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# A WEEKLY REVIEW OF CANADIAN CLIMATE

# CLIMATIC PERSPECTIVES

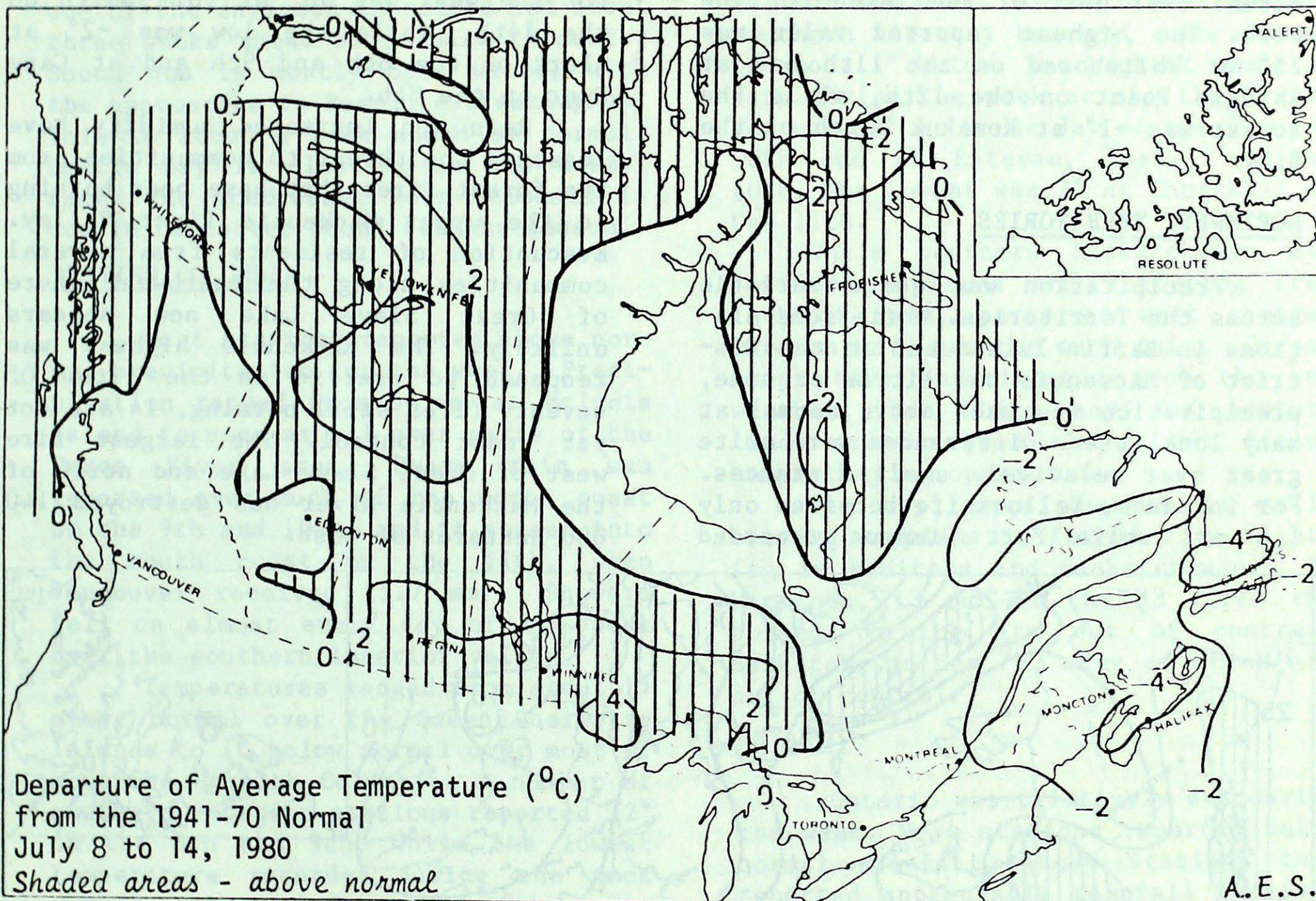
**NON-CIRCULATING**

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

JULY 18, 1980

(Aussi disponible en français)

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## WEATHER HIGHLIGHTS FOR THE WEEK - JULY 8 - 14, 1980

Cool and Wet Southern B.C. and Atlantic Provinces, Continued Dry Southern Prairies

Cool, wet weather continued to hinder harvesting over southern B.C. and the Atlantic area. Cherries are splitting in the Okanogan Valley due to record-breaking rain. In the Maritimes, corn is well behind due to the cold. Soil moisture levels are diminishing rapidly in southern Saskatchewan and southern Manitoba, where precipitation continues much below normal.

Local violent thunderstorms were reported from many areas of Canada during the past week.

Forest fires are still raging out of control in the southern Mackenzie River Valley of the Northwest Territories, over part of Saskatchewan and Manitoba, and over Northwestern Ontario.

The highest temperature in Canada during the week was  $36^{\circ}$  at Moose Jaw, Sask., on the 9th and 10th and at Estevan, Sask, on the 10th. The lowest was  $-2^{\circ}$  at Alert, N.W.T., on the 8th and 9th and at Cape Dyer, N.W.T., on the 8th. The greatest weekly total precipitation was 69.6 mm at Charlo, N.B.

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

YUKON

Precipitation was more than twice normal over southwestern Yukon. Burwash received 37.5 mm, of which 17.6 mm fell on the 14th. The remainder of the territory was quite dry, with precipitation amounts totalling under 10 mm for the week. Watson Lake, for instance, received 0.6 mm on one day only.

Temperatures averaged close to normal over most of the Yukon for the week. The highest reported value was 25° at Whitehorse on the 11th and at Shingle Point on the 12th, while the lowest was -1° at Komakuk Beach on the 8th.

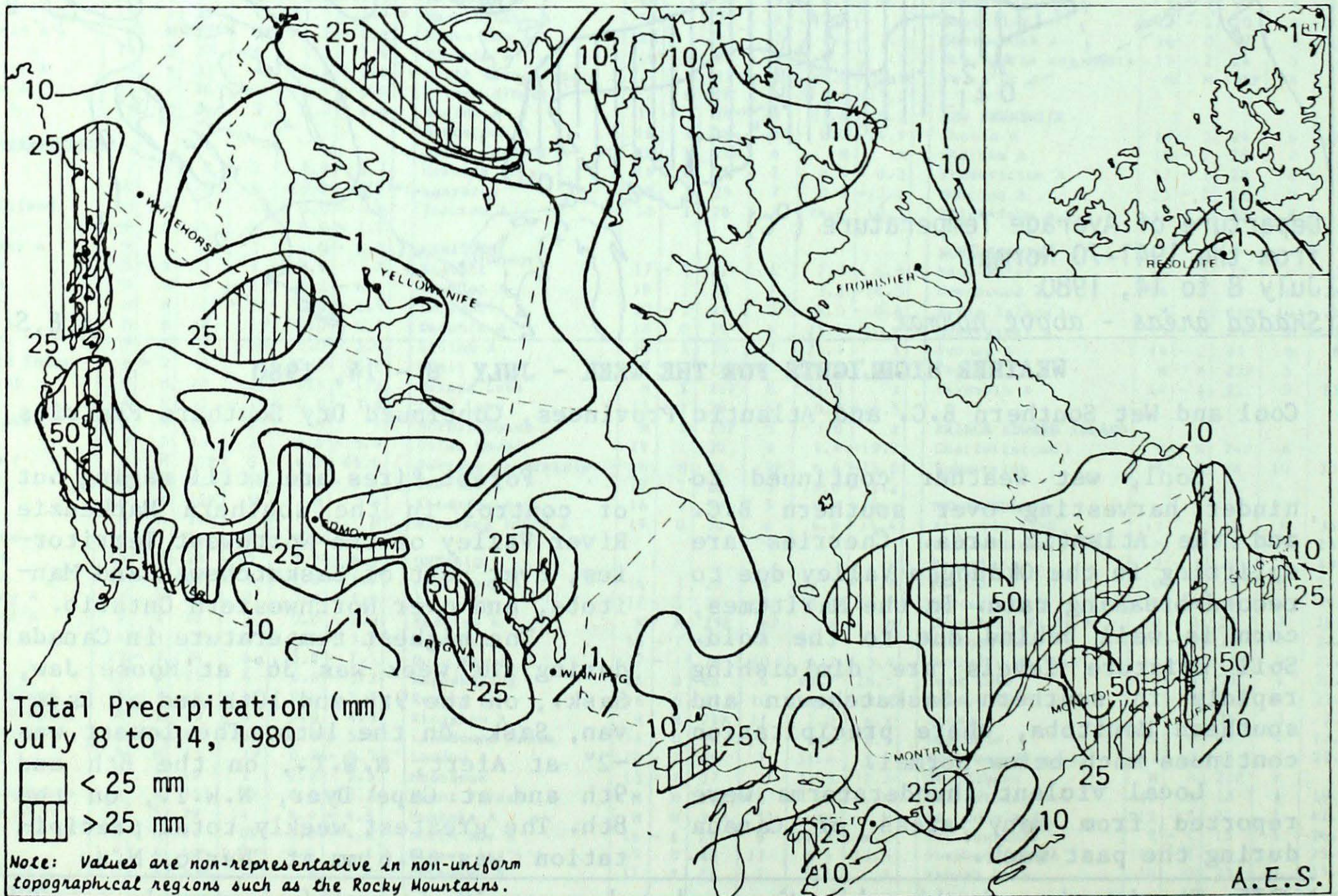
NORTHWEST TERRITORIES

Precipitation was quite variable across the Territories. While some stations in Baffin Island and in the District of Mackenzie had little or none, precipitation was much above normal at many localities. Differences were quite great over relatively small distances. For instance, Yellowknife received only 1.4 mm, while Fort Simpson recorded

40.9 mm, of which 34.2 mm fell on the 10th. Clinton Point received the largest weekly amount, 45.8 mm.

Temperatures averaged 1° to 3° above normal over most of the District of Mackenzie and the interior of most of the archipelago, but coastal localities, particularly with prevailing onshore winds were below normal. For instance, Chesterfield averaged 3° below normal. The highest temperature for the week was 30° at Fort Smith on the 14th, while the low was -2° at Alert on the 8th and 9th and at Cape Dyer on the 8th.

Rain and increased humidity have lessened the threat to communities from the forest fires that have been burning in the upper Mackenzie River Valley. Evacuation of residents from several communities along the southwest shore of Great Slave Lake now appears unlikely. The Mackenzie highway was reopened to traffic on the 11th. Of seventy fires still burning, 14 are not yet under control. The largest fire west of Great Slave Lake and north of the Mackenzie River has destroyed 140 000 hectares of bush.



Over the Beaufort Sea, open water is now reported at the drill sites and around the Tuktoyaktuk Peninsula. Complete clearing should take place before the end of the month, which is somewhat ahead of normal. In Hudson Bay and Hudson Strait, clearing is well advanced. Hudson Strait is mostly clear, while only a few scattered patches of ice remain in Hudson Bay. Total clearing is expected before the end of the month, one of the earliest on record and about three weeks ahead of normal. Lancaster Sound now is mostly open water, with the approaches to Resolute breaking up. This is about a week ahead of normal. Baffin Bay is clearing at the normal rate. The icebreaker John McDonald is now in Lancaster Sound for the season.

#### BRITISH COLUMBIA

Most stations reported above normal precipitation for the week. Precipitation ranged from 54 mm at McInnis Island to none at all over parts of the Peace River area. Heavy rain was reported over much of the north coast on the 9th and 10th, and it spread into the south coast on the 11th, when Vancouver received 25.7 mm. Showers fell on almost every day of the week over the southern interior valley.

Temperatures ranged from about 1° above normal over the Queen Charlotte Islands to 1° below normal over most of southern British Columbia. A number of southern interior stations reported 32° on the 8th and 9th, while the lowest temperature recorded during the week was 2° at Dease Lake on the 10th.

The shower activity in interior British Columbia is hampering haying operations, and cherries are splitting. With July half over, Kelowna has already recorded their wettest July on record.

In the Fort Nelson area showers have aided in the control of forest fires.

#### PRAIRIE PROVINCES

Heavy showers and thunderstorms were reported on several days of the week over central regions of each of the Prairie Provinces, but very dry weather continued across much of the

southern and northern regions. Across southern sections of Saskatchewan and Manitoba, soil moisture reserves are continuing to drop. Precipitation totals in the dry areas were generally under 5 mm for the week, but in contrast, Wynard, Sask. received 59 mm, of which 49 mm fell on the 14th.

Northern Alberta, all of Saskatchewan, and most of Manitoba reported temperatures about 2° to 3° above normal for the week. Northern Manitoba and southern Alberta, however, were normal to about 1° below. The highest temperature during the week across the Prairies was 36° at Moose Jaw on the 9th and 10th and at Estevan, Sask., on the 10th. The lowest was 2° at Churchill on the 11th.

While southern Saskatchewan and southern Manitoba are suffering from lack of rain, parts of west central Alberta have had too much rain. Cereal crops have deteriorated from the wet weather, but while hay and pasture lands are in good shape, wet fields hamper haying operations.

The dry, warm weather is still causing problems in forest fire fighting in Manitoba and Saskatchewan. In Manitoba, 13 out of the 83 fires reported burning are out of control. Saskatchewan has 73, many of which are out of control.

#### ONTARIO

Ontario was relatively dry during the week. Most stations reported below normal rainfall. Those stations that reported appreciable rainfall received most of the fall as heavy showers or thundershowers on only one or two occasions.

Dorchester, near London, reported 54.2 mm on the 8th, but London Airport only received 0.3 mm, on the same day.

Mean temperatures averaged 1° to 3° above normal over most of northwestern Ontario, but southern and eastern regions of the province were mostly 1° to 2° below normal. The highest temperature for the week was 34° at Windsor on the 11th, while the low was 2° at Moosonee on the 12th.

Seventy-one fires are still burning in northwestern Ontario, and lightning strikes on the 14th caused a rash

of new fires. One of these thunderstorms gave Dryden golfball size hail.

Growing conditions were generally good last week over most of Ontario, but hay-crop yields are well below normal over northwestern regions due to the dry weather. Agriculture is slightly below normal due to the cool weather over parts of southwestern Ontario.

### QUÉBEC

The past week was relatively cool and wet. More than 10 mm of rain fell at most stations, while central Quebec and as far east as Baie-Comeau received more than 40 mm.

Although temperatures were above normal over northern Quebec, the remainder of the province reported mean temperatures well below normal, with departures as great as 4° in the Mont-Joli and Baie-Comeau regions. Daily record low temperatures were recorded each day of the week somewhere in the province. The highest temperature was 29°, recorded at both Maniwaki and Montreal on the 14th, while the lowest was 0° at Koartak on the 10th.

A line of heavy thunderstorms accompanied a cold-frontal passage on the 10th and 11th. On the former day, Val d'Or reported hail with diameters as great as one cm, while on the following day, Ste-Agathe reported 17 mm of rain in 16 minutes. In the Sherbrooke area, high winds damaged roofs of houses, and some trees were uprooted.

### ATLANTIC PROVINCES

The Atlantic Provinces were generally very wet. Weekly precipitation amounts totalled 30 mm or more at most stations. Charlo, N.B., received the most, 69.6 mm, but Port aux Basques, Nfld., was close behind with 68.4 mm. Of the total, 43.6 mm fell on the 9th. In contrast, the Labrador Coast and the Avalon Peninsula of the Island of Newfoundland was very dry. St. John's, for instance, only received 1.8 mm during the week.

The Atlantic Provinces were very cool, with departures of mean temperature running 3° to 5° for the week. The highest temperature during the week was 26°, reported at Fredericton on the 10th and 14th and at Cartwright on the 12th. The low was -1° at Deer Lake, Nfld., on the 9th. Several new daily low maximum records, were established during the week, both in the Atlantic Provinces and over Newfoundland.

The cool, wet weather is still hampering harvesting in the Atlantic region. Warm weather crops such as corn are suffering.

On the night of the 12th, a band of heavy thunderstorms crossed northern Nova Scotia, causing torrential rain and damaging winds. Power outages were reported in many areas. Three houses in the Sydney area were damaged severely when struck by lightning. Sydney reported 33.6 mm of rain in two hours.

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#### CLIMATIC PERSPECTIVES

##### Staff

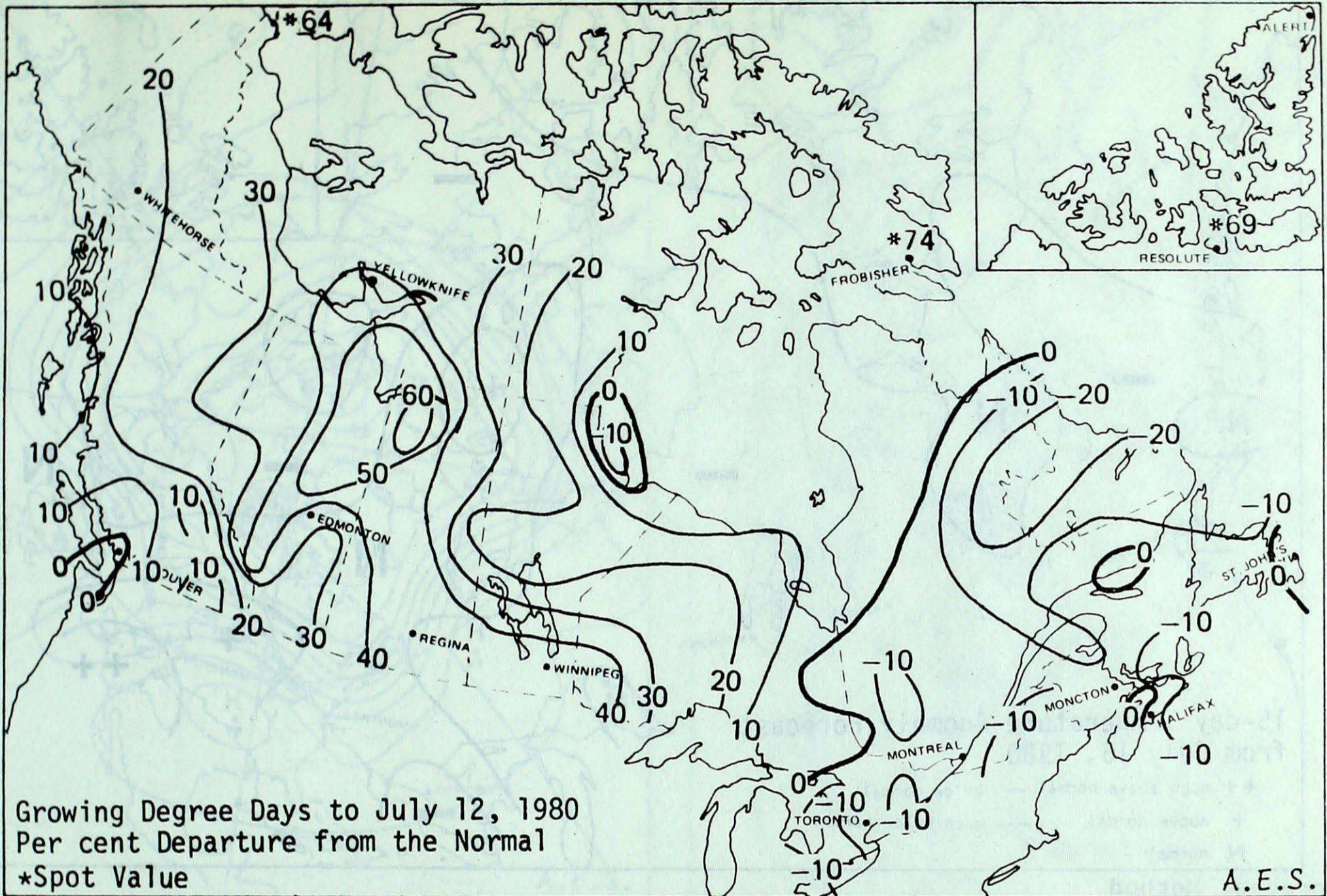
Editor:	Yves Durocher
Assistant Editor:	Ron Crowe
Technical Staff:	Fred Richardson, Andy Radomski
Graphics and Layout:	Bill Johnson, Gregory Wilson
Word Processing:	Lillian Methven, Una Ellis

##### Correspondents

Terry Mullane,	(Ice Forecasting Central)
H.E. Wahl,	(Whitehorse)
Bill Prusak,	(Western Region)
Fred Luciw,	(Central Region)
Bryan Smith,	(Ontario Region)
Jacques Miron,	(Quebec Region)
J.F. Amirault,	(Atlantic Region)
Staff of Prince	George, Kamloops, Castlegar, Fort
	Nelson, Penticton and Kelowna
	weather office (Pacific Region)

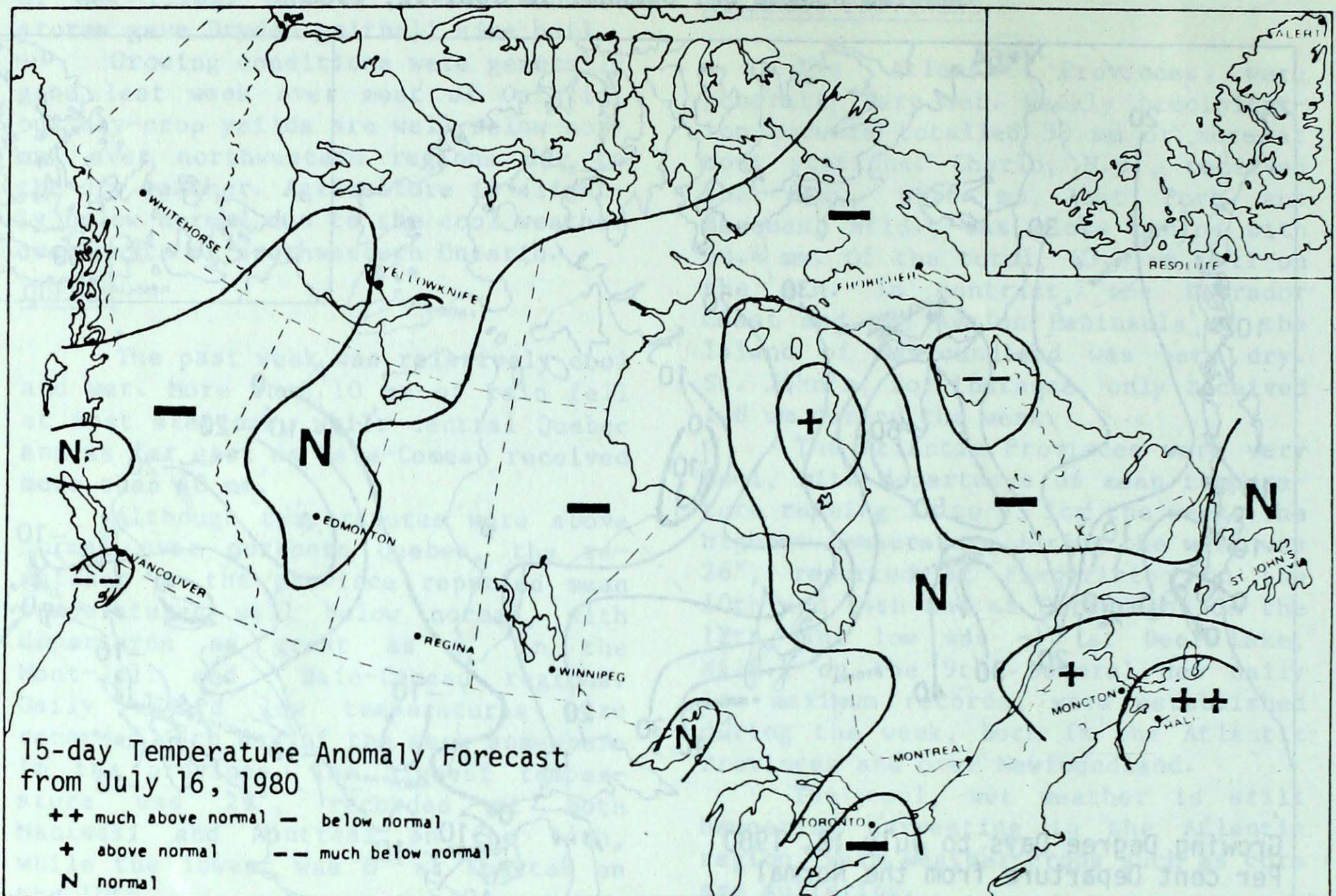
Telephone Inquiries (416) 667-4711/4506

GROWING DEGREE-DAY SUMMARY TO JULY 12, 1980



CITY	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL
Whitehorse	118.7	10.5	461.0	68.0	117
Penticton	161.0	-6.0	1026.0	102.0	111
Vancouver	123.5	-20.5	798.5	-43.5	95
Edmonton	153.5	20.5	897.5	313.5	154
Calgary	137.0	8.0	715.0	187.0	135
Regina	185.5	24.5	984.5	317.5	148
Saskatoon	183.0	24.0	983.0	317.0	148
Winnipeg	191.0	16.0	1012.5	293.5	141
Thunder Bay	154.5	12.5	666.0	138.0	126
Windsor	196.0	-8.0	979.0	-71.0	93
Toronto	165.0	-13.0	787.5	-77.5	91
Ottawa	169.5	-13.5	836.0	-16.0	98
Montréal	154.5	-33.5	818.5	-51.5	94
Québec	140.0	-22.0	668.5	-19.5	97
Fredericton	136.0	-22.0	663.5	-15.5	98
Halifax	111.5	-39.5	506.0	-59.0	90
Charlottetown	122.0	-33.0	474.0	-51.0	90
St John's	82.5	-32.5	310.5	2.5	101

## 15 DAY TEMPERATURE ANOMALY FORECAST

Forecast Method

Analogue technique based on point prediction at 70 Canadian stations.

Temperature Scale

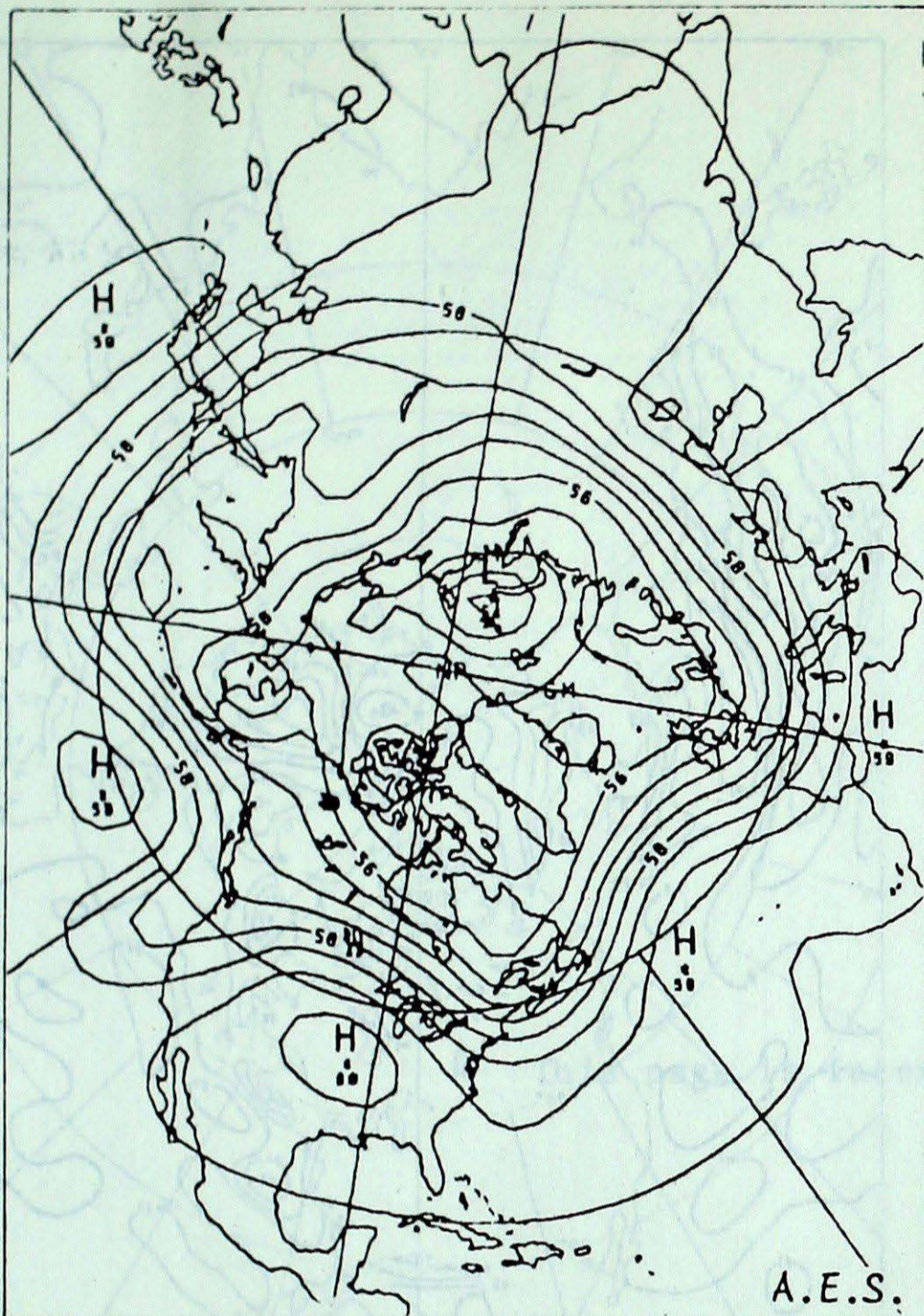
Each temperature class is designed to contain 20% of the historically observed 15 day means pertinent to specific location and time of year:

StationCurrent Temperature Anomaly Forecast

Whitehorse	Near Normal	Within 0.4° of Normal
Victoria	Much Below Normal	More than 1.0° below Normal
Vancouver	Much Below Normal	More than 1.1° below Normal
Edmonton	Near Normal	Within 0.4° of Normal
Regina	Below Normal	From 0.4° to 1.4° below Normal
Winnipeg	Below Normal	From 0.4° to 1.5° below Normal
Thunder Bay	Near Normal	Within 0.4° of Normal
Toronto	Below Normal	From 0.4° to 1.4° below Normal
Ottawa	Near Normal	Within 0.4° of Normal
Montreal	Near Normal	Within 0.4° of Normal
Quebec	Near Normal	Within 0.4° of Normal
Fredericton	Above Normal	From 0.4° to 1.3° above Normal
Halifax	Much Above Normal	More than 1.0° above Normal
Charlottetown	Much Above Normal	More than 1.2° above Normal
St. John's	Near Normal	Within 0.5° of Normal
Goose Bay	Below Normal	From 0.4° to 1.5° below Normal
Frobisher Bay	Below Normal	From 0.3° to 1.2° below Normal
Inuvik	Near Normal	Within 0.6° of Normal

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

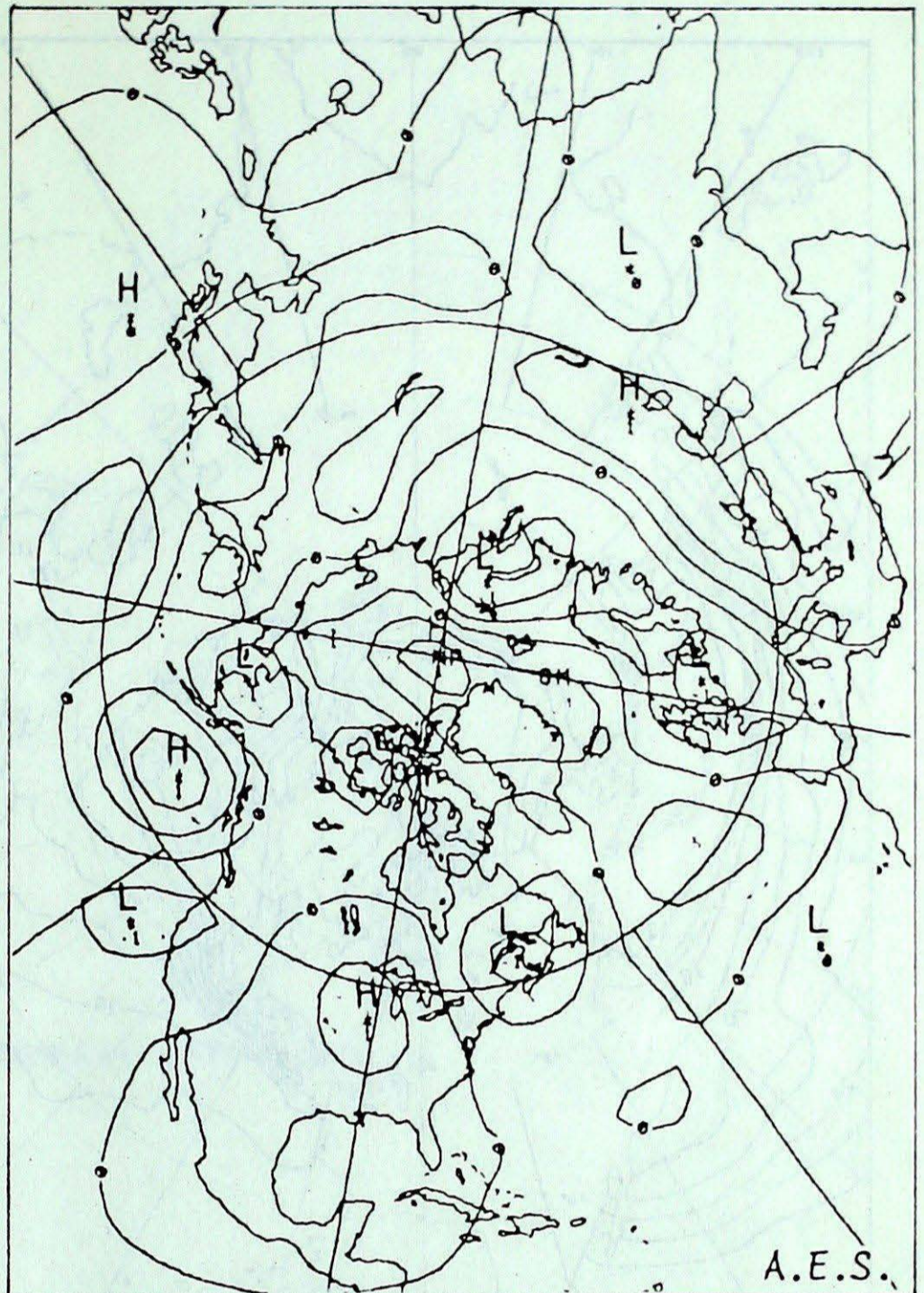
## Atmospheric Circulation



7-day Mean 50 kPa Height Map (in dam)  
July 7 to 13, 1980

A mean atmospheric ridge continued to predominate across central North America slightly further east and stronger in amplitude than during the previous week. Two major upper troughs remained anchored over the Pacific and Atlantic coasts, bringing cool unsettled showery conditions to both British Columbia and Alberta in the west, Quebec and the Atlantic provinces in the east. Precipitation totals exceeding 25 mm were quite general with many locations receiving as much as 50 mm of rain.

The Canadian Prairies and most of Ontario were favoured with near to



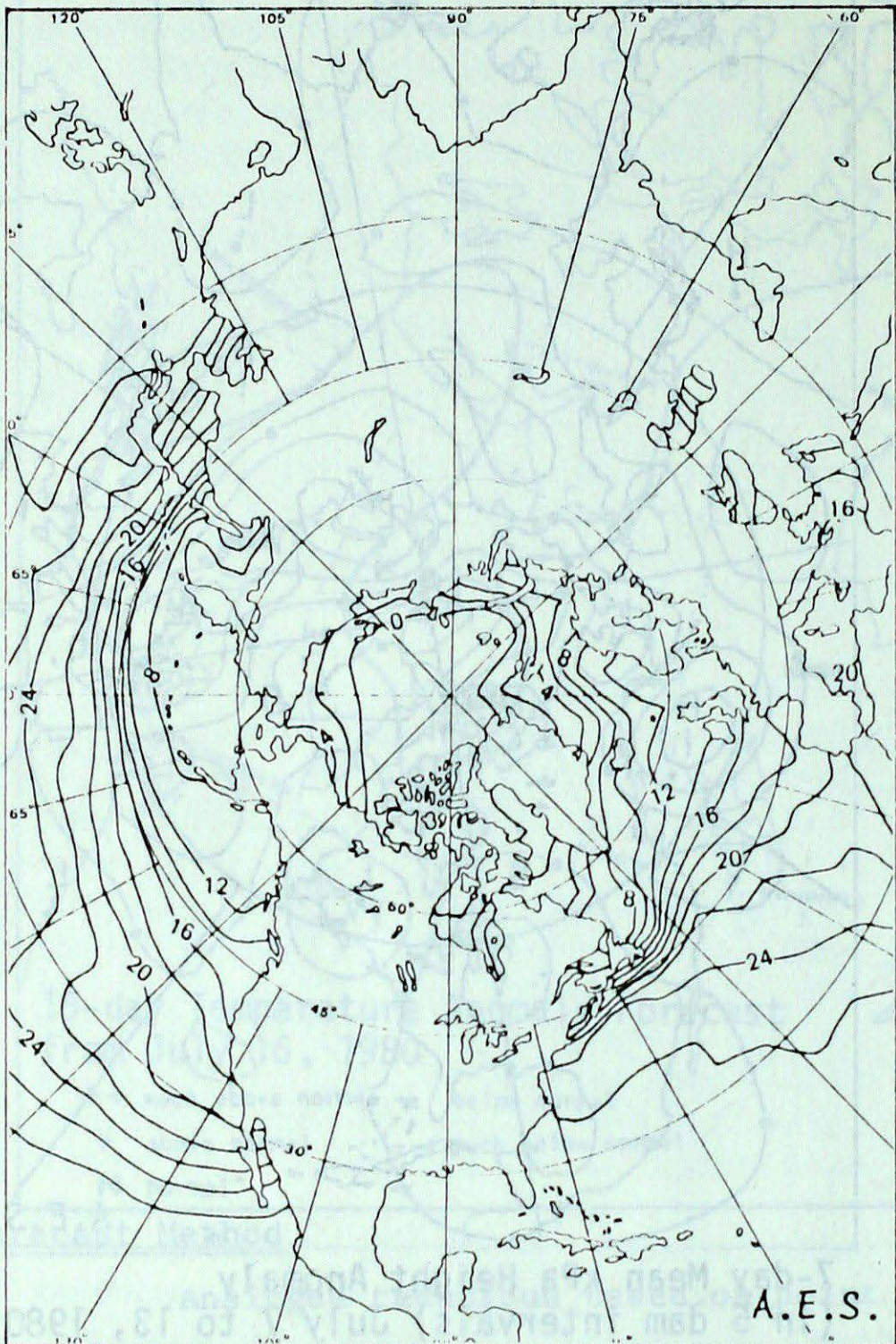
7-day Mean kPa Height Anomaly  
(in 5 dam intervals) July 7 to 13, 1980

normal temperatures. Precipitation amounts were also significant but drought-stricken and fire-prone areas of southern Manitoba and northwestern Ontario once again received very little rain.

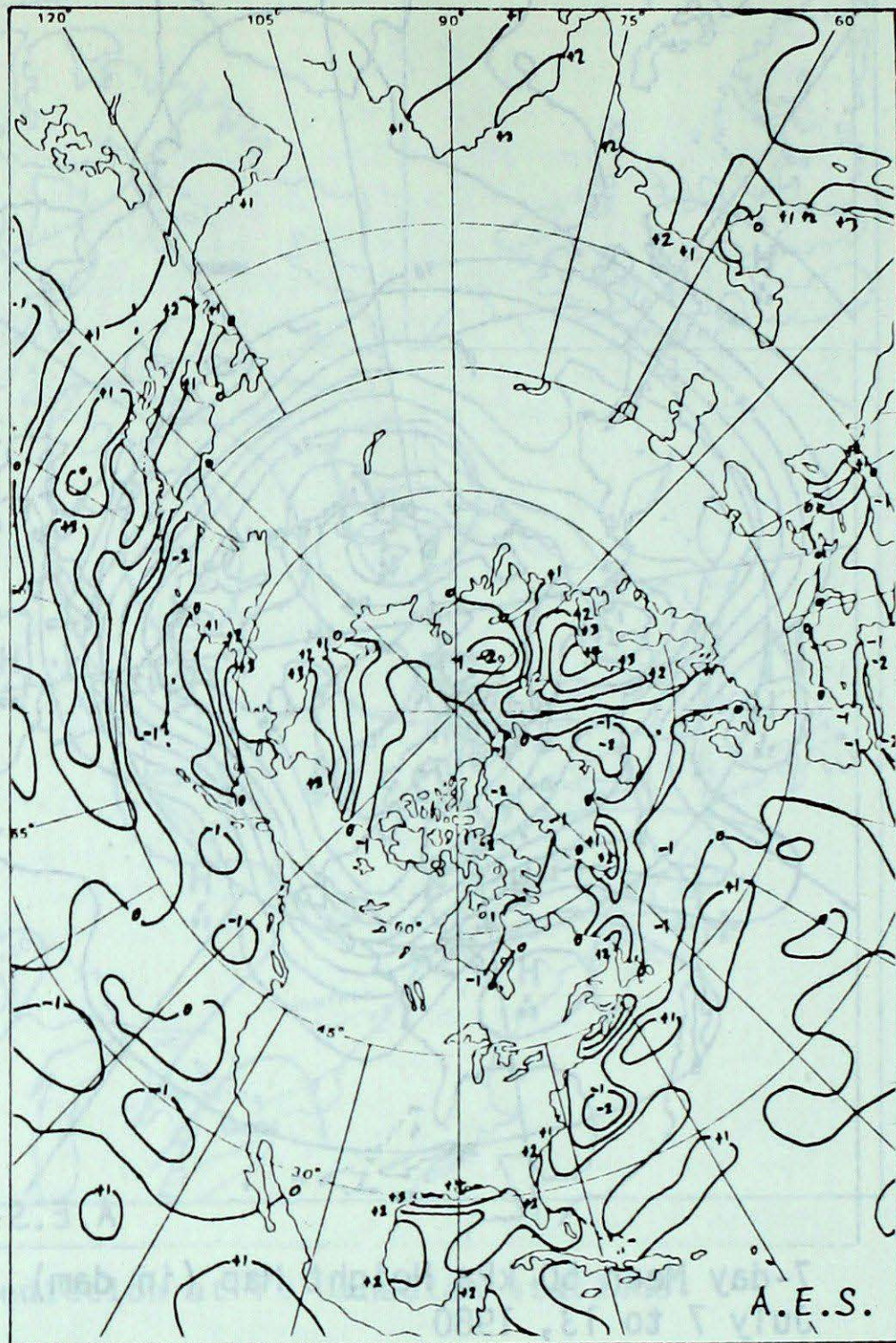
A strong upper steering flow continued to be predominant across most of the country. At the surface weather systems developed over western Canada and moved rapidly eastwards following the storm track across Quebec and into the Maritimes. Oscillating frontal zones, separating strongly contrasting air masses, caused frequent shower and thunderstorm activity, occasionally locally heavy.

Andy Radomski

SEA SURFACE TEMPERATURE



Monthly Mean Sea Temperature  
June 16 to July 15, 1980



Sea Surface Temperature  
Anomalies for June 16 to July 15, 1980

ed to predominate across central North America slightly further east and stronger in amplitude than during the previous week. Two major depth troughs remained anchored over the Pacific and Atlantic coasts, bringing cool water tied shoery conditions to the British Columbia and Alberta in the west. Over the Atlantic province, the sea breeze was quite general with many locations receiving as much as 50 mm of rain. The Canadian provinces and most of Ontario were favoured with more than 50 mm of rain. The Atlantic coast received 2.1 mm of rain. The western coast received 1.2 mm of rain. The northern coast received 0.5 mm of rain. The southern coast received 0.5 mm of rain. The eastern coast received 0.5 mm of rain. The western coast received 0.5 mm of rain. The northern coast received 0.5 mm of rain. The southern coast received 0.5 mm of rain. The eastern coast received 0.5 mm of rain.

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



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