

Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

Canadian Climate Centre

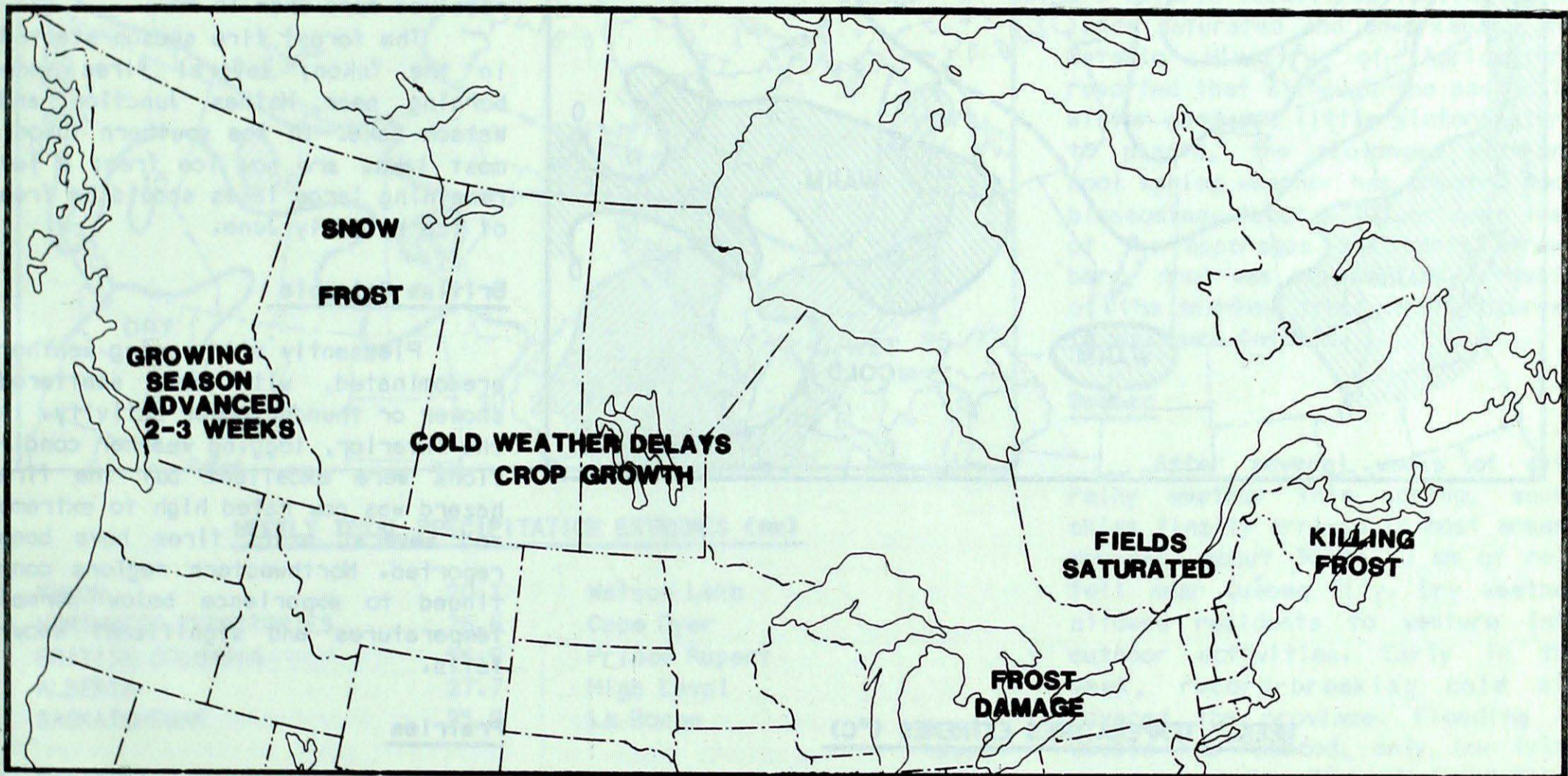
MAY 27, 1983

(Aussi disponible en français)

VOL. 5 NO. 21

FOR THE PERIOD MAY 17-23, 1983

Spring Agriculture Weather:

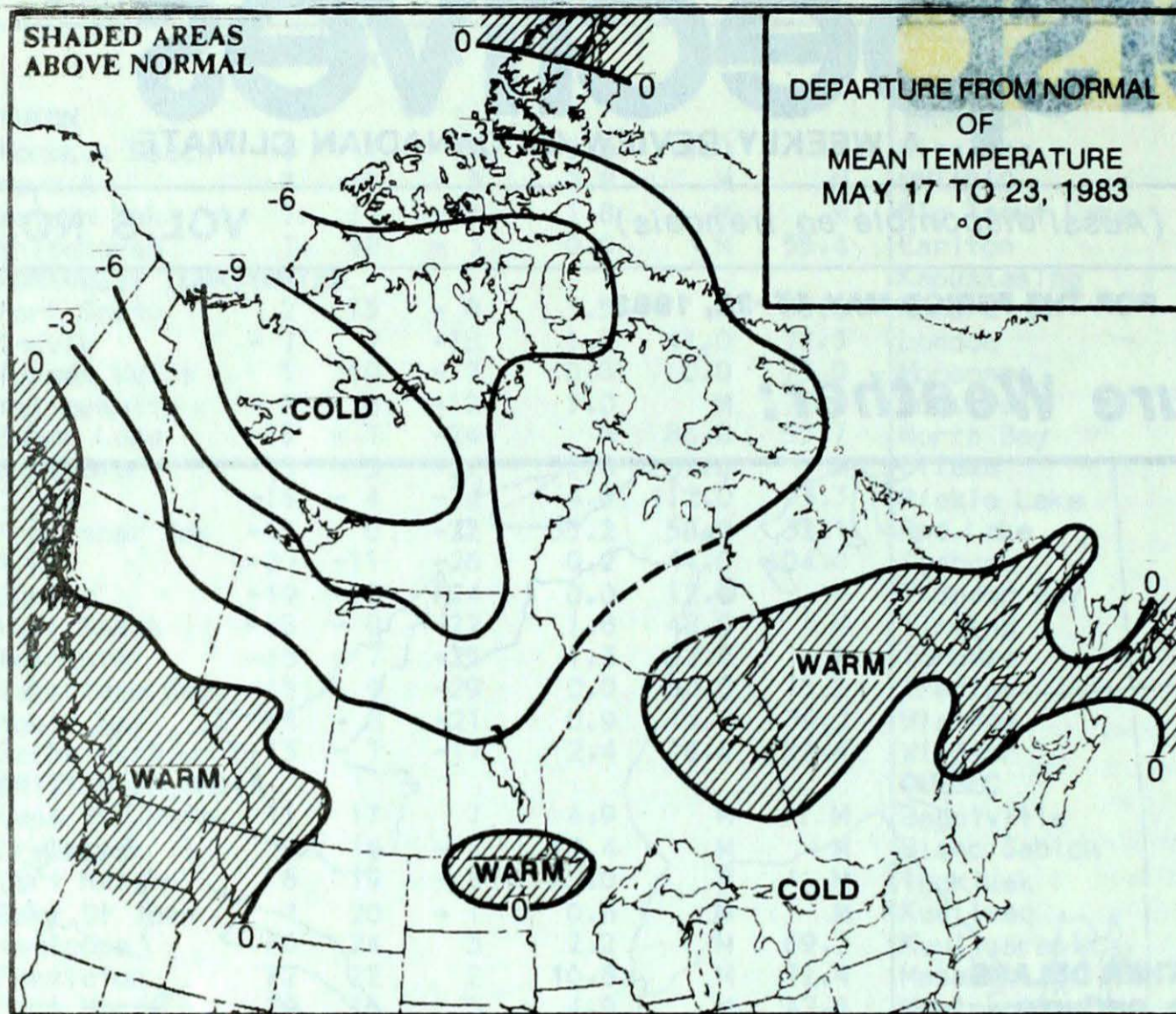


After the mild winter of 1982-83, the unsettled spring weather had varied effects on agricultural activities across Canada. The continued mild weather advanced the growing season in southern British Columbia; fruit trees were in full bloom during March in the Okanagan Valley. Unseasonably cold weather delayed crop growth on the Prairies. Major spring snow storms struck the southern Prairies in early May, and many new-born calves died from the cold in southern Saskatchewan. Cold temperatures contributed to crop dormancy in central Alberta.

Persistent heavy rains in Ontario and Québec kept farmlands saturated delaying field-work up to 3 weeks in some areas. Extensive frost covered Ontario in early May, resulting in a 10 per cent loss in some fruit and vegetable crops in southern areas. Widespread killing-frost covered the Maritimes in mid-May. Fruit crops in northern Nova Scotia, which were advanced in their growth, suffered the most. Although frost damage is not yet fully appraised, it is expected to be quite substantial.

Conditions for Agriculture in the Early Spring page 5

ACROSS THE COUNTRY...



Yukon and the Northwest Territories

Wintry weather returned to the North. Mean temperatures were 5 to 10 degrees below normal, except in the southern Yukon where near normal values prevailed. Precipitation amounts were light almost everywhere; only the southern Yukon and extreme southern Baffin Island received more than 15 mm.

The forest fire season started in the Yukon; several fires were burning near Haines Junction and Watson Lake. In the southern Yukon, most lakes are now ice free; a few remaining large lakes should be free of ice by early June.

British Columbia

Pleasantly mild spring weather predominated, with some scattered shower or thundershower activity. In the interior, logging weather conditions were excellent but the fire hazard was now rated high to extreme and several small fires have been reported. Northwestern regions continued to experience below normal temperatures and significant snowfalls.

Prairies

Despite cooler than normal temperatures, snowmelt at higher elevations contributed to increased river and stream flow in southwestern Alberta. Stream flow in northern Alberta remained below normal for this time of the year. The Holiday week-end was marred by cool weather and a late season snowfall across north central Alberta. Nearly 15 cm fell north of a line from Peace River to Cold Lake, and many campers returned home disappointed.

Afterwards in the Arctic air, frost covered areas north of Edmonton where temperatures dipped to near -10°. Several record low temperatures were established.

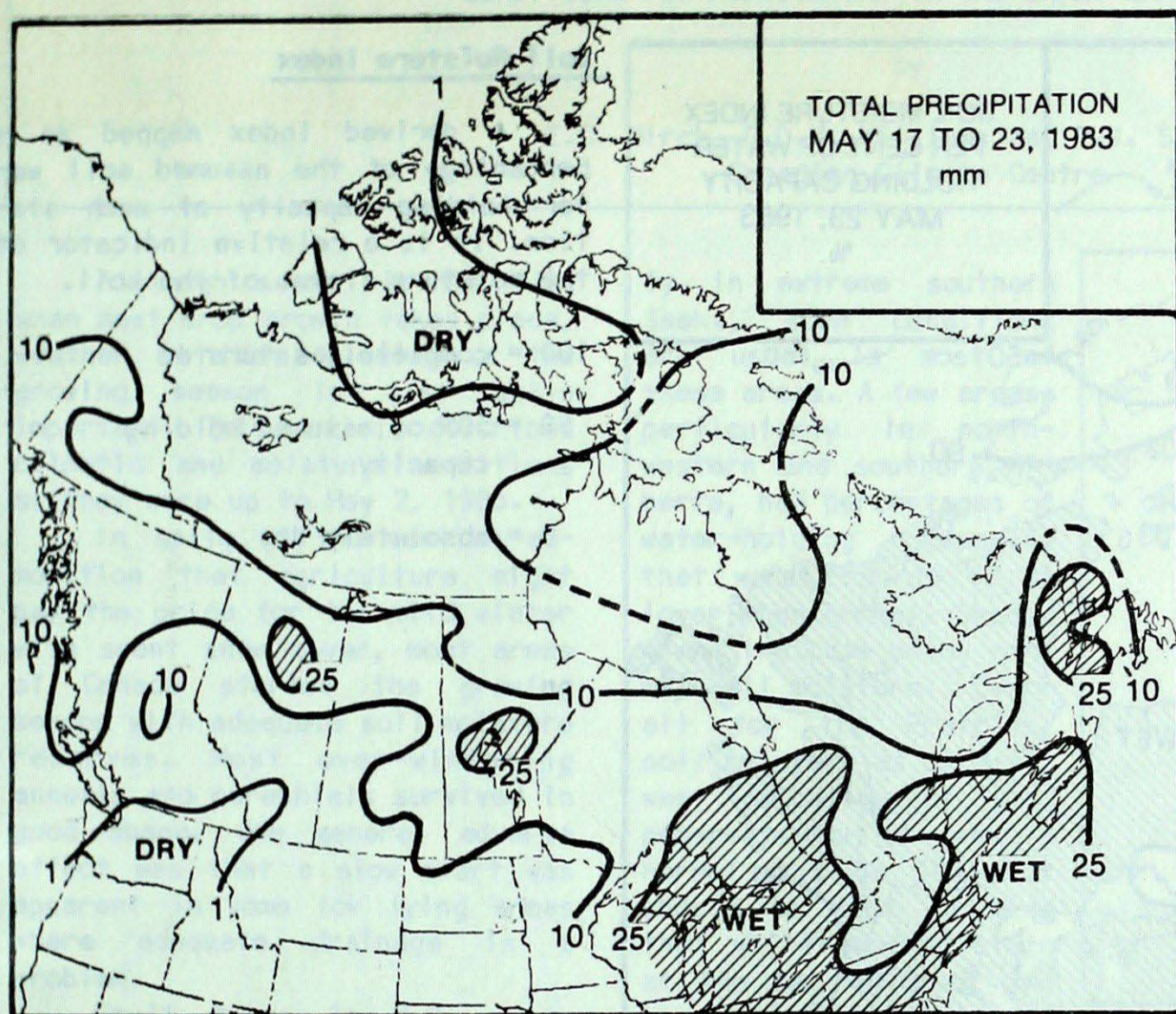
Remainder of the Prairies enjoyed plenty of sunshine but generally cool weather. The continued cool weather has hindered crop growth in the southern Prairies.

WEEKLY TEMPERATURES EXTREMES (°C)

	MAXIMUM	MINIMUM
YUKON TERRITORY	18.0 Watson Lake	-19.2 Shingle Point
NORTHWEST TERRITORIES	15.2 Fort Smith	-26.2 Cambridge Bay
BRITISH COLUMBIA	29.4 Lytton	-2.9 Mackenzie
ALBERTA	26.5 Medicine Hat	-10.0 Fort Chipewyan
SASKATCHEWAN	22.0 Kindersley	-9.8 Collins Bay
MANITOBA	25.3 Winnipeg	-15.8 Churchill
ONTARIO	22.8 Moosonee	-7.0 Armstrong
QUEBEC	23.6 Bagotville	-14.8 Inukjuak
NEW BRUNSWICK	25.2 Charlo	-4.2 Moncton
NOVA SCOTIA	21.8 Greenwood	-2.3 Greenwood
PRINCE EDWARD ISLAND	20.5 Summerside	-1.1 Summerside
NEWFOUNDLAND	23.5 Goose	-8.1 Churchill Falls

ACROSS THE NATION

Warmest mean temperature	17.3	Lytton, BC
Coollest mean temperature	-17.0	Cambridge Bay, NWT



WEEKLY TOTAL PRECIPITATION EXTREMES (mm)

YUKON	20.1	Watson Lake
NORTHWEST TERRITORIES	26.6	Cape Dyer
BRITISH COLUMBIA	56.9	Prince Rupert
ALBERTA	27.7	High Level
SASKATCHEWAN	25.0	La Ronge
MANITOBA	28.9	Norway House
ONTARIO	49.7	Timmins
QUEBEC	38.0	St. Agathe
NEW BRUNSWICK	73.0	Saint John
NOVA SCOTIA	32.4	Shelburne
PRINCE EDWARD ISLAND	23.7	Charlottetown
NEWFOUNDLAND	44.0	Comfort Cove

ICE

Balmy temperatures (2 to 3 degrees above normal in early May) contributed to rapid melt and decay of the pack ice in the eastern Newfoundland waters. At mid-May the pack ice was confined to areas north of St. Anthony with strips of ice south westward into western Notre Dame Bay and the White Bay.

The eastern edge was about 300 km east of St. Anthony. The Strait of Belle Isle was open water. An extensive open lead lay along the Labrador coast. In the next two weeks, the southern edge of the pack ice should retreat to areas north of Battle Harbour.

Ontario

Changeable weather produced week-end rain once again in Ontario. As a result, both cottagers and gardeners, who traditionally consider the Victoria Day week-end as the best time to start their outdoor activities, were disappointed. Owing to the recent heavy rains, total precipitation so far this month has almost reached 100 mm in many southern Ontario localities leaving farmlands saturated and unworkable. The Ontario Ministry of Agriculture reported that although the past mild winter produced little winter injury to plants, the prolonged wet and cool spring weather has created poor blossoming. About a 10 per cent loss of the asparagus and early strawberry crop was expected as a result of the mid-May frost that occurred in southern Ontario.

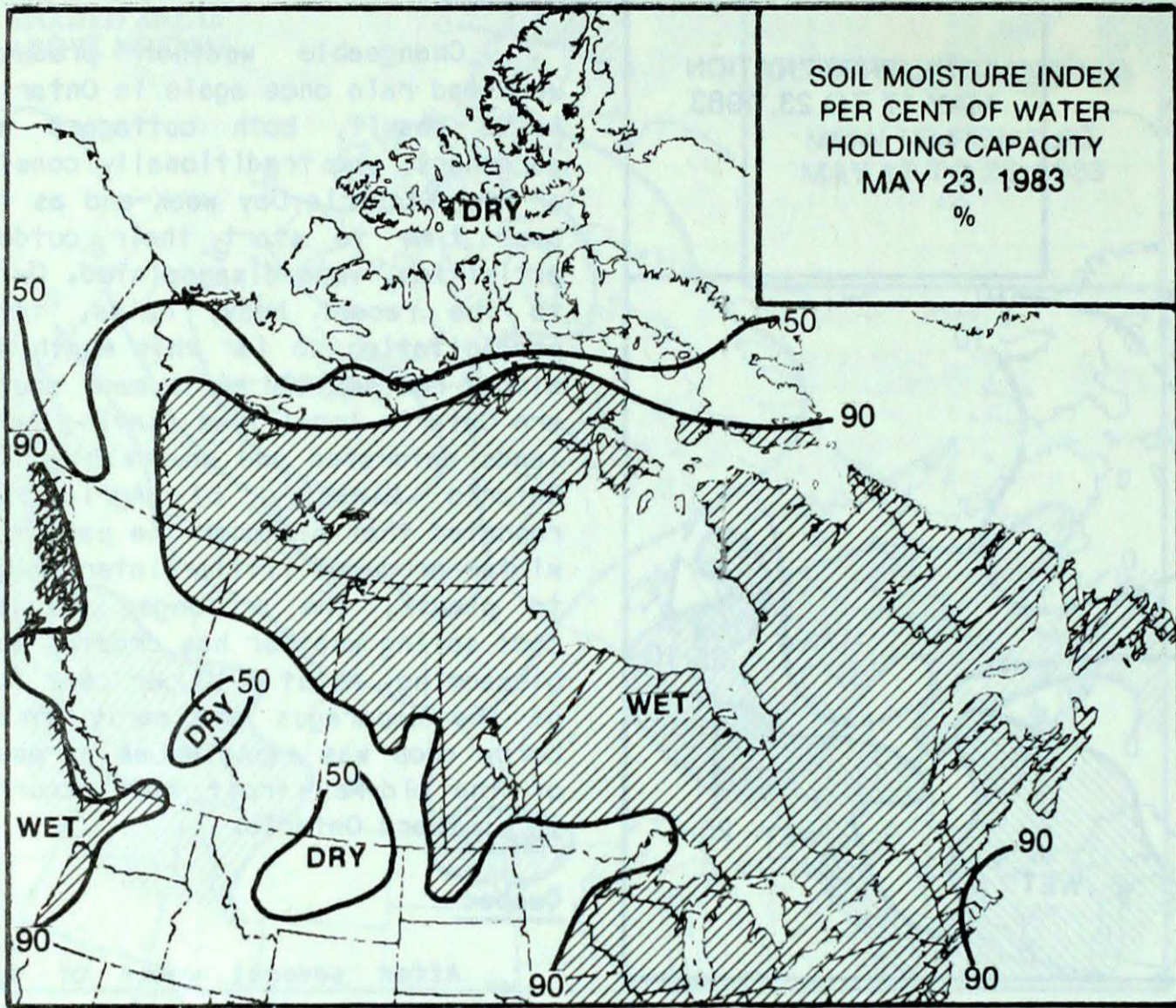
Québec

After several weeks of dull rainy weather this spring, sunny skies finally arrived in most areas. However, about 30 to 40 mm of rain fell near Québec City. Dry weather allowed residents to venture into outdoor activities. Early in the week, record-breaking cold air covered the province. Flooding in Québec has receded, only low lying greas along the Richelieu and Mille lles rivers remained submerged under water. Dry weather allowed fieldwork to commence.

Atlantic Provinces

Widespread killing-frost covered the Maritimes on the morning of May 18. Strawberry and blueberry crops, which were ahead in their growth cycle, suffered the most. Northern N.S. experienced the coldest weather as temperatures plummeted to -7° ; other locations had readings in the -2 and -4 degree range. Numerous daily record low temperatures were set. Temperatures moderated considerably towards the week-end allowing farmers to continue spring seeding. On May 17, snow in the 3 to 6 cm range fell in N.B. and P.E.I., but melted rapidly. At Fredericton where 5.2 cm fell, measurable snow has not fallen so late in the season since 1951.

SOIL MOISTURE



Soil Moisture Index

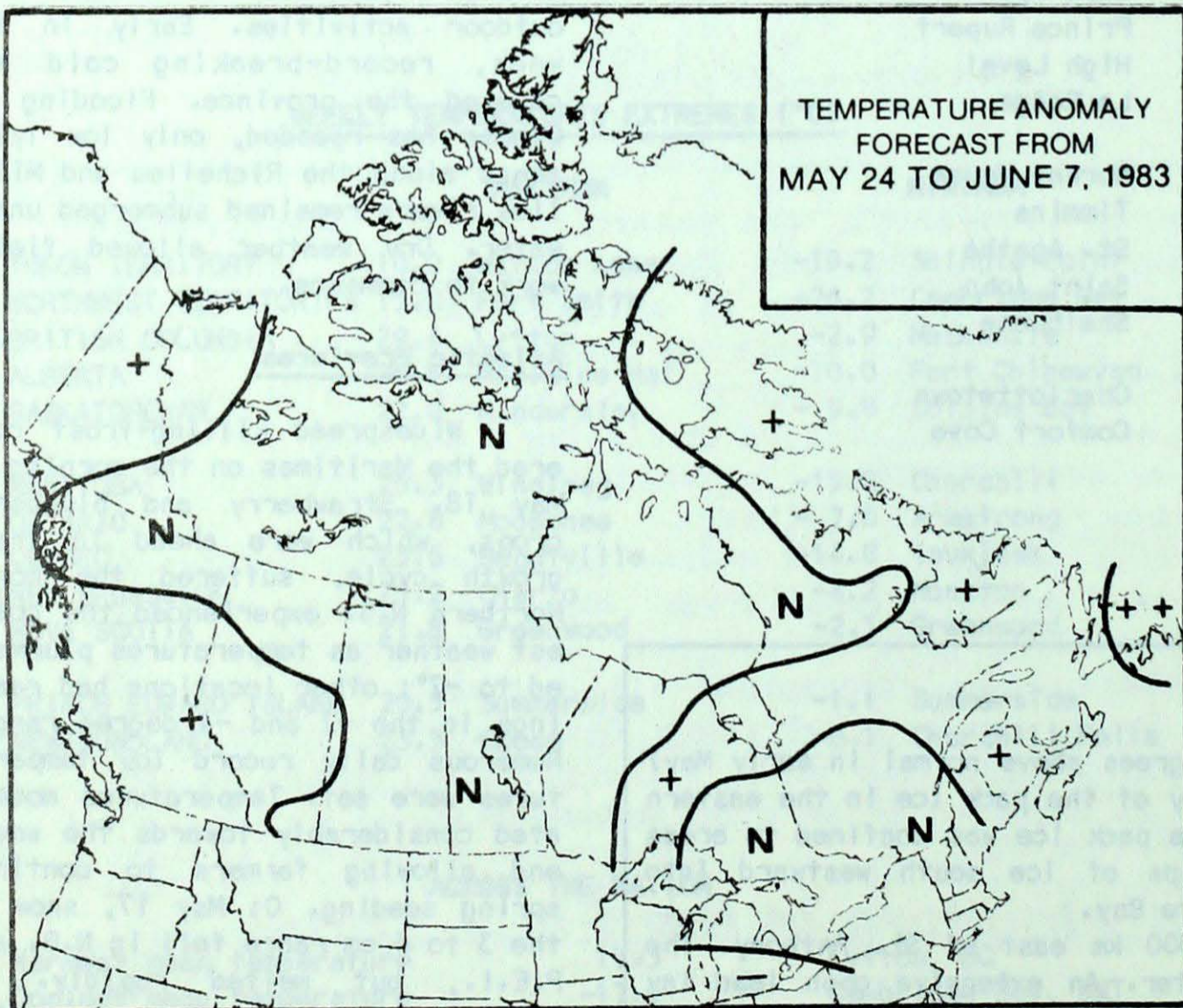
A derived index mapped as a percentage of the assumed soil water holding capacity at each station. It is a relative indicator of the moisture status of the soil.

100 = completely saturated

50 = 50% 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 doing a search of historical weather maps to find cases similar to the present. The principle used is that a prediction for the next 15 days may be based on what is known to have actually happened during the 15-day periods. After the five best sets are selected, the surface temperature anomalies are calculated. This results in five separate forecasts. These are then averaged to provide the consensus forecast depicted.

++ much above normal

+ above normal

N normal

- below normal

-- much below normal

CONDITIONS FOR AGRICULTURE IN THE EARLY SPRING OF 1983

by

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Although summer is the time when most crop growth takes place, weather at the beginning of the growing season is also quite important. This article describes climatic and moisture conditions as they were up to May 2, 1983.

In spite of the earlier admonition that agriculture might pay the price for the mild winter with scant snow cover, most areas of Canada started the growing season with adequate soil moisture reserves. Most over-wintering annuals and perennials survived in good shape. One general adverse effect was that a slow start was apparent in some low lying areas where adequate drainage is a problem.

Fruit trees in B.C. overwintered well, and were blossoming in late February in the Vancouver area. In late March, apricots and cherries were in bloom. Vancouver received its first measurable snow of the season in April.

Because the Prairies have a rather dry climate, the soil moisture available for crops is always of interest for agriculture. An indication of the available moisture can be provided by estimating moisture as a percentage of the amount the soil could hold if water were applied and then allowed to drain off.

As of May 2, the percentage of water holding capacity was 40 in a small area of extreme southern Sask., 60 to 80 in southeastern Alberta and southeastern Sask., and 100 throughout central and northern Manitoba. A dry belt with less than 80 per cent extended from southwestern Sask. northwest across north-central Alberta (see Map). Soil moisture was more plentiful in eastern Sask. and Manitoba than it was farther west. Although the figures suggest rather dry conditions, particular-

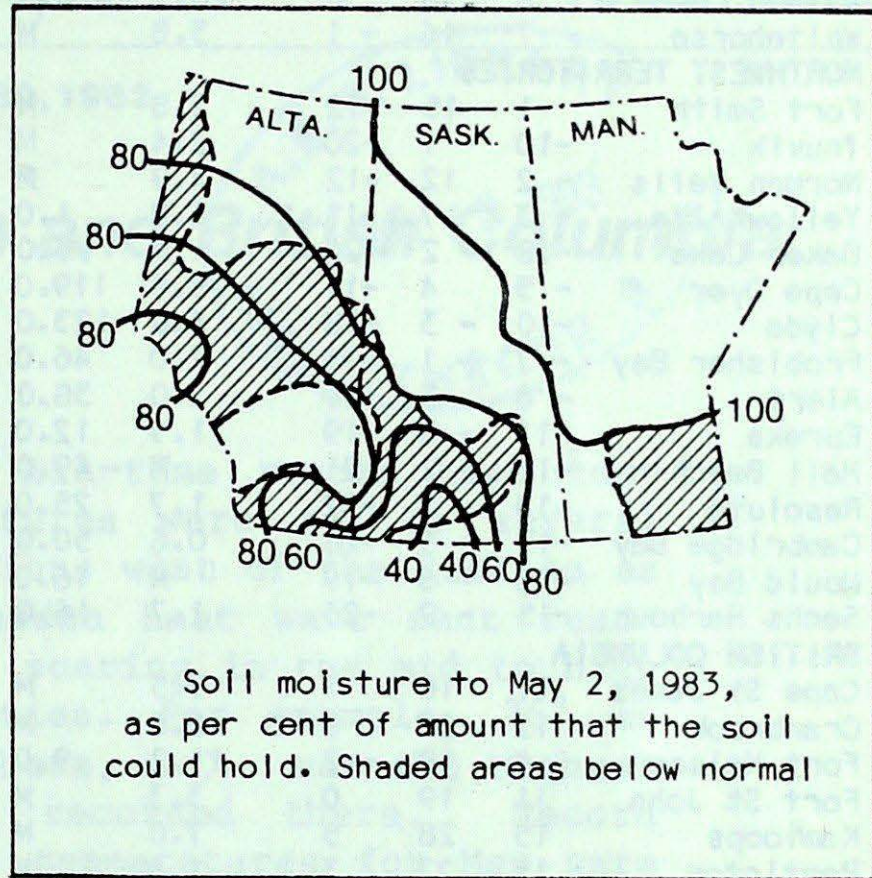
ly in extreme southern Sask., such conditions are usual in most of these areas. A few areas, particularly in north-western and southern Alberta, had percentages of water-holding capacity that were from 10 to 25 lower than normal. Shaded areas indicate below normal soil moisture. Overall for the Prairies, soil moisture as of May 2 was indicative of good prospects for at least a normal crop in 1983. It should be kept in mind that while good moisture at the beginning of the season is important, the

major part of the moisture needed for a good grain crop comes in the early part of the summer.

Under seasonably cool, dry conditions, planting had begun in southern Manitoba and in some southern Sask. localities by the first week of May. In Manitoba although dry crust on the soil allowed field-work to progress, there was enough moisture beneath for good seed germination.

The mild winter with only half of the normal snowfall in Alberta resulted in an easy winter for livestock producers. Warm weather in the first 3 weeks of April permitted Alberta farmers to get on with their spring field work and begin seeding. The possibility of moisture shortages developing later was anticipated in parts of northern Alberta.

Winter wheat and fruit trees in southern Ontario and Québec survived the winter well. The absence of deep snow or severe winter weather permitted dormant pruning and spraying. The insect population appears about average. In Ontario, there was some natural



thinning of Japanese plum and sweet cherry blossoms. Wet weather of early May delayed field-work in southern Ontario and Québec.

Although the sap flow for Maple Syrup production started early in southern Ontario, the necessary conditions of cool nights and warm days did not persist as long as normal. This maple syrup season persisted longer in southeastern Ontario, Québec and in the Maritimes, where one producer reported the best production in 20 years. The production of Maple Syrup is being helped by the replacement of the older bucket and wood-fired evaporation methods by modern techniques in eastern Canadian maple forests.

In the Atlantic Provinces, the lack of snow made controlled-burning of blueberry bushes, which is normally done with the ground snow covered, more difficult. Wet fields slowed field preparation and fertilizer application.

TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT MAY 24, 1983

STATION	TEMP			PRECIP		SUN	STATION	TEMP			PRECIP		SUN
	Av	Mx	Mn	TP	SOG	H		Av	Mx	Mn	TP	SOG	H
YUKON							Thompson	0	7	-8	20.2	3.0	43.6
Komakuk Beach	-11	-6	-17	1.0	16.0	M	Winnipeg	10	25	-4	4.8	M	M
Mayo A	6	15	-4	14.8	M	M	ONTARIO						
Watson Lake	8	18	0	20.1	0.0	26.6	Big Trout Lake	4	12	-4	11.6	M	M
Whitehorse	7	16	-1	3.8	M	M	Earlton	9	20	-6	M	M	M
NORTHWEST TERRITORIES							Kapusking	9	23	-3	46.9	M	M
Fort Smith	1	15	-12	2.8	M	M	Kenora	11	20	2	15.2	M	M
Inuvik	-10	-1	-20	2.4	M	M	London	12	21	-1	43.7	M	37.5
Norman Wells	-2	12	-12	4.9	M	77.1	Moosonee	13	23	-2	21.4	M	M
Yellowknife	-3	7	-11	6.8	1.0	63.5	Muskoka	10	19	-4	M	M	M
Baker Lake	-12	-2	-20	M	93.0	M	North Bay	10	19	-2	34.0	M	33.4
Cape Dyer	-5	4	-11	26.6	119.0	M	Ottawa	12	22	0	12.0	M	49.4
Clyde	-10	-3	-18	6.0	123.0	M	Pickle Lake	8	20	-2	12.6	M	M
Frobisher Bay	-7	-1	-15	2.0	46.0	M	Red Lake	8	20	-2	15.5	M	32.8
Alert	-8	3	-19	2.0	38.0	124.2	Sudbury	9	18	-1	34.0	M	28.9
Eureka	-11	-3	-19	1.9	12.0	120.7	Thunder Bay	9	22	-6	16.5	M	46.7
Hall Beach	-12	-2	-21	M	49.0	M	Timmins	8	21	-6	49.7	M	M
Resolute	-15	-7	-22	1.7	25.0	M	Toronto	12	20	-2	27.8	M	M
Cambridge Bay	-17	-6	-26	0.6	50.0	56.1	Trenton	11	20	-1	31.0	M	M
Mould Bay	-13	-6	-19	M	16.0	M	Warton	10	18	-1	32.9	M	34.1
Sachs Harbour	-15	-9	-23	1.7	16.0	M	Windsor	14	22	5	25.8	M	M
BRITISH COLUMBIA							QUEBEC						
Cape St. James	11	16	7	7.5	M	M	Bagotville	10	24	-4	16.2	M	M
Cranbrook	12	25	0	0.6	M	78.5	Blanc Sablon	3	9	-2	23.8	M	M
Fort Nelson	8	18	-2	11.7	9.0	M	Inukjuak	-4	6	-15	18.6	35.0	M
Fort St. John	11	19	0	3.3	M	M	Kuujuuaq	0	15	-9	5.4	0.0	M
Kamloops	15	28	5	7.0	M	72.8	Kuujuuarapik	2	20	-9	9.2	M	M
Pentlcton	15	27	3	1.8	M	M	Manawaki	11	22	-4	21.5	M	49.3
Port Hardy	11	19	5	9.8	M	55.4	Mont-Joli	10	19	0	3.8	M	60.7
Prince George	12	21	2	2.8	M	M	Montréal	13	23	2	11.4	M	M
Prince Rupert	10	14	6	56.9	M	19.2	Natashquan	6	15	-2	3.6	M	42.8
Revelstoke	13	27	4	2.9	M	50.5	Nitchequon	3	12	-8	4.8	3.0	M
Smithers	11	20	1	1.0	M	63.3	Québec	11	22	-1	32.0	M	52.3
Vancouver	13	20	8	1.6	M	M	Schefferville	3	15	-9	4.4	1.0	45.7
Victoria	13	22	7	2.2	M	68.1	Sept-Îles	6	16	-4	12.8	M	66.9
Williams Lake	11	22	3	15.2	M	68.0	Sherbrooke	10	22	-5	24.5	M	53.5
ALBERTA							Val-d'Or	9	19	-8	M	M	M
Calgary	11	23	1	M	M	M	NEW BRUNSWICK						
Cold Lake	9	19	0	10.2	M	37.3	Charlo	10	25	-1	3.6	M	M
Coronation	11	23	0	2.4	M	59.1	Fredericton	10	23	-1	20.5	M	M
Edmonton Namao	11	19	4	2.3	M	M	Moncton	9	21	-4	13.1	M	51.4
Fort McMurray	6	17	-4	19.0	0.0	M	NOVA SCOTIA						
Jasper	11	20	2	3.8	M	50.1	Greenwood	11	22	-2	30.2	M	M
Lethbridge	12	25	1	24.0	M	M	Shearwater	9	20	0	25.8	M	45.4
Medicine Hat	14	27	2	5.6	M	M	Sydney	8	20	0	15.0	M	48.6
Peace River	9	18	-2	12.6	6.0	M	Yarmouth	9	20	2	28.6	M	38.9
SASKATCHEWAN							PRINCE EDWARD ISLAND						
Cree Lake	3	14	-7	11.8	M	M	Charlottetown	8	19	0	23.7	M	M
Estevan	12	21	1	12.6	M	57.9	Summerside	9	21	-1	12.0	M	52.2
La Ronge	6	14	-2	25.0	M	M	NEWFOUNDLAND						
Regina	11	20	0	6.9	M	56.7	Gander	6	20	0	10.4	M	22.1
Saskatoon	10	20	0	12.4	M	M	Port aux Basques	7	12	2	24.0	M	M
Swift Current	10	20	1	5.0	M	M	St. John's	9	18	1	6.2	M	M
Yorkton	9	19	2	17.7	M	55.7	St. Lawrence	7	17	2	11.0	M	M
MANITOBA							Cartwright	3	21	-4	7.6	2.0	18.0
Brandon	10	21	-1	15.8	M	M	Goose	6	24	-4	3.1	M	41.4
Churchill	-7	2	-16	3.0	22.0	52.3	Hopedale	2	11	-5	4.6	6.0	M
The Pas	6	16	-1	25.3	M	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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