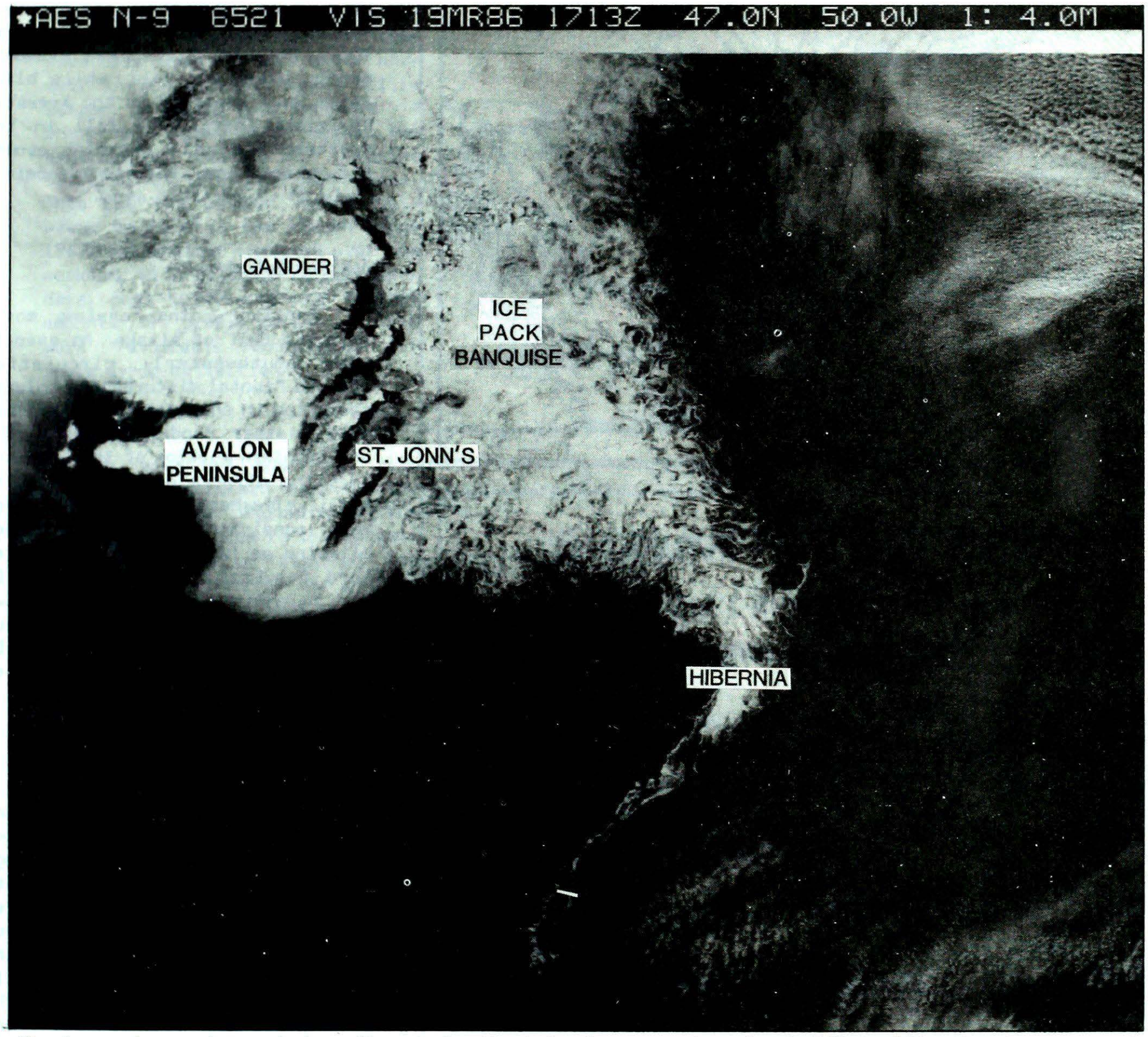
Climatic Perspectives

A weekly review of Canadian climate | March 18 to 24, 1986 | Vol.8 No.12

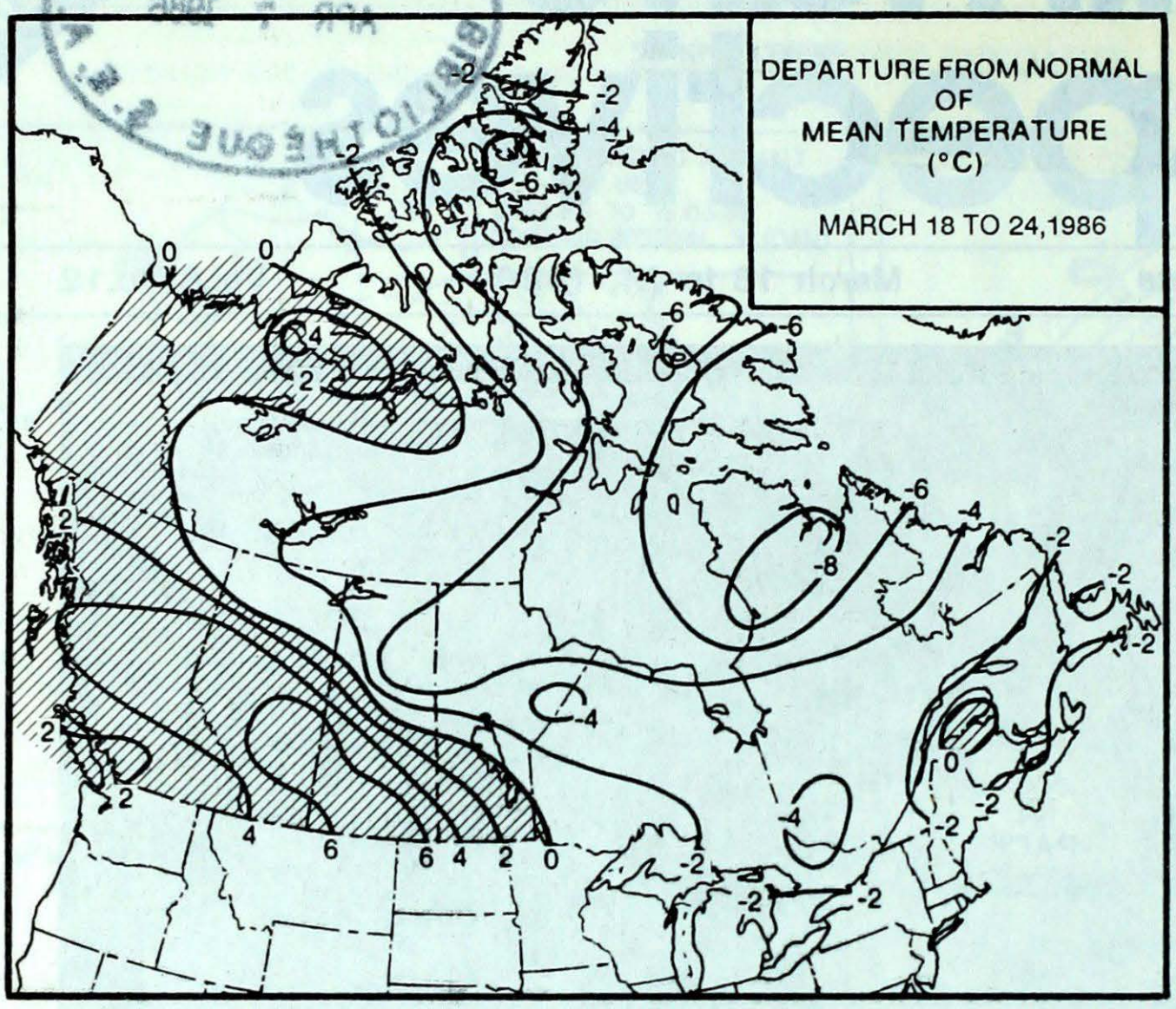


The heavy ice pack, pushed southwards by the Labrador current, extends 300 to 500 kilometres seaward off the east coast of Newfoundland. The ice continues to threaten the Hibernia drilling fields in the vicinity of the Grand Banks. Leads of open water are visible adjacent to the coastline.

- ***Spring weather arrives except in the East***
  - cold temperatures slow maple syrup production
  - blustery March winds - East Coast

Canada

TEMPERATURE



WEEKLY TEMPERATURE EXTREME (C)

		MAXIMUM		MINIMUM	
BRITISH COLUMBIA	ABBOTSFORD	20	FORT NELSON	-24
YUKON TERRITORY	KLONDIKE	8	OGILVIE	-39
NORTHWEST TERRITORIES	FORT SIMPSON	-3	EUREKA	-47
ALBERTA	CORONATION	18	FORT CHIPEWYAN HIGH LEVEL	-28
SASKATCHEWAN	MOOSE JAW	19	CREE LAKE	-35
MANITOBA	DAUPHIN	11	LYNN LAKE	-34
ONTARIO	TORONTO	14	BIG TROUT LAKE	-33
QUEBEC	MONTREAL INT'L	12	KUUJJUARAPIK	-37
NEW BRUNSWICK	CHARLO	10	CHARLO	-19
NOVA SCOTIA	GREENWOOD	11	SYDNEY	-17
PRINCE EDWARD ISLAND	CHARLOTTETOWN	6	CHARLOTTETOWN	-16
NEWFOUNDLAND	DEER LAKE	9	CHURCHILL FALLS	-30

ACROSS THE NATION

WARMEST MEAN TEMPERATURE	9	HOPE	BC
COOLEST MEAN TEMPERATURE	-42	EUREKA	NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

Many Yukon communities received 10 to 15 centimetres of snow during the week. Whitehorse received 15 cm, while Tuchitua recorded 38 cm. Total March snowfall at Whitehorse to-date is 62.2 cm, well above the previous monthly record of 38.9 cm, set in 1967. The high Arctic was predominantly clear and cold, while blizzards were reported in the Keewatin District. Heavy snow fell in the southern Mackenzie District around mid-period; some locations received up to 25 cm of fresh snow.

British Columbia

Pacific weather systems moved into the Gulf of Alaska. An associated southwesterly circulation steered frontal disturbances inland, resulting in changeable showery, but mild weather conditions. Only the northeastern portion of the province felt the effects of an Arctic airmass; elsewhere, daytime readings were consistantly above freezing, climbing as high as 20°C at Abbotsford. Heaviest precipitation fell in the southwest. Hope received 106.7 mm of rain this week. Spring breakup continues in the interior. Skiing is reportably very good at higher elevations of the interior.

Prairie Provinces

It was a mostly sunny and pleasant week throughout, as daytime readings climbed above freezing. Temperatures in Alberta climbed into the teens, and some daily temperature records were broken on March 20. The snow has been dwindling rapidly in southern Manitoba, while all agricultural districts to the west were snow-free. A cold front crossing Alberta on March 21 was associated with strong northwesterly winds, gusting to 100 km/h, which resulted in some wind damage. An area of snow moved into Alberta during the morning of March 24; snowfalls ranged between 10 and 15 centimetres in the west, tapering off to just a few centimetres in the eastern districts.

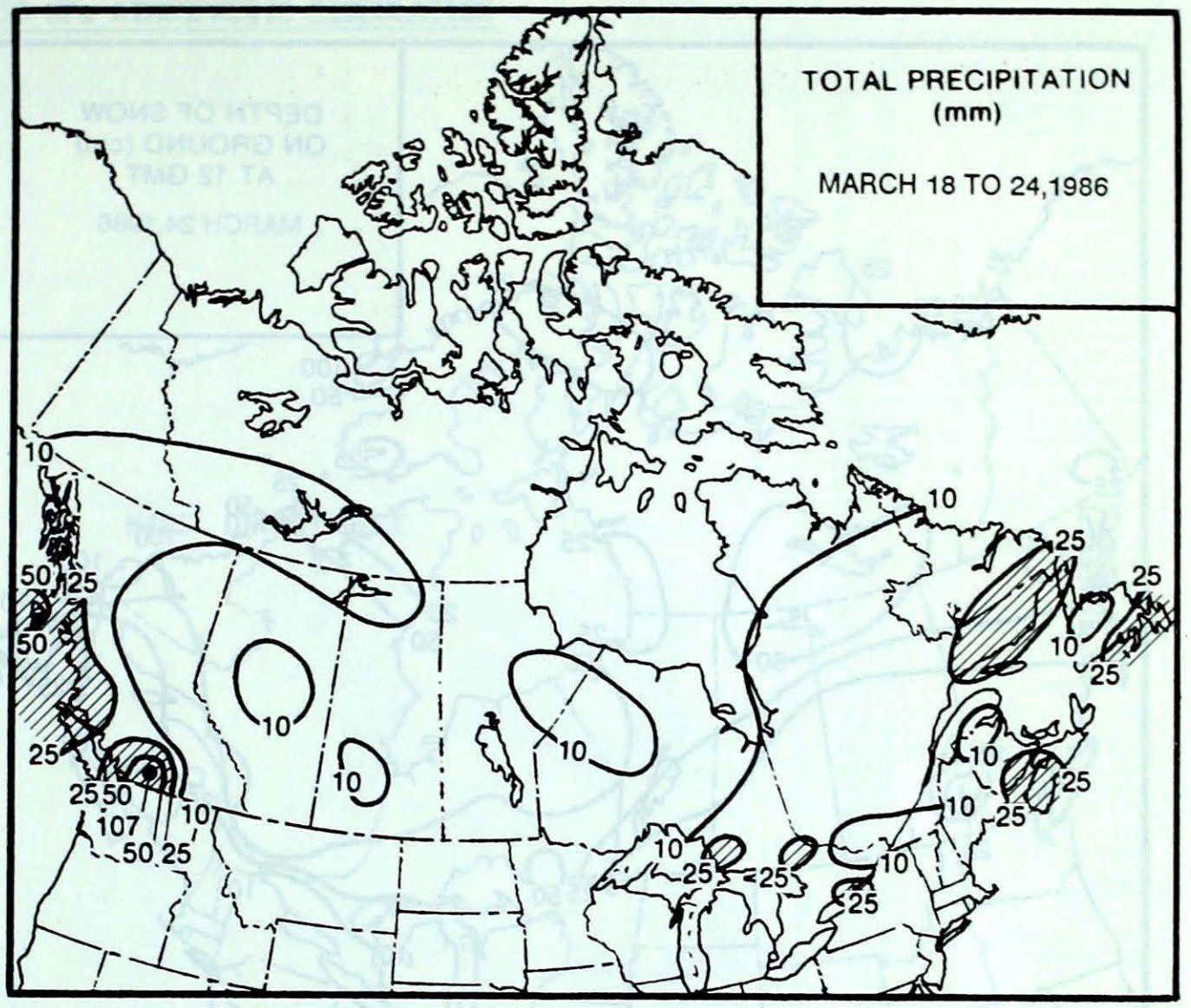
PRECIPITATION

Ontario

A disturbance tracking across the Great Lakes early in the period pumped very mild air across southern and central portions of the province. Readings in the south climbed into the double digits. The storm produced heavy snow and blowing snow in the north, where temperatures remained well below normal. In the south 10 to 20 millimetres of rain was recorded. A sharp cold front swept across the province on March 19, dropping temperatures to record low values. This was the coldest Arctic outbreak so late in the season since 1967. The weather improved over the weekend, with mainly warm and sunny days, cool nights and only minimal amounts of precipitation - much more favourable conditions for maple syrup collection.

Quebec

An area of snow and rain crossed the southern half of the province at the beginning of the period. Temperatures in the extreme southwest briefly reached the double digits on March 19, and, as a result, some flooding occurred near Montreal. In the wake of this strengthening disturbance, strong northwesterly winds swept across the province. Arctic air heralded the arrival of spring, with record low temperature readings between March 19 and 21. The cold weather slowed down the maple syrup run, and yields so far have been below normal. Skiing still continues in the Laurentians and the Eastern Townships.



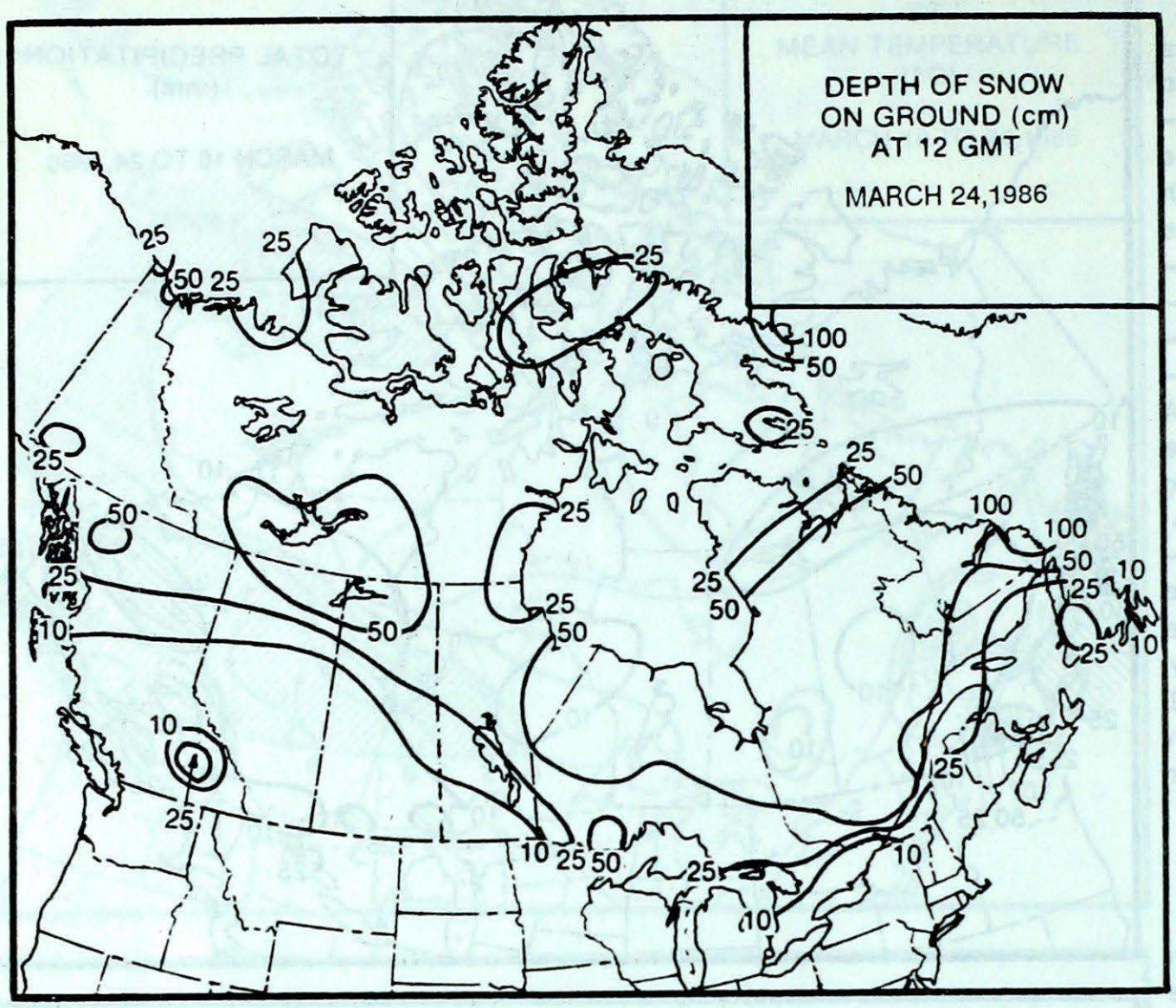
HEAVIEST WEEKLY PRECIPITATION (mm)

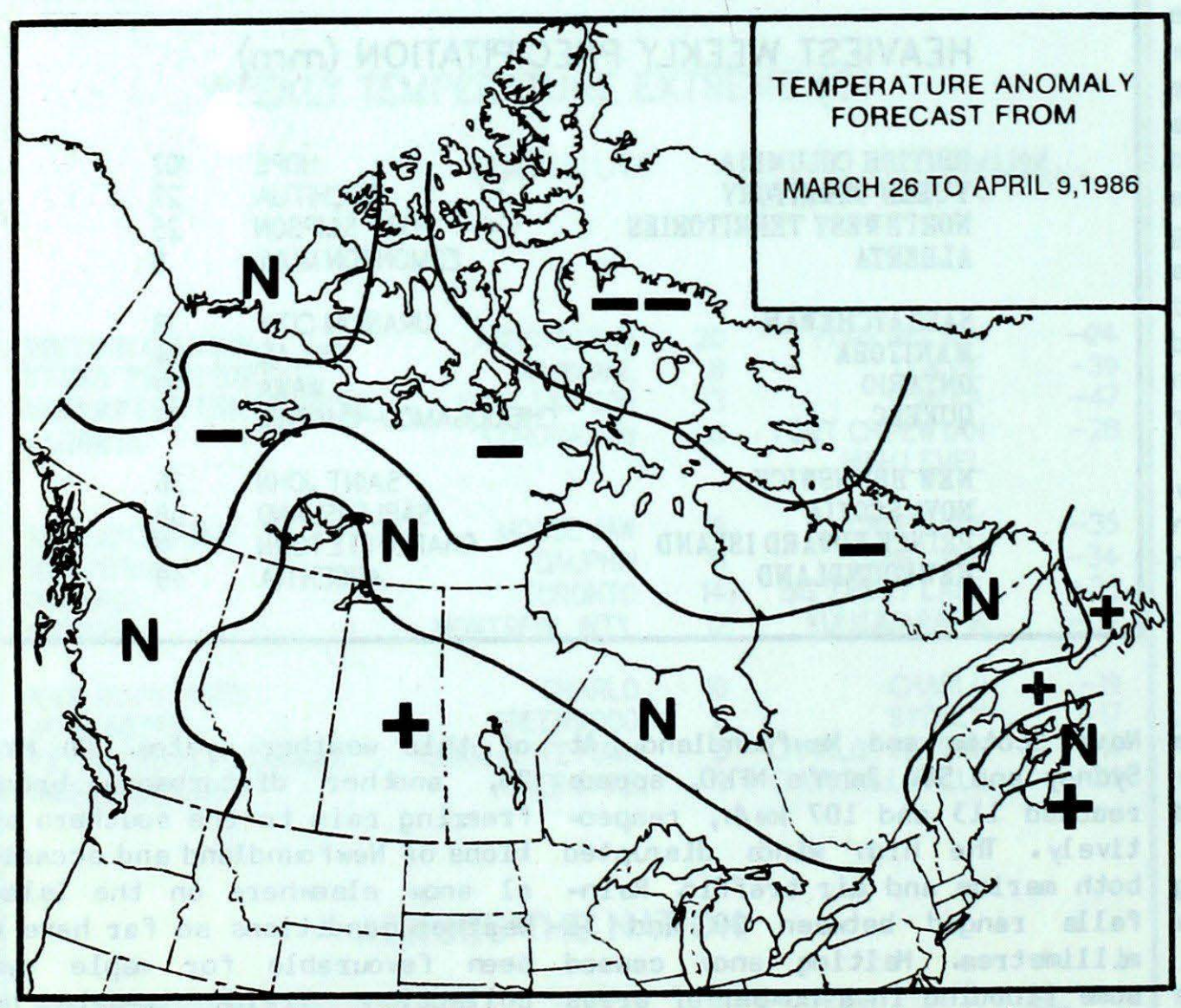
BRITISH COLUMBIA	HOPE	107
YUKON TERRITORY	TUCHITUA	27
NORTHWEST TERRITORIES	FORT SIMPSON	25
ALBERTA	EDMONTON MUNI.	11
SASKATCHEWAN	URANIUM CITY	18
MANITOBA	GILLAM	14
ONTARIO	WAWA	32
QUEBEC	CHIBOUGAMOU–CHAPAIS	35
NEW BRUNSWICK	SAINT JOHN	36
NOVA SCOTIA	SABLE ISLAND	58
PRINCE EDWARD ISLAND	CHARLOTTETOWN	11
NEWFOUNDLAND	ARGENTIA	49

Atlantic

Except for the middle of the period, the week was mainly sunny and mild. Very cold weather arrived for the first full day of spring, with many locations reporting daily record low temperatures. In Newfoundland, the weather was fair, with scattered flurries during the first part of the period. On March 19, another major storm moved through the region, bringing rain, fog and very strong winds. Winds gusting to over 100 km/h were reported at several locations in Nova Scotia and Newfoundland. At Sydney and St. John's NFLD, speeds reached 113 and 107 km/h, respectively. The high winds disrupted both marine and air traffic. Rainfalls ranged between 20 and 36 millimetres. Melting snow caused some flooding in a number of areas of Nova Scotia, but primarily in the Truro district. The snow cover was reduced markedly by the rain, but there still was plenty of snow left in some locations. Very cold air covered the region in the wake of this weather system. On March 24, another disturbance brought freezing rain to the southern sections of Newfoundland and occasional snow elsewhere on the Island. Weather conditions so far have not been favourable for maple syrup collection. Yields to-date have been light.

FORECAST





Temperature Anomaly Forecast

This forecast is prepared by searching historical weather maps to find cases similar to the present. The historical outcome during the 15 days subsequent to the chosen analogues is assumed to be a forecast for the next 15 days from now.

++	much above normal
+	above normal
N	normal
-	below normal
--	much below normal

CLIMATIC PERSPECTIVES VOLUME 8

Managing Editor M.J. Newark
Editor (English) A.K. Radomski
Editor (French) A.A. Caillet
Staff Writer M. Skarpathiotakis
Art Layout K. Czaja
Cartography G. Young/T. Chivers
B. Taylor
Word Processing U. Ellis, P. Burke

Regional Correspondents
Atl.: F.Amirault; Que.: J.Miron
Central: F.Luciow; Ont.: A.Radecki
Western: W.Prusak; Pac.: N.Penny
Yukon Weather Centre; Yellowknife Weather Office; Newfoundland Weather Centre: George MacMillan; Ice Central Ottawa AES Satellite Data Lab

ISSN 0225-5707 UDC 551.506.1(71)

Climatic Perspectives is a weekly bilingual publication of the Canadian Climate Centre, Atmospheric Environment Service, 4905 Dufferin St., Downsview, Ont. Canada M3H 5T4. **Phone (416)667-4906/4711.**

The purpose of the publication is to make topical information available to the public concerning the Canadian Climate and its socio-economic impact.

Unsolicited articles are welcome but should be at maximum about 1500 words in length. They will be subject to editorial change without notice due to publishing time constraints. Black and white photographs can be used, but not colour. The contents may be reprinted freely with proper credit.

The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic weather stations. Information concerning climatic impacts is gathered from AES contacts with the public and from the media. Articles do not necessarily reflect the views of the Atmospheric Environment Service.

Annual Subscriptions

Weekly issue including monthly supplement: $35.00
Monthly issue only: $10.00

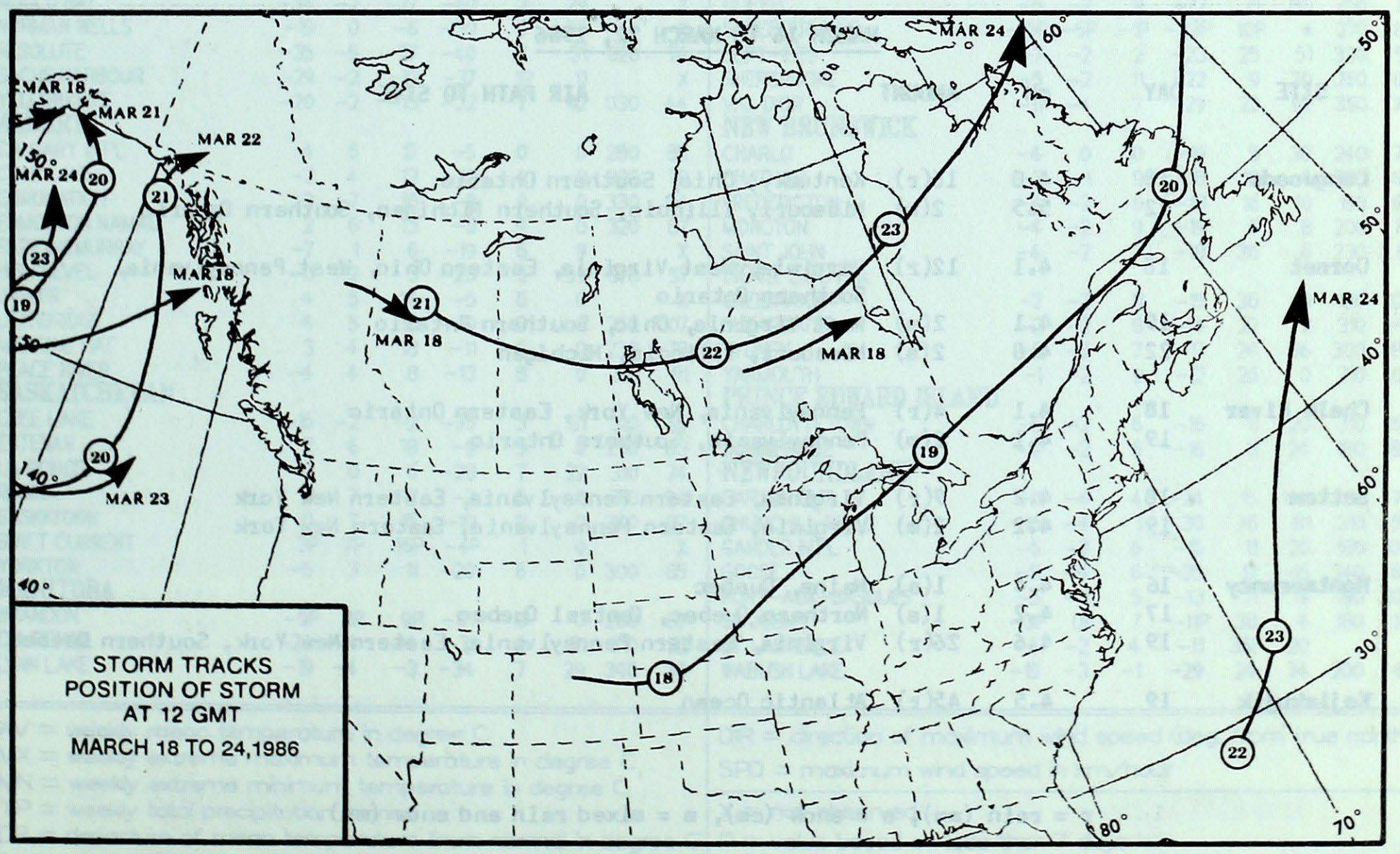
Subscription enquiries: Supply and Services Canada, Publishing Centre, Ottawa, Ontario, Canada, K1A 0S9. Phone (613)994-1495

50 KPa ATMOSPHERIC CIRCULATION

MAPS UNAVAILABLE

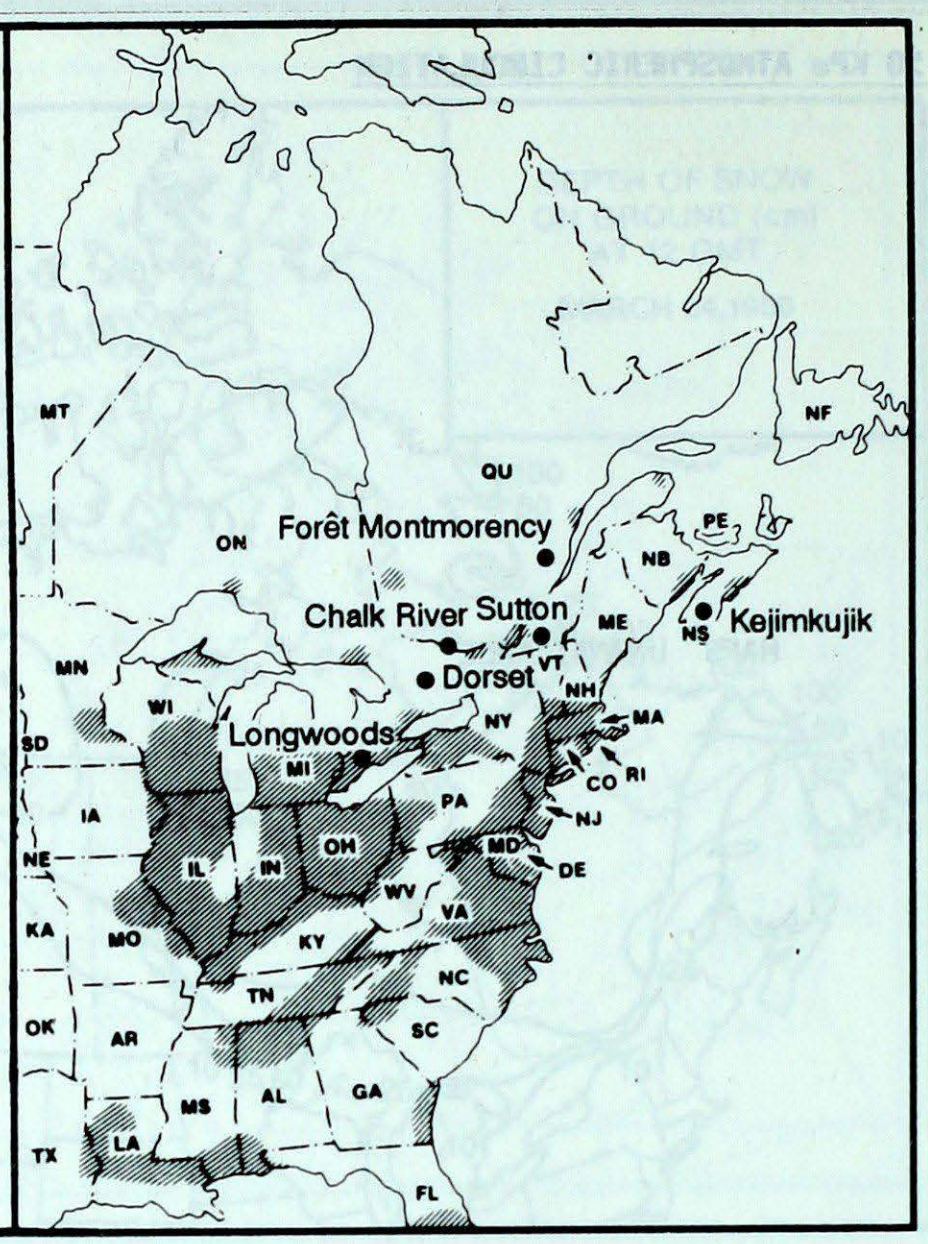
MEAN 50 KPa HEIGHT ANOMALY (dam)

MEAN 50 KPa HEIGHTS (dam)



ACID RAIN

ALABAMA	—	AL
ARKANSAS	—	AR
CONNECTICUT	—	CO
DELAWARE	—	DE
FLORIDA	—	FL
GEORGIA	—	GA
ILLINOIS	—	IL
INDIANA	—	IN
IOWA	—	IA
KANSAS	—	KA
KENTUCKY	—	KY
LOUISIANA	—	LA
MAINE	—	ME
MANITOBA	—	MT
MARYLAND	—	MD
MASSACHUSETTS	—	MA
MICHIGAN	—	MI
MINNESOTA	—	MN
MISSISSIPPI	—	MS
MISSOURI	—	MO
NEBRASKA	—	NE
NEW BRUNSWICK	—	NB
NEWFOUNDLAND	—	NF
NEW HAMPSHIRE	—	NH
NEW JERSEY	—	NJ
NEW YORK	—	NY
NORTH CAROLINA	—	NC
NORTH DAKOTA	—	ND
NOVA SCOTIA	—	NS
OHIO	—	OH
OKLAHOMA	—	OK
ONTARIO	—	ON
PENNSYLVANIA	—	PA
PRINCE EDWARD ISLAND	—	PE
QUÉBEC	—	QU
RHODE ISLAND	—	RI
SOUTH CAROLINA	—	SC
SOUTH DAKOTA	—	SD
TENNESSEE	—	TN
TEXAS	—	TX
VERMONT	—	VT
VIRGINIA	—	VA
WEST VIRGINIA	—	WV
WISCONSIN	—	WI



ACID RAIN REPORT

The reference map (left) shows the locations of sampling sites where the acidity of precipitation is monitored. All are operated by Environment Canada except Dorset which is a research station operated by the Ontario Ministry of the Environment. The map also shows the approximate areas (shaded) where SO_2 and NO_x emissions are greatest. The table below gives the weekly report summarizing the acidity (or pH) of the rain or snow that fell at the collection sites and a description of the path travelled by the moisture laden air. Environmental damage to lakes and streams is usually observed in sensitive areas regularly receiving precipitation with pH less than 4.7, while pH readings less than 4.0 are serious. For more information concerning the acid rain report, see Climatic Perspectives, Vol. 5 No. 50 p. 6.

MARCH 16 TO MARCH 22, 1986

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	18	4.0	16(r)	Kentucky, Ohio, Southern Ontario
	22	5.5	2(m)	Missouri, Illinois, Southern Michigan, Southern Ontario
Dorset	18	4.1	12(r)	Virginia, West Virginia, Eastern Ohio, West Pennsylvania, Southern Ontario
	19	4.1	2(m)	West Virginia, Ohio, Southern Ontario
	22	4.8	2(s)	Missouri, Illinois, Michigan
Chalk River	18	4.1	4(r)	Pennsylvania, New York, Eastern Ontario
	19	4.1	2(m)	Pennsylvania, Southern Ontario
Sutton	18	4.2	9(r)	Virginia, Eastern Pennsylvania, Eastern New York
	19	4.2	2(m)	Virginia, Eastern Pennsylvania, Eastern New York
Montmorency	16	4.4	1(s)	Maine, Quebec
	17	4.2	1(s)	Northern Quebec, Central Quebec
	19	4.6	26(r)	Virginia, Eastern Pennsylvania, Eastern New York, Southern Quebec
Kejimkujik	19	4.5	45(r)	Atlantic Ocean

r = rain (mm), s = snow (cm), m = mixed rain and snow (mm).

STATISTICS

TEMPERATURE, PRECIPITATION AND MAXIMUM WIND DATA FOR THE WEEK ENDING 0600 GMT MARCH 25,1986

STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
BRITISH COLUMBIA								
CAPE ST.JAMES	7	2	10	4	24	0	210	111
CRANBROOK	5	2	15	-5	5	0	270	65
FORT NELSON	-11	-2	6	-24	5	32	320	39
FORT ST.JOHN	-1P	5P	10P	-15P	6	0	240	78
KAMLOOPS	7	2	17	-3	4	0	150	56
PENTICTON	7	2	17	-2	4	0	290	72
PORT HARDY	8	3	16	0	29	0	110	69
PRINCE GEORGE	5	*	12	-5	12	0	240	52
PRINCE RUPERT	8	4	15	4	43	0	150	106
REVELSTOKE	3	1	10	-4	25	30	010	57
SMITHERS	5	5	16	-5	5	0	190	69
VANCOUVER INT'L	8	2	17	3	28	0	150	37
VICTORIA INT'L	7	1	16	0	18	0	260	41
WILLIAMS LAKE	5	*	14	-3	1	0		X
YUKON TERRITORY								
DAWSON	-12	*	2	-30	1	32		*
MAYO	-8	1	6	-25	3	30		X
SHINGLE POINT A	-25	0	-12	-37	0	50		*
WATSON LAKE	-9	0	1	-29	12	42		*
WHITEHORSE	-6	1	4	-24	14	44	170	43
NORTHWEST TERRITORIES								
ALERT	-33	0	-23	-40	6P	0	250	70
BAKER LAKE	-29	-2	-19	-35	1	34	320	74
CAMBRIDGE BAY	-30	1	-24	-35	3	0	340	56
CAPE DYER	-30	-7	-20	-39	2	122	300	63
CLYDE	-31	-6	-24	-38	2P	32	320	54
COPPERMINE	-25	*	-16	-32	3	0	300	46
CORAL HARBOUR	-30	-6	-23	-38	1	27		X
EUREKA	-42	-6	-34	-47	1	21	320	46
FORT SMITH	-17	-2	-6	-30	13	52		X
FROBISHER BAY	-29	-7	-19	-36	2	19	350	46
HALL BEACH	-32	-3	-19	-42	2	26	310	57
INUVIK	-24	1	-10	-37	1	38		X
MOULD BAY	-34	-2	-27	-40	2	29		X
NORMAN WELLS	-19	0	-6	-30	5	26		X
RESOLUTE	-35	-5	-27	-40	3	31	020	74
SACHS HARBOUR	-29	-2	-19	-37	1P	11		X
YELLOWKNIFE	-20	-2	-13	-32	7	42	030	44
ALBERTA								
CALGARY INT'L	4	6	17	-5	0	0	280	85
COLD LAKE	-2	4	12	-13	4	0	290	78
CORONATION	2	7	18	-9	9	0	330	94
EDMONTON NAMAO	2	6	13	-8	9	0	320	87
FORT MCMURRAY	-7	1	6	-19	6	9		X
HIGH LEVEL	-11	-2	3	-28	5	39	070	57
JASPER	4	5	14	-5	6	0		X
LETHBRIDGE	4	5	16	-10	0	0	250	107
MEDICINE HAT	3	4	18	-11	6	0	230	78
PEACE RIVER	-4	4	8	-13	8	0	270	81
SASKATCHEWAN								
CREE LAKE	-15	-2	-2	-35	3	31	310	65
ESTEVAN	2	6	18	-9	5	0	290	83
LA RONGE	-9	0	6	-28	7	22	310	74
REGINA	1	7	17	-7	6	0	310	94
SASKATOON	0	7	15	-10	11	0	300	87
SWIFT CURRENT	3P	7P	16P	-4P	1	0		X
YORKTON	-5	3	11	-20	6	0	300	85
MANITOBA								
BRANDON	-5P	2P	9P	-17P	0	0	260	87
CHURCHILL	-24	-4	-14	-31	2	21	310	52
LYNN LAKE	-19	-4	-3	-34	7	29	340	39
THE PAS	-11	*	8	-27	8	20	320	76
THOMPSON	-17P	-4P	-1P	-34P	9	32	080	46
WINNIPEG INT'L	-5	1	9	-19	1	0	280	67
ONTARIO								
ATIKOKAN	-7	-2	10	-29	3	52	270	63
BIG TROUT LAKE	-18	*	-6	-33	19	60	320	48
GORE BAY	-6	-3	5	-22	15	13	260	89
KAPUSKASING	-10	-2	8	-30	19	46	230	74
KENORA	-7	-1	7	-22	1	21	330	61
KINGSTON	-5P	-5P	5P	-15P	0	0		X
LONDON	-1	-1	13	-13	19	0	250	85
MOOSONEE	-13	-3	4	-30	4	73	330	50
NORTH BAY	-8	-4	5	-27	27	28	340	69
OTTAWA INT'L	-4	-3	12	-19	4	3		X
PETAWAWA	-6	-3	12	-25	6P	8		X
PICKLE LAKE	-12	-3	6	-30	6	56	260	96
RED LAKE	-9	-1	6	-28	5	29	290	59
SUDBURY	-7P	-3P	7P	-26P	21	36		X
THUNDER BAY	-6	0	11	-21	9	30	010	72
TIMMINS	-9P	-3P	7P	-30P	23	79	360	59
TORONTO INT'L	-2	-2	14	-15	10	0	270	85
TRENTON	-2	-2	12	-15	25	0		X
WIARTON	-4	-2	11	-20	7	0		X
WINDSOR	1	-1	16	-11	21	0	270	65
QUEBEC								
BAGOTVILLE	-7	-2	8	-24	14	39	260	81
BLANC SABLON	-8	*	2	-18	34	24		X
INUKJUAK	-27	-8	-21	-35	3	20	050	67
KUUJJUAQ	-26	-9	-9	-35	6	78	260	67
KUUJJUARAPIK	-23	-8	0	-37	13	67	200	72
MANIWAKI	-7	-3	11	-25	10	25	300	48
MONT JOLI	-3	0	8	-18	14	9	290	70
MONTREAL INT'L	-4	-2	12	-17	9	0	240	70
NATASHQUAN	-8	-2	2	-20	27	23	270	78
QUEBEC	-5	-2	9	-22	21	80	250	76
SCHEFFERVILLE	-19P	-5P	-1P	-33P	10P	*	270	65
SEPT-ILES	-7	-2	2	-23	25	51	330	57
SHERBROOKE	-5	-2	11	-22	9	20	260	65
VAL D'OR	-11	-4	7	-29	22	92	350	74
NEW BRUNSWICK								
CHARLO	-4	0	10	-19	5	30	240	70
CHATHAM	-3	-1	9	-18	19	9	280	63
FREDERICTON	-4	-2	9	-18	16	10	190	63
MONCTON	-4	-2	9	-19	6	8	200	76
SAINT JOHN	-4	-2	7	-18	36	6	230	81
NOVA SCOTIA								
GREENWOOD	-2	-2	11	-15	36	3	180	109
SHEARWATER	-2	-2	8	-14	22	2	310	91
SYDNEY	-5	-3	7	-17	24	36	300	85
YARMOUTH	-1	-2	9	-12	26	0	210	69
PRINCE EDWARD ISLAND								
CHARLOTTETOWN	-5	-2	6	-16	11	20	310	65
SUMMERSIDE	-4	-2	6	-16	11	24	180	83
NEWFOUNDLAND								
CARTWRIGHT	-11	-4	4	-24	15	108	330	74
CHURCHILL FALLS	-16	-4	1	-30	16	81	310	59
GANDER INT'L	-5	-2	6	-15	11	20	180	100
GOOSE	-11	-4	6	-25	17	45	240	69
PORT-AUX-BASQUES	-5	-3	5	-13	11	19	190	107
ST JOHN'S	-3P	0P	7	-11P	38	4	180	111
ST LAWRENCE	-4	-2	4	-11	35P	20		X
WABUSH LAKE	-15	-3	-1	-29	24	74	200	61

AV = weekly mean temperature in degree C
MX = weekly extreme maximum temperature in degree C
MN = weekly extreme minimum temperature in degree C
TP = weekly total precipitation in mm
DP = departure of mean temperature from normal in degree C
SOG = snow depth on ground in cm, last day of the period

DIR = direction of maximum wind speed (deg. from true north)
SPD = maximum wind speed in km/hour

X = not observed
P = value based on less than 7 days
* = missing