Climatic Perspectives

A WEEKLY REVIEW OF CANADIAN CLIMATE

OCTOBER 7,1983 (Aussi disponible en français) VOL.5 NO.40

FOR THE PERIOD SEPTEMBER 27 TO OCTOBER 3, 1983

- ***Record cold temperatures in the Yukon***
- ***Heavy snow in the Alberta Foothills***
- ***Dense fog causes highway fatalities in Quebec***
- ***Fine harvest weather in the Maritimes***
- ***Indian Summer and Autumn colours.....*** page 5

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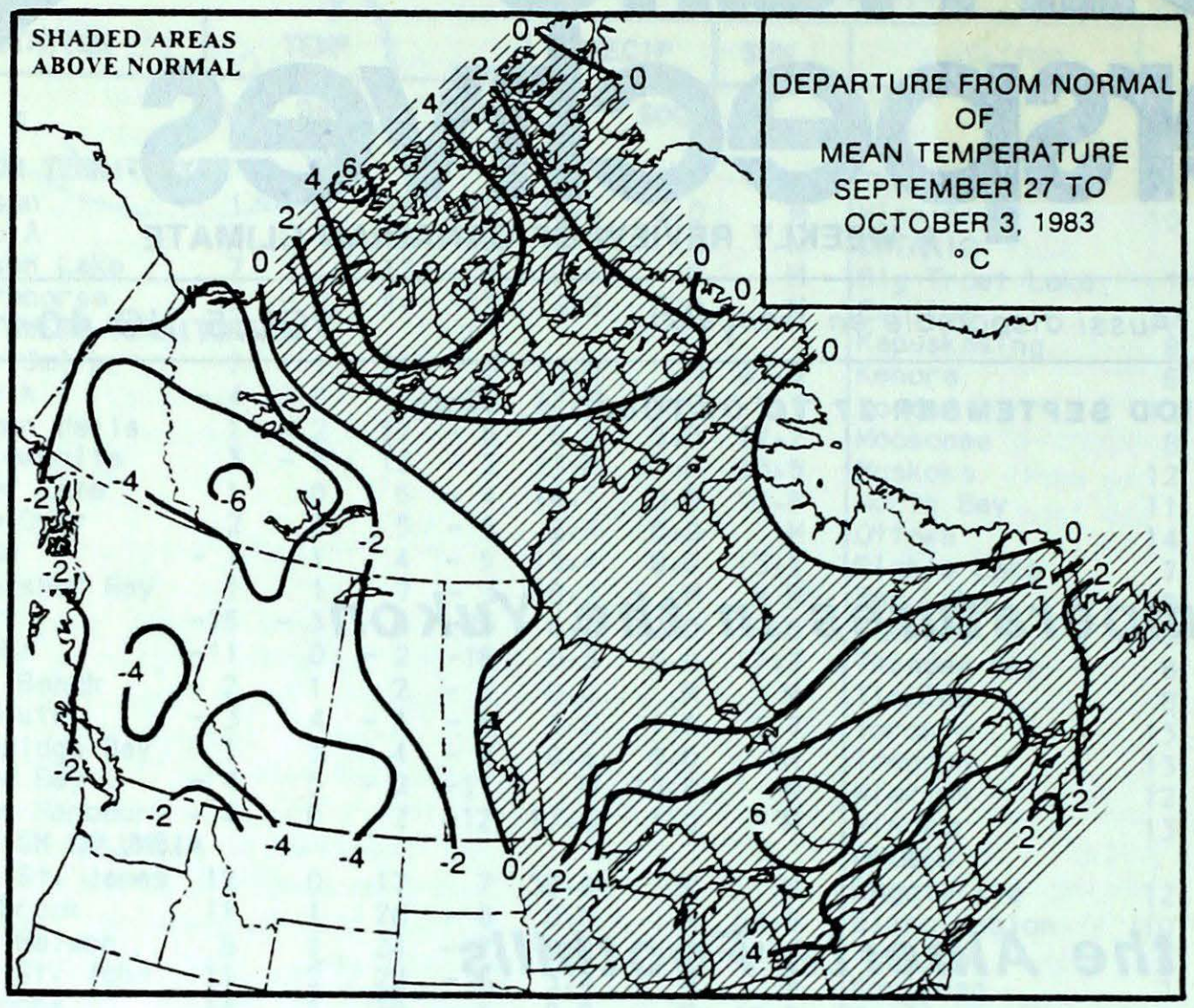
NOTE: The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic stations.

Canada



WEEKLY TEMPERATURES EXTREMES (°C)

	MAXIMUM		MINIMUM	
YUKON TERRITORY	14.9	Burwash	-28.0	Beaver Creek
NORTHWEST TERRITORIES	12.4	Fort Smith	-22.7	Alert
BRITISH COLUMBIA	21.1	Kamloops	-11.1	Puntzi Mountain
ALBERTA	18.4	Grande Prairie	-11.4	Edson
SASKATCHEWAN	28.3	Broadview	-8.5	Broadview
				Cree Lake
MANITOBA	29.0	Dauphin	-6.8	Thompson
		Winnipeg		
ONTARIO	28.0	Wawa	-3.7	Pickle Lake
QUEBEC	26.3	Montréal/Dorval	-3.2	Kuujjuaq
NEW BRUNSWICK	26.2	Saint John	-0.7	Fredericton
NOVA SCOTIA	25.2	Shelburne	0.8	Greenwood
PRINCE EDWARD ISLAND	22.9	Summerside	6.4	Summerside
NEWFOUNDLAND	21.8	Comfort Cove	-3.1	Goose

ACROSS THE NATION

Warmest mean temperature	17.9	Windsor, ONT
Coolest mean temperature	-15.9	Alert, NWT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

The Yukon continued to be in the grip of intense cold through mid-week with extreme minimum temperature records broken by 8 to 10° at many locations. Nine stations broke the previous September extreme minimum temperature records. On September 27, Beaver Creek plummetted to -28° toppling the previous September minimum for the Yukon of -21.7°. Precipitation amounts were generally light across the Yukon with snowcover disappearing at week's end as temperatures moderated to seasonal values. With the exception of the Mackenzie District, temperatures across the Northwest Territories averaged 2 to 4 degrees above normal.

British Columbia

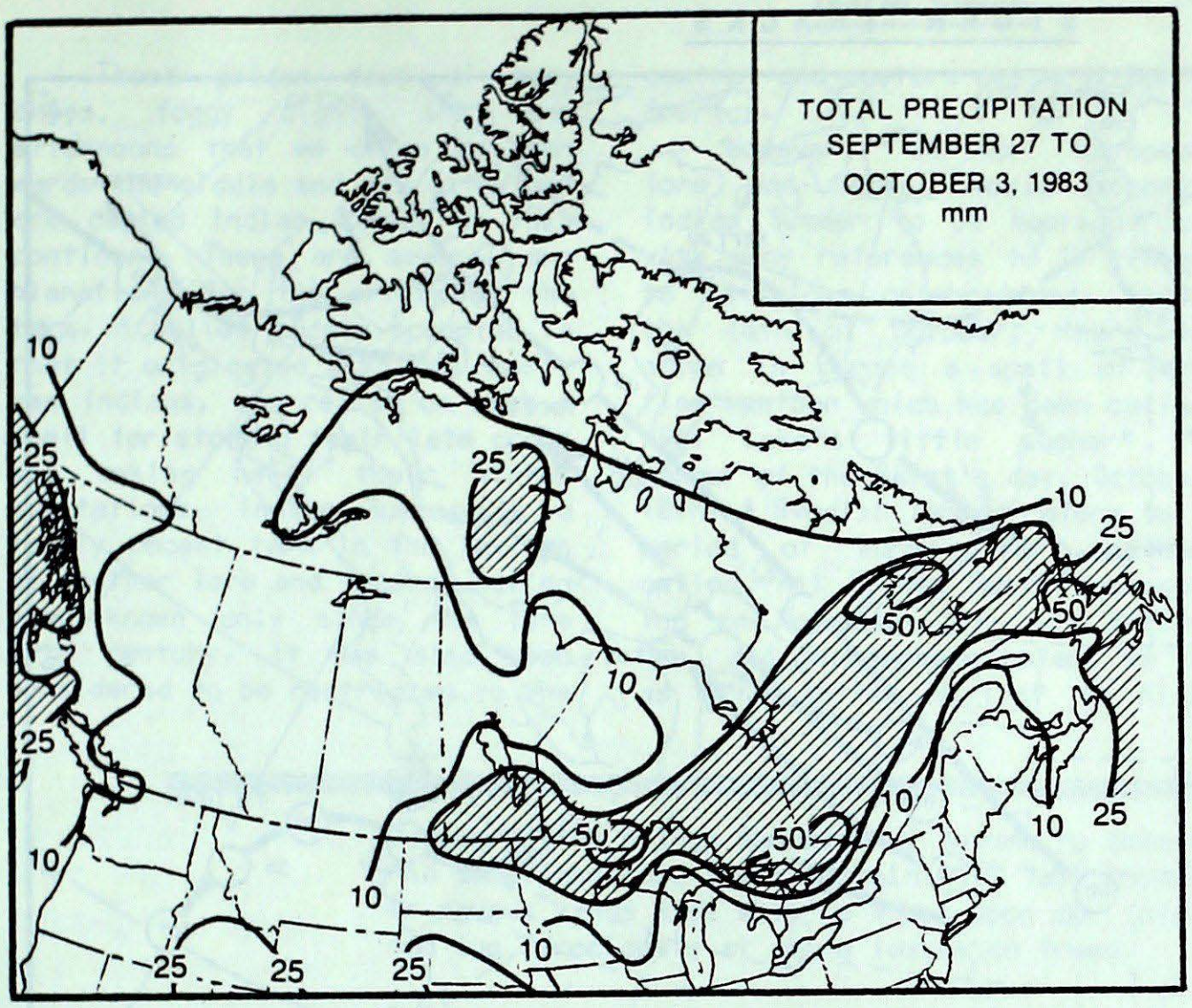
Pleasantly sunny Autumn weather prevailed. Mean temperatures ranged between 2 and 6 degrees below normal, but even so, daytime temperatures did manage to climb to the mid to upper teen values. Slash burning continues in the interior. Harvesting is not complete in the Peace River District. The fine weather this past week has been ideal for the B.C. apple crop.

Prairies

It was abnormally cold in the west, warmer but wet in eastern sections. In Alberta many new record low temperatures were set between September 28 and October 1. In southern Saskatchewan on September 30 daytime temperatures failed to reach 3° at many localities. A significant snowfall fell in the Alberta foothills on September 27. By the end of the day Banff and Pincher Creek, respectively, reported 17 and 12 centimeters of snow on the ground. Wet weather in southern Manitoba has delayed the sugar beet harvest.

Ontario

Pleasant fall weather prevailed throughout much of the week with daytime temperatures nudging 20° or



HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON	12.0	Watson Lake
NORTHWEST TERRITORIES	28.0	Rankin Inlet
BRITISH COLUMBIA	44.7	Langara
ALBERTA	8.4	Banff
SASKATCHEWAN	28.7	Broadview
MANITOBA	46.4	Gimli
ONTARIO	75.2	North Bay
QUEBEC	53.0	Schefferville
NEW BRUNSWICK	6.9	Saint John
NOVA SCOTIA	35.0	Sable Island
PRINCE EDWARD ISLAND	13.6	Summerside
NEWFOUNDLAND	62.2	Daniels Harbour

Ice Conditions

Beaufort Sea

Freeze-up in the area of the Beaufort drill sites has begun 2 weeks earlier than usual. Both old and new ice has generally enveloped the drill sites, however, the drilling companies are still trying to prolong their operations. Conditions may improve with a change in prevailing wind direction.

Arctic

In contrast to the Beaufort Sea area freeze-up of waters in southern Arctic has been delayed by 2 weeks due to above normal temperatures. New ice is just beginning to form in the Parry Channel but it is still open to shipping.

better in most localities. On October 1 Wawa reached 28°, breaking the previous daily temperature for October of 25°. Over the weekend a cold front brought rain and cooler temperatures to northwestern parts of the province. In advance of the cold front approaching from the northwest, heavy rainfall amounts in excess of 30 mm were dumped on Britt, Gore Bay, Kapuskasing and Sudbury on October 3. North Bay received a record 75.2 mm of rain from this system, well surpassing the previous 24-hour precipitation record for October of 48.8 mm.

This year's potato crop yield in the Alliston area is reported to be below 1982 values causing some concern that contract obligations may not be fully met.

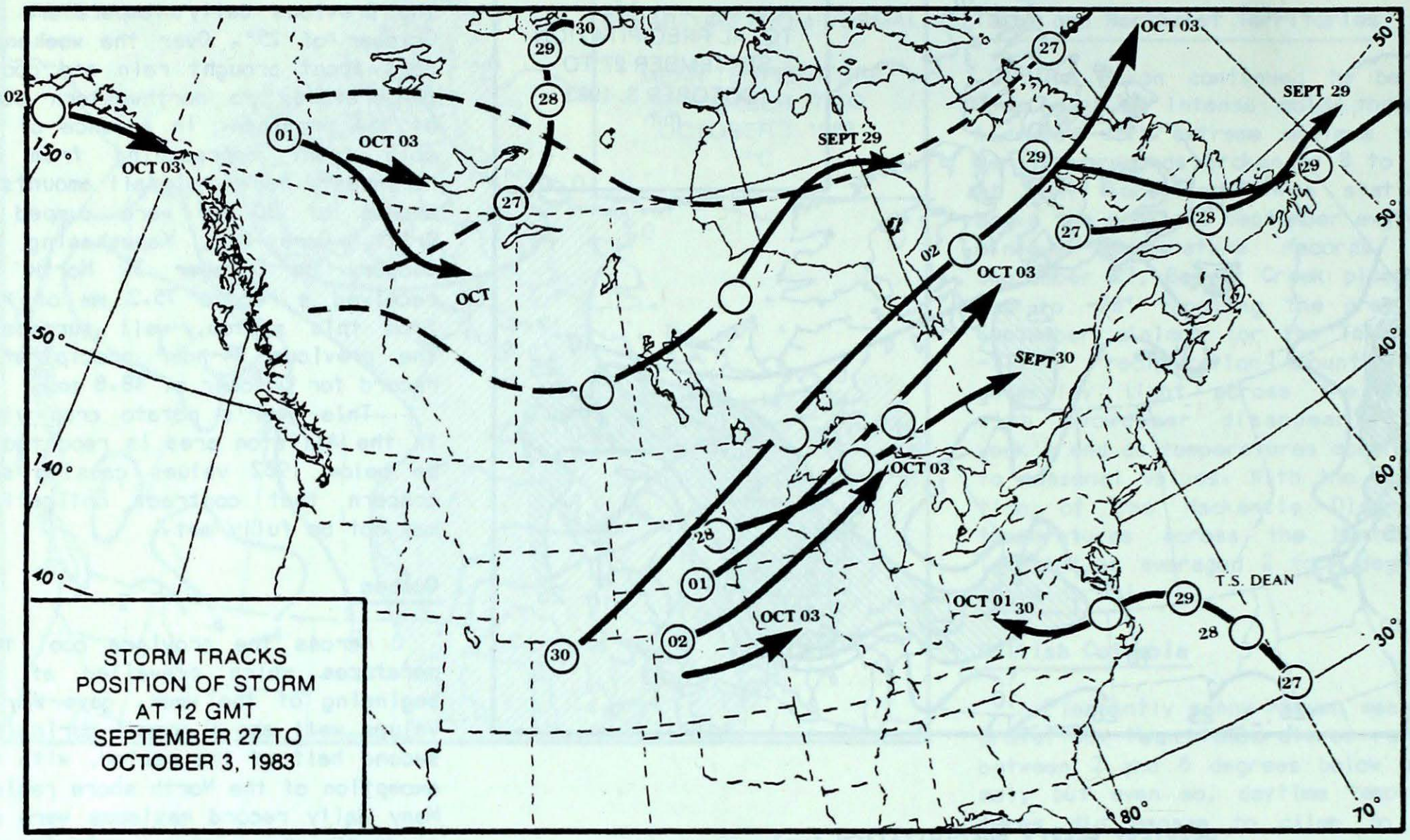
Québec

Across the province cool temperatures which prevailed at the beginning of the week, gave way to values well above normal during the second half of the period, with the exception of the North shore region. Many daily record maximums were set as daytime temperatures rose to near 25° between September 30 and October 2. Precipitation was light in southwestern Québec while northern areas received between 15 and 35 mm. On the morning of September 29, dense fog on the Trans-Canada Highway, east of Montréal resulted in a fiery accident which claimed 5 lives.

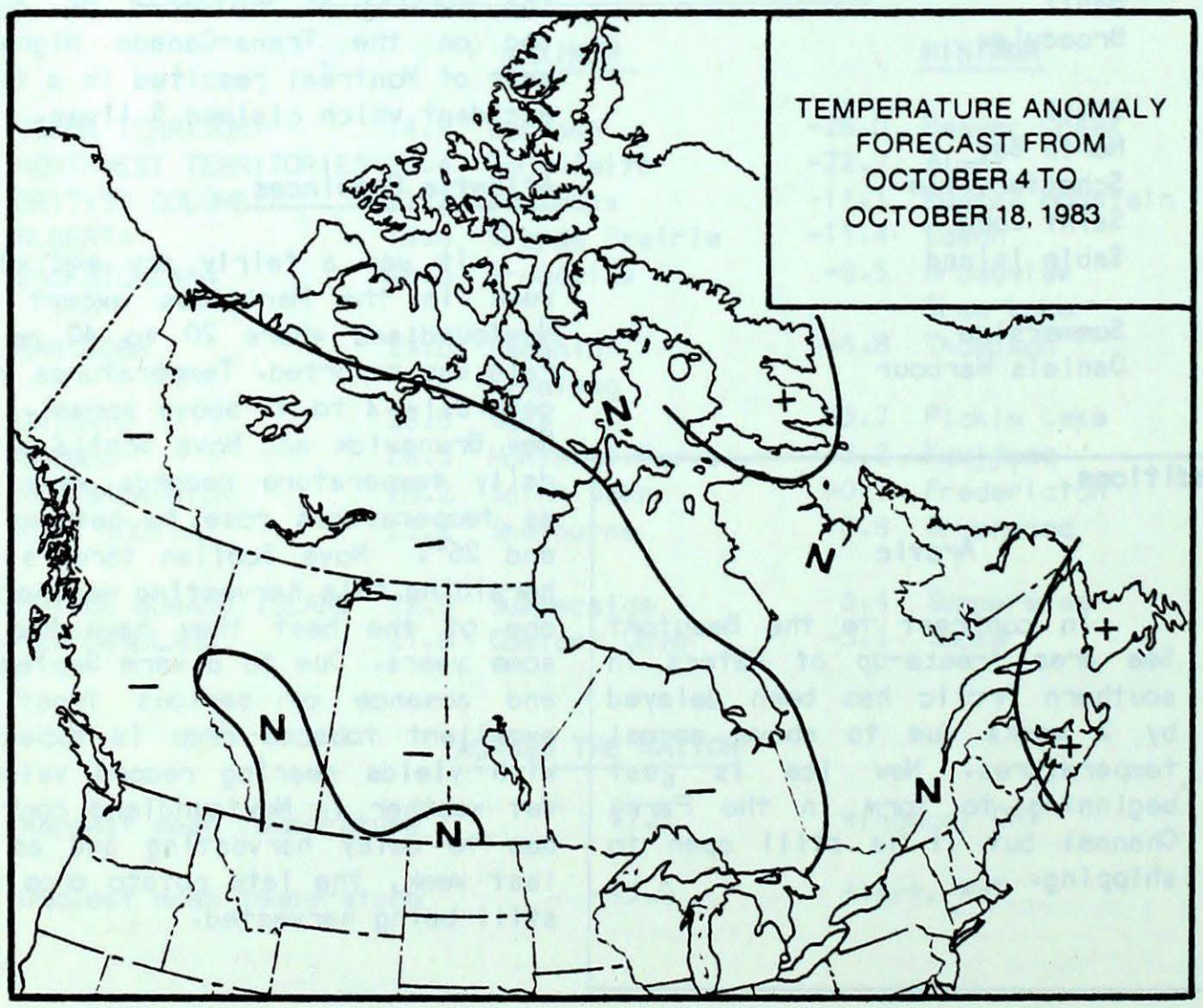
Atlantic Provinces

It was a fairly dry and sunny week in the Maritimes except for Newfoundland where 20 to 40 mm of rain was reported. Temperatures were generally 2 to 4° above normal. In New Brunswick and Nova Scotia a few daily temperature records were set as temperatures rose to between 22 and 26°. Nova Scotian farmers are heralding this harvesting weather as one of the best they have had in some years. Due to a warm September and absence of serious frost an excellent tobacco crop is expected with yields nearing record values. Wet weather in Newfoundland continues to delay harvesting and as of last week, the late potato crop was still being harvested.

STORM TRACKS



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

Indian Summer

Those golden days of hazy skies, foggy nights and warm afternoons that we often get towards the middle and end of Autumn are called Indian Summer on this continent. There are several explanations for the origin of the term. A belief widely accepted is that it originated with the American Indians, who relied on such a spell for storing their late crops and making ready their winter habitations. Indian Summer is a fairly recent term in the lexicon of weather lore and legend, having been known only since the late 18th century. It has also been considered to be restricted to the central and eastern parts of North America.

However, earlier European lore and legend would suggest Indian Summer to be hemispheric, with many references to it linked to religious celebrations. About the 18th of October, there is often in Europe a spell of dry fine weather which has been called "St. Luke's little summer" in honour of the Saint's day, October 18th. A Swedish legend refers to a period of warm clear weather called "All Saints Rest" commencing on November 1st, All Saints Day, and Shakespeare refers to it as "the latter Spring" in King Henry IV- Part 1. On St. Martin's Day, November 11th, French legend indicates the beginning of another period of warm weather called "St. Martin's summer".

Searching Toronto City's long and precious record, we find that warm spells of 5 successive days or more do seem to begin about mid-October, although "St. Luke's little summer" occurs some days earlier, about October 11th. However, since the fall months lose on average 12C degrees of heat we cannot expect Indian Summer to occur every year. Enjoy its fragile visit when it comes!

October often brings the edge of Autumn to cover skies with grey,
And sometimes cold tears of rain will fall throughout the day;
Or raucus winds will whip up waves upon our inland seas
And tug ferociously at dying leaves on trees.

But some years, some days are days of special beauty;
In calm and hazy blue they still refuse the season's duty,
And wearing a crown of leaves of red and lustrous gold,
They warm and cheer the heart against the coming cold.

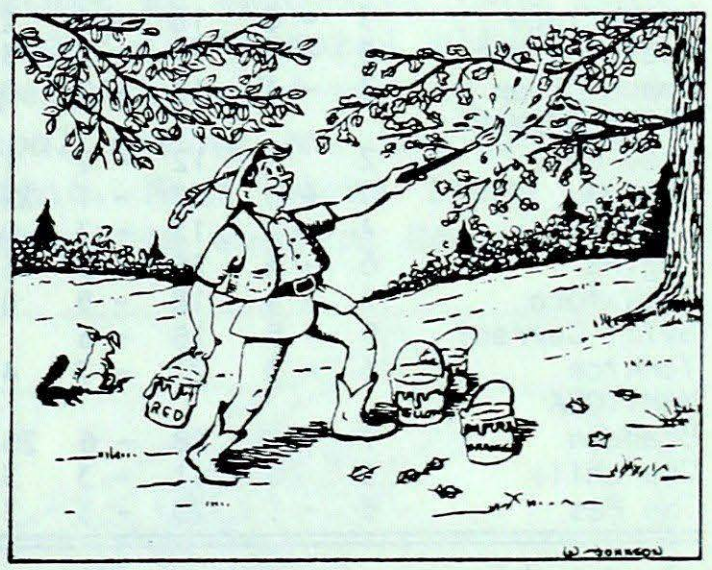
...contributed by
Bev Cudbird, Climatologist

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, however the Ontario Ministry of Natural Resources reports that this season's change is about 1 week later than usual. Take time in the coming week to view the spectacular display of colour nature offers at this time of year.

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



TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT OCTOBER 4, 1983

STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H
YUKON TERRITORY							
Dawson	- 1	- 4	12	-23	9.4	M	M
Mayo A	- 1	- 4	8	-15	7.0	M	M
Watson Lake	1	- 4	15	-14	12.0	M	M
Whitehorse	1	- 4	12	-19	5.4	M	M
NORTHWEST TERRITORIES							
Fort Smith	1	- 3	12	-10	2.6	M	M
Inuvik	- 3	- 2	8	-17	2.0	1.0	24.7
Norman Wells	- 2	- 3	6	-16	6.9	M	M
Yellowknife	- 2	- 5	5	-10	15.8	1.0	M
Baker Lake	0	2	4	- 6	27.0	1.0	M
Cape Dyer	- 4	1	1	-13	10.4	6.0	M
Clyde	- 4	0	0	-10	17.6	21.0	M
Frobisher Bay	- 1	0	4	- 5	6.0	0.0	M
Alert	-16	0	- 6	-23	0.0	10.0	21.2
Eureka	-13	3	- 5	-19	0.6	M	15.0
Hall Beach	- 2	2	2	- 9	0.7	0.0	M
Resolute	- 4	6	0	- 8	0.0	0.0	M
Cambridge Bay	- 2	4	2	- 7	M	9.0	M
Mould Bay	- 6	7	- 2	-14	7.5	17.0	M
Sachs Harbour	- 5	2	1	-15	2.0	3.0	M
BRITISH COLUMBIA							
Cape St. James	11	0	14	8	16.4	M	M
Cranbrook	7	- 3	18	- 5	0.5	M	M
Fort Nelson	4	- 2	16	- 8	5.6	M	M
Fort St. John	4	- 3	15	- 8	0.0	M	M
Kamloops	9	- 3	21	- 3	0.0	M	M
Penticton	9	- 3	20	- 4	0.0	M	M
Port Hardy	9	- 2	15	1	16.1	M	M
Prince George	3	- 4	12	- 8	9.4	M	M
Prince Rupert	8	- 2	14	- 1	35.9	M	M
Revelstoke	7	- 3	15	- 2	0.8	M	M
Smithers	5	- 3	14	- 5	0.8	M	M
Vancouver	10	- 2	15	4	8.0	M	M
Victoria	10	- 2	20	2	7.4	M	M
Williams Lake	3	- 6	14	- 7	3.0	M	M
ALBERTA							
Calgary	4	- 5	18	- 9	7.3	M	M
Cold Lake	4	- 3	13	- 6	0.0	M	38.0
Coronation	2	- 5	16	- 9	1.2	M	M
Edmonton Namao	5	- 4	16	- 6	0.2	M	M
Fort McMurray	4	- 2	18	-10	0.0	M	38.5
Jasper	4	- 4	13	- 9	1.4	M	M
Lethbridge	5	- 6	18	- 8	2.7	M	M
Medicine Hat	6	- 5	17	- 3	5.4	M	M
Peace River	3	- 4	16	-10	0.2	M	M
SASKATCHEWAN							
Cree Lake	2	X	12	- 9	1.2	M	32.1
Estevan	7	- 3	27	- 1	22.5	M	M
La Ronge	4	- 2	13	- 3	0.2	M	M
Regina	6	- 3	26	- 5	6.8	M	M
Saskatoon	4	- 4	18	- 5	0.0	M	M
Swift Current	5	- 5	18	- 6	M	M	M
Yorkton	6	- 3	27	- 7	4.3	M	M
MANITOBA							
Brandon	7	- 2	28	- 6	26.4	M	M
Churchill	2	0	11	- 3	3.4	M	M
The Pas	6	- 1	23	- 3	3.0	M	M
Thompson	5	1	21	- 7	11.0	M	M
Winnipeg	10	0	29	0	41.1	M	10.6
ONTARIO							
Big Trout Lake	6	1	18	- 3	7.1	M	M
Earlton	14	6	24	3	M	M	M
Kapuskasing	12	5	24	0	18.6	M	M
Kenora	10	2	25	5	26.3	M	M
London	17	4	25	8	2.2	M	M
Moosonee	9	2	22	- 2	41.0	M	M
Muskoka	15	5	25	5	M	M	M
North Bay	15	7	22	7	75.2	M	M
Ottawa	16	5	25	7	0.4	M	M
Pickle Lake	8	2	24	- 4	M	M	M
Red Lake	8	1	23	1	34.2	M	M
Sudbury	15	6	24	7	31.4	M	M
Thunder Bay	13	5	23	3	45.9	M	M
Timmins	13	6	25	1	29.6	M	M
Toronto	15	3	26	7	4.8	M	M
Trenton	15	3	24	3	0.8	M	M
Wiarton	16	5	24	7	24.9	M	M
Windsor	18	4	28	10	0.0	M	M
QUEBEC							
Bagotville	14	6	26	0	15.6	M	M
Blanc-Sablon	8	2	16	0	M	M	M
Inukjuak	4	2	8	0	19.7	M	15.2
Kuujjuaq	2	- 1	7	- 3	10.0	M	12.3
Kuujjuarapik	6	1	17	0	17.4	M	M
Manawaki	15	5	24	3	8.8	M	M
Mont-Joli	14	4	23	4	8.3	M	M
Montréal	16	4	26	4	0.0	M	M
Natashquan	9	2	16	- 1	19.6	M	30.1
Nitchequon	6	2	13	- 2	37.0	M	M
Québec	14	4	24	2	8.4	M	M
Schefferville	3	1	10	- 2	53.0	M	M
Sept-Iles	10	3	19	2	10.1	M	23.6
Sherbrooke	13	3	24	- 1	1.8	M	M
Val-d'Or	13	6	24	2	28.0	M	M
NEW BRUNSWICK							
Charlo	14	5	24	3	2.0	M	M
Fredericton	15	4	26	- 1	0.0	M	M
Saint John	14	4	26	3	6.9	M	M
NOVA SCOTIA							
Greenwood	14	2	24	1	2.0	M	M
Shearwater	15	3	23	7	16.8	M	44.9
Sydney	13	1	22	3	10.2	M	M
Yarmouth	13	1	20	5	7.5	M	M
PRINCE EDWARD ISLAND							
Charlottetown	14	3	21	7	2.8	M	M
Summerside	15	3	23	6	13.6	M	M
NEWFOUNDLAND							
Gander	10	1	20	2	27.6	M	M
Port aux Basques	12	2	17	3	33.4	M	M
St. John's	10	1	18	5	37.8	M	M
St. Lawrence	11	2	16	4	32.0	M	M
Cartwright	5	- 1	14	- 1	26.1	M	M
Goose	6	0	15	- 3	35.1	M	M
Hopedale	5	0	12	1	5.1	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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