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VOL 2 ISS 17  
CLIMATIC PERSPECTIVES

# CLIMATIC PERSPECTIVES

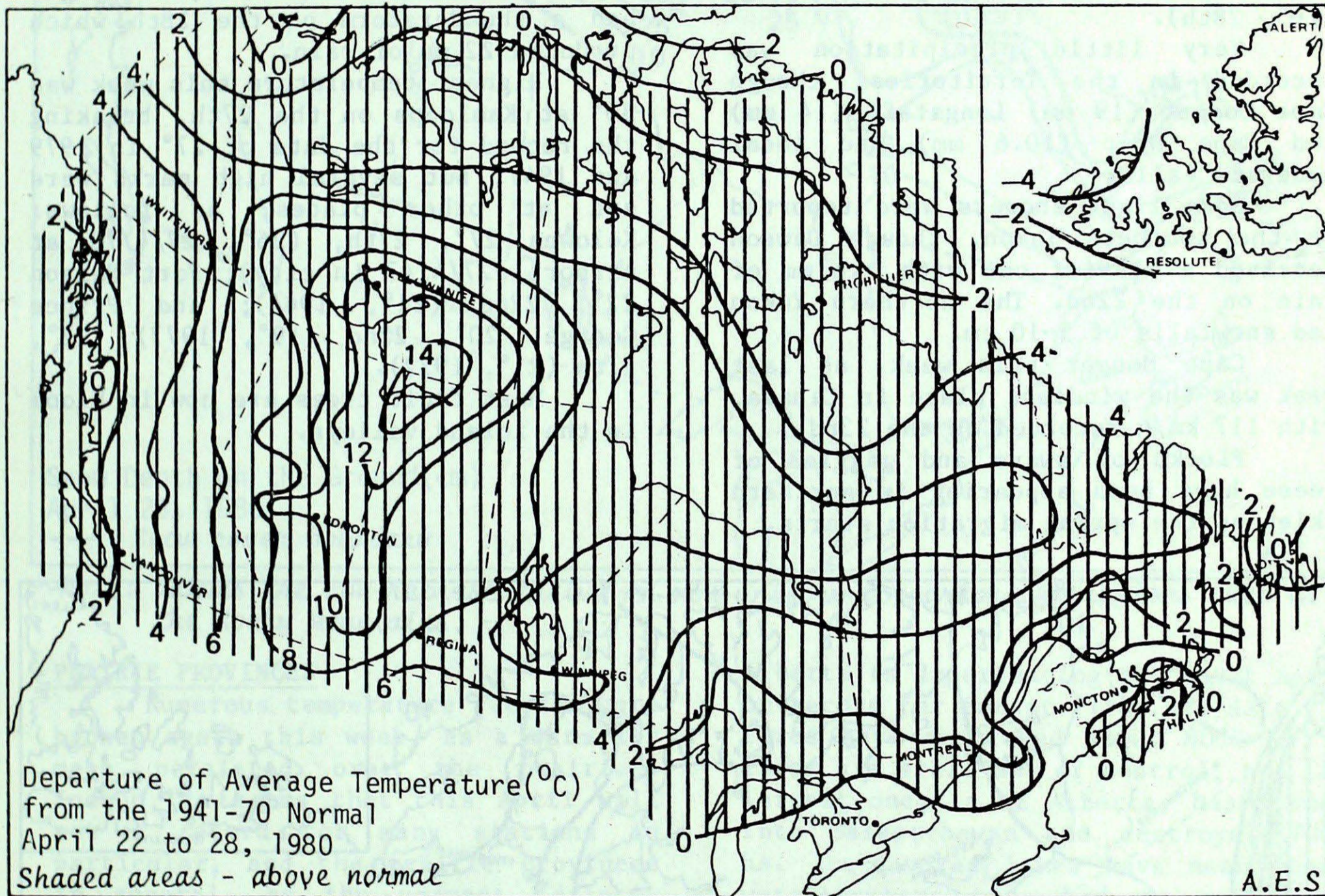
THE CANADIAN CLIMATE CENTRE,  
ATMOSPHERIC ENVIRONMENT SERVICE  
4905 DUFFERIN ST., DOWNSVIEW, ONTARIO M3H 5T4

## NON-CIRCULATING

MAY 2, 1980

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VOL. 2 NO. 17



### WEATHER HIGHLIGHTS FOR THE WEEK - APRIL 22 - 28 1980

#### Devastating Forest Fires in Alberta as Western Warm Spell Continues

Warm weather continued this week in western Canada, breaking numerous high-temperature records. Even northern stations had  $20^{\circ}$  days, eliminating the little snow cover remaining. The snow-line is now north of  $65^{\circ}\text{N}$ .

The long dry spell has aggravated the already bad forest-fire situation in Alberta and Saskatchewan, where hundreds of fires, some still out of control, have destroyed about 15000 ha. Winnipeg, Brandon and Dauphin have had one month without measurable precipitation.

Nova Scotia was hit by a severe storm, and local fishermen face heavy costs as they go about the job of repairing damaged equipment.

Gaspé had a two-day deluge of torrential rain this week. On the 24th, 144.2 mm fell, breaking the record for the date; a further 108.9 mm had fallen the previous day. The 253.1 mm two-day total broke the previous record for April.

Warmest temperature was  $31^{\circ}$  at Windsor, Ont. (22nd); coldest was  $-37$  at Eureka NWT (22nd).

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

## YUKON AND NORTHWEST TERRITORIES

As the length of day increases, the hours of bright sunshine are increasing steadily. Alert recorded 165.4 hours this week. The snow cover is now limited to north of about  $65^{\circ}\text{N}$ . The chill in the air, however, was still apparent in Eureka ( $-37^{\circ}$  minimum on 22nd). Warmest place was Fort Smith ( $26^{\circ}$ , 28th).

Very little precipitation was recorded in the Territories, though Cape Dorset (19 mm) Longstaff (14 mm) and Cape Dyer (10.6 mm) had local moderate falls.

Some light showers were reported in the southern Yukon, though Dawson received a heavier one with 4.6 mm of rain on the 22nd. The northern Yukon had snowfalls of 5-10 cm.

Cape Hooper this week, as last week was the windiest place in Canada, with 117 km/h recorded on the 23rd.

Flocks of swans and gaggles of geese have been appearing in northern skies as the spring migration starts.

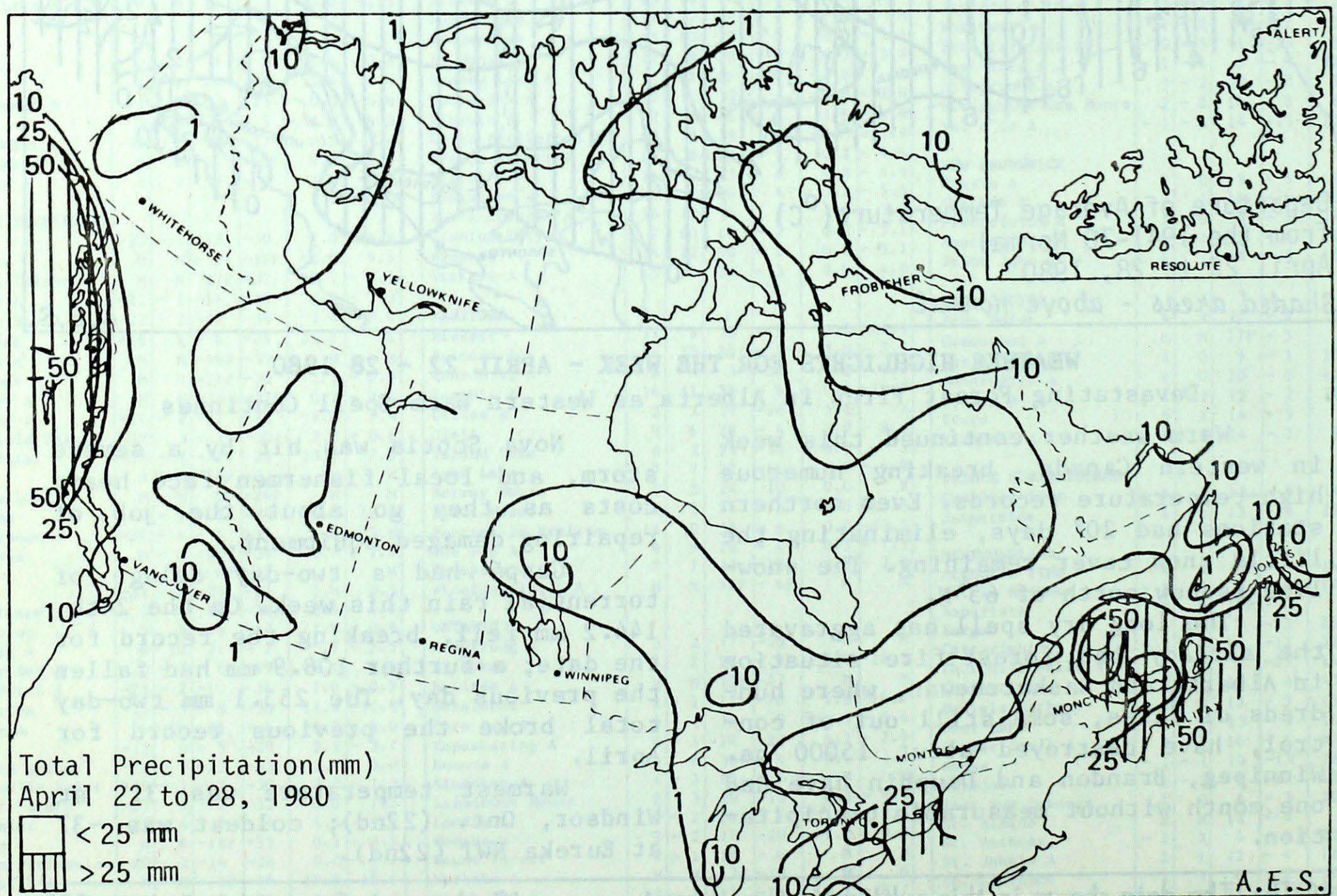
## BRITISH COLUMBIA

Considerable rain fell on the Pacific Coast: Cape Scott (72.6 mm), Cape St. James (67.8 mm), Sandspit (53.5 mm) and Prince Rupert (52.2 mm) were among the wettest areas.

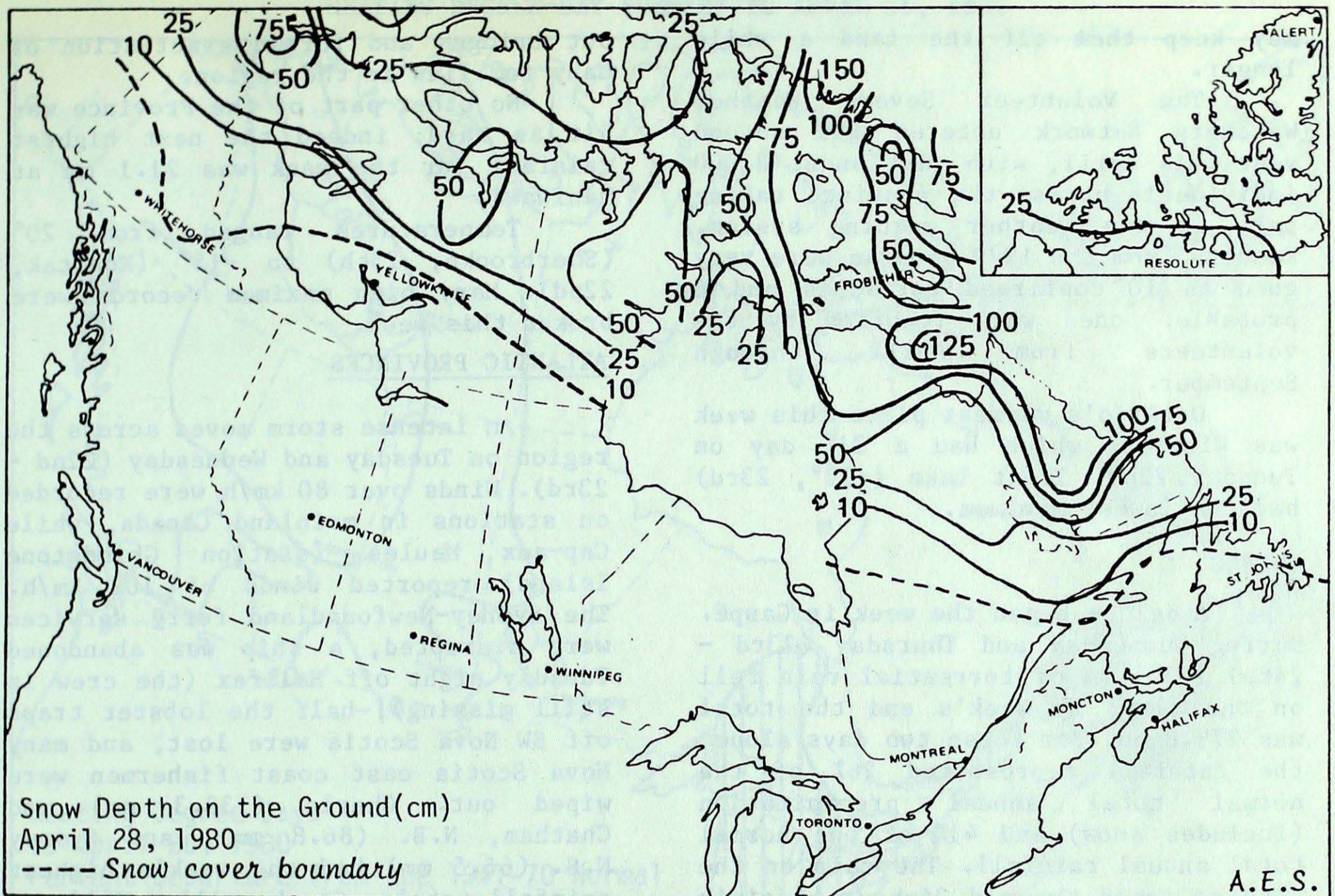
Inland, precipitation has been quite localized. While Fort Nelson was dry, with some forest fires, Castlegar had a thunderstorm on the 28th which produced 22 mm of rain.

Highest temperature this week was  $30^{\circ}$  at Kamloops on the 27th, breaking the record for the date of  $27^{\circ}$  in 1979 and 1947, but several high marks were set at other places, as follows: Kelowna  $27^{\circ}$ , 27th, ( $26^{\circ}$ , 27/4/79 at airport, 27/4/47 in city); Fort Nelson  $22^{\circ}$ , 22nd ( $21^{\circ}$ , 1944); and Prince George,  $20^{\circ}$ , 22nd ( $19^{\circ}$ , 1977),  $22^{\circ}$ , 27th ( $21^{\circ}$ , 1972).

Most fruit trees are now in bloom in the inland valleys.



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



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#### PRAIRIE PROVINCES

Numerous temperature records were broken again this week, as a warm air mass persisted over the prairies. Indeed, it seems that this April will set a record for many stations in particular, and the prairie provinces in general, as the warmest, driest, sunniest ever.

On the 27th, three stations recorded a maximum of 26°, breaking or tying records for the date: The Pas (24°, 1939), Thompson (18°, 1972), and Lac la Ronge (26° in 1939). In the period 22nd to 27th, scores of high-maximum or high-minimum temperature records were broken or tied. Fort McMurray's 30° on the 28th was the week's highest.

The warm sunny days are carrying a price in dry soil conditions. Winnipeg and Brandon have gone 33 days without measurable precipitation; Dauphin's dry spell has lasted 37 days (as of 29th). Good rains are badly needed for farm crops. Similarly,

Alberta is experiencing the worst April on record for forest fires. To date 274 fires have destroyed about 8000 ha; 9 fires are still out of control, and the largest one, in NE Alberta, has spread into Saskatchewan and destroyed 7000 ha. Ice-covered lakes have meant that water-bombers have had to refill at airports, slowing fire-fighting efforts.

Crop prospects for 6000 km<sup>2</sup> dry area in SE Alberta are not bright.

#### ONTARIO

The sunny dry weather over Ontario since April 17th finally gave way on April 25th, ushering in a cloudy wet weekend in most areas except the extreme north and north-west. One positive fact was the complete disappearance of snow cover right across the Province by the end of the week.

Farmers in Ontario have seen their fields drying well with sun and light winds even though the recent rain

may keep them off the land a while longer.

The Volunteer Severe Weather Watchers Network entered its second year this April, with just under 3,000 individuals across the province taking part in the weather warning system. Results from the 1979 program were very good as 10 confirmed tornadoes and 6 probable ones were reported by the volunteers from April through September.

Ontario's warmest place this week was Windsor, which had a 31° day on Tuesday 22nd. Trout Lake (-12°, 23rd) had the lowest minimum.

### QUEBEC

A deluge began the week in Gaspé. During Wednesday and Thursday (23rd - 24th) 253.1 mm of torrential rain fell on the city; by week's end the total was 279.8 mm. For these two days alone, the rainfall represented 26% of the normal total annual precipitation (includes snow) and 41% of the normal total annual rainfall. The rain on the 24th eclipsed the old 24-hour precipitation record (114.3 mm, September 1955), the old monthly record (231 mm, October 1977), and will undoubtedly stand as a two-day record for some time. The floods which resulted washed

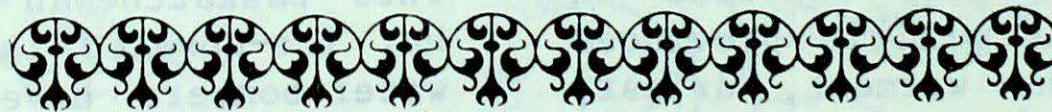
out bridges and forced evacuation of many families in the region.

No other part of the Province was hit as hard; indeed the next highest rainfall for the week was 21.1 mm at Maniwaki.

Temperatures ranged from 20° (Sherbrooke, 25th) to -15° (Koartak, 22nd). Many high maximum records were broken this week.

### ATLANTIC PROVINCES

An intense storm moved across the region on Tuesday and Wednesday (22nd - 23rd). Winds over 80 km/h were recorded on stations in mainland Canada, while Cap-aux Meules (station Grindstone Island) reported winds of 102 km/h. The Sydney-Newfoundland ferry services were disrupted, a ship was abandoned Tuesday night off Halifax (the crew is still missing), half the lobster traps off SW Nova Scotia were lost, and many Nova Scotia east coast fishermen were wiped out. Charlo (133.3 mm) and Chatham, N.B. (86.8 mm), and Sydney N.S. (66.5 mm) had the week's highest rainfall totals. Stephenville, Nfld was the only station without any rain at all for the entire seven days. It was also the warmest place (20° on the 26th). Extreme minimum was -9° at Cartwright, Nfld on the 28th.



### CLIMATIC PERSPECTIVES

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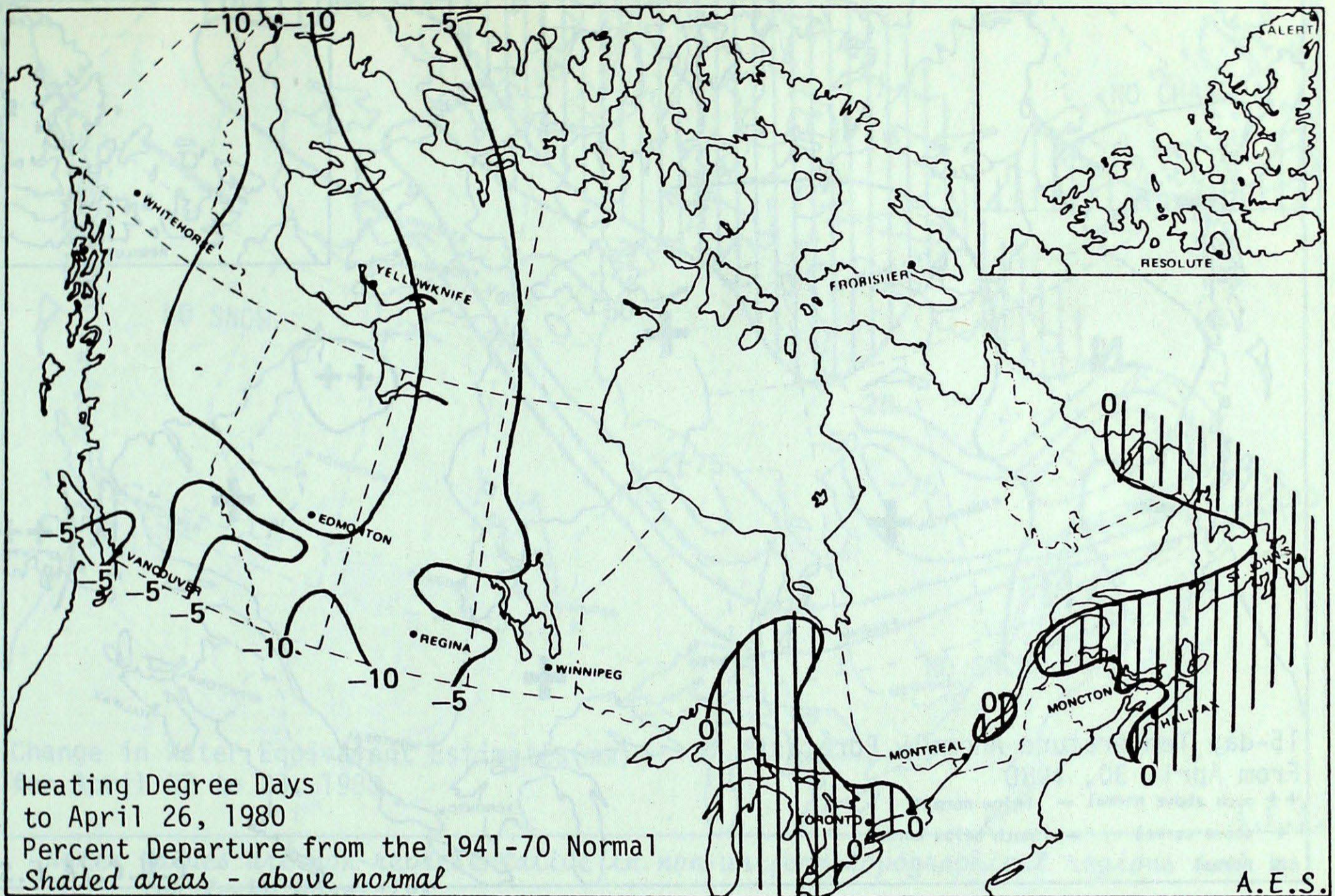
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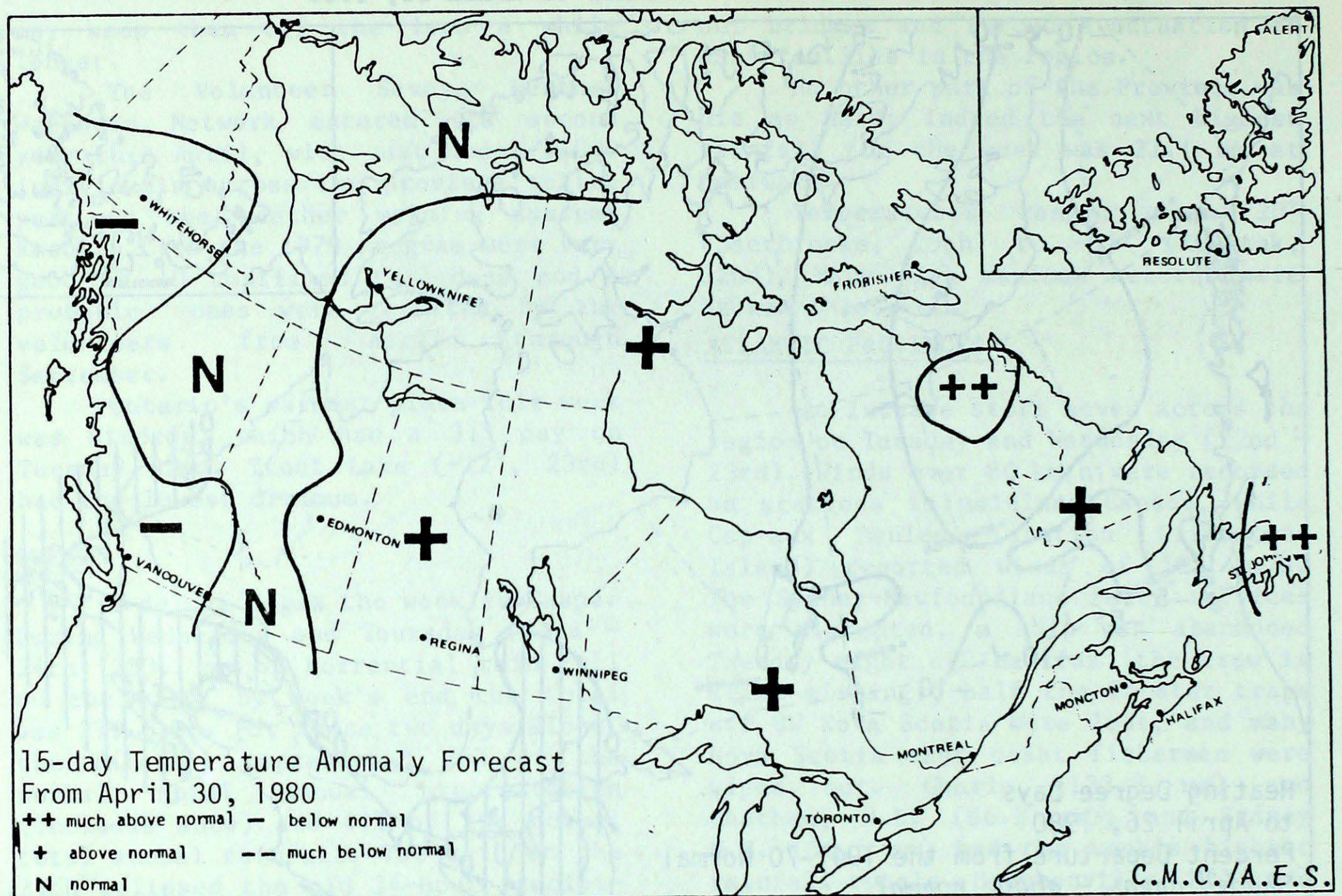
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## HEATING DEGREE-DAY SUMMARY TO APRIL 26, 1980



CITY	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL
Resolute	1169.5	81.5	10943.0	-75.0	99
Inuvik	932.6	75.0	8282.5	-999.5	89
Whitehorse	393.0	-92.0	5831.0	-510.0	92
Vancouver	215.0	-25.0	2624.5	-104.5	96
Edmonton	244.5	-135.5	4606.5	-638.5	88
Calgary	283.5	-107.5	4565.0	-337.0	93
Regina	255.0	-145.0	5152.5	-426.5	92
Winnipeg	298.5	-102.5	5502.0	-67.0	99
Thunder Bay	379.0	-42.0	5218.0	-77.0	99
Windsor	273.0	6.0	3433.0	21.0	101
Toronto	317.5	5.5	3875.5	41.5	101
Ottawa	310.0	-24.0	4283.0	-155.0	97
Montreal	308.5	-23.5	4197.5	-54.5	99
Quebec	369.0	-28.0	4789.5	35.5	101
Saint John, N.B.	348.5	-46.5	4186.0	-136.0	97
Halifax	350.5	-20.5	3749.0	64.0	102
Charlottetown	360.5	-53.5	4173.0	0.0	100
St. John's, Nfld.	452.5	5.5	4218.5	69.5	102

## 15 DAY TEMPERATURE ANOMALY FORECAST

Forecast Method

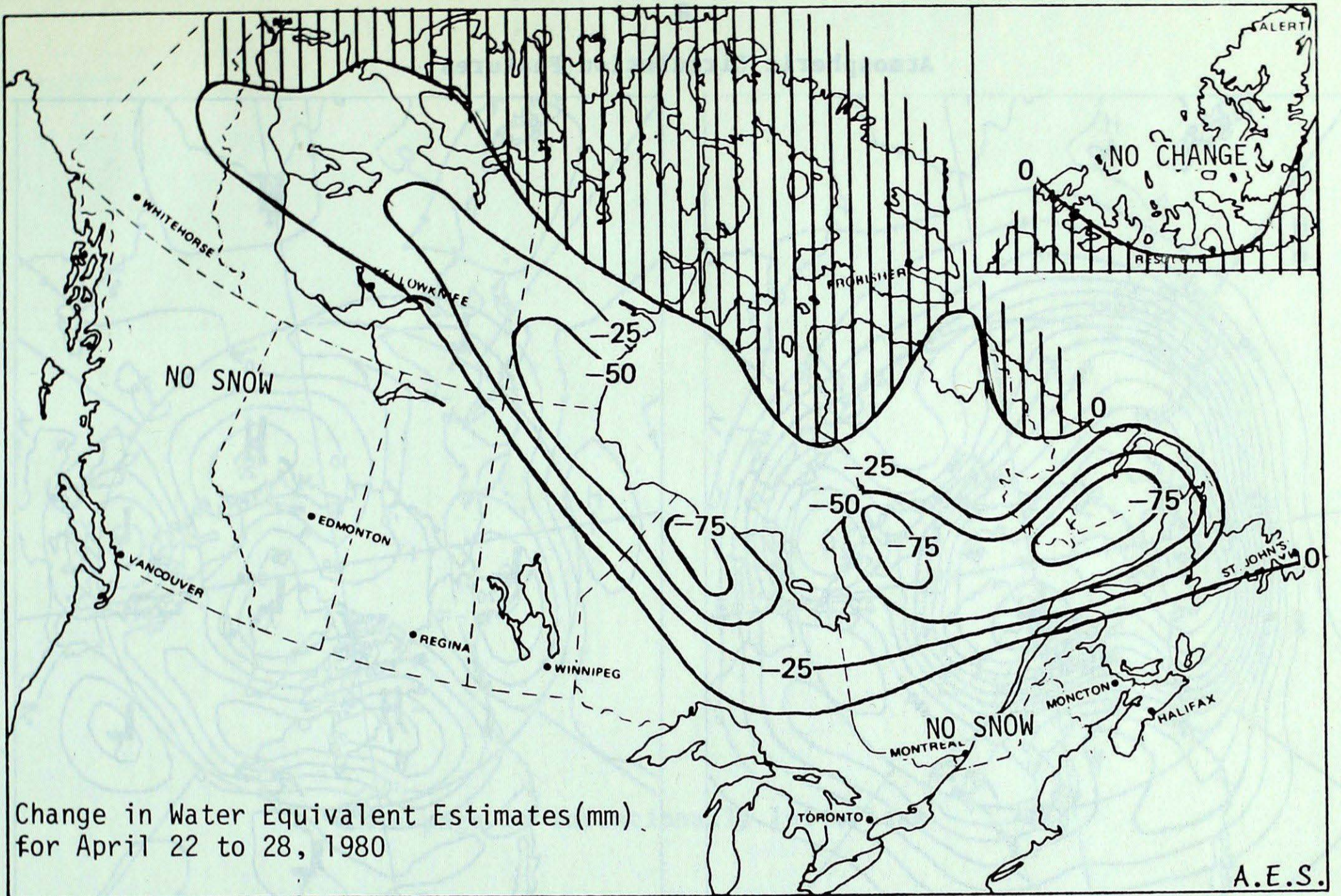
Analogue technique based on point prediction at 70 Canadian stations.

Temperature Scale

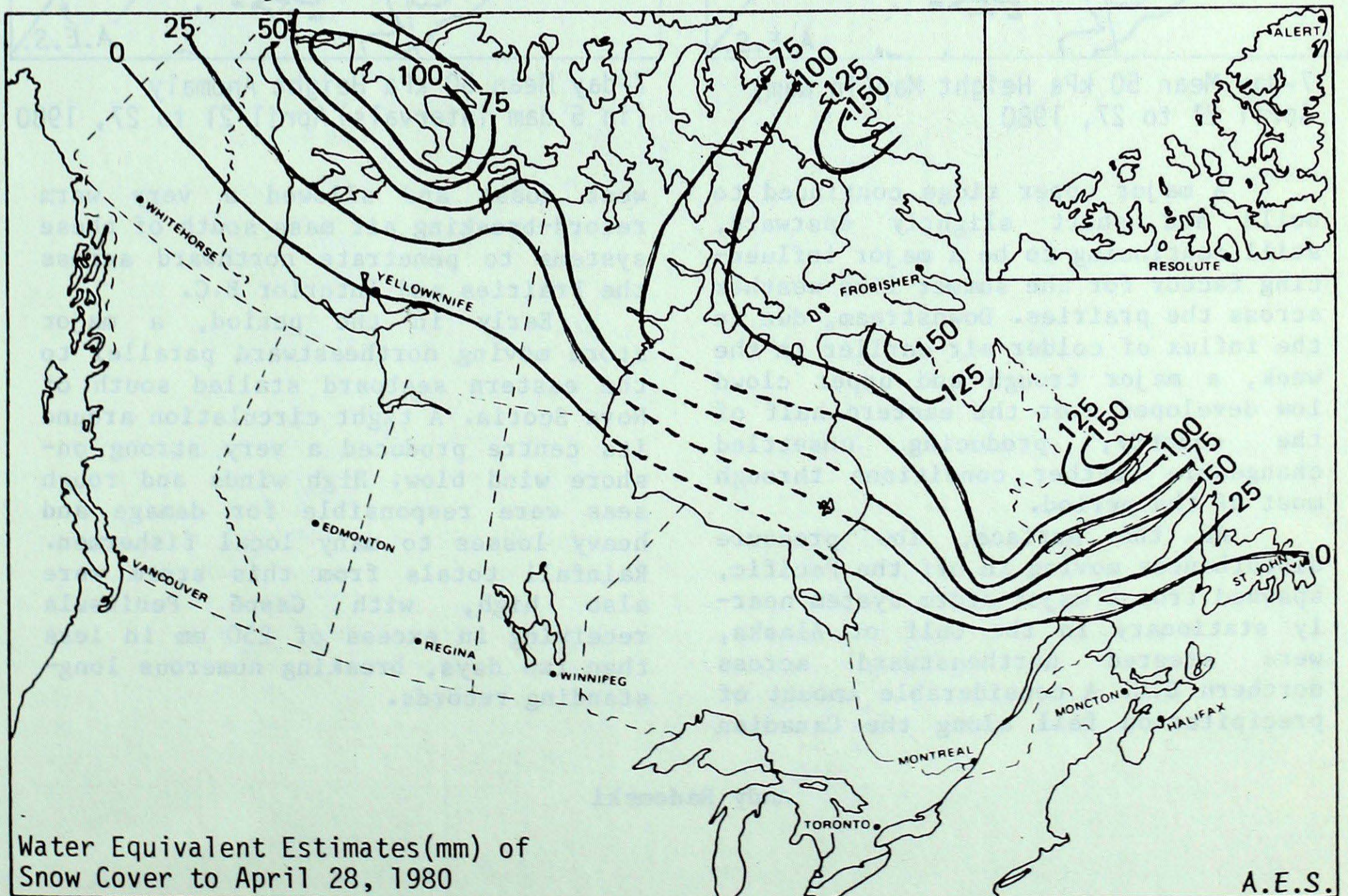
Each temperature class is designed to contain 20% of the historically observed 15 day means pertinent to specific location and time of year:

<u>Station</u>	<u>Current Temperature Anomaly Forecast</u>	
Whitehorse	Below Normal	From 0.5° to 1.6° below Normal
Victoria	Below Normal	From 0.3° to 1.0° below Normal
Vancouver	Below Normal	From 0.3° to 1.0° below Normal
Edmonton	Above Normal	From 0.6° to 2.0° above Normal
Regina	Above Normal	From 0.7° to 2.2° above Normal
Winnipeg	Above Normal	From 0.7° to 2.3° above Normal
Thunder Bay	Above Normal	From 0.5° to 1.7° above Normal
Toronto	Above Normal	From 0.5° to 1.8° above Normal
Ottawa	Above Normal	From 0.6° to 1.9° above Normal
Montreal	Above Normal	From 0.5° to 1.8° above Normal
Quebec	Above Normal	From 0.4° to 1.5° above Normal
Fredericton	Above Normal	From 0.4° to 1.5° above Normal
Halifax	Above Normal	From 0.4° to 1.2° above Normal
Charlottetown	Above Normal	From 0.5° to 1.6° above Normal
St. John's	Much Above Normal	More than 1.5° above Normal
Goose Bay	Above Normal	From 0.6° to 1.9° above Normal
Frobisher Bay	Above Normal	From 0.8° to 2.7° above Normal
Inuvik	Near Normal	Within 0.9° of Normal

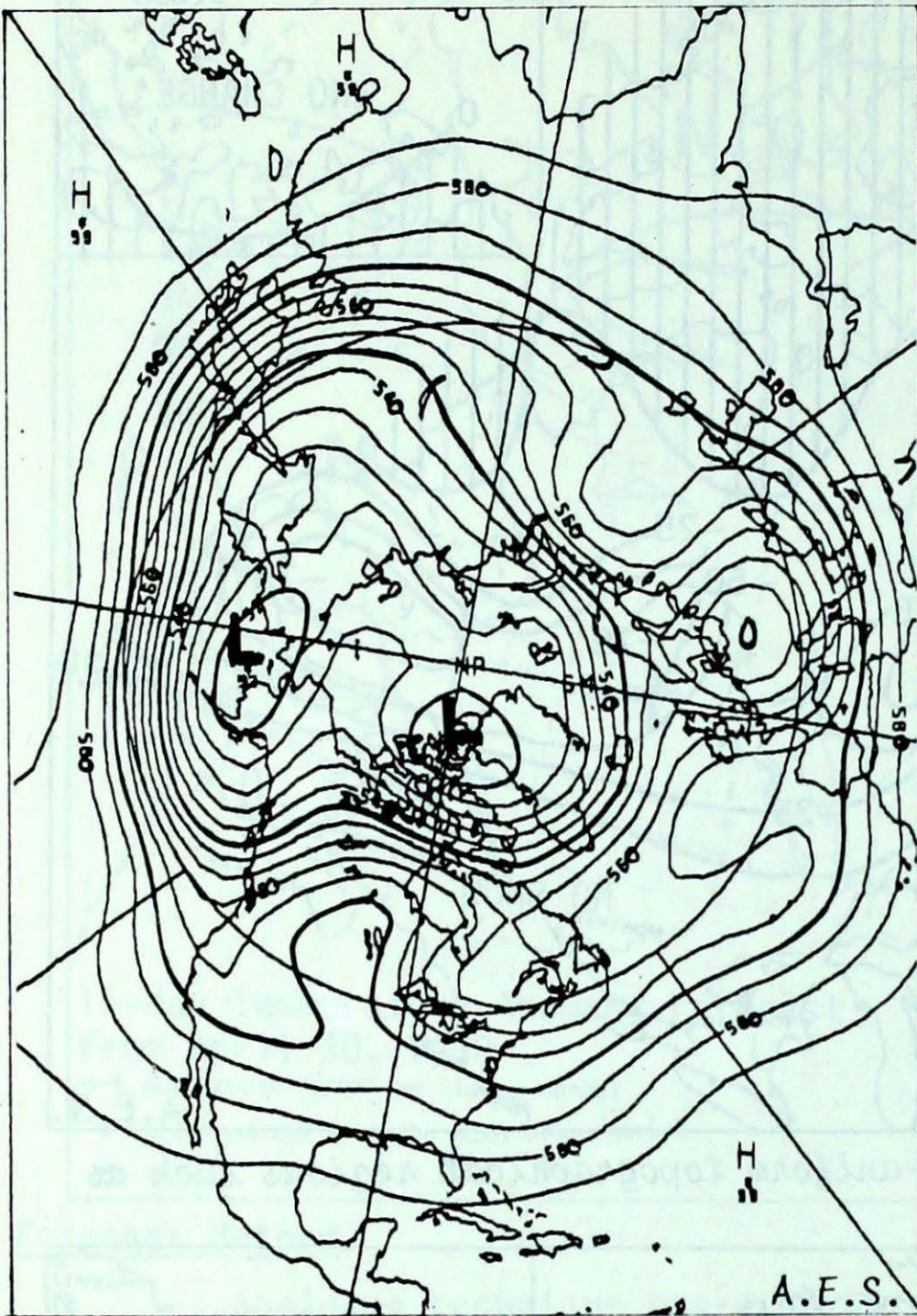
Note: Anomaly denotes departure from the 1949-73 mean.



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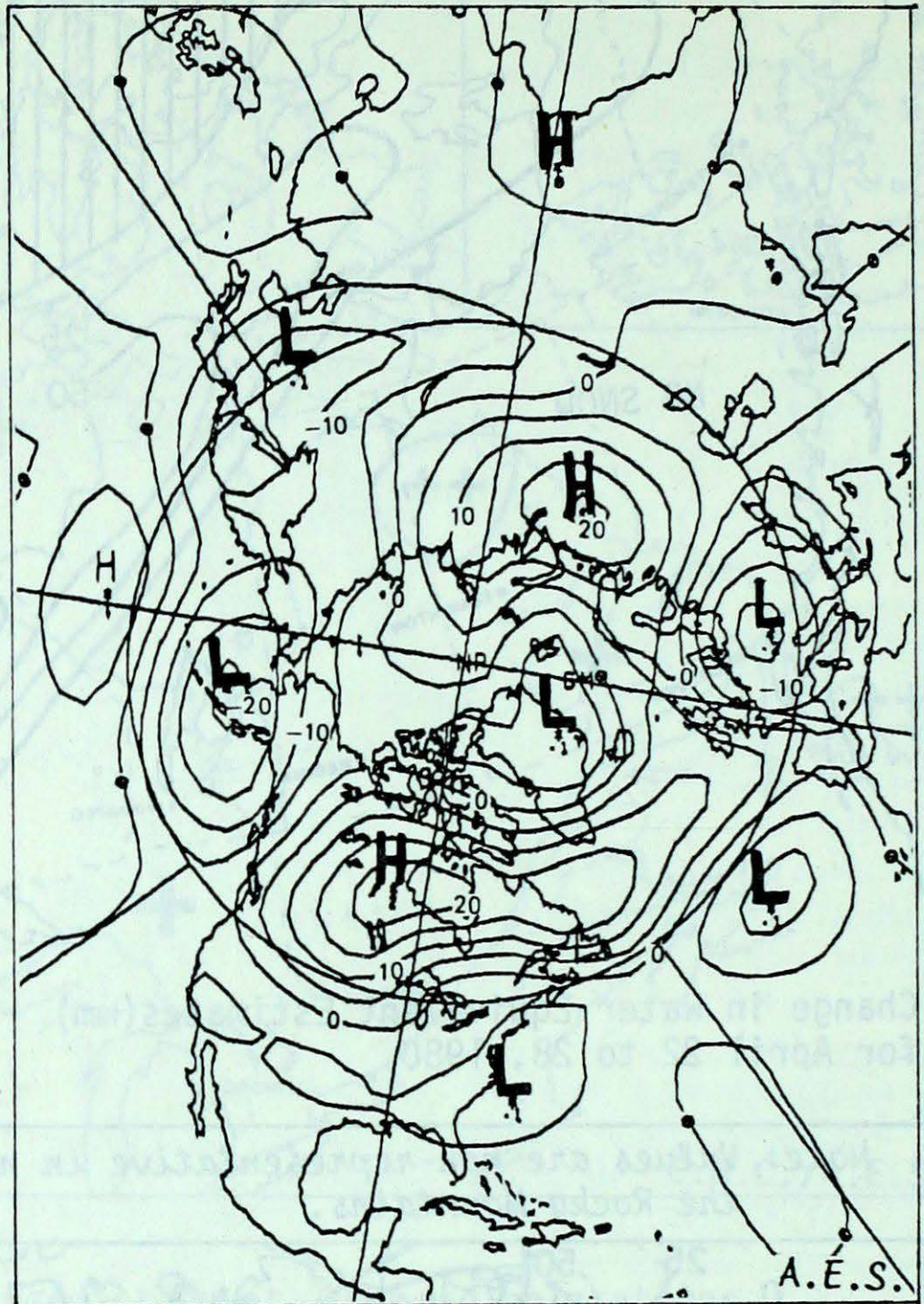
## Atmospheric Circulation Features



7-day Mean 50 kPa Height Map (in dam)  
April 21 to 27, 1980

A major upper ridge continued to build and shift slightly eastward, still continuing to be a major influencing factor for the summer-like weather across the prairies. Downstream, due to the influx of colder air earlier in the week, a major trough and upper cloud low developed over the eastern half of the country, producing unsettled changeable weather conditions through most of the period.

At the surface, low pressure disturbances moving in off the Pacific, spawned from a major storm system nearly stationary in the Gulf of Alaska, were steered northeastward across northern B.C. A considerable amount of precipitation fell along the Canadian



7-day Mean 50 kPa Height Anomaly  
(in 5 dam intervals) April 21 to 27, 1980

west coast and allowed a very warm record-breaking air mass south of these systems to penetrate northward across the Prairies and interior B.C.

Early in the period, a major storm moving northeastward parallel to the eastern seaboard stalled south of Nova Scotia. A tight circulation around its centre produced a very strong on-shore wind blow. High winds and rough seas were responsible for damage and heavy losses to many local fishermen. Rainfall totals from this storm were also high, with Gaspé Peninsula receiving in excess of 250 mm in less than two days, breaking numerous long-standing records.

Andy Radomski



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TEMPERATURE AND PRECIPITATION DATA FOR THE WEEK ENDING 0600 G.M.T. APRIL 29, 1980

Table with columns: Station, Temperature (°C) (Average, Departure from Normal, Extreme Maximum, Extreme Minimum), and Precip. (mm) (Total, Departure from Normal). Rows include stations from BRITISH COLUMBIA to WHITEHORSE A.

Table with columns: Station, Temperature (°C) (Average, Departure from Normal, Extreme Maximum, Extreme Minimum), and Precip. (mm) (Total, Departure from Normal). Rows include stations from RESOLUTE A to PETAWAWA A.

Table with columns: Station, Temperature (°C) (Average, Departure from Normal, Extreme Maximum, Extreme Minimum), and Precip. (mm) (Total, Departure from Normal). Rows include stations from PICKLE LAKE to WABUSH LAKE.

P - extreme value based on less than 7 days

X - no normal due to short period

M - not available at press time