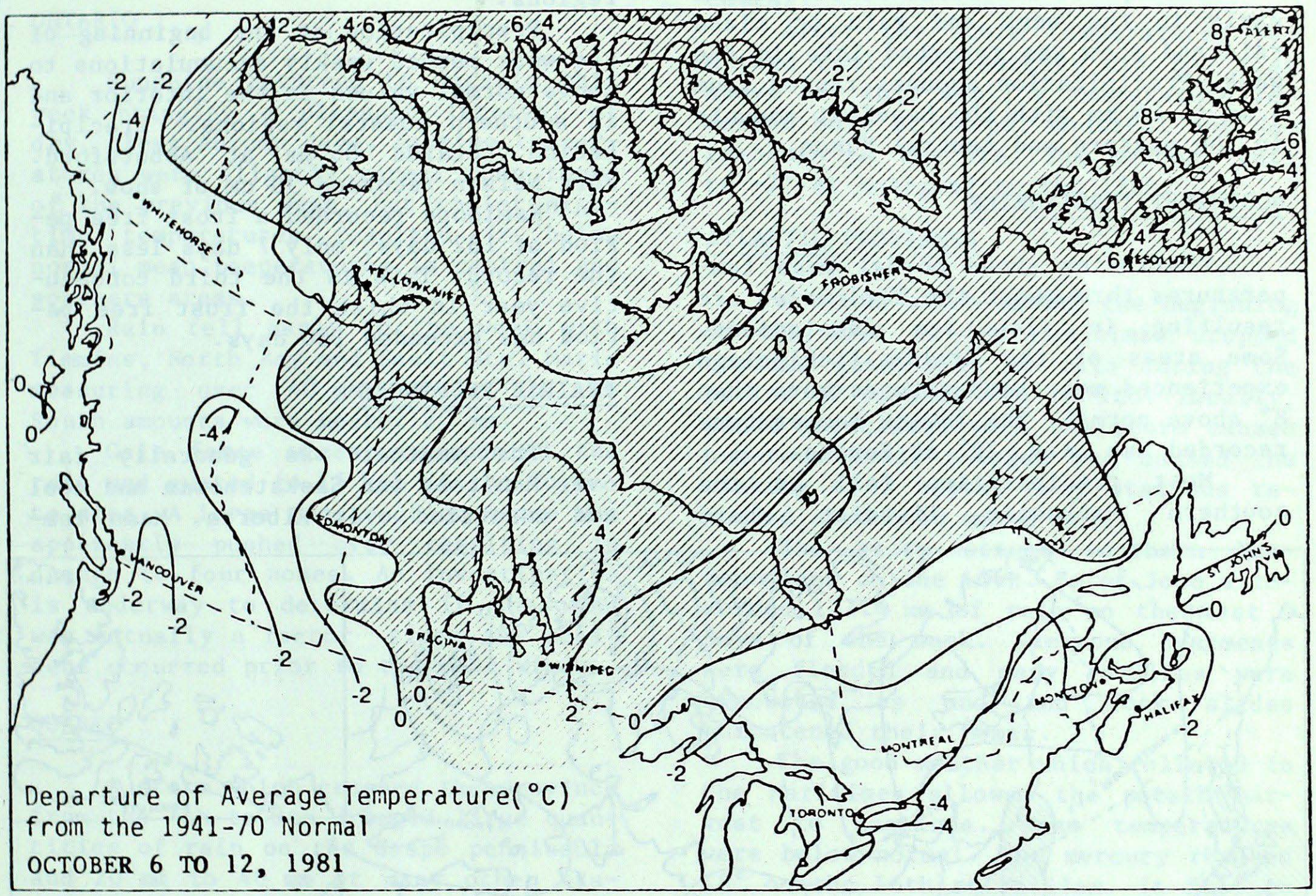
Environment Canada / Environnement Canada
Atmospheric Environment / Environnement atmosphérique

A WEEKLY REVIEW OF CANADIAN CLIMATE

CLIMATIC PERSPECTIVES

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

OCTOBER 16, 1981 *(Aussi disponible en français)* **VOL.3 NO. 41**



Departure of Average Temperature(°C)
from the 1941-70 Normal
OCTOBER 6 TO 12, 1981

WEATHER HIGHLIGHTS FOR THE PERIOD - OCTOBER 6 TO 12, 1981

Storm strikes the East; many areas deluged

A storm which traversed the Atlantic coast produced abundant precipitation from the 7th to the 9th in southern Québec and the Maritimes. It dropped 244.6 mm of rain at Mont Louis on the north of the Gaspé penninsula. Many areas were flooded and many electrical and telephone services were cut off; 20 families were evacuated by helicopter.

This same storm hit southern Newfoundland on the 10th to 12th. It dropped 127.4 mm of rain on Saint John's. Many people were evacuated due to the danger of mud and rock slides.

The temperature fluctuated between 23° at Kindersley (Saskatchewan), Lethbridge and Medicine Hat (Alberta) and -22 at Eureka (Northwest Territories).

NOTE: The data shown in this publication are based on unverified reports from approximately 225 Canadian and 115 northern United States Synoptic stations.

YUKON

Very low temperatures were reported in the northern Yukon early in the week but a general moderating trend developed by the end of the week. On October 7th Ogilivie River recorded a minimum of -27° and a maximum of only -8°. Temperatures were close to normal in the south.

Widespread snowfalls were reported early in the week and rain or mixed rain and snow was reported late in the week. Precipitation amounts ranged from 4 mm to 14 mm with the heaviest amounts in the eastern and central Yukon.

NORTHWEST TERRITORIES

Continuing above normal mean temperatures throughout the Teritories are resulting in slow ice development. Some areas of the Arctic Archipelago experienced mean temperatures more than 8° above normal. The lowest temperature recorded was only -22° at Eureka.

Most precipitation fell on the southern Mackenzie District where amounts varied from 10 mm to 30 mm. Cape Hooper measured 50 cm of snow on the ground.

BRITISH COLUMBIA

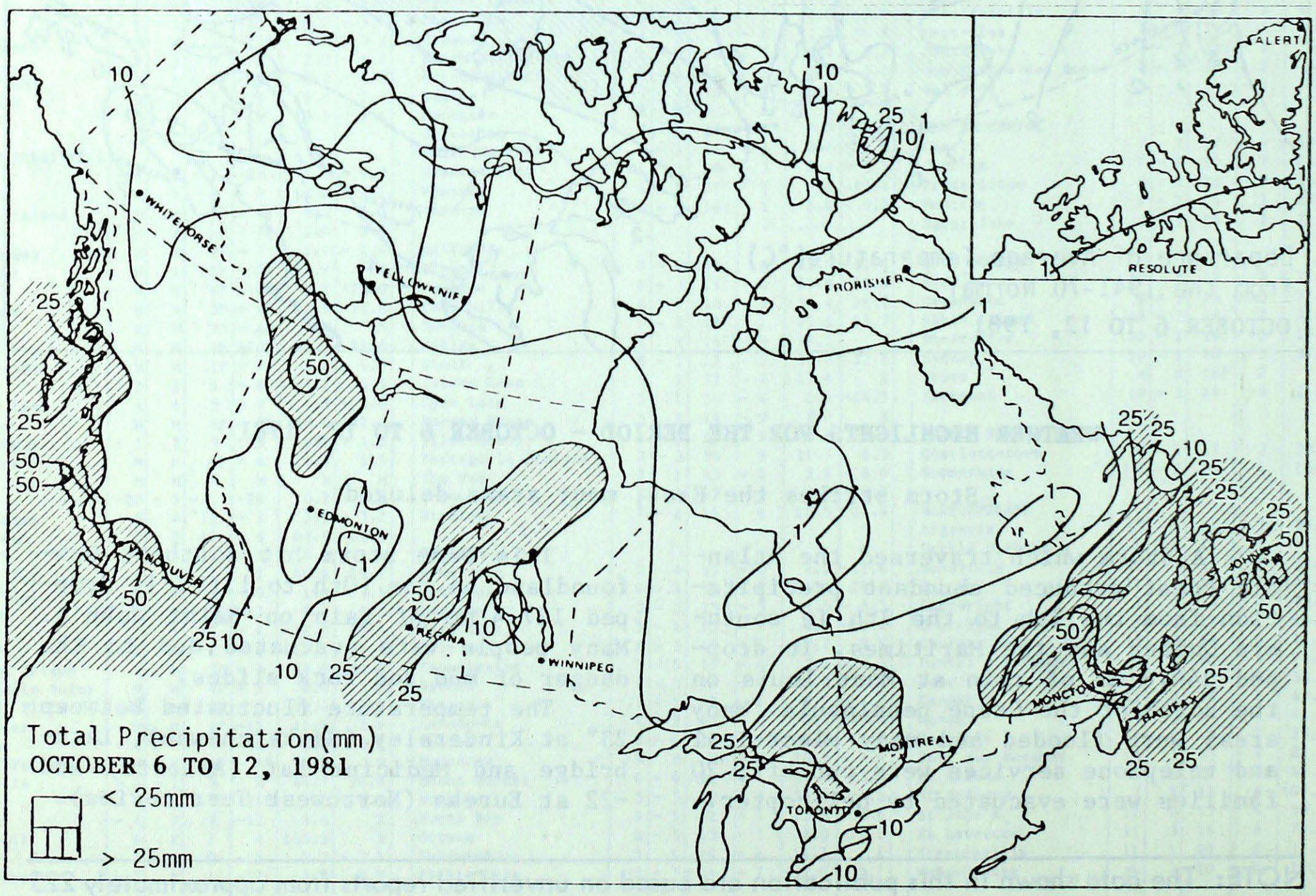
Cool unsettled weather dominated the province this week. Mean temperatures were below normal at almost every station. Frost occurred in all interior regions.

Precipitation at the beginning of the week pushed weekly accumulations to above normal values in the interior and in southern coastal regions. Precipitation totaled 65 mm at Abbotsford. Fort Nelson recorded 30 cm of snow.

Kamloops recorded a frost free period of 182 days, only 7 days less than the record. This is the third consecutive year in which the frost free period has exceeded 180 days.

PRAIRIE PROVINCES

The weather was generally fair over Manitoba and Saskatchewan and cool and unsettled over Alberta. Mean tem-



peratures varied from almost 3° below normal in west-central areas of Alberta to more than 5° above normal in some areas of central Manitoba.

Significant amounts of precipitation were recorded in many areas. Snow fell on the southwestern foothills in Alberta over the weekend. Medicine Hat measured 10 cm on the ground at the end of the week.

ONTARIO

Sunshine returned to Ontario this week bringing a pleasant interval of dry, clear Autumn days. Daytime temperatures were slightly warmer than those of the previous week, but cooler nighttime temperatures resulted in below normal mean temperatures in central and southern areas.

Rain fell early in the week with Timmins, North Bay and Sault Ste. Marie measuring over 40 mm, while in the South amounts were nearer 20 mm.

Gale force winds accompanied the rain and gusted to 75 kph in the Toronto area. A large construction crane was apparently pushed over resulting in damage to four homes. An investigation is underway to determine if the wind was actually a factor since the accident occurred prior to the peak winds.

QUÉBEC

A storm which crossed the province from the 7th to 9th dropped large quantities of rain on the Gaspé penninsula and 20 mm to 40 mm at many other stations. At Mont-Louis (in Gaspé) 244.6 mm of rain fell in 3 days. At Grande Vallée, 138 mm fell during the evening of the 8th; observations stopped when ground water levels exceeded 70 cm inundating the rain guage. Highway route 132 was flooded in many places and electrical and telephone services were disrupted for 24 hours as utility poles were knocked out by rock and mud slides. Twenty families were rescued from the rising water by helicopter.

After the storm temperatures remained cool. The mercury did not rise above 15° this week, a temperature recorded only at Gaspé, Montréal and Natashquan on the 6th. The mercury fell to -7° at Matagami on the 12th.

ATLANTIC PROVINCES

A storm which marked the beginning of the week in the Maritimes dropped copious quantities of rain during the period of October 7th to 9th. Locally, winds associated with the storm caused numerous power outages and caused the sinking of 3 boats. Many stations recorded almost 60 mm of rain.

The storm struck southern Newfoundland on the 10th. Saint John's recorded 127.4 mm of rain on the last 3 days of the week. Numerous basements were flooded and many families were evacuated as mud and rock slides threatened their homes.

The good weather which followed in the Maritimes allowed the potato harvest to continue. Mean temperatures were below normal. The mercury reached 18° on the 16th at Halifax. It fell to -4° at Churchill and Wabush on the 12th.

CLIMATIC PERSPECTIVES

Staff

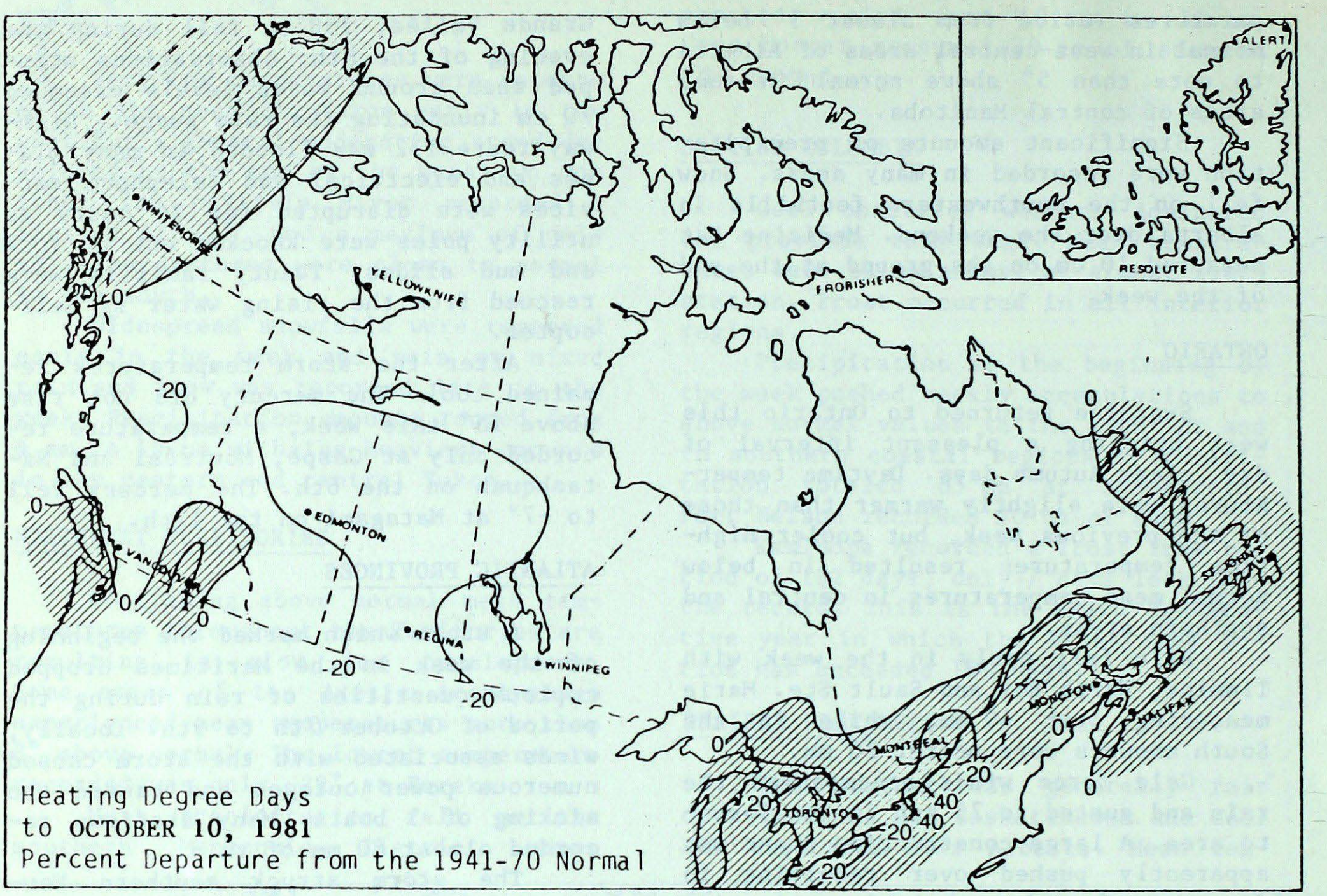
Editor: Yves Durocher
Assistant Editor: Bob Paterson, Jean-Pierre Blanchet
Technical Staff: Fred Richardson, Andy Radomski
Graphics and Layout: Bill Johnson, T. Chivers
Word Processing: Naseem Khaja

Correspondents

Terry Mullane, (Ice Forecasting Central)
H.E. Wahl, (Whitehorse)
Bill Prusak, (Western Region)
Fred Luclow, (Central Region)
Bryan Smith, (Ontario Region)
Jacques Miron, (Quebec Region)
Frank Amirault (Atlantic Region)
Staff of Prince George, Kamloops, Castlegar, Fort Nelson, Penticton and Kelowna weather office (Pacific Region)

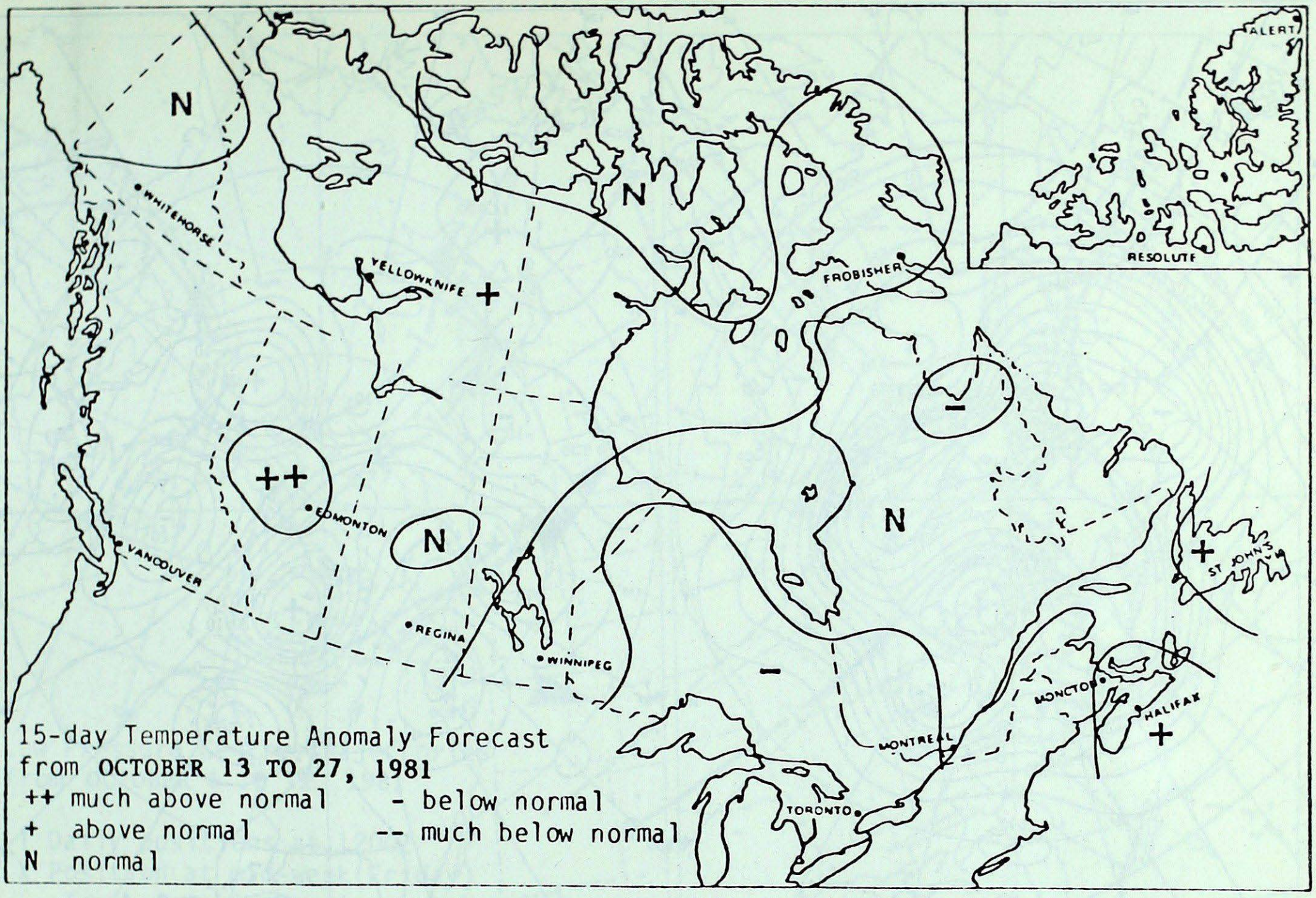
Telephone Inquiries (416) 667-4711/4906

HEATING DEGREE-DAY SUMMARY TO OCTOBER 10, 1981



STATION	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL
Resolute	235.5	-58.5	1866.0	-14.0	99
Inuvik	195.0	-15.0	1078.5	32.5	103
Whitehorse	177.0	30.0	780.0	25.0	103
Vancouver	77.5	14.5	226.5	-25.5	90
Edmonton Mun	112.0	7.0	326.0	-123.0	73
Calgary	119.5	16.5	443.0	-43.0	91
Regina	94.5	-8.5	277.5	-98.5	74
Winnipeg	89.0	-3.0	287.5	-38.5	88
Thunder Bay	123.0	21.0	417.5	-6.5	98
Windsor	77.5	27.5	162.5	37.5	130
Toronto	102.5	46.5	254.0	71.0	139
Ottawa	109.5	34.5	279.0	43.0	118
Montreal	110.0	45.0	278.0	80.0	140
Quebec	111.0	27.0	346.5	40.5	113
Saint John, N.B.	103.0	18.0	358.0	0.0	100
Halifax	73.5	6.5	245.0	6.0	103
Charlottetown	84.0	10.0	286.5	18.5	107
St. John's, Nfld.	76.5	-18.5	475.0	7.0	101

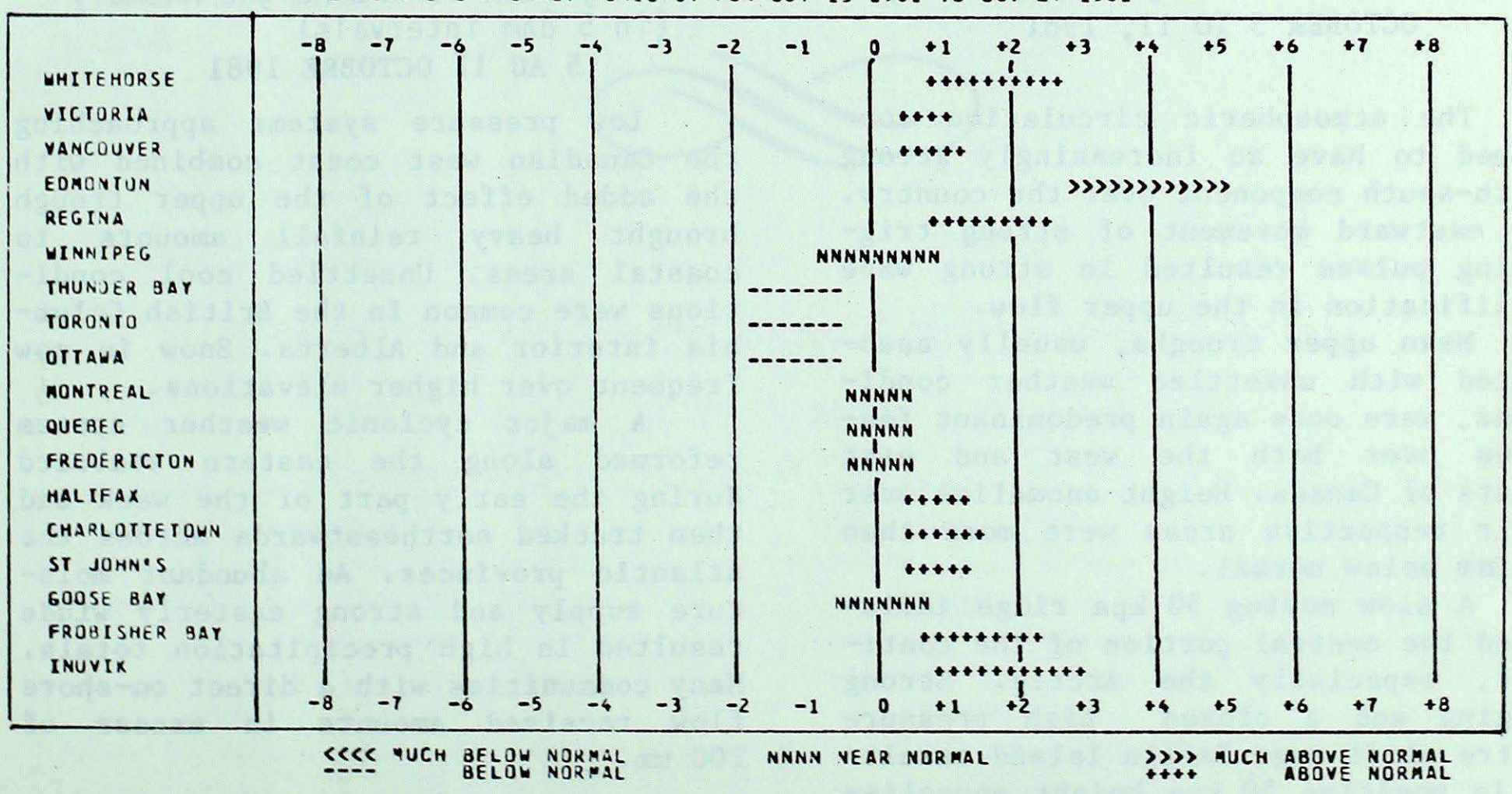
TEMPERATURE ANOMALY FORECAST



15-day Temperature Anomaly Forecast
from **OCTOBER 13 TO 27, 1981**

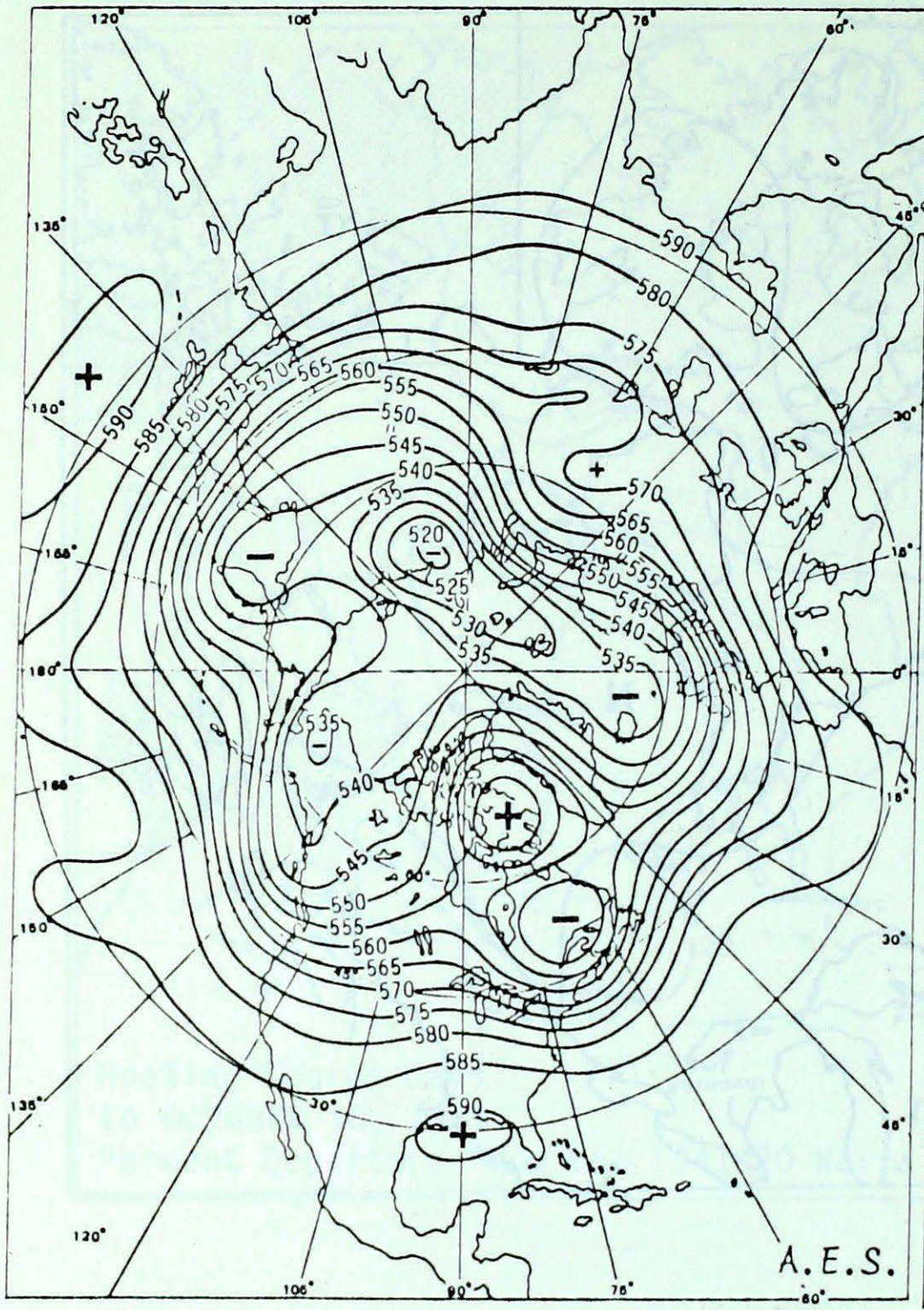
++ much above normal - below normal
+ above normal -- much below normal
N normal

TEMPERATURE ANOMALY FORECAST FOR OCT 13 1981 TO OCT 27 1981

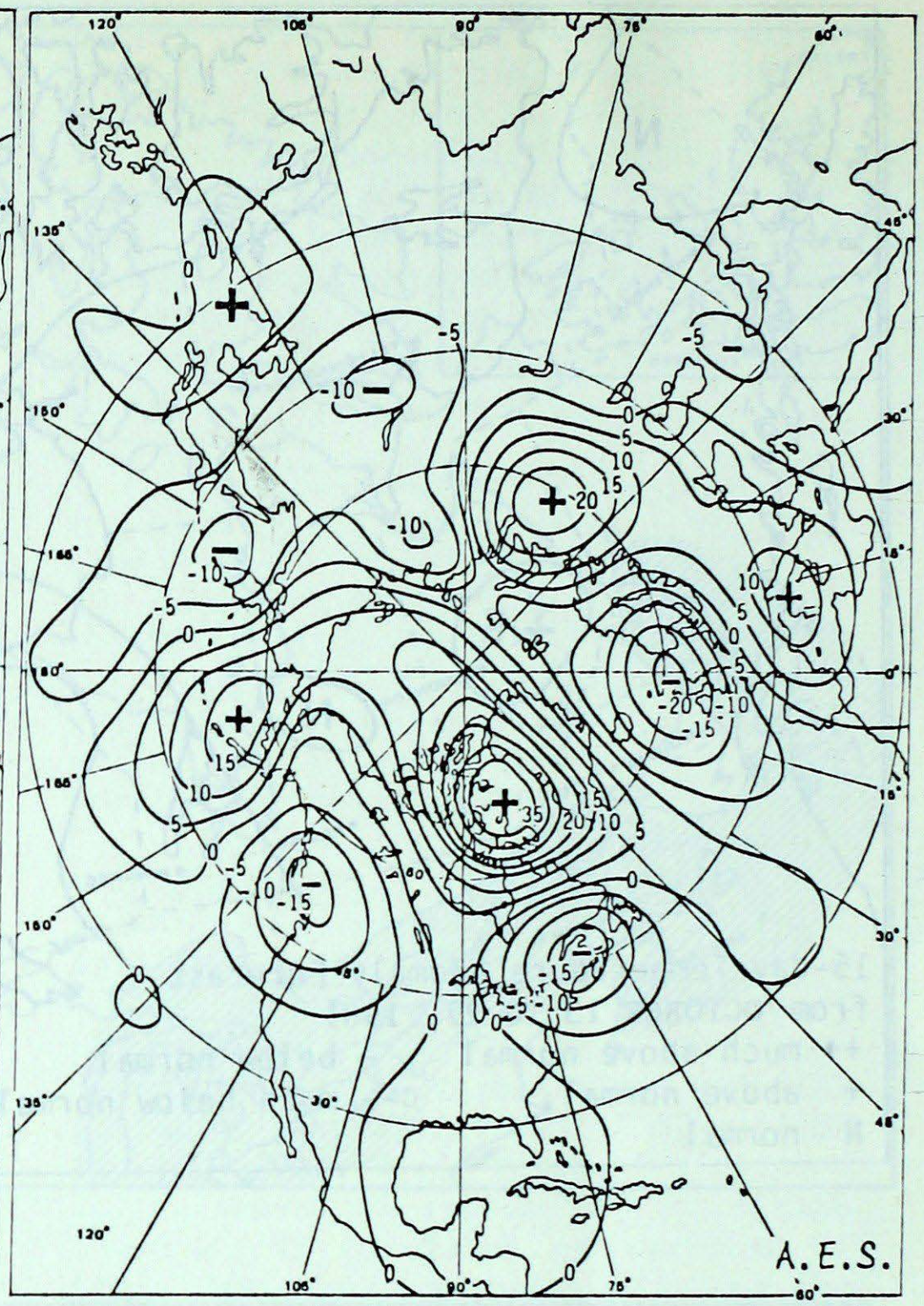


<<<< MUCH BELOW NORMAL
---- BELOW NORMAL
NNNN NEAR NORMAL
>>>> MUCH ABOVE NORMAL
++++ ABOVE NORMAL

Atmospheric Circulation



7-day Mean 50 kPa Height Map(in dam)
OCTOBER 5 TO 11, 1981



7-day Mean 50 kPa Height Anomaly
(in 5 dam intervals)
5 AU 11 OCTOBRE 1981

The atmospheric circulation continued to have an increasingly strong north-south component over the country. The eastward movement of strong triggering pulses resulted in strong wave amplification in the upper flow.

Mean upper troughs, usually associated with unsettled weather conditions, were once again predominant features over both the west and east coasts of Canada. Height anomalies over their respective areas were more than 15 Dam below normal.

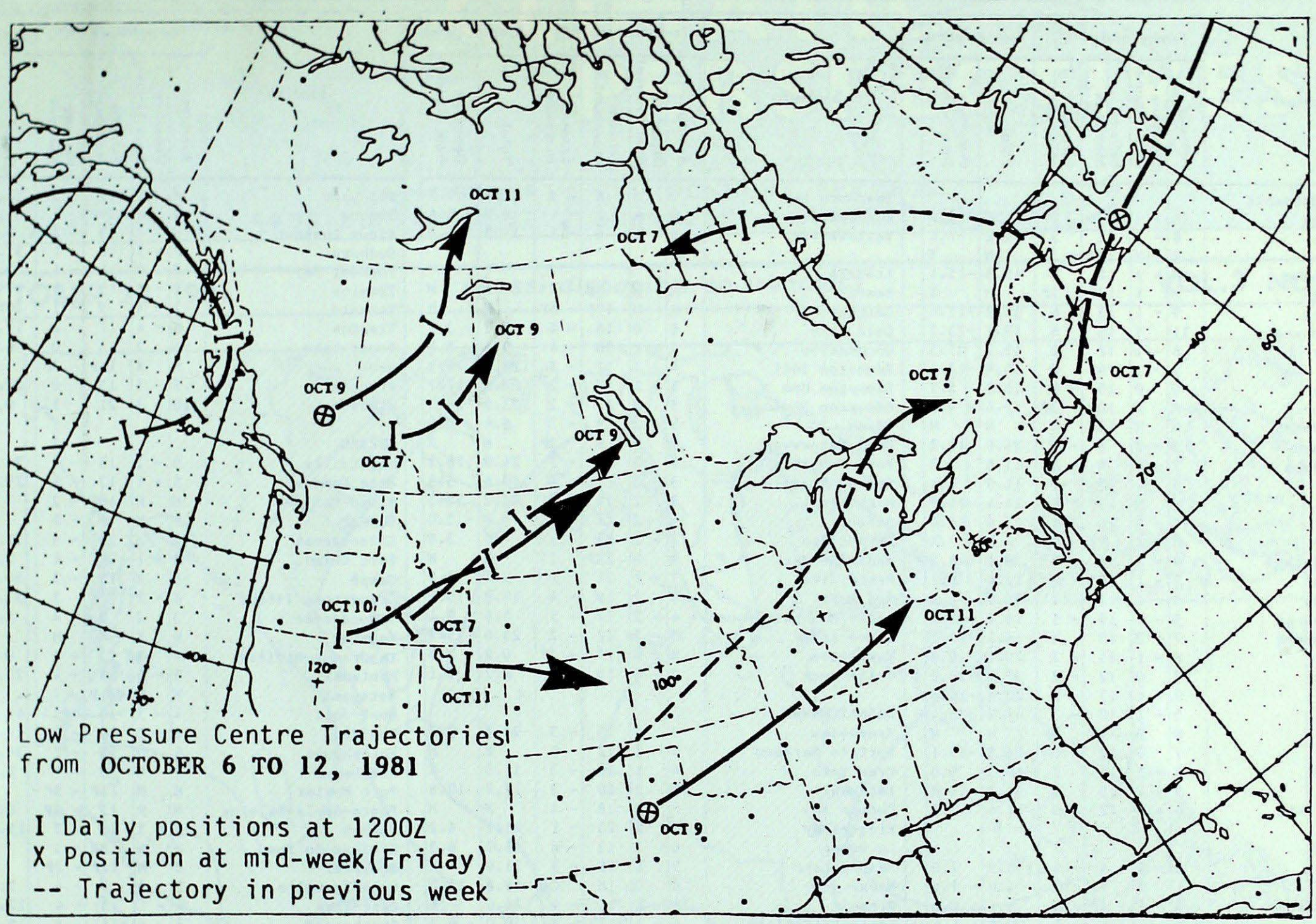
A slow moving 50 kpa ridge influenced the central portion of the continent, especially the Arctic. Strong ridging and a closed high pressure centre aloft over Baffin Island resulted in positive 50 kpa height anomalies of 40 Dam; mean surface temperatures in some areas were more than 8° above normal.

Low pressure systems approaching the Canadian west coast combined with the added effect of the upper trough brought heavy rainfall amounts to coastal areas. Unsettled cool conditions were common in the British Columbia interior and Alberta. Snow is now frequent over higher elevations.

A major cyclonic weather system reformed along the eastern seaboard during the early part of the week and then tracked northeastwards across the Atlantic provinces. An abundant moisture supply and strong easterly winds resulted in high precipitation totals. Many communities with a direct on-shore flow received amounts in excess of 100 mm.

Andy Radomski

LOW PRESSURE CENTRE TRAJECTORIES



Low Pressure Centre Trajectories
from **OCTOBER 6 TO 12, 1981**

I Daily positions at 1200Z
X Position at mid-week(Friday)
-- Trajectory in previous week

TEMPERATURE AND PRECIPITATION DATA FOR THE WEEK ENDING 0600 G.M.T. OCTOBER 13, 1981

Station	Temperature (°C) Average	Departure from Normal	Extreme Maximum	Extreme Minimum	Precip. (mm) Total	Departure from Normal
BRITISH COLUMBIA						
Abbotsford	10	- 1	17	0	65.0	25.3
Alert Bay	8	- 2	12	3	41.2	-7.4
Blue River	M	X	10P	- 3	M	X
Bull Harbour	8	- 2	12	2	49.5	-15.1
Burns Lake	M	X	13P	1P	M	X
Cape Scott	9	- 1	13	6	52.9	-11.6
Cape St James	11	1	16	6	19.1	-23.2
Castlegar	8	- 1	12	2	49.2	35.5
Comox	9	- 1	14	0	16.4	-12.1
Cranbrook	6	0	15	- 4	11.3	5.2
Dease Lake	M	M	10P	- 3P	1.6	- 4.9
Estevan Point	M	M	13P	4	M	M
Fort Nelson	2	- 2	6	- 2	21.6	16.3
Fort St John	2	- 4	8	- 3	11.8	5.3
Kamloops	9	- 1	17	-1	11.9	7.1
Langara	M	M	13P	6	24.4	-26.9
Lytton	9	- 2	16	1	15.4	14.4
Mackenzie	M	X	9P	0P	M	X
McInnes Island	9	- 1	14	5	30.2	-48.2
Penticton	9	- 1	16	0	12.8	8.7
Port Hardy	8	- 1	13	1	50.9	-8.9
Prince George	5	- 1	15	- 5	16.4	1.6
Prince Rupert	7	- 2	13	1	14.1	-44.1
Quesnel	6	- 1	15	- 3	20.1	8.6
Revelstoke	7	0	12	- 2	37.1	23.2
Sandspit	9	- 1	13	3	23.8	-16.4
Smithers	5	- 1	10	- 3	47.2	35.1
Stewart	M	M	11P	5P	M	M
Terrace	7	0	12	0	26.5	-15.1
Vancouver	9	- 2	16	2	40.3	9.8
Victoria	9	- 2	15	2	31.3	11.0
Williams Lake	4	- 2	12	- 6	11.4	5.2
YUKON						
Burwash	- 4	- 4	4	-19	10.9	7.0
Dawson	- 1	0	9	-10	4.0	- 1.4
Komakuk Beach	- 8	- 2	- 4	-16	4.1	0.0
Mayo	2	1	8	- 7	0.5	- 4.4
Shingle Point	- 4	0	1	-10	15.0	4.1
Watson Lake	1	- 1	5	- 2	13.5	5.7
Whitehorse	2	- 1	9	- 8	4.3	- 0.2
NORTHWEST TERRITORIES						
Alert	-10	7	0	-19	5.1	0.2
Baker Lake	2	6	5	- 4	9.6	4.0
Broughton Island	- 4	2	1	-11	0.6	- 8.3
Byron Bay	M	M	0P	-14	M	M
Cambridge Bay	- 2	5	1	- 6	1.0	- 3.6
Cape Dorset	M	X	5P	- 6	M	X
Cape Dyer	- 5	1	3	-12	4.6	- 5.7
Cape Hooper	M	M	3P	- 9	25.6	18.5
Cape Parry	- 1	2	1	- 5	0.8	- 5.0
Cape Young	- 4	0	0	-13	6.0	2.2
Clinton Point	- 2	1	2	- 7	1.6	- 3.8
Clyde	- 3	1	2	-12	15.2	7.4
Contwoyto Lake	M	M	2P	- 3P	M	M
Coppermine	M	M	1	-10P	5.9	0.3
Coral Harbour	- 1	5	4	- 6	1.0	- 6.3
Dewar Lakes	- 6	2	2	-14	12.5	7.0
Ennadai	M	M	M	M	M	M
Eureka	-10	8	- 1	-22	2.1	0.9
Fort Reliance	3	3	7	- 3	0.4	- 5.4
Fort Simpson	M	M	6P	- 2	29.2	25.2
Fort Smith	4	- 1	12	- 1	13.4	6.4
Frobisher Bay	1	4	6	- 5	0.2	-10.9
Gladman Point	- 1	6	1	- 8	3.0	0.0
Hall Beach	- 1	7	2	- 9	1.1	2.5
Hay River	3	0	8	- 2	18.4	10.4
Inuvik	- 1	3	3	- 9	0.8	- 6.4
Jenny Lind Island	- 1	6	1	- 3	0.0	- 3.1
Lady Franklin Point	- 1	3	1	- 5	0.0	- 6.5
Longstaff Bluff	- 3	3	1	-11	1.0	- 3.1
Mackar Inlet	- 3	6	3	-11	2.4	- 2.1
Mould Bay	M	M	- 1P	-18	M	M
Nicholson Peninsula	- 2	3	2	- 6	0.0	- 3.3
Norman Wells	M	M	6P	- 6	0.0	- 5.3
Pelly Bay	- 3	7	2	-12	1.6	- 1.4
Pond Inlet	M	X	3P	-15P	0.0	X
Port Burwell	M	X	7P	- 1	2.9	X
Resolute	- 9	3	- 2	-20	0.0	- 4.1
Sachs Harbour	- 2	7	1	- 5	1.2	- 2.1
Shepherd Bay	- 1	8	4	- 9	11.5	9.7
Tuktoyaktuk	0	4	2	- 4	0.0	- 2.6
Yellowknife	2	1	6	- 1	14.5	5.6
ALBERTA						
Banff	M	M	8P	- 7	M	M
Calgary	M	M	19P	- 5P	M	M
Cold Lake	6	0	16	- 4	1.2	- 3.1
Coronation	5	- 1	20	- 4	9.8	5.8
Edmonton Intl	4	- 1	17	- 5	23.9	18.9
Edmonton Mun	5	- 2	17	- 2	23.0	17.7
Edmonton Namao	5	0	17	- 2	23.6	16.3
Edson	3	- 2	9	- 7	6.4	0.8
Fort Chipewyan	M	M	M	2P	M	M
Fort McMurray	5	0	14	- 2	24.0	18.2
Grande Prairie	3	- 3	11	- 6	10.6	5.5
High Level	3	1	14	- 3	65.2	58.3
Jasper	4	- 2	14	- 6	1.6	- 5.0
Lethbridge	7	- 2	23	- 5	7.8	3.6
Medicine Hat	M	M	23P	- 2	M	M
Peace River	3	- 1	11	- 2	9.7	2.9
Red Deer	5	- 2	19	- 4	18.8	13.9
Rocky Mountain House	4	- 2	17	- 5	5.6	- 0.1
Slave Lake	3	- 2	12	- 2	25.6	15.7
Vermilion	M	M	17	- 7P	0.9	- 3.8
Whitecourt	2	- 3	10	- 5	8.2	2.1
SASKATCHEWAN						
Broadview	9	5	15	- 3	24.8	7.0
Buffalo Narrows	6	2	12	0	M	M
Cree Lake	4	X	10	- 3	14.8	X
Estevan	10	3	20	- 3	17.2	10.8
Hudson Bay	7	1	18	- 4	M	M
Kindersley	7	2	23	- 1	11.2	6.2
La Ronge	6	3	13	- 4	16.0	6.3
Meadow Lake	5	X	16	- 3	11.9	X
Moose Jaw	8	0	18	0	49.8	45.2
Nipawin	6	X	18	- 4	34.0	X
North Battleford	6	- 1	17	- 4	0.0	- 4.3
Prince Albert	6	0	17	- 4	15.9	10.6
Regina	8	1	17	- 2	50.0	44.2
Rockglen	M	X	11P	- 1	M	X
Saskatoon	7	0	19	- 1	12.7	7.9
Swift Current	M	M	21P	- 2P	M	M
Uranium City	4	1	9	- 2	12.0	3.6
Wynyard	7	2	17	- 3	58.8	51.1
Yorkton	8	2	17	- 2	53.1	46.6
MANITOBA						
Bissett	9	4	17	- 2	19.3	5.0
Brandon	10	2	19	- 2	20.0	11.5
Churchill	4	3	11	1	15.2	4.2
Dauphin	M	M	18P	- 2P	7.9	1.2
Gillam	6	X	13	- 3	41.5	X
Gimli	10	3	18	0	20.5	6.6
Island Lake	8	X	13	2	20.0	X
Lynn Lake	4	4	10	- 6	17.2	4.1
Norway House	8	X	14	- 3	43.2	X
Pilot Mound	10	4	20	- 1	15.4	2.2
Portage la Prairie	11	2	19	0	18.1	7.3
The Pas	7	2	14	- 1	71.5	63.7
Thompson	6	5	11	- 7	28.3	11.1
Winnipeg	11	3	20	- 1	24.8	13.3
ONTARIO						
Armstrong	M	M	13P	- 4	M	M
Atikokan	7	1	15	- 5	6.0	-20.7
Earlton	M	M	13P	- 5	M	M
Geraldton	5	0	13	- 5	7.0	-14.0
Gore Bay	7	- 3	14	0	24.0	7.3
Kapuskasing	5	- 2	15	- 5	30.3	10.8
Kenora	9	2	16	3	18.6	8.1
Kingston	7	- 4	17	- 1	10.6	- 4.0
Lansdowne	6	1	14	0	1.0	-15.4
London	8	- 4	20	0	16.0	- 2.2
Moosonee	M	M	13P	- 7	M	M
Mount Forest	6	- 4	13	0	31.8	13.5
Muskoka	M	M	14P	- 3	25.6	2.9
North Bay	6	- 3	13	0	48.2	26.4
Ottawa	7	- 4	12	- 2	19.2	3.5
Petawawa	6	X	15	- 4	25.5	X
Pickle Lake	6	1	15	- 2	8.8	-12.1
Red Lake	8	1	14	- 3	17.0	- 1.7
Simcoe	M	M	19P	2	5.8	-12.3
Sioux Lookout	8	1	13	- 2	5.4	-13.4
Sudbury	6	- 3	15	1	31.9	11.1
Thunder Bay	7	0	14	- 1	3.3	-14.5
Timmins	4	- 3	15	- 5	47.4	29.0
Toronto	7	- 4	19	- 1	20.0	7.2
Trenton	8	- 4	17	- 2	17.9	4.5
Trout Lake	6	2	15	0	6.2	- 8.1
Wawa	M	X	11P	- 3P	M	X
Wiarton	7	- 4	15	0	27.2	7.4
Windsor	10	- 3	21	3	0.8	-15.1
QUÉBEC						
Bagotville	5	- 2	13	- 5	23.2	4.4
Baie Comeau	5	- 1	13	- 4	29.2	10.4
Blanc Sablon	M	M	10P	- 2	M	M
Border	M	M	M	- 2	M	M
Chibougamau	4	X	10	- 4	21.7	X
Fort Chimo	3	- 1	11	- 2	2.4	- 7.1
Gaspé	5	X	15	- 3	86.2	X
Grindstone Island	8	- 2	12	3	31.6	14.6
Inoucdjouac	3	2	9	- 4	1.8	- 7.5
Koartak	M	X	M	M	M	X
La Grande Rivière	4	X	13	- 4	0.0	X
Maniwaki	5	- 3	13	- 4	23.4	7.9
Matagami	M	X	11P	- 7	M	X
Mont-Joli	4	- 3	10	- 3	44.1	25.5
Montréal	6	- 5	15	- 1	12.8	- 4.6
Natashquan	6	0	15	- 2	34.6	20.4
Nitchecun	3	0	8	- 4	2.0	-16.3
Port Menier	M	M	11P	- 5P	M	M
Poste-de-la-Baleine	M	M	13	- 2P	0.2	-13.9
Québec	6	- 3	12	- 3	25.0	1.0
Rivière du Loup	M	M	8P	- 1	M	M
Roberval	M	M	12P	- 2P	M	M
Schefferville	2	2	9	- 4	2.2	-13.6
Sept-Iles	4	- 1	13	- 4	22.0	1.4
Sherbrooke	4	- 4	14	- 4	19.9	- 8.0
Ste Agathe des Monts	4	- 3	11	- 6	19.2	- 0.7
Val d'Or	5	- 2	12	- 5	37.4	18.5
NEW BRUNSWICK						
Charlo	M	M	14	- 3P	38.7	17.0
Chatham	M	M	16P	1	59.4	39.4
Fredericton	7	- 2	17	- 1	17.8	0.9
Moncton	6	- 3	17	- 2	56.8	38.0
St. John	6	- 3	17	- 1	21.6	0.1
NOVA SCOTIA						
Eddy Point	9	X	16	4	44.0	X
Greenwood	7	- 3	17	- 3	23.9	8.6
Sable Island	12	- 1	17	9	16.0	- 6.2
Shearwater	9	- 2	18	2	31.6	0.6
Sydney	8	- 2	14	1	45.8	21.2
Truro	M	M	16P	- 1	M	M
Yarmouth	M	M	15P	1	M	M
PRINCE EDWARD ISLAND						
Charlottetown	8	- 2	15	0	60.1	35.7
Summerside	8	- 3	14	3	45.4	28.0
NEWFOUNDLAND						
Argentia	10	X	15	4	79.7	X
Battle Harbour	M	M	9P	1P	9.2	- 2.0
Bonavista	8	- 1	12	4	24.0	- 0.3
Burgeo	9	0	14	2	15.4	-16.4
Cartwright	4	0	7	0	40.1	24.2
Churchill Falls	3	0	9	- 4	0.6	-22.8
Comfort Cove	M	M	12P	1	M	M
Daniel's Harbour	5	- 2	11	- 2	16.2	5.0
Deer Lake	6	- 1	11	- 3	15.5	- 6.1
Gander	7	- 1	11	1	48.8	27.6
Goose	M	M	11P	- 3	8.1	- 4.3
Hopedale	3	0	8	- 1	5.2	- 4.9
Port aux Basques	8	0	13	3	34.6	11.3
St Albans	M	M	14P	3	M	M
St Anthony	M	X	12P	0	36.8	X
St. John's	9	1	14	4	150.7	117.6
St Lawrence	9	1	14	0	37.0	10.0
Stephenville	7	- 1	12	- 1	29.6	11.9
Wabush Lake	2	0	7	- 4	0.8	-11.3

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