Climatic Perspectives

MONTHLY SUPPLEMENT INCLUDED

A WEEKLY REVIEW OF CANADIAN CLIMATE

SEPTEMBER 23,1983 (Aussi disponible en français) VOL.5 NO.38

FOR THE PERIOD SEPTEMBER 13-19, 1983

• Frost covers most of Canada

An influx of very cold air brought sub-freezing temperatures from British Columbia to the Maritimes. About 90 per cent of the harvest is complete and no major frost damage is expected. During the weekend another outbreak of Arctic air produced record cold on the Prairies. In Alberta, 15 record low temperatures were set; at Lacombe, overnight readings fell to -7°. Average first day of frost across Canada on page 5.

Inside the August Monthly Supplement.....

* Warm summer of 1983
* Heat wave in the United States
* Tracking the path of the pollutants

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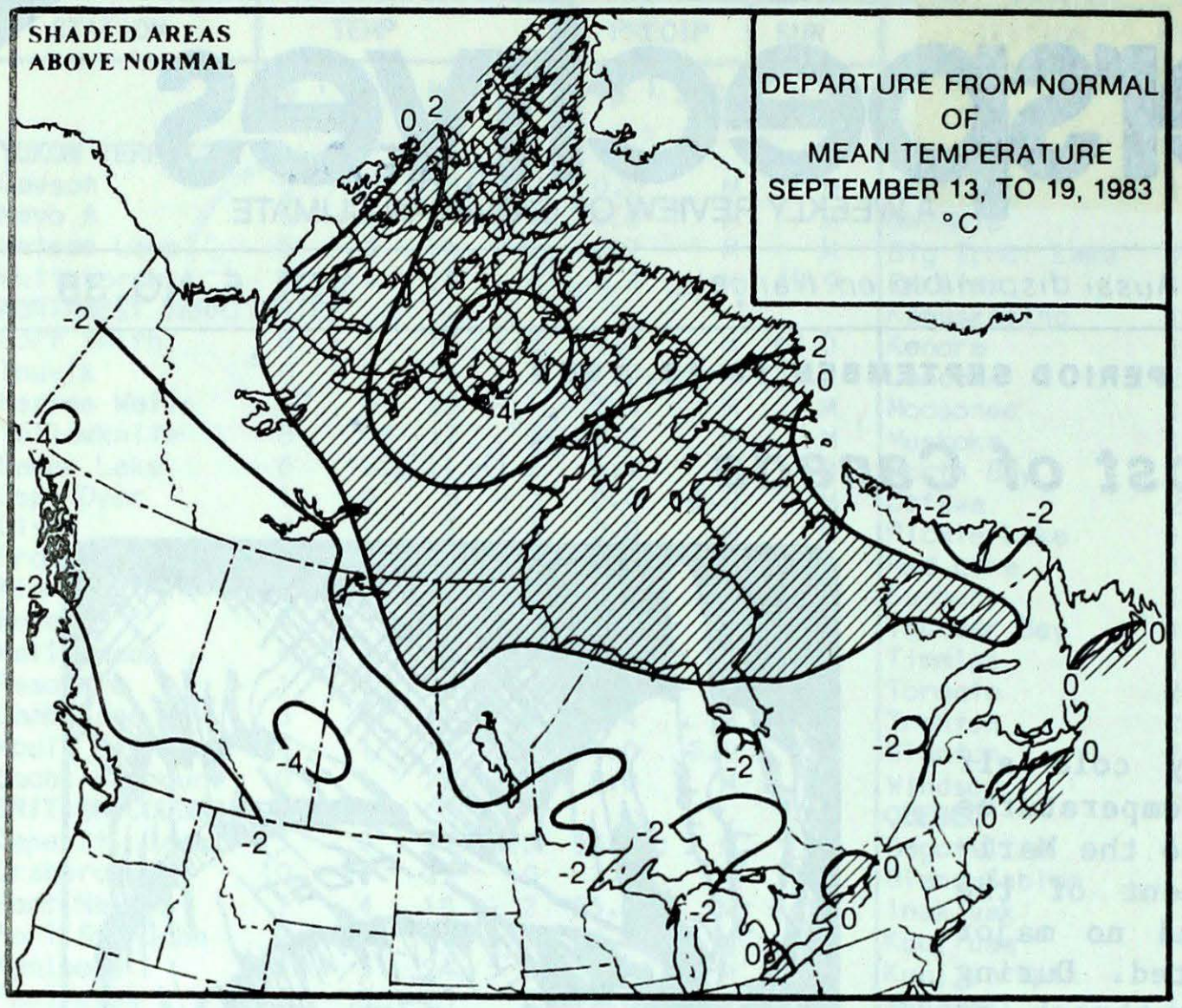
NOTE: The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic stations.

Canada



WEEKLY TEMPERATURES EXTREMES (°C)

	MAXIMUM		MINIMUM	
YUKON TERRITORY	15.1	Dawson	-10.8	Burwash
NORTHWEST TERRITORIES	19.4	Fort Simpson	-17.8	Alert
BRITISH COLUMBIA	25.3	Lytton	-7.1	Puntzi Mountain
ALBERTA	24.6	Medicine Hat	-6.7	High Level
SASKATCHEWAN	22.2	Swift Current	-6.0	Eastend Cypress
MANITOBA	18.1	Hecla Island Winnipeg	-2.1	Dauphin
ONTARIO	31.0	Windsor	-3.0	Moosonee
QUEBEC	24.4	Sherbrooke	-3.6	Matagami
NEW BRUNSWICK	20.6	Fredericton	-0.4	St. Stephen
NOVA SCOTIA	28.4	Shearwater	0.3	Truro
PRINCE EDWARD ISLAND	18.4	Summerside	5.5	Charlottetown
NEWFOUNDLAND	19.6	Gander	-1.0	Goose

ACROSS THE NATION

Warmest mean temperature	18.0	Windsor, ONT
Coolest mean temperature	-8.5	Alert, NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

For the first time in many weeks, mean temperatures rose above the normal values over the Baffin Island - 3 to 5 degrees above the average. The High Arctic also experienced balmy temperatures. Cold air remained deeply entrenched over the Yukon and the Mackenzie District, and the readings were 2 to 4 degrees below the norm.

Precipitation was light almost everywhere; only the Mackenzie District and the southern Yukon received 10 to 15 mm.

In the Beaufort Sea the winds pushed the pack ice within a few kilometres of the drill sites, and freeze up is expected to be earlier than normal. Ice breaker Camsell en route to Victoria was struggling in the thick ice north of Alaska.

British Columbia

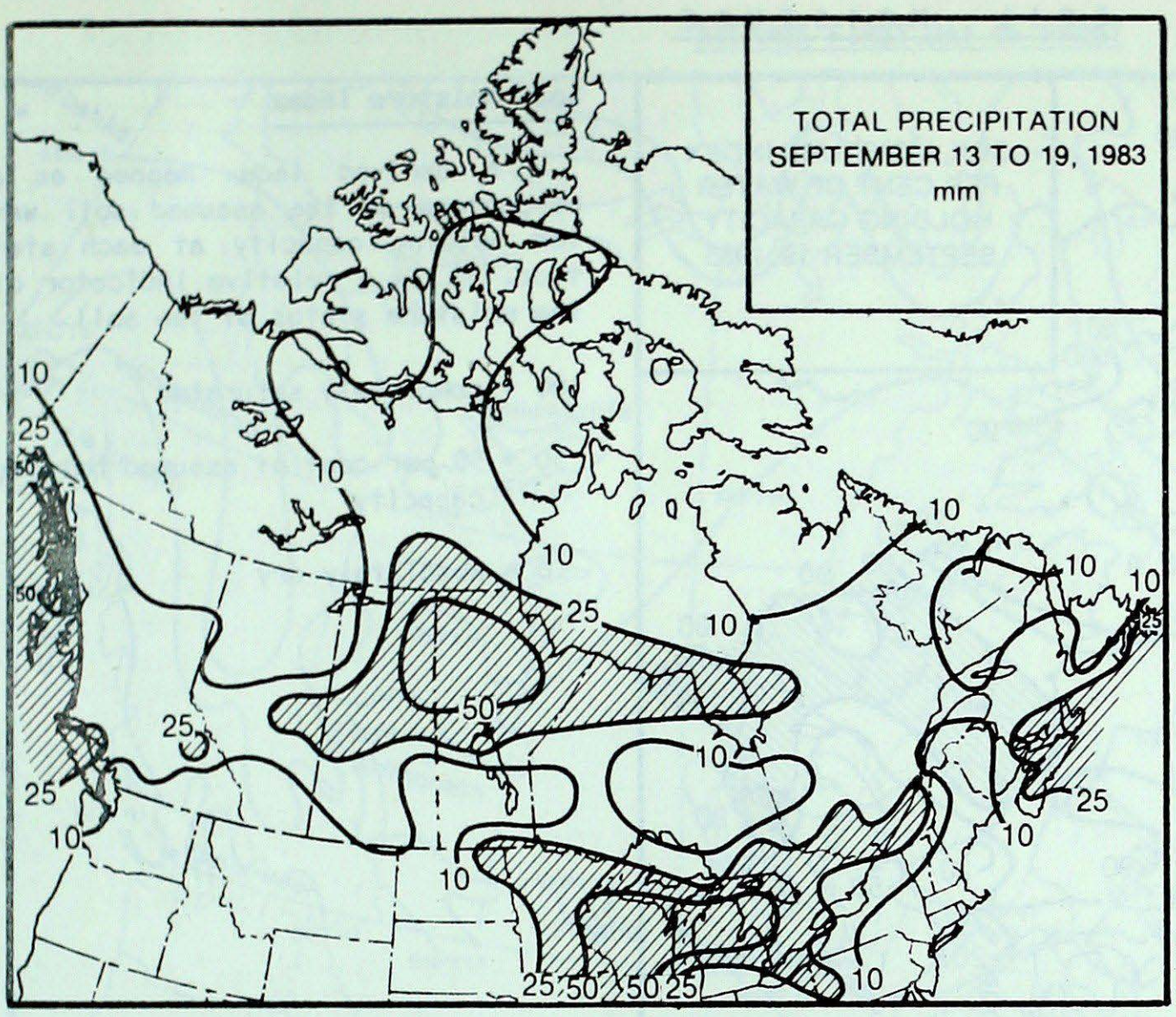
Unsettled weather early in the week gave way to a colder but relatively sunny weekend. Several centimetres of snow fell in the Peace River district, causing some concern for crops not yet harvested. A blanket of new snow covered many mountain tops across the South.

Prairies

It was cool and unsettled throughout the period. Heaviest rainfall amounts were in central Saskatchewan and northern Manitoba, exceeding 50 mm. Several centimetres of wet snow fell in the Peace River District and across central Alberta on September 17. This preceeded an outbreak of very cold air which allowed temperatures to plummet to record-low values on the morning of September 19. All of Alberta and the western half of Saskatchewan experienced a killing frost this week.

Ontario

Cool and wet weather brought an end to the long stretch of warm and dry summer days across Ontario. Mean temperatures dropped into the mid teens, and moderate to heavy rains of 20 to 60 mm fell almost everywhere. While the weekend rains



HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON	5.0	Whitehorse
NORTHWEST TERRITORIES	20.2	Jenny Lind
BRITISH COLUMBIA	62.3	Prince Rupert
ALBERTA	34.6	Vermilion
SASKATCHEWAN	55.2	Collins Bay
MANITOBA	60.0	Lynn Lake
ONTARIO	60.2	Britt
QUEBEC	38.0	Québec
NEW BRUNSWICK	22.2	St. Stephen
NOVA SCOTIA	61.2	Eddy Point
PRINCE EDWARD ISLAND	48.6	Summerside
NEWFOUNDLAND	39.9	St. Johns

EL NIÑO

Sea surface temperatures in the equatorial mid-Pacific Ocean have been returning back to normal. Surface water tempratures along the western coast of South America have dropped from 7° above normal last June to about 3° above normal in late August. The area of warmer waters now lies west of 130°W. The easterly trade winds and the pressure differences on the opposite sides of the Pacific Ocean are near normal.

proved beneficial to the late summer crops such as caulliflower, it hindered the harvest of mature crops. In the Niagara Peninsula, tender fruit harvest is expected to be one of the best. Both peach and pear yields were good and the growth of the grapes was 7 to 10 days ahead of last year's.

The arrival of cool, rainy weather has helped control major forest fires in Northwestern Ontario - a few large fires were still burning north of the Lakes of Woods area.

Québec

Frost covered most of southwestern Québec between the 13th and the 16th of September. Mean temperatures were 2 to 3 degrees below normal. The temperatures fell near -2° at several southern locations. The prolonged dry spell came to an end in the South during the weekend. Most of the stations received between 20 and 30 mm of rain. Montréal had 33 mm - an amount received during last August.

The hay harvest was complete, and the yield was considerably lower than last year's. In the Ottawa area, tobacco harvest was described as good to excellent.

Atlantic Provinces

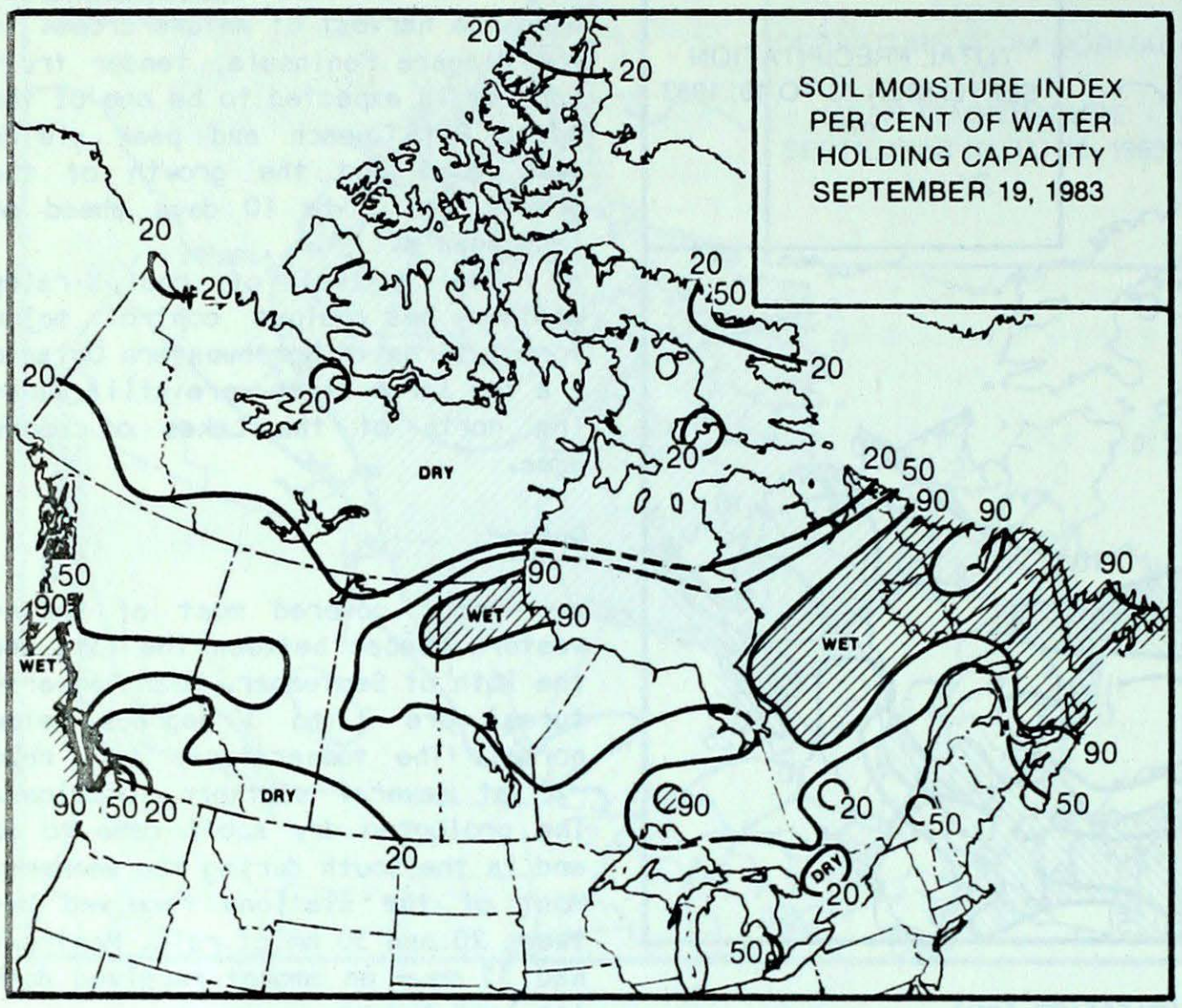
Mean temperatures were about 2° below normal across the Provinces. Except for the weekend rain, the weather was mainly sunny. The dry weather helped the farmers catch up on their delayed harvesting in Newfoundland.

Frost covered part of Nova Scotia on September 16. No major crop losses were reported; however, many home gardens suffered extensive damage.

Between the 14th and the 16th of September, overnight temperatures fell near -2° at numerous New Brunswick communities; for example, at St-Quentin, the temperatures dropped to -3°.

In Nova Scotia, the late July rainfall was credited for an excellent apple crop, and in Prince Edward Island, the grain harvest was about 90 per cent complete.

SOIL MOISTURE



Soil Moisture Index

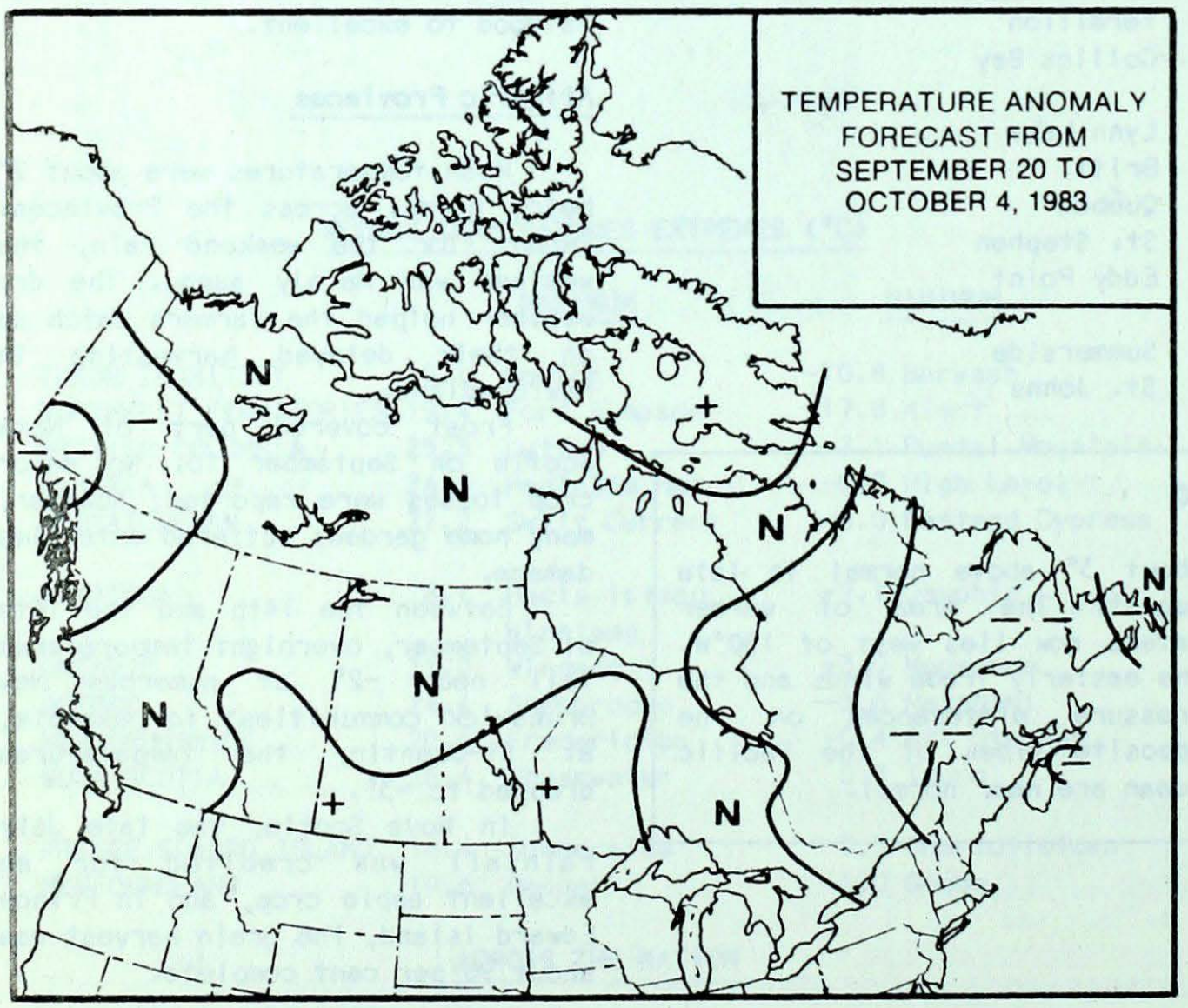
A derived index mapped as a percentage of the assumed soil water holding capacity at each station. It is a relative indicator of the moisture status of the soil.

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 the 15-day anomaly periods. After the five best sets are selected, the surface temperature anomalies are calculated. This results in five separate forecasts, which are averaged to provide the consensus forecast depicted.

++ much above normal

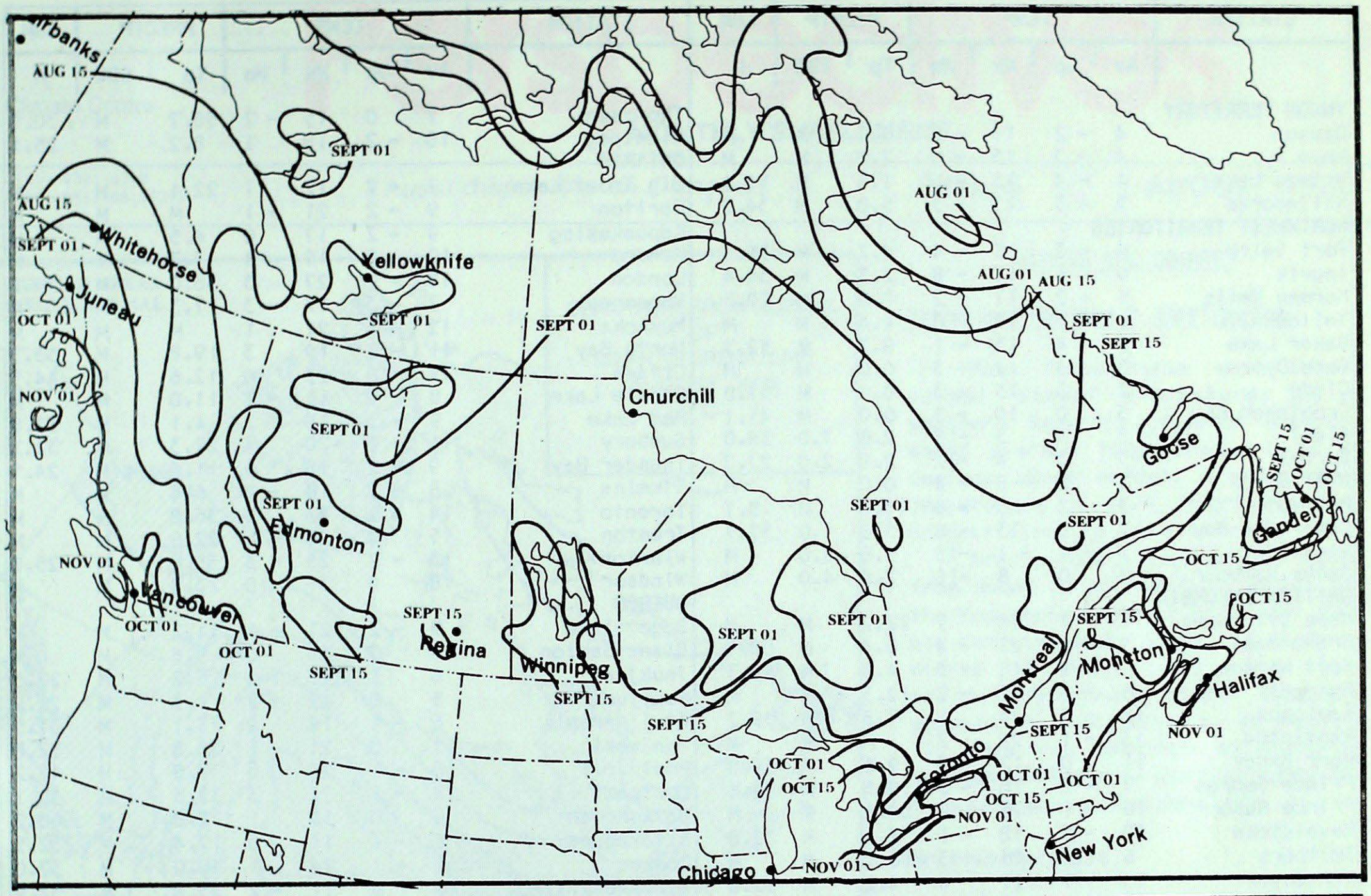
\+ above normal

N normal

\- below normal

-- much below normal

AVERAGE FIRST DAY OF FROST



STORM TRACKS

TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT SEPTEMBER 20, 1983

STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H
YUKON TERRITORY							
Dawson	4	- 2	15	- 8	0.0	M	M
Mayo A	4	- 3	15	- 6	2.0	M	M
Watson Lake	4	- 4	13	- 6	1.6	M	30.0
Whitehorse	5	- 3	13	- 5	5.0	M	34.2
NORTHWEST TERRITORIES							
Fort Smith	6	- 3	16	- 4	4.2	M	32.3
Inuvik	9	5	17	- 8	2.3	M	34.4
Norman Wells	5	- 2	17	- 2	0.0	M	27.1
Yellowknife	6	- 1	15	0	4.4	M	M
Baker Lake	6	4	13	- 1	9.3	M	32.3
Cape Dyer	2	3	7	- 3	0.0	M	M
Clyde	2	3	13	- 3	0.0	M	57.8
Frobisher Bay	3	0	10	- 5	0.0	M	41.1
Alert	- 8	3	3	-18	2.8	7.0	36.0
Eureka	- 5	3	4	-12	2.9	2.0	27.7
Hall Beach	2	2	8	- 3	0.0	M	M
Resolute	- 2	3	5	- 8	13.6	M	5.7
Cambridge Bay	3	3	13	- 6	5.8	1.0	37.7
Mould Bay	- 7	- 1	- 1	-15	5.8	4.0	M
Sachs Harbour	- 2	0	8	-10	2.8	4.0	M
BRITISH COLUMBIA							
Cape St. James	12	- 1	16	7	22.2	M	M
Cranbrook	9	- 2	21	- 4	0.4	M	50.1
Fort Nelson	7	- 2	18	- 3	4.2	M	46.7
Fort St. John	6	- 3	16	- 2	12.3	M	M
Kamloops	12	- 3	24	1	7.8	M	39.7
Penticton	13	- 1	24	2	M	M	M
Port Hardy	11	0	17	3	19.6	M	38.8
Prince George	7	- 3	16	- 6	19.5	M	35.6
Prince Rupert	10	- 1	15	2	62.3	M	M
Revelstoke	10	- 2	18	- 1	7.1	M	32.0
Smithers	6	- 4	15	- 3	16.1	M	M
Vancouver	13	- 1	21	4	4.2	M	52.6
Victoria	13	- 1	19	4	17.0	M	M
Williams Lake	7	- 3	20	- 4	10.1	M	M
ALBERTA							
Calgary	8	- 2	21	- 4	1.6	M	53.5
Cold Lake	6	- 4	15	- 3	25.0	M	14.7
Coronation	7	- 4	17	- 3	10.0	M	30.9
Edmonton Namao	7	- 4	18	- 5	10.0	M	M
Fort McMurray	6	- 3	16	0	8.8	M	17.1
Jasper	6	- 4	16	- 5	10.6	M	29.4
Lethbridge	10	- 2	23	- 2	8.6	M	M
Medicine Hat	10	- 3	25	- 3	0.6	M	M
Peace River	6	- 3	17	- 5	6.2	M	M
SASKATCHEWAN							
Cree Lake	7	X	15	- 1	22.8	M	M
Estevan	9	- 3	18	0	10.0	M	M
La Ronge	8	- 1	17	- 1	37.4	M	M
Regina	8	- 3	18	- 1	M	M	M
Saskatoon	8	- 3	17	- 1	16.4	M	M
Swift Current	8	- 3	22	- 2	M	M	23.2
Yorkton	8	- 3	16	1	M	M	M
MANITOBA							
Brandon	9	- 2	16	1	18.4	M	M
Churchill	6	0	14	0	31.2	M	37.3
The Pas	9	- 2	16	1	26.1	M	24.7
Thompson	7	0	15	- 2	58.7	M	30.9
Winnipeg	10	- 2	18	1	8.2	M	25.1
ONTARIO							
Big Trout Lake	7	- 2	12	1	22.1	M	M
Earlton	9	- 2	21	- 1	M	M	M
Kapuskasing	9	- 2	17	0	4.5	M	M
Kenora	10	- 2	16	4	7.7	M	M
London	15	- 1	27	3	36.0	M	29.2
Moosonee	7	- 3	17	- 3	17.3	M	M
Muskoka	12	- 1	21	1	M	M	M
North Bay	11	- 2	19	3	19.8	M	33.3
Ottawa	14	0	23	6	12.6	M	44.5
Pickle Lake	8	- 3	15	- 2	11.0	M	M
Red Lake	9	- 3	15	- 2	4.1	M	37.8
Sudbury	11	- 2	20	3	27.3	M	32.3
Thunder Bay	9	- 2	18	0	11.6	M	24.1
Timmins	8	- 2	18	- 2	6.4	M	M
Toronto	14	- 2	24	3	36.8	M	M
Trenton	15	0	24	5	22.6	M	M
Wiarton	13	- 2	25	3	35.6	M	25.0
Windsor	18	0	31	10	23.8	M	M
QUEBEC							
Bagotville	9	- 2	21	- 1	11.2	M	M
Blanc-Sablon	8	0	15	0	9.6	M	M
Inukjuak	6	1	13	1	6.2	M	27.5
Kuujjuaq	5	0	12	- 2	1.9	M	22.9
Kuujjuarapik	6	- 1	14	0	23.1	M	31.5
Maniwaki	11	0	21	1	28.8	M	32.8
Mont-Joli	10	- 1	21	0	7.8	M	42.2
Montréal	14	- 1	24	3	32.5	M	35.1
Natashquan	9	0	15	1	12.8	M	46.2
Nitchequon	6	- 1	11	0	17.4	M	32.5
Québec	11	- 1	24	1	38.0	M	37.0
Schefferville	5	0	11	- 2	23.8	M	32.9
Sept-Iles	9	- 1	17	1	23.0	M	39.2
Sherbrooke	10	- 1	24	- 2	17.1	M	38.2
Val-d'Or	8	- 2	19	- 3	16.0	M	32.7
NEW BRUNSWICK							
Charlo	10	- 1	17	2	8.3	M	41.1
Fredericton	11	- 1	21	1	10.8	M	M
Saint John	12	0	20	4	15.8	M	35.7
NOVA SCOTIA							
Greenwood	13	0	24	3	27.0	M	M
Shearwater	16	1	28	7	18.2	M	M
Sydney	12	- 1	21	4	46.4	M	34.8
Yarmouth	14	0	22	6	11.4	M	32.3
PRINCE EDWARD ISLAND							
Charlottetown	13	0	18	6	36.0	M	M
Summerside	13	- 1	18	6	48.6	M	34.8
NEWFOUNDLAND							
Gander	10	- 1	20	3	4.2	M	39.9
Port aux Basques	12	1	18	7	11.6	M	M
St. John's	10	- 1	18	2	39.9	M	M
St. Lawrence	11	0	19	3	26.0	M	M
Cartwright	7	- 2	13	1	16.8	M	M
Goose	8	- 2	16	- 1	7.6	M	32.7
Hopedale	5	- 3	11	0	10.9	M	M

Av = weekly mean temperature (°C)
Mx = weekly extreme maximum temperature (°C)
Mn = weekly extreme minimum temperature (°C)
Tp = weekly total precipitation (mm)
Dp = Departure of mean temperature from normal (°C)

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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