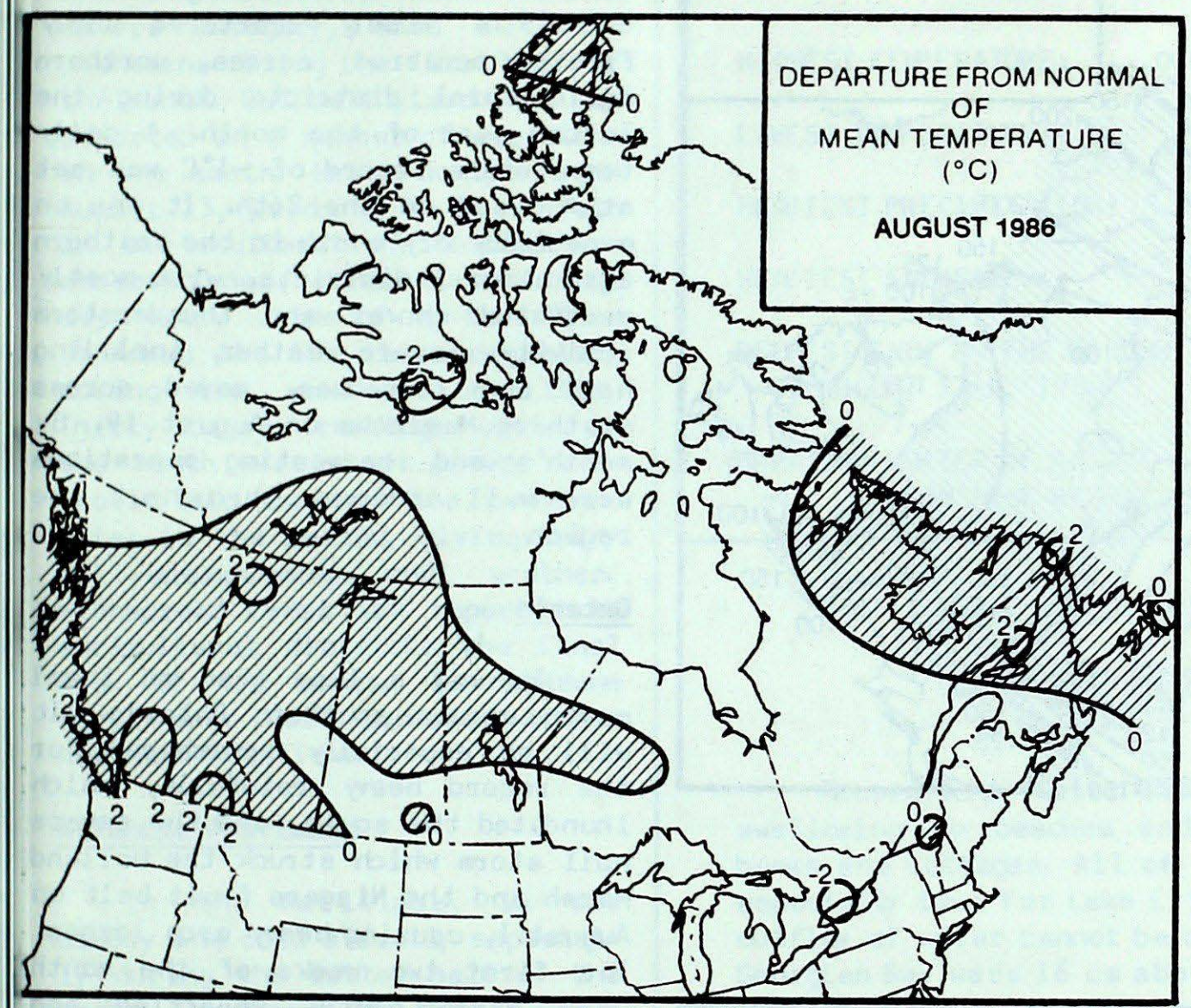
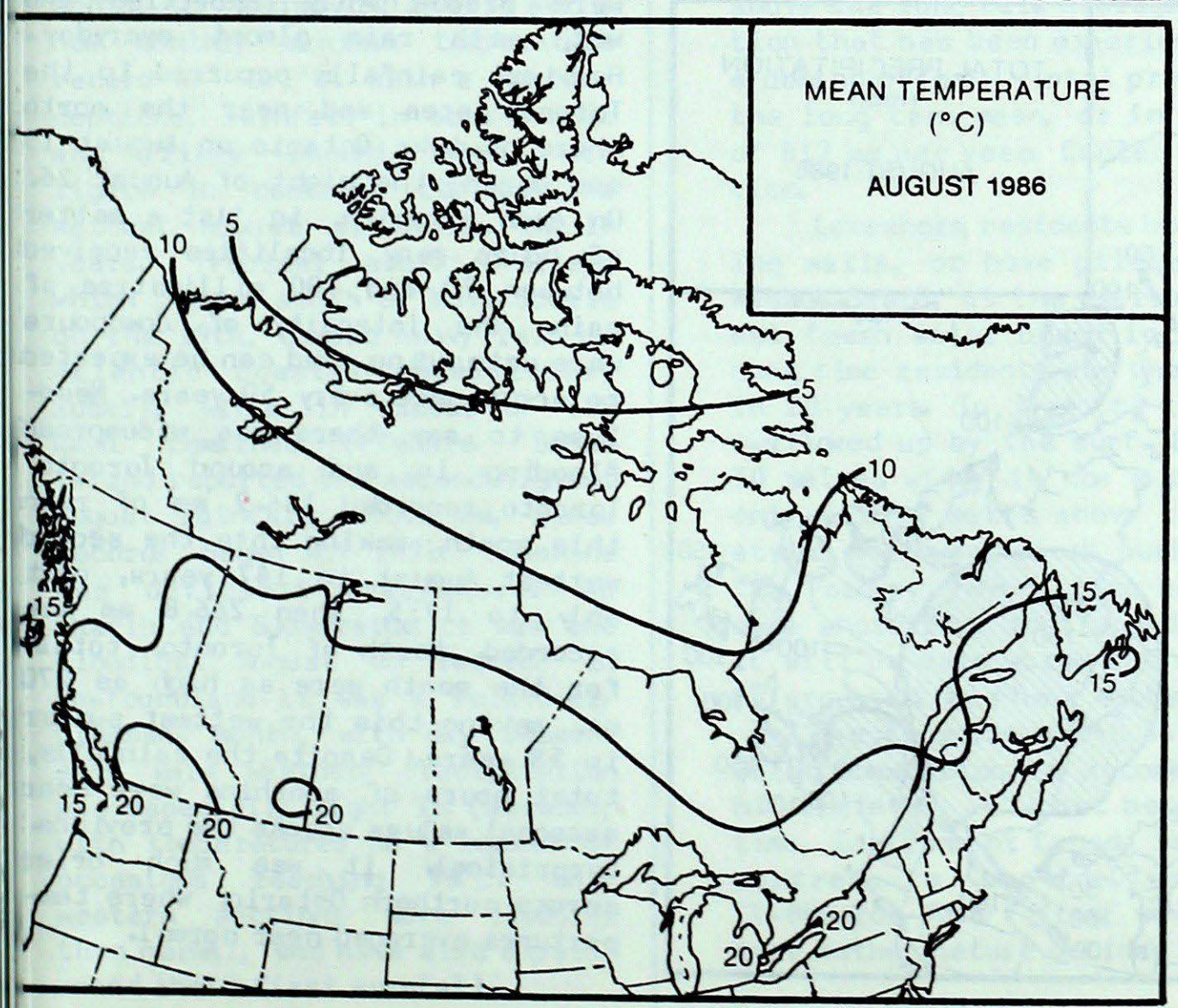
Environment Canada Environnement Canada

Climatic Perspectives

Monthly Supplement

Vol.8 August, 1986





ACROSS THE COUNTRY

Yukon and Northwest Territories

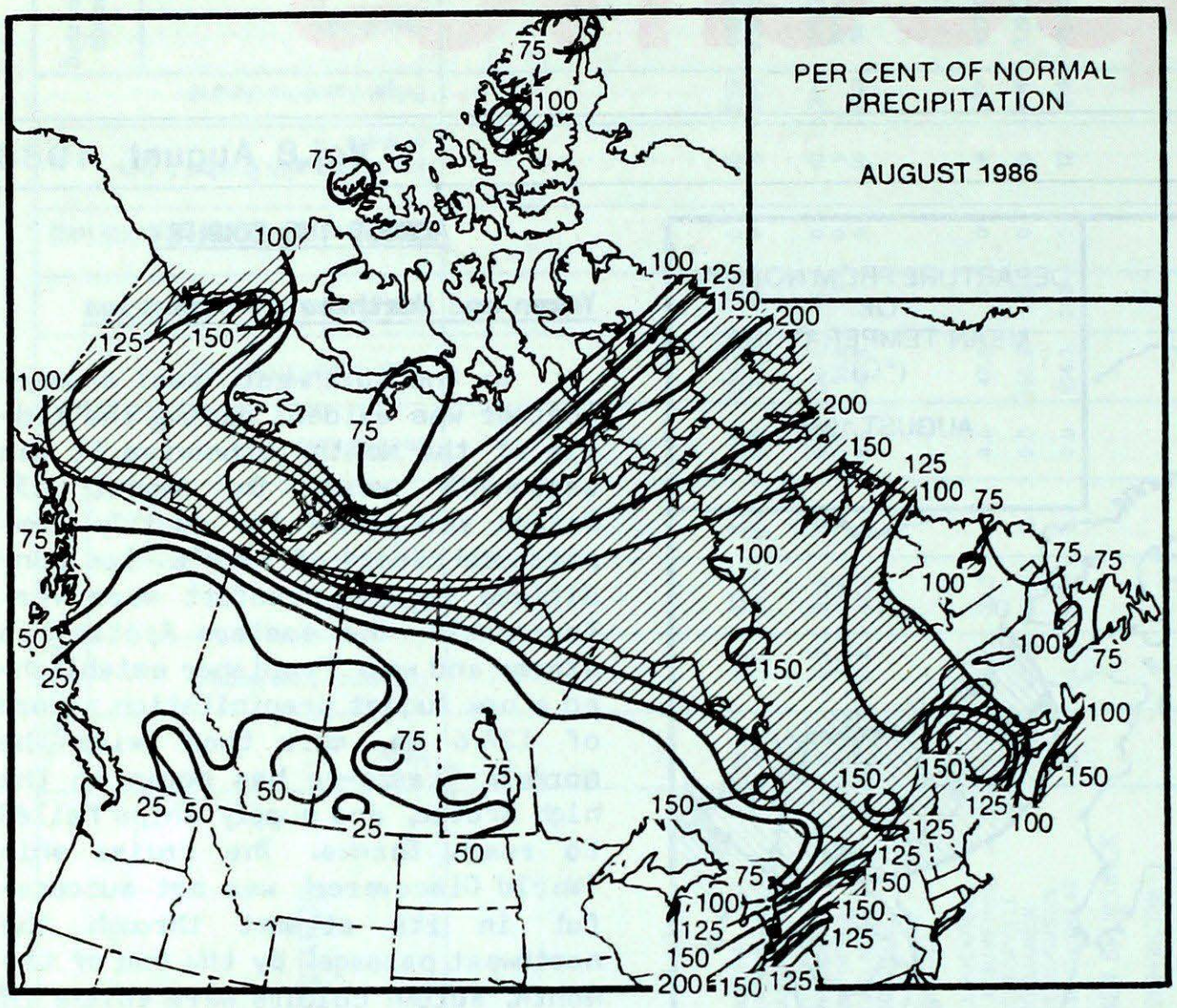
In the northwest, cool showery weather was evident during the middle of the month, otherwise it was seasonably warm. On August 23, Dawson set a new low monthly temperature record of -8.4°C. Ice conditions in the Beaufort were very favourable. The eastern Arctic was stormy and wet. Frobisher established a new August precipitation record of 129.6 mm, more than twice the normal. Freeze-up has begun in the high Arctic, and supply ships failed to reach Eureka. The cruise ship 'World Discoverer' was not successful in its attempt through the northwest passage. By the end of the month, autumn colours were ablaze in the Yukon and Northwest Territories; snowfalls were common place in the Arctic.

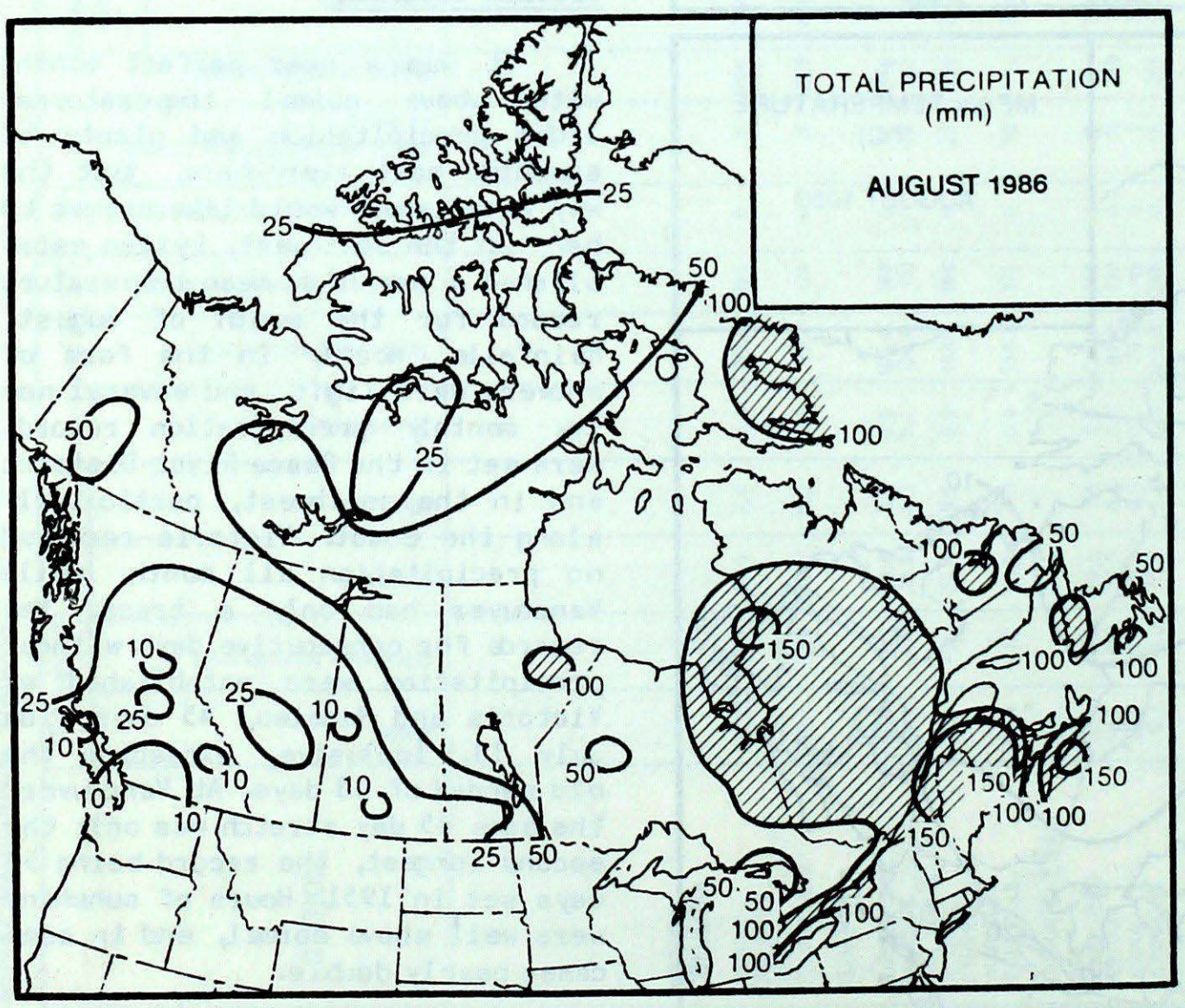
British Columbia

It was a near perfect month, with above normal temperatures, light precipitation and plenty of sunshine most everywhere, just the way vacationers would like summer to be. In the southwest, Lytton established a new high mean temperature record for the month of August. Rainfalls, mostly in the form of showers were light, and several new low monthly precipitation records were set in the Peace River District and in the southwest, particularly along the coast. Victoria received no precipitation all month, while Vancouver had only a trace. New records for consecutive days without precipitation were established at Victoria and Namaimo, 45 days from July 18, inclusive, exceeding the old record of 38 days. At Vancouver, the same 45 day stretch was only the second longest, the record being 58 days set in 1951. Hours of sunshine were well above normal, and in some cases nearly double.

Canada

PRECIPITATION





Prairie Provinces

August was a fine month, and especially welcomed by the farming community. Sunshine was abundant. Temperatures were well above normal in the west, but closer to normal in the east. The mercury at Estevan reached a record breaking 36°C on the 19th. Widely scattered early frosts occurred across northern agricultural districts during the latter part of the month. A daily temperature record of -1°C was set at Wynyard on the 26th. It was an especially dry month in the southern agricultural districts, with mostly scattered shower and thunderstorm activity. Severe weather, including hail and tornadoes, moved across southern Manitoba on August 19. By month's end, harvesting operations were well underway throughout the region.

Ontario

It was a less than an ideal month across southern Ontario. It will be especially remembered for the record heavy rainfalls, which inundated the south, and the severe hail storm which struck the Holland Marsh and the Niagara fruit belt on August 1, causing heavy crop losses. The first two weeks of the month were predominantly unsettled and wet, with rain almost everyday. Heaviest rainfalls occurred in the Toronto area and near the north shore of Lake Ontario on August 15 and during the night of August 26. On each occasion, in just a matter of hours many localities received between 70 and 100 millimetres of rain. The intensity of downpours were astounding, and can be expected to occur once every 50 years. Needless to say there was widespread flooding in and around Toronto. Toronto recorded 186.9 mm of rain this month, making this the second wettest August in 147 years, next only to 1915, when 266.8 mm was recorded. North of Toronto, totals for the month were as high as 270 mm, making this the wettest summer in 58 years. Despite the rainfalls, total hours of sunshine were near seasonal values across the province. Surprisingly it was much drier across northern Ontario, where tempertures averaged near normal.

Québec

There was little improvement to an otherwise cold and wet summer; the coolest since 1982. Weekends seemed to be especially unsettled and wet. Heavy showers and thunderstorms, some in the severe category, were a common phenomena during the first half of the month. Golfball sized hail was reported on a number of occasions in the south. Heavy downpours on August 15, produced 45 mm of rain in the southwest. A tornado was observed near Maniwaki the same day. Heavy rains of up to 100 mm drenched the St. Lawrence Valley during the week of the 19th. Thirty degree readings early in the month were short lived, when Arctic air covered the province later in the period, giving sunny but unseasonably cool weather. Widespread frost was reported in agricultural districts the final week of the month. The seasons first snow fall occurred across northern locations.

Atlantic Provinces

In the Maritimes, it was cloudy and cool overall, especially during the latter half of the month. On August 29, Charlo set a new monthly minimum temperature record of -0.1°C. With a few exceptions, rainfall in Nova Scotia and Prince Edward Island was light. In contrast it was the wettest August at Charlo in 19 years. Tropical storm Charley, which passed south of Nova Scotia on the 19th, dumped heavy rain on Atlantic coastal communities; luckily winds in excess of 100 km/h remained offshore. Sable Island reported the second highest August rainfall, 255.2 mm, since records began in 1891. Sunshine was deficient everywhere. At Charlo and Summerside it was the cloudiest August on record. In Newfoundland it was a relatively pleasant month, with dry seasonably warm weather. Precipitation was especially light in Labrador, with temperatures on a number of occasions reaching 30°C. Only western sections were cloudier than normal, and have also experienced their first snowfall.

CLIMATIC EXTREMES IN CANADA - AUGUST 1986

MEAN TEMPERATURE:		
WARMEST	LYTTON, BC	24.1°C
COLDEST	MOULD BAY, NWT	0.5°C
HIGHEST TEMPERATURE:	LYTTON, BC	38.1°C
LOWEST TEMPERATURE:	RESOLUTE, NWT	-6.9°C
HEAVIEST PRECIPITATION:	SABLE ISLAND, NS	255.2 mm
HEAVIEST SNOWFALL:	CAPE DYER, NWT	16.2 cm
DEEPEST SNOW ON THE GROUND ON AUGUST 31st, 1986:	ALERT/EUREKA, NWT	1.0 cm
GREATEST NUMBER OF BRIGHT SUNSHINE HOURS:	VICTORIA GONZ. HTS, BC	356 hours

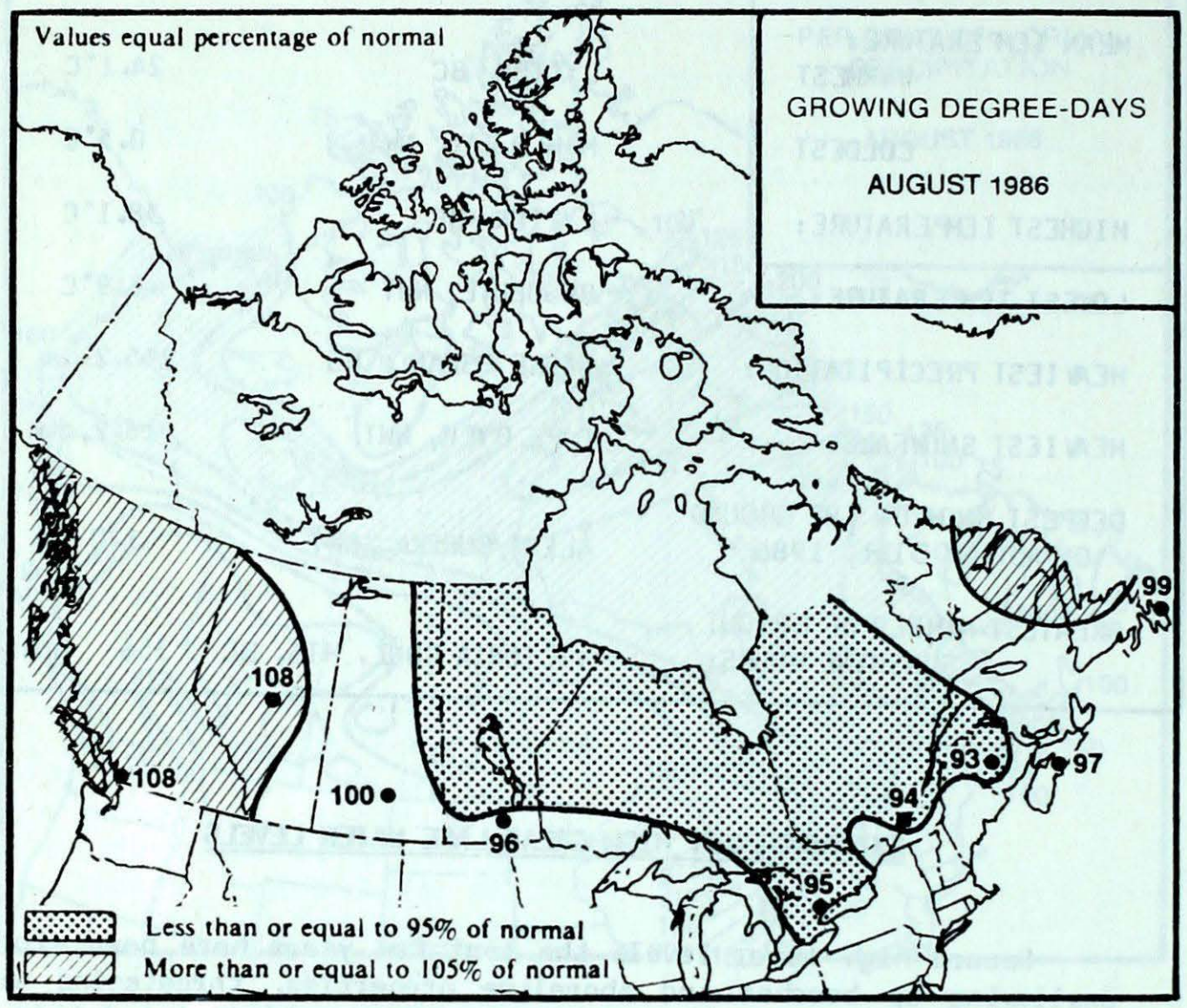
EXTRAORDINARY HIGH GREAT LAKE WATER LEVELS

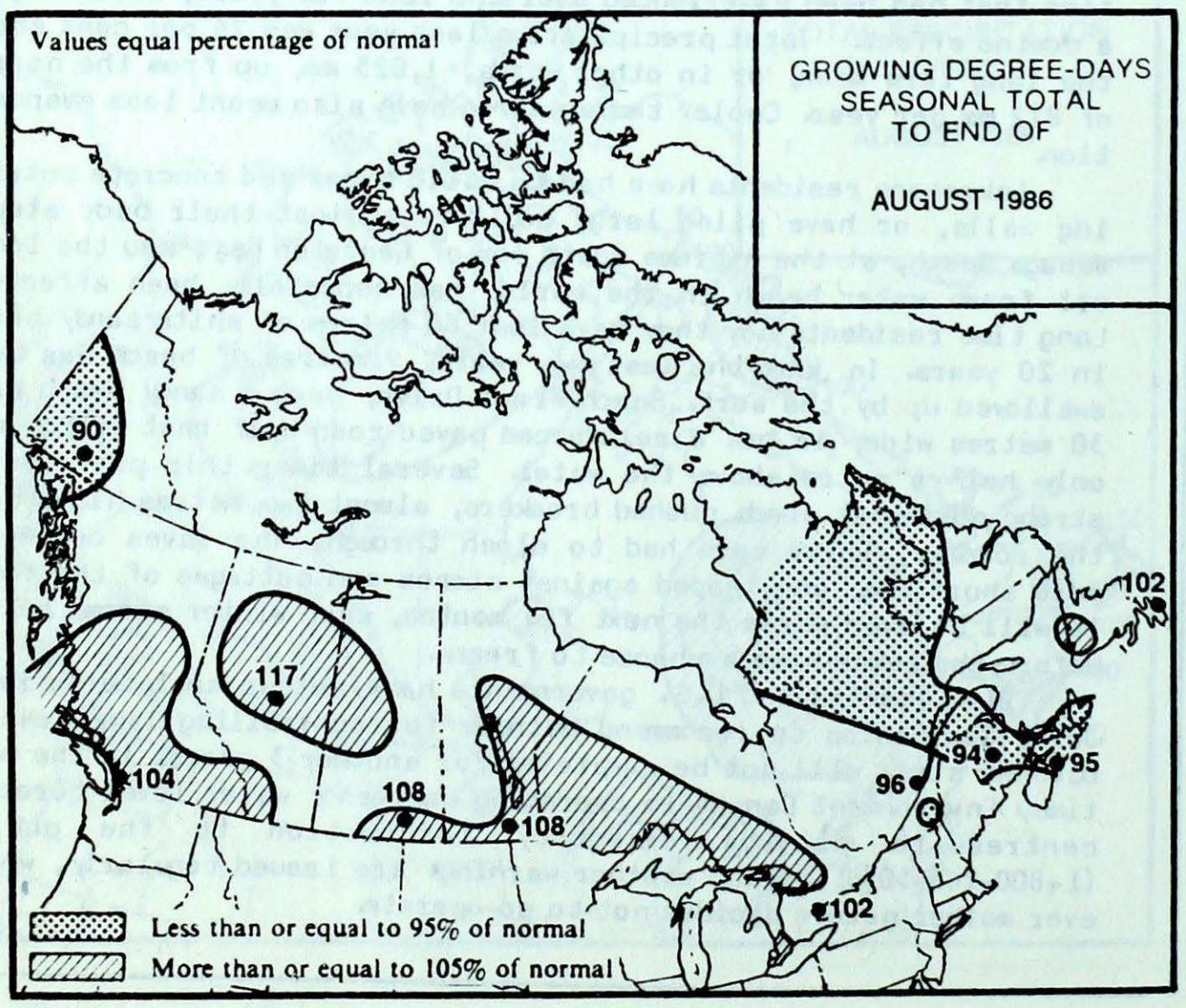
Record high water levels the last few years have been slowly swallowing up beaches and shoreline properties, threatening many homes and cottages. All of the Great Lakes are affected, but this is especially true for Lake Erie, Lake Huron and Georgian Bay, where the outflow of water cannot be controlled. Water levels on Lake Huron and Georgian Bay were 16 cm above that of one year earlier, and are 78 cm above the long term average. The blame is put on the heavy precipitation that has been experienced over the last few years, resulting in a domino effect. Total precipitation last year was 26 per cent above the long term mean, or in other words, 1,025 mm, up from the normal of 812 mm per year. Cooler temperatures have also meant less evaporation.

Lakeshore residents have had to build steel and concrete retaining walls, or have piled large boulders against their back steps. Wasaga Beach, at the extreme south end of Georgian Bay, and the longest fresh water beach in the world, has especially been affected. Long time residents say they have lost 60 metres of white sandy beach in 20 years. In just the last two years, 9 metres of beach has been swallowed up by the surf. Beach Front Drive, once a sandy beach road 30 metres wide, is now a reinforced paved road half that width, and only half a metre above the water. Several times this past month, strong northwest winds pushed breakers, almost two metres high, onto the roadway, where cars had to slosh through. The waves collapsed more shoreline, and lapped against stores and cottages of the town. It will be even worse the next few months, when winter storms set in before the Lakes have a chance to freeze.

The Canadian and U.S. governments have set up an International Joint Commission to recommend methods for controlling lake levels, but the study will not be completed for another 3 years. In the mean time, Environment Canada is operating emergency water level forecast centres to provide emergency information to the public (1-800-265-5036). Also, weather warnings are issued regularly, whenever mother nature decides not to co-operate.

GROWING DEGREE DAYS

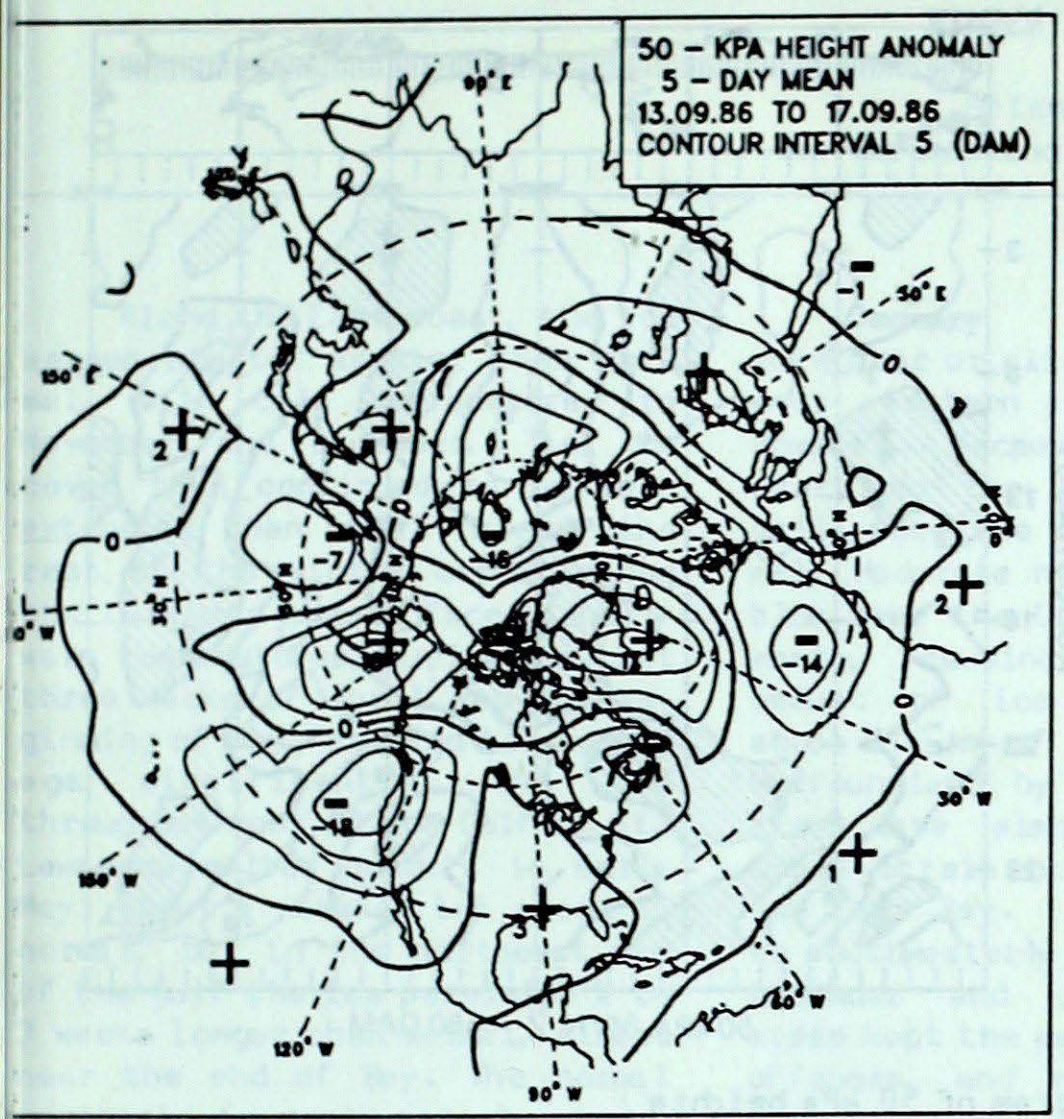




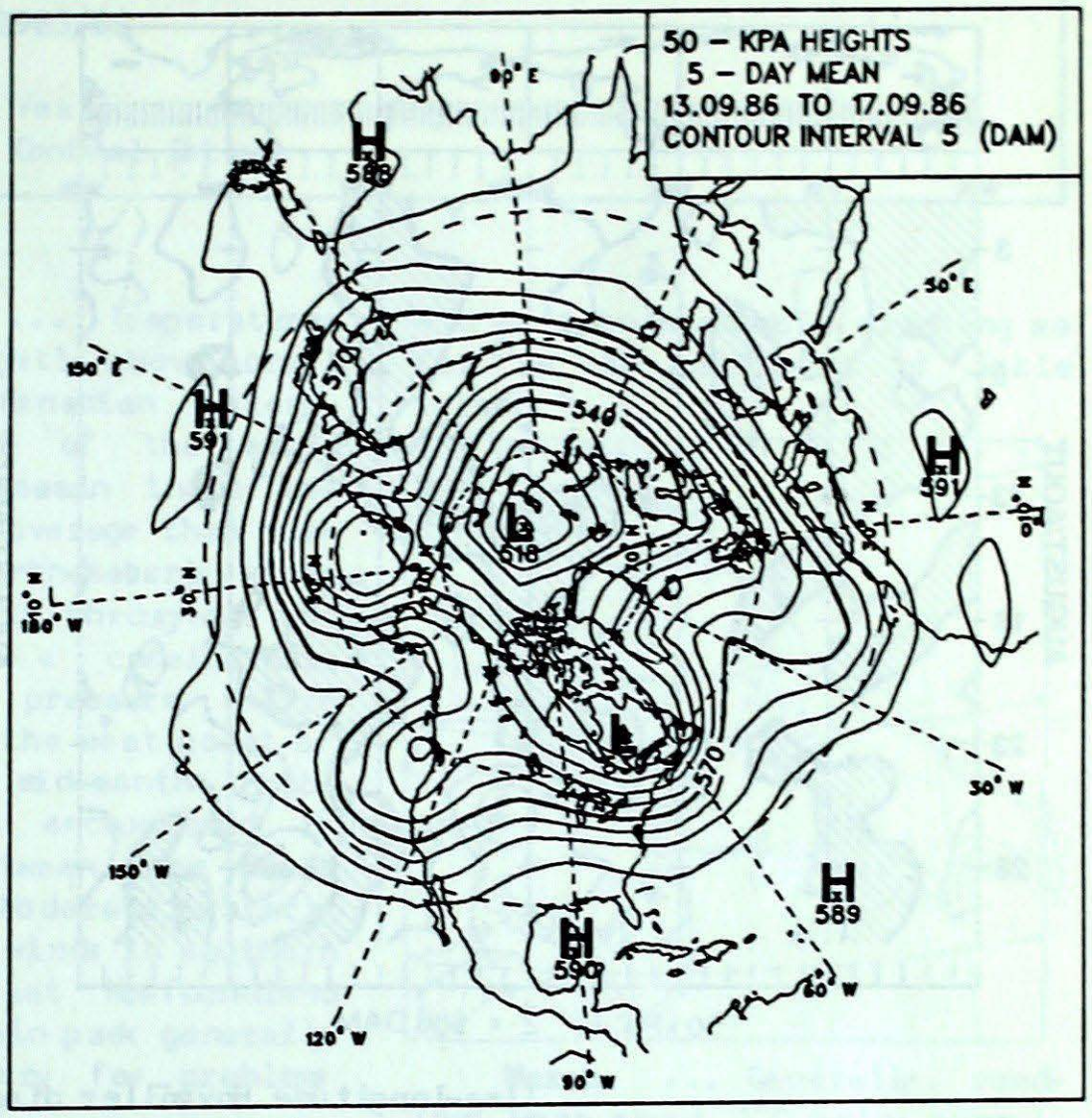
SEASONAL TOTAL OF GROWING DEGREE-DAYS TO END OF AUGUST

	1986	1985	NORMAL
BRITISH COLUMBIA			
Abbotsford	1633	1556	1469
Kamloops	1981	1941	1872
Penticton	1889	1866	1871
Prince George	962	808	960
Vancouver	1616	1536	1548
Victoria	1453	1389	1417
ALBERTA			
Calgary	1266	1251	1158
Edmonton Mun.	1402	1363	1197
Grande Prairie	1178	1203	1160
Lethbridge	1527	1512	1424
Peace River	1204	1167	1124
SASKATCHEWAN			
Estevan	1634	1585	1559
Prince Albert	1348	1230	1278
Regina	1547	1436	1430
Saskatoon	1461	1413	1425
Swift Current	1439	1432	1397
MANITOBA			
Brandon	1436	1334	1448
Churchill	521	525	525
Dauphin	1429	1284	1392
Winnipeg	1657	1509	1534
ONTARIO			
London	1760	1778	1745
Mount Forest	1524	1419	1393
North Bay	1407	1365	1457
Ottawa	1782	1714	1700
Thunder Bay	1326	1209	1223
Toronto	1788	1696	1756
Trenton	1755	1685	1739
Windsor	2119	2112	2009
QUÉBEC			
Baie Comeau	908	949	1008
Maniwaki	1409	1395	1374
Montréal	1746	1700	1759
Quebec	1403	1459	1467
Sept-Iles	876	946	905
Sherbrooke	1452	1396	1552
NEW BRUNSWICK			
Charlo	1158	1232	1262
Fredericton	1386	1471	1470
Moncton	1302	1343	1358
NOVA SCOTIA			
Sydney	1097	1212	1195
Truro	1242	1265	1242
Yarmouth	1232	1197	1185
PRINCE EDWARD ISLAND			
Charlottetown	1270	1318	1276
NEWFOUNDLAND			
Gander	1038	1027	1022
St. John's	918	927	898
Stephenville	1090	1079	1034

ATMOSPHERIC CIRCULATION



Mean 50 kPa height anomaly (dam)
September 13 to September 17, 1986



Mean 50 kPa heights (dam)
September 13 to September 17, 1986

MEAN 50 kPa CIRCULATION
August 1986

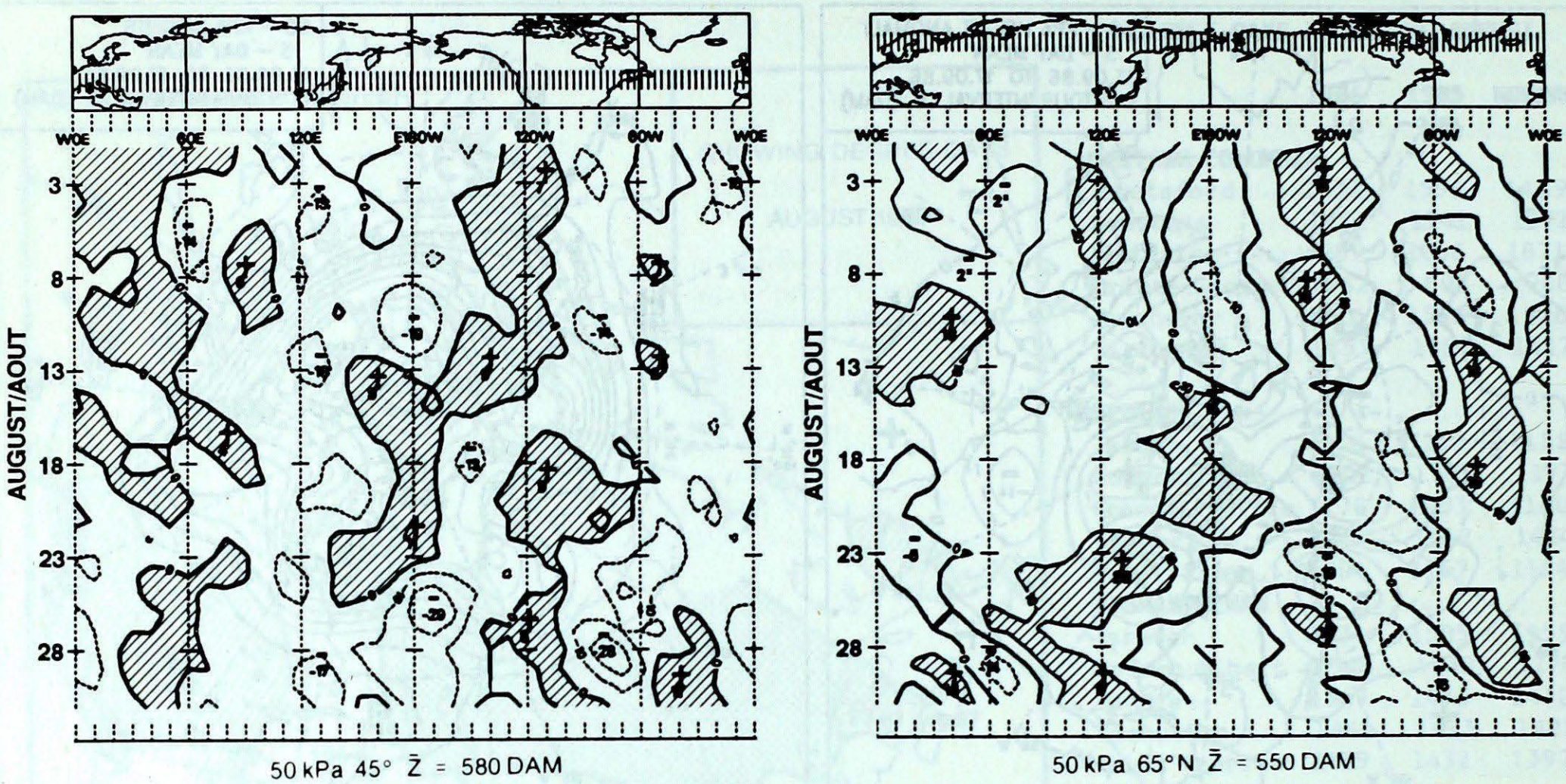
The mean upper level circulation for the month of August 1986 ended the annual summer warming cycle. The gradient of flow was more constant than the previous month, when two separate circulation streams could be identified. There were, however, several height anomalies determined from the monthly climatic mean.

The position of the long wave trough over eastern Canada, which had retrogressed 10 to 15 degrees westward at high latitudes in July, persisted and extended southward in August. Even though the geopotential heights were near normal in the vicinity of this trough, it was a more pronounced feature than during July. This can be explained by the merging of the polar and maritime flow streams, the deepening of the polar vortex and the appearance of a weak ridge over the north Atlantic. Also, a Pacific ridge over western Canada contributed to the intensification of the central trough and a tightening of the gradient across the country.

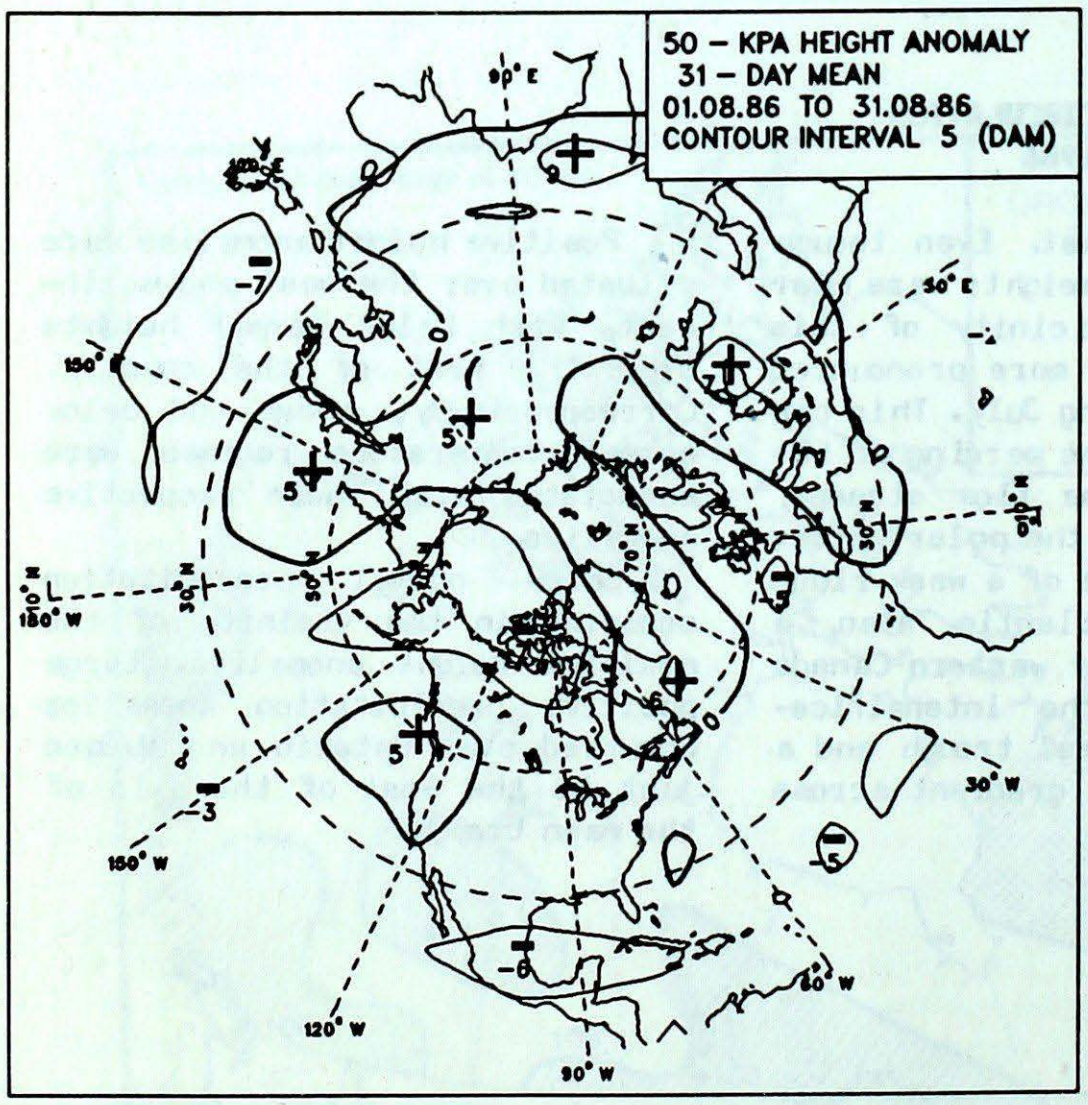
Positive height anomalies were situated over the west and northeast, with below normal heights over the rest of the country. Correspondingly, above and below normal temperature regimes were associated with these respective anomalies.

Below normal precipitation occurred in the vicinity of the positive height anomalies. Large positive precipitation anomalies occurred over Ontario and Québec just to the east of the axis of the mean trough.

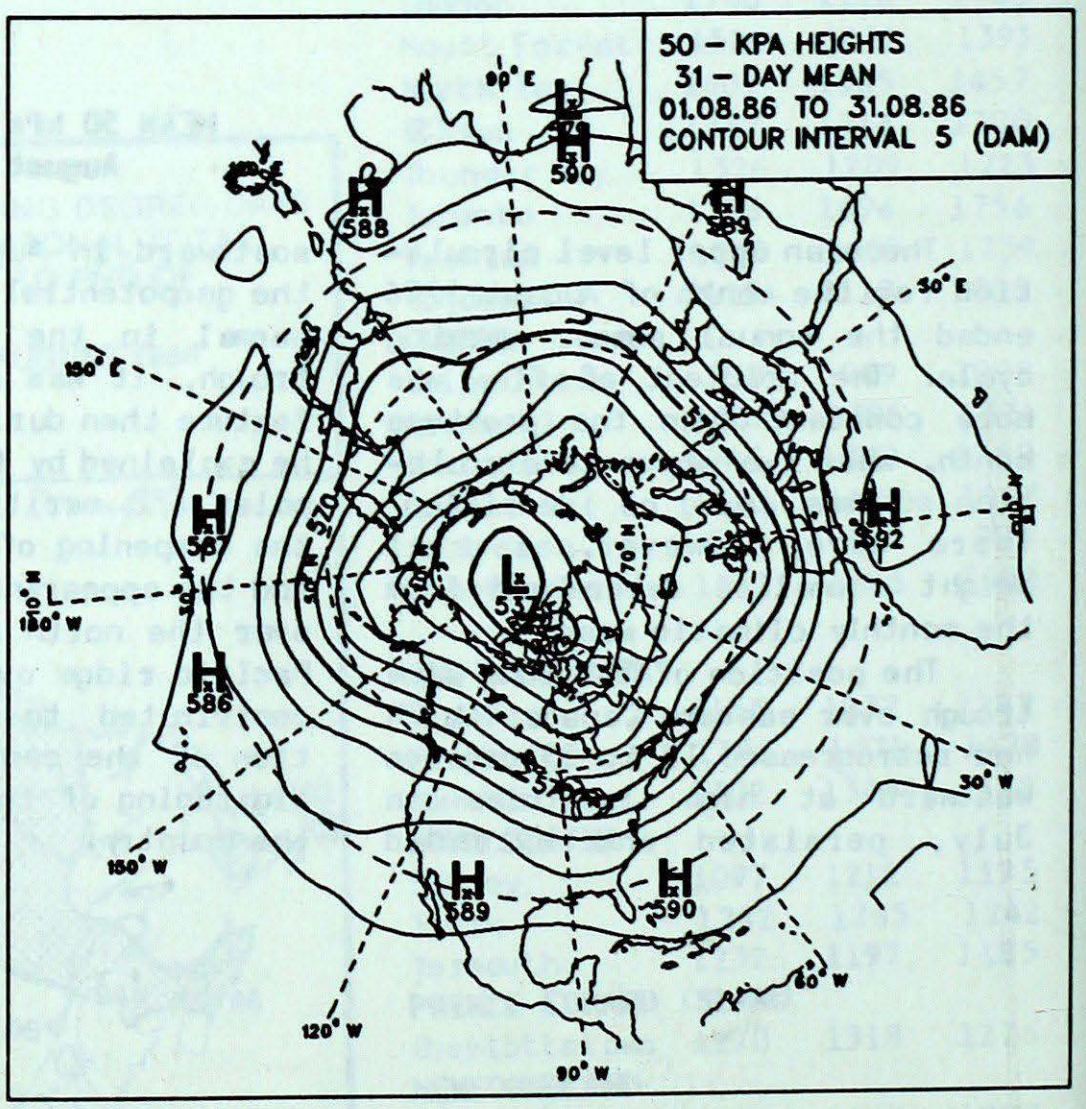
ATMOSPHERIC CIRCULATION



Time-longitude Hovmöller diagram of 50 kPa heights
at latitudes 45°N and 65°N



Mean 50 kPa height anomaly (dam)
August 1986



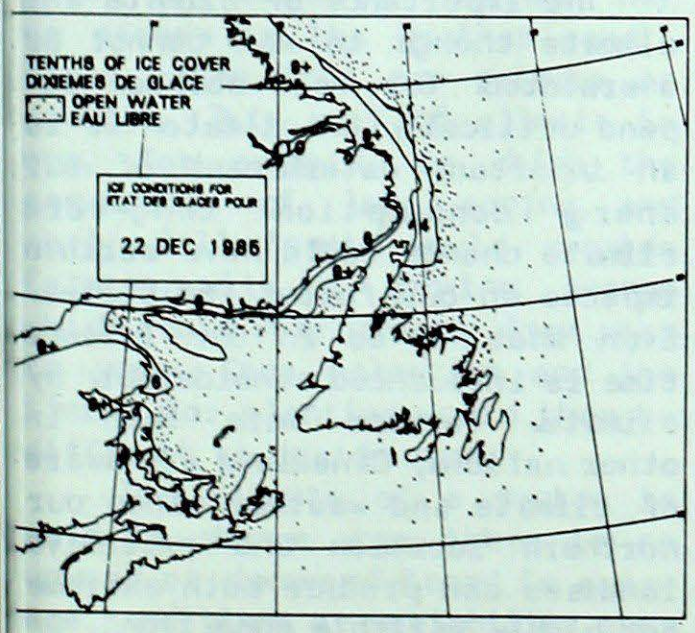
Mean 50 kPa heights (dam)
August 1986

ICE CONDITIONS IN EASTERN CANADIAN WATERS WINTER 1985/86

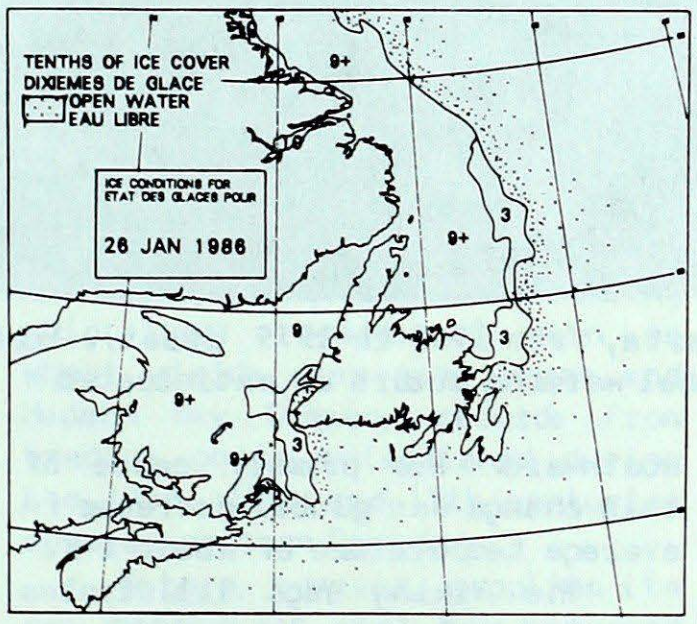
Brian Veale
Ice Forecasting Central Ottawa

Along the East coast, the ice season started earlier than normal, with cold temperatures in November and December. The ice cover then continued to be more extensive than usual through the rest of the winter except along the Labrador coast. Exceptionally warm temperatures, during the last three weeks of April and the beginning of May, reduced ice coverage significantly. The ice throughout most of the Gulf of St. Lawrence melted quickly in early May, about a week or two ahead of normal, but in the northeast arm of the Gulf the ice persisted 2 to 3 weeks longer than normal, almost near the end of May. The normal northerly to northwesterly winds, which push the ice southward along the Labrador coast into east Newfoundland waters, did not materialize in April and May. As a result, by the end of May, the pack ice cleared south of Goose Bay, much earlier than normal. According to statistics, this should occur this early only once in about every ten years.

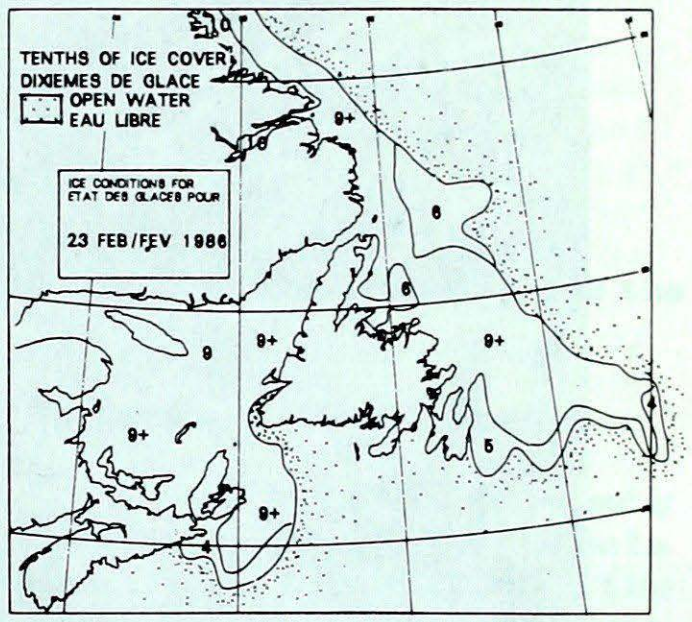
November and December ... With temperatures 1 to 2 degrees celsius below normal, ice formed early, and by mid-December ice was forming along the southern Labrador coast and as far south as Notre Dame Bay. The pack is normally north of Cartwright at this time in the season.



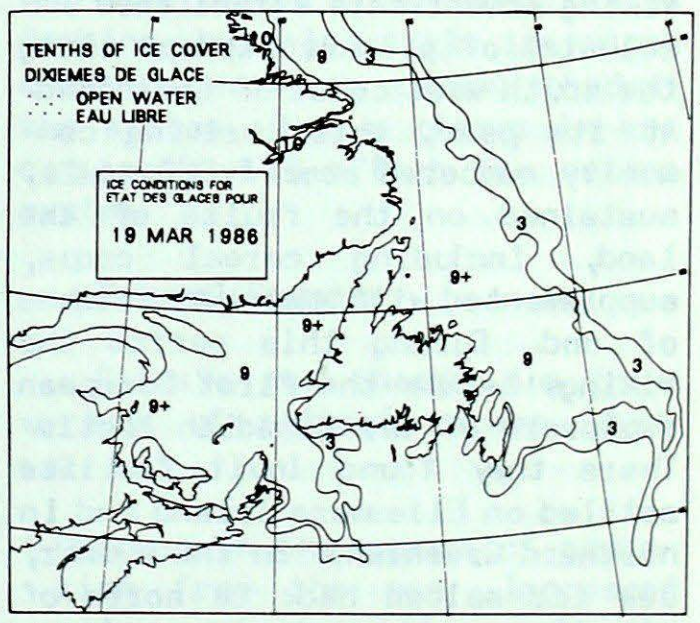
January ... Temperatures were near or slightly above normal over eastern Canadian waters. However, because of the early start to the season there was still more ice coverage than normal. Moderate northeasterly winds blew over the Gulf throughout the month, causing a considerable amount of ice pressure within about 100 km of the west coast of Newfoundland by mid-month. Problems were also encountered in Cabot Strait between Cape North and Cape Ray. Moderate westerly to southwesterly winds in southern Labrador and east Newfoundland areas kept the main pack generally offshore, and very few problems were reported.



February ... Near normal temperatures accompanied a moderate northerly circulation over the Gulf and along the Labrador coast, and a moderate northwesterly flow off Newfoundland's east coast. The pack was thus a little narrower than usual along the Labrador coast, but it extended farther southeastwards than normal. At the end of the month, it extended as far as 400 km east-southeast of St. John's. The Gulf was ice covered, as is normal, but pressure continued to give trouble to shipping along the west Newfoundland coast and in Cabot Strait for most of the month. Ice from Cabot Strait also extended farther south and east than normal, reaching as far as 40 km north of Sable Island.



March ... Generally, readings were about 2°C below normal, with a light westerly flow over the Gulf, and a moderate westerly circulation off eastern Newfoundland. The ice pressure eased along the west coast of Newfoundland and in Cabot Strait, but some ice briefly reached as far east as St. Pierre. The pack ice still extended further southeast than normal off the Newfoundland coast, but the winds kept the ice generally offshore.



April ... The first week continued cool, but the last three weeks were much warmer than normal, so that the month averaged out to be about 2 to 4 degrees

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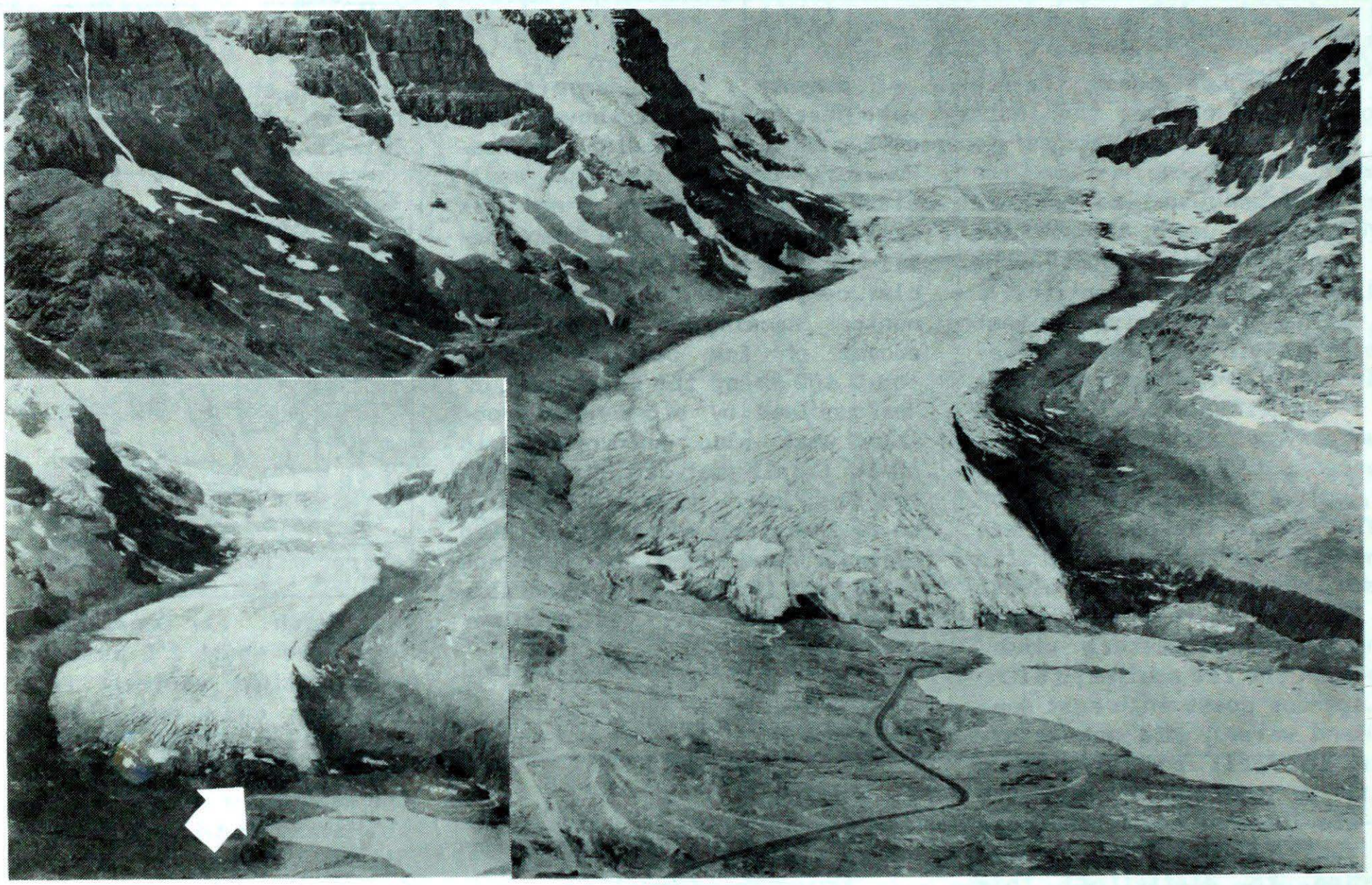
FEATURE

CLIMATE CHANGE AND VARIABILITY

prepared by
Communications Directorate



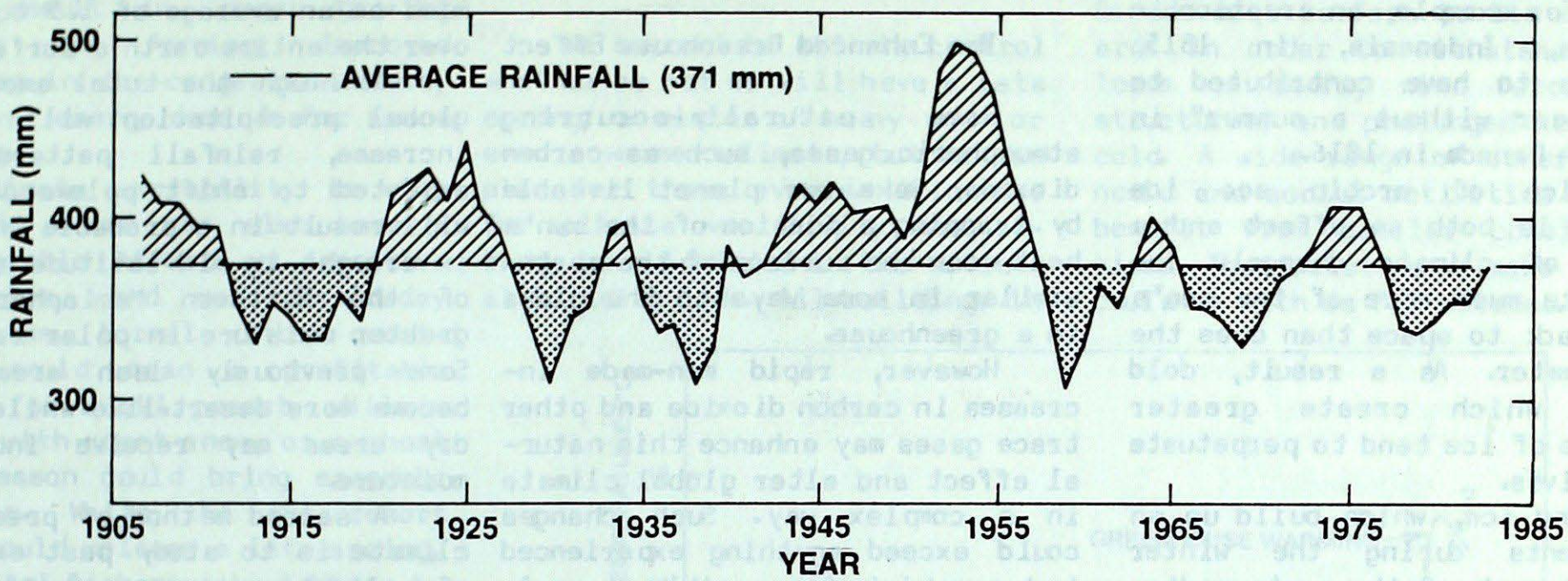
Retreat of the Athabasca Glacier, Alberta, from 1965 to 1979 (inset). Such melting back of glaciers may become a world wide phenomenon if future global warming occurs as anticipated.

One thousand years ago, Viking adventurers established two colonies of pioneer farmers along the south-west coast of Greenland. At its peak, this thriving community numbered some 5,000 souls, sustained on the fruits of the land, including cereal crops, supplemented with abundant catches of cod. During this period the Vikings became the first European explorers of our Canadian Arctic. There they found Inuit families settled on Ellesmere Island and in northern Greenland. In the summer, sea ice melted back to north of 80°N, and the treeline was 100 km further north than today. Four hundred years later the Viking colonies had completely disappeared, permafrost had increased its grasp on the farmland, ice one again choked the sea routes and the Inuit people had retreated southward. The primary cause of this change was global decrease in average temperature of about 1°C.

The Viking saga illustrates the changing nature of our climate and its influence on past societies. Natural climatic forces, such as particles from major volcanic eruptions, changes in the earth's orbit and variations in the energy from the sun, are constantly at work cooling or warming the earth's surface. Such changes in turn alter the earth's regional and global climates on varying time scales of years to many centuries.

A recent example of the climate change of a region is the shift to desert in the Sahel region of Africa, which contributed to the starvation of many of its inhabitants. The ice ages which have recurred throughout the earth's history, the most recent of which ended only 10,000 years ago, are examples of long term climate change on a global scale. There is now growing concern that man himself is becoming the cause of a major shift in global climate, possibly within the next 50 years.

The importance of climate and climate change to man cannot be overstated. Our food sources depend critically on climate. It is an important determinant of our energy consumption. Long-term climate change could have serious impacts on our forest industries. Even what we do in our leisure time is influenced considerably by climate. Perhaps more than in other nations, Canadians are aware of climate and weather since our northern location and extensive landmass can produce both extreme and highly variable conditions.



Variations in annual precipitation can affect prairie crop yields. Note the dry period in the 1930s and the wet years in the early '50s.

The Variability of Climate

On a day-to-day scale, weather varies a great deal. The progression of the seasons brings even greater changes and one year can be quite dissimilar from the next. The weather in one area can be different as well from that of nearby localities.

Climate can be described as the weather conditions that normally occur in a region, over a period of 30 or more years. This enables us to describe average temperature and precipitation values for a particular day, month or season. The variability of the weather is also discussed in relation to this mean value. These two pieces of information, put together, can define the climate of a region.

Variability is more important than one might first think. In a highly variable climate one might rarely experience an "average" day or season as the weather conditions swing from one extreme to another. This sort of climate is one, for example, in which the occurrence of late spring and early fall frosts would provide farmers with a growing season which could vary greatly from year to year. Crop selection and the timing for planting would then be difficult to decide upon.

The climate of a region is said to change when there is an upward or downward trend in average conditions or variability over a number of years.

What Methods are used to Detect Climate Change?

Over the past 100 years the network of meteorological observing stations in Canada has expanded considerably. These stations give detailed information about temperature and precipitation which can be used to detect climate changes.

Our knowledge of climate prior to the establishment of the meteorological network is based on a variety of records, including ship logs, records of corn or wheat yields over many years and Hudson Bay Company records from trading posts established during the 17th, 18th and 19th centuries across northern Canada.

Nature, however, supplies its own records of what has happened in the distant past. The Athabaska Tar Sands, which are estimated to be the world's largest oil reservoir, are evidence of a past warmer and wetter climate. Pollen, tree rings, and the fossils of plants and animals all provide information that can be used to reconstruct past climates. The land itself can give clues of past climates, such as the pathways dug by glaciers.

These information sources suggest that the difference in the mean annual temperature over the hemisphere between the ice ages and the warmer periods in between is actually only about 6°C. Yet such changes can completely change the nature of the earth's surface.

The Causes of Climate Change

Natural forces are constantly at work to change our climate. Some are large and change on time scales of millenia or longer, others are much weaker but can cause changes on yearly time scales. Now man's activities have also begun to affect climate in a major way, possibly overwhelming the natural causes within the next few decades.

Climate itself is the result of the interaction between five basic components: the atmosphere, the ocean; land; ice; and biota (plants and animals). These components not only exchange energy and moisture in a very complicated fashion, but also cycle important elements such as carbon through the system. Thus a change in any component will effect the entire system.

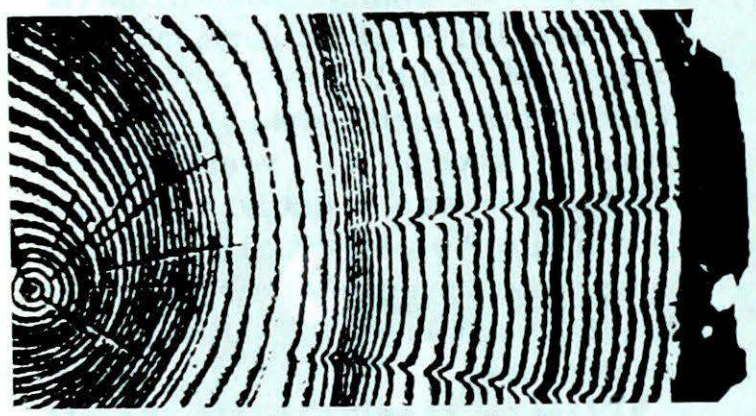
Natural Causes:

Climate can change due to a variety of natural causes, such as:

- Changes in the amount of radiation from the sun. Increased solar output will result in a warmer world, while the opposite could cause an ice age. Even a very small change in radiation of 1/2% would have significant consequences.
- Dust in the high atmosphere from volcanic explosions may result in a cooling effect due to

increased reflection of the sun's rays. For example, an eruption in Tambora, Indonesia, in 1815, appears to have contributed to "the year without a summer" in eastern Canada in 1816.

- Expansion of arctic sea ice (which is both an effect and a cause of climate change). Ice reflects much more of the sun's rays back to space than does the open water. As a result, cold years which create greater amounts of ice tend to perpetuate themselves.
- Snow and ice, which build up on continents during the winter reflect much of the sun's radiation. It has been suggested that ice ages could not occur if the earth's land mass were located equatorward, due to the resulting lack of high winter reflectivity.



Variations in climate, such as dry and wet years, are reflected in the annual growth rings in trees.

- Changes in the earth's orbit around the sun affect the distribution of radiation received from the sun. For example, depending upon the tilt of the earth's axis, more radiation could be received in Canada in winter and less in summer.
- Continental drift. Land masses which drift to different latitudes will experience corresponding changes in climate.
- Composition of the atmosphere. The amount of the sun's radiation reaching the earth's surface, and manner in which the earth's heat radiation returns to space are determined mainly by the gaseous and particulate composition of the atmosphere. Some important components are gases such as water vapour, carbon dioxide and ozone, clouds, and dust.

Man-Made Causes:

The Enhanced Greenhouse Effect

Some naturally-occurring atmospheric gases, such as carbon dioxide, make our planet liveable by trapping a portion of the sun's heat near the surface of the earth, similar in some ways to the glass in a greenhouse.

However, rapid man-made increases in carbon dioxide and other trace gases may enhance this natural effect and alter global climate in a complex way. Such changes could exceed anything experienced in human history, possibly as early as the year 2030.

Although the enhancement of the greenhouse effect will be man's primary effect on climate, other activities can also affect our climate; particularly on a regional scale:

- Increase in atmospheric dust from soil cultivation and destruction of plant cover by excessive grazing (reducing the amount of sunlight and hence causing cooling).
- Waste heat generation, for example, making cities warmer than the surrounding countryside.
- Destruction of vegetation (tropical forests are being destroyed at a rate of 110,000 square km/year) which changes how the sun's rays are reflected from the earth's surface and adds carbon dioxide to the atmosphere.
- Building of water diversion systems and reservoirs such as the James Bay project, which may change the amount of evaporation and hence local precipitation.
- Covering of the earth's surface by materials such as concrete. This increases run-off and evaporation of rainfall.

How is our Climate likely to Change in the Future?

One method used to predict climate change is through the development of computer models of the earth-atmosphere system which include such effects as increasing carbon dioxide. Such models suggest that climate trends over the next few centuries will be dominated by an enhanced greenhouse effect. All indicate significant warming within the next 50 years, possibly by as much as an average of 1.5 to 4.5°C over the entire earth's surface.

Although the total amount of global precipitation will likely increase, rainfall patterns are expected to shift poleward. This will result in a probable increase in drought in mid-latitude regions of the Northern Hemisphere and greater moisture in polar regions. Some previously lush areas may become more desert-like while other dry areas may receive increased moisture.

A second method of predicting climate is to study past examples of climate change, particularly warm periods. Results from this approach, combined with output from computer models, suggest the warming of the next few hundred years could be followed by a long-term cooling trend. In 20,000 years much of Canada could again be covered with ice.

It is a mistake, however, to view future climate in terms of a continuous warming followed by a steady cooling. The many other factors affecting the world's weather are bound to be influential. For example, increased volcanic activity could reduce or even reverse a warming trend for a period of years or even decades.

What does Climate Change and Variability Mean to Canadians?

In a northern country like Canada, even small changes in climate can have considerable impacts on our lifestyle. Many of our major economic activities such as agriculture and shipping, can be greatly affected by both change and variability in the climate.

The Canadian Climate Program, initiated by Environment Canada, is currently co-ordinating the efforts of universities, government and industry to gain a fuller understanding of the impact of climate change on our nation. Already, the program is able to give us a preliminary indication of the effects of future changes. For example, over the next 50 years, a warmer climate with altered rainfall patterns will have major impacts on our country. Reduced rainfall could mean more frequent droughts on the prairies and lower lake levels on

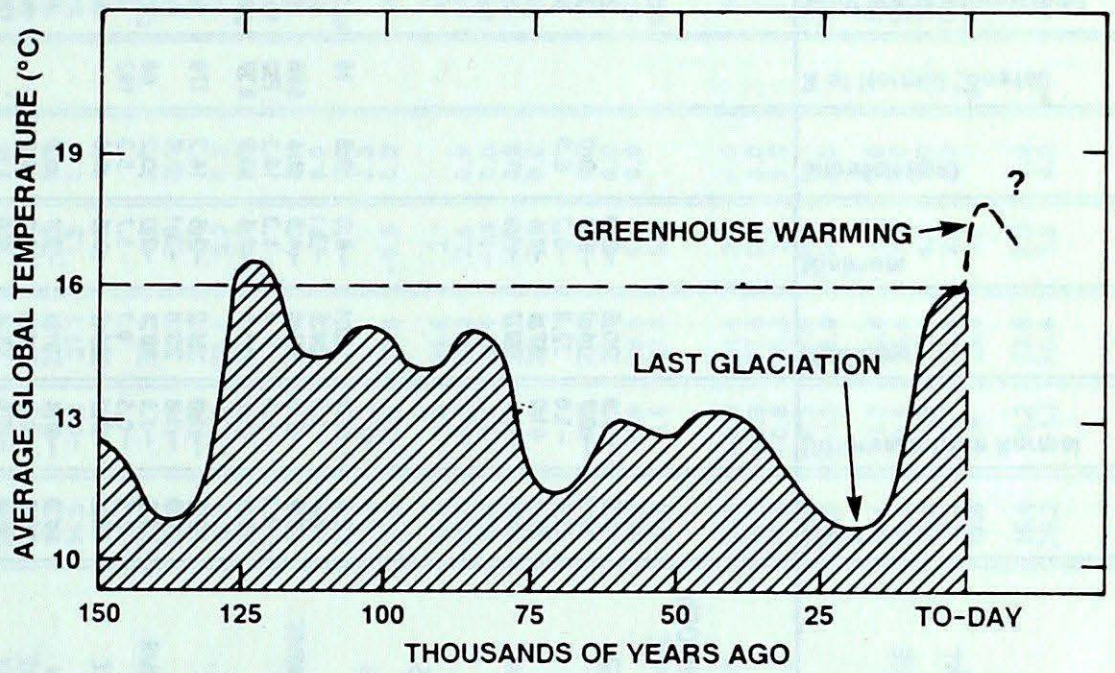
the Great Lakes. A warmer climate would result in longer growing seasons for farming, improved shipping in ice-congested waters, and lower energy demands for space heating.

Climate variability is with us today, and can also have a considerable effect on sensitive industries, and our day-to-day activities. Normal winter conditions could mean a profitable season for a ski resort, while a winter with scant snow, or a short cold season could bring economic hardship. While the ski resort owner would welcome a late spring, commercial fishermen would have to delay their first catch until the ice cleared, and farmers would be late in planting crops.

Variations in precipitation can affect lake levels, causing erosion of shorelines in years of high water, and reductions in hydroelectric power in years of low levels. Reduced precipitation can bring drought to agricultural lands and lower water levels in reservoirs.

Planning with Climate

We may not be able to control whether or not we will have a late spring, a winter of heavy snow or even a warmer climate, but we can plan for these events. Allowance for climate variability has already been included in the National Building Code. All buildings in Canada must conform to its standards in order to withstand snow loads on roofs, wind forces on structures, and prolonged heat or cold. A wide range of other economic and social activities could benefit from similar considerations. The decisions we make today could be with us for decades.



A change of only 6°C in global temperature separates ice ages from warmer periods. Anticipated global warming over the next 50 years could exceed anything experienced in human history.

... Ice Conditions continued

above normal. Thus early clearing developed in most of the Gulf of St. Lawrence, except in the northeast arm, while the east Newfoundland pack shrank to a normal size. Just as significant was the lack of the normal northwesterly circulation, moving the ice from along the Labrador coast toward northeast Newfoundland waters. Therefore the ice there was not replaced as it melted.

May ... Normal to slightly above normal temperatures were prevalent along with very light winds. Open water developed in the Gulf earlier than usual in all areas, except the northeast arm. Along the Labrador coast, from Hamilton Inlet to Battle Harbour, there were just a few strips of ice at the beginning of the month; therefore an abnormally early clearing along the southern Labrador coast and in east Newfoundland waters ensued. By the third week of May, the southern edge of the main pack had retreated northward to Hamilton Inlet instead of its usual location in Notre Dame Bay. Final melt of the ice along the northeast coast of Newfoundland ocurred on or about the 27th of May.

Because of the early start to this year's ice season it looked as though there was going to be a repeat of the severe 1984/85 ice season in east Newfoundland waters. However, favourable winds kept the main pack off shore for most of the season, and very few problems were experienced. It was a different story in the Gulf of St. Lawrence where cold northwesterly winds combined to create difficult ice conditions. From mid-January well into March many vessels were beset in Cabot Strait, as the winds created ice pressure in that area. The persistent winds also pushed the ice onshore along the west coast of Newfoundland, where numerous vessels reported problems through the entire season.

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BRITISH COLUMBIA													
ABBOTSFORD	19.3	2.4	34.3	6.8	0.0		0.9	1	0	0	312	127	7.0
ALERT BAY	14.7	0.4	22.2	6.3	0.0		1.2	1	0	1	X		100.8
AMPHITRITE POINT	14.4	0.1	23.0	9.8	0.0		13.6	12	0	3	X		78.4
BLUE RIVER	17.0	1.4	32.4	−0.7	0.0		15.9	21	4	0	283	125	0.0
BULL HARBOUR											X		
CAPE SCOTT	13.6	−0.3	17.6	9.1	0.0		24.5	23	0	13	X		134.6
CAPE ST.JAMES	14.4	0.6	18.6	9.8	0.0		34.3	43	0	7	236	*	111.6
CASTLEGAR	21.3	1.6	35.2	7.8	0.0		30.7	67	0	4	326	118	2.5
COMOX	19.1	2.1	30.7	8.2	0.0		14.8	33	0	2	X		10.0
CRANBROOK	19.8	2.4	33.1	8.0	0.0		17.6	54	0	4	336	*	5.5
DEASE LAKE	10.5	−1.1	25.7	−2.9	0.2		41.0	78	0	10	213	105	233.3
ETHELDA BAY	13.9	0.2	22.4	4.7	0.0		98.5	57	0	10	X		126.9
FORT NELSON	15.1	0.3	31.2	−1.6	3.2		28.2	46	0	8	311	*	99.9
FORT ST.JOHN	15.6	1.2	30.0	0.2	0.0		7.3	12	0	4	X		94.0
HOPE	20.9	2.5	36.5	9.0	0.0		1.8	3	0	1	305	137	1.7
KAMLOOPS	22.0	2.2	35.0	8.3	0.0		13.9	50	0	4	331	118	0.0
KELOWNA	20.0	2.2	33.7	4.0	0.0		22.2	72	0	2	321	123	5.1
LANGARA	13.6	0.4	19.5	8.9	0.0		71.3	69	0	14	X		
LYTTON	24.1	3.2	38.1	10.4	0.0		1.2	7	0	0	280	116	MSG
MACKENZIE	14.2	0.4	30.0	−1.5	0.0		11.6	19	0	5	321	133	127.8
MCINNES ISLAND	14.6	0.3	20.3	9.0	0.0		39.6	26	0	11	X		106.0
PENTICTON	21.5	2.0	34.6	6.4	0.0		5.4	20	0	1	312	115	0.3
PORT ALBERNI	19.9	*	36.0	4.3	0.0	*	1.4	*	0	1	338	*	6.2
PORT HARDY	14.8	1.0	24.6	5.0	0.0		11.6	17	0	3	251	136	99.3
PRINCE GEORGE	15.3	1.2	29.3	−0.3	0.0		14.1	20	0	4	330	130	89.9
PRINCE RUPERT	13.5	0.4	19.9	4.7	0.0		105.5	66	0	12	202	146	140.4
PRINCETON	19.3	2.2	35.7	2.5	0.0		3.8	14	0	1	311	*	0.0
QUESNEL	16.9	1.3	31.2	0.5	0.0		9.4	14	0	5	X		50.7
REVELSTOKE	19.4	1.8	31.4	7.0	0.0		7.5	17	0	2	289	119	7.0
SANDSPIT	15.5	0.8	23.7	9.9	0.0		35.0	70	0	7	218	124	85.9
SMITHERS	15.1	1.0	29.3	0.3	0.0		18.5	42	0	5	292	125	87.4
TERRACE	17.3	1.5	30.1	5.6	0.0		39.8	62	0	7	260	128	48.1
VANCOUVER HARBOUR	18.9	1.7	28.2	10.9	0.0				0	0	X		9.3
VANCOUVER INT'L	18.7	1.6	27.9	10.9	0.0				0	0	315	122	9.6
VICTORIA GONZ. HTS	17.2	1.9	29.8	9.3	0.0				0	0	356	123	42.3
VICTORIA INT'L	17.7	1.6	30.5	7.5	0.0		0.0		0	0	345	126	30.9
VICTORIA MARINE	15.1	0.9	27.7	6.4	0.0				0	0	X		91.4
WILLIAMS LAKE	16.9	1.9	31.0	2.4	0.0		25.3	59	0	6	340	121	49.6

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YUKON TERRITORY													
BURWASH	9.5	−0.9	20.5	−3.9			25.9	67	0	5	X		264.6
DAWSON	11.1	−0.7	24.2	−8.4	0.0		31.6	57	0	9	X		214.5
MAYO	11.6	−1.0	22.8	−5.2	0.0		60.2	145	0	10	X		199.4
WATSON LAKE	11.9	−1.2	27.4	−1.4			40.4	96	0	9	239	104	192.7
WHITEHORSE	11.1	−1.4	22.7	−1.9	TR		54.0	142	0	11	211	91	212.4
NORTHWEST TERRITORIES													
ALERT	2.8	1.9	12.1	−4.0	3.5	16	5.8	20	1	3	305	147	470.4
BAKER LAKE	8.1	−1.6	24.6	−3.1			90.9	243	0	8	230	109	308.2
CAMBRIDGE BAY	3.9	−2.6	13.0	−4.5	3.4	566	18.2	65	0	6	178	101	436.7
CAPE DYER	4.1	−0.5	17.4	−3.3	16.2	152	103.7	202		15	X		432.5
CAPE PARRY	3.8	−1.6	13.5	−1.4	10.2	637	42.5	153	0	8	X		441.5
CLYDE	2.2	−1.8	14.2	−2.5	14.2	179	30.4	116		4	97	50	491.2
COPPERMINE	6.9	−1.8	23.6	−3.1	5.8		33.6	87	0	9	173	90	346.4
CORAL HARBOUR	5.5	−1.9	18.4	−2.2	0.2	66	89.4	200	0	12	167	74	389.0
EUREKA	2.8	−0.5	9.7	−5.7	5.2	192	21.2	182	1	7	159	66	469.0
FORT RELIANCE	13.2	0.3	29.2	0.6	0.0		13.0	32	0	4	X		156.2
FORT SIMPSON	14.0	−0.4	31.4	−3.7	0.0		77.6	173	0	10	228	92	145.0
FORT SMITH	14.0	−0.2	30.5	−1.6	4.0		63.7	149	0	15	202	77	139.2
FROBISHER BAY	5.9	−1.0	18.4	0.0			129.6	220	0	14	95	58	375.6
HALL BEACH	3.2	−1.4	11.5	−2.7	6.2	344	47.7	116	0	12	X		459.5
HAY RIVER	14.9	0.5	30.4	0.0	0.0		62.9	166	0	13	X		119.5
INUVIK	9.9	−0.8	25.1	−3.6	11.0	333	44.9	102	0	11	181	83	249.7
MOULD BAY	0.5	−0.9	10.1	−6.5	7.7	86	7.4	34	TR	2	183	87	544.7
NORMAN WELLS	13.2	−0.2	27.8	−1.3	2.4	*	47.6	81	0	8	207	87	159.1
POND INLET	3.6	−1.1	12.5	−4.6	3.2	177	35.7	92		9	X		447.6
RESOLUTE	1.0	−1.4	7.4	−6.9	15.9	237	26.4	84	0	10	92	57	527.4
YELLOWKNIFE	14.1	0.0	27.9	1.3	0.0		73.8	167	0	7	264	91	132.9
ALBERTA													
BANFF	15.4	1.6	30.5	0.5	0.0		36.8	75	0	8	X		
BROOKS	17.8	0.4	33.5	1.5	0.0		11.8	24	0		304	*	
CALGARY INT'L	16.3	1.1	30.2	5.0	0.0		21.7	39	0	3	320	113	61.3
COLD LAKE	15.8	0.3	29.2	2.5	0.0		16.8	22	0	3	339	132	82.2
CORONATION	15.7	−0.4	32.7	0.4	0.0		27.6	53	0	4	335	116	84.4
EDMONTON INT'L	15.7	0.9	29.7	2.1	0.0		19.7	25	0	3	339	119	77.5
EDMONTON MUNI.	17.0	0.8	29.3	5.5	0.0		18.2	23	0	3	349	126	52.3
EDMONTON NAMAO	16.2	0.6	29.3	4.4	0.0		22.7	30	0	4	X		71.3
EDSON	14.5	1.3	29.6	−1.1	0.0		12.2	13	0	4	319	129	111.1
FORT CHIPEWYAN	14.6	0.1	29.5	−3.0	0.0		60.7	125	0		X		

X = Not observed * = normal missing MSG = data missing

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FORT MCMURRAY	15.2	0.4	30.1	0.0	0.0		20.1	26	0	6	325	131	153.3
GRANDE PRAIRIE	15.4	0.6	31.3	0.6	2.0	333	10.9	18	0	3	346	*	89.5
HIGH LEVEL	13.7	-0.3	29.4	-2.6	1.7		31.6	54	0	6	277	108	139.9
JASPER	15.7	1.5	29.8	0.6	0.0		16.6	34	0	5	322	*	76.0
LETHBRIDGE	18.1	0.5	33.1	1.1	0.0		12.7	26	0	3	320	106	29.9
MEDICINE HAT	19.9	1.0	34.4	3.8	0.0		12.3	33	0	3	327	109	13.9
PEACE RIVER	15.3	1.1	31.0	1.8	0.0		11.3	22	0	5	X		92.8
RED DEER	14.9	0.0	28.0	1.1	0.0		31.1	47	0	5	X		95.0
ROCKY MTN HOUSE	14.8	0.5	28.6	1.2	0.0		30.6	39	0	9	X		140.7
SLAVE LAKE	14.6	0.2	27.2	2.6			27.4	38	0	4	327	133	106.0
SUFFIELD	19.6	1.2	34.4	5.3	0.0		12.1	30	0	4	299	97	16.6
WHITECOURT	15.1	1.2	29.4	0.8	0.0		15.9	18	0	3	X		87.9
SASKATCHEWAN													
BROADVIEW	16.5	0.1	31.7	2.0	0.0		25.4	42	0	3	351	118	77.6
COLLINS BAY	12.6	0.0	26.7	-0.6	0.0		73.4	109	0	15	267	*	172.6
CREE LAKE	13.8	-0.6	29.2	-0.3	0.0		78.1	129	0	10	312	126	129.4
ESTEVAN	18.3	-0.3	35.5	4.5	0.0		18.0	34	0	5	334	107	41.9
HUDSON BAY	15.7	-0.1	30.0	2.0	0.0		29.0	49	0	6	348	*	87.1
KINDERSLEY	16.9	-0.5	33.2	1.8	0.0		23.0	61	0	6	X		58.0
LA RONGE	15.5	0.3	31.3	-1.6	0.0		16.5	26	0	4	X		89.6
MEADOW LAKE	15.0	-0.7	30.8	0.4	0.0		7.8	10	0	2	340	*	95.3
MOOSE JAW	18.6	0.0	34.6	3.4	0.0		9.2	22	0	1	334	112	36.7
NIPAWIN	15.8	*	30.5	2.0	0.0	*	35.8	*	0	7	335	*	82.5
NORTH BATTLEFORD	16.8	0.0	32.4	3.0	0.0		8.0	17	0	2	X		62.8
PRINCE ALBERT	16.2	0.3	30.9	3.4	0.0		46.9	90	0	8	320	119	72.6
REGINA	17.6	-0.2	33.9	2.3	0.0		14.0	31	0	3	342	116	49.7
SASKATOON	17.4	0.2	33.1	2.1	0.0		14.6	38	0	3	X		58.7
SWIFT CURRENT	17.3	-0.2	33.8	0.8	0.0		17.4	40	0	2	288	97	61.0
											X		
WYNYARD	16.5	-0.3	30.6	-0.5	0.0		15.6	28	0	2	322	114	74.2
YORKTON	16.3	-0.6	33.5	0.3	0.0		34.2	56	0	4	336	117	79.1
MANITOBA													
BRANDON	16.3	-1.2	35.2	2.0	0.0		19.1	29	0	5	X		79.2
CHURCHILL	10.8	-0.5	27.4	2.5	0.0		74.7	128	0	12	233	100	223.8
DAUPHIN	16.7	-0.4	32.9	1.4	0.0		57.8	92	0	4	335	121	76.2
GILLAM	13.0	-0.8	28.3	3.8	0.0		106.2	174	0		X		160.0
GIMLI	16.9	-0.2	30.2	2.5	0.0		49.2	86	0	8	296	112	66.1
ISLAND LAKE	16.4	0.1	30.2	4.2	0.0		74.8	120	0	11	X		77.0
LYNN LAKE	13.5	-0.6	28.6	0.2	0.0		55.2	94	0	9	288	123	
NORWAY HOUSE	16.0	*	27.4	2.0	0.0	*	72.2	*	0	12	*	*	82.2
PILOT MOUND	16.5	-1.1	33.0	-0.1	0.0		38.2	59	0	9	X		74.5
PORTAGE LA PRAIRIE	17.7	-0.7	34.5	4.6	0.0		20.8	25	0	6	X		59.1

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THE PAS	16.6	0.5	30.3	3.5	0.0		95.4	165	0	10	315	121	66.2
THOMPSON	14.2	0.3	30.9	0.3	0.0		64.3	89	0	12	258	112	128.1
WINNIPEG INT'L	17.5	-0.8	32.6	3.2	0.0		17.0	22	0	6	314	110	53.6
ONTARIO													
ATIKOKAN	14.6	-1.2	29.1	1.1	0.0		51.6	52	0	8	235	96	112.4
BIG TROUT LAKE	13.9	-0.4	25.7	2.0	0.0		64.6	78	0	9	224	*	131.1
EARLTON	15.3	-0.9	28.8	3.2	0.0		64.5	77	0	8	X		95.6
GERALDTON	14.5	-0.1	27.1	1.8	0.0		92.8	138	0	12	X		115.2
GORE BAY	17.6	-0.6	26.4	8.3	0.0		44.5	59	0	9	X		37.0
HAMILTON RBG	19.7	-1.1	30.2	4.9	0.0		123.0	151	0	12	281	*	
HAMILTON	18.6	-1.4	30.1	2.9	0.0		85.7	113	0	9	X		36.3
KAPUSKASING	14.9	-0.4	27.5	1.8			76.4	82	0	9	X		105.5
KENORA	17.0	-0.6	30.0	5.2	0.0		64.2	74	0	8	X		57.1
KINGSTON	18.4	-1.0	26.0	5.7	0.0		129.2	169	0	10	232	91	32.1
LANSDOWNE HOUSE	15.3	0.1	27.4	4.3	0.0		52.8	60	0	8	X		96.3
LONDON	18.4	-1.1	29.2	2.7	0.0		61.4	76	0	8	228	92	42.1
MOOSONEE	13.8	-0.5	27.5	-1.5	0.0		103.8	131	0	9	206	95	144.2
MOUNT FOREST	16.2	-1.3			0.0								
MUSKOKA	15.8	-1.6	27.0	-0.8	0.0		96.0	107	0	15	X		84.7
NORTH BAY	16.0	-1.0	24.6	2.1			61.0	61	0	8	242	103	75.0
OTTAWA INT'L	18.0	-1.2	29.2	2.6	0.0		99.0	111	0	12	248	*	40.5
PETAWAWA	16.2	-1.4	28.4	-1.1	0.0		88.4	110	0	13	X		75.7
PETERBOROUGH	16.7	-1.4	28.7	1.0	0.0		93.5	126	0	11	X		60.7
PICKLE LAKE	15.5	0.4	28.0	2.9	0.0		35.0	33	0	8	X		83.3
RED LAKE	16.1	-0.8	28.0	3.5	0.0		52.1	66	0	9	277	*	73.3
ST. CATHARINES	19.7	-1.3	29.6	4.8	0.0		77.8	96	0	9	X		21.8
SARNIA	18.7	-1.6	28.5	6.0	0.0		106.1	206	0	9	247	98	33.3
SAULT STE. MARIE	17.5	0.6	27.0	5.6			102.8	124	0	9	251	100	72.8
SIMCOE									0		X		
SIOUX LOOKOUT	16.3	-0.3	31.6	2.8	0.0		68.1	77	0	8	X		83.3
SUDBURY	16.5	-0.8	27.8	0.9	0.0		51.5	62	0	11	261	103	66.3
THUNDER BAY	15.6	-0.8	28.3	2.2	0.0		61.8	74	0	10	248	96	83.3
TIMMINS	14.4	-0.9	28.0	0.5			165.0	184	0	12	X		122.3
TORONTO	20.0	-1.2	28.8	6.9	0.0		186.9	255	0	12	246	*	16.6
TORONTO INT'L	18.4	-1.3	29.6	4.1	0.0		146.2	190	0	6	X		37.4
TORONTO ISLAND	19.5	-0.6	26.6	7.9	0.0		164.7	231	0	9	*		20.9
TRENTON	18.2	-1.5	27.4	4.9	0.0		119.3	165	0	11	X		38.9
WATERLOO--WELL	17.2	-1.7	28.4	2.9	0.0		129.4	145	0	9	X		54.1
WAWA	13.8	*	25.0	0.7		*	140.8	*	0	14		*	131.8
WIARTON	16.9	-1.2	27.6	3.3	0.0		34.6	39	0	8	259	101	65.2
WINDSOR	20.2	-1.1	30.4	7.0	0.0		89.8	106	0	11	X		20.1

X = Not observed * = normal missing MSG = data missing

AUGUST 1986

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
QUEBEC													
BAGOTVILLE	15.5	-0.9	29.0	0.8	0.0		103.8	104	0	16	X		90.5
BAIE COMEAU	13.3	-1.3	24.3	1.0	0.0		94.9	100	0	9	205	*	146.4
BLANC SABLON	13.6	1.8	21.2	4.4	0.0		47.2	43	0	8	133	*	
CHIBOUGAMAU	13.7	-0.3	26.8	-0.2			106.6	89	0	12	211	101	137.9
GASPE													
INUKJUAK	8.4	-0.5	19.8	1.5	0.2		49.2	75	0	11	160	109	297.1
KUUJJUAQ	12.1	1.7	27.3	1.1	0.0		93.2	146	0	9	194	116	179.0
KUUJJUARAPIK	9.9	-0.5	26.9	-0.5	0.0		168.7	179	0	15	117	70	251.7
LA GRANDE RIVIERE	12.1	*	25.5	-0.3	2.0	*	117.2	*	0	15	161	*	184.7
MANIWAKI	15.9	-1.1	28.7	0.0	0.0		170.8	187	0	14	229	101	83.8
MATAGAMI	13.5	-0.5	27.5	0.1			152.2	142	0	14	211	103	140.1
MONT JOLI	14.1	-1.9	24.9	4.0	0.0		126.5	159	0	13	207	84	124.8
MONTREAL INT'L	18.4	-1.2	28.9	3.3	0.0		131.6	143	0	14	251	104	33.3
MONTREAL M INT'L	16.9	*	28.8	2.3	0.0	*	126.8	*	0	14	243	*	55.0
NATASHQUAN	14.1	0.8	23.6	3.8	0.0		90.4	86	0	13	161	69	118.2
QUEBEC	16.7	-0.8	26.4	4.4	0.0		169.6	144	0	14	207	94	60.7
ROBERVAL	16.0	-0.4	30.2	0.8	0.0		123.8	125	70	11	228	*	85.9
SCHEFFERVILLE	11.9	1.1	25.5	1.4			73.8	75	0	14	163	*	184.6
SEPT-ILES	13.6	-0.5	22.5	1.1	0.0		106.8	102	0	12	188	84	135.1
SHERBROOKE	17.1	0.6	28.2	2.0	0.0		129.4	106	0	13	223	*	70.9
STE AGATHE DES MONTS	15.0	-0.8	27.3	1.7	0.0		142.1	125	0	15	215	90	98.9
ST-HUBERT	17.9	-1.3	29.2	4.3	0.0		139.8	144	0	14	*		40.1
VAL D'OR	14.5	-1.0	26.8	2.5			118.1	116	0	14	202	85	117.7
NEW BRUNSWICK													
CHARLO	15.4	-0.7	26.9	-0.1	0.0		155.0	143	0	13	185	76	88.5
CHATHAM	16.6	-1.4	29.5	2.4	0.0		155.2	185	0	13	192	80	63.3
FREDERICTON	16.8	-1.4	28.3	1.9	0.0		143.9	165	0	11	186	*	58.5
MONCTON	16.8	-0.8	27.9	3.6	0.0		83.8	106	0	13	181	78	59.7
SAINT JOHN	15.8	-0.8	25.2	4.2	0.0		192.4	188	0	11	187	88	71.9

STATION	Temperature C: Mean	Difference from Normal	Maximum	Minimum	Snowfall (cm)	% of Normal Snowfall	Total Precipitation (mm)	% of Normal Precipitation	Snow on ground at end of month (cm)	No. of days with Precip 1.0 mm or more	Bright Sunshine (hours)	% of Normal Bright Sunshine	Degree Days below 18 C
NOVA SCOTIA													
GREENWOOD	16.9	-1.4	28.4	1.9	0.0		80.0	88	0	10	X		58.1
HALIFAX INT'L	17.1	-1.0	27.3	6.3	0.0		126.8	114	0	15			48.0
SABLE ISLAND	16.9	-0.7	23.4	7.8	0.0		255.2	219	0	11	171	95	42.0
SHEARWATER	17.2	-0.6	27.6	6.5	0.0		173.1	177	0	11	193	85	44.6
SYDNEY	16.8	-0.8	27.5	4.8	0.0		76.0	75	0	12	204	90	51.4
TRURO	16.1	-1.0	26.0	2.8	0.0		64.6	67	0	9	176	82	76.3
YARMOUTH	16.3	-0.1	23.4	8.4	0.0		84.8	87	0	8	183	87	58.4
PRINCE EDWARD ISLAND													
CHARLOTTETOWN	17.3	-0.5	27.4	6.3	0.0		88.9	78	0	13	X		45.8
SUMMERSIDE	17.3	-1.1	26.5	6.0	0.0		79.4	99	0	13	172	71	46.0
NEWFOUNDLAND													
ARGENTIA	15.0	-0.3	20.7	9.8	0.0		62.8	65	0	10	X		97.8
BATTLE HARBOUR	14.1	2.9	30.4	5.0	0.0		37.2	44	0	6	X		121.6
BONAVISTA	15.4	0.4	25.4	8.2	0.0		41.8	50	0	9	X		86.1
BURGEO	14.9	0.0	21.7	6.7	0.0		96.3	64	0	12	*		97.0
CARTWRIGHT	13.4	1.4	27.7	5.0	0.0		58.7	71	0	13	198	113	139.6
CHURCHILL FALLS	13.0	0.6	25.8	1.6	1.4		77.6	81	0	15	190	110	157.4
COMFORT COVE	15.8	0.2	27.6	5.9	0.0		96.2	89	0	11	X		83.3
DANIEL'S HARBOUR	14.5	0.0	21.0	8.6	0.0		69.8	60	0	8	165	91	107.3
DEER LAKE	15.3	0.3	28.3	4.2	0.0		102.2	99	0	13	X		112.4
GANDER INT'L	16.0	0.4	26.9	6.9	0.0		61.8	63	0	8	190	101	73.8
GOOSE	15.4	1.1	30.2	2.8	0.0		122.4	118	0	16	183	103	91.0
PORT-AUX-BASQUES	15.3	0.6	25.8	7.6	0.0		87.4	76	0	12	184	*	84.4
ST ANTHONY	13.4	*	25.6	6.3	0.0	*	94.2	*	0	15		*	143.4
ST JOHN'S	15.1	-0.2	24.8	6.2	0.0		60.6	49	0	9	192	103	92.3
ST LAWRENCE	14.4	*	24.5	14.0	0.0	*	111.7	*	0	9		*	
STEPHENVILLE	16.7	*	24.4	6.9	0.0	*	108.7	*	0	17	171	*	43.0
WABUSH LAKE	12.0	*	26.1	0.0	1.0	*	101.6	*	0	14	154	*	187.2

X = Not observed * = normal missing MSG = data missing

AGROCLIMATOLOGICAL STATIONS — AUGUST 1986

STATION	Temperature C: Mean	Difference from Normal	Maximum	Minimum	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: This month	Since Jan. 1st
BRITISH COLUMBIA												
AGASSIZ	19.9	2.2	34.0	8.5	0.0	5.0	8	0	3	293	460.8	1696.3
KAMLOOPS												
SIDNEY												
SUMMERLAND	22.3	2.3	34.0	10.0	0.0	4.2	15	0	3	327	436.0	1780.0
ALBERTA												
BEAVERLODGE	15.0	0.8	32.0	0.0	0.0	12.0	19	0	6	325	325.3	1079.6
ELLERSLIE												
FORT VERMILLION												
LACOMBE	15.0	0.1	29.0	0.0	0.0	26.0	38	0	6	326	296.1	1091.8
LETHBRIDGE												
VAUXHALL												
VEGREVILLE	1476	−0.4	30.0	−1.0	0.0	23.9	32	0	2		292.2	1145.2
SASKATCHEWAN												
INDIAN HEAD	17.4	0.0	32.5	2.5	0.0	8.6	15	0	3		388.5	1456.5
MELFORT	16.5	0.4	30.5	1.5	0.0	58.7	107	0	7	322	348.4	1302.5
REGINA	15.9	−1.5	33.5	0.0	0.0	14.6	33	0	4		337.0	1313.5
SASKATOON	17.1	−0.1	33.5	1.0	0.0	27.7	49	0	4	295	378.0	1371.5
SCOTT	16.0	0.0	32.0	0.5	0.0	13.9	30	0	4	336	339.6	1194.3
SWIFT CURRENT SOUTH	17.9	−0.2	34.5	2.5	0.0	16.2	42	0	1	284	400.2	1420.0
MANITOBA												
BRANDON	17.5	−0.4	35.8	0.8	0.0	16.0	23	0	6		386.1	1486.7
GLENLEA	16.5	−1.8	32.5	1.5	0.0	13.0	21	0	5	319	361.5	1397.0
MORDEN	18.2	−0.8	35.5	4.0	0.0	19.6	28	0	8	305	416.0	1627.0
ONTARIO												
DELHI	18.4	−1.4	30.0	0.5	0.0	91.5	98	0	8	267	412.6	1730.8
ELORA	17.0	−1.1	27.9	1.9	0.0	158.6	219	0	12		373.3	1540.0
GUELPH	17.4	−1.4	28.3	1.9	0.0	108.8	133	0	10	252	383.7	1610.8
HARROW	20.0	−1.2	29.0	6.0	0.0	97.1	122	0	7	262	457.9	1926.5
KAPUSKASING												
MERIVALE												
OTTAWA	17.9	−1.5	28.7	4.4	0.0	114.6	135	0	11	248	401.0	1672.0
SMITHFIELD	18.7	−0.6	28.0	4.5	0.0	112.4	148	0	12		422.4	1728.6
VINELAND STATION	19.6	−1.2	29.5	5.5	0.0	43.6	51	0	9	245	453.0	1746.4
WOODSLEE												
QUEBEC												
LA POCATIERE	15.7	−1.6	25.5	3.0	0.0	113.4	115	0	14	212		
L'ASSUMPTION	17.8	−1.0	29.0	1.5	0.0	129.0	135	0	13	233	394.9	1538.4
LENNOXVILLE												
NORMANDIN	14.6	−0.8	28.0	0.0	0.0	95.0	101	0	11	227	297.2	1029.7
ST. AUGUSTIN												
STE CLOTHILDE	18.2	−0.7	28.5	4.0	0.0	166.8	173	0	13	237	410.0	1648.3
NEW BRUNSWICK												
FREDERICTON												
NOVA SCOTIA												
KENTVILLE	17.4	−1.0	29.0	3.5	0.0	78.7	80	0	12	177	387.1	1368.8
NAPPAN	16.6	−0.8	26.5	5.0	0.0	101.6	111	0	14	177	347.0	1189.5
PRINCE EDWARD ISLAND												
CHARLOTTETOWN												
NEWFOUNDLAND												
ST. JOHN'S WEST												

STATISTICS