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VOL 2 ISS 7
CLIMATIC PERSPECTIVES

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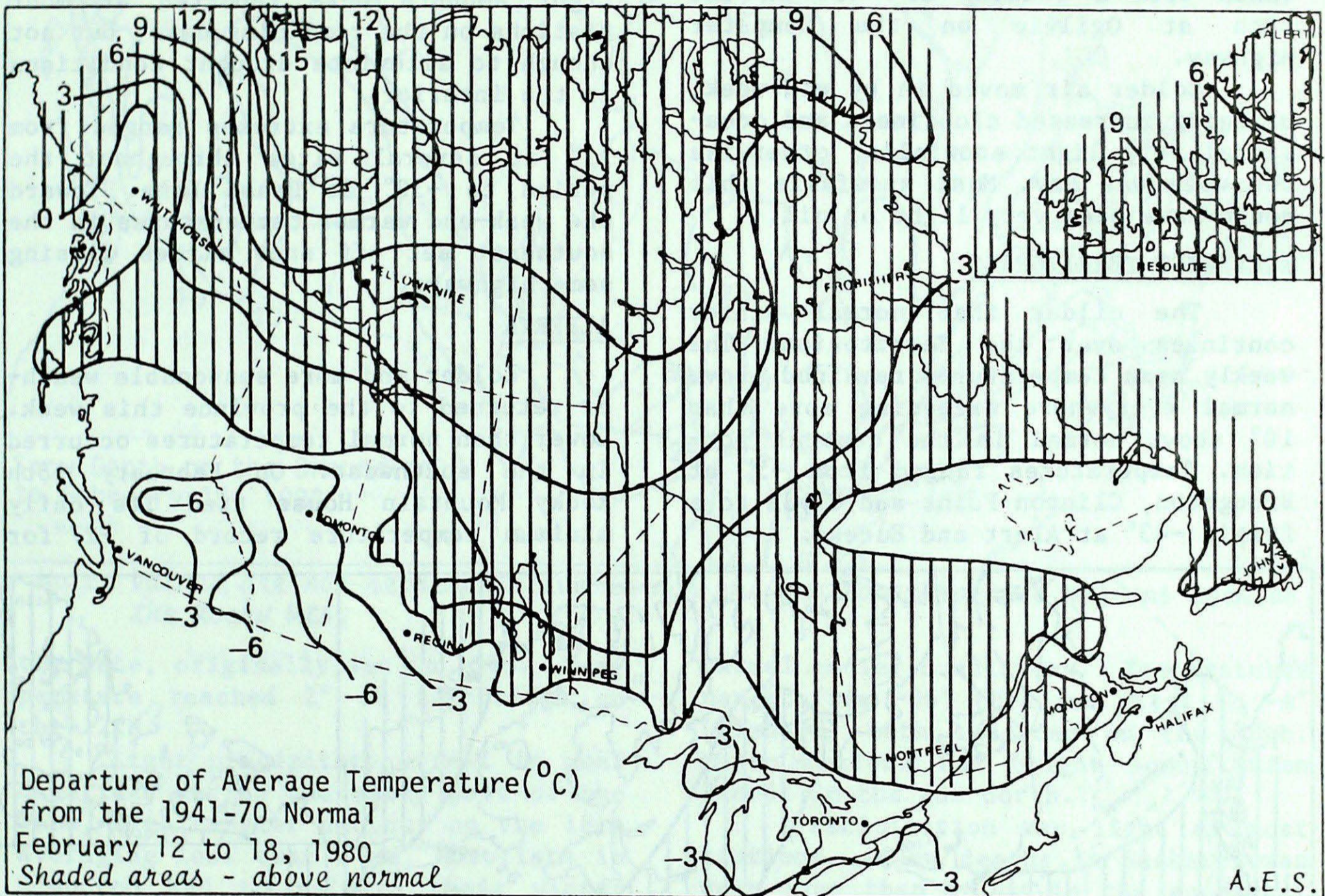
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NON-CIRCULATING

FEBRUARY 22, 1980

(Aussi disponible en français)

NO. 2 NO. 7



WEATHER HIGHLIGHTS FOR THE WEEK - FEBRUARY 12 - 18, 1980

Generally sunny in most regions

Most regions enjoyed a generally sunny week, interrupted occasionally by light snowfall. The weekend brought some precipitation to British Columbia and the Atlantic Provinces; elsewhere, weekly totals were very small. The milder than normal winter continues in the North but the cooling trend is generally spreading to most of southern Canada.

Temperatures reached 11° at several localities on the West Coast and 10° at St. John's, Nfld. Komakuk Beach recorded a reading of 6° which exceeded all Canadian maximum readings except those along the east and west coasts. In contrast, temperatures dipped to -43° at Ogilvie, Alert and Eureka. Largest weekly precipitation total was 49.9 mm at Argentic, Nfld.

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

YUKON

The Yukon was sunny most of the week. Although temperatures reached 6° at Komakuk Beach on Beaufort Sea on February 12, they began a slow downward slide early in the week. Daily variations of up to 20 degrees occurred at southern points under clear skies. By week-end, temperatures had dropped to about -40° in central and northern Yukon with a reading of -43° on the 18th at Ogilvie on the Dempster Highway.

Colder air moved in by mid-week, bringing increased cloudiness and occasional very light snowfalls; otherwise the week was dry. Most snowfalls this month have been very light or nil.

NORTHWEST TERRITORIES

The milder than normal winter continues over the Territories. The weekly mean temperatures remained above normal everywhere exceeding more than 10° above normal in the central portion. Temperatures ranged from -5° at Broughton, Clinton Point and Clyde to a frigid -43° at Alert and Eureka.

Precipitation reached 8.8 mm at Mould Bay, but generally the weekly totals were below normal.

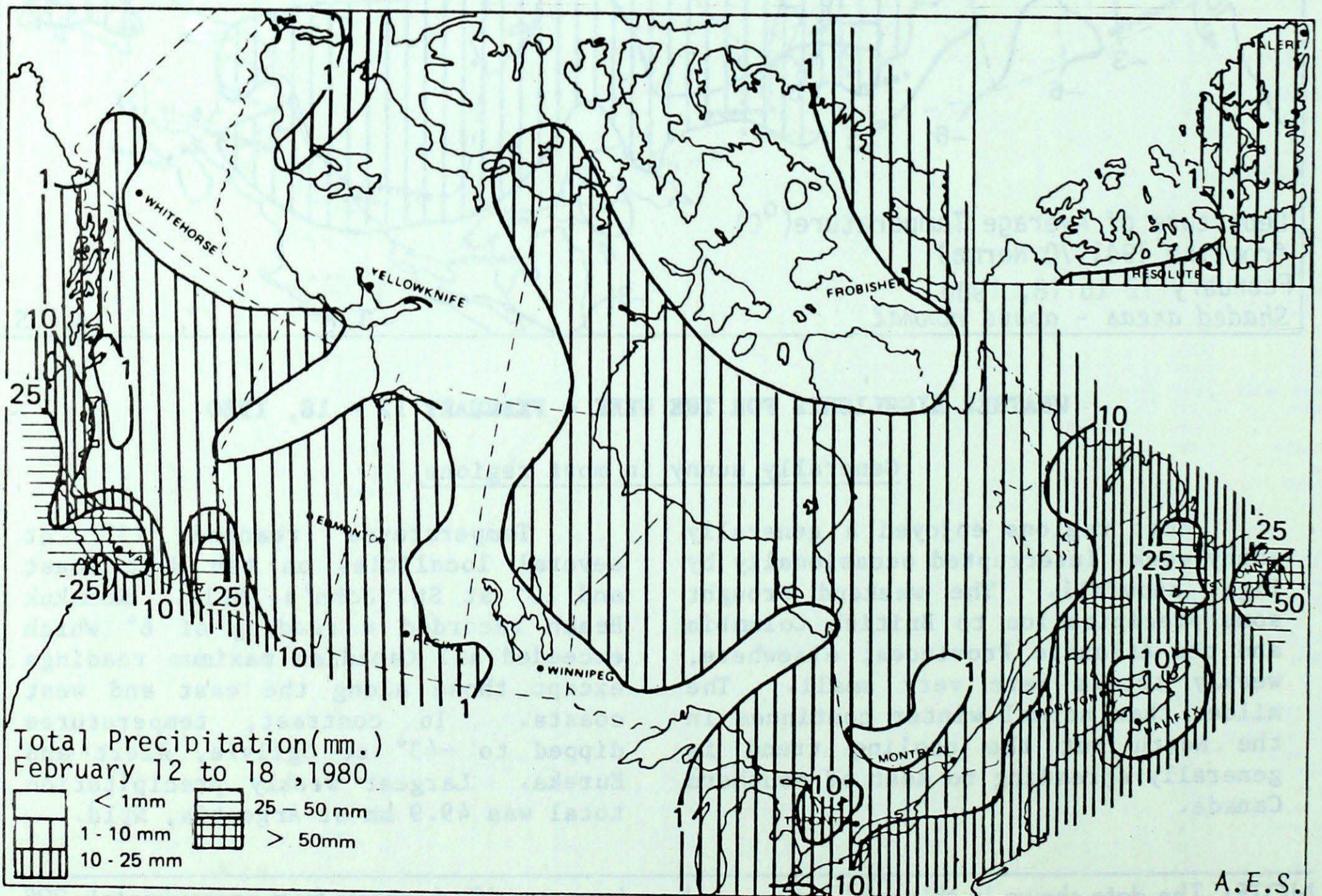
BRITISH COLUMBIA

Generally normal conditions prevailed during the week. The first four days were almost completely dry except for 7.3 mm of precipitation at Castlegar and 3.9 mm at Cranbrook. Light amounts were reported at most stations on the remaining days, but not enough to alleviate drought conditions in the interior.

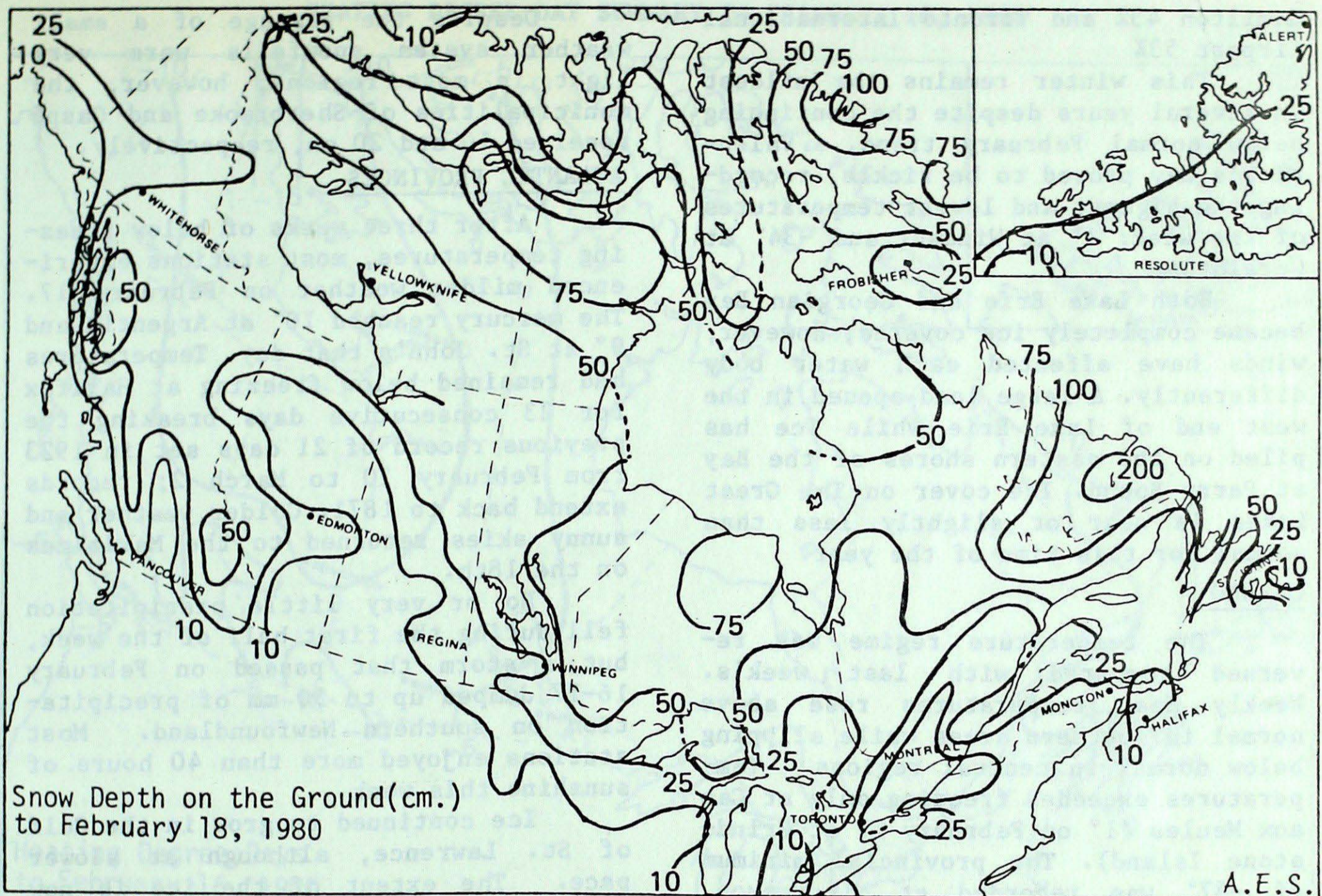
Temperature extremes ranged from 11° at several sites throughout the period to -32° at Dease Lake. Toward the week-end warmer temperatures in the southeast set off snow slides closing some highways.

ALBERTA

Colder and more seasonable weather returned to the province this week. Lower than normal temperatures occurred in the southwest. On February 13th Rocky Mountain House tied its daily minimum temperature record of -27° for



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



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the date, originally set in 1973. Temperature reached 2° at Lethbridge on the 12th.

Light precipitation fell in most districts during the early part of the week, with heavier amounts on the 18th averaging less than 7 mm. Motorists in Edmonton had to relearn their winter driving skills. There were numerous accidents on icy residential streets made more slippery by freshly fallen snow.

Snow depth increased in all areas varying from one centimetre at Peace River to 46 cm at Banff. Concern about winter wheat kill in the vicinity of Calgary was lessened because of the light snowfall which preceded arrival of the coldest temperatures. Chances are that any losses would not be as great as last winter's.

SASKATCHEWAN AND MANITOBA

Milder than normal weather persisted in most of northern Manitoba and northeastern Saskatchewan. However, there was a trend to the more

normal cooler conditions. Temperatures ranged from -36° (Uranium City) to -4° (Bissett) both recorded on the 18th. Most stations had bright sunny skies except in the far north.

Precipitation was light at most stations. Snow depths in Saskatchewan were less than 10 cm in the southwest but exceeded 25 cm in the northwest; in Manitoba depths ranged from about 25 cm in the southwest to more than 50 cm along the eastern boundary.

ONTARIO

At last skiers and snowmobilers could enjoy regular winter conditions in southern snowbelt regions; so far Muskoka has received 189 cm of snow, 8 cm above normal while Wiarton has 145 of a normal 178 cm. Elsewhere in the south the first general snowfall recorded since January 7th amounted to 5-10 cm. However, the total winter amounts in major urban centres are only about half their long-term values: Windsor with 50% of normal, London 45%,

Hamilton 43% and Toronto International Airport 53%

This winter remains the mildest in several years despite the continuing below normal February trend. Valentine's Day proved to be fickle, recording the highest and lowest temperatures of the week: 1° at Windsor and -34° at Geraldton.

Both Lake Erie and Georgian Bay became completely ice covered, however, winds have affected each water body differently. A large lead opened in the west end of Lake Erie while ice has piled on the eastern shores of the Bay at Parry Sound. Ice cover on The Great Lakes is near or slightly less than normal for this time of the year.

QUEBEC

The temperature regime was reversed compared with last week's. Weekly mean temperatures rose above normal in southern areas while slipping below normal in central regions. Temperatures exceeded freezing only at Cap aux Meules (1° on February 17 at Grindstone Island). The provincial minimum of -37° was recorded at Nitchequon. Although not as abundant as last week, sunshine still reached 71% of the total possible at Baie Comeau.

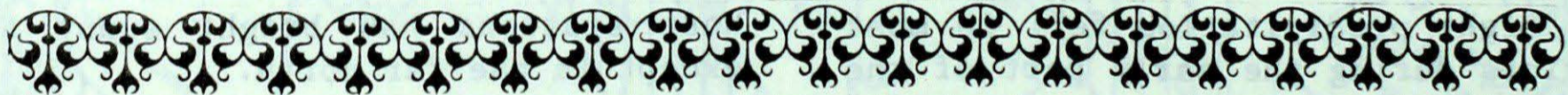
Despite the passage of a small weather system snowfalls were very light in most regions; however, the municipalities of Sherbrooke and Gaspé received 10 and 20 cm, respectively.

ATLANTIC PROVINCES

After three weeks of below freezing temperatures, most stations experienced milder weather on February 17. The mercury reached 10° at Argentia and 9° at St. John's that day. Temperatures had remained below freezing at Halifax for 23 consecutive days breaking the previous record of 21 days set in 1923 from February 10 to March 2; records extend back to 1871. Colder weather and sunny skies returned to the Maritimes on the 18th.

No or very little precipitation fell during the first half of the week, but a storm that passed on February 16-17 dumped up to 50 mm of precipitation on southern Newfoundland. Most stations enjoyed more than 40 hours of sunshine this week.

Ice continued to grow in the Gulf of St. Lawrence, although at slower pace. The extent of the ice is now about normal but its thickness is still less than usual. The ice pack has been blown away from Newfoundland by offshore wind.



CLIMATIC PERSPECTIVES

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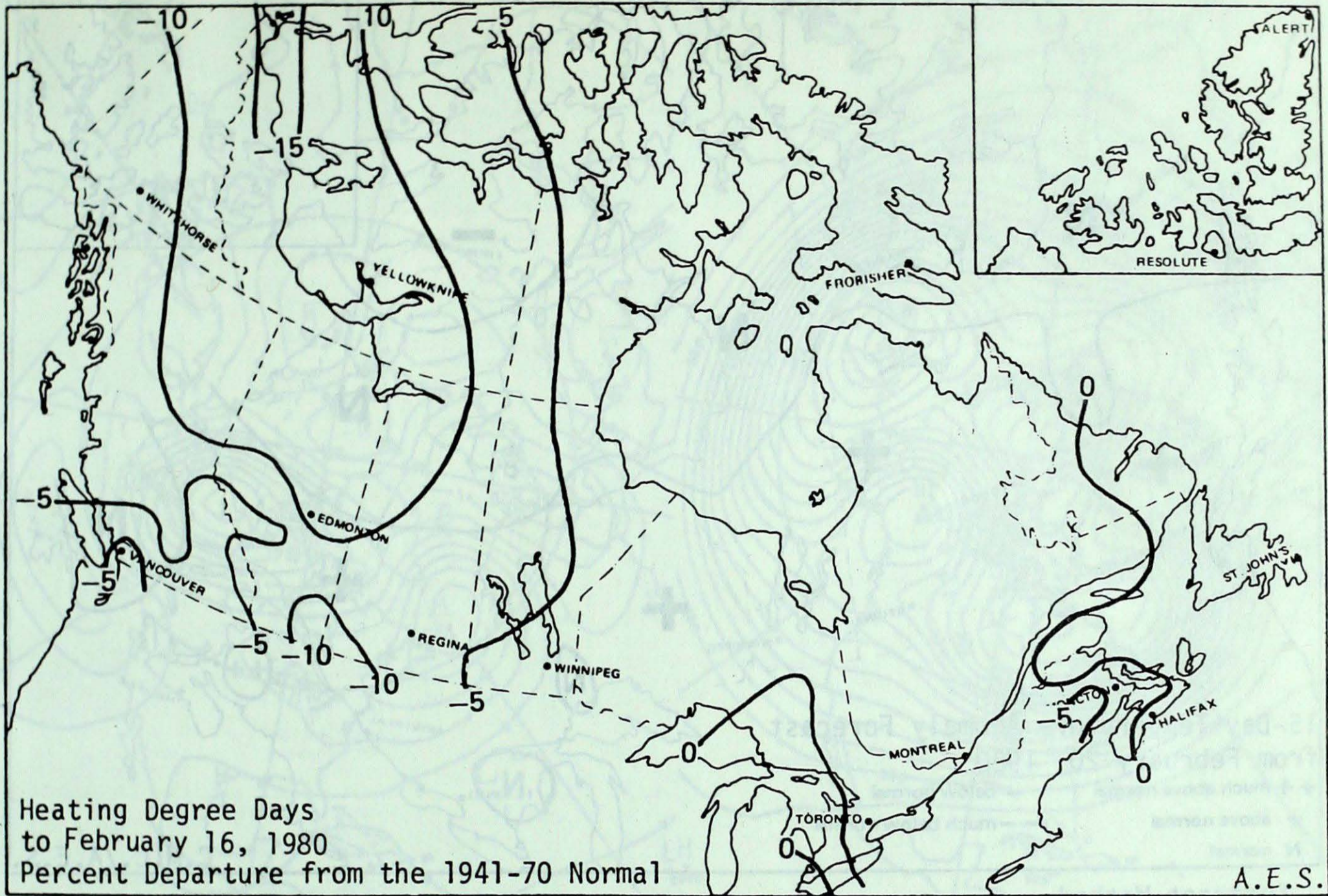
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HEATING DEGREE-DAY SUMMARY TO FEBRUARY 16, 1980

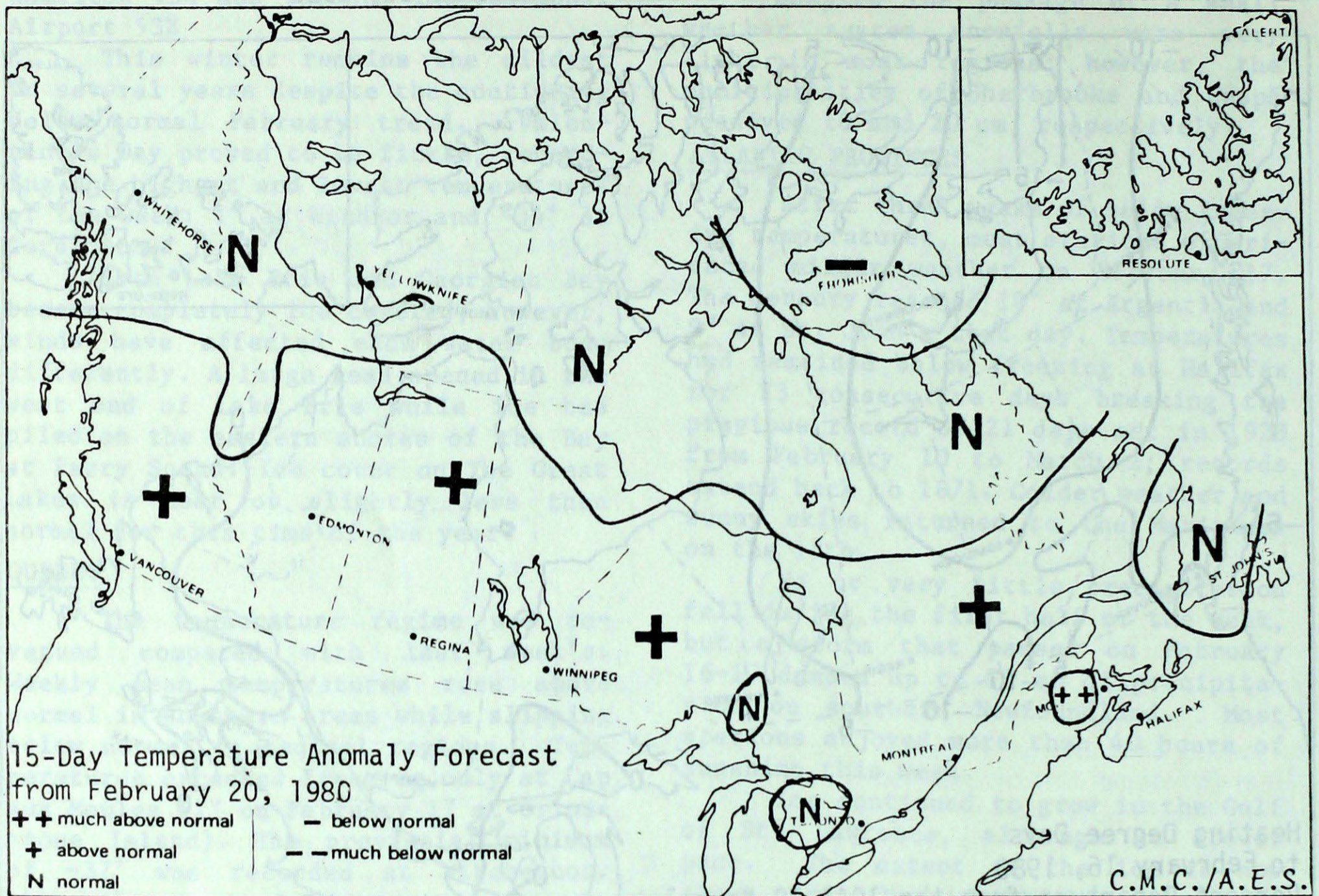


Heating Degree Days
to February 16, 1980
Percent Departure from the 1941-70 Normal

A.E.S.

CITY	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL
Resolute	647.0	-187.0	7673.5	-56.5	99
Inuvik	572.0	-208.0	5473.0	-1030.0	84
Whitehorse	413.0	-113.0	4344.6	-329.5	93
Vancouver	220.0	-7.0	1891.0	-52.0	97
Edmonton	400.5	-69.5	3314.5	-459.5	88
Calgary	378.0	-49.0	3239.0	-265.0	92
Regina	482.5	-52.5	3654.0	-298.0	92
Winnipeg	520.5	-39.5	3872.0	-61.0	98
Thunder Bay	506.5	-9.5	3642.0	-93.0	98
Windsor	390.0	32.0	2315.5	-41.5	98
Toronto	431.5	38.5	2618.0	-16.0	99
Ottawa	457.5	3.5	2984.5	-114.5	96
Montreal	455.5	3.5	2911.5	-43.5	99
Quebec	482.5	2.5	3320.0	11.0	100
Saint John, N.B.	441.0	15.0	2850.0	-118.0	96
Halifax	387.5	20.5	2495.5	45.5	102
Charlottetown	433.0	14.0	2789.0	6.0	100
St. John's, Nfld.	378.0	5.0	2855.5	64.5	102

15 DAY TEMPERATURE ANOMALY FORECAST

Forecast Method

Analogue technique based on point prediction at 70 Canadian stations.

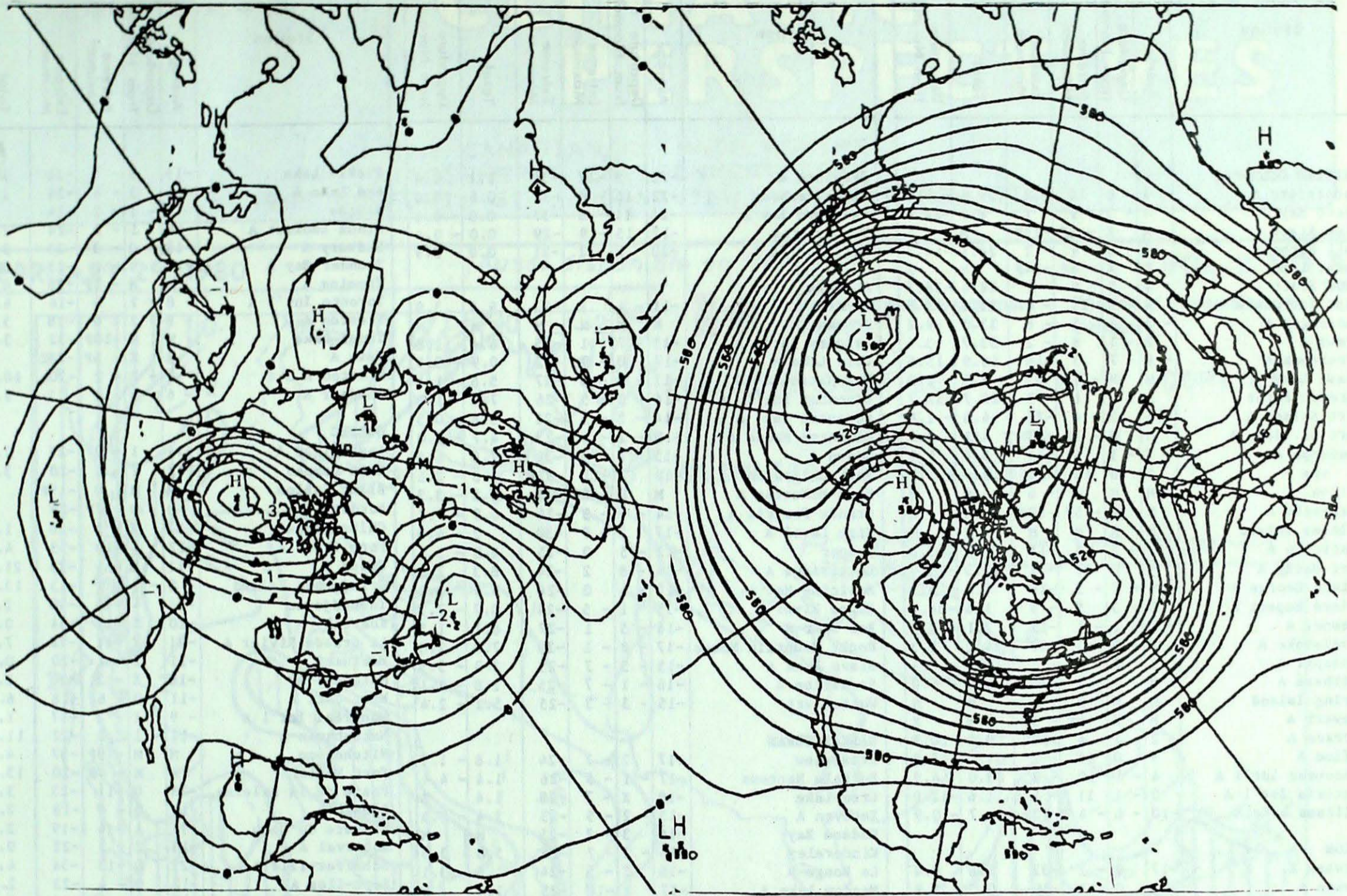
Temperature Scale

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 (ΔT) Forecast</u>	
Whitehorse	Near Normal	($-1.4^{\circ}\text{C} < \Delta T < +1.4^{\circ}\text{C}$)
Victoria	Above Normal	($+0.4^{\circ}\text{C} < \Delta T < +1.4^{\circ}\text{C}$)
Vancouver	Above Normal	($+0.5^{\circ}\text{C} < \Delta T < +1.6^{\circ}\text{C}$)
Edmonton	Above Normal	($+1.2^{\circ}\text{C} < \Delta T < +4.1^{\circ}\text{C}$)
Regina	Above Normal	($+1.2^{\circ}\text{C} < \Delta T < +4.0^{\circ}\text{C}$)
Winnipeg	Above Normal	($+1.1^{\circ}\text{C} < \Delta T < +3.6^{\circ}\text{C}$)
Thunder Bay	Above Normal	($+0.9^{\circ}\text{C} < \Delta T < +2.9^{\circ}\text{C}$)
Toronto	Above Normal	($+0.7^{\circ}\text{C} < \Delta T < +2.3^{\circ}\text{C}$)
Ottawa	Above Normal	($+0.8^{\circ}\text{C} < \Delta T < +2.5^{\circ}\text{C}$)
Montreal	Above Normal	($+0.7^{\circ}\text{C} < \Delta T < +2.5^{\circ}\text{C}$)
Quebec	Above Normal	($+0.8^{\circ}\text{C} < \Delta T < +2.7^{\circ}\text{C}$)
Fredericton	Much Above Normal	($+2.7^{\circ}\text{C} < \Delta T$)
Halifax	Above Normal	($+0.6^{\circ}\text{C} < \Delta T < +2.0^{\circ}\text{C}$)
Charlottetown	Above Normal	($+0.7^{\circ}\text{C} < \Delta T < +2.4^{\circ}\text{C}$)
St. John's	Above Normal	($+0.6^{\circ}\text{C} < \Delta T < +2.1^{\circ}\text{C}$)
Goose Bay	Above Normal	($+1.2^{\circ}\text{C} < \Delta T < +4.1^{\circ}\text{C}$)
Frobisher Bay	Below Normal	($-5.0^{\circ}\text{C} < \Delta T < -1.5^{\circ}\text{C}$)
Inuvik	Near Normal	($-1.2^{\circ}\text{C} < \Delta T < +1.2^{\circ}\text{C}$)

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

Atmospheric Circulation Features



7 day Mean 50kPa Height Anomaly
February 11 to 17, 1980

50KPa Height Map (decametres)
7 day mean for February 11 to 17, 1980

The upper atmospheric steering flow across Canada gradually lost its north-south components during the week and became east-west oriented over southern areas.

A strong major 50 kPa upper ridge situated off the Canadian west coast early in the period established an anti-cyclonic air flow and an associated surface high pressure cell. As a result all of northwest Canada including the Yukon, were favoured with dry sunny weather conditions and well above normal temperatures. By mid-week as this synoptic feature gradually weakened, increasing cloud, some snow and much colder temperature resulted.

The rest of Canada on the other hand, including the prairie provinces and southern British Columbia came under the influence of a series of weak upper low pressure centres incorporated in a mean upper trough centred in the vicinity of Hudson Bay. Surface disturbances tracking across the country were generally weak. Variable sky conditions and occasional light snow falls were common to most areas. Temperatures in southern Alberta, due to a northerly wind flow, dropped to below normal values during the period while the rest of Canada remained close to normal.

Andy Radomski

