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A WEEKLY REVIEW OF CANADIAN CLIMATE

Atmospheric
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CLIMATIC PERSPECTIVES

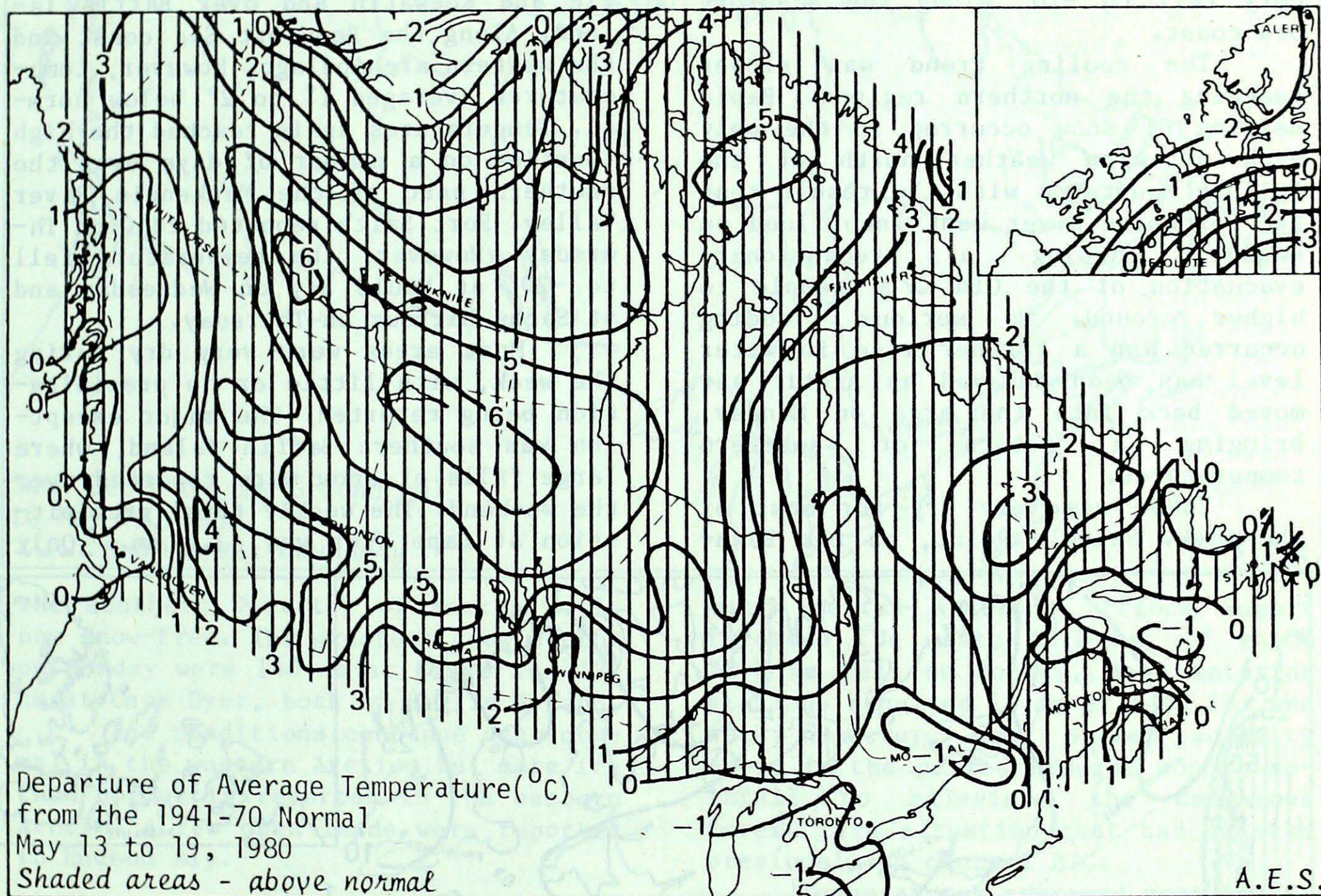
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NON-CIRCULATING

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WEATHER HIGHLIGHTS FOR THE WEEK - MAY 13 - 19, 1980

Volcanic ash spreads across southeastern B.C. and the extreme southern Prairies

Following the volcanic eruption of Mount St. Helens on Sunday, volcanic ash, dust and smoke spread into the southern interior valleys of British Columbia and the extreme southern parts of the Prairie Provinces.

Continued hot, dry weather across the Prairies is causing concern to agricultural interests. In addition, new forest fires are continuing to break out over northern Alberta and northwestern Ontario.

While the Prairies were dry, most southern regions of Ontario and Quebec, the eastern Maritimes and southern Newfoundland were wet. Sarnia, Ont., received 60 mm of rain in the seven-day period.

The highest temperature for the week across Canada was 32° at Dauphin and Winnipeg on the 19th. The lowest was -20° at Mould Bay on the 14th and Sachs Harbour on the 15th.

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 over the southern Yukon continued well above normal through to Tuesday, when Watson Lake recorded a temperature of 24°, a record for the date. A general cooling trend occurred since May 13, with temperatures reaching below-normal values by the weekend. On some nights, the mercury fell to -10° along the Beaufort Sea coast.

The cooling trend was slower reaching the northern regions. Rapid melting of snow occurred in the only week of warm weather north of the Ogilvie Mountains with the result that the Porcupine River went into flood on Sunday, causing a precautionary evacuation of the Old Crow people to higher ground. No serious flooding occurred and a further rise in water level has been delayed as Arctic air moved back into the area on Monday, bringing a return of sub-zero temperatures.

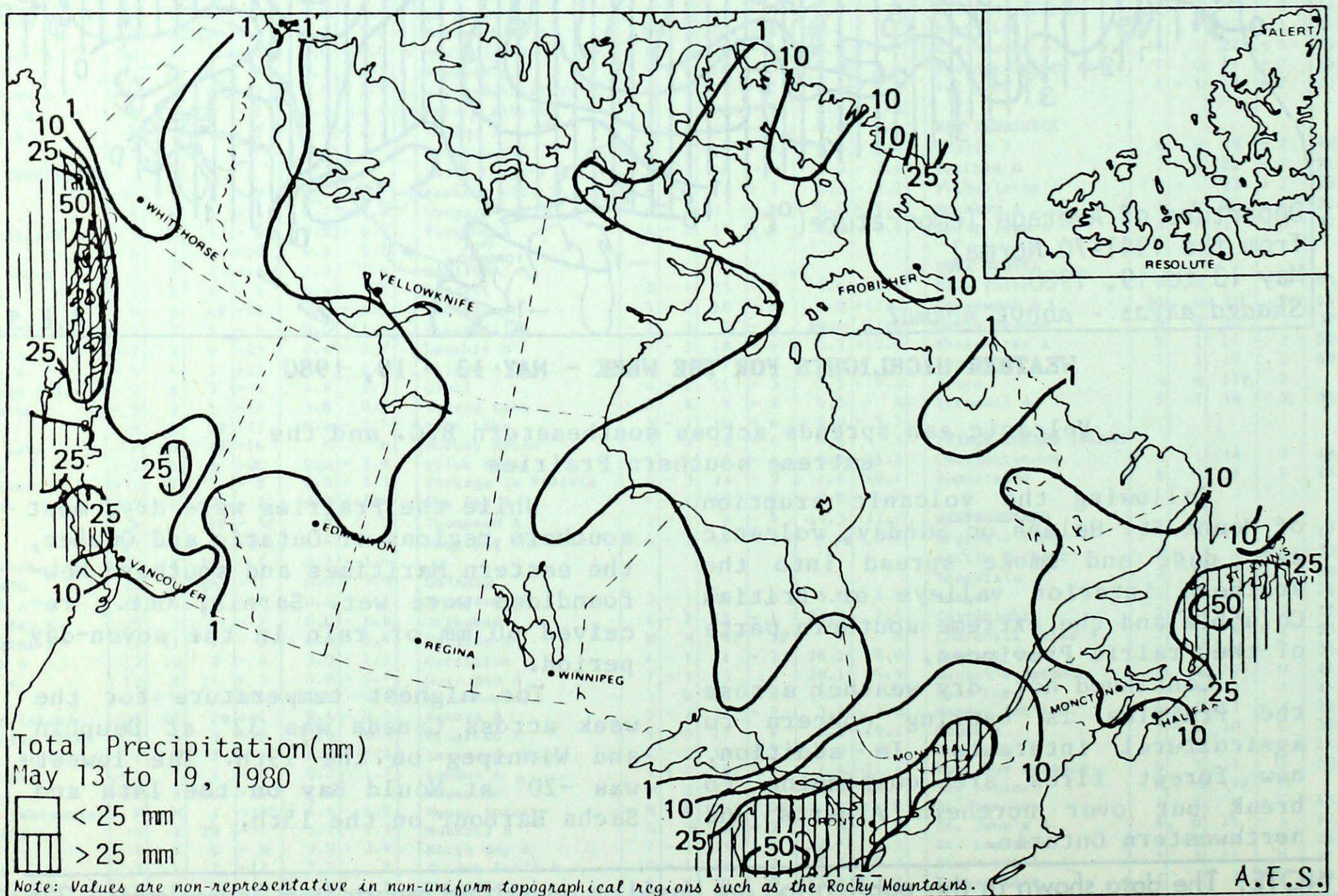
Yukon was very dry for most of the week. Shingle Point, on the Beau-

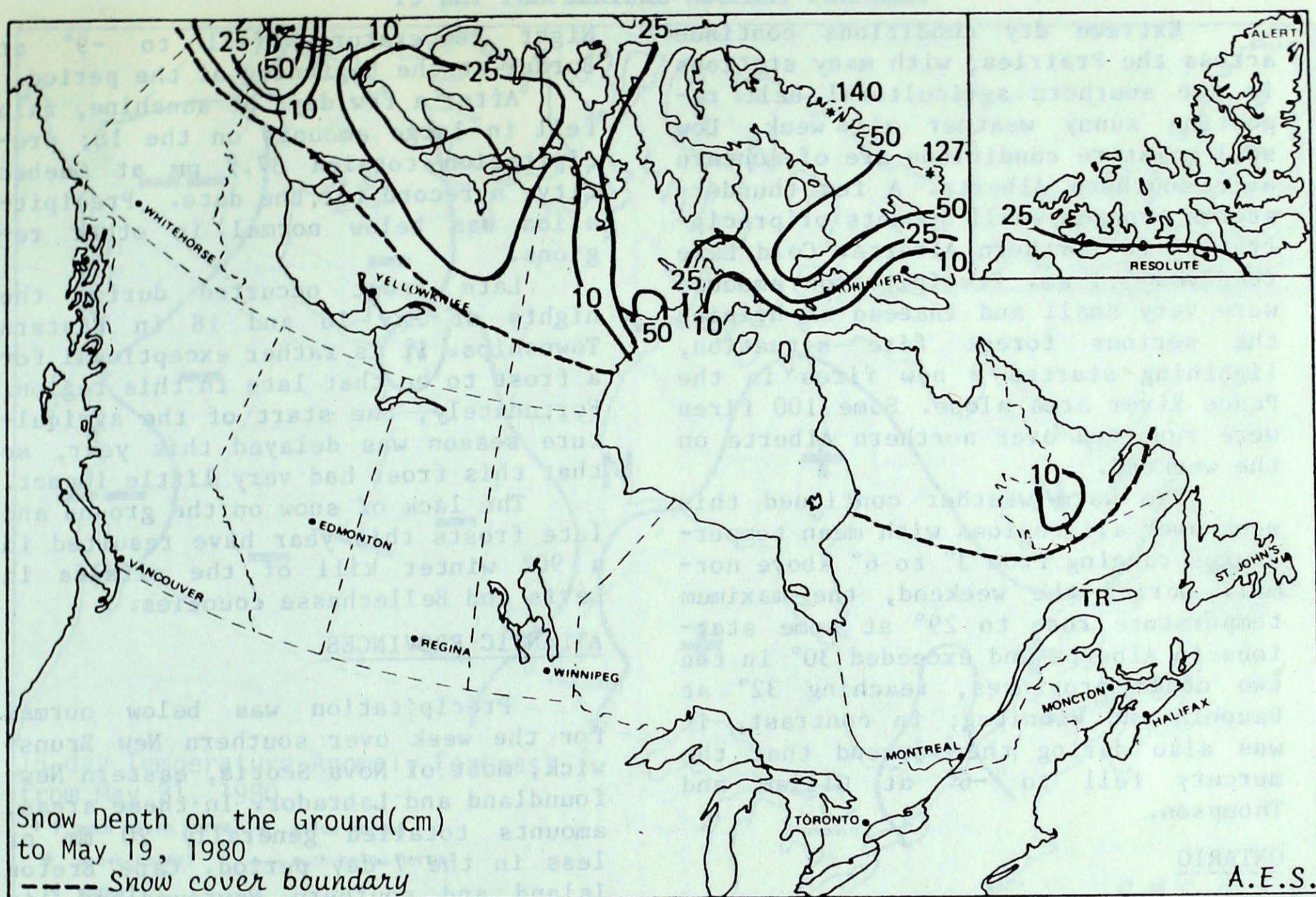
fort Sea coast, received 4.0 mm total precipitation, most of it as snow over the weekend.

NORTHWEST TERRITORIES

Temperatures averaged well above normal over much of the Northwest Territories for the week, with departures as great as 4° to 6° over the southern parts of the Districts of Mackenzie and Keewatin and over Baffin Island. Along the Beaufort Sea coast and the western archipelago, however, temperatures averaged 1° to 2° below normal. Temperatures again reached the high twenties on a number of days over the southern part of the Mackenzie River Valley. Fort Smith reported 28°C on Thursday. However, the temperature fell to -20° at Mould Bay on Wednesday and at Sachs Harbour on Thursday.

Most areas were very dry during the week, with little or no precipitation being reported. The major exception was southern Baffin Island, where large falls of snow were reported over the weekend. The weekly total precipitation at Cape Dyer was 41.6 mm. Only





the southern District of Mackenzie is now snow-free. The greatest snow depths on Monday were 140 cm at Clyde and 127 cm at Cape Dyer, both on Baffin Island.

Ice conditions continue near normal in the western Arctic, but more ice than normal is reported in the eastern Arctic. A few open leads were reported in Hudson Bay.

BRITISH COLUMBIA

As a result of the volcanic eruption of Mount St. Helens on Sunday visibilities reduced to three to five kilometers in smoke and dust affected the extreme southern interior of the province. A fine ash fell in some areas from elevations of up to 2000 metres. The area most affected was the Okanagan Valley to north of Kelowna, the northern half of the Arrow Lakes and the area south of Cranbrook. At Castlegar on Monday, a fine powder of ash covered the ground up to 1 mm in depth.

Precipitation was generally below normal for the week, but the north coast was wetter than usual. Precipitation amounts totalled more than 20 mm at

many coastal stations. Prince Rupert recorded the most, 48.0 mm, of which 33.0 mm fell on Monday. Many interior stations received 10 mm or less for the week. However, some shower activity early in the period brought enough rainfall to alleviate the dangerous forest fire situation that had existed previously in central B.C.

Temperatures averaged near normal along the B.C. coast, but many stations in the interior reported values 2° to 4° above normal for the week. The highest temperature was 28° at Revelstoke on Friday, while the low was -2° at Dease Lake on Sunday.

PRAIRIE PROVINCES

Volcanic ash and dust from the Mount St. Helens eruption affected the extreme southern Prairies on Monday. Visibilities were less than 2 km in the Crows Nest Pass. The northern boundary of the dust and low visibilities was approximately Calgary east to Moose Jaw and thence into extreme southwestern Manitoba.

Extreme dry conditions continue across the Prairies, with many stations in the southern agricultural belt reporting sunny weather all week. Low soil moisture conditions are of concern over southern Alberta. A few thunderstorms brought small amounts of precipitation to northern Alberta. Cold Lake received 5.1 mm. Precipitation amounts were very small and instead of helping the serious forest fire situation, lightning started 9 new fires in the Peace River area alone. Some 100 fires were reported over northern Alberta on the weekend.

The warm weather continued this week over all regions with mean temperatures ranging from 3° to 6° above normal. During the weekend, the maximum temperature rose to 29° at some stations in Alberta and exceeded 30° in the two other provinces, reaching 32° at Dauphin and Winnipeg; in contrast, it was also during the weekend that the mercury fell to -6° at Gillam and Thompson.

ONTARIO

Northwestern Ontario continued very dry, with no precipitation being reported anywhere in the area most affected by forest fires. Nineteen fires were reported by the end of the week. Over southern and eastern Ontario, rainfall totalled at least 30 mm for the week. Sarnia received 60 mm. Most of the precipitation fell on Tuesday and again on the weekend.

Temperatures over northwestern Ontario averaged 2° to 4° above normal for the week, but over the remainder of the province values generally ran near normal to slightly below normal. The highest temperature for the week was 27° at Kenora on Monday, while the lowest was -7° at Moosonee on the same day.

QUEBEC

Mean temperatures remained unchanged from last week. The seven day mean temperature remained slightly below normal in southwestern regions and above normal in other areas. The mercury reached 25° at Matagami on the 17 and at Gaspé on the following day.

Night temperatures fell to -9° at Border at the beginning of the period.

After a few days of sunshine, rain fell in large amounts on the 18; precipitation totaled 37.7 mm at Quebec City, a record for the date. Precipitation was below normal in other regions.

Late frost occurred during the nights of May 16 and 18 in Eastern Townships. It is rather exceptional for a frost to be that late in this region. Fortunately, the start of the agriculture season was delayed this year, so that this frost had very little impact.

The lack of snow on the ground and late frosts this year have resulted in a 90% winter kill of the alfalfa in Levis and Bellechasse counties.

ATLANTIC PROVINCES

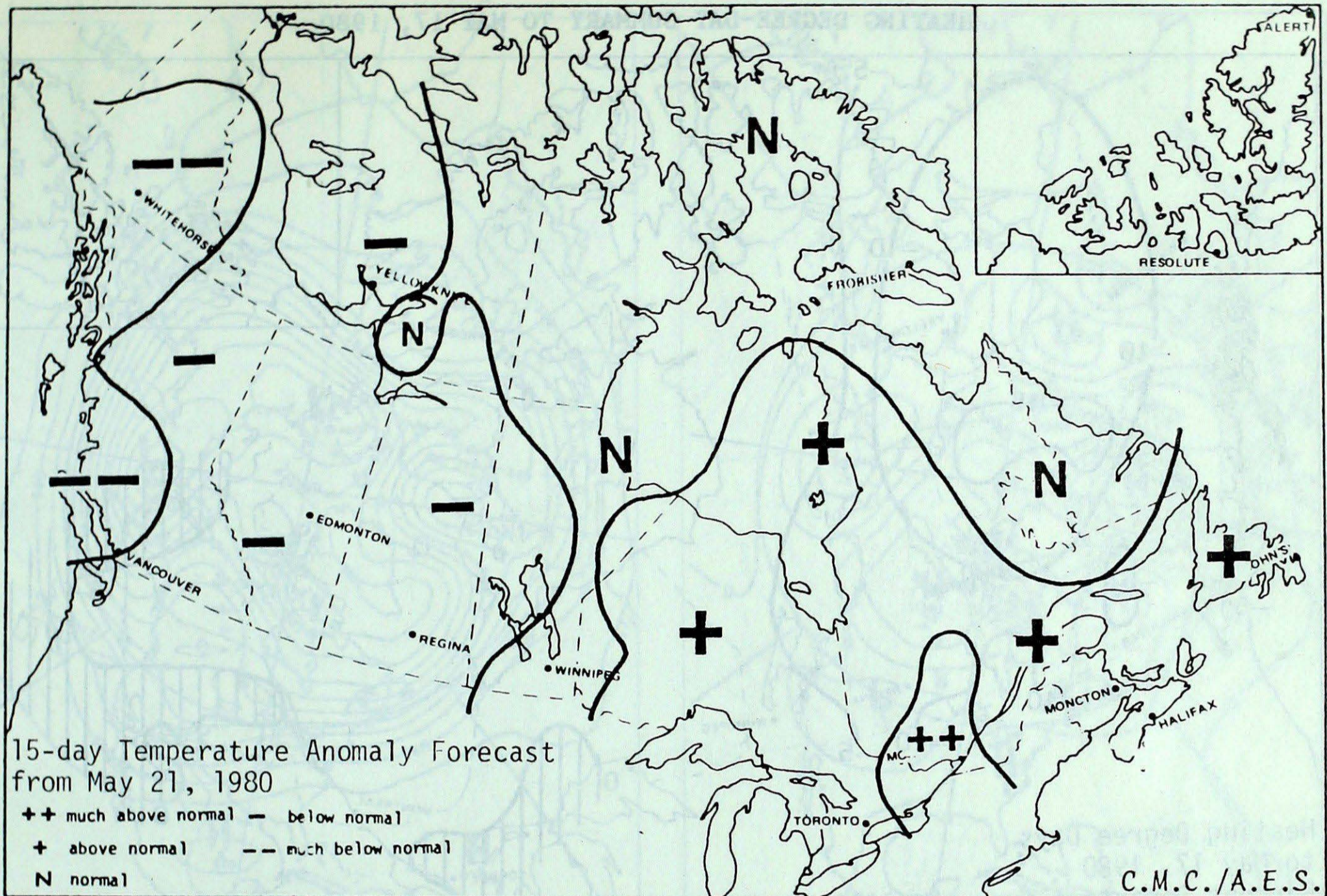
Precipitation was below normal for the week over southern New Brunswick, most of Nova Scotia, eastern Newfoundland and Labrador. In these areas, amounts totalled generally 20 mm or less in the 7-day period. Cape Breton Island and southern Newfoundland, in contrast, were wet, with precipitation totalling 40 mm or more. Most of this fell on the last day of the period. Port aux Basque, Nfld., received 48.2 mm on that day, and the weekly total was 51.1 mm.

Temperatures averaged generally within 1° of normal for the week. In the Maritimes the weekly high was 23° on Sunday at Chatham, N.B., while the low was 0° at Sydney on Saturday. In Newfoundland and Labrador, Goose reported 26° on Saturday, tying the record high for the date, while the mercury fell to -5° at Hopedale on Thursday.

In Nova Scotia there has been very little winter kill of rye and wheat. Very little corn has been planted up to Friday, and some seeding has been delayed due to wet ground. However, some spring cereals are up, and the alfalfa crop is doing well. On Prince Edward Island planting is well underway.

Ice along the Labrador coast has retreated as far north as Hamilton Inlet.

15 DAY TEMPERATURE ANOMALY FORECAST

Forecast Method

Analogue technique based on point prediction at 70 Canadian stations.

Temperature Scale

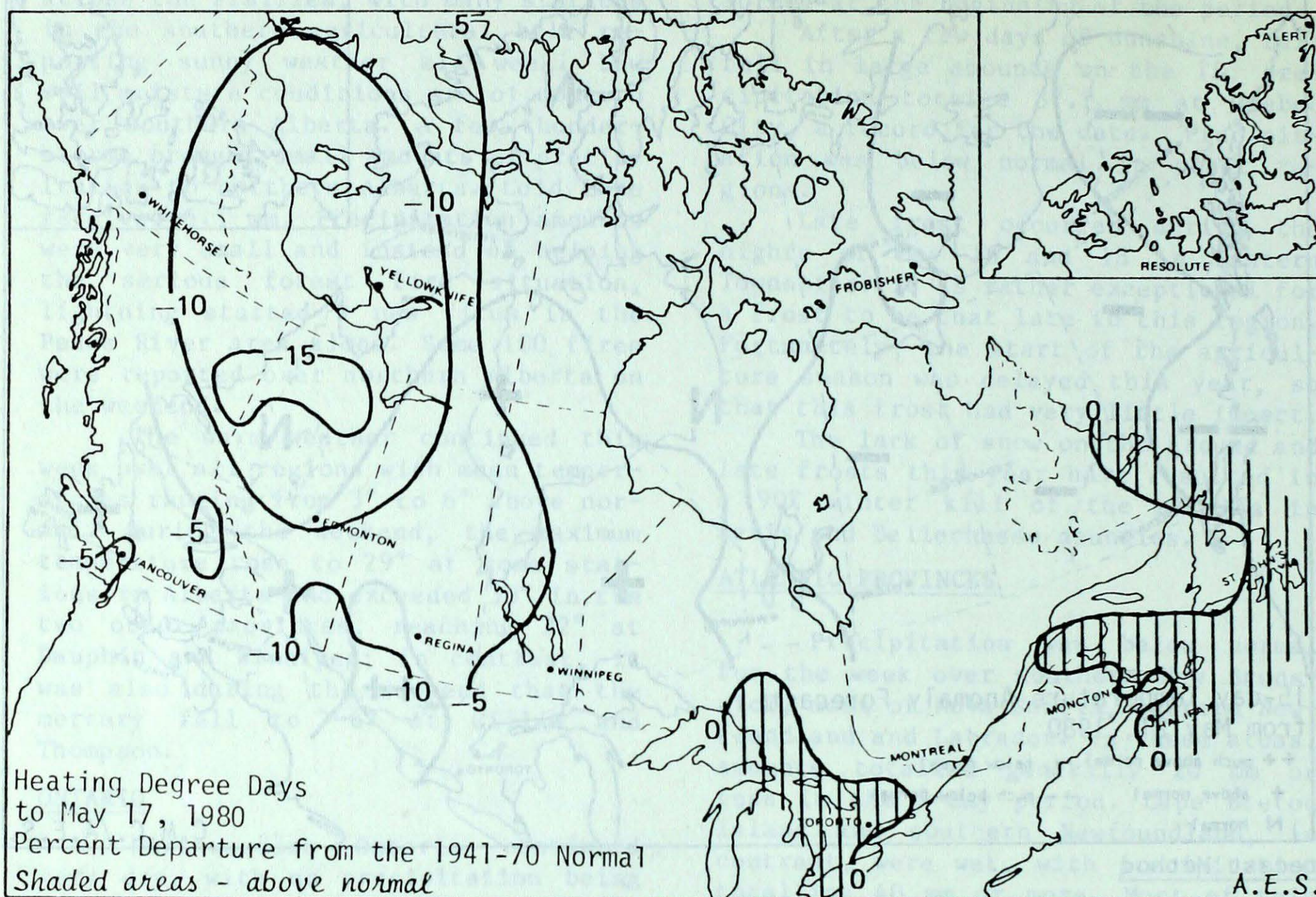
Each temperature class is designed to contain 20% of the historically observed 15 day means pertinent to specific location and time of year:

StationCurrent Temperature Anomaly Forecast

Whitehorse	Much Below Normal	More than 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	Below Normal	From 0.5° to 1.7° below Normal
Regina	Below Normal	From 0.6° to 1.9° below Normal
Winnipeg	Near Normal	Within 0.6° of Normal
Thunder Bay	Above Normal	From 0.4° to 1.5° above Normal
Toronto	Above Normal	From 0.5° to 1.7° above Normal
Ottawa	Much Above Normal	More than 1.7° above Normal
Montreal	Much Above Normal	More than 1.6° above Normal
Quebec	Above Normal	From 0.4° to 1.5° above Normal
Fredericton	Above Normal	From 0.4° to 1.4° above Normal
Halifax	Above Normal	From 0.3° to 1.1° above Normal
Charlottetown	Above Normal	From 0.4° to 1.4° above Normal
St. John's	Above Normal	From 0.5° to 1.6° above Normal
Goose Bay	Near Normal	Within 0.5° of Normal
Frobisher Bay	Near Normal	Within 0.6° of Normal
Inuvik	Below Normal	From 0.7° to 2.4° below Normal

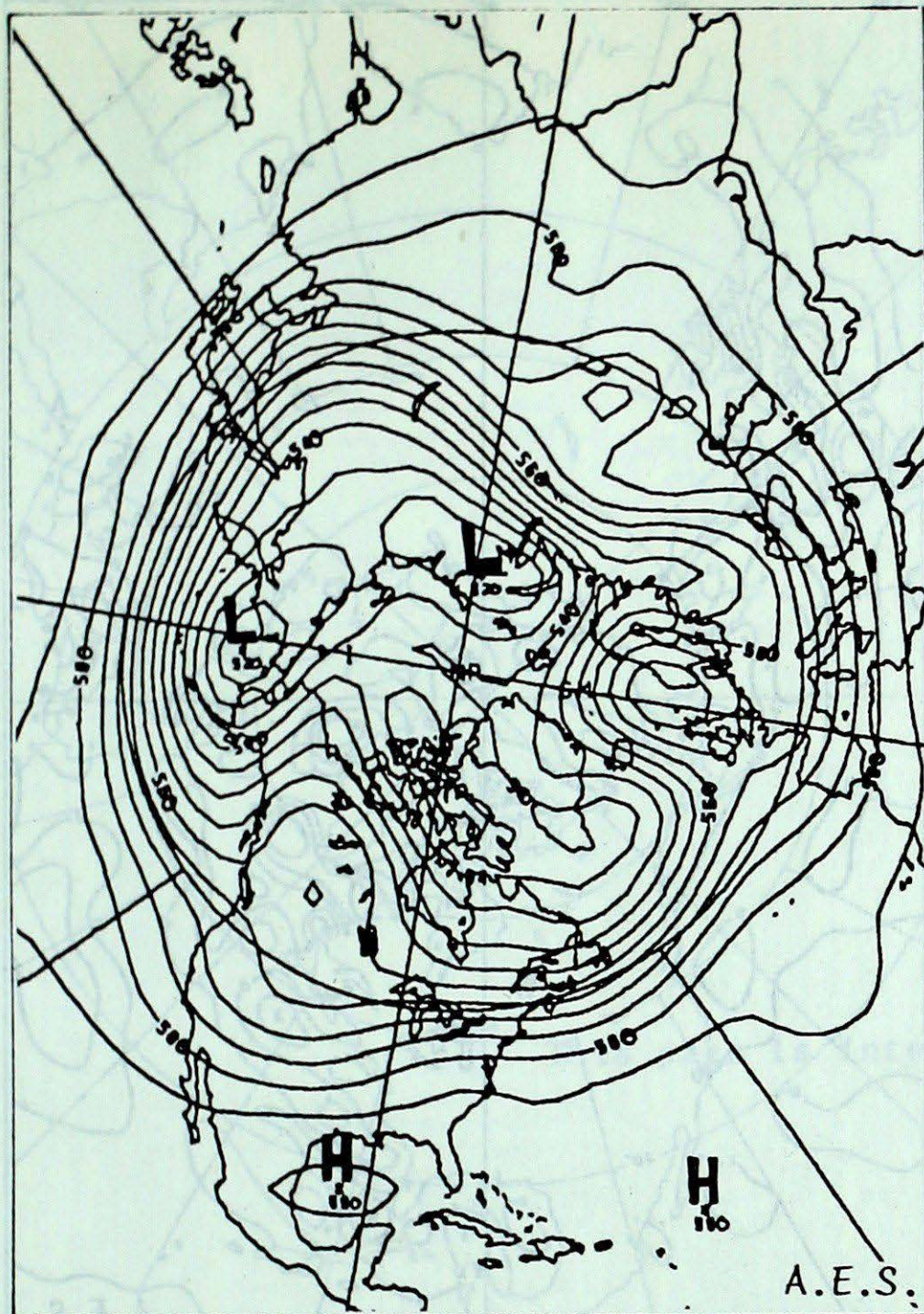
Note: Anomaly denotes departure from the 1949-73 mean.

HEATING DEGREE-DAY SUMMARY TO MAY 17, 1980



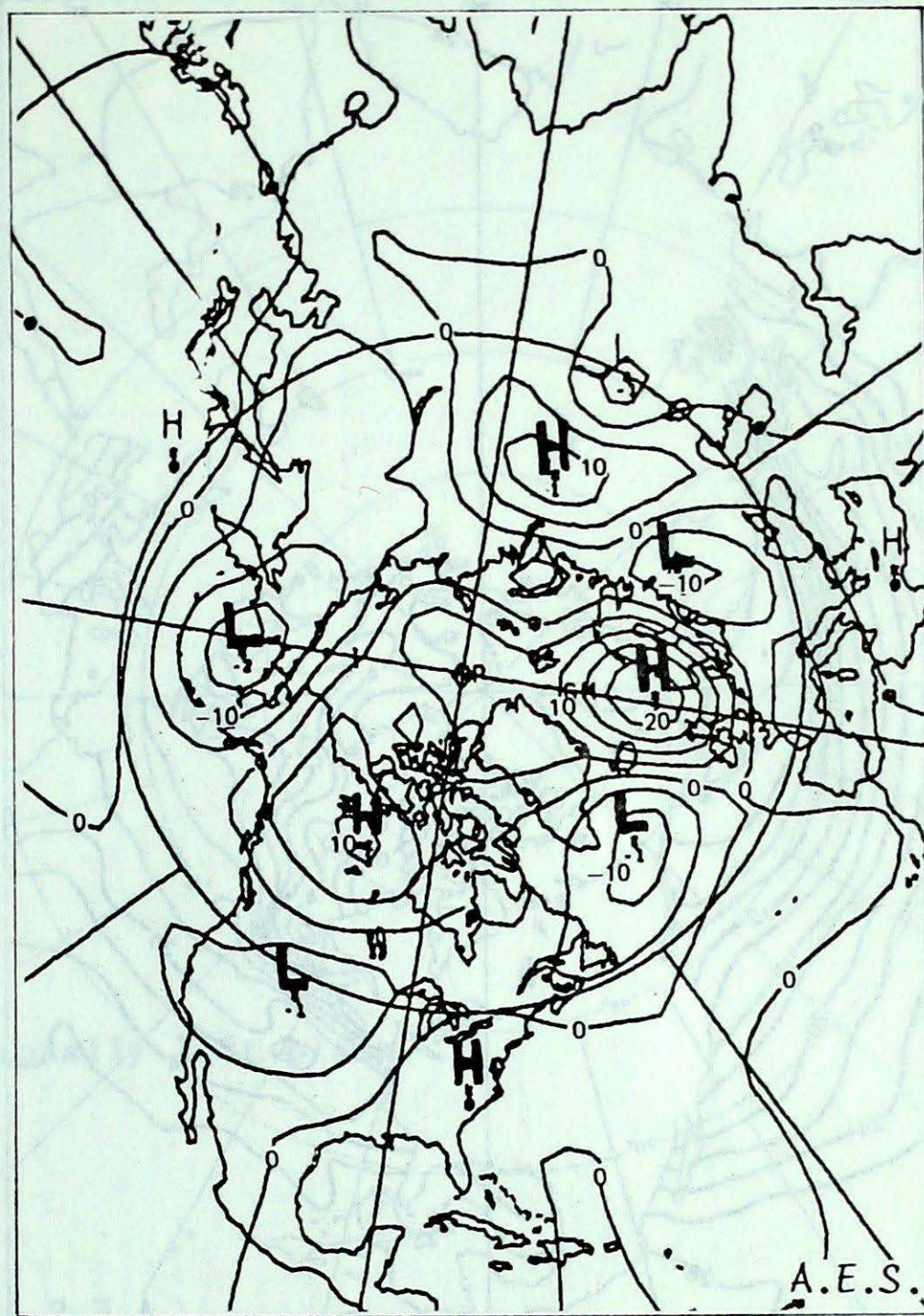
STATION	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL
Resolute	436.0	-88.0	11536.5	-149.5	99
Inuvik	386.0	8.0	8772.0	-997.0	90
Whitehorse	188.0	-21.0	6069.0	-539.0	92
Vancouver Int'l A	94.0	-16.0	2744.0	-127.0	96
Edmonton Mun A	68.0	-75.0	4682.5	-746.5	86
Calgary Int'l A	113.0	-54.0	4693.0	-424.0	92
Regina	117.0	-38.0	5276.5	-498.5	91
Winnipeg Int'l A	127.0	-25.0	5640.5	-120.5	98
Thunder Bay	148.0	-30.0	5397.0	-124.0	98
Windsor	86.0	-10.0	3553.5	17.5	100
Toronto Int'l A	105.5	-20.5	4017.5	21.5	101
Ottawa Int'l A	108.5	-14.5	4421.0	-177.0	96
Montreal Int'l A	113.5	-2.5	4335.5	-70.0	98
Quebec	139.0	-10.0	4964.5	17.5	100
Saint John, N.B.	168.0	-15.0	4401.5	-155.5	97
Halifax	167.5	-9.5	3969.5	59.5	102
Charlottetown	188.0	-3.0	4411.5	-8.5	100
St. John's, Nfld.	257.5	27.5	4538.5	99.5	102

Atmospheric Circulation Features



7-day Mean 50 kPa Height Map(in dam)
May 12 to 18, 1980

The upper atmospheric current across the southern United States is starting to acquire a more southwest to northeast orientation while slowly shifting northward over the eastern half of the continent. The upper low approaching the West East brought heavier showers to the interior of British Columbia. This situation should soon result in the collapsing of the upper ridge responsible for the drought conditions in Prairie Provinces. Consequently, precipitation probabilities should increase over those regions. Then, this ridge will be most likely to reform over eastern Canada. Below normal 50kPa surface heights are already evident over southern portions of West-

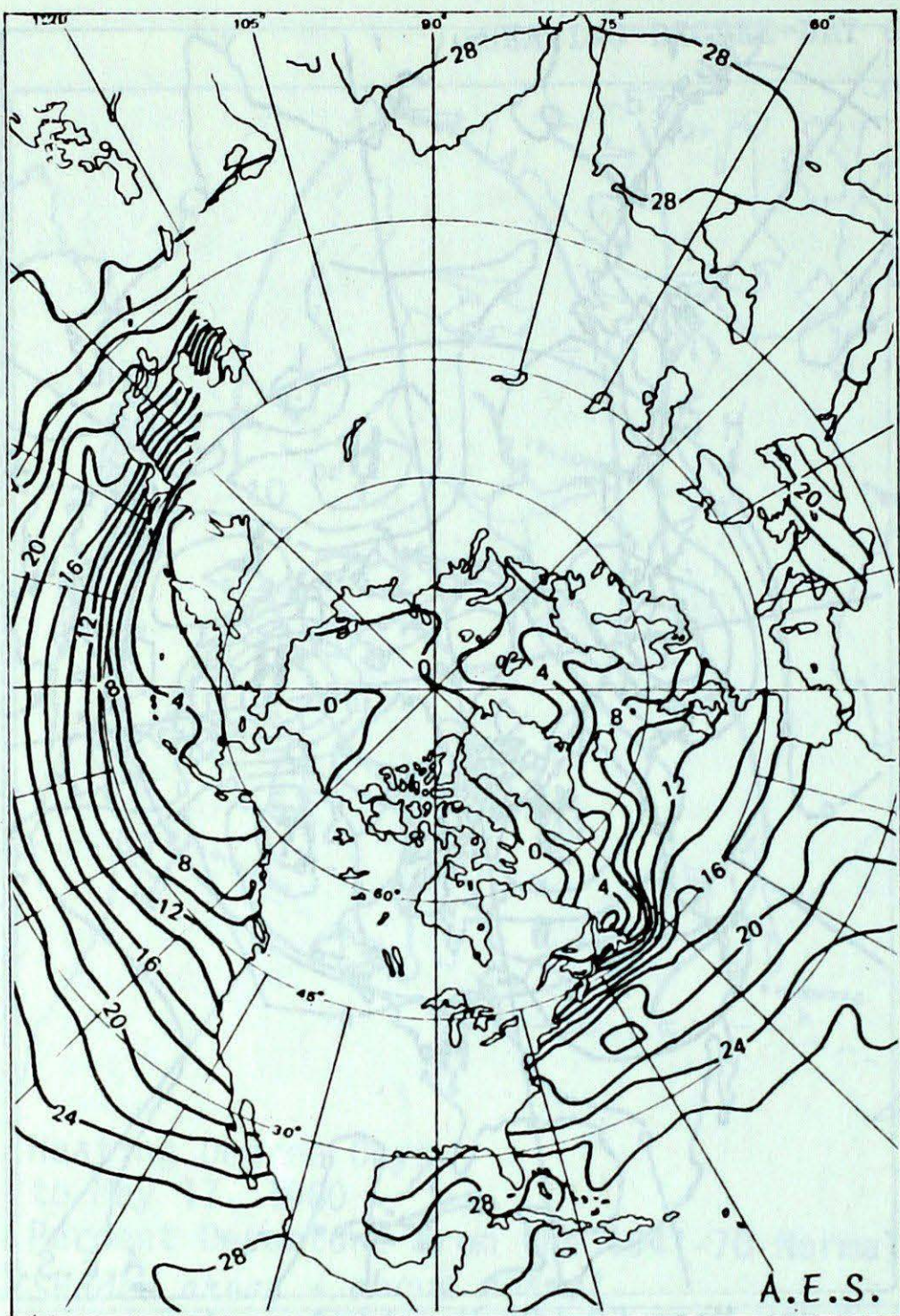


7-day Mean 50 kPa Height Anomaly
(in 5 dam intervals) May 12 to 18, 1980

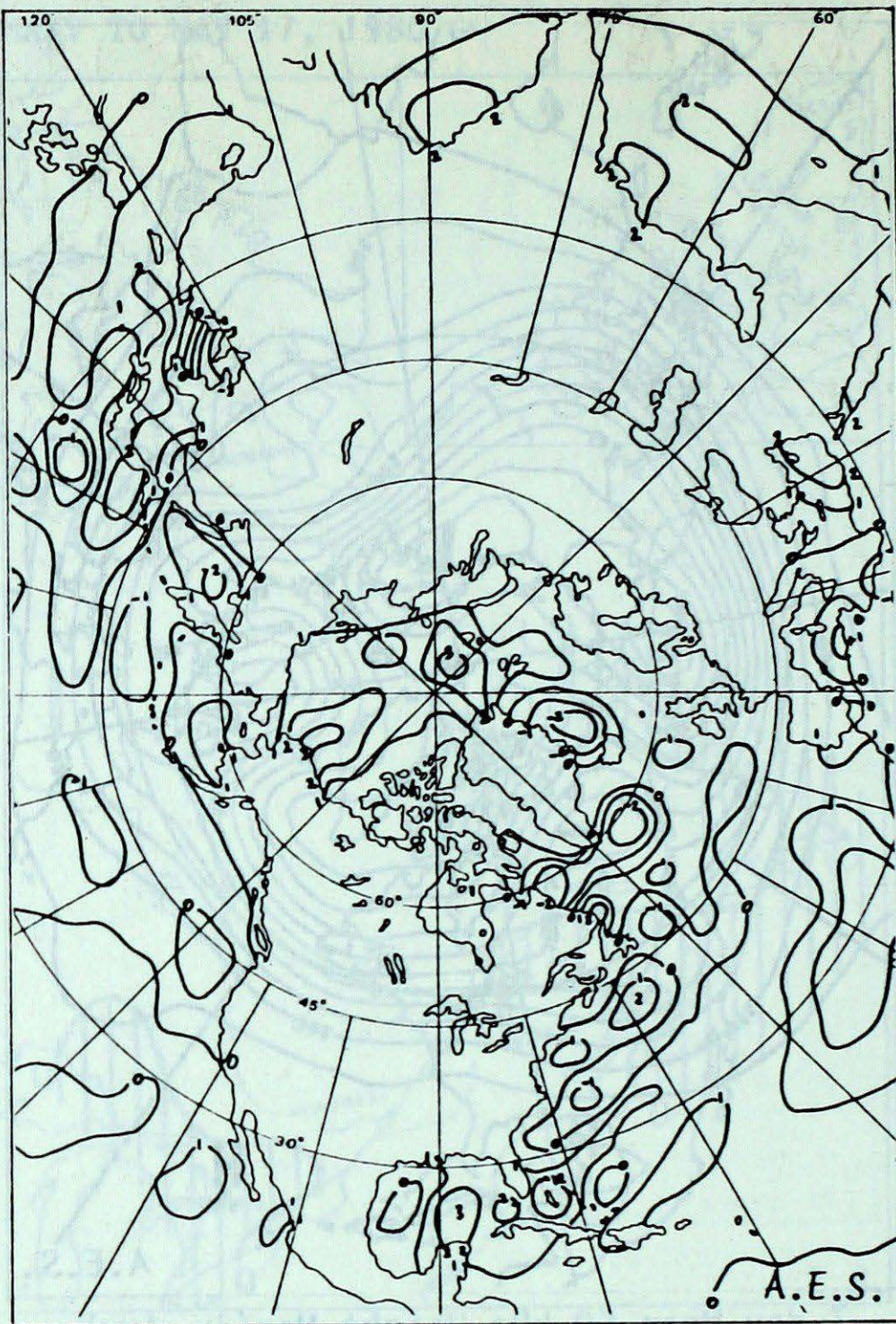
ern Canada, while positive anomalies persist over Northwest Territories.

In Eastern Canada, the closed low pressure system that has been predominant over these areas for several weeks, resulting in mainly unsettled weather, is now slowly drifting eastward off the Labrador coast. A storm system which developed in the American southwest tracked northeastward to the Atlantic Provinces, dropping large quantities of precipitation on its path over the Great Lakes basin, the St-Lawrence valley, Cape Breton Islands and southern Newfoundland. Rain totalled 48.0 mm at Port aux Basques and 60 mm at Sarnia.

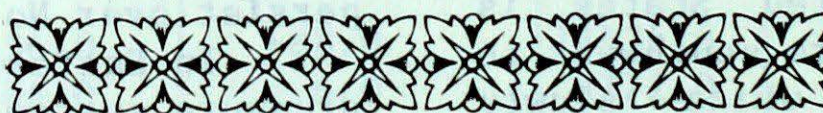
Andy Radomski



Monthly Mean Sea Temperature
April 16 to May 15, 1980



Sea Surface Temperature Anomalies
April 16 to May 15, 1980



CLIMATIC PERSPECTIVES

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