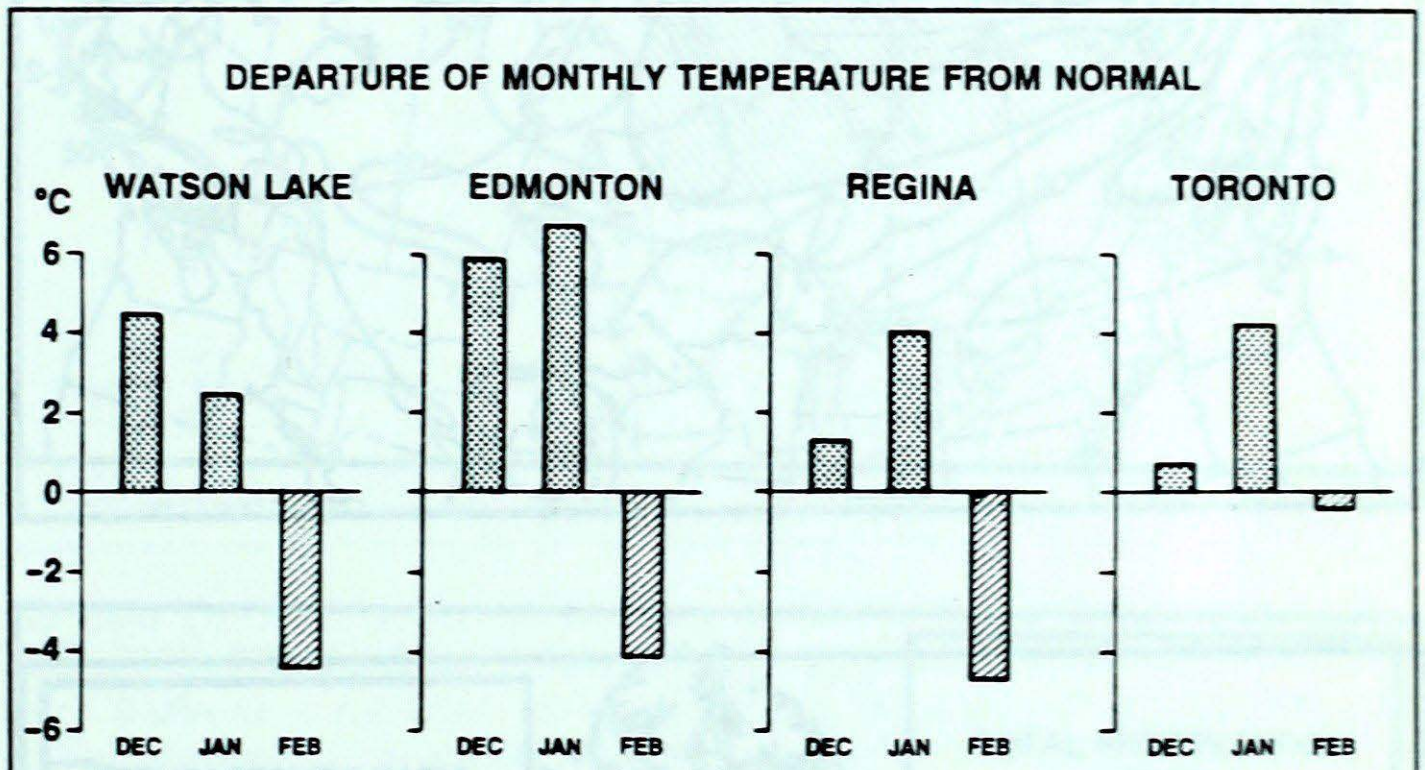
Environment Canada Environnement Canada

Climatic Perspectives

Monthly Review FEBRUARY - 1989 Vol. 11

CLIMATIC HIGHLIGHTS

A blast of bitterly cold Arctic air in early February heralded the arrival of real winter weather and marked a distinct reversal from the earlier mild weather of December and January across Canada.



February's chilly temperatures illustrate the marked reversal from the mild conditions in December and January

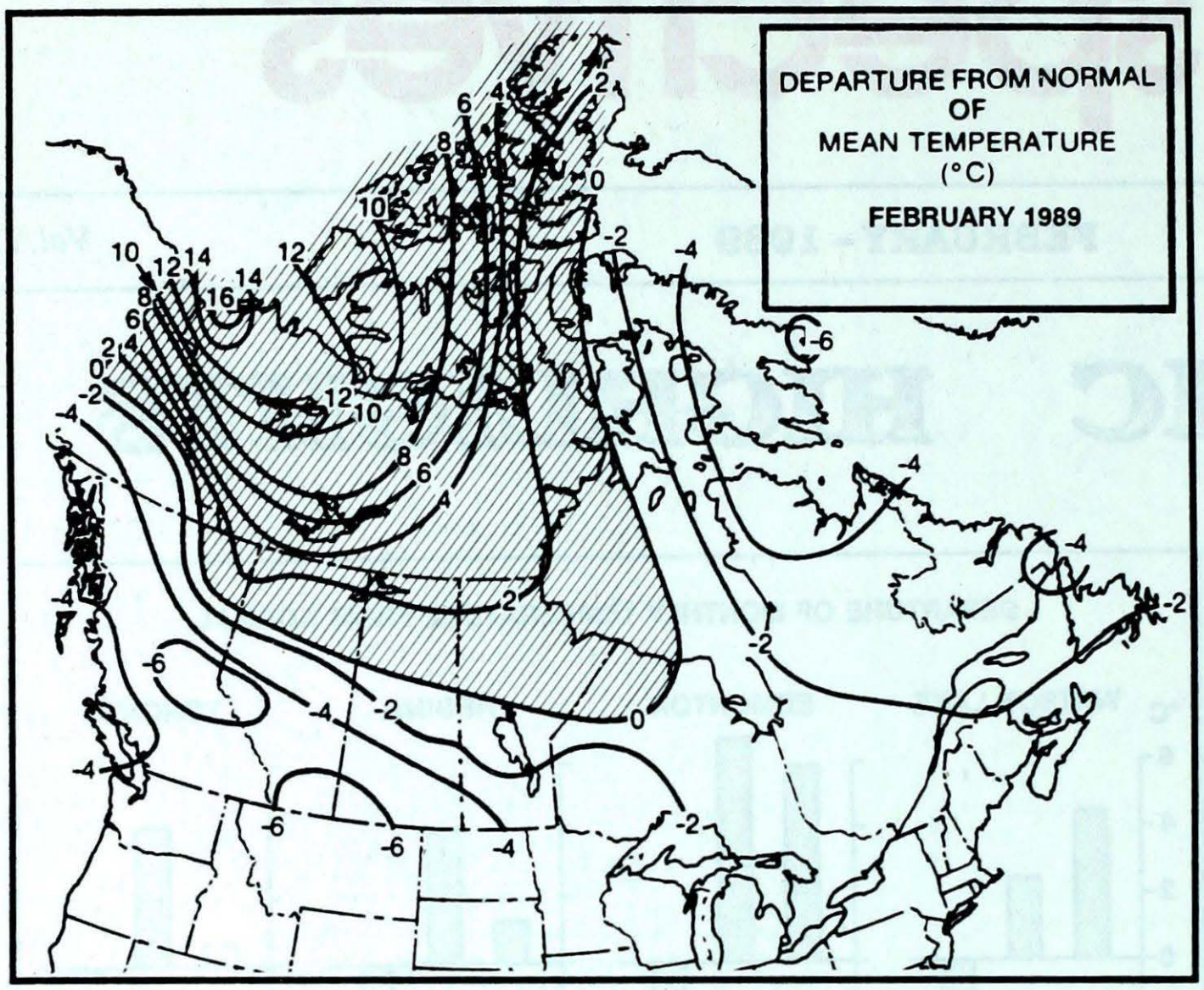
A dramatic change in the weather occurred across the nation early in February as an intense high pressure area over Alaska plunged southward bringing with it record-breaking cold temperatures in the -30 to -40°C range on the Prairies. In southern Alberta, the mercury plunged from 12°C to -9°C in an hour as the cold air rushed in. The weight of this dome of Arctic air produced the highest pressure reading ever recorded in North America, 107.5 kilopascals at Northway, Alaska. A few weeks later, all-time record high pressure readings were set in Saskatchewan and Manitoba as the central pressure rose above 105.9 kilopascals. Reported high incidences of migraine headaches from Alberta to Ontario were attributed to the sudden change in atmospheric pressure.

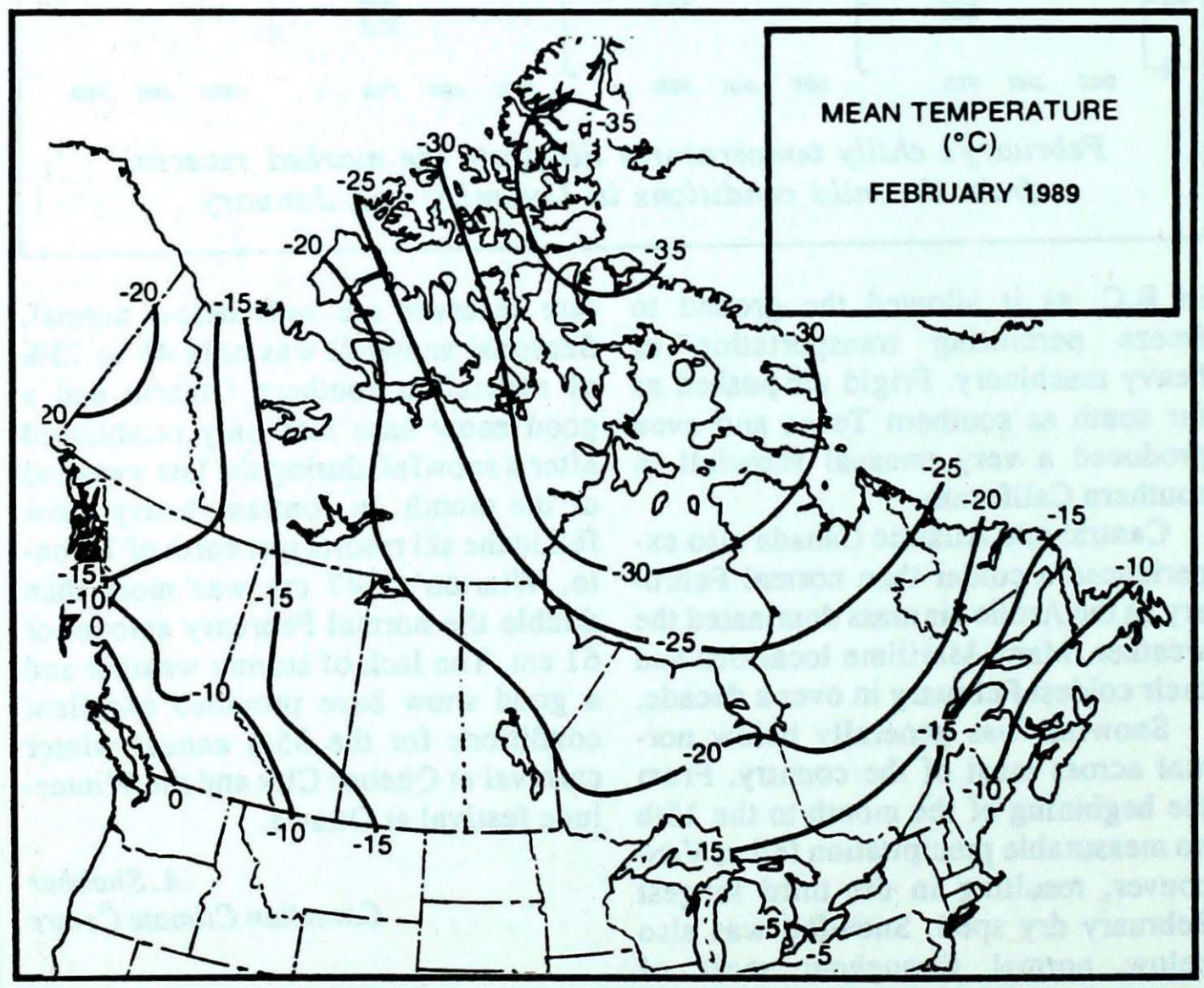
Harsh winter weather prevailed over the Prairies throughout most of the month. Record-low daytime readings were set at several Saskatchewan and Manitoba locations when the temperatures struggled to climb above -35°C. Cold Arctic air even reached the west coast of British Columbia and produced the longest cold spell of any February at Vancouver (Feb. 1-3). The cold weather proved beneficial to logging operations in B.C. as it allowed the ground to freeze permitting transportation of heavy machinery. Frigid air pushed as far south as southern Texas and even produced a very unusual snowfall in southern California.

Central and Atlantic Canada also experienced a colder than normal February as the Arctic air mass dominated the weather. Many Maritime localities had their coldest February in over a decade.

Snowfall was generally below normal across most of the country. From the beginning of the month to the 15th no measurable precipitation fell at Vancouver, resulting in the third longest February dry spell. Snowfall was also below normal throughout most of central Saskatchewan where soil moisture reserves are well below normal. Seasonal snowfall was only 45 to 75% of normal in southern Ontario and a good snow base was only established after a snowfall during the last weekend of the month. In contrast, heavy snow fell in the ski resorts just north of Toronto. Wiarton's 147 cm was more than double the normal February amount of 61 cm. The lack of stormy weather and a good snow base provided excellent conditions for the 35th annual winter carnival at Quebec City and the Winterlude festival at Ottawa.

A. Shabbar
Canadian Climate Centre





Across the country

Yukon and N W T

The Yukon started off with record-breaking cold in all regions as an intense arctic high pressure system highlighted this month's weather. Milder air began filtering into the northern regions during the second week of the month and reached the southern areas by mid-month. In the end, the extreme north ended up with above normal temperatures while the southern and central regions were below normal with progressively greater departures the further south one went. The monthly cold spot was Ogilvie with a -56°C reading on the 1st and the monthly hot spot was Komakuk Beach with a +6°C on the 13th.

Precipitation varied considerably during the month. The extreme north received ample precipitation while the central and southern regions were dry with many southern areas experiencing a record dry February.

Temperatures were above normal over western half of the NWT and below normal in the east. Precipitation was also well above normal over the west.

British Columbia

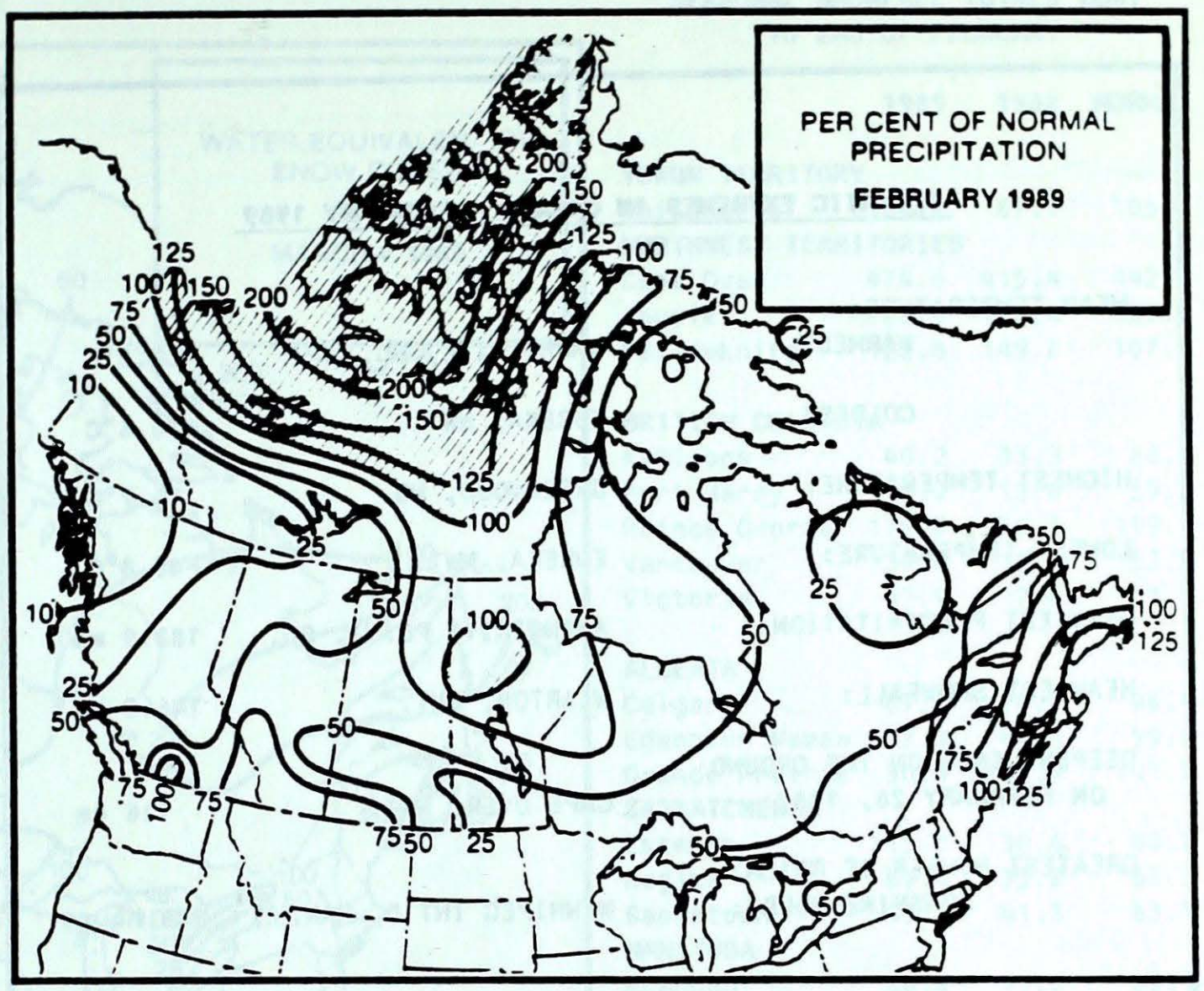
February began with all of B.C. in the grip of very cold, and for the most part, dry arctic air. Numerous stations recorded their coldest and driest February ever, along with record-high mean sea- level pressures under the dome of an intense arctic high. Only the extreme northeast corner experienced above normal monthly mean temperatures while the Okanagen area was the exception to the province-wide dry weather this month. Snowfall values four to eight times the monthly average were recorded on the east coast of Vancouver Island although only Sooke set a record. The lower Mainland-western Fraser Valley stations and the East Kootenays received ample snowfall while all other areas were well below the monthly average.

Prairies

Following the January month-end blizzard, frigid arctic air deepened over Alberta with temperatures dropping into the -30 to -40°C range. The combination of moderate winds and cold temperatures created extreme wind chills. After a slow moderating trend in the temperatures between the 4th and the 10th, cold air once again touched the entire province between the 15th and 19th followed by milder conditions between the 20th and month's end. Taken over the entire month, temperatures were well below normal over all but the High Level-Wood Buffalo regions.

Snowfall was above normal over southern and southeastern Alberta and below normal elsewhere. The total seasonal accumulations to the end of February were generally between 75% and 85% of normal over most regions of the province.

The southern parts of Manitoba and Saskatchewan were cold with much below normal snowfall. The least precipitation was in southwestern Manitoba where several stations recorded only 13 to 18% of their normal precipitation.

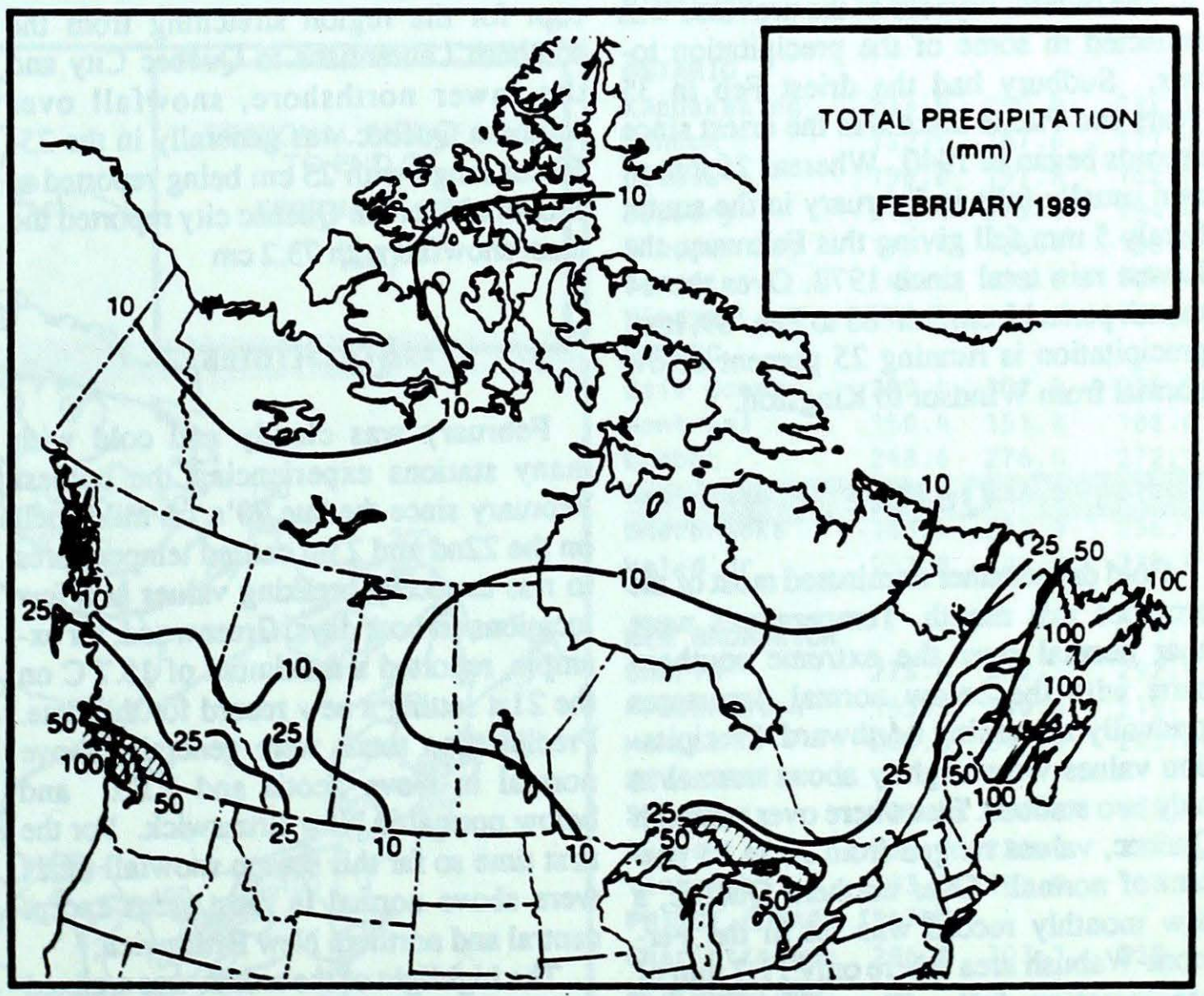


Ontario

Winter finally arrived in Southern Ontario as snow and below normal temperatures made their first sustained impact of the season. In the north, temperatures were also below normal, but snowfall was generally light.

Wiarton and London experienced the coldest February since 1980 while Sudbury and Earlton were the coldest since 1979. Kenora experienced the coldest February since 1967.

Although snowfall was near to slightly above normal in the south, measurable snowcover was not established until the final weekend of the month. In the north, Earlton had their lowest snowfall total since 1940. Thunder Bay's monthly total of 10 cm was Ontario's lowest total this month and Thunder Bay's lowest since 1978.



CLIMATIC EXTREMES IN CANADA - FEBRUARY 1989

MEAN TEMPERATURE:		
WARMEST	AMPHITRITE, BC.	2.8°C
COLDEST	EUREKA, NWT.	-36.6°C
HIGHEST TEMPERATURE:	GREENWOOD, NS.	15.7°C
LOWEST TEMPERATURE:	EUREKA, NWT.	-48.8°C
HEAVIEST PRECIPITATION:	AMPHITRITE POINT, BC.	183.9 mm
HEAVIEST SNOWFALL:	WIARTON, ONT.	146.9 cm
DEEPEST SNOW ON THE GROUND ON FEBRUARY 28, 1989:	CAPE DYER, NWT.	116 cm
GREATEST NUMBER OF BRIGHT SUNSHINE HOURS:	WINNIPEG INT'L, MAN.	204 hours

The overall dryness of the province was reflected in some of the precipitation totals. Sudbury had the driest Feb in 35 years and Pickle Lake was the driest since records began in 1940. Whereas 25 mm of rain usually falls in February in the south, barely 5 mm fell giving this February, the lowest rain total since 1978. Over the 14 month period from Jan '88 to Feb '89, total precipitation is running 25 percent below normal from Windsor to Kingston.

Québec

Cold dry weather dominated most of the province this month. Temperatures were near normal over the extreme southern parts with the below normal departures gradually increasing northward. Precipitation values were slightly above normal at only two stations. Elsewhere over southern Québec, values ranged from 25 to 81 percent of normal. Over northern Québec, a new monthly record was set in the Fermont-Wabush area where only 11.7 mm of precipitation fell. The old record at Wabush airport was 11.9 mm in 1962. Except for the region stretching from the southern Laurentians to Québec City and the lower northshore, snowfall over southern Québec was generally in the 25-50 cm range with 25 cm being reported at Montreal-Dorval. Québec city reported the most snowfall with 73.2 cm

Maritimes

February was cloudy and cold with many stations experiencing the coldest February since the late 70's. A mild spell on the 22nd and 23rd caused temperatures to rise to record-breaking values at a few locations on both days. Greenwood, for example, reported a maximum of 15.7°C on the 21st setting a new record for this date. Precipitation totals were generally above normal in Nova Scotia and P.E.I. and below normal in New Brunswick. For the first time so far this season snowfall totals were above normal in most areas except central and northern New Brunswick.

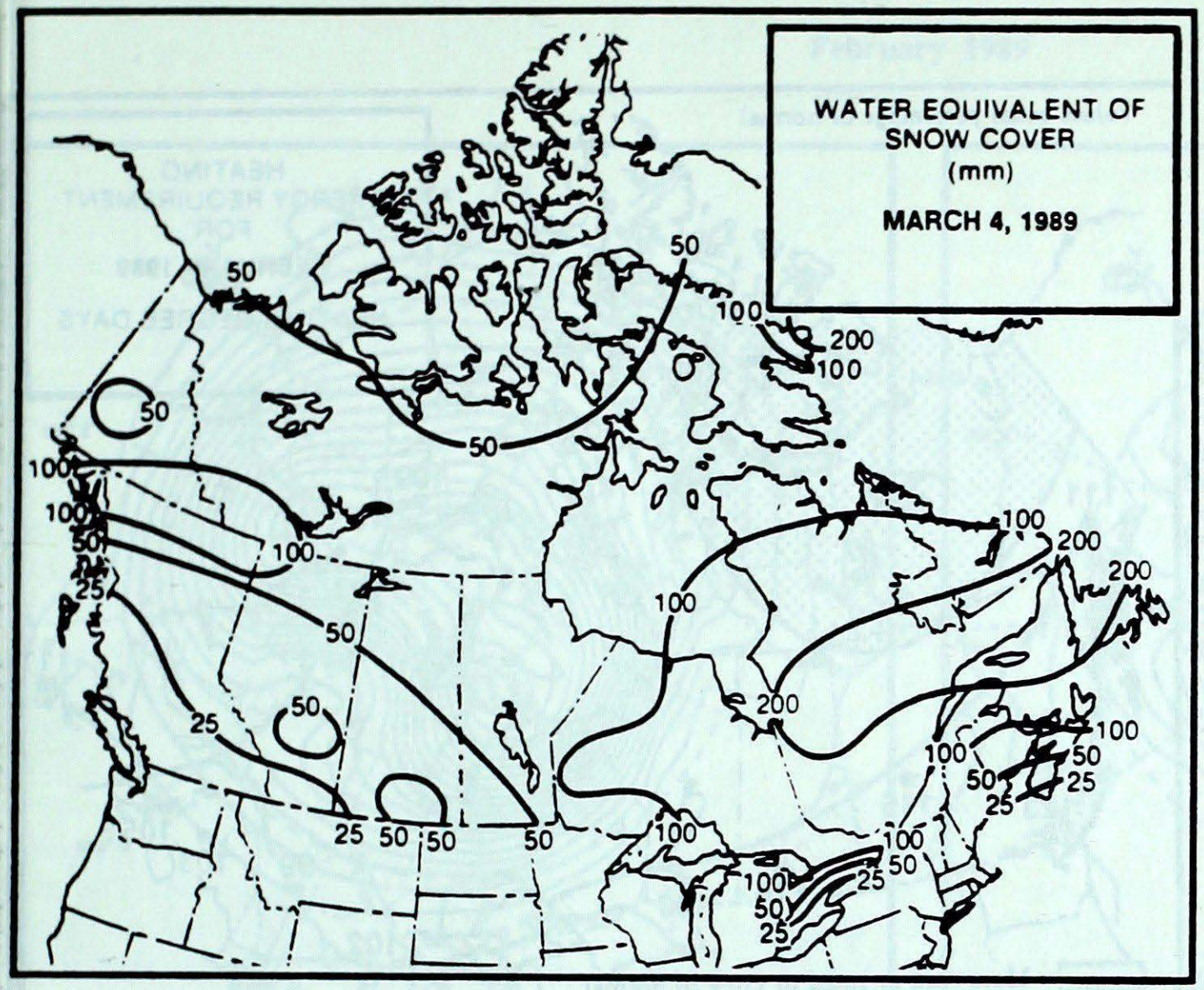
The highlight of the month was a mixed bag of precipitation on the 21st to the 23rd which included snow, heavy rain, freezing rain and mild temperatures. Treacherous roads caused a number of major highway accidents including 3 fatalities while heavy rain and melting snow caused serious flooding in some areas.

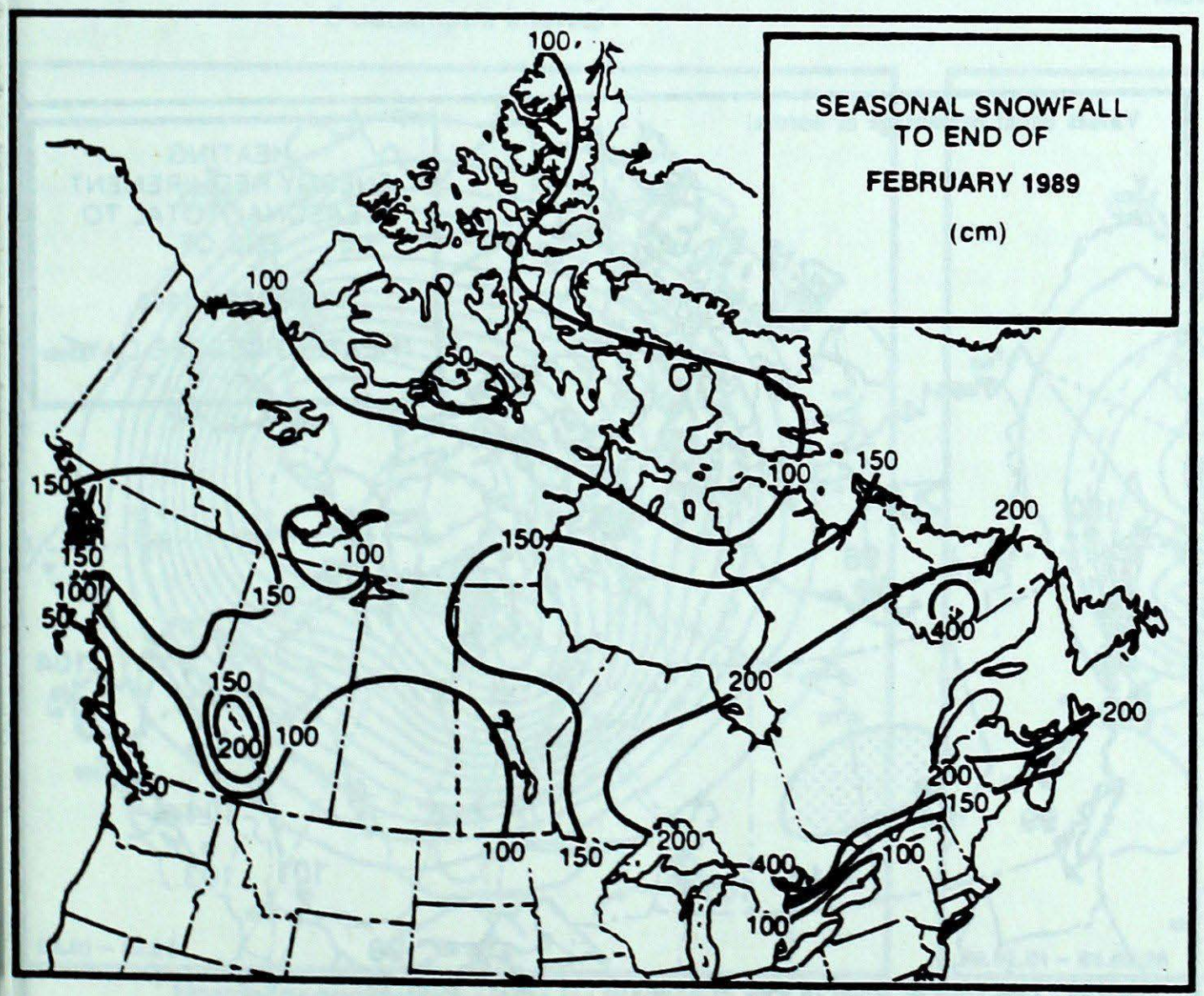
Newfoundland and Labrador

Below normal temperatures highlighted the month with most areas reporting below normal precipitation with the exception of the south and southwest coasts. Temperatures were well below normal early in the month. With the exception of a brief reprieve at mid-month, temperatures remained cold until the last week of the month when a mild period occurred. Badger reported -35°C on the 6th with other communities in the -20's. The warmest temperature was 10.7°C at St. John's on the 22nd.

Snowfall was light and scattered through the month but several systems gave significant precipitation to the south and southwest coasts. The mild period at month's end brought several days of rain to the south with 40-50 mm being common. At St. Lawrence, 70 mm was recorded over a 3-day period.

In Labrador, February was cold with little precipitation. High wind chills occurred on several occasions through the month as winds gusting in the 50-60 km/h range accompanied low temperatures.



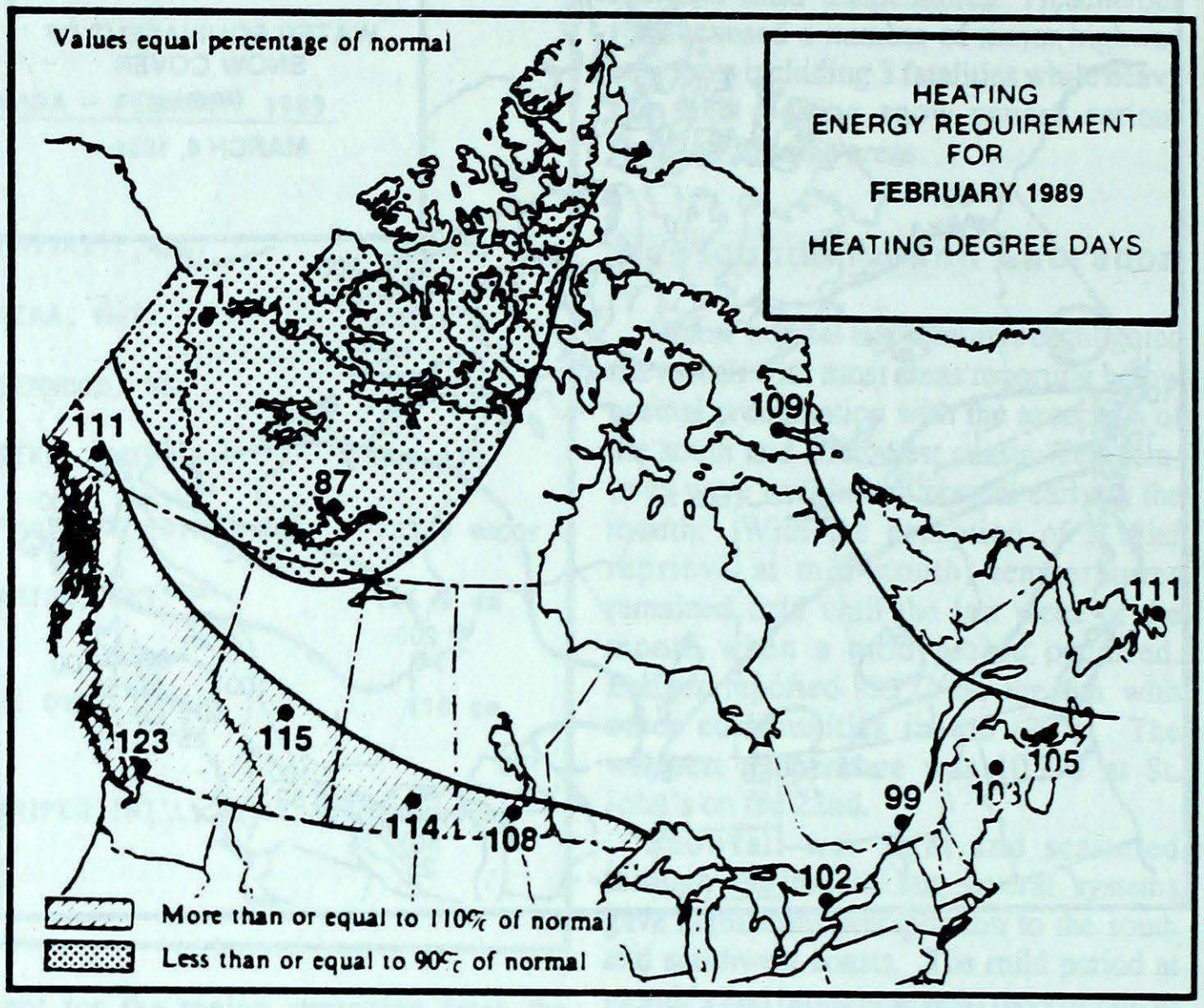


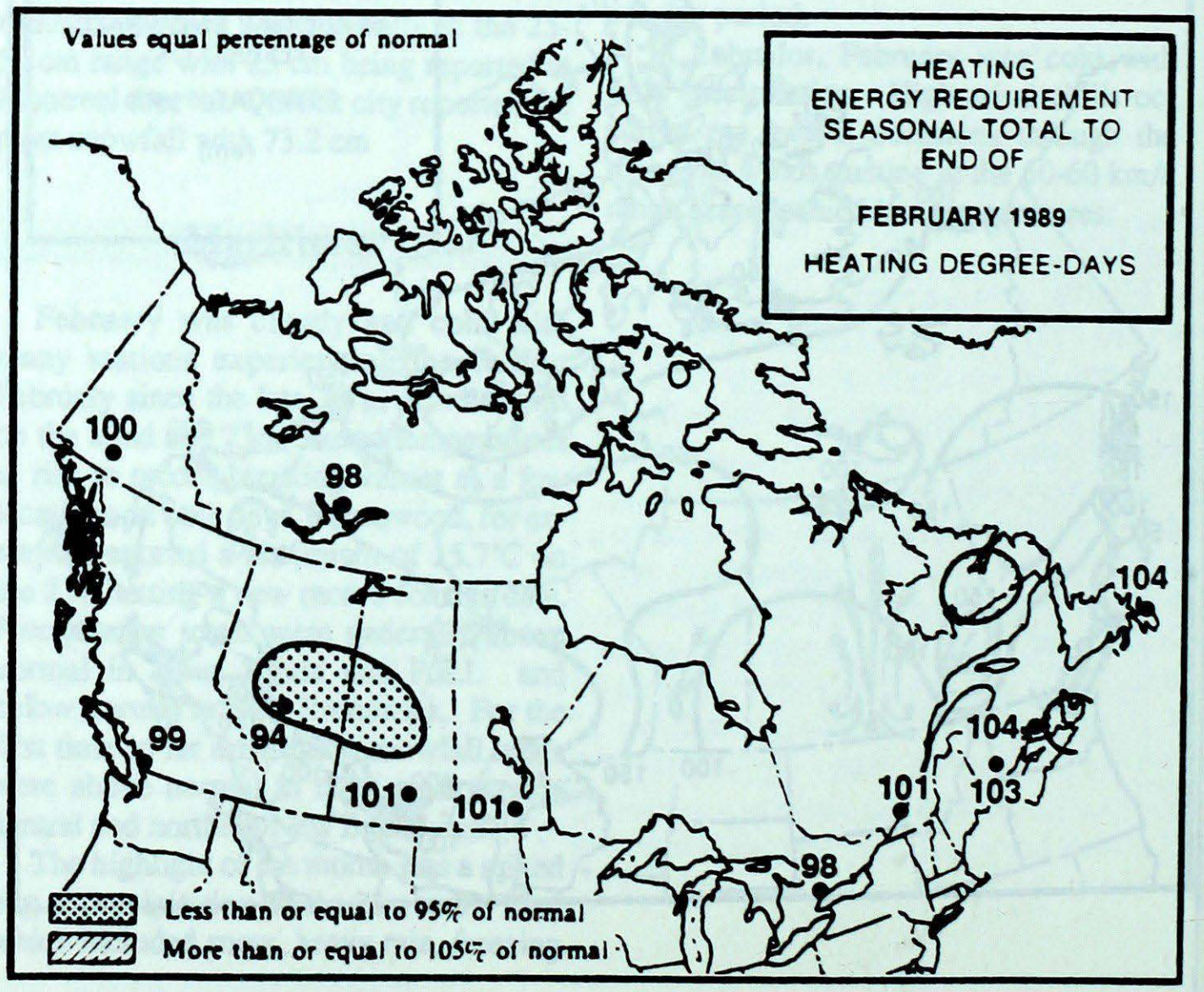
SEASONAL SNOWFALL TOTALS (CM)
TO END OF FEBRUARY

	1989	1988	NORMAL
YUKON TERRITORY			
Whitehorse	104.7	87.1	105.9
NORTHWEST TERRITORIES			
Cape Dyer	474.6	415.4	442.0
Inuvik	128.8	128.4	129.9
Yellowknife	122.8	149.8	107.3
BRITISH COLUMBIA			
Kamloops	40.2	33.3	86.7
Port Hardy	39.0	13.0	59.8
Prince George	178.6	169.7	199.7
Vancouver	39.4	12.0	53.5
Victoria	47.9	2.4	43.5
ALBERTA			
Calgary	87.1	29.2	96.4
Edmonton Namao	77.3	44.4	99.6
Grande Prairie	90.9	109.9	141.2
SASKATCHEWAN			
Estevan	115.8	30.6	80.7
Regina	69.4	35.8	83.3
Saskatoon	49.6	41.3	83.1
MANITOBA			
Brandon	88.6	40.0	83.7
Churchill	170.0	89.1	131.6
The Pas	81.0	106.4	116.8
Winnipeg	130.1	42.7	90.0
ONTARIO			
Kapuskasing	233.4	250.4	237.3
London	132.5	167.6	171.5
Ottawa	158.6	197.8	182.2
Sudbury	208.4	273.0	194.4
Thunder Bay	178.4	86.1	158.4
Toronto	48.4	76.0	101.4
Windsor	70.6	104.4	93.2
QUEBEC			
Baie Comeau	249.4	301.0	276.5
Montréal	150.4	151.4	188.0
Quebec	248.6	276.4	272.1
Sept-Iles	321.6	238.0	317.9
Sherbrooke	183.4	232.3	236.1
Val-d'Or	251.8	246.8	237.4
NEW BRUNSWICK			
Charlo	273.8	332.3	292.8
Fredericton	155.5	240.4	219.1
Moncton	208.1	347.8	243.0
NOVA SCOTIA			
Shearwater	123.0	156.0	144.9
Sydney	234.9	232.0	223.3
Yarmouth	133.4	144.0	168.2
PRINCE EDWARD ISLAND			
Charlottetown	246.8	303.1	239.6
NEWFOUNDLAND			
Gander	406.3	314.0	269.9
St. John's	256.6	202.3	246.7

SEASONAL TOTAL OF HEATING DEGREE-DAYS TO END OF FEBRUARY

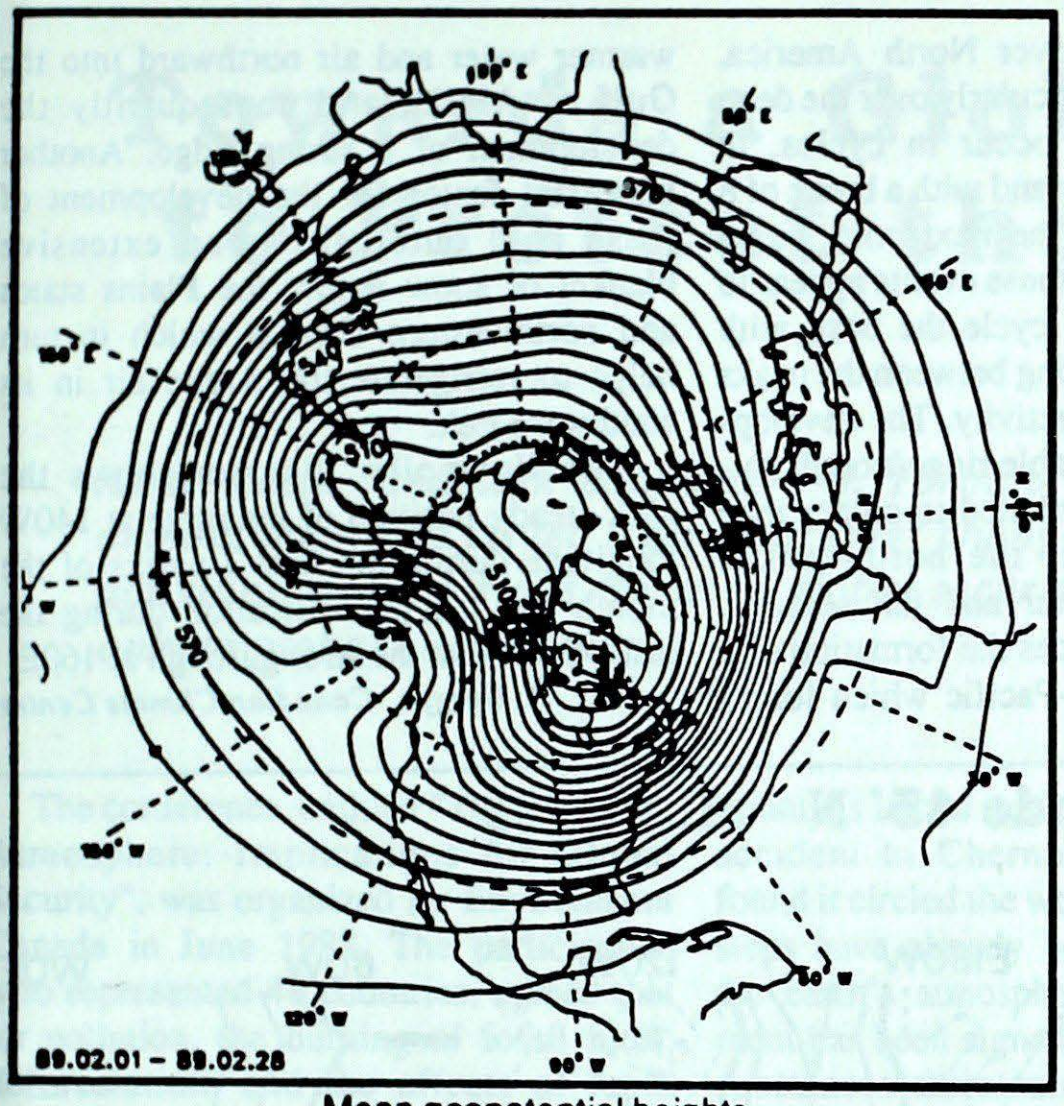
	1989	1988	NORMAL
BRITISH COLUMBIA			
Kamloops	2789	2583	2820
Penticton	2602	2421	2545
Prince George	3841	3625	3909
Vancouver	2064	1926	2074
Victoria	2212	2038	2116
YUKON TERRITORY			
Whitehorse	5110	4525	5099
NORTHWEST TERRITORIES			
Iqaluit	6688	6680	6535
Inuvik	6717	6426	6975
Yellowknife	5946	5723	6039
ALBERTA			
Calgary	3652	3350	3797
Edmonton Mun	3766	3520	3990
Grande Prairie	4283	3869	4486
SASKATCHEWAN			
Estevan	4001	3662	3986
Regina	4296	3980	4254
Saskatoon	4302	4119	4417
MANITOBA			
Brandon	4486	4204	4448
Churchill	6183	6103	6171
The Pas	4697	4684	4904
Winnipeg	4333	4069	4300
ONTARIO			
Kapuskasing	4548	4564	4557
London	2785	2828	2898
Ottawa	3394	3310	3386
Sudbury	3808	3777	3845
Thunder Bay	4120	4049	4078
Toronto	2834	2810	2899
Windsor	2513	2570	2593
QUÉBEC			
Baie Comeau	4265	4193	4174
Montréal	3317	3163	3271
Quebec	3787	3649	3662
Sept-Iles	4386	4273	4273
Sherbrooke	3668	3597	3726
Val-d'Or	4407	4356	4362
NEW BRUNSWICK			
Charlo	3927	3820	3828
Fredericton	3428	3434	3319
Moncton	3298	3347	3237
NOVA SCOTIA			
Halifax	*	*	2712
Sydney	3092	2985	2880
Yarmouth	2642	2718	2680
PRINCE EDWARD ISLAND			
Charlottetown	3225	3186	3093
NEWFOUNDLAND			
Gander	3502	3408	3296
St. John's	3175	3144	3053



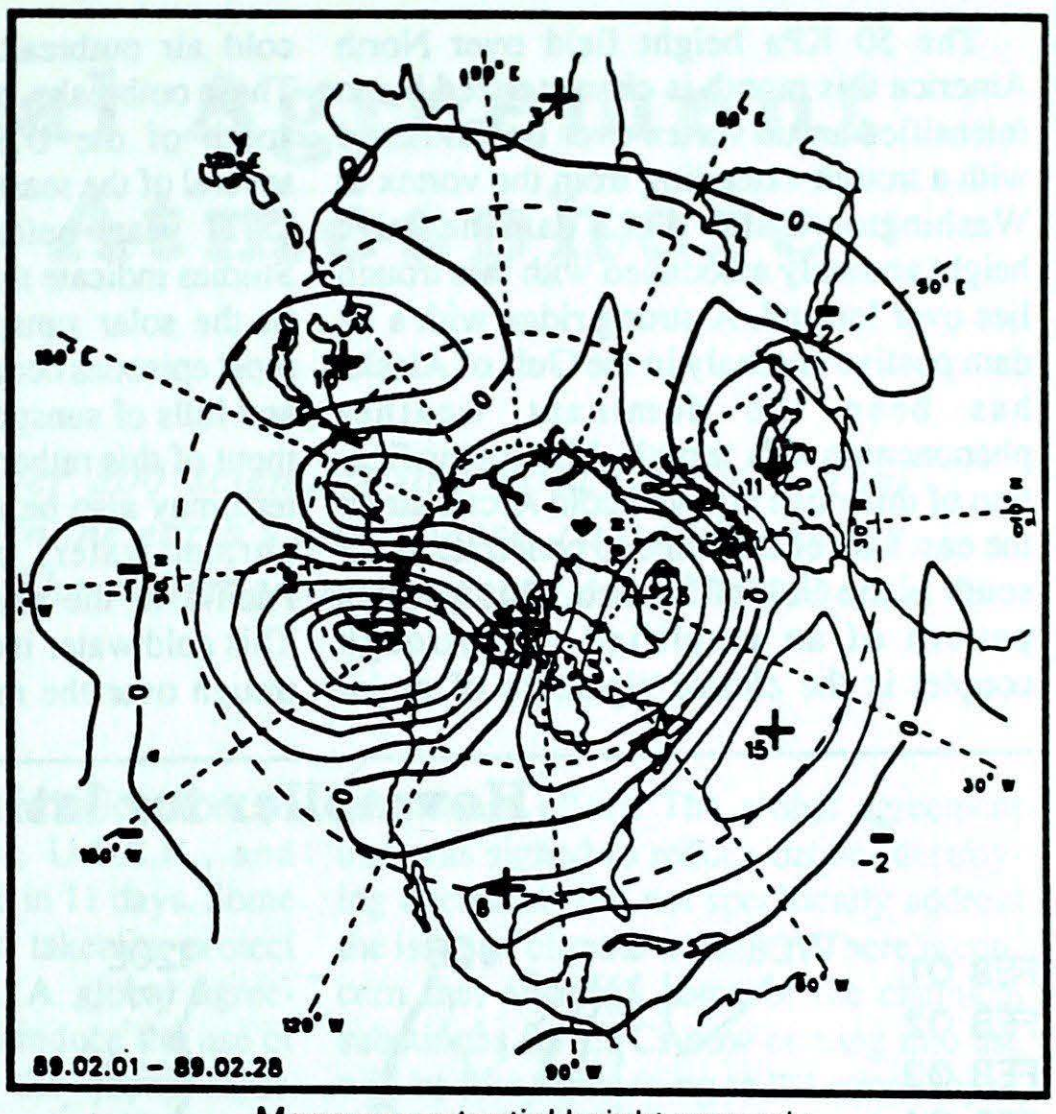


50 kPa ATMOSPHERIC CIRCULATION

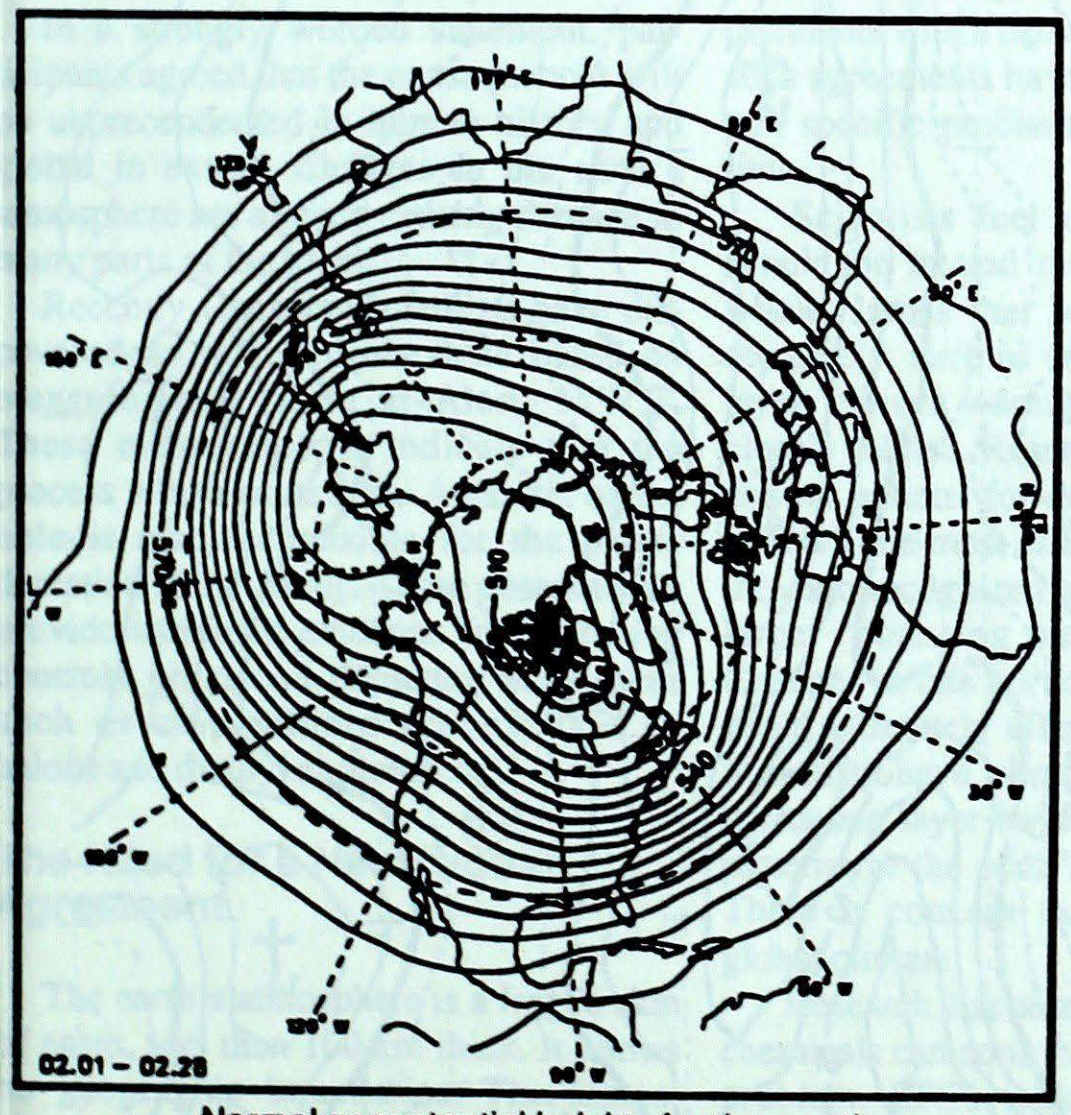
February 1989



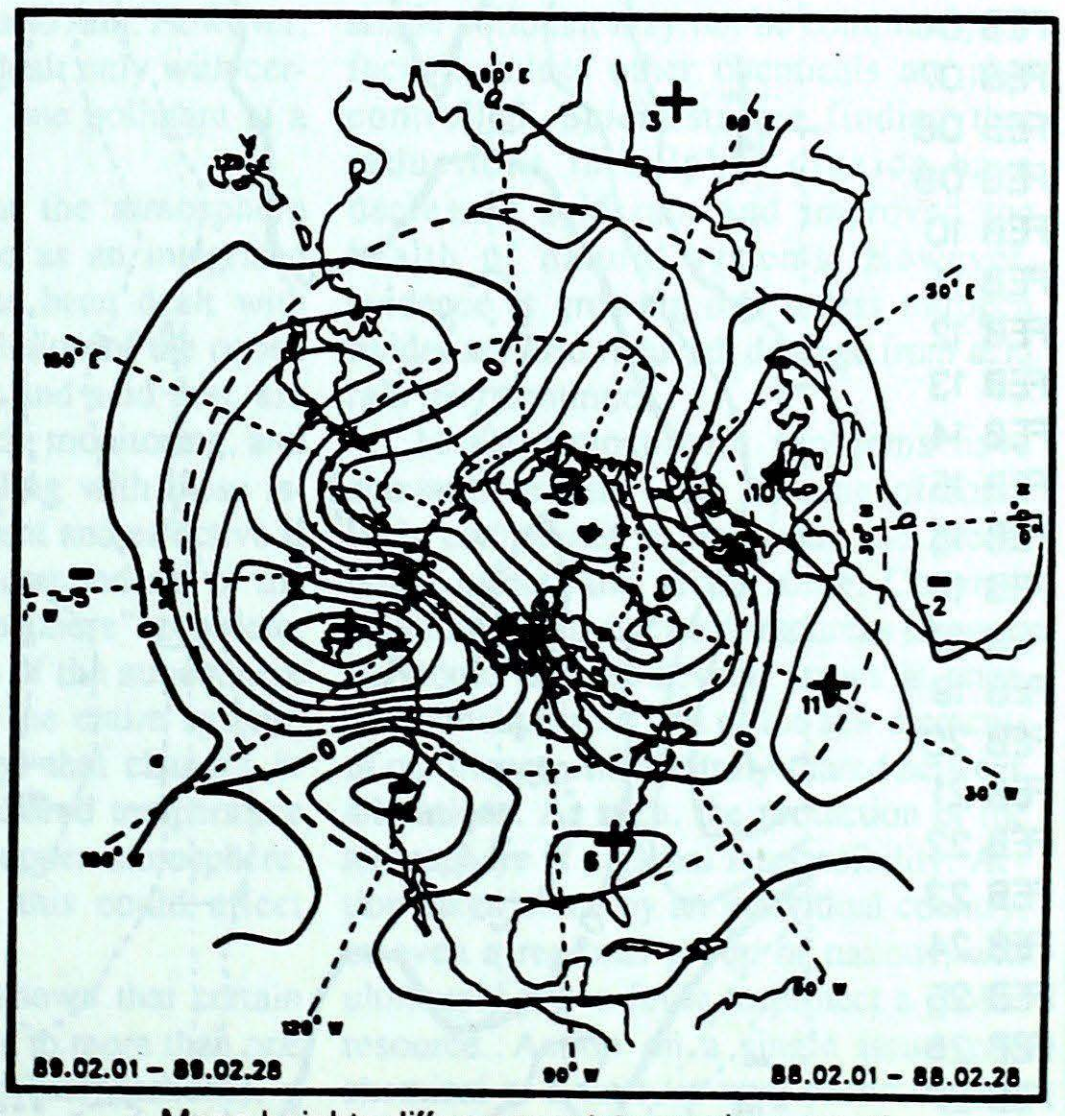
Mean geopotential heights
- 5 decametre interval -



Mean geopotential height anomaly
- 5 decametre interval-



Normal geopotential heights for the month
- 5 decametre interval -



Mean heights difference w/r to previous month
- 5 decametre interval -

50 kPa ATMOSPHERIC CIRCULATION

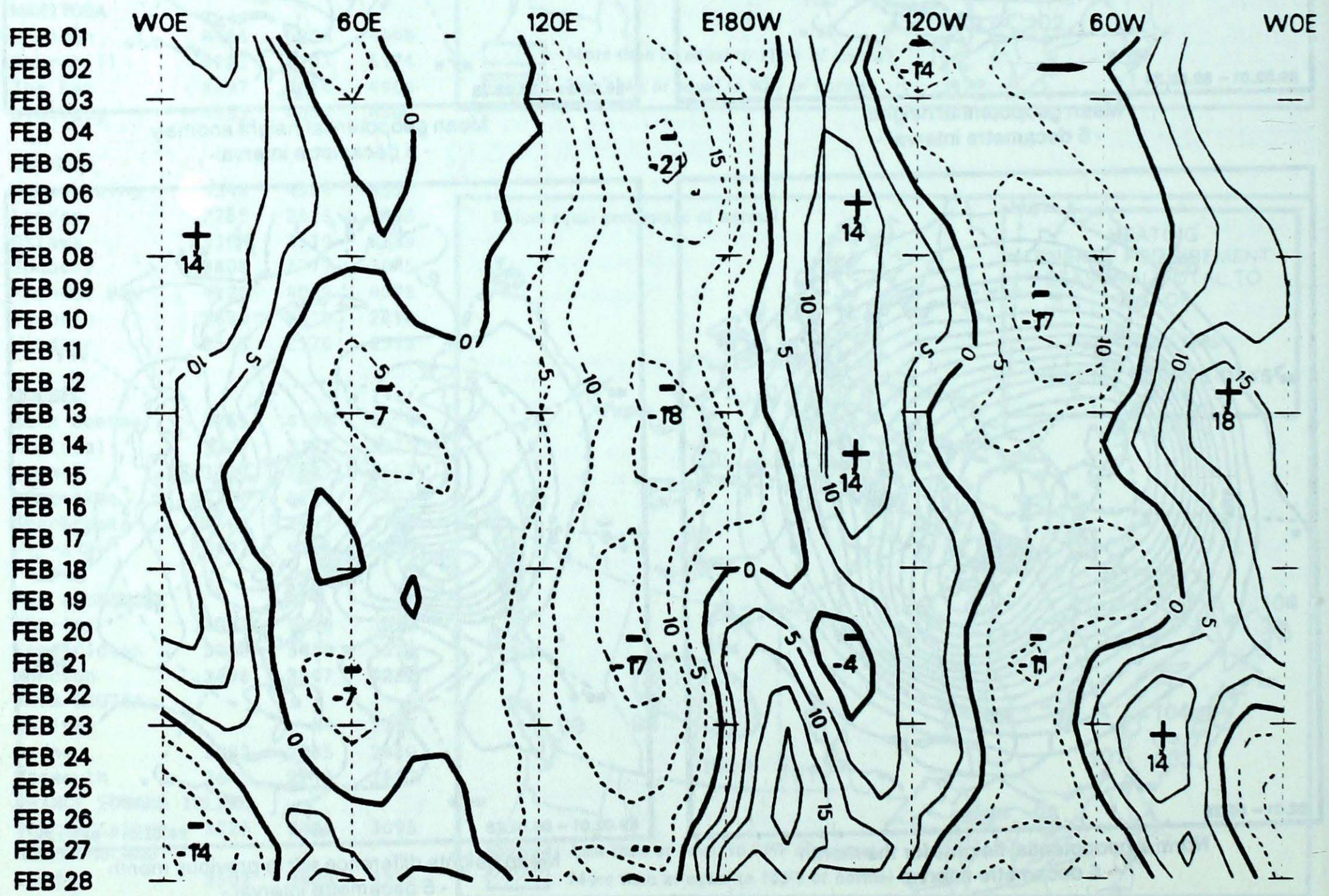
February 1989

The 50 KPa height field over North America this month is characterized by an intensified arctic vortex over Baffin Island with a trough extending from the vortex to Washington state. A 22 dam negative height anomaly associated with this trough lies over Iceland. A strong ridge with a 32 dam postive anomaly in the Gulf of Alaska has been the dominant weather phenonemon this month. The intensification of this ridge allowed cold Arctic air on the east side of the ridge to penetrate as far south as the Gulf of Mexico. This month's pattern of an amplified ridge/trough couplet is the classic signature of major cold air outbreaks over North America. These outbreaks, particularly over the deep south of the U.S., occur in cycles, in several of the seasons and with a break of 8 to 11 years before the next cold surge. Studies indicate that these events appear to fit the solar sunspot cycle the best, with most episodes occurring between the peaks and lulls of sunspot activity. The development of this rather stable ridge/trough pattern may also be attributed to colder than normal waters over the north-central Pacific in the summer and fall seasons. This cold water induces the formation of a trough over the mid-Pacific which forces warmer water and air northward into the Gulf of Alaska and consequently the development of a strong ridge. Another important factor for the development of these cold outbreaks is an extensive blanket of snow across the Plains states and northwestern Canada which in turn helps to refrigerate the Arctic air in its southward trek.

The Hovmoller diagram shows the rock-steady position of the ridge at 140W longitude during the first 3 weeks of the month and the intensification during the last week. Note the strong trough at 160E.

A. Gergye, Canadian Climate Centre

Hovmöller for latitude 45° N - all waves



Towards a Global Agreement to Protect the Atmosphere

At a recent landmark conference in Toronto, over 300 scientists and policy makers from around the world issued a dire warning: changes in the earth's atmosphere, caused by human activities, are a serious threat to global security. The ultimate consequences could be second only to global nuclear war.

The conference, entitled "The Changing Atmosphere: Implications for Global Security", was organized by Environment Canada in June 1988. The participants, who represented 46 countries, agreed that air pollution, the burning of fossil fuels, deforestation, and the effects of rapid population growth are all contributing to the deterioration of the atmosphere.

In a strongly worded statement, participants agreed that the consequences will be unprecendented in human history and global in extent. Changes in the earth's atmosphere are already causing damage in many parts of the globe.

Recently Canadian scientists have discovered an Arctic ozone hole based on measurements taken at Alert, N.W.T. These measurements indicate that the process which caused the Antarctic ozone hole is also responsible for the ozone depletion in the Arctic. These observations provide increased evidence for furthering controls on ozone depleting substances such as chlorofluorocarbons (CFCs), halons and methyl choloroform.

The Need for a New Global Agreement

The earth's atmosphere is a fragile skin of gases, less than 100 km thick. It knows no geographic boundaries. The atmosphere's winds and weather patterns keep the air in constant motion, mixing pollutants quickly around the globe. In 1986, scientists traced nuclear radiation from an accident in Chernobyl, U.S.S.R., and found it circled the world in 11 days. Some steps have already been taken to protect the earth's atmosphere. A global agreement has been signed to reduce the use of substances threatening the ozone layer. Another international accord has committed many nations to reductions in the pollutants which cause acid rain. However, such agreements have dealt only with certain specific problems, one pollutant at a time.

Scientists feel that the atmosphere should be treated more as an integrated whole. Issues that have been dealt with separately, such as depletion of the ozone layer, climate warming and acid rain, are closely related. Research, monitoring, and control actions for dealing with these issues will be most efficient and effective if they are recognized as components of the larger "changing atmosphere" problem. Changes in one portion of the atmosphere could ultimately affect the entire system. Scientists have observed that changes in the ozone layer have altered temperature patterns in the earth's upper atmosphere. There is concern that this could affect global climate.

Research has also shown that certain chemicals can contribute to more than one problem. CFCs (chlorofluorocarbons), a group of industrial chemicals used as refrigerants and solvents, are depleting the ozone layer as well as contributing to the greenhouse effect. The global agreement that was signed to reduce ozone- destroying chemicals did not specifically address the issue of climate warming. There is concern that although some of the chemical substitutes for CFCs now coming into use will be less threatening to the ozone layer, they may continue to increase the greenhouse effect. In some cases, reducing a single pollutant may not be completely effective unless other chemicals are also controlled. Scientists are finding that reductions in sulphur dioxide have decreased acid rain and improved the health of natural systems. However, evidence is growing that unless nitrogen oxides are also reduced, damage from acid rain may continue.

Many atmospheric problems have common origins - the burning of fossil fuels contributes to acid rain, the greenhouse effect, and urban smog. Common solutions, such as cleaner sources of energy, could address several issues at once. The atmosphere is one of the few elements of our planet which is truly shared between all nations. As such, the protection of the atmosphere is a global responsibility. Action taken alone by an individual country, or even a regional group of nations, will ultimately prove futile to protect a global resource. Action on a single issue, one chemical at a time, is now becoming too time consuming, and does not take into account the complex interplay of gases in the atmosphere. The development of a

comprehensive global agreement would allow us to respond more effectively to threats to the earth's fragile skin of gases. Such an agreement would also simplify the complex legal procedures involved - nations could agree on certain basic principles in advance and not have to start the process anew for each accord. When a new atmospheric problem is identified, the mechanism for dealing with it would be greatly streamlined.

What Could the new Agreement Contain?

The aim of the new agreement would be to commit nations to work together to safeguard the global atmosphere - for the protection of both human health and the environment. It would give official recognition to the fact that the atmosphere is a commonly shared resource and is the responsibility of all nations. A comprehensive plan for the global management of the atmosphere could be developed under the new accord. The plan could give valuable guidance towards the sustainable development of the earth's resources.

The emphasis would be on preventing further damage to the atmosphere, although action will also be necessary to reduce existing problems. The agreement could include the provision for the freer exchange of scientific information, increased international cooperation in research and monitoring, and the sharing of new technology to reduce air pollution. The new accord could also provide an ongoing forum to deal with changes in the atmosphere. New scientific research may indicate the need for increased controls or an unforeseen change of direction in the future. The agreement could deal with more than the control of damaging chemicals, and could also include other activities which affect the atmosphere, such as agricultural and forestry practices. Such an accord could eventually incorporate existing agreements to protect the atmosphere, as well as deal with specific situations which have not yet been addressed, such as environmental emergencies.

The agreement could be based in part on existing international accords to protect the atmosphere, such as those to protect the ozone layer or to reduce acid rain. However, the new accord will need to be more comprehensive and should pay particular attention to monitoring of the global atmosphere, data exchange interpretation, reporting of progress under the accord, and dispute settlement mechanisms.

How will the Agreement be Developed ?

An agreement to address the changing atmosphere problem would consist of two distinct parts: 1) a general framework (known as a "Convention"), and 2) specific problem-oriented annexes (known as "Protocols"). Under the auspices of an appropriate international agency, the framework Convention would be developed through consultation with interested governments. Ideally, this work could be carried out by the Intergovernmental Panel on Climate Change - a new joint initiative of the World Meteorological Organization and the United Nations Environment Programme. Environmental Conventions typically include guiding principles, a pledge to cooperate in scientific research and the exchange of information, and a commitment to future action to control pollutants. Those nations in agreement with the final Convention will then sign and ratify it. The signature demonstrates the intent to adopt the principles of the accord, while the ratification indicates the formal legal acceptance of the agreement. Ratification by a specific number of countries is necessary before a Convention comes into effect. The 1988 World Conference on the Changing Atmosphere in Toronto marked the first step in the development of this Convention. when a consensus was reached on the need for international action.

The next step will be the Meeting of Legal and Policy Experts in Ottawa on February 20-22, 1989. The basic principles developed in Ottawa will undergo further discussion and development at subsequent international conferences such as the Second World Climate Conference in 1990 and a conference on sustainable development planned for 1992. The general principles agreed to under a Convention must next be translated into specific actions. These actions can be detailed in a series of annexes, or "Protocols", which are added under the Convention.

A Protocol could, for example, set out a specific schedule for the global reduction of certain pollutants. In the event of an accidental escape of dangerous chemicals into the atmosphere, another Protocol could obligate that nation to promptly inform its neighbours. Each Protocol must meet with international approval and be signed and ratified, in much the same process as a Convention. In some cases, the Protocols will be updated and expanded versions of existing international agreements. Conventions and Protocols are typically named for the city of their origin. For example, the Vienna Convention for the Protection of the Ozone Layer set out general principles to safeguard the ozone layer. The Montreal Protocol, added later under the Vienna Convention, committed nations to reduce ozone destroying chemicals by 50% by 1999.

FEBRUARY 1989

STATION	Temperature C: Mean	Difference from Normal	Maximum	Minimum	Snowfall (cm)	% of Normal Snowfall	Total Precipitation (mm)	% of Normal Precipitation	Snow on ground at end of month (cm)	No. of days with Precip 1.0 mm or more	Bright Sunshine (hours)	% of Normal Bright Sunshine	Degree Days below 18 C
BRITISH COLUMBIA													
ABBOTSFORD	0.3	-4.1	11.1	-15.3	17.0	142	60.8	38	0	9	133	173	495.4
ALERT BAY	1.1	-3.5	7.8	-13.6	0.2	2	43.4	32	0	9	X		472.7
AMPHITRITE POINT	2.8	-3.3	9.2	-12.8	0.9	29	183.9	52	0	11	X		426.7
BLUE RIVER	-6.5	-2.0	7.0	-33.0	24.0	39	19.7	36		5	114	196	*
CAPE SCOTT	2.3	-3.0	8.6	-10.7	0.6	6	31.4	12	0	9	X		440.4
CAPE ST.JAMES	2.3	-2.5	9.3	-13.7	3.8	50	24.6	17	0	9	85	*	439.1
CASTLEGAR	-5.1	-4.3	6.6	-19.8	31.4	72	31.8	50	6	11	94	137	646.2
COMOX	0.4	-3.6	9.8	-12.0	40.1	276	104.4	83	0	11	X		494.1
CRANBROOK	-4.7	-1.2	6.3	-31.0	28.1	107	20.2	94	15	8	129	*	787.7
DEASE LAKE	-16.7	-3.8	2.4	-45.0	0.8	2	0.4	1	65	0	180	169	972.9
FORT NELSON	-13.2	3.7	6.7	-29.9	13.2	56	7.8	40	78	4	162	*	873.7
FORT ST.JOHN	-12.7	-1.3	3.0	-29.9	11.4	37	8.2	30	9	3	X		858.7
HOPE	-1.1	-4.5	9.9	-17.8	5.0	15	22.4	11	0	6	73	152	534.9
KAMLOOPS	-6.5	-5.2	12.7	-24.5	2.7	21	6.9	43	0	2	130	138	684.0
KELOWNA	-6.9	-5.3	5.6	-23.0	21.0	142	21.5	102	3	6	116	168	698.7
LYTTON	-4.9	-6.4	8.5	-22.5	10.4	37	24.9	63	0	6	103	118	639.4
MACKENZIE	-15.2	-6.1	2.0	-34.2	23.8	46	17.0	29	77	4	149	206	929.9
PENTICTON	-5.3	-5.9	6.4	-19.8	22.8	200	24.7	124	0	5	102	135	651.9
PORT ALBERNI	0.2	*	9.7	-12.4	12.0	*	100.0	*	0	9	112	*	499.3
PORT HARDY	0.5	-3.4	7.8	-11.8	1.6	15	39.9	25	0	9	114	152	489.1
PRINCE GEORGE	-14.1	-8.0	4.8	-30.1	20.7	57	28.2	71	18	5	140	160	898.5
PRINCE RUPERT	-1.9	-4.2	10.2	-15.9			6.2	2	0	2	143	225	557.5
PRINCETON	-9.3	-6.3	5.3	-28.7	43.6	177	33.8	114	10	7	108	*	
QUESNEL	-12.5	-7.6	7.5	-31.7	11.9	40	10.6	33	21	3	X		854.6
REVELSTOKE	-7.1	-4.8	6.3	-22.1	34.8	46	29.3	32	59	6	114	205	702.0
SANDSPIT	1.2	-2.3	6.4	-12.3	3.6	23	24.6	21	0	5	102	123	469.4
SMITHERS	-12.1	-6.8	4.5	-32.3	5.1	16	5.4	17	34	2	140	167	841.8
TERRACE	-5.8	-4.4	7.4	-19.1	0.8	1	1.4	1	10	0	143	199	666.1
VANCOUVER INT'L	0.8	-3.8	10.3	-11.2	21.4	285	84.6	73	0	8	X 140	160	481.1
VICTORIA INT'L	0.1	-4.7	11.5	-11.8	34.3	423	68.1	68	0	8	117	136	501.2
VICTORIA MARINE	1.5	-3.9	11.3	-12.5	19.1	489	56.8	36	0	11	X		461.4
WILLIAMS LAKE	-11.9	-7.7	6.5	-34.6	11.6	45	9.9	36	27	3	154	142	850.5

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YUKON TERRITORY													
DAWSON	-24.4	0.2	-5.2	-49.9	5.8	21	4.0	16	54		X		
MAYO	-19.6	0.3	3.1	-52.9	4.0	22	4.0	24	55		X		
WATSON LAKE	-21.5	-2.8	0.3	-48.0	1.7	5	1.0	3	54	0	151	177	1095.4
WHITEHORSE	-17.6	-4.4	1.2	-40.4	3.4	22	0.9	6	22	0	163	179	997.6
NORTHWEST TERRITORIES													
ALERT	-29.8	3.8	-16.3	-39.5	22.7	405	19.7	378		9			1337.5
BAKER LAKE	-30.0	2.6	-11.5	-41.2	6.2	114	5.6	114	54	2	63	58	1344.4
CAMBRIDGE BAY	-25.5	8.9	-9.4	-39.2	16.4	356	11.0	275	21	4	63	121	1218.6
CAPE DYER	-29.5	-6.8	-19.4	-40.3	3.4	5	3.2	6	116	2	X		1329.4
CAPE PARRY	-18.4	11.3	-3.7	-33.0	20.6	251	18.0	339	17	6	X		1019.9
CLYDE	-33.5	-5.8	-22.3	-46.3	3.8	60	3.4	54	36	1	35	87	1442.8
COPPERMINE	-19.4	11.7		-34.7	15.7	245	11.0	177	83	3	67	87	
CORAL HARBOUR	-30.5	-1.1	-16.7	-43.2	3.0	32	2.8	31	17	1	117	102	1358.4
EUREKA	-36.6	1.4	-23.1	-48.8	13.6	523	13.5	562	21	4			1528.7
FORT RELIANCE	*		-12.6	-40.9	1.6	12	1.6	15	25	1	X		*
FORT SIMPSON	-15.0	7.8	0.5	-33.5	6.7	35	3.8	20	46	1	110	114	925.6
FORT SMITH	-17.7	4.1	1.0	-41.0	10.0	54	6.4	40	37	3	110	96	998.5
IQALUIT	-30.7	-4.3	-17.2	-43.0	8.1	33	7.3	31	20	3	98	101	1364.2
HALL BEACH	-34.9	-2.3	-17.1	-46.0	1.2	14	1.2	14	40	0	X		1481.6
HAY RIVER	-15.6	6.1	0.2	-37.0	6.6	34	6.6	36	45	5	X		900.6
INUVIK	-12.8	16.1	5.2	-28.8	24.9	196	16.7	159	47	5	80	122	863.7
MOULD BAY	-25.4	9.3	-4.9	-41.0	21.2	642	14.9	493	17	7	1	21	1214.7
NORMAN WELLS	-15.0	11.2	5.9	-29.1	34.6	200	26.5	164	8	5	96	125	925.5
POND INLET	-35.5	-1.5	-21.1	-45.3	5.4	59	5.2	98	46	3	X		1497.4
RESOLUTE	-31.3	1.9	-15.1	-44.3	6.8	219	4.9	163	20	2	37	209	1387.1
YELLOWKNIFE	-18.6	6.5	0.3	-39.8	5.1	38	3.9	34	31	1	127	124	1014.4
ALBERTA													
BANFF	-12.1	-5.8	6.0	-40.0	15.6	47	10.0	35	33	3	X		
CALGARY INT'L	-12.2	-4.9	6.7	-36.2	22.1	115	12.4	80	9	4	152	118	846.2
COLD LAKE	-16.1	-2.5	0.9	-39.0	9.3	54	9.6	60	15	3	153	122	956.0
CORONATION	-16.3	-5.1	1.9	-37.7	11.0	55	7.0	40	20	4	175	131	975.0
EDMONTON INT'L	-15.5	-4.1	4.1	-40.3	7.2	33	6.6	37	19	3	161	135	938.1
EDMONTON MUNI.	-13.9	-4.3	4.0	-36.8	12.2	57	10.8	57	24	3	159	136	992.8
EDMONTON NAMAO	-14.7	-3.8	3.3	-38.0	14.0	65	10.6	51	16	4	X		915.6
EDSON	-14.5	-4.6	8.2	-47.3	20.0	66	11.2	58	26	4	128	110	909.3
FORT CHIPEWYAN	-18.0	2.7	1.0	-42.0	3.6	47	3.6	57	36		X		

FEBRUARY 1989

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FORT MCMURRAY	-15.4	0.0	3.8	-38.2	12.0	54	6.0	31	27	2	149	115	934.5
GRANDE PRAIRIE	-15.7	-3.6	2.9	-37.3	7.7	29	5.4	22	12	3	173	*	941.4
HIGH LEVEL	-16.7	1.8	3.4	-39.8	7.4	35	4.4	27	41	3	143	113	972.1
JASPER	-13.2	-6.7	7.5	-39.9	4.4	20	3.2	15	24	1	127	*	871.5
LETHBRIDGE	-12.9	-7.5	5.3	-35.2	22.8	106	21.6	114	8	8	128	104	865.9
MEDICINE HAT	-14.6	-6.9	5.3	-34.9	22.1	120	16.1	96	4	5	144	117	914.6
PEACE RIVER	-15.3	-1.8	1.1	-36.9	6.1	23	6.1	29	14	2	X		935.2
RED DEER	-16.1	-5.4	6.7	-41.2	19.1	97	21.5	122	21	7	X		956.8
ROCKY MTN HOUSE	-15.2	-7.8	7.5	-43.8	36.4	156	29.0	142	34	8	X		929.9
SLAVE LAKE	-15.1	-2.9	2.0	-35.5	17.2	78	13.6	67	21	3	154	135	927.2
SUFFIELD	-15.3	-6.5	5.7	-36.5	18.6	110	18.0	112	6	6	154	122	931.0
WHITECOURT	-13.4	-3.2	5.0	-39.2	20.5	77	13.6	56	22	5	X		879.9
SASKATCHEWAN													
BROADVIEW	-18.4	-3.8	3.2	-39.4	11.4	76	9.2	73	7	3	185	135	1020.0
COLLINS BAY	-21.3	-0.2	-2.9	-40.7	33.2	152	24.4	138	76	9	107	*	1099.7
CREE LAKE	-19.2	0.5	0.2	-42.5	9.7	53	6.5	48	49	2	103	76	1042.3
ESTEVAN	-17.6	-5.6	3.7	-36.8	6.0	34	4.3	25	11	2	164	121	998.3
HUDSON BAY													
KINDERSLEY	-18.5	-6.0	1.2	-41.6	7.6	48	6.4	39	2	3	X		1022.0
LA RONGE	-17.3	0.0	2.9	-38.3	13.3	56	12.9	84	38	6	X		989.8
MEADOW LAKE	-17.0	-2.2	0.5	-38.3	7.4	48	5.2	32	13	2	141	*	979.6
MOOSE JAW	-16.2	-4.7	3.5	-36.9	7.4	39	7.9	51	10	4	172	137	958.4
NIPAWIN	-16.5	*	1.4	-36.9	23.2	*	14.0	*	17	2	168	*	967.2
NORTH BATTLEFORD	-17.7	-3.6	0.5	-41.4	5.9	38	5.0	34	19	1	X		998.6
PRINCE ALBERT	-16.7	-0.2	0.1	-38.1	7.6	46	7.0	46	9	2	152	124	972.9
REGINA	-18.3	-4.7	2.1	-40.2	8.4	45	8.0	49	11	4	169	139	1016.6
SASKATOON	-17.9	-3.3	0.5	-39.4	6.6	35	5.8	35	7	1	X		1006.5
SWIFT CURRENT	-17.3	-7.0	2.9	-38.5	18.9	105	24.4	141	28	6	146	127	989.7
WYNYARD	-18.2	-3.7	2.4	-39.5	11.8	66	8.4	54	12	6	X 177	129	1012.5
YORKTON	-18.5	-3.0	2.0	-39.3	4.6	24	4.4	24	22	3	175	135	1016.6
MANITOBA													
BRANDON	-19.1	-3.4	1.9	-38.9	3.2	16	2.4	12	15	1	X		1037.1
CHURCHILL	-24.1	1.8	-9.0	-38.3	13.0	89	11.6	88	36	5	112	85	1179.5
DAUPHIN	-16.7	-1.1	-0.1	-37.3	4.4	23	2.9	16	10	1	170	125	971.1
GILLAM	-22.4	1.5	-6.1	-40.4	19.2	86	11.8	63	55	5	X		1129.9
GIMLI	-18.5	-1.5	0.0	-36.9	10.7	52	8.1	45	27	3	199	131	1022.3
ISLAND LAKE	-20.7	-0.4	-2.7	-38.3	26.0	123	13.9	97	58	4	X		1083.6
LYNN LAKE	-21.3	0.9	0.4	-40.5	31.3	207	14.9	100	49	8	135	102	1100.5
NORWAY HOUSE	-19.7	*	-3.4	-36.7	15.8	*	12.9	*	16	6		*	1087.9
PORTAGE LA PRAIRIE	-17.0	-2.4	2.0	-35.8	7.7	55	3.3	17	13	1	X X		777.9

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THE PAS	-18.0	0.0	0.7	-36.7	20.6	99	18.3	118	20	3	155	116	1007.0
THOMPSON	-20.9	1.4	-4.9	-33.4	17.2	153	13.4	138	48	2	150	104	1099.9
WINNIPEG INT'L	-18.5	-2.9	0.0	-35.6	6.2	32	5.6	32	22	3	204	141	1021.2
ONTARIO													
BIG TROUT LAKE	-21.3	0.1	-4.6	-37.0	23.4	*	20.8	109	97	7	130	*	1100.8
EARLTON	-16.9	-2.9	0.7	-36.0	11.4	24	11.6	24	50	5	X		976.3
GERALDTON	-19.1	-1.2	-0.8	-35.4	26.0	78	20.8	62	58	5	X		1039.8
GORE BAY	-10.8	-1.1	0.8	-26.9	75.8	202	27.4	63	48	11	X		787.7
HAMILTON RBG	-5.4	-1.1	7.5	-15.8	18.0	64	26.4	49	4	7	122	*	
HAMILTON	-6.5	-0.2	9.7	-17.9	35.2	116	25.0	47	8	7	X		687.2
KAPUSKASING	-17.6	-1.4	0.5	-34.4	20.6	46	17.9	41	78	6	X		995.9
KENORA	-18.9	-4.5	-2.3	-37.8	11.8	46	10.3	44	62	4	X		1034.0
KINGSTON	-7.5	-0.5	8.0	-21.6	35.6	99	35.8	60		*			714.9
LANSDOWNE HOUSE	-20.6	-1.1	-2.2	-37.5	16.2	60	14.2	59	46	5	X		1079.9
LONDON	-6.6	-0.5	9.7	-18.6	37.5	96	36.2	59	7	11	94	97	687.0
MOOSONEE	-19.7	-1.2	-0.9	-35.1	14.4	48	12.0	40	71	6	156	128	1054.2
MUSKOKA	-11.4	-1.8	1.9	-33.1	124.7	243	60.5	96	48	12	X		824.0
NORTH BAY	-13.2	-1.9	-0.3	-30.1	63.8	125	37.1	66	48	11	153	122	872.5
OTTAWA INT'L	-9.6	-0.1	4.4	-22.1	33.0	65	30.8	51	21	7	153	*	772.0
PETAWAWA	-12.9	-1.7	4.5	-33.0	28.3	62	19.2	37	33	4	X		834.0
PETERBOROUGH	-7.9	0.6	5.5	-24.0	31.0	98	25.2	51	8	5	X		726.5
PICKLE LAKE	-20.7	-2.0	-2.2	-38.2	12.0	43	10.2	39	66	5	X		1083.7
RED LAKE	-20.0	-3.2	-0.5	-38.4	14.6	63	13.0	63	88	4	166	*	1063.0
ST. CATHARINES	-4.7	-1.0	11.0	-14.7	29.3	127	29.0	64	2	10	X		635.2
SARNIA	-6.0	-1.5	9.5	-22.1	40.2	169	38.5	84	18	11	106	99	671.2
SAULT STE. MARIE	-12.3	-2.3	-0.2	-29.2	76.7	120	58.9	86	35	11	121	107	848.3
SIMCOE											X		
SIOUX LOOKOUT	-19.6	-3.9	-0.8	-37.4	16.0	56	16.0	57	90	6	X		1047.4
SUDBURY	-13.6	-1.1	0.6	-31.0	24.0	53	13.3	28	59	6	149	112	895.6
THUNDER BAY	-16.0	-3.0	1.7	-32.1	9.3	31	7.9	27	35	5	157	107	952.9
TIMMINS	-16.9	-1.3	-1.0	-35.6	19.2	36	14.2	31	59	6	X		982.0
TORONTO	-4.5	-0.6	7.0	-15.9	29.0	101	24.2	46	0	8			630.6
TORONTO INT'L	-6.5	-0.4	10.0	-18.3	22.0	82	18.9	41	7	6	X		684.2
TORONTO ISLAND	-4.8	0.0	6.8	-15.0	12.8	51	23.2	48	1	7			638.1
TRENTON	-6.8	-0.3	9.7	-19.5	38.4	108	26.4	46		8	X		694.9
WATERLOO - WELL	-7.8	-1.0	8.5	-22.3	37.8	121	26.8	49	13	7	X		722.7
WAWA	-15.5	*	-1.0	-36.7	110.0	*	65.4	*	101	15		*	936.8
WIARTON	-8.4	-0.9	2.0	-27.0	146.9	242	56.4	97	35	19	83	80	741.5
WINDSOR	-4.6	-0.8	8.3	-16.0	23.4	124	24.4	48		7	X		631.9

FEBRUARY 1989

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QUEBEC													
BAGOTVILLE											X		
BAIE COMEAU	-14.8	-2.3	0.3	-31.7	39.0	53	30.0	48	55	6	147	*	916.8
BLANC SABLON	-15.3	-5.3	-0.1	-30.9	71.2	70	71.2	65	33	11	118	*	930.5
CHIBOUGAMAU	-20.6	-3.1	-1.8	-39.0	33.4	63	22.9	44	106	9	139	111	1080.2
GASPE	-11.1	-1.0	-5.5	-30.5	*		*		*	*	*		2415.3
INUKJUAK	-29.0	-4.0	-12.3	-41.5	2.8	32	2.9	32	30	1	136	127	1316.5
KUUJJUAQ	-26.3	-3.9	-5.8	-40.8	84.0	248	7.2	21	36	2	118	108	1241.4
KUUJJUARAPIK	-25.2	-2.6	-3.7	-40.3	24.6	101	24.2	102	29	11	113	91	1208.9
LA GRANDE RIVIERE	-24.4	*	-3.7	-36.7	17.6	*	16.9	*	52	4	109	*	1182.2
MANIWAKI	-13.4	-1.2	4.2	-31.7	31.2	68	25.0	49	38	6	150	118	977.4
MATAGAMI	-20.2	-2.4	-4.1	-36.1	16.4	40	14.0	33	55	5	169	131	1069.6
MONT JOLI	-11.7	-1.2	3.1	-24.1	43.8	58	41.2	55	31	10	98	85	832.9
MONTREAL INT'L	-8.7	0.3	5.8	-21.9	23.2	43	30.6	46	4	6	132	102	
MONTREAL M INT'L	-11.4	*	4.5	-29.5	35.0	*	39.8	*	24	11	168	*	824.6
NATASHQUAN	-14.4	-3.1	-0.7	-32.4	46.0	81	40.2	51	50	10			
QUEBEC	-12.5	-1.7	2.9	-28.7	73.2	104	63.2	80	61	15	104	91	852.2
ROBERVAL	-15.5	-0.8	2.4	-29.1	19.6	32	19.4	32	35	6	135	*	939.3
SCHEFFERVILLE	-24.6	-3.4	-7.5	-42.9	6.4	14	6.4	14	43	3	136	*	1191.2
SEPT-ILES	-15.6	-3.1	-1.2	-30.2	56.2	75	44.2	55	35	7	149	108	940.6
SHERBROOKE	-10.8	0.1	6.0	-34.0	37.8	67	43.3	70	22	8	114	*	807.4
STE AGATHE DES MONTS	-13.0	-0.9	3.3	-32.2	56.4	68	48.6	56	80	12	137	108	868.4
ST-HUBERT	-9.2	*	5.8	-24.8	27.3	49	36.5	50	6	6	*		762.6
VAL D'OR	-17.8	-2.9	-0.5	-36.0	35.0	69	27.4	54	45	9	164	121	1003.6
NEW BRUNSWICK													
CHARLO	-13.2	-3.4	5.0	-29.0	66.7	90	48.5	62	102	10	121	89	868.5
CHATHAM	-10.5	-1.7	6.4	-25.9	59.7	92	58.5	67	28	6	119	90	798.5
FREDERICTON	-9.4	-1.0	10.9	-28.2	51.7	81	73.7	82	17	7	109	*	
MONCTON	-8.9	-1.2	12.2	-24.1	88.7	129	101.6	102	42	11	99	80	752.2
SAINT JOHN	-9.1	-1.6	8.6	-26.3	76.2	120	103.4	89	24	10	103	82	758.4

STATION	Temperature C: Mean	Difference from Normal	Maximum	Minimum	Snowfall (cm)	% of Normal Snowfall	Total Precipitation (mm)	% of Normal Precipitation	Snow on ground at end of month (cm)	No. of days with Precip 1.0 mm or more	Bright Sunshine (hours)	% of Normal Bright Sunshine	Degree Days below 18 C
NOVA SCOTIA													
GREENWOOD	-6.3	-0.9	15.7	-18.6	96.4	138	119.7	132	18	12	X		679.8
HALIFAX INT'L	-7.0	-0.9	8.9	-21.9	78.3	119	109.0	81	27	13	*		698.4
SABLE ISLAND	-1.4	-0.4	11.6	-12.3	10.4	32	177.4	150	1	10	64	87	543.6
SHEARWATER	-5.2	-0.7	9.2	-17.4	71.1	136	152.1	124	24	12	86	66	650.0
SYDNEY	-8.1	-2.2	8.3	-23.0	92.5	134	149.4	120	30	14	110	99	731.7
YARMOUTH	-3.2	0.0	9.5	-13.3	64.9	120	128.6	112	14	13	68	73	591.2
PRINCE EDWARD ISLAND													
CHARLOTTETOWN	-9.2	-1.7	7.7	-23.6	87.6	133	116.2	119	23	13	X		761.1
SUMMERSIDE	-8.9	-1.6	8.9	-21.1	82.2	147	86.6	105	32	12	101	80	749.4
NEWFOUNDLAND													
BATTLE HARBOUR	-14.0	-4.3	0.5	-27.6	39.0	46	37.6	52	83	5	X		896.2
BONAVISTA	-7.0	-1.8	8.9	-19.0	53.4	118	73.9	85	37	12	X		669.1
BURGEO	-7.2	-2.0	4.5	-21.0	77.7	152	127.6	97	48	18	*		704.6
CARTWRIGHT	-16.2	-3.6	-2.3	-30.0	20.5	31	20.5	30	99	4	148	140	956.4
CHURCHILL FALLS	-21.9	-3.0	-5.2	-37.6	13.9	23	12.4	21	71	6	180	144	117.6
COMFORT COVE	-9.7	-2.7	7.5	-24.5	39.0	53	62.1	65	86	9	X		775.2
DANIEL'S HARBOUR	-11.8	-4.1	5.4	-25.0	53.6	71	65.8	80	54	14	89	119	846.1
DEER LAKE	-11.5	-2.5	6.8	-30.0	37.5	57	65.4	89	71	10	X		844.5
GANDER INT'L	-9.2	-2.4	7.9	-23.8	55.4	72	77.6	77	32	10	126	127	762.9
GOOSE	-17.9	-3.3	-3.9	-29.9	12.9	21	10.2	17	32	4	181	154	1152.2
PORT-AUX-BASQUES	-7.3	-1.6	4.5	-19.0	108.6	156	159.8	137	54	22	74	*	704.4
ST ANTHONY	-13.5	-2.3	0.6	-27.6	62.1	102	51.6	63	75	8		*	882.0
ST JOHN'S	-7.1	-2.6	10.7	-19.5	67.6	91	118.9	85	18	14	99	*	702.8
ST LAWRENCE	-5.5	-1.0	5.5	-17.5	65.9	136	139.1	128	12	17		*	658.9
STEPHENVILLE	-8.9	-2.7	6.6	-21.3	84.8	112	126.7	141	5	19	64	*	753.2
WABUSH LAKE	-23.4	-2.6	-5.9	-39.9	13.7	26	11.7	24	34	5	157		

AGROCLIMATOLOGICAL STATIONS — **FEBRUARY 1989**

STATION	Temperature C				Snowfall (cm)	Total Precipitation (mm)	% of Normal Precipitation	Snow on ground at end of month (cm)	No. of days with Precip 1.0 mm or more	Bright Sunshine (hours)	Degree days above 5 C	
	Mean	Difference from Normal	Maximum	Minimum							This month	Since jan. 1st
BRITISH COLUMBIA												
AGASSIZ	0.1	-4.4	10.0	-18.0	8.0	26.4	15	0	7	123	2.8	9.1
KAMPLOOPS	**	**	**	**	**	**	**	***	***	**	**	**
SIDNEY	1.0	-3.9	10.5	-12.0	27.0	26.0	26	0	10	105	**	18.3
SUMMERLAND	-5.4	-5.5	6.5	-21.0	18.0	19.4	103	0	6	105	5.4	5.4
ALBERTA												
BEAVERLODGE	-14.0	-3.8	4.0	-37.0	7.8	6.2	24	13	2	155	0.0	1.0
ELLERSLIE	**	**	**	**	**	**	**	***	***	**	**	**
LACOMBE	-15.8	-5.3	7.5	-43.5	11.5	12.6	70	34	5	157	0.0	0.0
LETHBRIDGE	**	**	**	**	**	**	**	***	***	**	**	**
VEGREVILLE	**	**	**	**	**	**	**	***	***	**	**	**
SASKATCHWAN												
INDIAN HEAD	-18.5	-4.7	3.5	-39.0	6.9	6.9	39	23	3	**	0.0	0.0
MELFORT	-17.5	-1.2	0.5	-34.0	12.7	12.7	78	30	6	142	0.0	0.0
REGINA	-19.4	-5.6	2.5	-4.0	8.4	8.2	55	24	2	**	0.0	0.0
SASKATOON	-16.8	-2.3	1.0	-37.5	7.4	7.4	34	20	2	176	0.0	0.0
SCOTT	-18.9	-4.5	0.0	-38.3	5.0	5.7	44	8	4	171	0.0	0.0
SWIFT CURRENT	-17.0	-6.6	2.5	-38.5	11.0	13.6	91	20	4	147	0.0	0.0
MANITOBA												
BRANDON	-18.5	-3.3	2.7	-37.5	2.7	2.7	13	22	1	**	0.0	0.0
GLENLEA	-16.4	0.0	3.5	-35.5	3.0	3.2	12	21	0	200	0.0	0.0
MORDEN	-20.0	-6.6	1.0	-38.5	6.6	6.6	35	72	3	204	0.0	0.0
ONTARIO												
DELHI	-6.1	-0.7	6.5	-18.0	24.0	34.4	61	9	7	0	**	**
ELORA	-5.0	2.3	4.1	-22.8	*****	30.0	61	16	0	**	**	**
GUELPH	-7.3	-0.8	6.1	-21.6	22.4	23.6	47	9	6	99	0.0	0.0
HARROW	-2.9	0.9	7.0	-15.5	0.0	10.5	20	0	4	114	0.0	1.3
KAPUSKASING	-18.3	-2.0	-1.0	-37.5	23.6	17.0	41	50	7	147	0.0	0.0
OTTAWA	-9.4	0.1	5.2	-25.0	28.4	28.9	53	12	8	153	0.0	0.0
SMITHFIELD	-5.9	0.7	7.7	-20.4	35.0	48.6	68	7	13	**	0.5	0.5
VINELAND	-4.4	-0.9	9.2	-15.5	26.2	35.0	63	4	9	99	0.0	1.4
WOODSLIE	**	**	**	**	**	**	**	***	***	**	**	**

STATION	Temperature C				Snowfall (cm)	Total Precipitation (mm)	% of Normal Precipitation	Snow on ground at end of month (cm)	No. of days with Precip 1.0 mm or more	Bright Sunshine (hours)	Degree days above 5 C	
	Mean	Difference from Normal	Maximum	Minimum							This month	Since jan. 1st
QUEBEC												
LA POCATIERE	-11.3	-1.1	2.0	-27.0	66.4	43.3	61	56	9	137	0.0	0.0
L'ASSOMPTION	-10.9	-0.3	4.5	-31.5	27.2	35.9	58	28	9	136	0.0	0.0
LENNOXVILLE	**	**	**	**	**	**	**	***	***	**	**	**
NORMANDIN	-18.6	-2.5	3.0	-38.0	10.0	11.0	20	38	4	155	0.0	0.0
STE.CLOTILDE	-9.6	0.5	6.0	-27.0	27.8	31.6	49	9	8	123	0.0	0.0
NEW BRUNSWICK												
FREDERICTON	-9.2	-0.9	10.5	-31.5	27.3	53.7	62	8	8	109	0.0	0.0
NOVA SCOTIA												
KENTVILLE	-5.9	-0.7	14.0	-20.0	83.9	127.3	119	36	16	80	4.3	4.3
NAPPAN	-8.6	-1.7	12.5	-30.0	104.5	123.6	139	28	14	87	0.3	0.3
PRINCE EDWARD ISLAND												
CHARLOTTETWN	-8.5	-1.5	8.5	-23.0	80.2	109.8	135	40	12	101	2.0	3.0
NEWFOUNDLAND												
ST.JOHN'S WEST	**	**	**	**	**	**	**	***	***	**	**	**