Environment Canada Environnement Canada

Climatic Perspectives

Monthly review APRIL Vol.9 1987

CLIMATIC HIGHLIGHTS

by
P. Scholefield, CCRM

Developing Drought Conditions Create Serious Forest Fire Threat

Following a very mild, dry winter across much of the country, the continuing lack of moisture this spring is becoming a major concern, particularly to the agriculture and forestry sectors. Large areas in each province, except P.E.I., received 75% or less of the normal precipitation for April (see map page 2B). Throughout the previous months, as far back as December, it has been dry across all of southern Canada except along the Pacific and Atlantic coasts.

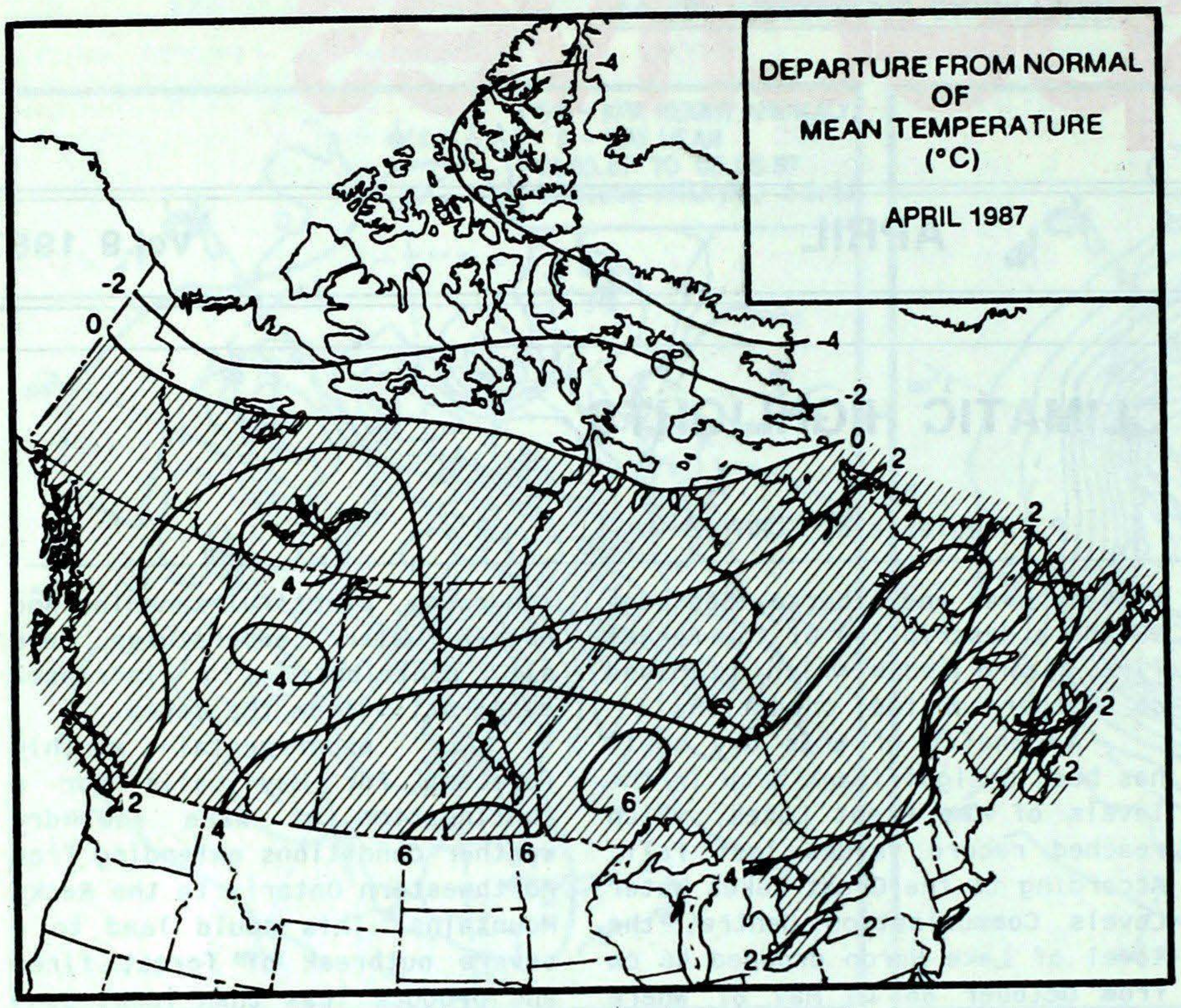
This unusually prolonged period of dry weather can be directly related to the persistence of strong, positives upper atmospheric height anomalies, which were centered primarily over western Canada earlier in the winter but shifted eastward over central Canada later in the winter and earlier this spring. The effect has been to block the westward flow of weather disturbances across the southern half of the country. The storm tracks have often been forced southward through the U.S.A. or northward through the Arctic.

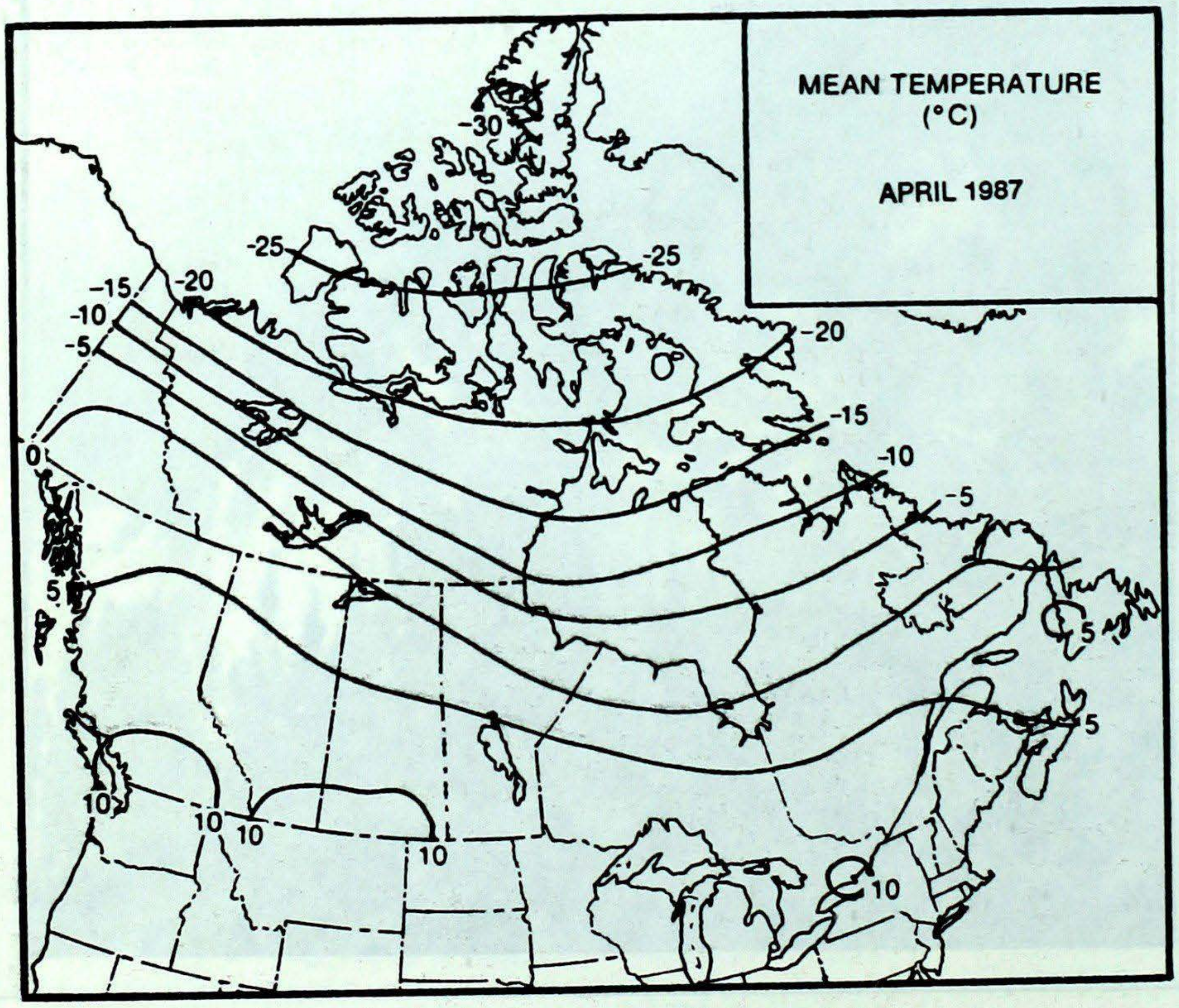
The principal impact of this dry weather has been to create a serious forest fire hazard in many parts of the country. On May 7, the Canadian Interagency Forest Fire Centre reported an EXTREME forest fire hazard in northwestern Ontario, eastern Manitoba and in several forest districts in Saskatchewan and Alberta. See page 9B for a description of the forest fire hazard index which is based on weather and fuel conditions.

A benefit of this dry spell has been a significant drop in the levels of the Great Lakes, which reached record values last fall. According to the Great Lakes Water Levels Communication Centre, the level of Lake Huron dropped 46 cm from October 86 to May 87 where normally there is no change in levels during this period. Reduced ice cover, plentiful sunshine and higher water temperatures have all contributed to increased evaporation from the lakes.

Our experimental monthly forecast for May calls for a continuation of warm and dry weather conditions extending from northwestern Ontario to the Rocky Mountains. This could lead to a severe outbreak of forest fires and produce less than ideal conditions for early crop growth in agricultural areas.

TEMPERATURE





ACROSS THE COUNTRY

Yukon and Northwest Territories

April weather was extremely variable across the Northwest Territories. Despite a period with above normal temperatures at the beginning and near the middle of the month, it was rather cold with the mercury dropping below -40°C in the high Arctic.

There were sharp contrasts between regions. During the second week of the month, it was very mild over the south and central Yukon with daytime temperatures approaching 10°C. Excessive precipitation occurred only in the district of Keewatin and southern Baffin Island where they had some heavy snowfalls, often accompanied by blizzard conditions.

British Columbia

Weather conditions were variable over B.C. during April. In concert with the fluctuations in the upper level circulation associated with the arrival of spring, the month's weather started out fine, deteriorated rapidly, then turned fine again for 10 days. Finally the month ended on a glum note with the arrival of several Pacific weather systems.

Several high mean monthly temperature records were set. A strong upper ridge around the 25th permitted temperatures to climb above 33°C at Kamloops, a new monthly record. Cool night-time temperatures permitted the snowmelt to progress gradually without causing flooding problems.

Precipitation amounts were also variable, being from 15 to 25% of normal. Bull Harbour, with 253.3 mm, equalled a monthly record. Most of the interior valleys are now snow-free.

Lighting started some forest fires but luckily, sufficient rain fell to help fire fighters quickly bring them under control.

Prairie Provinces

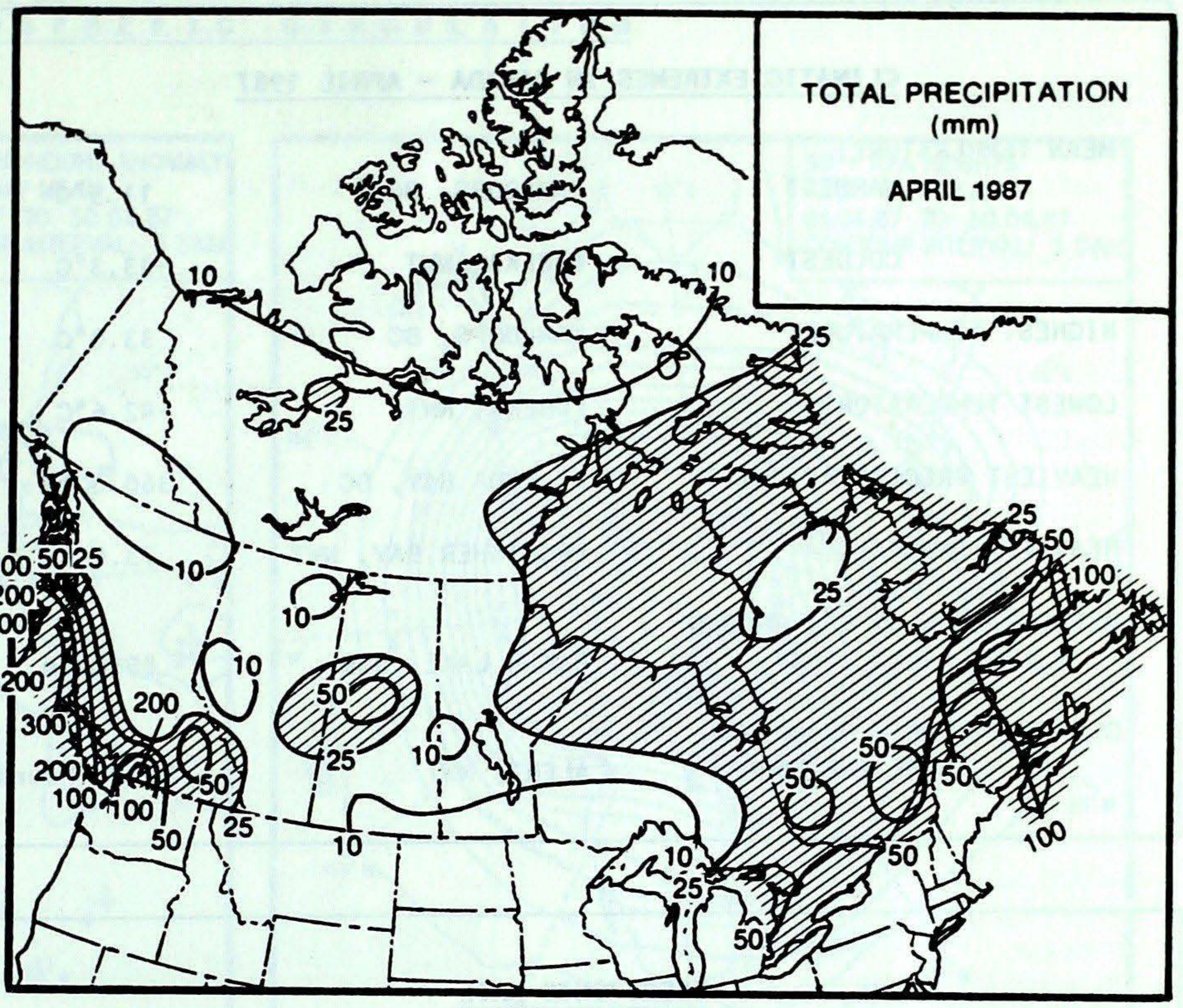
The exceptional weather of recent months continued in the Prairies. April was the 5th consecutive month with above normal temperatures. Temperatures were well above normal in some areas where monthly departures reached +4 to +7°C. Estevan and Portage-la-Prairie set new maximum temperature records for April. The highest temperature (31°C) was reported by Lethbridge on the 28th.

Apart from several areas in the Peace River region and around Edmonton, precipitation totales were very light, being as low as 1 to 15% of normal. However, La Ronge on the 9th, was burried under 49 cm of snow (a new monthly 24-hour record was set) and on the 18th, inhabitants of southern Alberta awoke to find the ground covered with a thick layer of wet snow. The dry, warm weather allowed farmers to sow their fields without difficulty but on the other hand, a serious forest fire hazard developed. Several fires occurred in Manitoba and Alberta.

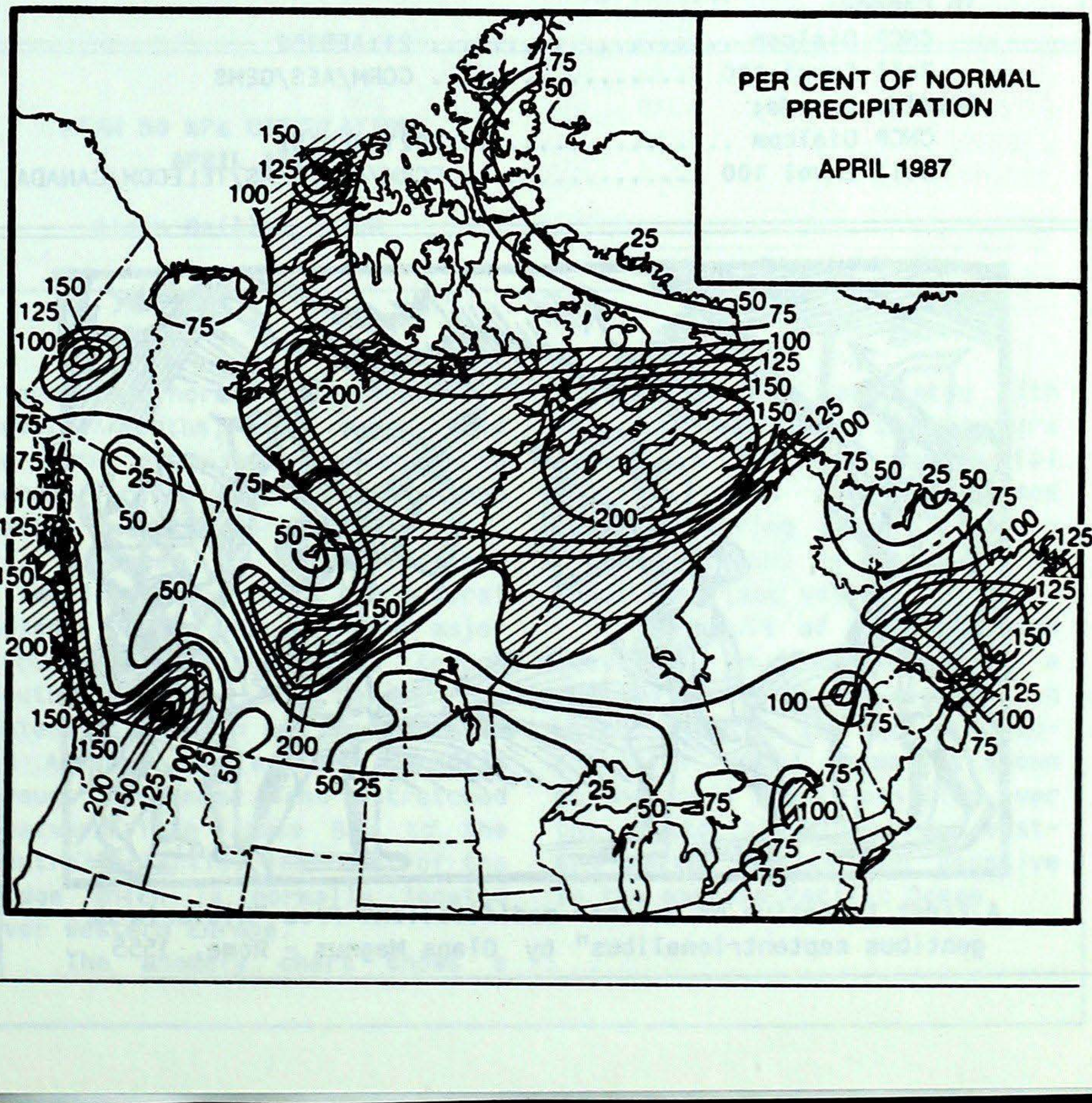
Ontario

April was the third consecutive month of mild, sunny weather across the province. The whole province was blessed with exceptionally fine weather on the Easter Weekend when temperatures climbed to values well above normal. Many daily and monthly warm temperature records were established during the month, primarily in central, northern and northwestern regions. It was the warmest April ever recorded at Kenora whose mean temperature was +7°C above normal. Further south, the anomalies were moderated by the effects of the Great Lakes, but in general it was the warmest April since 1955.

Although precipitation amounts were generally low, southern Ontario received 20-30 cm of wet snow on April 1. The lack of precipitation produced a serious forest fire hazard. At the end of the month southern and central areas received some precipitation but it was insufficient to relieve the deficit. The risk of forest fires became EXTREME in the northwest where Kenora only received a monthly total of 0.2 mm.



TOTAL PRECIPITATION (mm) APRIL 1987



PER CENT OF NORMAL PRECIPITATION APRIL 1987

CLIMATIC EXTREMES IN CANADA - APRIL 1987

MEAN TEMPERATURE:		
WARMEST	KAMLOOPS, BC	11.5°C
COLDEST	EUREKA, NWT	-33.3°C
HIGHEST TEMPERATURE:	KAMLOOPS, BC	33.0°C
LOWEST TEMPERATURE:	EUREKA, NWT	-42.6°C
HEAVIEST PRECIPITATION:	ETHELDA BAY, BC	360.0 mm
HEAVIEST SNOWFALL:	FROBISHER BAY, NWT	73.0 cm
DEEPEST SNOW ON THE GROUND ON APRIL 30th, 1987:	BAKER LAKE, NWT	85.0 cm
GREATEST NUMBER OF BRIGHT SUNSHINE HOURS:	ALERT, NWT	504 hours

ELECTRONIC MAIL

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A first tentative of weather modification? from "Historia de gentibus septentrionalibus" by Olans Magnus - Rome, 1555

Quebec

Positive upper level height anomalies, resulting from the weakening of the upper trough over Canada, produced another fine month of weather over Quebec. Temperatures soared to extreme values during the third week of the month. No less than 93 daily records were set, including temperatures in excess of 30°C at Roberval and Bagotville on the 20th. There were numerous monthly records: 8 high maximums in the south and 12 monthly means, one which broke a 40-year old record at Trois Rivières.

Precipitation amounts varied between 30% of normal in the southwest and up to 300% in northern Quebec. The Chaudière river in the Beauce region overflowed its banks and rose to 8 metres forcing the evacuation of 450 inhabitants at Sainte-Marie and 2000 people were affected by power outages. East of Trois Rivières, a railway bridge was washed away by the persistant action of ice and flood waters. Flood damage estimates are in the millions of dollars.

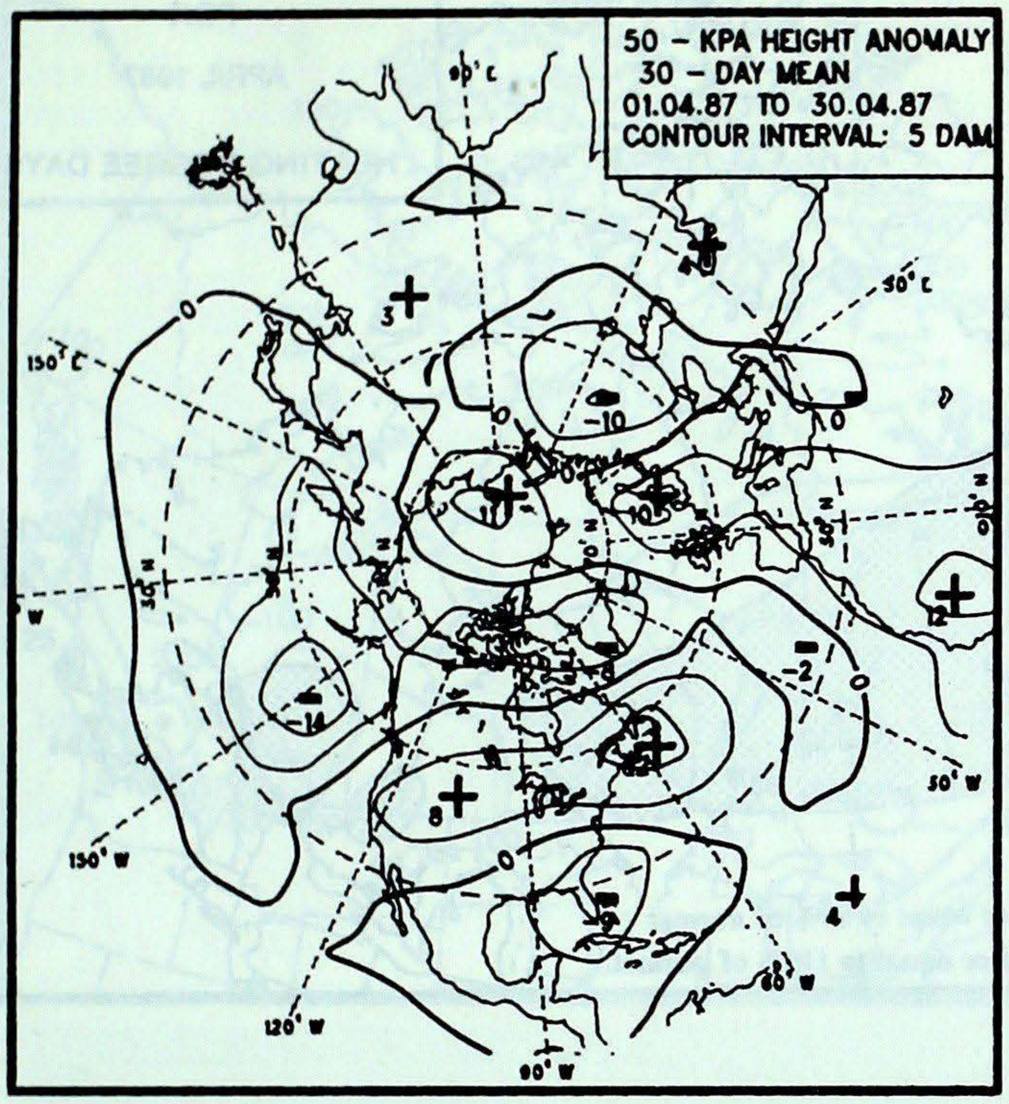
Atlantic Provinces

Temperatures finally began to warm up in the Maritimes. April was generally dry and warmer than normal. During the first half of the month and over Easter, 6 stations broke or equalled maximum temperature records for the month. Charlo reached 29°C on the 21st.

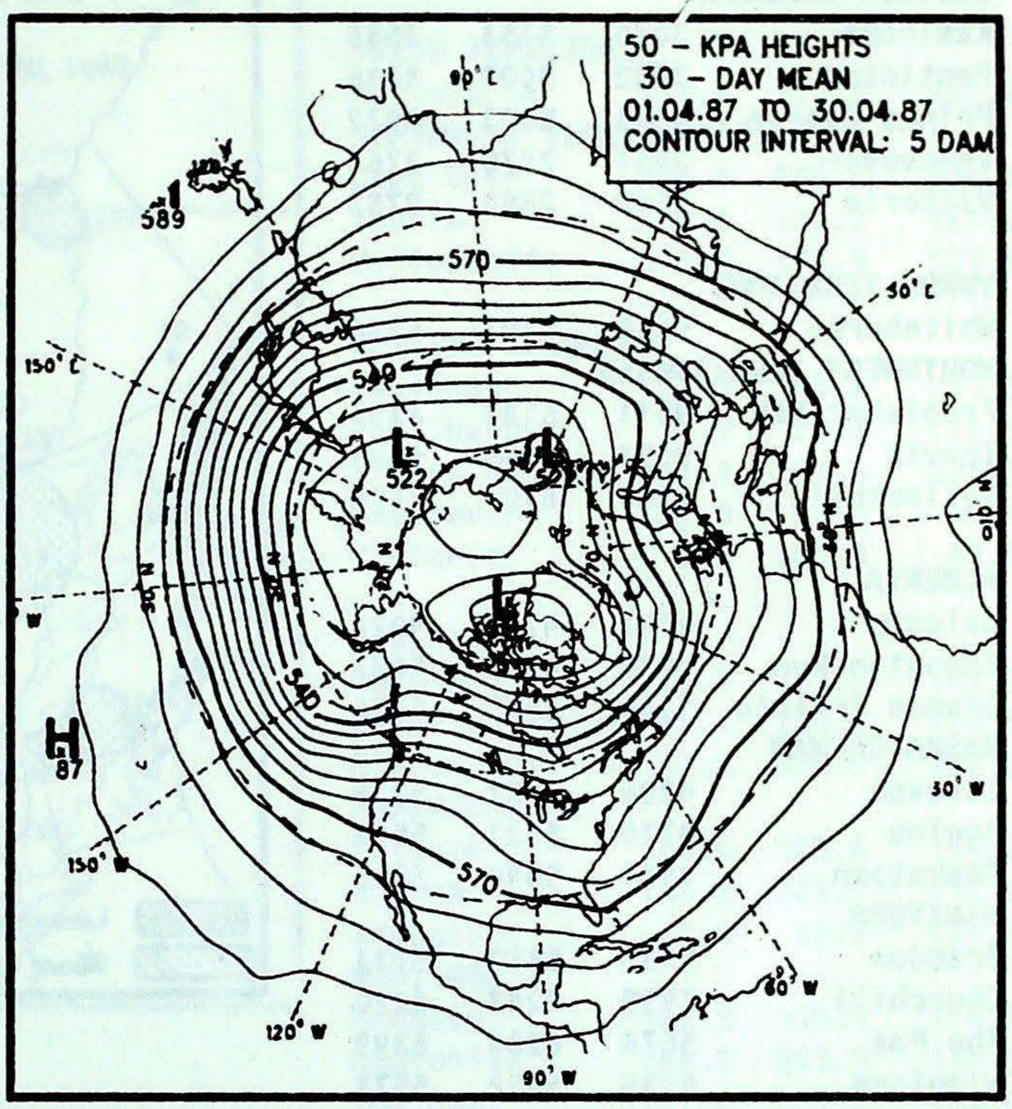
Despite the pleasant temperatures, precipitation varied from rain to snow right up to the end of the month. The combination of heavy run-off and ice jams in New Brunswick caused flooding along the Saint John river which was particularly bad at Perth-Andover (175 km northwest of Fredericton). Blocks of ice were carried into the streets by the floodwaters. A railway bridge was washed out, another damaged and 2,000 people had to flee their homes. Floods occur regularly in the spring but this was the worst this year since 1973.

Despite bright sunny days, maple syrup production was down due to a lack of freezing night-time temperatures.

ATMOSPHERIC CIRCULATION



Mean 50 kPa height anomaly (dam)
April 1987



Mean 50 kPa heights (dam)
April 1987

MEAN 50 kPa CIRCULATION
APRIL 1987

Alain Caillet, CCRM

The mean 50 kPa geopotential height pattern for April does not really reflect the increased solar radiation that has occurred since the spring equinox. Normally, the increased heating at northern latitudes reduces the latitudinal temperature gradient (because the mean temperature in the tropical airmasses varies little). This in turn weakens the hemispheric circulation gradient. The monthly mean chart shows however an increase in the intensity of the circulation near 50°N, particularly over Canada.

This is due to the fact that heights which have been generally higher than normal over Canada for several months, have intensified in April over southern Canada to become relatively higher than values over the north.

Compared to the long-term climatic normals there are several notable differences in the major troughs and ridges. The trough southward from the Bering Sea intensified again and moved closer to Alaska. The eastern Canadian trough weakened and stretched westward from James Bay to the central Atlantic, just east of the ridge which is normally located over western Europe.

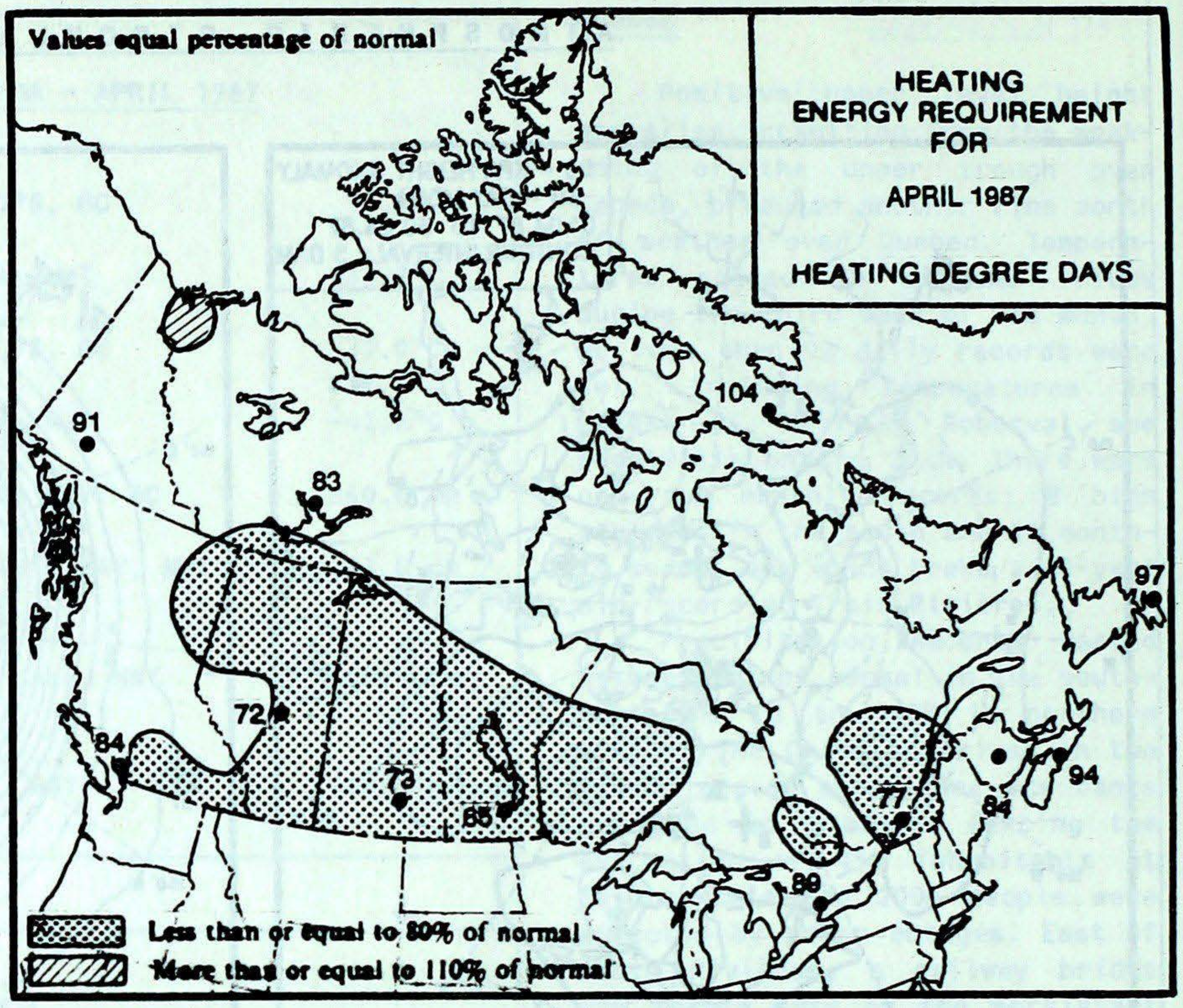
The anomaly chart shows a typical pattern associated with the sea surface temperature anomalies in the equatorial Pacific Ocean which remained positive during April following the persistence of the El Nino conditions (see vol no. 15).

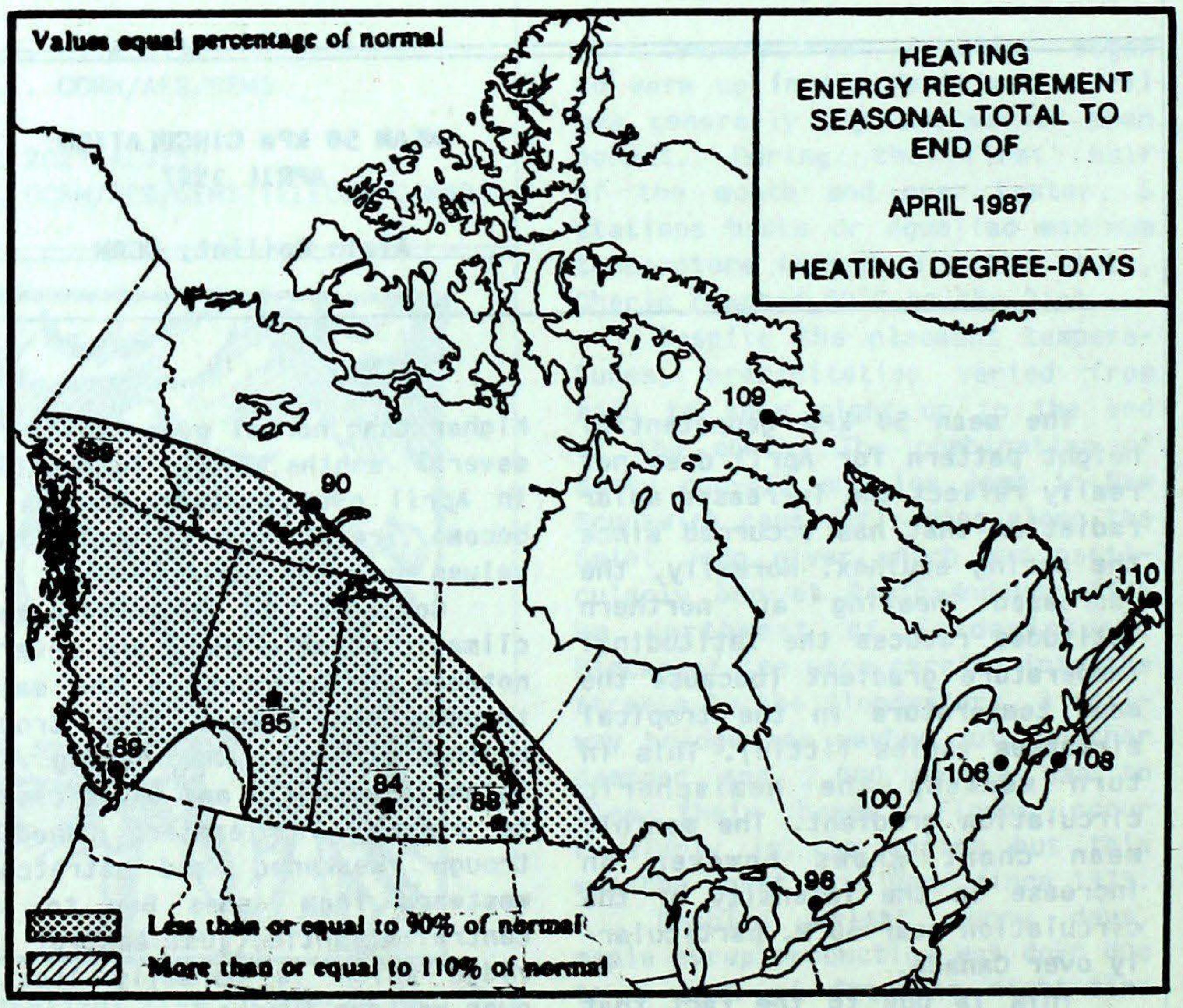
A result of the increased convection in these regions is a forcing effect on the circulation which produces the typical geopotential height anomalies shown on the April chart: positive over the equatorial Pacific and western North America and negative in the eastern Pacific Ocean.

ENERGY

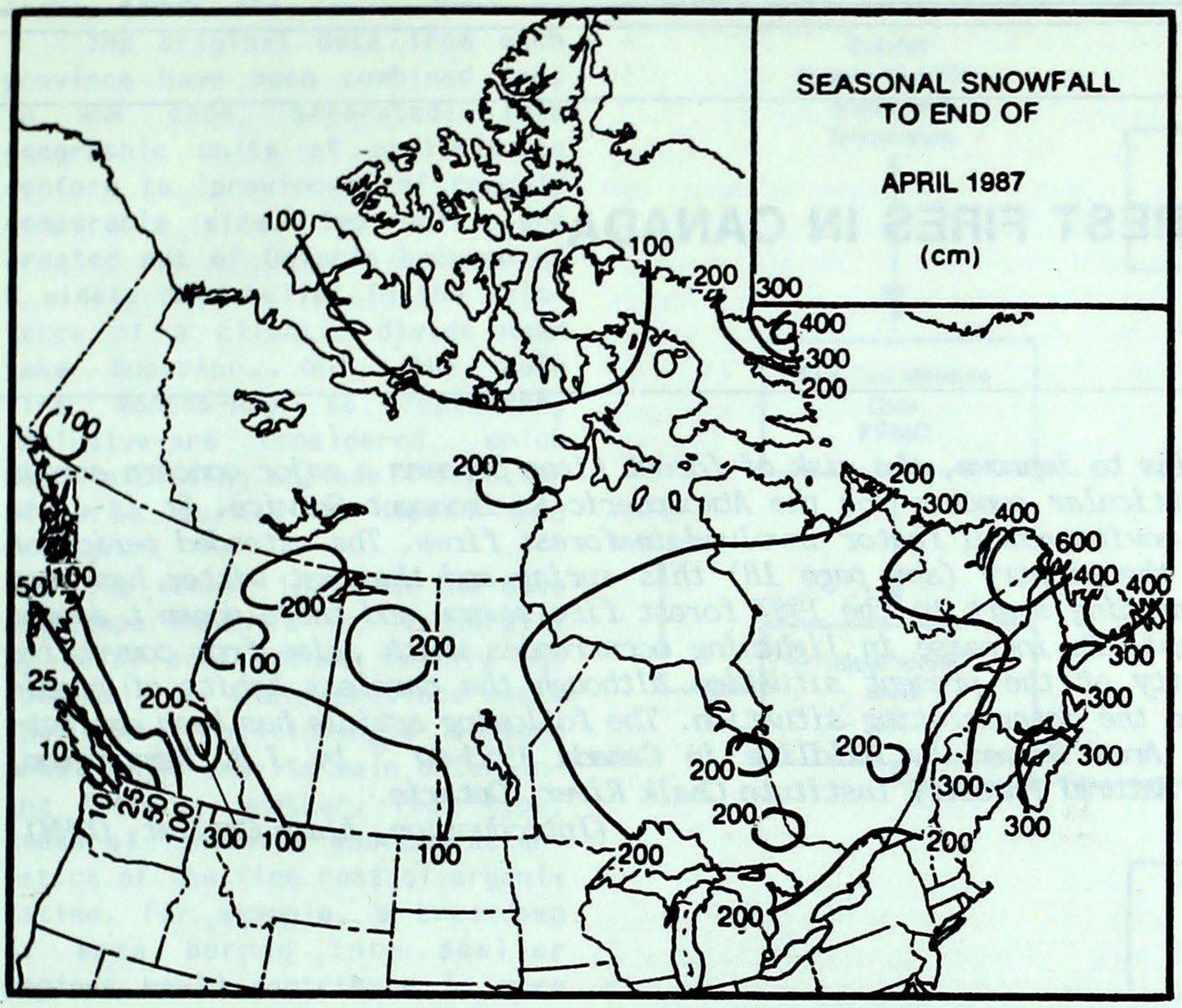
SEASONAL TOTAL OF HEATING DEGREE-DAYS TO END OF APRIL

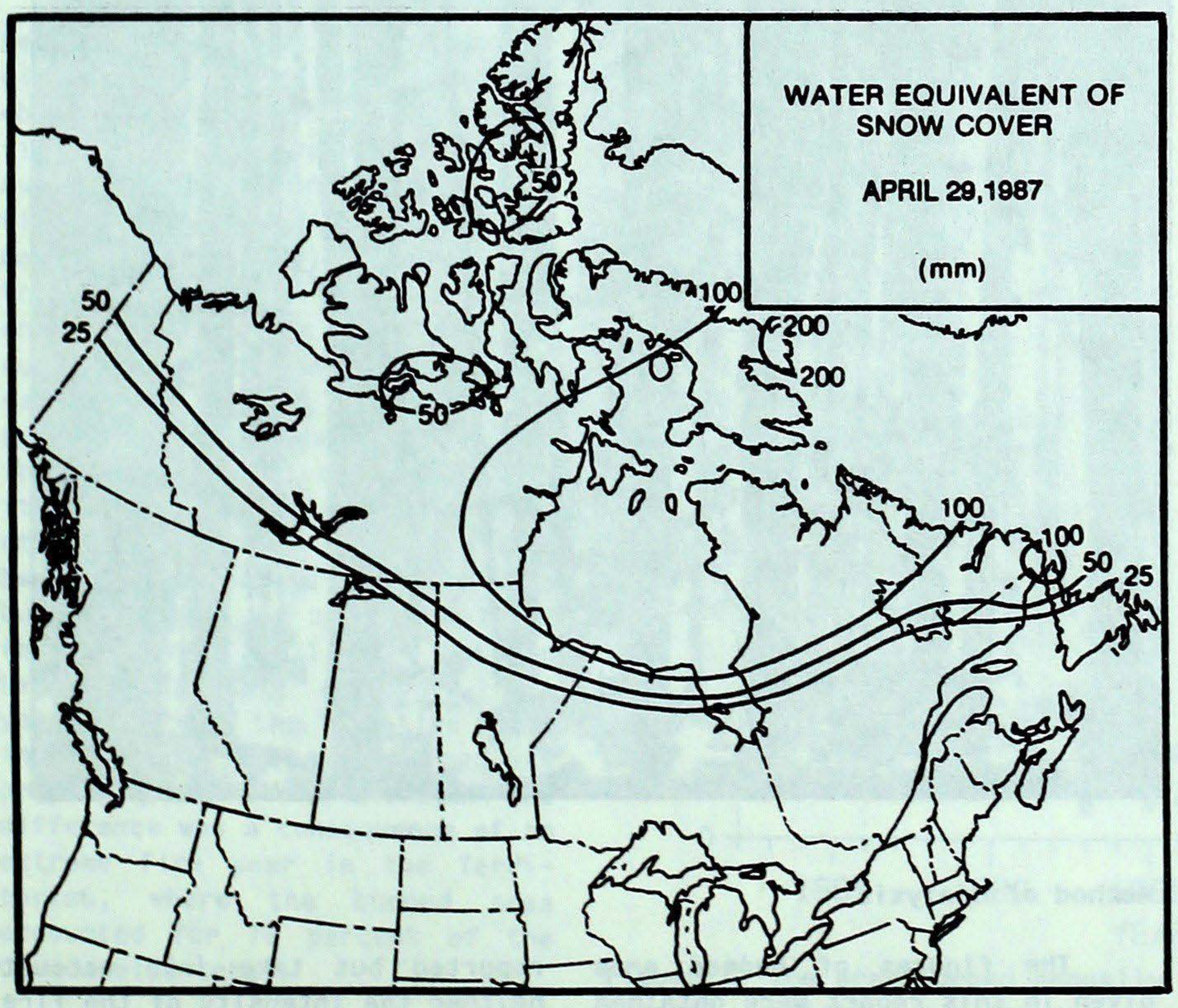
	1987	1986	NORMAL
BRITISH COLUMBIA			
Kamloops	3076	3753	3588
Penticton	3032	3609	3316
Prince George	4335	5021	4972
Vancouver	2451	2870	2761
Victoria	2602	2894	2783
YUKON TERRITORY			
Whitehorse	5654	6293	6366
NORTHWEST TERRITORIES			
Frobisher Bay	9511	8189	8751
Inuvik	9071	9399	9345
Yellowknife	7203	8103	7974
ALBERTA			
Calgary	4147	4710	4928
Edmonton Mun	4470	4975	5257
Grande Prairie	5166	5535	5756
SASKATCHEWAN			
Estevan	4296	5037	5229
Regina	4710	5421	5598
Saskatoon	4941	5540	5755
MANITOBA			
Brandon	5138	5890	5711
Churchill	7959	8243	8220
The Pas	5678	6284	6399
Winnipeg	4935	5662	5577
ONTARIO			
Kapuskasing	5507	5951	5787
London	3599	3744	3746
Ottawa	4143	4304	4347
Sudbury	4636	5013	4983
Thunder Bay	4736	5349	5198
Toronto	3618	3783	3752
Windsor	3117	3371	3341
QUÉBEC			
Baie Comeau	5333	5576	5335
Montréal	4169	4238	4165
Quebec	4690	4811	4655
Sept-Iles	5507	5720	5443
Sherbrooke	4667	4551	4802
Val-d'Or	5432	5768	5602
NEW BRUNSWICK			
Charlo	4996	*	4674
Fredericton	4528	4523	4275
Moncton	4572	4499	4236
NOVA SCOTIA			
Halifax	3907	3830	3615
Sydney	4340	4217	3866
Yarmouth	3710	3594	3531
PRINCE EDWARD ISLAND			
Charlottetown	4470	4362	4098
NEWFOUNDLAND			
Gander	4726	4666	4364
St. John's	4492	4311	4084





SNOWFALL





SEASONAL SNOWFALL TOTALS (CM) TO END OF APRIL

	1987	1986	NORMAL
YUKON TERRITORY			
Whitehorse	117.8	177.8	132.8
NORTHWEST TERRITORIES			
Cape Dyer	406.4	666.6	526.8
Inuvik	155.6	121.7	161.9
Yellowknife	139.2	173.9	131.5
BRITISH COLUMBIA			
Kamloops	57.3	85.3	91.5
Port Hardy	11.9	27.6	72.1
Prince George	151.1	161.5	239.5
Vancouver	2.0	43.8	60.4
Victoria	5.2	100.9	49.9
ALBERTA			
Calgary	81.7	91.2	142.2
Edmonton Namao	82.6	130.8	128.6
Grande Prairie	97.3	166.0	176.2
SASKATCHEWAN			
Estevan	84.6	105.6	114.2
Regina	145.2	101.1	118.5
Saskatoon	69.4	92.7	111.1
MANITOBA			
Brandon	106.3	155.4	114.8
Churchill	188.9	241.9	172.5
The Pas	127.8	170.2	164.0
Winnipeg	120.1	124.2	123.0
ONTARIO			
Kapuskasing	251.9	262.7	309.7
London	178.9	224.5	208.5
Ottawa	172.4	179.0	226.1
Sudbury	243.1	241.6	245.0
Thunder Bay	112.6	222.9	208.8
Toronto	124.0	88.6	131.1
Windsor	121.7	170.3	117.4
QUEBEC			
Baie Comeau	238.6	412.0	368.3
Montréal	201.0	203.2	233.4
Quebec	221.2	321.2	342.5
Sept-Iles	228.5	376.7	420.9
Sherbrooke	295.8	232.1	290.8
Val-d'Or	283.0	331.6	306.6
NEW BRUNSWICK			
Charlo	271.7	338.1	411.4
Fredericton	313.1	303.4	289.3
Moncton	*	360.1	339.0
NOVA SCOTIA			
Shearwater	200.6	195.2	196.8
Sydney	359.9	342.4	312.6
Yarmouth	234.8	200.7	207.4
PRINCE EDWARD ISLAND			
Charlottetown	307.5	295.1	328.5
NEWFOUNDLAND			
Gander	505.0	350.1	389.0
St. John's	431.4	291.4	346.8

FEATURE

FOREST FIRES IN CANADA

Each spring as the weather begins to improve, the risk of forest fires becomes a major concern across most of the country and a particular concern for the Atmospheric Environment Service. It is clear that weather elements are a major environmental factor involved in forest fires. The extended period of mild, dry weather across much of the country (see page 1B) this spring and the past winter has been responsible for an early and threatening start to the 1987 forest fire season and there doesn't appear to be an end to the threat in sight. An increase in lightning occurrences which arise from convective activity could increase the severity of the present situation although the careless habits of people themselves could also contribute to the deteriorating situation. The following article has been extracted from ***"A Statistical Study of Area Burned by Wildlife in Canada 1953-80 " by J.B. Harrington, Canadian Foresty Service, Petawawa Natural Forestry Institute Chalk River, Ontario.***

(Introduction, Alain Caillet, OCRM)

The great increase in total area burned by forest fires in Canada since 1975 (with bad fire years in 1976, 1979, 1980) has spurred questions as to the cause and predictability of major fire years (Fig. 1).* Prolonged dry weather, in particular, appears to lead to an explosive growth in fire spread, which at times overwhelms the capacity of provincial fire protection agencies to maintain control. To gauge the effect of dry weather on the susceptibility of a forest to fire a study has been undertaken at the Petawawa National Forestry Institute (PNFI) in which components of the Fire Weather Index (FWI) (Van Wagner 1974) (see page 9B), the Fire Severity Rating (Van Wagner 1970), and various meteorological variables are used in the estimation of the forested area burned in each provincial area and month during the five fire months (May-September) for the years 1953 through 1980. The study is limited to these years by the lack of complete weather data in computer-compatible form for earlier years; also, reasonably sufficient monthly provincial fire records are available for the period 1953-80 (Ramsey and Higgins 1981, and personal communication with them).

*Preliminary data indicate that the total burned area in Canada in 1981 was the highest on record.

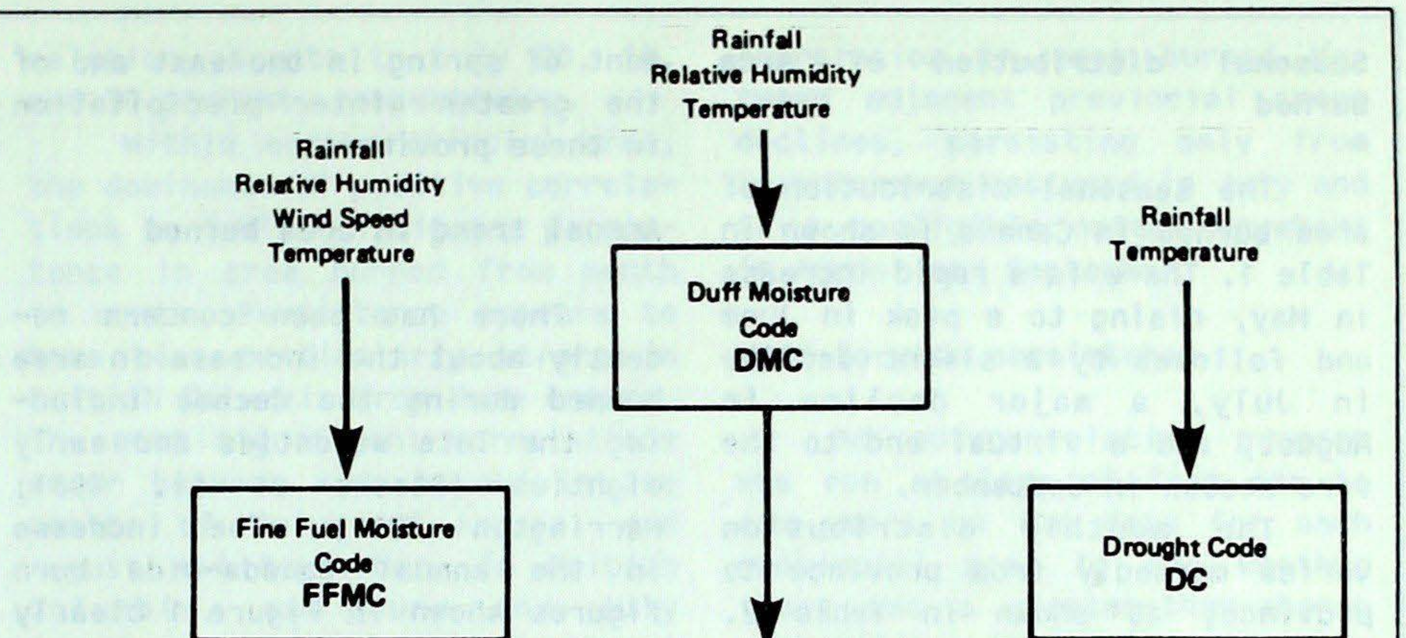
Method of analysis

The figures of burned area given in this report were obtained from records of the PNFI Forest Fire Technical Information Centre. They include all area burned as reported but take into account neither the intensity of the fire nor the value affected. "Area burned" refers to all land on which wildfires occur, including forest, cutover forest, grasslands, scrub, etc.

The original data from each province have been combined (or, in one case, separated) into geographic units of analysis to conform to 'provinces' of roughly comparable size. Two units are created out of Ontario because of a widely held belief in the existence of a climatic divide near Lake Superior. Only the main fire months-May to September, inclusive-are considered, which means excluding the small fraction of area burned in April and October.

The manner in which the data are reported-that is, temporally by total area burned monthly and spatially by whole province-masks the basic relationships between area burned and its main determining factors: weather, fuel type, cause of ignition, and characteristics of the fire control organization. For example, a breakdown of area burned into smaller regions would contribute to more meaningful correlations with weather variables because monthly meteorological averages can vary widely over a region as large as a Canadian province.

Data are provided both in hectares and relative to provincial means. The relative data are obtained by dividing each monthly figure in a given province by the average monthly burn in that province over the 140 months (5 months by 28 years) of data. This tranformation equalizes the influence of geographic size and reduces the influence of occasional vast burns in one province. The use of relative data also eases the task of recognizing the severity of the season as compared to other seasons in a given province because the average relative area burned monthly is unity. In 1979, for example (Fig. 1), the data in hectares indicate a severe fire year, whereas the relative data indicate that the area burned was only slightly above average. The difference was a consequence of an extreme fire year in the Territories, where the burned area accounted for 76 percent of the Canada-wide total.



Components of the Canadian Forest Fire Weather Index

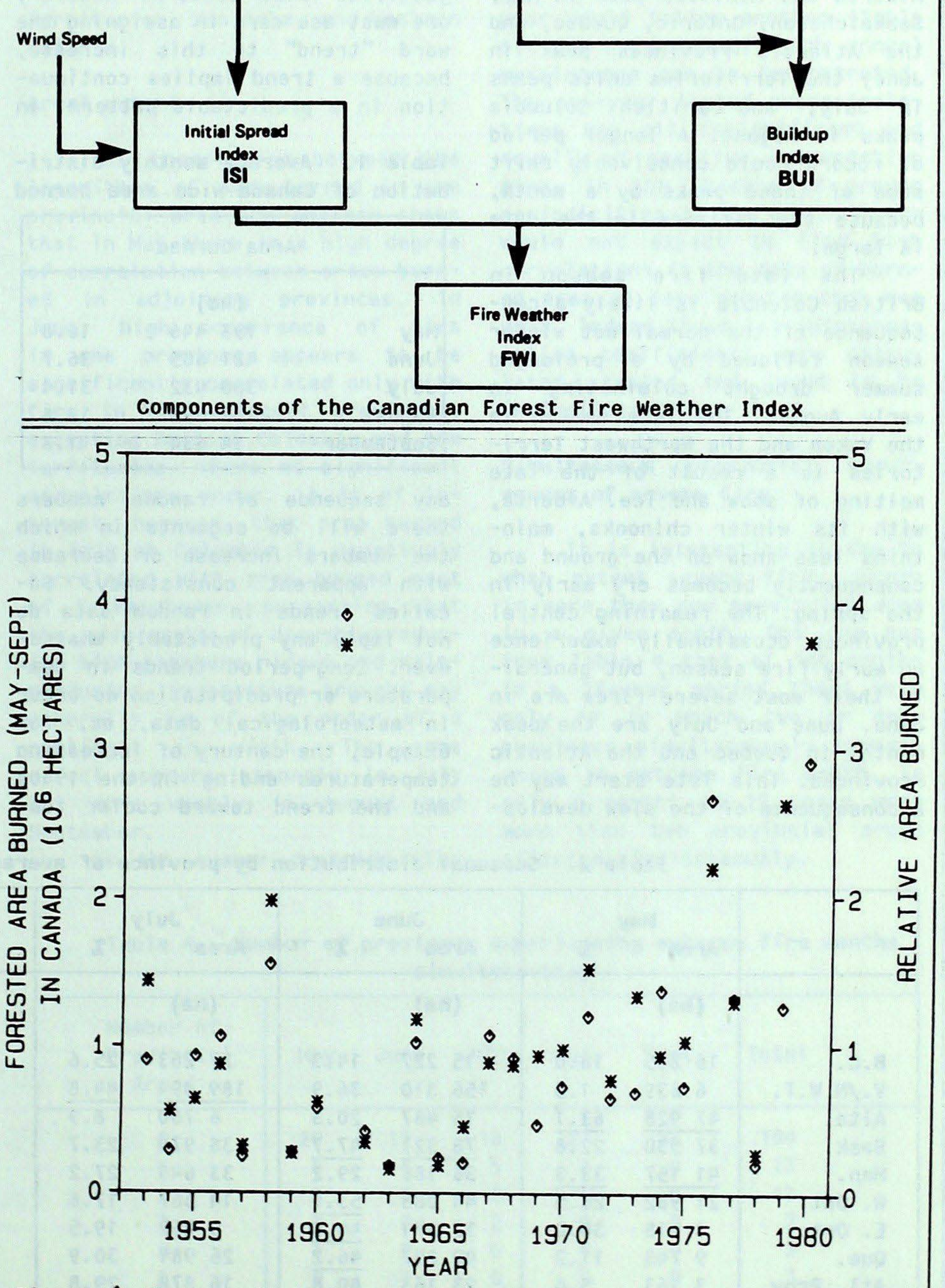


Figure ◇ The area burned annually by wildfire in Canada: *=total area burned; =relative area burned averaged over all provinces and months.

Seasonal distribution of area burned

The seasonal distribution of area burned in Canada is shown in Table 1. There is a rapid increase in May, rising to a peak in June and followed by a slight decline in July, a major decline in August, and a virtual end to the fire season in September.

The monthly distribution varies markedly from province to province, as shown in Table 2. Alberta and Manitoba peak in May; Saskatchewan, Ontario, Quebec, and the Atlantic Provinces peak in June; the Territories units peaks in July; and British Columbia peaks in August. A longer period of record could conceivably shift some of these peaks by a month, because the variance in the data is large.

The late fire season in British Columbia is likely a consequence of the normal wet winter season followed by a prolonged summer drought culminating in early August. The late season in the Yukon and the Northwest Territories is a result of the late melting of snow and ice. Alberta, with its winter chinooks, maintains less snow on the ground and consequently becomes dry early in the spring. The remaining central provinces occasionally experience an early fire season, but generally their most severe fires are in June. June and July are the peak months in Quebec and the Atlantic Provinces. This late start may be a consequence of the slow development of spring in the east and of the greater winter precipitation in these provinces.

Annual trend in area burned

There has been concern recently about the increase in area burned during the decade including the late seventies and early eighties (Stocks et al. 1981; Harrington 1981). The increase in the annual Canada-wide burn figures shown in Figure 1 clearly justifies that concern. However, one must use care in assigning the word "trend" to this increase, because a trend implies continuation in a predictable pattern. In any sequence of random numbers there will be segments in which the numbers increase or decrease with apparent consistency. So-called trends in random data do not imply any predictably whatsoever. Long-period trends in temperature or precipitation do occur in meteorological data, as, for example, the century of increasing temperatures ending in the 1940s and the trend toward cooler temperatures since. These trends have some physical cause such as, in the case of meteorological data, a complex and as yet poorly understood interaction between sun, earth, air, ice, and ocean. Because forest fires are in many ways related to the weather and to other changing factors, including improved fire fighting technology, it is possible that trends in statistics of area burned do occur.

Table 1. Average monthly distribution of Canada-wide area burned

	Area burned (ha)	
May	193 446	16.8
June	421 605	36.7
July	360 432	31.4
August	159 093	13.8
September	14 634	1.3

When the data from the individual provinces are examined, there is no consistent continent-wide pattern. British Columbia data show a peak in the late fifties and early sixties followed by an irregular decline. The data for the Territories show an increase toward the eighties. he Alberta data set has three peaks-in 1956, 1968, and 1980-but no consistent trend. Saskatchewan data are similar to those of Alberta. Manitoba data indicate the most severe fire years as being in the early sixties. The best support for an increasing fire trend is provided by data from Ontario west of Lake Nipigeon, where devastating fires were experienced in the seventies. In Eastern Ontario, a rising trend was apparent by the mid-seventies but had declined toward the end of the decade. A similar pattern appears in data from Quebec and the Atlantic Provinces, relatively little area having been burned after 1976.

The increase in area burned during the past decade appears to

Table 2. Seasonal distribution by province of average area burned

	May		June		July		August		September	
	Area	%	Area	%	Area	%	Area	%	Area	%
	(ha)		(ha)		(ha)		(ha)		(ha)	
B.C.	16 885	16.0	15 227	14.3	27 263	25.6	40 271*	37.8	6 657	6.3
Y./N.W.T.	6 639	1.5	156 310	36.9	189 894	44.8	68 719	16.2	2 358	0.6
Alta.	47 928	63.1	15 487	20.3	6 760	8.9	4 718	6.2	1 134	1.5
Sask.	37 530	22.8	78 321	47.7	38 978	23.7	9 156	5.6	336	0.2
Man.	41 157	33.3	36 186	29.2	33 649	27.2	9 801	7.9	2 957	2.4
W. Ont.	21 982	26.5	44 083	53.1	14 567	17.6	2 237	2.7	43	0.1
E. Ont.	8 418	30.0	12 571	44.8	5 462	19.5	1 542	5.5	52	0.2
Que.	9 743	11.2	40 257	46.2	26 981	30.9	10 066	11.5	196	0.2
Atl. Prov.	3 163	5.6	23 163	40.8	16 878	29.8	12 581	22.2	902	1.6

***Maximum values for each province are underlined.**

be largely a June and July phenomenon. No trend is evident in either May or August. It is possible that a Canada-wide trend could be the result of large burns in a single provincial area: the fires occurring in the Territories from May to September of 1953-80 accounted for 37% of the total area burned during that period (Table 3). However, after the overriding effect of this area on the Canada-wide average is removed by the use of relative data, there still appears to be an upward trend in area burned in the month of June.

Table 3. Distribution by province of area burned, May-September, 1953-1980

	Area (ha)	%
B.C.	2 976 540	9.3
Y./N.W.T.	11 869 760	36.9
Alta.	2 128 700	6.6
Sask.	4 600 960	14.3
Man.	3 465 000	10.8
W. Ont.	2 321 480	7.2
E. Ont.	785 260	2.4
Que.	2 442 860	7.6
Atl. Prov.	1 587 180	4.9
Total	32 177 740	100.0

Persistence of fire

It is a well-known fact in meteorology that persistence of a particular weather element is slightly more likely than change. For example, the probability that a month will be drier than average increases slightly when the preceeding month has been droughty. The extent to which this effect carries over into fire is illustrated in Table 6. Under the Z test (Hoel 1962, p. 166), with 28 years of data, correlations exceeding 0.466, 0.372, and 0.316 can be accepted at the 99-percent, 97.5-percent, and 95-percent confidence levels, respectively. Although the level of confidence in the correlation coefficients given above is high, it should be noted that the amount of variance explained at these levels of correlation amounts to only 20, 14, and 10 percent, respectively.

Within each provincial area, the dominance of positive correlations in Table 7 indicates persistence in area burned from month to month. Persistence appears to have been particularly strong in British Columbia from June onward. The most significant correlations occur between area burned in the months of July and August, and August and September, in British Columbia, and June and July in the Yukon and the Northwest Territories, Manitoba, and Western Ontario.

Areal extent

The correlation between the logarithms of area burned in one provincial area and another shows that in May there is a high degree of correlation between areas burned in adjoining provinces. In June, high occurrence of fire in one province appears to be significantly correlated only with fire in the adjacent provinces, excepting British Columbia and the Territories, where no significant correlations occur. It is of interest, however, that area burned in British Columbia is negatively correlated with area burned east of Saskatchewan, suggesting that the wavelength of drought-producing high-pressure ridges and rain-producing low-pressure troughs may generally be of the order of a continent in width. The same effect appears strongly in July but more weakly in August and September.

As the summer proceeds, the correlation in area burned between adjacent provincial areas declines, persisting only from Saskatchewan eastward in July and to a negligible extent anywhere in August and September.

Year-to-year persistence

An autocorrelation program was run at lags of from one to six years on the data for each provincial area to see whether there was a greater-than-chance probability that one bad fire year would follow another (Table 8). No evidence of such annual persistence can be demonstrated. The one-year lagged autocorrelations are all insignificant and equally of positive and negative sign. In the absence of proven periodicities in the weather, one would not expect to find high correlations in the data of burned area at lags greater than one year. Indeed those lag autocorrelation coefficients were calculated, tested and found to be insignificant.

Simultaneous provincial occurrences of severe fire

It is interesting to see to what extent severe fires occurs in more than one provincial area in a given month. One can see from Table 4 that of 140 months in a 28-year period there were only 19 in which two or more provinces simultaneously experienced an extreme fire month. In only 6 months in 28 years were more than two provincial areas affected simultaneously.

Table 4. Number of provinces experiencing extreme fire months simultaneously

Number of Provincial Areas	May	June	July	Aug.	Sept.	Total
0	20	15	18	23	28	104
1	4	4	5	4	0	17
2	3	6	3	1	0	13
3	0	0	2	0	0	2
4	1	2	0	0	0	3
5	0	1	0	0	0	1
6	0	0	0	0	0	0

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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	10.7	2.0	29.7	0.3			128.0	125	0	11	156	95	216.6
ALERT BAY	8.4	1.0	23.5	1.1	0.0		111.7	133	0	17	X		287.9
AMPHITRITE POINT	8.8	0.8	17.0	1.7	0.0		290.6	142	0	19	X		271.9
BLUE RIVER	6.5	1.2	26.7	-6.3			69.0	151	0	13	163	97	
BULL HARBOUR	7.5	0.7	22.5	0.6	1.0	40	253.3	200	0	21	X		315.3
CAPE SCOTT	8.0	0.8	18.3	2.8			329.9	175	0	22	X		301.2
CAPE ST.JAMES	7.4	0.9	12.9	1.9			129.9	121	0	20	128	*	320.0
CASTLEGAR	10.6	2.5	28.1	-2.4	0.2	2	44.4	100	0	5	204	118	221.8
COMOX	9.5	1.5	21.8	0.5	0.0		46.8	81	0	7	X		255.9
CRANBROOK	9.1	3.3	27.0	-3.0			25.8	100	0	6	246	*	262.2
DEASE LAKE	1.3	1.0	12.0	-10.3	11.8	98	11.5	93	14	4	156	2	501.9
ETHELDA BAY	7.0	0.6	20.8	-3.2	0.0		360.0	149	0	24	X		330.8
FORT NELSON	4.9	3.3	22.1	-8.4	2.2	13	4.8	28	0	1	226	*	391.7
FORT ST.JOHN	6.6	3.7	25.0	-4.2	13.0	79	12.2	56	0	3	X		343.2
HOPE	11.4	2.1	30.1	1.1	0.0		281.5	268	0	13	141	87	199.2
KAMLOOPS	11.5	2.4	33.0	-1.7	0.0		24.8	238	0	3	206	103	198.4
KELOWNA	10.4	2.9	28.1	-2.7	0.0		40.0	225	0	7	192	94	229.0
LANGARA	6.4	0.6	13.1	0.0	6.6	143	219.4	181	0	22	X		349.5
LYTTON	11.6	2.3	31.6	0.7	0.0		11.0	59	0	2	195	95	192.8
MACKENZIE	3.9	1.5	18.5	-10.3	8.2	76	33.7	127	0	11	185	89	421.0
MCINNES ISLAND	8.0	0.8	16.6	2.6	8.4	171	324.6	186	0	24	X		301.2
PENTICTON	10.9	2.3	29.6	-3.0			36.6	171	0	4	190	89	211.8
PORT ALBERNI	8.8	*	27.5	-2.1	0.0	*	143.2	*	0	12	133	*	275.8
PORT HARDY	7.4	0.8	23.3	0.1	1.0	76	179.7	167	0	17	114	79	309.0
PRINCE GEORGE	6.2	1.9	21.7	-6.9	1.0	10	22.2	81	0	6	193	95	353.4
PRINCE RUPERT	6.2	0.8	21.5	-2.1			308.5	162	0	21	86	63	351.1
PRINCETON	8.6	2.4	31.1	-4.5	0.2	5	23.2	156	0	3	200	*	
QUESNEL	7.1	1.7	24.5	-6.0			13.0	56	0	4	X		318.6
REVELSTOKE	8.9	2.5	25.4	-1.8			51.2	86	0	12	154	86	272.7
SANDSPIT	6.5	0.5	13.7	-0.4	0.2	9	178.9	211	0	22	118	76	343.8
SMITHERS	5.2	1.0	19.6	-5.5	0.8	11	6.0	34	0	4	137	77	382.4
TERRACE	5.8	0.1	17.4	-3.1	16.0	132	161.8	263	0	18	104	70	364.7
VANCOUVER HARBOUR	14.3	5.0	23.4	3.2	0.0		106.4	116	0	12	X		220.0
VANCOUVER INT'L	10.4	1.6	25.0	2.7	0.0		63.2	106	0	11	175	96	234.1
VICTORIA GONZ. HTS	10.4	1.3	20.3	3.1	0.0		34.2	112	0	7	198	98	229.3
VICTORIA INT'L	9.5	1.1	22.8	-0.2	0.0		51.2	130	0	11	179	99	254.2
VICTORIA MARINE	9.2	1.2	20.2	1.2	0.0		89.1	126	0	13	X		266.4
WILLIAMS LAKE	6.3	1.9	25.1	-6.8			3.5	16	0	1	197	94	350.0
YUKON TERRITORY													
BURWASH	-1.0	1.3	10.7	-17.9	21.8	174	15.8	94		4	X		568.5
DAWSON	-0.6	1.3	15.0	-22.0	27.2	292	22.9	243		6	X		547.7
MAYO	1.2	1.6	15.2	-15.6	20.5	273	14.0	162	0	5	X		505.8
WATSON LAKE	1.0	1.6	14.7	-15.2	4.4	31	3.0	19	6	1	186	85	510.2
WHITEHORSE	1.4	1.1	12.9	-12.0	6.0	57	6.3	66	0	3	227	98	498.2
NORTHWEST TERRITORIES													
ALERT	-28.4	-3.5	-16.7	-40.2	8.4	108	7.0	92	33	2	504	*	1393.3
BAKER LAKE	-17.1	0.2	-0.9	-26.0	34.9	256	24.7	178	85	6	209	89	1052.9
CAMBRIDGE BAY	-23.1	-1.2	-6.7	-36.2	9.4	116	6.4	88	39	2	277	110	1232.7
CAPE DYER	-19.9	-4.5	-7.0	-34.0	26.4	52	22.8	50	56	7	X		1097.4
CAPE PARRY	-20.8	-2.1	-7.0	-33.0	7.2	54	5.6	58	16	2	X		1164.8
CLYDE	-24.0	-5.6	-11.1	-36.1	2.8	20	2.8	20	34	0	346	139	1261.4
COPPERMINE	-19.3	-0.7	2.4	-36.5	39.2	384	29.8	270	48	7	248	114	1119.5
CORAL HARBOUR	-16.9	-0.6	-2.2	-31.0	34.7	240	34.7	253	69	6	221	79	1046.7
EUREKA	-33.3	-5.7	-21.5	-42.6	2.2	75	1.2	44	14	0	446	125	1539.0
FORT RELIANCE	-5.9	3.7	9.7	-29.5	17.0	128	17.6	139	23	6	X		718.1
FORT SIMPSON	0.6	3.1	19.2	-18.5	11.9	101	12.6	86		5	245	110	525.0
FORT SMITH	1.9	4.1	19.5	-15.8	10.0	74	12.1	74		5	206	84	480.4
IQALUIT	-16.2	-1.9	-0.4	-33.5	73.0	254	52.8	200	56	11	196	83	1026.5
HALL BEACH	-22.3	-1.4	-8.7	-35.3	8.8	76	8.5	77	37	2	X		1208.5
HAY RIVER	-0.2	4.0	15.0	-22.3	10.1	77	10.3	65	0	4	X		543.7
INUVIK	-17.7	-3.4	5.7	-38.7	17.4	102	11.1	75	36	4	226	90	1072.0
MOULD BAY	-25.5	-1.4	-11.1	-39.8	11.4	196	7.7	154	39	4	251	87	1305.6
NORMAN WELLS	-7.1	0.1	16.9	-23.7	18.5	120	14.6	94	4	3	257	108	752.9
POND INLET	-26.0	-4.0	-13.2	-34.9	3.0	18	2.0	15	17	1	X		1319.4
RESOLUTE	-25.3	-2.2	-15.1	-35.1	5.0	77	4.9	83	18	0	295		1298.5
YELLOWKNIFE	-3.1	3.8	12.6	-27.8	6.0	61	10.7	103	0	2	273	102	632.6
ALBERTA													
BANFF	5.9	3.5	25.5	-6.0	25.2	79	39.8	105	0	10	X		
BROOKS	8.8	4.2	29.0	-6.0	0.0		11.6	45	0		251	*	
CALGARY INT'L	7.6	4.3	27.7	-4.5	18.4	71	22.8	69	0	6	239	116	312.7
COLD LAKE	6.2	3.3	23.8	-9.6	10.4	83	45.0	208	0	8	221	96	352.5
CORONATION	7.5	4.5	28.3	-5.5	13.6	87	24.3	102	0	2	268	115	315.7
EDMONTON INT'L	7.0	3.8	28.0	-4.1	3.4	26	11.0	54	0	2	252	108	330.0
EDMONTON MUNI.	7.9	3.7	27.3	-3.9	2.6	19	22.4	103	0	2	261	114	301.5
EDMONTON NAMAO	7.4	3.5	26.6	-4.3	2.0	17	25.2	140	0	2	X		312.4
EDSON	6.1	4.2	26.5	-8.4			3.2	12	0	2	236	115	357.6
FORT CHIPEWYAN	2.5	3.8	19.0	-14.5	8.0	34	8.7	44	0		X		

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STATION	Temperature C				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
	Mean	Difference from Normal	Maximum	Minimum									
FORT MCMURRAY	6.2	4.1	26.5	−8.8	8.4	62	10.4	50	0	4	208	89	354.7
GRANDE PRAIRIE	6.4	3.7	26.0	−9.2	0.8	6	8.8	45	0	4	258	*	348.4
HIGH LEVEL	4.0	3.2	23.8	−9.5	2.4	16	12.3	70	0	6	205	83	419.7
JASPER	6.1	2.8	26.0	−6.5	3.0	27	22.8	100	0	7	218	*	357.7
LETHBRIDGE	9.5	4.6	30.7	−5.8	8.5	30	19.0	44	0	3	272	137	259.9
MEDICINE HAT	10.3	4.7	30.2	−4.7	4.0	21	18.5	61	0	3	259	128	233.9
PEACE RIVER	6.8	4.7	26.0	−7.0	1.1	11	21.2	148	0	6	X		337.0
RED DEER	6.4	3.3	28.1	−9.5	15.6	91	17.7	67	0	4	X		348.8
ROCKY MTN HOUSE	5.6	2.6	26.7	−8.8	13.6	46	15.9	46	0	2	X		369.2
SLAVE LAKE	5.6	3.1	25.0	−5.9	4.8	52	23.0	131	0	6	237	101	372.6
SUFFIELD	9.7	4.5	29.4	−3.9	1.6	10	6.0	20	0	2	254	121	248.0
WHITECOURT	6.7	4.0	27.4	−6.0	0.6	3	10.3	38	0	4	X		338.4
SASKATCHEWAN													
BROADVIEW	8.2	5.7	28.2	−10.5	3.8	26	13.0	46	0	4	297	142	293.5
COLLINS BAY	−0.3	3.6	13.5	−16.8	5.2	15	9.2	31	1	4	199	*	547.7
CREE LAKE	2.0	3.8	19.7	−15.3	12.0	63	18.2	83		5	187	77	480.2
ESTEVAN	10.1	6.0	30.8	−5.2	5.0	30	5.4	14	0	2	290	137	239.1
HUDSON BAY	6.4	4.9	21.7	−12.7	2.7	15			0	4	257	*	349.5
KINDERSLEY	8.3	4.5	28.3	−4.5	1.8	16	19.0	88	0	4	X		292.6
LA RONGE	3.9	3.5	20.1	−13.3	50.8	368	70.7	357	0	5	X		424.3
MEADOW LAKE	6.0	2.4	24.3	−8.7	9.4	97	18.0	81	0	5	230	*	361.0
MOOSE JAW	9.6	5.4	28.6	−7.2	0.4	3	8.2	27	0	3	264		253.3
NIPAWIN	6.0	*	21.8	−10.2	6.8	*	23.8	*	0	5	236	*	359.3
NORTH BATTLEFORD	7.7	4.7	26.6	−4.8	4.0	37	13.7	64	0	3	X		305.0
PRINCE ALBERT	6.4	4.5	23.8	−9.9	1.8	16	12.7	57	0	4	226	101	348.1
REGINA	8.9	5.6	29.0	−7.6	2.2	20	12.5	52	0	5	274	130	272.2
SASKATOON	7.8	4.5	26.4	−8.0	1.0	10	13.8	65	0	4	X		305.3
SWIFT CURRENT	8.6	5.1	28.8	−4.4	6.2	40	17.0	60	0	6	247	118	284.1
											X		
WYNYARD	7.7	5.1	23.4	−10.1	1.8	13	18.6	80	0	4	257		310.3
YORKTON	7.8	5.6	27.1	−7.9	4.0	30	17.3	77	0	5	279	124	303.1
MANITOBA													
BRANDON	8.3	5.5	29.3	−9.0	2.4	21	5.3	15	0	2	X		292.5
CHURCHILL	−8.9	1.2	9.1	−25.6	18.4	82	21.9	95	7	6	215	105	744.0
DAUPHIN	8.0	5.7	28.3	−12.4	1.1	8	15.3	47	0	1	275	123	310.8
GILLAM	−0.8	5.8	16.9	−23.2	35.0	91	28.8	77	0	4	X		563.9
GIMLI	7.1	5.7	27.6	−14.1			2.2	5	0	1	292	117	326.5
ISLAND LAKE	3.8	7.0	19.5	−17.5	2.2	7	31.2	76	0	5	X		427.9
LYNN LAKE	0.6	4.1	14.2	−21.3	26.7	112	22.0	94	0	4	213	91	521.2
NORWAY HOUSE	4.7	*	18.8	−17.3	3.2	*	15.4	*	0	4	X		398.6
											X		
PORTAGE LA PRAIRIE	9.3	6.1	29.9	−8.9			2.2	5	0	1	X		263.3

STATION	Temperature C				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
	Mean	Difference from Normal	Maximum	Minimum									
THE PAS	5.5	5.5	20.1	−11.5	0.2	1	8.7	31	0	2	235	103	374.8
THOMPSON	1.8	5.3	16.7	−20.2	9.6	31	20.6	61	0	4	237	102	492.1
WINNIPEG INT'L	8.8	5.4	30.5	−12.6			0.8	2	0	0	282	128	275.7
ONTARIO													
ATIKOKAN	6.7	4.6	27.3	−15.7	1.8	8	8.4	18	0	4	297	143	358.7
BIG TROUT LAKE	1.2	5.0	20.3	−22.0	5.6	*	31.5	112	0	5	210	*	503.7
EARLTON	6.5	4.6	27.8	−11.1	3.8	19	26.2	52	0	4	X		345.0
GERALDTON	4.9	5.4	25.7	−20.0			17.4	40	0	3	X		393.8
GORE BAY	7.2	3.5	21.5	−11.8	33.8	315	47.0	71	0	9	X		323.4
HAMILTON RBG	8.9	1.9	29.5	−7.7	0.4	7	71.6	92	0	8	200	*	
HAMILTON	8.0	1.9	27.6	−10.3	6.4	100	91.4	115	0	10	X		302.5
KAPUSKASING	5.1	4.6	29.2	−16.2	2.4	9	21.6	40		5	X		387.6
KENORA	9.4	6.7	30.0	−10.8	0.0		0.2	0	0	0	X		262.9
KINGSTON	8.9	3.4	27.2	−7.2	6.2	81	78.4	112	0	8	185	91	274.0
LANSDOWNE HOUSE	3.5	5.8	24.7	−20.8	3.4	11	31.4	78	0	4	X		434.8
LONDON	8.8	2.4	26.9	−9.7	11.1	121	66.2	81	0	12	182	109	276.0
MOOSONEE	1.4	3.7	25.0	−23.3	1.0	4	33.6	79	0	8	183	105	498.5
MOUNT FOREST													
MUSKOKA	8.3	3.8	27.8	−13.2	6.7	55	50.3	68	0	7	X		
NORTH BAY	7.5	4.3	27.3	−12.1	19.4	117	48.6	78		5	209	106	315.9
OTTAWA INT'L	9.9	4.3	28.6	−8.5	7.8	95	73.8	106	0	6	212	*	262.5
PETAWAWA	7.4	3.2	28.3	−16.2	3.9	65	40.4	67	0	6	X		316.7
PETERBOROUGH	9.0	3.0	28.1	−9.4	9.1	139	56.0	77	0	10	X		269.6
PICKLE LAKE	5.7	6.2	29.0	−18.3			22.8	52	0	3	X		372.1
RED LAKE	6.9	5.5	27.3	−18.6			4.0	11	0	1	291	*	332.7
ST. CATHARINES	9.0	1.8	27.8	−7.2	6.2	187	73.0	97	0	10	X		271.6
SARNIA	7.9	0.8	27.2	−6.8	0.4	6	49.0	54	0	9	186	97	303.6
SAULT STE. MARIE	6.9	3.8	27.2	−11.1	5.8	58	36.8	57	0	8	242	123	332.7
SIMCOE											X		
SIOUX LOOKOUT	7.5	6.1	28.1	−14.2	0.0		8.7	19	0	1	X		319.2
SUDBURY	7.5	4.8	27.7	−11.0	14.6	92	46.8	76	0	8	225	108	318.2
THUNDER BAY	6.1	3.6	27.4	−11.1	0.2	1	4.4	8	0	1	291	135	358.6
TIMMINS	5.7	4.7	29.4	−13.0	2.0	9	29.1	60	0	7	X		368.9
TORONTO	10.3	2.7	27.8	−4.7	4.2	55	56.6	77	0	10			233.5
TORONTO INT'L	8.8	2.6	28.8	−6.4	5.0	67	49.8	71	0	9	X		277.0
TORONTO ISLAND	9.0	2.8	27.8	−7.2	6.2	89	73.0	109	0	10			271.6
TRENTON	9.5	3.1	24.8	−8.3	11.0	177	93.6	122	0	8	X		255.2
WATERLOO-WELL	8.1	2.1	27.0	−10.0	5.2	74	47.8	61	0	9	X		297.4
WAWA	4.8	*	25.5	−14.9	12.0	*	30.4	*	0	7		*	395.8
WIARTON	7.3	2.6	25.8	−4.4	11.3	104	29.7	43	0	6	200	103	305.7
WINDSOR	10.1	2.0	28.9	−5.0	2.0	47	57.1	68	0	10	X		238.2

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	Mean	Difference from Normal	Maximum	Minimum									
QUEBEC													
BAGOTVILLE	6.2	4.0	30.4	-5.6	25.3	127	63.8	133	1	6	X		352.7
BAIE COMEAU	3.6	3.2	21.8	-5.9	10.8	36	38.6	59	5	8	211	*	431.4
BLANC SABLON	0.2	1.1	9.5	-11.4	20.8	52	40.9	57		11	164	*	
CHIBOUGAMAU	3.1	4.2	27.4	-14.0	14.6	66	15.6	30	2	5	206	109	446.5
GASPE	3.2	2.3	27.5	-10.1	32.8	85	88.0	106	7	10	191	*	434.5
INUKJUAK	-9.0	1.9	4.3	-27.0	37.0	278	43.6	298	52	7	154	86	809.7
KUUJJUAQ	-7.1	2.1	7.0	-26.0	14.6	67	22.8	98		7	158	80	755.0
KUUJJUARAPIK	-3.2	3.6	14.3	-21.9	23.2	104	22.8	84	1	9	153	82	664.1
LA GRANDE RIVIERE	-2.0	*	19.6	-20.0	8.8	*	39.4	*	0	11	209	*	587.6
MANIWAKI	7.7	4.1	28.7	-12.0	5.2	43	42.4	70	0	8	212	110	309.5
MATAGAMI	3.1	4.8	27.9	-17.9	8.0	34	24.0	59	2	5	214	116	448.4
MONT JOLI	5.1	3.5	29.1	-6.4	16.4	58	28.6	51	1	10	215	140	386.4
MONTREAL INT'L	9.4	3.7	27.5	-5.2	2.0	20	36.8	49	0	9	208	110	260.4
MONTREAL M INT'L	8.6	*	28.4	-7.1	4.4	*	30.8	*	0	9	220	*	283.4
NATASHQUAN	1.6	2.1	13.5	-7.8	29.2	97	104.8	139	0	11	189	115	493.4
QUEBEC	7.1	3.8	28.4	-7.1	18.6	114	56.4	77	0	7	206	119	327.3
ROBERVAL	6.9	5.2	30.9	-5.6	21.6	97	31.8	67	3	7	182	*	334.6
SCHEFFERVILLE	-3.4	3.8	11.4	-20.5	29.2	71	48.4	106	9	12	185	*	645.0
SEPT-ILES	2.4	2.4	19.2	-7.4	18.0	54	90.4	115	4	9	214	114	468.6
SHERBROOKE	7.4	3.8	27.4	-7.0	34.6	147	41.2	55	0	7	197	*	322.1
STE AGATHE DES MONTS	7.0	4.8	26.7	-8.7	13.0	64	35.4	42		5	200	103	331.5
ST-HUBERT	8.7	3.0	28.0	-5.5	2.4	23	41.4	55	0	8	*		278.2
VAL D'OR	5.1	4.2	27.6	-19.7	14.4	66	55.8	109	1	7	205	111	388.7
NEW BRUNSWICK													
CHARLO	4.1	2.8	28.8	-7.6	23.0	67	49.8	60	5	8	207	127	416.8
CHATHAM	5.2	2.2	26.2	-4.7	18.4	55	64.0	75	3	9	212	122	382.7
FREDERICTON	6.6	2.5	24.1	-3.6	10.0	46	52.1	65	0	12	193	*	341.9
MONCTON	5.1	2.1	22.6	-4.8	4.8	16	83.2	92	0	11	194	121	388.0
SAINT JOHN	5.8	2.6	22.6	-3.7	3.4	16	58.5	54	0	13	182	115	365.0

STATION	Temperature C				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
	Mean	Difference from Normal	Maximum	Minimum									
NOVA SCOTIA													
GREENWOOD	7.2	2.6	23.9	-4.0	3.8	21	49.2	65	0	10	X		324.2
HALIFAX INT'L	5.7	2.4	22.0	-4.8	6.8	28	130.3	113	0	13	*		370.7
SABLE ISLAND	4.2	0.9	10.9	-0.1	0.0		68.9	70	0	10	116	85	415.6
SHEARWATER	5.2	1.2	21.5	-3.0	2.8	21	96.2	95	0	11	127	76	384.5
SYDNEY	3.1	1.1	20.3	-5.5	10.0	39	163.2	159	0	10	135	86	447.9
YARMOUTH	7.1	2.4	19.7	-1.5	2.0	30	56.0	57	0	11	165	92	328.0
PRINCE EDWARD ISLAND													
CHARLOTTETOWN	4.3	2.0	20.7	-6.1	11.6	42	70.9	86	0	8	X		411.1
SUMMERSIDE	4.3	1.7	19.5	-3.9	1.6	6	56.4	74		8	183	113	405.7
NEWFOUNDLAND													
											X		
BATTLE HARBOUR	-0.4	1.9	11.5	-17.3	16.0	35	54.1	99	28	7	X		551.6
BONAVISTA	1.7	1.1	11.7	-7.5	4.2	18	86.2	133		11	X		488.3
BURGEO	1.7	0.1	13.4	-4.2	5.5	23	177.7	140	0	1	*		448.5
CARTWRIGHT	0.2	2.8	14.0	-14.5	4.9	8	11.2	13	20	5	179	139	535.6
CHURCHILL FALLS	-0.6	4.4	14.1	-15.9	9.6	18	40.6	66	18	8	201	130	557.6
COMFORT COVE	2.3	1.4	16.9	-8.2	7.6	16	104.4	116	0	12	X		356.3
DANIEL'S HARBOUR	2.9	2.6	10.2	-6.6	4.4	15	36.6	70	0	7	175	130	482.1
DEER LAKE	3.5	2.7	19.5	-10.2	31.1	104	82.6	139	0	15	X		434.5
GANDER INT'L	2.4	1.5	17.6	-8.7	13.0	27	100.7	108	10	12	163	140	467.0
GOOSE	2.3	4.0	19.4	-13.2	6.5	13	28.5	46	0	7	195	139	529.9
PORT-AUX-BASQUES	2.6	1.8	13.2	-4.9	2.2	9	189.4	203	0	3	175	*	461.2
ST ANTHONY	-1.0	0.9	8.0	-12.5	22.4	52	76.6	81	61	11		*	571.0
ST JOHN'S	2.0	0.8	15.7	-7.0	1.3	3	120.9	105		11	122	105	481.5
ST LAWRENCE	2.7	1.6	12.5	-5.1	3.4	18	120.2	115	0	13		*	
STEPHENVILLE	4.8	3.0	14.8	-5.8	6.7	30	108.5	182	0	14	176	*	414.4
WABUSH LAKE	-0.1	4.2	15.5	-16.0	20.6	42	40.7	78	6	9	185	*	541.6

STATISTICS

AGROCLIMATOLOGICAL STATIONS

APRIL 1987

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	11.4	1.9	29.5	0.0	0.0	173.6	157	0	15	153	91.3	258.3
KAMLOOPS												
SIDNEY	10.0	*	23.0	1.0	0.0	60.7	*	0	9	176	*	265.0
SUMMERLAND	11.3	2.6	27.0	0.0	0.0	33.5	170	0	8	199	193.3	251.0
ALBERTA												
BEAVERLODGE	6.0	3.4	25.0	−6.0	8.0	17.0	88	0	5	246	51.3	52.5
ELLERSLIE												
FORT VERMILLION												
LACOMBE	6.8	2.7	29.0	−11.0	13.0	15.9	67	0	4	247	68.5	68.5
LETHBRIDGE												
VAUXHALL												
VEGREVILLE	6.3	3.2	28.5	−8.0	2.0	21.6	154	0	4		72.2	72.2
SASKATCHEWAN												
INDIAN HEAD	8.8	5.7	29.0	−8.0	3.0	13.8	49	0	4		135.5	142.5
MELFORT	6.9	5.6	23.0	−10.5	1.6	15.0	80	0	5	212	91.0	91.0
REGINA	8.4	5.4	29.0	−7.5	0.6	8.7	37	0	3		106.0	106.0
SASKATOON	8.5	5.1	27.5	−7.5	1.6	13.7	64	0	5	230	128.5	130.0
SCOTT	7.3	4.6	26.0	−5.0	5.6	19.8	83	0	6	255	89.1	89.1
SWIFT CURRENT SOUTH	8.9	4.9	29.0	−5.0	2.4	13.2	51	0	3	219	136.6	157.5
MANITOBA												
BRANDON	8.9	5.6	30.5	−8.5	0.0	2.8	8	0	1		143.6	143.6
GLENLEA	8.6	5.2	30.5	−11.5	0.0	0.6	2	0	0	283	154.0	154.0
MORDEN	10.0	6.0	31.0	−7.5	0.0	0.4	1	0	0	252	177.0	177.0
ONTARIO												
DELHI	8.6	1.9	28.0	−13.5	11.0	77.0	82	0	11	196	131.7	163.8
ELORA	7.9	2.8	26.3	−9.9		44.2	62		9		118.1	134.6

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
GUELPH	7.9	2.1	26.6	−6.3	6.3	45.9	62	0	7	195	111.8	128.3
HARROW	9.8	1.9	27.5	−4.0	0.0	58.5	72	0	10	201	154.5	202.8
KAPUSKASING												
MERIVALE												
OTTAWA	9.6	3.9	28.2	−8.0	5.2	64.0	99	0	9	200	157.7	188.4
SMITHFIELD	9.9	3.0	26.5	−9.0	10.0	93.2	114	0	10			
VINELAND STATION	7.9	1.0	27.7	−7.0	0.8	74.6	103	0	11	193	104.4	124.4
WOODSLEE												
QUEBEC												
LA POCATIERE	5.5	3.3	27.0	−5.0	16.5	62.8	99	0	8	219	61.4	71.0
L'ASSUMPTION	8.6	3.6	28.5	−5.5	1.8	32.0	45	0	7	194	124.5	137.0
LENNOXVILLE												
NORMANDIN	4.9	4.4	28.0	−10.5	18.2	30.2	62	0	5	201	58.7	63.8
ST. AUGUSTIN												
STE CLOTHILDE	7.2	1.5	28.5	−7.0	0.0	42.0	55	0	7	200	130.2	154.6
NEW BRUNSWICK												
FREDERICTON	6.8	2.8	25.0	−4.0	4.5	44.5	54	0	10	194	*	70.2
NOVA SCOTIA												
KENTVILLE												
NAPPAN	5.5	2.2	21.5	−5.5	4.6	80.1	106	0	12	167	56.7	57.7
PRINCE EDWARD ISLAND												
CHARLOTTETOWN	4.8	2.0	20.5	−5.0	6.2	64.2	82	0	10	181	*	33.7
NEWFOUNDLAND												
ST. JOHN'S WEST	3.0	1.4	14.5	−7.0	1.8	133.9	106	0		12	127.2	13.2