Environment Canada

Atmospheric Environnement atmosphérique

THE CANADIAN CLIMATE CENTRE,

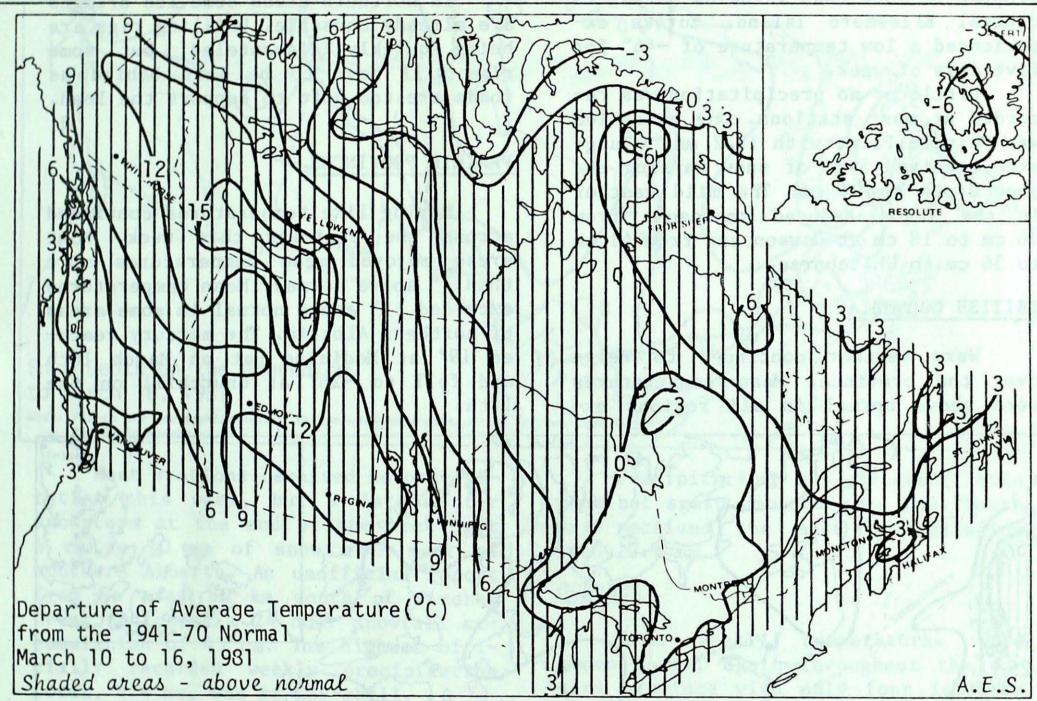
ATMOSPHERIC ENVIRONMENT SERVICE,

4905 DUFFERIN ST., DOWNSVIEW, ONTARIO M3H 5TM

MARCH 20, 1981

(Aussi disponible en français)

VOL.3 NO.11



WEATHER HIGHLIGHTS FOR THE PERIOD - MARCH 10 TO 16, 1981

Cold air infiltrates Ontario and Québec

A very cold airmass pushed temperatures to below normal values in southern Ontario and western Québec during the weekend while mean temperatures were more than 12° above normal over much of the prairies.

A local snowstorm which managed to miss all the official meteorological stations, where the weekly precipitation totals did not exceed 1 mm, dropped many centimeters of snow over southern Alberta. Unofficially, more

than 45 cm of snow was reported on the ground south of Pincher Creek. This snow will add to the soil moisture reserves in the region.

The mercury rose to its highest level of 20° at Abbotsford, British Columbia. Eureka, Northwest Territories saw the temperature drop to -46° for 5 of 7 days this week. The highest weekly precipitation total was 38.4 mm received at Gaspé, Québec.

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

Most of the Territories continued to enjoy above normal temperatures this week. Some areas of the upper Mackenzie enjoyed mean temperatures more than 16° above normal. The mercury reached 13° at Fort Smith on March 15th. An influx of cold air covered the central Arctic Archipellago and mean temperatures dropped to more than 7° below normal in central Ellesmere Island. Eureka experienced a low temperature of -46° for five days of week.

Little or no precipitation was recorded at most stations. One exception was Shingle Point with 18.2 mm. Tungsten received 5 cm of snow raising the snow depth to 95 cm. The mild weather in the Yukon reduced snowpacks from 26 cm to 18 cm at Dawson and from 41 cm to 36 cm to Whitehorse.

BRITISH COLUMBIA

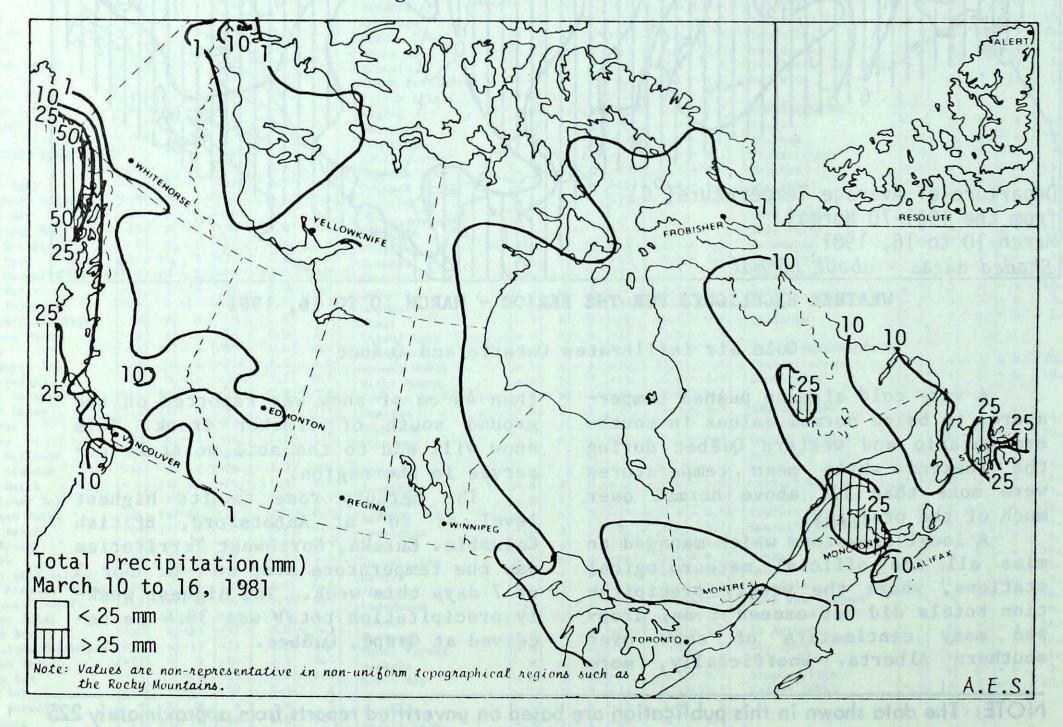
Warm weather continued to reign over the province. Mean temperatures were above normal in all regions exceeding 14° above normal in some areas of northern British Columbia. Numerous high temperature records were set. The mercury reached 20° at Abbotsford on March 12th and fell to -11° at Dease Lake on the same day.

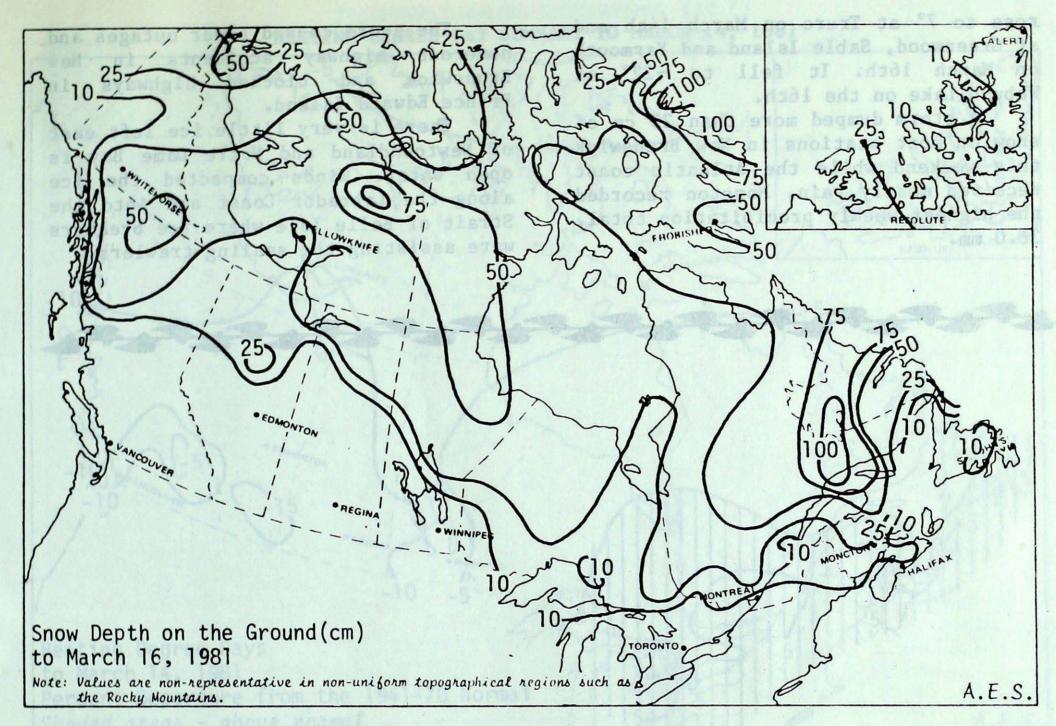
Weekly precipitation totals were well below normal at most stations. Cape St. James recorded 30.8 mm of precipitation.

In northern areas some ice bridges are already unusable. Drilling rigs are being quickly dismanteled, but some rigs will have to be left behind as roads are too soft to support the load.

PRAIRIE PROVINCES

Spring like temperatures continued across the prairies this week. Most areas enjoyed mean temperatures more than 7° above normal. Mean temperatures exceeded 15° above normal in some areas of northern Alberta. The mercury reached 19° at Medicine Hat on March 16th and fell to -26° at Churchill on the 13th.





Most stations received no precipitation this week, but a late winter snowstorm at the end of the week left 6 cm to 10 cm of snow over most of southern Alberta. An unofficial report from an area 60 km south of Pincher Creek indicates a 24 hour snowfall accumulation of 45 cm. The highest officially recorded weekly precipitation total, 4.4 mm, was at Churchill.

The storm caused near blizzard conditions in the Bow Island area of Alberta. Schools were closed in Taber where 10 cm to 15 cm of snow on the ground and 55 km/h winds were reported.

ONTARIO

Northern Ontario continued to receive above normal temperatures while temperatures in the south dropped into the minus teens over the weekend. As a result, mean weekly temperatures varied from 1.5° below normal in southern areas to more than 7° above normal in some areas of western Ontario. The high for the week was 15° at Windsor on the 15th; the low was -33° at Moosonee on the 14th.

Precipitation was frequent this week but again amounts were low. North Bay received the most precipitation with 22.4 mm.

QUÉBEC

Mean weekly temperatures were above normal again throughout the entire province with only four isolated exceptions. The temperature anomalies oscillated between 1° to 5° above normal in most areas. The mercury rose to 4° at Montréal on March 13th and fell to -39° at Poste-de-la-Baleine on the 15th.

Weekly precipitation totals were above normal at most stations in southern Québec. At Gaspé the weekly snowfall was 28.8 cm and the weekly precipitation total 38.0 mm.

ATLANTIC PROVINCES

Above normal temperatures were the rule throughout the Atlantic Provinces. They varied from near normal in southern Nova Scotia to more than 4° above normal in western Labrador. The mercury

rose to 7° at Truro on March 14th and at Greenwood, Sable Island and Yarmouth on March 16th. It fell to -22° at Wabush Lake on the 16th.

A storm dumped more than 25 cm of snow on most stations in New Brunswick this weekend while the Atlantic coast received mostly rain. Moncton recorded the highest weekly precipitation total, 36.0 mm.

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rule throughout the Atlantic Providees.

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dormal in western labrador. The mercury

The storm caused power outages and numerous highway accidents in New Brunswick and blocked highways Prince Edward Island.

There is very little ice left east of Newfoundland and Notre Dame Bay is open water. Winds compacted the ice along the Labrador Coast and into the Strait of Belle Isle where ice breakers were assisting the sealing trawlers.

taling this week, but a late winter sabwatorm at the end of the week left

of call to 10 cm of snow over most of

result, mean weekly temperatures varied from 1.5° below normal in southern areas to more than 7° above normal in some areas of western Ontario. The high

for the week was 15% at Windson on the

litte; the low was -if at Moosopee on

the 14th.



CLIMATIC PERSPECTIVES STATEMENTS THOUGH SOLE 20150 LOUIS 10010

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cially recorded weekly precipitation Yves Durocher total, 4.4 mm, was at Cherchill. Bob Paterson Fred Richardson, Andy Radomski Bill Johnson, Debbie Allsopp Una Ellis Alberta. Schools were closed in Tal

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HEATING DEGREE-DAY SUMMARY TO MARCH 14, 1981

to March 14, 1981

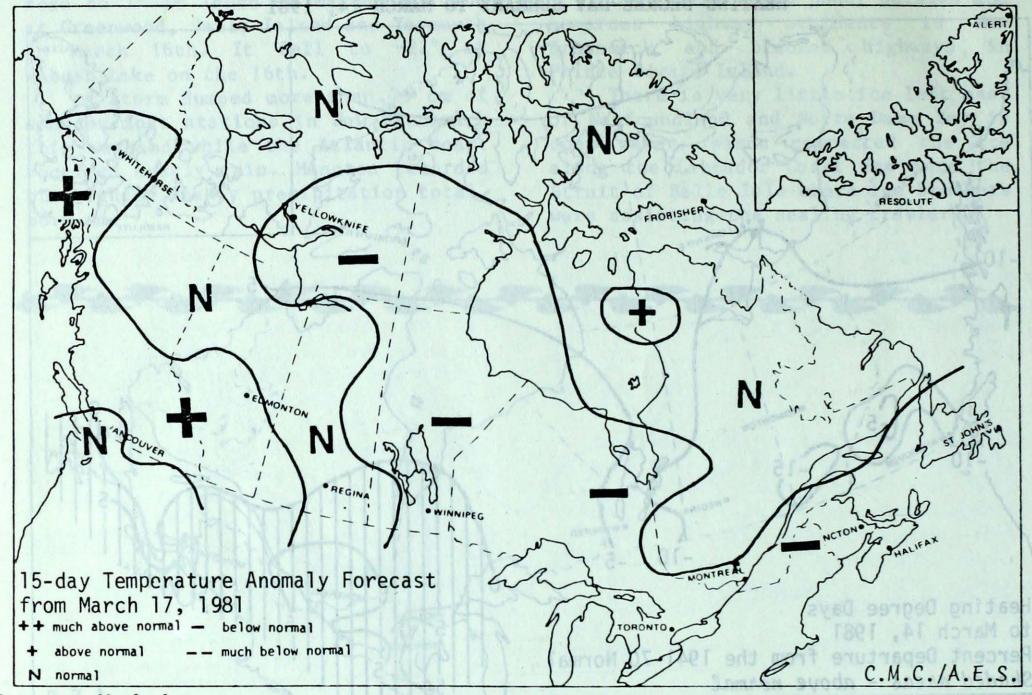
Shaded areas - above normal

Percent Departure from the 1941-70 Normal

STATION	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL
Resolute	659.5	-48.5	8720.5	-339.5	96
Inuvik	530.0	-94.0	7077.0	-607.0	92
Whitehorse	294.0	-93.0	4997.0	-419.0	92
Vancouver	156.5	-23.5	2096.5	-182.5	92
Edmonton Mun	237.5	-125.5	3798.5	-674.5	85
Calgary	230.5	-102.5	3503.5	-625.5	85
Regina	260.0	-154.0	4170.0	-575.0	88
Winnipeg	306.5	-104.5	4428.0	-309.5	93
Thunder Bay	319.0	-55.0	4394.0	-76.0	98
Windsor	245.0	-16.0	3018.5	152.5	105
Toronto	273.0	-20.0	3403.0	198.0	106
Ottawa	283.0	-47.0	3921.0	168.0	104
Montreal	280.0	-31.0	3888.5	317.5	109
Quebec	293.5	-50.5	4255.5	272.5	107
Saint John, N.B.	266.5	-48.5	3722.5	144.5	104
Halifax	246.0	-34.0	3205.0	214.0	107
Charlottetown	265.5	-51.5	3545.0	150.0	104
St. John's, Nfld.	256.0	-38.0	3466.0	125.0	104

A.E.S.

15 DAY TEMPERATURE ANOMALY FORECAST



Forecast Method

Analogue technique based on point prediction at 70 Canadian stations.

Temperature Scale

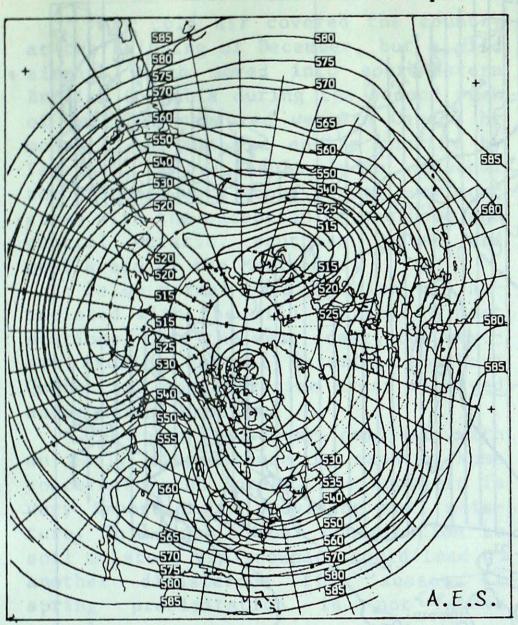
Each temperature class is designed to contain 20% of the historically observed 15 day means pertinent to specific location and time of year:

CUMULATIVE FROM 1941-70

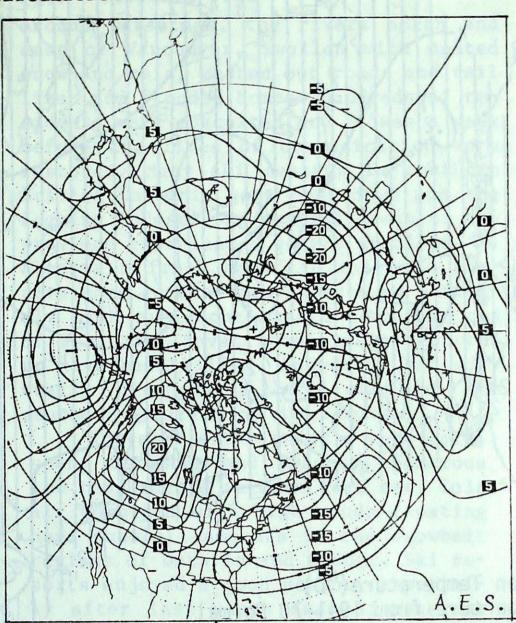
Station	C	Current Temperature Anomaly Forecast						
Whitehorse	Above Normal	4997	0.EFr	om 1.0	° to	3.5°	above	Normal
Victoria	Near Normal			thin 0				Vancouver
Vancouver	Near Normal	REXT		thin O				unit no monda
Edmonton	Above Normal							Norma1
Regina	Near Normal	1.0714	tW	thin 1	.1° d	f No	mal	non ten M
Winnipeg	Below Normal		Fr	om 1.0	° to	3.3°	below	Normal
Thunder Bay	Below Normal		Fr	om 0.7	° to	2.4°	below	Normal
Toronto (1)	Below Normal		Fr	om 0.6	° to	2.1°	below	Normal
Ottawa	Below Normal	ALED#CHI T	Fr	om 0.6	° to	2.2°	below	Normal Normal
Montreal	Below Normal	1.1588	Fr	om 0.6	° to	2.1°	below	Norma1
Quebec	Below Normal	2-8882	Fr	om 0.6	° to	2.1°	below	Normal
Fredericton	Below Normal	4255-5	Fr	om 0.6	° to	2.1°	below	Norma 1
Halifax	Below Normal		Fr	om 0.5	° to	1.6°	below	Normal
Charlottetown	Below Normal		Fr	om 0.6	° to	2.0°	below	Normal
St. John's	Below Normal	0.2926	Fr	om 0.5	° to	1.7°	below	Normal
Goose Bay	Near Normal	0.0000	Wi	thin 0	.9° c	f Nor	ma1	
Frobisher Bay	Near Normal		Wi	thin 1	.3° c	f Nor	mal	
Inuvik	Near Normal		Wi	thin l	.1° c	f Nor	ma1	

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

Atmospheric Circulation



7-day Mean 50 kPa height Map(in dam) March 9 to 15, 1981



7-day Mean 50 kPa Feight Anomaly (in 5 dam intervals) March 9 to 15, 1981

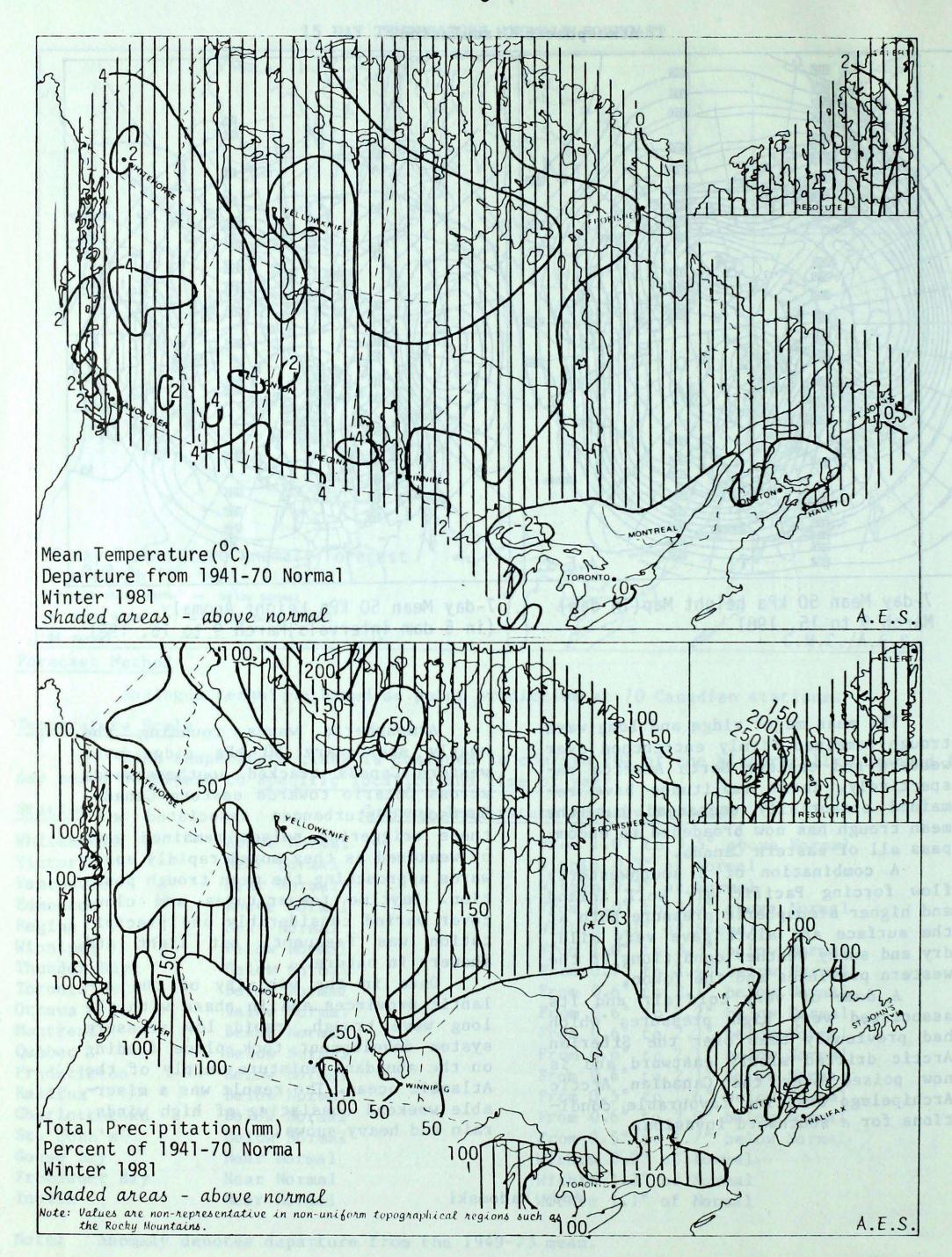
The mean major ridge and long wave trough remained firmly entrenched over western and eastern North America respectively. Their amplitudes have remained essentially unchanged but the mean trough has now broadened to encompass all of eastern Canada.

A combination of a southwesterly flow forcing Pacific air well inland and higher atmospheric pressure both at the surface and aloft gave very mild, dry and sunny weather conditions to the western provinces and the Yukon.

A dome of very cold air and its associated very high pressures which had previously been over the Siberian Arctic drifted slowly eastward and is now poised over the Canadian Arctic Archipelago awaiting favourable conditions for a southward invasion.

Atmospheric waves rounding the nearly stationary 50 kPa ridge over western Canada tracked southeastwards across Ontario towards eastern Canada. Surface disturbances associated with these triggering pulses remained weak or weakened as they moved rapidly eastwards approaching the mean trough position. Daytime temperatures and cloud cover varied considerably and precipitation was frequent, but light and showery in nature.

Once in the vicinity of the Atlantic provinces and in phase with the long wave trough, rapid low pressure system development took place feeding on the abundant moisture supply of the Atlantic ocean. The result was a miserable weekend consisting of high winds, rain and heavy snows.



The winter of December 1980 - February 1981

Very cold air covered the country at the beinning of December, but a mild airmass which moved into southwestern British Columbia during the second week of December captured western Canada by month's end and the entire country by February. As a result, mean seasonal temperatures were above normal over most areas with the exception of southern and central Ontario, southern Québec and most areas of the Maritimes.

Below normal precipitation was associated with the mild weather at most stations. Only the west coast, the western Arctic, central Ontario, southern Québec and some Maritime areas received above normal amounts.

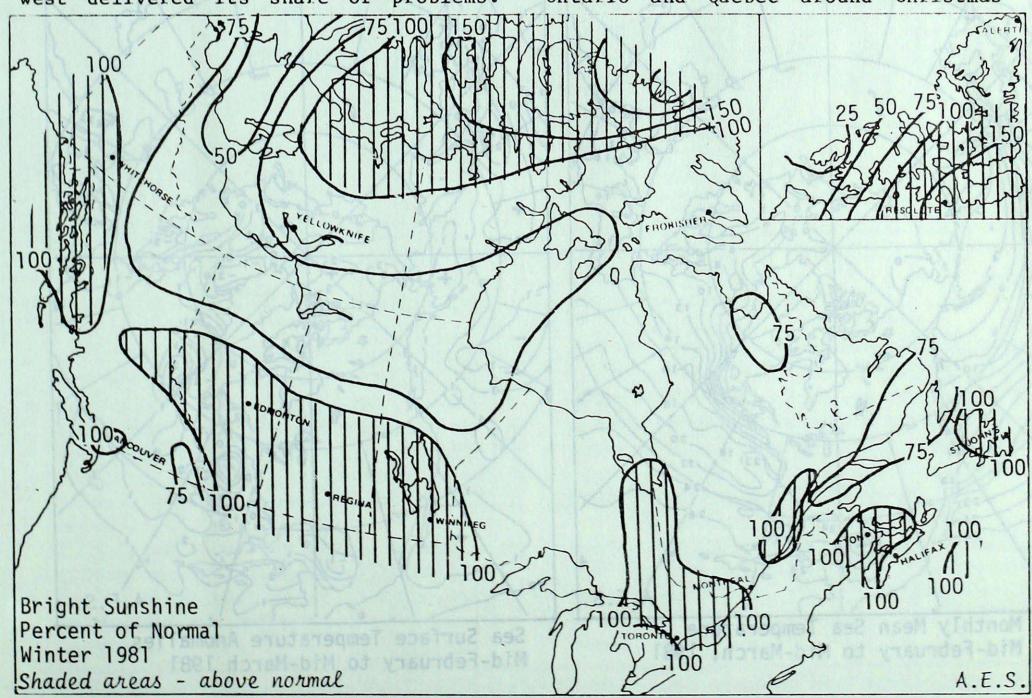
The poor snowcover combined with an early disppearance is causing some concern for the forest. The snowmelt is very important in providing soil moisture. This year's poor contribution to soil moisture via snowpack could lead to fire season another disasterous precipitation is not above spring normal.

The mild weather enjoyed by the west delivered its share of problems.

Around Christmas, the rivers north and east of Vancouver, swollen with melted snow and rain, washed out roads and rail lines and flooded homes. Hundreds of residents were evacuated and it was a week before the lines of communication were restored. Many ski resorts in southern British Columbia were shut down and the logging industry in central areas of the province experienced severe problems. In Alberta a fresh snowfall and mild temperatures combined to produce an extremely high avalanche hazard near the end of February. Seven people were reported to have been killed. Snowcover had virtually disappeared from most of the southern prairies by mid February.

The east experienced a very cold, sunny December and January. Numerous low temperature records were set. Cold air combined with high winds creating huge snowfall amounts in the snowbelt regions of Ontario and Québec. Ski resorts enjoyed a good season, especially after last years near disasterous holiday period.

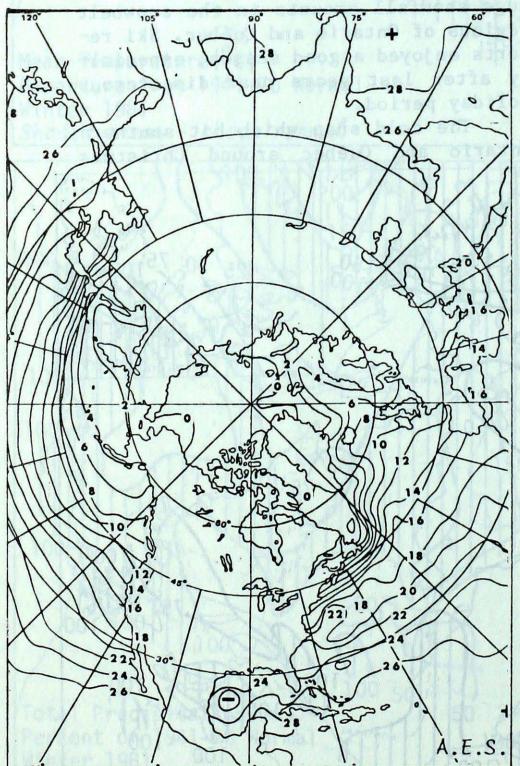
The cold snap which hit southern Ontario and Québec around Christmas



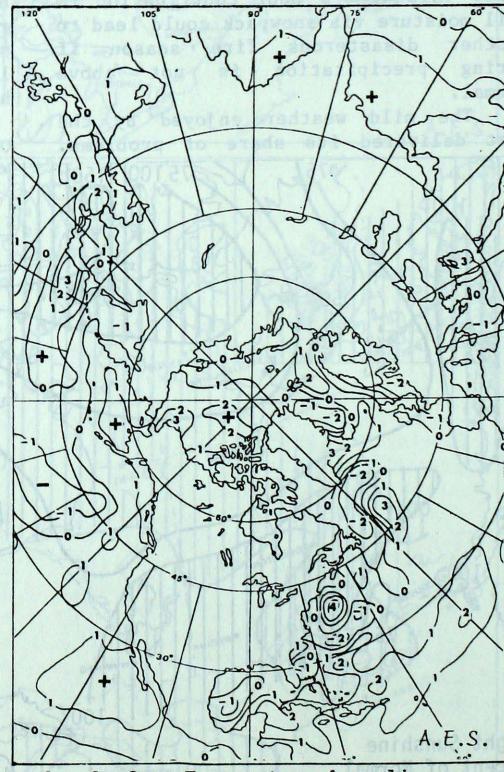
killed the buds on some decorative trees; they will be without their colourful foliage this spring. Some fruit trees in the Niagara peninsula were also affected at that time. The real threat to fruit growers in southern Québec and Ontario came at the end of February when weekly mean temperatures rose more than 20° above normal in the last two weeks of the month. Many trees started to come out of their dormancy state. This raised the fear that a severe cold snap in the following weeks could have ruined the entire crop due to bud kill. However, temperatures returned to normal at the end of February. This very warm weather also caused a sudden disppearance of the snowcover resulting in river flooding. Several municipalities in southern Québec and Ontario were flooded and damages amounted to several million dollars.

This winter will be long remembered by Maritimers as five major storms occurred during the first 23 days of the year. The Annapolis Valley was particularly hard hit as schools and businesses were closed for days. One community was virtually isolated. Transportation was slow and dangerous as icy roads created hazardous driving conditions.

SEA SURFACE TEMPERATURE



Monthly Mean Sea Temperature Mid-February to Mid-March, 1981



Sea Surface Temperature Anomalies Mid-February to Mid-March 1981

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Abbotsford	Station	Average	Departure from Normal	Extreme	Extreme Minimum	Total	Departure from Normal
Alert Bay 9		9	4	20	0	18.0	-10.7
Bull Harbour 7	Alert Bay		1.60	1			-11.0 X
Cape Scott	Bull Harbour	7	2	13	1	13.4	-17.7 X
Castlegar	Cape Scott	8	2	12	4	27.3	-41.5
Crambrook 5		6	3	18	- 5	6.9	-14.7
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Port Hardy	McInnes Island	8	- 3	12	4	14.1	-42.9
Prince George Prince Rupert Prince Pr		7	3	13	0	6.2	-23.5
Quesnel	Prince George				- 3	23.0	
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Coral Harbour -25 1 -12 -36 0.9 -0. Dewar Lakes -22 7 -13 -29 0.4 0. Ennadai M M M -29 M Eureka -43 -7 -39 -46 0.0 -0. Fort Reliance -12 10 -2 -21 0.6 -1. Fort Simpson 1 17 12 -12 1.2 -3. Fort Smith 0 16 13 -13 0.0 -3. Frobisher Bay -19 5 -6 -26 4.9 2. Gladman Point M M -19P -41 0.0 0. Hall Beach -29 2 -13 -38 2.7 1. Hay River -1 16 11 -12 0.0 -4. Inuvik -18 9 -1 -28 5.6 2.	Contwoyto Lake	М	M	-10P	-32P	M	M 1.7
Ennadai Eureka Fort Reliance Fort Simpson Fort Smith Frobisher Bay Gladman Point Hall Beach Hay River Inuvik M M M — 29 M — 0.0 — 0. M M M — 29 M — 0.0 — 0. M M M — 29 M — 0.0 — 0. M M — 12 — 12 1.2 — 3. M M M — 12 — 12 1.2 — 3. M M — 19 — 12 1.2 — 3. M M — 19 — 12 1.2 — 3. M M — 19 — 12 1.2 — 3. M M — 19 — 34 0.0 — 3. M M — 19 — 34 0.0 — 0. M M — 19 — 34 0.0 — 0. M M — 19 — 34 0.0 — 0. M M — 19 — 34 0.0 — 0. M M — 19 — 1 — 28 5.6 — 2.	Coral Harbour	-25	1	-12	-36	0.9	- 0.5
Fort Reliance Fort Simpson Fort Smith Frobisher Bay Gladman Point Hall Beach Hay River Inuvik -12 10 -2 -21 0.6 -1. 17 12 -12 1.2 -3. 0.0 -36 -26 4.9 26 -6 -26 4.9 27 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	A STATE OF THE PARTY OF THE PAR	M	М	М	-29	М	M
Fort Smith				- 2	-21	0.6	- 1.5
Frobisher Bay Cladman Point M M -19P -41 0.0 0. Hall Beach -29 2 -13 -38 2.7 1. Hay River -1 16 11 -12 0.0 -4. Inuvik -18 9 -1 -28 5.6 2.							
Hall Beach Hay River	Frobisher Bay	-19	5	- 6			2.1
Inuvik -18 9 - 1 -28 5.6 2.	Hall Beach	-29	2	-13	-38	2.7	1.0
	Inuvik	-18	9	- 1	-28		2.1
Lady Franklin Point M M -17 -36P 0.0 - 1.	Lady Franklin Point	M	M	-17	-36P	0.0	- 1.2
Mackar Inlet -29 1 -15 -38 1.0 0.	Mackar Inlet	-29	1	-15	-38	1.0	0.4
Nicholson Peninsula -21 6 - 4 -27 0.0 - 0.		-21	6	- 4	-27	0.0	- 0.6
Norman Wells -8 12 6 -20 4.6 2. Pully Bay -31 0 -17 -38 0.0 -0.	Norman Wells	-31	0	-17	-38	0.0	
Pond Inlet	Pond Inlet	м	X	М	M	M	X
Resolute -34 - 3 -22 -41 0.6 - 0.		-34	- 3	-22	-41	0.6	- 0.2

ITUN DATA FOR THE	_	-	oture			o. (mm)	7 1
decoractue		7		F. D. D.	L.B.	- T	1
Station	Average	Departure from Normal	Extreme	Extreme Minimum	Total	Departure from Normal	
Sachs Harbour Shepherd Bay Tuktoyaktuk Yellowknife	-22 -35 -20 - 8	7 - 4 7 11	-11 -20 - 7 2	-33 -43 -25 -20	0.0 0.0 0.0 0.0		
ALBERTA Banff Calgary Cold Lake Coronation Edmonton Intl Edmonton Mun Edmonton Namao Edson Fort Chipewyan Fort McMurray Grande Prairie High Level Jasper Lethbridge Medicine Hat Peace River Red Deer Rocky Mountain House Slave Lake Vermilion Whitecourt	M M 2 3 3 3 5 4 3 M 5 0 2 3 M 6 1 4 3 1 1 4	M M 12 12 12 13 12 7 M 15 10 12 7 M 11 11 12 8 6 11 12	A CONTRACTOR OF THE PARTY OF TH	- 7 - 7P - 9 - 5 - 3 - 4 - 8 - 15P - 6 - 9 - 11 - 7 - 6 - 12 - 5 - 8 - 11 - 11 - 6	M 0.6 0.0 2.0 2.0 2.0 0.0 0.0 2.6 0.0 0.0 0.5 0.0 0.8	- 1.4 - 3.0 - 2.0 - 2.8 - 2.9 - 4.3 - 3.3 - 7.6 - 2.4 M - 5.0 - 4.4 - 3.2 - 5.2 - 4.7	
SASKATCHEWAN Broadview Buffalo Narrows Cree Lake Estevan Hudson Bay Kindersley La Ronge Meadow Lake Moose Jaw Nipawin North Battleford Prince Albert Regina Rockglen Saskatoon Swift Current Uranium City Wynyard Yorkton	3 3 - 1 4 M 4 2 0 5 1 - 1 2 3 M 3 M - 4 3 3	14 12 X 12 M 13 12 X 13 X 10 14 13 X 14 M 13 14 14 14	13 10 17 11P 16 12 9 16 10 10 12 16 16P 15 14P 7	- 6 - 5 -16 - 7 - 8 - 4 - 9 -14 - 7 -12 -10 - 11 -10 - 7 - 6 - 5P - 15 - 8	M 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 M 0.0	M - 3.7 - 3.4 X - 3.7 X - 4.1 - 4.1	
MANITOBA Bissett Brandon Churchill Dauphin Gillam Gimli Island Lake Lynn Lake Norway House Pilot Mound Portage la Prairie The Pas Thompson Winnipeg	- 1 3 -18 2 -13 0 - 6 - 6 - 6 2 2 - 1 - 7	6 13 3 13 X 11 X 7 X 11 11 12 6 11	12 14 - 5 13 1 12 7 9 9 13 14 8 7	-14 - 7 -26 - 7 -25 -10 -18 -21 -19 - 6 - 8 -11 -21 - 8	0.0 4.4 0.0 1.6 0.0 M 0.4 0.0 0.0	- 5.9 X - 3.9 X - 2.1 X - 3.4 - 6.2 - 4.3 - 3.5	,
ONTARIO Armstrong Atikokan Earlton Geraldton Gore Bay Kapuskasing Kenora Kingston Lansdowns London Moosonee Mount Forest Muskoka North Bay Ottawa Petawawa Pickle Lake Red Lake	- 7 - 5 M - 9 - 4 -10 - 1 - 2 -11 - 2 -15 - 5 M - 3 - 6 - 7 - 3	5 3 M 2 1 0 7 0 2 0 - 1 - 1 M - 1 1 X 5 7	2 P	-22 -15 -23P -25 -18 -25 -12 -10 -27 -12 -33 -17 -18P -23 -14 -20 -19	M 2.0 M 5.4 5.6 13.4 0.0 M 6.6 6.4 4.6 M M 22.4 11.6 13.2 1.6 0.0	M - 3.7 - 3.6 3.7 - 6.1 M 1.0 -10.5 - 4.1 M 7.8 - 3.4 X - 7.4	

10	mper	ature	Precip. (mm)		
Average	Departure from Normal	Extreme	Extreme Minimum	Total	Departure from Normal
- 4 - 7 - 3 -10 - 2 - 1 -13 - M - 3	5 0 4 0 0 0 3 X	1 9 8 2	-10 -14 -23 -13 -27 -13 -11 -29 -23P -14 - 7	M 0.2 13.0 0.8 12.8 1.0 3.0 7.2 M 5.2 1.8	M - 7.5 6.0 - 8.7 3.1 -16.8 -13.5 2.2 X - 7.7 -11.9
M -13 -12 - 4 - 2 -19 M -19 - 7 M - 5 M - 3 -16 - 3 -21 - 5 M - 8 -12 - 5	M M 7 M 3 2 M M O M 1 M 4 O 5 3 O M 1 5 3	2 - 1P 2 4P 1 - 2 1 - 5 2 0P 1 - 3	-14 -10 - 9 -30 - 9 -39 -17 -12 -21 -25	4.0 29.1 25.0 12.5	- 9.6 - 3.6 - 14.4 M X 9.0 5.2 X 4.7 X - 0.2 - 10.8 - 2.6 1.7 5.9 0.1 - 5.4 M - 6.9 21.2 8.9 1.2
M - 4 - 3 - 2 - 2	M 3 2 2 2 2	- 2P	-30 -15	M 29.5 31.1 22.4 36.0	11.7 7.5 3.1
- 1	M 2	5P 5	- 5 - 5	14.8 19.0 15.6 M	X -13.9 -10.1 -10.7 -15.2 M - 7.1
- 2 - 1	3	5 4	- 9 - 9		-12.2 - 0.9
- 2 - 4 -10 - 2 - 2	2 5 4 4 3	3 2 5 1 4 2 3	- 4 - 6 -13 -21 - 6 - 8 -12	18.0 13.9 15.2 15.4 9.2 14.8	
	0 - 4 - 7 - 3 - 10 - 2 - 1 - 13 - 12 - 2 - 19 - 19 - 7 - 5 - 8 - 12 - 5 - 8 - 12 - 5 - 8 - 12 - 2 - 2 - 3 - 1 - 1 - 10 - 2 - 2 - 2 - 2 - 3 - 1 - 1 - 12 - 2 - 2 - 2 - 2 - 2 - 2 -	0 1 5 7 0 4 7 7 0 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7	0 1 10 - 4 5 9 - 7 0 3 - 3 4 10 - 10 0 1 - 2 0 9 - 1 0 8 - 1 3 2 - 1 15 - 7 1 2 - 5 3 2 - 7 1 2 - 5 3 2 - 7 1 2 - 5 3 2 - 7 1 2 - 7 2 - 4 3 2 - 12 7 2 - 4 4 1 - 19 M - 5 - 7 0 2 - 19 M - 6P - 19 M - 5 - 7 0 2 - 19 M - 1P - 5 1 2 - M M - 1P - 5 1 2 - M M - 1P - 5 0 2 - M M - 2P - 8 1 1 - 12 5 - 3 - 5 3 1 - 1 2 5 - 3 - 5 3 1 - 1 3 3 - 1 1 3 - 1 7 7 8 9 - 7 0 0 P - 8 1 1 3 - 8 - 2 1 - 9 M - 2P - 4 3 2 - 3 2 5 - 2 2 4 - 2 2 3 - 3 1 3 - 1 7 7 8 9 - 1 7 9 9 - 4 3 2 - 5 3 1 3 - 5 1 7 9 - 7 0 0 P - 8 1 1 7 7 P - 8 M - 2P - 4 3 2 - 5 3 1 3 - 1 7 7 P - 7 M M - 2P - 4 3 2 - 5 5 7 0 1 7 7 P - 2 3 5 7 0 1 7 7 P - 3 4 4 7 1 P - 1 2 4 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	0 1 10 -10 - 4 5 9 -14 - 7 0 3 -23 - 3 4 10 -13 -10 0 1 -27 - 2 0 9 -13 - 1 0 8 -11 - 13 3 2 -29 - M X 4P -23P - 3 1 6 -14 2 1 15 - 7 - 7 1 2 -21 - 5 3 2 -16 - M M 1 -8P - 13 M - 2 -30 - 12 7 2 -20 - 4 M 2 -12 - 2 3 1 -5 - 19 2 - 7 -31 - M M - 6P -26P - 19 M - 5 -33 - 7 0 2 -19 - M M - 1P -31P - 5 1 2 -14 - M M - 1P -31P - 5 1 2 -14 - M M - 1P -31 - 5 1 2 -14 - 5 1 3 -20 - 8 - 2 1 -9 - 21 - 3 - 5 -39 - 5 0 2 -17 - M M OP -12 - 8 1 1 -21 - 12 5 - 3 -25 - 5 3 1 -14 - 5 1 3 -20 - 8 - 2 1 -20 - 8 M - 2P -30 - 4 3 2 5 -13 - 2 2 4 -11 - 2 3 -10 - 1 X 3 - 6 - 1 7 - 8 - 1 3 -10 - 1 X 3 - 6 - 1 7 - 8 - 7 - 6 - 1 7 - 8 - 7 - 6 - 1 7 - 8 - 7 - 6 - 1 7 - 8 - 7 - 6 - 1 7 - 7 - 2 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	0 1 10 -10 M 0.2 - 7 0 3 -23 13.0 - 3 4 10 -13 0.8 -10 0 1 -27 12.8 - 2 0 9 -13 1.0 - 1 0 8 -11 3.0 - 1 0 8 -11 3.0 - 1 0 8 -11 3.0 - 1 0 8 -11 5.2 - 2 1 15 - 7 1.8 - 7 1 2 -21 3.7 - 5 3 2 -16 8.5 - 1