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VIEW OF CANADIAN CLIMATE

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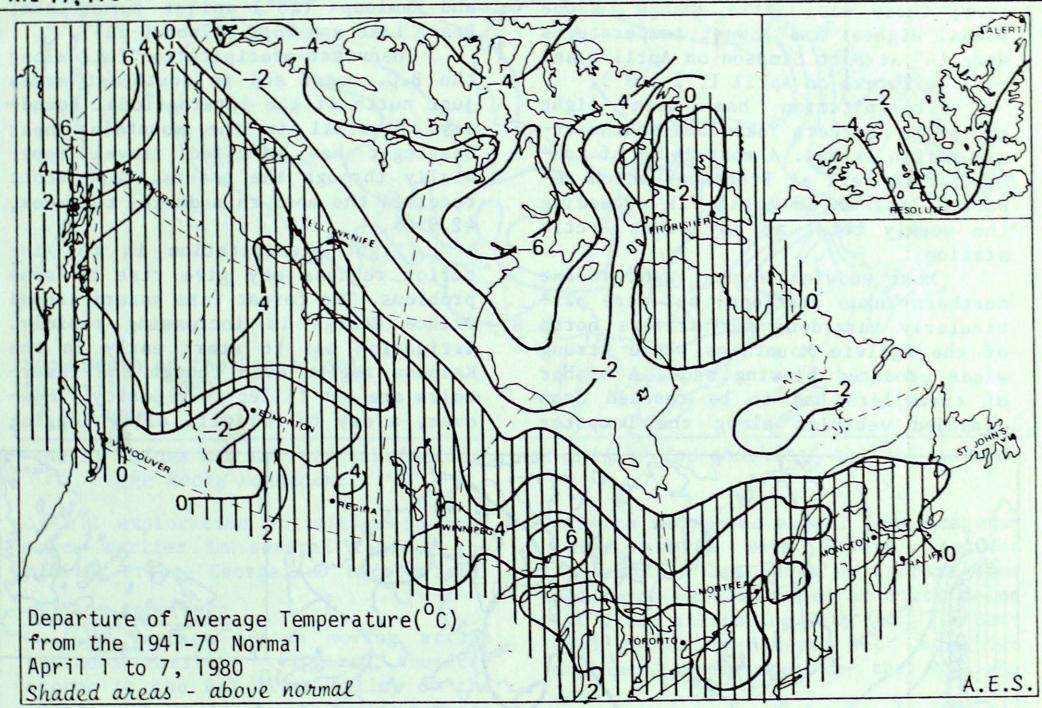
VOL 2 ISS 14 CLIMATIC PERSPECTIVES

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(Aussi disponible en français)

VOL.2 NO.14



WEATHER HIGHLIGHTS FOR THE WEEK - APRIL 1 - 7, 1980

Tornado and Hail in Manitoba

er Valley on Easter raking southeast Winnipeg with marble size hail. Altona was hardest hit, reporting not only 12-mm hailstones, but also a small tornado and 40 mm of rain.

Other Canadian stations reported heavy precipitation. Estevan set an all-time record for 24-h snowfall on the 7th when 37.5 cm was measured, the previous exceeding record

Thunderstorms struck the Red Riv- October 15, 1967 by 8.5 cm. Sydney and Fredericton both received slightly more than 41 mm on April 4-5, but no flooding was officially reported from nearby areas.

> Temperatures across Canada remained above normal except in the central and northern Arctic and in central Quebec. Temperature extremes for the week ranged from 20° at Pilot Mound to -43° at Eureka.

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

The mean temperatures decreased markedly from last week's values especially in the central Arctic where decreases of 18° occurred in a large area north of Chesterfield Inlet. The only areas remaining above normal were in southeastern Baffin Island and southwestern Mackenzie District; however, there was little change in the Yukon. Highest and lowest temperatures were 14° at Fort Simpson on April 2 and -43° at Eureka on April 1, 2 and 3.

Precipitation has been light except in northern Yukon and southeastern Baffin Island. Almost 24 mm of precipitation fell at Frobisher which reported 16.7 mm on April 7th exceeding the weekly total at any other Arctic station.

Most snowfalls were light at far northern Yukon stations, but were particularly hazardous for drivers north of the Ogilvie Mountains where strong winds produced blowing snow. A number of travellers had to be rescued from stranded vehicles along the Dempster

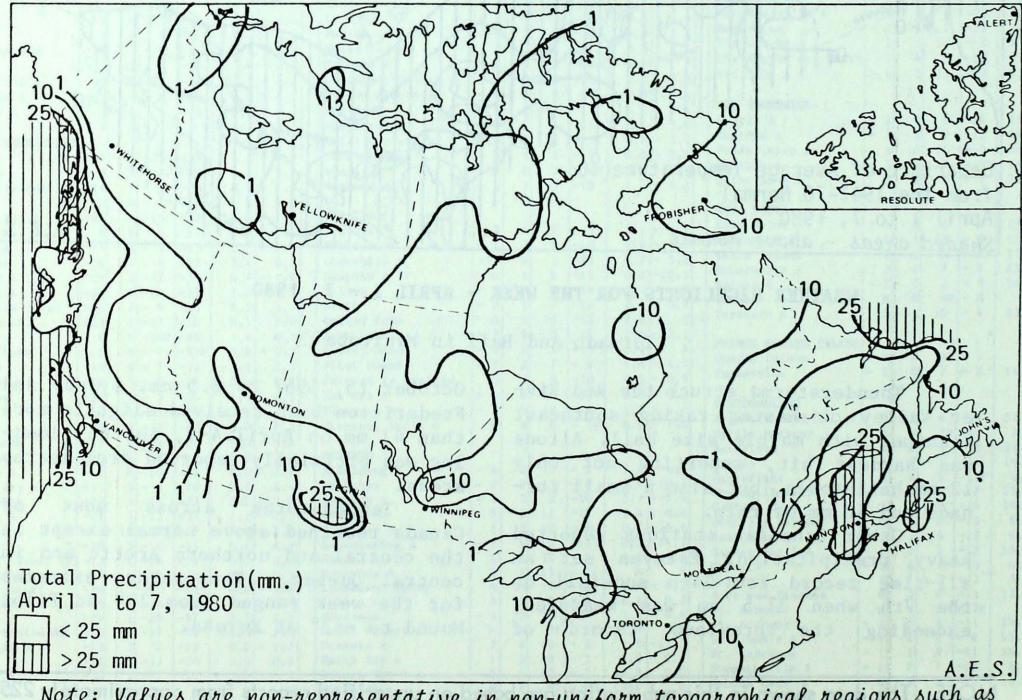
Highway through the Richardson Mountains. The highway remained closed from April 3 as winds continued at 40 to 80 km/h during the rest of the week.

BRITISH COLUMBIA

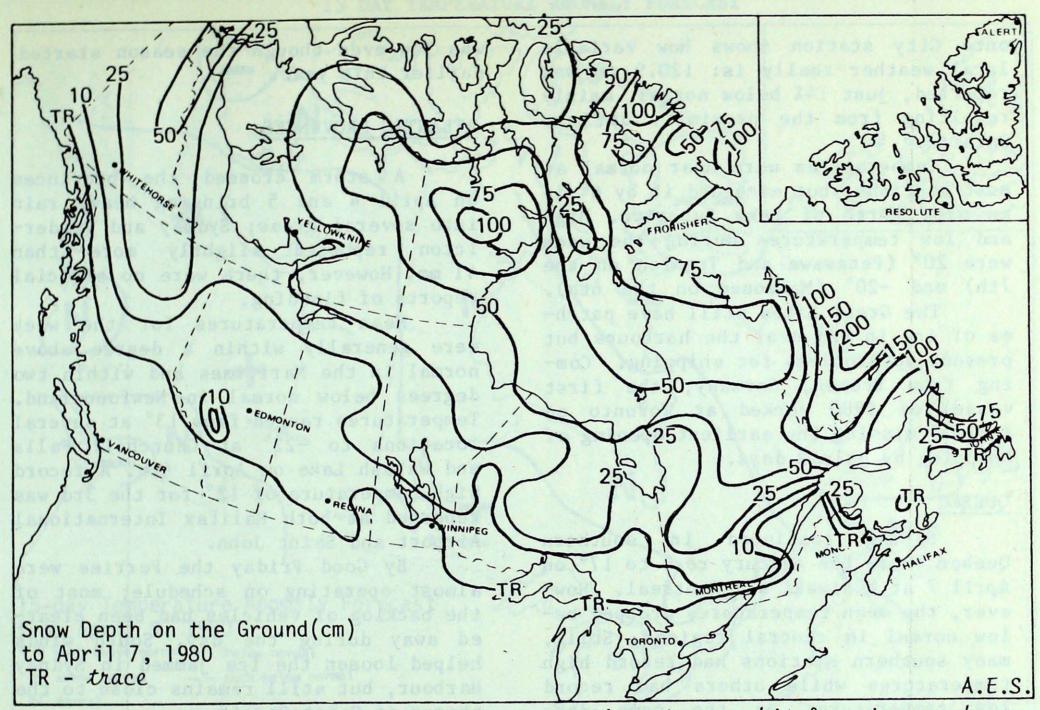
Most regions had seasonal weather enjoying above normal temperatures during the week. Highest and lowest temperatures were recorded at Abbotsford and Kamloops (18°) and at Burns Lake, Dease Lake and Fort Nelson (-11°).

Heaviest precipitation fell along the B.C. coast and in southeast areas just north of the international boundary. Snowfall in the mountains near Castlegar has hindered travel especially through the passes. Cape Scott received the most rain during the week, 42.9 mm.

Light precipitation in the interior regions may give rise to some problems. The forest fire hazard around Prince George is increasing rapidly. Irrigation has to start early in the Kelowna region even though the reservoirs are not filled to capacity. However, a dry period will allow logging



Note: Values are non-representative in non-uniform topographical regions such as the Rocky Mountains.



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or oil exploration activities to commence earlier in several regions including Prince George and Fort Nelson.

PRAIRIE PROVINCES

A weather system moving across southern Manitoba triggered thunder-storms in the Red River Valley on the evening of April 6. A small tornado lashed the Altona area with 12 mm of hail, which covered the ground about 10-13 cm deep at the height of the storm; almost 40 mm of rain also fell. Southeastern Winnipeg reported marble size hail as well.

Otherwise most regions were generally dry during the week, except for southeastern Saskatchewan within 150 km of the U.S.-Canada border, where more than 25 mm of precipitation was recorded. Estevan had 37.5 cm of snow on the 7th breaking its all-time 24-h snowfall amount of 29 cm measured on October 15, 1967.

All stations except for a few in northeastern Manitoba and southwestern

Alberta had above normal mean temperatures, which were several degrees cooler than last week's. Extreme temperatures were recorded at Pilot Mound (20°) and at Uranium City (-21°). Several places in Alberta set new high daytime temperatures on the 2nd and 3rd.

ONTARIO

Abundant rain fell in southern Ontario throughout the week with many communities recording 10-20 mm of rain which included some snow in areas farther north. Greatest precipitation of 22.4 mm was recorded at Kapuskasing. Snow cover continued to dwindle, but rappeared in Muskoka and Haliburton during the Easter Weekend.

The accumulated snowfall at Toronto International Airport for the 1979-80 winter was only 80.9 cm, fairly representative of the winter conditions although 40% below the normal of 133.5 cm. By comparison, the amount for Tor-

onto City station shows how variable local weather really is: 120.9 cm was reported, just 14% below normal, mainly resulting from the proximity of Lake Ontario.

Temperatures were near normal at most stations, but exceeded it by 6° in an area north of Lake Superior. High and low temperatures during the week were 20° (Petawawa and Trenton on the 7th) and -20° (Moosonee on the 6th).

The Great Lakes still have patches of ice in and near the harbours but present no problems for shipping. Coming from Bremen, Germany, the first vessel of 1980 docked at Toronto on April 3 missing the earliest opening of shipping by only 2 days.

QUEBEC

Spring continued in southern Quebec where the mercury rose to 17° on April 7 at Maniwaki and Montreal. However, the mean temperatures dropped below normal in central regions. Still, many southern stations had record high temperatures while others had record low temperatures on the same date (April 7).

Good weather was interrupted on the 4th and 5th by a storm which produced snow mixed with rain and dumped 31.2 mm of precipitation on Gaspé.

The 1980 maple sugar season will not be counted amongst the best. Because freezing conditions at night were not frequent, the yield of maple sap

was low even though the season started earlier this year.

ATLANTIC PROVINCES

A storm crossed the provinces on April 4 and 5 bringing heavy rain into several areas; Sydney and Fredericton reported slightly more than 41 mm. However, there were no official reports of flooding.

Mean temperatures for the week were generally within a degree above normal in the Maritimes and within two degrees below normal in Newfoundland. Temperatures ranged from 13° at several locations to -22° at Churchill Falls and Wabush Lake on April 6th. A record high temperature of 12° for the 3rd was reported at both Halifax International Airport and Saint John.

By Good Friday the Ferries were almost operating on schedule; most of the backlog of vehicles had been cleared away during the day. South winds helped loosen the ice jammed in Sydney Harbour, but still remains close to the shores of Cabot Strait.

The Gulf of St. Lawrence contains only patches of ice with no hinderance to shipping.

Off the Newfoundland coast the ice pack is receding 2-3 weeks ahead of schedule, and is now well north of Notre Dame Bay. Extensive ice cover in the Strait of Belle Isle is deteriorating rapidly.

CANADIAN SCIENCE WRITERS AT AES DOWNSVIEW

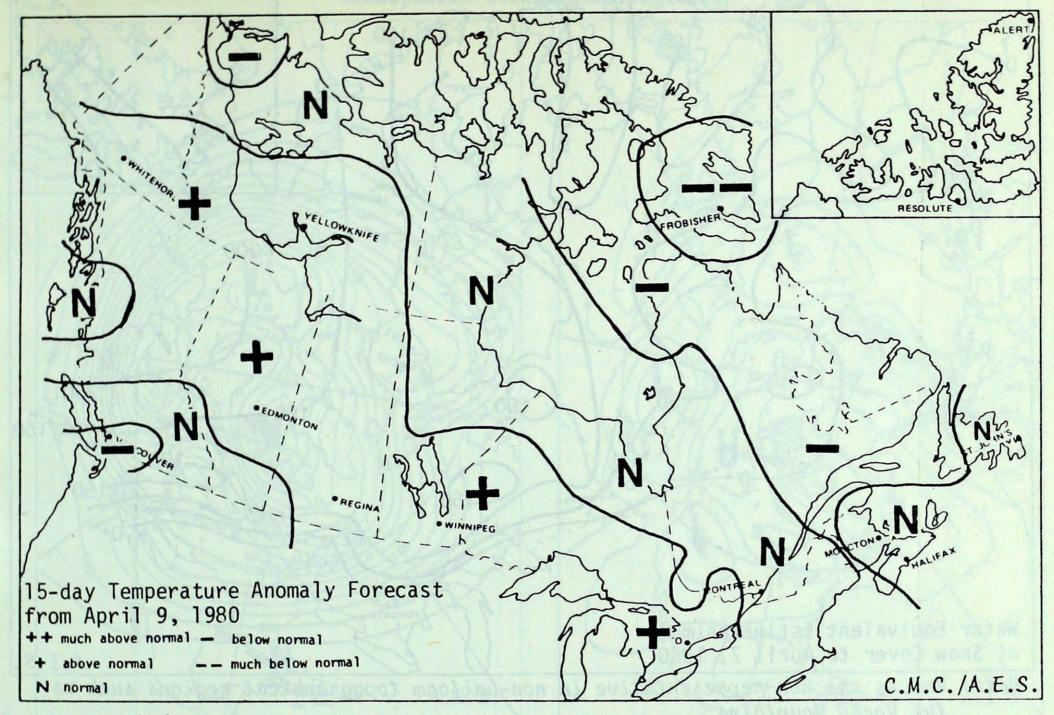
The 10th Annual Science Writing Seminar and Annual General Meeting of the Canadian Science Writers' Association will be held in Toronto, April 13 to 16, at the Atmospheric Environment Service, 4905 Dufferin Street.

President Lydia Dotto will chair a four-part session on "Acid Rain" that will include scientific participants from the University of Toronto, Environment Canada, and Inco Ltd., and Dr. Harry Parrott, Ontario's Environment Minister.

Three other sessions, The Carbon Dioxide Cycle, Man Versus Pests - Weapons of the Future, and Nutrition and Environmental Threats, will be held.

A special feature of the meeting is the Annual Awards Dinner on Monday evening when four \$1000 Science writing awards will be presented.

15 DAY TEMPERATURE ANOMALY FORECAST



Forecast Method

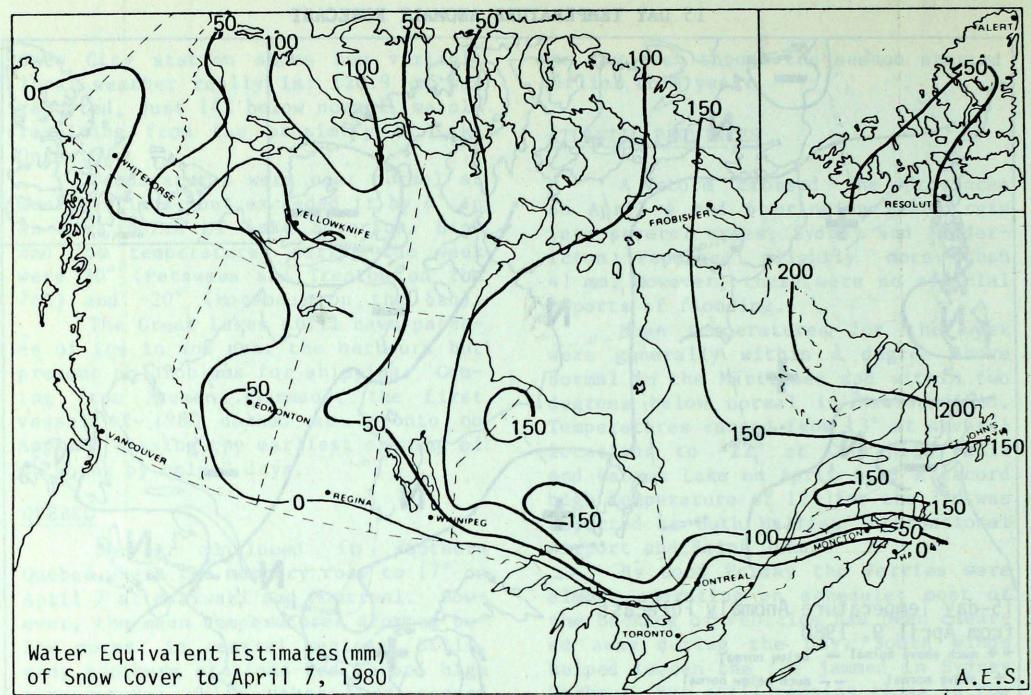
Analogue technique based on point prediction at 70 Canadian stations.

Temperature Scale

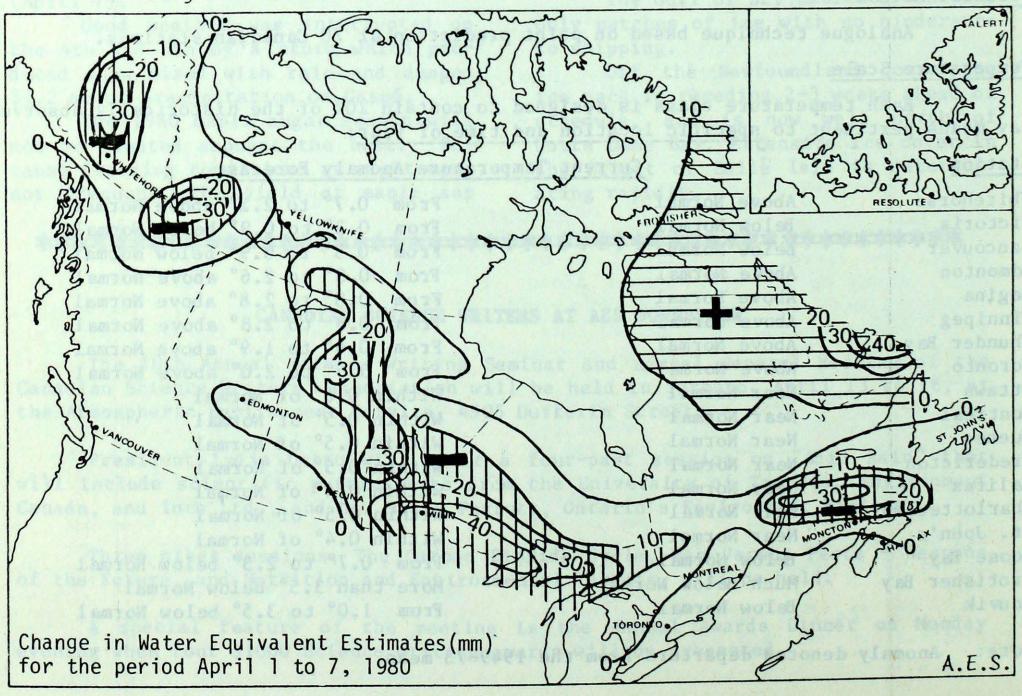
Each temperature class is designed to contain 20% of the historically observed 15 day means pertinent to specific location and time of year:

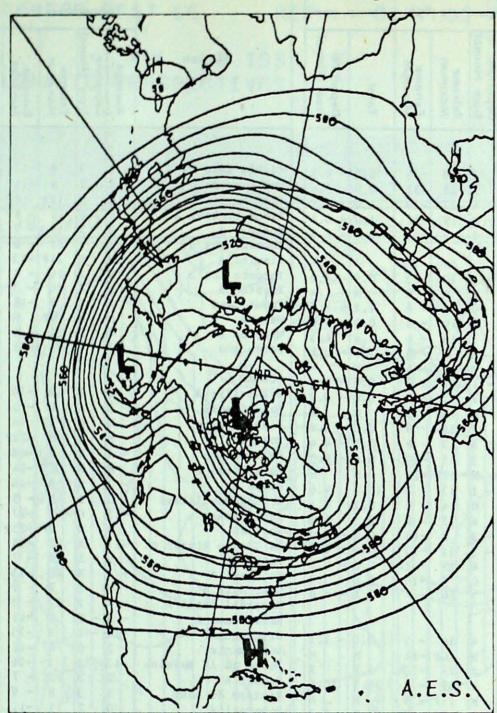
Station		Current Temperat	ture Anom	aly For	ecast	
Whitehorse	Above Normal		From O	.7° to	2.2° abo	ve Normal
Victoria	Below Normal		From 0	.3° to	0.9° bel	ow Normal
Vancouver	Below Normal		From O	.3° to	0.9° bel	ow Normal
Edmonton	Above Normal		From 0	.8° to	2.6° abo	ve Normal
Regina	Above Normal		From 0	.8° to	2.8° abo	ve Normal
Winnipeg	Above Normal		From 0	.8 to	2.8° abo	ve Normal
Thunder Bay	Above Normal		From O	.6° to	1.9° abo	ve Normal
Toronto	Above Normal		From 0	.6° to	2.0° abo	ve Normal
Ottawa	Near Normal		Within	0.6° of	Normal	
Montreal	Near Normal		Within	0.5° of	Normal	
Quebec	Near Normal		Within	0.5° of	f Normal	
Fredericton	Near Normal		Within	0.5° of	Normal	
Halifax	Near Normal		Within	0.4° of	Normal	
Charlottetown	Near Normal		Within	0.5° of	Normal	
St. John's	Near Normal		Within	0.4° of	f Normal	
Goose Bay	Below Normal		From 0	.7° to	2.3° bel	ow Normal
Frobisher Bay	Much Below N	ormal	More th	an 3.5°	below N	lormal
Inuvik	Below Normal		From 1	.0° to	3.5° bel	ow Normal

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



Note: Values are non-representative in non-uniform topographical regions such as the Rocky Mountains.



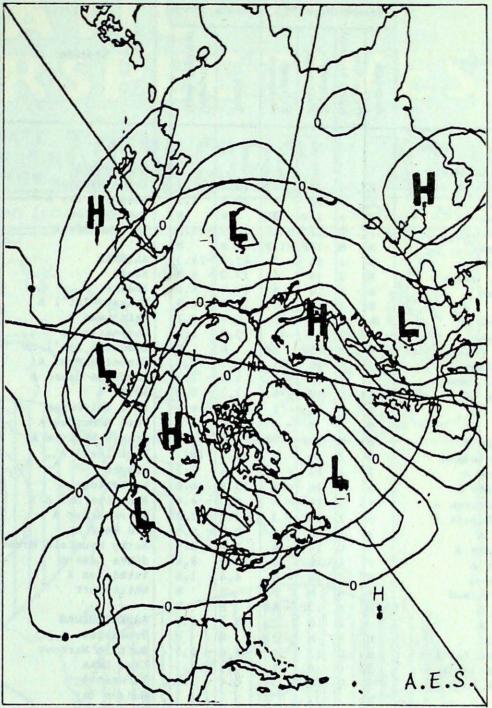


7-day Mean 50 kPa Height Anomaly (in 5 dam intervals) March 31 to April 6, 1980

The north-south component in the atmospheric circulation became more pronounced during the week.

At 50 kPa a major ridge established itself over British Columbia while a large trough and closed low dominated the Canadian Prairies and the American Plains.

At the surface a complex pressure pattern resulted, containing significant but slow moving weather systems. Cold Arctic air has retreated into northern Canada, but occassionally penetrates southward only for brief periods. However, warm moist tropical air



7-day Mean 50 kPa Height Map(in dam) March 31 to April 6, 1980

has been moving farther north into Canada.

These two strongly contrasting air masses interact, fostering the development of significant low pressure areas and producing the widespread falls of heavy precipitation typical of springtime. In addition, thunderstorms start to appear more frequently in southern regions of Canada, occasionally accompanied by severe weather phenomena including tornadoes, one of which occurred this week in southern Manitoba.

Andy Radomski

Because of computer problems the heating degree-day statistics were not available at the time of printing.

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TEMPERATURE AND PRECIPITATI								
		Temperature ((°C) Precip. (mm			
Station	Average	Departure from Normal	Extreme Moximum,	Extreme Minimum	Total	Departure from Normal		
BRITISH COLUMBIA Abbotsford A Alert Bay Blue River Bull Harbour Burns Lake Cape Scott Capt St. James Castlegar A Comox A Cranbrook A 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 A Smithers A Spring Island Stewart A Terrace A Tofino A Vancouver Int'l A Victoria Int'l A	97 M7 M886841 M1387 MM876465574 MM6 M88	M M 2 M 0 0	11 16 M 13P 16 M 17 16	- 1 - 11P 3 4 - 3 - 1 - 5 - 11 - 7 - 4 2 - 2 - 10P 4 - 1 - 6 - 3 - 6 - 4 1 - 6 M - 4P - 2 2P 1 1	19.0 13.9 10.2 0.4 3.8 M 0.2 3.8 1.2 18.4 M M 23.6 7.4 35.9 0.0 12.6 0.0 5.4 29.1 6.4 M M 19.7 M 11.6 6.2	1.5 M - 1.0 M - 24.3 - 6.4 4.1 - 2.9 - 3.2 1.4 M - 5.3 - 0.8 - 14.1 M M - 18.7 2.2 8.6 - 4.4 - 22.2 - 4.5 - 3.9 8.4 1.9 M M M M M M M M M M M M M M M M M M M		
YUKON Burwash A Dawson A Komakuk Beach A Mayo A Shingle Point A Watson Lake A Whitehorse A	2 -25 - 2 2	7 - 3 6 - 4 2	-14	- 5 -10 -10 -33 - 8 -37 -14 - 8	0.0 0.0 0.0 0.7 4.8 0.6	- 3.2 - 2.0 - 2.1 - 1.7 - 1.7 3.3 - 3.5 - 3.4	9	
NORTHWEST TERRITORIES Alert Baker Lake Broughton Island Byron Bay A Cambridge Bay A Cape Dorset Cape Dyer A Cape Hooper Cape Parry A Cape Young A Chesterfield Inlet 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 A Port Burwell	-32 -28 -15 -31 -32 M -15 -17 -27 -29 -27 -26 -18 M -27 -24 -19 M -36 -16 -3 -15 -33 -15 -33 -24 -5 -22 -31 -28	- 6255 MO24565 4 M 452 M 21142605343255 M 26 X	-10 - 9 0P -16 2 14 10 - 1 -18 - 7 9 -12 -15 -22 - 8 -14 -26 -23P 3	-35 -34 -37 -32 -34P -43 -33 -16 -31 -40 -39 -19 -35 -38 -34 -38 -40	1.6 3.2 0.0 0.0 9.8 11.6 5.5 0.0 1.0 0.8 0.0 4.8 0.6 4.8 0.2 M 0.0 0.4 2.2 0.2 23.7	- 4.4 - 1.3 - 2.0 0.3 - 1.8 - 1.3 2.2 M - 2.6 0.1 - 1.8 M - 0.6 - 2.8 - 1.4 - 4.6 17.5 - 0.5 2.4 - 3.2 1.8 - 0.6 - 1.5 - 1.9 4.6 - 1.5 - 1.9 - 1.0 - 1		

T	ION DATA FOR THE	WEE	(EN	IDING	060	0 G.M	T. A	PR
		Temperature (°C)				Precip. (mm)		
	Station	Average	Departure from Normal	Extreme	Extreme Minimum	Total	Departure from Normal	The same of the sa
	Resolute A Sachs Harbour Shepherd Bay A Tuktoyaktuk Yellowknife A	-29 -30 -32 -25 -11	- 4	-22	-36 -37 -39 -32 -29	0.5 0.0 2.0 1.0 0.6	0.4 1.7 - 0.5	
	ALBERTA Banff Brooks 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	0 M 2 1 1 0 M 1 2 M 3 2 0 M 2 4 3 2 - 2 3 0 3	5 3 M - 1 0 4 - 3 - 3 4	10 M 12 10 13 9 14P 11 15 13P 18 13 15 12P 13 14 17 8 11 15 7	- 7 - 9 -15 - 9 - 6 -10	7.6 3.8 M 0.0 0.0 M 0.0 0.3 0.0 M 10.1 8.1 0.5 0.0 0.0	M - 2.2 - 4.6 4.3 - 0.8 M - 4.1 - 1.7 M - 5.8 - 4.4 - 8.5 M 4.6 4.1 - 2.1 - 4.0 - 4.8	
	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 A Regina A Saskatoon A Swift Current A Uranium City Wynyard Yorkton A	2 M 3 0 - 1 5 3 0 - 1 4 1 3 - 6 2 1	4 M X 4 M 2	14 10P 14 19 11P 17 11 8 16 8 9 16 10 15 10 12	- 5 -12 -20 - 3	0.0 M 4.8 37.5 M 7.5 0.0 24.7 0.0 7.1 0.0 16.2 4.5 8.8	- 1.1 M X 30.9 M 3.3 - 3.7 X 21.6 X 2.8 - 4.0 13.3 1.3 4.9 - 3.5 0.9	
	MANITOBA Bissett Brandon A Churchill A Dauphin A Gillam A Gillam A Gimli Island Lake Lynn Lake Norway House Pilot Mound Portage la Prairie The Pas A Thompson A Winnipeg Int'l A	1 2 -17 2 - 9 1 M - 6 - 2 3 3 - 1 - 7 4	4 3 3 X 3 M 3 X 4 4 3 3 4	11 14 - 2 11 9 10 8P 9 20 16 10 10 18	-11 - 4 -30 - 6 -26 - 9 -15 -23 -15 - 4 - 6 -10 -23 - 7	2.4 0.0 0.0 1.1 M 0.6 0.4 0.0 0.0	4.6 - 4.8 - 1.8 - 5.2	
	ONTARIO Armstrong A Atikokan Earlton A Geraldton Gore Bay A Kapuskasing A Kenora A Kingston A Lansdowne House London A Moosonee Mount Forest Muskoka A North Bay A Ottawa Int'l A Petawawa A	M 2 0 - 2 3 - 1 4 M - 4 5 - 7 M 3 2 5 4	M 5 2 6 3 3 5 M 3 1 0 M 2 3 2 X	8P 12 9 11 10 14 14P 9 14 3 11P 17 16 19 20	-14 - 9 -11 -17 - 5 -12 - 4 - 3 -15 - 2 -20 - 3P - 7 - 8 - 4 - 6	M 0.0 4.2 0.6 10.0 22.4 0.0 M 1.0 16.4 1.0 M 21.8 12.0 11.1	M - 6.8 - 8.0 - 7.6 - 6.4 - 9.4 - 8.3 M - 7.4 - 7.4 - 9.2 M 4.5 - 3.6 - 5.7 X	

74 - 7	Temperature (°C),				Precip. (m		
Station	Average	Trom Normal	Extreme	Extreme	Total	Departure from Normal	
Pickle Lake Red Lake A 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	- 2 0 M 2 2 3 M 5 6 - 7 M 4 7	4 3 4 M 1	8 9 12P 14 11 12 11P 16 20 9 9P 18	- 9 - 7 - 6 -13 - 4 - 3 -18	0.5 8.1 M 1.0 17.2 4.2 M 16.2 10.5 1.7 M 19.9 20.6	2 - 8. 2 9 1 8 3 3.	
QUEBEC Bagotville A Baie Comeau Blanc Sablon Border Chibougamau Fort Chimo A Gaspé A Grindstone Island Inoucdjouac Koartak La Grande Rivier A Maniwaki Matagami A Mont Joli A Montréal Int'l A Natashquan A Nitchequon Port Menier Poste de la Baleine Québec A Riviere du Loup Roberval A Schefferville A Sept-Iles A Sherbrooke A Ste.Agathe des Monts Val d'Or A	-11 - 2 -13 2 1 0 -12 - 4 2	X 3 X 1 2 - 0 - 2 0 - 2 2 3 2 - 2 - 1 2 3	M 8 2P 8 5 - 2 OP 2 17 10 7 17 2 2 6 1 13 8 11 - 2 4 14 13	-10 -13 -14 -22P -18 -24 -16 - 5 -27 -25P -25 - 7 -15 - 9 - 3 -11 -25 -12 -26 - 7 - 9 -11 -22 -18 - 9 - 11	1.6 M 0.8 6.8 31.3 18.4 12.4 7.0 8.2 9.6 8.4 3.6 21.0 24.2 13.3 21.0 4.5 5.2	- 1. 310 511. 0. 4. 6. 8 41321 1010 810.	
NEW BRUNSWICK Charlo A Chatham A Fredericton A Moncton A Saint John A	- 1 2 3 2 2	1	13 13 12	-14 - 9 - 7 - 8 - 6	24.9 33.0 41.3 18.2 32.6	16. 20. - 4.	
NOVA SCOTIA Eddy Point Greenwood A Sable Island Shearwater A Sydney A Truro Yarmouth A	1 3 2 3 0 M M	X 0 0 0 0 M M	13 8 10 8	- 5 - 8 - 3 - 5 - 7 - 6 - 5	33.0 12.4 16.8 18.8 41.4 M	-12. -12. -10.	
PRINCE EDWARD ISLAND Charlottetown Summerside NEWFOUNDLAND	1 2	1	11	- 6 - 5	20.7	- 2. 2.	
Argentia VTMS Battle Harbour Bonavista Burgeo Cartwright Churchill Falls A Comfort Cove Daniels Harbour Deer Lake Gander Int'l A Goose A Hopedale Port aux Basques St. Albans St. Anthony St. John's A St. Lawrence Stephenville A Wabush Lake	0 M M - 1 - 6 - 10 - 1 - 2 M - 1 - 4 M - 1 - 4 - 2 - 1 - 11 - 11	X M M 0 - 4 - 2 0 - 0 M 0 0 M 0 M X - 1 - 1 0	2P	- 6 -14P - 5 - 8 -20 -22 - 9 - 10P - 9 -17 -18P - 5 - 9P -12 - 9 - 8 - 7 22	15.8 41.9 1.4 0.2 0.2 1.2 2.8 5.0 20.6 18.4 M 14.6 10.0 7.6	24. -22. -17. -13. -17. -14. -10. 7.	