winnipeg on the 10th. Protecting ring dikes continued to prevent the waters of the 40 km by 110 km lake created by the flooding Red River, from inundating several communities.

During the past week temperatures averaged 4°C to 7°C below the 1941-70 normal. Temperature extremes ranged from 13°C at Pilot Mond on the 1st to -18°C at Churchill on the 4th and 6th. 10 - 30 mm of precipitation fell in the southern half of the province; in the far north precipitation was light.

#### ONTARIO

Although water levels in the Sturgeon River and various other rivers in the north central portions of the province are very slowly retreating, the rain swollen Sturgeon continued to pour into Lake Nipissing at rates four times faster than it can escape. The result has been flooding along the north shore of the

Lake. Levels are currently 68 cm above normal "summer high" levels and were still rising as of May 7. Lakeside communities were in a dangerous situation.

The first week of May was a continuation of the generally cool wet spring weather. Weekly temperatures averaged 4°C to 6°C below the 1941-70 normal in northwestern Ontario; elsewhere temperatures averaged 1°C to 4°C below normal. A warming trend developed in southwestern Ontario on the 6th and moved into southern and central Ontario on the 7th as several localities had temperatures in the low 20's.

25 mm to 40 mm of precipitation fell over most of northwestern Ontario, northern Georgian Bay, North Bay and Sudbury regions. In the south, precipitation ranged from 10 mm to 25 mm. April 1979 left behind some records that most residents of Ontario hope will last a long time, namely total snowfall for the month. Toronto received 37.6 cm, the most since records began in 1840. Records were also set in Hamilton with 51 cm, Sault Ste. Marie with 52 cm, and Mount Forest with 59 cm.

As of May 7 there was still extensive ice on western Lake Superior. Ice breakers are still needed for assistance.

## QUEBEC

Cloudy skies and light but persistent precipitation over eastern regions during the first part of the week brought above normal temperatures; new high minimum records were set at Sept-Iles on the 1st and 2nd with 3°C and 5°C respectively, followed by 2°C at Schefferville on the 4th. More favourable weather prevailed over western regions but temperatures were kept below normal. Temperatures dropped throughout the province during the week-end; Sherbrooke recorded -6°C on the 6th, a new minimum record for the date.

On May 2, about 15 families were forced to evacuate their homes at Ste. Marche sur le Lac and several others were preparing to follow suit. Other municipalities in the area are also affected. Flooding is threatening other regions as well, the Gaspé Peninsula and the Matapedia Valley regions in particular and many roads were closed. In the Ottawa River region, 75 families were evacuated at Fort Coulonge. Such flooding conditions have not taken place in Quebec since 1974 when flooding occurred throughout the province.

## ATLANTIC PROVINCES

Precipitation varied from less than 20 mm in parts of the Maritimes to totals ranging from 55 mm to 65 mm in portions of eastern Newfoundland and northern New Brunswick.

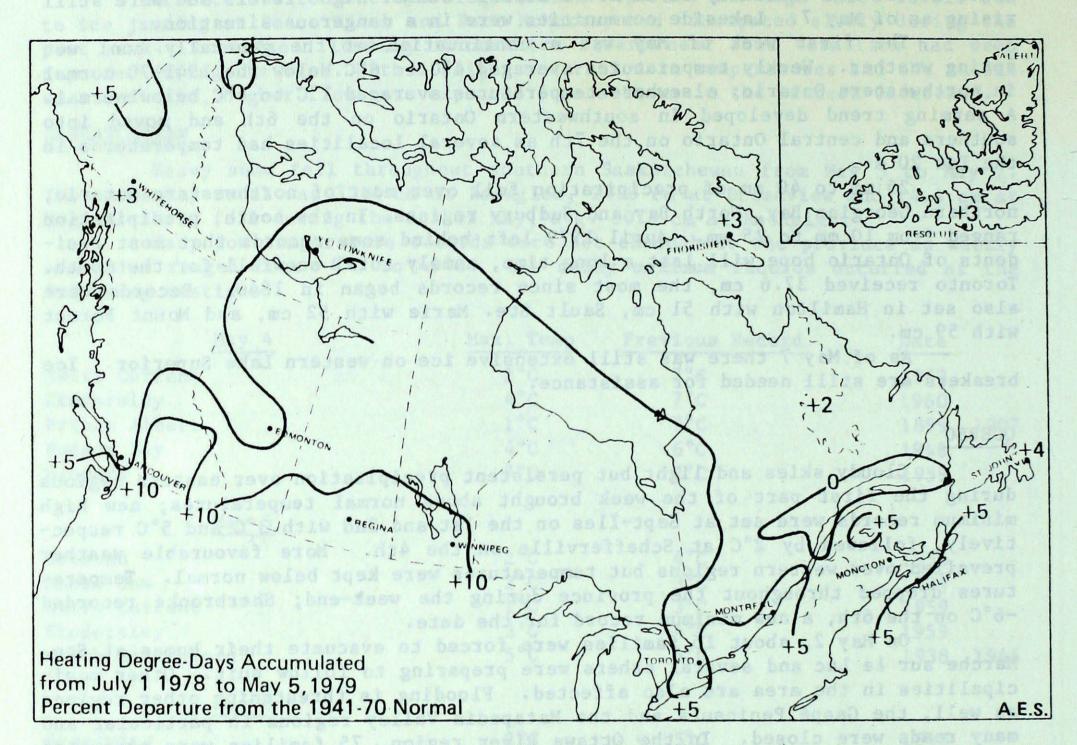
A deep low pressure system off the east coast of Newfoundland produced strong winds over the region on the 6th and 7th. While most of the Maritimes received some sunshine, most of Newfoundland reported rain and snow.

Weekly temperature anomalies ranged from +1°C to +4°C throughout western Newfoundland and Labrador but temperatures were near normal elsewhere. Cool air spread into the Maritimes on the 5th and 6th but by the 7th temperatures had rebounded to above normal values in most of the region; for example, the temperature rose to 18°C at Moncton on the 7th. Parts of southeastern Newfoundland were very cool with maximum temperatures at Gander reading only 1°C on the 6th and 2°C on the 7th.

Flooding on the Saint John River was still hampering some farming communities and caused the evacuation of more families and cattle during the earlier part of the period, but by the weekend things were returning to normal.

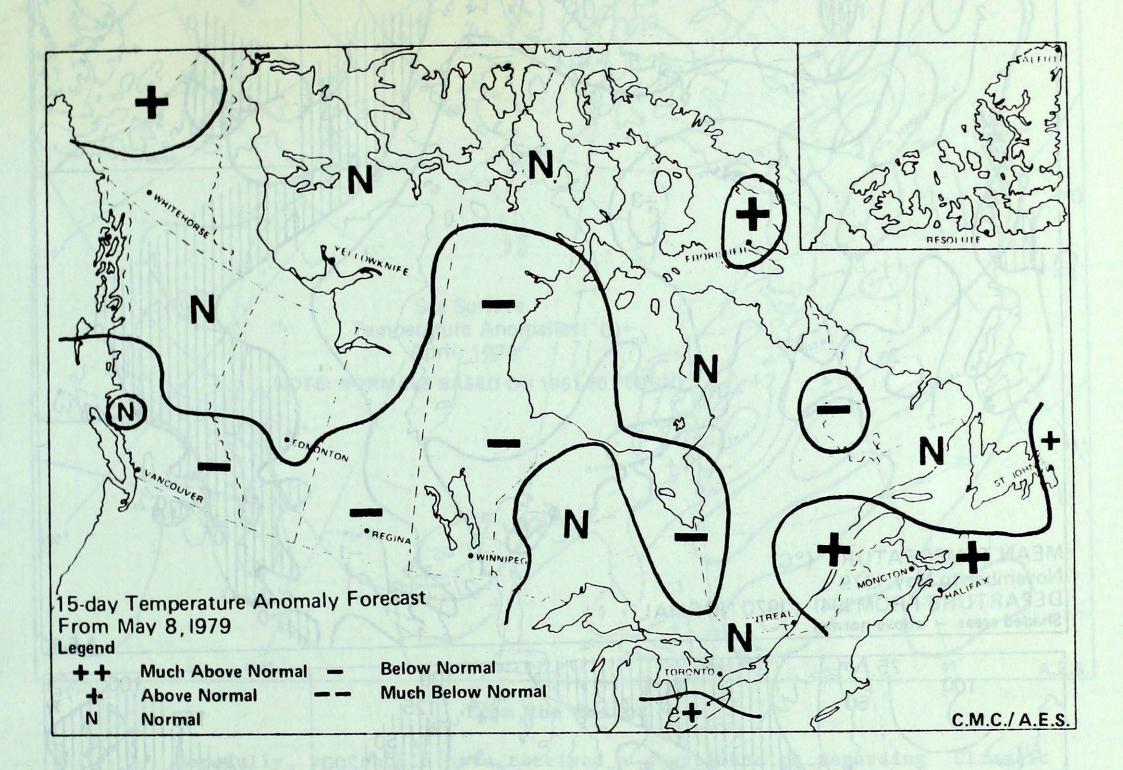
Strong winds with gusts to 95 km/h, poor visibility and rough seas were hampering a search for a 20 metre trawler with 5 men aboard, reported missing since early May 5 in the southeastern Gulf of St. Lawrence.

# HEATING DEGREE-DAY SUMMARY TO MAY 5, 1979



STATION	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL		
Resolute	175.5	9.5	11647.5	370.5	103		
Inuvik	82.0	-44.0	9154.0	-318.0	97		
Whitehorse	54.5	-12.5	6644.5	207.5	103		
Vancouver Int'l A	25.5	-11.5	2917.5	132.5	105		
Edmonton Mun A	81.0	36.0	5508.5	205.5	104		
Calgary Int'l A	85.0	29.0	5384.5	402.5	108		
Regina	84.0	34.0	6280.0	641.0	111		
Winnipeg Int'l A	82.5	32.5	6365.0	738.0	113		
Thunder Bay	74.5	19.5	5924.0	555.0	110		
Windsor	50.5	17.5	3656.5	203.5	106		
Toronto Int'1 A	64.5	24.5	4093.5	206.5	105		
Ottawa Int'l A	53.5	11.5	4585.0	95.0	102		
Montreal Int'l A	49.0	10.0	4542.5	238.5	106		
Quebec	60.0	11.0	5040.5	219.5	105		
Saint John, N.B.	54.0	-6.0	4448.5	38.5	101		
Halifax	50.5	-7.5	3964.0	194.0	105		
Charlottetown	54.5	-10.5	4357.0	87.0	102		
St. John's, Nfld.	75.5	5.5	4443.5	185.5	104		

## 15 DAY TEMPERATURE AMOMALY FORECAST



## Forecast Method

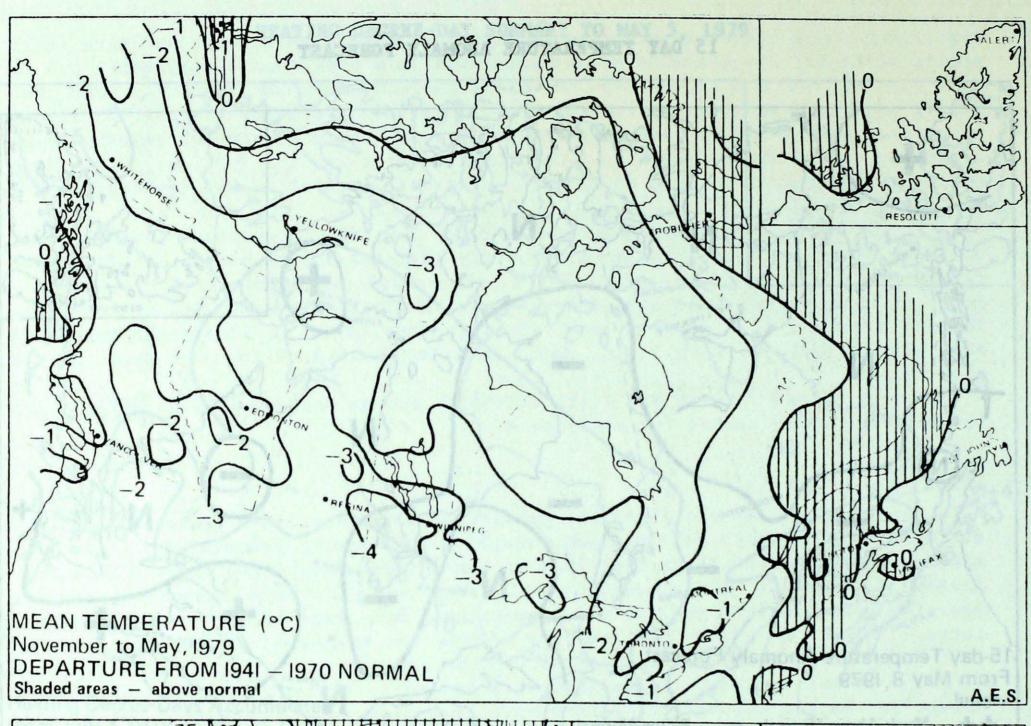
Analogue technique based on point prediction at 70 Canadian stations.

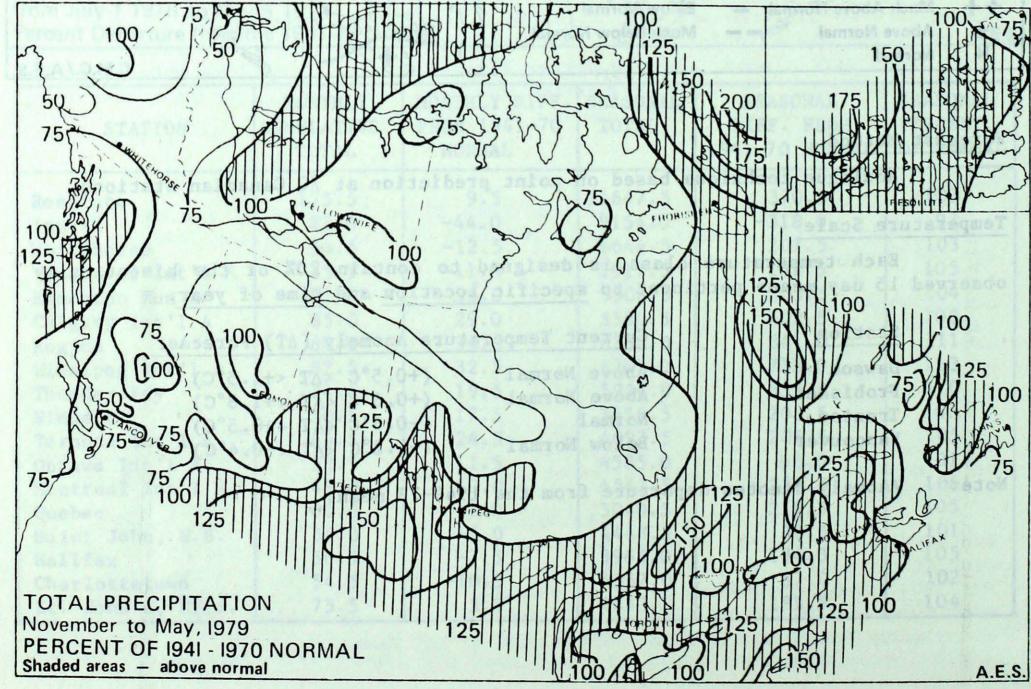
## Temperature Scale

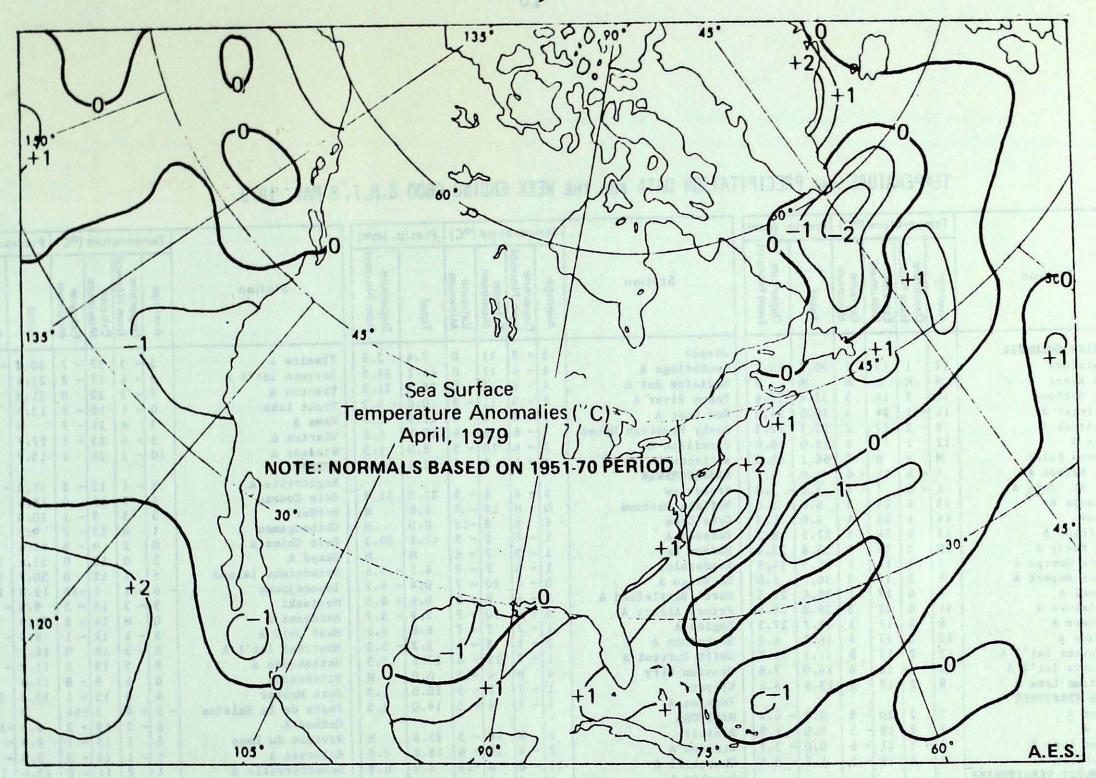
Each temperature class is designed to contain 20% of the historically observed 15 day means pertinent to specific location and time of year:

Station	Current Temperature Anomaly (△T) Forecast								
Dawson	Above Normal	(+0.5°C <∆T <+1.5°C)							
Frobisher	Above Normal	(+0.6°C <∆T <+1.8°C)							
Trenton	Normal	$(-0.5^{\circ}C < \Delta T < +0.5^{\circ}C)$							
Vancouver	Below Normal	$(-1.2^{\circ}C < \Delta T < -0.4^{\circ}C)$							

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







From the Editor

Hopefully, you should have received a questionnaire regarding "Climatic Perspectives". In this questionnmaire we asked for correct mailing address, language in which you wish to receive "Climatic Perspectives" - English, French, or both, and general comments on content, timeliness, utility, suggestions for improvement and information you would like to see included.

It is most important that you respond to that questionnaire. For example, we can reduce printing and mailing costs considerably by producing individual English and French versions. If you have not already replied or have not received the questionnaire, please send us your response no later than June 1, 1979. If we have not received any response from you by that time, we will assume that you are no longer interested in receiving the publication.

Please note that it is possible that subscription fees may be applied to non-Atmospheric Environment Service subscribers beginning July, 1979 in order to defray printing and mailing costs.

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# TEMPERATURE AND PRECIPITATION DATA FOR THE WEEK ENDING 0600 G.M.T. 8 MAY, 1979

	Temperature (°C) Precip. (mm)				. (mm)	Temperature (°C) Precip. (mm)								Temperature (°C)				Precip. (mm)		
Station	Average	Departure from Normal	Extreme	Extreme	Total	Departure from Normal	Station		0				Departure from Normal	Station	A Committee of the Comm		Extreme Maximum			Departure from Normal
BRITISH COLUMBIA Abbotsford Blue River Bull Harbour	12 M 10	1 H 2	17 M 16 24	7 H 5	30.3 M 37.4 39.0	10.1 M 18.6 34.0	Jasper Lethbridge A Medicine Hat A Peace River A Red Deer A	5 4 4 2	- 2 - 4 - 6 - 5	11 17 12 11	0 0 0 - 5	7.4 44.2 28.3 0.0 12.9	2.9 34.8 21.9 - 5.3 3.8	Timmine A Toronto Int'l A Trenton A Trout Lake Wawa A	3 6 7 0 3	- 3 - 4 - 3 - 1	20	- 7 - 2 0 - 9	10.8 21.4 21.8 13.9	- 4.4 9.0 8.1 1.1
Castlegar A Cranbrook A Comox A Estevan Point Fort Nelson A	11 8 12 M	- 1 - 2 1 M	17 17 M	2 6 7 - 6	15.7 25.0 66.1	12.3 16.6 43.0	Rocky Mountain House Vermilion A Whitecourt SASKATCHEWAN	1 2 1	- 6 - 6 - 6	6 10 8		17.1 8.0 12.8	4.6 1.5	Wiarton A Windsor A QUEBEC Bagotville A	5 10 6	- 4 - 2 - 1	23 26 15	- 2 1 - 3	27.7 15.7	18.8 2.8 - 3.4
Fort St. John A Kamloops A Lytton Penticton A	1 13 14 13	- 6 1 1 2	7 23 26 24	- 5 3 4 5	3.8 6.0 4.0 22.5	- 2.8 3.1 1.3 18.3	Broadview Buffalo Narrows Cree Lake Estevan A	1 0 - 4 1	- 6 M M - 7	8 8	- 5 - 9 -16 - 5	22.0 0.0 0.0 42.2	11.9 M M 30.3	Baie Comeau Border Chibougamau Fort Chimo A	5 3 1 0	0 5 M 2	15 9 13 9	0 - 2 - 7 - 8	18.6 10.3 9.2 11.6	4.6 3.8 M 4.3
Port Hardy A Prince George A Prince Rupert A Quesnel A	10 7 9 9	2 0 2 0	16 14 17 17	5 1 0 1	35.8 21.5 36.7 35.4	22.4 14.9 6.0 29.5	Hudson Bay Kindersley La Ronge A North Battleford A	1 1 0 3	- 6	7 10 9	- 6 - 9 - 7 - 2 - 7	4.7 0.4 0.4	- 3.6 - 4.1 - 6.6	Gaspé A Grindstone Island Inoucdjouac Maniwaki	5 5 - 6 5 0	0 1 - 1 - 3	16 12 2 18	0 0 -18 - 5 - 8	33.2 30.7 15.8 9.8 21.9	16.2 16.9 10.3 - 0.1
Revelstoke A Smithers A Terrace A Vancouver Int'l A Victoria Int'l A	11 8 10 13 12	0 0 1 2	22 17 17 17 17	3 1 4 8 6	28.8 32.7 16.7 31.3 14.0	18.6 27.5 6.2 21.0 7.8	Prince Albert A Regina A Saskatoon A Swift Current A Uranium City	1 2 1 - 4	- 6 - 7 - 6 - 7	7 8 12	- 7 - 4 - 4 -15	2.9 8.8 2.2 27.6 0.0	- 5.7 0.6 - 5.2 17.5	Matagami A Mont Joli A Montréal Int'l A Natashquan A Nitchequon	5 8 8	- 1 - 3 5	14 12 16 19	- 1 0 0 - 8	9.5 16.2 11.3	- 4.1 3.4 - 6.8 0.4
Williams Lake A YUKON TERRITORY Dawson A Mayo A	8 7 7	2 2 2	17 20 19	2 - 8 - 5	13.6	8.2 - 4.4 - 1.9	Wynyard Yorkton A MANITOBA Bissett	1 1	- 7 - 7	7 6	- 5 - 5	10.0 14.0	1.9 5.5	Port Menier Poste de la Baleine Québec A Riviere du Loup	6 - 5 6 6	3 - 4 - 2 1	15	- 1 -14 - 2 - 1	50.6 M 6.5 8.8	39.0 M -11.3 - 9.8
Watson Lake A Whitehorse A NORTHWEST TERRITORIES Alert	3 6 -14	- 2 2 1	11 19 - 2	- 6 - 5	0.0 1.7 0.6	- 3.2 - 0.4 - 0.8	Brandon A Churchill A Dauphin A Gillam A	-11 1 - 4	- 6 - 6 - 6 M	0 8 8	- 6 -18 - 6 -12	18.8 4.0 24.5 6.3	7.8 0.8 15.6 M	Roberval A Schefferville A Sept-Iles A Sherbrooke A	5 1 6 4	- 1 2 2 - 3	16 11 14 16	- 3 - 8 - 2 - 6		- 6.3 16.0 17.8 - 3.2
Baker Lake Cambridge Bay A Cape Dyer Chesterfield Inlet	-17 -16 - 9 -15	- 5	- 4 - 7	-16 -22	0.6 5.3 5.4 0.6		Gimli Lynn Lake Norway House Pilot Mound	0 - 4 - 2 2 2	- 7 M - 5	13	- 5 -13 -11 - 4 - 3	26.6	18.6 - 9.7 M 3.5 10.4	Val d'Or A NEW BRUNSWICK Charlo A Chatham A Fredericton A	6 8 8	0 1 0	16 16 16		57.2 21.0 14.6	28.3 6.6 3.8
Clyde Coppermine Coral Harbour Ennadai Eureka	-14 -18 -10 -19 -15	- 9	- 5 0	-23 -30 -23 -29 -25	2.0 1.6 9.4 0.0 0.0	- 1.4	Portage la Prairie The Pas A Thompson A Winnipeg Int'l A ONTARIO	- 1 - 2 2	- 6 - 4	8 8	- 9 -10 - 3	9.5	0.4	Moncton A Saint John A NOVA SCOTIA Greenwood A	8 8	1 1 0	18 17	- 1 0 1	18.0 21.1	6.0 6.1 2.1
Fort Simpson Fort Smith A Frobisher Bay A Hall Beach A	- 2 - 5 - 2 -13	No. of the last of	5 6 - 1	-10 -12 - 7 -29	2.0 0.0 8.0 0.6	- 5.4 - 4.3 1.3	Armstrong A Atikokan Earlton A Geraldton	2 3 4 2	- 3 - 3	11 17 13	- 4 - 8	22.0		Shearwater A Sydney A Truro Yarmouth A	8 7 M 7	1 1 M 0	17 16 M 12	1 1 1 3		-10.7 - 0.7 M 8.0
Hay River A Inuvik A Mould Bay Norman Wells A	-10 0 -12 0	5 2 - 2	7 - 6 9	-18 -10 -19 - 9	0.0	- 3.2 - 1.4 - 2.7	Gore Bay A Kapuskasing A Kenora A Kingston A	5 3 2 7	- 3 - 3 - 6 - 3	17 10 15	- 1 - 7 - 4 0 - 7	5.3 25.4 M	17.2 - 9.6 12.0 M	PRINCE EDWARD ISLAND Charlottetown Summerside NEWFOUNDLAND Battle Harbour	6 8	0 1 0	15 16	0 1 0	29.1 20.0 29.3	13.8 6.1
Resolute A Sachs Harbour Yellowknife A ALBERTA Banff	-15 -11 -10	0 0 -11	- 3	-23 -16 -19	0.0	- 1.1 - 1.1 - 3.1	Lansdowne House London A Moosonee Mount Forest Muskoka A	7 1 M 5	- 2 - 3 - 2 M - 4	25 13 M	- 2 -10	9.6 8.3 M	22.8 - 3.7 - 7.5 M 9.0	Cartwright Deer Lake Gander Int'l A Goose A	3 M 3 6	1 M - 1 3	9	0	27.6 M 65.3 17.3	14.0 M 50.3 2.9
Calgary Int'l A Cold Lake A Coronation A Edmonton Mun. A	1 2 1 3	- 6 - 6 - 7 - 6	6	- 3 - 6 - 5	17.6 2.6 5.7 10.7	7.5 - 3.8 0.6 3.1	North Bay A Ottawa Int'l A Petawawa A Pickle Lake	5 8 6 2	- 3 - 3 M - 2	21 15 16 11	- 3 1 - 4 - 5	21.8 16.0 16.2 40.7	6.8 4.9 M 26.8	Hopedale St. Anthony St. John's A Stephenville A	1 2 3 8	2 M - 1 3	6	- 1 - 1 1	11.9 31.9 63.5 55.8	- 0.6 H 45.5 41.9
Edmonton Namao A Edson A Fort Chipewyan Fort McMurray A	2 1 - 4 1	- 5 - 8 - 6	8 5 9	- 4 - 7 -11 - 6	3.4 11.1 0.0 1.9	- 7.5 - 6.4 - 3.2	Red Lake A Simcoe Sioux Lookout A Sudbury A	1 7 2 5	- 4 - 3	23 10 21	- 5 - 1 - 4 - 3	31.7 23.9	7.3 M 17.4 10.1	Wabush Lake	3	3	13	- 7	20.3	11.0
Grande Prairie A	2	- 6	12	- 3	4.3	- 2.2	Thunder Bay A	3	- 4	10	- 4	13.7	- 3.8							

M-Denotes missing data

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