

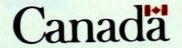
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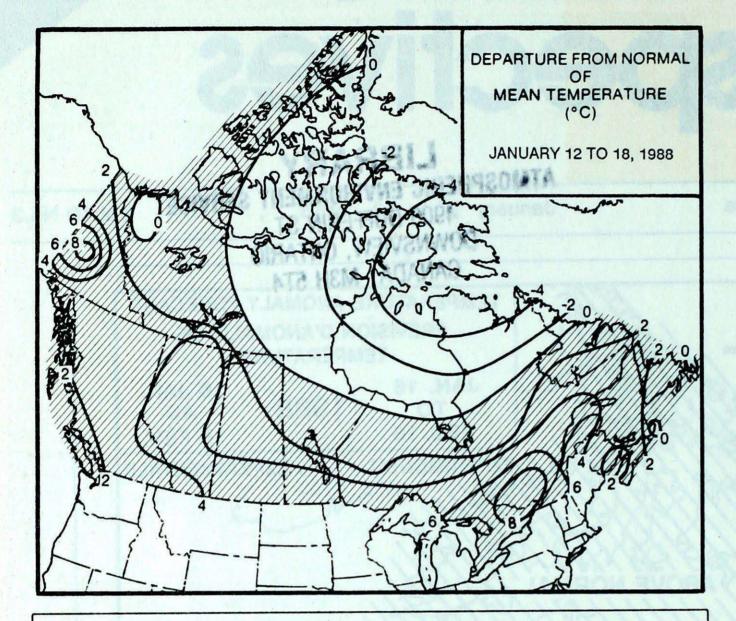
ATMOSPHERIC ENVIRONMENT SERVICE January 1909 DOFFERIN ST. A weekly review of Canadian climate Vol.10 No.3 DOWNSVIEW, ONTARIO CANADA M3H 5TA **TEMPERATURE ANOMALY FORECAST** Environment Environnement Canada Canada **PRÉVISION D'ANOMALIE DE** Atmospheric Service TEMPÉRATURE Environment de l'environnement Service atmosphérique **JAN. 16** 16 JAN. 1988 TO AU 15 FÉV. **FEB. 15** EXPÉRIMENTALE EXPERIMENTAL ABOVE **AU-DESSUS** DE LA NORMAI BELOW NORMAL **A NORMALE** U-DESSOUS DE L ANOMALY: DEPARTURE FROM NORMAL ANOMALIE: DEVIATION PAR RAPPORT À LA NORMALE

ine 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



## TEMPERATURE



### WEEKLY TEMPERATURE EXTREME (C)

	MAXIMUM		MINIMUM
BRITISH COLUMBIA	ABBOTSFORD	10	FORT NELSON -31
YUKON TERRITORY	TESLIN	-5	MAY0 -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
	WINDEAD	~	THE PAS
ONTARIO	WINDSOR	8	RED LAKE - 39
QUEBEC	MANIWAKI	6	KUUJJUARAPIK -40
	MONTREAL INT'L		
NEW BRUNSWICK	FREDERICTON	6	MONCTON -27
	ST STEPHEN		
NOVA SCOTIA	SHELBURNE	7	SHELBURNE -21
PRINCE EDWARD ISLAND	CHARLOTTETOWN	4	CHARLOTTETOWN -23

#### 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 Igaluit 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.

NEWFOUNDLAND

DEERLAKE 6 WA

6 WABUSH LAKE - 36

### ACROSS THE NATION

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

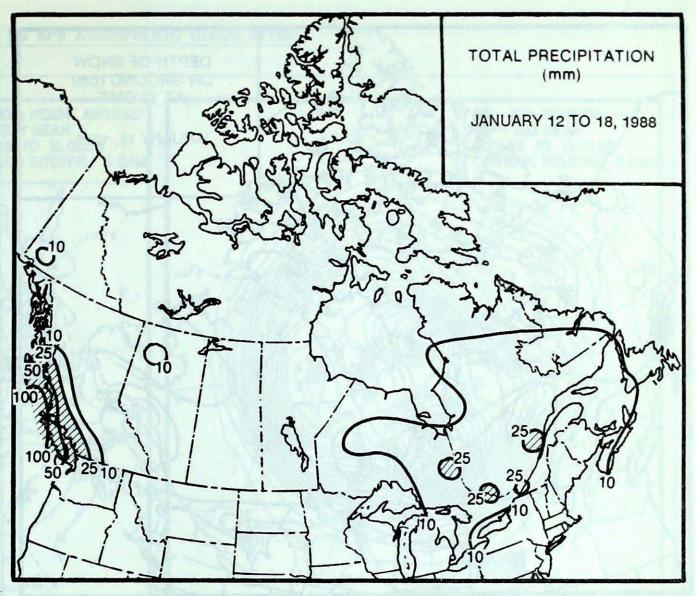
## PRECIPITATION

#### Ontario

Temperatures continued their see-saw pattern of the previous weeks. An intense weather system and associated cold front moved across the province on January 13, producing a mixture of rain and snow. In its wake, a bitterly cold Arctic air mass covered the province. Streets in the Toronto area turned extremely treacherous, and there was a multitude of car accidents. Heavy snow squalls developed to the lee of Georgian Bay and Lake Huron, closing roads and schools in a number of communities. On the morning of the 14th under mainly clear skies, the mercury plunged to -38°C at Muskoka and -22°C in the City of Toronto - the coldest reading in the city since January 1982. By the weekend, above freezing temperatures once again moved into the province, and a number of new daily high temperature records were established.

#### Quebec

Mild weather gave way to record cold temperatures as Arctic air encompassed the province. The passage of a sharp cold front on the 13th saw readings plummet 15 to 20 degrees in a matter of hours. In eastern Quebec, many schools remained closed the next day because of the intense cold. On January 14, the thermometer, for the most part, failed to rise above minus twenty. Along the coast, some vessels were temporarily trapped in new ice, which formed because of the sudden freeze. On January 13, two ships collided on the St. Lawrence River of Trois Rivière, possibly east because of poor visibility due to mid-week temperatures snow. After rebounded to above normal values, and a number of new daily temperature records were established.



### HEAVIEST WEEKLY PRECIPITATION (mm)

BRITISH COLUMBIA	ESTEVAN POINT	154	
YUKON TERRITORY	BLANCHARD	15	
NORTHWEST TERRITORIES	CAPE DYER	22	
ALBERTA	HIGH LEVEL	13	
SASKATCHEWAN	COLLINS	9	
MANITOBA	THOMPSON	6	
ONTARIO	PETAWAWA	28	
QUEBEC	BAGOTVILLE	25	
NEW BRUNSWICK	CHATHAM	15	
NOVA SCOTIA	YARMOUTH	14	
PRINCE EDWARD ISLAND	CHARLOTTETOWN	11	
NEWFOUNDLAND	STEPHENVILLE	20	

utilities. Heavy demands for power in New Brunswick resulted in power outages in several areas. In Nova Scotia on the 14th, electrical power consumption set a new 24hour record, the most ever in the province's history.

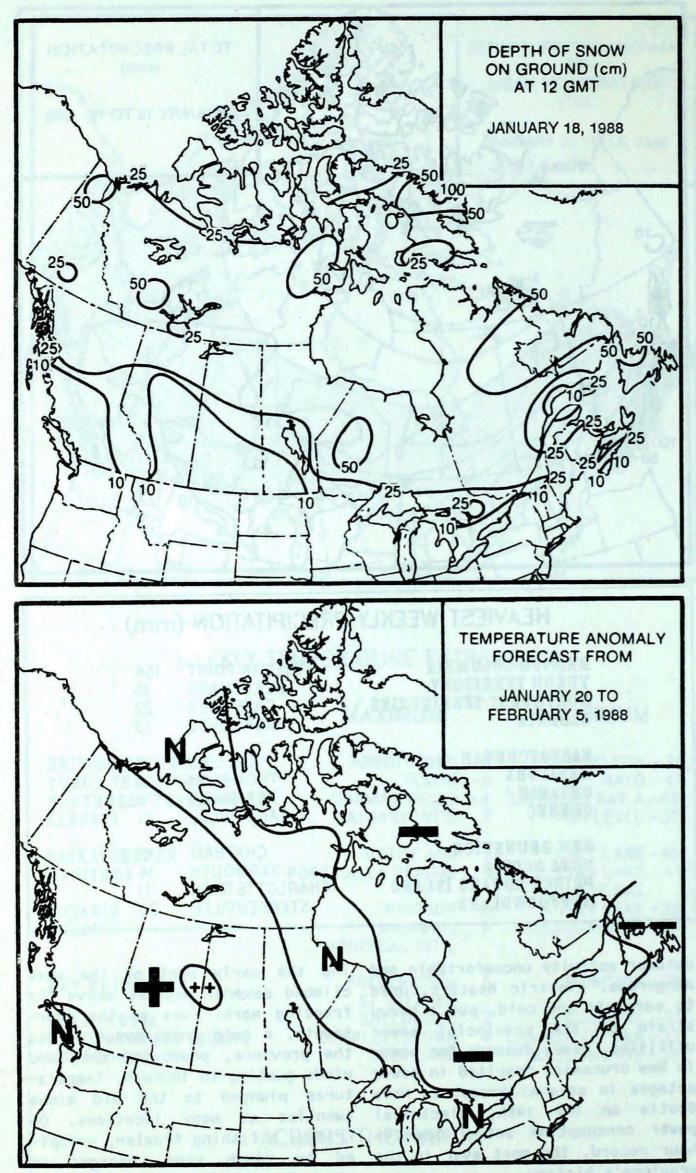
outdoor activity uncomfortable and ing the early part of the week dangerous. Electric heaters, used climbed several degrees above the to ward off the cold, put a heavy freezing mark. Late on the fourstrain on the provincial power teenth, a cold front swept across the province, producing snow and winds gusting to 100km/h. Temperatures plunged to the mid minus twenties at many locations. On Friday, a fishing trawler, crippled by rough seas, managed to reach St. John's minus two of its crew members who fell overboard chipping ice off the vessel. The weather system left 15 to 20 centimetres of fresh snow covering Labrador. Winds gusting to 70 km/h produced high wind chills. More snow and blowing snow was reported in Labrador over the weekend.

#### Maritimes

For a change it was a mostly sunny week, but bitterly cold. The exception was where winds were blowing across stretches of open water, producing streamers of cloud and flurries. The passage of a cold front on the 14th produced some of the coldest temperatures of the year. A low of -22°C at Halifax on January 14, was the lowest temperature recorded since the winter of 1982. Brisk winds, also on the 15th, made

#### Newfound l and

The Island experienced a variety of weather conditions. The coastal districts had periods of snow, especially where there were on-shore winds. Temperatures durFORECAST



CLIMATIC PERSPECTIVES VOLUME 10

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

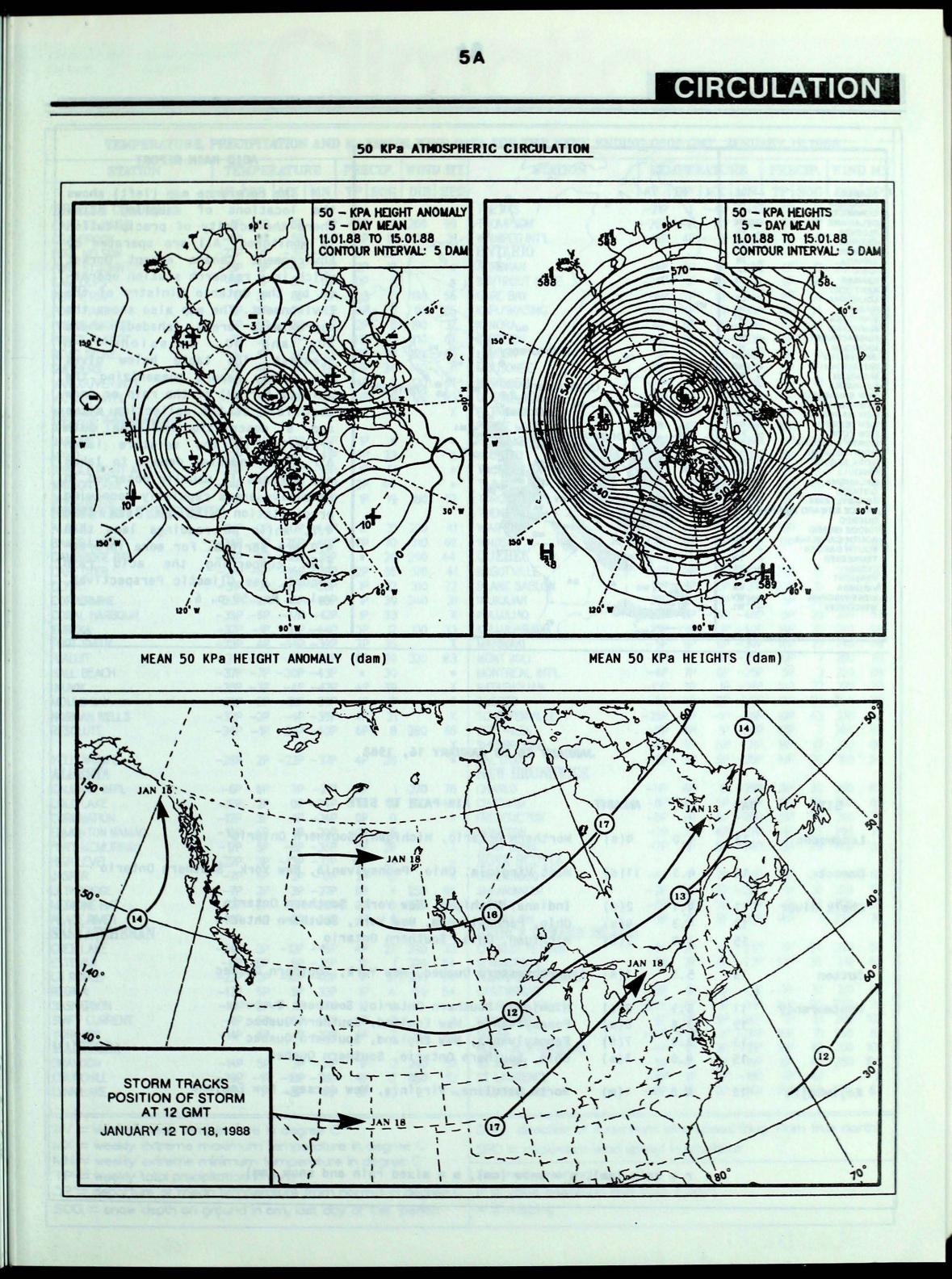
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The data in this publication are based on unverified reports from approximately 225 Canadian synoptic weather stations. Information concerning climatic impacts is gathered from AES contacts with the public and from the media. Articles do not necessarily reflect the views of the Atmospheric Environment Service. Annual Subscriptions weekly & monthly supplement: \$35.00 foreign: \$42.00 Monthly issue: \$10.00 foreign: \$12.00 Orders must be prepaid by money order or cheque payable to Receiver Canadian Gov-General for Canada. ernment Publishing Centre, Ottawa, (613)994-1495 Ontario K1A 0S9

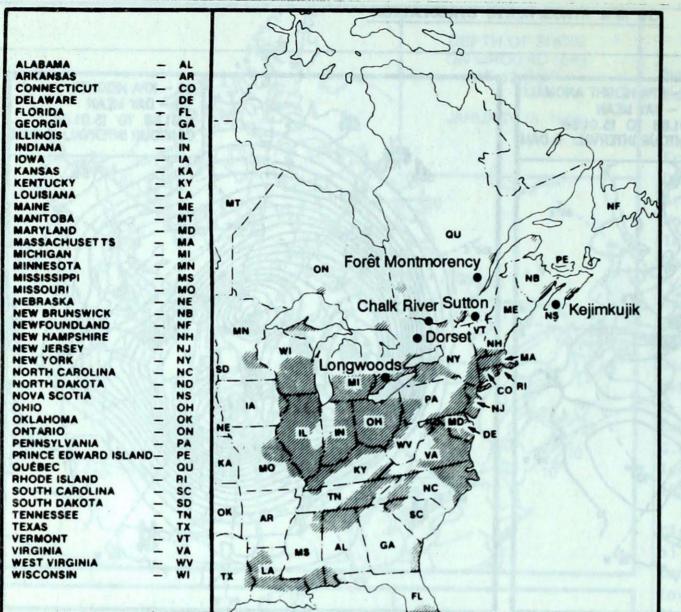
#### Temperature Anomaly Forecast

- ++ 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.



## 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

6A

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

Kejimkujik 13 4.0 1(m) North Carolina, Virginia, New Jersey, New England

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

# STATISTICS

STATION	TEN	PER	RATU	RE	PREC	IP.	WIN	DMX	STATION	TEN	<b>IPER</b>	RATUR	RE	PREC	IP.	WIN	DM
	AV	DP	MX	MN	TPS	BOG	DIR	SPD		AV	DP	MX	MN	TPS	SOG	DIR	SP
BRITISH COLUMBIA									THE PAS	-21P	1		-41P	6P	17	290	44
CAPE STJAMES	4P	OP	8P	1P	46P	0	260	98	THOMPSON	-26P	-1P	-15P		3P	27	290	*
													Sec. March			-	
CRANBROOK	-6P	2P	5P	-16P	9P	16	100	31	WINNIPEG INT'L	-16P	4P	IP	-33P	1P	5	170	52
FORT NELSON	-23P	2P	-3P	-31P	3P	29		*	ONTARIO		Landar.		-				
FORT ST.JOHN	-15P	3P	-4P	-23P	2P	19		*	ATIKOKAN	-14P	4P		-38P	4P	17	280	33
KAMLOOPS	-1P	4P	8P	-13P	OP	0		*	BIG TROUT LAKE	-24P	1P		-39P	9P	54	310	48
PENTICTON	1P	3P	8P	-5P	OP	0	190	56	GORE BAY	-4P	7P	5P	-24P	11P	24	210	65
PORT HARDY	ЭР	OP	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		-23P	OP	1		X
REVELSTOKE	-1P	6P	4P	-6P	7P	22	220	43	LONDON	-1P	7P		-18P	15P	0	200	63
SMITHERS	-7P	4P	2P	-19P	7P	34	140	31	MOOSONEE	-20P	1P		-37P	12P	77	270	56
VANCOUVER INT'L	5P	2P	9P	-1P	34P	0	120	67	NORTH BAY	-4P	9P		and the second second	14P	18	190	70
	4P	1P	8P	-2P	21P		120	80	OTTAWA INT'L	-4P	8P		and an other states of		14	190	
VICTORIA INT'L						0	120						-26P	17P			X
WILLIAMS LAKE	-4P	3P	3P	-15P	OP	6		X	PETAWAWA	-4P	12P		-30P	28P	21		X
YUKON TERRITORY									PICKLE LAKE	-20P	1P		-39P	18P	50	270	67
DAWSON	-25P	<b>4</b> P	-18P		1P	*		*	REDLAKE	-17P	3P		-39P	6P	28	140	39
MAYO	-22P	10P	-4P		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		-32P	3P	44		*	TIMMINS	-13P	6P		-34P		49	350	46
WHITEHORSE	-18P	4P		-27P	1P	19	180	52	TORONTO INT'L	-1P	7P		-22P	9P	0	270	76
NORTHWEST TERRITORI			U	2.1		.,	100	SE.	TRENTON	-2P	7P		-22P	6P	1	210	X
		00	-17P	-440	10	24	270	44	WIARTON		6P			and the second			
ALERT	-31P	OP			1P	31	270	41		-2P			-20P	16P	5		X
BAKER LAKE	-34F				OP	70	310	69	WINDSOR	OF	6P	8F	-11P	17P	0	270	69
CAMBRIDGE BAY	-34P	OP	-18P		*	20	290	44	QUEBEC				and the second	10000000			
CAPE DYER			-16P		22P	55	070	- 41	BAGOTVILLE	-9P	8P		-30P		15	270	70
CLYDE	-31P	-5P	-22P	-38P	1P	22	310	72	BLANC SABLON	-13P	1P	OP	-31P	23P	15		X
COPPERMINE	-33P	-2P	-6P	-38P	1P	39	240	31	INUKJUAK	-27P	-3P	-17P	-39P	5P	36	070	61
CORAL HARBOUR	-35P	-6P	-17P	-42P	1P	33		X	KUUUUAQ	-29P		-15P	-40P	5P	29	260	57
EUREKA		-1P	-31P		3P	12	100	33	KUUUUARAPIK	-25P	-1P		-40P	14P	28	240	89
FORT SMITH	-23P	4P	-14P		3P	35	100	X	MANIWAKI	-5P	11P		-30P	18P	25	340	48
IQALUIT			-15P		OP	20	320	83	MONT JOLI	-6P	6P		-25P	15P	25	280	78
							320	A CONTRACTOR OF A						and the second se	2		
HALL BEACH			-30P		*	30		*	MONTREAL INT'L	-4P	7P		and the second sec	5P	3	220	89
INUVIK	-35P	100 Mar 100		-42P	<b>4</b> P	39		X	NATASHQUAN	-10P	3P		-26P	14P	22	270	78
MOULD BAY	-32P	2P	-21P		1P	17		X	QUEBEC	-9P	4P	3P	-28P	19P	39	230	78
NORMAN WELLS	-32P	-2P	-4P	-39P	4P	21		X	SCHEFFERVILLE	-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		-35P	18P	29	180	54
ALBERTA		-		5/1		20			NEW BRUNSWICK	101	0.	-	001	101	~	100	•
CALGARY INT'L	-6P	6P	70	-21P	OP		270	78	CHARLO	-11P	4P	1P	-25P	19P	30	280	83
	100 C					-		States and									
COLD LAKE	-17P	2P		-34P	1P	5	270	44	CHATHAM	-8P	3P		-25P	17P	24	290	65
CORONATION	-13P	3P		-24P	OP	0		*	FREDERICTON	-8P	2P		-26P	15P	36	290	70
EDMONTON NAMAO	-10P	5P		-20P	OP	6		*	MONCTON	-7P	2P		-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		-17P	3P	12		X	GREENWOOD	-4P	1P	7P	-18P	12P	24	240	67
LETHBRIDGE	-7P	2P	and the second	-27P	OP	*	250	96	SHEARWATER	-2P	3P		-20P	1P	10	220	57
MEDICINE HAT	-7P	5P		-26P	OP	0	270	52	SYDNEY	-6P	-1P	5P	-18P	1P	28	220	59
PEACE RIVER	-16P	4P		-24P	19	9	210	32	YARMOUTH	-2P	2P	100 C 100 C	-14P	14P	1	330	70
	-102	41	-or	-241	IF	y		*			25	OF	- +++-	HLL.		330	10
SASKATCHEWAN									PRINCE EDWARD ISLAN								~~
CREE LAKE	-24P	3P	-12P		4P	27		33	CHARLOTTETOWN	-6P	2P		-23P	11P	44	290	56
ESTEVAN	-8P	8P		-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		-32P	1P	4	150	54	CARTWRIGHT	-13P	1P	-1P	-21P	7P	91	210	65
SASKATOON	-16P	3P		-34P	1P	6		*	CHURCHILL FALLS	-20P	4P		-34P	16P	90	280	78
SWIFT CURRENT	-9P	5P		-28P	1P	2		X	GANDER INT'L	-6P	OP		-24P	1P	31	280	102
YORKTON	-14P	6P		-32P	OP	2	310	46	GOOSE	-17P	-IP		-31P	18P	71	260	67
MANITOBA	m	VF	T	JZP	UP	2	510	+0		-1/P	1P	3P	-15P	15P	42	280	107
	445	-		240		-	200	67	PORT-AUX-BASQUES						and the second sec		000
BRANDON	-14P	5P		-31P	1P	2	290	52	ST JOHN'S	-5P	-1P	3P	-19P	6P	40	280	100
CHURCHILL			-18P		4P	17	050	52	ST LAWRENCE	-4P	1P	3P	-16P	9P	42	-	X
LYNN LAKE	-26P	1P	-15P	-41P	ЗP	33		*	WABUSH LAKE	-18P	6P	OP	-36P	14P	56	280	63
AV = weekly mean tem	peratu	re in	degr	ree C					DIR = direction of maxim	num w	ind s	speed	(deg	. from	n tru	e nor	rth
MX = weekly extreme m	and the second second		Stall States			egre	еĊ		SPD = maximum wind s	meed i	n km	hou	r				
MN = weekly extreme m									J-U - MOXIMUM WIND S	peeu	II KIT	VIOL					
				uture	arue	y ce			X = not observed					and the second			
TP = weekly total precip											_						
DP = departure of mean	n temp	bera	ture f	rom I	norma	d in	degr	ree C	P = value based on less	s than	7 da	lys					
	COMP. REPERCIPATION - INC.																

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