Climatic Perspectives

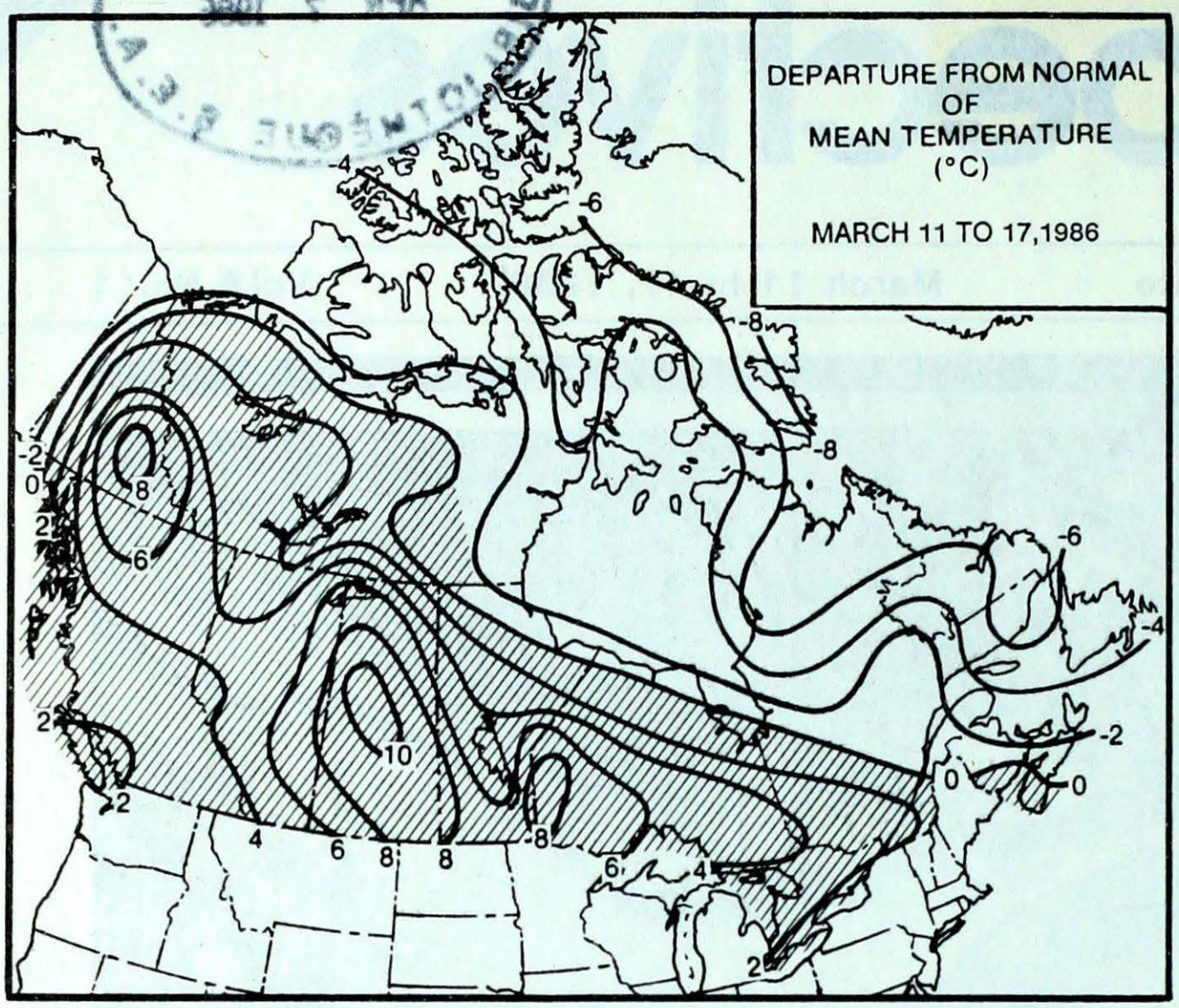
A weekly review of Canadian climate | March 11 to 17, 1986 | Vol.8 No.11

This NOAA 9 satellite photo of March 12, 1986, shows heavy ice congesting the Gulf of St. Lawrence and the estuary, slowly drifting through Cabot Strait. Leads of open water have developed near the coast.

- ***Transportation chaos in Eastern Canada***
  - dense fog and freezing rain in Ontario and Quebec
  - Atlantic Canada battered with heavy snow, freezing rain and rain

Canada

TEMPERATURE



WEEKLY TEMPERATURE EXTREME (C)

	MAXIMUM		MINIMUM	
BRITISH COLUMBIA	LYTTON	16	FORT NELSON	−20
YUKON TERRITORY	WATSON LAKE	7	KOMAKUK BEACH A	−41
NORTHWEST TERRITORIES	FORT SMITH	4	EUREKA	−50
ALBERTA	LETHBRIDGE	14	HIGH LEVEL	−22
SASKATCHEWAN	ESTEVAN	11	COLLINS BAY	−24
MANITOBA	GIMLI	9	GILLAM	−34
	PORTAGE LA PRAIRIE			
ONTARIO	WINDSOR	10	MOOSONEE	−33
QUEBEC	SHERBROOKE	6	KUUJJUARAPIK	−36
NEW BRUNSWICK	ST STEPHEN	6	SAINT JOHN	−21
NOVA SCOTIA	GREENWOOD	10	TRURO	−20
PRINCE EDWARD ISLAND	CHARLOTTETOWN	4	SUMMERSIDE	−18
NEWFOUNDLAND	ARGENTIA	5	WABUSH LAKE	−30

ACROSS THE NATION

WARMEST MEAN TEMPERATURE	8	SATURNA ISLAND	BC
COOLEST MEAN TEMPERATURE	−41	EUREKA	NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

Spring-like weather returned to most of the Yukon except in the north, where it was frequently cloudy and windy. Weather conditions were nearly ideal for the week-long Arctic Winter Games, which were held at Whitehorse, and began on March 17. The high Arctic was clear and cold, with periods of blowing snow. Light snowfalls were reported in the Mackenzie District, while ice crystals and ice fog were observed on Baffin Island and the Keewatin District.

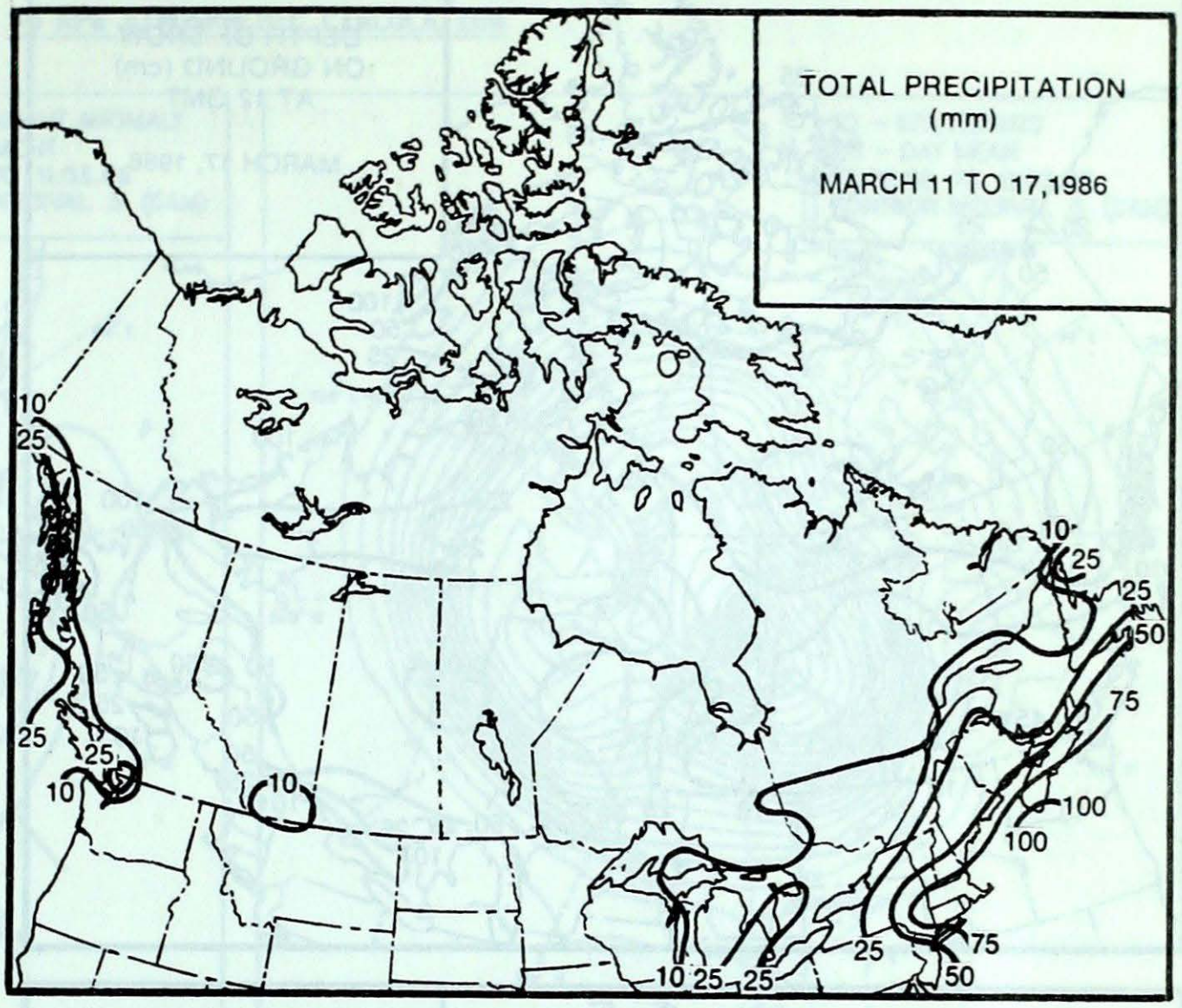
British Columbia

Early spring-like weather persisted through the week, with pleasantly mild temperatures and lots of sunshine. Only in the southern interior were skies unusually dull. Up to 36 mm of rain fell along the coast, while elsewhere amounts were very light. In the interior, logging has ceased until after the spring breakup. Many lower elevation ski runs have closed for the season. Field work and soil preparation has started in the southern valleys. Spring flowers are in bloom on the lower mainland and southern Vancouver Island.

Prairie Provinces

A southerly flow helped to reinforce mild weather. Sky conditions were variable, as weak disturbances moved eastward, giving some light rain and snowfalls. Daytime readings frequently climbed well above freezing in the south, and daily temperature records were broken in Alberta. With the exception of southern Manitoba, most agricultural districts were snow-free. A developing disturbance on March 17 deposited 10 to 15 centimetres of new snow across parts of southern Alberta. Barring any unusually heavy rainfalls, little flooding is anticipated in the Red River Valley this spring.

PRECIPITATION



HEAVIEST WEEKLY PRECIPITATION (mm)

BRITISH COLUMBIA	ABBOTSFORD	36
	MCINNES ISLAND	
YUKON TERRITORY	DAWSON	1
NORTHWEST TERRITORIES	ENNADAI LAKE	4
ALBERTA	MEDICINE HAT	19
SASKATCHEWAN	COLLINS BAY	6
MANITOBA	GILLAM	7
ONTARIO	WIARTON	32
QUEBEC	SHERBROOKE	29
NEW BRUNSWICK	SAINT JOHN	55
NOVA SCOTIA	YARMOUTH	101
PRINCE EDWARD ISLAND	CHARLOTTETOWN	43
NEWFOUNDLAND	ST LAWRENCE	61

Ontario

During the morning of March 11, treacherous icing conditions were encountered in southern Ontario, as a glaze of ice formed on the many roadways. A cold front, sweeping across the lower lakes, dropped the temperature below the freezing mark just before the morning rush hour, after a mixture of rain and snow had fallen earlier overnight. Rush hour traffic in Toronto was in chaos until the roads were salted. Towards the end of the week, milder air accompanied by rain and freezing rain moved into the south. On March 14, dense fog developed, closing Pearson International Airport by mid afternoon. All incoming holiday flights had to be diverted. The fog was attributed for a rash of accidents on Ontario's highways until it finally lifted Saturday morning.

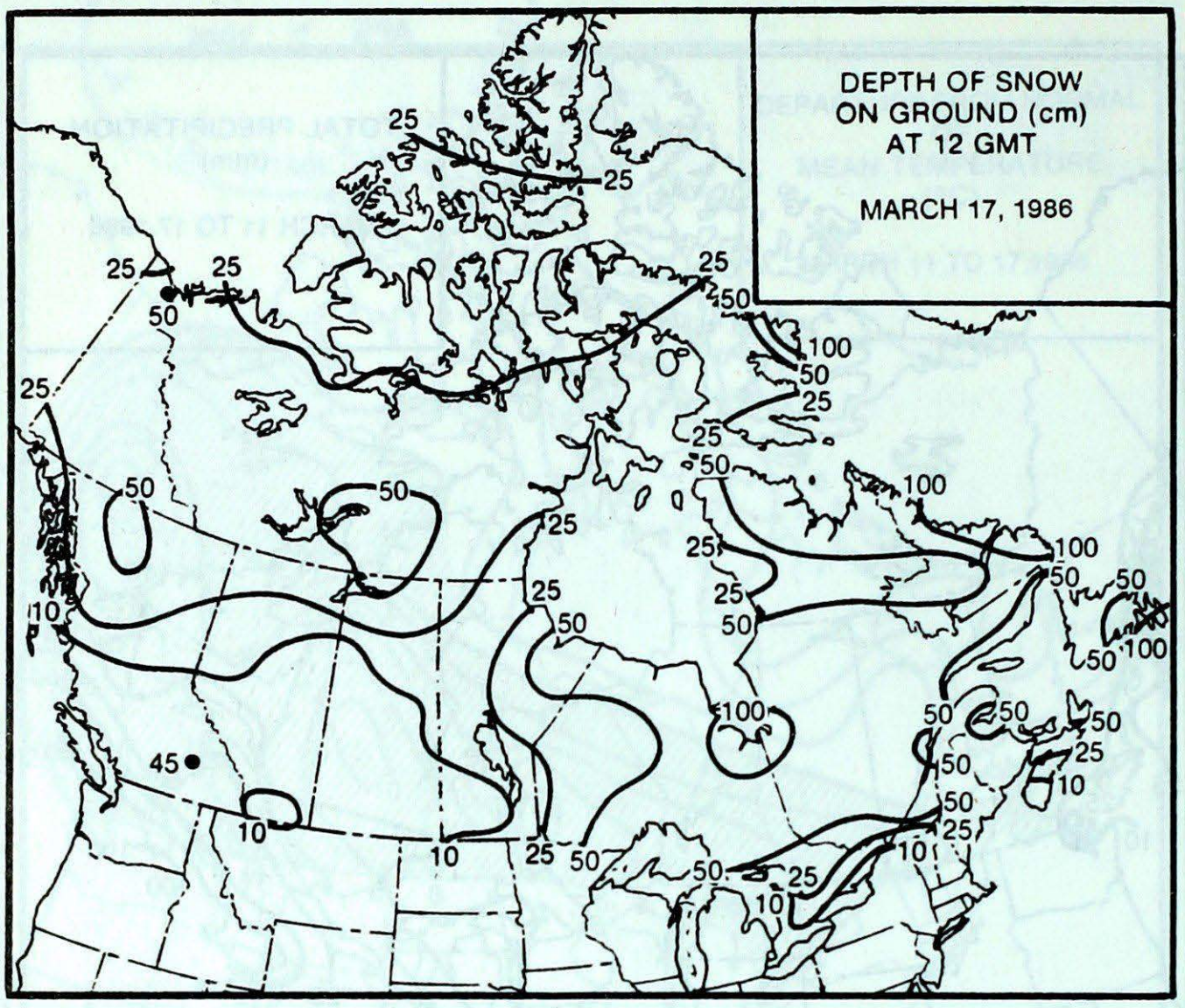
Quebec

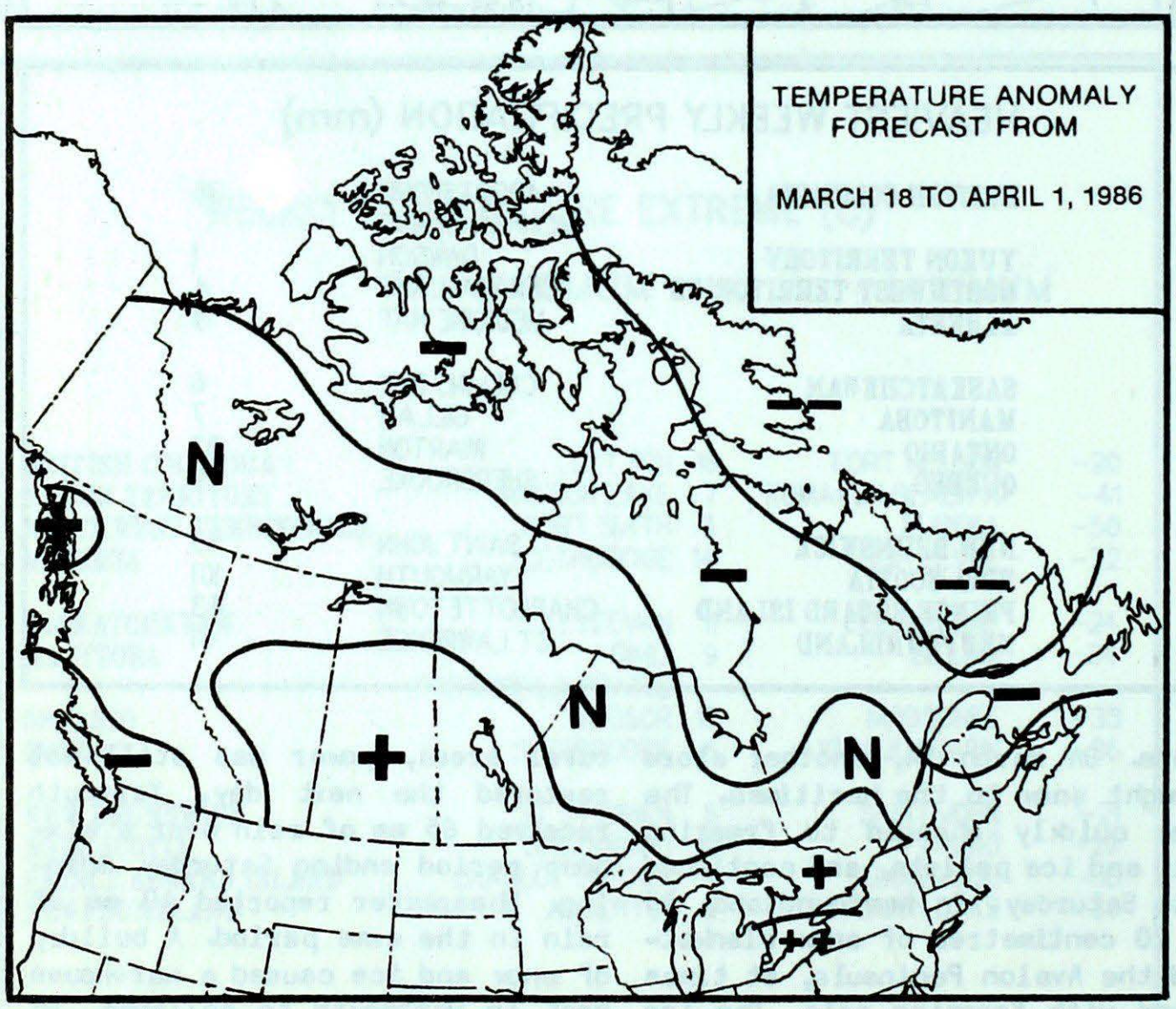
A mixture of freezing rain and ice pellets moved through southern Quebec on March 11, resulting in icy road conditions and numerous fender benders. Snow fell elsewhere to the north and east. Later in the week, another batch of sleet and snow brushed the southern extremities of the province. Daytime temperatures in the south remained near freezing. A ridge of high pressure affected the north, giving clear and cold conditions. Maple syrup producers are anticipating increased sap flows in the coming days.

Atlantic

In Newfoundland daily minimum temperature records were broken early in the week. Two late winter storms, associated with strong winds and a variety of heavy precipitation, hit Atlantic Canada this week. The first storm moved through New Brunswick on March 11, and was east of Newfoundland the next day. The storm produced a mixture of snow and sleet. The Avalon Peninsula received freezing rain, while the rest of the Island had up to 15 cm of snow. Sunny skies followed, as a large high pressure area dominated the weather scene. On March 14, another storm brought snow to the Maritimes. The snow quickly changed to freezing rain and ice pellets, and continued into Saturday. In Newfoundland, 15 to 20 centimetres of snow blanketted the Avalon Peninsula, at times mixed with freezing rain. The ice storm caused numerous power outages in rural Nova Scotia over the weekend. At one point, almost half the city of Halifax was without power. Firemen and police were kept busy answering calls regarding malfunctioning fire alarms, downed trees and traffic accidents. In some rural areas, power was still not restored the next day. Yarmouth received 65 mm of rain over a six-hour period ending Saturday morning. Shearwater reported 40 mm of rain in the same period. A buildup of snow and ice caused a warehouse roof in Dartmouth to collapse. In Halifax, home owners were busy pumping out their basements. Pedestrians had to walk on ice-slick sidewalks. There were numerous traffic accidents in Halifax and in many other areas of the region.

FORECAST





Temperature Anomaly Forecast

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

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.

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; 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.

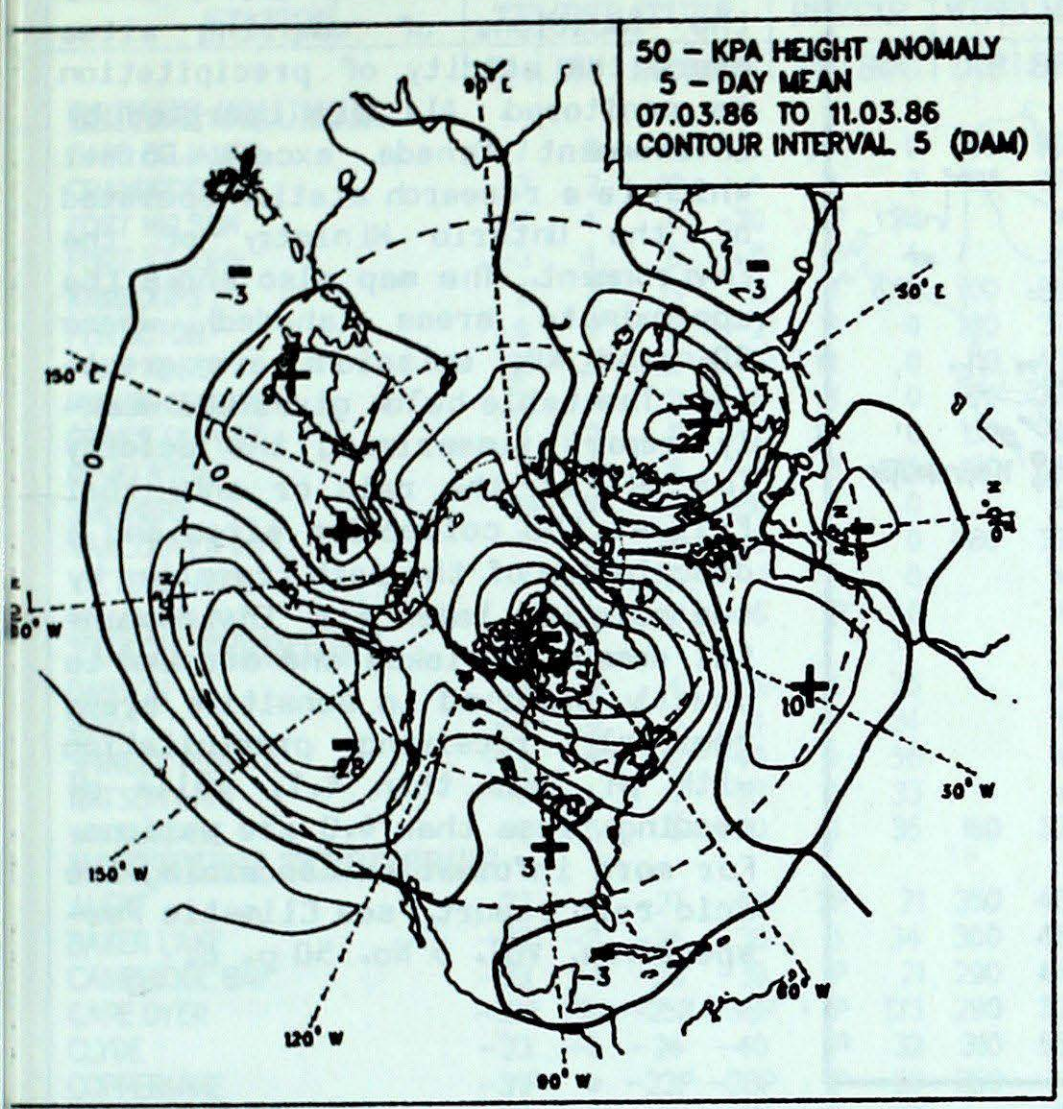
The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic weather stations. Information concerning climatic impacts is gathered from AES contacts with the public and from the media. Articles do not necessarily reflect the views of the Atmospheric Environment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

Annual Subscriptions

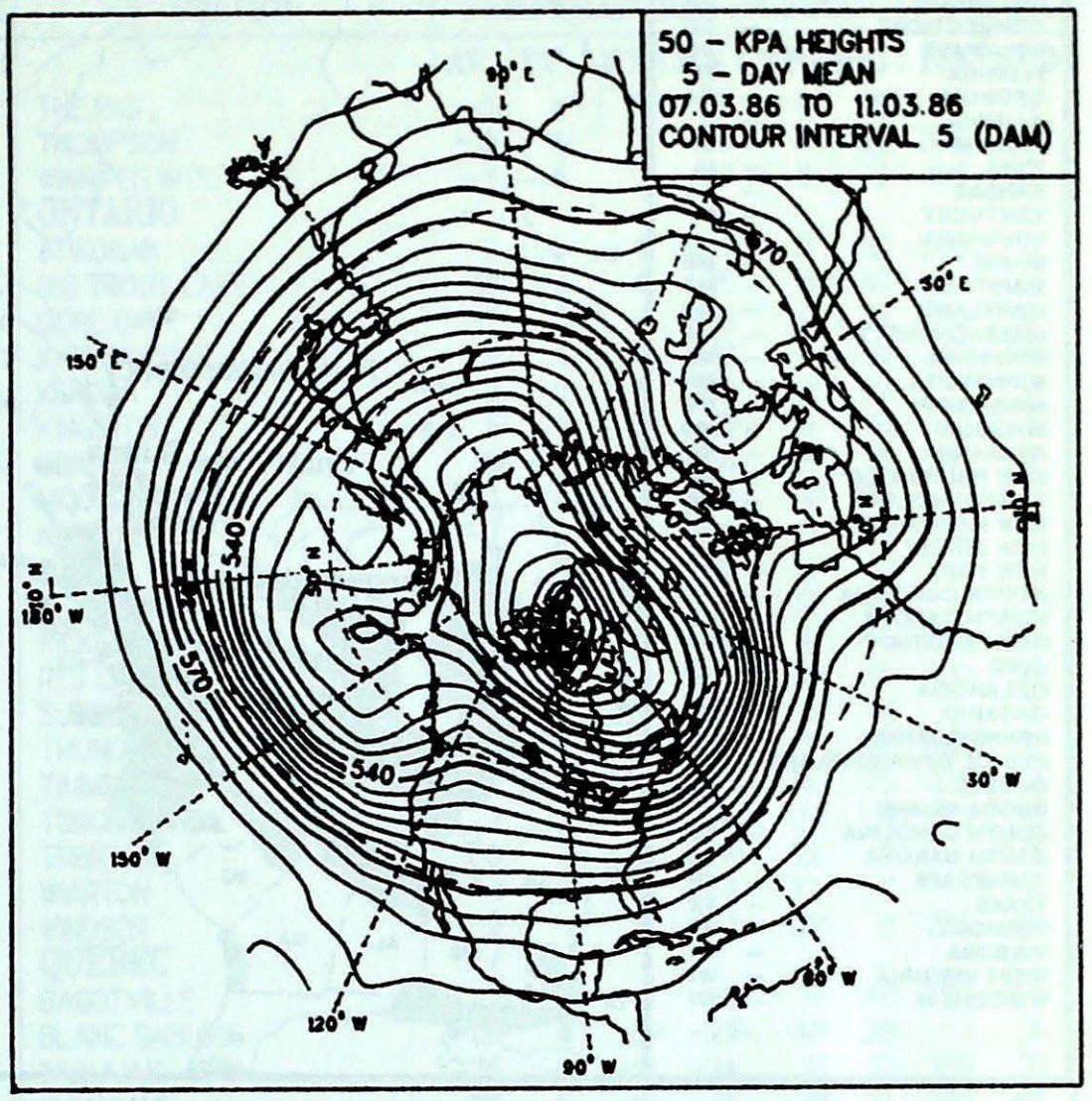
Weekly issue including
monthly supplement: $35.00
Monthly issue only: $10.00

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

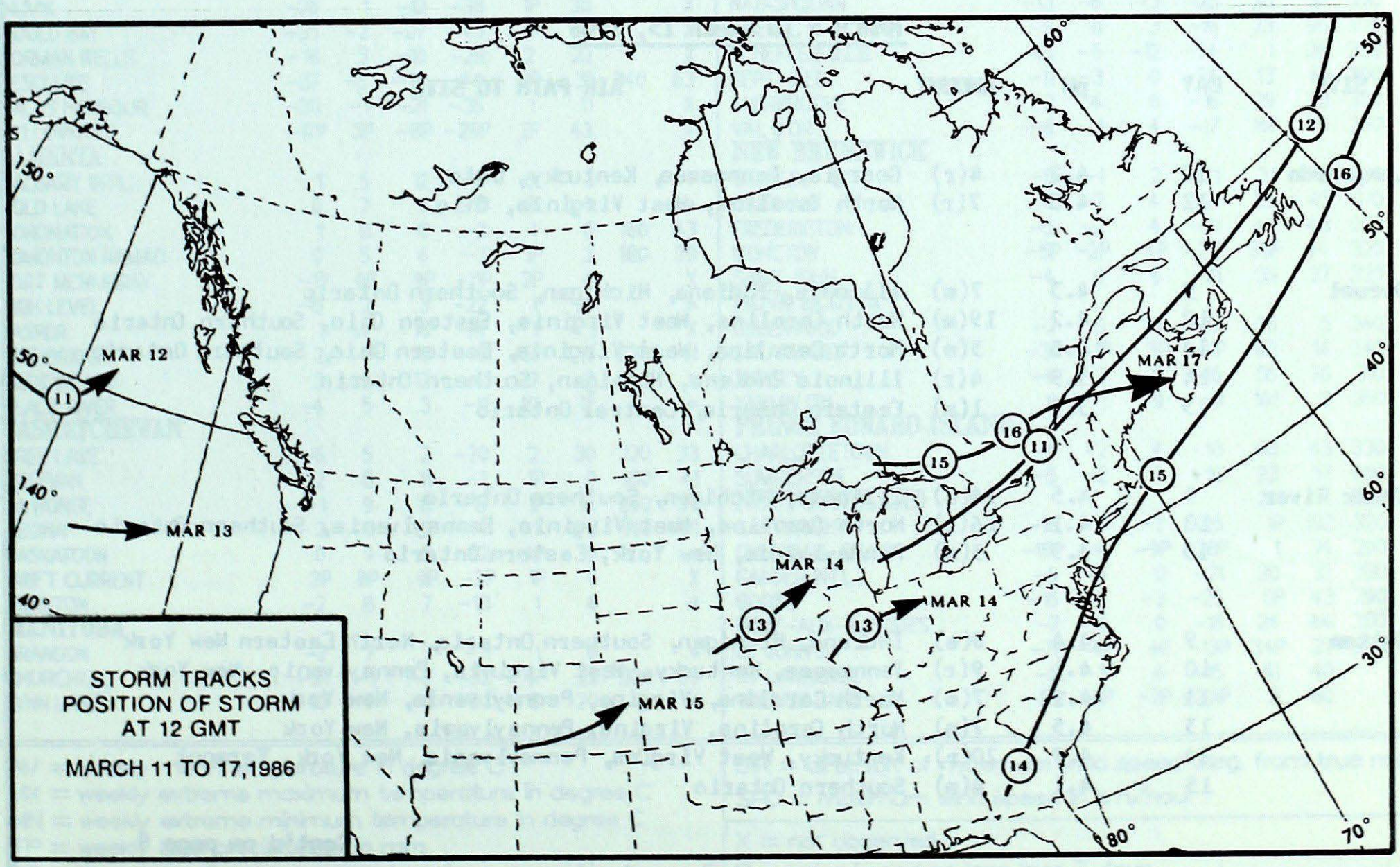
50 KPa ATMOSPHERIC CIRCULATION



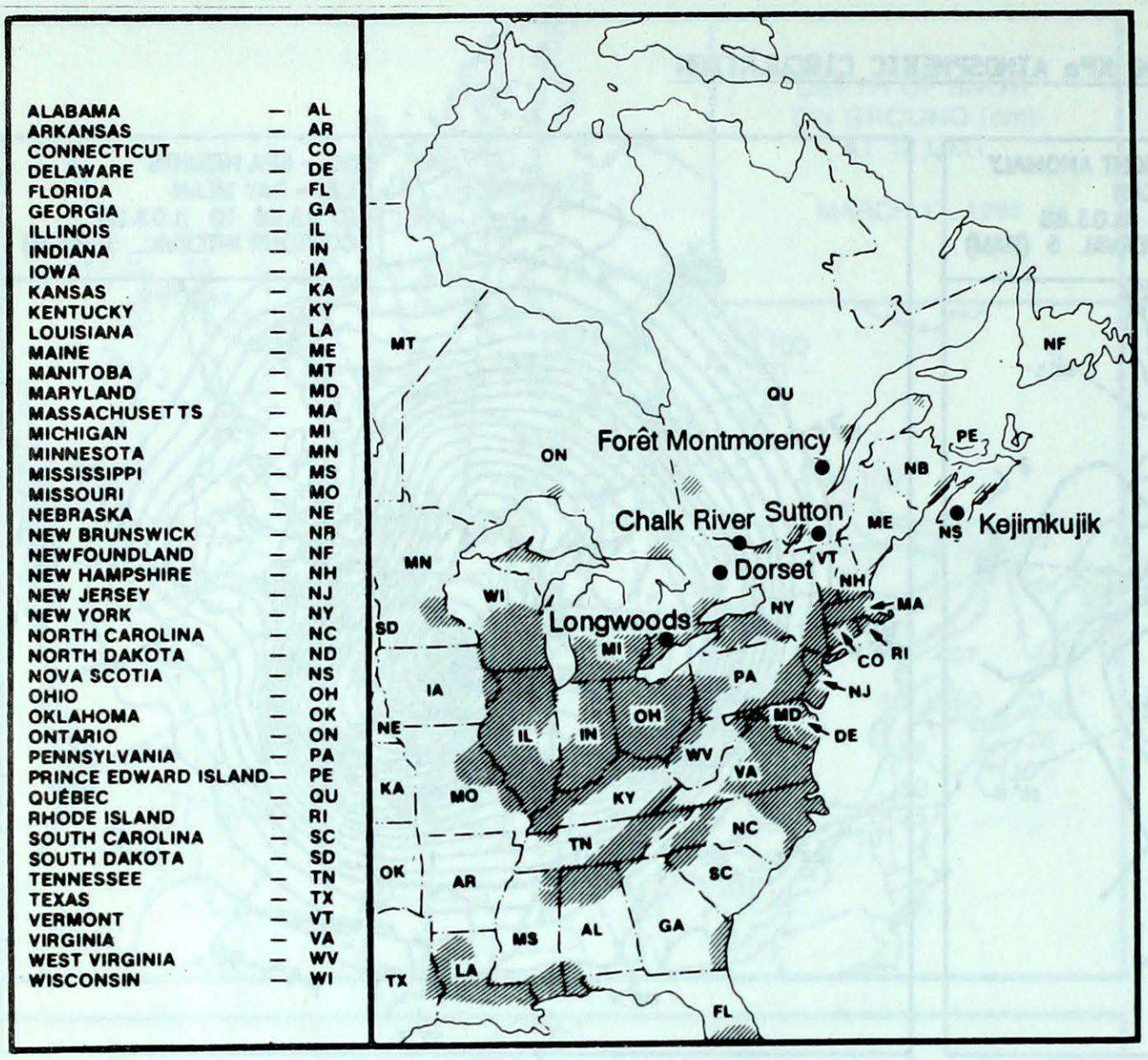
MEAN 50 KPa HEIGHT ANOMALY (dam)
March 7 to March 11, 1986



MEAN 50 KPa HEIGHTS (dam)
March 7 to March 11, 1986



ACID RAIN



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 9 TO MARCH 15, 1986

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	10	4.2	4(r)	Georgia, Tennessee, Kentucky, Ohio
	12	4.0	7(r)	North Carolina, West Virginia, Ohio
Dorset	9	4.3	7(m)	Illinois, Indiana, Michigan, Southern Ontario
	10	4.2	19(m)	North Carolina, West Virginia, Eastern Ohio, Southern Ontario
	13	4.5	3(m)	North Carolina, West Virginia, Eastern Ohio, Southern Ontario
	14	3.9	4(r)	Illinois Indiana, Michigan, Southern Ontario
	15	3.7	1(s)	Eastern Ontario, Central Ontario
Chalk River	9	4.5	14(s)	Illinois, Michigan, Southern Ontario
	10	4.1	16(r)	North Carolina, West Virginia, Pennsylvania, Southern Ontario
	13	3.9	3(m)	Pennsylvania, New York, Eastern Ontario
Sutton	9	4.4	8(s)	Indiana, Michigan, Southern Ontario, North Eastern New York
	10	4.1	9(r)	Tennessee, Kentucky, West Virginia, Pennsylvania, New York
	11	4.2	7(m)	North Carolina, Virgina, Pennsylvania, New York
	13	4.5	7(m)	North Carolina, Virgina, Pennsylvania, New York
	14	4.9	20(r)	Kentucky, West Virgina, Pennsylvania, New York, Vermont
	15	4.1	4(m)	Southern Ontario

Cont'd on page 8

STATISTICS

TEMPERATURE, PRECIPITATION AND MAXIMUM WIND DATA FOR THE WEEK ENDING 0600 GMT MARCH 18,1986

STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
BRITISH COLUMBIA								
CAPE ST.JAMES	7	2	11	4	34	0	130	85
CRANBROOK	3	2	10	-4	0	0	160	37
FORT NELSON	-7	4	6	-20	0P	28		*
FORT ST.JOHN	-3	4	5	-11	0	4		*
KAMLOOPS	6	3	13	-3	1	0	100	39
PENTICTON	6	2	15	-2	8	0	180	37
PORT HARDY	7P	2P	10P	-1P	18	0	110	43
PRINCE GEORGE	3	*	11	-6	1	0	170	33
PRINCE RUPERT	5	2	11	-2	14	0	150	41
REVELSTOKE	3	2	9	-6	3	45	180	46
SMITHERS	3P	5P	12P	-5P	0	0		*
VANCOUVER INT'L	7	1	14	0	15	0	080	37
VICTORIA INT'L	7	1	12	1	6	0		*
WILLIAMS LAKE	3	*	10	-6	1P	0		X
YUKON TERRITORY								
DAWSON	-8	*	4	-18	1	35		*
MAYO	-4	9	6	-24	0	24		X
SHINGLE POINT A	-29	-4	-17	-40	0	56		*
WATSON LAKE	-7	4	7	-23	0	33		*
WHITEHORSE	-4	5	6	-20	0	35	160	37
NORTHWEST TERRITORIES								
ALERT	-37	-4	-27	-43	2P	21	350	48
BAKER LAKE	-32	-3	-26	-38	1	34	300	46
CAMBRIDGE BAY	-33	-1	-23	-39	1P	21	290	46
CAPE DYER	-32P	-9P	-25P	-38P	1P	123	290	33
CLYDE	-33	-6	-24	-40	1P	32	310	56
COPPERMINE	-31P	*	-23P	-38P	1P	20	250	41
CORAL HARBOUR	-28	-2	-21	-33	0	30		X
EUREKA	-41P	-4P	-28	-50P	2P	21	050	56
FORT SMITH	-9P	7P	4P	-22	3P	40		X
FROBISHER BAY	-31P	-7P	-22P	-38P	2P	19	330	50
HALL BEACH	-33	-2	-29	-40	1	28	300	74
INUVIK	-26	1	-12	-38	1P	38		X
MOULD BAY	-35	-2	-27	-43	2P	30		X
NORMAN WELLS	-18	3	-10	-29	2	22		X
RESOLUTE	-37	-5	-29	-44	2P	31	340	63
SACHS HARBOUR	-30	-1	-21	-35	1	11		X
YELLOWKNIFE	-17P	3P	-8P	-29P	2P	43		*
ALBERTA								
CALGARY INT'L	1	5	12	-5	5	3		*
COLD LAKE	0	7	5	-11	3	4		*
CORONATION	1	8	8	-3	1	0	180	43
EDMONTON NAMAO	0	5	4	-7	1P	3	180	39
FORT MCMURRAY	-1P	9P	9P	-11P	2P	4		X
HIGH LEVEL	-8	2	3	-22	1	35		*
JASPER	1	4	10	-7	1	1		X
LETHBRIDGE	2	4	14	-8	15P	10	220	41
MEDICINE HAT	3	6	13	-7	19	7		*
PEACE RIVER	-4	5	3	-11	10	12		*
SASKATCHEWAN								
CREE LAKE	-6	5	2	-20	2	30	220	33
ESTEVAN	2	8	11	-3	1P	0	180	41
LA RONGE	-1	9	8	-17	1P	14	260	39
REGINA	2	9	9	-4	1	0	140	31
SASKATOON	0	9	5	-12	4P	0		*
SWIFT CURRENT	3P	8P	9P	-2P	1P	0		X
YORKTON	-2	8	7	-13	1	6		*
MANITOBA								
BRANDON	-2	7	7	-11	1	6		*
CHURCHILL	-21	-1	-7	-32	4P	22	320	39
LYNN LAKE	-10	4	0	-30	5	20		*

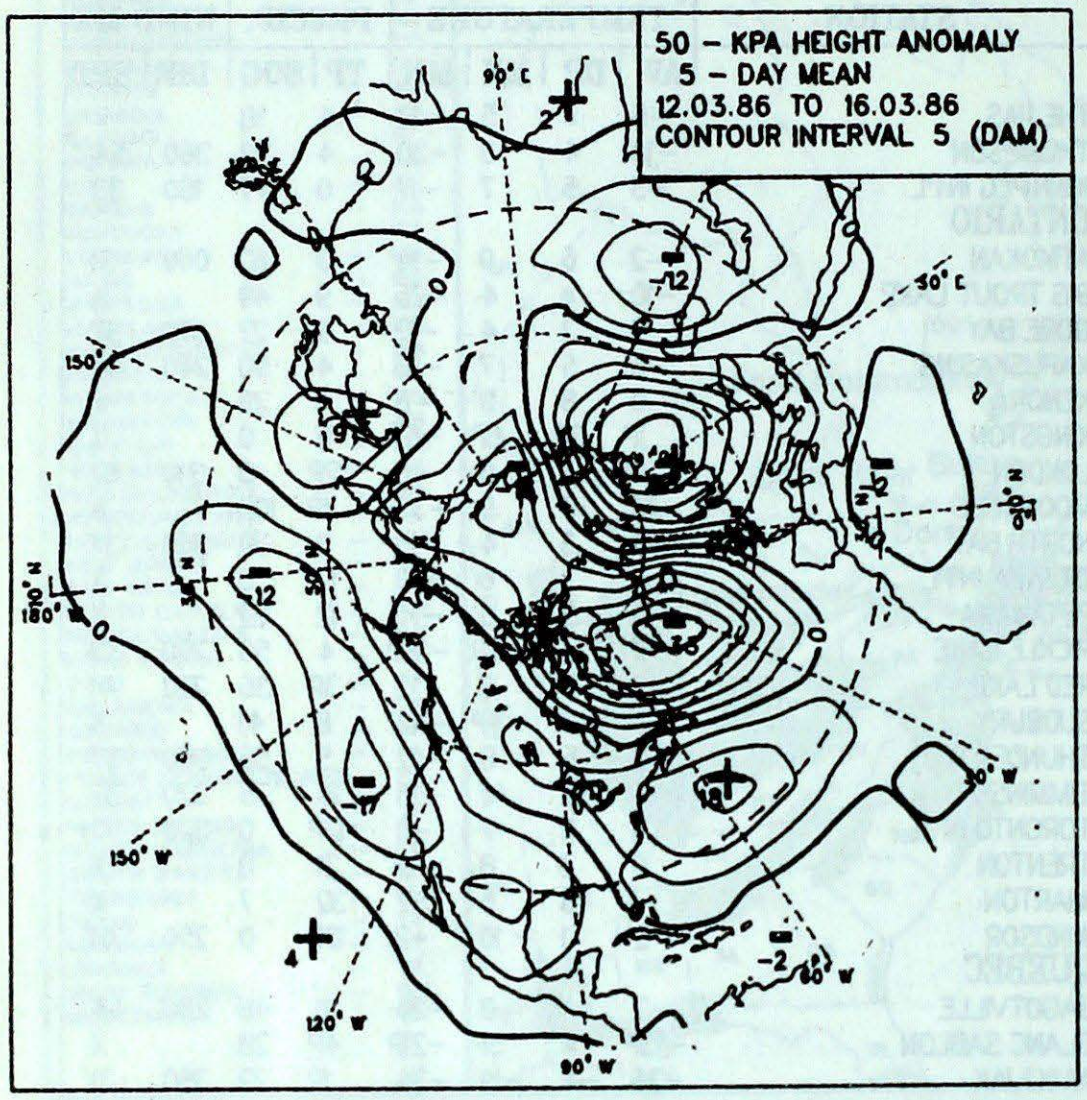
STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
THE PAS	-5	*	5	-19	4	18		*
THOMPSON	-10	4	3	-30	4	29	360	54
WINNIPEG INT'L	-3	5	7	-17	0	7	180	33
ONTARIO								
ATIKOKAN	-2	6	9	-14	3	62	060	31
BIG TROUT LAKE	-10	*	4	-25	9	49		*
GORE BAY	-2	3	4	-12	9	27	070	37
KAPUSKASING	-5	5	7	-18	4	50	240	44
KENORA	0	8	8	-8	1	29		*
KINGSTON	1P	3P	6P	-5P	6	0		X
LONDON	0	1	5	-6	12P	0	310	67
MOOSONEE	-13	0	9	-33	1P	105		*
NORTH BAY	-2	3	4	-10	8	39	360	37
OTTAWA INT'L	-1	3	6	-10	12	0		X
PETAWAWA	-3	3	6	-14	12	22		X
PICKLE LAKE	-6P	6P	7P	-18P	4	56	290	33
RED LAKE	-2	7	8	-13	3P	36	220	41
SUDBURY	-2P	4P	4P	-10P	8	41		X
THUNDER BAY	-2	5	8	-12	5	56	060	37
TIMMINS	-4	5	6	-16	14	75	020	37
TORONTO INT'L	1	3	7	-6	12P	0	320	70
TRENTON	0	2	8	-9	21	0		X
WIARTON	-1	3	5	-7	32	7		X
WINDSOR	2	1	10	-2	12P	0	250	61
QUEBEC								
BAGOTVILLE	-7	1	3	-26	11	48	280	44
BLANC SABLON	-13P	*	5P	-21P	4P	28		X
INUKJUAK	-26	-4	-19	-34	1P	22	350	31
KUUJJUAQ	-25	-6	-18	-35	1P	74	280	48
KUUJJUARAPIK	-24	-6	-10	-36	1P	59	210	35
MANIWAKI	-3	3	6	-15	20P	39		*
MONT JOLI	-7	-1	0	-16	10	23	030	54
MONTREAL INT'L	-1	2	5	-11	20	14	240	74
NATASHQUAN	-13	-6	-3	-26	20	37	270	72
QUEBEC	-5	0	3	-16	23	95	070	46
SCHEFFERVILLE	-21	-5	-12	-34	1	36	330	48
SEPT-ILES	-11	-3	0	-24	13	42	300	37
SHERBROOKE	-2	4	6	-15	29	30	300	52
VAL D'OR	-6	3	4	-17	16P	96	350	50
NEW BRUNSWICK								
CHARLO	-8	-1	2	-21	31	54	290	41
CHATHAM	-6	-2	4	-21	23	45	070	50
FREDERICTON	-5	-2	4	-21	46	43	050	44
MONCTON	-5P	-2P	4P	-21P	35P	44	320	56
SAINT JOHN	-4	0	6	-21	55	37	320	65
NOVA SCOTIA								
GREENWOOD	-2	0	10	-17	78	5	340	85
SHEARWATER	-3P	-1P	3P	-11P	82	14	340	61
SYDNEY	-6	-3	5	-16	55	76	310	70
YARMOUTH	0	1	9	-8	101	0	350	72
PRINCE EDWARD ISLAND								
CHARLOTTETOWN	-6	-2	4	-18	43	43	330	59
SUMMERSIDE	-5	-2	4	-18	23	57	060	96
NEWFOUNDLAND								
CARTWRIGHT	-16	-7	-7	-25	1P	102	320	63
CHURCHILL FALLS	-18P	-4P	-9P	-28P	1	74	290	56
GANDER INT'L	-9	-5	0	-21	20	37	330	70
GOOSE	-15	-5	-3	-25	0P	43	290	46
PORT-AUX-BASQUES	-7	-4	0	-16	24	44	300	85
ST JOHN'S	-7P	-4P	4P	-13P	34P	27	320	93
ST LAWRENCE	-5	-3	4	-15	61	40		X
WABUSH LAKE	-17P	-1P	-7P	-30P	2	60		*

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

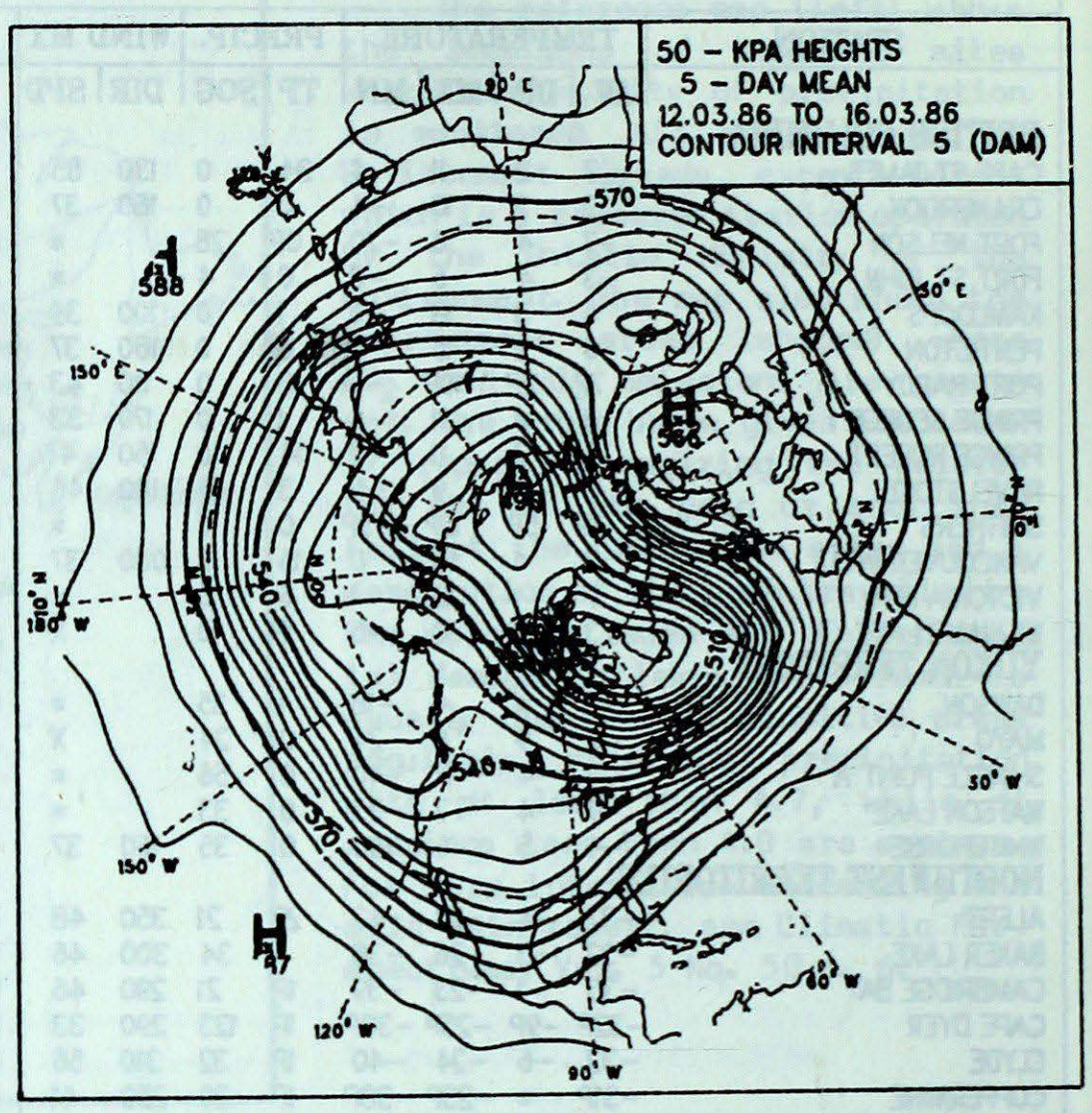
DIR = direction of maximum wind speed (deg. from true north)
SPD = maximum wind speed in km/hour

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

50 KPa ATMOSPHERIC CIRCULATION



MEAN 50 KPa HEIGHT ANOMALY (dam)
March 12 to March 16, 1985



MEAN 50 KPa HEIGHTS (dam)
March 12 to March 16, 1985

ACID RAIN

Cont'd from page 6

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Montmorency	10	4.5	45(m)	West Virginia, Pennsylvania, New York, Southern Quebec
	11	4.7	1(s)	New York, Southern Quebec
	13	4.6	1(s)	New York, Southern Quebec
	15	4.6	5(s)	New Jersey, Vermont, Southern Quebec
Kejimkujik	9	4.8	1(s)	Central Ontario, Eastern Ontario, New England
	10	4.3	16(m)	Tennessee, Virginia, New Jersey, Atlantic Ocean
	11	4.2	4(m)	Atlantic Ocean
	13	5.0	7(r)	Atlantic Ocean
	14	5.1	52(r)	Atlantic Ocean
	15	4.1	4(r)	Atlantic Ocean

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