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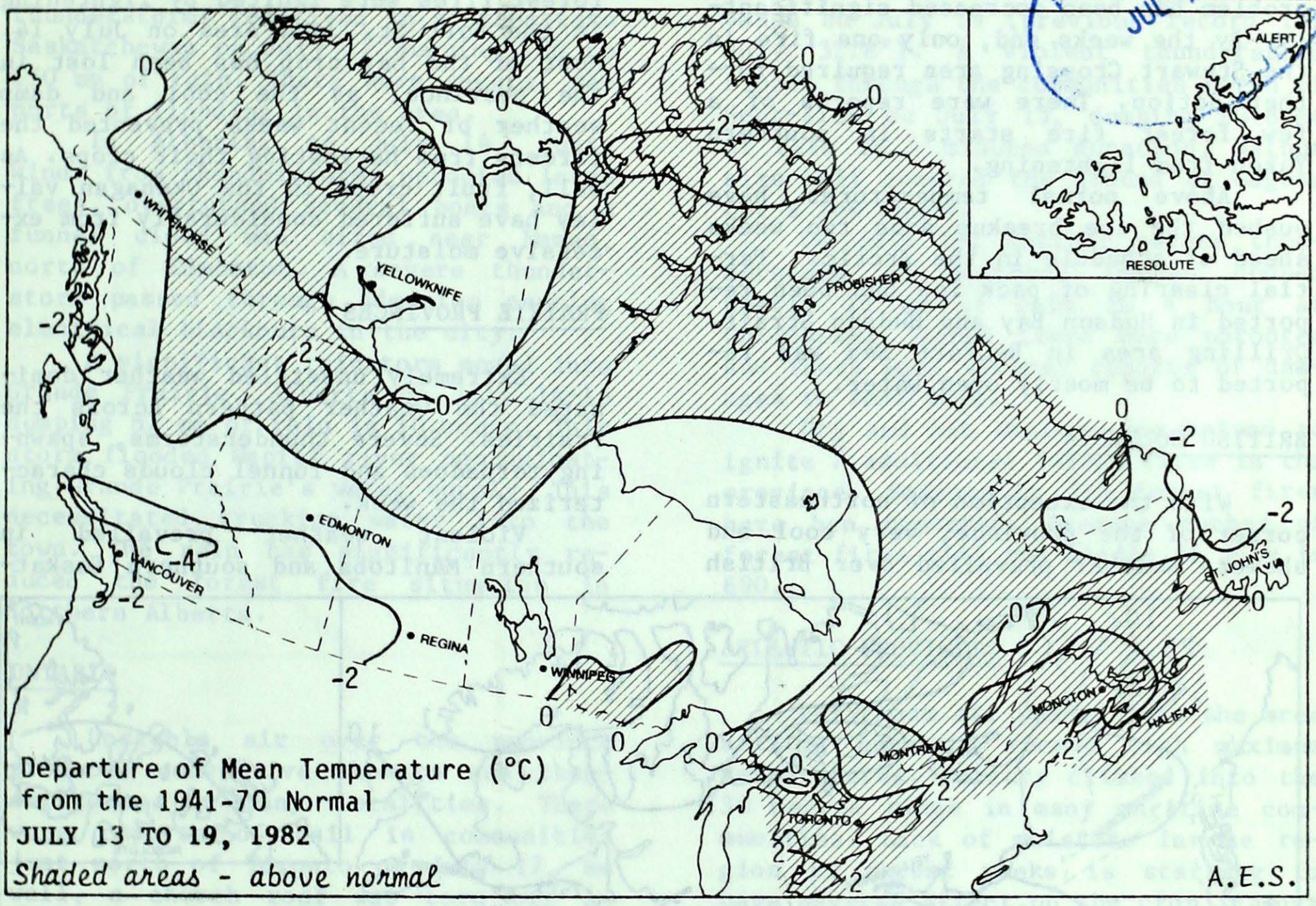
A WEEKLY REVIEW OF CANADIAN CLIMATE

CLIMATIC PERSPECTIVES

Canada

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

JULY 23 1982 *(Aussi disponible en français)* VOL 4 NO. 28



Departure of Mean Temperature (°C)
from the 1941-70 Normal
JULY 13 TO 19, 1982
Shaded areas - above normal

A.E.S.

WEATHER HIGHLIGHTS FOR THE PERIOD - JULY 13-19, 1982

Severe thunderstorms strike prairie provinces

Outbreak of tornadoes associated by violent winds, up to baseball size hail and heavy downpour passed through communities in southwestern Manitoba. There were reports of damages to mobile homes and barns,as well a few granaries were levelled.

A significant rainstorm flooded Wapiti river and contaminated Grande Prairie's water supply in Alberta. In addition, severe thunderstorms uprooted large trees and caused power blackouts in and near Edmonton, Alberta.

There were similar reports of damages to roof tops and trees both in Ontario and Québec from violent thunderstorms.

Most of the hay crop in British Columbia has been lost due to the recent cool and showery weather.

Temperatures ranged from a high of 35° at Chatham, New Brunswick to a low of -4° at Cape Hooper, Northwest Territories. Greatest precipitation of the week, equalling 115 mm, fell at Brandon, Manitoba.

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 abnormally high temperatures of the past few weeks dropped to near normal values as most localities recorded maximum temperatures in the mid teens across the Yukon.

With over 20 mm of rain recorded over central Yukon, the forest fire problem has been decreased significantly. By the weeks end, only one fire in the Stewart Crossing area required further action. There were reports of a few forest fire starts in southern Yukon from lightening.

Above normal temperatures have pushed the ice breakup some two weeks ahead of schedule in the Arctic. Partial clearing of pack ice has been reported in Hudson Bay and Hudson Strait. Drilling area in Beufort Sea was reported to be mostly open water.

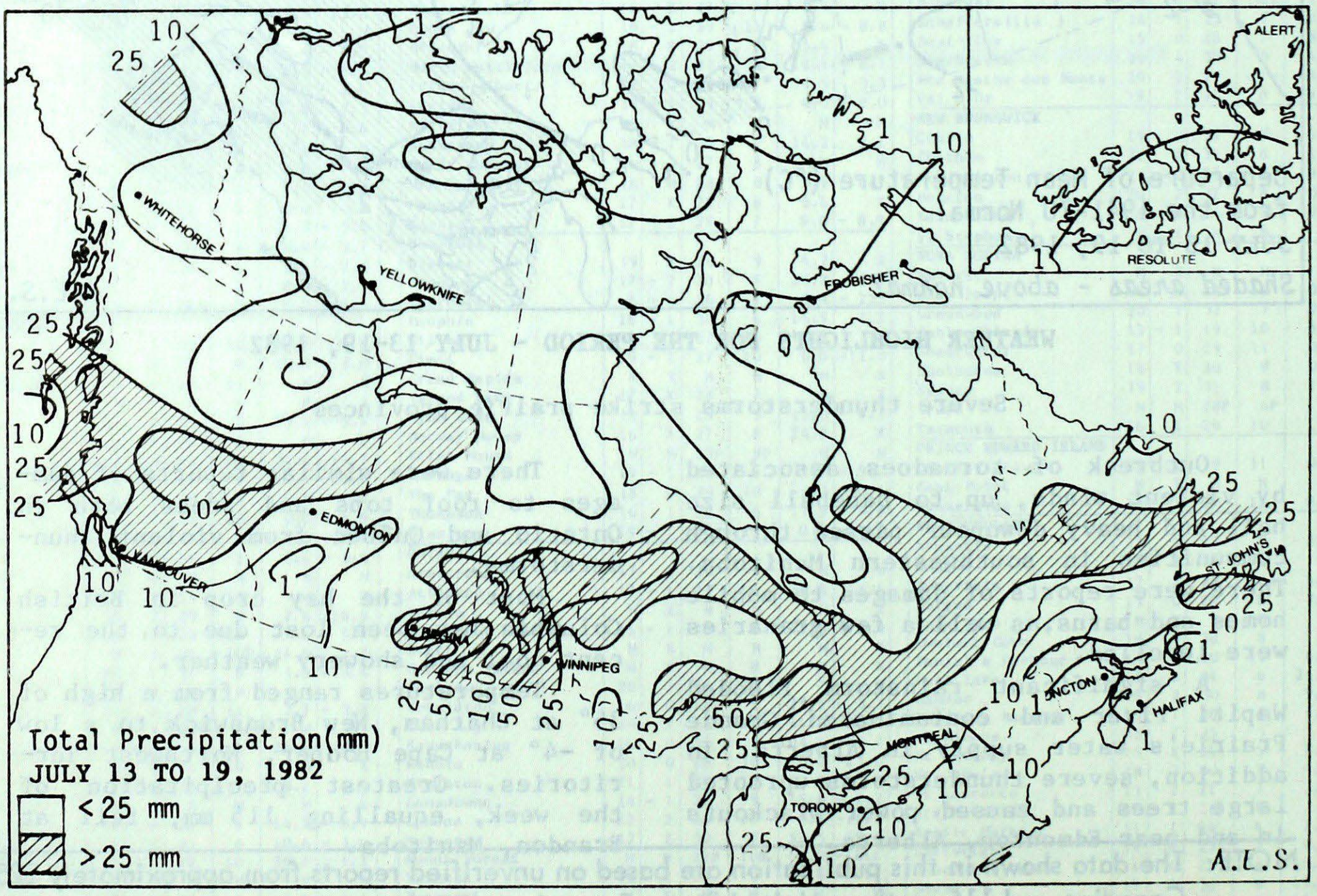
BRITISH COLUMBIA

With the exception of northeastern corner of the province, very cool and showery weather prevailed over British Columbia. While much below normal temperatures over the week set record low minimum temperatures at Penticton and Kamloops on July 14 and 15, extensive cloud cover, on the other hand, set record high minimum temperature at Kamloops on July 12 and 18. Kelowna received 86 mm of rain up to July 18 (previous record 57 mm for July). Some forest fires were ignited by lightening in the Fort St. John area on July 14. Most of the hay crop has been lost in the province, as the cool and damp weather of recent weeks prevented the farmers from harvesting their crops. As well, fruit crops in the Okanagan valley have suffered considerably from excessive moisture.

PRAIRIE PROVINCES

Extremely unsettled weather dominated the weather pattern across the Prairies. Severe thunderstorms, spawning tornadoes and funnel clouds characterized the week.

Violent weather prevailed in southern Manitoba and southern Saskat-



chewan between july 15 to July 17. Golf ball size hail, gusty winds and heavy downpour were reported in southwestern Manitoba, area south of Brandon reported base ball size hail on July 16. Brandon received over 100 mm of rain. In addition a few tornadoes in southwestern Manitoba damaged mobile homes, barns and uprooted large trees. Severe thunderstorms reactived in southeastern Saskatchewan on July 17 dumping 100 to 150 mm of rain. There were several reports of flooding in the area.

In Alberta, on July 14, gusty winds from thunderstorms uprooted large trees, overturned several boats and a funnel cloud was sited near Namao, north of Edmonton. A severe thunderstorm passed through Edmonton causing electrical blackouts in the city.

A significant rainstorm moved into Grande Prairie, Alberta on July 14-15 dumping 87 mm of rain in 30 hours. This storm flooded Wapiti river contaminating Grande Prairie's water supply. This necessitated trucking water into the town. The rain has significantly reduced the forest fire situation in northern Alberta.

ONTARIO

Unstable air over the province produced convective showers and thunderstorms in many localities. There were reports of hail in communities just north of Toronto on July 17, as well, a church roof was torn off in Brockville on July 18.

Toronto International established the lengthiest dry spell for the month of July, 17 consecutive days with no measurable precipitation. To date, Forest fire season is reported to be one of the quietest this year.

QUÉBEC

Above normal temperatures dominated the week in Québec. Record maximum temperature of 33.4° was reported at Gaspé on July 19 (previous record for July 32.8°). A violent thunderstorm ripped through the communities north of Sept-Iles on July 15, dumping 10.8 mm of rain in 5 minutes duration. Walnut size hail covered the ground at Gagnon for a few hours.

On July 18, another severe thunderstorm in southern Québec dumped nearly 25 mm of rain in ½ hour at Chicoutimi, large trees were uprooted and there were several reports of damages to roof tops.

Dry and hot weather has helped to ignite 7 additional forest fires in the province. Seasonally 736 forest fires have ben reported. Average number of forest fires till the middle of July is 690.

ATLANTIC PROVINCES

Very warm air pushed into the area setting numerous record high maximum temperatures. Mercury climbed into the 30 degree range in many maritime communities. Lack of moisture in the region in recent weeks is starting to have adverse affect on the crop in Nova Scotia and New Brunswick. Due to dry and hot weather, tobacco crop is doing quite well in Prince Edward Island.

CLIMATIC PERSPECTIVES

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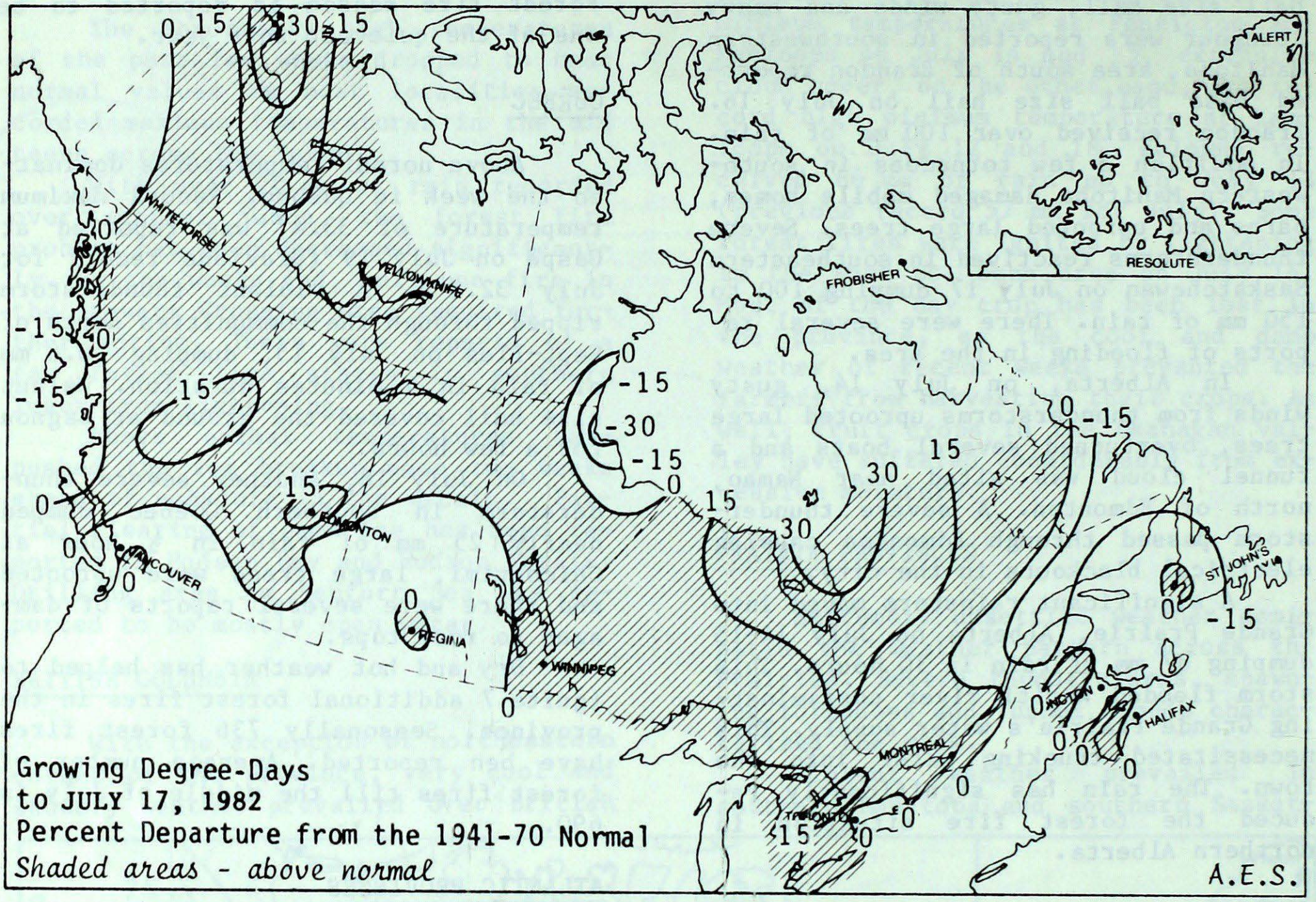
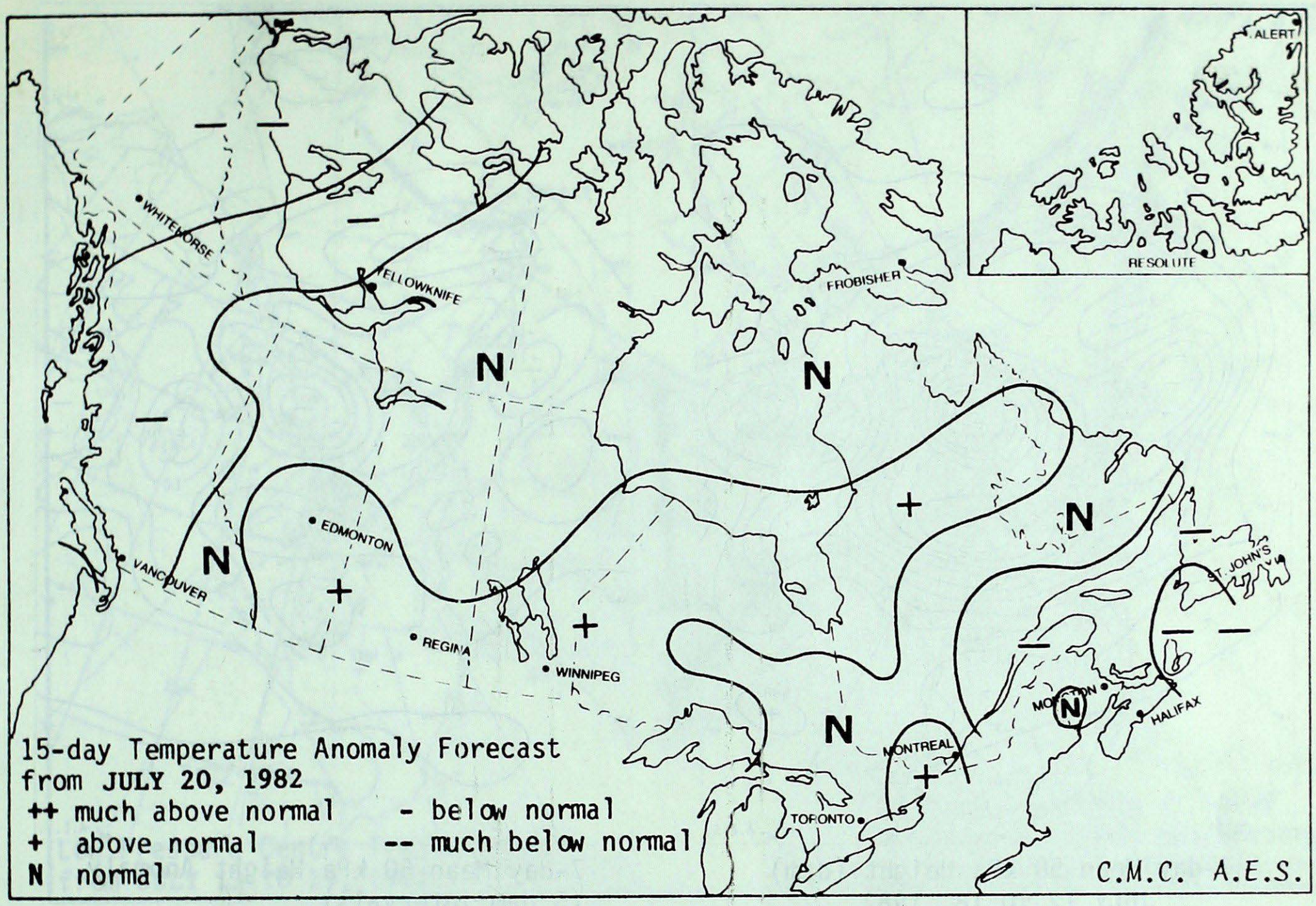
GROWING DEGREE-DAY SUMMARY TO JULY 17, 1982

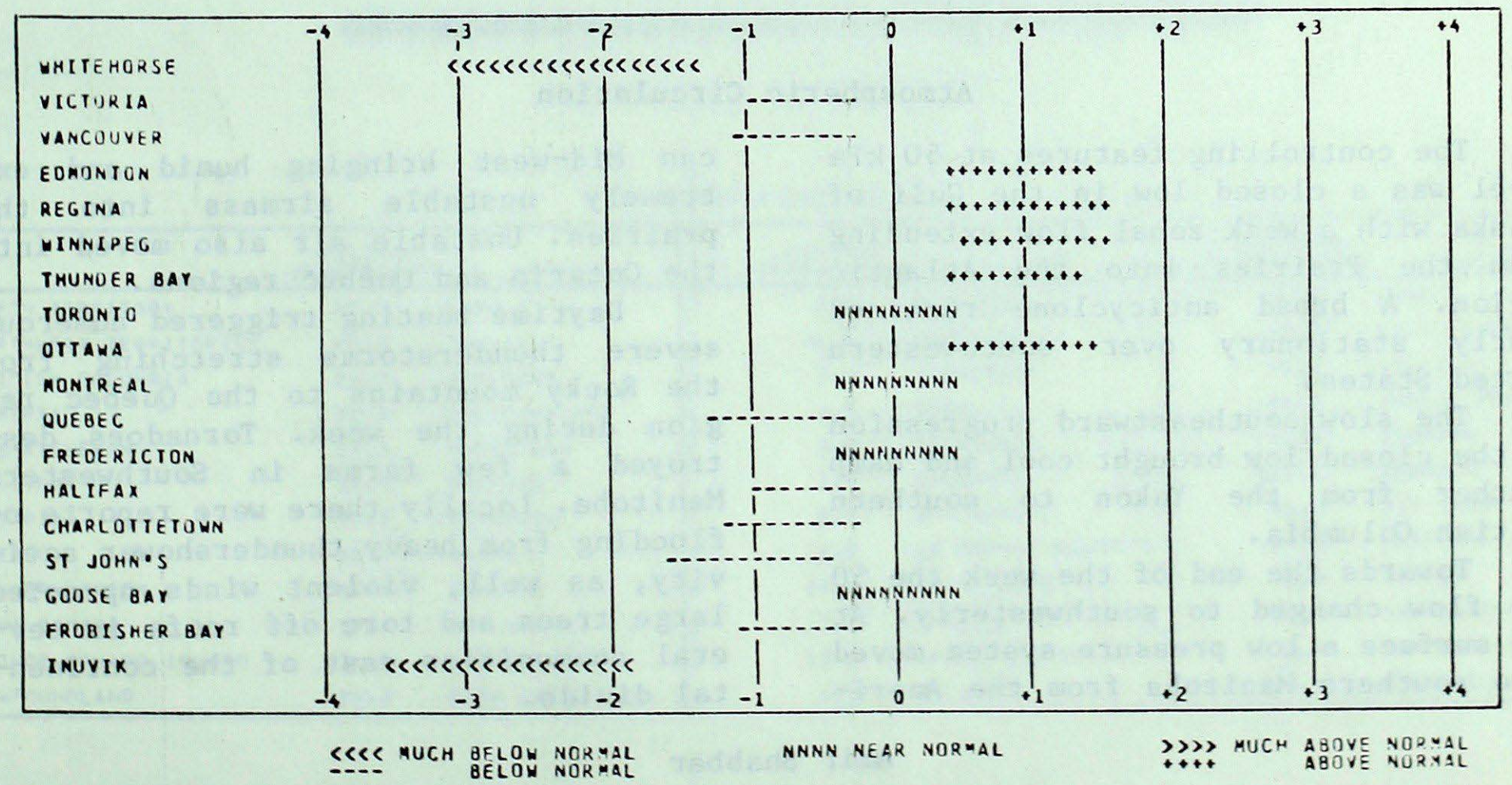


STATION	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL
Whitehorse	162.5	9.5	437.5	-0.5	100
Penticton	223.0	-23.0	964.5	-38.5	96
Vancouver	194.0	-11.0	865.0	-38.0	96
Edmonton	208.0	16.0	754.5	111.5	117
Calgary	170.5	-19.5	600.0	11.0	102
Regina	223.5	-7.5	760.5	23.5	103
Saskatoon	225.5	-3.5	680.5	-55.5	92
Winnipeg	254.5	9.5	835.0	46.0	106
Thunder Bay	197.5	-7.5	604.5	13.5	102
Windsor	299.5	10.5	1190.0	55.0	105
Toronto	268.0	8.0	921.0	-26.0	97
Ottawa	264.5	1.5	999.0	67.0	107
Montréal	262.0	-8.0	992.0	40.0	104
Québec	231.0	-3.0	772.5	12.5	102
Fredericton	244.0	13.0	768.0	16.0	102
Halifax	206.0	-9.0	546.0	-83.0	87
Charlottetown	227.5	2.5	559.0	-36.0	94
St. John's	183.5	14.5	273.0	-89.0	75

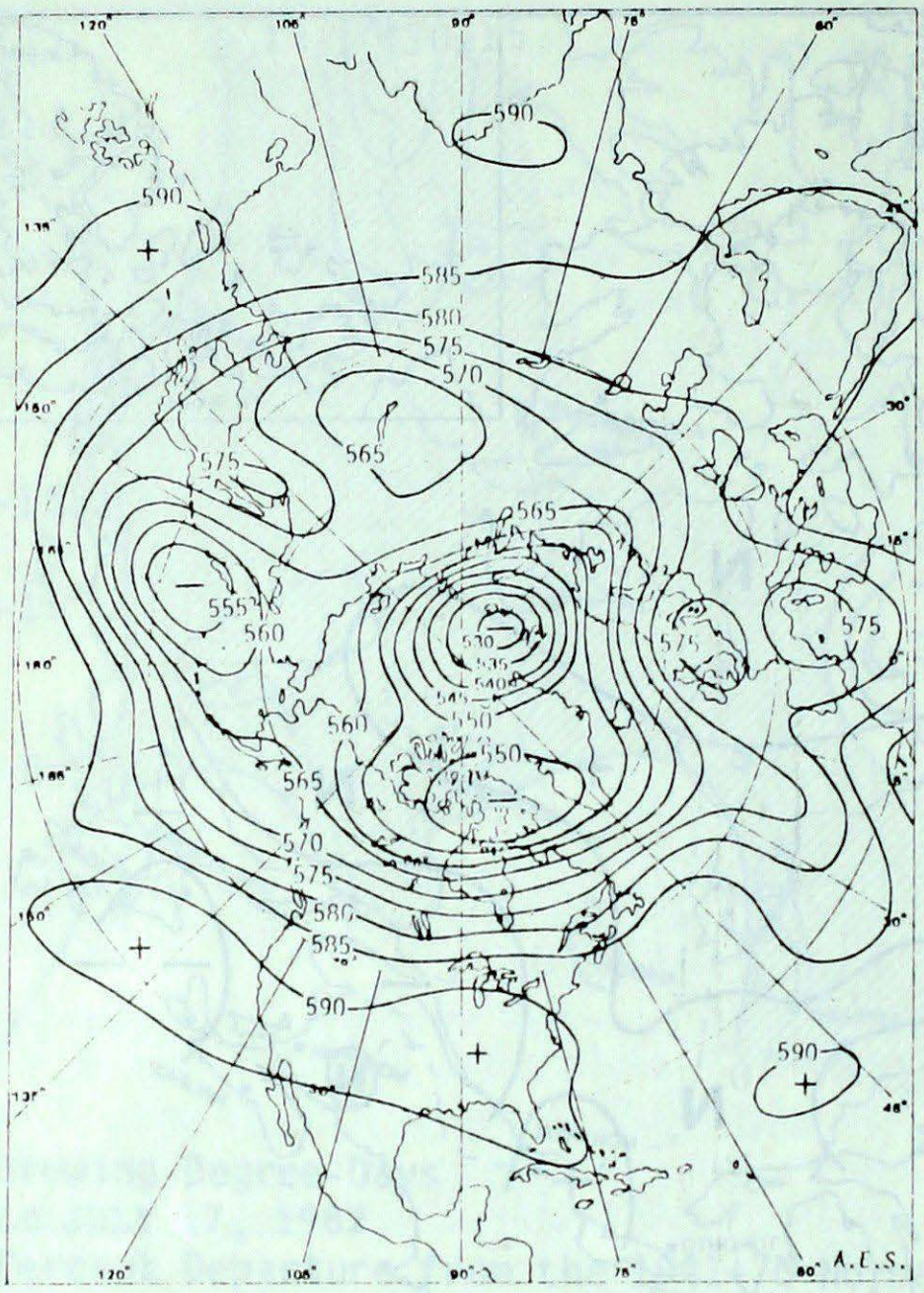
TEMPERATURE ANOMALY FORECAST



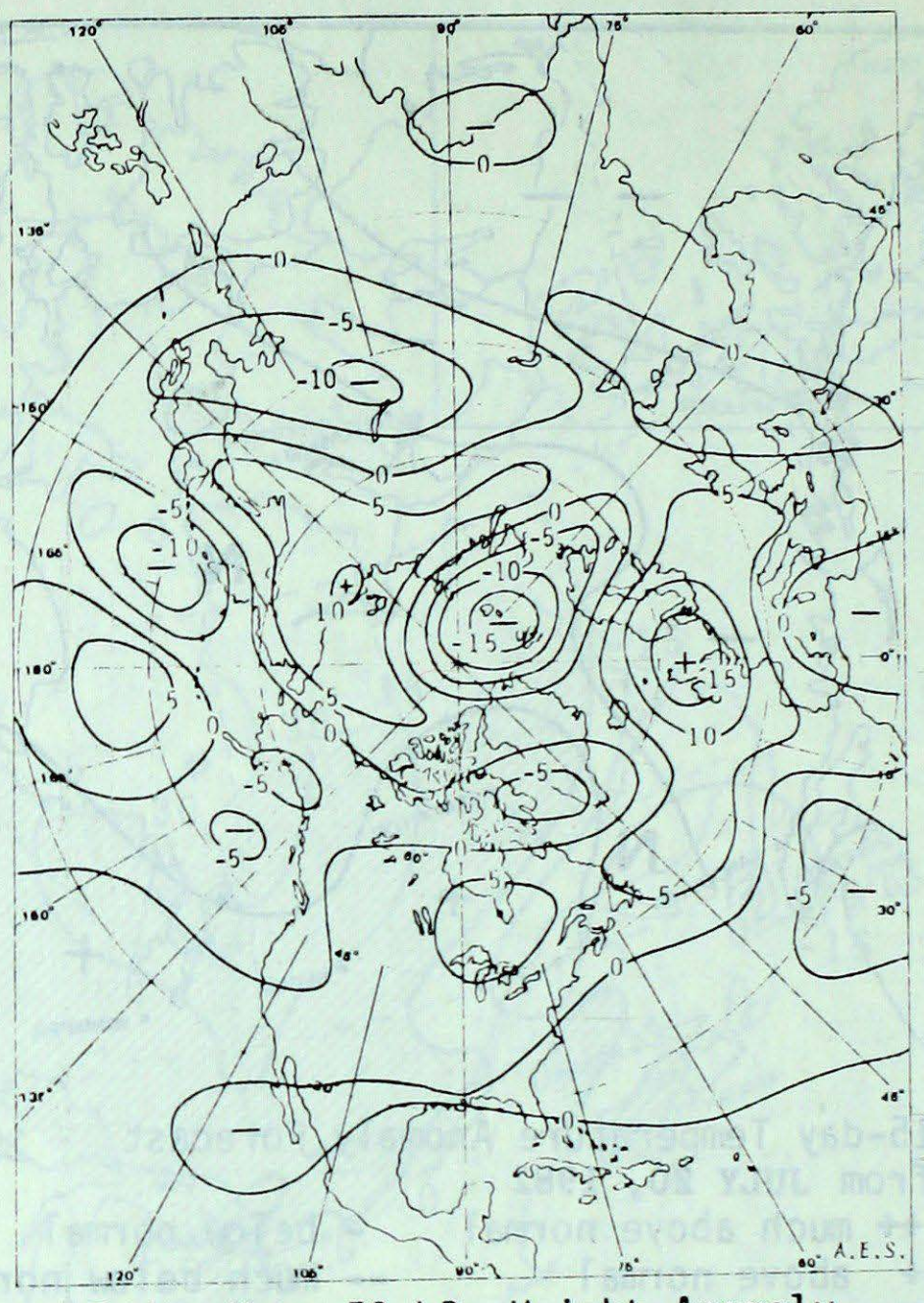
TEMPERATURE ANOMALY FORECAST FOR JUL 20 1982 TO AUG 3 1982



ATMOSPHERIC CIRCULATION



7-day Mean 50 kPa Height (dam)
JULY 12 TO 18, 1982



7-day Mean 50 kPa Height Anomaly
(5 dam intervals)
JULY 12 TO 18, 1982

Atmospheric Circulation

The controlling features at 50 kPa level was a closed low in the Gulf of Alaska with a weak zonal flow extending from the Prairies into the Atlantic Region. A broad anticyclone remained nearly stationary over southwestern United States.

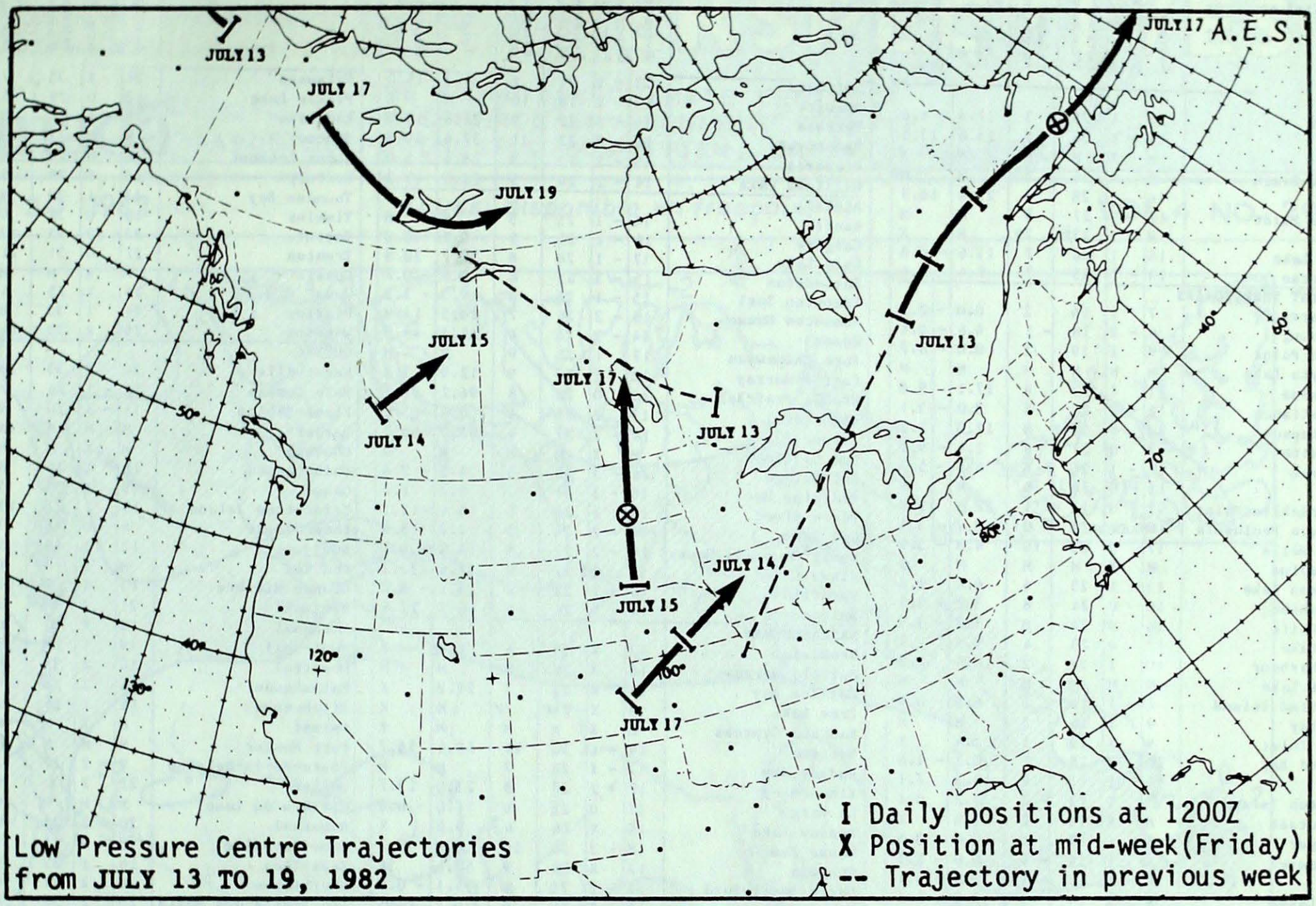
The slow southeastward progression of the closed low brought cool and damp weather from the Yukon to southern British Columbia.

Towards the end of the week the 50 kPa flow changed to southwesterly. At the surface a low pressure system moved into southern Manitoba from the American Mid-west bringing humid and extremely unstable airmass into the prairies. Unstable air also moved into the Ontario and Québec regions.

Daytime heating triggered numerous severe thunderstorms stretching from the Rocky mountains to the Québec region during the week. Tornadoes destroyed a few farms in Southwestern Manitoba. Locally there were reports of flooding from heavy thundershower activity, as well, violent winds uprooted large trees and tore off roofs in several communities east of the continental divide.

Amir Shabbar

LOW PRESSURE CENTRE TRAJECTORIES



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EXTREMES FOR THE WEEK

	MAXIMUM TEMPERATURE	LOCATION	MINIMUM TEMPERATURE	LOCATION	GREATEST PRECIPITATION	LOCATION
YUKON TERRITORY	27.5	MAYO	2.5	BURWASH	25.6	DAWSON
NORTHWEST TERRITORIES	28.3	INUVIK	-4.0	CAPE HOOPER	22.5	LADY FRANKLIN POINT
BRITISH COLUMBIA	28.7	KAMLOOPS	3.3	CRANBROOK	68.3	WILLIAMS LAKE
ALBERTA	31.3	MEDICINE HAT	3.5	EDSON	96.2	GRANDE PRAIRIE
SASKATCHEWAN	29.8	MOOSE JAW	3.8	BROADVIEW	71.4	YORKTON
MANITOBA	30.4	DAUPHIN	1.9	THOMPSON	115.1	BRANDON
ONTARIO	35.3	PETAWAWA	2.0	ARMSTRONG	83.6	BIG TROUT LAKE
QUEBEC	33.4	GASPE	1.0	LA GRANDE RIVIERE	54.6	ROBERVAL
NEW BRUNSWICK	35.4	CHATHAM	10.5	SAINT JOHN	7.3	CHARLO
NOVA SCOTIA	33.4	GREENWOOD	9.4	SHELBURNE	10.6	SHEARWATER
PRINCE EDWARD ISLAND	30.6	CHARLOTTETOWN	13.6	CHARLOTTETOWN	2.4	CHARLOTTETOWN
NEWFOUNDLAND	29.3	DEER LAKE	1.4	ST JOHNS	49.8	CHURCHILL FALLS

TEMPERATURE AND PRECIPITATION DATA FOR THE WEEK ENDING 0600 G.M.T. JULY 20, 1982

Station	Temperature (°C) Average	Departure from Normal	Extreme Maximum	Extreme Minimum	Precip. (mm) Total	Departure from Normal
YUKON						
Burwash	13	1	25	3	17.4	- 4.6
Dawson	15	- 1	26	5	25.6	12.5
Faro	M	X	M	M	M	X
Komakuk Beach	9	1	26	3	M	M
Mayo A	16	1	28	6	25.4	16.9
Shingle Point	13	0	27	5	M	M
Teslin	M	X	17P	7P	M	X
Watson Lake	16	1	26	7	11.6	- 0.8
Whitehorse	13	- 1	25	7	9.4	3.4
NORTHWEST TERRITORIES						
Cape Parry	7	1	14	2	0.0	- 2.7
Cape Young	6	- 2	18	- 1	4.6	- 0.4
Clinton Point	9	1	19	2	0.0	- 8.7
Contwoyto Lake	M	M	M	M	M	M
Coppermine	11	1	22	4	17.1	9.8
Fort Reliance	12	- 2	24	5	3.0	- 3.1
Fort Simpson	18	1	27	8	12.0	3.6
Fort Smith	17	0	27	6	1.4	- 9.1
Hay River	15	- 1	26	8	4.6	- 5.7
Inuvik	15	0	28	6	M	M
Lady Franklin Point	7	0	13	1	22.5	19.9
Nicholson Peninsula	10	1	22	0	2.4	- 3.5
Norman Wells	17	0	28	10	4.8	- 5.9
Port Radium	M	X	M	M	M	X
Robertson Lake	13	1	25	4	4.4	1.6
Tuktoyaktuk	16	0	24	8	3.2	- 3.5
Yellowknife	16	0	24	8	3.2	- 3.5
Baker Lake	12	0	23	4	9.9	2.7
Coral Harbour	10	1	22	2	16.4	7.2
Ennadai Lake	M	M	M	M	M	M
Jenny Lind Island	6	- 1	10	1	6.2	0.9
Pelly Bay	9	2	16	3	M	M
Rankin Inlet	9	X	19	1	5.4	X
Shepherd Bay	10	3	18	1	0.3	- 1.8
Alert	5	1	11	0	10.3	7.1
Broughton Island	5	1	13	- 2	1.2	0.1
Cape Dorset	8	X	15	2	7.8	X
Cape Dyer	6	1	13	1	10.0	3.5
Cape Hooper	4	1	14	- 4	0.0	- 2.1
Clyde	4	- 1	13	- 3	0.0	- 5.1
Dewar Lakes	8	3	14	3	0.0	- 6.5
Eureka	6	0	13	2	2.0	0.0
Frobisher Bay	9	1	18	3	15.0	1.7
Gladman Point	9	2	17	3	0.8	- 3.2
Hall Beach	8	3	17	2	2.4	- 3.7
Longstaff Bluff	10	3	16	3	0.0	- 6.9
Mackar Inlet	8	2	15	0	0.4	- 7.1
Pond Inlet	M	X	14P	0P	M	X
Resolute	6	1	14	- 1	0.0	- 6.2
Byron Bay	8	- 1	16	3	11.0	6.7
Cambridge Bay	7	- 2	13	3	14.5	8.6
Mould Bay	6	2	13	0	1.2	- 2.9
Sachs Harbour	9	2	19	- 1	3.2	- 2.3
BRITISH COLUMBIA						
Abbotsford	15	- 2	23	10	17.1	8.6
Alert Bay	12	- 2	18	7	33.4	19.9
Amphitrite Point	13	X	17	9	10.3	X
Blue River	M	X	M	M	M	X
Bull Harbour	12	- 1	15	8	38.6	22.3
Burns Lake	14	X	23	8	M	X
Cape Scott	12	- 1	15	9	27.4	6.8
Cape St James	12	0	16	9	8.5	- 5.9
Clinton	M	X	M	M	M	X
Comox	16	- 2	24	9	7.0	0.3
Cranbrook	15	- 3	28	3	3.4	- 2.3
Dease Lake	12	- 1	21	6	18.4	6.6
Estevan Point	M	M	M	M	M	M
Ethelda Bay	M	X	16P	7P	M	X
Fort Nelson	17	0	28	8	2.8	-16.9
Fort St John	17	1	26	9	5.3	-11.6
Hope	16	X	23	10	51.9	X
Kamloops	19	- 2	29	10	19.2	13.6
Langara	11	- 2	14	8	26.8	11.3
Lytton	17	- 4	26	10	4.2	1.9
Mackenzie	M	X	25	7P	M	X
McInnes Island	13	- 1	16	11	M	M
Nanaimo A	15	X	23	7	M	X
Penticton	18	- 3	28	8	25.0	19.2
Port Alberni	M	X	M	M	M	X
Port Hardy	13	- 1	17	9	30.0	15.5
Prince George	15	0	25	8	49.2	33.8
Prince Rupert	12	- 1	14	9	56.8	27.4
Puntzi Mountain	M	X	M	M	M	X
Quesnel	16	- 1	28	8	63.1	47.1
Revelstoke	14	- 4	26	8	28.8	19.2
Sandspit	14	0	20	9	11.2	1.0
Smithers	13	- 1	21	8	26.3	15.0
Stewart	13	X	18	10	M	X
Terrace	14	- 2	22	9	27.8	10.1
Vancouver	16	- 2	22	11	37.6	30.8
Victoria	15	- 2	23	9	8.6	5.0
Williams Lake	14	- 1	24	5	68.3	49.3
ALBERTA						
Banff	14	- 1	25	5	M	M
Calgary	16	- 1	25	5	0.8	-10.0
Cold Lake	17	- 1	28	8	38.7	20.8
Coronation	15	- 3	25	4	0.6	-20.7
Edmonton Intl	15	- 1	25	5	19.3	- 2.2
Edmonton Namao	16	- 2	25	7	26.5	14.8
Edson	14	- 1	24	4	65.4	48.9
Fort Chipewyan	17	1	25	9	M	M
Fort McMurray	18	1	27	9	12.9	- 3.8
Grande Prairie	16	0	28	8	96.2	81.7
High Level	17	2	28	6	0.4	-15.6
Jasper	14	- 2	27	4	61.0	50.2
Lac La Biche	M	X	M	M	M	X
Lethbridge	16	- 3	30	5	4.5	- 2.4
Medicine Hat	18	- 3	31	7	9.7	1.2
Peace River	18	2	28	6	4.4	-12.1
Red Deer	14	- 2	24	5	2.7	-13.9
Rocky Mountain House	14	- 2	23	5	14.5	- 6.7
Slave Lake	16	20	27	8	52.6	30.1
Vermilion	16	- 1	25	6	14.1	- 8.0
Whitecourt	14	- 1	24	5	46.2	22.9
SASKATCHEWAN						
Broadview	17	X	29	4	6.8	X
Buffalo Narrows	18	2	26	9	M	M
Collins Bay	14	X	24	7	29.2	X
Cree Lake	M	X	24P	7P	M	X
Eastend Cypress	M	X	M	M	M	X
Estevan	19	- 1	30	10	69.4	56.7
Hudson Bay	17	- 1	26	7	M	M
Kindersley	17	- 2	27	8	25.0	13.7
La Ronge	17	0	25	6	11.0	- 8.6
Meadow Lake	16	X	26	6	9.6	X
Moose Jaw	18	- 2	30	10	16.6	7.2
Nipawin	17	X	26	9	57.6	X
North Battleford	17	- 2	25	8	14.1	- 0.8
Prince Albert	17	- 1	26	6	30.2	14.0
Regina	18	- 1	29	10	54.3	42.1
Rockglen	M	X	M	M	M	X
Saskatoon	18	- 1	29	11	21.1	10.2
Swift Current	16	- 3	28	7	M	M
Uranium City	16	- 1	26	8	11.3	- 1.2
Wynyard	17	X	27	7	17.2	X
Yorkton	17	- 2	26	7	71.4	57.6
MANITOBA						
Bissett	18	X	29	9	16.8	X
Brandon	18	- 1	29	7	115.1	102.0
Churchill	13	0	25	4	21.5	15.2
Dauphin	18	0	30	6	40.9	22.6
Gillam	15	X	24	6	5.8	X
Gimli	19	0	27	10	63.7	45.7
Grand Rapids	M	X	M	M	M	X
Island Lake	16	X	25	8	M	X
Lynn Lake	16	1	25	9	3.0	-12.4
Norway House	16	X	25	9	60.8	X
Pilot Mound	M	M	28	8P	M	M
Portage	19	- 1	30	9	66.2	48.9
The Pas	18	0	26	10	12.1	- 4.9
Thompson	15	- 1	24	2	20.8	0.6
Winnipeg	19	- 1	29	8	28.9	10.6
ONTARIO						
Armstrong	17	0	29	2	M	M
Atikokan	19	0	27	7	11.2	-19.5
Barrie	M	X	M	M	M	X
Big Trout Lake	15	- 1	25	6	83.6	63.8
Britt	M	X	M	M	M	X
Caribou Island	M	X	M	M	M	X
Carlton	20	3	30	8	M	M
Geraldton	17	- 1	26	6	33.1	12.3
Gore Bay	19	0	26	8	3.6	-13.8
Kapuskasing	17	0	27	4	12.4	-14.9
Kenora	20	0	28	12	21.2	6.1
Kingston	21	1	30	14	M	M
Lansdowne	17	0	27	8	18.4	0.7
London	23	2	30	13	8.6	-11.4
Moosonee	15	- 1	28	3	34.9	15.8
Mount Forest	M	M	29P	7P	22.0	- 3.4
Muskoka	21	3	31	8	33.6	13.4
Nagagami	M	X	M	M	M	X
North Bay	21	2	29	10	0.2	-24.2
Ottawa	24	3	34	13	16.0	0.2
Petawawa	21	X	35	7	6.8	
Pickle Lake	17	0	29	5	11.2	-1
Red Lake	18	- 1	28	8	25.8	
Simcoe	M	M	31P	12P	M	
Sioux Lookout	18	0	28	9	22.9	
Sudbury	20	1	28	9	2.9	-1
Thunder Bay	17	- 1	30	9	48.9	2
Timmins	18	0	30	4	57.7	3
Toronto	23	2	33	12	6.8	-1
Trenton	22	0	31	11	11.4	-
Upsala	M	X	M	M	M	
Wawa	15	X	25	4	71.4	
Wiarton	21	1	30	8	4.5	-1
Windsor	25	2	33	16	29.0	1
QUEBEC						
Bagotville	20	2	33	10	24.6	-
Baie Comeau	16	- 1	26	7	17.4	
Blanc Sablon	11	- 1	20	4	M	
Border	M	M	M	M	M	
Chevery	M	X	M	M	M	
Chibougamau	18	X	30	8	24.2	
Gaspé	19	X	33	5	12.2	
Grindstone Island	19	2	27	13	15.8	
Inoucdjouac	8	0	16	3	1.4	-1
Kuujjuaq	12	1	19	5	13.0	
Lac Eon	M	X	M	M	M	
Grande Riviere	13	X	27	1	2.7	
Manwaki	21	3	33	7	3.4	-1
Matagami	18	X	30	6	M	
Mont-Joli	19	1	29	9	12.4	-
Montréal	24	2	33	11	5.0	-1
Natashquan	16	2	26	8	26.4	
Nitchequon	16	1	25	9	33.0	1
Parent	M	X	M	M	M	
Port Menier	M	M	M	M	M	
Poste-de-la-Baleine	9	- 2	27	2	40.0	2
Québec	22	2	32	9	16.9	-1
Rivière du Loup	M	M	M	M	M	
Roberval	20	2	33	9	54.6	2
Schefferville	13	0	25	5	15.6	-
Sept-Iles	16	1	25	9	24.6	-
Sherbrooke	20	2	31	8	10.6	-1
Ste Agathe des Monts	20	2	30	7	3.0	-1
Val D'Or	19	1	30	7	32.0	
NEW BRUNSWICK						
Charlo	21	3	34	12	7.3	-1
Chatham	23	3	35	12	0.6	-1
Fredericton	23	3	34	12	0.8	-1
Moncton	22	3	33	13	0.6	-1
Saint John	18	1	28	11	0.0	-2
St Stephen	M	X	M	M	M	
NOVA SCOTIA						
Amherst	M	X	M	M	M	
Eddy Point	19	X	28	12	5.8	
Greenwood	22	2	33	12	5.8	-
Sable Island	16	0	21	12	3.8	-1
Shearwater	19	1	28	12	10.6	-
Shelburne	18	X	30	9	0.2	
Sydney	19	1	31	11	0.6	-1
Truro	M	M	32P	11P	M	
Yarmouth	17	1	23	11	1.8	-1
PRINCE EDWARD ISLAND						
Charlottetown	21	2	31	14	2.4	-1
East Point	M	X	M	M	M	
Summerside	22	2	30	15	1.0	-14
NEWFOUNDLAND						
Argentia	13	X	21	6	31.1	
Badger	M	X	M	M	M	
Bonavista	13	- 2	26	4	10.4	
Burgeo	14	0	21	10	M	
Cape Race	M	X	M	M	M	
Comfort Cove	14	- 3	28	5	25.2	11
Daniel's Harbour	14	0	20	5	29.4	16
Deer Lake	18	1	29	9	21.9	
Gander	14	- 3	26	5	17.5	
Port aux Basques	14	1	19	10	27.8	
St Albans	14	- 2	21	5	M	
St Anthony	13	X	25	4	23.8	
St John's	14	- 2	27	1	23.8	9
St Lawrence	13	0	18	6	33.6	
Stephenville	18	2	26	7	15.8	- 1
Battle Harbour	9	- 2	18	5	13.2	
Cartwright	13	0	26	3	9.9	-10
Churchill Falls	15	0	25	4	49.8	26
Goose	17	1	29	6	15.8	-13
Hopedale	12	1	22	5	13.0	-
Wabush Lake	15	1	26	8	25.0	

P = extreme value based on less than 7 days X = no normal due to short period M = not available at press time