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Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

UNE 3 ,1983 | (Aussi disponible en français) | VOL.5 NO.22

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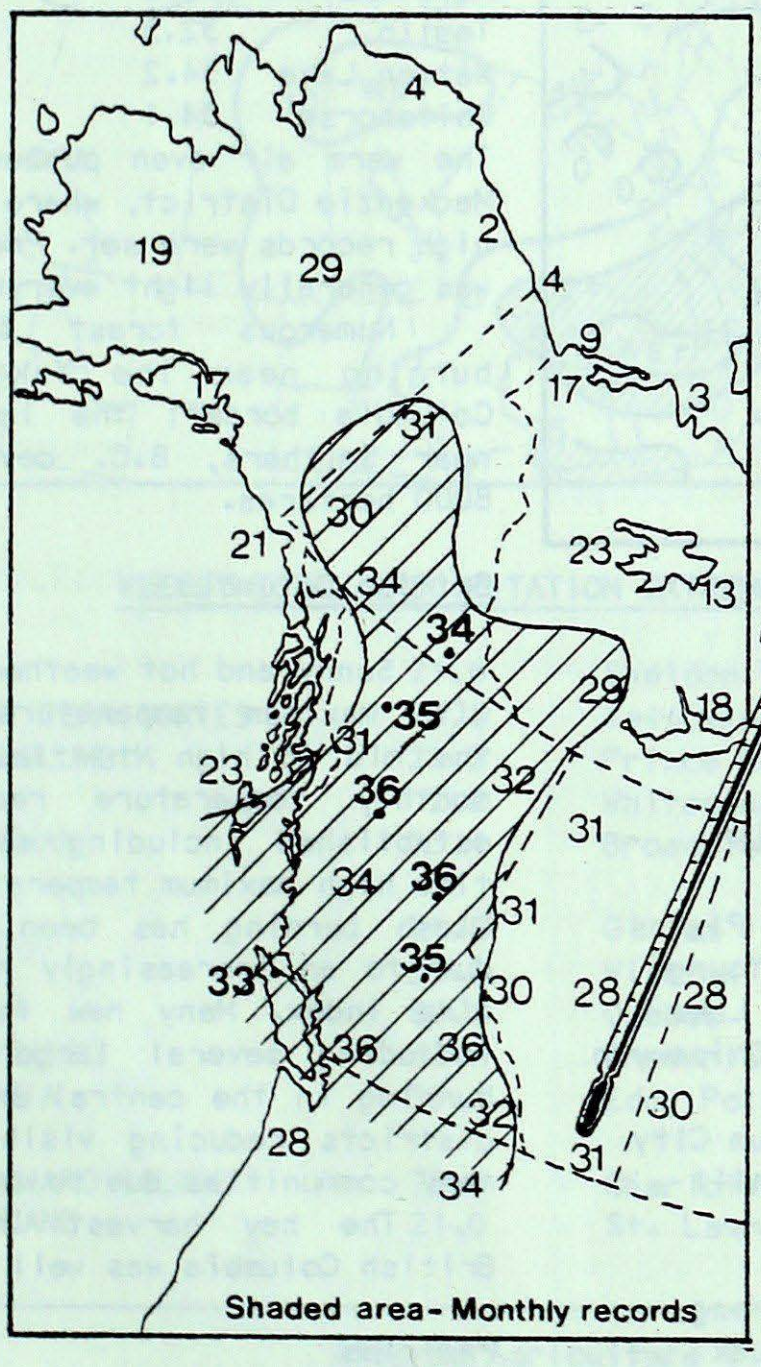
FOR THE PERIOD MAY 24-30,1983

• Record Heat Wave in the Yukon and British Columbia:



Shaded area - Monthly records

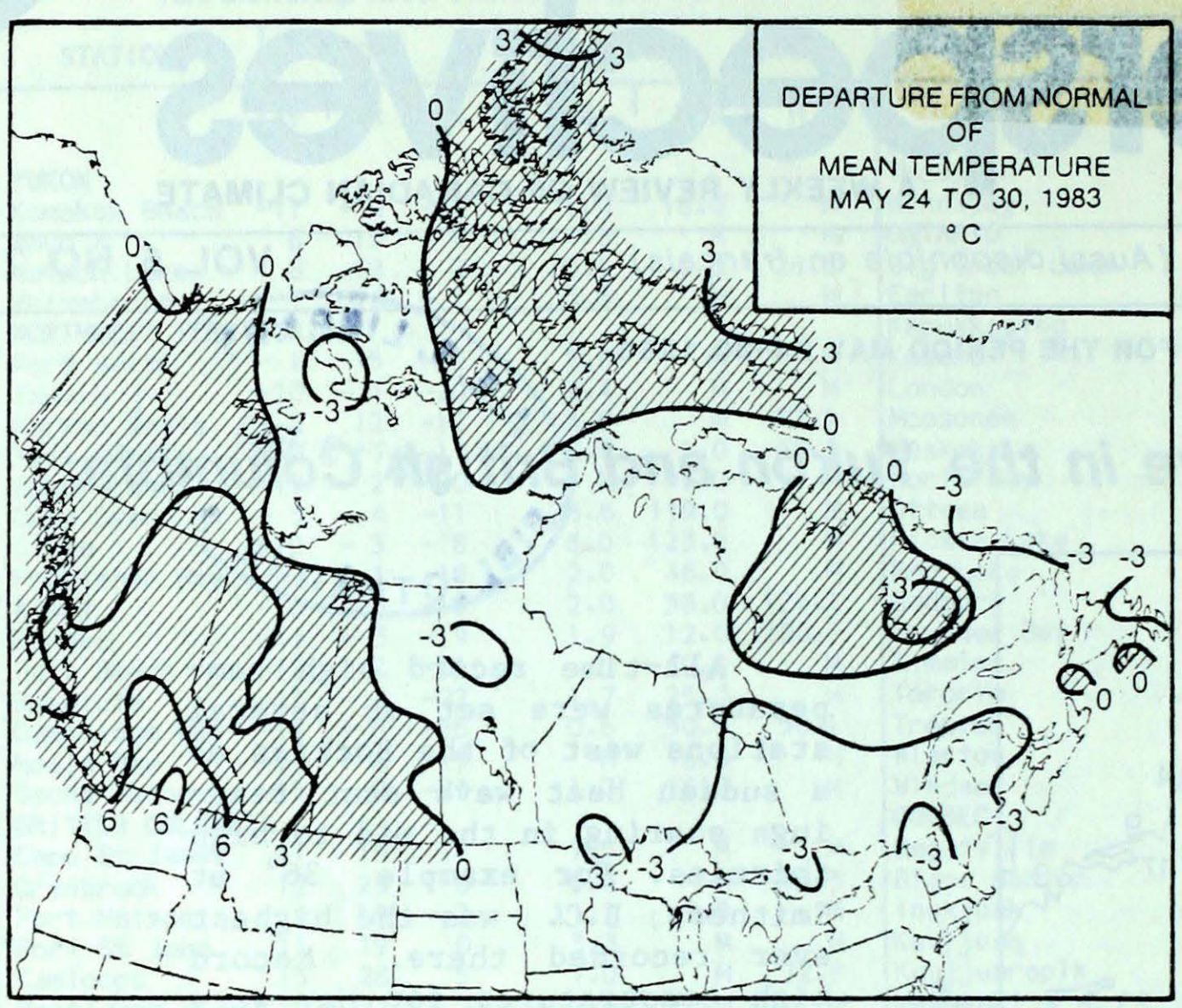
All-time record high temperatures were set at several stations west of the Rockies as a sudden heat wave sent readings soaring in the mid to high thirties. For example, 36° at Smithers, B.C. was the highest ever recorded there. Record high temperatures for May were set at numerous other British Columbia and the Yukon locations. Hot weather helped ignite numerous forest fires in central and northern British Columbia. The largest fire just north of Smithers ravaged about 8000 hectares of timber. Portions of the Alaska Highway between Fort Nelson and Fort St. John had to be closed when fire raged over the highway.

• Cold and Rainy Weather Continues East of Manitoba

SSN 0225-5707
JDC:551.506.1(71)

NOTE: The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic stations.

Canada



WEEKLY TEMPERATURES EXTREMES (°C)

	MAXIMUM		MINIMUM	
YUKON TERRITORY	34.2	Watson Lake	-16.0	Eagle Plains
NORTHWEST TERRITORIES	28.9	Fort Simpson	-22.4	Cape Young
BRITISH COLUMBIA	40.4	Lytton	-2.7	Dease Lake
ALBERTA	31.4	Medicine Hat	- 4.5	Fort Chipewyan
SASKATCHEWAN	29.9	Estevan	- 7.2	Uranium City
MANITOBA	26.0	Brandon Winnipeg	-10.4	Churchill
ONTARIO	21.9	Windsor	- 5.9	Armstrong
QUEBEC	20.2	Montréal/Dorval	-12.5	Inukjuak
NEW BRUNSWICK	19.7	Fredericton	0.8	Chatham
NOVA SCOTIA	19.7	Greenwood	-0.5	Sydney
PRINCE EDWARD ISLAND	17.5	Summerside	2.4	Charlottetown
NEWFOUNDLAND	19.5	Deer Lake	- 4.4	Hopedale

ACROSS THE NATION

Warmest mean temperature	22.9	Lytton, BC
Coolest mean temperature	- 7.6	Lady Franklin Point, NWT

ACROSS THE COUNTRY...

Yukon and the Northwest Territories

A sudden heat wave sent daytime temperatures soaring into the mid-thirties in the Yukon. On May 30, monthly record high temperatures were shattered as the readings reached unprecedented levels at numerous Yukon stations.

	New Record	Old Record
Burwash	29.7	21.1
Dawson	30.5	24.9
Faro	31.6	25.6
Mayo	32.2	31.7
Teslin	32.3	28.3
Watson Lake	34.2	30.6
Whitehorse	34.1	30.0

The warm air even pushed into the Mackenzie District, where many daily high records were set. Precipitation was generally light everywhere.

Numerous forest fires were burning near the Yukon-British Columbia border; the largest fire near Smithers, B.C. covered about 8000 hectares.

British Columbia

Sunny and hot weather prevailed with maximum temperatures reaching the mid to high thirties. Numerous monthly temperature records were established including several all-time high maximum temperatures.

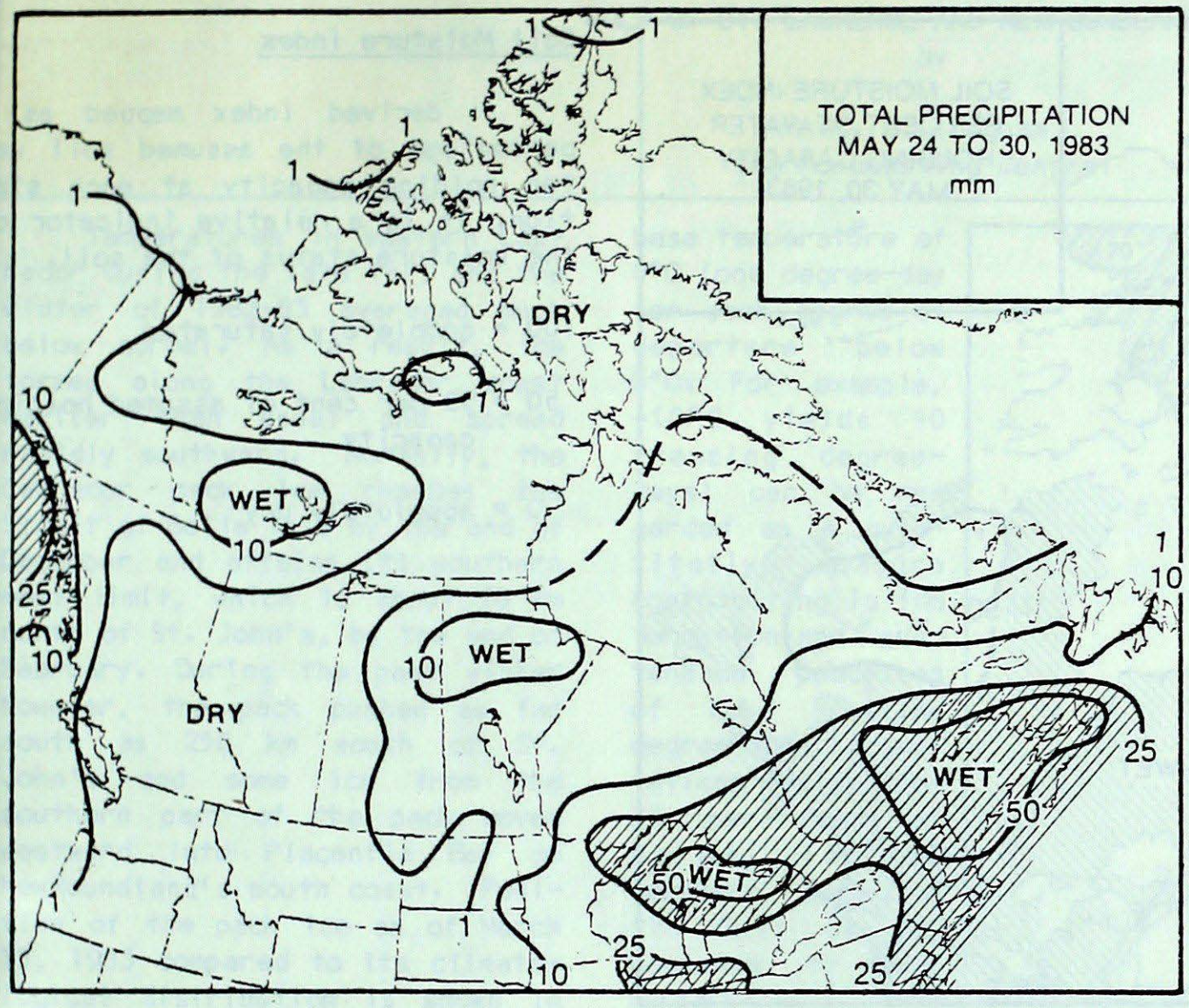
Slash burning has been terminated due to an increasingly high forest fire index. Many new forest fires including several large ones were burning in the central and northern districts reducing visibilities in many communities due to smoke.

The hay harvest in southern British Columbia was well underway.

Prairies

Western regions were sunny, very warm and dry. Many new maximum temperature records were set in Alberta and as a result, snow melt in the mountains resulted in increased river flows. The forest fire hazard was high to extreme, and several fires were burning in the Slave Lake district due to lightning strikes.

Eastern regions were sunny but



WEEKLY TOTAL PRECIPITATION EXTREMES (mm)

YUKON	21.6	Sheldon Lake
NORTHWEST TERRITORIES	21.2	Yellowknife
BRITISH COLUMBIA	20.2	Prince Rupert
ALBERTA	2.2	Whitecourt
SASKATCHEWAN	13.4	Broadview
MANITOBA	21.8	Gillam
ONTARIO	55.0	Wiarton
QUEBEC	80.6	Québec
NEW BRUNSWICK	88.2	Fredericton
NOVA SCOTIA	55.6	Eddy Point
PRINCE EDWARD ISLAND	78.3	Charlottetown
NEWFOUNDLAND	21.0	St. Lawrence

Alberta Agriculture

Although field-work started in early April, cool and wet weather during late April and early May delayed fertilizer and herbicide applications. Unseasonable cold weather also slowed seeding. Warmth and dryness allowed farmers to complete up to 90 per cent of their spring seeding by mid-May; only oats and barley remained to be seeded.

Soil moisture was adequate most everywhere. Only parts of central and northern Alberta had inadequate amounts, and Canola seeding had been delayed in those areas. Livestock were in good to excellent conditions but had lice infestations in parts of northern Alberta.

cool. Poor spring weather has delayed the completion of seeding and has contributed to poor pastures and farm land. There has been a fair amount of winter kill to the Alfalfa crop.

Ontario

Cold and damp weather continued to dominate Ontario's spring. A late spring snowfall in the 15 to 25 cm range plagued central Ontario. Timmins, where the average snowfall for May is 6.5 cm, received 22.3 cm.

Meanwhile, southern Ontario experienced record breaking cold weather. Near Delhi, temperatures plummeted to about -5°, and frost damaged some tobacco plants. In a few locations, up to 40 per cent of the strawberry crop was estimated to be lost as a result of the mid-May frost that occurred in the south. Frost also caused damage to emerging crops just north of Toronto and near Windsor.

Once again heavy week-end rain soaked southern Ontario. On May 29, Wiarton received 39.7 mm (record 24-hour rainfall for May is 40.4 mm).

Québec

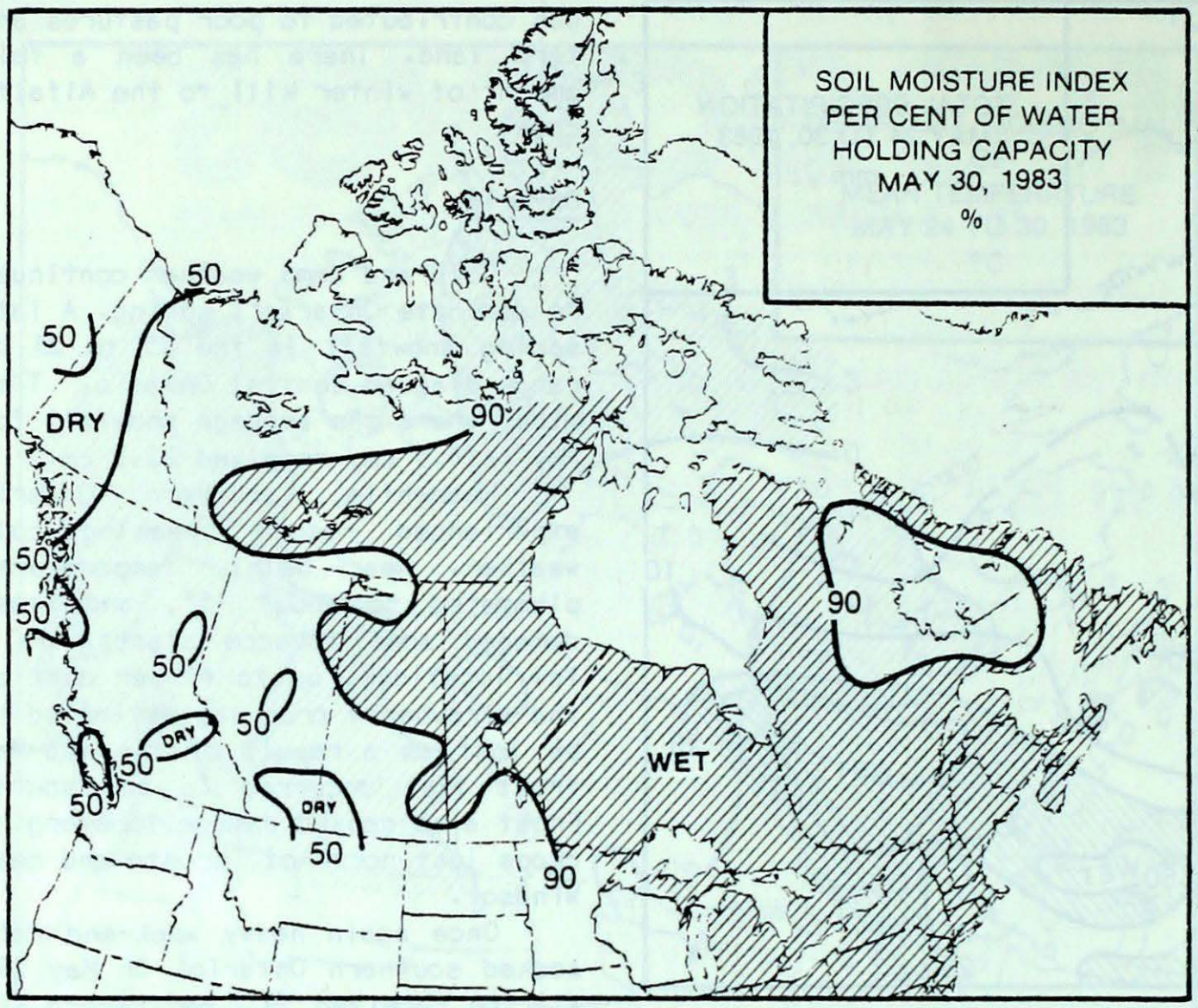
Southern Québec endured another cold and rainy week. An additional 80 to 100 mm of rain during the week increased monthly total to record 260 mm at Trois-Rivières and 225 mm at Québec City (old records for May: 172 mm and 189 mm respectively). Only northern Québec enjoyed plentiful sunshine.

Seeding and field-work were progressing on well-drained land but continued to be delayed on low-lying saturated areas.

Atlantic Provinces

Unseasonably cold temperatures and deluges of rain (50-80 mm) continued to delay spring seeding and germination in the Maritimes. However, forage crops were progressing well. Field-work remained 1 to 2 weeks behind schedule, especially in southern New Brunswick. In the cold air mass, a few Newfoundland stations set daily record low temperatures.

SOIL MOISTURE



Soil Moisture Index

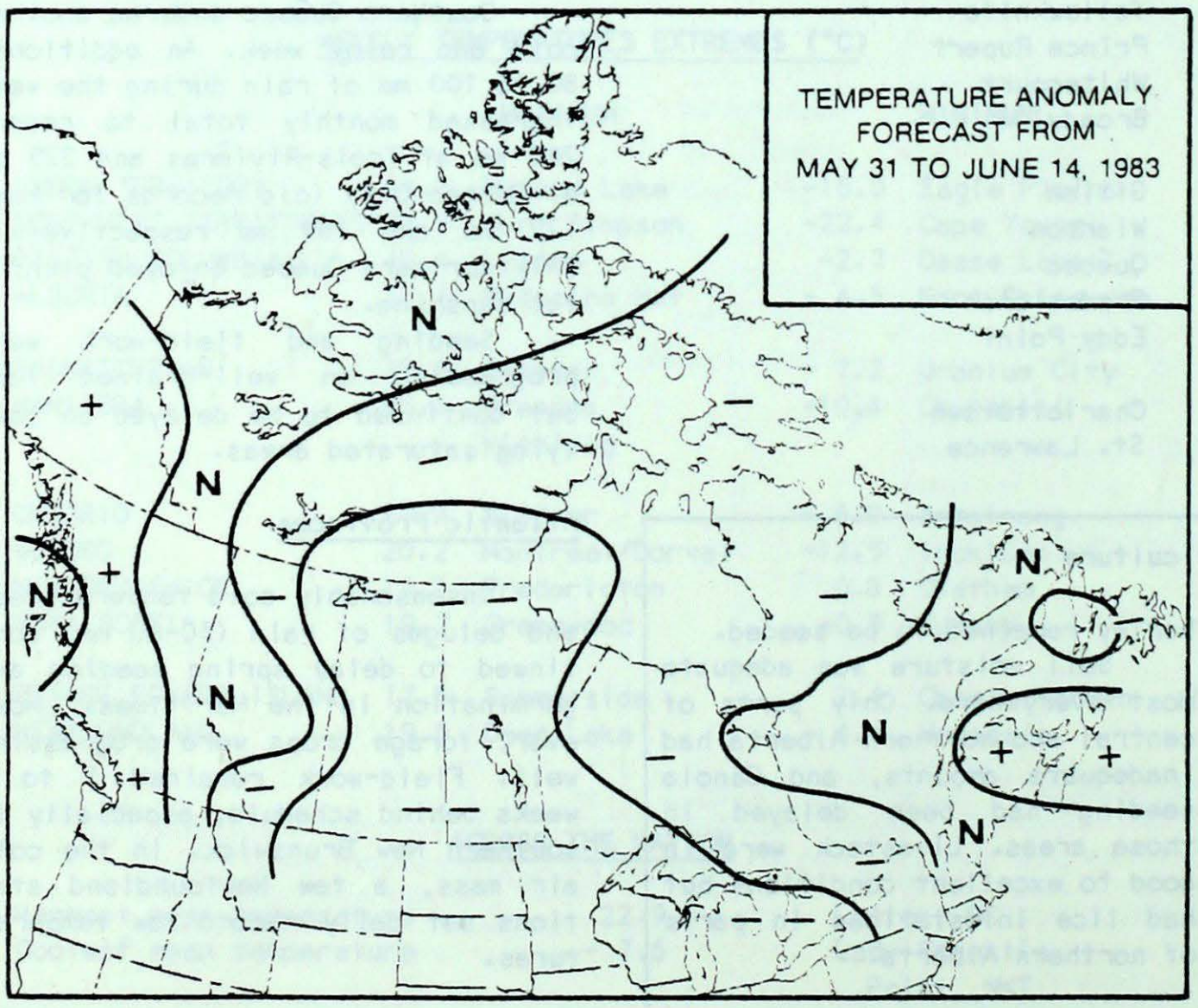
A derived index mapped as a percentage of the assumed soil water holding capacity at each station. It is a relative indicator of the moisture status of the soil.

100 = completely saturated

50 = 50 per cent of assumed holding capacity

0 = absolutely dry

TEMPERATURE ANOMALY FORECAST



Temperature Anomaly Forecast

The temperature anomaly forecast, for each of the 70 Canadian stations, is prepared by searching historical weather maps to find cases similar to the present one. The principle used is that a prediction for the next 15 days may be based on what is known to have actually happened during 15-day periods. After the five best cases are selected, the surface temperature anomalies are calculated. This results in five separate forecasts, which are averaged to provide the forecast depicted.

++ much above normal

\+ above normal

N normal

\- below normal

— much below normal

SUMMARY OF THE WINTER ICE CONDITIONS IN THE GULF OF ST. LAWRENCE AND NEWFOUNDLAND WATERS

by

A.M. Gillingham
Ice Forecasting Central

Temperatures in eastern Labrador during the late fall and the winter of 1982-83 averaged much below normal. As a result, ice formed along the Labrador coast earlier than usual and spread rapidly southward. Normally, the Labrador pack ice reaches the Strait of Belle Isle by the end of December and attains its southern most limit, which is about 70 km north of St. John's, by the end of February. During the past winter however, the pack pushed as far south as 250 km south of St. John's and some ice from the southern part of the pack moved westward into Placentia Bay on Newfoundland's south coast. Position of the pack ice as of March 15, 1983 compared to its climatological distribution is shown in Figure 1.

In the Gulf of St. Lawrence, ice conditions were much lighter than average. Ice coverage in the Gulf reached its maximum during the second week of March but even then the eastern two thirds of the Cabot Strait and the eastern one fifth of the Gulf remained open water.

From about the second week of February to the third week in March, prevailing onshore winds along most of the east Newfoundland coast created heavy ice congestions and ridges, particularly in Notre Dame Bay. Extensive pack ice hampered ship navigation in eastern Newfoundland waters, especially in the port of Botwood. During that period several ice breakers assisted local ships. Pack ice extended some 200 km farther to the southeast than normal during late winter and early spring, and intruded into the Hibernia oil drilling area. In early April, three oil rigs had to be moved from the oil fields when heavy pack ice approached within 60 km of the drilling site.

Freezing degree-days which is defined as the departure of the mean daily temperature from the base temperature of 0°C (one degree-day for each degree of departure below 0°C. For example, -10°C yields 10 freezing degree-days) can be regarded as a quantitative measure contributing in the formation and sustenance processes of ice. Freezing degree-days accumulations varied from 75 per cent of normal in the southern part of the Gulf of St. Lawrence to near normal in the northern portions. Figure 2 shows the freezing degree-days curve at Hopedale, Nfld. Note that the 1982-83 branch was consistently high, illustrating colder than normal temperatures on the Labrador coast.

During the last half of April, temperatures averaged well above normal not only in the Gulf of St. Lawrence, but also off the Newfoundland and Labrador coasts. As a result, the thinner than normal ice in the Gulf had cleared about a week earlier than average. However, the heavier ice off east Newfoundland was yielding much more slowly and by the first week of May was about 80 km farther south than normal.

Mild temperatures in May contributed to rapid melt of the pack ice in the Newfoundland waters. At mid-May, the pack ice was confined to areas north of St. Anthony.

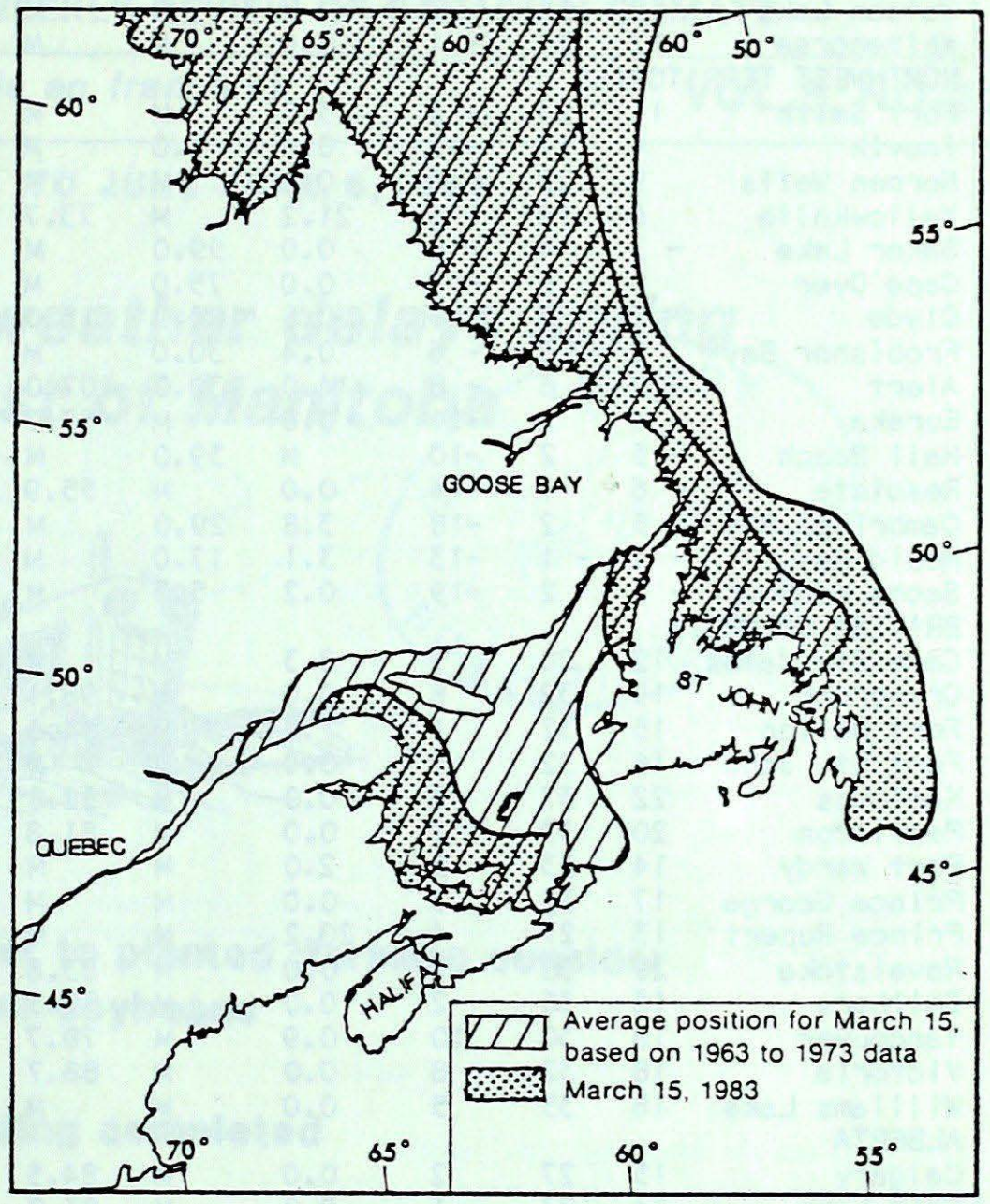


Figure 1. Position of the pack ice as of March 15, 1983 compared to its climatological distribution.

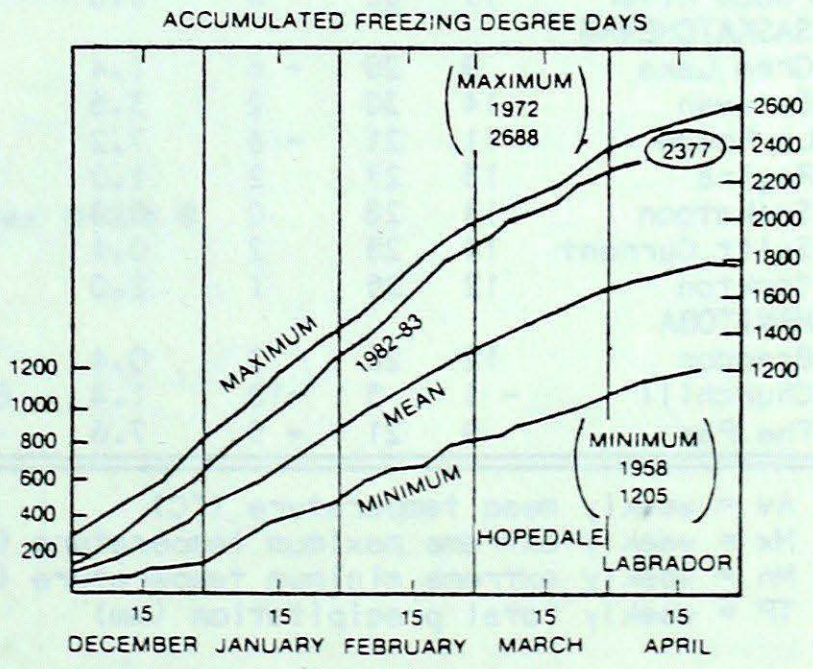


Figure 2. Accumulated freezing degree-days at Hopedale, Nfld.

TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT MAY 31, 1983

STATION	TEMP			PRECIP		SUN
	Av	Mx	Mn	TP	SOG	H
YUKON						
Dawson	12	31	0	6.5	M	M
Mayo A	13	32	- 1	0.8	M	M
Watson Lake	12	34	- 3	M	M	M
Whitehorse	12	34	- 1	0.0	M	M
NORTHWEST TERRITORIES						
Fort Smith	11	23	- 5	3.5	M	M
Inuvik	4	17	-12	0.0	3.0	M
Norman Wells	9	23	0	0.0	M	M
Yellowknife	6	18	- 6	21.2	M	73.7
Baker Lake	- 3	4	-19	0.0	59.0	M
Cape Dyer	0	6	- 8	0.0	75.0	M
Clyde	- 2	7	- 9	0.6	100.0	115.0
Frobisher Bay	0	6	- 6	0.4	30.0	M
Alert	- 2	6	- 8	4.0	30.0	107.0
Eureka	- 4	2	-11	0.0	M	57.7
Hall Beach	- 5	2	-10	M	39.0	M
Resolute	- 6	1	-14	0.0	M	55.9
Cambridge Bay	- 5	2	-18	3.8	29.0	M
Mould Bay	- 7	- 1	-13	3.1	17.0	M
Sachs Harbour	- 6	2	-19	0.2	5.0	M
BRITISH COLUMBIA						
Cape St. James	12	20	7	8.3	M	M
Cranbrook	19	32	8	0.0	M	98.1
Fort Nelson	15	32	1	1.2	M	84.6
Fort St. John	16	32	2	0.0	M	M
Kamloops	22	37	9	0.0	M	88.8
Penticton	20	33	7	0.0	M	81.8
Port Hardy	14	33	5	2.0	M	M
Prince George	17	36	3	0.0	M	M
Prince Rupert	13	27	4	20.2	M	M
Revelstoke	20	36	7	0.0	M	83.6
Smithers	16	36	2	0.0	M	70.3
Vancouver	18	30	10	0.9	M	78.7
Victoria	18	32	8	0.0	M	88.7
Williams Lake	18	35	5	0.0	M	M
ALBERTA						
Calgary	15	27	2	0.0	M	84.5
Cold Lake	14	27	- 1	0.0	M	85.8
Coronation	15	29	2	0.0	M	87.3
Edmonton Namao	15	28	0	0.0	M	M
Fort McMurray	14	25	- 2	0.5	M	87.2
Jasper	15	30	1	0.0	M	80.5
Lethbridge	18	29	7	0.0	M	M
Medicine Hat	18	31	6	0.0	M	M
Peace River	15	30	0	0.0	M	M
SASKATCHEWAN						
Cree Lake	9	20	- 6	1.4	M	83.8
Estevan	14	30	2	3.6	M	76.3
La Ronge	11	21	- 6	7.2	M	M
Regina	13	27	2	1.0	M	78.8
Saskatoon	14	28	0	0.0	M	M
Swift Current	14	28	2	0.4	M	M
Yorkton	12	25	1	2.0	M	86.2
MANITOBA						
Brandon	12	26	0	0.4	M	M
Churchill	- 1	5	-10	1.4	8.0	34.6
The Pas	9	21	- 5	7.6	M	63.4
Thompson	6	18	- 7	3.5	M	48.5
Winnipeg	12	26	0	18.6	M	72.3
ONTARIO						
Big Trout Lake	5	16	- 5	1.3	M	M
Earlton	8	18	0	M	M	M
Kapuskasing	6	18	- 2	29.1	M	M
Kenora	11	19	1	5.8	M	M
London	10	19	1	19.1	M	M
Moosonee	4	18	- 3	8.4	M	M
Muskoka	10	20	- 2	M	M	M
North Bay	8	17	1	32.8	M	25.2
Ottawa	11	21	4	30.2	M	29.3
Pickle Lake	7	19	- 4	4.8	M	M
Red Lake	9	17	- 4	4.0	M	M
Sudbury	8	17	0	44.2	M	26.9
Thunder Bay	8	16	- 2	31.0	M	39.9
Timmins	5	18	- 2	40.1	M	M
Toronto	11	19	2	20.4	M	M
Trenton	11	20	1	8.0	M	M
Wiarton	8	16	1	55.0	M	36.9
Windsor	12	22	4	23.9	M	M
QUEBEC						
Bagotville	7	13	2	42.3	M	M
Blanc Sablon	3	13	- 3	2.8	0.0	38.9
Inukjuak	- 1	6	-13	8.6	16.0	63.9
Kuujjuaq	4	18	- 4	1.6	0.0	62.7
Kuujjuarapik	4	18	- 4	6.6	M	48.2
Manawaki	9	20	1	31.3	M	19.3
Montréal	12	20	5	49.2	M	25.2
Mont-Joli	7	14	3	32.2	M	17.0
Natashquan	5	15	- 1	6.8	M	34.4
Nitchequon	7	15	2	6.2	0.0	M
Québec	9	18	2	80.6	M	10.9
Schefferville	6	17	- 2	0.0	0.0	68.5
Sept-Iles	5	12	- 1	23.2	M	26.5
Sherbrooke	10	18	0	59.6	M	20.9
Val-d'Or	7	19	- 1	31.0	M	18.3
NEW BRUNSWICK						
Charlo	6	13	1	48.7	M	6.7
Fredericton	9	20	5	88.2	M	M
Saint John	9	17	5	62.1	M	15.9
NOVA SCOTIA						
Greenwood	10	20	5	51.4	M	M
Shearwater	9	18	5	27.4	M	M
Sydney	6	17	- 1	41.4	M	28.2
Yarmouth	10	18	6	47.1	M	17.3
PRINCE EDWARD ISLAND						
Charlottetown	9	17	2	78.3	M	M
Summerside	8	18	4	65.7	M	M
NEWFOUNDLAND						
Gander	5	17	- 2	7.9	M	27.1
Port aux Basques	6	11	3	9.6	M	M
St. John's	4	9	- 1	14.8	M	22.2
St. Lawrence	5	12	- 1	21.0	M	M
Cartwright	2	12	- 4	0.8	M	42.6
Goose	6	19	- 3	0.0	M	47.7
Hopedale	- 1	4	- 4	0.2	4.0	M

Av = weekly mean temperature (°C)
Mx = weekly extreme maximum temperature (°C)
Mn = weekly extreme minimum temperature (°C)
TP = weekly total precipitation (mm)

SOG = snow depth on ground (cm), last day of the period
H = weekly total bright sunshine (hrs)

X = not observed
P = extreme value based on less than 7 days
M = not available at press time

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Annual subscription rate for one issue per month including monthly supplement--- $10.00
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