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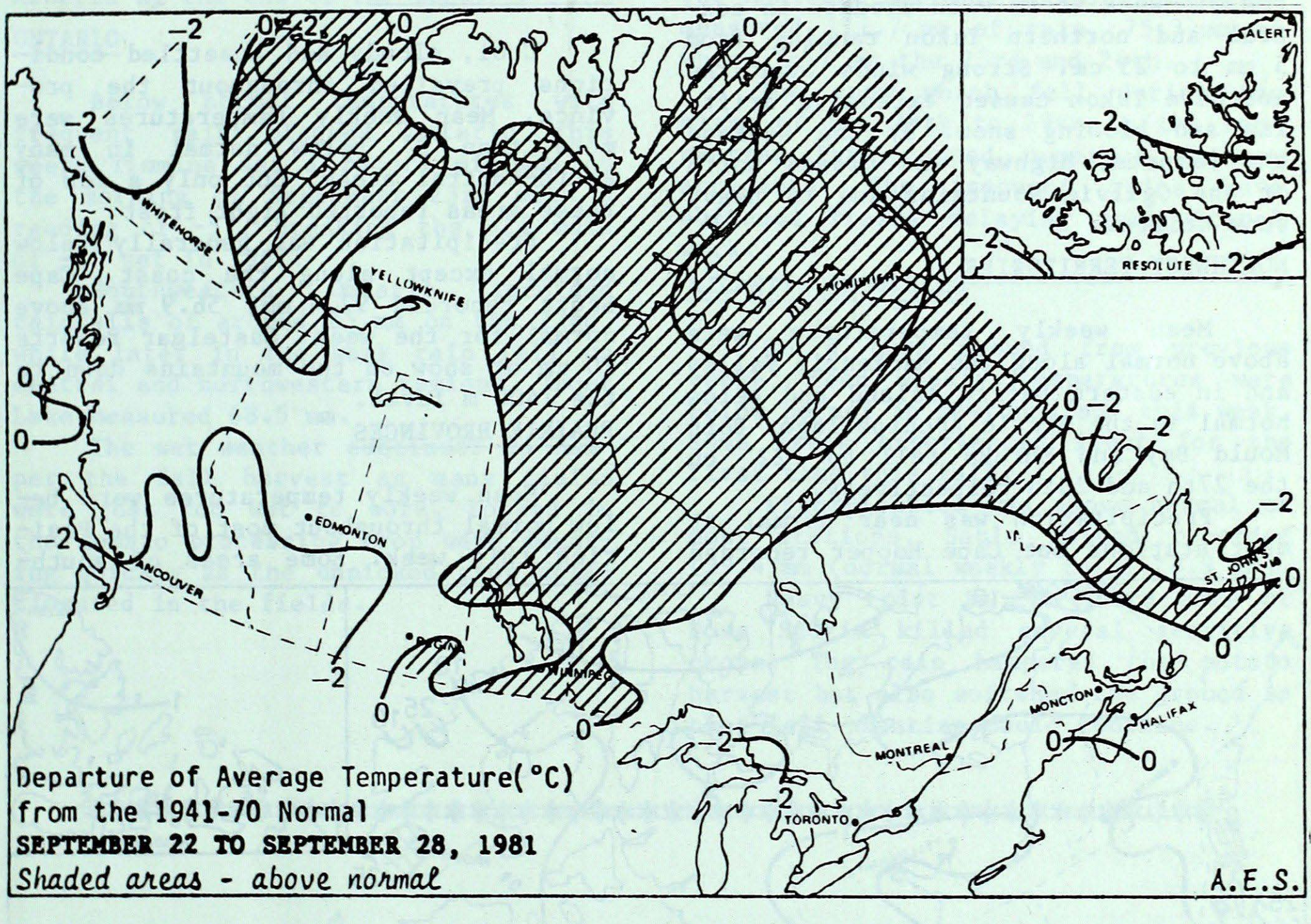
A WEEKLY REVIEW OF CANADIAN CLIMATE

CLIMATIC PERSPECTIVES

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

OCTOBER 2, 1981 *(Aussi disponible en français)* **VOL.3 NO. 39**



Departure of Average Temperature(°C)
from the 1941-70 Normal
SEPTEMBER 22 TO SEPTEMBER 28, 1981
Shaded areas - above normal

WEATHER HIGHLIGHTS FOR THE PERIOD - SEPTEMBER 22 - 28, 1981

Winter arrives in the Arctic

Commercial shipping is over for the season in the Arctic and drilling stopped in the Beaufort Sea on September 25th. New ice growth is accelerating and significant amounts of snow are remaining on the ground at some stations. Moderate to heavy snowfalls were reported in the northern Yukon; the Dempster Highway was closed north of the Ogilvie Mountains.

Eastern Canada experienced difficulty with agricultural field work due to excessive rain. Losses in the Ontario tomato crop were mounting as the crop deteriorated in the fields.

Temperatures varied from 26° at Windsor, Ontario to -22° at Eureka and Mould Bay, Northwest Territories. Sable Island recorded the greatest precipitation total, 129.4 mm.

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

YUKON

Cold Arctic air which was over extreme northern Yukon early in the week made a major move southward on September 25th and covered all but extreme southeastern areas by the end of the week. Temperatures which had been rising to near 10° fell to the freezing point some 8° below normal.

Moderate to heavy snow accompanied the mid-week storm with amounts in central and northern Yukon ranging from 5 cm to 25 cm. Strong winds over the northern Yukon caused extensive drifting and blowing snow. By the weekend the Dampster highway was closed north of the Ogilvie Mountains due to heavy snow drifts.

NORTHWEST TERRITORIES

Mean weekly temperatures were above normal along the Mackenzie Valley and in eastern Baffin Island and below normal in the Arctic Archipellago. Both Mould Bay and Eureka fell to -22° on the 27th and 28th respectively.

Precipitation was near normal at most stations but Cape Hooper recorded 31.1 mm. Significant amounts of snow are remaining on the ground at some stations. Shepherd Bay measured 26 cm.

Commercial shipping is over in the Arctic although the cargo ice breaker MV Arctic might make one more trip. Drilling stopped in the Beaufort Sea on September 25th. Ice conditions are about the same as in previous weeks and new ice growth is continuing.

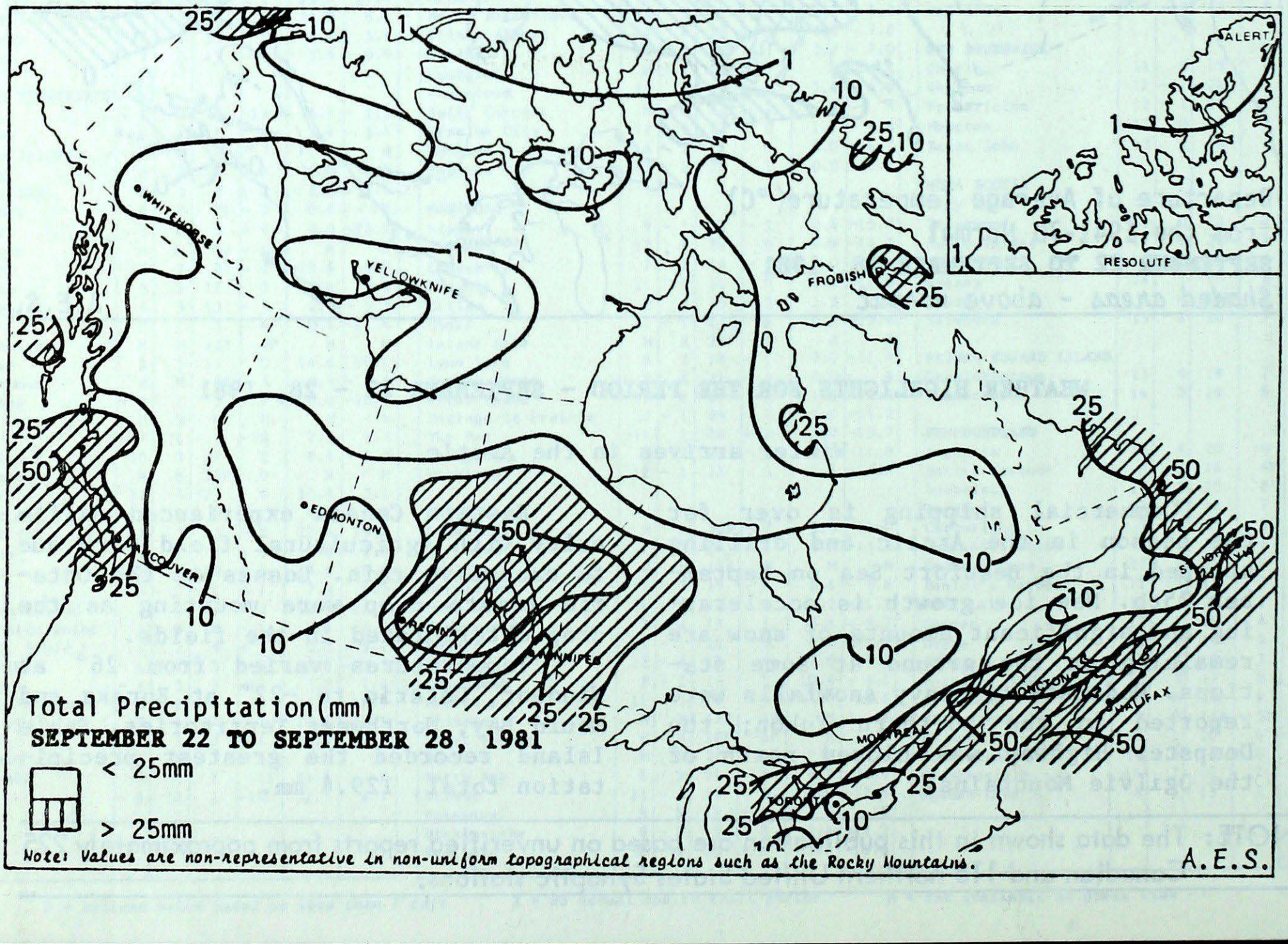
BRITISH COLUMBIA

Cool, cloudy and unsettled conditions prevailed throughout the province. Mean weekly temperatures were more than 3° below normal in many south-central areas, but only a few of these areas reported light frost.

Precipitation was generally below normal except along the coast. Cape Scott recorded 97.4 mm, 56.9 mm above normal for the week. Castelgar reports 20 cm of snow on the mountains down to the 1400 m level.

PRAIRIE PROVINCES

Mean weekly temperatures were below normal throughout most of the Prairies this week. Some areas of south-



western Alberta were more than 3° below normal. The mercury managed to reach 21° at many stations, but most stations recieved frost.

Precipitation came in the form of showers and amounts were highly variable as a result. Yorkton and Island Lake recorded the greatest amounts, 72.9 mm and 70.0 mm respectively.

Several very large forest fires were still burning in extreme northern Alberta at the end of the week.

ONTARIO

Below normal temperatures with frequent rain plagued Ontario this week. Timmins set a record minimum on the morning of September 23rd with a reading of -5°, breaking the old mark of -4° set in 1967.

Southwestern Ontario recorded rainfalls of around 25 mm on the 22nd, while later in the week rain fell on central and northwestern regions. Trout Lake measured 68.5 mm.

The wet weather continued to hamper the fall harvest as many fields were just too wet to work. Losses in the tomato processing crop were mounting quickly as the unpicked crop deteriorated in the fields.

QUÉBEC

Cool weather covered all of Québec with the exception of the north. The mercury reached 23° at Maniwaki on the 27th. Frost occurred at the majority of stations and the mercury fell to -10° at Poste-de-le-Baleine.

Ungava Bay and the southwestern areas of the province recorded precipitation totals greater than normal. The Ancienne-Lorrette Airport at Québec measured 111.7 mm of rain, 75.3 mm of which fell on the 23rd and 24th.

The snow which fell during the night of the 28th to 29th in the Laurentian Park caused numerous highway accidents. The frequent rains have softened fields delaying agricultural work.

ATLANTIC PROVINCES

In a turn around from previous weeks, mean weekly temperatures were below normal in Newfoundland this week. Some areas experienced frost for the first time this fall.

Precipitation was above normal at most stations. Sable Island recorded 129.4 mm (normal weekly total 18.9 mm).

Heavy frost in the Truro area of Nova Scotia killed several sensitive crops. The rain hampered the potato harvest but also softened the ground so that fall planting could continue.

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CLIMATIC PERSPECTIVES

Staff

Editor: Yves Durocher
Assistant Editor: Bob Paterson
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)
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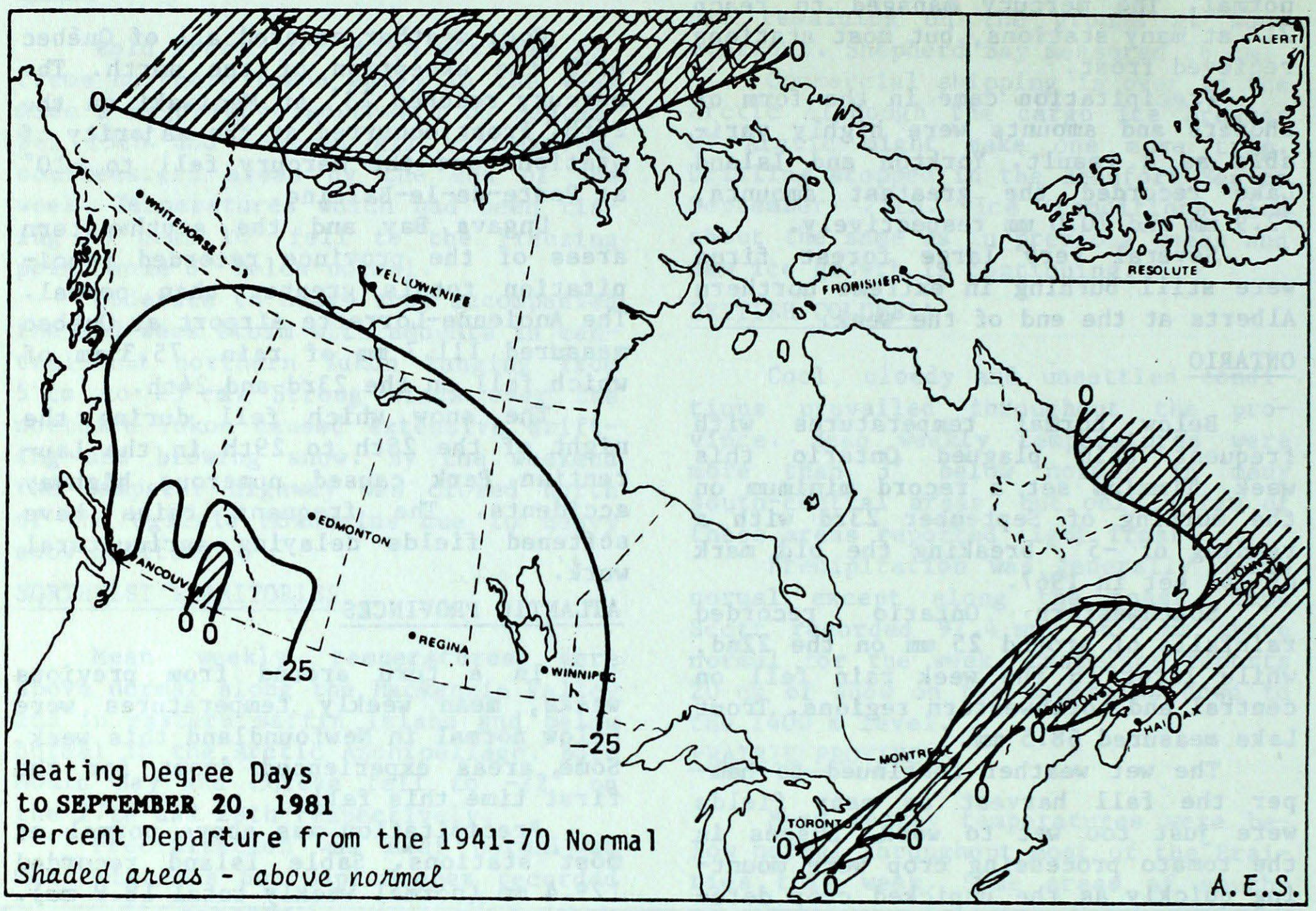
Staff of Prince George, Kamloops, Castlegar, Fort Nelson, Penticton and Kelowna weather office (Pacific Region)

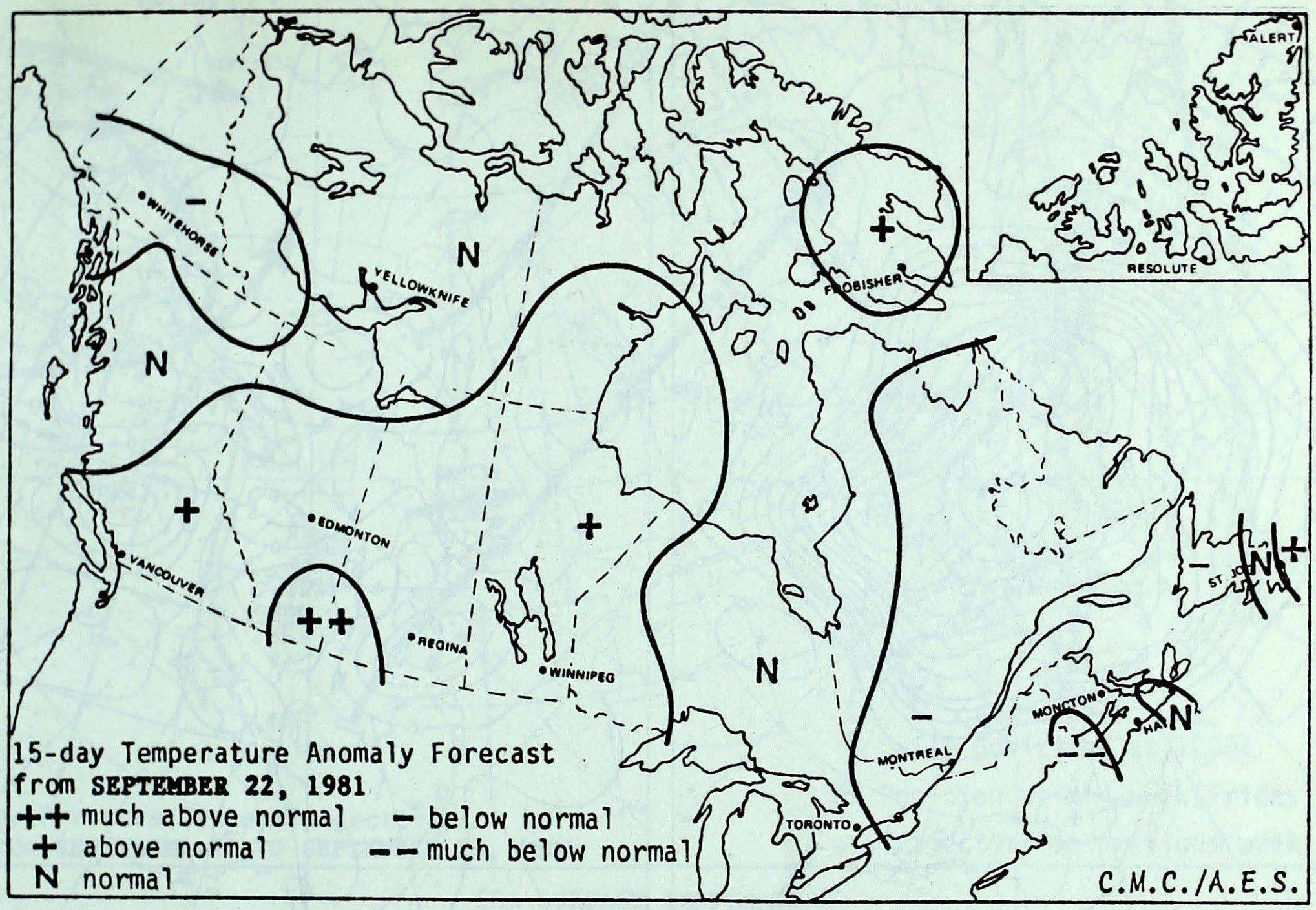
Telephone Inquiries (416) 667-4711/4906

HEATING DEGREE-DAY SUMMARY TO SEPTEMBER 26, 1981

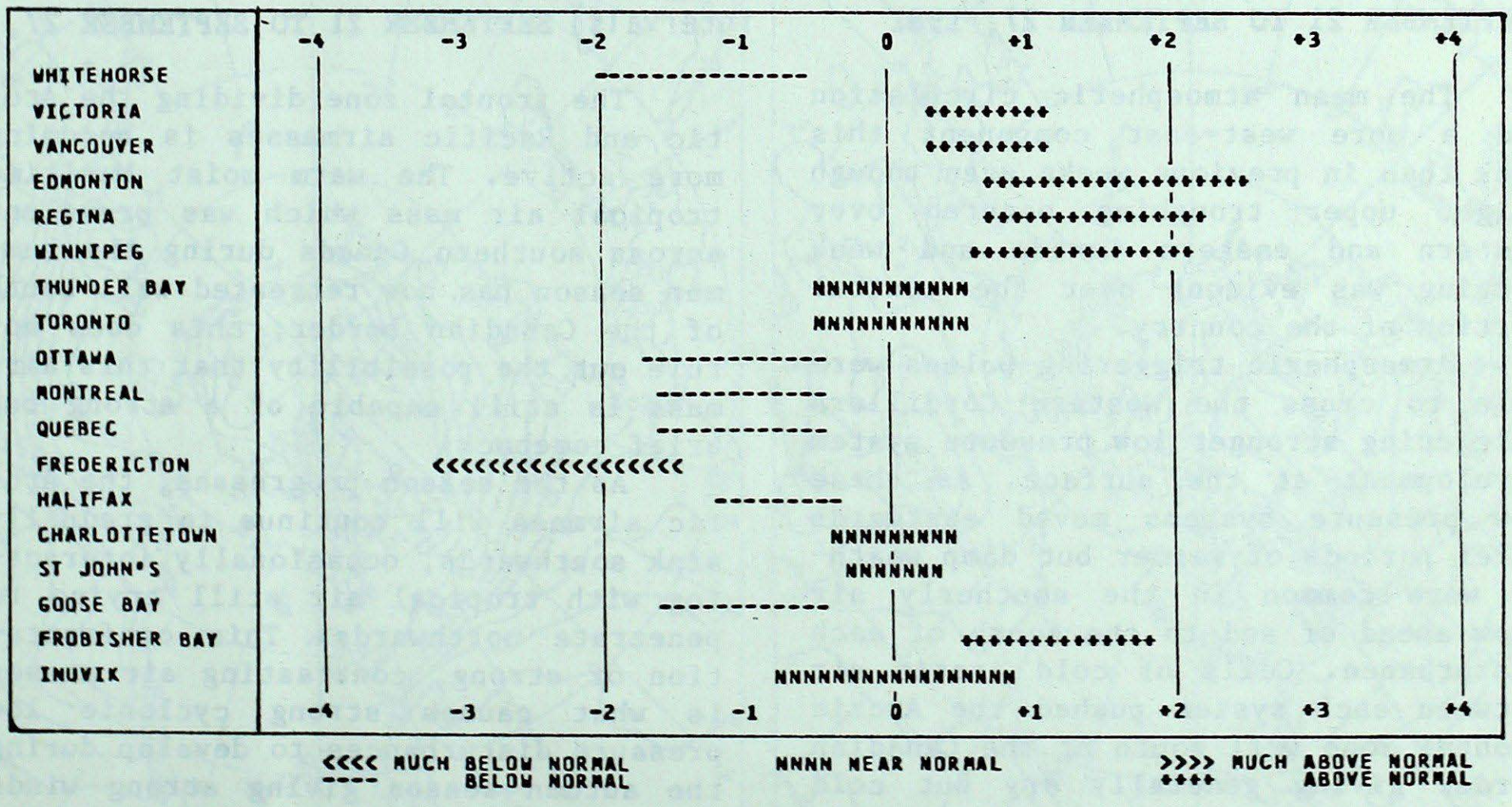


STATION	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL
Resolute	572.5	-6.5	1512.0	34.0	102
Inuvik	387.0	7.0	811.0	53.0	107
Whitehorse	277.5	22.5	536.5	-19.5	96
Vancouver	71.0	-23.0	127.0	-42.0	75
Edmonton Mun	114.5	-60.5	174.5	-129.5	57
Calgary	145.5	-35.5	281.5	-61.5	82
Regina	114.0	-48.0	134.5	-102.5	57
Winnipeg	115.0	-28.0	141.5	-60.5	70
Thunder Bay	162.0	-2.0	242.0	-40.0	86
Windsor	60.5	10.5	62.5	1.5	102
Toronto	88.0	10.0	112.5	5.5	105
Ottawa	109.5	10.5	134.0	-3.0	98
Montreal	104.0	22.0	134.0	25.0	123
Quebec	126.0	3.0	196.5	6.5	103
Saint John, N.B.	117.5	-16.5	214.5	-30.5	88
Halifax	70.5	-10.5	141.5	-6.5	96
Charlottetown	100.5	-2.5	170.0	3.0	102
St. John's, Nfld.	157.5	5.5	365.0	24.0	107

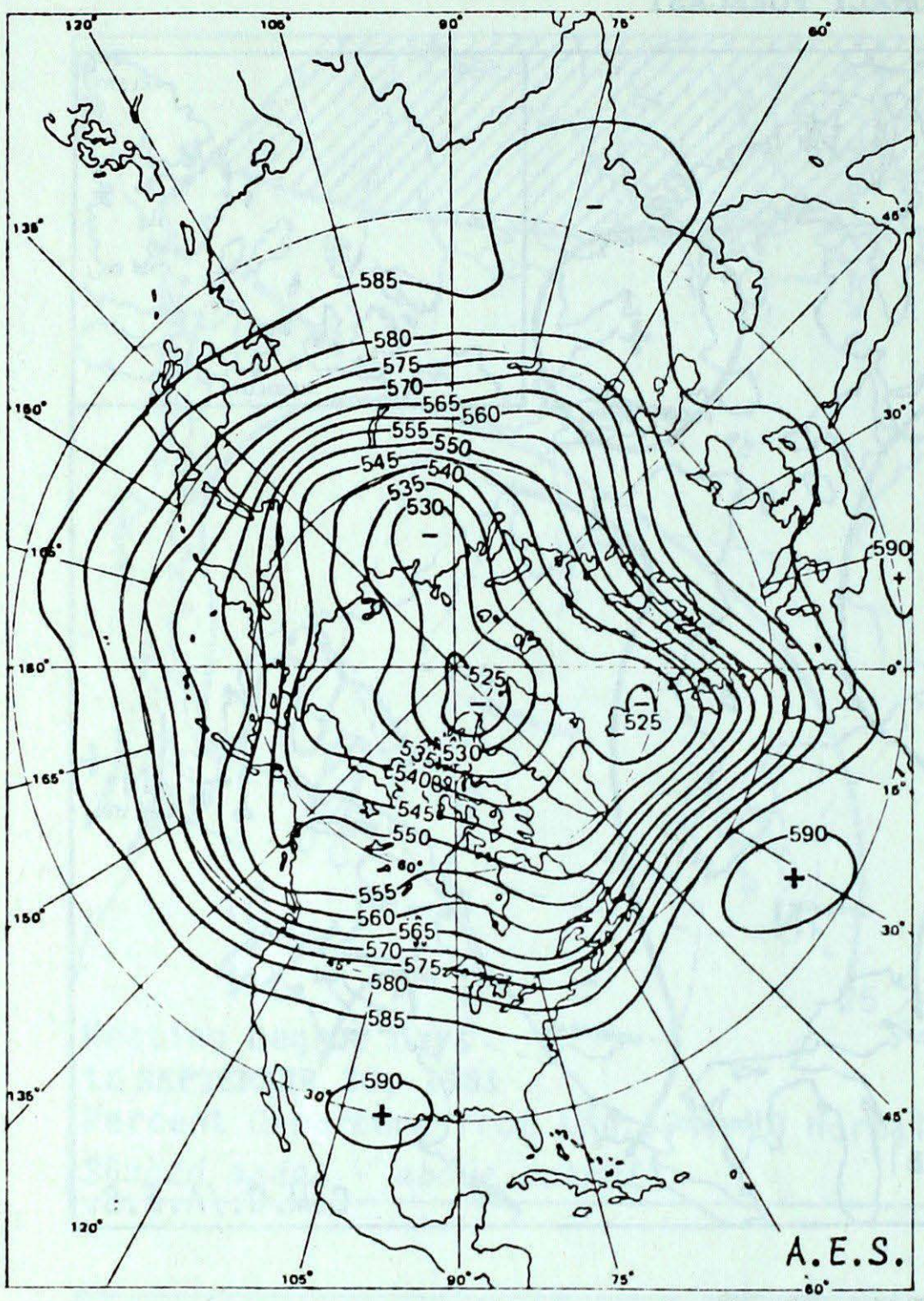
TEMPERATURE ANOMALY FORECAST



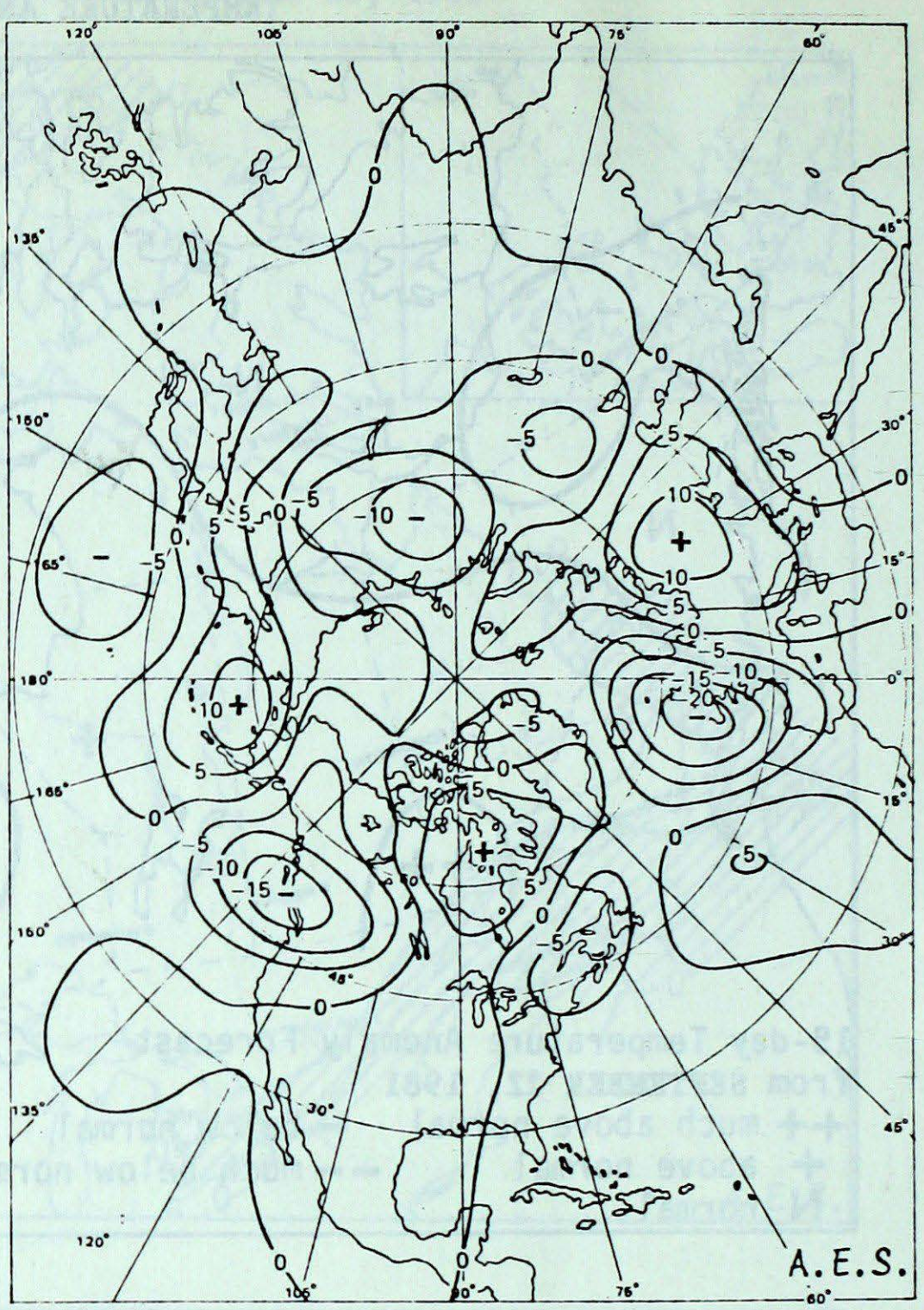
TEMPERATURE ANOMALY FORECAST FOR SEP 29 1981 TO OCT 13 1981



Atmospheric Circulation



7-day Mean 50 kPa Height Map(in dam) **SEPTEMBER 21 TO SEPTEMBER 27, 1981**



7-day Mean 50 kPa Height Anomaly (in 5 dam intervals) **SEPTEMBER 21 TO SEPTEMBER 27, 1981**

The mean atmospheric circulation had a more west-east component this week than in previous weeks even though slight upper troughing occured over western and eastern Canada and weak ridging was evident over the central portion of the country.

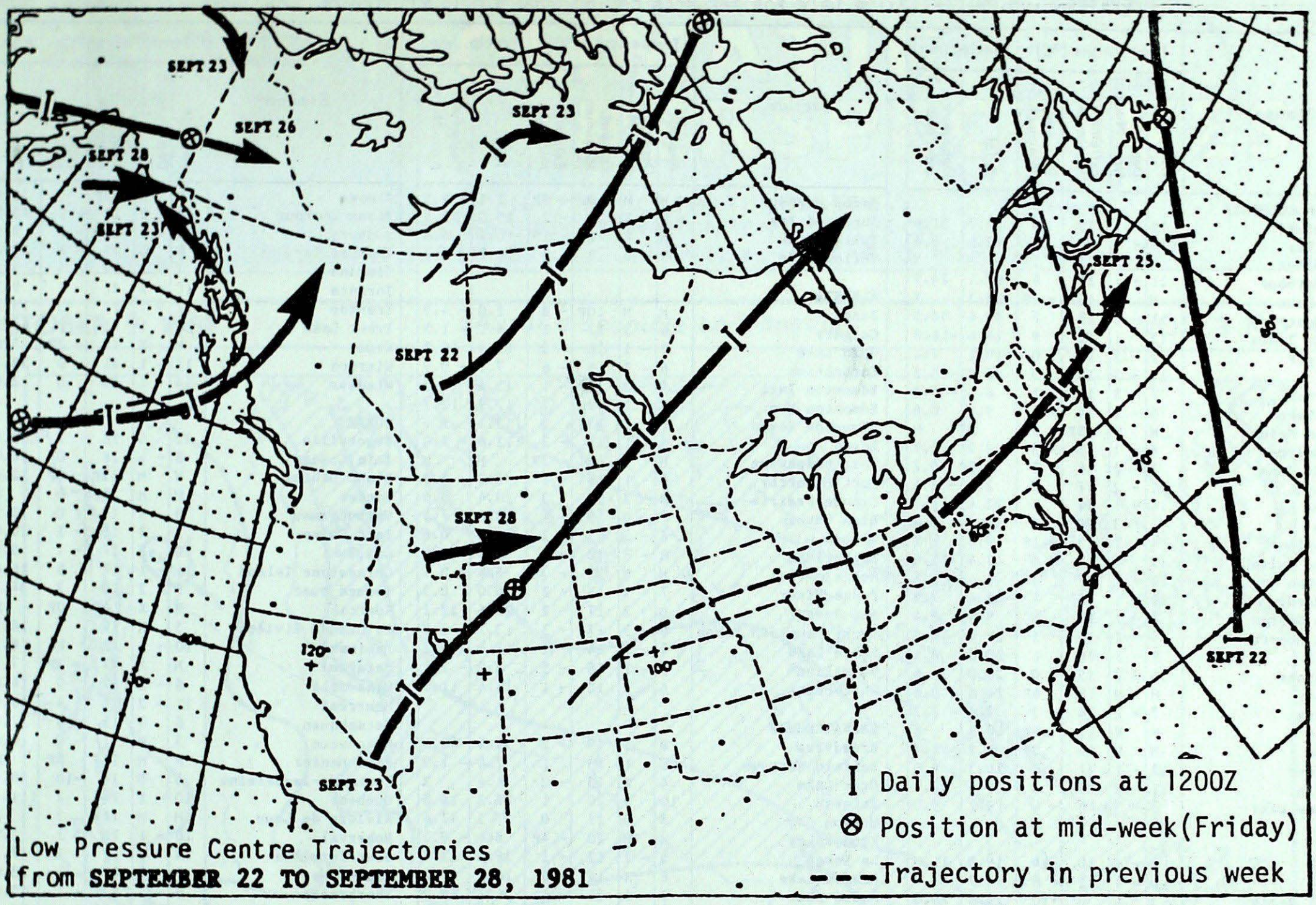
Atmospheric triggering pulses were able to cross the Western Cordillera triggering stronger low pressure system development at the surface. As these low pressure systems moved eastwards brief periods of warmer but damp weather were common in the southerly air flow ahead of and to the south of each disturbance. Cells of cold Arctic air between each system pushed the Arctic frontal zone well south of the Canadian border giving generally dry but cold autumn conditions.

The frontal zone dividing the Arctic and Pacific airmasses is becoming more active. The warm moist Maritime tropical air mass which was prevalent across southern Canada during the summer season has now retreated well south of the Canadian border; this does not rule out the possibility that this airmass is still capable of a strong but brief comeback.

As the season progresses, the Arctic airmass will continue to gradually sink southwards, occasionally interacting with tropical air still trying to penetrate northwards. This confrontation of strong, contrasting air masses is what causes strong cyclonic low pressure disturbances to develop during the autumn season giving strong winds and generous widespread rainfalls.

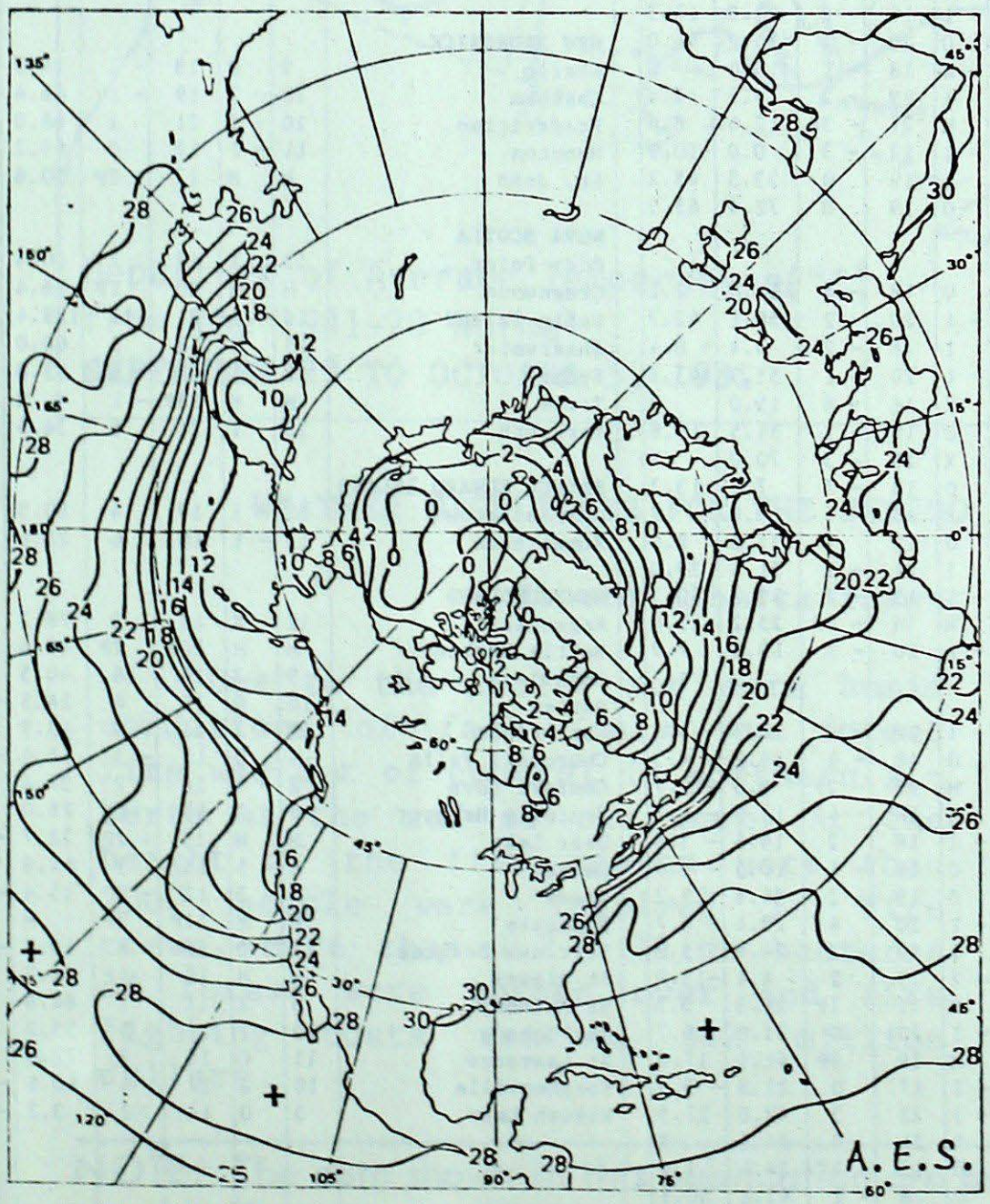
Andy Radomski

LOW PRESSURE CENTRE TRAJECTORIES

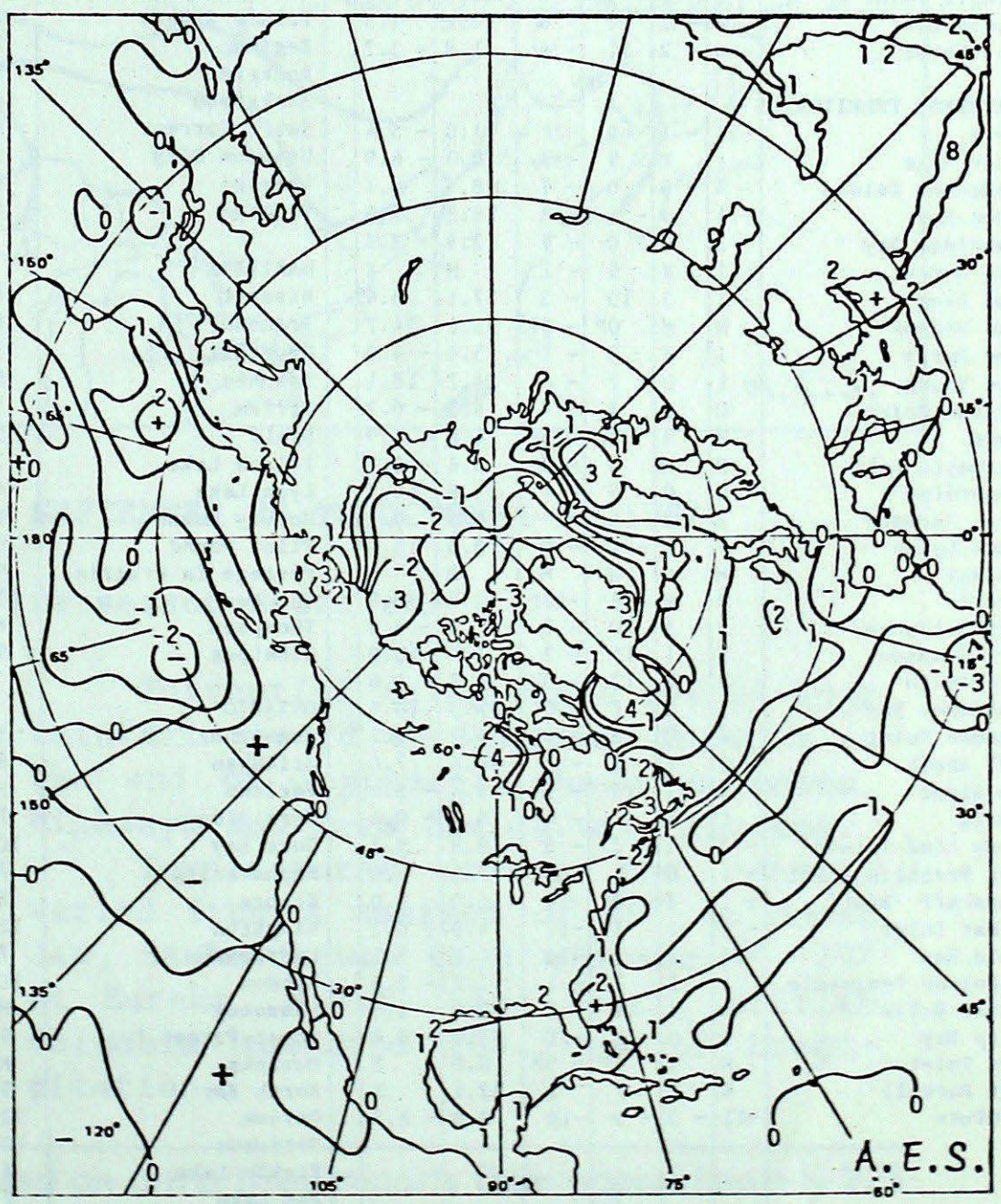


Low Pressure Centre Trajectories
from **SEPTEMBER 22 TO SEPTEMBER 28, 1981**

SEA SURFACE TEMPERATURE



Monthly Mean Sea Temperature
for **MID AUGUST TO MID SEPTEMBER 1981**



Sea Surface Temperature Anomalies
for **MID AUGUST TO MID SEPTEMBER 1981**

TEMPERATURE AND PRECIPITATION DATA FOR THE WEEK ENDING 0600 G.M.T. SEPTEMBER 29, 1981

Station	Temperature (°C)				Precip. (mm)	
	Average	Departure from Normal	Extreme Maximum	Extreme Minimum	Total	Departure from Normal
BRITISH COLUMBIA						
Abbotsford	12	- 2	19	4	53.7	31.4
Alert Bay	10	- 2	15	4	42.2	9.6
Blue River	M	X	13P	- 1P	M	X
Bull Harbour	11	- 1	15	4	62.1	24.9
Burns Lake	M	X	13P	- 1P	28.3	X
Cape Scott	11	- 1	15	7	97.4	56.9
Cape St James	13	1	20	9	16.6	-16.8
Castlegar	9	- 3	18	0	19.2	7.4
Comox	11	- 2	18	3	28.0	13.2
Cranbrook	7	- 3	14	- 2	6.5	- 0.8
Dease Lake	5	- 1	14	- 5	9.2	0.8
Estevan Point	M	M	15P	5	M	M
Fort Nelson	6	- 1	15	- 3	2.2	- 4.7
Fort St John	7	- 2	14	- 3	6.9	0.7
Kamloops	11	- 2	17	2	2.5	- 2.4
Langara	11	- 1	14	8	32.4	-11.7
Lytton	11	- 3	20	2	10.2	5.4
Mackenzie	M	X	13	- 1P	9.4	X
McInnes Island	12	0	16	8	47.4	-11.6
Penticton	10	- 3	17	0	6.4	2.2
Port Hardy	10	- 1	15	4	43.4	7.6
Prince George	7	- 1	14	- 1	9.6	- 8.4
Prince Rupert	9	- 2	16	1	22.4	-45.5
Quesnel	9	- 1	16	1	20.6	8.5
Revelstoke	8	- 2	15	0	24.0	10.6
Sandspit	M	M	19	6P	24.0	- 0.6
Smithers	7	- 2	14	- 3	7.4	- 7.2
Stewart	M	X	17	6P	10.9	X
Terrace	M	M	16	3P	8.2	-21.7
Vancouver	12	- 1	21	6	26.5	8.6
Victoria	11	- 2	18	4	39.5	30.6
Williams Lake	7	- 3	16	- 4	16.2	9.0
YUKON						
Burwash	- 1	- 4	10	-14	16.5	11.0
Dawson	1	- 3	11	- 6	10.9	6.9
Komakuk Beach	- 3	- 1	0	-10	29.0	26.6
Mayo	2	- 2	10	- 4	12.3	6.3
Shingle Point	- 1	0	2	- 5	60.8	57.3
Watson Lake	4	- 2	11	- 6	10.2	1.3
Whitehorse	4	- 2	11	- 4	1.8	- 3.2
NORTHWEST TERRITORIES						
Alert	-14	- 1	- 6	-21	1.0	- 5.4
Baker Lake	1	1	9	- 9	0.0	- 6.9
Broughton Island	- 4	0	0	- 7	8.9	0.1
Byron Bay	- 4	0	- 1	- 8	8.3	5.5
Cambridge Bay	- 3	0	0	- 7	2.9	- 0.7
Cape Dorset	2	X	5	- 1	M	X
Cape Dyer	- 1	3	10	- 5	17.1	5.4
Cape Hooper	M	M	0P	- 6P	31.1	24.2
Cape Parry	1	2	3	- 1	5.4	- 4.0
Cape Young	- 1	0	1	- 6	21.2	18.1
Clinton Point	0	2	2	- 2	6.2	- 0.2
Clyde	M	M	2P	- 5P	4.8	- 1.9
Contwoyto Lake	M	M	4	- 3P	5.6	- 2.5
Coppermine	0	0	6	- 4	21.0	14.2
Coral Harbour	2	3	6	- 4	4.5	0.2
Dewar Lakes	- 4	2	- 1	- 9	18.0	13.4
Ennadai	M	M	M	M	M	M
Eureka	M	M	- 6	-22P	2.5	0.8
Fort Reliance	3	- 1	10	- 2	1.4	- 6.5
Fort Simpson	5	1	15	- 3	1.0	-10.8
Fort Smith	5	- 1	13	- 3	1.9	- 9.6
Frobisher Bay	3	2	7	0	28.3	18.1
Gladman Point	- 4	0	3	-10	2.2	- 1.2
Hall Beach	- 2	1	2	- 7	10.6	7.0
Hay River	4	- 1	15	- 5	4.4	- 8.4
Inuvik	1	1	7	- 4	4.7	- 0.4
Jenny Lind Island	- 3	1	2	- 6	10.9	9.2
Lady Franklin Point	- 1	0	4	- 6	7.0	4.9
Longstaff Bluff	- 1	2	2	- 4	6.0	1.0
Mackar Inlet	- 4	1	1	-11	4.9	- 0.7
Mould Bay	-13	- 3	- 5	-22	0.0	- 3.1
Nicholson Peninsula	1	2	3	- 1	2.2	- 2.6
Norman Wells	4	1	11	- 2	3.7	- 2.5
Pelly Bay	- 6	0	- 1	-11	5.0	- 0.4
Pond Inlet	M	X	1P	- 9P	0.0	X
Port Burwell	4	X	7	1	22.6	X
Resolute	-11	- 3	- 5	-16	0.0	- 4.3
Sachs Harbour	M	M	0P	- 5P	1.1	- 2.5
Shepherd Bay	- 5	- 1	1	-12	25.0	22.5
Tuktoyaktuk	M	M	6	- 1P	10.4	6.8
Yellowknife	3	- 1	8	- 2	0.2	- 6.7
ALBERTA						
Banff	M	M	10P	- 8	2.0	- 4.9
Calgary	6	- 3	17	- 2	4.1	- 1.5
Cold Lake	7	- 1	14	- 2	21.4	16.2
Coronation	6	- 3	19	- 6	7.1	- 0.9
Edmonton Intl	7	- 2	13	- 1	15.4	8.3
Edmonton Mun	8	- 1	13	2	17.2	12.7
Edmonton Namao	7	- 2	13	0	12.1	6.5
Edson	6	- 1	15	- 2	11.6	- 2.0
Fort Chipewyan	M	M	M	- 2P	M	M
Fort McMurray	6	- 1	15	- 3	2.3	- 8.9
Grande Prairie	6	- 2	15	- 3	10.4	3.6
High Level	7	0	15	- 4	3.6	- 7.5
Jasper	6	- 3	13	- 2	8.2	0.8
Lethbridge	8	- 3	18	- 3	1.0	- 5.6
Medicine Hat	M	M	21	- 3P	5.4	- 0.1
Peace River	7	- 1	15	- 2	6.0	0.5
Red Deer	6	- 2	17	- 2	28.6	22.2
Rocky Mountain House	6	- 3	17	- 3	13.7	5.8
Slave Lake	7	- 1	14	- 1	11.1	3.2
Vermilion	6	- 2	16	- 5	4.0	- 2.1
Whitecourt	6	- 1	12	- 1	16.4	11.0
SASKATCHEWAN						
Broadview	8	1	19	- 2	54.6	48.0
Buffalo Narrows	6	- 1	13	1	7.4	- 1.9
Cree Lake	4	X	13	- 2	1.4	X
Estevan	10	0	20	1	27.3	18.8
Hudson Bay	8	0	17	0	57.5	47.4
Kindersley	M	M	20	- 4P	8.4	- 0.5
La Ronge	6	- 1	12	- 1	26.8	13.4
Meadow Lake	6	X	14	- 5	20.4	X
Moose Jaw	9	- 1	21	- 1	34.7	26.9
Nipawin	7	X	15	- 2	51.0	X
North Battleford	7	- 2	17	- 4	3.2	- 1.1
Prince Albert	7	- 1	16	- 3	21.8	14.3
Regina	9	0	20	- 1	55.2	46.0
Rockglen	9	X	18	- 1	15.0	X
Saskatoon	8	- 1	19	- 2	9.5	2.4
Swift Current	M	M	21	- 3P	12.6	6.4
Uranium City	5	- 1	12	- 3	0.0	-10.9
Wynyard	8	1	19	0	53.5	45.3
Yorkton	8	0	19	0	72.9	63.3
MANITOBA						
Bissett	8	0	18	- 4	14.8	1.1
Brandon	8	- 1	20	- 2	50.1	42.7
Churchill	5	1	16	- 2	4.4	- 8.4
Dauphin	8	- 1	20	- 1	51.9	43.2
Gillam	5	X	16	- 6	15.0	X
Gimli	9	0	19	- 1	31.5	18.8
Island Lake	7	X	18	- 3	70.0	X
Lynn Lake	4	0	13	- 7	7.6	-13.3
Norway House	6	X	16	- 4	50.8	X
Pilot Mound	9	0	19	1	21.8	8.0
Portage la Prairie	9	- 1	21	- 2	51.6	39.0
The Pas	7	- 1	15	- 2	52.7	40.3
Thompson	M	M	14	- 9P	25.2	13.8
Winnipeg	9	- 1	20	- 3	19.8	7.9
ONTARIO						
Armstrong	5	- 1	18	- 9	17.8	- 4.1
Atikokan	8	0	18	- 4	16.2	- 4.3
Earlton	M	M	18	- 2P	6.5	-12.7
Geraldton	7	0	18	- 4	11.6	- 6.3
Gore Bay	10	- 1	18	2	14.6	- 5.6
Kapuskasing	7	0	19	- 4	10.5	- 6.9
Kenora	8	0	19	- 2	34.6	18.2
Kingston	12	- 1	20	4	18.4	- 3.7
Lansdowne	7	1	15	- 2	24.4	5.8
London	11	- 2	23	2	4.4	-15.9
Moosonee	M	M	17	1P	21.3	0.3
Mount Forest	9	- 1	20	0	31.8	6.7
Muskoka	M	M	19	0P	41.9	17.8
North Bay	9	- 1	17	0	21.8	- 5.3
Ottawa	12	- 1	22	5	43.8	27.5
Petawawa	10	X	21	0	24.6	X
Pickle Lake	6	0	18	- 3	24.4	1.6
Red Lake	7	0	18	- 2	41.1	30.1
Simcoe	M	M	23P	3	32.8	16.2
Sioux Lookout	8	0	20	- 2	28.9	8.2
Sudbury	9	- 1	17	- 1	9.6	-16.1
Thunder Bay	8	0	19	- 4	12.2	- 3.4
Timmins	7	- 1	19	- 5	5.2	-10.8
Toronto	11	- 2	21	2	9.3	- 6.5
Trenton	12	- 1	21	3	13.3	- 1.2
Trout Lake	6	1	13	- 3	68.5	53.7
Wawa	M	X	17	- 3P	15.6	X
Wiarton	11	- 1	21	0	38.3	17.1
Windsor	14	- 1	26	5	2.6	-12.5
QUÉBEC						
Bagotville	10	0	18	2	12.0	-10.8
Baie Comeau	8	- 1	18	0	16.0	-18.6
Blanc Sablon	M	M	12P	0P	12.4	- 6.0
Border	M	M	1P	0	M	M
Chibougamau	8	X	17	0	12.9	X
Fort Chimo	5	2	13	- 2	20.0	4.2
Gaspé	10	X	17	- 1	5.8	X
Grindstone Island	11	- 1	17	8	26.6	3.2
Inoucdjouac	6	2	10	2	34.2	18.7
Koartak	M	X	4P	0P	M	X
La Grande Rivière	5	X	12	- 3	18.5	X
Maniwaki	10	- 1	23	1	8.7	-11.4
Matagami	M	X	17	- 3P	7.7	X
Mont-Joli	8	- 2	17	0	14.8	- 4.3
Montréal	11	- 2	21	4	40.6	26.1
Natashquan	8	0	15	0	17.8	- 4.5
Nitchecun	5	0	11	- 2	10.6	-12.2
Port Menier	M	M	15P	0P	M	M
Poste-de-la-Baleine	5	0	14	-10	8.4	-14.7
Québec	10	- 1	18	2	111.7	94.2
Rivière du Loup	M	M	16P	2	M	M
Roberval	10	- 1	18	3	5.9	-13.4
Schefferville	4	0	11	- 2	7.1	-15.4
Sept-Iles	7	0	17	- 1	13.0	-12.7
Sherbrooke	9	- 2	22	- 1	45.0	17.6
Ste Agathe des Monts	9	0	19	1	35.4	13.5
Val d'Or	M	M	17	- 2P	9.4	-15.6
NEW BRUNSWICK						
Charlo	9	0	18	- 1	14.5	- 9.5
Chatham	10	- 2	19	- 1	46.4	27.4
Fredericton	10	- 2	21	1	66.0	47.7
Moncton	11	- 1	19	0	49.2	28.5
St. John	M	M	17	2P	50.6	22.9
NOVA SCOTIA						
Eddy Point	12	X	19	7	60.4	X
Greenwood	M	M	20	1P	76.6	56.0
Sable Island	16	1	21	11	129.4	110.5
Shearwater	13	0	18	5	60.0	37.0
Sydney	12	- 1	19	6	53.8	30.2
Truro	M	M	18P	- 1	M	M
Yarmouth	13	1	21	6	34.5	12.2
PRINCE EDWARD ISLAND						
Charlottetown	12	- 1	19	4	80.5	58.5
Summerside	12	- 1	18	6	28.6	2.5
NEWFOUNDLAND						
Argentia	12	X	16	8	78.2	X
Battle Harbour	M	M	10P	2P	48.6	35.6
Bonavista	9	- 2	16	6	40.5	17.7
Burgeo	10	0	15	4	24.5	- 0.5
Cartwright	5	- 3	11	0	43.9	22.8
Churchill Falls	4	0	11	- 3	18.6	- 5.6
Comfort Cove	8	- 1	16	2	37.4	15.6
Daniel's Harbour	8	- 2	13	1	26.0	4.2
Deer Lake	M	M	15	- 2P	22.7	- 3.9
Gander	8	- 3	15	3	44.8	23.4
Goose	5	- 3	12	- 3	15.4	- 6.8
Hopedale	M	M	11P	2P	M	M
Port aux Basques	11	0	15	6	19.9	- 7.8
St Albans	M	M	18	1P	68.2	29.7
St Anthony	5	X	11	1	84.8	X
St. John's	10	- 1	17	5	55.2	29.3
St Lawrence	11	0	16	2	72.5	40.5
Stephenville	10	- 2	17	4	10.6	-15.9
Wabush Lake	5	0	14	-2	3.2	-23.8

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