Environment Canada Environnement Canada

Climatic Perspectives

Monthly Review **June 1992** *Vol. 14*

CLIMATIC HIGHLIGHTS

An unusual summer regime

A strong upper atmospheric ridge over British Columbia coupled with a sharp trough, extending from the Davis Strait to the lower Great Lakes gave warm weather to areas west of Manitoba and cool weather to the eastern Canada during the month.

Temperature and precipitation extremes

Precipitation was generally below normal across most of the southern parts of the country, as a result of the western upper ridge impeding the invasions of frontal disturbances. However, a weak trough stretching from Vancouver Island to California yielded ample precipitation from Vancouver through extreme southern B.C. and Alberta, but soil moisture at the end of the month in these areas was still rated as low. On the bright side, our outlook for the Prairies for the mid-July to mid-August period suggests that precipitation will be near to above-normal. Above-normal amounts of rainfall were recorded along a wide swath between Great Bear Lake, N.W.T. and Fort McMurray, Alta., as upper disturbances, emanating from stationary Aleutian lows, passed over the weaker northern edge of the upper ridge, thence southward along the lee side of the Mackenzie Mountain chain.

Numerous storms gliding in the stream of the eastern upper trough gave above-normal amounts of precipitation to most of Quebec and the Atlantic region. Ontario recorded the coolest first day of summer on record, as daily maxima fought to reach 10°C. The cool, dry conditions in Ontario affected forestry and agriculture. Dry weather during the month resulted in numerous forest fires, while inadequate moisture and heat delayed seed germination and crop development. During the second week of the month, 132 new forest fires were reported across Ontario. Rapid rates of spread resulted in fire fronts moving 4 to 8 km before being brought under control. Two menacing fires close to Summer Beaver, near Geraldton, Ont., prompted authorities to evacuate the village as a precaution.

Most crops are 10 to 14 days behind normal development. Dry fields have yielded poor forage crops for cattle, which may force ranchers to sell their herds prematurely.

On the Pacific coast, during the first week of the month, the weather was ideal for haying operations, and the Okanagan strawberry crop was three weeks ahead of schedule. However, a persistently warm, dry summer has led to major water shortages in the Greater Vancouver area, while the southern interior may encounter serious irrigation problems this summer.

The South Shore of Nova Scotia also received below-normal precipitation this month. More than 520 hectares of woodland was burned during the second week of the month.

Severe weather across the country

Summer severe weather made a number of showings this month. On June 1, a lightning storm, over Wells Gray Park in Kamloops, B.C., was responsible for a fatality. At Prince George, a weak tornado was reported on the 9th, while heavy thundershowers between the 12th and the 14th, in the southern interior damaged cherry crops. Many of the thunderstorms touched off forest fires.

Manitoba also experienced severe summer weather during the latter half of the month. On the 17th of June, up to 125 mm of rain flooded the streets of Altona and Gretna. The Morden area received a double barrelled blast of tornadoes, large hail and heavy rain on the 22nd and then again on the 24th. Five separate tornadoes reportedly touched down in the area on the 24th. From Gladstone and southward, up to $2 million of damage resulted from a storm.

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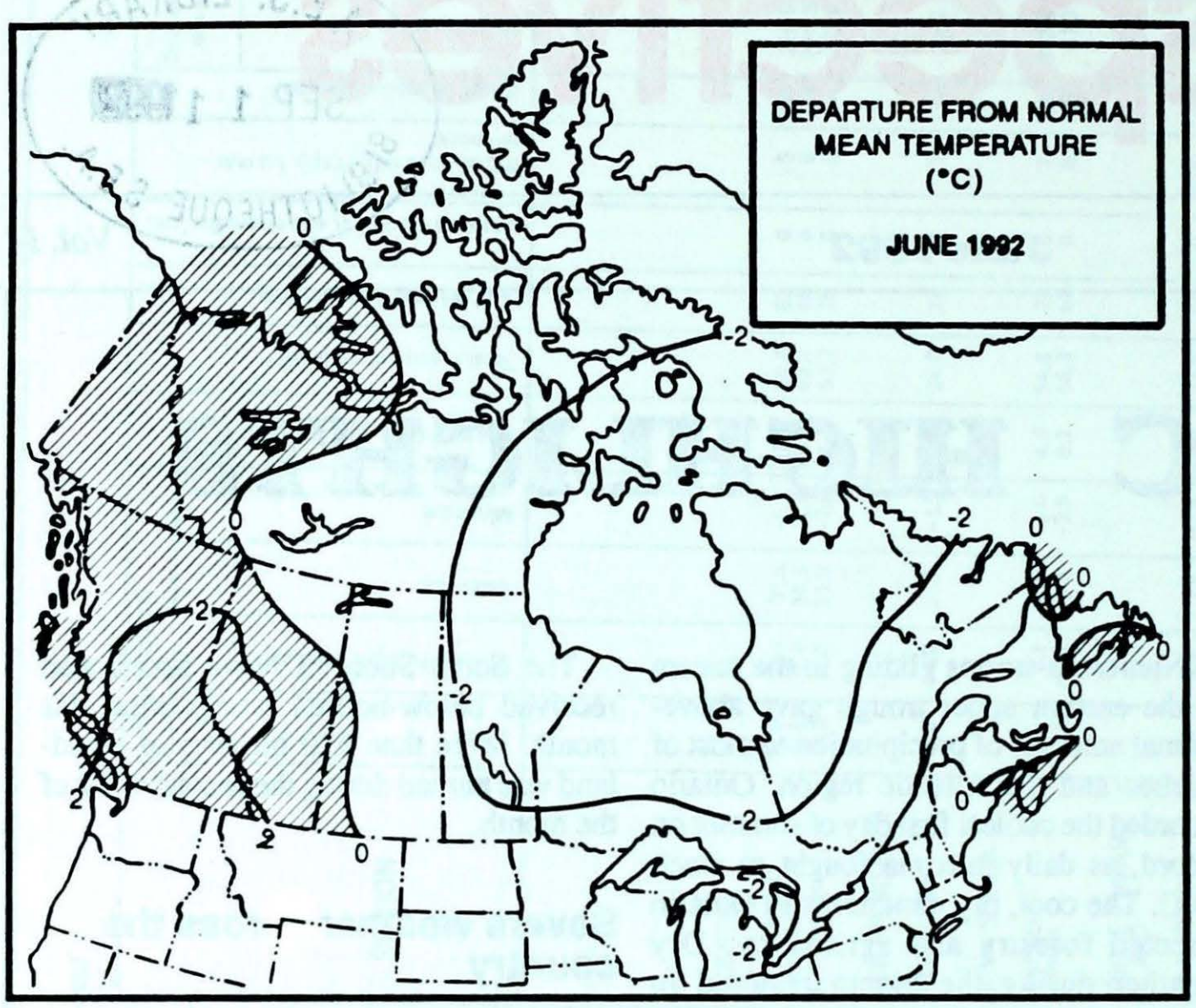
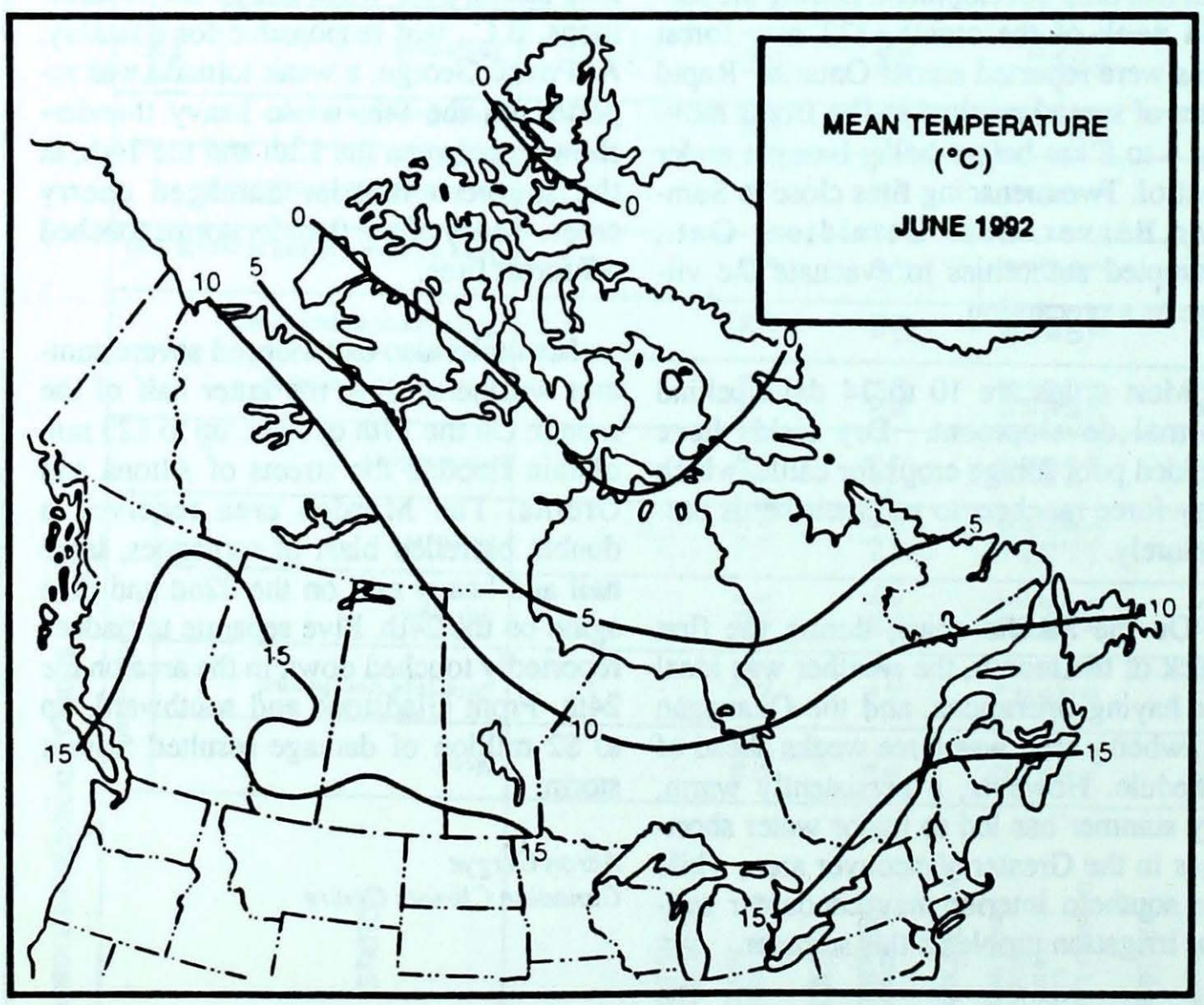




Across the country

Yukon and Northwest Territories

In the Yukon, daily maximum records fell by the wayside in most communities, as temperatures soared to new heights. Summer burst on the territorial scene with the northern communities experiencing the greatest effect. During the four weeks of June, Old Crow had above average weekly temperatures, with daily maximums at month's end exceeding thirty degrees for three days.

All recording stations in Yukon had maximum temperatures in excess of 25°C. Fourteen stations exceeded 30 degrees at least once during the month. Many of those stations were above 30°C for several days in a row. The warmest place in the Yukon was Dawson City, with 32.5°C on June 29. Mayo, Stewart Crossing and Old Crow were also very close, with 32°C highs posted during the last few days of the month.

If the temperature had not peaked during the second and last week of the month, Whitehorse's mean temperature would have been below normal for the third month in a row. As it was, on June 30, a new record of 30.3°C was set, wiping out the old record of 28.3°C set back in 1958. In contrast, the morning of June 3 saw a frosty -0.5°C reading.

All locations in the Yukon recorded below freezing temperatures this month. Monthly lows were generally in the 0°C to -3°C range. The coldest spot was Shingle Point on the north slope, with a chilly -16°C on June 20.

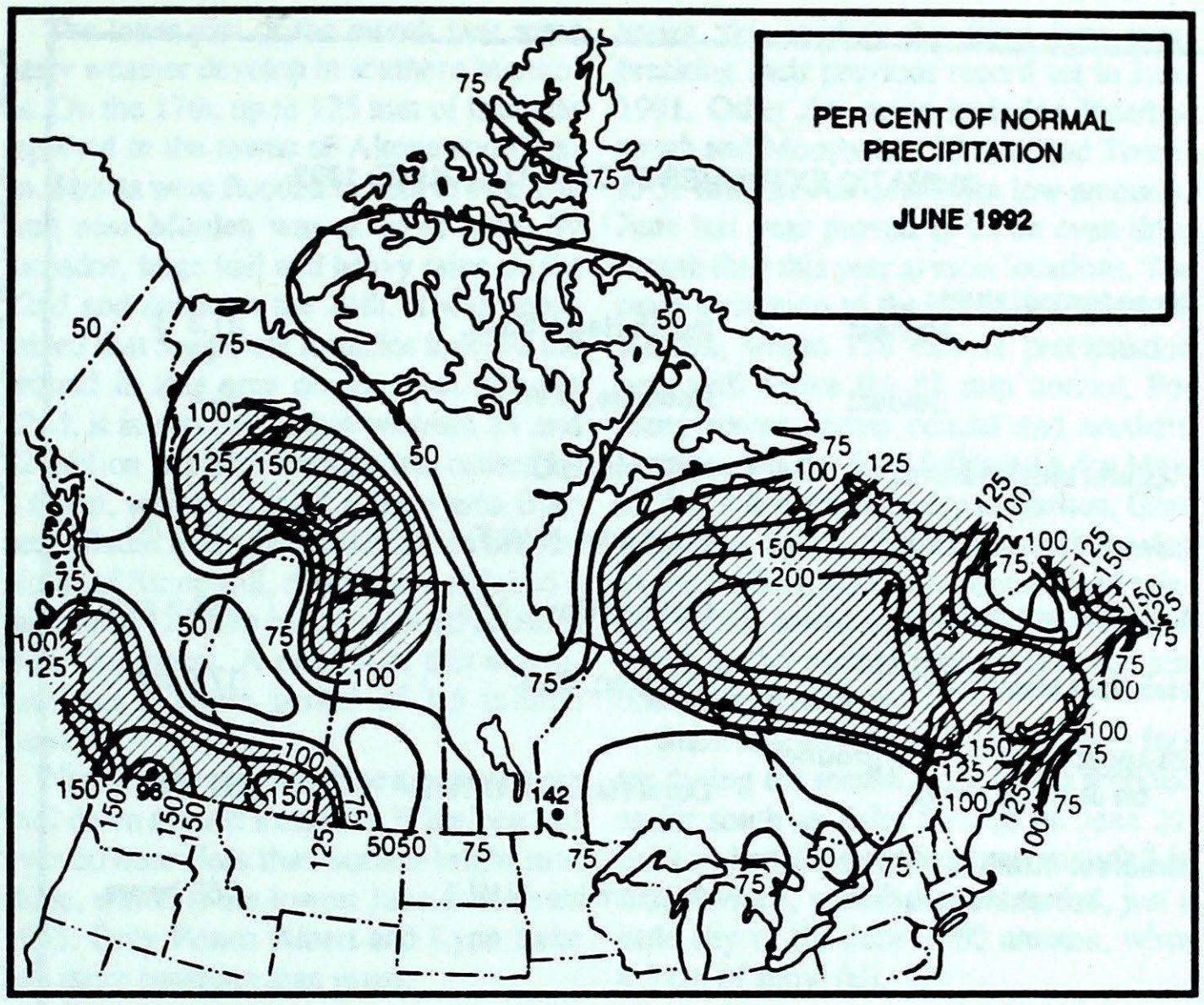
Because the spring was long and cool, the jump to warmer conditions in June was a pleasant start to summer. The real problem this year comes from the record-setting amounts of winter precipitation. Spring snowmelt has left a greater than normal number of mosquitoes, because of the abundant pools of water.

With the exception of a swath of moisture across central Yukon, monthly precipitation was below normal. Almost all of the southern Yukon had less than half their normal rainfall. The south end of the

Dempster Highway, on the other hand, had well above normal rain and snowfall this month. Nearly 70 mm of precipitation was recorded at Klondike. Whitehorse, which normally gets about 1 cm of snow in June, recorded none this month. In contrast, 12.7 cm of snow fell in June 1972.

Forest fires were aided by the warmer and drier conditions, but the large quantities of winter precipitation and a cool spring has kept the situation from getting out of hand. The weather conditions that residents and tourists alike are looking forward to might increase the hazard, but Rendezvous 92 (50th anniversary of the Alaska Highway) is in full swing and the countryside is alive with visitors.

June has the potential for having the greatest hours of bright sunshine. At Whitehorse a normal June will produce 272.8 hours of bright sunshine. This month had an extra 45 hours. This amount came within 21 hours of setting a new June record. The sunniest June was back in 1967, with a total of 339.4 hours. The lowest sunshine total occurred in 1975, when there was only 204.5 hours of sunshine, which is similar to a normal April or August.



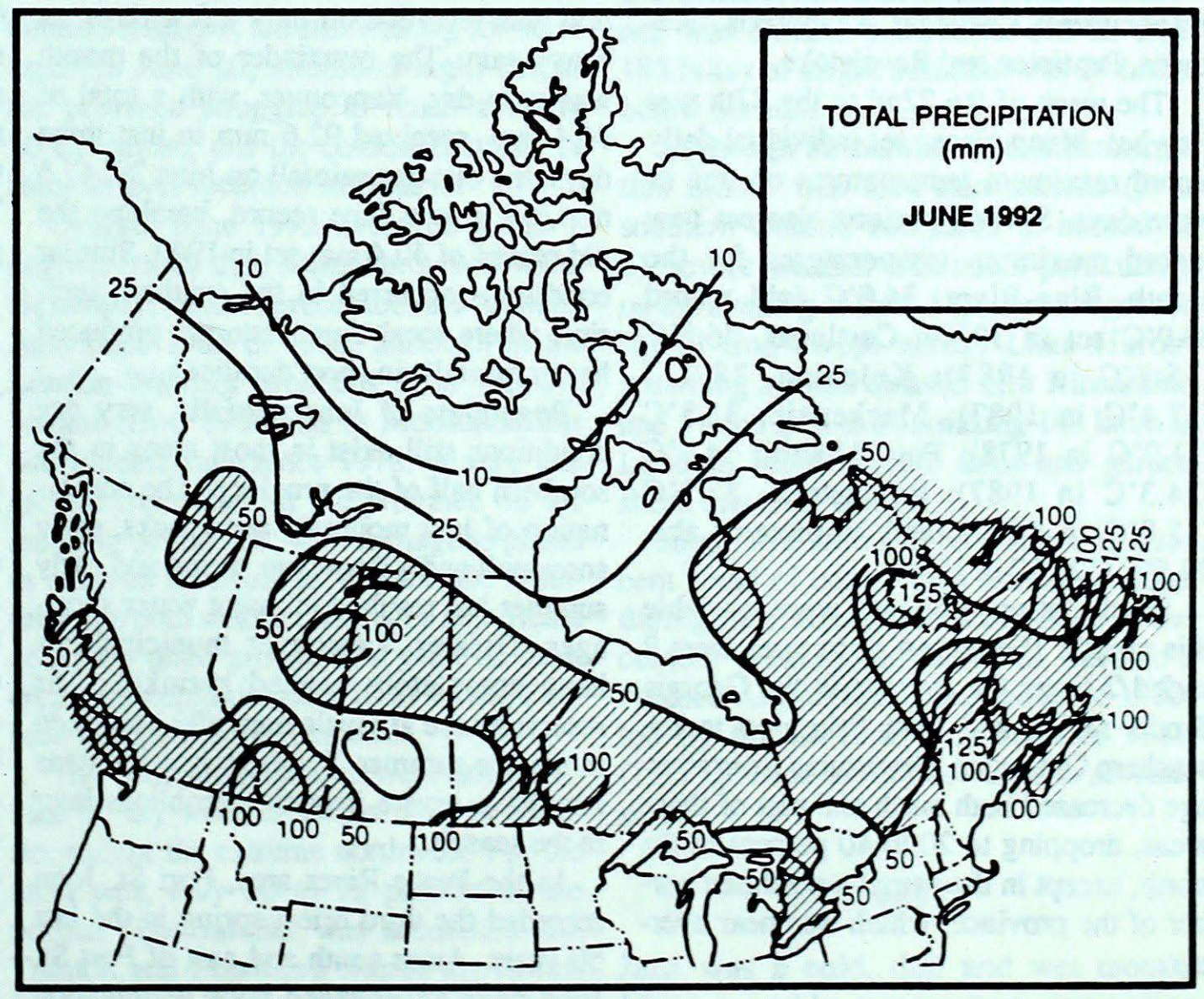
The temperature pattern in the central Northwest Territories was 1 to 2 degrees cooler than usual. Resolute was the coldest spot, with a mean temperature of -2.9°C.

Precipitation totals were less than usual, although snowfall amounts were near normal, leaving the deficit as rain. Hall Beach had less than half the normal 17 mm of precipitation in June. The lack of precipitation, meant an abundance of sunshine. Resolute had over 353 hours of bright sunshine, with Eureka registering the second highest total of 329 hours.

British Columbia

Once again most of the province experienced a beautiful month, with warm, dry and sunny weather - too dry in many places, as water shortages and forest fires began to show up in many parts of the province.

Temperatures were above average throughout British Columbia. Several sta-



CLIMATIC EXTREMES IN CANADA - JUNE, 1992

Mean temperature:		
Highest	Indian Head, Sask.	21.3°C
Coldest	Resolute, N.W.T.	-2,9°C
Highest temperature:	Kelowna, B.C.	38.0°C
Lowest temperature:	Pond Inlet, N.W.T.	-12.8°C
Heaviest precipitation:	Comfort Cove, Nfld.	188.2 mm
Heaviest snowfall:	Kuujjuaq, Que.	17.0 cm
Deepest snow on the ground on June 30, 1992	Coral Harbour, N.W.T.	32 cm
Greatest number of bright sunshine hours:	Coppermine, N.W.T.	369 hours

tions recorded record high monthly mean temperatures: Castlegar, Cranbrook, Kelowna, Penticton and Revelstoke.

The week of the 22nd to the 27th was very hot. Many places set individual daily record maximum temperatures on one or more days. Several stations also set new record maximum temperatures for the month. Blue River, 34.0°C (old record 33.9°C set in 1970); Castlegar, 36.8°C (35.7°C in 1987); Kelowna, 38.0°C (37.1°C in 1987); Mackenzie, 31.8°C (31.7°C in 1978); Port Alberni, 34.7°C (34.3°C in 1987); Revelstoke, 37.2°C (35.0°C in 1970); and Williams Lake, 33.5°C (32.2°C in 1969).

Precipitation amounts were variable this month. The largest departures were 2 to 2 1/2 times the average in the Georgia Straits region and from Princeton to the southern Okanagan. Departures from average decreased both north and east of these areas, dropping to 20 to 40 percent in the north, except in the extreme northeast corner of the province, which was near average.

In many areas, the bulk of the precipitation was recorded on only a few days, as heavy rain. The remainder of the month was very dry. Vancouver, with a total of 96.4 mm, received 92.6 mm in just three days; the one day rainfall on June 29, 47.6 mm, set a new June record, breaking the old record of 40.4 mm set in 1942. Similar conditions occurred in the southern interior, where local thunderstorms produced heavy rainfalls in short durations.

Regardless of June rainfalls, very dry conditions still exist in most areas in the southern half of the province. The combination of low mountain snowpacks, early snowmelt and a dry warm spring and early summer has resulted in major water shortages. Greater Vancouver municipalities have completely banned sprinkling, as reservoirs are at levels normally only seen in the late summer. Southern interior areas may have severe irrigation problems later in the season.

In the Peace River area, Fort St. John recorded the third driest spring in the last 50 years. Areas south and east of Fort St. John have experienced poor germination and heading of the grain crops, due to the lack of moisture.

Summer thunderstorms made numerous appearances during the month. There was a fatal lightning strike on June 1. A very weak tornado was reported on the 9th at Prince George. More thunderstorms on the 12th to the 14th brought heavy rainfalls to the southern interior, causing significant damage to the cherry crop. The lightning accompanying the thunderstorms set off many forest fires.

Sunshine was above average in many areas. The northwest corner of the province recorded 140 percent of average sunshine. In the southern sections, the west coast of Vancouver Island was near average, rising to 125 percent in the lower mainland. Eastern sections of the southern interior registered near average in the south, rising to 130 percent near Blue River. Blue River managed to just break the old June sunshine record of 252.5 hours set in 1982.

The north coast reported only 1 day of general gales and 7 days with local gales, confined mostly to the southern tip of the Queen Charlottes. The central coast recorded 3 days with general gales and 13 additional days of local gales. As always, these local gales were mainly confined to the northwest portion of Vancouver Island. The south coast had one day of general gales and 3 days of local gales.

Alberta

The northeast portion of the province received above normal rainfalls, with temperatures running near normal for the month. Weather conditions remained dry over the central regions of Alberta, especially an area from Lloydminster to Edmonton and northwest to the Peace Country. The very dry conditions in the south came to an end, as a series of disturbances moved across the northern States, giving plenty of rain to southern Alberta. Rainfall amounts were double the normal at many locations, especially along the southern foothills. Heavy precipitation during the middle of June in Calgary caused many problems with flooded basements, as heavy rain fell for two days. Heavy rain also affected the Rocky

Mountain House, Pincher Creek, Lethbridge and Medicine Hat areas. The lack of moisture still continues to affect east-central Alberta, where precipitation has been below normal for some time.

At times, the weather was very warm this month, with new record maximum temperatures occurring on June 7, 9, 13, 16, 25 and 26 at several locations across the province. On June 25, Jasper set a new record maximum temperature of 30.6°C, while on the same day Cold Lake had a new record low temperature of 3.5°C. Severe thunderstorm activity was minimal during the month, with only four recorded events.

Manitoba and Saskatchewan

June was another cold month, at least the latter half was cold enough to bring the statistical averages to well below normal across most of the region.

After a summer-like start to the month, temperatures plunged to much cooler than normal values. Mean temperatures were more than 2°C less than normal in Manitoba and the northern half of Saskatchewan. The coldest area was along the Hudson Bay coastline, where Churchill reported a mean temperature of 3.3°C below normal. Southern Saskatchewan, although still on the cool side, had temperatures that were closer to normal values.

The southern half of Saskatchewan was extremely dry, with some areas reporting less than one-quarter of their normal monthly rainfall. Greater amounts of precipitation were reported in the rest of the region, although most areas were still below normal. In general, rainfall amounts were 25 to 50 mm in Saskatchewan and 50 to 75 mm in Manitoba. Only two areas had greater than normal amounts of rain, namely extreme northeastern Saskatchewan, and an area extending from the centre of Manitoba to the Ontario border. Rainfall totals in these two areas exceeded the normal by as much as 30 mm. The cooler weather produced snowfall totals of more than 19 cm in northern Manitoba, unusual amounts for June, as that area normally receives only 4 to 5 centimetres during the month of June.

The latter part of the month saw some nasty weather develop in southern Manitoba. On the 17th, up to 125 mm of rain was reported in the towns of Altona and Gretna. Streets were flooded in both towns. The area near Morden was ravaged twice by tornados, large hail and heavy rains on the 22nd and again on the 24th. It was determined that 5 separate tornados touched the ground in that area on the 24th. On the 22nd, it is estimated, that between $1 and $2 million worth of damage was caused by a storm, which affected a large area from near Gladstone to the United States border. North of Stonewall, residents weathered a rainfall of 120 mm in less than 30 minutes from this storm. A rainfall of this magnitude has a return period of 1.5 million years.

Needless to say, sunshine amounts were well down at most locations. Winnipeg had over 60 hours less than normal bright sunshine, which is the lowest June total since 1953. Only Prince Albert and Lynn Lake had more sunshine than usual.

Ontario

Ontario residents are still waiting for summer. On June 20, afternoon highs across the province struggled to reach a lowly 10°C, making this the coldest first day of summer ever recorded in Ontario!

Overall, June 1992 averaged a full 2 degrees colder than normal province-wide. Generally, this represented the coolest June since 1985 or 1986, although in the London-Windsor area this June was the coldest since 1980 and in Moosonee this was coldest June since 1978. A very late ground frost also hit the province on the morning of June 22, with damage to plants in areas as far south as Woodstock. Naturally, the cool weather has had a significant effect on plant growth this year, as most crops are approximately 10 to 14 days behind normal in development.

The cool temperatures were accompanied by dry weather across most of Ontario, except the extreme northwest. For the most part, only 50 to 75 percent of the normal June rainfall was accounted for. Trenton and Petawawa shared the lowest June totals, with only 27.4 mm. For Petawawa, this marked the driest June ever, breaking their previous record set in June 1991. Other dry areas included Peterborough and Moosonee - 33 mm, and Toronto 35 mm. But despite these low amounts, June last year proved to be an even drier month than this year at most locations. The main exception to the dry weather was in Kenora, where 118 mm of precipitation was well above the 83 mm normal. For many towns across central and northern Ontario, this dry June followed a dry May, so that it is especially dry in Earlton, Gore Bay and Sault Ste Marie, where for example, the May and June combined rainfall totals amount to less than 75 mm, which is the normal precipitation for just one of those months.

Snowfall was yet another negative factor during the month, with flakes reported as far south as Lake Simcoe on June 21. Earlton had the greatest June snowfall in the province, with 3.4 cm recorded, just a little shy of the June 1980 amount, when 4.5 cm of snow fell.

Sunshine totals were basically close to the long-term average in southern and central Ontario, however in the north, Moosonee was Ontario's cloudiest site as their 185 hours of bright sunshine was 34 hours below normal.

Although the number of thunderstorms this month was less than normal (3 in southern Ontario compared to normal of 5), severe weather was noted particularly on the evening of June 17, when a vigorous squall line swept across Lake Huron, spawning a small tornado near Kincardine and a wind gust to an amazing 148 km/h at London. Many mature trees and garden sheds met their demise.

June 1992 seems to be continuing a recent trend of cooler than normal weather during June. Records indicate that 4 of the coldest 7 Junes on record at Toronto's Pearson Airport have occurred since 1980, led by the all-time cold June of 1980 (15.2°C). June 1992 (16.4°C) is in seventh place.

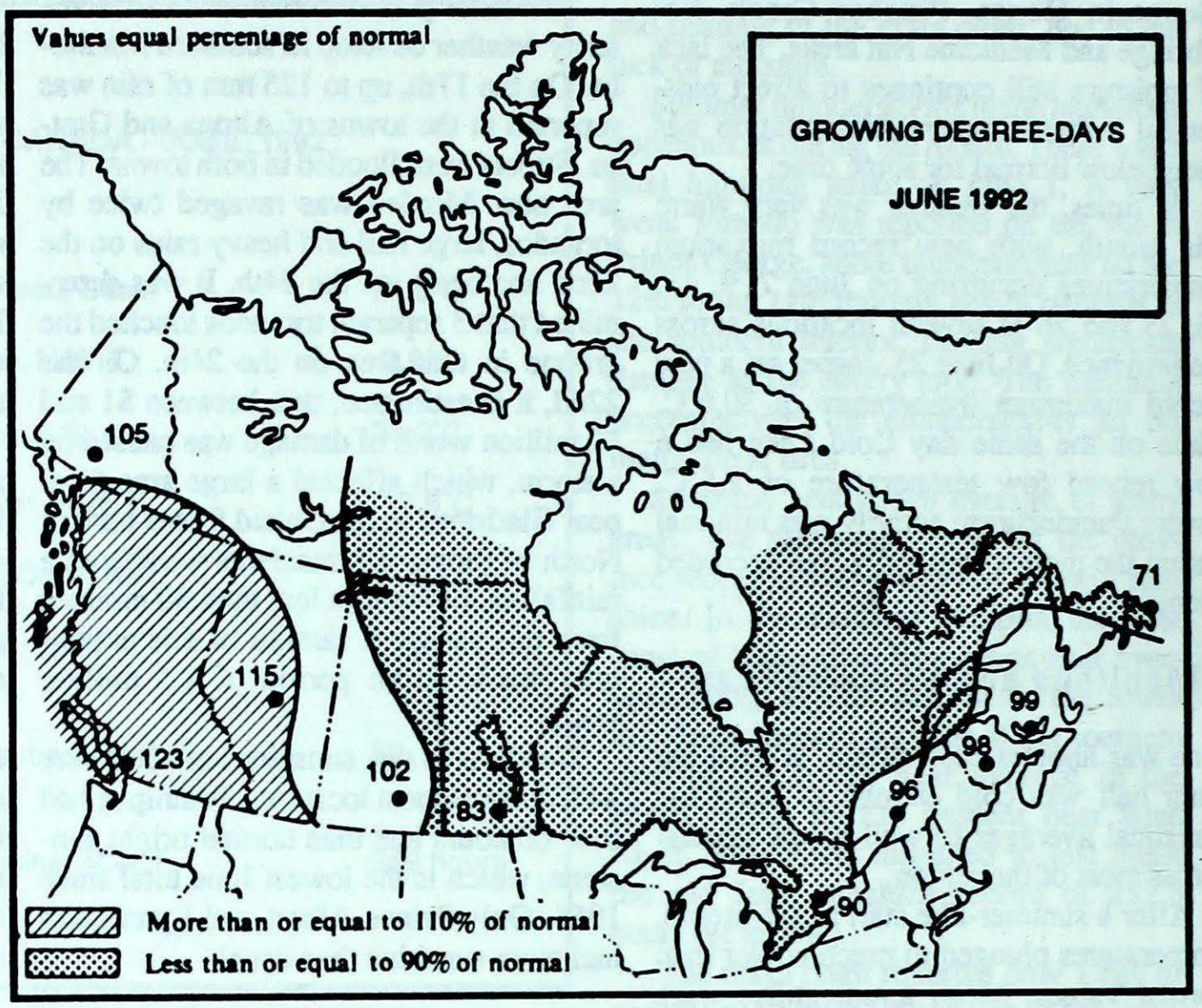
Quebec

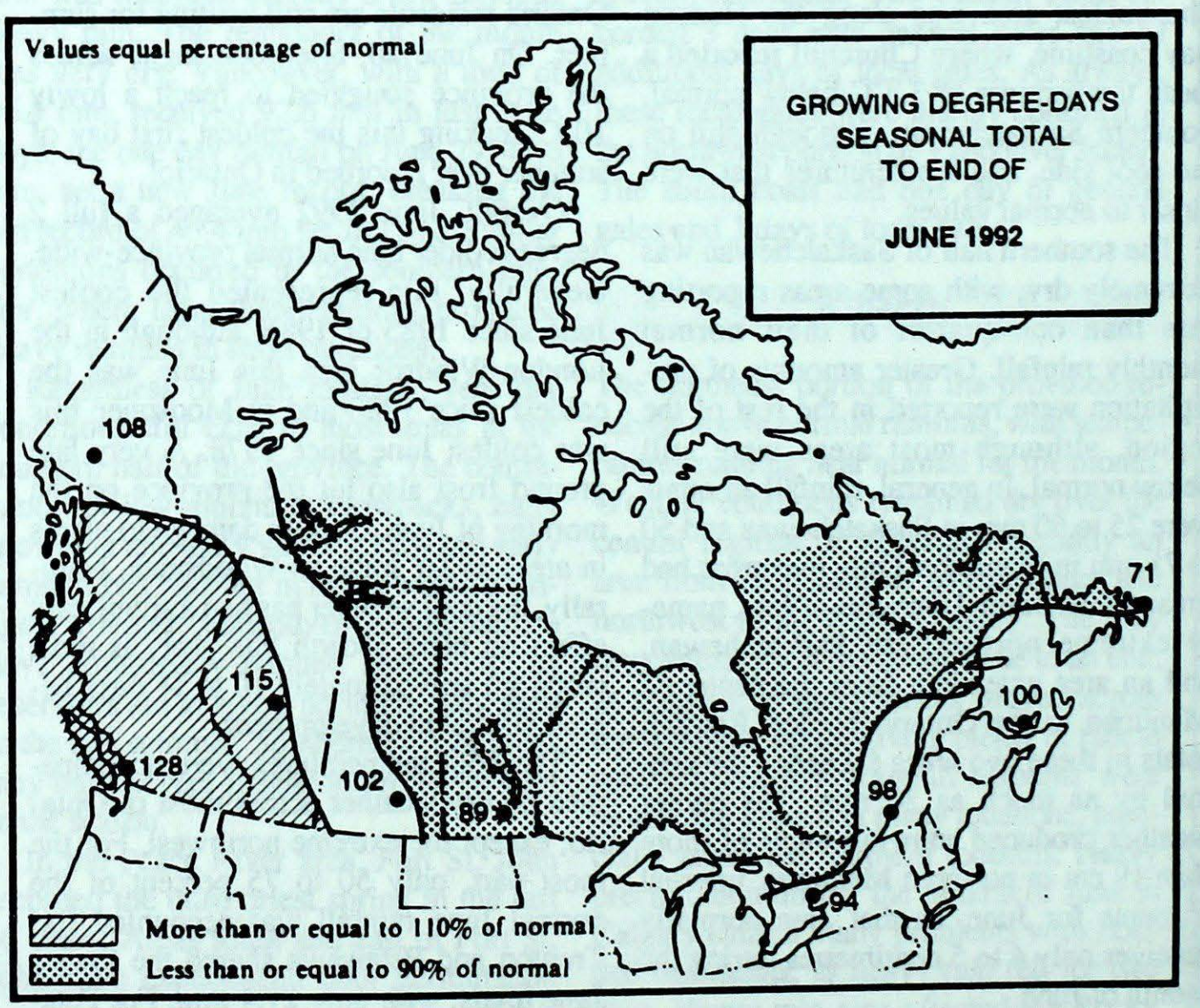
June was a cold, dull and wet month. Mean monthly temperature anomalies

.... continued on page 14

SEASONAL TOTAL OF GROWING DEGREE-DAYS TO END OF JUNE

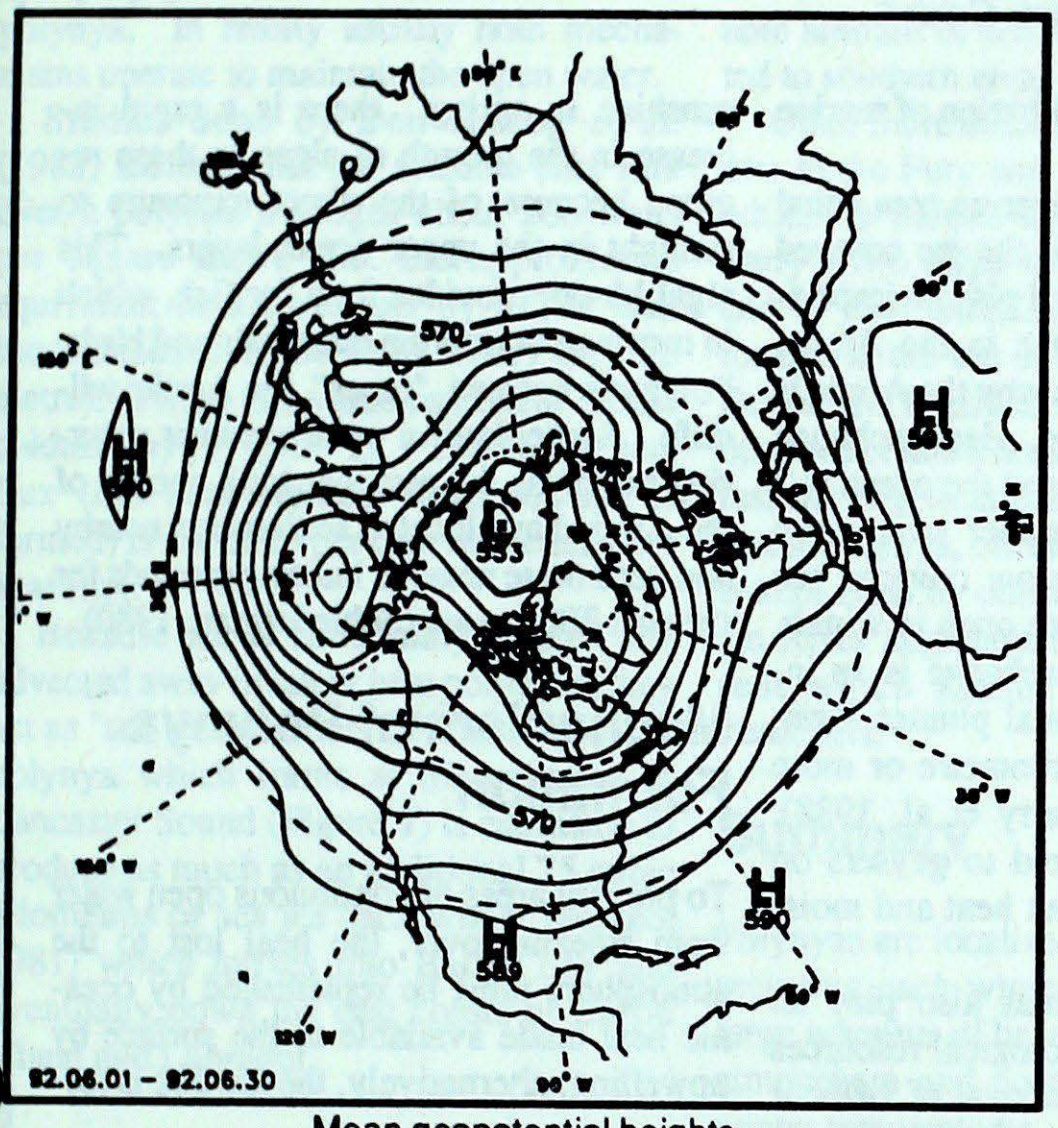
	1992	1991	NORMAL
BRITISH COLUMBIA			
Abbotsford	876	656	629
Kamloops	961	829	758
Penticton	891	695	697
Prince George	392	423	263
Vancouver	840	652	657
Victoria	717	580	554
ALBERTA			
Calgary	327	360	284
Edmonton Mun.	386	461	334
Grande Prairie	346	453	294
Lethbridge	402	448	350
Peace River	331	457	285
SASKATCHEWAN			
Estevan	327	573	362
Prince Albert	196	502	202
Regina	349	569	342
Saskatoon	218	524	221
Swift Current	216	461	211
MANITOBA			
Brandon	310	611	346
Churchill	*	*	*
Dauphin	291	567	345
Winnipeg	336	652	379
ONTARIO			
London	573	888	613
North Bay	235	627	276
Ottawa	644	849	653
Thunder Bay	238	424	282
Toronto	592	867	629
Trenton	569	787	643
Windsor	700	1027	780
QUEBEC			
Baie Comeau	148	278	174
Maniwaki	459	654	478
Montréal	658	780	671
Québec	532	667	492
Sept-Îles	181	218	202
Sherbrooke	319	577	335
NEW BRUNSWICK			
Fredericton	430	631	420
Moncton	292	317	300
NOVA SCOTIA			
Sydney	288	232	289
Yarmouth	364	320	351
PRINCE EDWARD ISLAND			
Charlottetown	290	288	290
NEWFOUNDLAND			
Gander	81	103	128
St. John's	98	*	139
Stephenville	165	157	157



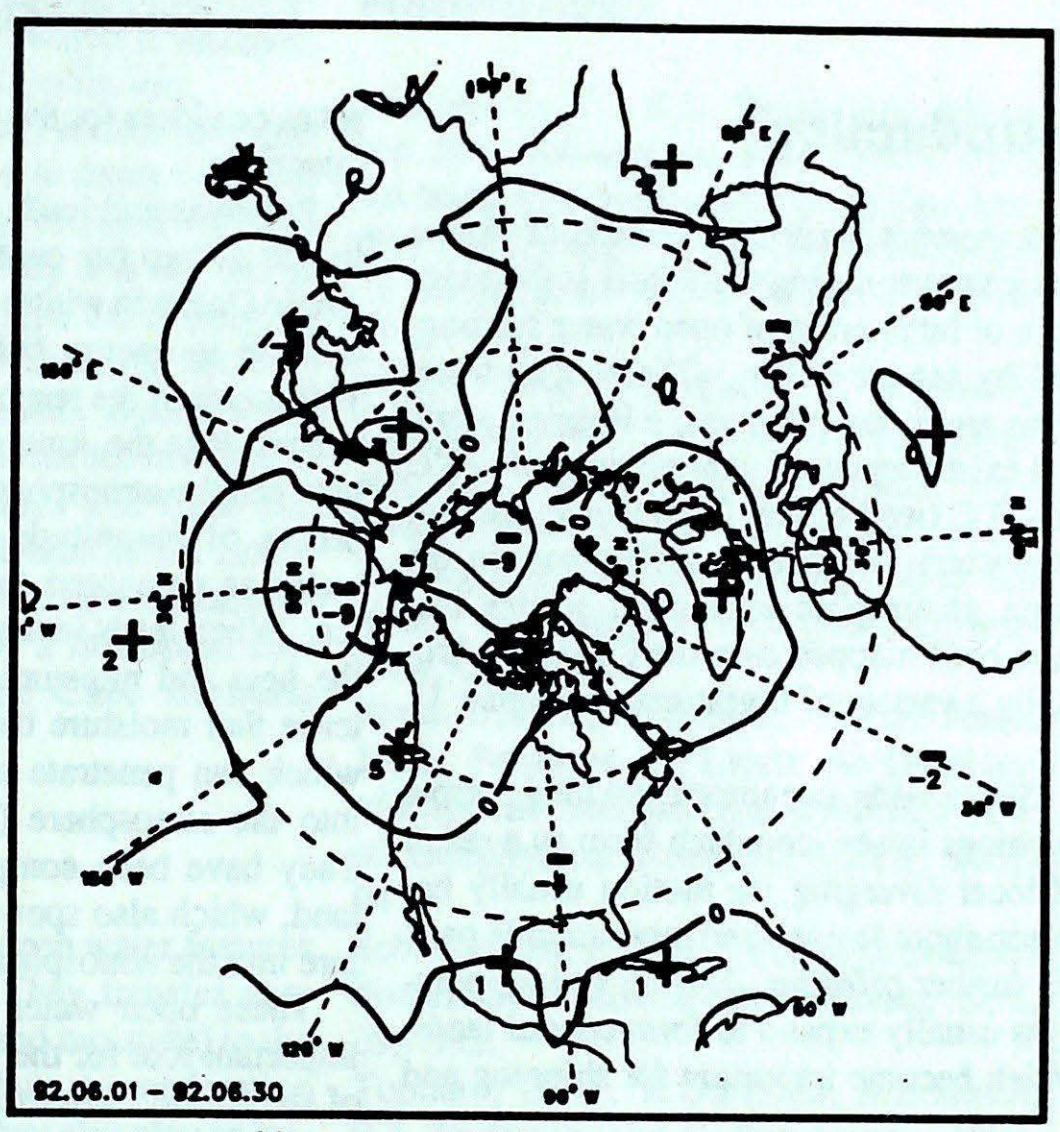


50-kPa ATMOSPHERIC CIRCULATION

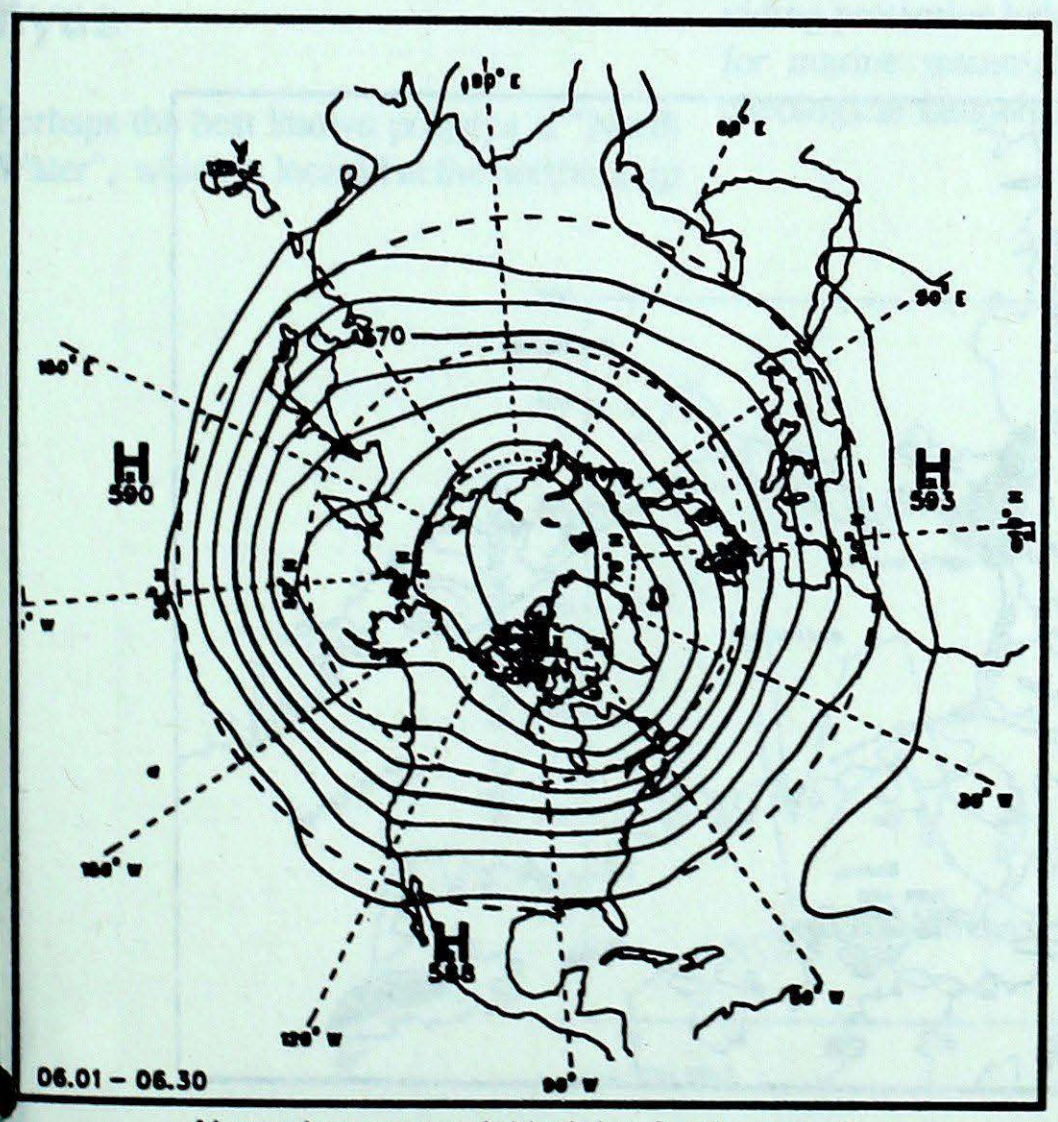
June 1992



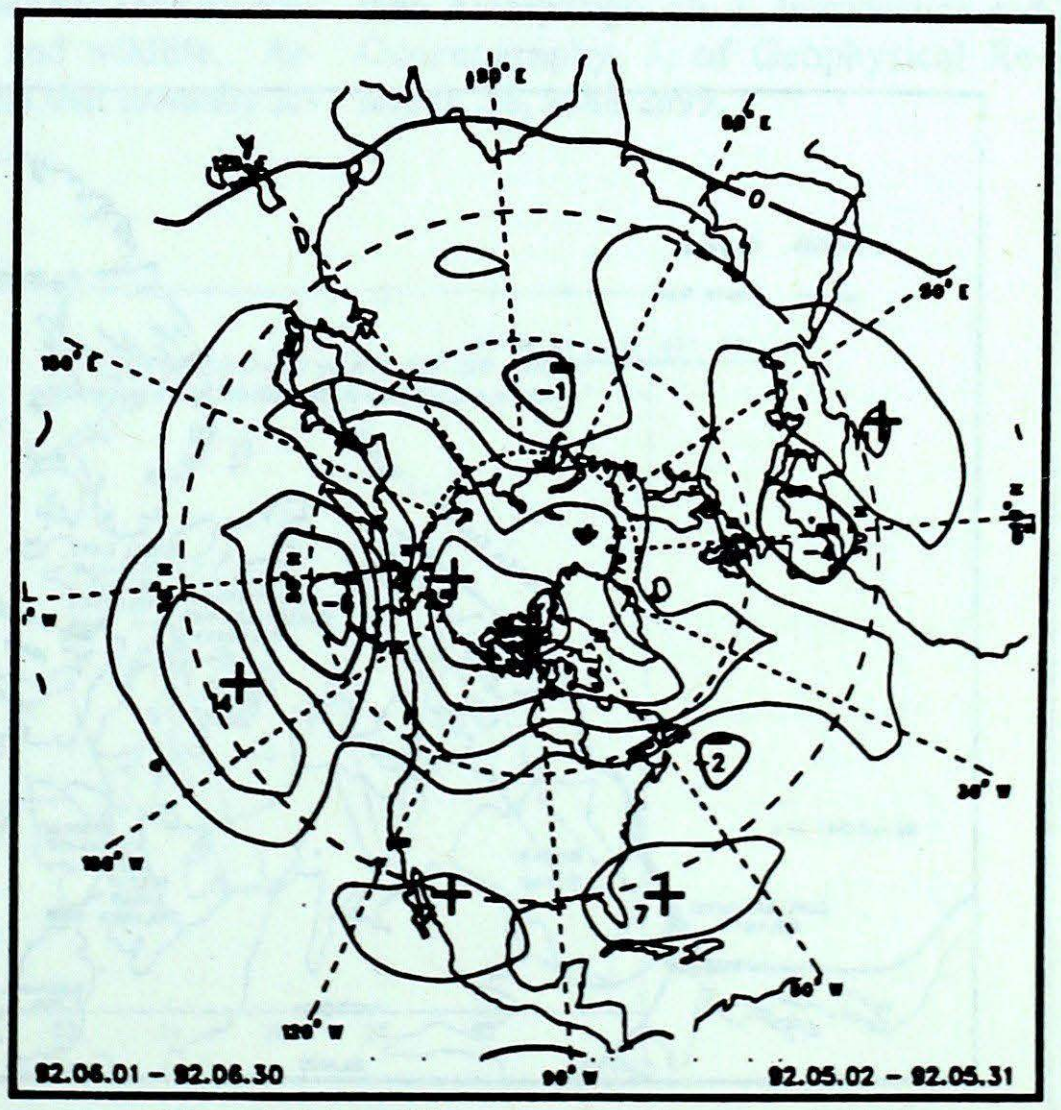
Mean geopotential heights
- 5 decametre interval -



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 -

Arctic Polynyas

□ *By Tom Agnew*
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Introduction

A somewhat surprising feature of Arctic sea ice cover during the winter is the existence of large areas of open water surrounded by sea ice cover. These open water areas are called polynyas, a Russian word, and exist despite air temperatures of -20°C to -30°C (well below the freezing point of sea water). Polynyas usually recur in the same geographic area each winter and have been mapped over the Canadian Arctic by a variety of investigators (Figure 1).

Shore leads, in contrast, are long narrow openings in sea ice which form as a result of local diverging ice motion usually between shore fast ice and more mobile pack ice further offshore. During spring, polynyas usually expand to form coastal leads, which become important for shipping and act as corridors for the migration of marine mammals.

Polynyas and leads cover an area equal to one to two per cent of the ice covered Arctic Ocean in winter and play an important role in energy balance in the Arctic. This is one of the reasons why the Arctic is warmer than the Antarctic. Heat exchange between the atmosphere and the ocean is 2 orders of magnitude greater over open water as compared to snow covered sea ice. When leads in sea ice open in winter, the heat and moisture exchange is so intense that moisture thermal plumes form, which can penetrate a kilometre or more into the atmosphere (Barry et al. 1988). They have been compared to geysers on land, which also spew out heat and moisture into the atmosphere.

These open water areas also play an important role for the biological resources of the Arctic. With the arrival of 24-hour sunshine in spring, there is a rapid increase in the growth of algae in these regions because of the direct exposure to sunlight in the upper ocean layers. This algal bloom provides food for fish, which in turn support marine mammals and birds. Polynyas become "oases" for Arctic wildlife. Archeological evidence near recurring polynyas suggest that Inuit people of the Arctic have located settlements nearby and used these areas as hunting grounds for the past 3000 years (Schlederman, 1980).

Mechanism of Polynya Formation

To prevent areas of continuous open water from freezing over, the heat lost to the atmosphere must be replenished by oceanic heat made available to the surface by upwelling; alternatively, the ice that is for-

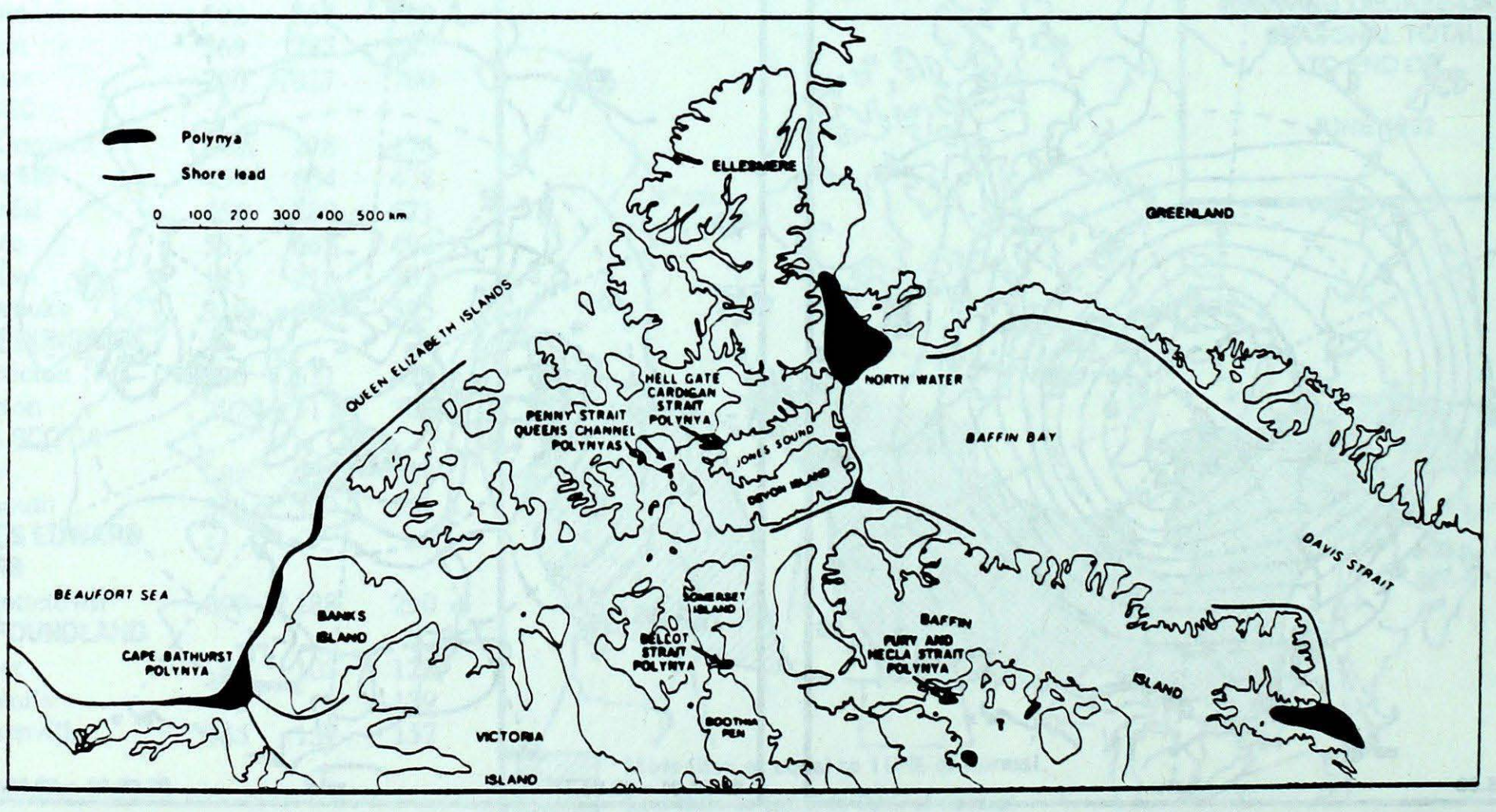

Figure 1. Polynyas and shore leads in the Canadian Arctic (from Topham et al. 1983).

ned must be advected out of the area by persisting wind and/or ocean currents. The former is usually referred to as a sensible heat polynya and the latter as a latent heat polynya. In reality usually both mechanisms operate to maintain the open water.

Studies done by Den Hartog et al. (1983) indicate that the sensible heat flux over a polynya averages about 200 watts per square metre (i.e. the approximate equivalent heat given off by a 200 watt incandescent light bulb every square metre). Twice this value can occur on the coldest days (Figure 2). The latent heat flux (i.e. heat created when sea ice is formed) is about 25 per cent of the sensible heat flux.

Because ice is continually created and advected away in latent heat polynyas, they act as "sea ice factories". For example, the polynya which forms at the entrance to Lancaster Sound (Figure 1) is estimated to produce as much as an additional 75 cubic kilometres of sea ice each winter (Marko, 1981) which moves into Baffin Bay and eventually down the east coasts of Baffin Island and Labrador.

Some Well Known Polynyas

Perhaps the best known polynya is "North Water", which is located at the northern tip of Baffin Bay between Greenland and Ellesmere Island (Figure 1). North Water is both a latent heat and sensible heat polynya and during the winter produces a considerable amount of sea ice, which is transported to southern areas of Baffin Bay.

Other more colourfully named polynyas are: a) the Fury and Hecla Strait Polynya, which is named after William Edward Parry's two ships the Fury and the Hecla, and b) Hell Gate/Cardigan Strait polynya located at the top of Jones Sound between Devon and Ellesmere Island. Both of these open water areas are maintained because of fast moving tidal currents. The Cape Bathurst Polynya, off the Beaufort Sea Coast, is kept open by outflow from the Mackenzie River augmented by a fast ocean current which rounds the Cape Bathurst Peninsula.

Summary

Polynyas are localized open water features recurring each winter. They transfer very large amounts of heat (and moisture) to the atmosphere and contribute to moderating winter temperatures. They also play an important role in the life of the arctic by providing protective habitats and food sources for marine mammals and wildlife. Archeological data suggest that annually recurring polynyas were favoured locations for human settlement in the past.

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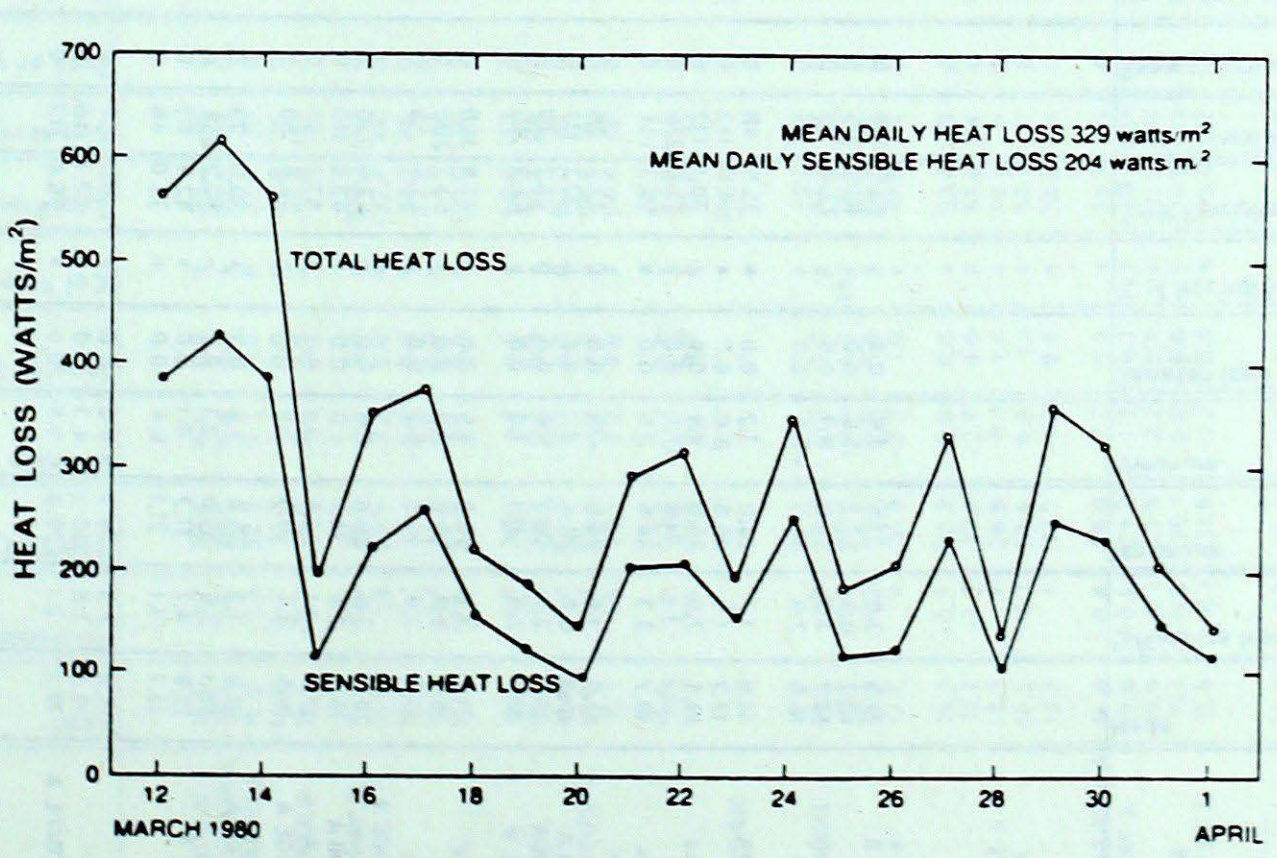

Figure 2. Daily heat budget of a typical polynya (from den Hartog et al., 1983)

JUNE 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	17.5	2.8	31.5	7.8	0.0	*	82.9	129	0	5	290	134	44.0
ALERT BAY	13.2	0.9	23.3	5.6	0.0	*	81.9	125	0	11	*	*	143.5
AMPHITRITE POINT	13.7	1.3	19.8	8.7	0.0	*	73.3	80	0	8	*	*	130.4
BLUE RIVER A	16.6	2.8	34.0	-0.5	0.0	*	42.1	49	0	6	253	128	*.*
CAPE ST JAMES	11.8	1.2	20.0	7.2	0.0	*	35.5	48	0	5	164	*	184.2
CAPE SCOTT	12.2	1.0	16.6	8.0	0.0	*	119.0	113	0	10	*	*	175.2
CASTLEGAR A	19.8	2.9	36.8	3.9	0.0	*	70.1	122	0	6	271	112	21.2
COMOX A	17.1	2.1	21.5	12.6	0.0	*	77.6	220	0	6	264	*	49.9
CRANBROOK A	18.2	3.3	34.6	2.5	0.0	*	59.3	134	0	4	284	100	47.1
DEASE LAKE	12.3	1.9	29.6	-1.1	0.0	0	12.2	28	0	6	300	138	176.3
FORT NELSON A	15.3	0.9	28.4	3.1	0.0	0	77.1	112	0	10	301	*	86.5
FORT ST JOHN A	15.7	2.2	28.1	5.0	0.0	0	26.1	38	0	6	286	*	75.6
HOPE A	18.1	2.3	31.1	7.9	0.0	*	62.3	96	0	6	261	116	31.2
KAMLOOPS A	21.2	3.2	36.0	7.5	0.0	*	47.9	160	0	5	291	114	10.1
KELOWNA A	19.9	3.8	38.0	2.8	0.0	*	53.2	209	0	5	288	106	22.0
MACKENZIE A	15.3	2.9	31.8	-0.2	0.0	*	42.4	59	0	6	278	111	92.7
PENTICTON A	20.8	3.6	36.8	6.6	0.0	*	63.0	228	0	7	260	99	14.8
PORT ALBERNI A	16.9	2.6	34.7	4.0	0.0	*	42.5	110	0	8	244	*	56.1
PORT HARDY A	12.9	1.1	22.6	5.1	0.0	*	67.2	95	0	11	176	102	151.4
PRINCE GEORGE A	16.6	3.7	31.5	2.5	0.0	*	39.6	59	0	6	297	114	61.3
PRINCE RUPERT A	11.9	1.2	20.4	2.6	0.0	*	91.0	73	0	11	159	106	181.9
PRINCETON A	18.1	3.6	35.0	2.1	0.0	*	67.2	254	0	5	302	*	*.*
REVELSTOKE A	19.9	4.1	37.2	4.1	0.0	*	42.4	63	0	7	259	120	18.8
SANDSPIT A	12.7	1.1	21.1	6.4	0.0	*	25.0	48	0	7	183	105	157.9
SMITHERS A	14.8	2.3	29.9	0.0	0.0	*	21.7	54	0	6	246	99	108.0
TERRACE A	15.5	1.8	30.3	4.3	0.0	*	62.7	148	0	12	206	108	98.0
VANCOUVER INT'L A	17.2	2.1	28.8	9.5	0.0	*	96.4	213	0	4	294	123	41.8
VICTORIA INT'L A	16.4	2.1	29.0	5.4	0.0	*	43.4	150	0	4	298	116	60.4
WILLIAMS LAKE A	16.3	3.3	33.5	-0.2	0.2	200	34.4	76	0	6	267	94	75.3

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									
YUKON TERRITORY													
DAWSON A	14.3	*	32.5	-2.5	0.0	*	49.8	*	0	*	*	*	*
WATSON LAKE A	13.9	1.2	21.0	6.7	0.0	*	17.4	34	0	5	321	121	135.2
WHITEHORSE A	12.3	0.3	30.4	-0.5	0.0	0	8.8	29	0	3	318	117	176.8
NORTHWEST TERRITORIES													
BAKER LAKE A	0.5	-3.6	9.9	-8.7	1.4	50	7.4	35	4	3	224	86	523.7
CAMBRIDGE BAY A	1.0	-0.5	11.8	-12.6	1.6	40	4.0	30	0	1	305	114	510.8
CAPE PARRY A	3.4	1.8	13.9	-4.0	1.4	45	6.0	42	0	3	*	*	438.1
CLYDE A	-1.0	-1.6	6.9	-6.6	6.6	69	8.7	70	10	4	224	86	570.7
COPPERMINE A	5.5	1.7	26.8	-3.6	2.8	108	7.0	41	0	3	369	120	375.2
CORAL HARBOUR A	-1.7	-3.8	6.5	-8.9	15.9	196	19.9	74	32	7	215	76	599.7
EUREKA	0.6	-1.2	9.5	-7.3	4.6	192	4.6	85	0	1	329	81	521.6
FORT SIMPSON A	13.8	-0.8	32.5	2.0	0.0	*	73.3	186	0	8	299	106	125.2
FORT SMITH A	12.9	-0.7	30.5	-0.8	0.0	0	59.6	145	0	10	222	74	159.6
IQALUIT	0.5	-2.9	8.8	-5.8	15.2	150	26.6	68	0	5	*	*	522.5
HALL BEACH A	-2.0	-2.0	4.7	-11.6	6.6	106	6.2	37	11	1	*	*	599.3
HAY RIVER A	10.6	-1.3	30.8	-1.2	0.0	0	10.5	39	0	3	*	*	233.5
INUVIK A	11.8	1.7	29.4	-6.4	6.0	273	17.1	73	0	5	347	93	204.3
MOULD BAY A	-0.7	-0.4	10.1	-10.7	3.2	91	4.6	73	0	2	256	104	559.8
NORMAN WELLS A	14.7	0.7	30.3	-0.1	4.6	767	31.3	85	0	5	314	101	122.1
POND INLET A	-0.7	*	8.0	-12.8	8.8	*	6.2	*	7	4	345	*	558.9
RESOLUTE A	-2.9	-2.3	8.7	-12.2	7.4	106	6.0	50	7	2	354	138	625.7
YELLOWKNIFE A	11.2	-1.7	29.4	0.0	0.0	0	34.0	202	0	3	262	66	213.0
ALBERTA													
BANFF	13.2	1.6	28.5	0.0	0.0	0	59.2	97	0	10	*	*	*
CALGARY INT'L A	14.8	1.3	29.8	1.2	0.0	0	177.2	198	0	14	242	91	109.5
COLD LAKE A	14.6	0.1	27.5	1.1	0.0	*	56.6	79	0	8	292	103	47.1
CORONATION A	14.6	0.2	30.7	0.9	0.0	*	38.2	66	0	7	261	84	112.0

JUNE 1992

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
EDMONTON INT'L A	15.8	1.7	29.8	4.4	0.0	*	23.2	30	0	5	304	106	78.6
EDMONTON MUNICIPAL	16.7	1.6	30.5	5.8	0.0	*	28.8	37	0	3	300	110	62.7
EDMONTON NAMAO A	16.0	1.3	30.5	5.3	0.0	0	22.6	29	0	6	*	*	73.5
EDSON A	14.5	2.0	31.3	1.4	0.0	0	35.8	30	0	9	234	92	112.4
FORT CHIPEWYAN A	13.5	-0.7	30.0	0.0	0.0	*	91.8	197	*	*	*	*	*
FORT MCMURRAY A	14.1	0.1	29.2	1.3	0.0	*	108.2	169	0	12	238	87	125.6
GRANDE PRAIRIE A	15.6	1.9	29.5	2.2	0.0	*	32.4	46	0	6	287	*	77.0
HIGH LEVEL A	14.5	0.1	27.7	4.0	0.0	*	33.2	46	0	10	265	87	110.1
JASPER	15.5	3.1	31.9	2.8	0.0	*	23.0	42	0	7	266	*	87.0
LETHBRIDGE A	16.8	1.4	33.2	3.5	0.0	0	105.0	134	0	9	245	86	74.3
MEDICINE HAT A	17.6	1.0	33.1	4.1	0.0	*	90.0	142	0	11	267	96	58.6
PEACE RIVER A	14.9	1.2	26.3	2.2	0.0	*	51.4	86	0	6	*	*	96.7
RED DEER A	14.8	1.2	29.3	3.2	0.0	0	80.2	95	0	11	*	*	96.2
ROCKY MTN HOUSE A	14.0	1.2	29.4	2.5	0.0	0	94.6	91	0	11	*	*	124.4
SLAVE LAKE A	15.1	1.5	28.1	5.2	0.0	*	54.4	56	0	8	294	107	91.5
SUFFIELD A	16.8	*	33.2	1.1	0.0	*	93.9	*	0	13	246	*	74.2
WHITECOURT A	15.1	2.4	31.8	2.6	0.0	0	38.0	41	0	12	*	*	95.7
SASKATCHEWAN													
BROADVIEW	14.2	-1.0	28.8	2.3	0.0	*	34.2	58	0	5	245	83	124.9
CREE LAKE	12.1	-1.4	28.3	-1.6	4.4	***	76.6	120	0	11	222	83	183.1
ESTEVAN A	15.3	-1.2	32.2	0.8	0.0	*	50.6	65	0	8	249	82	100.8
HUDSON BAY A	12.7	*	31.9	-2.3	1.0	*	47.6	*	0	13	248	*	165.9
KINDERSLEY	15.2	-0.5	32.3	0.8	0.0	*	22.0	39	0	5	274	*	98.4
LA RONGE A	12.7	-1.3	27.0	-2.7	0.0	0	57.8	64	0	13	*	*	159.7
MEADOW LAKE A	13.3	*	26.8	0.1	1.4	*	49.0	*	0	7	278	*	139.1
MOOSE JAW A	16.5	-0.1	34.4	0.6	1.1	*	24.3	37	0	8	258	90	83.1
NIPAWIN A	13.5	*	32.5	-1.8	0.6	*	38.8	*	0	7	266	*	141.4
NORTH BATTLEFORD A	14.8	-0.6	29.9	1.7	0.2	*	25.8	43	0	5	*	*	104.5
PRINCE ALBERT A	14.0	-0.6	29.2	-1.3	0.2	*	39.1	57	0	6	289	110	129.2
REGINA A	16.0	0.1	32.5	2.2	0.0	*	27.8	35	0	6	257	91	91.2
SASKATOON A	15.1	-0.6	30.1	0.8	0.0	*	14.6	25	0	4	*	*	101.8
SWIFT CURRENT A	15.0	-0.1	31.5	-1.2	0.0	*	65.6	87	0	11	224	80	112.1
YORKTON A	14.3	-1.2	29.9	1.0	0.0	*	35.2	50	0	7	264	92	123.3
MANITOBA													
BRANDON A	14.6	-1.5	31.9	0.9	0.0	*	41.0	53	0	5	275	*	119.2
CHURCHILL A	2.9	-3.3	22.4	-4.4	3.6	103	20.4	47	0	6	183	78	454.5
DAUPHIN A	13.8	-2.0	30.4	0.1	0.0	*	46.4	54	0	12	248	91	137.8
GILLAM A	7.6	-3.3	28.8	-3.8	19.4	497	27.6	49	0	8	*	*	311.7

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
ISLAND LAKE	10.2	-3.8	27.8	1.3	0.8	800	63.6	99	0	9	*	*	233.5
LYNN LAKE A	10.5	-2.0	29.7	-2.4	15.4	270	54.0	79	0	8	272	103	231.8
NORWAY HOUSE A	10.8	*	28.4	0.7	0.0	*	77.2	*	0	9	*	*	215.5
PORTAGE LA PRAIRIE	15.2	-1.8	31.9	2.6	0.0	*	67.6	89	0	8	*	*	106.2
THE PAS A	12.0	-2.4	32.8	-1.4	1.0	250	50.6	80	0	7	270	99	183.6
THOMPSON A	9.7	-2.5	28.9	-1.5	*	*	70.1	95	0	9	251	95	252.8
WINNIPEG INT'L A	14.9	-1.9	32.4	0.7	0.0	*	58.8	73	0	9	213	77	115.6
ONTARIO													
BIG TROUT LAKE	8.6	-3.4	27.0	-2.0	3.2	246	49.8	76	0	10	207	*	272.0
EARLTON A	13.4	-1.8	29.2	-0.4	3.4	***	48.9	55	0	10	*	*	145.9
GERALDTON A	11.3	*	30.2	-2.5	*	*	51.6	*	0	8	*	*	191.6
GORE BAY A	14.6	-1.0	27.8	2.0	0.0	*	37.8	65	0	7	*	*	109.3
HAMILTON RBG	17.0	*	35.5	4.5	0.0	*	43.2	*	0	7	274	*	*
HAMILTON A	15.8	-2.1	30.2	3.2	0.0	*	55.5	80	0	10	*	*	76.7
KAPUSKASING A	12.1	-2.0	29.1	-2.0	*	*	60.2	71	0	12	*	*	181.2
KENORA A	14.3	-1.8	29.5	4.2	0.0	*	118.4	142	0	11	*	*	126.4
KINGSTON A	15.4	-1.0	26.4	5.9	0.0	*	39.6	52	0	7	235	98	84.4
LONDON A	16.0	-1.9	29.3	1.3	0.0	*	65.8	89	0	9	*	*	80.8
MOOSONEE	9.3	-2.6	28.8	-3.8	0.0	0	33.3	42	0	7	185	85	263.9
MUSKOKA A	14.2	-1.7	28.4	0.7	0.0	*	53.0	65	0	8	*	*	119.0
NORTH BAY A	14.2	-1.5	29.2	0.1	*	*	47.6	56	0	9	255	101	137.7
OTTAWA INT'L A	17.1	-0.9	30.0	6.3	0.0	*	57.8	79	0	10	*	*	50.6
PETAWAWA A	14.8	-1.6	31.3	0.5	0.0	*	27.4	29	0	6	*	*	105.3
PETERBOROUGH A	14.9	-1.8	29.1	1.1	0.0	*	33.2	51	0	6	*	*	98.0
PICKLE LAKE	10.8	-3.1	31.6	-1.0	0.0	0	51.6	59	0	11	*	*	219.9
RED LAKE A	12.6	-2.5	29.7	2.1	0.0	0	83.0	95	0	12	233	*	165.9
ST CATHARINES A	16.8	-1.7	31.0	5.2	0.0	*	56.6	75	0	8	273	*	56.0
SARNIA A	15.5	-2.3	31.2	3.7	0.0	*	61.6	75	0	8	259	95	92.8
SAULT STE MARIE A	12.8	-1.6	28.0	-1.0	0.0	*	43.3	52	0	5	257	100	157.5
SIOUX LOOKOUT A	13.5	-1.7	30.4	1.5	0.0	0	48.4	53	0	11	*	*	146.4
SUDBURY A	14.7	-1.3	29.1	0.4	0.4	*	90.4	109	0	9	247	101	108.9
THUNDER BAY A	12.2	-1.8	32.3	-0.7	0.0	*	54.4	71	0	9	235	90	175.5
TIMMINS A	12.4	-2.2	28.9	-1.5	1.2	600	53.2	59	0	10	*	*	170.9
TORONTO	17.5	*	30.7	6.2	0.0	*	35.4	*	0	8	*	*	43.8
TORONTO INT'L A	16.4	-1.3	31.5	4.6	0.0	*	37.2	55	0	8	*	*	67.1
TORONTO ISLAND A	16.2	*	29.8	6.5	0.0	*	33.6	*	0	8	*	*	65.4
TRENTON A	15.8	-2.0	27.8	3.7	0.0	*	27.4	43	0	6	*	*	73.4
WATERLOO WELLINGTON	15.3	-1.8	31.0	2.0	0.0	*	51.0	69	0	6	*	*	92.3
WAWA A	10.0	*	25.6	-1.4	0.0	*	62.0	*	0	4	*	*	230.9
WIARTON A	13.3	-2.3	31.2	-0.2	0.0	*	62.4	93	0	7	276	95	147.0
WINDSOR A	17.9	-1.8	32.0	6.0	0.0	*	78.8	88	0	7	*	*	40.6

JUNE 1992

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	Mean	Difference from Normal	Maximum	Minimum									
QUEBEC													
BAGOTVILLE A	14.2	-1.3	31.8	-0.5	0.0	0	111.2	123	0	15	0	*	120.4
BAIE COMEAU A	11.9	-0.9	23.6	-2.5	0.0	*	172.8	244	0	15	18	8	183.6
BLANC SABLON A	7.8	0.6	22.1	-2.6	0.0	0	52.0	56	0	11	150	*	304.4
GASPE A	11.9	*	17.3	6.5	0.0	*	109.2	*	0	16	189	*	189.0
INUKJUAK A	1.0	-3.4	13.5	-8.9	12.2	330	56.0	161	0	11	*	*	509.0
KUUJJUAQ A	3.6	-3.3	18.0	-3.7	17.0	472	69.4	137	0	14	97	54	432.0
KUUJJUARAPIK A	4.1	-2.4	24.6	-6.0	1.0	21	135.2	238	0	9	144	77	418.1
LA GRANDE IV A	7.9	*	26.7	-5.5	4.6	*	78.2	*	0	12	130	*	322.9
LA GRANDE RIVIERE A	8.0	*	25.5	-3.6	6.2	*	52.4	*	0	14	201	*	300.6
MANIWAKI	14.9	-1.0	28.6	1.5	0.0	*	53.0	59	0	7	238	96	101.9
MATAGAMI A	*	*	*	*	*	*	*	*	*	*	*	*	*
MONT JOLI A	13.3	-1.0	29.7	1.0	0.0	*	165.6	264	0	17	211	87	145.8
MONTREAL INT'L A	17.7	-0.6	28.7	6.5	0.0	*	76.4	93	0	9	240	96	40.0
MONTREAL MIRABEL I/	16.4	*	27.8	4.2	0.0	*	98.4	*	0	10	243	*	64.8
NATASHQUAN A	10.3	-0.2	21.2	-1.4	0.0	*	116.2	130	0	17	154	68	231.3
QUEBEC A	16.2	-0.2	29.7	4.9	0.0	*	97.4	89	*	12	203	91	67.8
ROBERVAL A	14.5	-1.0	29.3	2.7	0.0	*	54.0	67	0	11	212	*	112.3
SCHEFFERVILLE A	5.6	-3.0	25.0	-5.9	13.0	183	153.8	209	0	22	95	50	373.3
SEPT-ILES A	10.9	-0.8	21.1	-0.9	0.0	*	127.6	141	0	15	182	*	229.9
SHERBROOKE A	15.0	-0.6	28.8	1.9	0.0	*	68.0	69	0	11	218	*	102.1
ST HUBERT A	17.3	-0.9	27.6	4.8	*	*	79.6	93	0	9	233	*	50.4
VAL D'OR A	12.5	-2.1	28.5	0.4	0.0	0	87.6	93	0	8	234	97	166.4
NEW BRUNSWICK													
CHARLO A	14.1	-0.6	28.1	-0.9	0.0	*	103.6	122	0	16	178	76	127.5
FREDERICTON A	15.8	-0.4	29.3	2.1	0.0	*	119.8	141	0	13	*	*	74.2
MONCTON A	14.7	-0.3	27.8	1.9	0.0	*	136.2	152	0	16	189	84	102.2
SAINT JOHN A	14.0	0.2	24.6	3.1	0.0	*	117.8	125	0	10	196	96	121.6

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	Mean	Difference from Normal	Maximum	Minimum									
NOVA SCOTIA													
GREENWOOD A	16.0	0.1	28.2	2.5	0.0	*	71.7	100	0	11	*	*	70.9
HALIFAX INT'L A	15.7	0.9	26.7	4.6	0.0	*	34.4	38	0	7	*	*	67.9
SABLE ISLAND	11.5	0.5	17.8	6.1	0.0	*	47.0	50	0	6	201	122	195.0
SHEARWATER A	14.8	0.9	24.8	6.3	0.0	*	57.4	68	0	7	240	108	97.6
SYDNEY A	12.7	-0.5	27.0	2.0	0.0	*	118.9	145	0	10	198	88	162.8
YARMOUTH A	13.8	0.4	22.9	6.2	0.0	*	82.1	101	0	7	261	124	124.2
PRINCE EDWARD ISLAND													
CHARLOTTETOWN A	14.2	-0.3	25.8	-0.5	0.0	*	118.9	149	0	10	*	*	118.7
NEWFOUNDLAND													
BONAVISTA	9.2	-0.4	21.7	0.9	0.0	0	103.6	162	0	16	*	*	262.5
BURGEO	9.8	0.3	21.0	0.0	0.0	*	153.9	112	0	15	*	*	235.4
CARTWRIGHT	8.1	-0.3	29.7	-1.2	9.6	384	69.6	89	0	12	143	79	296.4
CHURCHILL FALLS A	8.7	-1.0	28.7	-4.1	0.4	8	93.1	89	0	13	140	75	282.3
COMFORT COVE	10.2	-1.7	20.5	0.0	9.0	474	188.2	245	0	18	*	*	235.7
DANIELS HARBOUR	10.3	0.5	25.0	-1.0	0.0	0	45.4	53	0	7	130	68	234.3
DEER LAKE A	11.0	-1.2	26.2	-3.8	0.0	0	42.9	61	0	8	*	*	210.3
GANDER INT'L A	10.6	-1.2	23.1	-0.1	5.2	186	168.6	210	0	16	148	81	222.5
GOOSE A	10.0	-1.3	31.9	-1.9	2.0	54	61.1	66	0	11	187	100	245.9
MARY'S HARBOUR	7.2	1.0	24.0	-1.2	0.0	0	105.8	134	0	12	*	*	324.2
PORT AUX BASQUES	9.7	0.7	23.5	0.5	0.0	*	142.2	138	0	16	105	*	244.6
ST ANTHONY	7.7	-0.4	19.5	-2.7	4.6	***	92.8	93	0	13	*	*	363.4
ST JOHN'S A	10.6	-0.3	23.5	0.7	0.0	0	112.9	132	0	12	143	77	222.9
ST LAWRENCE	10.3	2.0	14.6	6.0	0.0	0	38.4	35	0	10	*	*	230.1
STEPHENVILLE A	12.1	0.2	24.5	0.1	0.0	*	81.6	95	0	16	142	75	183.8
WABUSH LAKE A	8.9	-1.0	29.1	-5.1	2.6	113	119.0	133	0	16	117	61	273.6

AGROCLIMATOLOGICAL STATIONS

JUNE 1992

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	17.6	2.0	31.5	7.0	0.0	85.6	107	0	7	278	*.*	*.*
SUMMERLAND	20.7	3.3	36.0	7.0	0.0	55.7	182	0	6	268	469.3	1039.3
ALBERTA												
BEAVERLODGE	15.8	2.7	29.0	3.5	0.0	45.3	66	0	9	287	322.3	563.8
LACOMBE	14.5	0.8	28.5	3.0	0.0	51.9	64	0	8	263	296.9	525.0
SASKATCHWAN												
INDIAN HEAD	*.*	*.*	31.0	1.0	0.0	42.6	58	0	8	**	*.*	401.3
MELFORT	14.3	-1.0	32.0	0.0	0.6	29.5	42	0	7	235	282.0	482.0
REGINA	15.2	-0.5	32.0	-1.5	0.0	27.4	38	0	7	**	304.5	543.3
SCOTT	14.3	-0.2	32.0	-1.0	0.0	10.9	16	0	6	257	287.7	509.4
SWIFT CURRENT	15.4	-0.1	32.5	0.0	0.0	66.0	89	0	14	201	312.2	629.0
MANITOBA												
BRANDON	15.5	-0.8	33.1	0.5	0.0	34.0	42	0	5	**	315.2	600.3
MORDEN	15.8	-1.1	31.5	4.0	0.0	85.0	96	0	9	243	330.0	641.5
GLENLEA	15.0	-2.4	31.5	1.5	0.0	106.6	141	0	10	220	298.8	598.8
ONTARIO												
DELHI	18.3	0.0	31.0	2.5	0.0	77.9	110	0	7	**	351.3	685.2
ELORA	15.1	-2.0	28.4	2.0	0.0	86.3	99	0	8	**	302.5	571.6
GUELPH	15.2	-2.2	29.5	0.8	0.0	48.5	69	0	7	257	304.8	577.7
HARROW	21.0	1.3	31.0	5.0	0.0	38.6	51	0	9	255	375.3	743.2
KAPUSKASING	12.1	-2.0	28.5	-2.5	0.0	56.4	69	0	8	214	215.5	386.7
OTTAWA	17.2	-0.9	29.6	4.8	0.0	52.4	66	0	8	234	364.7	687.9
SMITHFIELD	17.0	-0.3	28.6	5.0	0.0	31.0	50	0	5	**	361.0	671.0

Courtesy of Agriculture Canada

STATION	Temperature C				Snowfall (cm)	Total Precipitation (mm)	% of Normal Precipitation	Snow on ground at end of month (cm)	No. of days with Precip 1.0 mm or more	Bright Sunshine (hours)	Degree days above 5 C	
	Mean	Difference from Normal	Maximum	Minimum							This month	Since jan. 1st
QUEBEC												
LA POCATIERE	15.2	-0.5	29.0	3.5	0.0	127.3	142	0	16	198	306.2	549.1
L'ASSOMPTION	17.4	-0.2	28.0	5.0	0.0	56.8	67	0	7	229	371.4	654.0
NORMANDIN	13.3	-1.3	29.0	-1.0	0.0	80.0	104	0	11	216	241.6	419.5
NEW BRUNSWICK												
FREDERICTON	*.*	*.*	*.*	*.*	*.*	*.*	**	***	***	**	*.*	*.*
NOVA SCOTIA												
KENTVILLE	15.6	-0.3	27.0	5.0	0.0	68.2	96	0	12	196	319.2	648.1
NAPPAN	14.7	0.0	24.5	-0.5	0.0	87.7	112	0	13	176	288.2	451.5
PRINCE EDWARD ISLAND												
CHARLOTTETWN	*.*	*.*	*.*	*.*	*.*	*.*	**	***	***	**	*.*	*.*
NEWFOUNDLAND												
ST.JOHN'S WEST	11.0	-0.1	24.0	0.0	0.0	135.2	169	0	12	138	180.1	269.6

Courtesy of Agriculture Canada

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were below normal everywhere, except for the Blanc Sablon and Magdalen Islands regions.

Total monthly precipitation was above seasonal normal, except in extreme eastern Quebec. Mont-Joli recorded two and a half times their normal precipitation this month. Heavy precipitation fell along the North Shore, with 172.8 mm recorded at Baie Comeau and 153.8 mm in Schefferville. But further east, only 52.0 mm fell in Blanc Sablon. Fresh snow was still recorded over northern Quebec, with a total of 17.0 cm at Kuujjuaq. A precipitation record was broken at Kuujjuarapik, 135.2 mm, the most since 1937, and a new high June rainfall record was established at Schefferville, 142.8 mm, the most since 1950.

Total hours of bright sunshine were below normal over the whole province. Schefferville received only half their normal June sunshine allotment.

Some of the more significant weather events this month are as follows. On the afternoon of June 7, severe winds due to thunderstorms caused some damage at Sainte-Julie, which is located on the north slope of Mont Saint-Bruno, 20 km south of Montreal. Trees were uprooted and fell on power lines, cars and houses. A few basements were flooded by 15 to 30 cm of water. A wind gust of 96 km/h was recorded at Saint-Hubert Airport, half way between Montreal and Sainte-Julie.

On June 12, in Saint-Faustin, roughly 100 km north of Montreal, 1 to 2 cm hailstones, strong winds and heavy rain were reported. Within 20 minutes, 5 cm of water covered the ground. Trees, 30 to 45 cm in diameter were uprooted. On the same day, 1 to 2 cm hail was reported in the Matapedia Valley, 80 km southeast of Mont-Joli. Hail, strong winds and heavy rain also hit Port-Daniel on the Gaspé Peninsula.On June 27, hail damaged cars in Sainte-Beatrix, 50 km north of Montreal.

Maritimes

The weather pattern across the region was very changeable, with beautiful, hot summer days contrasting with cold spring-like, rainy ones. There were no significant temperature or precipitation records set. The region was once again divided on what type of weather was received. The rain that was needed was either too much or not enough depending on location. New Brunswick received greater than normal rainfall everywhere, while in P.E.I. rainfall was closer to normal. Precipitation amounts varied considerably in Nova Scotia.

Amounts of bright sunshine corresponded well to the rainfall pattern. New Brunswick and Cape Breton Island had less than the average sunshine for June, while residents in Nova Scotia enjoyed a sunnier than normal month.

Newfoundland

There were record-breaking June rainfalls in some parts of eastern and central Newfoundland, while southern and western locations had below normal amounts. Gander reported precipitation on 23 days during June, a new monthly record; and total monthly rainfall was 163.4 mm, also a new monthly record. In contrast, the community of St. Lawrence received only 38.4 mm of rain this month, which is half the normal.

Temperatures varied across the Island, with near-normal readings early in the month, and below normal values recorded later in the period. In Gander, minimum temperatures dropped to as low as 8°C, approximately 10°C below normal.

Sunshine was scarce across the entire region, with monthly totals approximately 45 hours below normal; Stephenville had 141.8 hours of bright sunshine compared to a normal of 189.8 hours.

During the middle of the month, heavy thunderstorms moved across the Island, giving heavy rainfalls, which caused some flooding, and resulted in numerous power outages on the Avalon Peninsula.

Late in the month, prevailing easterly winds caused heavy pack ice to drift into east coastal Newfoundland waters, prompting the issuance of ice warnings for maritime interests.

Cloudy unsettled weather conditions prevailed across Labrador during June. Temperatures varied significantly, with below normal temperatures early in the month; by the middle of the month maximum readings reached to the mid-thirties. A major forest fire burned out of control near Labrador City during this warm dry spell, damaging a ski resort and destroying a number of trailer homes.

For the most part, precipitation was above normal, and hours of bright sunshine were below average. Wabush Lake recorded 116.9 hours of bright sunshine compared to a normal of 190.5 hours.