

Climatic Perspectives

Monthly Review

May 1992

Vol. 14

CLIMATIC HIGHLIGHTS

Northeast remains cold

Mean May temperatures were below-normal for most of Canada, except for the southern parts of the country. It was especially cold over northern Quebec, Labrador and Baffin Island - due to a continuation of the pattern which prevailed over northeastern Canada for the past several months delaying the arrival of spring. As a result, the sea-ice thickness has been greater than normal along with a more southerly migration of the ice pack. Shipping may be delayed for up to 10 days.

Dry spells

The southern parts of British Columbia and the Prairies generally experienced persistently warm weather, which has accelerated horticultural activities by a few weeks. However, late spring frosts damaged the early blossoms in the Okanagan and Similkameen valleys. Water reserves from British Columbia to southern parts of Alberta and Saskatchewan were well-below normal, due to a lack of rain. The dearth of precipitation over the southwestern Prairies has created poor conditions for seed germination and crop failure may result. Eastern Saskatchewan and Manitoba have received ample precipitation to retain soil moisture reserves at a suitable level for most users.

Dry conditions have also developed in the Maritimes and combined with record breaking temperatures, has resulted in forest fire outbreaks, reaching extreme levels in New Brunswick and Nova Scotia. The forest fire potential is also high over Ontario, Quebec, southern British Columbia and Alberta. Quebec has already sur-

passed its five-year May average of woodland area lost to fires.

District of Mackenzie flooding

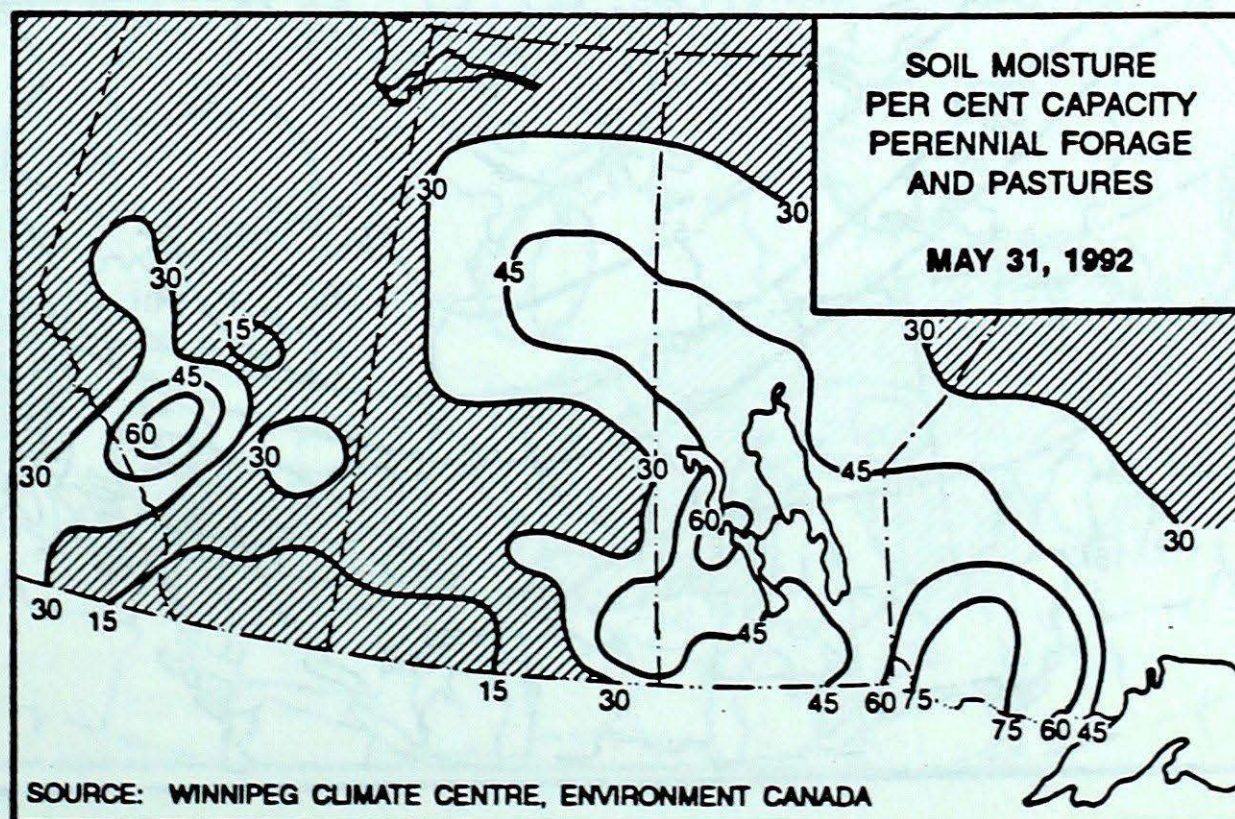
During late April and mid-May, river breakup and ice-jamming threatened to inundate several communities in the district. In late April, communities in the Hay and Liard river basins were evacuated as a precautionary measure. During the week of May 11, the village of Jean-Marie River, upstream from Fort Simpson, was flooded, resulting in the evacuation of some residents. The calving grounds of the bison at Wood Buffalo National Park was also under water, raising concerns about feed supplies.

Severe weather strikes Ontario and Quebec

Cool, wet weather continued into early May as yet another major rainstorm hit

southern Ontario on May 2. Flooding was reported in the greater Toronto area, as thunderstorms dumped 50 mm of rain over the already water-logged ground. Along with the usual traffic disruptions, the storm may have contributed to a helicopter fatality. Construction and agricultural fieldwork also came to a standstill due to the spongy ground conditions.

On the 17th, thunderstorms passing through southern Ontario and Quebec were associated with wind gusts up to 100 km/h, as well as hail and flood damage to a number of communities. There were a few unconfirmed sightings of tornadoes near Woodstock, Ont. and Maniwaki, Que. A waterspout over the Ottawa River moved inland, tearing away trees, roof shingles, windows and hydro lines. At Montreal's Mirabel airport, storm force winds pushed an elevated passenger vehicle into the side of a parked aircraft.



Across the country

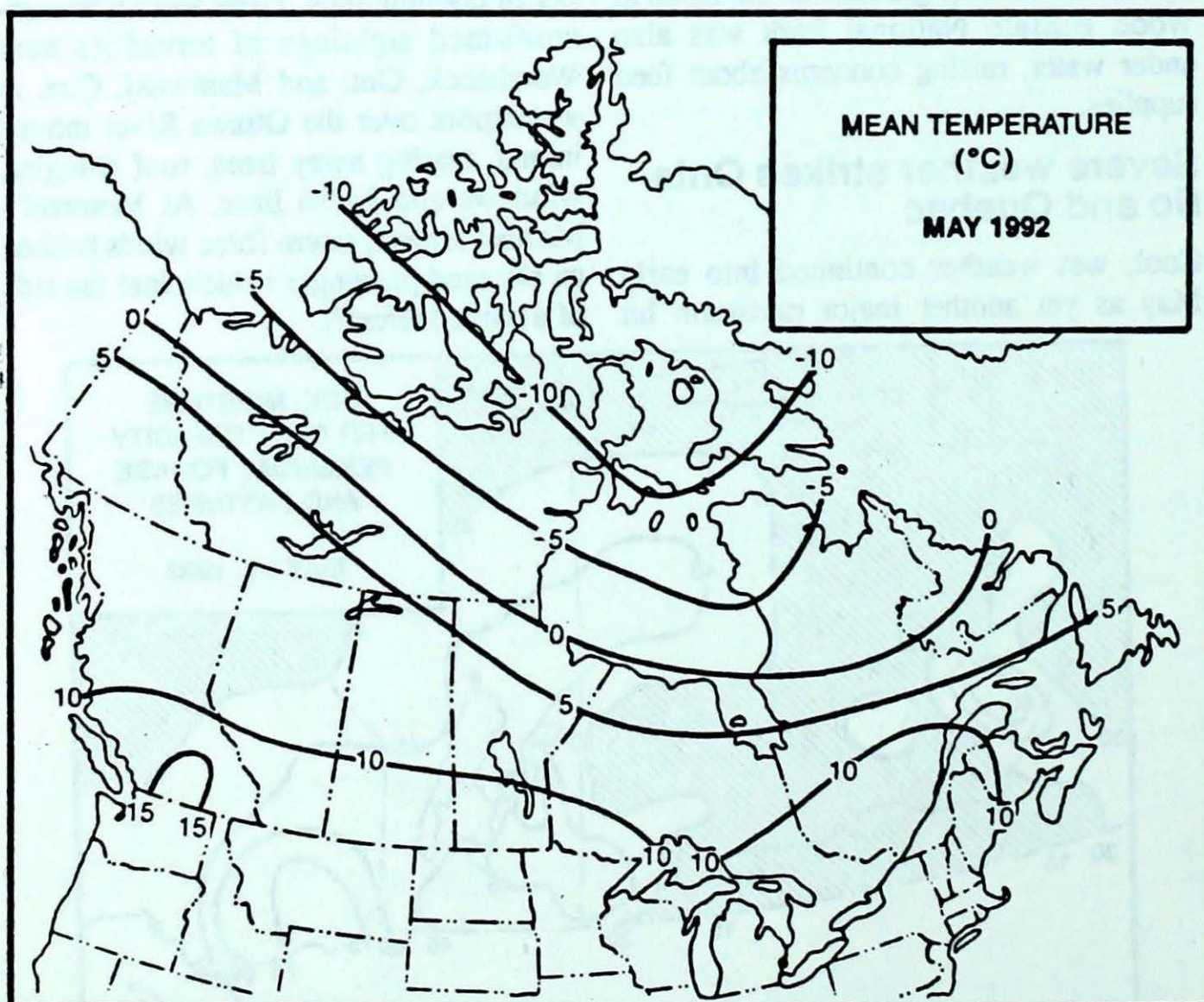
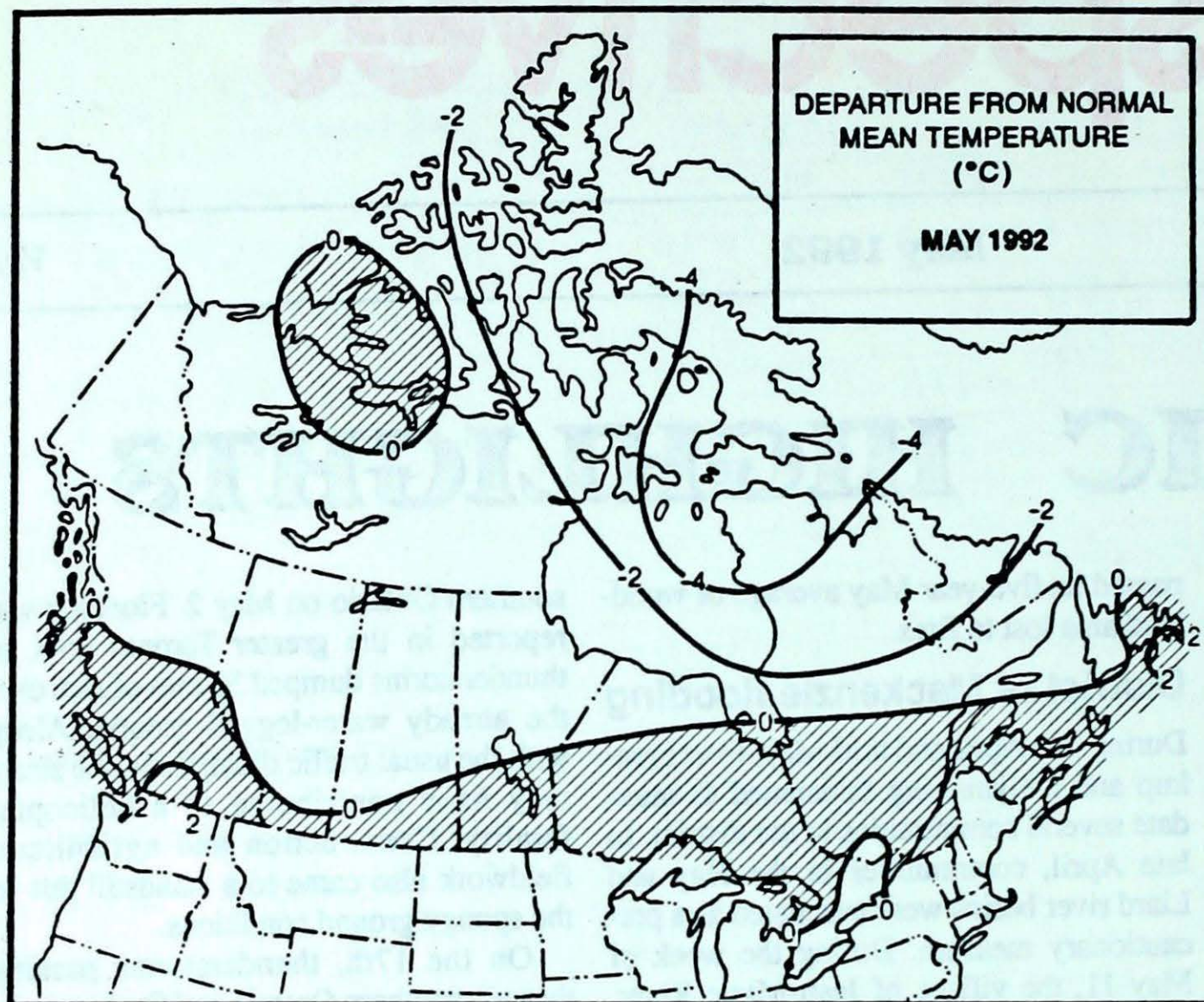
Yukon and Northwest Territories

As spring takes hold in the valleys, where most of the population resides, Old Man Winter reigns supreme on the mountain tops. With snowpacks, two to six times greater than normal, warm weather could cause extensive flooding in many communities. Dawson City, Ross River and Watson Lake are under close flood watch. Further north, Old Crow, the scene of previous floods, has reported minimal ice dams and the slow melting of snow over a long period of time, has significantly reduced the risk of flooding to this area.

Except for a small area around Carcross mean temperatures were below average. Communities, along the Dempster Highway, were up to 2°C colder than normal, as was the Quiet Lake area. Carcross was the only community which reached above-average mean temperatures, albeit by only 0.1°C. The warmest spot was Dawson. On six occasions they reached or exceeded 20°C, with the maximum at 21.9°C. Only five other communities reached or exceeded the 20°C mark. On the other hand, no station recorded temperatures below -30°C; however, Shingle Point came close at -29°C on the 5th, claiming the fame of being the coldest spot.

Dry areas existed northwest of the Dempster Highway and along the east side of the territory. Old Crow received a little more than half their normal monthly totals, whereas Watson Lake had a little less than half. Dawson, Carmacks, Carcross and Teslin all had twice their respective normal precipitation. Beaver Creek Airport received the largest quantity with 54.2 mm. However, Pleasant Camp, B.C. had 112.6 mm.

With spring creeping up into the higher elevations, snowpacks are melting and swelling the streams. The warmer temperatures and abundant water has advanced the budding of some trees, while the south facing slopes have blossomed with Crocuses and Jacobs Ladder. The total number of sunshine hours recorded at Whitehorse were down by 36 hours, totall-



ing 259.2. There have been 10 consecutive months with below-normal sunshine. In a normal year there are 1843.8 hours but in the last 12 months there have only been 1518.9 hours, down by 324.9.

In the Northwest Territories, May was cold, and for the most part wet. Mean temperatures were generally below normal by 1°C to 5°C. Eureka was the coldest spot with a mean temperature of -14.5°C (3.8°C below normal). The greatest anomaly was reported at Coral Harbour where the mean temperature of -10.6°C was 4.3°C degrees below normal. The warmest temperature during the month was 4.0°C at Baker Lake, while the coldest was -29.1°C at Eureka. The Hudson Strait region has experienced below normal temperatures for over 18 consecutive weeks to month end, with winter weather conditions still present.

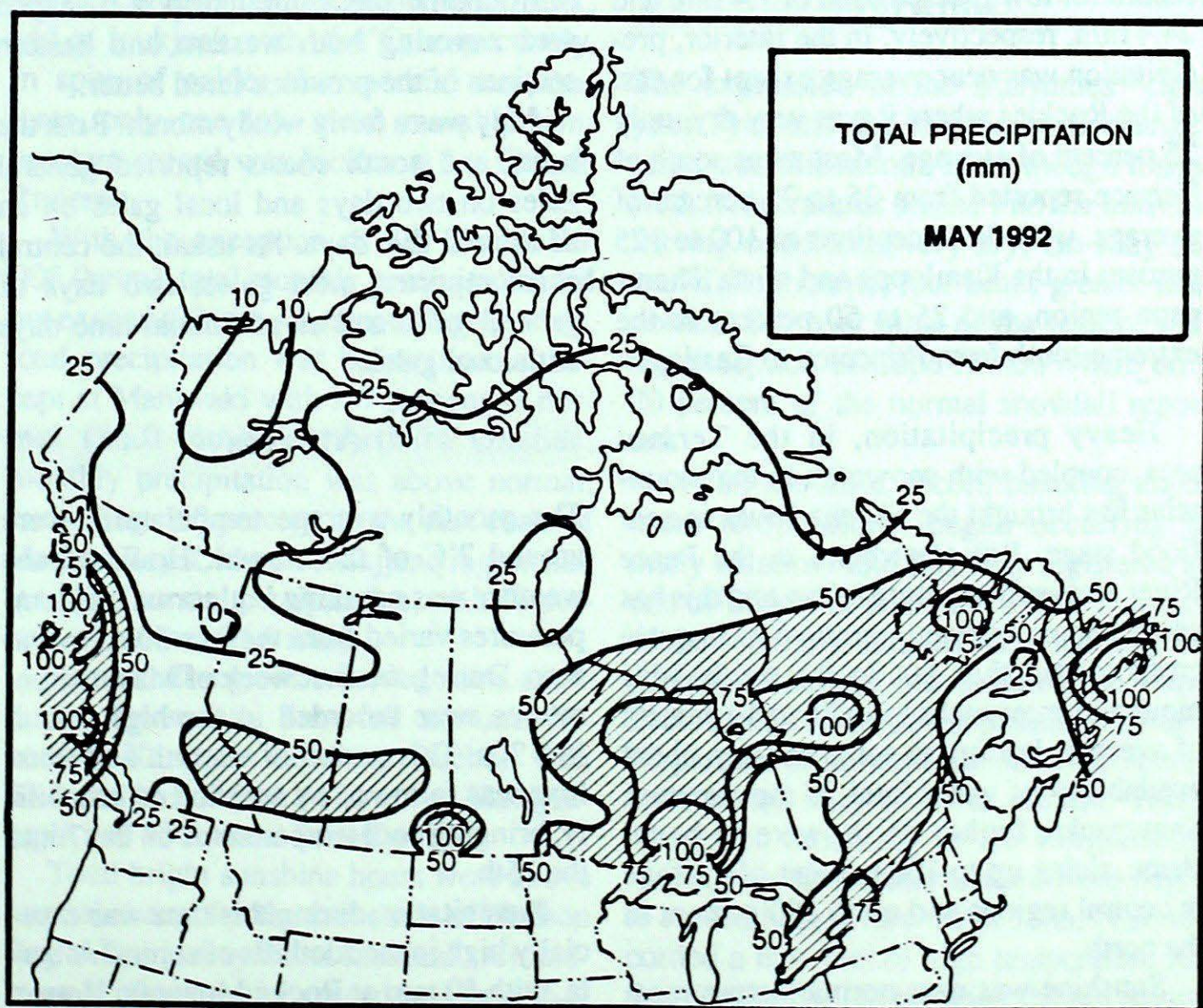
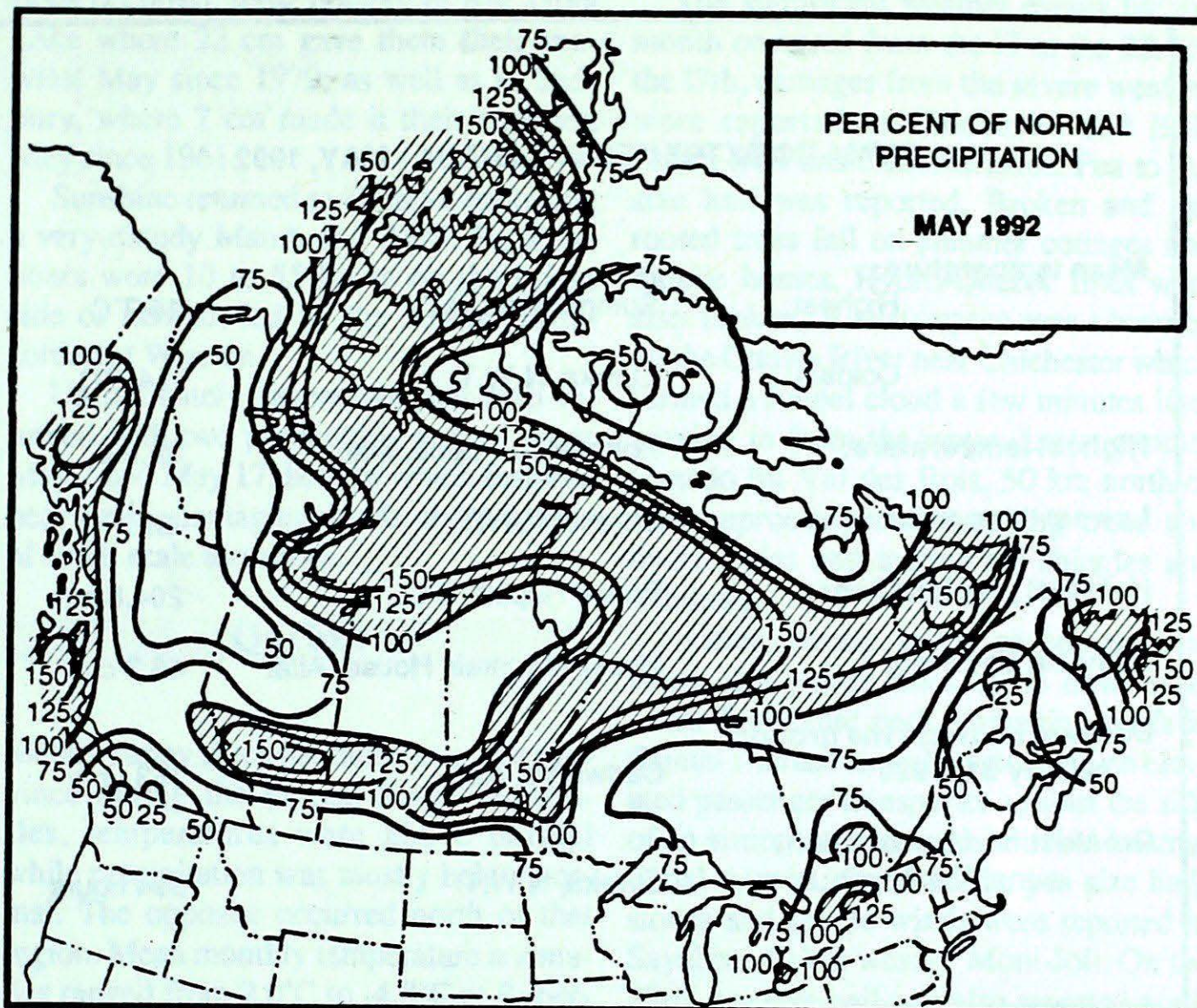
Precipitation was well above normal at most sites. Coral Harbour (33.2 mm), Baker Lake (31.6 mm), Resolute Bay (22.2 mm), and Mould Bay (13.0 mm) all reported precipitation near double or greater than average. Normals are 16.9 mm, 12.0 mm, 8.1 mm and 6.9 mm, respectively. On the flip-side, the total at Hall Beach was 7.4 mm, slightly over half of the normal values of 16.2 mm.

Total sunshine hours were below normal throughout the region. Deficits ranged from about 50 hours in the District of Keewatin to between 100 and 175 hours in the Arctic Islands.

British Columbia

Most of the province, from the Williams Lake southward, reported temperatures up to 2°C above average. To the north of Williams Lake temperature departures fell slightly below average through the Burns Lake - Terrace area and at Dease Lake.

Precipitation was quite variable. Largest departures were reported in the Terrace area with 250 percent of average measured at 105.5 mm, breaking the old record of 84.5 mm, set in 1976. Departures fell in all directions from Terrace. The north and central coasts reported up to 150 percent of average, falling to 30 percent over most of the south coast as Comox and Port Alberni



CLIMATIC EXTREMES IN CANADA - MAY, 1992

Mean temperature:			
Highest	Summerland, B.C.	15.7°C	
Coldest	Eureka, N.W.T.	-14.5°C	
Highest temperature:			
	Portage La Prairie, Man..	36.9°C	
Lowest temperature:			
	Eureka, N.W.T.	-29.1°C	
Heaviest precipitation:			
	Prince Rupert, B.C.	204.8 mm	
Heaviest snowfall:			
	Rocky Mountain House, Alta.	46.3 cm	
Deepest snow on the ground on May 31, 1992			
	Cartwright, Nfld.	153 cm	
Greatest number of bright sunshine hours:			
	Eureka, N.W.T.	394 hours	

recorded 6.8 mm and 6.4 mm breaking the record for low precipitation of 7.4 mm and 24.4 mm, respectively. In the interior, precipitation was near average except for east of the Rockies where it was very dry, only 25 percent of average. Most areas south of Terrace reported from 25 to 75 percent of average, with the exceptions of 100 to 125 percent in the Kamloops and north Thompson region, and 25 to 50 percent in the extreme south from Princeton to Castlegar.

Heavy precipitation, in the Terrace area, coupled with snowmelt in the mountains has brought the Skeena River to near flood stage. But elsewhere, in the Peace River area, soil moisture is low and this has caused some uneven germination in grain crops seeded thus far. In the south, May mountain snowpacks were 25 to 40 percent of average, leading to some concern about availability of water later in the summer. Snowpacks, further north, were in better shape, rising up to 100 percent of average in central regions and up to 150 percent in the north.

Sunshine was near normal across most of the central province, stretching from the

northern boundary south to Kamloops. Surrounding this central strip, a u-shaped area covering both western and eastern sections of the province fared better.

May was a fairly windy month. Both the north and south coasts reported general gales on two days and local gales on an additional five days. As usual, the central coast reported most gales; two days of general gales and an additional nine days with local gales.

Alberta

The monthly average temperatures were around 2°C of the normal. However, the weather was anything but normal, as temperatures varied from the low 30s down to zero. During the first week of May, temperatures were recorded in the high 20s to low 30s. This period of warmth and sunshine was followed by a period of instability, bringing cool temperatures on the 7th to the 15th.

Precipitation during this time was especially high in the foothills of central Alberta, with 50 mm at Rocky Mountain House. The long weekend in May was windy, warm and sunny. These pleasant condi-

tions were short lived, as a severe spring storm from the north moved southward causing temperatures to fall rapidly.

Precipitation began as rain, but turned to snow on the 19th and 20th. On the morning of the 20th, Cold Lake received 11 cm of snow while the Edmonton area received up to 15 cm. The forestry stations in west-central Alberta reported up to 30 cm. Luckily the snow melted quickly, lasting only a day or two. Recovery was slow from this cool air mass, and it was only by the 25th that temperatures rose to the low 20s. Unstable conditions remained through to the 30th, but the last day of May saw sunshine and warmer temperatures.

Saskatchewan and Manitoba

The battle of the seasons raged this month as cold Arctic air plunged southward, only to be replaced by warm sultry weather a few days later. The net effect of this was close to normal mean monthly temperatures.

Central areas were the coldest, with anomalies of 1°C to 2°C below normal. The southeastern parts of Manitoba and Saskatchewan experienced temperatures 1°C to 2°C above normal. In Portage La Prairie, a maximum of 36.9°C on the 20th (a new record for that date) and a minimum of -4.0°C on the 3rd combined to give a temperature range of 40.9°C. All of the southern half of region saw the mercury rise to 30°C or higher on at least one day.

Precipitation totals were near to well above normal in most areas. The greatest totals were along the southern part of the Manitoba-Saskatchewan border where amounts of 104.8 and 84.7 mm were reported at Broadview and Dauphin, respectively. Elsewhere, amounts averaged between 30 and 50 mm. Portage La Prairie and Winnipeg received less than one third of normal precipitation with 18.3 and 19.8 mm, respectively.

Snowfall amounts were mostly above normal in the north and below normal in the south. Some of the higher totals were: 31.6 cm, 27.5 cm, 27.4 cm, 22.6 cm and 18.8 cm at Gillam, La Ronge, Lynn Lake, Churchill and Meadow Lake, respectively.

Sunshine hours were below normal in all areas with the exception of the southern

half of Manitoba where totals were 10 to 30 hours greater than usual. In southern Saskatchewan the totals were 10 to 30 hours below normal, while across the north amounts were 30 to 70 hours below normal. The sunniest spot in the region was Winnipeg with 295.5 hours. Churchill received the least sunshine with 171.0 hours.

Ontario

Generally it was a pleasant, sunny month featuring near normal temperatures and close to normal precipitation. However, temperatures varied significantly to reach these seasonable means, as very warm and record cold weather was mixed in. Indeed, the final 10 days of the month seemed more like a herald for the coming of winter rather than the approaching arrival of summer.

A closer look at the temperatures reveals that monthly means were within 0.5°C of the long term average everywhere throughout southern and central Ontario; while in northern and northwestern Ontario, monthly means exceeded normal by a degree or two. Moosonee held the dual distinction of recording both the highest and the lowest provincial May temperature of 34°C and -9.3°C, respectively.

Monthly rainfall totals proved to be near normal, ranging from 50 mm to 75 mm in southern Ontario. However, given the wet Mays of the last three years this May tended to be the driest May in the south since the drought year of 1988. Ironically, although the normal totals were a relief to farmers, drenched by high amounts in April, the timing of the rain was unpopular, as the precipitation fell on weekends. In contrast, central and northern Ontario - from Muskoka to Moosonee - experienced rather dry weather with precipitation in the 30 mm to 50 mm range which represents only 50 to 75 percent of normal. In North Bay, 40 mm of precipitation was received, compared to a normal of 69 mm, making this their driest May since 1982. In the northwest, the pattern was less distinct. Geraldton was the wettest spot with 102 mm (normal 63 mm), while Sioux Lookout received only 49 mm (normal 66 mm).

Although there was minimal snowfall across the majority of the province, excep-

tions occurred, most notably in Big Trout Lake where 22 cm gave them their snowiest May since 1979; as well as in Sudbury, where 7 cm made it their snowiest May since 1961.

Sunshine returned to Ontario, following a very cloudy March and April. Sunshine hours were 10 to 55 hours on the bright side of normal, led by the 308 hours recorded at Wiarton.

Unfortunately severe weather also returned with two particularly stormy days: May 2 and May 17, both of which featured heavy rain, damaging winds and a couple of small scale tornadoes.

Quebec

Mostly sunny skies prevailed over the province during the month. South of Sept-Îles, temperatures were above normal while precipitation was mostly below normal. The opposite occurred north of that region. Mean monthly temperature anomalies ranged from 2.0°C to -4.8°C at Roberval and Inukjuak, respectively.

High and low mean daily temperatures were recorded in Hull/Ottawa with 13.3°C and at Inukjuak with -6.4°C, respectively. In spite of colder than normal temperatures, only one low mean monthly temperature record was broken at La Grande Rivière.

With the exception of La Grande IV (106.0 mm), total monthly precipitation did not exceed 100 mm. Over southern Quebec, total precipitation was below normal except at Maniwaki with 137 percent of normal (86.0 mm). In northern Quebec, monthly precipitation was above normal, exceeding 150 percent on the east coast of Hudson Bay. Only the Kuujuaq region had less than normal precipitation, with 68 percent of normal (21.6 mm).

Almost all regions received some snow during the month. Snowfall amounts exceeded 30 cm in northern Quebec with 33.8 cm at Inukjuak, 43.1 cm at Kuujuaq and 43.8 cm at Schefferville.

Total bright sunshine hours were above normal except for the east coast of Hudson Bay at Kuujuaq and Inukjuak. A maximum bright sunshine record was broken at Baie Comeau.

The significant weather events for the month occurred from the 17 to the 23. On the 17th, damages from the severe weather were reported at Chichester and Bois Franc, Bell and Osborne lakes. Pea to nut size hail was reported. Broken and uprooted trees fell on summer cottages and mobile homes. Hydro-Quebec lines were also broken. A waterspout was observed on the Ottawa River near Chichester which formed a funnel cloud a few minutes later moving in from the water. Later, another tornado hit Val des Bois, 50 km north of Hull, uprooting and breaking trees and hydro poles and tearing off shingles and windows.

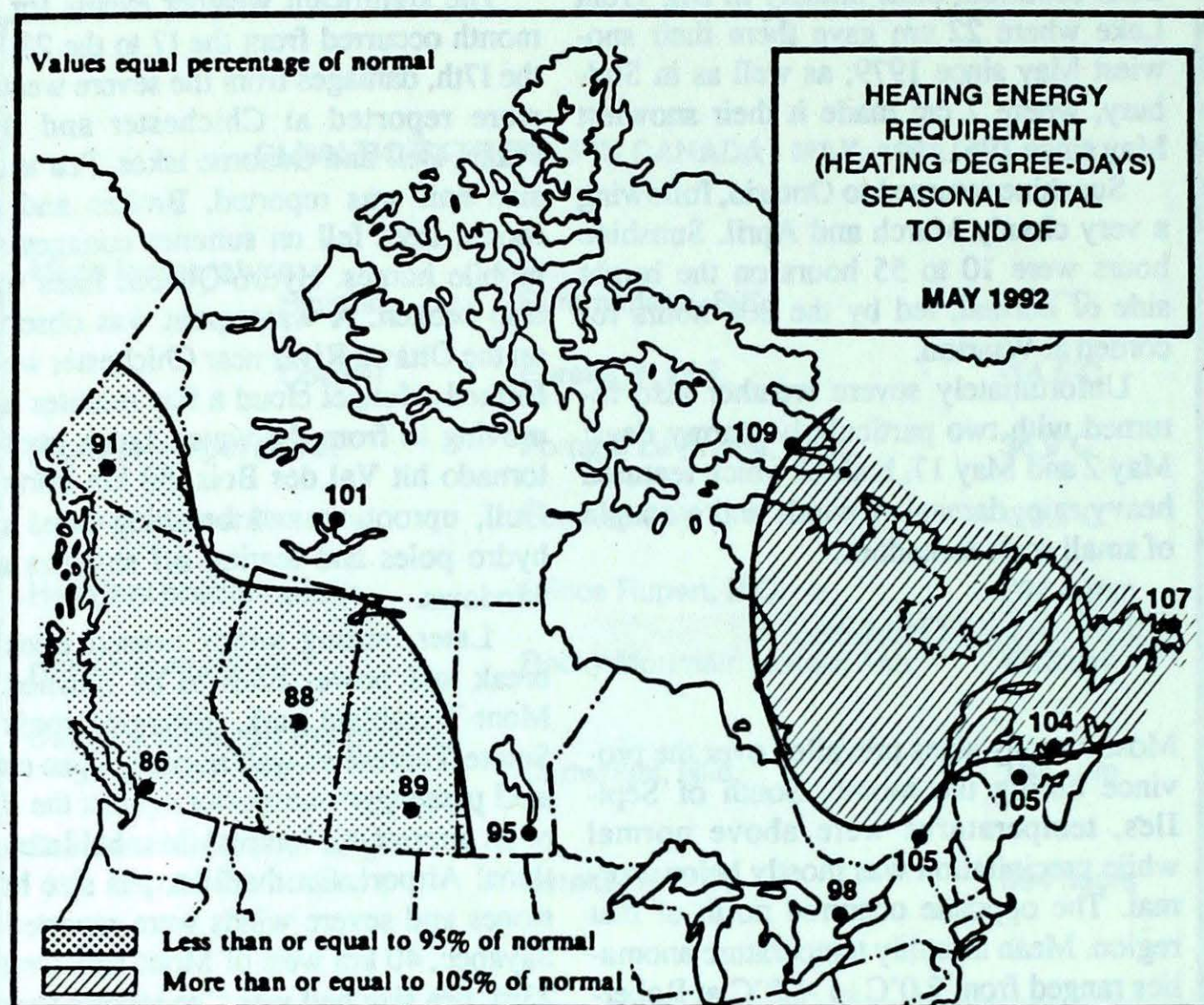
Later, strong winds caused trees to break and power lines to be downed in Mont-Tremblant park, damaging roofs in Sainte-Therese as well as pushing an elevated passenger transporter against the side of an aircraft at Montreal Mirabel International Airport. On the 21st, pea size hailstones and severe winds were reported in Sayabec, 40 km west of Mont-Joli. On the 23rd, pea size hail was also reported north of Joliette.

Maritimes

The expression in the Maritimes "close your eyes and the weather will change" came true this month. Even though it snowed, temperatures soared into the mid-30s leaving conditions very dry. On May 5th snowfall amounts, four times greater than normal, fell over most of the region, with the exception of Cape Breton where only 20 percent of the normal snowfall reported.

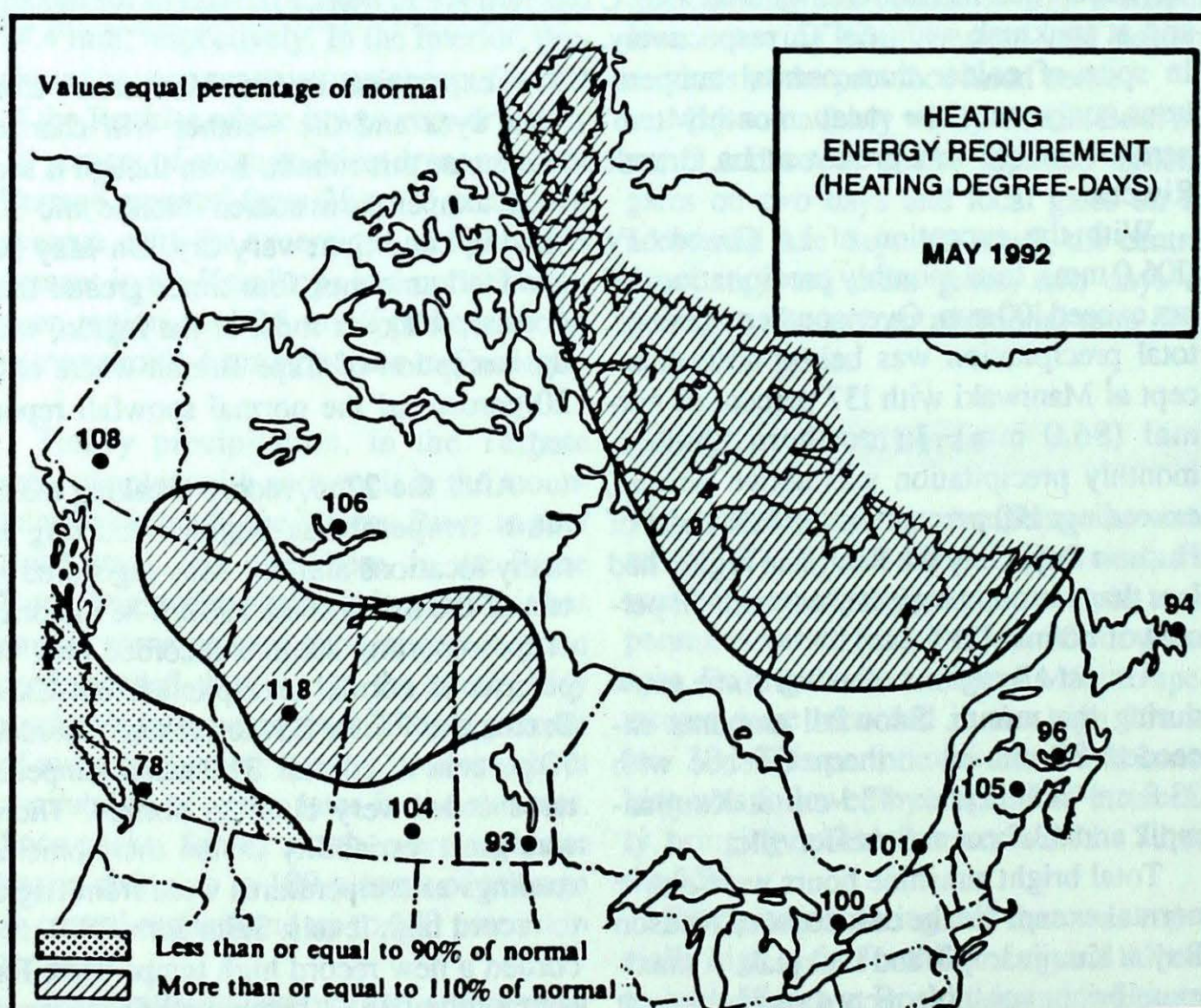
After the 22nd, record breaking maximum temperatures began occurring in many locations and this May registered as one of the driest since 1982. The majority of the reporting stations recorded only 40 percent of normal precipitation but Cape Breton and Prince Edward Island recorded 70 percent of normal. The mean temperatures ended very close to normal. There was great variability in the thermometer readings as temperatures went from frigid to record high levels. Saint John, N.B. recorded a new record high temperature for the month of 33°C, breaking the old record of 30.6°C set in 1900. The mean May tem-

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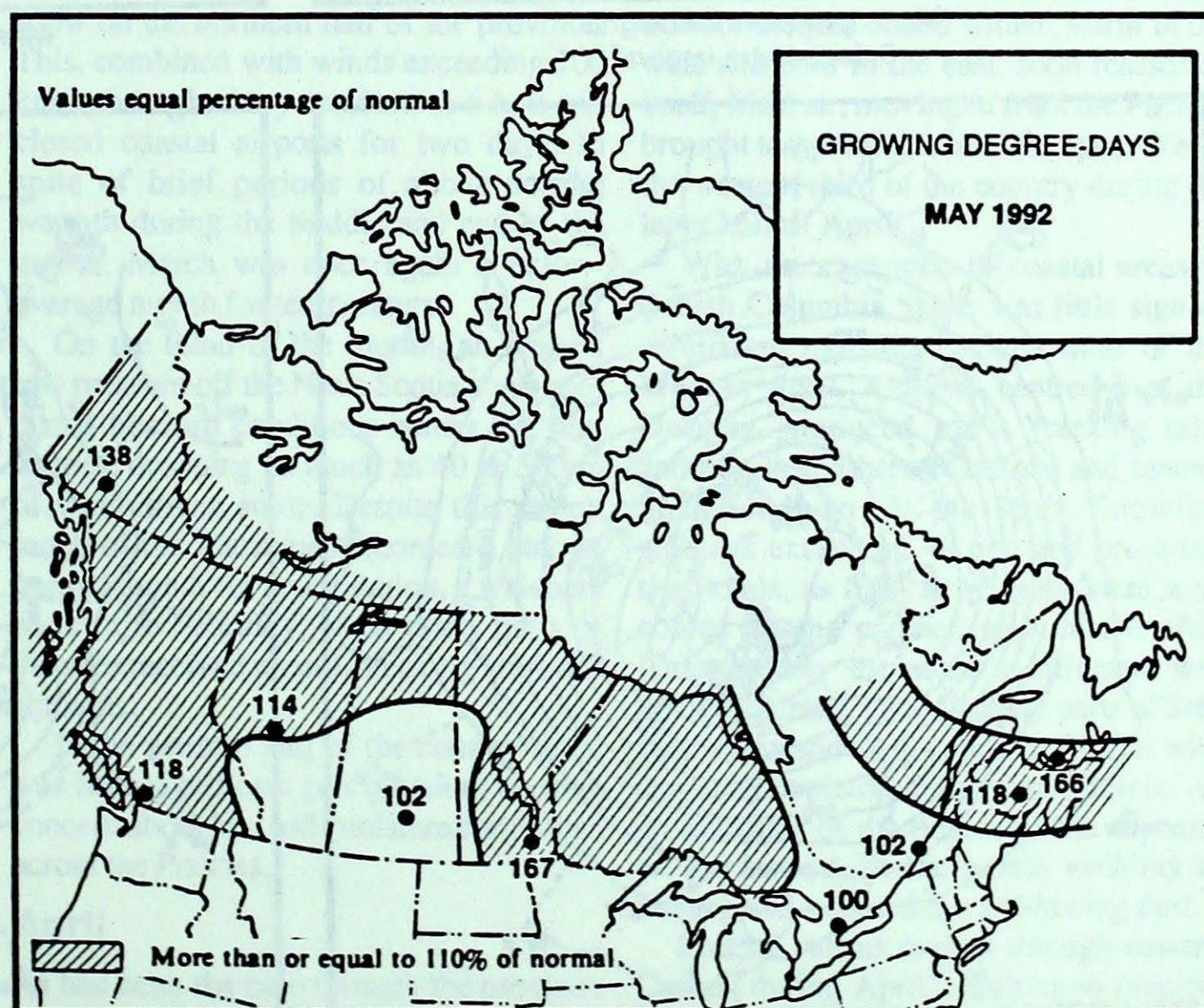
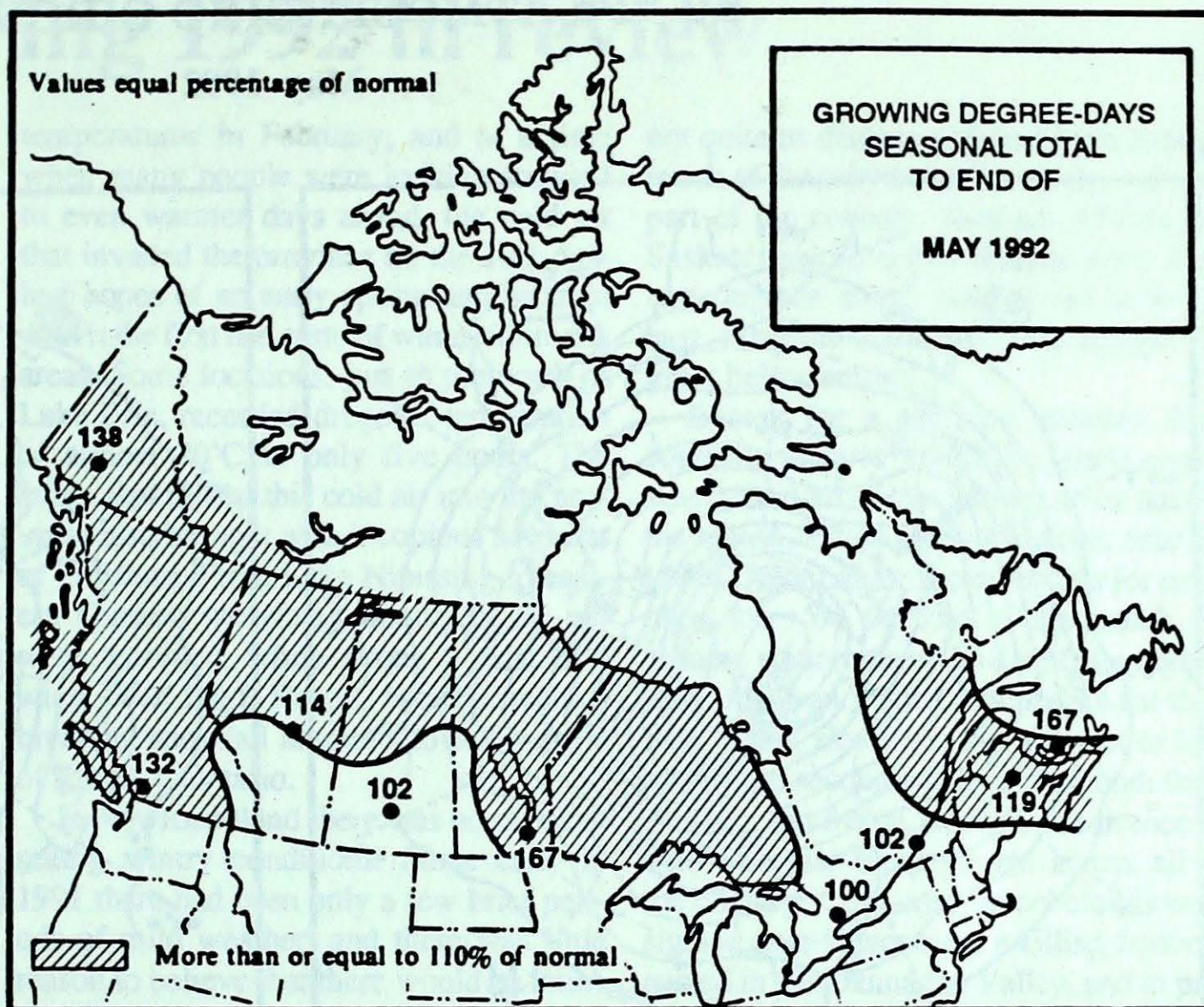
SEASONAL TOTAL OF HEATING DEGREE-DAYS TO END OF MAY

	1992	1991	NORMAL
BRITISH COLUMBIA			
Kamloops	3012	3652	3707
Penticton	2937	3502	3461
Port Hardy	3043	3436	5281
Vancouver	2506	2919	2964
Victoria	2595	3016	3042
YUKON TERRITORY			
Whitehorse	6227	6805	6892
NORTHWEST TERRITORIES			
Iqaluit	9998	10332	9653
Inuvik	9829	9590	10026
Yellowknife	8427	8685	8463
ALBERTA			
Calgary	4327	4941	5268
Edmonton Mun.	4712	5088	5393
Grande Prairie	5318	5805	6057
SASKATCHEWAN			
Estevan	4898	5514	5783
Regina	5137	5514	5783
Saskatoon	5386	5828	5968
MANITOBA			
Brandon	5851	5922	6032
Churchill	9079	9119	8970
Dauphin	5725	6586	6740
Winnipeg	5501	5530	5834
ONTARIO			
Kapuskasing	6417	6167	6325
London	3964	3655	4066
Ottawa	4754	4286	4633
Sudbury	5420	5041	5358
Thunder Bay	5606	5567	5666
Toronto	3947	3642	4082
Windsor	3483	3191	3575
QUEBEC			
Baie Comeau	6061	6012	5921
Montréal	4660	4169	4489
Québec	5290	4915	5102
Sept-Îles	6326	6342	6058
Sherbrooke	5152	4654	5156
Val d'Or	5928	5879	6064
NEW BRUNSWICK			
Fredericton	4830	4461	4671
Moncton	4890	4644	4685
NOVA SCOTIA			
Sydney	4606	4448	4421
Yarmouth	4072	3689	3989
PRINCE EDWARD ISLAND			
Charlottetown	4732	4572	4603
NEWFOUNDLAND			
Gander	5281	5228	4946
St. John's	4912	4809	4684



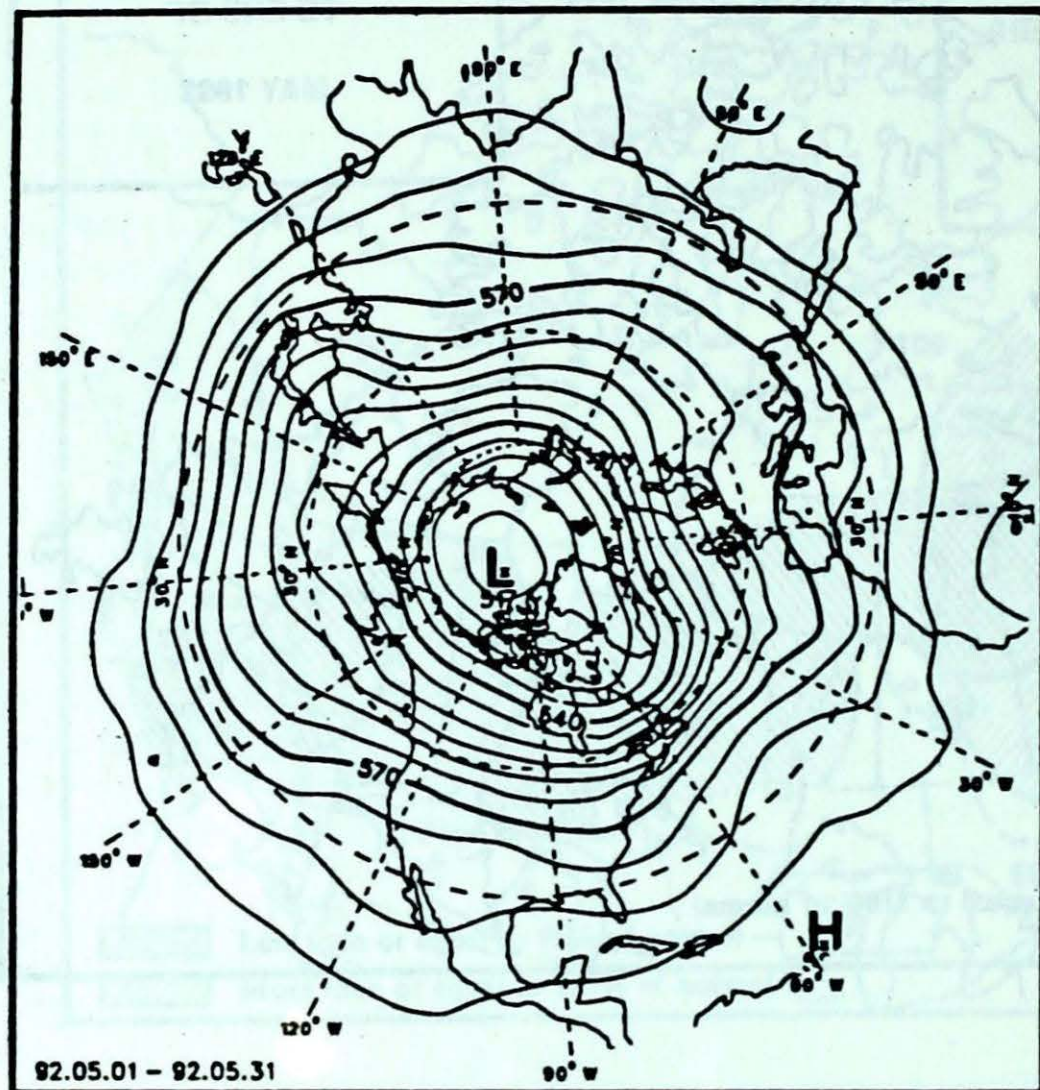
SEASONAL TOTAL OF GROWING
DEGREE-DAYS TO END OF MAY

	1992	1991	NORMAL
BRITISH COLUMBIA			
Abbotsford	500	376	338
Kamloops	462	476	370
Penticton	429	369	331
Prince George	41	176	28
Vancouver	470	365	355
Victoria	374	334	276
ALBERTA			
Calgary	31	120	31
Edmonton Mun.	36	178	31
Grande Prairie	39	206	33
Lethbridge	46	159	39
Peace River	32	182	25
SASKATCHEWAN			
Estevan	16	194	17
Prince Albert	22	159	20
Regina	17	185	16
Saskatoon	40	173	32
Swift Current	14	147	15
MANITOBA			
Brandon	21	230	16
Churchill	*	*	*
Dauphin	26	190	23
Winnipeg	43	234	26
ONTARIO			
London	245	447	228
North Bay	7	246	9
Ottawa	279	403	263
Thunder Bay	18	90	12
Toronto	248	417	248
Trenton	243	371	261
Windsor	308	519	339
QUEBEC			
Baie Comeau	*	15	*
Maniwaki	156	301	152
Montréal	276	377	272
Québec	192	283	152
Sept-Îles	*	*	*
Sherbrooke	18	262	18
NEW BRUNSWICK			
Fredericton	102	289	86
Moncton	*	20	*
NOVA SCOTIA			
Sydney	55	2	42
Yarmouth	100	66	99
PRINCE EDWARD ISLAND			
Charlottetown	11	11	6
NEWFOUNDLAND			
Gander	*	*	*
St. John's	*	*	*
Stephenville	24	*	25

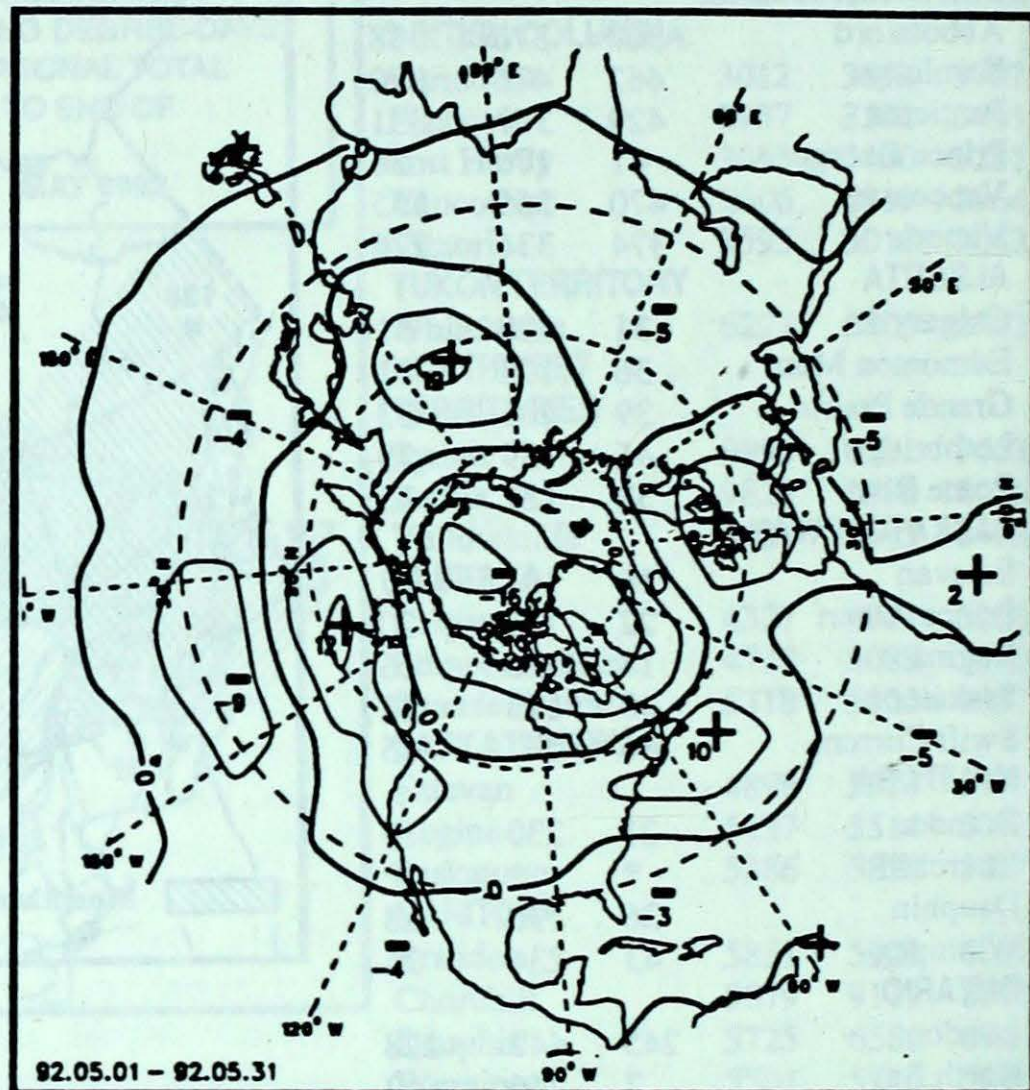


50-kPa ATMOSPHERIC CIRCULATION

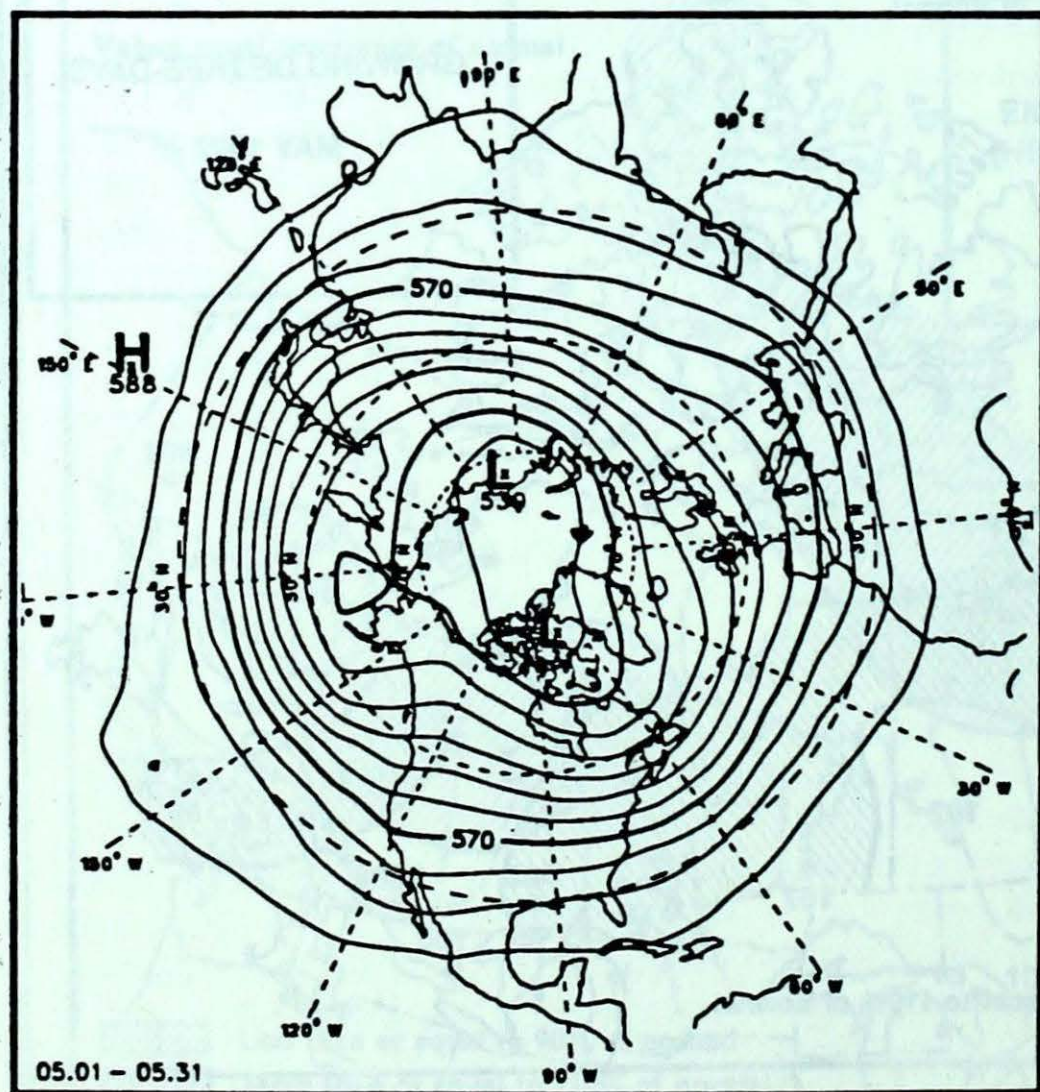
May 1992



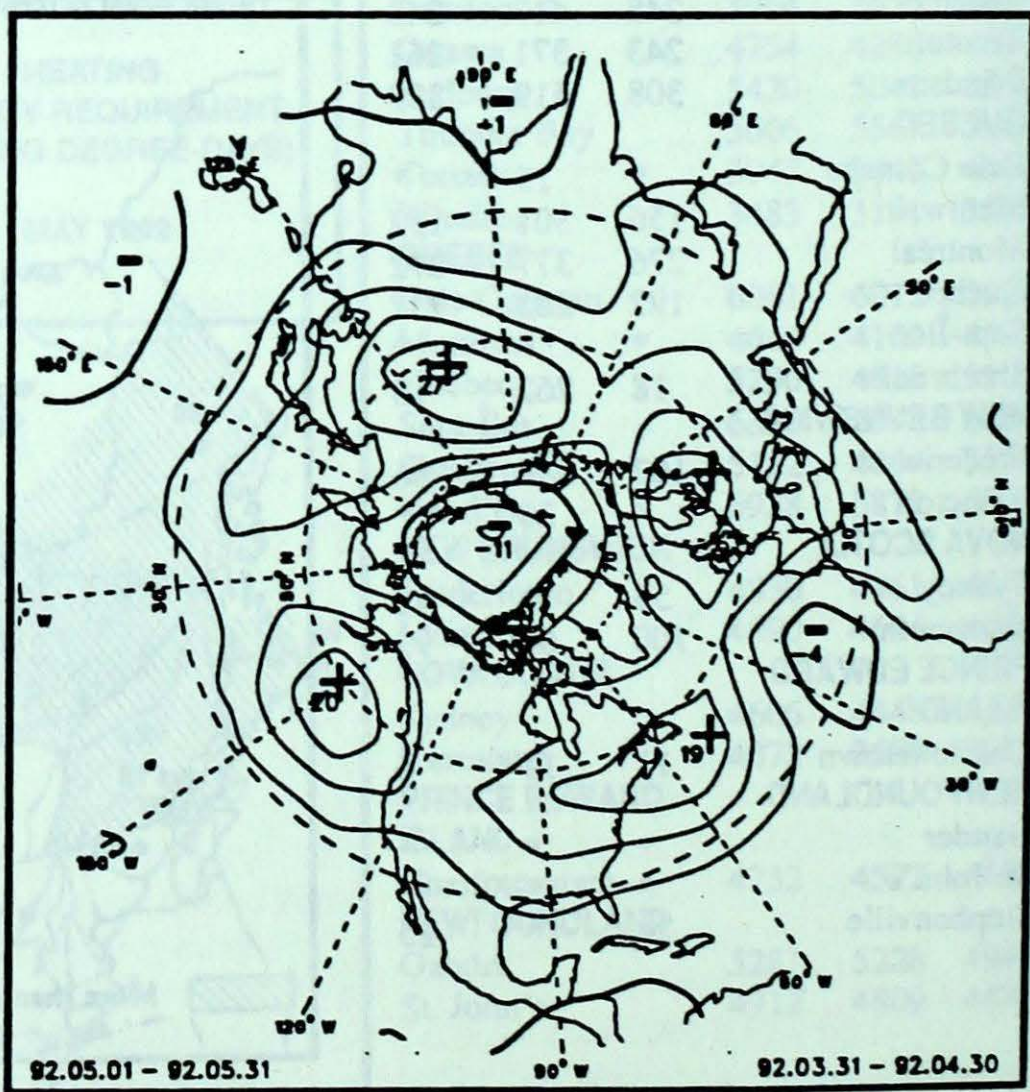
Mean geopotential heights
- 5 decametre interval -



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 -

Spring 1992 in review

Overall, the spring of 1992 was very much a continuation of the conditions that prevailed during the 91-92 winter. The influence of the El Niño was still in evidence, as the east-west temperature contrast of the previous months lingered. Warm and generally dry weather prevailed from the Pacific coast to the eastern Prairies, while eastern Canada saw temperatures that ranged from near normal in the south to 2°C to 4°C below normal in the north.

In May, incursions of very warm air pushed temperatures into the 30's in all provinces. However, toward the end of that same month, outbreaks of winter-like cold air also brought late-season frost and even snow to the areas in the south.

Precipitation tended to be slightly below normal through most of the agricultural areas of the country. In southeastern Saskatchewan and southern Alberta springtime precipitation amounts were only 50 to 80 percent of the 30-year average. Combined with low winter snowfalls, and several months of above-normal temperatures, soil moisture supplies in this area were severely depleted.

Similar dry conditions existed in the Maritime provinces, where springtime precipitation was only half the usual amount, resulting in an abnormally large number of early-season forest fires.

March

While much of eastern Canada recorded mean temperatures that were a couple of degrees below average, the western half of the country basked in abnormally mild conditions throughout March. As the month began, warm air extended from the Pacific coast eastward to the Ontario-Quebec border, resulting in temperature values that broke numerous daily values and were as much as 12°C above normal over the southern portions of Alberta and Saskatchewan. This pattern persisted for most of the month, as the spring conditions allowed western residents to stroll in shorts and tee-shirts, while those in the east wore winter coats and kept a wary eye on their snow shovels. In Ontario, the cold weather seemed particularly harsh. After recording the 14th month in a row with above-normal

temperatures in February, and at a time when many people were looking forward to even warmer days ahead, the cold air that invaded the province on the 10th dashed hopes of an early spring and brought with it the first real taste of winter for many areas. Some locations, just to the north of Lake Erie, recorded drops of temperature of almost 20°C in only five hours. The storm that pulled this cold air into the province also brought with it copious amounts of moisture. From Lake Nipissing to eastern Quebec snowfall amounts of 50 cm were recorded, while strong winds, blowing over Lake Huron, brought record-breaking snowfall amounts to a few parts of southern Ontario.

In Newfoundland there was no shock at seeing wintry conditions. Since early in 1991 there had been only a few brief periods of mild weather, and there was little reason to believe that there would be much more this month. On the 2nd this was borne out as an intense disturbance over the Labrador Sea dropped as much as 50 cm of snow on the northern half of the province. This, combined with winds exceeding 100 km/h, brought ferry services to a halt and closed coastal airports for two days. In spite of brief periods of above-normal warmth during the middle and end of the month, March was once again a below-average month for temperature.

On the 22nd of the month, an area of low pressure off the Nova Scotia coast produced blizzard conditions across the Maritimes, dropping as much as 40 to 50 cm of wind-driven snow. Despite this storm, much of the Maritimes recorded a below-normal month for precipitation, a welcome contrast to February, when many parts of the area received record-breaking snowfall amounts.

In the western half of the country there was little significant precipitation, causing concern about low soil-moisture conditions across the Prairies.

April

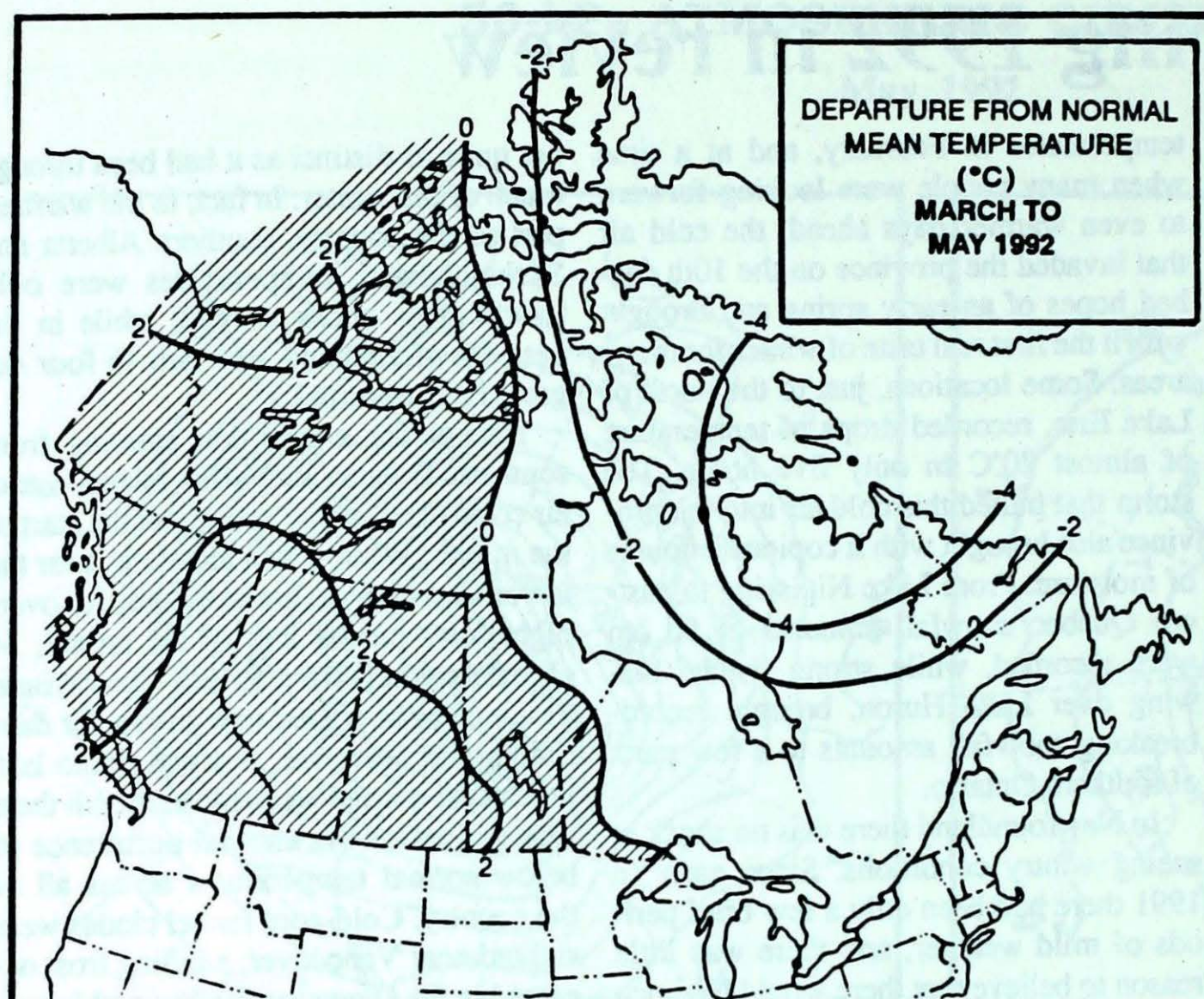
As had been the case through the previous several months, April saw temperatures that were generally warm in the west and cool in the east. However, the contrast was

not quite as distinct as it had been through much of the winter. In fact, in the warmest part of the country, southern Alberta and Saskatchewan, temperatures were only two degrees above normal, while in the east, Newfoundland was two to four degrees below normal.

Except for a corridor, running from southern Ontario to Baffin Island, warm air covered all of the country at the start of the month. While a few locations, near the lower Great Lakes, broke records for overnight lows on the 2nd of the month, 34 climate stations from British Columbia to Saskatchewan posted new marks for daytime highs. However, this was not to last, and by the second week of the month there was the somewhat unusual occurrence of below-normal temperatures across all of the country. Cold-core funnel clouds were sighted near Vancouver, a killing frost occurred in the Okanagan Valley, and in previously-mild southern Alberta, nighttime lows dropped to -20°C. This too was not to last, and what had been the normal condition for the just-ended winter, warm in the west and cold in the east, soon reasserted itself. Mild air, moving in from the Pacific, brought temperatures into the upper 20s in the western third of the country during the latter half of April.

With the exception of coastal areas of British Columbia, there was little sign of significant moisture through most of the West in April. A storm, centred over the Dakotas, produced snow, freezing rain, and rain in southern Manitoba and eastern Saskatchewan on the 19th. Snowfall amounts exceeding 40 cm, and precipitation totals, as high as 85 mm, were welcomed by the parched soils of the area. Unfortunately the storm's influence was not widespread, leaving many parts of Saskatchewan and all of southern Alberta with seriously depleted soil moisture levels. As an indicator of the degree of the dryness, on the last day of the month visibility at Regina was reduced due to blowing dust.

Several storms moved through eastern Canada during April, resulting in precipitation values that were generally above normal. On the 6th and 7th of the month the island of Newfoundland received a



mixture of precipitation. Nearly 50 cm of snow was received at Gander, while on the Avalon Peninsula hail and rainfalls of 25 mm in just one and a half hours were reported.

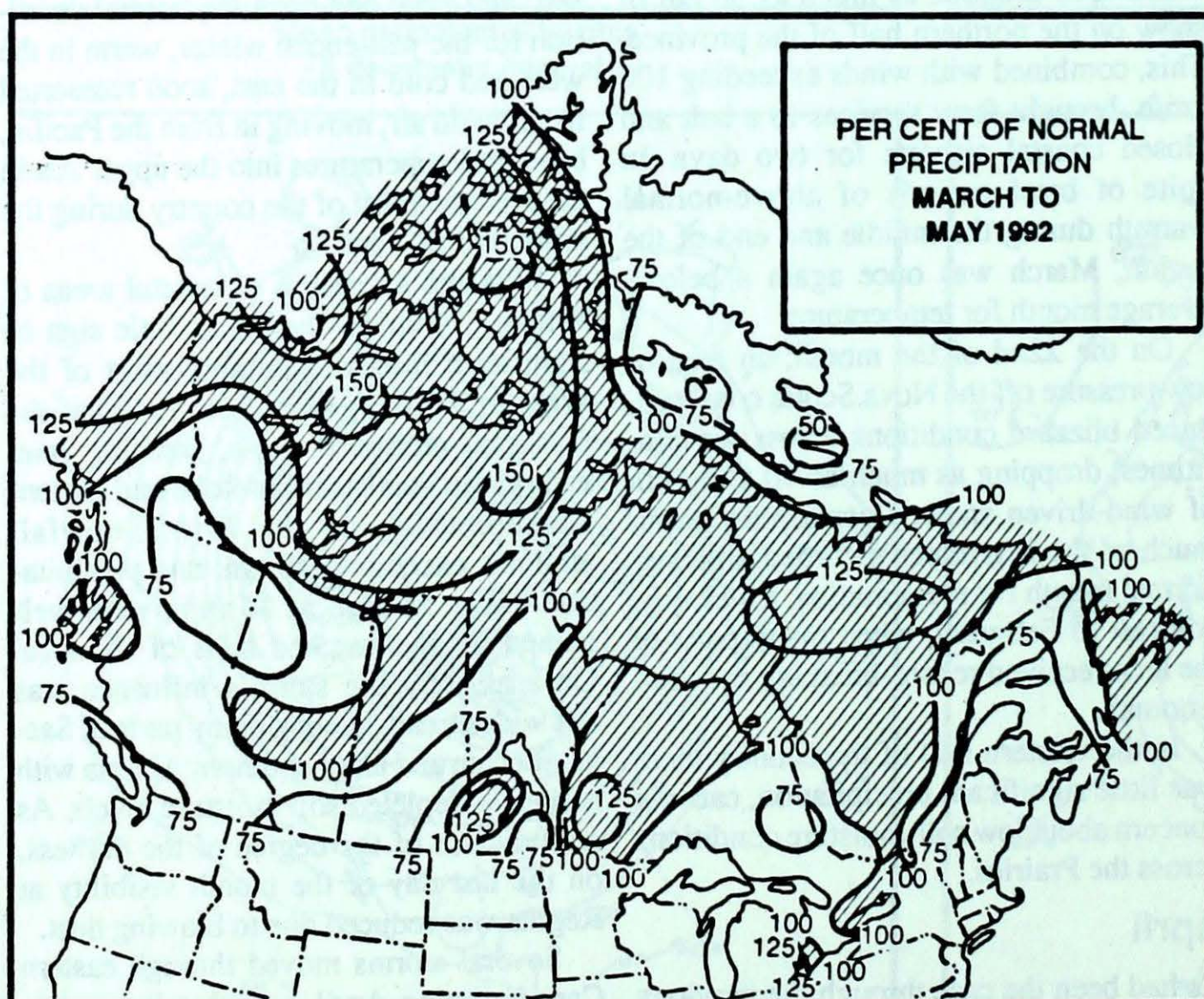
A classic spring storm moved through the lower Great Lakes on the 11th, bringing with it freezing rain, rain, and heavy thunderstorms. At Toronto over 50 mm of rain fell, setting new records for both one-hour and one-day April precipitation. Moderate rains through the rest of the month gave the city a total of 134 mm, breaking the previous record for April precipitation, set just the year before.

May

The "warm in the west, cool in the east" pattern that dominated the weather picture almost all of the winter and spring finally came to an end in May. During this month most of the country experienced temperatures that, on average, were within a degree or two of normal. Only small portions of southern British Columbia and eastern Newfoundland produced monthly means greater than two degrees above average. A larger area, comprising northern Quebec, northern Labrador, and the eastern Arctic, had temperatures two to four degrees below normal.

However, on a week-to-week basis temperatures were far from normal. As rapid air mass changes occurred across the country, many locations set new record low minimums, only days after breaking old records for warmth. On the 12th, just five days after hitting a record-breaking 32°C, Lytton, B. C. dropped to -1°C, a new record for the month. A similar contrast occurred a week and a half later in southeastern Saskatchewan, where, after reaching temperatures in the mid-thirties on the 20th, frost warnings were issued on the 21st, and snowfall advisories on the 24th. A couple of days beforehand, the same cold air mass received the blame for snow across Alberta and the next week was responsible for three days of frost warnings across southern Ontario and Quebec.

Precipitation during May displayed a pattern similar to the spring, as a whole. Dry conditions prevailed across many of



...continued from page 5

perature averaged above normal for the first time since November 1991.

At the Canadian Forces Bases (C.F.B.) in Greenwood, N.S. a temperature of 33.8°C broke the old record of 33°C; set in 1977. At the Halifax International Airport the high of 32.9°C, established a new record, replacing the old one of 32.8°C set in 1977. At C.F.B. in Shearwater, N.S. a value of 32°C tied their monthly record set in 1977.

May was an extremely dry month, precipitation averaged less than 50 percent of normal for most of the region. The rainfall of 31.2 mm recorded in Saint John was the lowest May precipitation since 1955. More notable is the combined rainfall totals of April and May which show only 44.6 mm; the lowest April/May value for the airport site in the 41 years of continuous recording. The April/May precipitation for most of New Brunswick ranged from 35 to 55 percent of normal.

Sunshine was greater than normal in most localities. Charlo, N.B. reported 86.1 hours more than normal. The exception

was at Yarmouth which recorded 5.2 hours less than normal.

Newfoundland

Near normal temperatures and above normal sunshine prevailed across much of Newfoundland. Cool, unsettled conditions dominated early in the month with snow at many locations. However, the latter half of the month saw slightly above normal temperatures with maximum readings of 28°C in the central parts on the 31st. Overall mean temperatures were generally close to normal as St John's reported 6.2°C, (normal is 5.4°C), while in the north, St. Anthony was cooler by a couple degrees, recording a mean of 1.7°C.

Snowfall amounts in central and western regions were recorded between 15 cm to 25 cm; about 10 cm greater than usual. However, St John's reported only 0.6 cm; 10 cm below normal. Rainfall amounts were typical for this time of year with the exception of St Lawrence, with a total of 170.0 mm; 60 mm above normal.

The frequent sunshine during the latter part of the month resulted in totals close to 190 hours at most locations, about 25 to 30 hours above normal, as Gander recorded 194.8 hours, (normal 162.3 hours.) Prevailing winds for the month were west near 18 km/h; slightly lighter than normal.

Labrador

Cooler temperatures and above normal snowfall amounts were reported. A series of disturbances maintained a changeable weather pattern across the region, especially during the latter half of the month. On May 23, Goose Bay recorded 18.9 cm of snow, a new daily record. In total Goose Bay recorded 48.3 cm of snow, almost 30 cm above normal.

Mean temperatures across the region were generally 1°C to 2°C below normal, as Churchill Falls recorded 0.5°C, normal 2.9°C. Despite the changeable weather pattern, sunshine hours were a little above normal at most locations such as Wabush Lake where 217.6 hours were recorded; normal is 204.1 hours.

Spring 1992 continued...

the agriculturally important areas of the south. Notable exceptions occurred in extreme southwestern Ontario and in a belt extending from south-central Alberta through southern Manitoba. Despite the late spring date, not all of the precipitation came in the form of rain. With the passage of a cold front on the 20th, several centimetres of snow fell on central Alberta and

northern Saskatchewan. Four days later 10 cm of snow were deposited on Broadview, Sask.

On the 5th, the normal May allotment of snow for the Maritimes was reached three times over in one of the month's few notable precipitation events for that region. Despite the early-month snowfall, most of the area received less than half the normal

May precipitation, increasing both the risk and the incidence of forest fires.

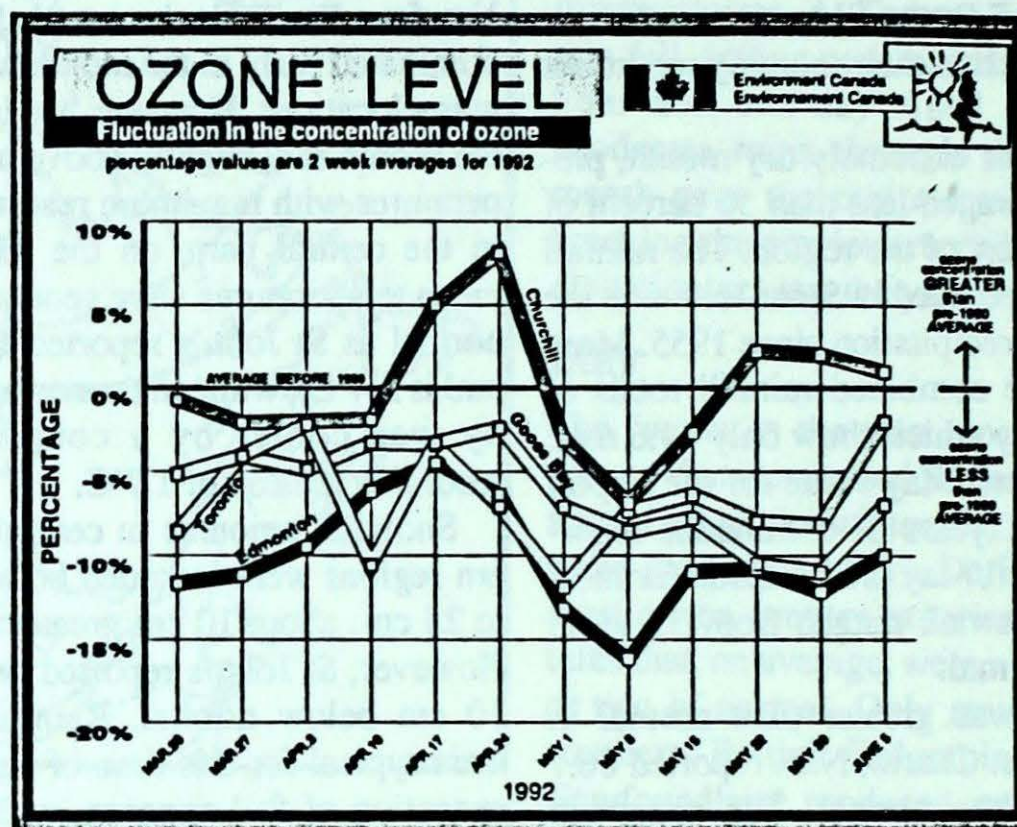
As the month ended not all of Canada was ready to spring into summer. Indeed, at Cartwright, Nfld. the 153 cm of snow on the ground was an indicator that for some areas winter still can still maintain its hold even in to June.

Total ozone in relation with the weather

The situation for the spring of 1992

The existence of a link between meteorological features and stratospheric ozone levels was established by Dobson and other co-workers, in the 1930s. At that time, they found that total ozone increases and decreases with the passage of cold fronts and warm fronts respectively, and that high total ozone is usually found to the rear of the developing surface cyclones and near the centre of the mature ones.

Later on in the 1950s, more research was done in the field, and different relationships between ozone and meteorological parameters were found such as: temperature, geopotential height and north-south wind component at 100 mb. There is a good correlation between tropospheric geopotential heights and ozone amounts. Relatively high ozone levels will be associated with a trough in tropospheric heights and the ozone levels will be lower with a ridge. This relationship is the one indirectly experienced by Dobson, early in the century, with ozone levels increasing behind a cold front. With the cold advection behind a cold front, there is tropospheric troughing of the geopotential



heights as the thickness of the atmosphere decreases, giving higher amounts of ozone.

If we look at what happened during the spring of 1992, we may be able to explain why lower ozone levels were found over the western sections of Canada. The above graph gives the fluctuation in total ozone at four stations for the spring of 1992. These percentages are the departures from this year's two week average ozone levels, from average ozone levels for about 20 years before 1980. Values prior to 1980 are considered representative of non-depleted ozone levels. A quick look at the graph indicates lower values of ozone for Edmonton, with average values 11 percent below pre-1980 normals. Churchill is showing a cosine type of curve with values going on either side of the average. Toronto and Goose Bay are fluctuating about the 5 to 6 percent below normals.

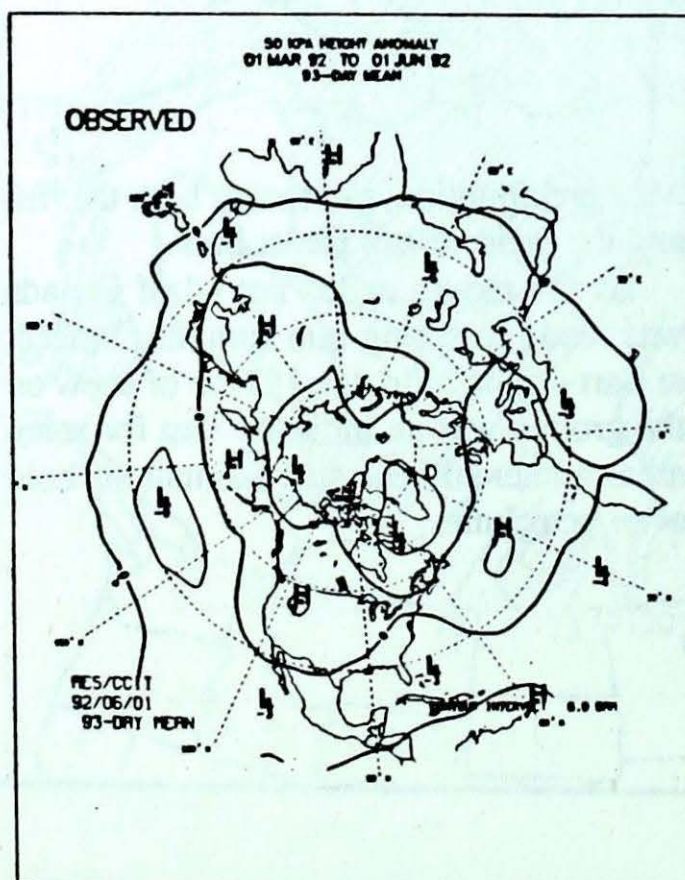
The other figure presented on the left, shows the 50 kPa geopotential heights anomalies for the same period (spring 1992). From this chart, we see the positive anomalies over the western half of the country, with the result of warmer than normal temperatures experienced over that

period. Also, we can see strong negative anomalies on the northeast side of Canada. The heights were near normal over the southeastern sections of the country including southern Ontario and southern Quebec.

Ozone variation is partially linked to the weather patterns. In order to detect ozone depletion the effects of variations in weather conditions must be taken into account. Toronto had a near normal weather pattern over the spring (on average no geopotential height anomaly) and a 5 percent average thinning of the ozone layer. This value is very close to what A.E.S. scientists were expecting (4 percent of ozone loss over Canada caused by chemicals).

The situation is different over the western half of the country, with above normal geopotential heights associated with warm temperatures. This factor may explain the increased thinning of total ozone (5 percent more than over the east). This extra thinning could be associated with the persisting tropospheric ridge.

Robert Michaud, meteorologist
Environmental Service Initiatives
Branch



MAY 1992

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									
BRITISH COLUMBIA													
ABBOTSFORD A	14.3	2.3	30.3	1.9	0.0	*	27.8	36	0	6	292	140	119.0
ALERT BAY	10.9	0.7	26.2	2.2	0.0	*	68.8	115	0	10	*	*	220.4
AMPHITRITE POINT	12.0	1.6	21.8	4.9	0.0	*	44.3	34	0	6	*	*	184.5
BLUE RIVER A	11.1	1.4	29.0	-3.6	0.0	0	58.7	94	0	11	209	106	*
CAPE ST JAMES	9.5	0.8	16.9	4.2	0.0	0	85.2	100	0	15	181	*	263.4
CAPE SCOTT	10.3	1.2	18.5	5.0	0.0	*	133.5	82	0	12	*	*	238.7
CASTLEGAR A	14.5	1.5	32.5	0.9	0.0	*	28.8	53	0	5	277	119	115.3
COMOX A	13.0	1.2	23.5	2.8	0.0	*	6.8	18	0	2	264	*	153.7
CRANBROOK A	12.2	1.3	28.8	-1.6	0.2	40	34.7	83	0	9	298	116	180.3
DEASE LAKE	5.1	-1.0	19.2	-8.3	11.6	252	21.4	93	0	5	177	85	399.6
FORT NELSON A	9.1	-0.5	25.4	-4.8	1.2	20	11.4	27	0	3	276	*	275.3
FORT ST JOHN A	9.4	-0.3	26.5	-3.9	3.8	45	7.6	20	0	4	286	*	268.4
HOPE A	15.2	2.2	32.1	4.2	0.0	*	48.4	68	0	7	241	132	97.1
KAMLOOPS A	15.5	1.4	33.0	0.2	0.0	*	22.4	124	0	4	242	96	93.1
KELOWNA A	14.3	2.2	32.5	-0.3	0.0	*	21.4	68	0	8	265	112	122.6
MACKENZIE A	8.1	0.0	24.2	-7.0	1.8	41	24.0	63	0	7	242	99	306.4
PENTICTON A	15.4	2.0	33.3	-0.1	0.0	*	7.6	26	0	1	281	114	96.4
PORT ALBERNI A	13.2	2.0	29.5	0.3	0.0	*	6.4	10	0	3	247	*	149.2
PORT HARDY A	10.6	1.3	23.0	1.7	0.0	*	85.9	125	0	10	211	113	229.9
PRINCE GEORGE A	9.6	0.3	28.8	-4.3	0.0	0	24.8	52	0	6	238	94	260.3
PRINCE RUPERT A	8.9	0.8	17.2	-1.6	0.0	0	204.8	141	0	17	167	89	282.3
PRINCETON A	12.9	2.1	31.6	-3.1	0.0	0	9.8	47	0	2	298	*	*
REVELSTOKE A	13.2	1.1	30.0	0.4	0.0	*	45.0	81	0	9	226	106	146.7
SANDSPIT A	9.7	1.0	15.9	4.1	0.0	0	64.9	124	0	11	210	100	259.1
SMITHERS A	8.9	-0.1	22.4	-5.4	0.0	0	18.8	63	0	6	225	100	282.5
TERRACE A	9.8	-0.1	22.4	-0.4	0.0	0	105.5	244	0	15	195	108	252.6
VANCOUVER INT'L A	13.6	1.4	24.8	3.9	0.0	*	15.8	31	0	2	289	118	139.1
VICTORIA INT'L A	13.3	1.7	27.2	2.1	0.0	*	15.4	54	0	3	305	119	148.2
WILLIAMS LAKE A	9.9	0.9	27.1	-2.3	5.8	193	30.8	97	0	7	245	95	251.2

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									
YUKON TERRITORY													
DAWSON A	11.9	*	21.9	-5.5	7.8	*	35.2	*	*	*	*	*	*
MAYO A	6.0	-1.5	20.4	-5.3	9.9	471	24.9	128	*	*	*	*	*
WATSON LAKE A	5.4	-1.5	19.6	-6.1	0.0	0	11.2	38	0	6	197	77	391.3
WHITEHORSE A	5.8	-0.9	18.0	-5.2	8.6	297	17.9	139	0	4	224	86	378.3
NORTHWEST TERRITORIES													
BAKER LAKE A	-7.6	-1.2	4.0	-20.8	28.2	448	31.6	263	26	5	214	81	793.5
CAMBRIDGE BAY A	-9.4	0.0	2.8	-23.8	11.8	124	9.0	95	39	2	164	63	849.4
CAPE PARRY A	-6.4	0.4	3.0	-25.7	7.2	60	5.6	62	12	1	*	*	755.1
CLYDE A	-11.7	-4.4	2.3	-24.3	14.6	85	13.0	77	36	6	239	95	921.7
COPPERMINE A	-5.1	0.2	7.2	-23.8	16.4	202	34.8	290	22	10	157	70	716.3
CORAL HARBOUR A	-10.6	-4.3	0.1	-23.9	33.2	227	33.2	112	62	9	230	82	885.9
EUREKA	-14.5	-3.8	-2.9	-29.1	2.2	63	2.2	69	12	0	394	76	1008.7
FORT SIMPSON A	7.7	-0.8	25.9	-10.0	1.2	24	19.7	60	0	6	314	115	321.7
FORT SMITH A	7.5	-0.4	25.9	-6.3	15.0	313	41.3	149	0	9	205	72	325.6
IGALUIT	-8.3	-5.1	2.4	-22.3	27.8	118	24.2	96	11	6	165	83	814.8
HALL BEACH A	-12.5	-3.4	-0.6	-25.4	7.6	47	7.4	46	39	4	*	*	946.7
HAY RIVER A	6.0	0.4	26.0	-6.5	6.9	177	30.1	150	0	7	*	*	374.8
INUVIK A	-1.6	-0.8	17.5	-26.6	21.0	162	16.4	93	0	3	261	89	607.7
MOULD BAY A	-12.1	-0.9	0.4	-25.5	18.6	235	13.0	188	20	7	160	48	901.9
NORMAN WELLS A	4.0	-1.4	23.5	-17.4	1.6	19	4.4	26	0	1	271	96	434.7
POND INLET A	-13.6	*	3.8	-16.6	32.6	*	18.2	*	29	3	362	*	979.8
RESOLUTE A	-13.8	-2.9	-1.3	-26.2	32.2	350	22.2	274	28	5	196	67	985.7
YELLOWKNIFE A	4.3	-0.7	20.1	-7.4	7.4	200	13.0	76	0	4	263	79	423.5
ALBERTA													
BANFF	8.0	0.3	25.0	-3.5	32.4	227	76.2	147	0	10	*	*	309.7
CALGARY INT'L A	9.5	0.1	28.2	-3.0	14.0	167	46.2	95	0	9	232	91	264.3
COLD LAKE A	9.2	-1.2	27.7	-4.8	15.4	513	38.1	96	0	7	239	88	271.7
CORONATION A	9.2	-1.1	28.8	-3.2	12.6	434	72.0	200	0	10	254	87	273.1

MAY 1992

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	Mean	Difference from Normal	Maximum	Minimum									
EDMONTON INT'L A	9.4	-0.7	29.1	-4.8	16.2	559	42.0	100	0	10	242	85	267.2
EDMONTON MUNICIPAL	10.2	-1.1	28.2	-2.8	14.4	*	25.0	59	0	10	241	87	243.1
EDMONTON NAMAO A	10.0	-0.8	27.8	-3.0	18.8	648	22.0	58	0	5	*	*	250.0
EDSON A	8.0	-0.5	27.2	-3.2	22.4	156	45.8	76	0	8	209	85	310.0
FORT CHIPEWYAN A	8.0	-0.6	26.0	-7.0	6.2	95	32.8	108	*	*	*	*	*
FORT MCMURRAY A	9.5	-0.2	27.6	-2.7	1.8	67	20.8	57	0	7	241	87	261.4
GRANDE PRAIRIE A	9.3	-0.7	26.5	-3.4	18.6	517	48.3	134	0	7	264	*	271.6
HIGH LEVEL A	8.0	-1.3	27.2	-4.9	10.5	244	29.6	71	0	7	261	92	309.6
JASPER	9.2	0.5	26.6	-3.5	5.4	174	41.6	125	0	8	228	*	274.1
LETHBRIDGE A	12.2	1.2	30.8	-3.7	1.6	25	14.9	29	0	4	292	111	183.8
MEDICINE HAT A	12.7	0.4	31.5	-0.3	2.6	163	35.8	89	0	9	278	102	170.8
PEACE RIVER A	8.6	-1.0	26.6	-5.3	3.8	119	12.6	42	0	4	*	*	292.0
RED DEER A	8.5	-1.3	28.0	-3.9	21.9	456	85.1	175	0	11	*	*	291.3
ROCKY MTN HOUSE A	7.6	-1.6	26.7	-5.6	46.3	532	127.4	211	0	13	*	*	323.1
SLAVE LAKE A	9.1	-0.3	24.2	-2.9	0.6	13	27.6	63	0	5	297	106	276.3
SUFFIELD A	11.6	*	30.2	-0.7	1.6	*	34.3	*	0	9	262	*	200.8
WHITCOURT A	9.2	0.0	26.5	-2.1	24.0	706	49.3	91	0	7	*	*	272.7
SASKATCHEWAN													
BROADVIEW	10.8	0.6	32.4	-1.7	10.4	163	104.8	246	0	9	248	89	234.7
CREE LAKE	6.3	-1.0	22.6	-5.8	12.2	31	32.4	121	0	8	218	75	363.0
ESTEVAN A	11.9	0.5	33.5	-3.8	0.0	0	35.9	65	0	8	254	88	202.5
HUDSON BAY A	9.1	*	30.3	-5.5	2.6	*	24.2	*	0	5	245	*	279.0
KINDERSLEY	10.2	-0.7	30.0	-0.9	0.0	0	66.2	195	0	12	268	*	240.3
LA RONGE A	7.8	-0.7	29.9	-8.3	27.5	410	42.8	97	0	6	*	*	316.4
MEADOW LAKE A	8.8	*	28.9	-4.9	18.8	*	47.6	*	0	7	244	*	*
MOOSE JAW A	12.2	0.7	33.2	-2.2	1.6	64	32.8	74	0	8	249	89	197.0
NIPAWIN A	9.6	*	31.1	-2.8	1.2	*	39.2	*	0	4	263	*	262.4
NORTH BATTLEFORD A	9.9	-1.3	30.2	-4.9	0.0	0	46.8	133	0	5	*	*	249.5
PRINCE ALBERT A	9.3	-0.7	30.6	-3.2	5.8	181	50.8	129	0	6	262	97	276.1
REGINA A	11.4	0.3	33.2	-3.0	0.0	0	32.2	69	0	10	241	87	217.3
SASKATOON A	10.4	-0.7	31.5	-0.5	0.4	20	46.6	117	0	9	*	*	240.3
SWIFT CURRENT A	10.7	0.2	30.7	-5.0	1.4	30	31.6	79	0	9	241	87	232.9
YORKTON A	10.4	0.0	34.9	-3.0	4.2	191	44.4	100	0	5	256	91	248.0
MANITOBA													
BRANDON A	11.6	0.9	34.2	-5.2	3.4	162	28.9	61	0	6	285	*	215.2
CHURCHILL A	-2.3	-0.8	17.4	-14.9	22.6	116	21.4	67	2	5	171	88	629.5
DAUPHIN A	10.9	0.6	35.1	-3.9	0.0	0	84.7	179	0	10	258	97	241.7
GILLAM A	3.3	-1.7	24.8	-8.8	31.6	181	61.0	158	0	8	*	*	456.1

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	Mean	Difference from Normal	Maximum	Minimum									
ISLAND LAKE	6.4	-1.6	29.4	-4.7	10.0	18	51.9	134	0	7	*	*	361.3
LYNN LAKE A	5.2	-1.4	24.5	-5.8	27.4	164	28.2	55	0	7	207	76	378.3
NORWAY HOUSE A	6.9	*	26.0	-5.1	8.2	*	48.2	*	0	8	*	*	344.8
PORTAGE LA PRAIRIE	12.8	1.6	36.9	-4.0	0.0	0	18.3	29	0	3	*	*	188.5
THE PAS A	7.5	-0.9	28.3	-3.7	1.6	29	30.8	83	0	5	280	101	322.9
THOMPSON A	5.3	-1.0	26.1	-7.2	15.8	67	45.9	96	0	6	218	84	394.2
WINNIPEG INT'L A	12.5	1.2	34.2	-2.9	0.0	0	19.8	30	0	5	296	111	194.5
ONTARIO													
BIG TROUT LAKE	4.3	-0.2	24.2	-9.0	21.6	146	75.8	169	0	11	213	*	389.1
EARLTON A	10.2	0.4	32.6	-4.9	6.5	197	29.4	48	0	7	*	*	248.1
GERALDTON A	8.2	*	31.7	-9.1	*	*	102.2	*	0	8	*	*	311.6
GORE BAY A	10.3	0.1	24.2	-0.3	*	*	28.6	47	0	4	*	*	238.8
HAMILTON A	12.4	-0.2	27.7	1.8	0.0	*	55.9	85	0	10	*	*	178.1
KAPUSKASING A	9.1	0.8	31.7	-7.6	11.6	121	54.2	73	0	12	*	*	287.3
KENORA A	12.0	1.5	30.0	-2.0	2.6	58	84.2	147	0	9	*	*	200.9
KINGSTON A	11.9	0.2	25.5	0.6	0.0	0	71.6	95	0	10	251	110	190.2
LONDON A	12.9	0.5	27.9	0.4	0.0	0	55.0	82	0	7	234	102	160.7
MOOSONEE	6.9	1.2	34.0	-9.3	3.2	35	46.3	75	0	9	206	104	351.1
MUSKOKA A	11.1	0.2	28.5	-2.3	0.0	0	63.4	81	0	9	*	*	211.6
NORTH BAY A	10.6	0.0	27.4	-3.8	6.4	256	40.0	58	0	6	288	118	232.7
OTTAWA INT'L A	13.3	0.5	30.5	0.5	0.0	0	63.6	94	0	8	276	116	158.8
PETAWAWA A	11.0	-0.5	31.4	-3.2	1.2	55	58.3	97	0	8	*	*	223.6
PETERBOROUGH A	11.6	-1.0	27.7	-1.7	0.0	0	81.8	128	0	10	*	*	200.9
PICKLE LAKE	8.4	1.0	32.0	-4.3	1.0	10	55.6	75	0	9	*	*	305.4
RED LAKE A	10.1	0.9	31.2	-3.6	0.4	7	48.4	95	0	6	262	*	255.8
ST CATHARINES A	12.7	-0.8	28.7	0.8	0.0	*	55.0	77	0	8	275	*	167.7
SARNIA A	11.5	-1.1	29.0	-0.8	0.0	0	52.2	79	0	6	264	106	205.8
SAULT STE MARIE A	10.2	0.6	28.9	-3.5	0.0	0	40.0	53	0	6	293	114	245.5
SIOUX LOOKOUT A	10.9	1.7	31.9	-3.7	0.2	2	49.0	74	0	9	*	*	232.5
SUDBURY A	10.5	0.0	28.8	-2.5	7.4	296	48.0	72	0	4	281	114	234.7
THUNDER BAY A	10.0	1.2	31.2	-6.2	*	*	59.5	81	0	6	266	105	247.9
TIMMINS A	9.9	0.9	32.0	-6.8	13.0	200	44.8	64	0	7	*	*	261.5
TORONTO	13.9	*	28.4	4.3	0.0	*	74.6	*	0	7	*	*	138.1
TORONTO INT'L A	12.3	0.0	29.8	0.6	0.0	0	69.7	106	0	7	*	*	179.2
TORONTO ISLAND A	12.1	*	25.8	3.3	0.0	*	73.6	*	0	8	*	*	182.8
TRENTON A	12.1	-0.4	26.7	-0.8	*	*	76.0	104	0	9	*	*	184.1
WATERLOO WELLINGTON	12.2	-0.3	29.0	0.2	0.0	*	62.8	87	0	7	*	*	181.6
WAWA A	8.4	*	26.1	-5.8	0.4	*	99.2	*	0	7	*	*	297.9
WIARTON A	11.0	0.6	28.0	-0.4	0.0	0	38.6	63	0	6	308	120	220.6
WINDSOR A	13.7	-0.5	29.0	1.6	0.0	*	72.2	103	0	6	*	*	145.5

MAY 1992

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									
QUEBEC													
BAGOTVILLE A	10.8	1.5	34.2	-5.0	9.8	213	46.6	67	0	6	0	*	239.0
BAIE COMEAU A	7.1	0.5	24.0	-6.0	12.6	788	27.8	39	0	6	276	126	338.1
BLANC SABLON A	1.9	-1.1	11.7	-7.3	13.2	90	48.8	77	0	12	168	*	464.1
GASPE A	7.8	*	29.4	-4.8	18.8	*	39.8	*	0	5	269	*	320.6
INUKJUAQ A	-6.4	-4.8	2.8	-20.9	33.8	305	37.0	158	29	9	119	82	755.0
KUUJJUAQ A	-3.3	-3.5	11.1	-24.7	19.2	125	21.6	68	0	8	151	109	660.7
KUUJJUARAPIK A	-1.1	-2.3	17.7	-17.0	43.1	224	70.4	166	0	10	162	88	590.8
LA GRANDE IV A	1.7	*	23.9	-15.7	5.0	*	106.0	*	0	10	207	*	506.8
LA GRANDE RIVIERE A	2.2	*	22.2	-12.5	9.4	*	85.4	*	0	14	183	*	490.3
MANIWAKI	10.7	-0.1	30.2	-4.5	0.0	0	86.0	137	0	8	272	111	226.2
MONT JOLI A	9.7	1.6	30.4	-4.3	7.2	257	33.8	54	0	6	297	*	273.3
MONTREAL INT'L A	13.2	0.2	29.4	-0.7	0.0	0	56.4	86	0	8	283	117	157.6
MONTREAL MIRABEL I/	12.1	*	29.4	-2.0	0.0	*	80.0	*	0	6	224	*	189.9
NATASHQUAN A	4.9	0.0	20.1	-4.0	12.0	200	21.2	23	0	6	249	114	409.2
QUEBEC A	12.0	1.2	30.5	-1.4	0.0	0	62.2	72	0	7	286	130	193.5
ROBERVAL A	11.5	2.0	33.7	-2.8	11.2	560	54.8	79	0	6	272	*	229.6
SCHEFFERVILLE A	-2.2	-3.4	18.0	-19.8	43.8	176	69.0	140	1	10	211	127	625.1
SEPT-ILES A	5.7	-0.2	22.6	-5.0	7.4	123	36.9	44	0	8	254	110	381.6
SHERBROOKE A	11.0	0.4	29.1	-2.4	0.0	0	*	*	0	5	270	*	218.3
STE AGATHE DES MONT	10.2	0.4	28.9	-2.9	0.2	5	52.6	61	0	8	266	108	246.6
ST HUBERT A	12.6	-0.2	30.4	-2.2	*	*	63.3	87	0	7	283	*	178.5
VAL D'OR A	9.7	0.9	30.4	-7.5	6.6	183	61.2	96	0	9	290	121	267.9
NEW BRUNSWICK													
CHARLO A	9.8	2.0	33.1	-3.8	14.3	409	26.3	29	0	5	295	141	259.5
FREDERICTON A	11.0	0.2	35.1	-2.6	1.4	127	32.2	39	0	6	256	*	229.4
MONCTON A	9.8	0.4	33.3	-3.5	9.0	409	38.2	46	0	6	254	122	260.8
SAINT JOHN A	9.0	0.0	33.0	-2.7	7.6	380	39.6	37	0	7	252	124	282.4

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 A	10.4	-0.1	33.8	-2.4	8.6	430	50.4	68	0	9	*	*	246.9
HALIFAX INT'L A	9.5	0.3	36.6	-1.9	8.0	235	53.5	50	0	8	0	*	262.9
SABLE ISLAND	6.6	-0.1	16.0	0.1	0.0	0	109.8	107	0	12	168	102	352.3
SHEARWATER A	8.7	-0.2	32.0	-0.6	7.4	411	47.8	47	0	7	211	100	295.3
SYDNEY A	8.3	0.9	26.5	-3.2	1.0	19	60.7	64	0	7	267	134	301.4
YARMOUTH A													
YARMOUTH A	8.9	-0.3	23.4	-1.8	2.2	244	30.0	32	0	5	217	98	280.5
PRINCE EDWARD ISLAND													
CHARLOTTETOWN A	8.9	0.4	28.8	-3.1	9.4	448	58.6	70	0	8	*	*	282.7
SUMMERSIDE A	*	*	*	*	*	*	*	*	*	*	*	*	*
NEWFOUNDLAND													
BONAVISTA	5.6	1.1	24.2	-2.1	5.0	72	68.0	101	0	11	*	*	386.3
BURGEO	4.9	-0.5	20.2	-2.8	6.3	203	117.6	92	0	10	*	*	402.1
CARTWRIGHT	1.3	-1.6	19.1	-13.8	24.0	138	48.2	77	153	11	149	109	515.7
CHURCHILL FALLS A	0.5	-2.3	22.0	-15.4	26.8	150	103.3	189	0	13	204	104	542.8
COMFORT COVE	6.4	0.6	27.6	-2.2	28.6	165	96.0	110	0	12	*	*	360.7
DANIELS HARBOUR	4.5	-0.4	17.1	-2.0	11.4	158	72.4	106	0	11	178	97	414.2
DEER LAKE A	6.3	-0.1	26.8	-4.6	16.4	283	53.5	78	0	9	*	*	363.8
GANDER INT'L A	6.5	0.3	25.9	-3.2	25.6	195	70.0	100	0	9	195	120	355.6
GOOSE A	3.5	-1.5	23.8	-9.3	48.3	263	75.5	118	TR	13	198	*	450.7
MARY'S HARBOUR	2.6	0.5	21.5	-11.0	12.4	81	36.8	64	0	11	*	*	478.3
PORT AUX BASQUES	5.1	0.4	19.8	-3.0	8.4	247	87.2	74	0	7	177	*	401.3
ST ANTHONY	1.7	-0.9	22.0	-10.8	35.6	318	51.2	53	0	11	0	*	500.6
ST JOHN'S A	6.2	0.8	23.4	-3.6	0.6	5	91.0	89	0	9	181	114	365.0
ST LAWRENCE	6.7	2.2	20.6	5.5	0.0	0	170.0	153	0	7	*	*	380.1
STEPHENVILLE A													
WABUSH LAKE A	6.3	-0.6	19.9	-2.0	15.6	371	76.8	95	0	7	205	110	362.8
	-1.7	-1.0	24.0	-12.9	13.6	56	63.3	106	0	15	218	107	506.2

AGROCLIMATOLOGICAL STATIONS

MAY 1992

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	Mean	Difference from Normal	Maximum	Minimum							This month	Since Jan. 1st
BRITISH COLUMBIA												
AGASSIZ	15.1	2.1	31.5	3.5	0.0	42.8	50	0	6	271	314.5	805.2
SUMMERLAND	15.7	2.2	31.5	1.0	0.0	8.0	29	0	2	284	332.6	570.0
ALBERTA												
BEAVERLODGE	9.1	-0.3	26.0	-3.0	6.5	32.4	83	0	8	246	138.2	241.5
LACOMBE	8.7	-1.2	28.0	-4.5	7.2	62.0	129	0	11	236	129.9	228.1
SASKATCHEWAN												
INDIAN HEAD	12.1	1.5	35.0	-2.0	0.0	67.5	137	0	13	**	*	288.8
MELFORT	9.9	-0.4	30.0	-3.0	0.2	35.6	93	0	7	211	163.0	200.0
REGINA	10.8	0.0	34.0	-5.0	0.0	34.7	80	0	10	**	167.3	238.8
SCOTT	9.7	-0.6	29.0	-2.0	0.0	40.9	125	0	6	272	150.4	221.7
SWIFT CURRENT	11.2	0.6	31.5	-5.5	1.0	29.4	81	0	8	204	191.8	316.8
MANITOBA												
BRANDON	12.6	1.6	35.5	-5.7	9.0	26.0	52	0	5	**	238.9	285.1
MORDEN	13.2	1.8	34.0	-3.0	0.0	58.4	104	0	8	291	262.5	311.5
GLENLEA	12.8	0.9	32.5	-4.5	0.0	28.0	42	0	6	293	289.0	300.0
ONTARIO												
DELHI	13.4	0.6	29.5	-0.5	0.0	41.2	56	0	8	**	259.8	333.9
ELORA	11.9	0.5	28.6	0.0	0.0	80.8	104	0	6	**	214.2	269.1
GUELPH	11.9	0.2	28.7	-2.5	0.0	76.6	105	0	7	256	214.4	272.9
HARROW	13.5	-0.7	29.0	0.5	0.0	37.8	52	0	5	214	163.3	369.9
KAPUSKASING	9.3	1.0	30.5	-7.5	4.8	60.9	84	0	9	222	165.9	171.2
OTTAWA	13.3	0.5	29.7	0.6	0.0	63.6	94	0	8	276	256.7	323.2
SMITHFIELD	12.9	1.0	27.7	-1.1	0.0	70.2	89	0	8	**	245.0	310.0

Courtesy of Agriculture Canada

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	Mean	Difference from Normal	Maximum	Minimum							This month	Since Jan. 1st
QUEBEC												
LA POCAIERE	12.0	2.1	31.5	-5.0	2.5	60.0	87	0	5	319	226.8	242.9
L'ASSOMPTION	12.6	0.3	30.5	-2.0	0.0	69.4	96	0	8	279	234.3	282.6
NORMANDIN	10.0	1.3	33.0	-7.0	14.6	53.2	75	0	6	265	177.9	177.9
NEW BRUNSWICK												
FREDERICTON	11.6	1.0	35.5	-1.5	1.5	24.0	27	0	7	256	211.4	236.4
NOVA SCOTIA												
KENTVILLE	10.5	0.1	32.5	-2.0	4.0	54.6	71	0	7	226	302.3	328.9
NAPPAN	9.1	-0.1	29.5	-3.5	8.2	46.3	61	0	8	227	151.3	163.3
PRINCE EDWARD ISLAND												
CHARLOTTETOWN	9.4	0.4	**	-2.5	7.5	57.5	72	0	***	**	**	**
NEWFOUNDLAND												
ST. JOHN'S WEST	7.2	1.4	24.5	-3.5	0.0	82.0	77	0	12	173	87.2	89.5

SPECIALIZED REPORTING

Date: 920500

Courtesy of Agriculture Canada