Environment Canada Environnement Canada

adian Climate Centre

Climatic Perspectives

MONTHLY SUPPLEMENT INCLUDED

A WEEKLY REVIEW OF CANADIAN CLIMATE

OCTOBER 12 ,1984 (Aussi disponible en français) VOL.6 NO. 40

FOR THE PERIOD OCTOBER 2 TO 8, 1984

- ***Autumn shows its colours***

- ***Record warmth covers the Prairies***
  - Early snowfall in Atlantic Canada

- ***Heavy rains trigger flooding***
  along the West Coast

INSIDE THE SEPTEMBER MONTHLY SUPPLEMENT.....

- **Hurricane Hazel remembered after 30 years**
- **Ozone and health effects**
- **East Coast storms**

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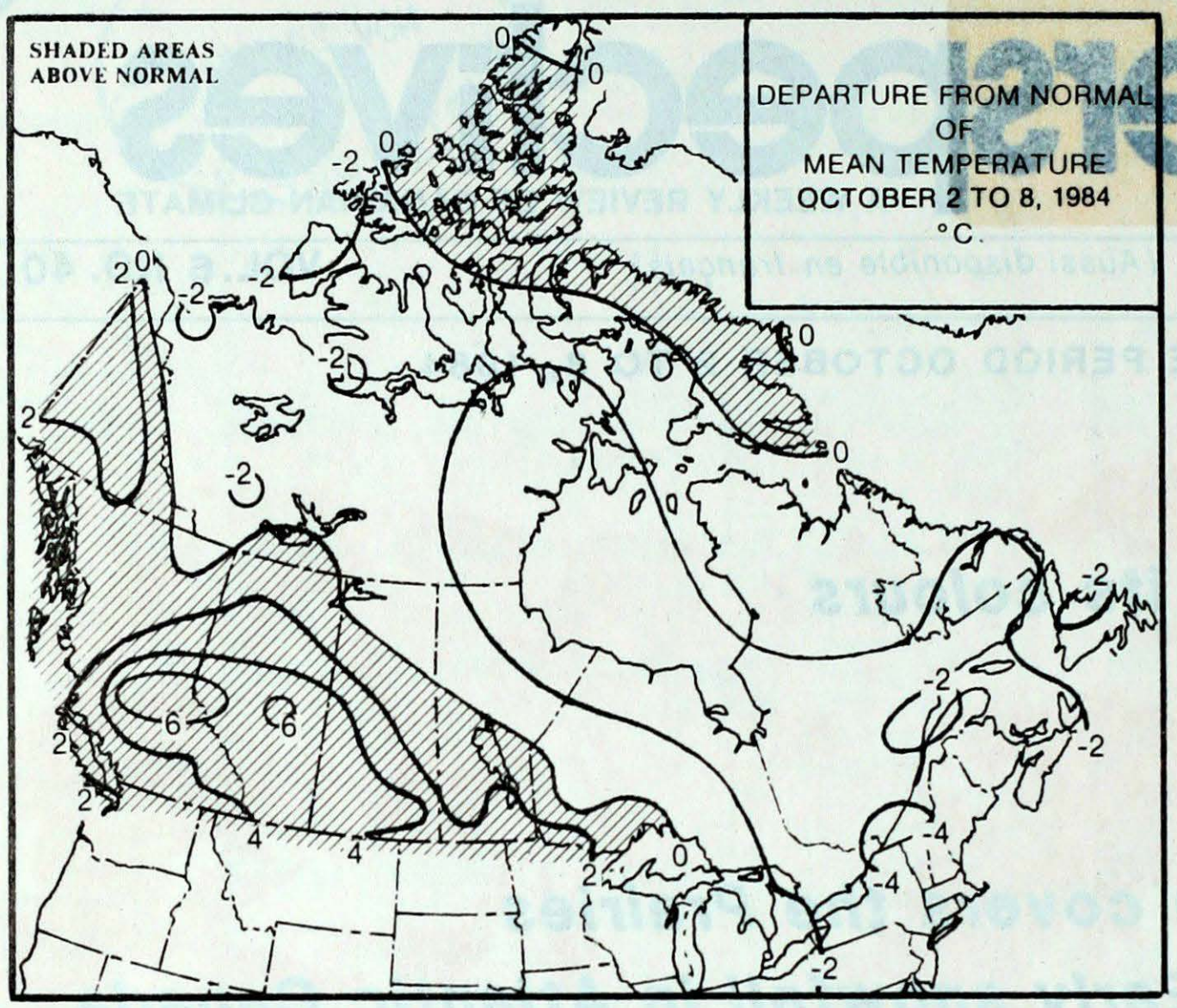
NOTE: The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic stations.

Canada



WEEKLY TEMPERATURES EXTREMES (°C)

	MAXIMUM		MINIMUM	
YUKON TERRITORY	15.5	Watson Lake	-10.5	Shingle Point
NORTHWEST TERRITORIES	19.5	Fort Smith	-25.2	Mould Bay
BRITISH COLUMBIA	29.2	Kamloops	-3.9	Fort Nelson Puntzi Mountain
ALBERTA	28.2	Medicine Hat	-3.5	High Level Rocky Mountain House
SASKATCHEWAN	27.6	Saskatoon	-10.9	Collins Bay
MANITOBA	25.3	Brandon	-13.4	Thompson
ONTARIO	21.3	Windsor	-10.4	Nagagami
QUEBEC	17.8	Maniwaki	-9.1	La Grande Rivière
NEW BRUNSWICK	19.0	Moncton	-3.7	St. Stephen
NOVA SCOTIA	18.9	Greenwood	-3.0	Eddy Point
PRINCE EDWARD ISLAND	14.5	Charlottetown	-0.5	Charlottetown
NEWFOUNDLAND	15.4	St. John's St. Lawrence	-5.4	Battle Harbour

ACROSS THE NATION

Warmest mean temperature	14.8	Lethbridge, ALB
Coolest mean temperature	-19.0	Alert, NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

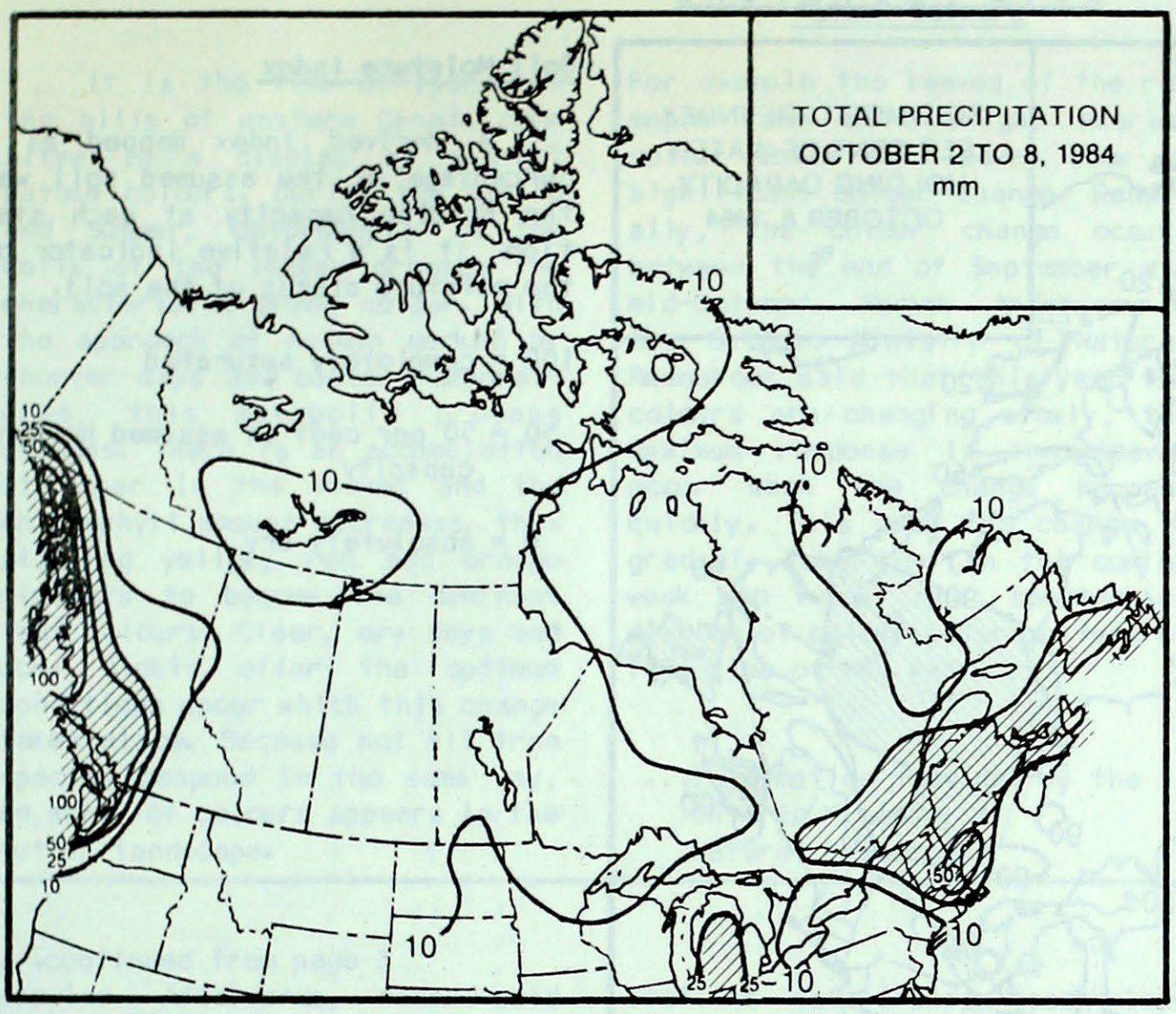
A strong southwesterly flow over the Yukon kept temperatures a few degrees above normal over the southern and central areas. North of the Ogilvie Mountains 10 to 26 centimetres of snow was recorded. In addition, most mountain ranges in the south are now snow covered. Although mean temperatures were below normal in the Northwest Territories, the maximum temperature at Fort Smith managed to reach 20°; the coldest reading occurred at Mould Bay, -25°. Temperatures were near normal in the east, daytime readings hovering near or below freezing.

British Columbia

Pleasant Autumn weather gradually deteriorated during the week as an onshore flow steered disturbances towards the Coast. With the exception of the North, temperatures were mild. Heavy precipitation fell along the Coast and many communities received more than 100 mm of rain. Many creeks and rivers flooded their banks; water levels in some instances were more than four metres above normal. The community of Pemberton Valley, approximately 150 km north of Vancouver, received 110 mm of rain in a 24-hour period during the weekend. Flood damage is estimated to be over $5 million. Thirteen cars from a B.C. rail train derailed and tipped over when tracks were washed out. In the southern interior valleys, an inversion has trapped the smoke, the result of slash burnings. Grape and apple growers are complaining about the effects of the heavy smoke on the ripening process. Wet weather has delayed harvesting in the Peace River District.

Prairies

It was a sunny, warm and dry week. Daytime temperatures moderated each day, climbing into the twenties during the latter half of the week. Over the holiday weekend, numerous daily maximum temperature records were broken. Temperatures in southern Alberta reached as high as 28° on October 8. Precipitation was light everywhere, generally under



HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON	5.4	Shingle Point Watson Lake
NORTHWEST TERRITORIES	22.4	Fort Simpson
BRITISH COLUMBIA	152.3	McInnes Island
ALBERTA	6.2	Peace River
SASKATCHEWAN	12.3	Cree Lake
MANITOBA	22.2	Pilot Maund
ONTARIO	38.4	Ottawa
QUEBEC	33.6	Sherbrooke
NEW BRUNSWICK	32.8	Chatham
NOVA SCOTIA	40.8	Sydney
PRINCE EDWARD ISLAND	36.8	Summerside
NEWFOUNDLAND	49.0	St. Lawrence

Arctic Ice Condition

Freeze-up was well under way in the Arctic, generally one week earlier than normal. Several ships including icebreakers, are still operating in Lancaster Sound; the ice is approximately 15 cm thick and still mobile. The ice-strengthened ore carrier MV ARCTIC is expected to make its final trip to Little Cornwallis Island in late October; if necessary icebreakers will assist. Hazardous multi-year ice in northern Baffin Bay is drifting southward across the approaches to Lancaster Sound. New ice is forming along the north Baffin Island coast. Freeze-up is underway in the drill site areas of the Beaufort Sea, but large areas of open water still remain due to strong winds. Favourable offshore winds have kept the Arctic Ice Pack 100 to 200 kilometres off the north shore. Ice thickness are forecast to be 20 to 30 centimetres by the end of the month.

5 mm. Harvesting is nearing completion in central Alberta, but clean up and field work continues.

Ontario

An outbreak of a very cold air mass produced record-low temperatures in the North on the mornings of October 5th-6th. The readings dropped well below freezing at many locations including -10° at Timmins - the lowest minimum ever so early in the Autumn season. Over the weekend, however, warmer air flooded the Province driving afternoon temperatures into the mid to high teens and as high as 20° in the extreme northwest and in the southwest at Windsor. It was mostly dry with only 3 to 6 mm of precipitation in the North, but 8 to 10 mm fell in the central areas. The South of the Province was generally dry. Although some wet snow fell during the period of October 2nd to 4th north of Lake Superior, it quickly melted.

Québec

Québec's weather was cool. A cold wave covering the Province produced at least 15 daily record-low temperatures between October 4th-7th. Toward the weekend, however, the temperatures moderated to near normal values in the northwest. Precipitation, in the 20 to 35 mm range, fell along the St. Lawrence Valley and snow was reported near Sherbrooke. Relatively dry weather allowed the clean up of the caribou carcasses from the Caniapiscau River to progress rapidly.

Atlantic Provinces

The weather was cloudy, cool and windy in Alantic Canada. On October 2, peak gusts of 93 km/h caused power disruptions at Shearwater and at other locations in Nova Scotia. There were unusual occurrences of heavy thunderstorms on October 4 in Nova Scotia. Snow came early along the East Coast this year. On October 5, snow in the 3 to 10 cm range fell throughout most of the Maritimes and in Newfoundland. A few traffic accidents were attributed to the snowfall in Nova Scotia where snow ploughs were called into

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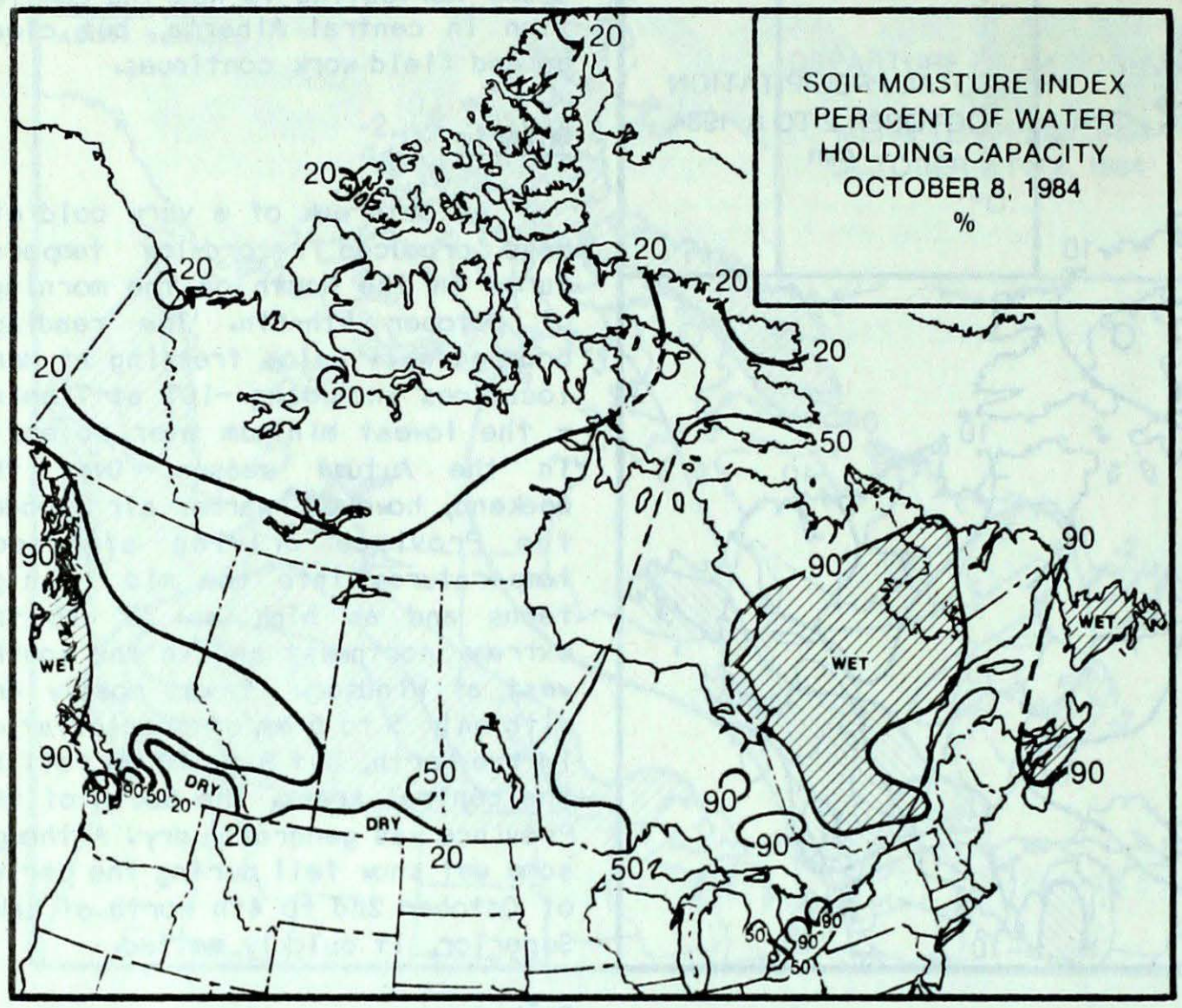
SOIL MOISTURE



Soil Moisture Index

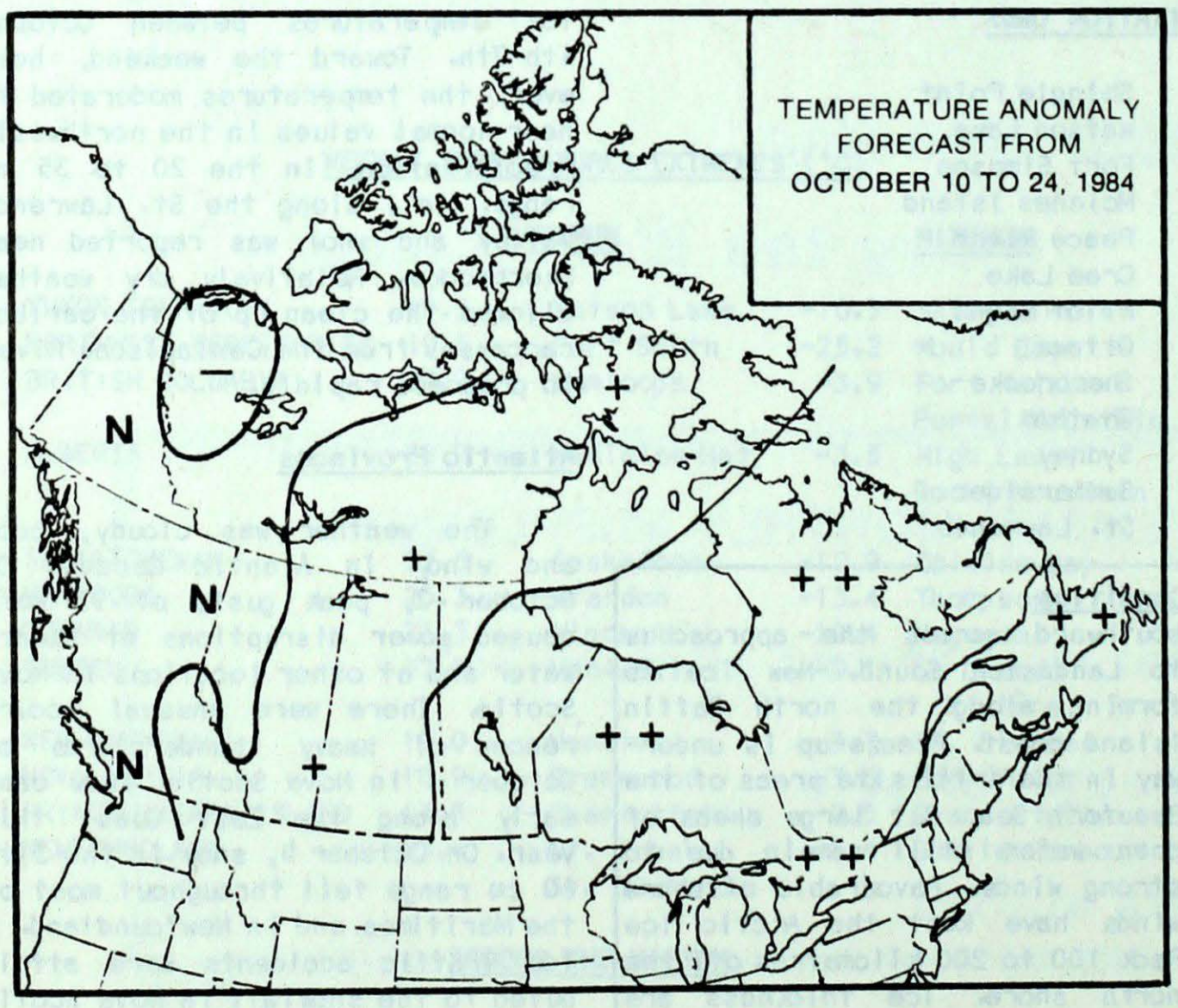
A derived index mapped as a percentage of the assumed soil water holding capacity at each station. It is a relative indicator of the moisture status of the soil.

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

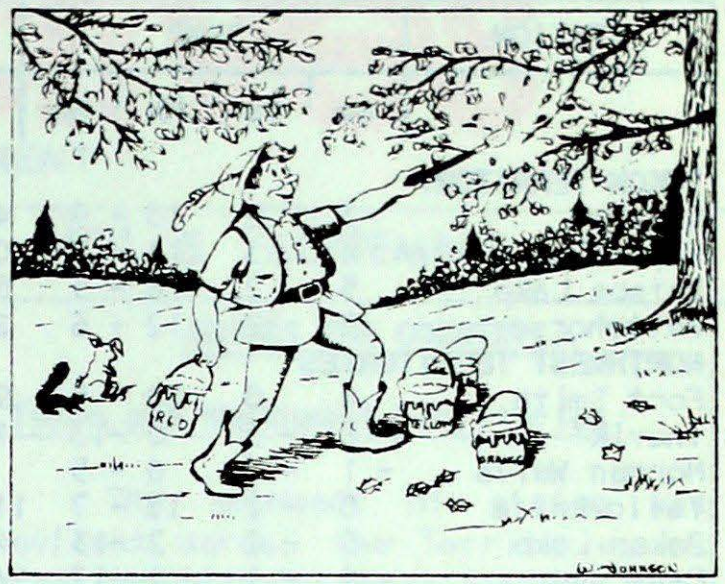
\- below normal

-- much below normal

Autumn Colours

It is the time of year when the hills of eastern Canada come alive in a display of vibrant autumn colours. During the Spring and Summer, chlorophyll in the cells of the leaves creates the characteristic green colour. With the approach of Autumn marked by shorter days and cooler temperatures, this metabolic process changes. There is an accumulation of sugar in the leaves and the chlorophyll amount decreases, thus allowing yellow, red and orange pigments to become the dominant leaf colours. Clear, dry days and cool nights offer the optimum conditions under which this change takes place. Because not all tree species respond in the same way, an array of colours appears in the Autumn landscape.

For example the leaves of the red maple take on a bright scarlet colour while oak leaves show no significant colour change. Generally, the colour change occurs between the end of September and mid-October. Harvey Anderson of the Ontario Ministry of Natural Resources said that this year the colours are changing slowly, the maximum response in the leaves occur when the change happens quickly. This year the change is gradual. Take time in the coming week to view the spectacular display of colour nature offers at this time of the year.



...Information provided by the
Ontario Ministry of
Natural Resources

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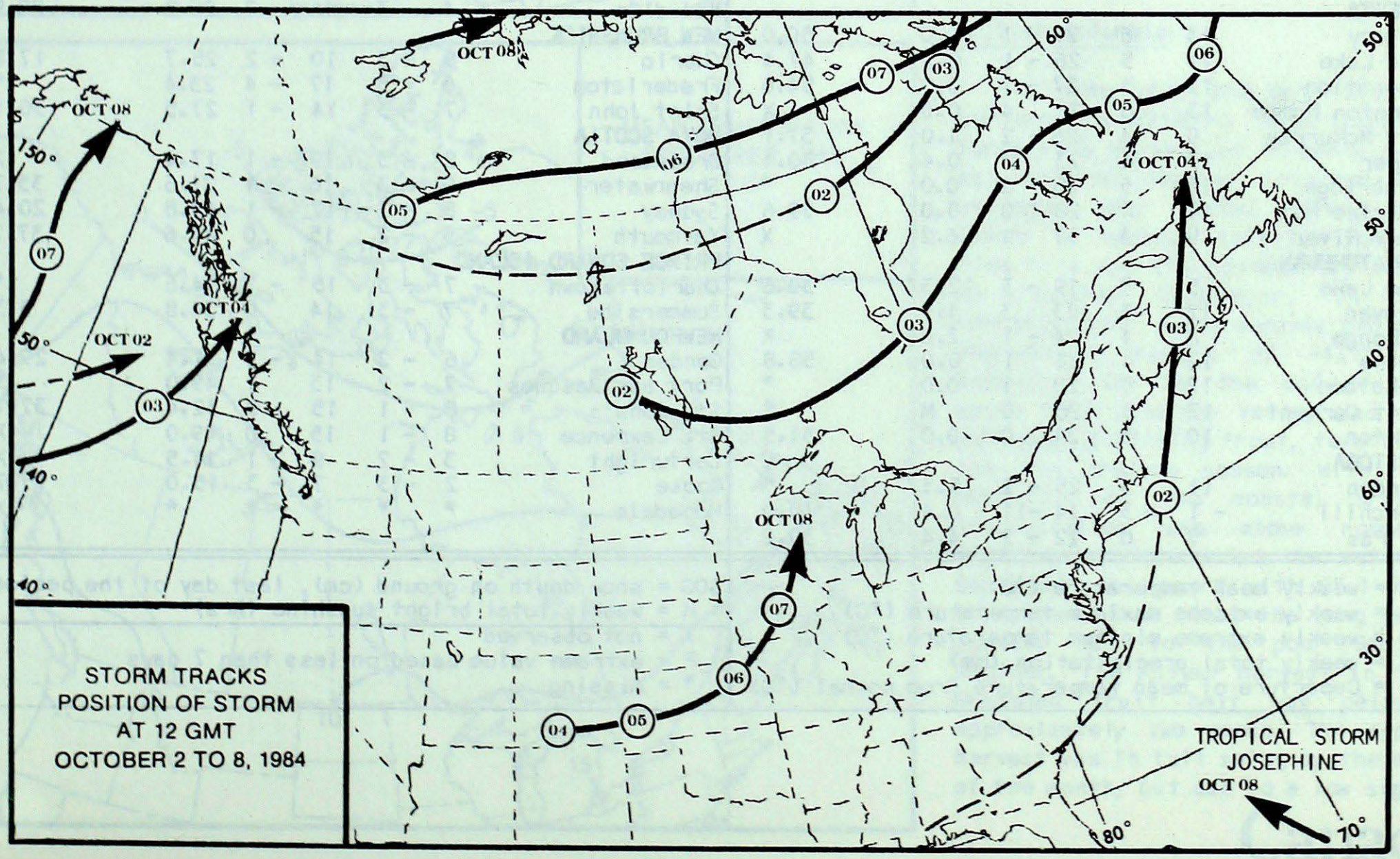
service. Afterwards, record-cold covered the East Coast. At least 4 stations established record-low daily readings including -1° at Charlottetown breaking the old record dating back to 1883.

STORM TRACKS



TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT OCTOBER 9, 1984

STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H
YUKON TERRITORY							
Dawson	3	2	13	- 9	4.0		X
Mayo A	4	3	14	- 7	0.4		X
Watson Lake	5	2	16	- 5	5.4		*
Whitehorse	5	2	12	- 6	2.6		*
NORTHWEST TERRITORIES							
Fort Smith	4	0	20	- 5	9.7		*
Inuvik	- 6	- 3	0	-13	1.0	0.0	*
Norman Wells	- 1	- 2	6	- 5	M	3.0	20.4
Yellowknife	0	- 2	12	- 7	11.8	0.0	12.3
Baker Lake	- 6	- 2	2	-13	4.6	4.0	24.7
Cape Dyer	- 6	- 1	1	-17	14.8	58.0	X
Clyde	- 3	1	1	-11	10.0	24.0	8.5
Frobisher Bay	- 1	1	3	- 6	12.4	5.0	*
Alert	-19	- 3	-10	-25	1.2	31.0	*
Eureka	-16	1	- 8	-23	5.0	16.0	0.0
Hall Beach	-12	- 6	- 4	-19	M		X
Resolute	- 9	2	- 3	-14	3.1	11.0	5.1
Cambridge Bay	- 8	- 1	0	15	2.9		*
Mould Bay	-16	- 3	-11	-25	5.4	10.0	*
Sachs Harbour	-12	- 4	- 2	-20	M	1.0	11.6
BRITISH COLUMBIA							
Cape St. James	12	1	15	9	89.9		17.0
Cranbrook	11	4	24	0	0.4		49.4
Fort Nelson	4	0	21	- 4	8.6		*
Fort St. John	10	3	18	3	16.7		X
Kamloops	16	5	29	5	0.0		*
Penticton	14	4	26	1	0.0		33.5
Port Hardy	12	3	18	8	86.6		3.7
Prince George	11	5	20	3	56.9		11.2
Prince Rupert	12	2	16	9	127.0		*
Revelstoke	10	2	18	4	1.4		19.9
Smithers	8	2	15	- 1	43.6		*
Vancouver	14	2	18	8	57.4		16.2
Victoria	13	1	19	4	26.3		*
Williams Lake	12	5	20	0	4.9		18.8
ALBERTA							
Calgary	13	6	27	- 1	0.0		50.0
Cold Lake	11	5	26	- 1	0.2		47.4
Coronation	11	5	27	- 1	0.0		54.6
Edmonton Namao	13	6	25	4	0.0		X
Fort McMurray	9	4	26	- 2	1.0		37.1
Jasper	13	6	23	0	0.4		30.4
Lethbridge	15	5	28	- 2	0.0		*
Medicine Hat	14	4	28	0	0.0		59.6
Peace River	9	3	17	1	6.2		X
SASKATCHEWAN							
Cree Lake	5	*	19	- 3	12.3		30.6
Estevan	12	3	23	3	4.5		39.3
La Ronge	8	4	24	- 1	2.0		X
Regina	12	4	25	1	0.0		58.8
Saskatoon	12	5	28	1	0.0		*
Swift Current	13	5	26	0	M		*
Yorkton	10	3	24	0	0.0		51.5
MANITOBA							
Brandon	11	3	25	- 2	5.5		*
Churchill	- 1	- 3	14	-11	0.4		15.0
The Pas	7	0	22	- 2	4.4		39.2
Thompson	1	- 1	19	-13	1.6		47.2
Winnipeg	12	3	23	- 1	1.0		36.4
ONTARIO							
Big Trout Lake	3	- 2	15	- 7	8.2		X
Earlton	5	- 3	16	- 7	*		X
Kapuskasing	5	- 2	19	- 8	7.8		*
Kenora	11	3	21	2	0.2		X
London	10	- 2	18	1	5.4		43.5
Moosonee	5	- 2	18	- 7	14.6		26.9
Muskoka	7	- 3	15	- 2	*		X
North Bay	6	- 3	15	- 7	32.6		35.1
Ottawa	7	- 4	18	- 4	38.4		*
Pickle Lake	6	- 1	17	- 8	5.6		X
Red Lake	8	1	21	- 1	2.4		24.4
Sudbury	6	- 3	16	- 5	17.7		*
Thunder Bay	8	0	20	- 1	3.4		28.7
Timmins	5	- 3	18	-10	10.0		X
Toronto	9	- 3	19	- 3	6.0		X
Trenton	8	- 4	17	- 4	*		X
Wiarton	9	- 2	16	- 1	19.1		32.0
Windsor	14	0	21	4	14.6		X
QUEBEC							
Bagotville	3	- 5	10	- 3	18.8		X
Blanc-Sablon	5	- 1	9	- 1	20.6		25.8
Inukjuak	0	- 1	5	- 4	13.4	0.0	12.5
Kuujjuaq	1	- 1	8	- 7	7.7	0.0	52.8
Kuujjuarapik	2	- 2	12	- 4	23.6	0.0	11.8
Manlwaki	6	- 3	18	- 6	26.6		39.1
Mont-Joli	4	- 4	10	- 2	25.5		14.6
Montréal	7	- 5	17	- 4	24.8		37.3
Natashquan	4	- 3	11	- 3	13.0		*
Nitchequon	1	- 2	9	- 6	12.0	0.0	24.6
Québec	6	- 4	16	- 4	27.8		*
Schefferville	- 1	- 2	8	- 6	8.4	1.0	*
Sept-Iles	3	- 3	10	- 3	5.8		34.9
Sherbrooke	4	- 4	17	- 7	33.6		33.1
Val-d'Or	4	- 3	16	- 7	20.2		28.9
NEW BRUNSWICK							
Charlo	5	- 3	10	- 2	25.7		17.8
Fredericton	6	- 3	17	- 4	23.4		*
Saint John	7	- 3	14	- 1	27.5		30.1
NOVA SCOTIA							
Greenwood	8	- 3	19	- 1	17.4		X
Shearwater	9	- 3	16	1	21.6		35.7
Sydney	8	- 3	17	- 1	40.8		20.4
Yarmouth	9	- 2	15	0	14.6		37.7
PRINCE EDWARD ISLAND							
Charlottetown	7	- 3	15	- 1	34.6		*
Summerside	7	- 3	14	0	36.8		5.3
NEWFOUNDLAND							
Gander	6	- 2	14	- 2	21.4		29.4
Port aux Basques	7	- 2	13	1	49.0		*
St. John's	8	- 1	15	0	32.4		37.1
St. Lawrence	8	- 1	15	0	49.0		X
Cartwright	3	- 2	9	- 1	11.5		X
Goose	2	- 3	7	- 3	15.0		15.7
Hopedale	*	*	*	*	*		X

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
* = missing