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Climatic Perspectives

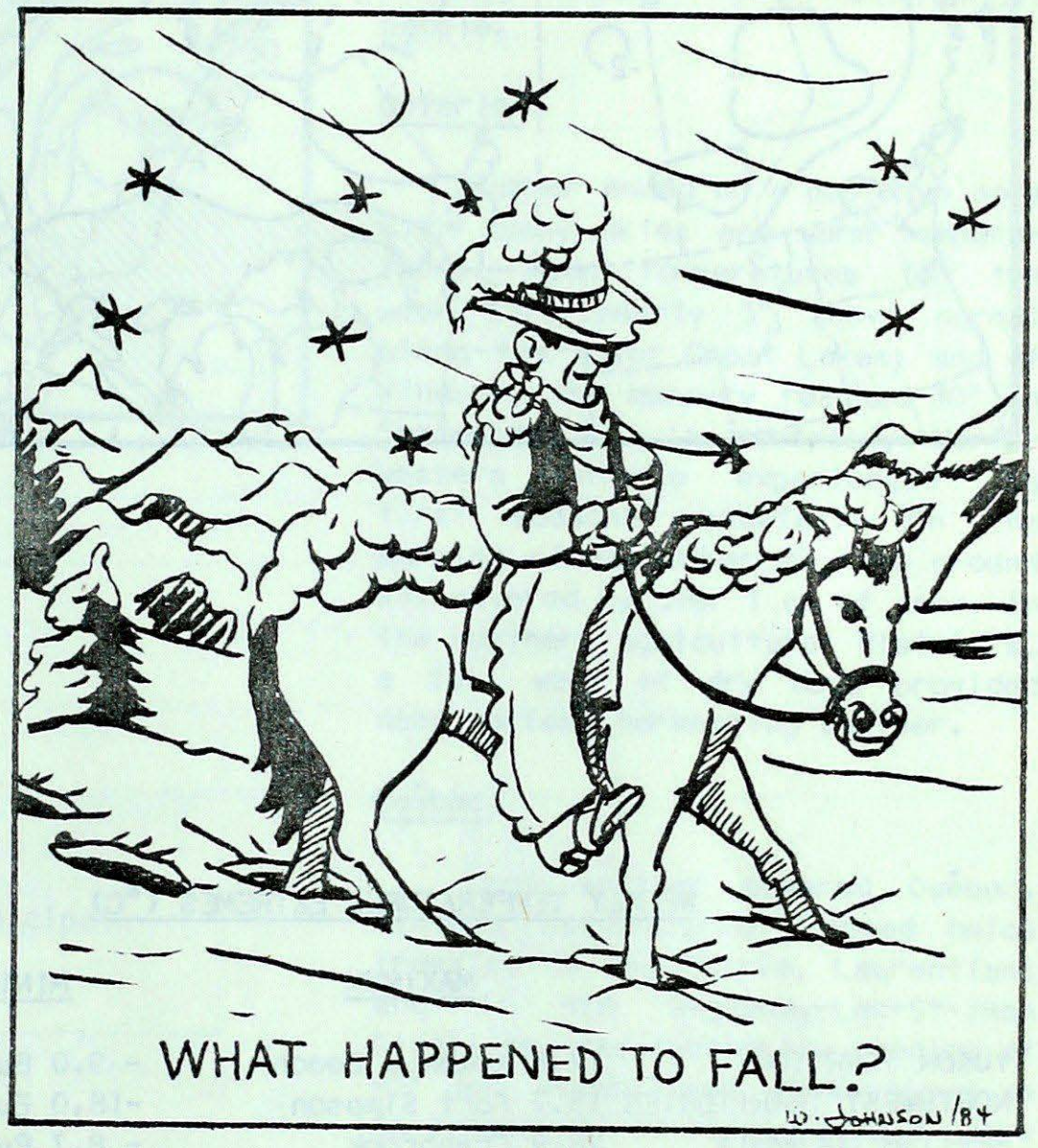
A WEEKLY REVIEW OF CANADIAN CLIMATE

SEPTEMBER 28 ,1984 | *(Aussi disponible en français)* | VOL. 6 NO. 38

FOR THE PERIOD SEPTEMBER 18 TO 24, 1984

• *Widespread snowfall ushers in Autumn across the Prairies*

The Prairies experienced widespread snowfall on the first day of Fall. Most of the locations in Alberta and Saskatchewan received from 5 to 15 cm of snow, but locally heavier amounts fell such as 35 cm just northeast of Jasper. The snow moved into southern Manitoba on September 24. Wet snow which came about one month earlier than normal sent tree branches crashing down on power lines, many communities were without electricity for hours. The snowfall will prove beneficial to winter wheat and Fall seeded crops in Alberta by providing much needed moisture. Also, weekend snow is expected to replenish soil moisture reserves in the previously dry farmlands of Saskatchewan.



• *Low sugar content in Okanagan grapes attributed to cool weather*

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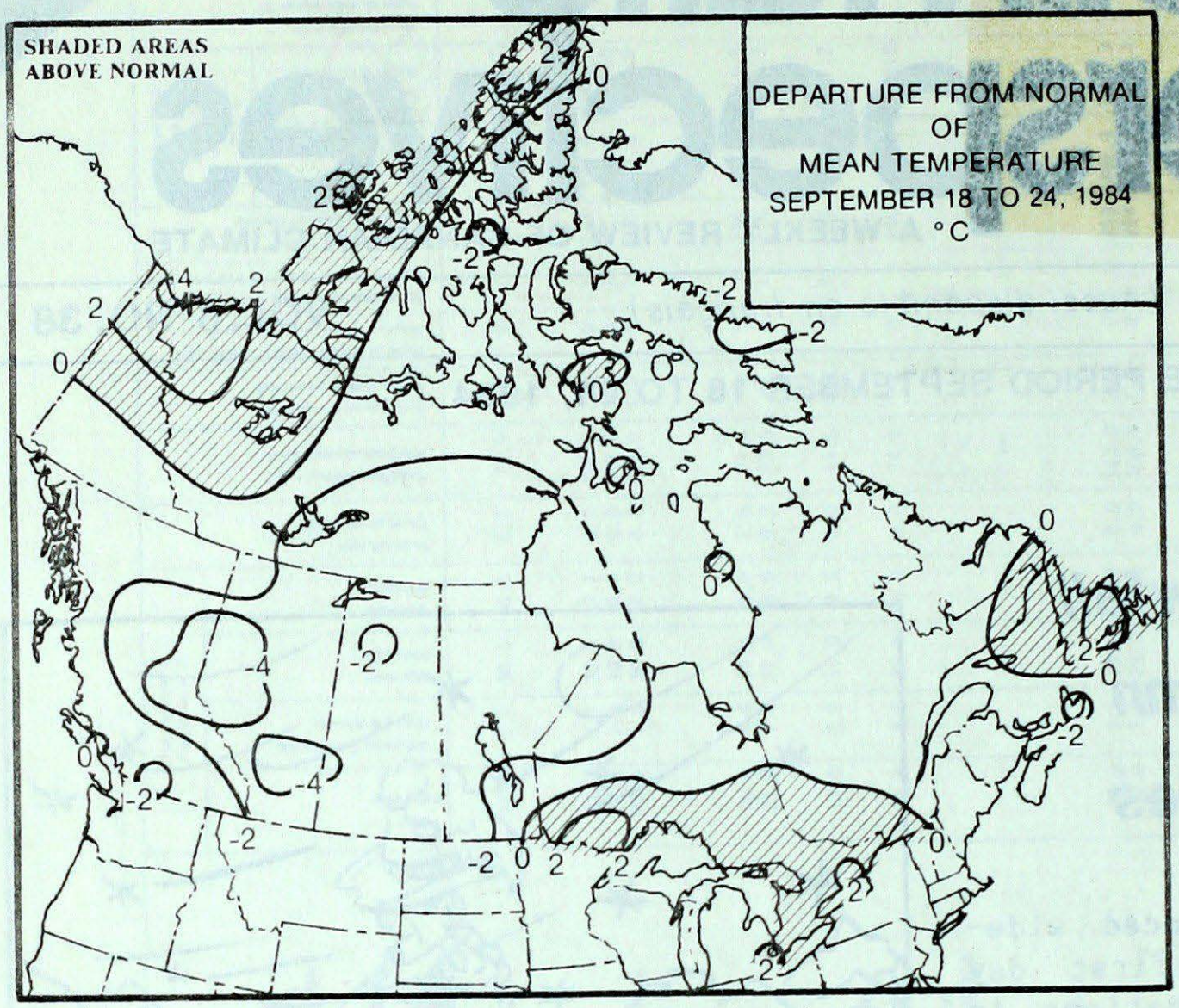
NOTE: The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic stations.

Canada



WEEKLY TEMPERATURES EXTREMES (°C)

	MAXIMUM		MINIMUM	
YUKON TERRITORY	17.8	Komakuk Beach	- 9.0	Burwash
NORTHWEST TERRITORIES	15.7	Fort Simpson	-18.0	Eureka
BRITISH COLUMBIA	28.9	Cranbrook	- 8.7	Puntzi Mountain
ALBERTA	30.9	Medicine Hat	- 8.5	Banff
SASKATCHEWAN	30.5	Swift Current	- 7.2	Wynyard
MANITOBA	25.5	Gretna	- 9.6	Thompson
ONTARIO	30.3	Windsor	- 3.6	Big Trout Lake
QUEBEC	24.6	Montréal/Dorval	- 4.5	Kuujjuaq
NEW BRUNSWICK	24.6	Moncton	- 1.1	St Stephen
NOVA SCOTIA	27.0	Shearwater	- 0.4	Truro
PRINCE EDWARD ISLAND	23.1	Summerside	4.7	Charlottetown
				Summerside
NEWFOUNDLAND	21.7	St. John's	- 1.7	Wabush Lake

ACROSS THE NATION

Warmest mean temperature	18.8	Windsor, ONT
Coolest mean temperature	-11.4	Eureka, NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

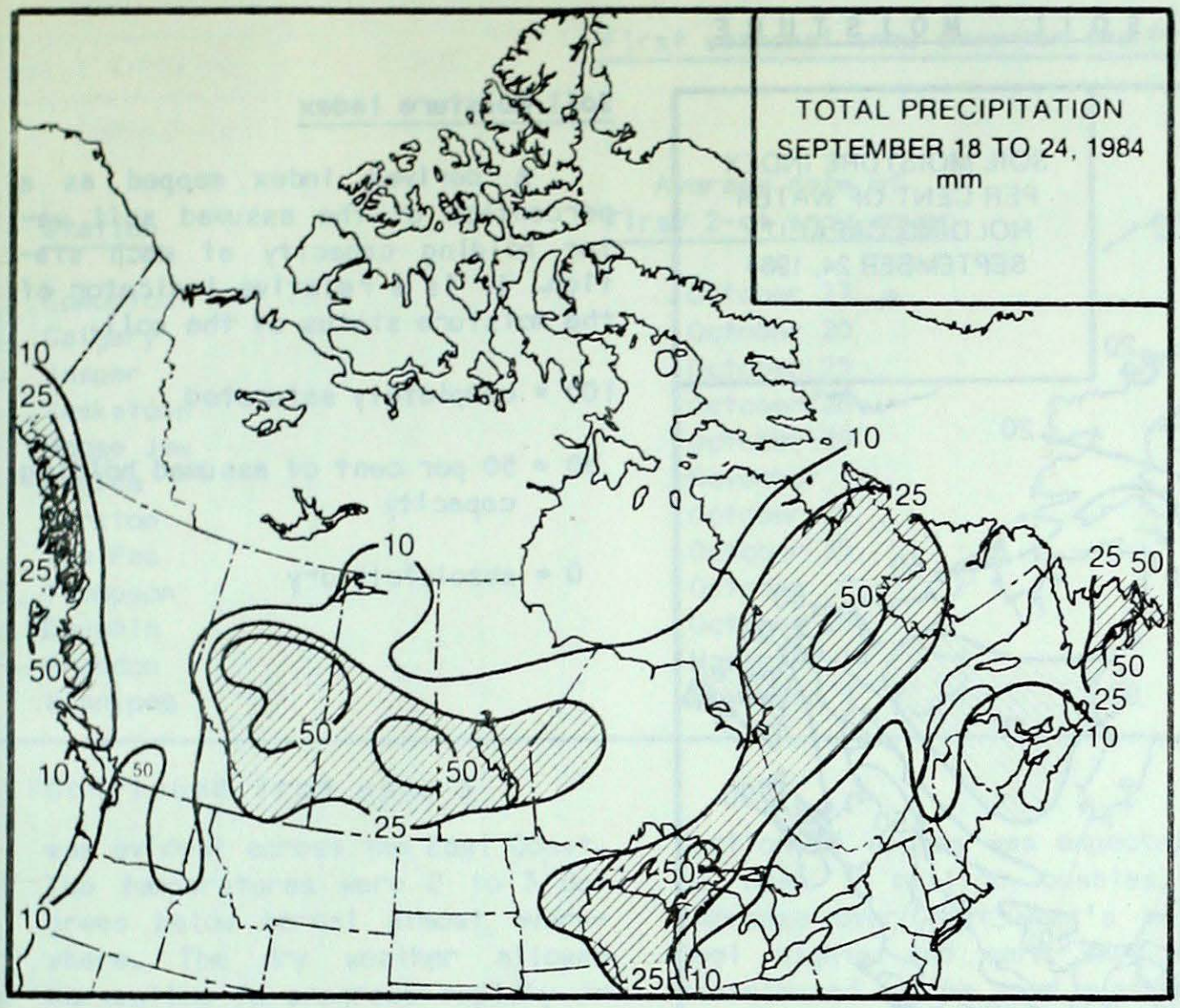
The temperatures were several degrees below normal across the eastern Arctic but averaged near normal in the Yukon and in the Mackenzie District. Still, daytime readings climbed into the mid-teens in the vicinity of the Great Slave Lake on a few occasions. Over Baffin Island, winter made its stamp as chilling temperatures and snowfall dominated the weather. Precipitation was light this week; however, the depth of snow on the ground increased to nearly 30 cm in the High Arctic

British Columbia

Changeable weather conditions became predominantly unsettled by mid-week. Overnight minimum temperatures in many interior valleys dropped below freezing and most ground crops have succumbed to a killing frost. The final hay crop is being harvested in the southern interior and extensive slash burning is in progress or planned. The Autumn fruit harvest in the Okanagan fruitbelt is one to two weeks late this year due to the poor spring weather; the apple harvest in the Okanagan has just begun. The sugar content of this year's grape harvest is still too low and more sunshine is needed before harvesting can begin raising concerns about the possibility of frost damage if the delay is excessive. In the Peace River District, snow flurries were frequent. The harvest is fifteen per cent complete and at least two weeks of dry weather is needed before completion.

Prairies

Fair weather early in the week gave way to a cold winter-like regime in time for the weekend. Temperatures dropped steadily through the week and by the weekend all areas experienced freezing temperatures and a widespread killing frost was reported. Precipitation amounts were heavy, most areas receiving between 25 and 50 millimetres. On September 22, the rain changed to wet snow and by the time it tapered



HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON	2.8	Watson Lake
NORTHWEST TERRITORIES	24.2	Killinek
BRITISH COLUMBIA	57.5	Hope
ALBERTA	81.7	Edmonton Municipal
SASKATCHEWAN	64.2	Wynyard
MANITOBA	37.1	Dauphin
ONTARIO	61.4	Wawa
QUEBEC	50.2	Nitchequon
NEW BRUNSWICK	6.2	Chatham
NOVA SCOTIA	7.6	Sable Island
PRINCE EDWARD ISLAND	6.4	Charlottetown
NEWFOUNDLAND	59.6	St. John's

Fire Season Slows Down In British Columbia

Owing to the cool and damp weather across the Province, the fire season has slowed down. As of mid-September, only 84 forest fires were burning. Although there have been nearly 3000 fires to date this season, well above average, the total area burned has been held to about 19,000 hectares, which is the lowest in many years.

B.C. Forestry

off, most areas had between 5 and 15 centimetres of snow on the ground. Some communities received more than 20 cm of snow snarling traffic and causing numerous fender benders in urban areas. Grande Cache, 100 km northeast of Jasper received more than 30 cm of snow, necessitating snow plows to be called into service. In Saskatchewan, many communities experienced power outages due to power lines being broken by tree limbs downed by the weight of the heavy wet snow. In the Prince Albert and Yorkton Districts, hydro in some cases was not restored for more than a day, affecting thousands of people.

Ontario

Summer ended on a positive note with sunny skies and warm temperatures. Mean temperatures for the week were nearly 3° above normal along the lower Great Lakes; and at Windsor, the mercury reached 30° on September 22. In contrast, Northwestern Ontario experienced its first seasonal snowfall. On the morning of September 22, the ground was covered by over 1 cm of snow. In the southern agricultural districts, a full week of dry days provided near perfect harvesting weather.

Québec

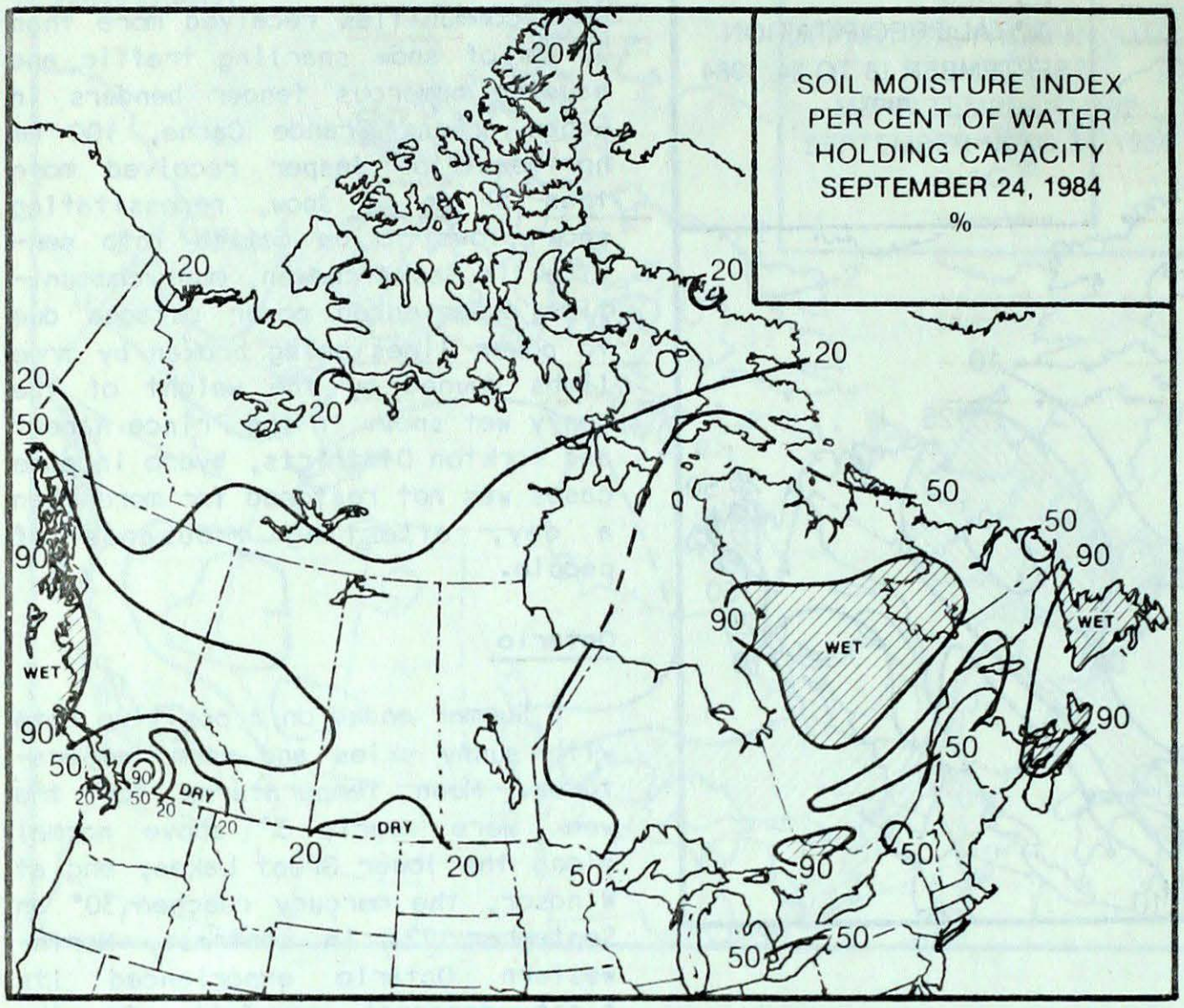
Cool weather covered Québec. Minimum temperatures dropped below freezing in the Estrie, Laurentians and in the Saguenay-Lac-St-Jean Districts, and record-low reading of -5° was established at Kuujjauq on September 18. It rained almost every day in the North but the South of Province was fairly dry. On September 20, severe thunderstorms hit southwestern Québec. Pea-size hail fell from the Ottawa Valley to Montréal and winds were measured at over 75 km/h. Thick fog blanketed Sainte-Madelaine on September 22, and the resulting reduced visibilities contributed at a massive traffic accident on the Trans-Canada Highway. At least 8 people were injured, one fatally.

Atlantic Provinces

A change to Autumn weather

...continued on page 5

SOIL MOISTURE



Soil Moisture Index

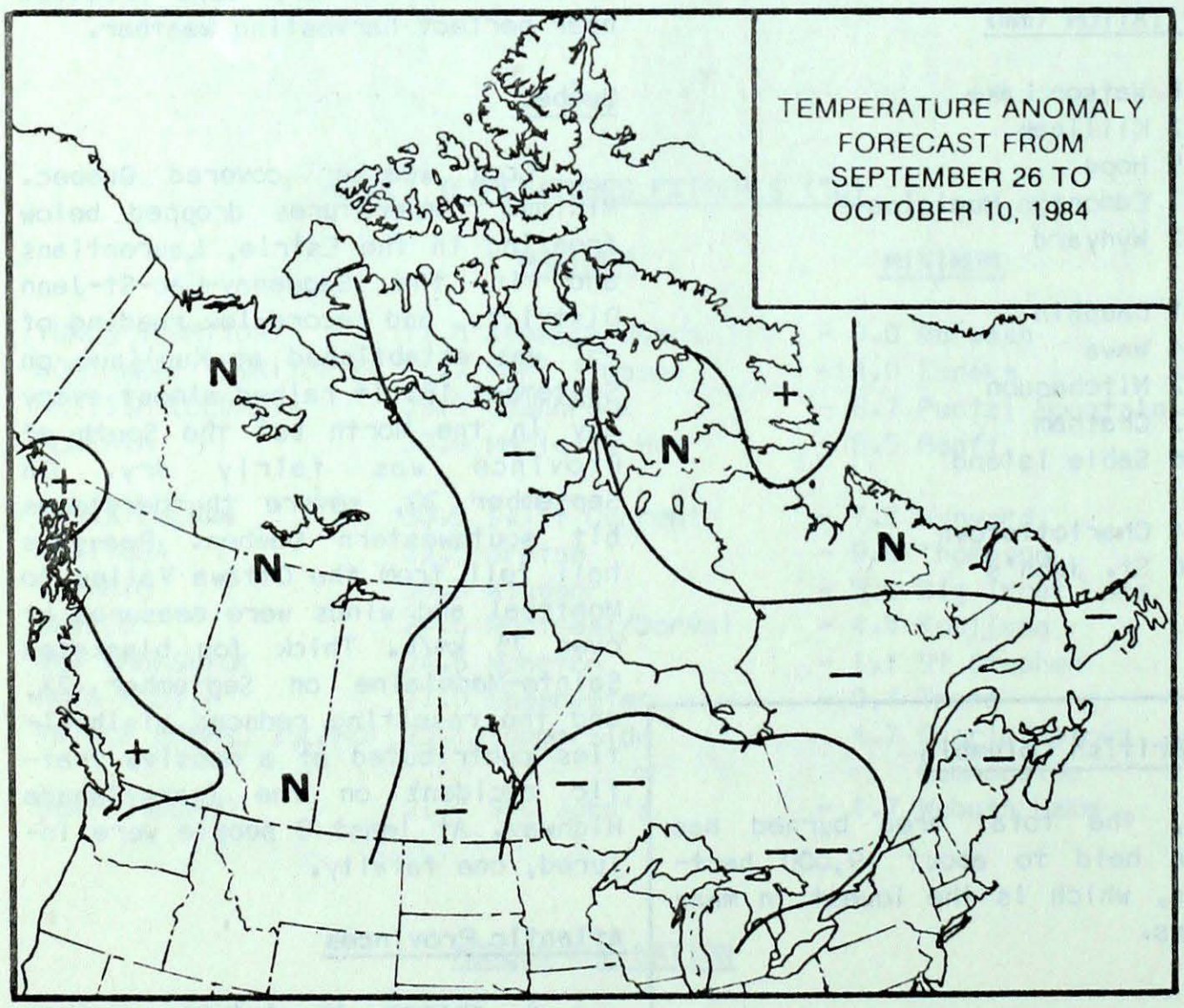
A derived index mapped as a percentage of the assumed soil water holding capacity at each station. It is a relative indicator of the moisture status of the soil.

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

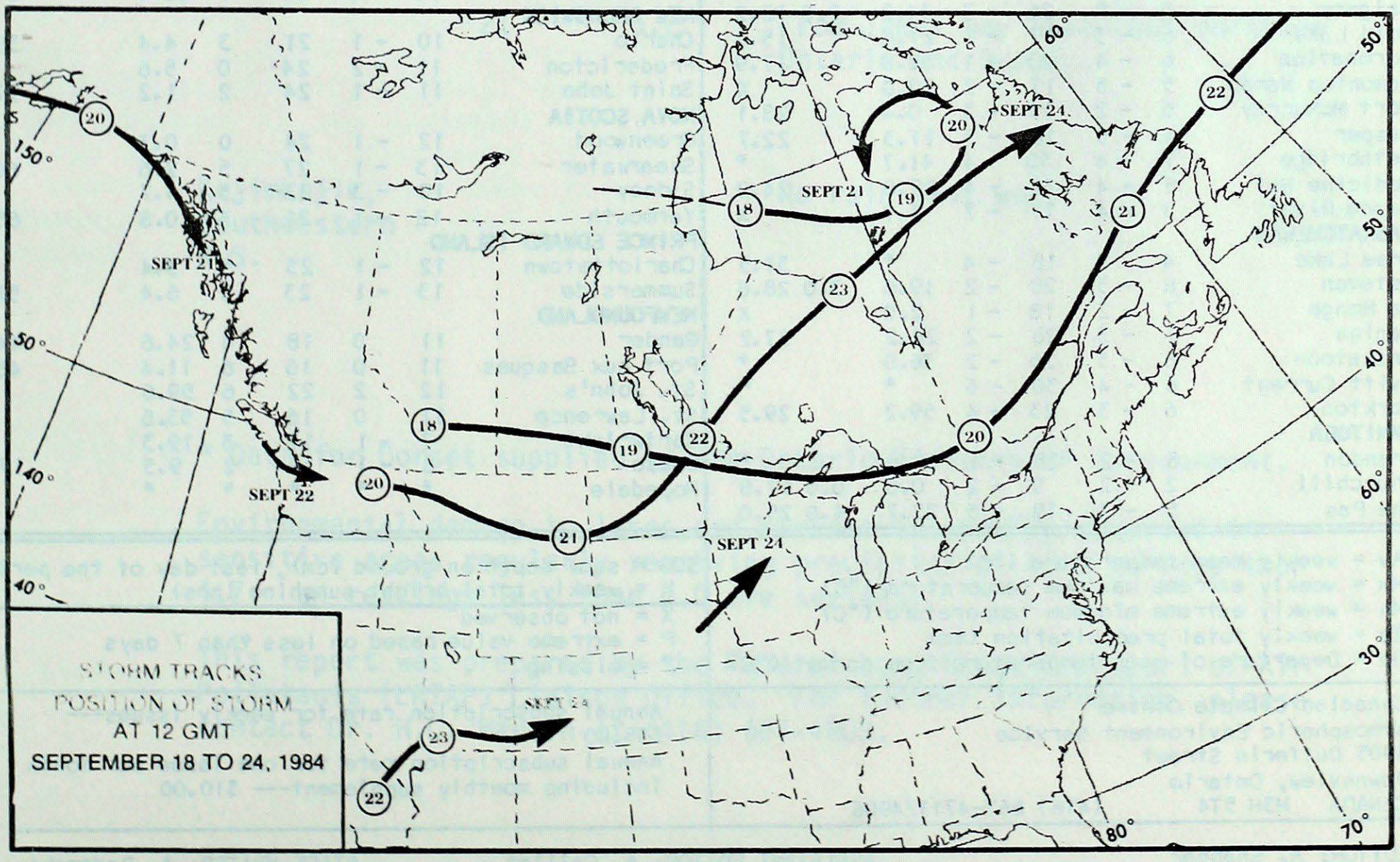
First seasonal snow cover on the Prairies

Station	Average date of First 2-cm snow cover	Average date of First 2-cm snow cover lasting 7 days	This week's Snowfall
Edmonton	October 27	November 14	8.6 cm
Calgary	October 20	November 11	20.2 cm
Jasper	October 25	November 18	0.6 cm
Saskatoon	October 26	November 19	5.8
Moose Jaw	October 29	November 24	3.2
Regina	November 1	November 18	1.4
Yorkton	October 29	November 15	11.5
The Pas	October 25	November 4	15.0
Thompson	October 8	October 26	13.0
Dauphin	October 28	November 15	—
Brandon	November 14	November 19	0.9
Winnipeg	November 4	November 20	5.8

Continued from page 3

was evident across the East Coast. The temperatures were 2 to 3 degrees below normal almost everywhere. The dry weather allowed harvesting to progress rapidly in the Maritimes, but heavy rains in the 30 to 60 mm range fell over Newfoundland. In Nova Scotia, production of apples was expected to be near 3 million bushles, an increase over last year's value. Cool nights and warm days have contributed to the good quality in this crop. Nearly 70 per cent of the tobacco crop have been picked in Prince Edward Island. On September 20, a storm crossing Newfoundland deposited heavy rains in southwestern areas. Gale force winds gusting near 100 km/h were recorded at rigs just off Newfoundland.

STORM TRACKS



TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT SEPTEMBER 25, 1984

STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H
YUKON TERRITORY							
Dawson	5	0	15	- 8	0.0		X
Mayo A	5	0	13	- 6	0.8		X
Watson Lake	5	- 1	13	- 4	2.8		47.0
Whitehorse	5	- 1	14	- 6	0.0		*
NORTHWEST TERRITORIES							
Fort Smith	4	- 3	15	- 5	3.9		*
Inuvik	5	4	15	- 4	2.4		*
Norman Wells	6	2	16	- 2	1.0		33.2
Yellowknife	4	- 2	10	- 1	9.6		20.2
Baker Lake	- 2	- 3	3	- 5	*	1.0	12.7
Cape Dyer	- 5	- 2	- 1	-17	3.0	22.0	X
Clyde	- 3	- 2	- 1	- 5	*	4.0	*
Frobisher Bay	1	- 1	4	- 3	1.4		*
Alert	-10	2	- 6	-17	2.0	27.0	7.8
Eureka	-11	- 1	- 7	-18	0.8	12.0	*
Hall Beach	- 1	0	1	- 4	3.4	2.0	X
Resolute	- 9	- 3	- 4	-15	*	7.0	*
Cambridge Bay	- 3	- 2	0	- 8	*	0.0	5.1
Mould Bay	- 5	4	- 2	-10	*	1.0	*
Sachs Harbour	- 1	2	2	- 6	1.6	1.0	2.2
BRITISH COLUMBIA							
Cape St. James	12	0	15	8	2.2		*
Cranbrook	9	- 1	29	- 5	15.8		47.7
Fort Nelson	6	- 2	18	- 1	2.0		*
Fort St. John	4	- 5	16	- 6	3.8		X
Kamloops	12	- 1	27	0	3.8		32.5
Penticton	12	- 1	27	- 1	2.8		*
Port Hardy	10	- 1	16	2	14.1		36.0
Prince George	6	- 3	17	- 4	5.2		*
Prince Rupert	10	- 1	17	0	22.1		43.6
Revelstoke	11	0	21	1	10.5		23.6
Smithers	6	- 3	15	- 5	2.8		42.6
Vancouver	13	0	23	5	5.2		49.0
Victoria	12	- 1	23	4	3.8		51.3
Williams Lake	6	- 4	19	- 6	15.4		*
ALBERTA							
Calgary	5	- 5	26	- 3	34.2	2.0	18.2
Cold Lake	6	- 3	17	- 1	27.0		15.0
Coronation	6	- 4	23	- 1	52.8		17.9
Edmonton Namao	5	- 5	17	- 2	29.0		X
Fort McMurray	6	- 2	19	- 3	0.4		28.1
Jasper	4	- 5	16	- 3	11.3		22.7
Lethbridge	7	- 4	30	- 4	41.7		*
Medicine Hat	8	- 4	31	- 4	27.8		24.0
Peace River	5	- 4	17	- 7	5.1		X
SASKATCHEWAN							
Cree Lake	4	X	18	- 4	*		31.5
Estevan	8	- 3	28	- 2	19.6	3.0	28.6
La Ronge	7	- 2	18	- 1	2.0		X
Regina	7	- 3	28	- 2	28.2		27.2
Saskatoon	6	- 3	25	- 2	36.0		*
Swift Current	6	- 4	30	- 6	*		*
Yorkton	6	- 3	23	- 4	59.2		29.5
MANITOBA							
Brandon	8	- 2	25	- 1	19.5		*
Churchill	2	- 2	9	- 2	0.6	0.0	17.8
The Pas	5	- 4	19	- 5	22.7	4.0	25.0
Thompson	2	- 4	17	-10	14.4	7.0	23.6
Winnipeg	11	0	23	- 1	14.2		37.9
ONTARIO							
Big Trout Lake	4	- 3	16	- 4	28.3		23.1
Earlton	13	2	23	2	*		X
Kapuskasing	10	0	23	2	31.2		*
Kenora	11	1	24	0	11.0		X
London	17	2	26	6	2.6		46.4
Moosonee	9	- 1	21	- 1	23.8		28.3
Muskoka	*	*	24	3P	*		X
North Bay	13	1	19	3	6.8		39.3
Ottawa	15	2	25	4	1.8		52.4
Pickle Lake	6	- 2	20	- 2	*		X
Red Lake	8	- 1	21	- 2	26.6		30.9
Sudbury	13	1	22	1	5.0		39.4
Thunder Bay	12	1	28	3	9.6		34.1
Timmins	10	0	23	0	23.8		X
Toronto	16	1	25	6	0.0		X
Trenton	15	1	25	5	0.6		X
Wiarton	16	2	27	6	1.0		46.4
Windsor	19	2	30	8	3.7		X
QUEBEC							
Bagotville	10	- 1	21	- 1	12.5		X
Blanc-Sablon	9	1	14	1	10.8		*
Inukjuak	4	0	7	1	12.2		10.2
Kuujjuaq	4	- 1	9	- 5	33.0		22.0
Kuujjuarapik	6	- 1	12	1	28.0		*
Maniwaki	12	0	23	1	3.0		48.2
Mont-Joli	10	- 1	21	2	7.4		40.6
Montréal	15	0	25	2	7.2		*
Natashquan	10	1	17	3	15.0		*
Nitchequon	5	- 1	12	0	50.2		*
Québec	11	- 1	21	- 1	22.4		42.3
Schefferville	4	- 1	10	- 2	42.0		16.6
Sept-Iles	8	- 1	15	2	17.0		29.9
Sherbrooke	11	- 1	24	- 2	9.6		42.3
Val-d'Or	10	0	20	- 1	12.4		38.7
NEW BRUNSWICK							
Charlo	10	- 1	21	3	4.4		39.0
Fredericton	11	- 2	24	0	5.6		*
Saint John	11	- 1	24	2	1.2		57.4
NOVA SCOTIA							
Greenwood	12	- 1	24	0	0.3		X
Shearwater	13	- 1	27	5	2.6		60.4
Sydney	10	- 3	22	3	4.7		*
Yarmouth	12	- 1	21	3	0.8		65.0
PRINCE EDWARD ISLAND							
Charlottetown	12	- 1	23	5	3.4		*
Summerside	13	- 1	23	5	6.4		51.2
NEWFOUNDLAND							
Gander	11	0	18	4	24.6		44.1
Port aux Basques	11	0	16	6	11.4		48.8
St. John's	12	2	22	6	59.6		*
St. Lawrence	11	0	16	5	53.6		X
Cartwright	7	- 1	17	3	19.3		X
Goose	8	- 1	19	2	9.5		17.4
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

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ACID RAIN REPORT ISSUED BY ENVIRONMENT CANADA
FOR SEPTEMBER 16-22, 1984

SITE	DAY	pH	AIR PATH TO SITE
Longwoods, near London, Ont.			No rain last week.
Dorset,* Muskoka, Ont.			No rain last week.
Chalk River Ottawa Valley, Ont.	16	4.4	Northwestern Ontario.
Montmorency, Quebec City, Que.	18	4.3	Michigan, southern Ontario, southern Quebec.
	19	5.3	From James Bay area over northern Ontario and northern Quebec.
	21	5.2	From James Bay area over northern Ontario and Quebec.
Kejimkujik, Southwestern N.S.			No rain last week.

* Data for Dorset supplied by the Ontario Ministry of Environment.

Environmental damage to lakes and streams is usually observed in sensitive areas regularly receiving precipitation with pH less than 4.7. pH readings less than 4.0 are serious.

This report was prepared by the Federal Long Range Transport of Air Pollutants (LRTAP) Liaison Office. For further information, please contact Dr. H.C. Martin at (416) 667-4803.