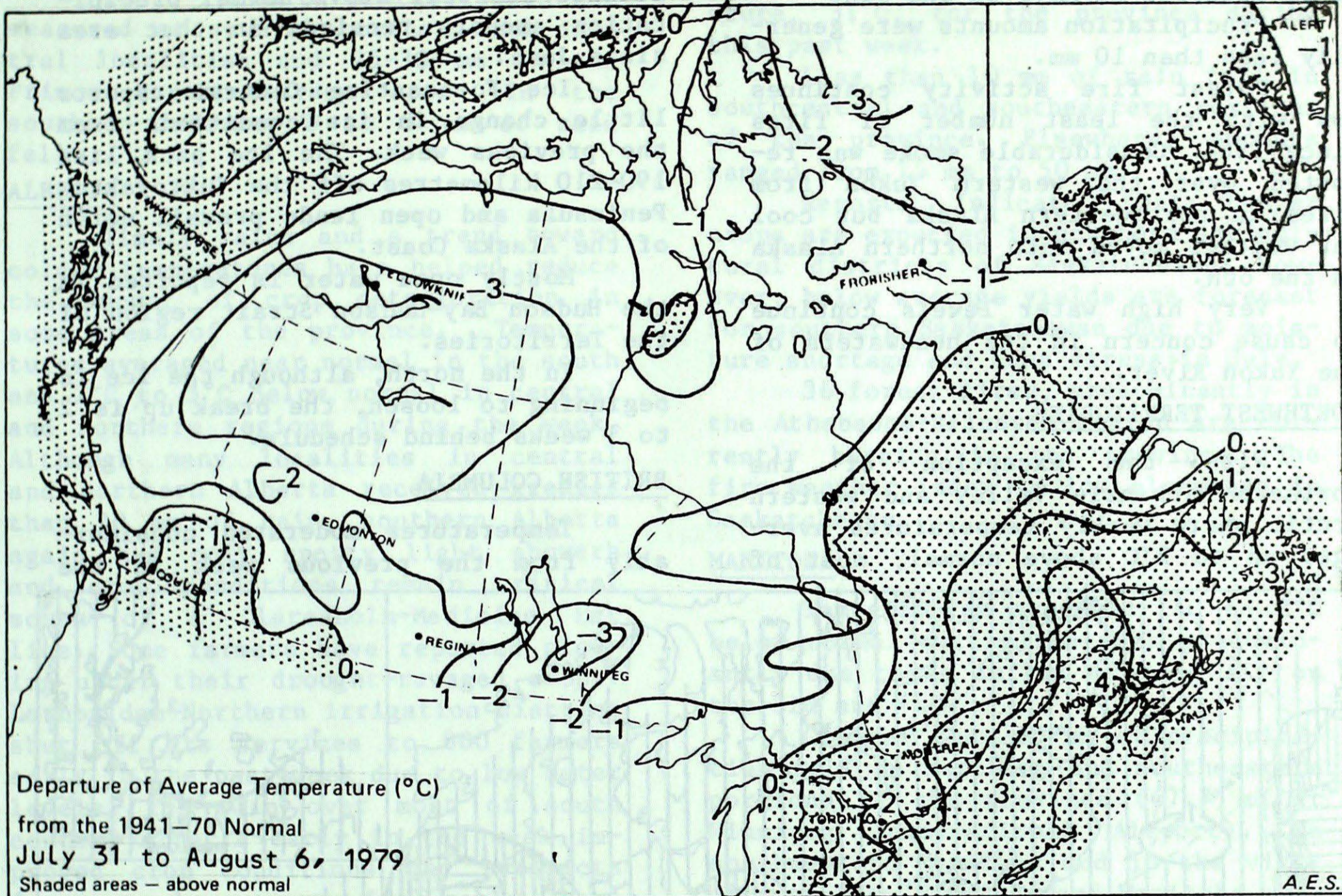


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AUGUST 10, 1979

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WEATHER HIGHLIGHTS FOR THE WEEK - JULY 31 - AUGUST 6

Severe Weather Strikes Southern Manitoba, Southern Ontario and
Nova Scotia.

During the evening of August 1, a tornado struck St. Francois-Xavier, a community located immediately to the west of Winnipeg, causing extensive damage to several houses and injuring 2 people. In the Winnipeg vicinity, heavy thunderstorms deposited 60-110 mm of rain and pea sized to golf ball sized hail.

A tropical depression which passed south of the eastern shore of Nova Scotia on August 5 dumped up to

100 mm of rain which caused considerable damage to secondary roads and local flooding of streets and basements.

Subsequent to the period of coverage, severe tornadoes on the evening of August 7 slashed through many communities in southwestern Ontario in the vicinity of Woodstock, Brantford and Tillsonburg. 3 deaths, extensive property damage and power blackouts were reported.

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

YUKON

Sunny warm weather continued over most of the Yukon although locally heavy showers occurred in the vicinity of Kluane Park August 2-3. Weekly temperatures averaged near normal in the south and 1°C to 2°C above normal in central and northern portions of the Territory. The warmest temperature, 26°C, occurred at Mayo on the 5th.

Precipitation amounts were generally less than 10 mm.

Forest fire activity continues low with the least number of fires since 1964. Considerable smoke was reported over the western Yukon from fires in northwestern Alaska but cool wet weather moved into northern Alaska on the 6th.

Very high water levels continue to cause concern in the headwaters of the Yukon River.

NORTHWEST TERRITORIES

With the exception of the northern Mackenzie Valley and western Arctic where weekly temperatures averaged up to 2°C above normal, most of

the Territories experienced below normal temperatures particularly in the southern portions.

Temperature extremes ranged from 26°C at Fort Simpson on the 31st to -4°C at Clyde on the 1st.

Precipitation was seasonably light except in the southeastern Arctic where the 10-25 mm which fell contributed to the well above normal precipitation amounts received in that area since June.

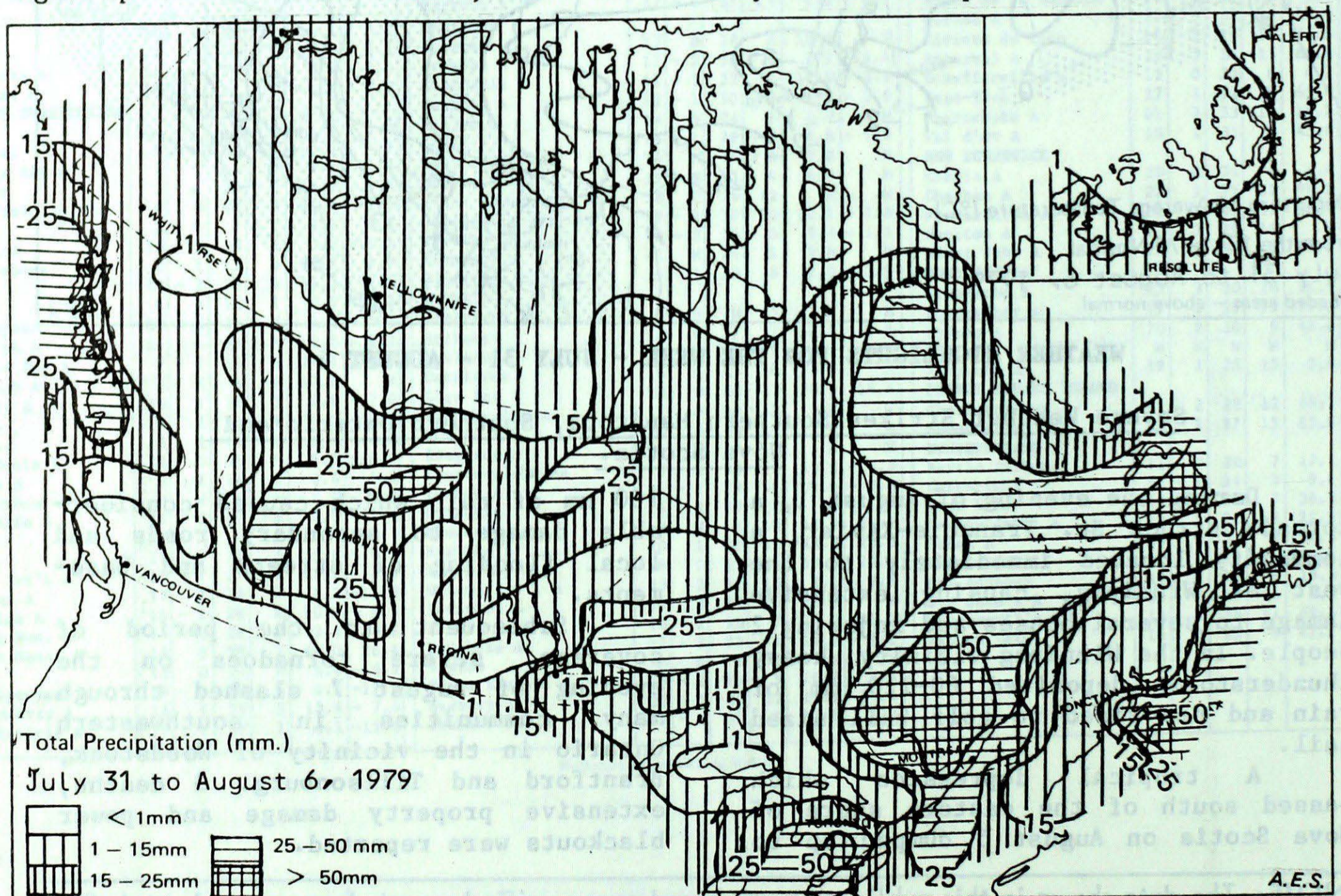
Ice Forecasting Central reports little change in ice conditions from the previous week. The ice pack lies 190-210 kilometres off the Tuktoyaktuk Peninsula and open leads prevail north of the Alaska Coast.

Mostly open water is reported in the Hudson Bay-Hudson Strait region of the Territories.

In the north, although the ice is beginning to loosen, the break up is 2 to 3 weeks behind schedule.

BRITISH COLUMBIA

Temperatures moderated considerably from the previous week in the



north as temperatures averaged 1°C to 3°C below normal. In the south the warm, dry weather continued.

Tofino and Williams Lake set new daily minimum temperature records on the 4th when the temperature dropped to 7°C and 5°C respectively.

Castlegar on the 31st recorded the warmest temperature, 35°C, in the province during the week.

10 to 15 mm of precipitation was measured at several northern and central localities and 25-30 mm in the Prince Rupert-Terrace area. In the southern interior 0 to 5 mm of rain fell.

ALBERTA

Timely rains and a trend toward colder temperatures have helped reduce the amount of crop deterioration in some areas of the province. Temperatures averaged near normal in the south and 2°C to 3°C below normal in central and northern regions during the week. Although many localities in central and northern Alberta received greater than 20 mm of rain, southern Alberta again had only spotty light showers and crop conditions remain critical south of a Claresholm-Medicine Hat line. Some farmers have reported plowing under their drought-ravaged crops. Lethbridge-Northern irrigation district shut off its services to 800 farmers early in the past week due to low water levels. The rain over most of south central Alberta early in the week improved crop conditions and prospects for a good crop are favourable. More rain, however is required for adequate filling of heads. In North Central, Northern and Peace River districts crop prospects remain very good.

Forest fires have ravaged 147,700 hectares of forest this season compared to only 6,560 hectares during the same period last year. Hardest hit is the Athabasca region which alone has lost 113,300 hectares to 8 large fires. As of the weekend, 23 fires including 4 in the Athabasca forest district under only partial control are still burning in the province. Rain and colder temperatures in west central forest districts have eased the fire hazard and the ban on open fires has been lifted in this district. In southwestern

forest districts the hazard remains high and bans on open fires remain in effect.

SASKATCHEWAN

Subsequent to warm weather early in the period, a cooling trend which culminated on the 3rd and 4th dropped weekly temperature averages 1°C to 2°C below the 1941-70 normal. On the 31st Kindersley recorded the warmest temperature, 31°C, for the province during this past week.

Less than 10 mm of rain fell in southcentral and southeastern portions of the province. Elsewhere, amounts ranged from 15 mm to 50 mm.

Reports indicate that bumper crops are expected in northern agricultural districts of Saskatchewan; however, below average yields are forecast for southern Saskatchewan due to moisture shortage and heat stress in July.

36 forest fires, predominantly in the Athabasca-Reindeer region are currently burning in the province. The fire weather index is low elsewhere in Saskatchewan.

MANITOBA

Temperatures averaged 1°C to 3°C below normal during the week predominantly due to an influx of cold air on the 3rd and 4th.

Greater than 25 mm of precipitation fell in northern and southeastern portions of the province (47.7 mm at Winnipeg International Airport). In southwestern Manitoba and in the vicinity of Lake Winnipeg and Manitoba generally less than 5 mm was measured.

During the evening of August 1 a tornado struck St. Francois-Xavier causing \$80,000 damage to 3 houses and injuring 2 people. Pea size to golf ball sized hail and 60-110 mm of rain was reported in the Winnipeg vicinity.

63 forest fires are currently burning in the province, of which five cover at least 20,000 hectares each. Most were started as a result of lightning strikes on the 4th.

Below average crop yields are expected in southwestern Manitoba due to moisture shortages and heat stress in July. In eastern Manitoba and the Dauphin-Minnedosa region crop prospects have improved due to timely showers.

ONTARIO

Weekly temperatures in the north averaged 1°C to 3°C below normal, particularly in the northwest; in contrast temperatures averaged 1°C to 2°C above normal in the South.

The week ended on generally a pleasant note in most sections of the province with mainly sunny, warm weather for the holiday weekend.

However, to the satisfaction of the agricultural community, showers were quite prevalent during much of the week. For example, London measured 82.1 mm of rain for the week, Ottawa 70.2 mm and North Bay 53.2 mm. At Oshawa 41 mm fell in less than 2 hours on August 2. Streets were flooded during the storm and electric power was off for a number of hours.

This latest series of showers generally ends Southern Ontario extremely dry weather that had seen Peterborough, with only 14 mm of rain, record its driest July since 1936 and the 3rd driest in 113 years of records.

Ironically, tobacco farmers in Norfolk County, received the rain with mixed feelings, as a serious outbreak of "blue mould" has affected crops on 350 farms in the country. The mould has appeared for the first time since 1940 and experts feel that a return to hot dry weather could be a major factor in reducing the spread of the mould.

Tornadoes - August 7, 1979

Southwestern Ontario - early evening tornados ripped through many communities in southwestern Ontario in the vicinity of Woodstock, Brantford and Tillsonburg. 3 deaths were reported with many injuries. Damage to property is extensive in addition to power blackouts London to Brantford and south of Highway 401. More information will be available in the next issue of Climatic Perspectives.

QUEBEC

Nice weather was replaced by somewhat more humid weather this week. However, temperatures continued above normal. Three localities shared the honour of recording the highest maximum

this week; they are Montreal, Mont Joli and Sherbrooke with readings of 30°C. New records were also set this week. Maximums of 29 and 27°C, recorded at Sept-Iles on August 3rd and 4th respectively, eclipsed the old 24°C mark. Poste de la Baleine went through a drastic temperature change with a maximum of 28°C on the 2nd whereas the mercury just reached the 6°C mark on the 3rd.

The passage of three lows brought a fair amount of precipitation with many localities receiving some rain on four to five days this past week. At Val d'Or, the total precipitation for the week reached more than 73 mm while the normal is only 25 mm. Other localities such as Quebec City, Sept-Iles and Sherbrooke recorded precipitation amounts at least 15 mm over the normal. On the 2nd, a strong thunderstorm hit the western part of Montreal island producing some damage. Wind gusts, reached 108 km/h at St.-Hubert airport.

Worms are prevalent in several agricultural regions. Insecticide spraying has allowed them to control these attacks but it will be possible to judge overall damage only at harvesting time.

On August 2 hail caused one million dollars damage to tobacco crops on 42 tobacco farms at St. Thomas, south of Joliette. Some farms lost up to 50 per cent of their crops. Previous to the hail farmers had been expecting excellent yields in the proximity of 2000 pounds/acre.

NEWFOUNDLAND AND LABRADOR

Warm showery weather engulfed most of Newfoundland and Labrador during the week except the north coast of Labrador where precipitation was light and the south coast of Labrador where temperatures were slightly below normal.

Many localities received 40-50 mm of much needed rain.

The warmest temperature, 31°C, was recorded at Deer Lake, Nfld. on the 4th. The maximum temperature of 29°C at Gander on July 31 was a record for the day.

MARITIME PROVINCES

Very warm weather prevailed throughout the provinces as weekly temperatures averaged as much as $+5^{\circ}\text{C}$ above the 1941-70 normal. Fredericton recorded the highest temperature, 31°C on the 5th. Greenwood, N.S. broke the old high daily minimum record of 18°C on the 4th when the temperature fell to only 19°C .

On August 5, copious amounts of rain fell over portions of Nova Scotia, particularly along the eastern shore, due to a tropical depression which passed to the south. Some localities on the eastern coast received over 100 mm. Heavy damage was inflicted upon secondary roads, and many basements flooded

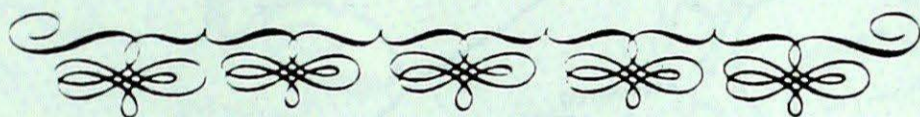
as a result of the heavy rain especially in the Musquodoboit area.

In contrast, precipitation was generally less than 10 mm throughout New Brunswick except in regions adjacent to the Bay of Fundy where up to 25 mm was measured.

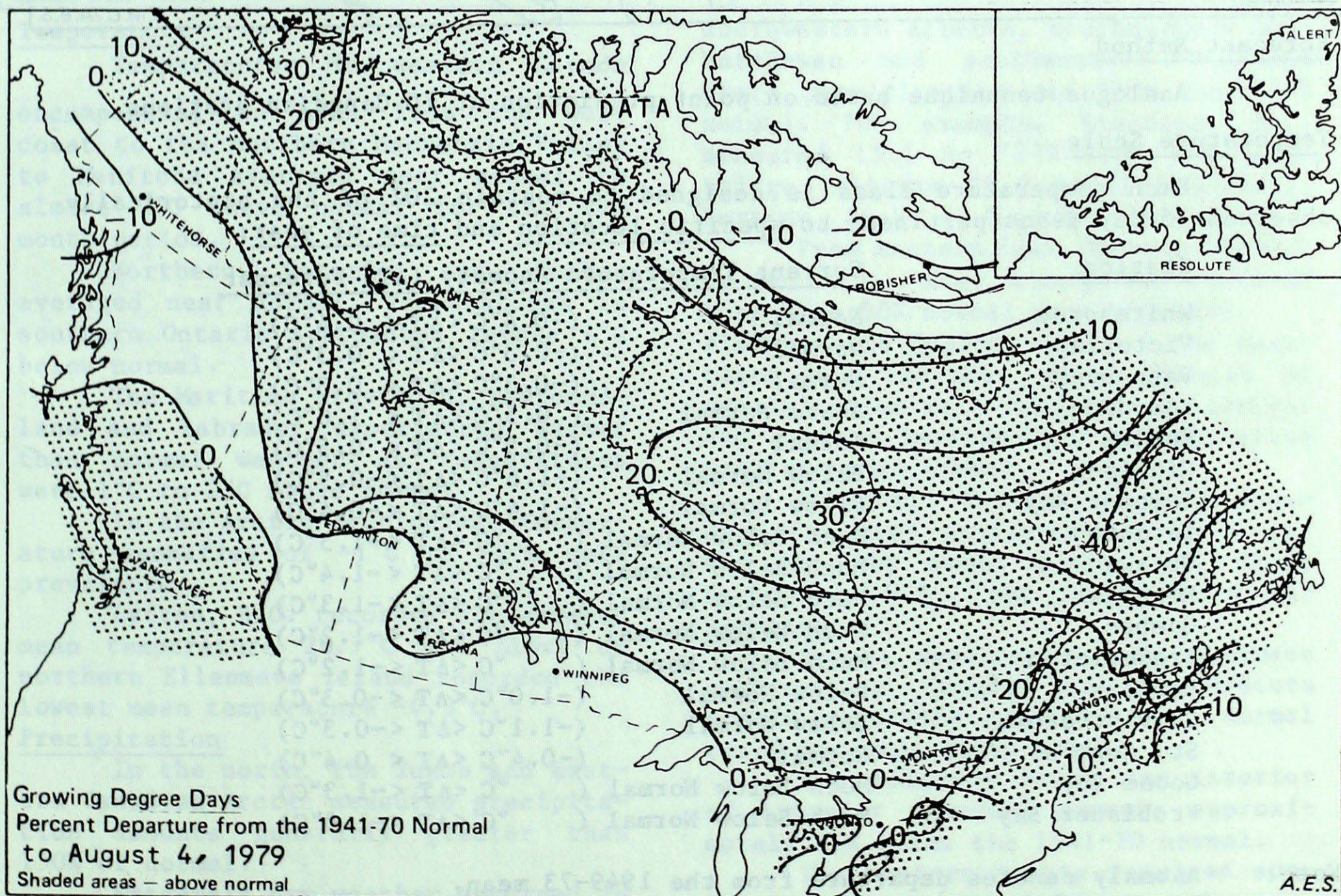
Pastures in Nova Scotia are benefiting from the warm humid weather.

Some beaches in the Halifax region have been closed because of high bacteria multiplication caused by the high temperatures.

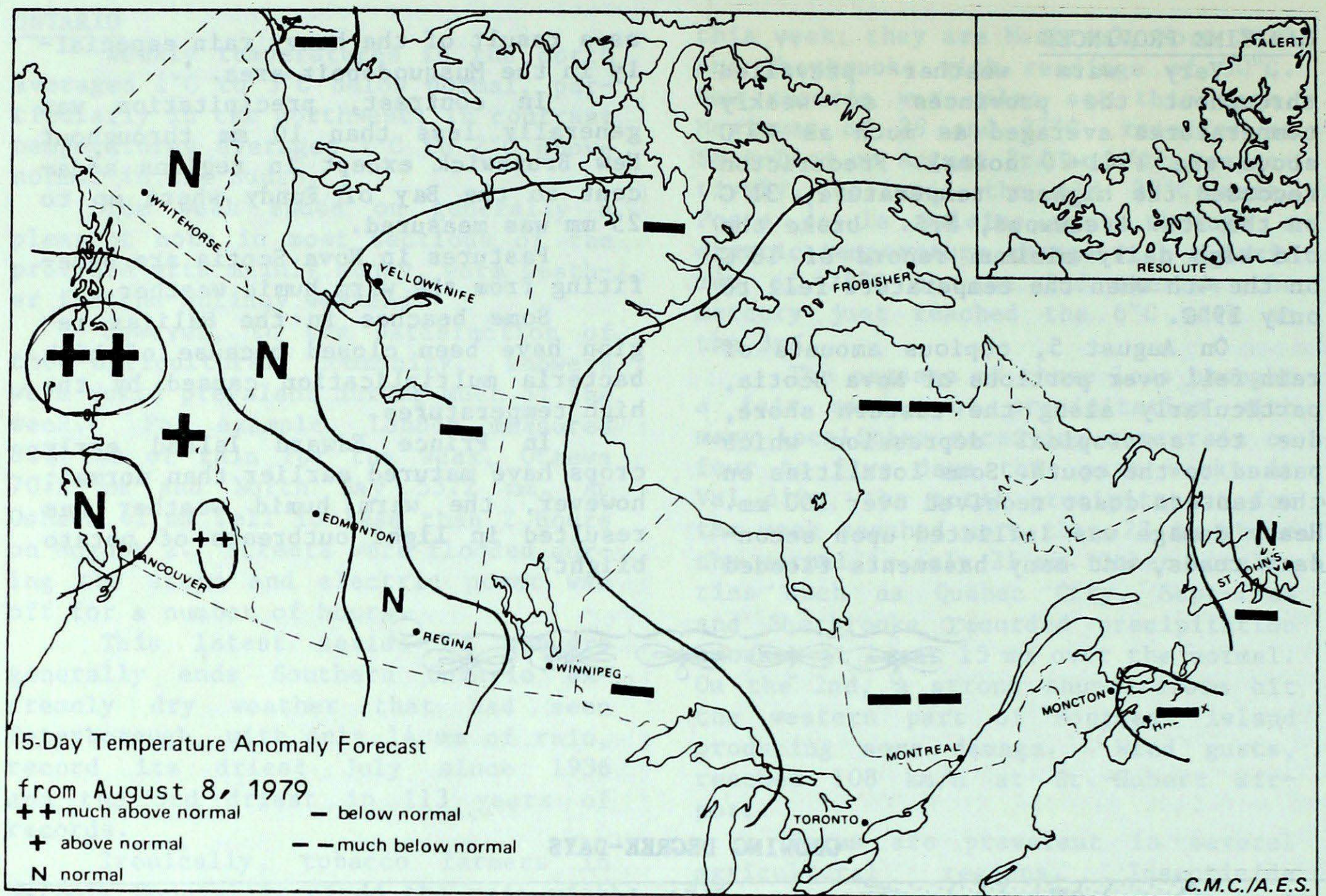
In Prince Edward Island early crops have matured earlier than normal; however, the warm humid weather has resulted in light outbreaks of potato blight.



GROWING DEGREE-DAYS



15 DAY TEMPERATURE ANOMALY FORECAST

Forecast Method

Analogue technique based on point prediction at 70 Canadian stations.

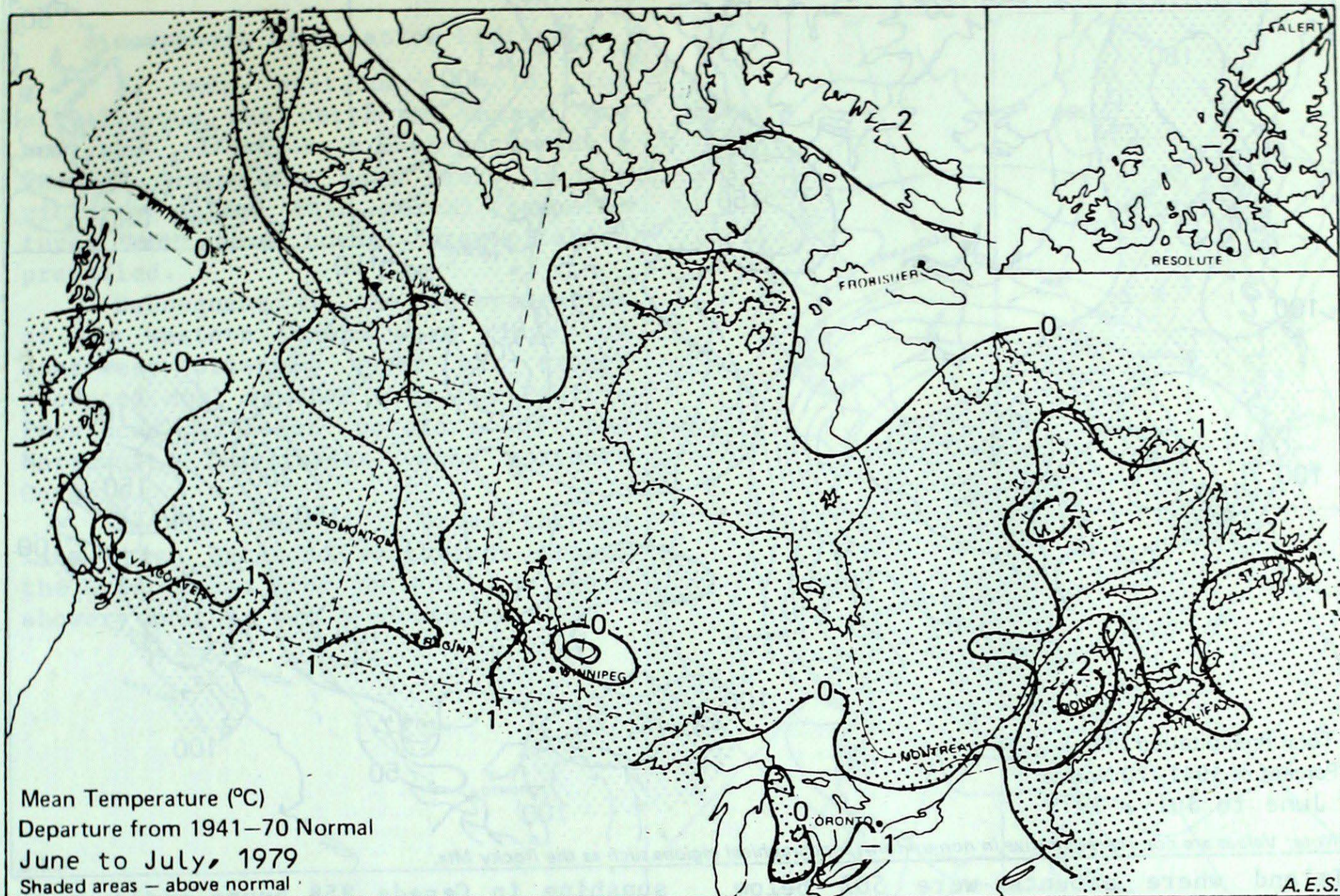
Temperature Scale

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	Normal	($-0.4^{\circ}\text{C} < \Delta T < 0.4^{\circ}\text{C}$)
Victoria	Normal	($-0.3^{\circ}\text{C} < \Delta T < 0.3^{\circ}\text{C}$)
Vancouver	Normal	($-0.3^{\circ}\text{C} < \Delta T < 0.3^{\circ}\text{C}$)
Edmonton	Above Normal	($0.5^{\circ}\text{C} < \Delta T < 1.6^{\circ}\text{C}$)
Regina	Normal	($-0.5^{\circ}\text{C} < \Delta T < 0.5^{\circ}\text{C}$)
Winnipeg	Below Normal	($-1.6^{\circ}\text{C} < \Delta T < -0.5^{\circ}\text{C}$)
Thunder Bay	Below Normal	($-1.4^{\circ}\text{C} < \Delta T < -0.4^{\circ}\text{C}$)
Toronto	Much Below Normal	($^{\circ}\text{C} < \Delta T < -1.5^{\circ}\text{C}$)
Ottawa	Much Below Normal	($^{\circ}\text{C} < \Delta T < -1.4^{\circ}\text{C}$)
Montreal	Much Below Normal	($^{\circ}\text{C} < \Delta T < -1.3^{\circ}\text{C}$)
Quebec	Much Below Normal	($^{\circ}\text{C} < \Delta T < -1.2^{\circ}\text{C}$)
Fredericton	Much Below Normal	($^{\circ}\text{C} < \Delta T < -1.2^{\circ}\text{C}$)
Halifax	Below Normal	($-1.0^{\circ}\text{C} < \Delta T < -0.3^{\circ}\text{C}$)
Charlottetown	Below Normal	($-1.1^{\circ}\text{C} < \Delta T < -0.3^{\circ}\text{C}$)
St. John's	Normal	($-0.4^{\circ}\text{C} < \Delta T < 0.4^{\circ}\text{C}$)
Goose Bay	Much Below Normal	($^{\circ}\text{C} < \Delta T < -1.3^{\circ}\text{C}$)
Frobisher Bay	Much Below Normal	($^{\circ}\text{C} < \Delta T < -1.0^{\circ}\text{C}$)

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

JUNE-JULY IN REVIEW



Temperature

Temperatures in western Canada encompassing an area from the west coast to the northern Mackenzie Valley to Manitoba averaged near normal to almost 2°C above normal for the two month period.

Northern Ontario and Quebec averaged near normal. Temperatures in southern Ontario approached levels 1°C below normal.

The Maritime provinces, Newfoundland and Labrador experienced warmer than normal weather as temperatures were 1°C to 2°C above normal.

In the Arctic Archipelago temperature anomalies of -1°C to -2°C were prevalent.

Lytton, B.C. recorded the warmest mean temperature 20.7°C and Alert on northern Ellesmere Island recorded the lowest mean temperature -0.3°C .

Precipitation

In the north, the Yukon and eastern Canadian Arctic measured precipitation amounts generally greater than 150% of normal.

Extremely dry weather occurred in the Southern British Columbia interior,

southwestern Alberta, southeastern Saskatchewan and southwestern Manitoba where precipitation was less than 50% normal. For example, Kamloops, B.C. measured 15.1 mm (24% normal); Lethbridge, Alberta 28.0 mm (21% normal); Yorkton, Sask. 31.5 mm (24% normal).

From eastern Lake Ontario through to Montreal, many localities received less than 50% normal precipitation. Elsewhere in Quebec, most of the Maritimes and Labrador ample amounts of precipitation were received. In central and eastern Newfoundland precipitation was less than normal.

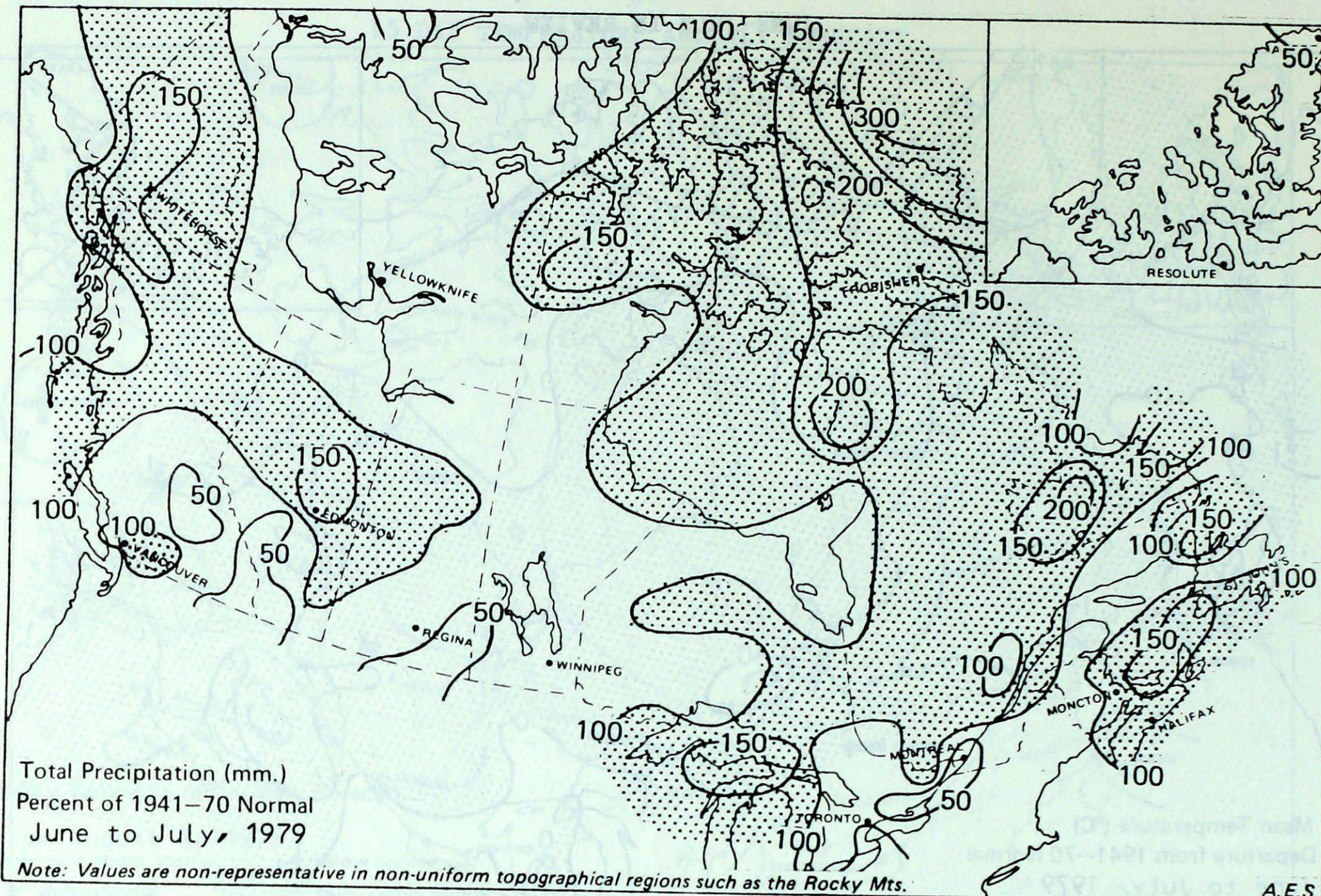
Churchill Falls, Labrador measured the most precipitation 378.5 mm, for the two month period and Sachs Harbour, N.W.T., the least, 10.4 mm.

Sunshine

Bright sunshine in the Southern portions of Canada and the Western Arctic generally averaged near normal to 20 per cent above normal.

The southern Yukon and interior of Labrador recorded amounts approximately 10% below the 1941-70 normal.

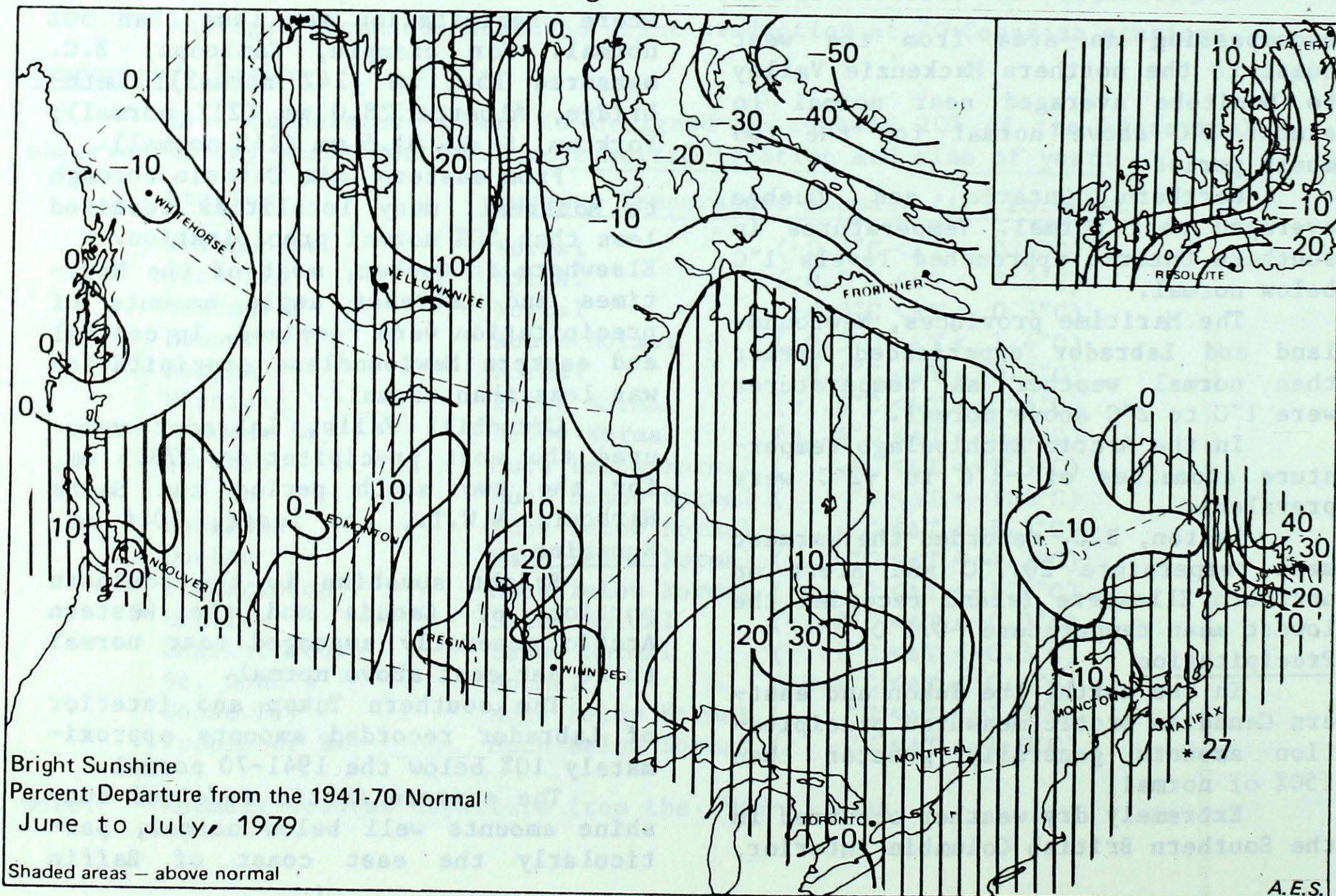
The eastern Arctic received sunshine amounts well below normal, particularly the east coast of Baffin



Island where amounts were 50% below normal.

Eureka recorded the most bright

sunshine in Canada 858 hours while in contrast, Clyde measured the least, 240 hours.

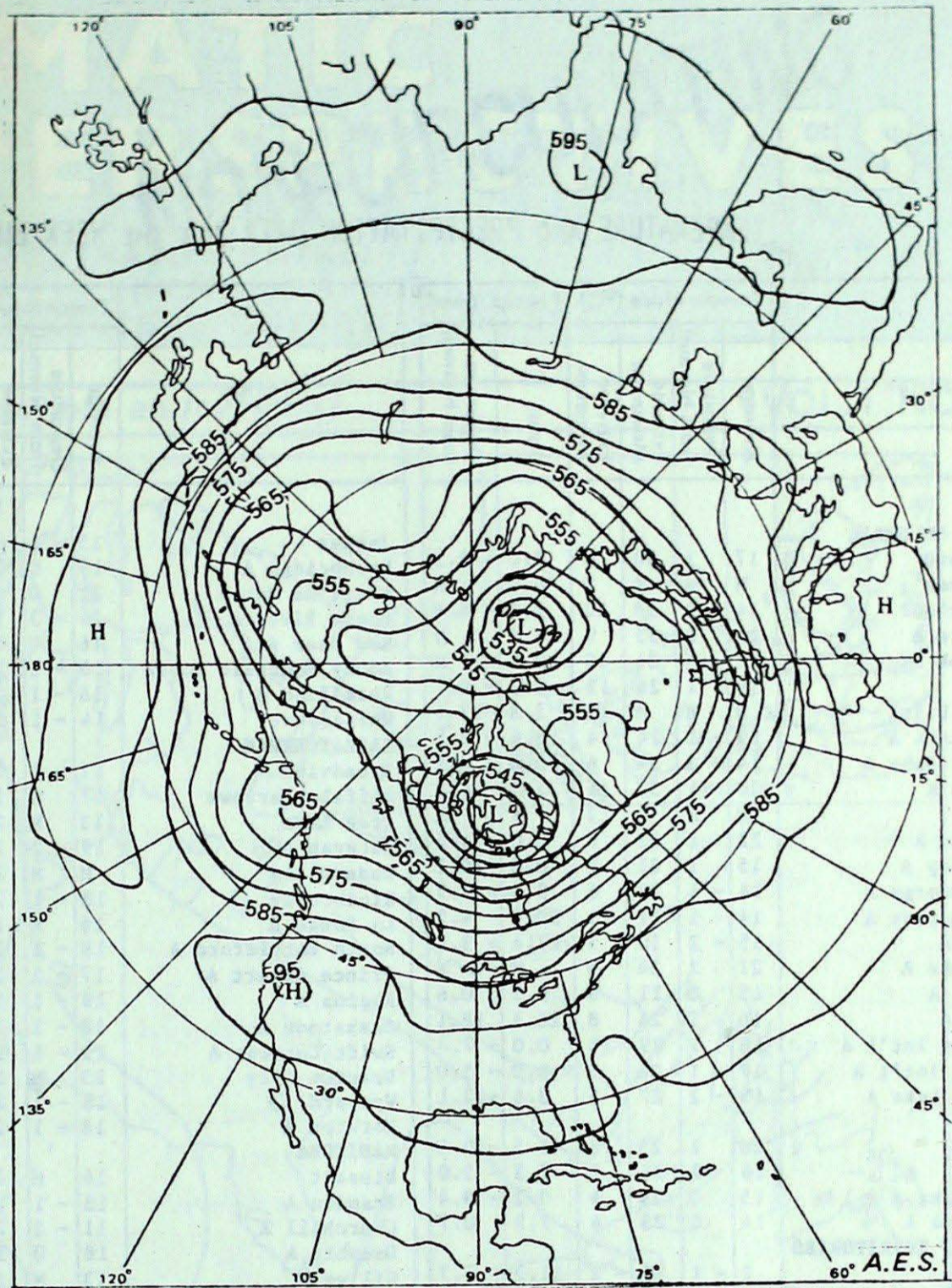


Atmospheric Circulation Pattern

A deep stationary cold low situated to the north of Hudson Bay continued to influence much of Canada's weather during the past week. In its vicinity colder than normal temperatures and above normal precipitation prevailed.

Subsequent to the deterioration of the western Canada warm ridge, an east-west oriented upper air trough produced cool weather over the Prairie Provinces adjacent portions of the Northwest Territories and northern Ontario.

To the east of a broad through line which extended southwards through the Great Lakes from the cold low, warm showery weather was predominant.



50 kPa (500 mb) Height Map (decametres) 7 Day Mean
July 30 to August 5, 1979

CLIMATIC PERSPECTIVES

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