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A WEEKLY REVIEW OF CANADIAN CLIMATE

CLIMATIC PERSPECTIVES

Canada

THE CANADIAN CLIMATE CENTRE,
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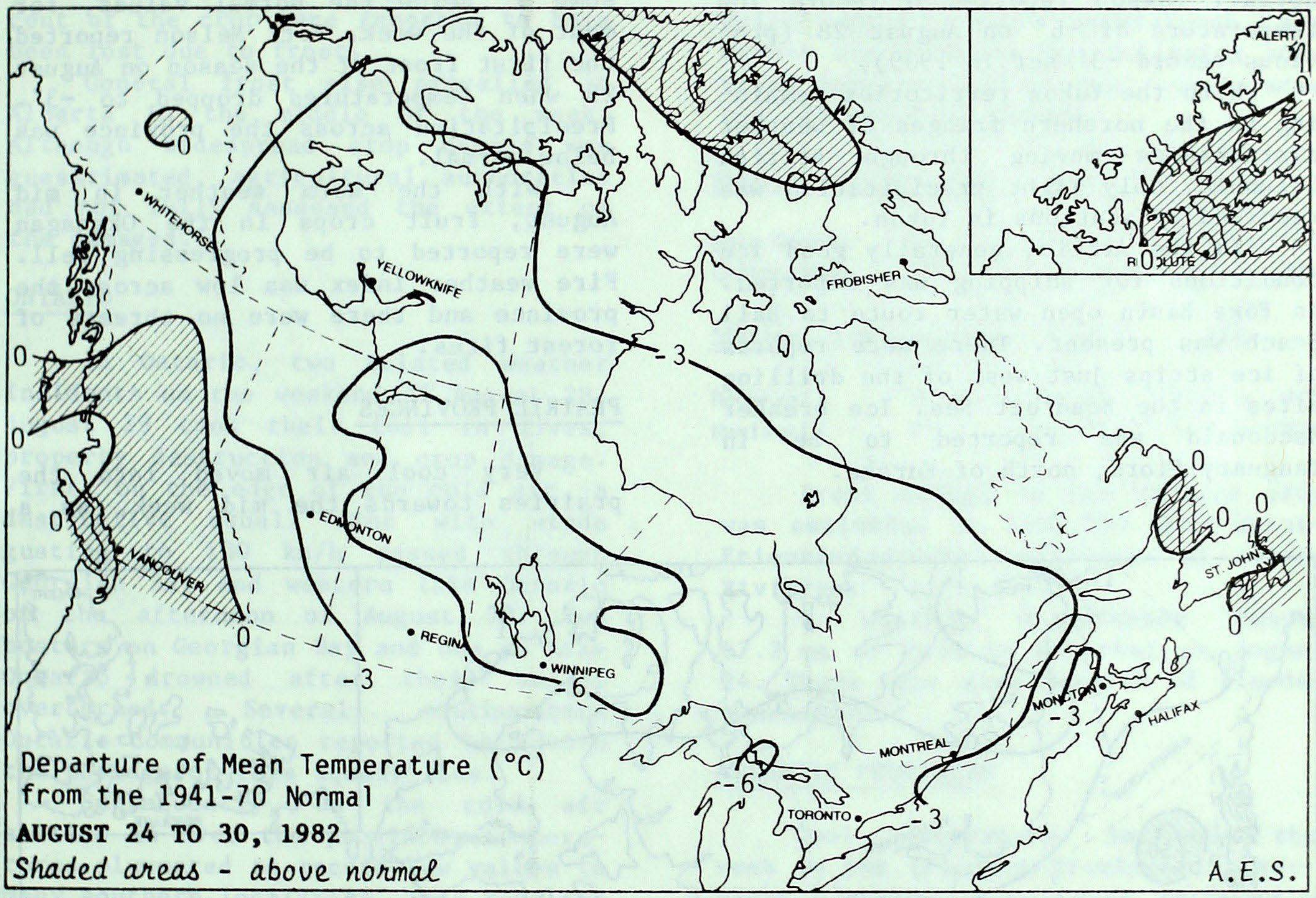
SEPTEMBER 3 1982 *(Aussi disponible en français)* VOL.4 NO. 34



Departure of Mean Temperature (°C) from the 1941-70 Normal
AUGUST 24 TO 30, 1982
Shaded areas - above normal

WEATHER HIGHLIGHTS FOR THE PERIOD - AUGUST 24-30, 1982

Widespread crop damage from frost

Below freezing temperatures across the country resulted in widespread frost damage to the crops. Hardest hit was southwestern Ontario where up to 50 percent of the tobacco crop was lost during the weekend. Grain crops in Saskatchewan suffered extensive frost damage earlier in the week.

Three boaters were drowned in southern Ontario, as a violent squall line with winds gusting to 100 km/h destroyed their vessels.

Temperatures ranged from a high of 34.1° at Lytton, B.C. to a low of -4° at Nictau, N.B. Woodstock, Ont. totalled 115 mm of rain for the week.

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

A cool northwesterly flow kept temperatures generally below normal across southern and eastern Yukon. Central and western localities fared better with slightly above normal maximum temperatures, however clear skies overnight held minimums well below normal. Dawson reported a record low temperature of -6° on August 28 (previous record -3° set in 1909).

With the Yukon territories remaining on the northern fringes of weather disturbances moving through British Columbia, only light precipitation was recorded by stations in Yukon.

In the Arctic, generally good ice conditions for shipping was reported. In Foxe Basin open water route to Hall Beach was present. There were reports of ice strips just west of the drilling sites in the Beaufort Sea. Ice breaker Macdonald was reported to be in Tanguary Fiord, north of Eureka.

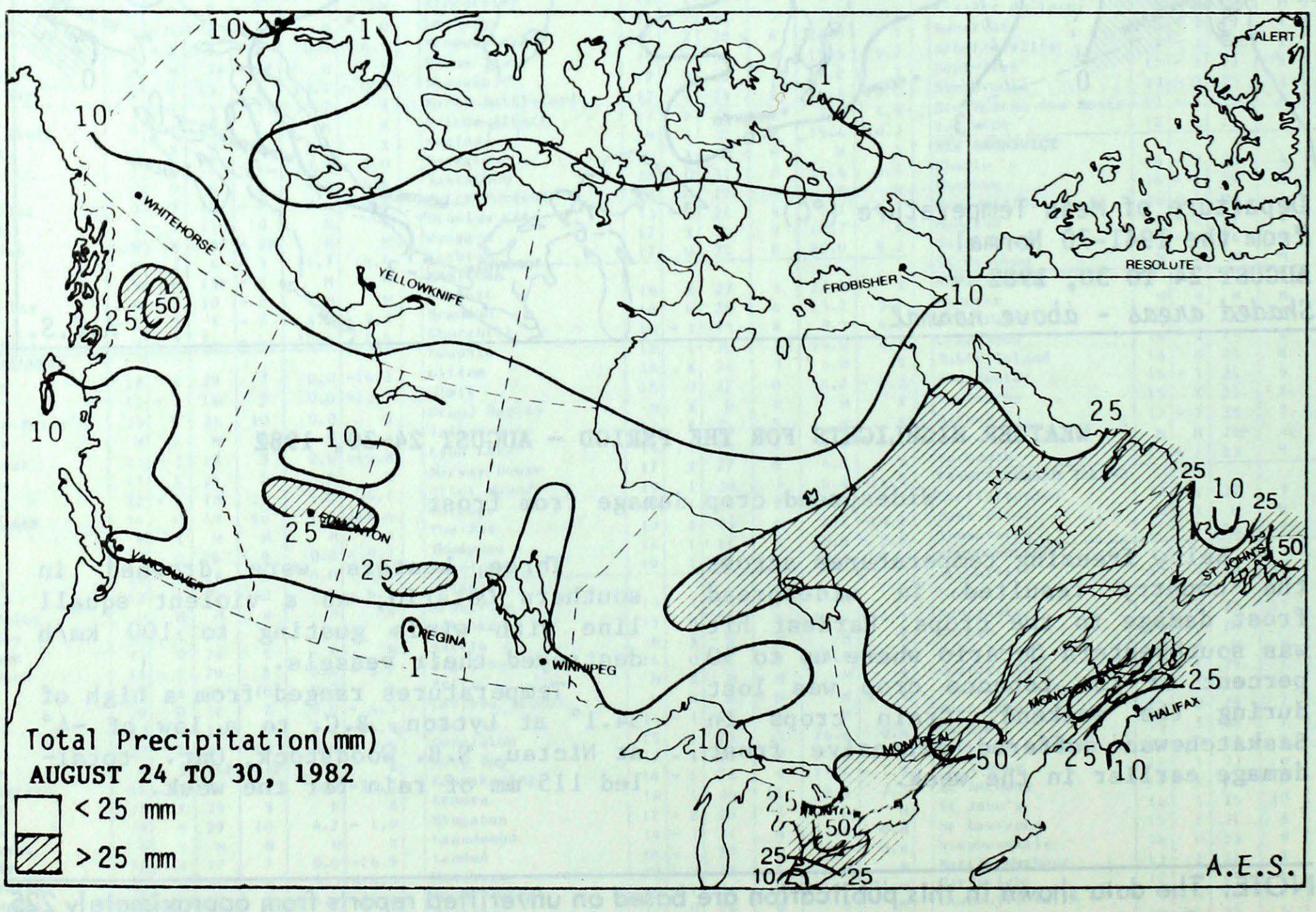
BRITISH COLUMBIA

The week started with near to above normal temperatures across most of the regions, however, towards the end of the week much cooler air had moved in. The only exception to this temperature trend was the far northern regions where temperatures remained some 5° below the normal values, for most of the week. Fort Nelson reported the first frost of the season on August 25 when temperatures dropped to -3°. Precipitation across the province was below normal.

With the warm weather in mid August, fruit crops in the Okanagan were reported to be progressing well. Fire weather index was low across the province and there were no threats of forest fires.

PRAIRIE PROVINCES

Very cool air moved into the prairies towards the mid week, as a



result, several record low temperatures were set in the area. Mercury plunged to a record -5° at Broadview, Sask. on August 27 (previous record 0°, set in 1941). Frost was reported across most of eastern Saskatchewan and southwestern Manitoba on August 25 and August 26. Areas experiencing worst frost were east of a line Meadow Lake - Regina - Estevan. In Saskatchewan, up to 50 per cent of the crop were reported to have been lost due to frost.

General frost also prevailed in Alberta in the middle of the week. Although widespread crop damage was guesstimated, agricultural authorities had not fully assessed the extent of the damages.

ONTARIO

In Ontario, two related weather incidents on the weekend of August 28, August 29 took their toll in lives, property destruction and crop damage. First, on the edge of the cold air, a destructive squall line with winds gusting to 100 km/h passed through Georgian Bay and western lake Ontario on the afternoon of August 28. Two boaters on Georgian Bay and one on Lake Ontario drowned after their vessel overturned. Several southwestern Ontario communities reported hail with the passage of this squall line.

Subsequently, as the cold air settled in over the province, temperatures plummeted to record low values in many southern localities. This resulted in widespread frost damage to crops in southern Ontario. Hardest hit was the tobacco crop, up to 50 per cent of the unharvested tobacco in the Delhi-Tilsonburg area was lost when ground level temperatures fell to -5° on August 29. In addition to tobacco losses, agriculture officials estimated a 20 per cent loss of the soybeans in Elgin county.

Earlier in the week on August 25, a torrential downpour in Woodstock resulted in 115 mm of rain in just 6 hours. Burlington measured 94 mm of rain from the same storm.

QUÉBEC

A rather cool weather pattern persisted in Québec. In addition to 38 daily record low temperatures set across the province the following stations reported record low temperatures for the month of August.

Station	Low max. temp.	Date	Old
Baie Comeau	10°	Aug.27	11.1° in 1972
Chibougamau	9°	Aug.27/28	10.° in 1976

Station	Low min. temp.	Date	Old
Roberval	0°	Aug.28	0.6° in 1965
Maniwaki	0°	Aug.26	1.1° in 1976

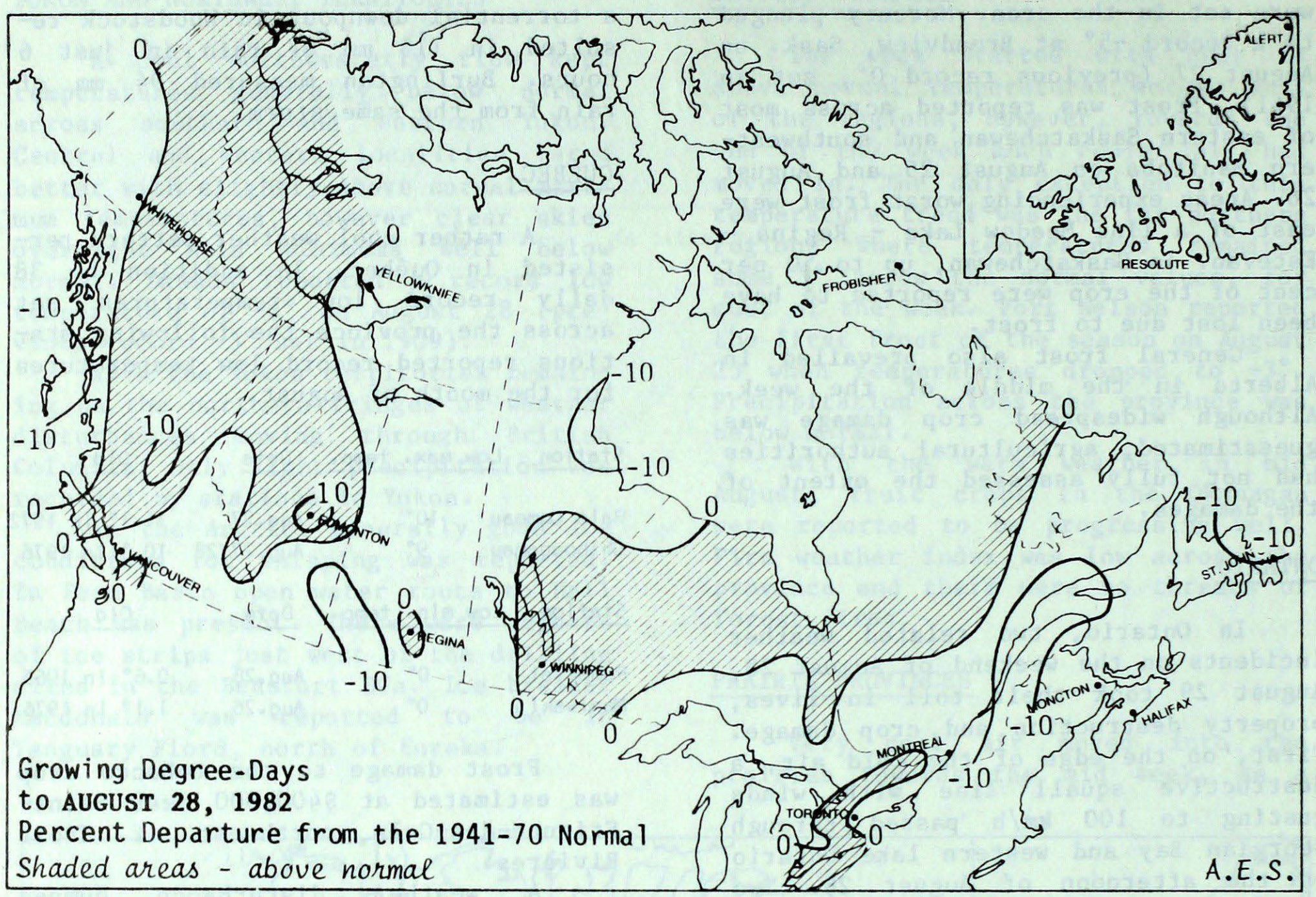
Frost damage to the tobacco crop was estimated at $400,000 near Saint-Etienne-des-Grès northwest of Trois Rivières.

A weather disturbance dumped 67.2 mm of rain in Montréal on August 24. There were some reports of flooded basements.

ATLANTIC PROVINCES

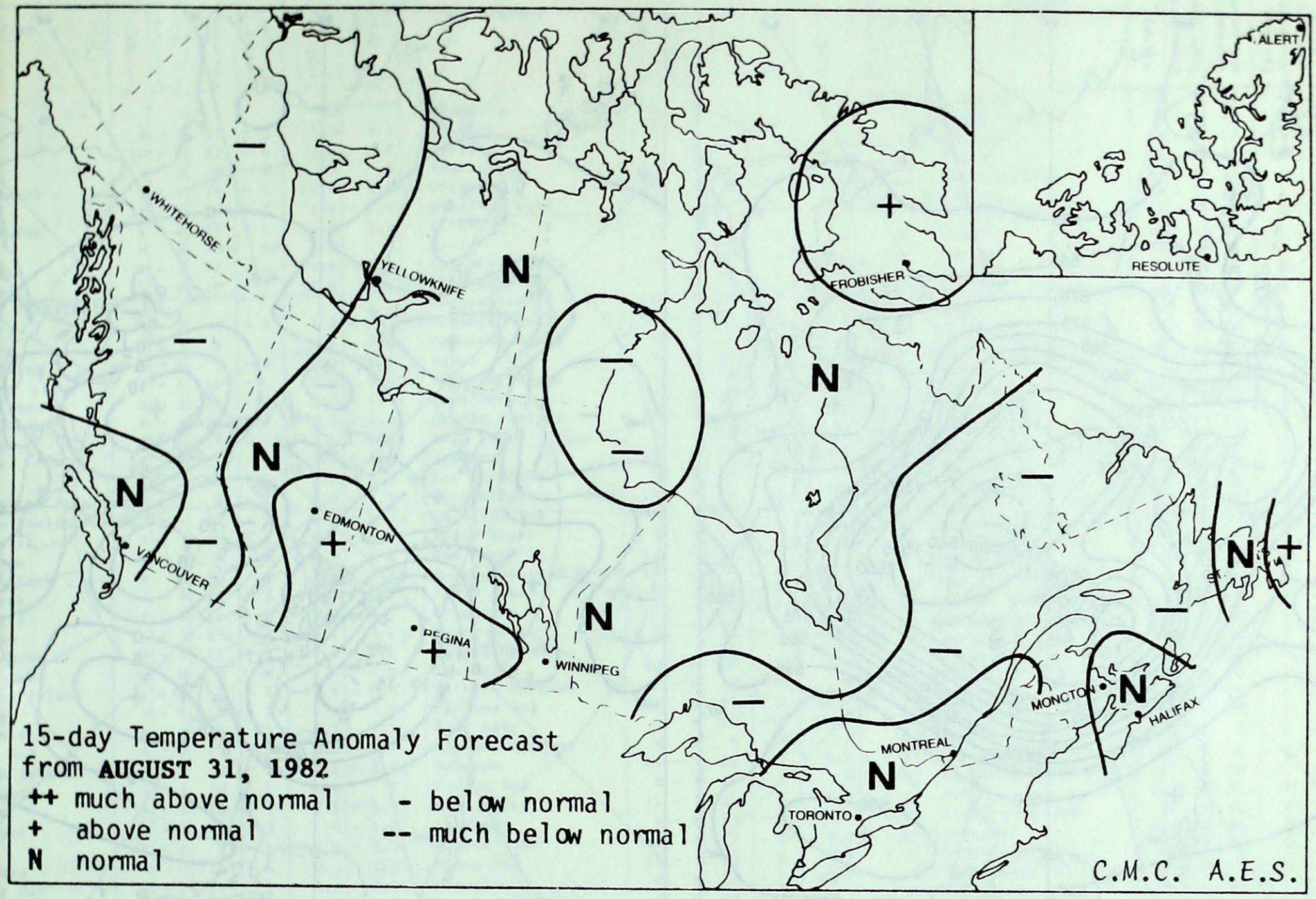
Cool temperatures dominated the week in the Atlantic provinces. Overnight minimum temperatures fell below the freezing mark in many northern and central New Brunswick communities. Temperatures plummeted to -4° at Nictau, New Brunswick on August 29. Minor damage to crops was evident from the frost, however no damage to the tobacco crop was reported. Up to one-half of the tobacco crop had been harvested. A major summer storm passed through Fredricton on August 24. There were some reports of power outages.

GROWING DEGREE-DAY SUMMARY TO AUGUST 28, 1982

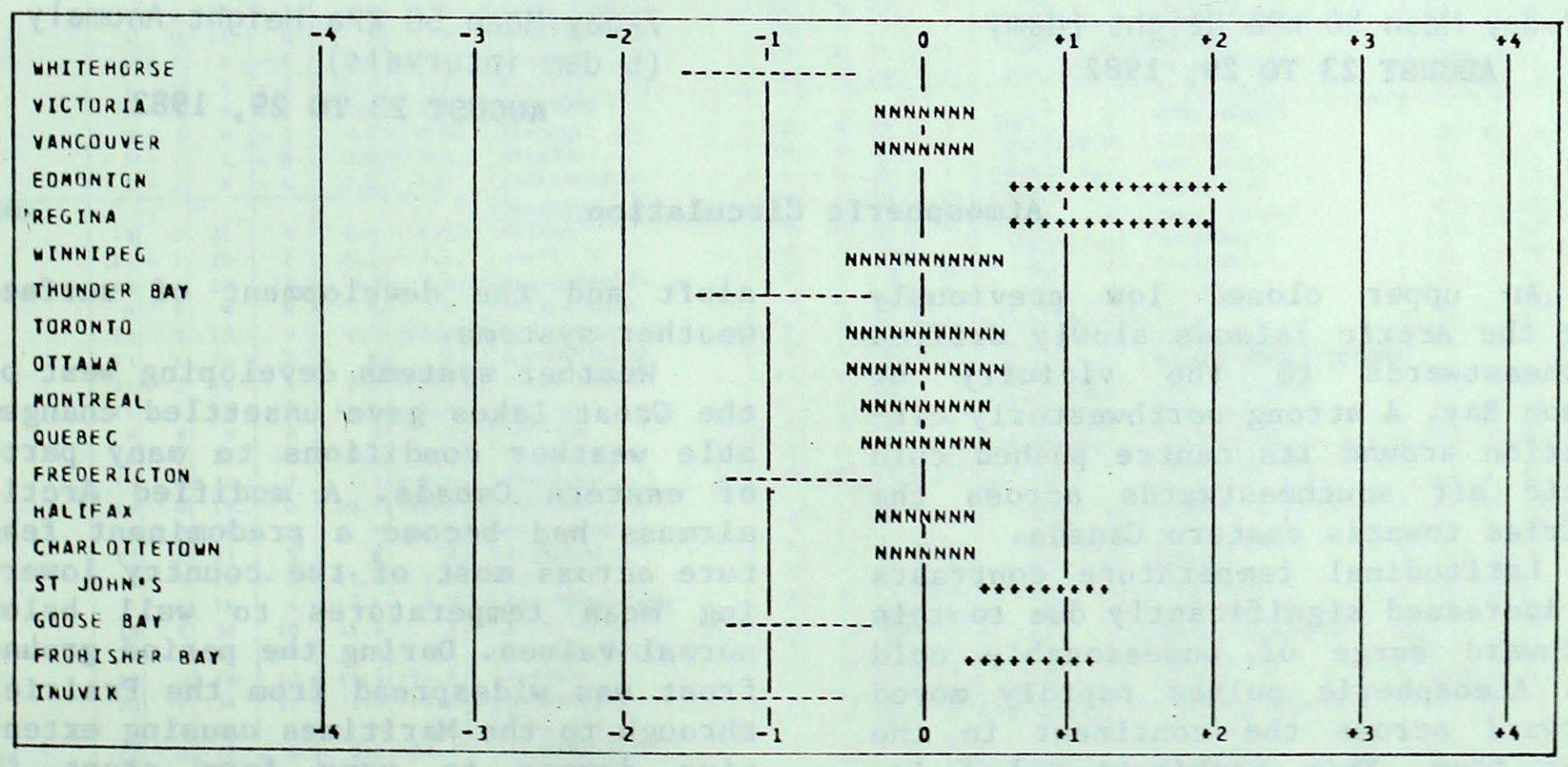


STATION	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL
Whitehorse	185.0	-25.0	773.0	-3.0	100
Penticton	394.5	-9.5	1577.5	-53.5	97
Vancouver	331.0	-10.0	1372.5	-51.5	96
Edmonton	286.5	-9.5	1225.0	126.0	111
Calgary	283.0	-10.0	1053.0	3.0	100
Regina	361.5	-6.5	1319.5	14.5	101
Saskatoon	325.5	-29.5	1199.0	-91.0	93
Winnipeg	354.0	-33.0	1401.5	13.5	101
Thunder Bay	276.0	-48.0	1065.0	-32.0	97
Windsor	431.5	-27.5	1867.0	27.0	101
Toronto	354.0	-69.0	1502.0	-97.0	94
Ottawa	349.5	-55.5	1578.5	19.5	101
Montréal	351.5	-68.5	1572.0	-32.0	98
Quebéc	305.5	-53.5	1278.5	-47.5	96
Fredericton	325.0	-43.0	1299.0	-30.0	98
Halifax	328.5	-35.5	1066.5	-113.5	90
Charlottetown	333.5	-29.5	1096.0	-54.0	95
St. John's	308.0	11.0	727.5	-81.5	90

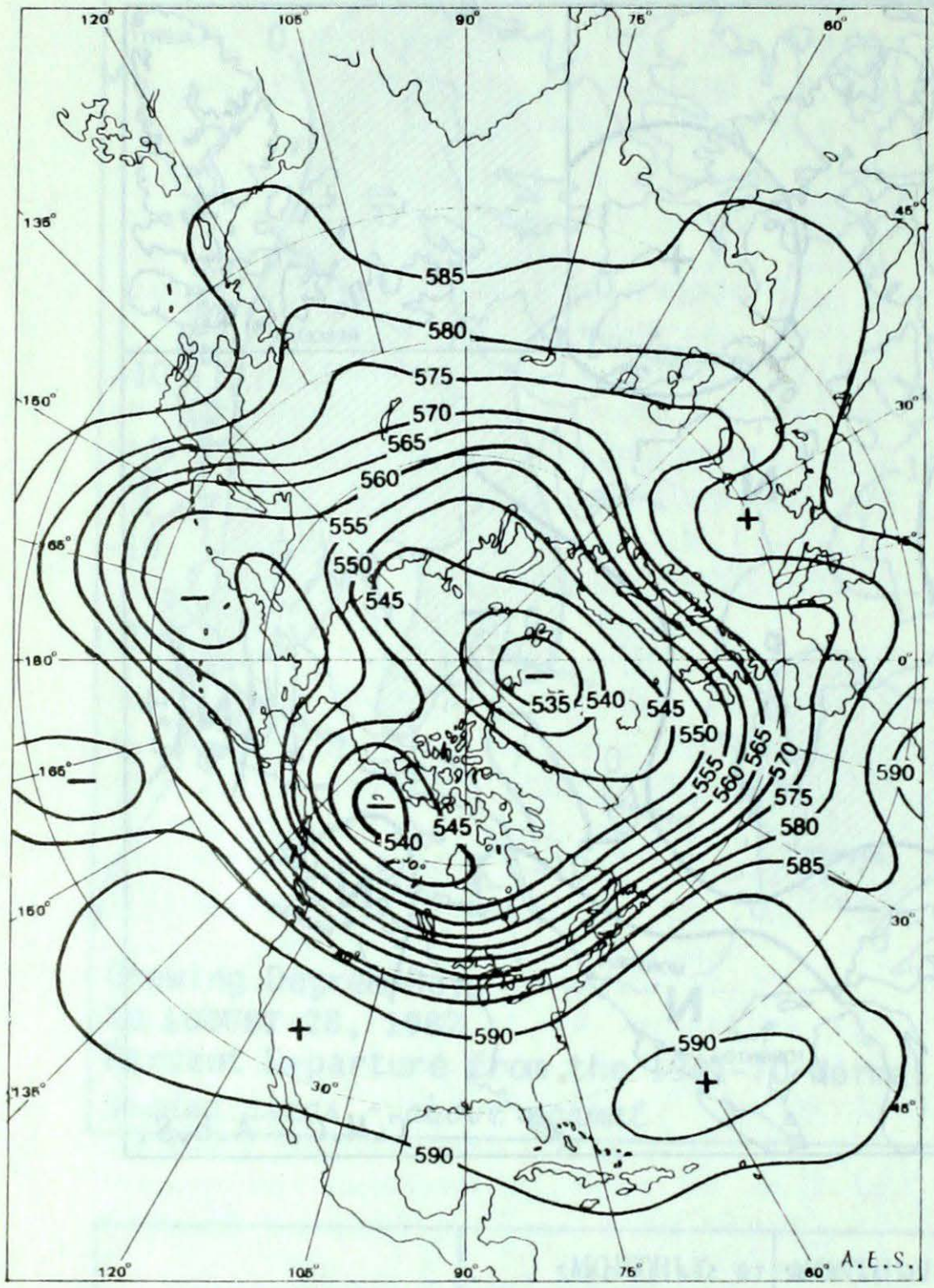
TEMPERATURE ANOMALY FORECAST



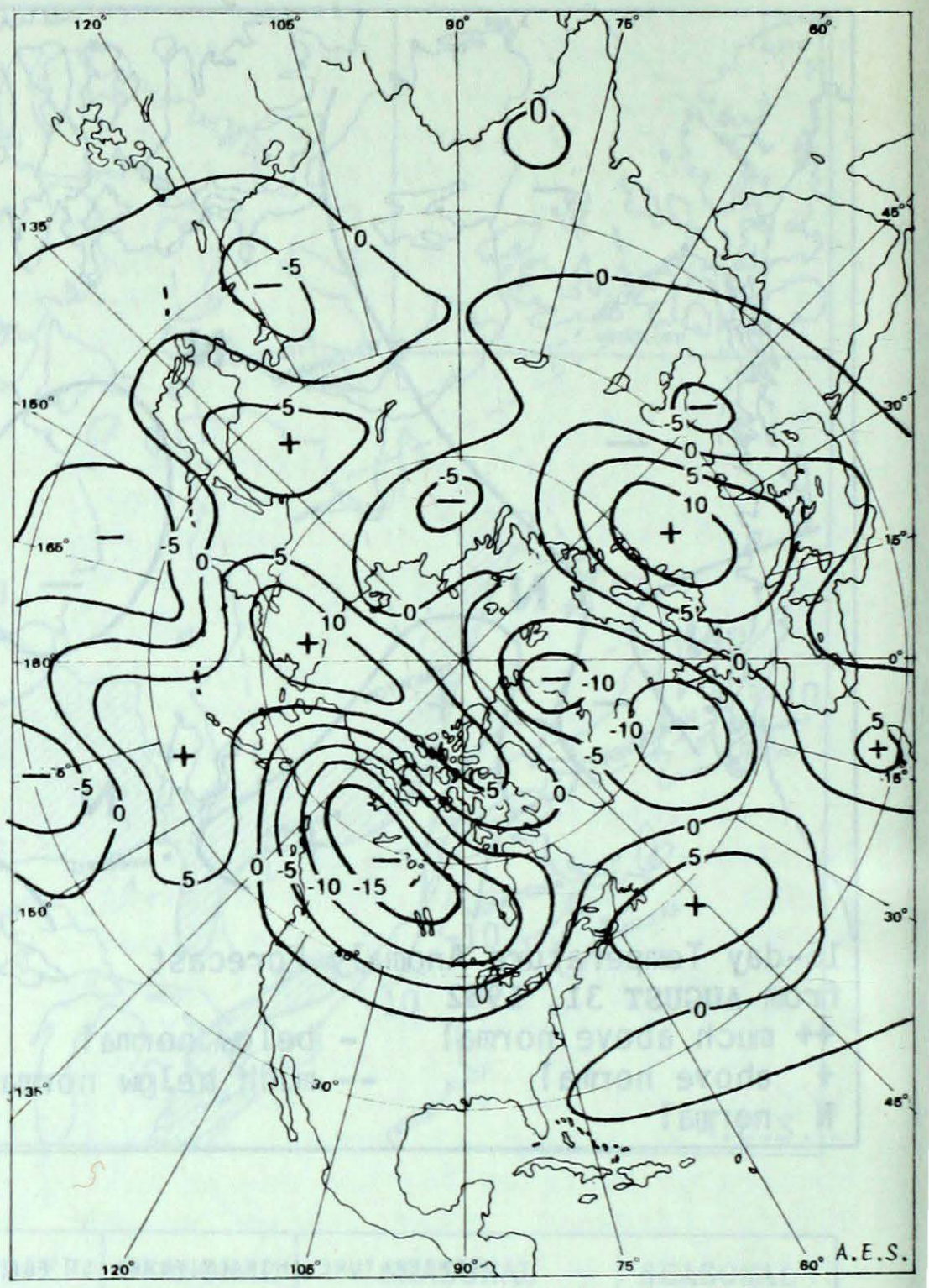
TEMPERATURE ANOMALY FORECAST FOR AUG 31 1982 TO SEP 14 1982



ATMOSPHERIC CIRCULATION



7-day Mean 50 kPa Height (dam)
AUGUST 23 TO 29, 1982



7-day Mean 50 kPa Height Anomaly
(5 dam intervals)
AUGUST 23 TO 29, 1982

Atmospheric Circulation

An upper closed low previously over the Arctic Islands slowly drifted southeastwards to the vicinity of Hudson Bay. A strong northwesterly circulation around its centre pushed cold Arctic air southeastwards across the prairies towards eastern Canada.

Latitudinal temperature contrasts had increased significantly due to this southward surge of unseasonably cold air. Atmospheric pulses rapidly moved eastward across the continent in the upper flow. This combination had intensified both the circulation pattern aloft and the development of surface weather systems.

Weather systems developing west of the Great Lakes gave unsettled changeable weather conditions to many parts of eastern Canada. A modified Arctic airmass had become a predominant feature across most of the country lowering mean temperatures to well below normal values. During the period ground frost was widespread from the Prairies through to the Maritimes causing extensive damage to many farm crops in Saskatchewan and Ontario.

Andy Radomski

TEMPERATURE AND PRECIPITATION DATA FOR THE WEEK ENDING 0600 G.M.T. AUGUST 31, 1982

Station	Temperature (°C) Average	Departure from Normal	Extreme Maximum	Extreme Minimum	Precip. (mm) Total	Departure from Normal
sh	8	- 1	19	- 2	9.0	3.5
	10	- 1	22	- 6	3.0	- 7.4
	M	X	M	M	M	X
ak Beach	3	- 1	15	- 1	12.4	1.0
A	11	1	20	- 2	1.4	- 7.0
le Point	4	- 2	17	- 1	15.8	2.5
	M	X	13P	4P	M	X
Lake	9	- 3	17	1	14.6	4.4
horse	11	0	20	2	12.8	5.4
WEST TERRITORIES						
Parry	3	- 2	9	- 1	1.2	- 7.3
Young	3	- 3	9	- 1	0.8	- 7.6
on Point	2	- 4	7	- 2	0.0	-11.4
rmine	3	- 4	12	- 1	0.0	- 9.6
Reliance	6	- 5	16	0	8.0	- 1.2
Simpson	8	- 4	20	- 4	1.5	- 4.0
Smith	6	- 6	18	- 1	14.1	4.4
river	8	- 5	21	1	2.1	- 7.5
k	7	- 2	15	- 1	1.6	- 5.8
Franklin Point	3	- 3	8	- 1	0.0	- 4.9
lson Peninsula	5	- 1	12	- 1	2.4	- 6.3
n Wells	8	- 3	19	- 1	0.0	-10.1
Radium	M	X	M	M	M	X
tson Lake	M	X	M	M	M	X
yaktuk	7	- 1	15	2	3.3	- 3.1
kknife	7	- 5	14	- 1	0.8	- 9.1
Lake	6	- 3	13	- 1	8.1	3.6
Harbour	5	- 1	12	- 3	11.9	2.2
al Lake	M	M	M	M	M	M
Lind Island	1	- 3	7	- 2	3.9	- 0.5
Bay	3	- 1	8	- 1	M	M
n Inlet	6	X	15	1	4.7	X
erd Bay	4	- 2	9	- 1	0.0	- 6.1
ton Island	0	- 2	9	- 5	1.2	- 2.9
Dorset	4	X	10	1	M	X
Dyer	2	- 1	10	- 3	2.8	- 5.3
Hooper	0	- 2	7	- 5	1.0	- 1.8
	2	- 1	5	- 1	3.0	- 2.3
Lakes	3	0	11	- 4	0.0	- 7.3
sher Bay	4	- 2	9	1	4.3	- 7.5
nek	6	X	16	0	46.1	X
taff Bluff	5	1	12	1	0.0	- 5.7
Inlet	2	X	8	- 4	0.0	X
	- 2	0	5	- 9	M	M
a	1	0	5	- 2	0.9	- 0.7
am Point	3	- 2	8	- 3	M	M
Beach	4	0	11	0	M	M
r Inlet	1	- 2	8	- 5	2.0	- 5.3
ute	1	0	6	- 5	0.0	- 7.1
Bay	2	- 4	8	- 2	1.0	- 5.6
dge Bay	3	- 3	8	- 1	3.2	- 0.8
Bay	- 2	- 1	1	- 8	0.4	- 3.3
Harbour	1	- 2	8	- 6	0.0	- 4.0
SH COLUMBIA						
sford	18	2	31	9	6.4	- 7.9
Bay	13	- 1	20	7	8.1	- 7.5
trite Point	15	X	22	12	3.2	X
River	M	X	M	M	M	X
Harbour	13	0	18	9	8.3	-12.3
Lake	13	X	26	2	M	X
Scott	12	- 2	16	1	8.6	-17.1
St James	15	1	22	10	16.1	- 2.4
on	M	X	M	M	M	X
	18	2	29	12	9.4	0.9
rook	16	0	29	7	1.3	- 8.0
Lake	10	0	19	2	58.7	47.2
au Point	M	M	M	M	M	M
da Bay	13	X	23	5	M	X
Nelson	8	- 5	18	- 3	11.5	- 1.2
St John	9	- 4	16	4	17.1	4.5
	18	X	31	10	11.1	X
ops	20	3	32	10	1.5	- 8.2
ra	13	0	16	10	11.4	-14.4
n	20	1	34	11	1.6	- 4.6
nzie	M	X	24P	1P	M	X
es Island	12	- 2	17	9	3.2	-24.7
no A	17	X	29	10	M	X
cton	19	2	30	8	10.5	3.0
Alberni	M	X	M	M	M	X
Hardy	13	0	18	7	M	M
e George	13	1	25	4	10.2	- 3.1
e Rupert	13	1	18	8	14.8	-13.0
t Mountain	M	X	M	M	M	X
el	15	1	26	7	10.8	- 2.9
stoke	17	1	27	10	11.1	-10.2
pit	15	1	21	10	9.8	- 2.9

Station	Temperature (°C) Average	Departure from Normal	Extreme Maximum	Extreme Minimum	Precip. (mm) Total	Departure from Normal
Smithers	14	1	27	3	5.0	- 4.7
Stewart	14	X	21	9	M	X
Terrace	16	2	28	9	4.3	-16.1
Vancouver	17	1	27	11	12.4	2.9
Victoria	17	1	28	11	1.8	- 4.8
Williams Lake	14	1	24	8	4.5	- 5.4
ALBERTA						
Banff	11	0	23	3	M	M
Calgary	12	- 1	23	3	18.2	- 1.4
Cold Lake	7	- 6	14	- 1	32.0	10.8
Coronation	11	- 3	23	3	18.2	5.7
Edmonton Intl	9	- 4	20	2	21.7	2.5
Edmonton Namao	9	- 5	18	1	27.4	11.4
Edson	9	- 3	20	4	34.0	14.3
Fort Chipewyan	5	- 7	18	- 3	M	M
Fort McMurray	7	- 6	15	- 2	7.3	- 4.7
Grande Prairie	10	- 3	18	4	14.9	4.0
High Level	7	- 5	18	- 4	15.2	-11.2
Jasper	11	- 1	20	5	13.8	2.9
Lac La Biche	M	X	M	M	M	X
Lethbridge	14	- 2	29	5	7.5	- 4.6
Medicine Hat	15	- 2	27	5	6.9	- 6.9
Peace River	7	- 6	15	- 2	14.3	6.8
Red Deer	11	- 2	21	5	27.7	8.6
Rocky Mountain House	10	- 2	20	4	14.5	- 9.5
Slave Lake	8	- 5	15	- 2	7.5	-13.6
Vermilion	8	- 5	17	- 1	13.5	- 4.6
Whitecourt	9	- 3	19	2	39.5	22.1
SASKATCHEWAN						
Broadview	10	X	24	- 5	2.2	X
Buffalo Narrows	7	- 6	14	0	M	M
Collins Bay	4	X	12	- 2	28.4	X
Cree Lake	5	X	14	- 2	10.9	X
Eastend Cypress	M	X	M	M	M	X
Estevan	13	- 5	28	3	6.9	- 3.9
Hudson Bay	8	- 7	17	- 2	M	M
Kindersley	12	- 3	24	4	5.0	- 2.2
La Ronge	6	- 8	13	- 3	10.9	- 6.7
Meadow Lake	7	X	17	- 2	18.4	X
Moose Jaw	12	- 5	23	4	6.3	- 7.2
Nipawin	8	X	17	- 1	30.4	X
North Battleford	9	- 6	18	1	20.3	4.3
Prince Albert	8	- 7	16	- 4	34.2	21.4
Regina	12	- 4	24	3	0.4	-18.0
Rockglen	M	X	M	M	M	X
Saskatoon	10	- 6	18	2	6.8	- 4.7
Swift Current	12	- 4	23	4	M	M
Uranium City	6	- 7	15	1	23.2	13.4
Wynyard	10	X	21	- 3	5.8	X
Yorkton	10	- 5	23	- 2	3.0	-15.2
MANITOBA						
Bissett	10	X	18	- 1	16.7	X
Brandon	10	- 6	22	- 3	2.2	-16.9
Churchill	6	- 4	10	- 1	16.8	0.2
Dauphin	10	- 6	20	0	8.8	- 4.3
Gillam	6	X	12	0	19.6	X
Gimli	10	- 7	18	1	5.0	-17.0
Grand Rapids	M	X	M	M	M	X
Island Lake	9	X	16	3	M	X
Lynn Lake	6	- 7	12	- 1	17.1	-12.0
Norway House	8	X	16	- 1	6.6	X
Pilot Mound	11	- 6	22	- 2	4.6	- 7.5
Portage	11	- 6	21	1	2.0	-20.2
The Pas	8	- 7	15	1	13.8	- 1.4
Thompson	6	- 6	15	- 3	4.7	-22.7
Winnipeg	M	M	19	1P	M	M
ONTARIO						
Armstrong	8	- 6	21	- 2	M	M
Atikokan	9	- 7	21	- 2	13.0	- 2.7
Barrie	M	X	M	M	M	X
Big Trout Lake	8	- 5	13	3	21.3	- 3.4
Britt	M	X	M	M	M	X
Caribou Island	M	X	M	M	M	X
Carlton	12	- 4	21	1	M	M
Geraldton	9	- 5	22	0	8.6	- 4.2
Gore Bay	13	- 5	20	2	12.5	- 1.7
Kapuskasing	10	- 5	21	0	7.1	-10.9
Kenora	10	- 7	18	2	9.9	- 9.7
Kingston	16	- 3	24	5	M	M
Lansdowne	8	- 6	14	1	28.0	10.7
London	14	- 5	25	2	67.4	51.2
Moosonee	10	- 4	21	0	M	M
Mount Forest	13	- 3	24	1	31.2	18.3
Muskoka	14	- 3	22	0	M	M
Nagagami	M	X	M	M	M	X
North Bay	12	- 4	21	2	18.1	2.8
Ottawa	14	- 4	24	4	44.7	26.7

Station	Temperature (°C) Average	Departure from Normal	Extreme Maximum	Extreme Minimum	Precip. (mm) Total	Departure from Normal
Petawawa	12	X	23	- 1	9.4	X
Pickle Lake	8	- 6	15	2	M	M
Red Lake	10	- 6	17	- 1	10.5	- 8.6
Simcoe	M	M	25P	10P	M	M
Sioux Lookout	10	- 6	18	1	13.8	- 6.4
Sudbury	13	- 4	23	2	18.6	1.9
Thunder Bay	11	- 4	22	2	9.5	-14.6
Timmins	10	- 5	20	1	8.4	-15.7
Toronto	15	- 5	26	2	48.9	28.8
Trenton	15	- 4	24	6	44.0	29.8
Upsala	M	X	M	M	M	X
Wawa	10	X	16	1	4.1	X
Wiarton	13	- 5	21	2	14.4	- 7.3
Windsor	18	- 4	28	5	5.1	-16.1
QUÉBEC						
Bagotville	11	- 5	22	4	43.8	26.5
Baie Comeau	10	- 4	20	2	10.3	-10.6
Blanc Sablon	12	1	17	2	M	M
Border	M	M	M	M	M	M
Chevery	M	X	M	M	M	X
Chibougamau	8	X	18	1	30.4	X
Gaspé	11	X	21	1	29.0	X
Grindstone Island	15	- 1	19	10	29.2	8.0
Inukjuak	6	- 2	10	2	7.6	- 9.1
Kuujjuaq	8	- 1	18	2	36.4	22.3
Lac Eon	M	X	M	M	M	X
Grande Riviere	6	X	17	0	27.7	X
Manwaki	11	- 5	22	0	24.0	8.5
Matagami	9	X	19	0	M	X
Mont-Joli	11	- 4	20	4	25.6	5.5
Montréal	14	- 5	26	4	74.7	54.2
Natashquan	10	- 2	19	4	48.8	29.8
Nitchequon	8	- 3	16	0	43.0	24.0
Parent	M	X	M	M	M	X
Port Menier	M	M	M	M	M	M
Poste-de-la-Baleine	7	- 3	18	2	30.0	10.5
Québec	12	- 4	25	2	43.4	22.9
Rivière du Loup	M	M	M	M	M	M
Roberval	10	- 6	20	0	27.8	9.1
Schefferville	8	- 2	16	1	43.2	23.7
Sept-Iles	10	- 3	17	2	28.1	8.6
Sherbrooke	12	- 3	26	- 1	54.1	36.8
Ste Agathe des Monts	10	- 5	22	0	53.8	35.0
Val D'Or	10	- 5	21	0	34.3	12.3
NEW BRUNSWICK						
Charlo	13	- 1	22	3	45.9	25.3
Chatham	13	- 3	26	2	46.6	28.4
Fredericton	14	- 3	26	2	65.9	46.6
Moncton	14	- 2	25	4	51.9	28.5
Saint John	13	- 2	22	3	73.7	48.3
St Stephen	M	X	M	M	M	X
NOVA SCOTIA						
Amherst	M	X	M	M	M	X
Eddy Point	15	X	22	8	32.8	X
Greenwood	14	- 3	27	3	15.4	- 9.6
Sable Island	16	- 1	20	9	24.6	2.5
Shearwater	15	- 2	21	6	13.4	- 8.6
Shelburne	14	X	24	5	6.6	X
Sydney	15	- 2	23	4	26.6	- 0.6
Truro	M	M	25P	2P	M	M
Yarmouth	14	- 2	20	7	12.6	- 7.3
PRINCE EDWARD ISLAND						
Charlottetown	15	- 2	24	6	57.0	32.9
East Point	M	X	M	M	M	X
Summerside	15	- 2	24	6	18.4	- 5.6
NEWFOUNDLAND						
Argentia	16	X	21	10	44.9	X
Badger	M	X	M	M	M	X
Bonavista	15	1	23	10	18.8	- 1.2
Burgeo	13	- 1	18	4	26.2	-10.3
Cape Race	M	X	M	M	M	X
Comfort Cove	13	0	22	4	12.0	- 4.2
Daniel's Harbour	14	0	18	10	38.2	20.4
Deer Lake	12	- 1	23	1	31.1	7.9
Gander	14	- 1	21	5	9.8	-15.3
Port aux Basques	13	0	18	7	33.0	- 2.9
St Albans	14	0	21	3	M	M
St Anthony	12	X	19	6	M	X
St John's	15	0	23	7	62.8	36.2
St Lawrence	14	1	21	6	36.7	6.0
Stephenville	14	- 1	20	7	43.1	18.3
Battle Harbour	10	0	17	4	M	M
Cartwright	11	0	20	5	33.6	19.8
Churchill Falls	9	- 1	17	2	40.8	25.5
Goose	11	- 2	16	4	31.4	16.5
Hopedale	8	- 2	17	5	11.3	- 8.0
Wabush Lake	8	- 3	17	1	18.0	- 4.6

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