



Environment Canada / Environnement Canada

A WEEKLY REVIEW OF CANADIAN CLIMATE

Atmospheric Environment / Environnement atmosphérique

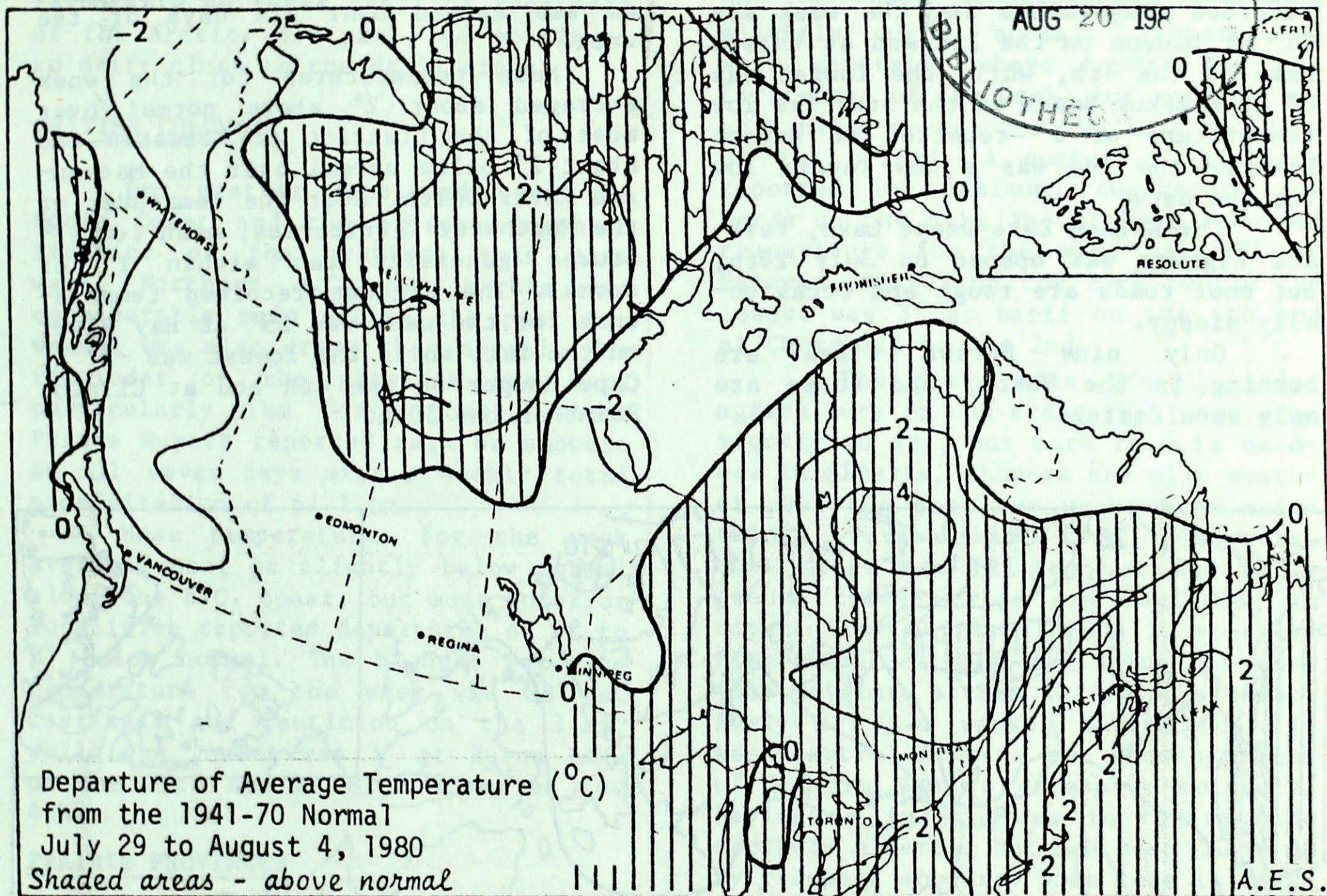
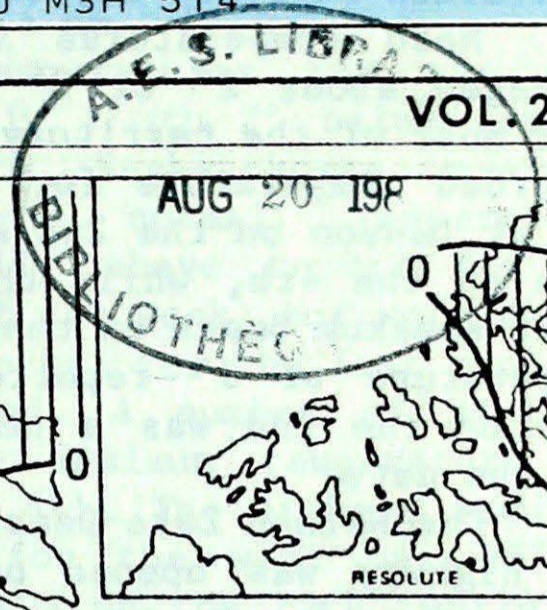
CLIMATIC PERSPECTIVES

THE CANADIAN CLIMATE CENTRE,
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AUGUST 8, 1980

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WEATHER HIGHLIGHTS FOR THE WEEK - JULY 29-AUGUST 4, 1980

Heavy rains finally bring relief to the drought-stricken southern Prairies

Heavy rain was reported August 3rd and 4th over much of the Prairies. Most of the regions previously affected by drought, southeastern Saskatchewan and southwestern Manitoba, received 40 mm to 80 mm.

Wet weather is still hampering haying in the Maritimes, and some low-lying areas in southern Ontario are experiencing flooding from the excessive rains of the past two weeks.

Hail was reported over southern Ontario, including Metropolitan Toronto, on July 29th. Damage to market gardens was reported at Holland Marsh.

The highest reported temperature in Canada was 35° at Estevan, Sask., on the 29th, while the lowest was -3° at Clinton Point, N.W.T., on the 30th and at Cape Hooper, N.W.T. on the 4th. The greatest weekly precipitation was 109.2 mm at Nitchequon, Que.

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

YUKON

Practically all of Yukon was wet this week, with rain or showers reported on most days. The greatest weekly precipitation reported was 25.9 mm. at Shingle Point, but Mayo reported precipitation on every day of the week.

Mean temperatures for the week averaged about 2° or 3° below normal over most of the territory. The highest recorded temperature for the week was 21° at Dawson on the 2nd and at Watson Lake on the 4th, while the lowest was 0° at Komakuk Beach on the 3rd. The low temperature of 1° reported at Watson Lake on the 2nd was a new record low for the date.

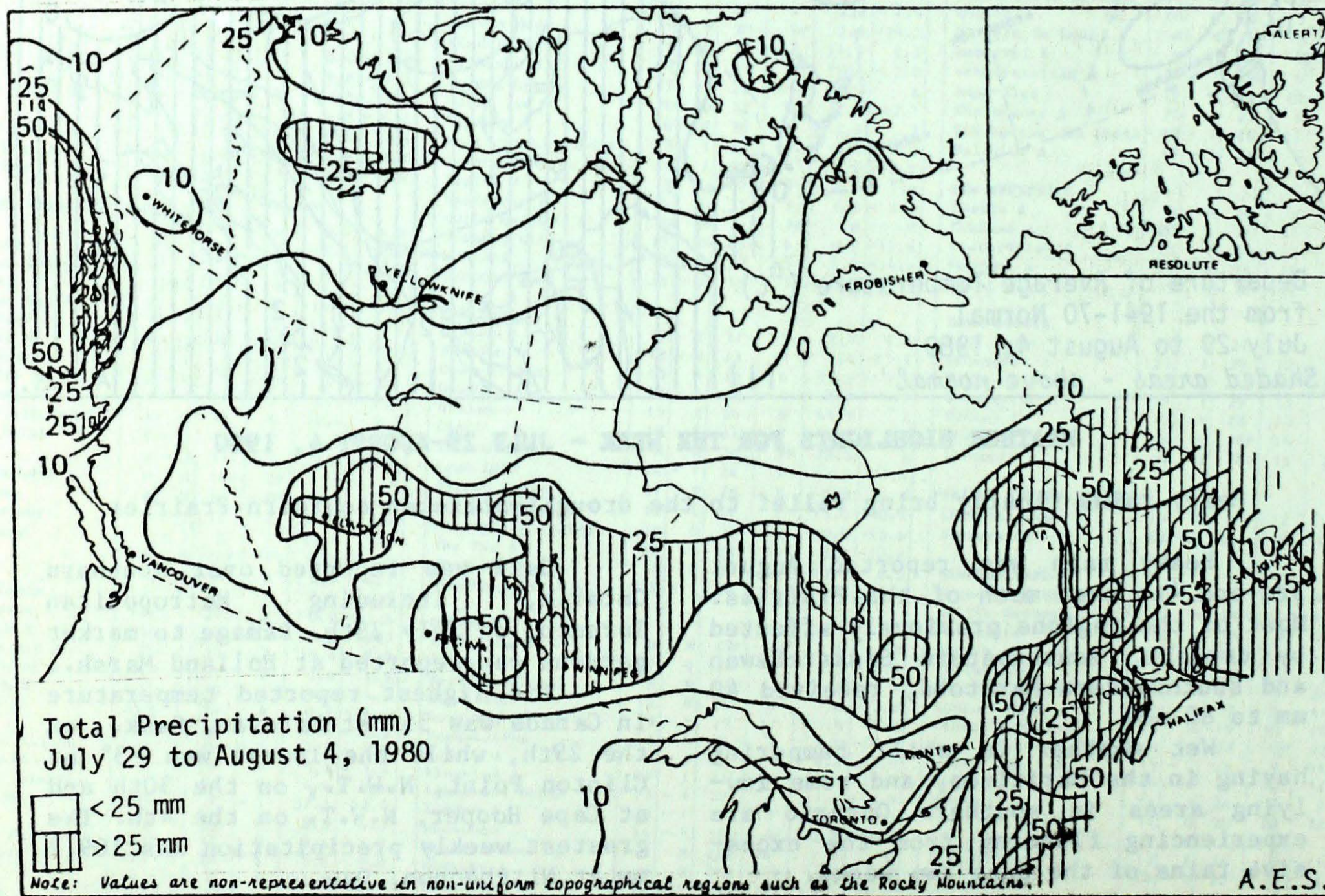
The Watson Lake-Dease Lake, Terrace highway was opened on July 29th, but most roads are rough and occasionally sloppy.

Only nine forest fires are burning in the Yukon, and these are only smouldering.

NORTHWEST TERRITORIES

Below-normal precipitation was reported over most of the Northwest Territories this past week, but a few areas were wetter than normal. Coppermine recorded a weekly precipitation total of 36.0 mm, of which 22.0 mm fell on the 3rd. Much of the Mackenzie River Valley was also wet. At Norman Wells, the weekly precipitation total of 35.8 mm was spread over six days of the week.

Mean temperatures for the week averaged about 2° above normal over most of the District of Keewatin and about 2° below normal over the Mackenzie River Delta. Over the remainder of the Northwest Territories, mean temperatures generally ran within 1° of normal. The highest recorded temperature for the week was 29° at Hay River on the 1st, while the lowest was -3° at Cape Hooper on the 4th and at Clinton Point on the 30th.



Ice conditions are still improving rapidly over most of the Arctic, with mostly open water now reported from Hudson Bay, Hudson Strait, Coronation Gulf and Cambridge Bay. Most icebreaker support is now in the high Arctic, such as Lancaster Sound. Breaks in the ice are now appearing in Viscount Melville Sound. Farther west, in the Beaufort Sea area, conditions are not as favourable as those over the remainder of the Arctic. Old pack ice continues to drift close to the drill sites.

BRITISH COLUMBIA

Dry weather continued over the South Coast and the extreme southern interior of the province this past week. Northern B.C., which has had considerable rain during the past few weeks, was also drier than normal. The remainder of the province was wet, particularly the North Coast, where Prince Rupert reported rain or showers on all seven days with a weekly total precipitation of 61.1 mm.

Mean temperatures for the week averaged near or slightly below normal along the B.C. coast, but most interior localities reported departures of 1° to 3° below normal. The highest recorded temperature for the week was 33° at Castlegar and Penticton on the 31st, while the lowest was 3° at Burns Lake on the 29th and at Blue River on the 4th.

PRAIRIE PROVINCES

The rains finally came to the most drought-affected areas of the eastern Prairies. In fact, most of the Prairies were wet. Only southwestern Saskatchewan, extreme southern Alberta and the far northern part of the Prairie Provinces reported below-normal precipitation for the week. Most of the rains came on the 3rd and 4th, and there were two extensive bands of heavy precipitation. One area of heavy rain was reported over southeastern Saskatchewan and southwestern Manitoba, where the lack of precipitation and low soil moisture have been so evident for so long. Brandon reported a weekly total precipitation of 80.8 mm, but 40.7 mm

fell on the 3rd and 39.9 mm on the 4th. Broadview recorded almost as much, 79.5 mm for the week. The other area of heavy rain stretched in an east-west band across the central Prairies. The heaviest reported weekly totals were Cold Lake, with 91.7 mm, and Fort McMurray, 80.6 mm.

Mean temperatures for the week were generally 1° to 2° below normal, but northern Saskatchewan averaged slightly above normal. Temperatures were generally above normal for the first part of the week, but were decidedly below normal for the last two days of the period. A number of stations reported low maximum temperature records on the 4th. The highest recorded temperature for the week was 35° at Estevan, Sask., on the 29th, while the lowest was 3° at Banff on the 4th and at Churchill on the 2nd.

The heavy rain greatly aided agriculture in the areas that were previously so dry, but more rain is needed. In Alberta, showers and mild weather over the past two weeks have maintained favourable crop prospects. Most crops are filling out and early seeded cereal crops are beginning to ripen. Some dry-land crops in southern Alberta are again beginning to show some moisture stress following a relatively dry two weeks, while crops in west-central Alberta are showing signs of lodging due to excessive moisture. Haying is in progress in central and northern Alberta, but has been hampered by frequent showers. Some loss in quality due to advanced maturity and weathering is evident.

A weekend rainstorm which dumped 70 to 90 mm of rain over central and north-central Alberta washed out a number of Alberta 75th anniversary homecoming festivities over the long weekend.

The heavy rain over the central regions of the Prairies greatly aided in the fighting of forest fires.

ONTARIO

Precipitation was generally above normal over northwestern Ontario and below normal over the south. There were a number of exceptions, however. Wind-

sor reported the heaviest precipitation for the week, 42.6 mm, of which 33.2 mm fell on the 2nd. Much of the rainfall came from heavy showers and thunder-showers, as is common for this time of year. For instance, Kingston recorded 26.0 mm on the 29th.

Mean temperatures generally averaged within 1° of normal over most of the province, but over northeastern Ontario, they were generally 1° to 2° above normal. The highest recorded temperature for the week was 32° at Windsor on the 1st, while the lowest was 5° at both Atikokan and Red Lake on the 3rd.

Severe thunderstorms with strong gusty winds and hail were reported over parts of southern Ontario on July 29th. Over parts of Metropolitan Toronto, some of the hail had diameters as great as one centimetre, while at Holland Marsh to the north, even larger hail caused considerable damage to market gardens.

July 1980 was the wettest July in years over many parts of southern Ontario. Toronto International Airport received 182.3 mm, the wettest since records began in 1938, while at Warton, the monthly total of 200.7 mm was a new record, not only for July, but for any month of the year. Furthermore, West Guilford, in the Haliburton Region, received 214.6 mm, their wettest July in 53 years.

The heavy rains of the past month have resulted in local flooding and crop damage in some low-lying areas.

As of August 5th, only 35 forest fires were burning in Ontario, and danger conditions were rated as moderate.

QUÉBEC

Precipitation was above normal across most of Québec again this past week. The highest recorded weekly amount was 109.2 mm at Nitchequon. Schefferville received 73.4 mm, Natashquan 69.2 mm, and Bagotville 62.0 mm. At Nitchequon, Schefferville and Bagotville, it rained all seven days of the week. A few small but widely

separated areas of the province reported below-normal precipitation, however. One of these was the Eastern Townships.

Mean temperatures averaged well above normal over practically all of Québec, with departures mainly between 2° and 4°. The highest recorded temperature for the week was 30° at Bagotville and Roberval on the 1st, while the lowest was 2° at Koartak on the 3rd and 4th.

Measurable precipitation was reported on every day at Montréal International Airport from July 19th to 30th, inclusive. This string of 12 consecutive wet days is a new record for the Montréal area for the month of July, the previous record being ten days, reported in 1908 at the McGill University site. The July rainfall of 182.6 mm at Montréal International Airport is also a new record high for the month of July since records began in 1942.

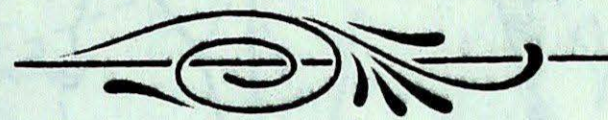
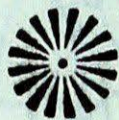
ATLANTIC PROVINCES

Precipitation totalled above normal for the week over most of New Brunswick, Cape Breton Island, and Newfoundland-Labrador. Below normal amounts occurred over most of Nova Scotia and Prince Edward Island. Fredericton, N.B., received 80.5 mm over the week, but of this total, 66.4 mm fell over a four-hour period on the 30th. On the same day, 80.0 mm was reported during a four-hour period at a climatological station at Musquash, near Saint John. Other large weekly precipitation amounts were 66.7 mm at St. Anthony, Nfld., 65.9 mm at Saint John, N.B., and 59.4 mm at Churchill Falls, Labrador.

Mean temperatures generally averaged about 2° above normal over much of the Atlantic Provinces, but near normal values were reported from most of the Island of Newfoundland. A number of stations in the Maritimes reported new record high temperatures for August 1st. The highest recorded temperature for the week was 32° at Fredericton, N.B., on the 1st, while the lowest was 6° at Hopedale, Labrador, on the 1st and 2nd.

In Nova Scotia, there has been enough dry weather to enable 50 to 70 per cent of the hay crop to be harvested. Because this is late in the season, the hay is overripe, and it is declining in quality. The potato, corn and

tobacco crops in the Maritimes are progressing well, and the potato blight is now under control. Crops on the Island of Newfoundland are still very late in maturing.



CLIMATIC PERSPECTIVES

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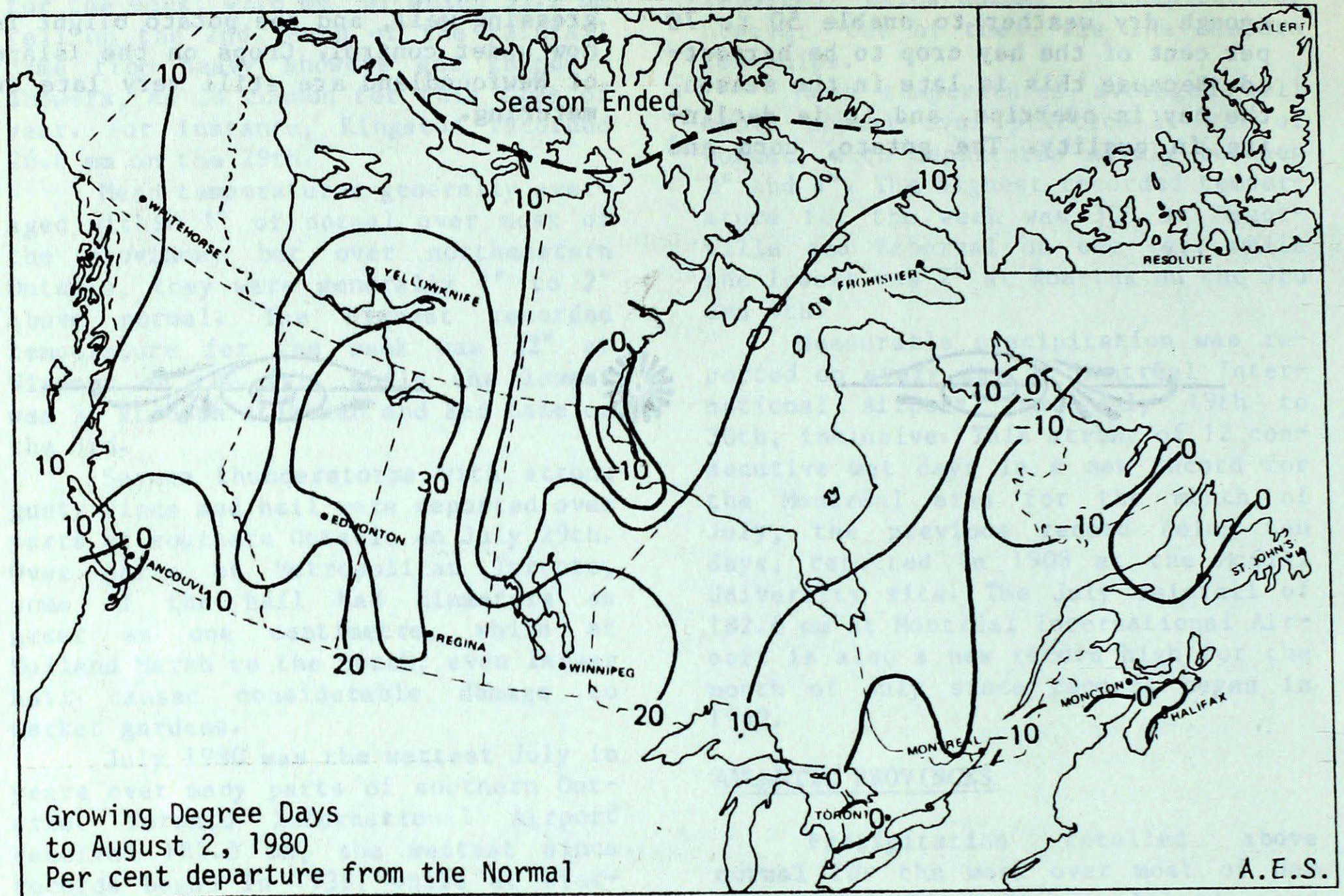
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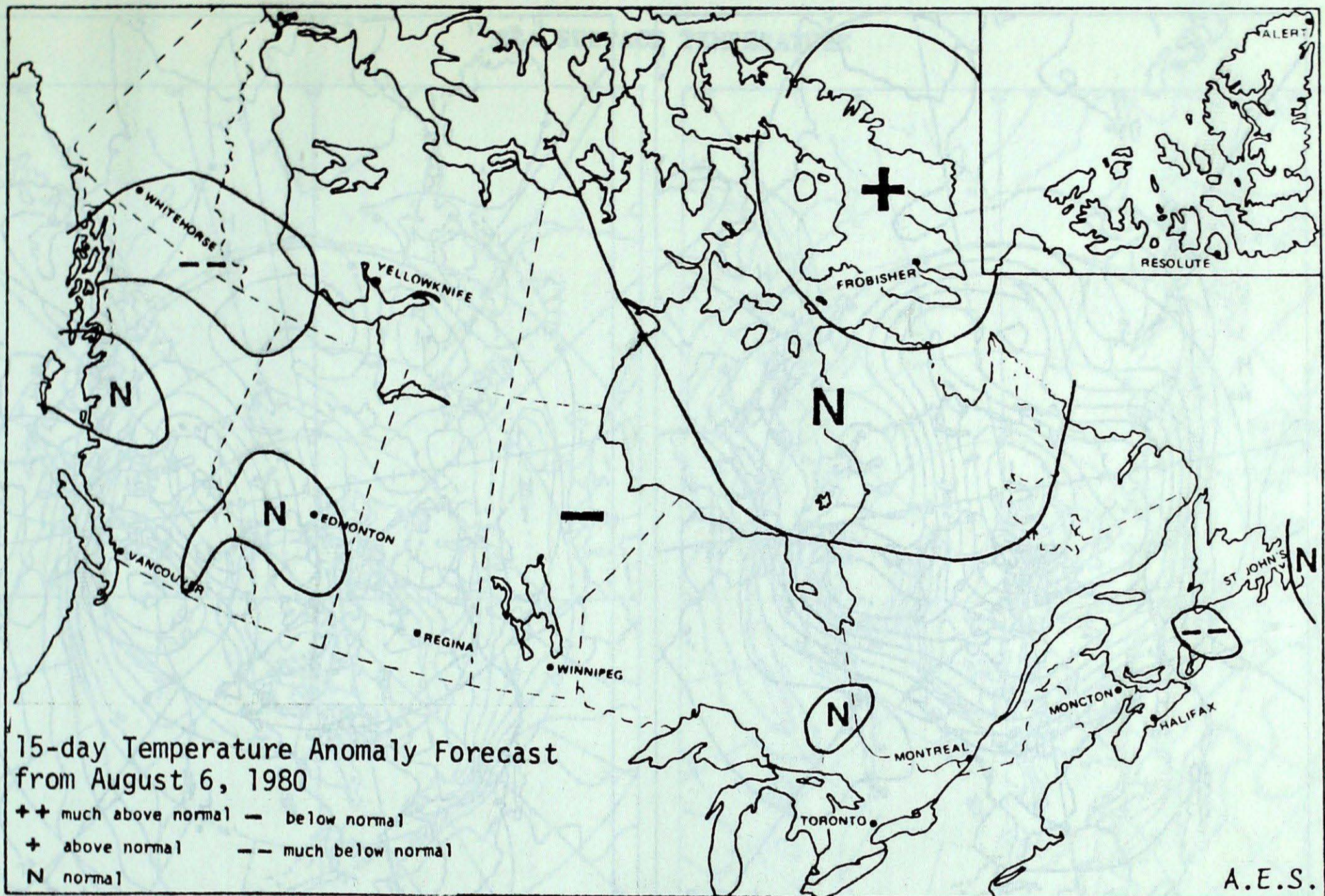
Note: An asterisk denotes departure from the norm.

GROWING DEGREE-DAY SUMMARY TO AUGUST 2, 1980



CITY	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL
Whitehorse	16.5	-1.5	637.5	53.5	109
Penticton	30.0	-2.0	1364.5	105.5	108
Vancouver	23.5	-2.5	1057.0	-52.0	95
Edmonton	25.5	.5	1149.5	321.5	139
Calgary	23.0	-1.0	950.5	169.5	122
Regina	31.0	1.0	1274.5	307.5	132
Saskatoon	31.0	3.0	1258.5	295.5	131
Winnipeg	27.0	-4.0	1329.5	297.5	129
Thunder Bay	27.5	3.5	951.5	154.5	119
Windsor	38.5	5.5	1372.5	-41.5	97
Toronto	36.5	6.5	1139.0	-67.0	94
Ottawa	33.5	3.5	1180.5	-3.5	100
Montréal	35.0	3.0	1166.0	-50.0	96
Québec	35.0	8.0	977.5	-16.5	98
Fredericton	35.0	7.0	1006.0	17.0	102
Halifax	29.0	3.0	779.0	-63.0	93
Charlottetown	33.0	5.0	775.5	-39.5	95
St John's	25.5	1.5	537.0	1.0	100

15 DAY TEMPERATURE ANOMALY FORECAST

Forecast Method

Analogue technique based on point prediction at 70 Canadian stations.

Temperature Scale

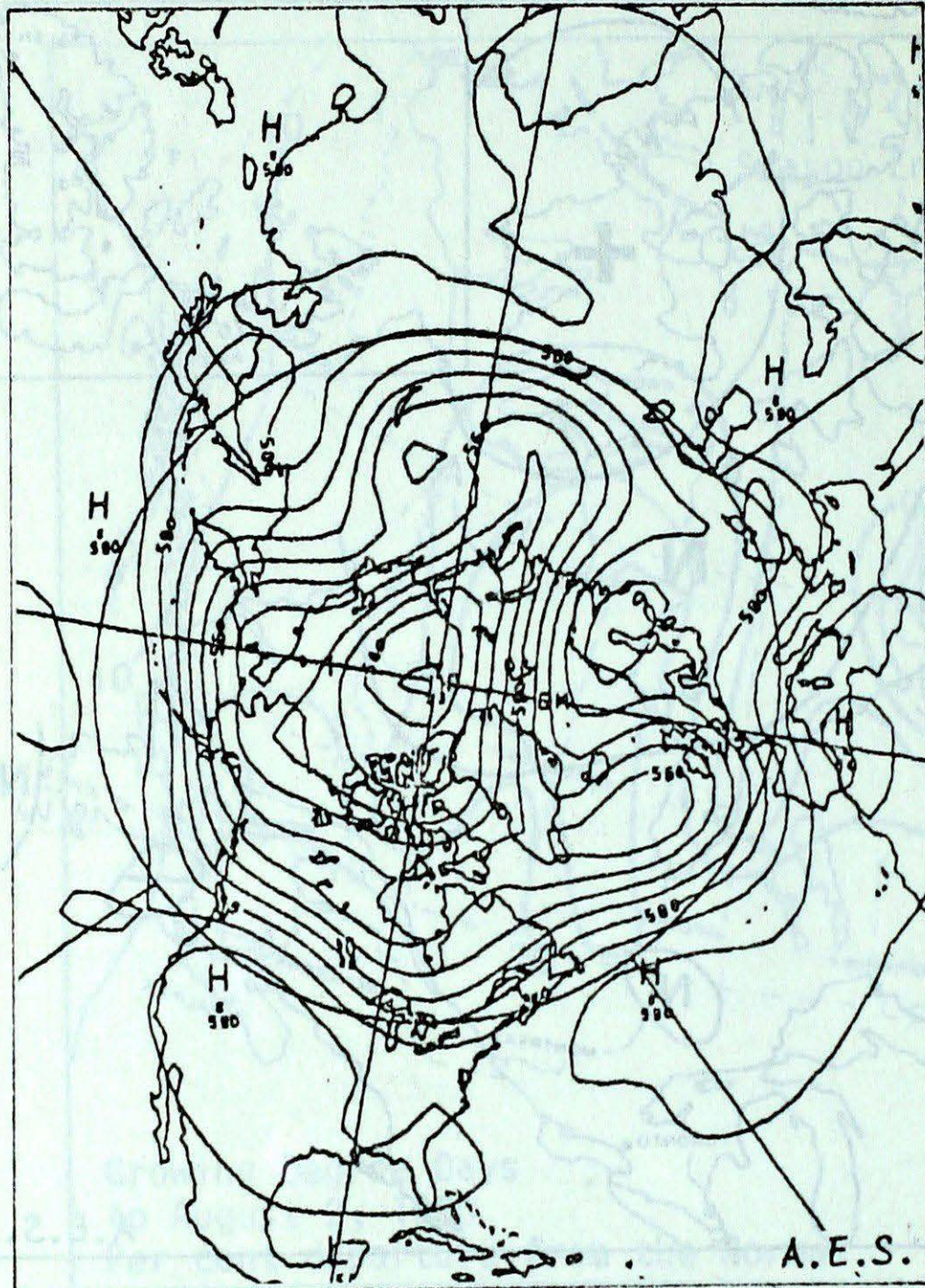
Each temperature class is designed to contain 20% of the historically observed 15 day means pertinent to specific location and time of year:

StationCurrent Temperature Anomaly Forecast

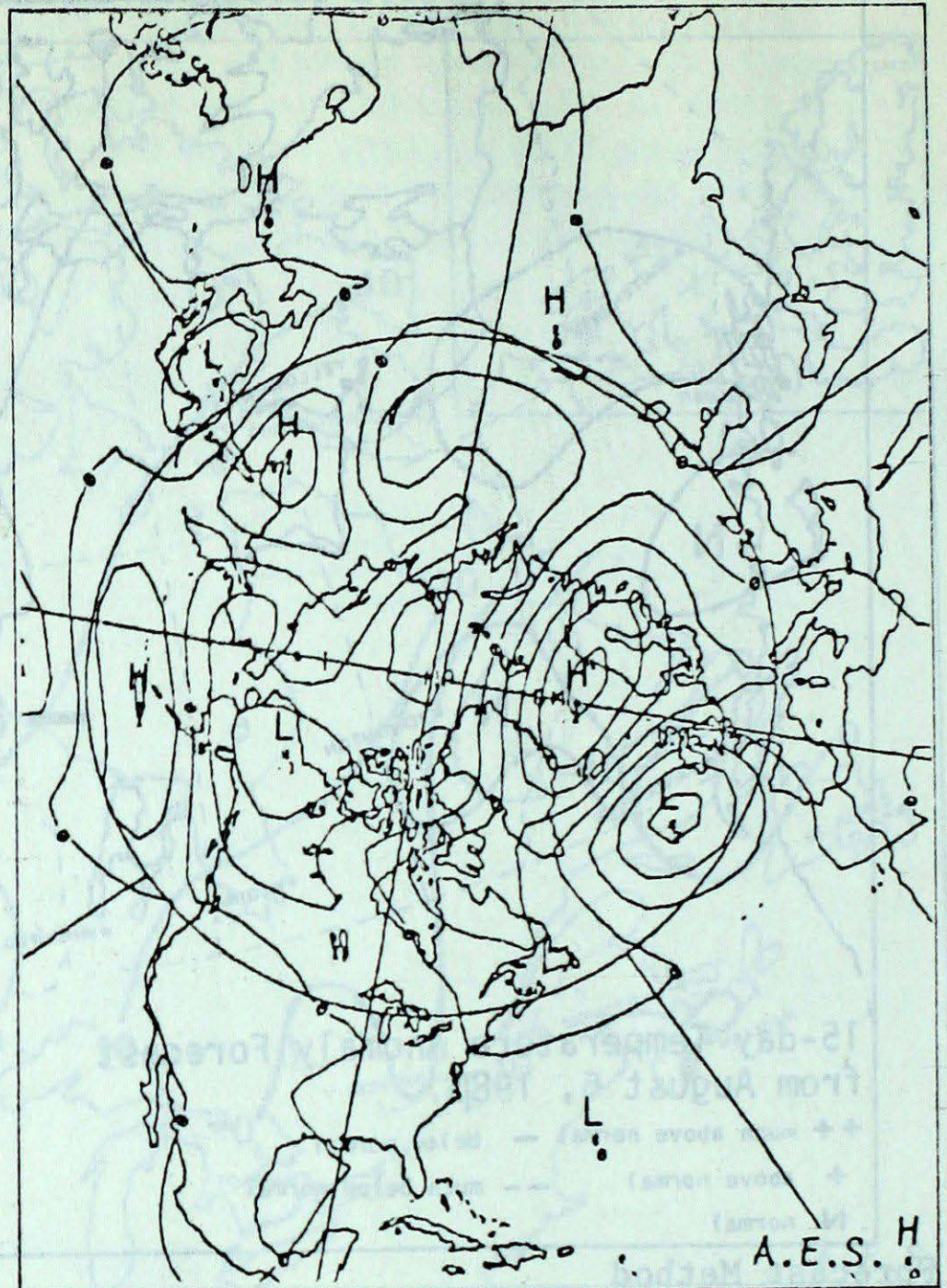
<u>Station</u>	<u>Current Temperature Anomaly Forecast</u>
Whitehorse	Much Below Normal More than 1.4° below Normal
Victoria	Below Normal From 0.3° to 0.9° below Normal
Vancouver	Below Normal From 0.3° to 1.0° below Normal
Edmonton	Near Normal Within 0.5° of Normal
Regina	Below Normal From 0.5° to 1.6° below Normal
Winnipeg	Below Normal From 0.5° to 1.6° below Normal
Thunder Bay	Below Normal From 0.4° to 1.4° below Normal
Toronto	Below Normal From 0.4° to 1.5° below Normal
Ottawa	Below Normal From 0.4° to 1.4° below Normal
Montreal	Below Normal From 0.4° to 1.3° below Normal
Quebec	Below Normal From 0.4° to 1.2° below Normal
Fredericton	Below Normal From 0.4° to 1.2° below Normal
Halifax	Below Normal From 0.3° to 1.0° below Normal
Charlottetown	Below Normal From 0.3° to 1.1° below Normal
St. John's	Near Normal Within 0.4° of Normal
Goose Bay	Below Normal From 0.4° to 1.3° below Normal
Frobisher Bay	Above Normal From 0.3° to 1.0° above Normal
Inuvik	Below Normal From 0.6° to 2.1° below Normal

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

Atmospheric Circulation



7-day Mean 50 kPa Height Map
July 28 to Aug 3, 1980



7-day Mean 50 kPa Height Anomaly
(in 5 dam intervals)
July 28 to August 3, 1980

The broad atmospheric ridge centred in the United States exerted a weak influence on southern areas of the western provinces. The strong Arctic vortex previously over the Arctic Islands has reformed further to the north, resulting in positive height anomalies in the vicinity of Hudson Bay and northern Quebec. Negative height anomalies are now in evidence over much of western Canada due to consecutive troughs and vortices drifting slowly eastward in the upper circulation.

At the Surface, numerous weather disturbances developed. Significant precipitation amounts fell over much of British Columbia and the Canadian Prairies, except over extreme southern areas and along the southern portion of the Pacific coast. This heavy rain was especially welcome in the drought-stricken areas of Saskatchewan and Manitoba, while some Alberta communities

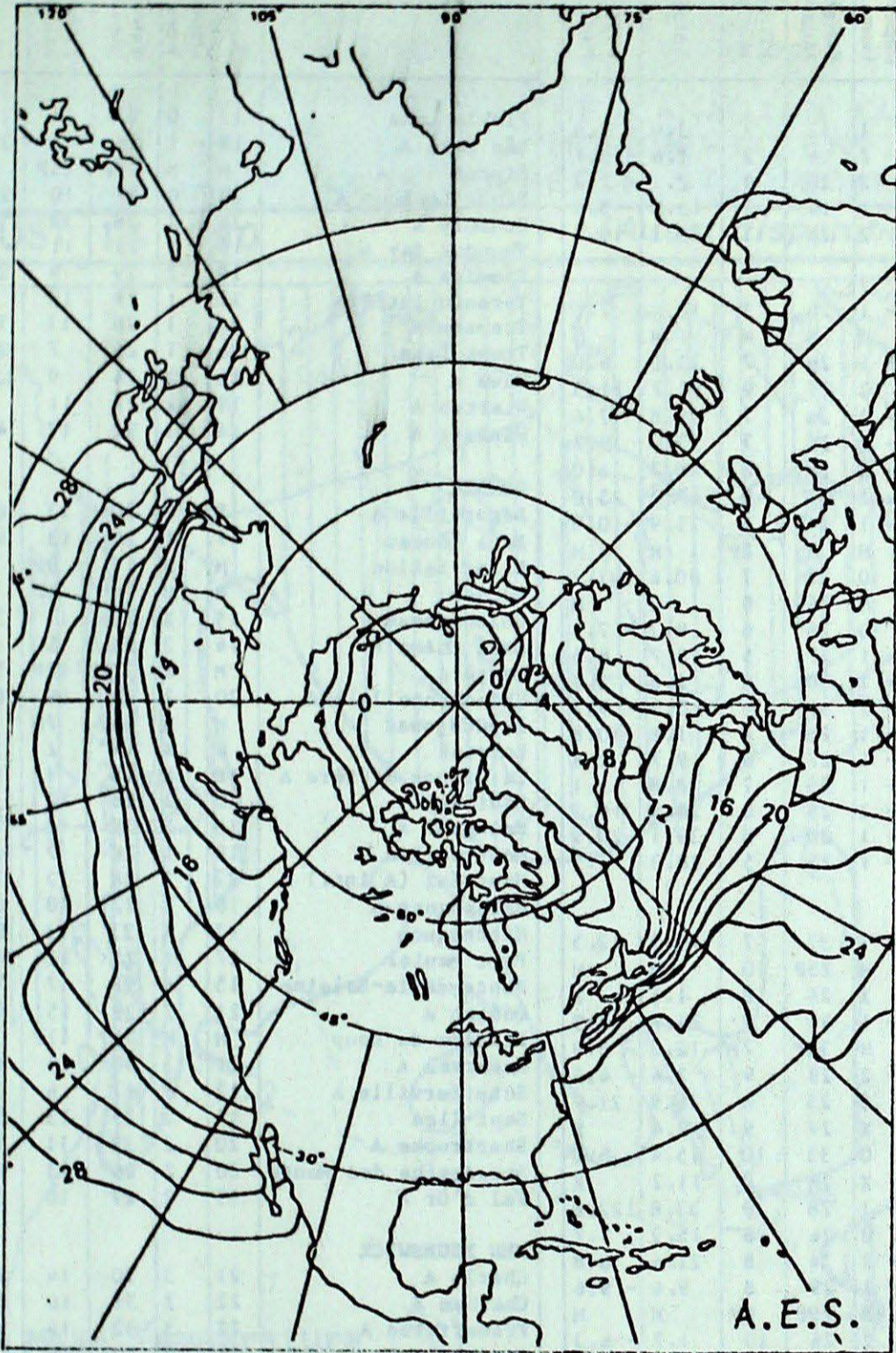
are now in need for dry, sunny conditions.

Temperatures remained below normal over the western half of the country. Over the Northwest Territories, however, positive 50 KPA height anomalies resulted in above-normal mean temperatures.

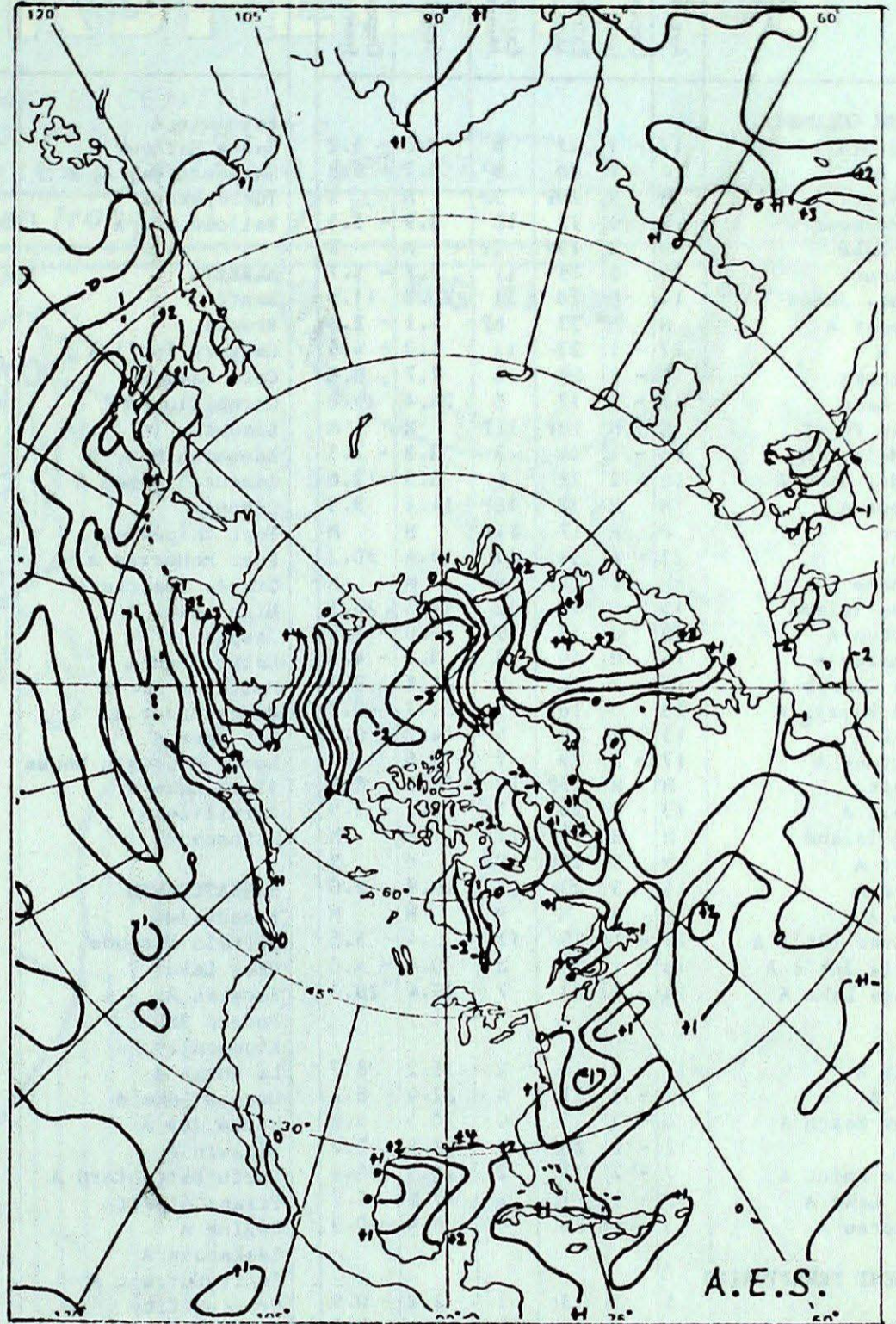
On the other hand, weak atmospheric mean ridging, together with a southerly flow of warm, humid air, brought above-normal mean temperatures to much of the eastern half of the country. Weather conditions continued to be unsettled and changeable, though, as weather systems and their associated frontal zones continued tracking eastwards across Québec and through the Atlantic Provinces.

Andy Radomski

SEA SURFACE TEMPERATURE



Mean Sea Surface Temperature
July, 1980



Sea Surface Temperature Anomalies
July, 1980

TEMPERATURE AND PRECIPITATION DATA FOR THE WEEK ENDING 0600 G.M.T. AUGUST 5, 1980

Table with 3 main columns for British Columbia, Alberta, and Quebec. Each column contains station names and their corresponding temperature and precipitation data for the week ending August 5, 1980. The data is organized into regional sub-sections like BRITISH COLUMBIA, YUKON, NORTHWEST TERRITORIES, ALBERTA, SASKATCHEWAN, MANITOBA, ONTARIO, QUEBEC, NEW BRUNSWICK, NOVA SCOTIA, PRINCE EDWARD ISLAND, and NEWFOUNDLAND.

P = extreme value based on less than 7 days X = no normal due to short period M = not available at press time