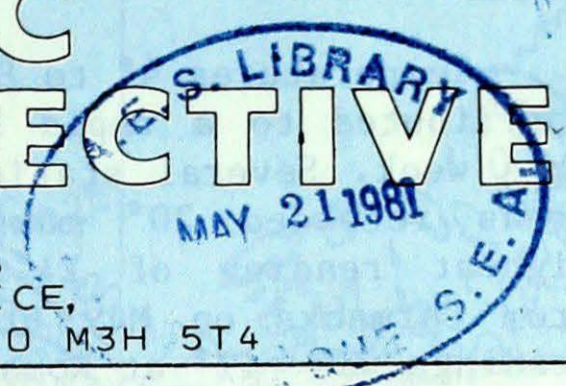


# CLIMATIC PERSPECTIVES

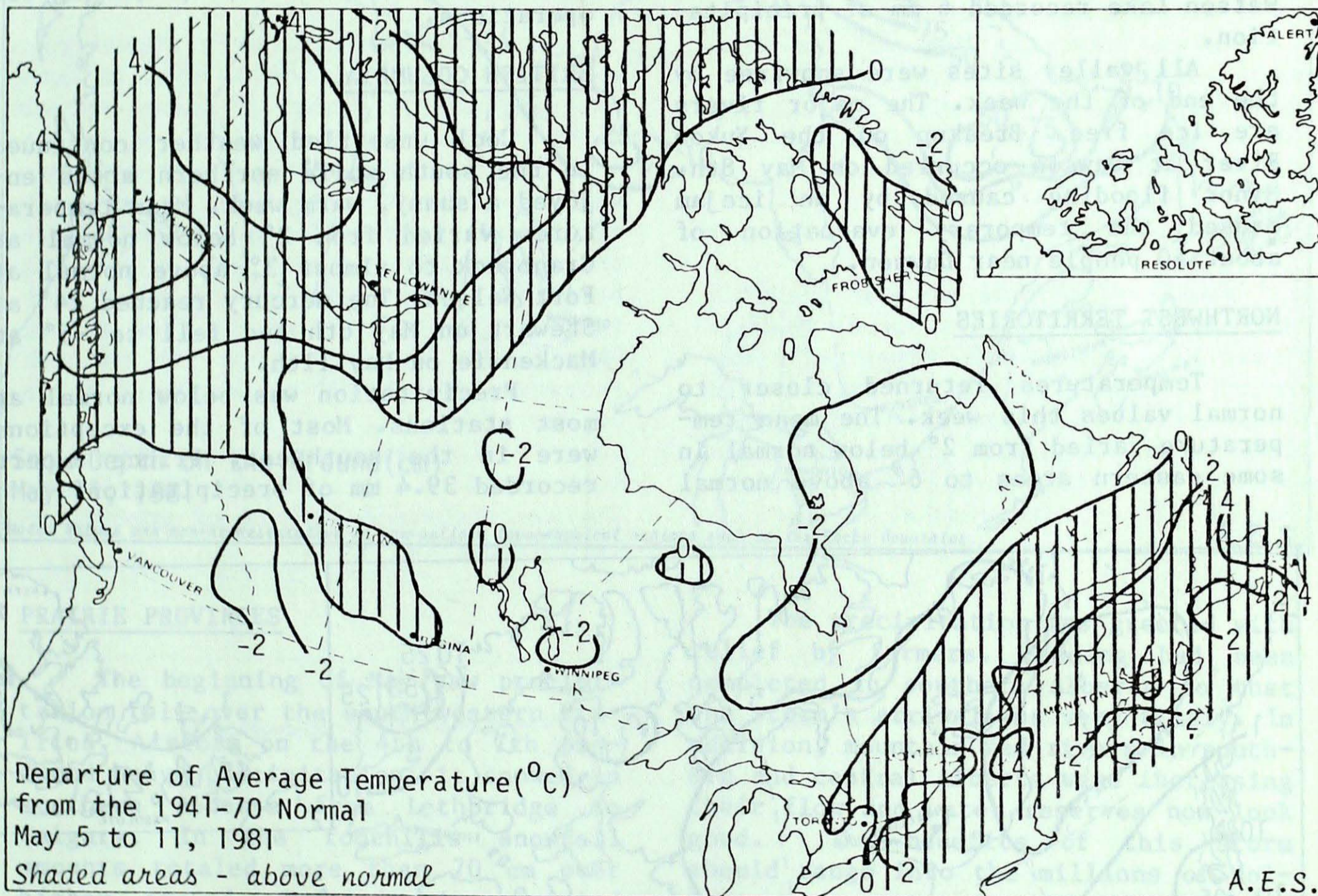
THE CANADIAN CLIMATE CENTRE,  
ATMOSPHERIC ENVIRONMENT SERVICE,  
4905 DUFFERIN ST., DOWNSVIEW, ONTARIO M3H 5T4



MAY 15, 1981

(Aussi disponible en français)

VOL.3 NO.19



## WEATHER HIGHLIGHTS FOR THE PERIOD - MAY 5 TO 11, 1981

### Precipitation arrives in the southwestern Prairies

A storm at the beginning of the week delivered more than 40 mm to 80 mm of precipitation to the agricultural areas of southern Alberta. The timing of this event was perfect as seeding had been completed in this area. The same storm dropped no more than 10.5 mm of precipitation over southern Saskatchewan while the rest of Saskatchewan and Manitoba received only very light precipitation.

Crop damage due to the record cold December and January in Ontario continues to show up. Vineyards west of Vineland show considerable injury on hybrid varieties.

The mercury reached a maximum of  $28^{\circ}$  at Sherbrooke, Québec and a minimum of  $-23^{\circ}$  at Clyde, Northwest Territories. The highest weekly precipitation total, 85.1 mm, was recorded at Rocky Mountain House, Alberta.

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

YUKON

Temperatures 4° to 8° above normal contributed to a rapid spring breakup this week. Several stations in central areas recorded 20° maximums but the highest reading of 21° was reported from Carmacks on May 6th. The lowest readings was -11° at Komakuk Beach.

Very little precipitation fell during the week. Tuchtua just north of Watson Lake recorded 6 mm of precipitation.

All valley sites were snowfree by the end of the week. The major rivers are ice free. Breakup on the Yukon River at Dawson occurred on May 8th. Minor flooding caused by an icejam caused the temporary evacuation of about 40 people near Dawson.

NORTHWEST TERRITORIES

Temperatures returned closer to normal values this week. The mean temperature varied from 2° below normal in some eastern areas to 6° above normal

in the central Mackenzie. The mercury reached a maximum of 24° at Norman Wells and a minimum of -23° at Clyde.

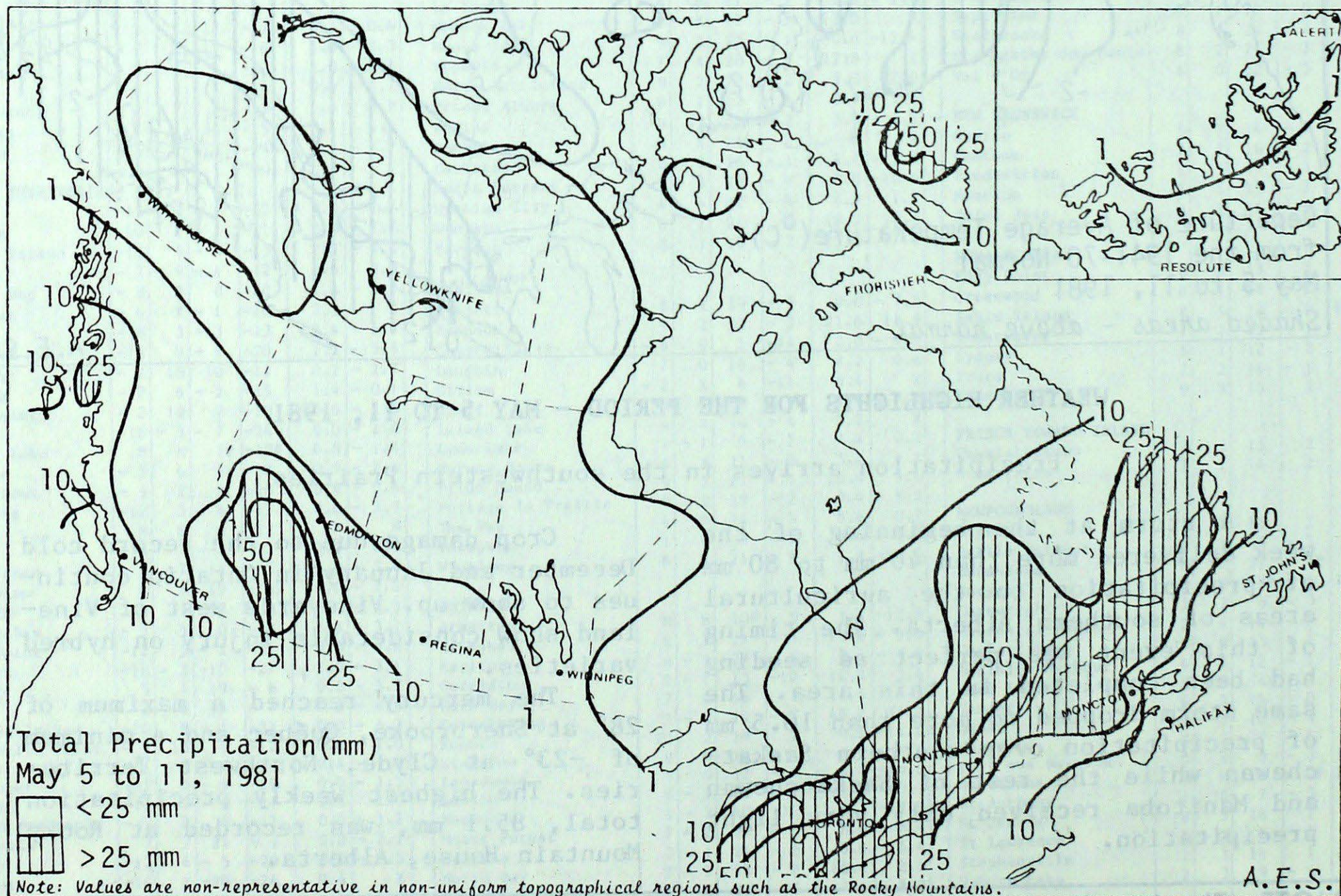
Precipitation was concentrated on the northern coast of Baffin Island. Snowdepths increased at Cape Hooper to 169 cm where a weekly precipitation total of 71.2 mm was recorded.

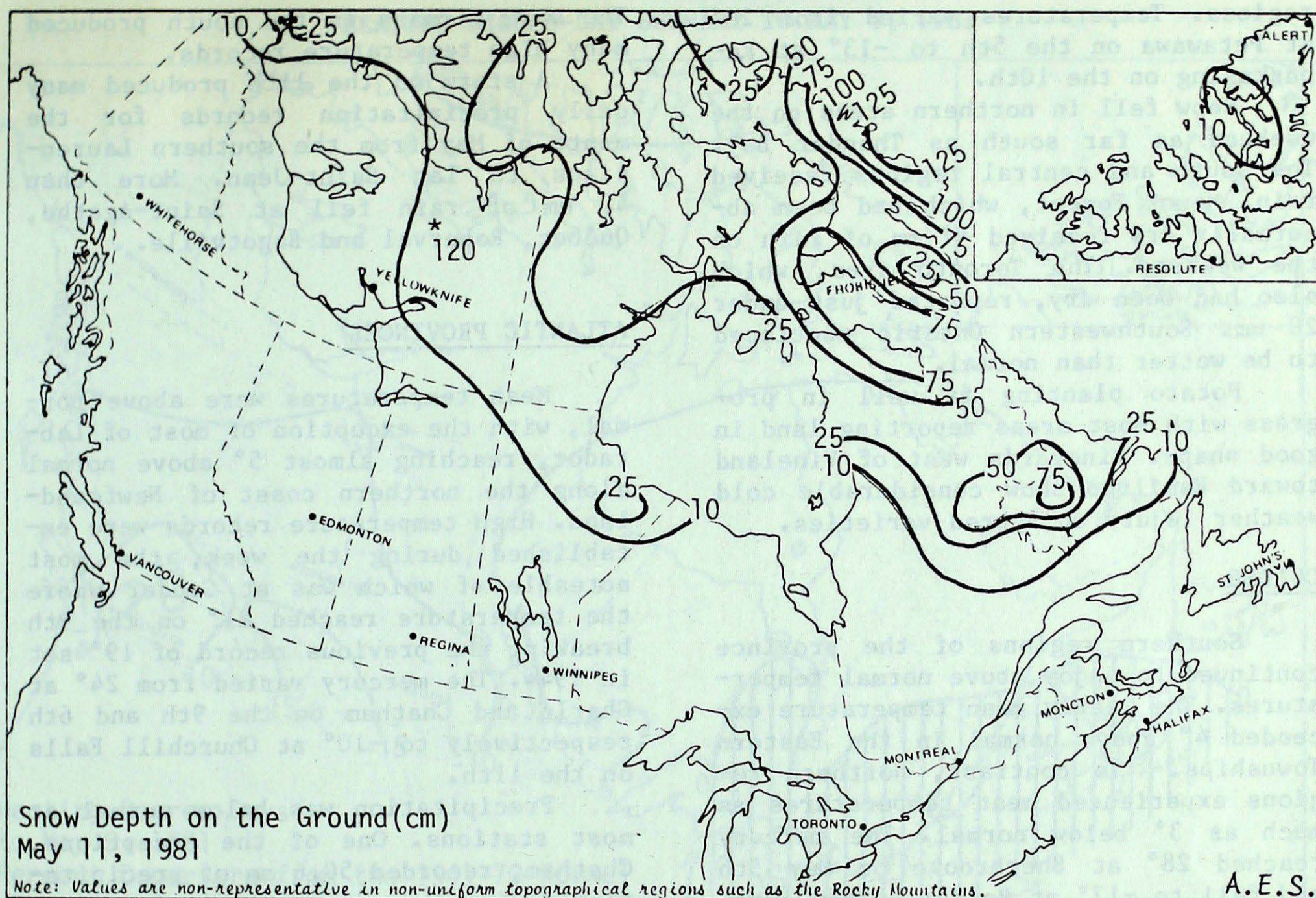
The Beaufort weather office is now open and regular ice reconnaissance is being done. Companies are preparing for operations.

BRITISH COLUMBIA

Cool unsettled weather continued in the south while northern areas enjoyed a sunny, warm week. Mean temperatures varied from 2° below normal at Cranbrook to almost 3° above normal at Fort Nelson. The mercury reached 24° at Stewart on May 6th and fell to -5° at Mackenzie on May 11th.

Precipitation was below normal at most stations. Most of the exceptions were in the southwest. Prince Rupert recorded 39.4 mm of precipitation.





### PRAIRIE PROVINCES

The beginning of May saw precipitation fall over the south-western Prairies. A storm on the 4th to 7th produced heavy precipitation; it snowed in southern Alberta from Lethbridge to Calgary. In the foothills snowfall amounts totaled more than 70 cm over higher ground. Precipitation totaled 100 mm to 125 mm in this region but varied between 40 mm to 80 mm in the agricultural areas of southern Alberta. The storm also crossed southern Saskatchewan but precipitation amounts did not exceed 10.5 mm (10.4mm at Wynyard). In other regions of Saskatchewan and Manitoba precipitation was very light.

Temperatures were generally below normal except for a band from northern Alberta to central Saskatchewan. The mercury reached 22° at Saskatoon and Dauphin on the 6th and 7th respectively. It fell to -16° at Churchill on the 8th.

The precipitation was greeted with relief by farmers. Seeding had been completed in southern Alberta so that the storm's arrival was very timely. In addition, mountain fed rivers in southern and central Alberta were increasing their flow and water reserves now look good. The benefits of this storm should range into the millions of dollars.

Seeding is now close to 20% complete in northern Saskatchewan and over 50% complete in southwestern Saskatchewan. Winter crops came through the winter in good condition but there was some wind erosion damage in the Spring. Soil erosion varies in the Moose Jaw area but was very severe in some fields.

### ONTARIO

Cool weather predominated over Ontario. Mean temperatures ranged from near normal in southern regions to more than 3° below normal in northeastern

regions. Temperatures varied from 26° at Petawawa on the 5th to -13° at Kapskasing on the 10th.

Snow fell in northern areas on the weekend as far south as Thunder Bay. The south and central regions received rain. Mount Forest, which had been abnormally dry received 47 mm of rain on the weekend. The Toronto area, which also had been dry, reported just under 20 mm. Southwestern Ontario continued to be wetter than normal.

Potato planting is well in progress with most areas reporting land in good shape. Vineyards west of Vineland toward Hamilton show considerable cold weather injury on hybrid varieties.

### QUÉBEC

Southern regions of the province continued to enjoy above normal temperatures. The weekly mean temperature exceeded 4° above normal in the Eastern Townships. In contrast, northern regions experienced mean temperatures as much as 3° below normal. The mercury reached 28° at Sherbrooke on May 5th and fell to -17° at Border on May 10th.

The warm airmass in the south produced many high temperature records.

A storm on the 11th produced many daily precipitation records for the month of May from the southern Laurentians to Lac Saint-Jean. More than 40 mm of rain fell at Saint-Agathe, Québec, Roberval and Bagotville.

### ATLANTIC PROVINCES

Mean temperatures were above normal, with the exception of most of Labrador, reaching almost 5° above normal along the northern coast of Newfoundland. High temperature records were established during the week, the most notable of which was at Gander where the temperature reached 21° on the 9th breaking the previous record of 19° set in 1944. The mercury varied from 24° at Charlo and Chatham on the 9th and 6th respectively to -10° at Churchill Falls on the 11th.

Precipitation was below normal at most stations. One of the exceptions, Chatham, recorded 50.6 mm of precipitation during the week.

#### CLIMATIC PERSPECTIVES

##### Staff

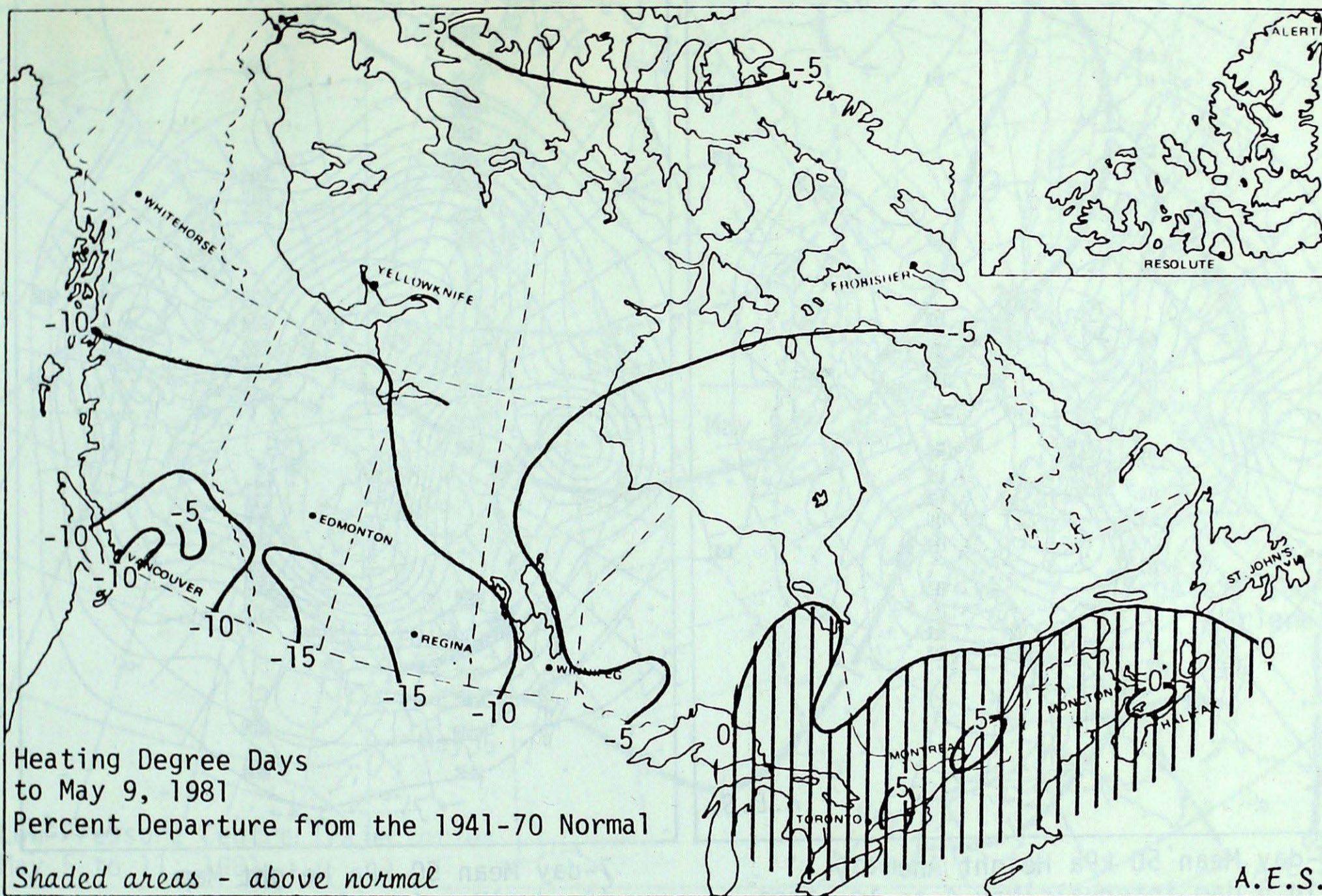
Editor:	Yves Durocher
Assistant Editor:	Bob Paterson
Technical Staff:	Fred Richardson, Andy Radomski
Graphics and Layout:	Bill Johnson, Debbie Allsopp
Word Processing:	Naseem Khaja

##### Correspondents

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

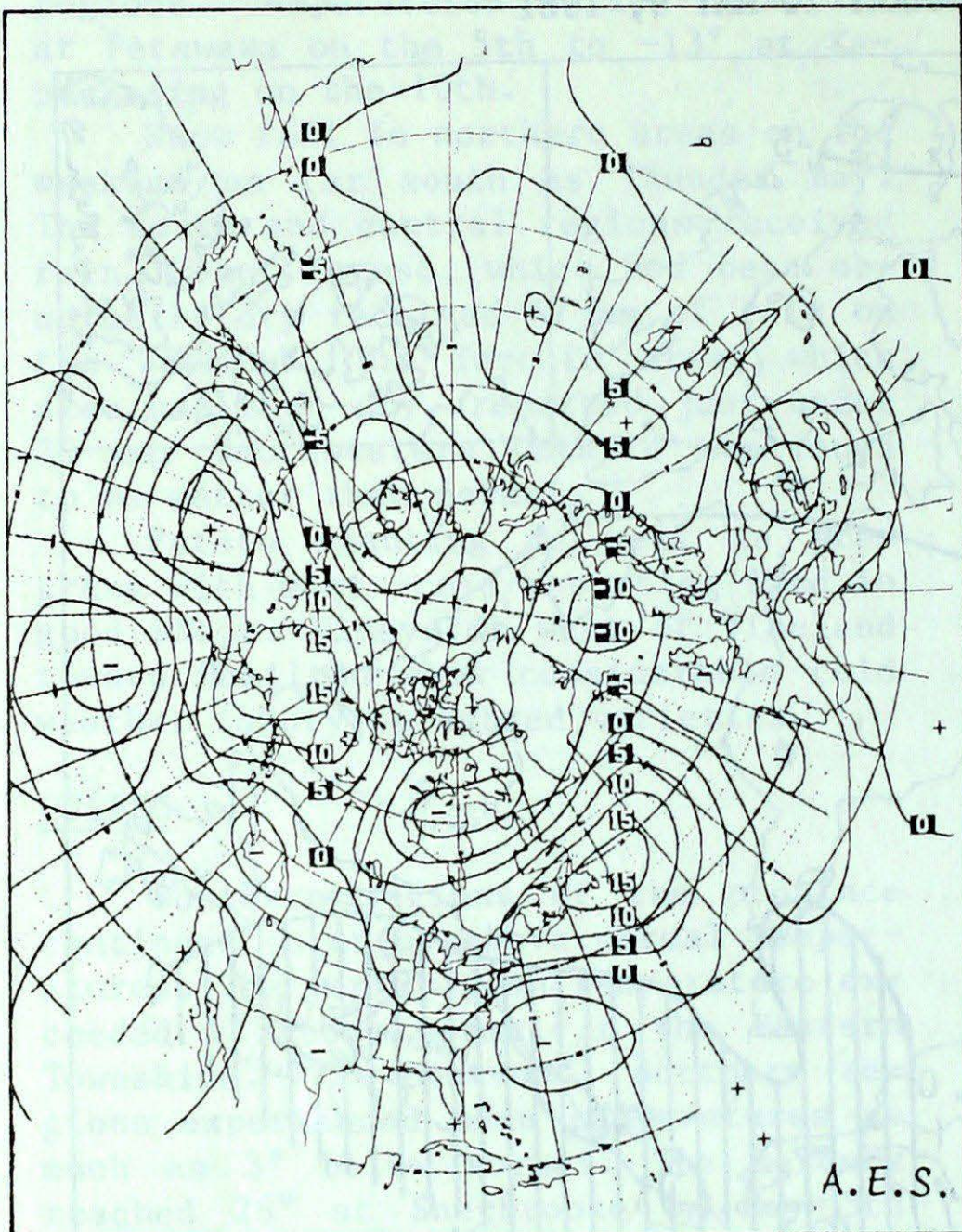
Telephone Inquiries (416) 667-4711/4906

HEATING DEGREE-DAY SUMMARY TO MAY 9, 1981

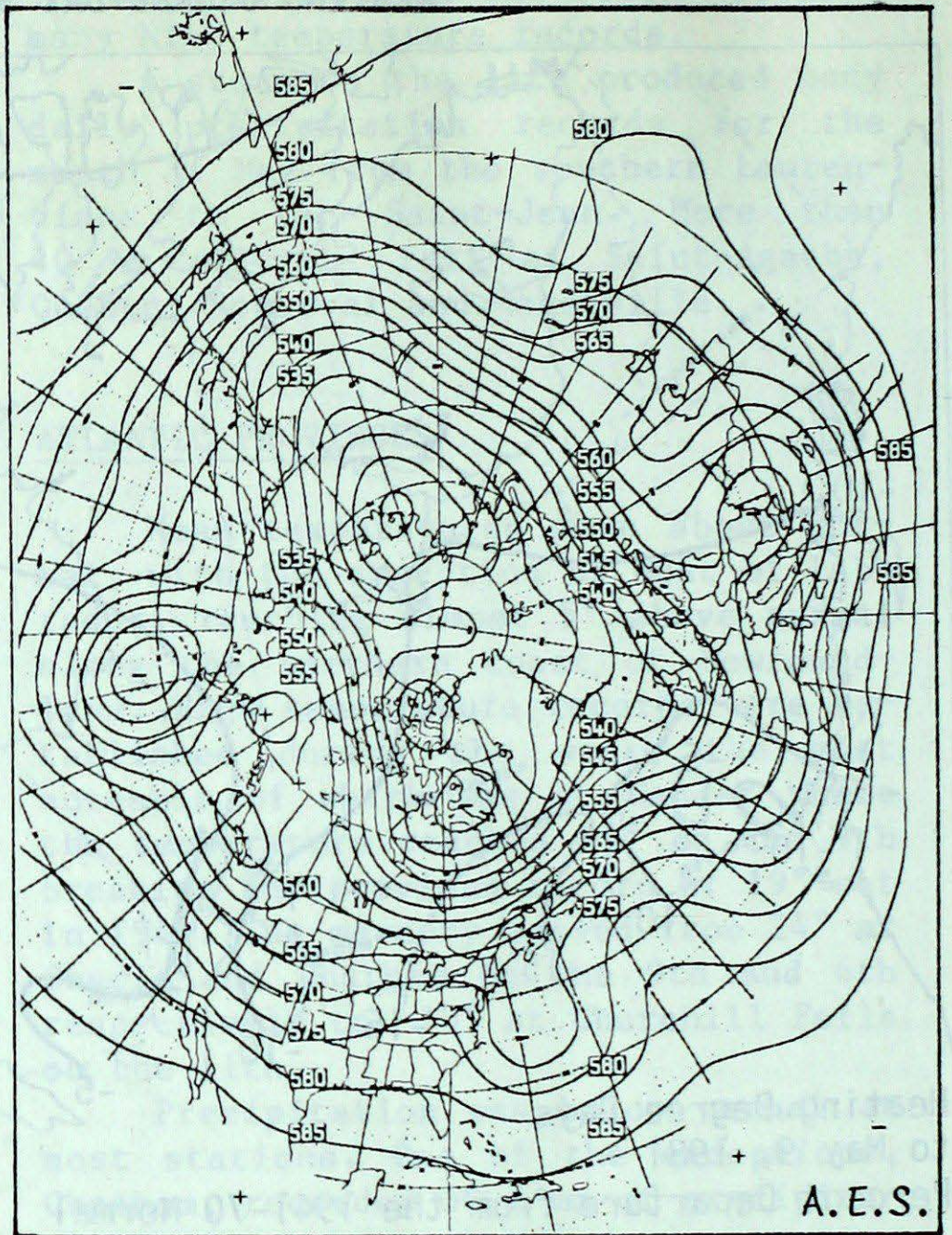


STATION	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL
Resolute	275.0	-16.0	11009.0	-393.0	97
Inuvik	141.5	-76.5	8763.0	-801.0	92
Whitehorse	104.5	-12.5	6028.0	-459.0	93
Vancouver	75.0	11.0	2608.5	-203.5	93
Edmonton Mun	77.0	-4.0	4523.0	-816.0	85
Calgary	103.0	8.0	4243.5	-777.5	85
Regina	75.0	-13.0	4886.5	-790.5	86
Winnipeg	99.5	11.5	5212.0	-453.0	92
Thunder Bay	102.0	4.0	5255.5	-156.5	97
Windsor	61.0	4.0	3568.0	91.0	103
Toronto	85.0	13.0	4083.5	164.5	104
Ottawa	61.5	-10.5	4610.0	90.0	102
Montreal	65.5	-1.5	4597.0	265.0	106
Quebec	75.0	-10.0	5086.0	229.0	105
Saint John, N.B.	87.0	-18.0	4563.5	108.5	102
Halifax	92.0	-9.0	3984.0	171.0	104
Charlottetown	88.0	-24.0	4362.5	45.5	101
St. John's, Nfld.	83.0	-43.0	4317.0	3.0	100

## Atmospheric Circulation



7-day Mean 50 kPa Height Anomaly  
(in 5 dam intervals) May 4 to 10, 1981



7-day Mean 50 kPa Height Map  
(in dam) May 4 to 10, 1981

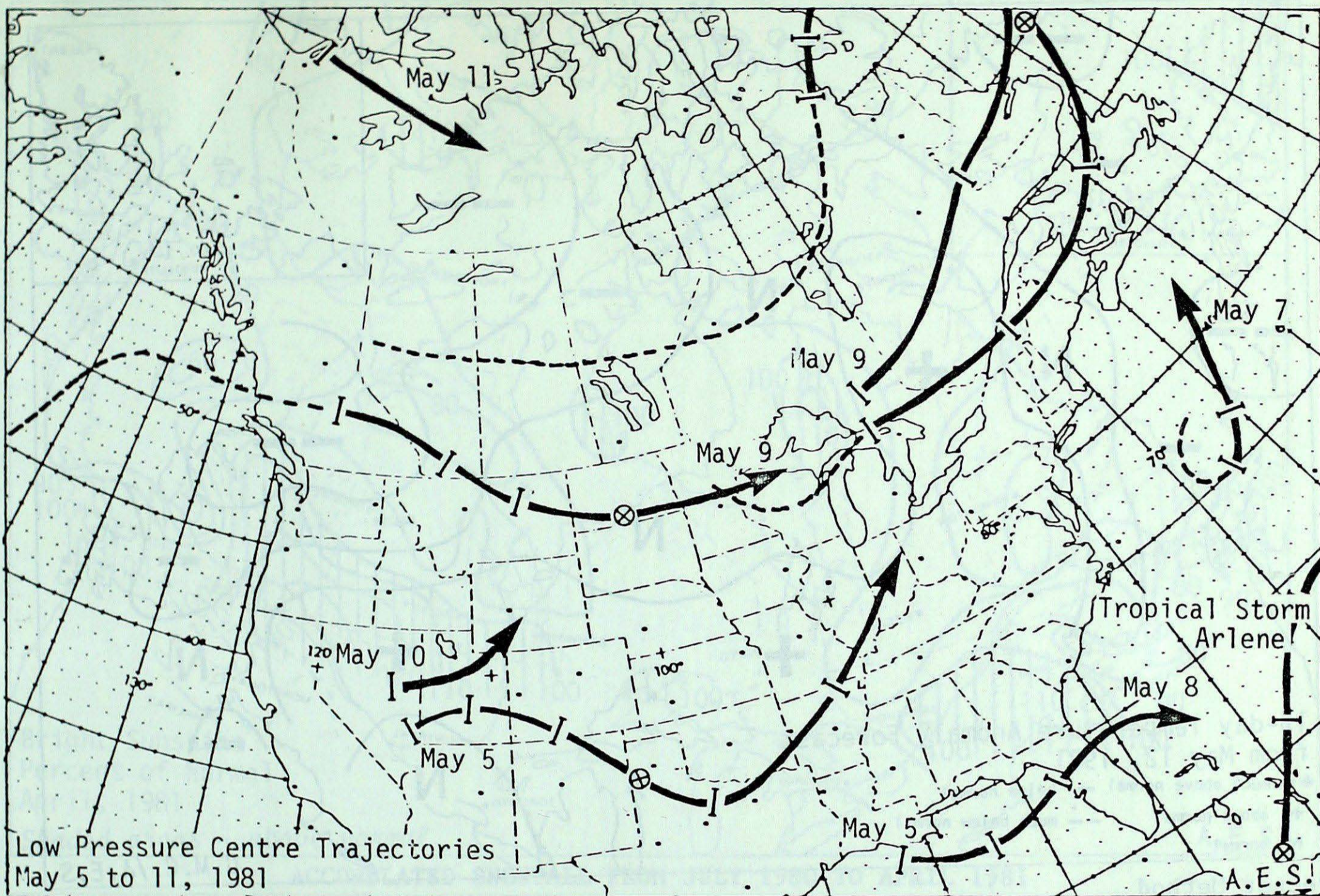
A split in the upper atmospheric circulation was evident over North America this week. A large amplitude 50 KPa ridge controlled the surface weather regime over northwestern Canada giving generally sunny and very warm conditions. On the other hand a persistent upper trough and associated closed low plagued areas of southern British Columbia, Alberta and southwestern Saskatchewan; cool, showery, unsettled weather persisted most of the week.

The amplification of the western ridge early in the period tapped a cell of very cold air over the Arctic Ocean. This dome of Arctic air and associated area of strong high pressure drifted slowly southeastwards during the period. Following the trajectory of the northern 50 KPa stream, the anticyclone

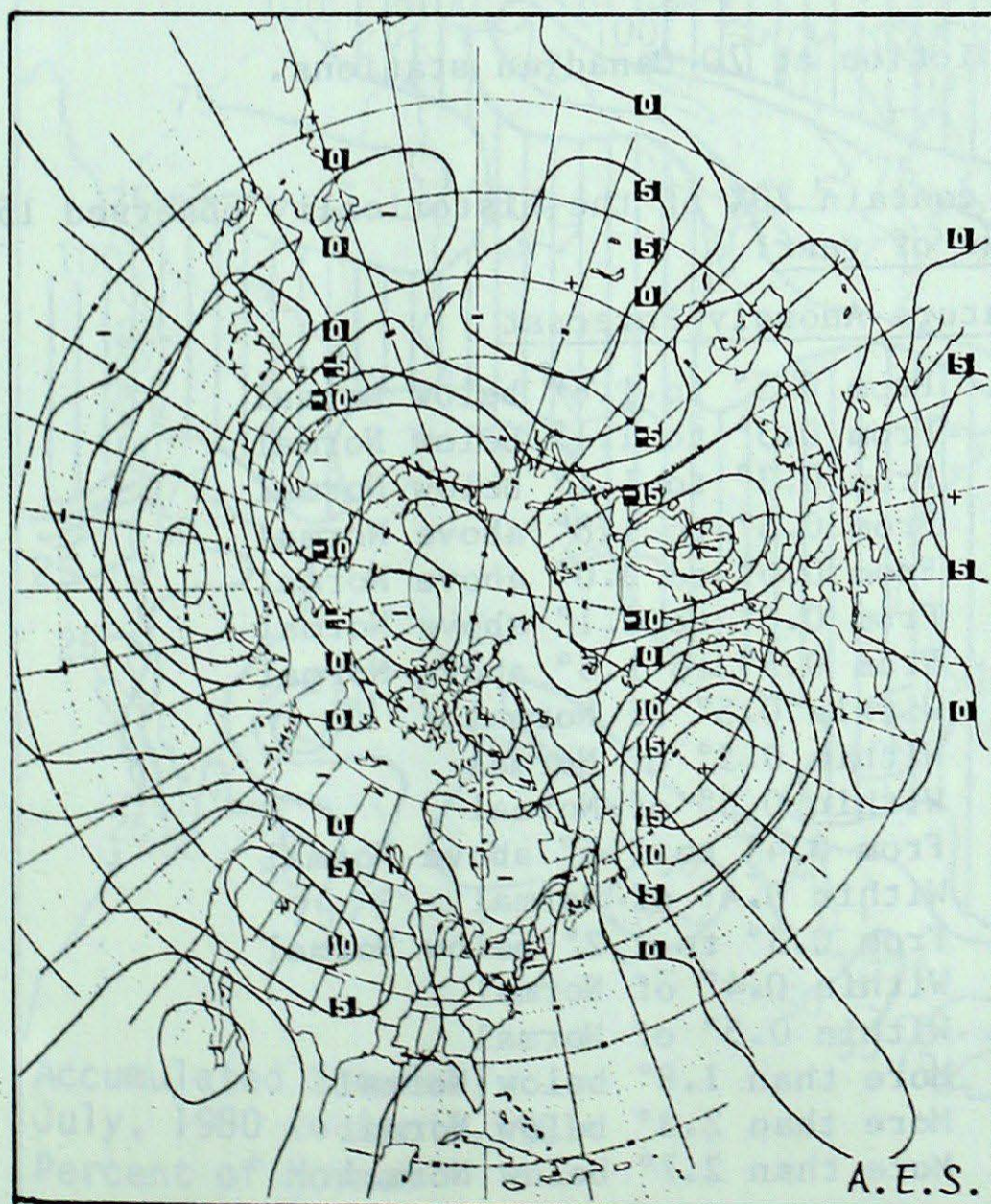
crossed the Canadian prairies reaching northern Ontario and Quebec towards the end of the period. The leading edge of this rapidly modifying Arctic airmass sagged southward to the vicinity of the lower great lakes where it became nearly stationary.

Low pressure systems developed to the lea of the Rocky Mountains in both southern Canada and the United States. Following the path of the southern 50 KPa stream they moved eastwards across the Great Lakes and the Atlantic Provinces. Associated with each system was a southerly flow of warm moist air. This resulted in above normal mean temperatures in southern areas of eastern Canada, together with a broad band of precipitation due to the interaction of strongly contrasting airmasses.

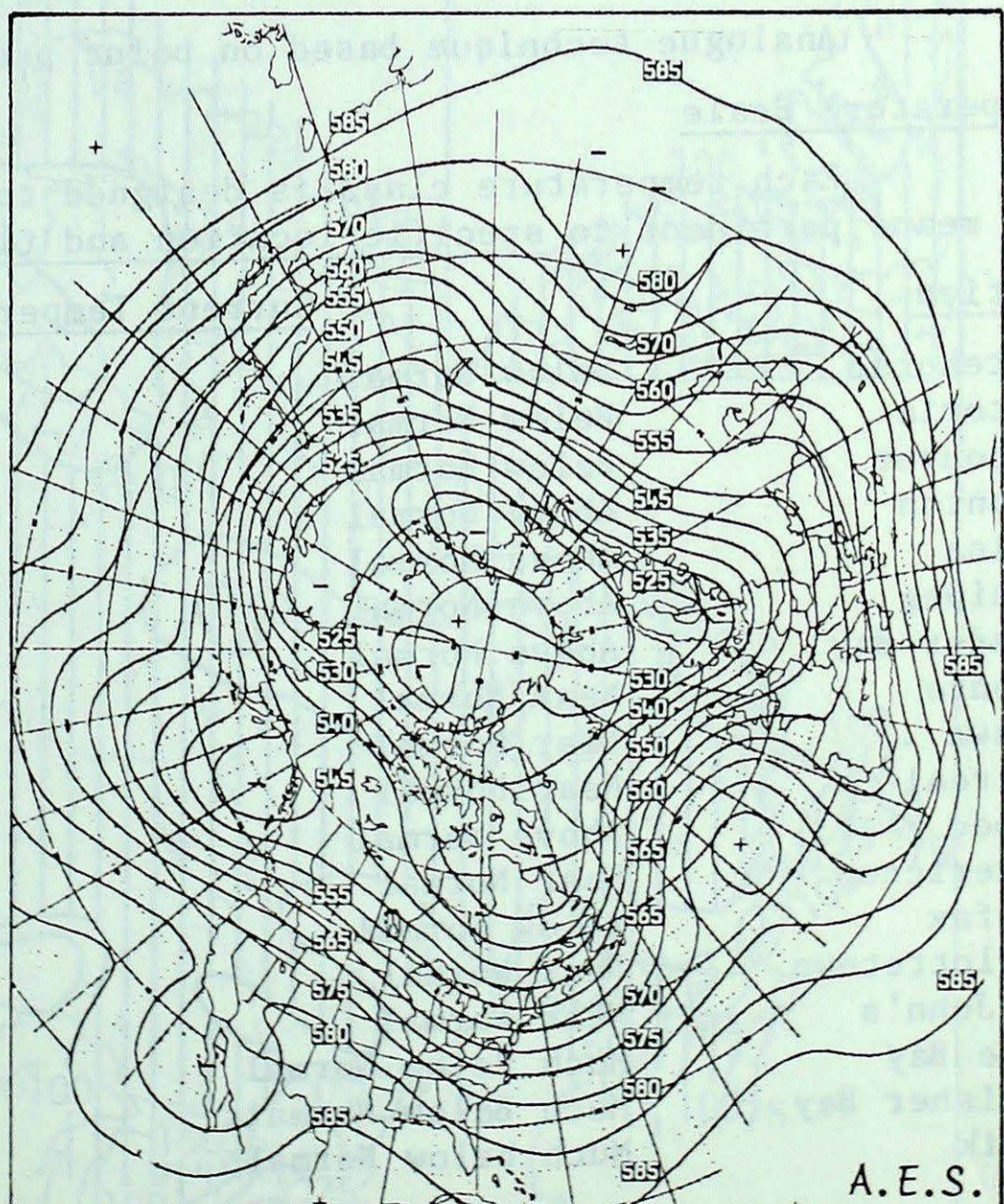
LOW PRESSURE CENTRE TRAJECTORIES



Low Pressure Centre Trajectories  
May 5 to 11, 1981

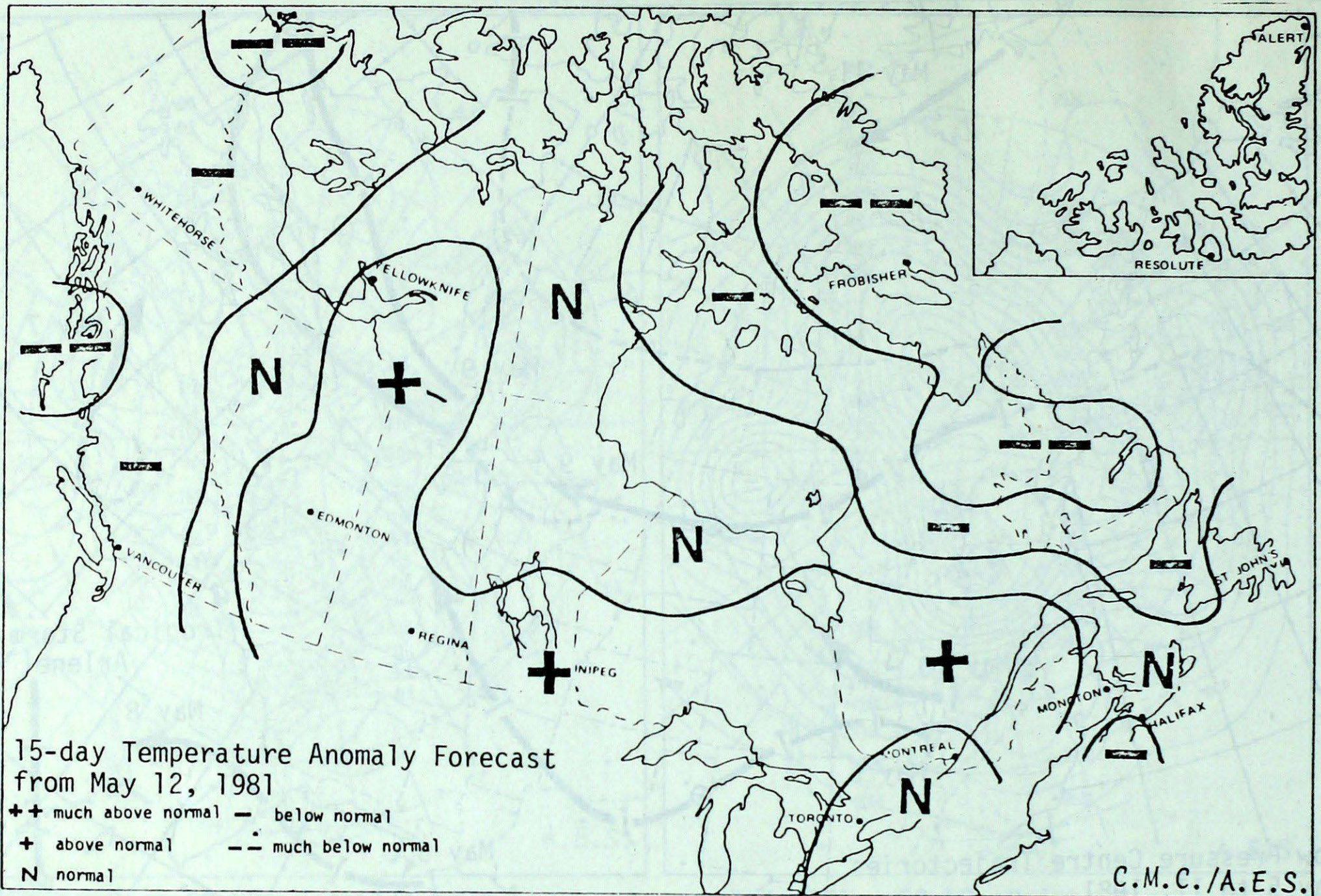


7-day Mean 50 kPa Height Anomaly  
(in 5 dam intervals) April 27 to May 3, 1981



7-day Mean 50 kPa Height Map (in dam)  
April 27 to May 3, 1981

## 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:

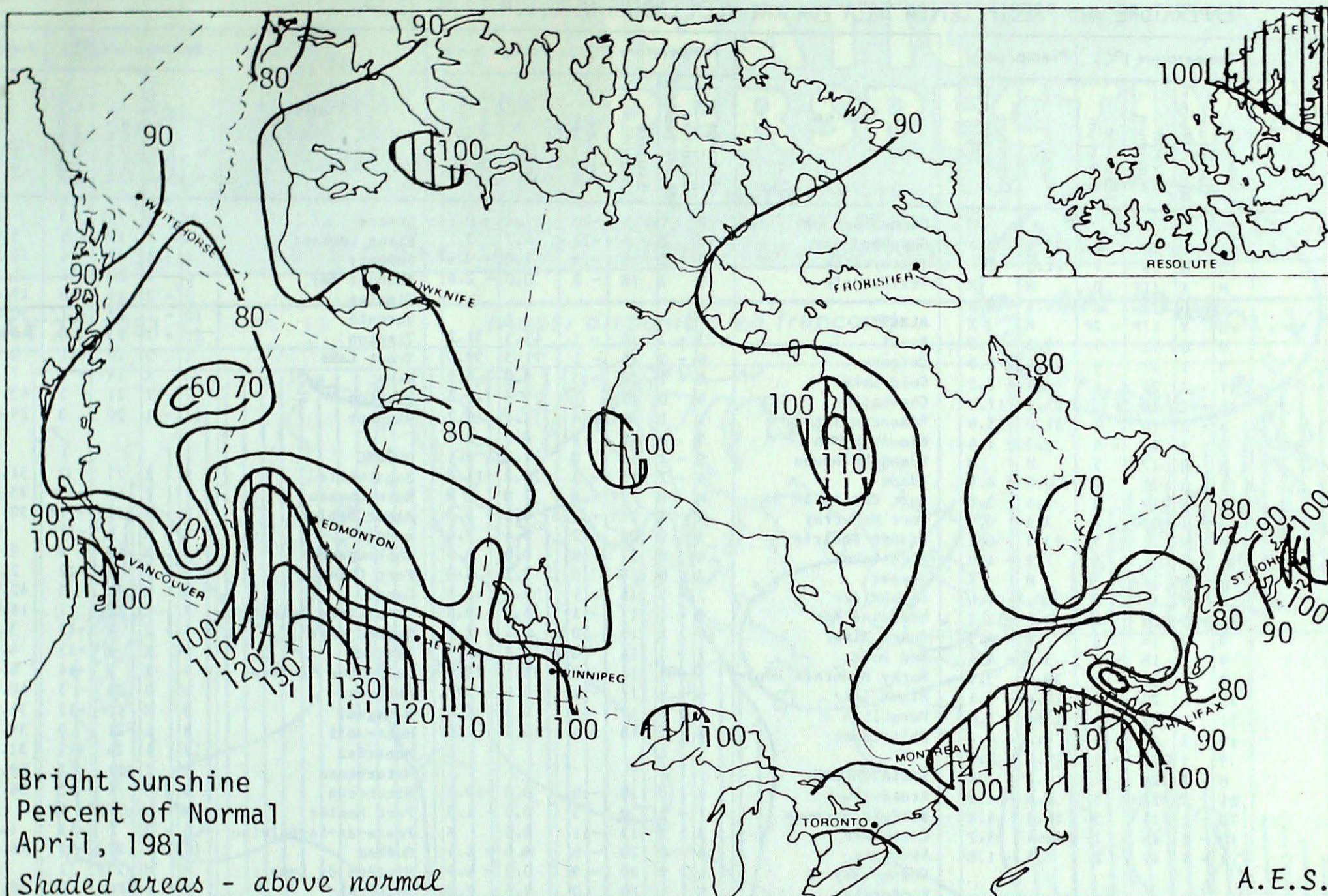
StationCurrent Temperature Anomaly Forecast

Whitehorse	Below Normal	From 0.5° to 1.6° below Normal
Victoria	Below Normal	From 0.3° to 1.1° below Normal
Vancouver	Below Normal	From 0.3° to 1.1° below Normal
Edmonton	Above Normal	From 0.5° to 1.8° above Normal
Regina	Above Normal	From 0.6° to 2.0° above Normal
Winnipeg	Above Normal	From 0.6° to 2.1° above Normal
Thunder Bay	Above Normal	From 0.5° to 1.5° above Normal
Toronto	Near Normal	Within 0.5° of Normal
Ottawa	Near Normal	Within 0.5° of Normal
Montreal	Near Normal	Within 0.5° of Normal
Quebec	Above Normal	From 0.4° to 1.5° above Normal
Fredericton	Near Normal	Within 0.4° of Normal
Halifax	Below Normal	From 0.3° to 1.2° below Normal
Charlottetown	Near Normal	Within 0.4° of Normal
St. John's	Near Normal	Within 0.5° of Normal
Goose Bay	Much Below Normal	More than 1.8° below Normal
Frobisher Bay	Much Below Normal	More than 2.3° below Normal
Inuvik	Much below Normal	More than 2.7° below Normal

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



BRIGHT SUNSHINE IN APRIL 1981



ACCUMULATED SNOWFALL FROM JULY 1980 TO APRIL 1981

