



Environment Canada / Environnement Canada

A WEEKLY REVIEW OF CANADIAN CLIMATE

Atmospheric Environment / Environnement atmosphérique

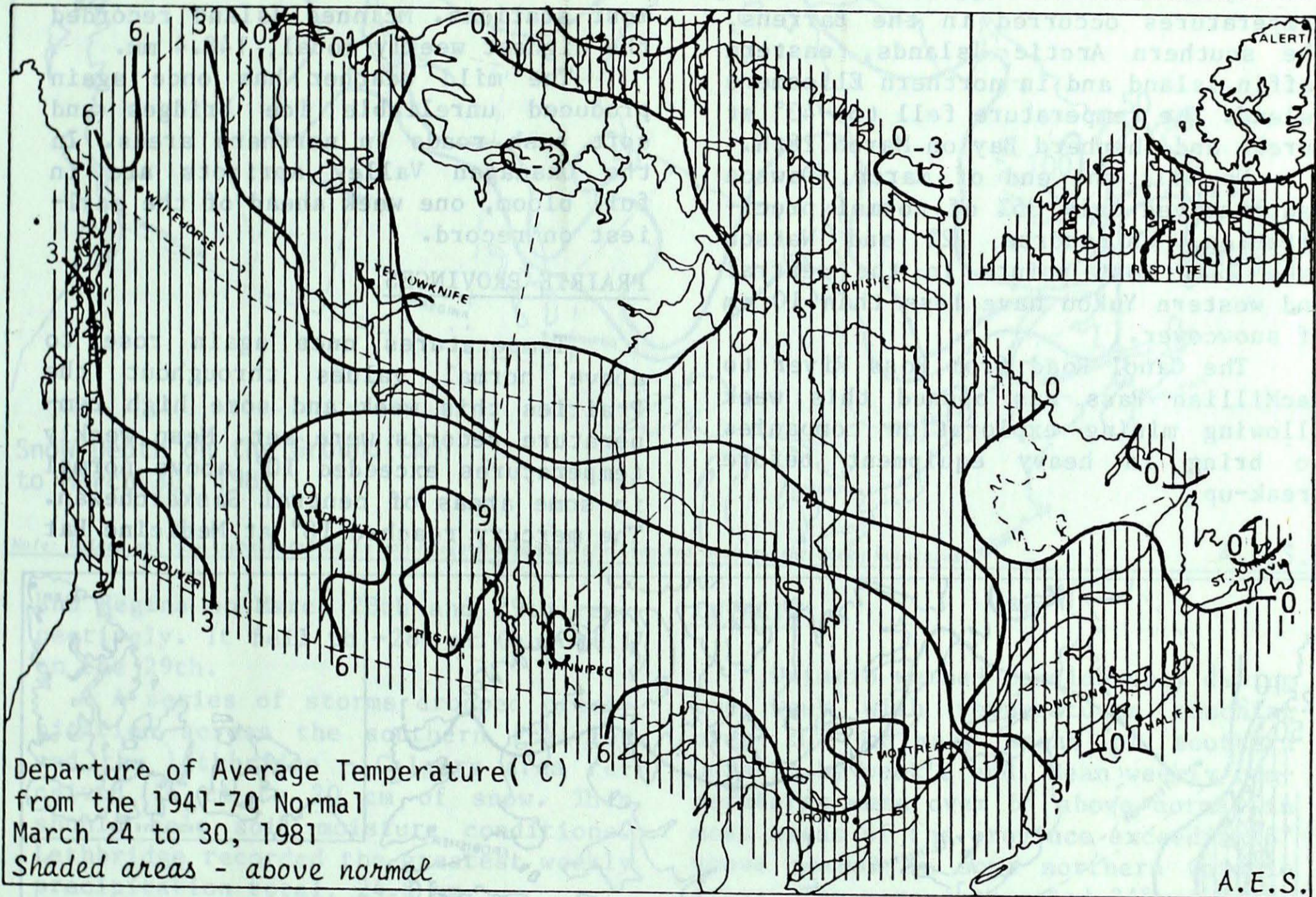
CLIMATIC PERSPECTIVES

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

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WEATHER HIGHLIGHTS FOR THE PERIOD - MARCH 24 TO 30, 1981

Mild weather greets the beginning of Spring

Most of the country enjoyed above normal mean temperatures for the first week of spring. Mean temperatures over most of southern Canada were more than 3° above normal with some areas of Saskatchewan exceeding 10° above normal.

The mild conditions brought apricots to full bloom in the Okanagan Valley, one week ahead of the earliest on record. The St. Lawrence Seaway opened on March 23rd, about one week ahead of normal.

Spring runoff across the prairies appears to be finished for the year. Runoff was below normal. Ground water levels are approaching their lowest recorded levels in ten years over most of the southern prairies.

The highest temperature of the week was 24° at Windsor, Ont. and the lowest -43° at Eureka and Shepherd Bay, N.W.T. The highest recorded weekly precipitation total was 148.4 mm at McInnes Island, B.C.

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

Mild air returned to the southern Mackenzie District while temperatures continued well above normal in the Yukon. Mean temperatures exceeded 6° above normal in the southwestern Yukon. The mercury reached 7° at Burwash and Watson Lake on the 26th and at Dawson and Mayo on the 27th. Below normal mean temperatures occurred in the Barrens, the southern Arctic Islands, eastern Baffin Island and in northern Ellesmere Island. The temperature fell to -43° at Eureka and Shepherd Bay on March 28th.

Up till the end of March, Dawson had received only 35% of normal precipitation, Whitehorse 12% and Watson Lake 22%. Most points in the central and western Yukon have less than 10 cm of snowcover.

The Canol Road from Ross River to MacMillian Pass was opened this week allowing mining exploration companies to bring in heavy equipment before break-up.

BRITISH COLUMBIA

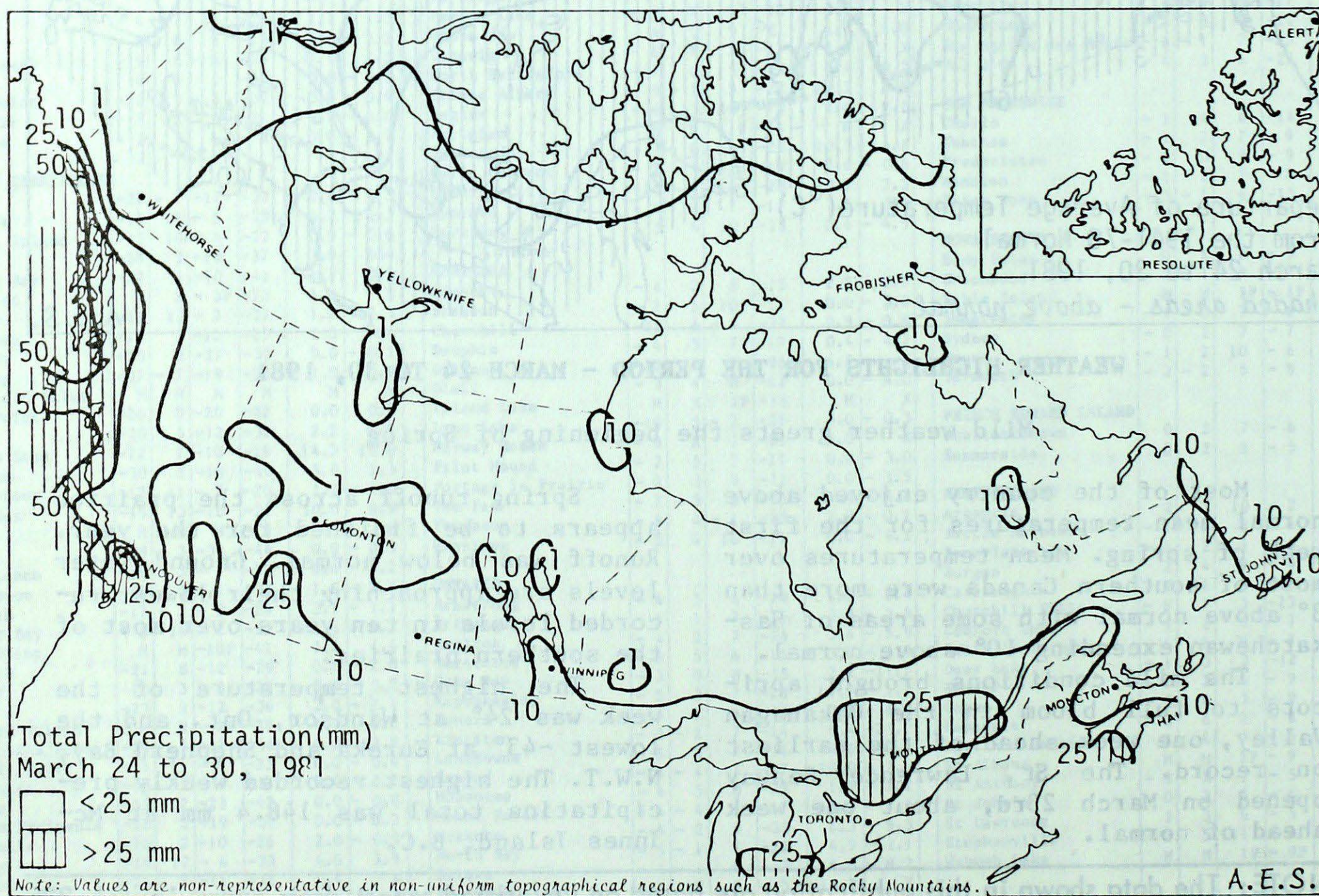
Mild air covered all regions this week. Mean temperatures varied from 1° above normal in southern areas to over 5° above normal in some northern areas. The mercury ranged between 20° at Lytton on the 26th to -10° at Fort Nelson on the 24th.

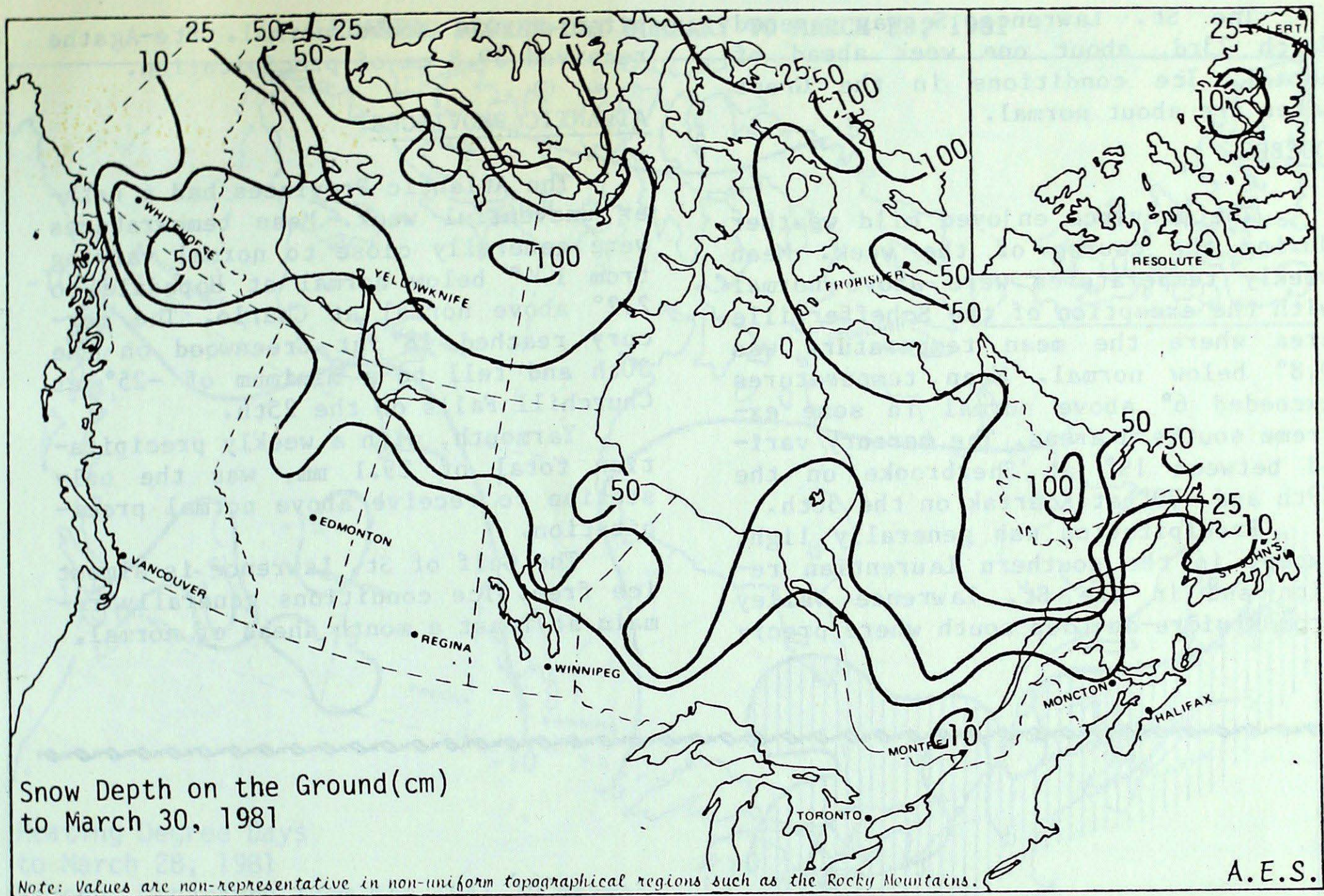
Precipitation was above normal at most stations. McInnes Island recorded the highest weekly total, 148.4 mm.

The mild weather has once again produced unreliable ice bridges and soft bush roads in northern areas. In the Okanagan Valley apricots are in full bloom, one week ahead of the earliest on record.

PRAIRIE PROVINCES

Temperatures once again rose to above normal values throughout the Prairies this week and some high temperature records were set. Mean weekly temperatures exceeded 10° above normal in some areas of central Saskatchewan. The mercury reached 18° at Medicine Hat





and Regina on March 28th and 29th respectively. It fell to -28° at Churchill on the 29th.

A series of storms dropped precipitation across the southern Prairies and the Lethbridge - Calgary area received 16 cm to 20 cm of snow. This should help soil moisture conditions. Lethbridge recorded the greatest weekly precipitation total, 24.8 mm.

The spring runoff appears to have finished by the end of February as very little snow remains on the plains area. The runoff was below normal and most areas report insufficient runoff to fill community dugouts and reservoirs.

Ground water levels are approaching the lowest recorded levels in the last ten years over much of the southern prairies. Soil moisture reserves are below normal in an area bounded by Calgary, Medicine Hat, Regina and Saskatoon.

Skiing in Jasper is still excellent and should be good for two to three more weeks.

ONTARIO

Ontario warmed considerably during the week with temperatures reaching over 20° in many areas of southern Ontario by week's end. Mean weekly temperatures were over 6° above normal in most areas of the province exceeding 8° above normal in some northern Ontario areas. The mercury reached 24° at Windsor on March 29th and fell to -17° at Trout Lake on March 26th.

Precipitation was generally light. The highest weekly total, 28.0 mm, was received at North Bay.

With the snowcover disappearing and little rain, forest fire officials are already looking at dry forest conditions that could be potentially very hazardous. On the positive side floods have been minimal and municipalities credit the mild February and March with saving them large amounts of money. Metro Toronto alone claims to have saved one million dollars in snow clearing costs.

The St. Lawrence Seaway opened March 23rd, about one week ahead of normal. Ice conditions in the Great Lakes are about normal.

QUÉBEC

The province enjoyed mild weather during the course of the week. Mean weekly temperatures were above normal with the exception of the Schefferville area where the mean temperature was 0.8° below normal. Mean temperatures exceeded 6° above normal in some extreme southern areas. The mercury varied between 19° at Sherbrooke on the 29th and -30° at Koartak on the 30th.

Precipitation was generally light except in the southern Laurentian region and in the St. Lawrence Valley from Rivière-du-Loup south where precipi-

itation was above normal. Ste-Agathe received 39.8 mm of precipitation.

ATLANTIC PROVINCES

The Atlantic Provinces had a rather uneventful week. Mean temperatures were generally close to normal varying from 1.4° below normal at Hopedale to 2.2° above normal at Charlo. The mercury reached 18° at Greenwood on the 30th and fell to a minimum of -25° at Churchill Falls on the 25th.

Yarmouth, with a weekly precipitation total of 29.1 mm, was the only station to receive above normal precipitation.

The Gulf of St. Lawrence is almost ice free. Ice conditions generally remain at least a month ahead of normal.

CLIMATIC PERSPECTIVES

Staff

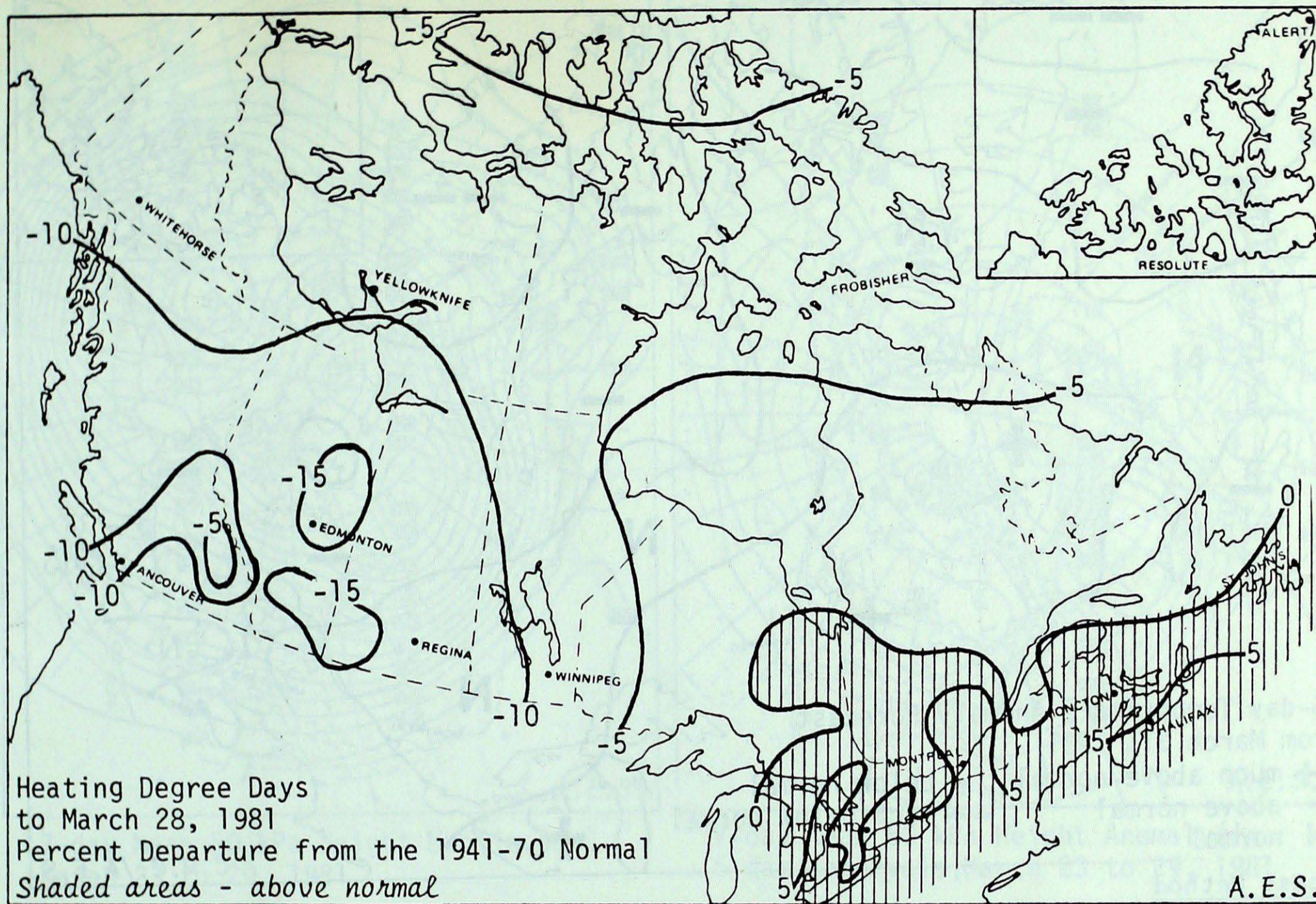
Editor:	Yves Durocher
Assistant Editor:	Bob Paterson
Technical Staff:	Fred Richardson, Andy Radomski
Graphics and Layout:	Bill Johnson, Debbie Allsopp
Word Processing:	Una Ellis

Correspondents

Terry Mullane,	(Ice Forecasting Central)
H.E. Wahl,	(Whitehorse)
Bill Prusak,	(Western Region)
Fred Lucifow,	(Central Region)
Brian 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)

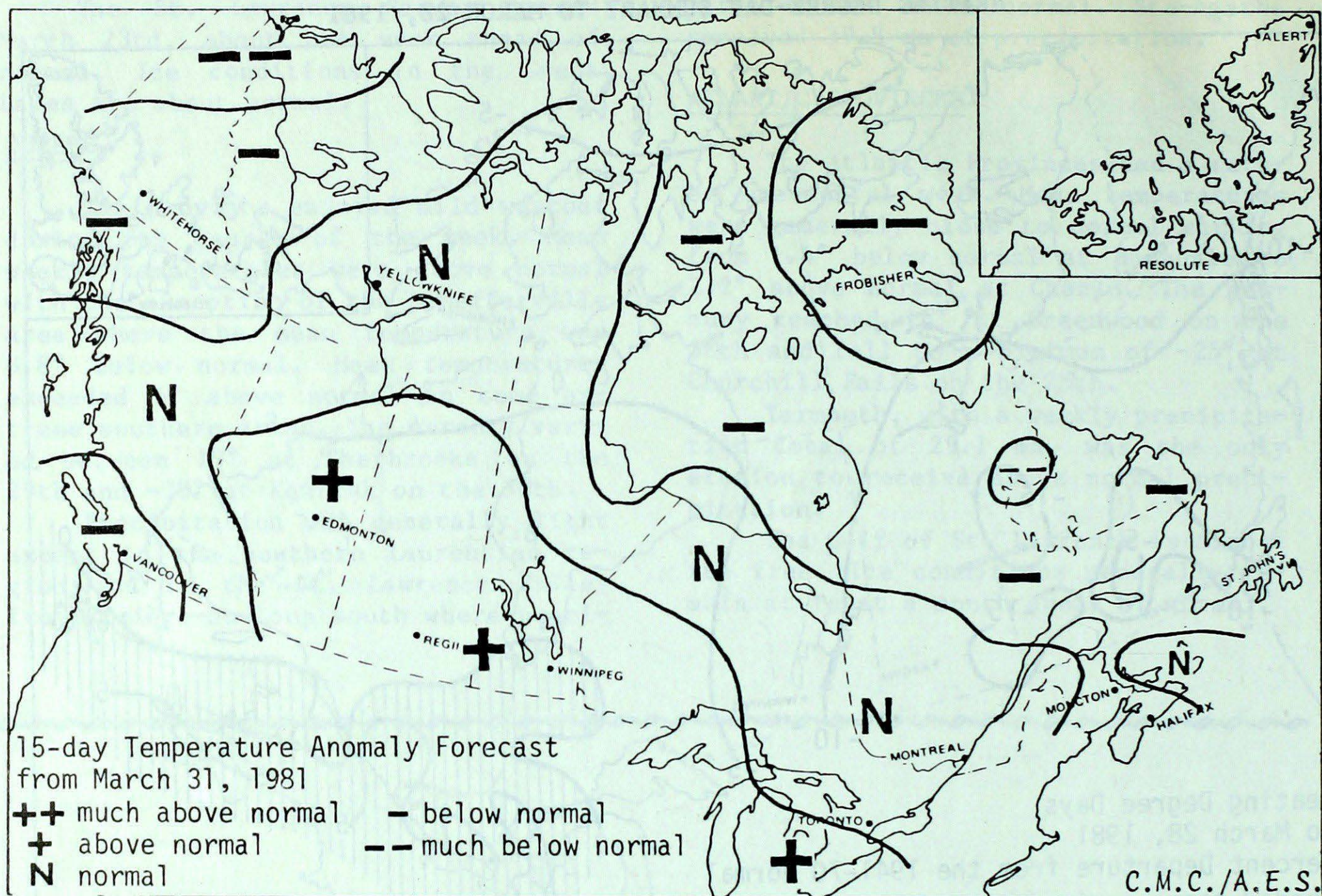
Telephone Inquiries (416) 667-4711/4906

HEATING DEGREE-DAY SUMMARY TO MARCH 28, 1981



STATION	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL
Resolute	1273.5	-112.5	9334.5	-403.5	96
Inuvik	1080.0	-123.0	7627.0	-636.0	92
Whitehorse	559.5	-171.5	5262.5	-497.5	91
Vancouver	285.0	-59.0	2225.0	-218.0	91
Edmonton Mun	473.5	-196.5	4034.5	-745.5	84
Calgary	453.5	-179.5	3726.5	-702.5	84
Regina	513.5	-240.5	4423.5	-661.5	87
Winnipeg	549.5	-197.5	4671.0	-402.0	92
Thunder Bay	595.0	-94.0	4670.0	-115.0	98
Windsor	473.0	-5.0	3246.5	163.5	105
Toronto	543.5	4.5	3673.5	222.5	106
Ottawa	549.0	-56.0	4187.0	159.0	104
Montreal	548.5	-33.5	4157.0	315.0	108
Quebec	594.0	-41.0	4556.0	282.0	107
Saint John, N.B.	559.5	-29.5	4015.5	163.5	104
Halifax	502.0	-29.0	3461.0	219.0	107
Charlottetown	530.5	-69.5	3810.0	132.0	104
St. John's, Nfld.	521.5	-55.5	3731.5	107.5	103

15 DAY TEMPERATURE ANOMALY FORECAST

Forecast Method

Analogue technique based on point prediction at 70 Canadian stations.

Temperature Scale

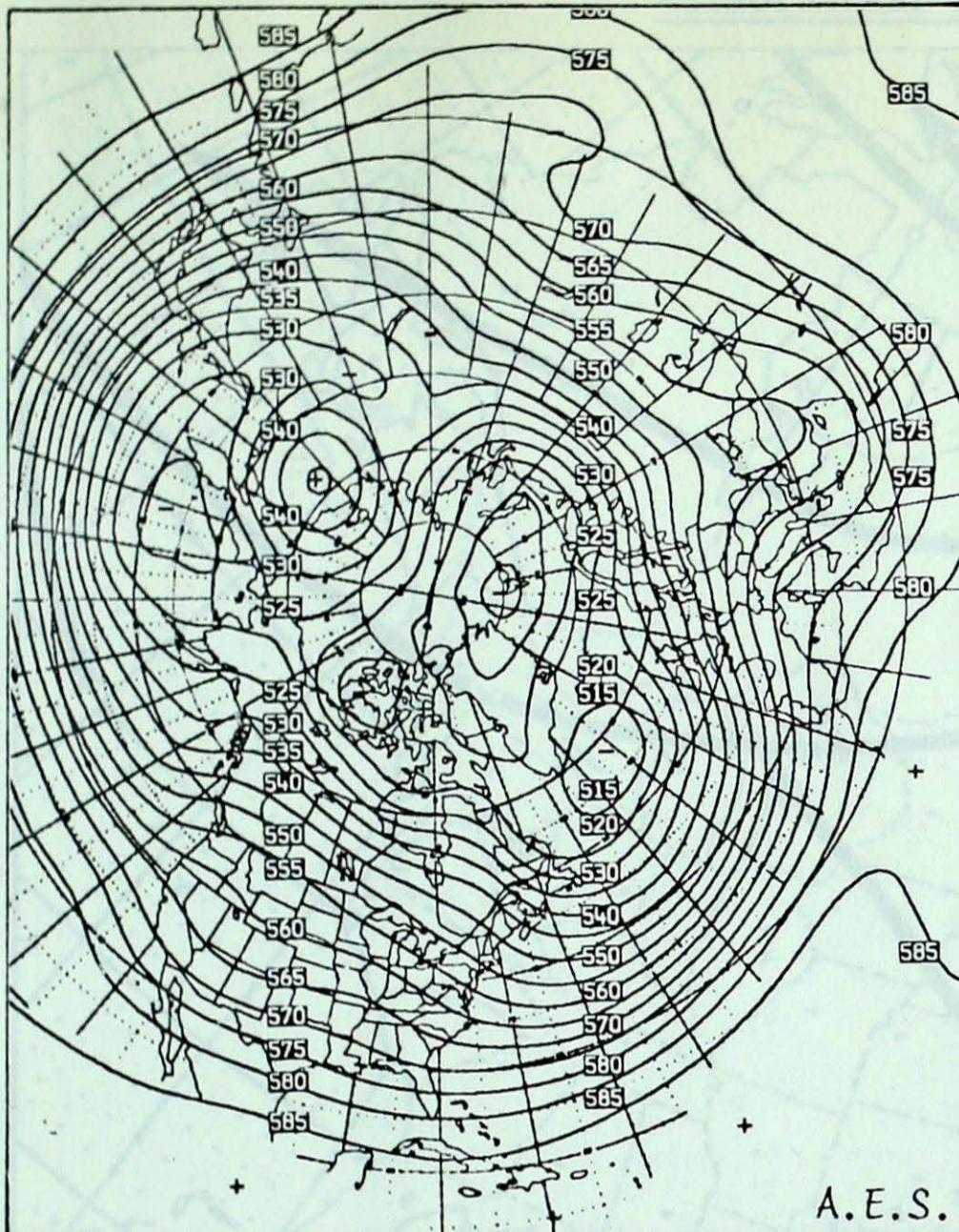
Each temperature class is designed to contain 20% of the historically observed 15 day means pertinent to specific location and time of year:

StationCurrent Temperature Anomaly Forecast

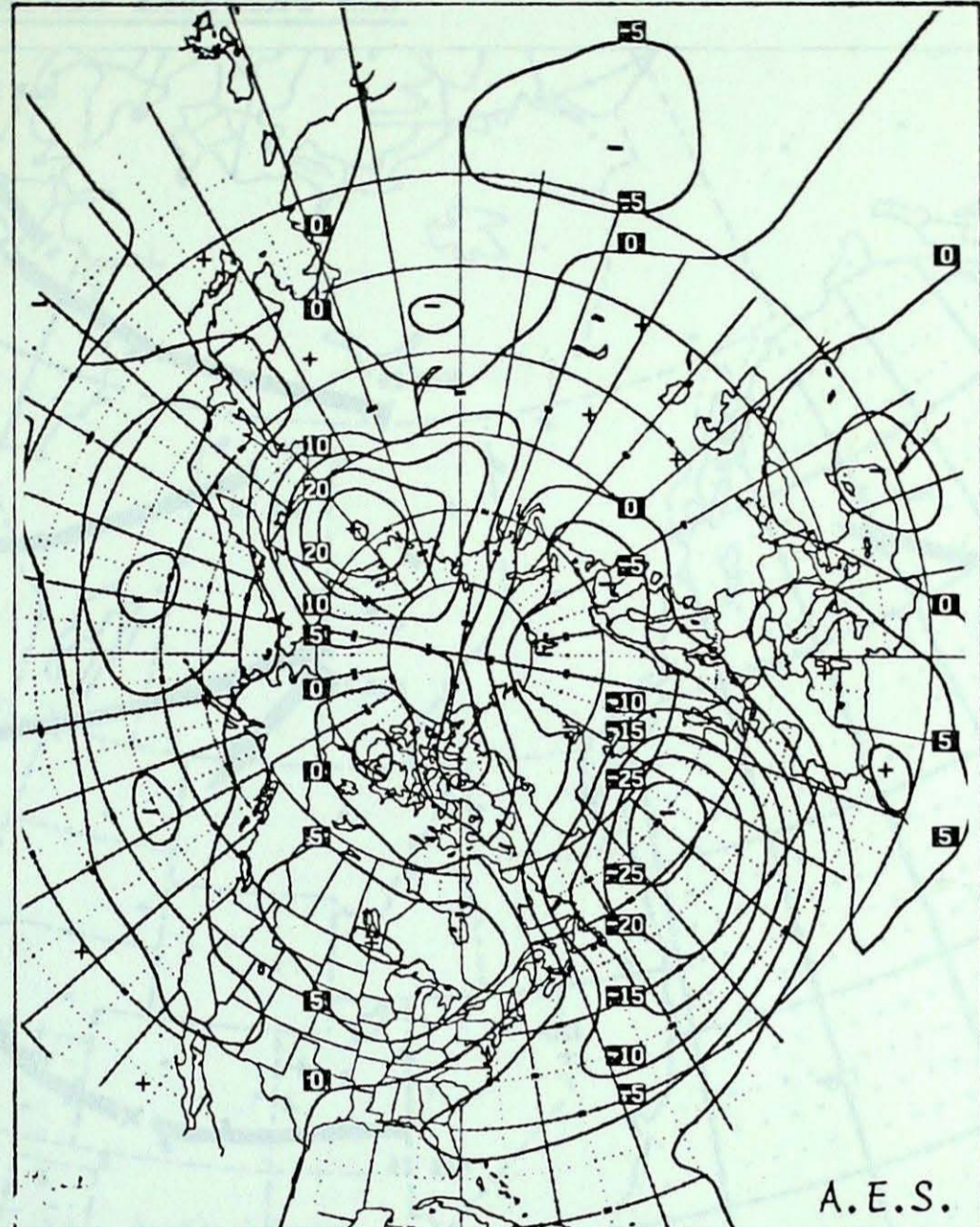
<u>Station</u>	<u>Current Temperature Anomaly Forecast</u>
Whitehorse	Below Normal From 0.8° to 2.8° below Normal
Victoria	Below Normal From 0.3° to 0.9° below Normal
Vancouver	Below Normal From 0.3° to 1.0° below Normal
Edmonton	Above Normal From 0.9° to 3.0° above Normal
Regina	Above Normal From 0.9° to 3.2° above Normal
Winnipeg	Above Normal From 0.9° to 3.0° above Normal
Thunder Bay	Above Normal From 0.6° to 2.1° above Normal
Toronto	Near Normal Within 0.6° of Normal
Ottawa	Near Normal Within 0.6° of Normal
Montreal	Near Normal Within 0.6° of Normal
Quebec	Near Normal Within 0.5° of Normal
Fredericton	Below Normal From 0.5° to 1.7° below Normal
Halifax	Below Normal From 0.4° to 1.4° below Normal
Charlottetown	Near Normal Within 0.5° of Normal
St. John's	Below Normal From 0.5° to 1.5° below Normal
Goose Bay	Below Normal From 0.8° to 2.7° below Normal
Frobisher Bay	Much Below Normal More than 3.9° below Normal
Inuvik	Much Below Normal More than 3.7° below Normal

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

Atmospheric Circulation



7-day Mean 50 kPa Height Map (in dam)
March 23 to 29, 1981



7-day Mean 50 kPa Height Anomaly (in
5 dam intervals) March 23 to 29, 1981

The mean 50 kPa upper circulation changed significantly this week. A zonal west-east circulation is now predominant. Height anomalies, with the exception of the Arctic and the Atlantic provinces, were above normal and mean temperatures corresponded.

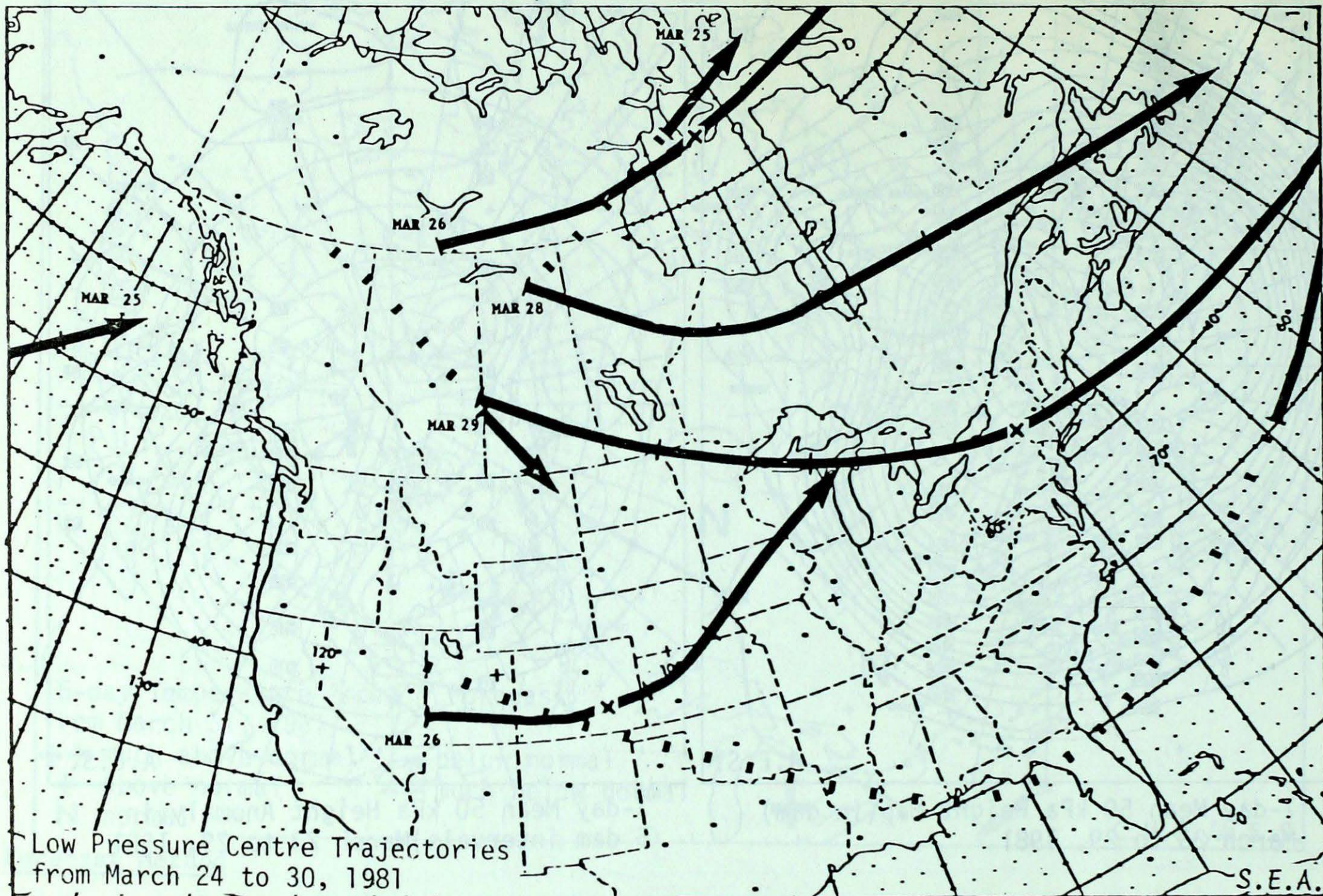
On a daily basis, vigorous atmospheric triggering pulses characteristic of spring crossed the continent in the upper flow resulting in large amplitude deflections moving eastwards; a pattern not depicted very well on a seven day mean height map due to averaging.

A relatively tranquil surface pressure pattern early in the period became rather complex. Low pressure systems from the Canadian prairies and especially the American mid-west converged upon southern Ontario, Québec and the Atlantic Provinces.

The cyclonic storm track has already started its annual migration northward. Cold Arctic air is also retreating but can still occasionally penetrate south. Low pressure systems are now frequently crossing the continent associated with strong intrusions of mild moist tropical air from the south.

When these two strongly contrasting airmasses interact they foster significant cyclonic development producing widespread falls of heavy precipitation. In addition, thunderstorms become more frequent in the southern regions of the country, occasionally accompanied by severe weather phenomena such as high winds and tornadoes.

LOW PRESSURE CENTRE TRAJECTORIES



Following the suggestions that were received, the previous week's trajectories will be added to the map provided that they persisted through the beginning of the current week. The portion of the trajectory covered during the previous week will be drawn as a dotted line.

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