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Canada

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Climatic Perspectives

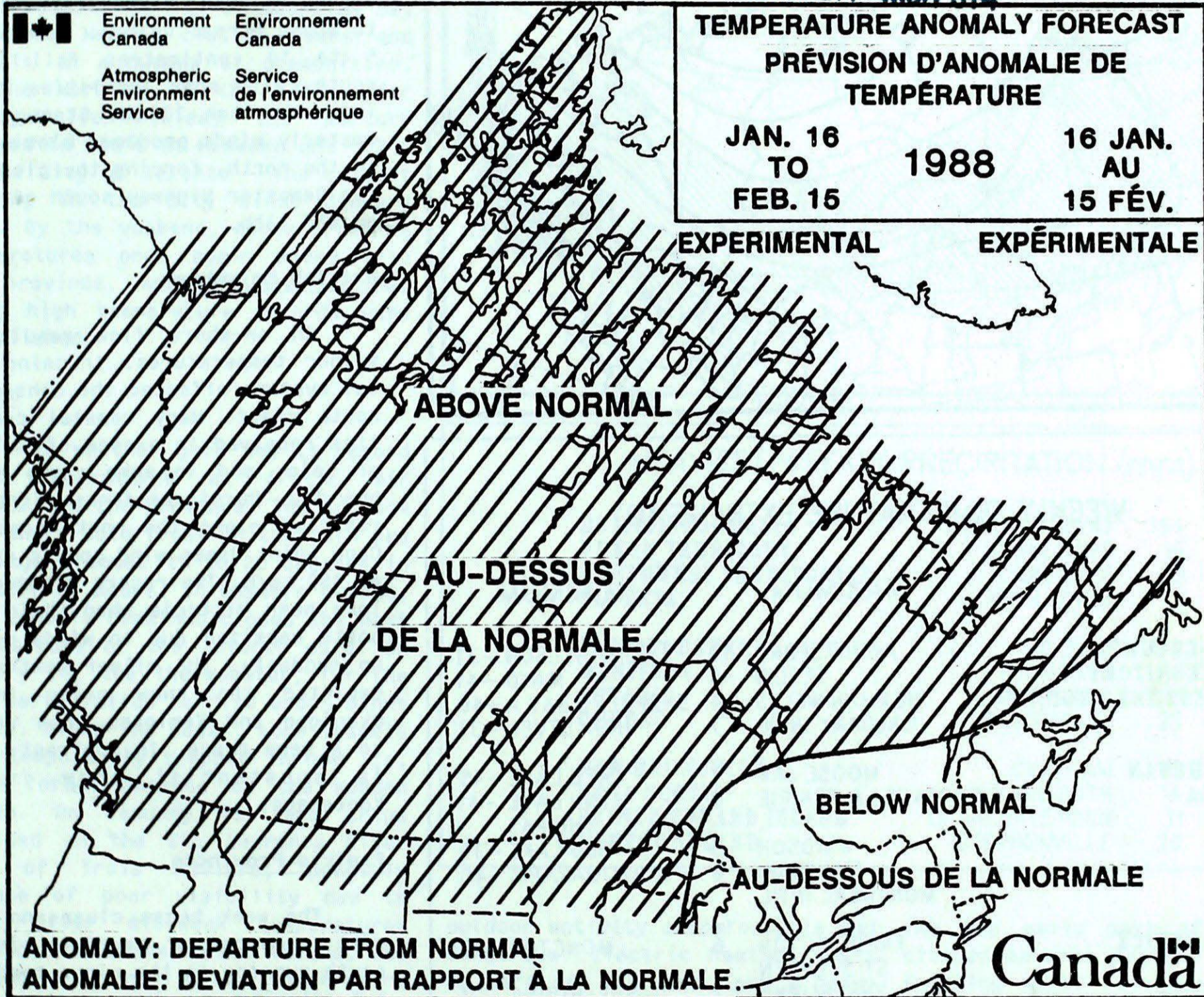
MONTHLY
SUPPLEMENT
INCLUDED

A weekly review of Canadian climate

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January 1988
1909 DUFFERIN ST.

Vol.10 No.3

DOWNSVIEW, ONTARIO
CANADA M3H 5T4

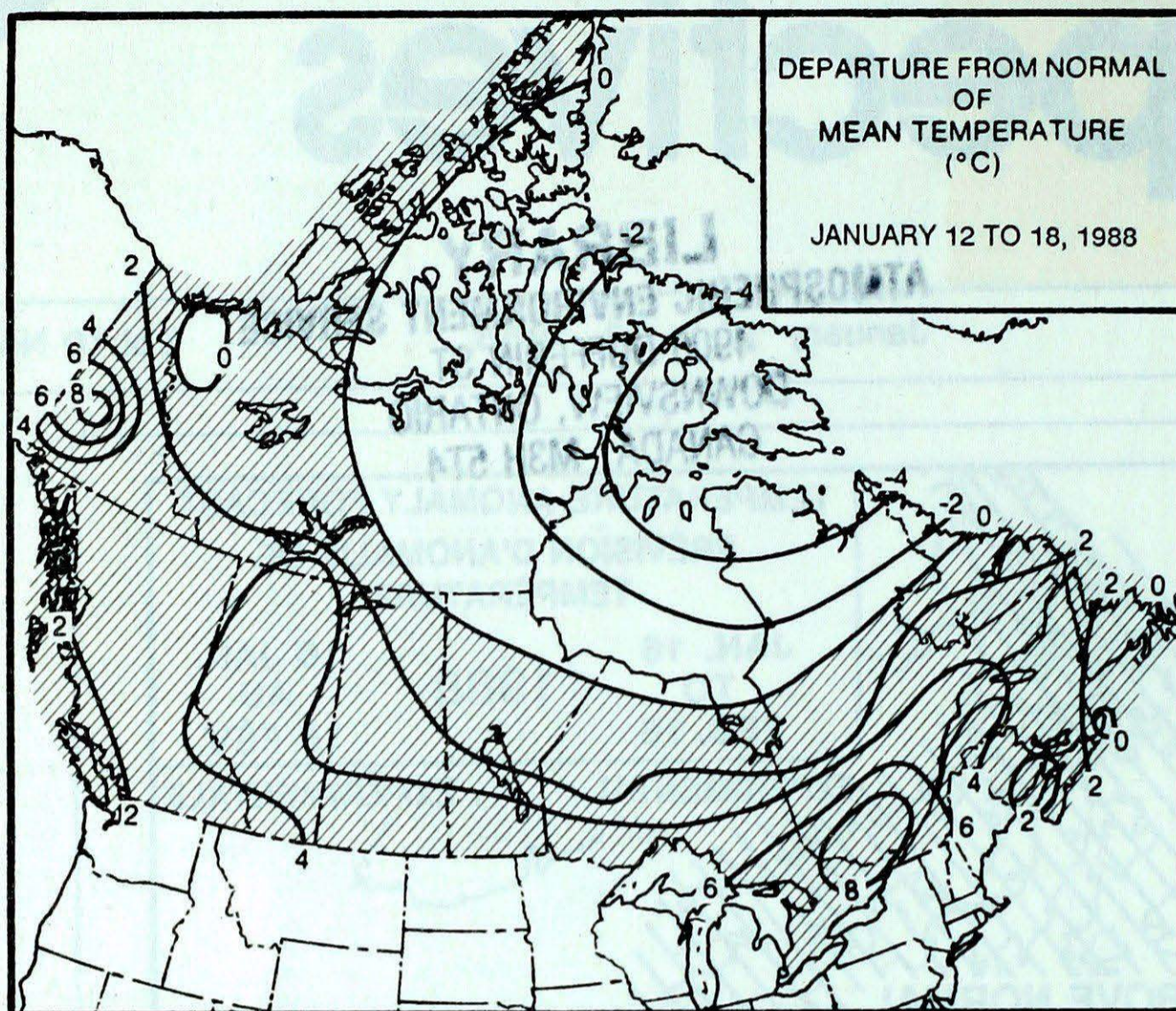


The above map is the latest in the evolution towards developing an acceptable format to be used in the official public product which will be formally introduced early this year. Stations near the line separating the two categories are expected to be in the transition zone between above and below normal monthly averaged temperatures. Please forward any comments to the Canadian Climate Centre at the address listed on page 4 or call (416) 667-4829.

- **Bone-chilling cold sweeps across Eastern Canada**
- **Mild air returns to Western Canada**

Canada

TEMPERATURE



ACROSS THE COUNTRY

Yukon and Northwest Territories

An intense cyclonic storm moved up the Labrador coast and produced blizzard conditions over Baffin Island on January 15. Winds were clocked gusting to 159 km/h at Cape Dyer. At Iqaluit everything was closed down all day due to nil visibility. Milder air covered the Yukon, allowing temperatures to rise to above normal values. Snowfalls of 5 to 10 centimetres fell in the south, with some localities receiving more than 20 cm. Strong northeasterly winds produced blowing snow in the north, forcing the closure of the Dempster Highway south of Inuvik on the 13th.

British Columbia

An on-shore flow resulted in milder temperatures. Incoming frontal systems affected the central and south coast. Many coastal communities received in excess of a 100 mm of rain, and in some cases all in one day. Hurricane-force winds were reported along the north coast. At Cape Saint James wind speeds exceeded 150 km/h. Two racers drowned at a lake near Victoria when their scull boats capsized due to winds picking up suddenly. The milder weather has depleted the snow cover in the Okanagan and Kamloops area valleys to a mere trace. In contrast, there is substantial snow in the Kootenays.

Prairie Provinces

The week began clear and cold, with temperature readings in the south running in the minus twenties, but dipping as low as the minus forties in the northeast. Weather systems deposited much needed snow in the agricultural districts during the first half of the period, but milder weather which followed depleted most of the fresh snow cover. The mercury in the extreme south climbed above freezing, nudging 8°C at Lethbridge. Temperatures cooled down over the weekend. On January 15, parts of northern Alberta received 15 cm of new snow, while some freezing rain fell in southern Manitoba.

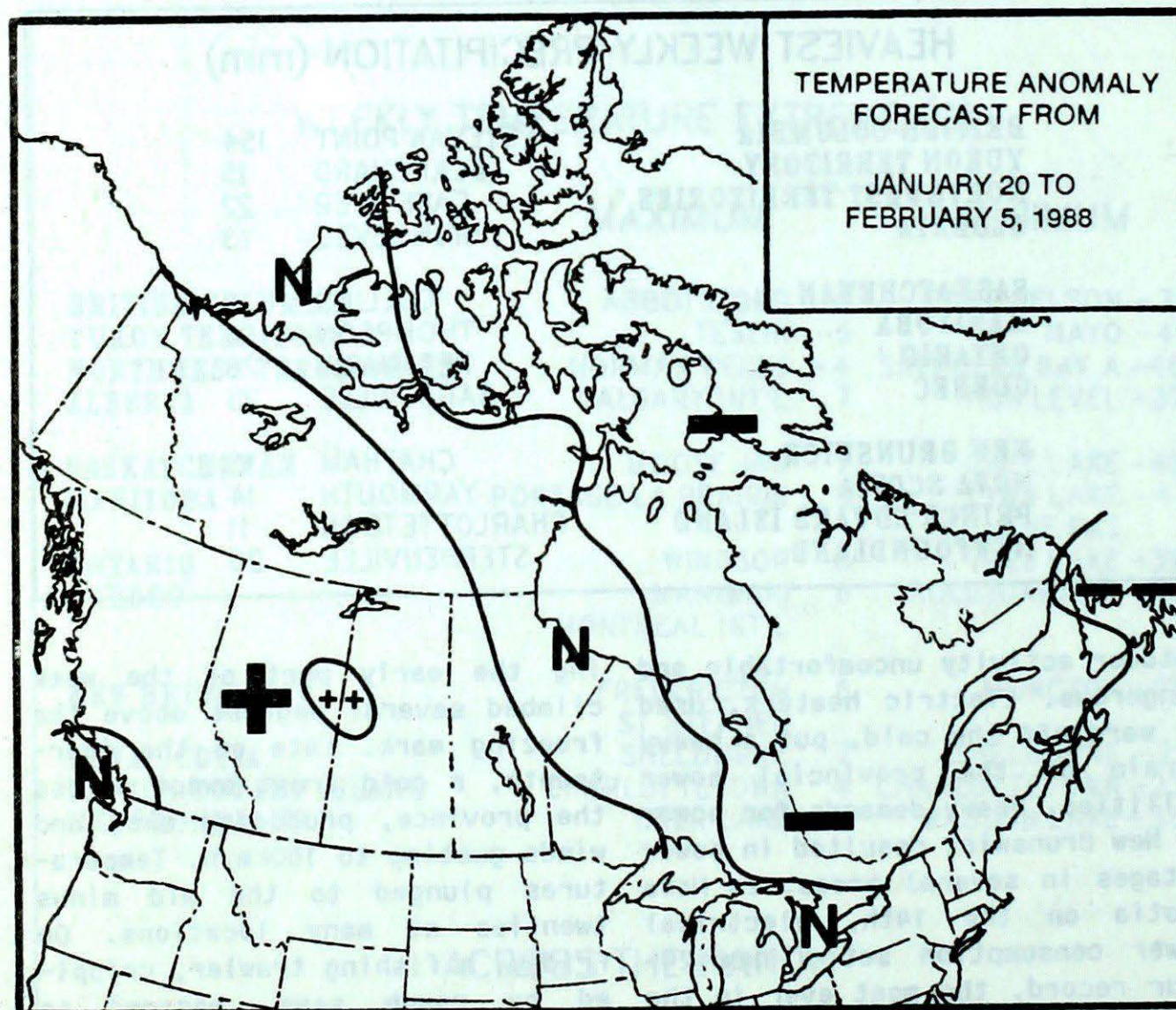
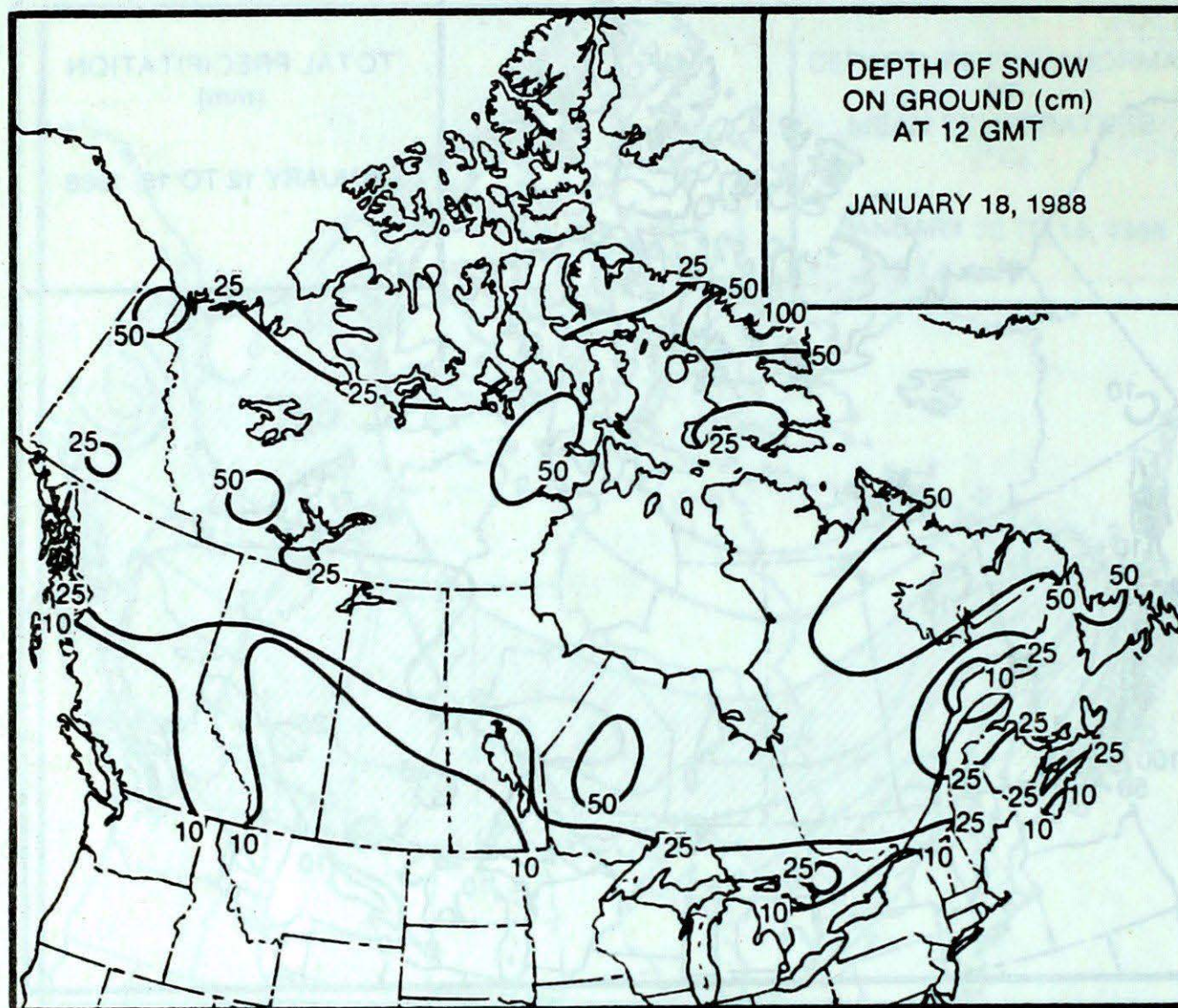
WEEKLY TEMPERATURE EXTREME (C)

	MAXIMUM	MINIMUM
BRITISH COLUMBIA	ABBOTSFORD 10	FORT NELSON -31
YUKON TERRITORY	TESLIN -5	MAYO -41
NORTHWEST TERRITORIES	NORMAN WELLS -4	SHEPHERD BAY A -46
ALBERTA	CALGARY INT'L 7	HIGH LEVEL -37
SASKATCHEWAN	MOOSE JAW 7	CREE LAKE -45
MANITOBA	PORTAGE LA PRAIRIE 3	LYNN LAKE -41
ONTARIO	WINDSOR 8	THE PAS
QUEBEC	MANIWAKI 6	RED LAKE -39
	MONTREAL INT'L	KUUJJIARAPIK -40
NEW BRUNSWICK	FREDERICTON 6	MONCTON -27
NOVA SCOTIA	ST STEPHEN	SHELBURNE -21
PRINCE EDWARD ISLAND	SHELBURNE 7	CHARLOTTETOWN -23
NEWFOUNDLAND	CHARLOTTETOWN 4	WABUSH LAKE -36
	DEER LAKE 6	

ACROSS THE NATION

WARMEST MEAN TEMPERATURE	5	VANCOUVER INT'L	BC
COOLEST MEAN TEMPERATURE	-37	EUREKA	NWT
		HALL BEACH	NWT

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

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 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.

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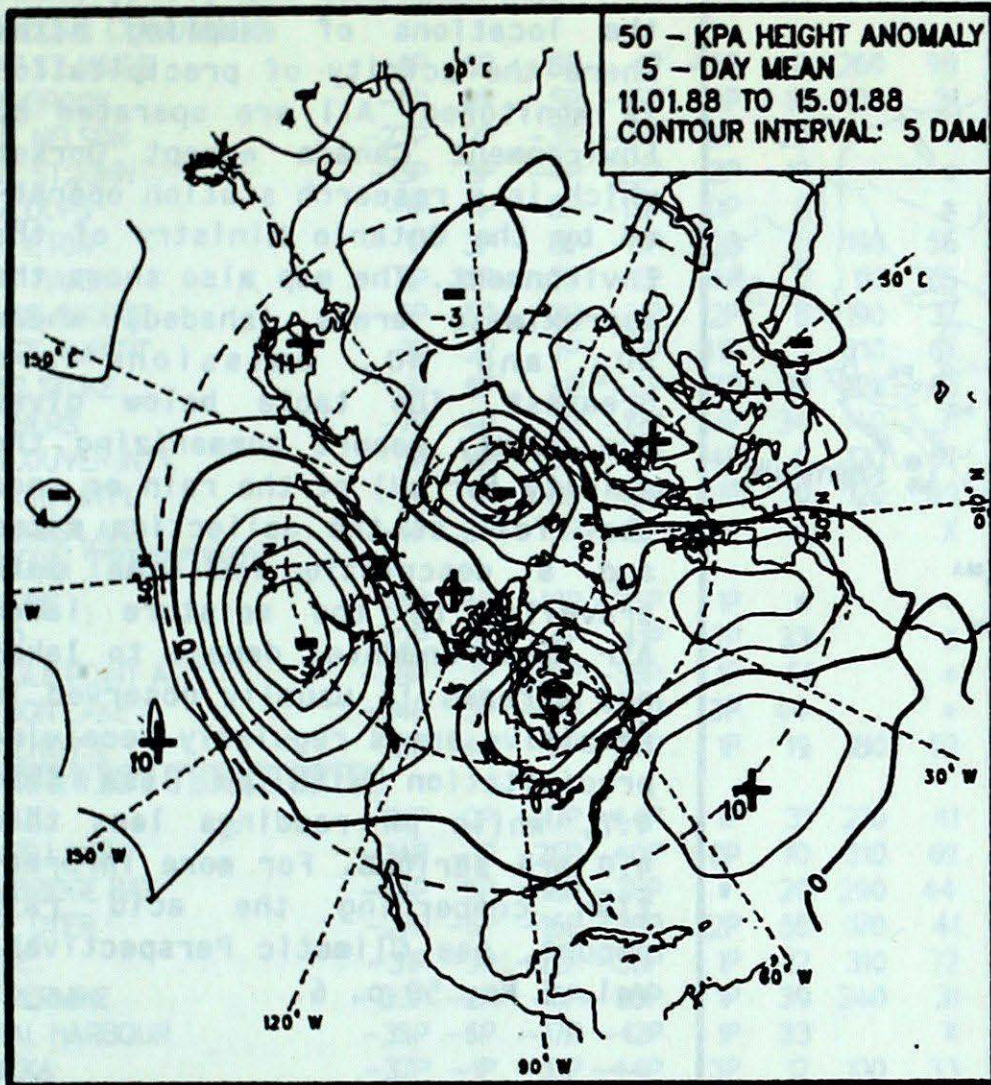
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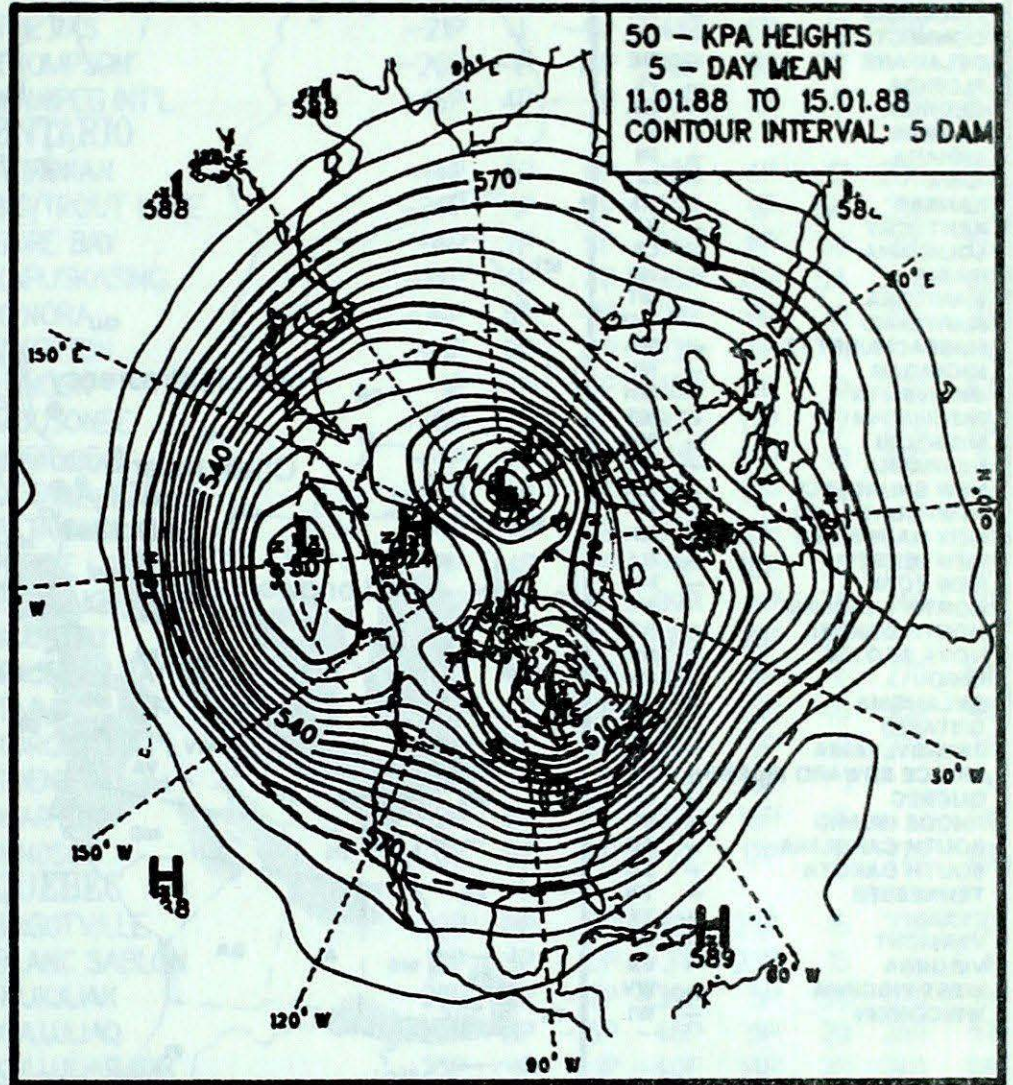
weekly & monthly supplement: \$35.00
 foreign: \$42.00
 Monthly issue: \$10.00
 foreign: \$12.00

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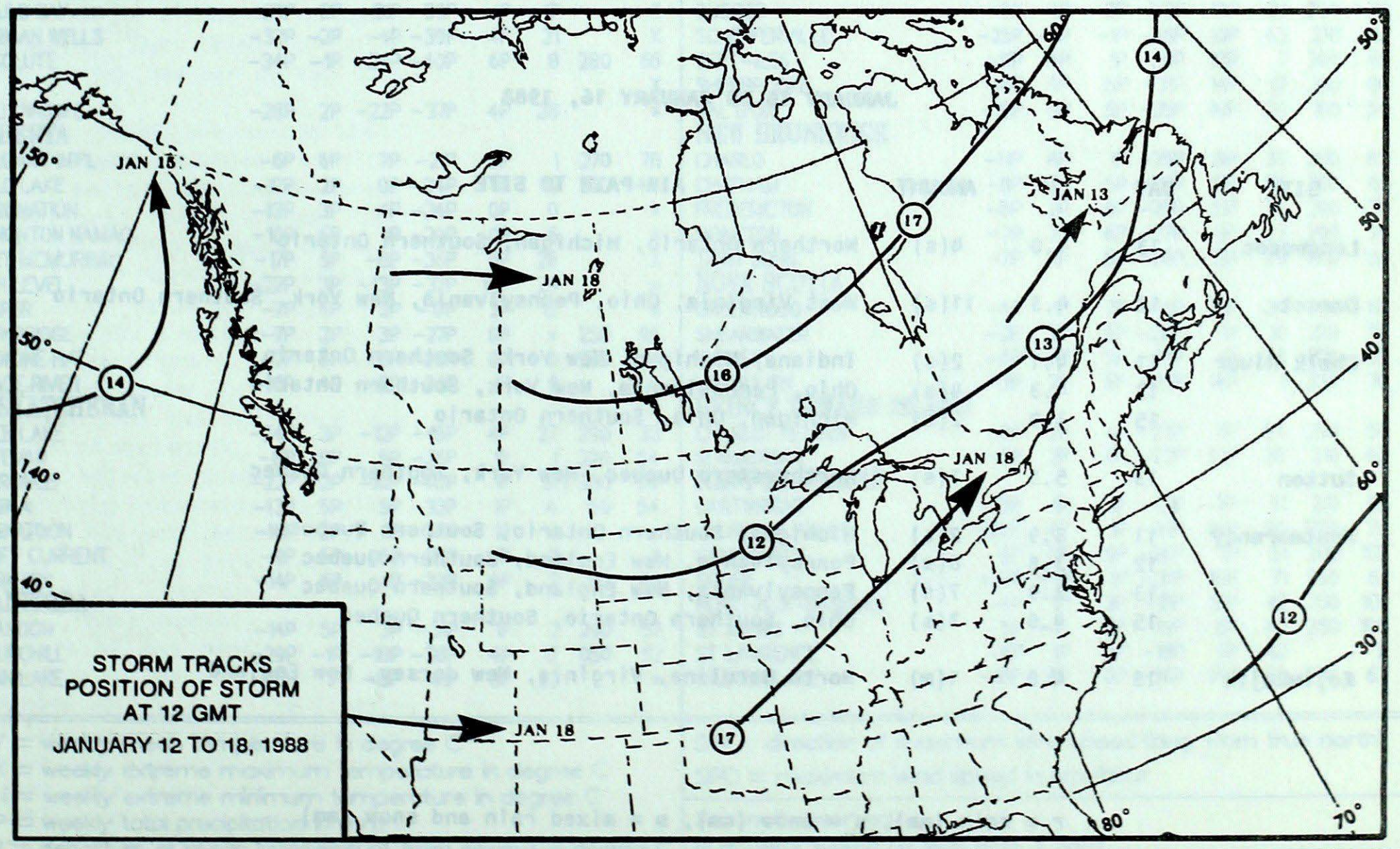
50 KPa ATMOSPHERIC CIRCULATION



MEAN 50 KPa HEIGHT ANOMALY (dam)

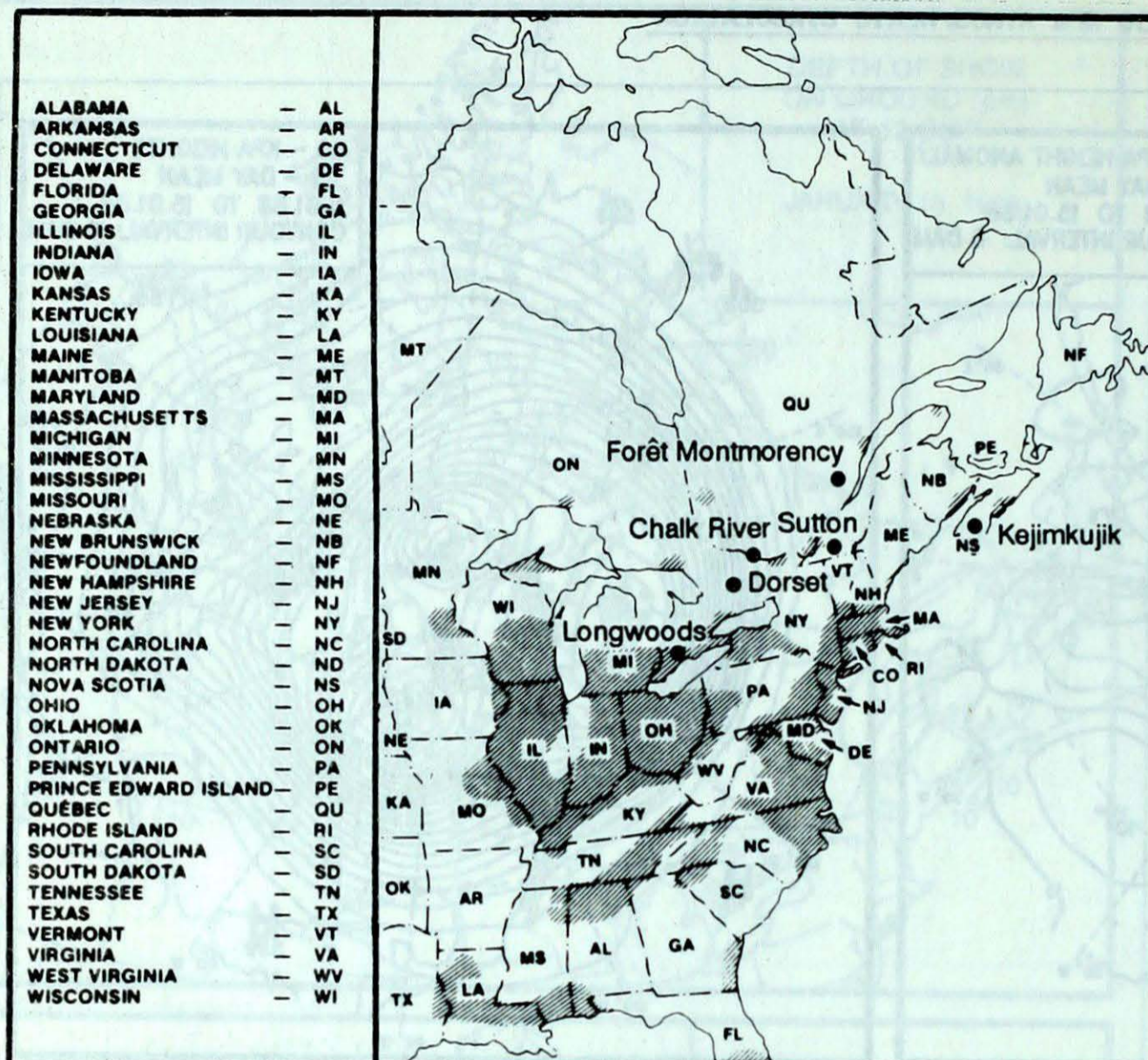


MEAN 50 KPa HEIGHTS (dam)



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.

JANUARY 10 TO JANUARY 16, 1988

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	13	4.0	4(s)	Northern Ontario, Michigan, Southern Ontario
Dorset	12	4.3	11(s)	West Virginia, Ohio, Pennsylvania, New York, Southern Ontario
Chalk River	11	4.1	2(s)	Indiana, Michigan, New York, Southern Ontario
	12	4.3	4(s)	Ohio, Pennsylvania, New York, Southern Ontario
	15	3.9	2(s)	Michigan, Ohio, Southern Ontario
Sutton	13	5.1	1(s)	Northwestern Quebec, New York, Southern Quebec
Montmorency	11	3.9	2(s)	Michigan, Southern Ontario, Southern Quebec
	12	3.8	6(m)	Pennsylvania, New England, Southern Quebec
	13	3.9	7(s)	Pennsylvania, New England, Southern Quebec
	15	4.0	3(s)	Ohio, Southern Ontario, Southern Quebec
Kejimikujik	13	4.0	1(m)	North Carolina, Virginia, New Jersey, New England

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

TEMPERATURE, PRECIPITATION AND MAXIMUM WIND DATA FOR THE WEEK ENDING 0600 GMT JANUARY 19, 1988

STATION	TEMPERATURE				PRECIP.		WIND MX		STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD		AV	DP	MX	MN	TP	SOG	DIR	SPD
BRITISH COLUMBIA									THE PAS	-21P	1	-9P	-41P	6P	17	290	44
CAPE ST. JAMES	4P	0P	8P	1P	46P	0	260	98	THOMPSON	-26P	-1P	-15P	-38P	3P	27		*
CRANBROOK	-6P	2P	5P	-16P	9P	16	100	31	WINNIPEG INT'L	-16P	4P	1P	-33P	1P	5	170	52
FORT NELSON	-23P	2P	-3P	-31P	3P	29		*	ONTARIO								
FORT ST. JOHN	-15P	3P	-4P	-23P	2P	19		*	ATIKOKAN	-14P	4P	0P	-38P	4P	17	280	33
KAMLOOPS	-1P	4P	8P	-13P	0P	0		*	BIG TROUT LAKE	-24P	1P	-12P	-39P	9P	54	310	48
PENTICTON	1P	3P	8P	-5P	0P	0	190	56	GORE BAY	-4P	7P	5P	-24P	11P	24	210	65
PORT HARDY	3P	0P	7P	-2P	74P	0	110	65	KAPUSKASING	-14P	4P	4P	-36P	15P	54	200	63
PRINCE GEORGE	-5P	5P	3P	-21P	2P	8	190	37	KENORA	-14P	5P	-1P	-31P	9P	30	290	35
PRINCE RUPERT	2P	2P	7P	-3P	31P	1	210	67	KINGSTON	-1P	9P	3P	-23P	0P	1		X
REVELSTOKE	-1P	6P	4P	-6P	7P	22	220	43	LONDON	-1P	7P	6P	-18P	15P	0	200	63
SMITHERS	-7P	4P	2P	-19P	7P	34	140	31	MOOSONEE	-20P	1P	3P	-37P	12P	77	270	56
VANCOUVER INT'L	5P	2P	9P	-1P	34P	0	120	67	NORTH BAY	-4P	9P	4P	-31P	14P	18	190	70
VICTORIA INT'L	4P	1P	8P	-2P	21P	0	120	80	OTTAWA INT'L	-4P	8P	4P	-26P	17P	14		X
WILLIAMS LAKE	-4P	3P	3P	-15P	0P	6		X	PETAWAWA	-4P	12P	6P	-30P	28P	21		X
YUKON TERRITORY									PICKLE LAKE	-20P	1P	-1P	-39P	18P	50	270	67
DAWSON	-25P	4P	-18P	-35P	1P	*		*	RED LAKE	-17P	3P	-2P	-39P	6P	28	140	39
MAYO	-22P	10P	-4P	-41P	2P	33		X	SUDBURY	-7P	8P	4P	-31P	15P	22		X
SHINGLE POINT A	-28P	1P	-20P	-38P	1P	51		*	THUNDER BAY	-12P	4P	3P	-32P	6P	6	270	54
WATSON LAKE	-24P	3P	-17P	-32P	3P	44		*	TIMMINS	-13P	6P	3P	-34P	25P	49	350	46
WHITEHORSE	-18P	4P	-8P	-27P	1P	19	180	52	TORONTO INT'L	-1P	7P	7P	-22P	9P	0	270	76
NORTHWEST TERRITORIES									TRENTON	-2P	7P	6P	-22P	6P	1		X
ALERT	-31P	0P	-17P	-44P	1P	31	270	41	WIARTON	-2P	6P	7P	-20P	16P	5		X
BAKER LAKE	-34P	-1P	-26P	-40P	0P	70	310	69	WINDSOR	0P	6P	8P	-11P	17P	0	270	69
CAMBRIDGE BAY	-34P	0P	-18P	-38P	*	20	290	44	QUEBEC								
CAPE DYER	-27P	-6P	-16P	-38P	22P	55	070	41	BAGOTVILLE	-9P	8P	5P	-30P	25P	15	270	70
CLYDE	-31P	-5P	-22P	-38P	1P	22	310	72	BLANC SABLON	-13P	1P	0P	-31P	23P	15		X
COPPERMINE	-33P	-2P	-6P	-38P	1P	39	240	31	INUKJUAQ	-27P	-3P	-17P	-39P	5P	36	070	61
CORAL HARBOUR	-35P	-6P	-17P	-42P	1P	33		X	KUUVJUAQ	-29P	-6P	-15P	-40P	5P	29	260	57
EUREKA	-37P	-1P	-31P	-44P	3P	12	100	33	KUUVJUAPIK	-25P	-1P	-1P	-40P	14P	28	240	89
FORT SMITH	-23P	4P	-14P	-39P	3P	35		X	MANIWAKI	-5P	11P	6P	-30P	18P	25	340	48
IQUALUIT	-31P	-6P	-15P	-36P	0P	20	320	83	MONT JOLI	-6P	6P	5P	-25P	15P	7	280	78
HALL BEACH	-37P	-7P	-30P	-43P	*	30		*	MONTREAL INT'L	-4P	7P	6P	-25P	5P	3	220	89
INUVIK	-35P	-3P	-4P	-42P	4P	39		X	NATASHQUAN	-10P	3P	1P	-26P	14P	22	270	78
MOULD BAY	-32P	2P	-21P	-39P	1P	17		X	QUEBEC	-9P	4P	3P	-28P	19P	39	230	78
NORMAN WELLS	-32P	-2P	-4P	-39P	4P	21		X	SCHIEFFERVILLE	-25P	-1P	-1P	-36P	10P	63	270	93
RESOLUTE	-34P	-1P	-24P	-40P	6P	8	280	65	SEPT-ILES	-11P	4P	1P	-28P	13P	7	200	65
								X	SHERBROOKE	-6P	9P	5P	-31P	14P	17	260	80
YELLOWKNIFE	-28P	2P	-22P	-37P	4P	28		*	VAL D'OR	-10P	8P	5P	-35P	18P	29	180	54
ALBERTA									NEW BRUNSWICK								
CALGARY INT'L	-6P	6P	7P	-21P	0P	1	270	78	CHARLO	-11P	4P	1P	-25P	19P	30	280	83
COLD LAKE	-17P	2P	0P	-34P	1P	5	270	44	CHATHAM	-8P	3P	5P	-25P	17P	24	290	65
CORONATION	-13P	3P	4P	-24P	0P	0		*	FREDERICTON	-8P	2P	6P	-26P	15P	36	290	70
EDMONTON NAMAO	-10P	5P	1P	-20P	0P	6		*	MONCTON	-7P	2P	6P	-27P	8P	23	290	74
FORT MCMURRAY	-17P	5P	-8P	-36P	5P	26		X	SAINT JOHN	-7P	1P	5P	-26P	12P	29	200	56
HIGH LEVEL	-22P	3P	-13P	-37P	13P	29		*	NOVA SCOTIA								
JASPER	-7P	6P	2P	-17P	3P	12		X	GREENWOOD	-4P	1P	7P	-18P	12P	24	240	67
LETHBRIDGE	-7P	2P	3P	-27P	0P	*	250	96	SHEARWATER	-2P	3P	6P	-20P	1P	10	220	57
MEDICINE HAT	-7P	5P	6P	-26P	0P	0	270	52	SYDNEY	-6P	-1P	5P	-18P	1P	28	220	59
PEACE RIVER	-16P	4P	-8P	-24P	1P	9		*	YARMOUTH	-2P	2P	6P	-14P	14P	1	330	70
SASKATCHEWAN									PRINCE EDWARD ISLAND								
CREE LAKE	-24P	3P	-12P	-45P	4P	27	290	33	CHARLOTTETOWN	-6P	2P	4P	-23P	11P	44	290	56
ESTEVAN	-8P	8P	6P	-26P	1P	1	220	54	SUMMERSIDE	-5P	2P	4P	-22P	10P	36	210	63
LA RONGE	-22P	2P	-10P	-40P	1P	51	280	44	NEWFOUNDLAND								
REGINA	-13P	5P	5P	-32P	1P	4	150	54	CARTWRIGHT	-13P	1P	-1P	-21P	7P	91	210	65
SASKATOON	-16P	3P	1P	-34P	1P	6		*	CHURCHILL FALLS	-20P	4P	-1P	-34P	16P	90	280	78
SWIFT CURRENT	-9P	5P	5P	-28P	1P	2		X	GANDER INT'L	-6P	0P	5P	-24P	1P	31	280	102
YORKTON	-14P	6P	4P	-32P	0P	2	310	46	GOOSE	-17P	-1P	1P	-31P	18P	71	260	67
MANITOBA									PORT-AUX-BASQUES	-4P	1P	3P	-15P	15P	42	280	107
BRANDON	-14P	5P	3P	-31P	1P	2	290	52	ST JOHN'S	-5P	-1P	3P	-19P	6P	40	280	100
CHURCHILL	-29P	-1P	-18P	-38P	4P	17	050	52	ST LAWRENCE	-4P	1P	3P	-16P	9P	42		X
LYNN LAKE	-26P	1P	-15P	-41P	3P	33		*	WABUSH LAKE	-18P	6P	0P	-36P	14P	56	280	63

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

