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VOL 2 ISS 18  
CLIMATIC PERSPECTIVES

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PERSPECTIVES  
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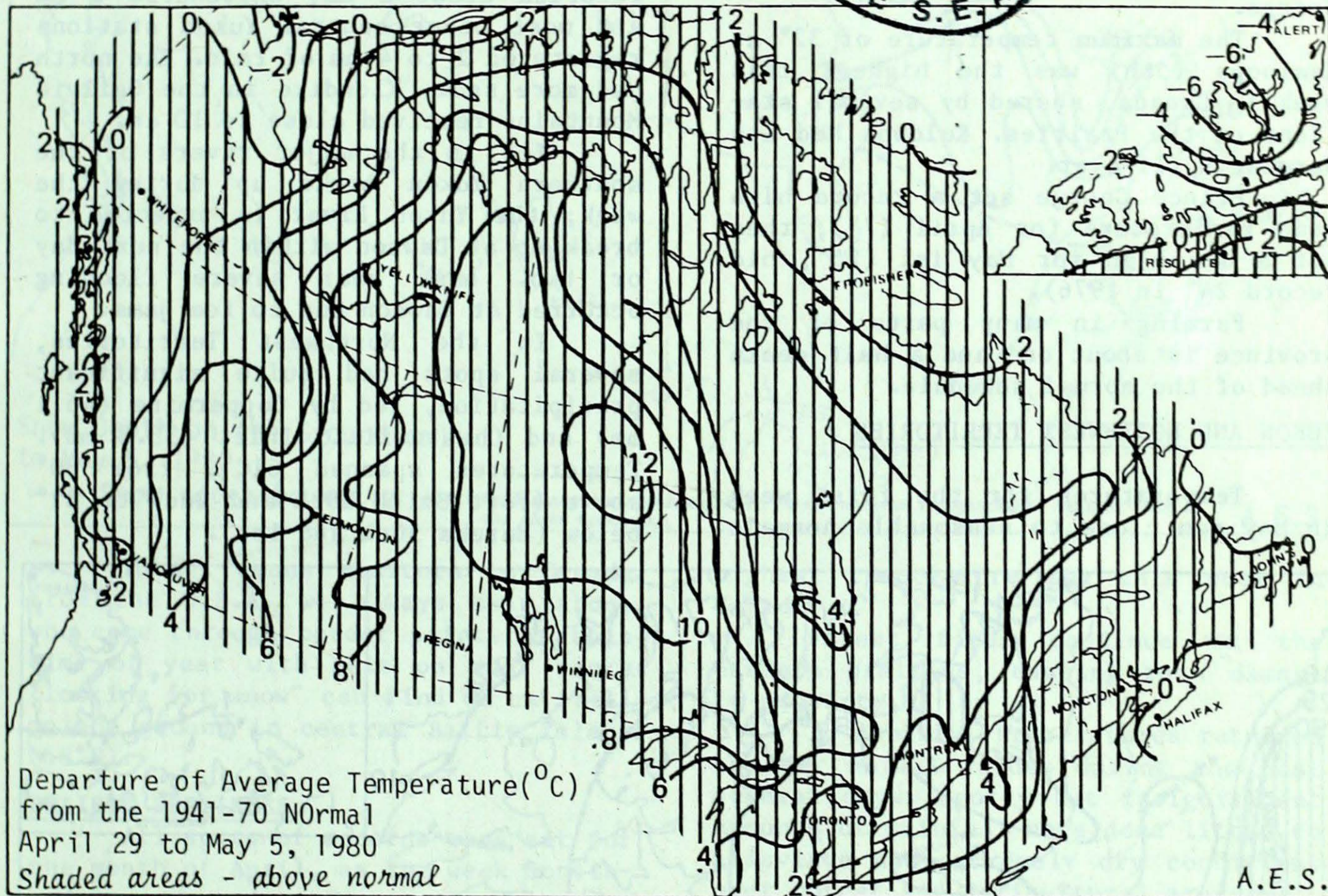
THE CANADIAN CLIMATE CENTRE,  
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MAY 9, 1980

(Aussi disponible en français)

VOL. 2 NO. 18



**WEATHER HIGHLIGHTS FOR THE WEEK - APRIL 29 - MAY 5, 1980**

**Huge Forest Fires Rack Central Canada**

Forest fires covering hundreds of thousands of hectares are causing enormous damage over an area stretching from spots in British Columbia through Alberta, Saskatchewan, Manitoba and northern Ontario, and parts of Quebec. Reports indicate that the fire near Sioux Lookout, Ontario is the biggest in the province's history. The fires are a result of the soil and vegetation being so dry after a winter marked by lack of snow and then a hot dry spring.

Many maximum temperatures were broken this week. Highest recorded was  $32^{\circ}$  at Kamloops, BC and several places in the prairies. Coldest place was Eureka, NWT ( $-31^{\circ}$ , 30th and 1st). St. John's Newfoundland broke two records this week: a  $13.1^{\circ}$  high temperature on the 29th and a 24-hour rainfall of 62.2 mm during the two days 4th-5th. Kingston, Ont. had the wettest April in 106 years of records: 154 mm. Not far behind, Toronto International Airport's 112 mm was its wettest April ever.

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

BRITISH COLUMBIA

All stations except Lytton reported some rain this week; amounts ranged from 0.2 mm at Fort St. John to 49.9 mm at Prince Rupert. Despite the sprinkles inland, conditions there continue dusty and dry and several spot forest fires are burning. One fire of about 2000 ha is reported near Chetwynd, about 250 km north of Prince George.

The maximum temperature of 32° at Kamloops (5th) was the highest this week in Canada, shared by several stations on the Prairies. Kelowna had its warmest April ever.

Prince George set a record high mean temperature for April (7°), then set a new high for May 1st (25°, old record 24° in 1976).

Farming in many parts of the province is about one and a half weeks ahead of the normal schedule.

YUKON AND NORTHWEST TERRITORIES

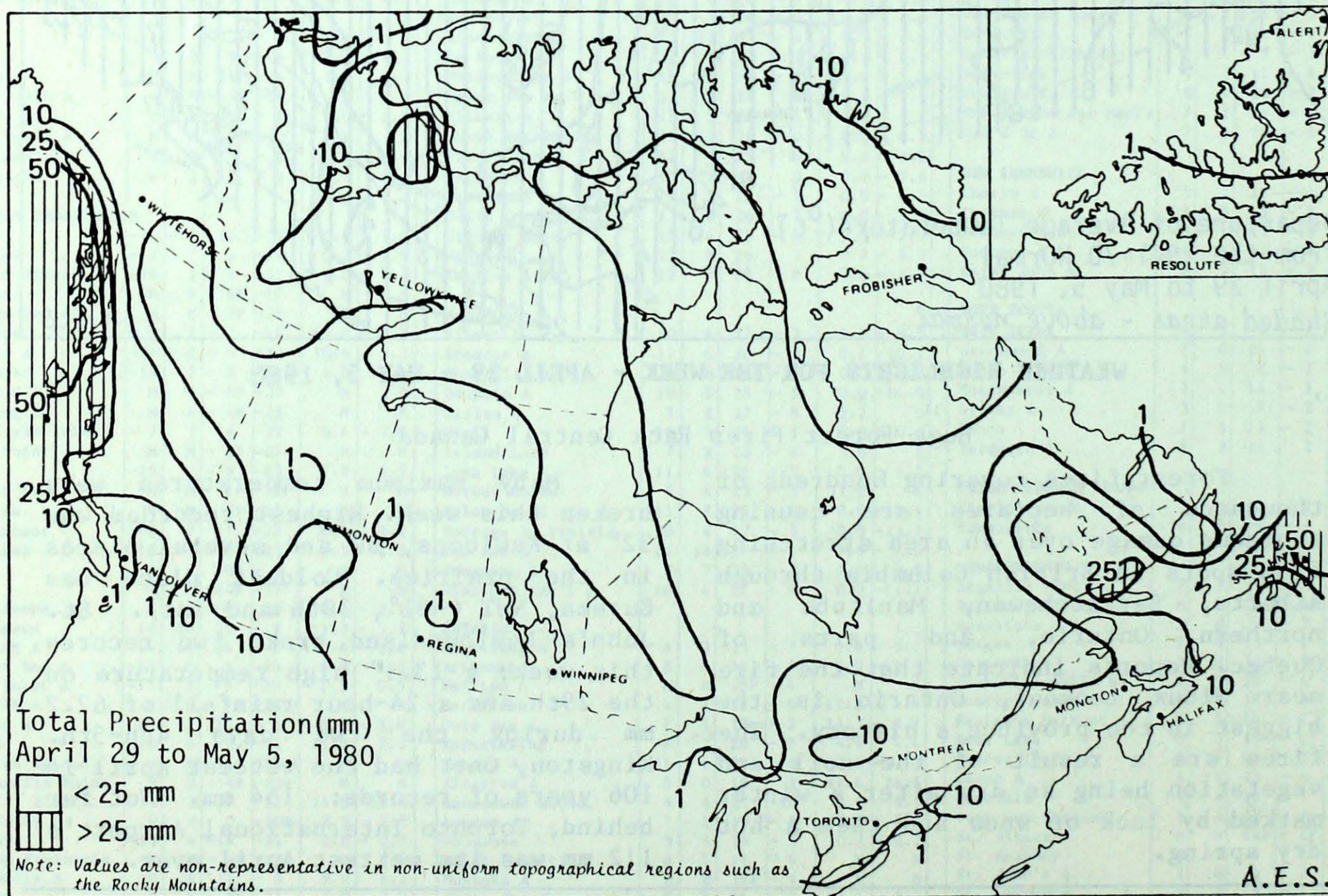
Temperatures for the first week in May ran close to seasonable normals

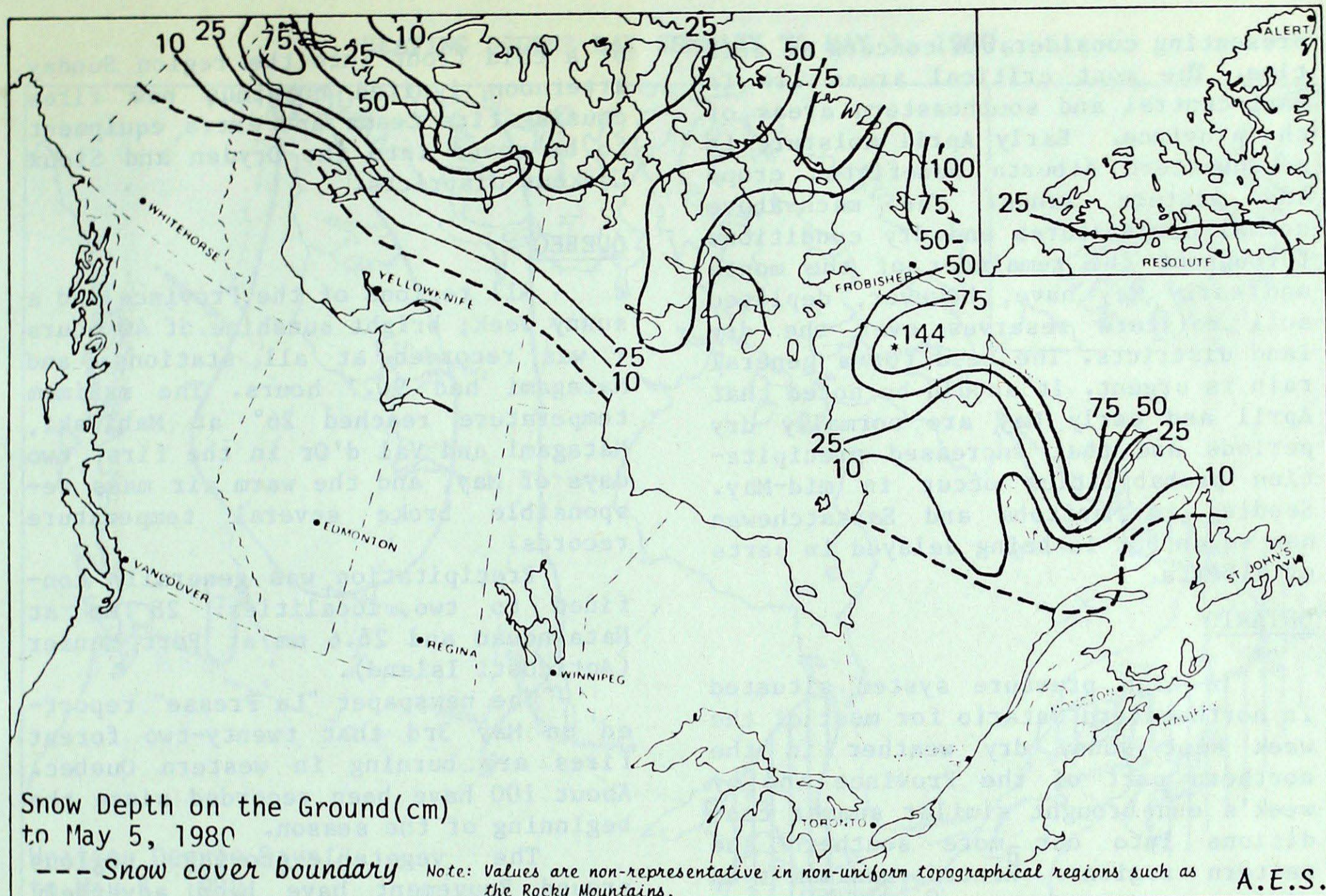
throughout the southern Yukon. Maximum temperatures came up slowly during the week with Dawson the warmest at 16° on May 5. Above-freezing temperatures are moving slowly northward in the northern Yukon. However, Old Crow is still gripped by generally subzero temperatures.

Most points in the Yukon had some precipitation during the week. Dawson recorded about 6 mm, Whitehorse 2 mm and most other central Yukon stations registered 2 to 4 mm of rain. The north had more snow. Klondike in the Ogilvie Mountains received close to 10 cm.

Ice in the major rivers of the southern Yukon broke up during the week; the Yukon River is expected to break up at Dawson within the next day or two. Last year severe flooding occurred at Dawson due to ice jams.

In the Northwest Territories, several spots had quite significant precipitation, led by Coppermine (45.1 mm) and Chesterfield Inlet (33.8 mm). Temperatures spanned 61C°, from 30° above (Fort Smith 29th and 2nd) to 31° below (Eureka 30th and 1st).





Those famous visitors to Canada from the U.S.A. we always hear about who come through border points at this time of year with skis on roof racks "looking for snow" can find 82 cm still on the ground in central Baffin Island (68°N).

#### PRAIRIE PROVINCES

All sorts of records were set for the month of April, as the week continued warm and dry. It was in fact the driest month ever at Winnipeg, Dauphin, Hudson Bay and Yorkton, and the driest April ever at Portage, Gimli, Pilot Mound, Lynn Lake and Broadview. Bois-sevain has gone 59 days without measurable precipitation, while many other stations have been 35 days + without rain.

Winnipeg had 326.7 hours of sunshine in April (79% of possible), breaking the 305.5 hrs previous April record (1900).

With many stations having maximums 15-18° above normal this week, it was not surprising that Dauphin, Portage and Winnipeg all shared the 32° maximum on Saturday May 3rd, the

highest temperature for this week in Canada.

Forest fires continue on the eastern prairies, causing much damage to property.

In Alberta, temperatures returned to near normal values during the past several days. Spotty but insignificant amounts of rainfall have done little to alleviate the extremely dry conditions over forest and agricultural areas.

Smoke from northern Alberta forest fires has spread across much of the province. An area of 150000 ha has already been destroyed compared to a total loss of 150000 ha last season. The largest of the fires, 190 km northeast of Fort McMurray, has already destroyed 130000 ha in Alberta and another 60000 ha in Saskatchewan. Fanned by moderate winds, this fire is likely to become the largest blaze in Alberta's history (a 1968 fire in the Whitecourt-Slave Lake forest district destroyed 140000 ha). Several fires pose a threat to small communities in their path.

Over agricultural regions, the lack of adequate soil moisture is

presenting considerable concern at this time. The most critical areas lie in east-central and southeastern areas of the province. Early April moisture in southwestern Alberta benefitted crops and pasture lands. The much-above normal temperatures and dry conditions throughout the remainder of the month and early May have, however, depleted soil moisture reserves over the dry land districts. The need for a general rain is urgent. It should be noted that April and early May are normally dry periods and that increased precipitation probabilities occur in mid-May. Seeding in Manitoba and Saskatchewan has begun but is being delayed in parts of Alberta.

#### ONTARIO

A high pressure system situated in northwestern Ontario for most of the week kept sunny dry weather in the northern part of the Province and by week's end brought similar summer conditions into our more southern and eastern regions. Record maximum and minimum temperatures were set throughout the week.

For example, both Kapuskasing and Timmins hit 28° on May 2nd, erasing the old mark of 26° set back in 1937. Gore Bay erased a 1934 record with a high of 24° on May 2nd and 3rd, while in the south, Trenton's 27° on the 3rd broke a record established in 1944. Highest temperature this week was 33° at Thunder Bay (4th), and lowest was -18° at Koartak (29th).

A record of a more dubious sort was broken in Kingston, prior to the warm weather, as 51.2 mm of rain fell on April 28th, bringing that city's monthly total rainfall to 154 mm - the rainiest April in 106 years of records. Toronto International Airport also had its wettest April ever with 112 mm of rain.

In contrast, the extremely dry conditions prevailing in the northwest have forestry officials worried about serious forest fires in that area. Lightning associated with the passage

of a cold front into the region Sunday afternoon ignited numerous new fires causing fire teams and extra equipment to be moved into the Dryden and Sioux Lookout districts.

#### QUEBEC

All regions of the Province had a sunny week; bright sunshine of 40 hours + was recorded at all stations, and Matagami had 90.7 hours. The maximum temperature reached 26° at Maniwaki, Matagami and Val d'Or in the first two days of May, and the warm air mass responsible broke several temperature records.

Precipitation was generally confined to two localities: 28 mm at Natashquan and 26.6 mm at Port Menier (Anticosti Island).

The newspaper "La Presse" reported on May 3rd that twenty-two forest fires are burning in western Quebec. About 100 have been recorded since the beginning of the season.

The vegetable-growing regions around Rougement have been adversely affected by the previous winter; all growers visited by the Quebec Ministry of Agriculture have presented claims ranging from 25% to 100% damage.

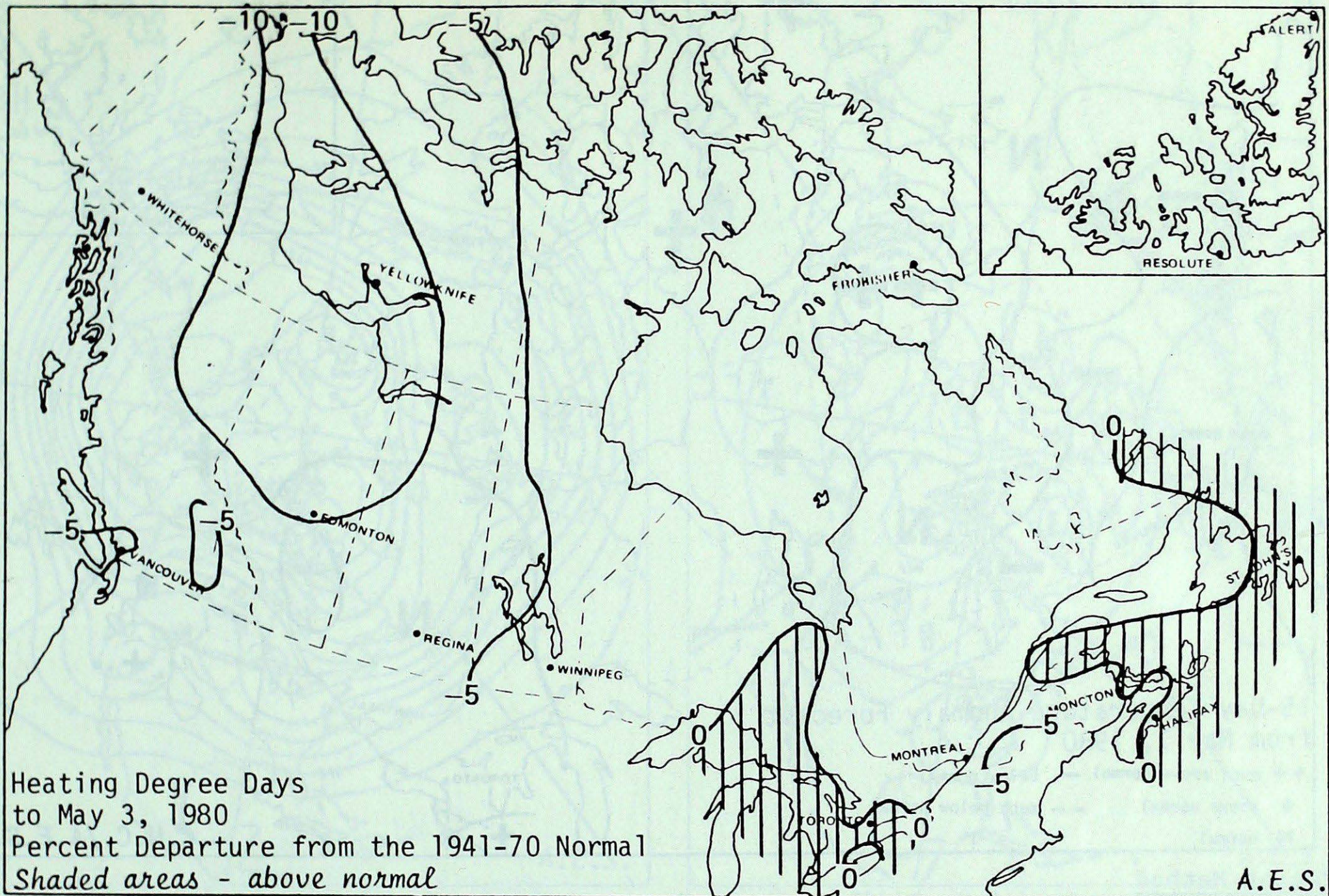
#### ATLANTIC PROVINCES

St. John's basked in a record high 13.1° on the 29th (old record 12° in 1951), but then had to endure another record a few days later: 84.8 mm of rain over 4th-5th, of which 62.2 mm was in one 24-hour period, eclipsing the 58.4 mm 24-hour mark in May 1967. Fortunately, there was no flooding. The temperature at Charlo, N.B. rose to 21° on the 29th, while at Battle Harbour and St. Anthony it dropped to -7° on the 2nd.

Ice conditions in the Strait of Belle Isle are still making shipping passage difficult. In Cape Breton, rivers are running high, due to the heavy rains on 22nd-24th, combined with the usual spring runoff.

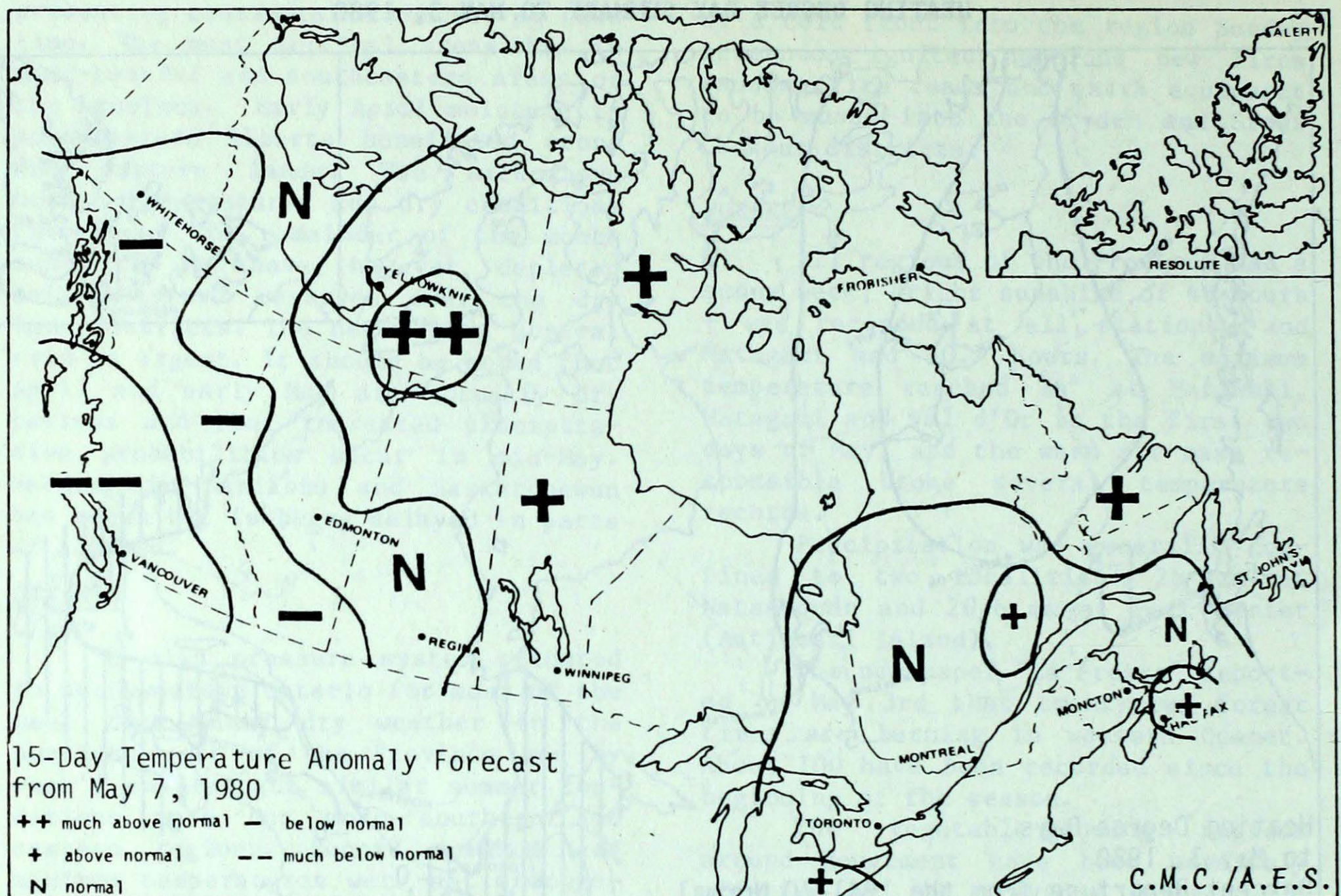


## HEATING DEGREE-DAY SUMMARY TO MAY 3, 1980



CITY	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL
Resolute	94.5	-6.5	1,195.0	-68.0	99
Inuvik	76.0	-1.0	8462.0	-1006.0	89
Whitehorse	45.0	4.0	5926.0	-514.0	92
Vancouver	17.0	-6.0	2667.0	-117.0	96
Edmonton	8.0	-19.0	4622.5	-690.5	87
Calgary	12.5	-22.5	4592.5	-392.5	92
Regina	1.5	-28.5	5161.0	-489.0	91
Winnipeg	0.0	-30.0	5513.5	-125.5	98
Thunder Bay	11.0	-22.0	5260.0	-116.0	98
Windsor	10.0	-11.0	3477.5	16.5	100
Toronto	8.0	-16.0	3920.0	26.0	101
Ottawa	4.5	-21.5	4317.0	-184.0	96
Montreal	7.0	-17.0	4228.5	-84.5	98
Quebec	21.0	-9.0	4846.5	18.5	100
Saint John, N.B.	31.5	-4.5	4265.0	-145.0	97
Halifax	37.0	1.0	3839.0	70.0	102
Charlottetown	38.0	-1.0	4261.5	-6.5	100
St. John's, Nfld.	54.5	12.5	433.5	84.5	102

## 15 DAY TEMPERATURE ANOMALY FORECAST

Forecast Method

Analogue technique based on point prediction at 70 Canadian stations.

Temperature Scale

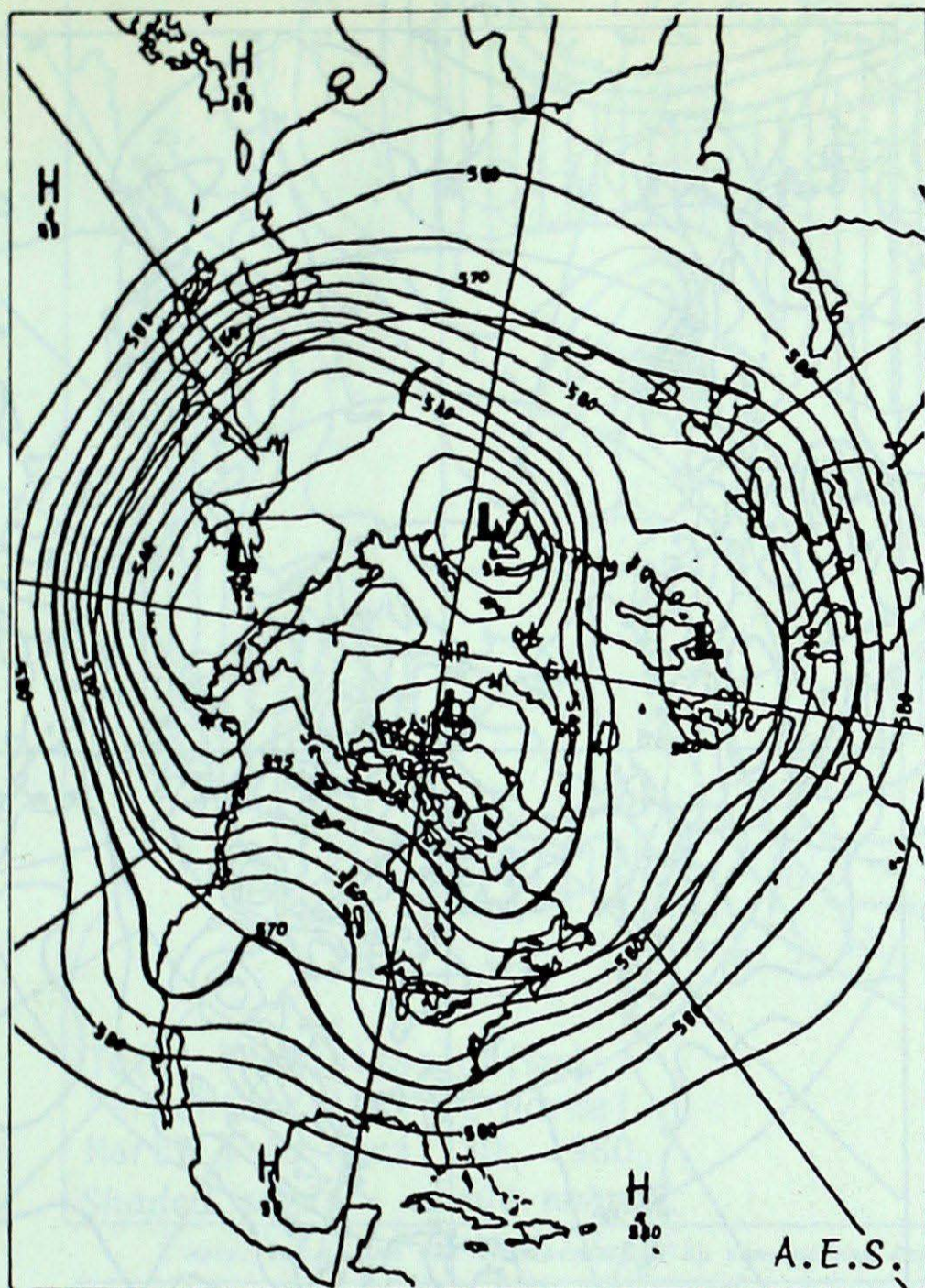
Each temperature class is designed to contain 20% of the historically observed 15 day means pertinent to specific location and time of year:

StationCurrent Temperature Anomaly Forecast

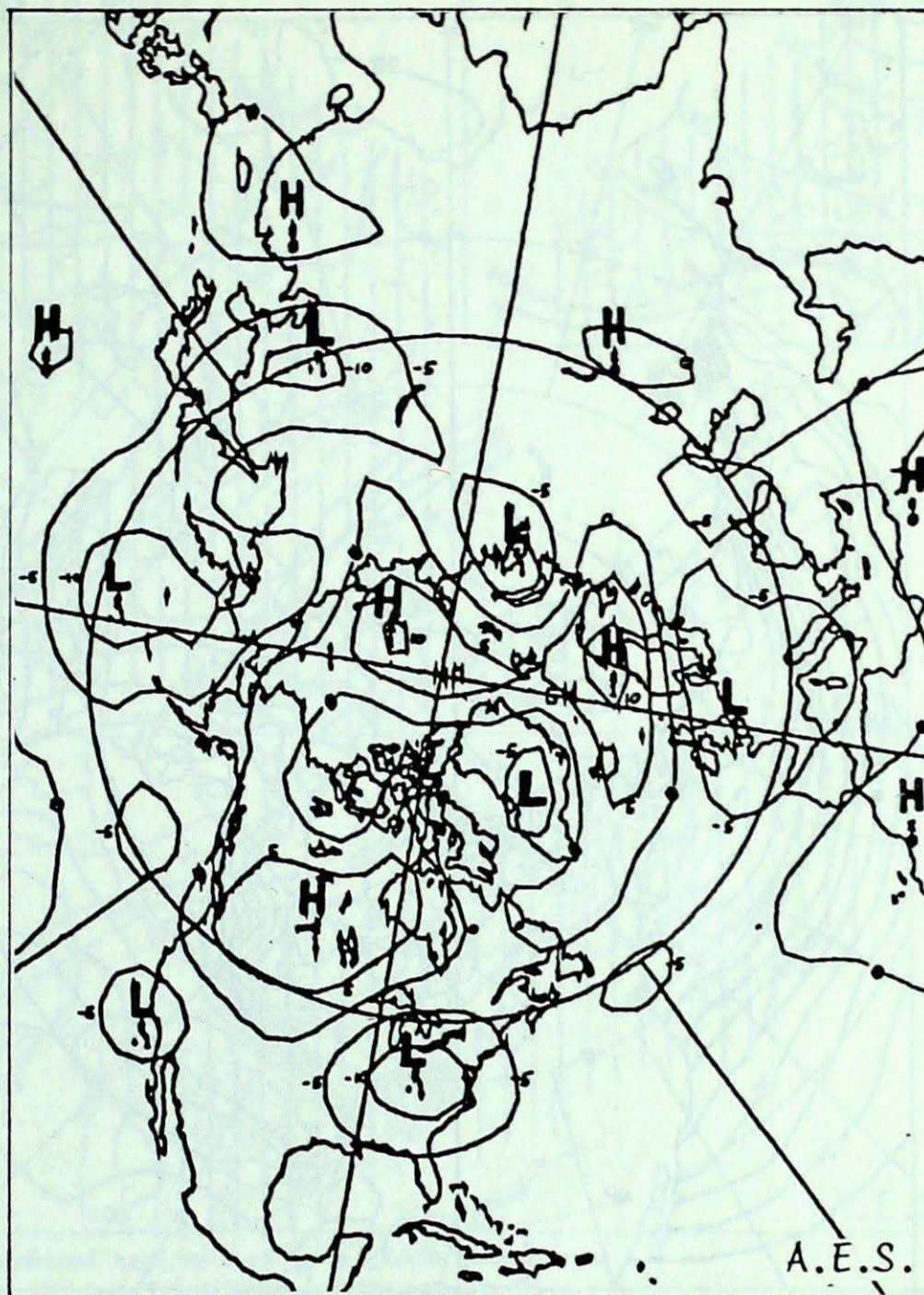
<u>Station</u>	<u>Current Temperature Anomaly Forecast</u>
Whitehorse	Below Normal From 0.5° to 1.6° below Normal
Victoria	Much Below Normal More than 1.1° below Normal
Vancouver	Much Below Normal More than 1.1° below Normal
Edmonton	Near Normal Within 0.6° of Normal
Regina	Near Normal Within 0.6° of Normal
Winnipeg	Above Normal From 0.6° to 2.2° above Normal
Thunder Bay	Above Normal From 0.5° to 1.6° 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	Near Normal Within 0.4° of Normal
Fredericton	Near Normal Within 0.4° of Normal
Halifax	Above Normal From 0.4° to 1.2° above Normal
Charlottetown	Near Normal Within 0.4° of Normal
St. John's	Above Normal From 0.5° to 1.5° above Normal
Goose Bay	Above Normal From 0.5° to 1.8° above Normal
Frobisher Bay	Above Normal From 0.7° to 2.5° above Normal
Inuvik	Near Normal Within 0.8° of Normal

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

## Atmospheric Circulation Features



7-day Mean 50 kPa Height Map (in dam)  
April 28 to May 4, 1980



7-day Mean 50 kPa Height Anomaly  
(in 5 dam intervals) April 28 to May 4, 1980

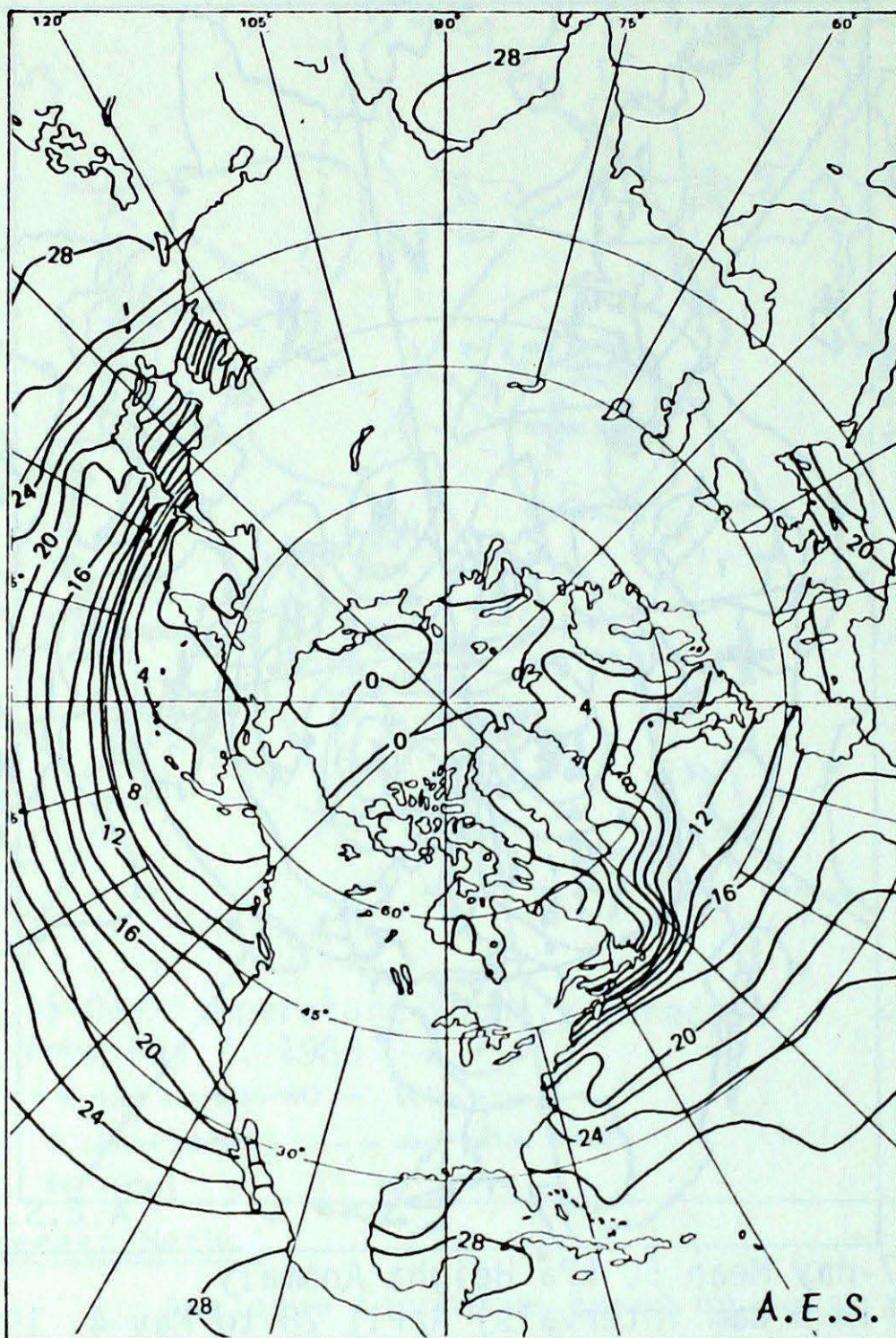
The major upper ridge continued to persist across the western half of the nation. Even though its amplitude had somewhat weakened, it broadened and gradually encompassed most of Ontario in time for the weekend. Dry sunny weather with near record breaking temperatures were common most everywhere.

Surface weather systems steered by the upper flow continued moving across the northern portions of British Columbia and the Northwest Territories. Precipitation totals along the northern British Columbia coastline remained respectable while dry and very warm conditions were predominant in the interior and the prairie provinces resulting in an increase in fire activity.

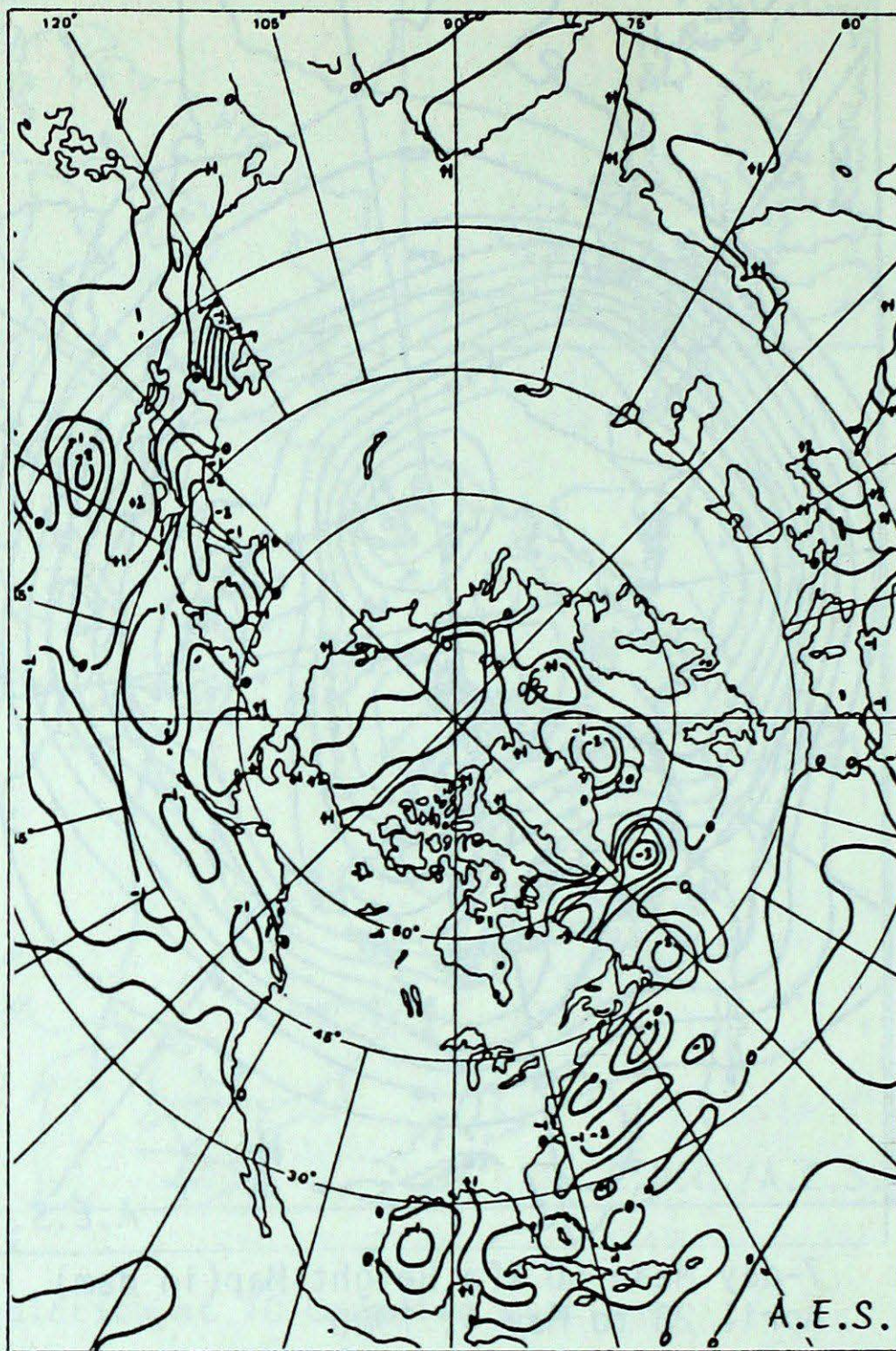
A large slow moving upper closed low dominated the eastern half of the country, effectively blocking the eastward progression of the upper ridge. Moving southeastward from the Great Lakes early in the period, it then curved northeastwards becoming nearly stationary off the Atlantic Provinces.

Series of weather systems moving along the east coast brought occasionally showery unsettled weather to the Maritimes. A much stronger disturbance approached the island of Newfoundland during the weekend. Associated with the upper centre, and having a strong on shore circulation, much higher precipitation amounts were recorded over the island Sunday, and Monday.

Andy Radomski



Monthly Mean Sea Temperature  
for April, 1980



Sea Surface Temperature Anomalies  
for April, 1980

#### APRIL PRECIPITATION

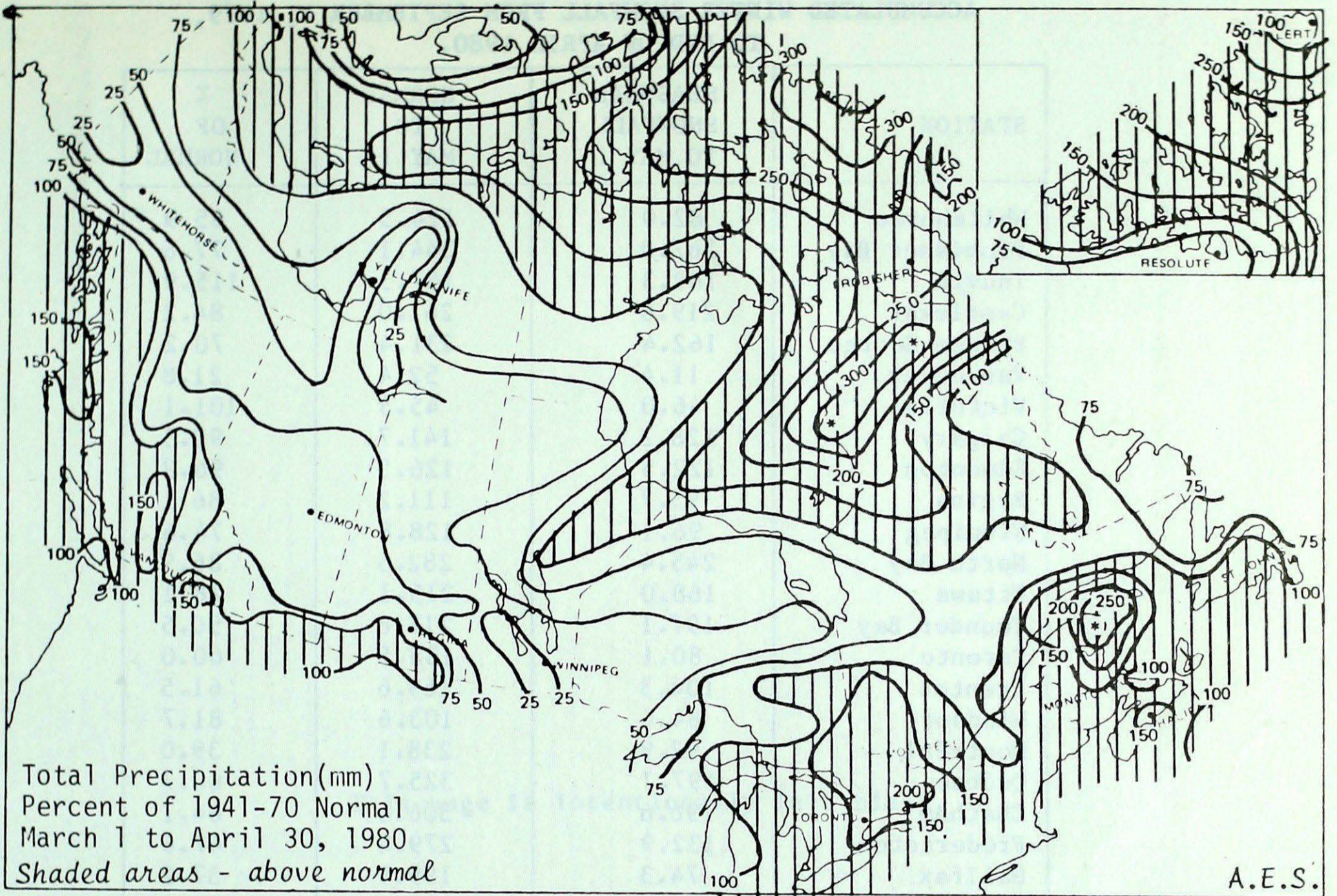
The precipitation in April was much below normal over the prairies. Many southwest Manitoba stations did not receive any measurable precipitation at all in April, and for many other places amounts were less than 10% of normal. The March-April totals for the Winnipeg-Brandon area are 25% or less of the normal amounts for this period. These dry months are aggravating the dry soil conditions left behind by a drier-than-usual winter.

The northern prairies are also suffering from a lack of spring rains, with amounts about 20% of normal for April. Northern Ontario figures for April were considerably less than 50% of normal.

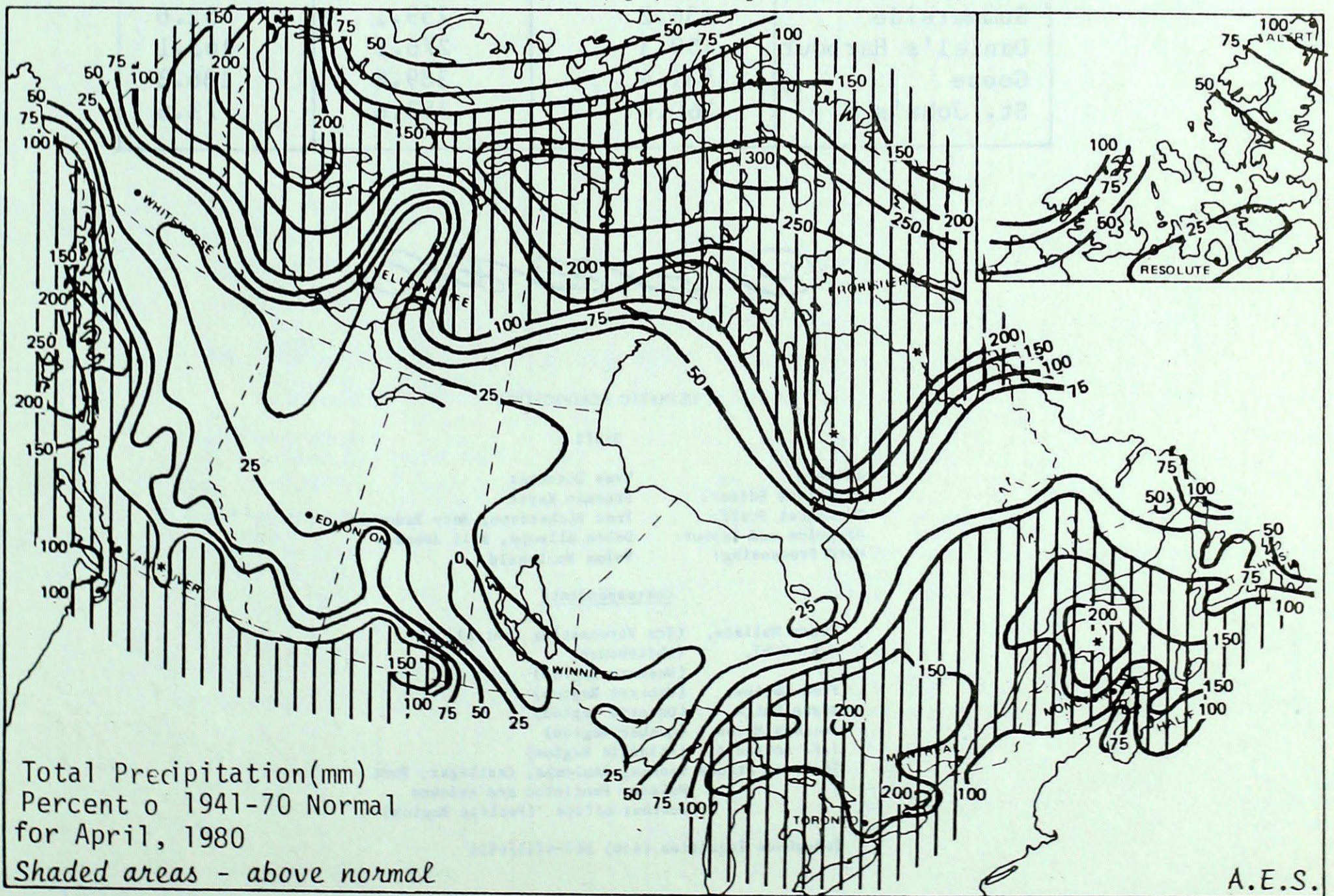
In contrast, many stations on the east and west coasts had much-above normal rains for April. Langara, BC had a soggy 252% for April and 195% for March-April. In the Gaspé Peninsula heavy localized storms accounted for most of the April totals; at Gaspé, the 48-hour total from one storm was nearly 50% of the usual annual rainfall.

Percentage contours drawn over the Arctic may seem to be wildly variable, but this is because precipitation amounts for the month (normal and actual) are quite small. Thawing occurred earlier than usual, providing more moisture to the soil.





Note: Values are non-representative in non-uniform topographical regions such as the Rocky Mountains.



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ACCUMULATED WINTER SNOWFALL FROM SEPTEMBER 1, 1979,  
TO END OF APRIL 1980.

STATION	SEASONAL SNOWFALL TO MAY 1	NORMAL TO MAY 1	% OF NORMAL
Whitehorse	82.0	124.5	65.9
Frobisher Bay	267.0	344.1	77.6
Inuvik	182.3	157.3	115.9
Castlegar	219.8	261.0	84.2
Prince George	162.4	231.4	70.2
Vancouver	11.4	52.4	21.8
Victoria	46.0	45.5	101.1
Calgary	128.2	141.7	90.5
Edmonton	122.5	126.5	96.8
Regina	95.7	111.2	86.1
Winnipeg	96.1	128.8	74.6
North Bay	245.4	282.5	86.9
Ottawa	168.0	215.1	78.1
Thunder Bay	197.1	217.8	90.5
Toronto	80.1	133.5	60.0
Trenton	104.3	169.6	61.5
Windsor	84.6	103.6	81.7
Montréal	92.9	238.1	39.0
Québec	197.7	325.7	60.7
Chatham	196.6	306.6	64.1
Fredericton	132.9	279.4	47.6
Halifax	74.3	199.9	37.2
Sydney	190.6	283.8	67.2
Summerside	136.2	259.1	52.6
Daniel's Harbour	450.3	276.1	163.1
Goose	531.4	389.8	136.3
St. John's	260.4	353.6	73.6



## CLIMATIC PERSPECTIVES

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