Canada

Canada

WEEKLY REVIEW OF CANADIAN CLIMATE

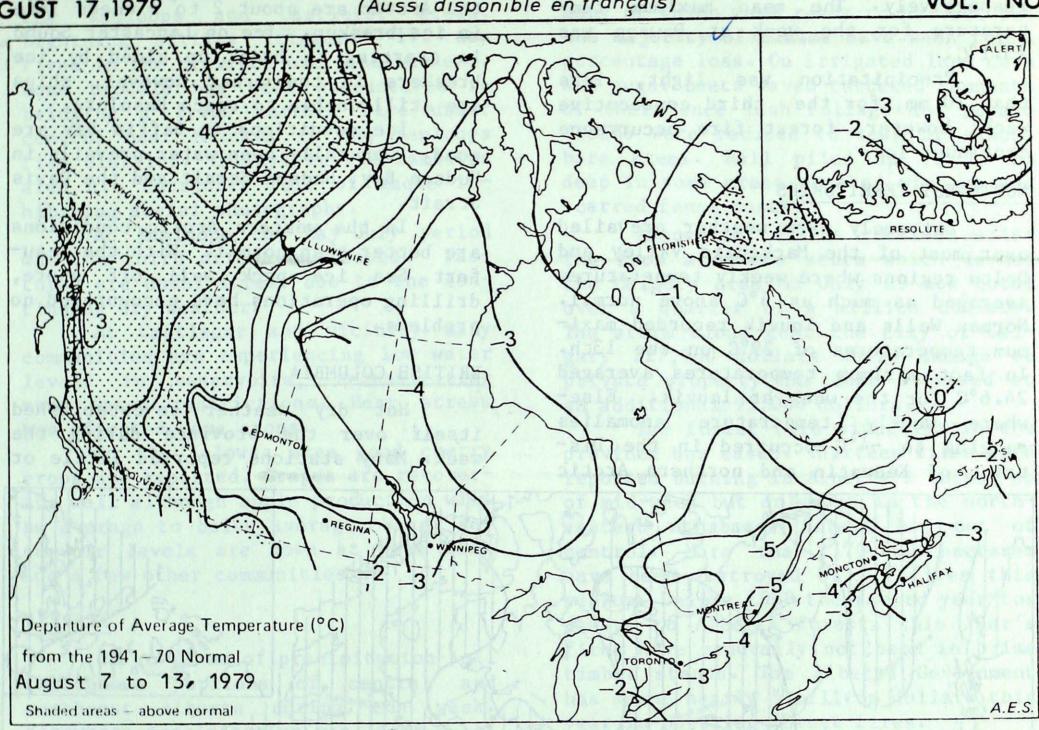
Environnement

Pracipitation amounts THE CANADIAN CLIMATE ATMOSPHERIC ENVIRONMENT SERVICE, 4905 DUFFERIN ST., DOWNSVIEW, ONTARIO M3H 5T4

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WEATHER HIGHLIGHTS FOR THE WEEK - AUGUST 7 - 13 1979

Tornadoes Devastate Woodstock area of Southwestern Ontario

During the early evening of August 7 tornadoes slashed a path of destruction through several communities in the vicinity of Woodstock. 300 homes were destroyed, many others damaged, leaving 1,000 people homeless. mission towers were felled, livestock killed and many crops severely damaged. Two fatalities occurred and 142 were injured. Unofficial damage estimates range as high as 100 million dollars.

Severe winds on August 9 caused structural damage upwards of one million dollars at Regina.

Warm dry weather contributed to the outbreak of many forest fires southern British the interior.

Anomalously cold weather covered Canada from the central Canadian Prairies to the east coast, as many localities set new low daily maximum and minimum temperature records.

NOTE: The data shown in this publication are based on unverified reports from approximately 225 Canadian and 115 northern United States Synoptic stations.

YUKON

Record breaking warm sunny weather continued over the Yukon. Whitehorse set a new daily maximum temperature record for August 12 with a reading of 26.6°C. On the following day, Dawson and Watson Lake also set new daily maximum temperature records when the mercury rose to 28.6°C and 27.8°C respectively. The mean maximum temperature for the week at Dawson was 25.1°C.

Precipitation was light, less than 10 mm, for the third consecutive week; however, forest fire occurrence continues low.

NORTHWEST TERRITORIES

Extremely warm weather prevailed over most of the Mackenzie Valley and Delta regions where weekly temperatures averaged as much as 6°C above normal. Norman Wells and Inuvik recorded maximum temperatures of 29°C on the 13th. In fact maximum temperatures averaged 24.6°C for the week at Inuvik. Elsewhere weekly temperature anomalies ranging to -4°C occurred in the District of Keewatin and northern Arctic

Archipelago. The minimum temperature of -5°C at Alert on the 13th was the coldest temperature recorded in Canada during the week.

Precipitation amounts were generally less than 10 mm except on Baffin Island where amounts ranged up to 25 mm.

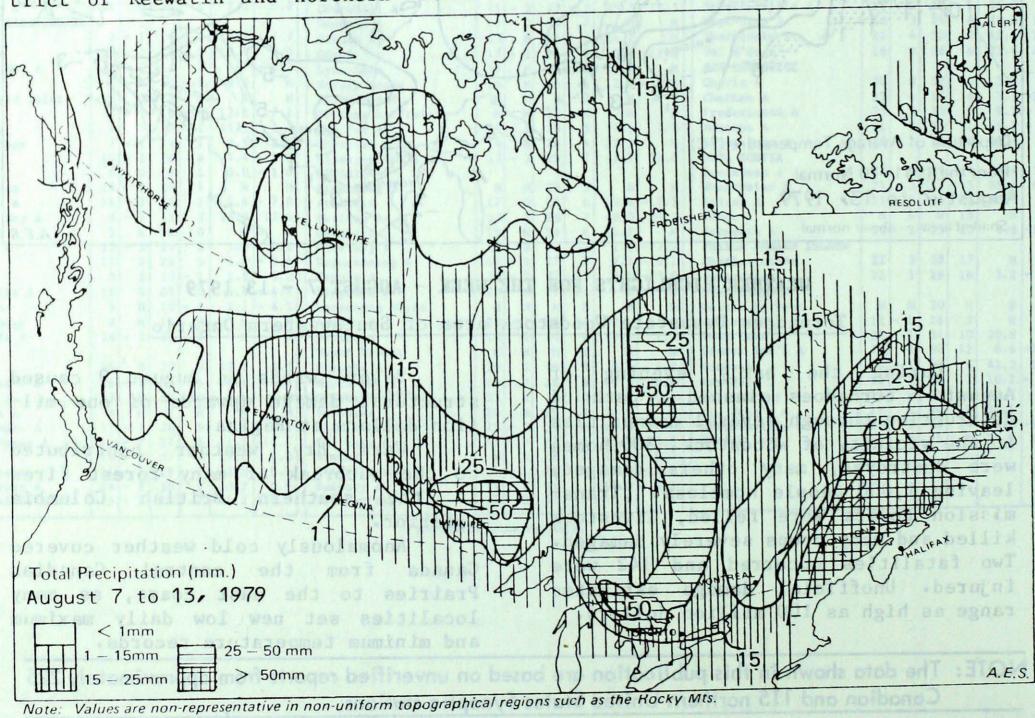
Northern and Central regions of the Arctic are about 2 to 3 weeks late in ice breakup. Ice on Lancaster Sound is starting to break up aided by ice breakers in the area; however, ships are still unable to reach Resolute.

Ice conditions in Baffin Bay are good. Generally open water prevails in Hudson Bay, Hudson Strait and the Davis Strait.

In the western Arctic conditions are better than normal. With the Beaufort Sea ice pack well off shore, drilling operations have encountered no problems.

BRITISH COLUMBIA

Hot dry weather re-established itself over the province during the week. Many stations reported little or



no precipitation. The absence of precipitation at Prince Rupert on the north coast is in marked contrast to the 74.9 mm normally expected (based on 1941-70 average). The warmest temperature in the province, 36°C, occurred at Castlegar on the 10th.

Forest fire ratings are in the extreme category at forest districts in the Kamloops and Castlegar areas. Lightning strikes triggered 171 new fires in the province over the weekend. Some trouble has been encountered in bringing a 1,100 hectare fire under control near Malakwa in the Kamloops fire district. Valleys in the Kamloops area are currently full of smoke inhibiting aerial photography.

At Kamloops the May-July period was the third driest on record. Pastures are under stress due to the continuing dry weather.

At Castlegar and vicinity many communities are experiencing low water levels in reservoirs, necessitating some water restrictions. Heat stress has affected some crops.

In the Kelowna area good cherry crops are reported. Grapes are recovering well although apple production will be average to below average. Water reservoir levels are down at West Bank and a few other communities.

ALBERTA

20 to 25 mm of precipitation fell throughout portions of central and northeast Alberta during the week. Elsewhere precipitation was light.

Temperatures were near normal in the west and south and 2°C to 4°C below normal in eastcentral and northeast sections of the province. Temperature extremes varied from 31°C at Lethbridge on the 10th to 0°C at Edson on the 13th.

Full water service was restored to farmers in the Lethbridge Northern Irrigation District early in the week following an eight day shut down in order to replenish reservoir water levels which were severely depleted during hot, dry weather of July. No additional water disruptions are expected this season since the peak demand for water has passed. Southern Alberta farmers already faced with low

yield crops were hit by a series of devastating hail storms that swept across southern Alberta August 3. As of mid-week 400 claims for compensation were filed with many more expected. The storm wiped out crops in a large area in some districts and hit isolated acres inother districts. Many farmers reported complete destruction of crops many of which were ready to harvest but the majority of claims have been for a percentage loss. On irrigated land corn and sugar beets waved tattered remnants of their once lush foliage and potato fields were reduced to rows of almost bare stems. Hail piled up to 15 cm deep in some areas smashed windows and scarred fence posts.

Meanwhile, claims received arising from a severe storm which lashed the Calgary area on July 29 now total over a quarter of a million dollars. The storm alone cost the city of Calgary 227,000 dollars while damage to private property has been assessed at an additional 95,000 dollars.

The forest fire situation in the province has eased. Thirteen fires were reported burning in Alberta's forest as of mid-week but only one in the north-eastern Athabasca forest was out of control. More than 170,000 hectares have been destroyed by 717 fires this season. Unlike 1968 the record year for damage to Alberta forests this Year's fires have generally not been in prime timber stands. The Alberta Government has spent nearly 5 million dollars this year in battling forest fires.

SASKATCHEWAN

During the evening of August 8 severe thunderstorms with winds gusting up to 117 km/h downed power lines and caused severe structural damage at construction sites in Regina. Damage has been estimated to run into the millions of dollars. Two funnel clouds were sighted.

Weekly temperatures averaged 2°C to 4°C below normal, particularly in north and central Saskatchewan. Many low minimum and low maximum daily temperature records were tied or broken at northern and eastern climate stations on the 13th. For example, the minimum temperature 2°C at Wynyard broke the

previous daily minimum record 3°C, set in 1968. The low maximum 16°C at Moose Jaw broke the previous low daily maximum 17°C set in 1895 and again in 1968. Frost was reported in some areas.

The 10-15 mm of precipitation which fell in the Yorkton-Broadview districts of eastcentral Sasktchewan will not alleviate much of the extremely low soil moisture reserves.

Generally, less than 10 mm of precipitation was recorded at localities in most agricultural districts.

The cool weather has improved the forest fire situation as most fires are now under control. 15 fires are burning, predominantly in the Athabasca-Reindeer region.

MANITOBA

Temperatures averaged 1°C to 5°C below normal for the week as cool weather engulfed the province by the 12th. Many low maximum daily temperature records were tied or broken on the 12th and especially the 13th. For example, on the 13th, Brandon broke the previous low daily maximum record of 14°C set in 1968 when the thermometer dipped to 13°C. In contrast Brandon and Dauphin recorded the highest temperatures for the week, 28°C, on August 11.

Precipitation generally varied from 15 mm to 30 mm although less than 5 mm was measured at the localities in the southeastern and northeastern portions of the province.

Agricultural conditions are generally good although the southwest could use some rain.

45 forest fires, all under control, are currently burning in the province. One large fire has already consumed 20,200 hectares.

ONTARIO

TI VITALESKI

At approximately 6:25 p.m. EDT August 7, tornadoes devastated communities in the vicinity of Woodstock,

southwestern Ontario. Destruction was immense. Two fatalities occurred, and 142 were injured, 8 seriously. At least 1,000 people were left homeless in the communities of Tavistock, Hickson, Bright, Woodstock, Oxford Vanessa, New Durham, and Waterford. At least 300 homes were destroyed and many others heavily damaged. At Oxford Centre, a village of 200, every building was destroyed. Damage to 28 felled transmission towers of the Ontario Hydro was estimated at 3 million dollars. Many livestock were killed and crops damaged in the area.

That morning, tornado touchdowns were reported at Powassan, south of North Bay. During mid-day funnel clouds were also confirmed over Lake Ontario, near Oakville with another reported at Toronto International Airport. This activity occurred along a warm front which extended southeast from Sault Ste. Marie.

A cold front extending southwestward from central Ontario set off the severe thunderstorm and tornado activity over the southwestern part of the province early that evening. There appeared to be three separate storm tracks. In the tornado track which extended from Oxford Centre to Waterford, a distance of about 32 km, almost complete destruction occurred in a path width varying from 0.4 km to

0.8 km. Trees 0.5 metres to 0.6 metres

snapped

diameter were

Although official damage estimates will not be released by the Ontario Government until August 16, preliminary estimates have ranged into the tens of millions of dollars.

Temperatures throughout the province showed a marked turn around to below normal values for the week as

August 7 - Southwestern Ontario Tornadoes Page 5

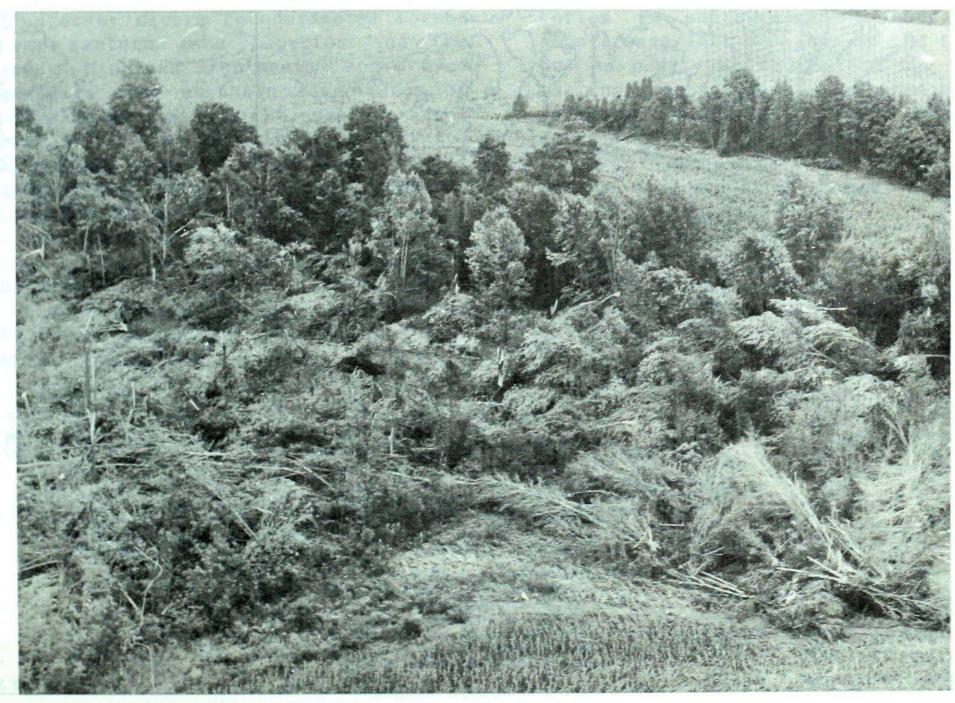
Top Picture - Tobacco farm near Oxford Centre Central path of Tornado moved from left to right in picture

in

Bottom Picture - Woodlot near Hickson
Path of Tornado moved from left to right in picture

Pictures courtesy of Applications and Impacts Division.





weekly anomalies ranged from -1°C to -5°C. The maximum temperature of 11°C at Armstrong on August 13 broke the old low daily maximum temperature record of 16°C previously set in 1933.

25 to 65 mm of rain fell throughout northwestern and central Ontario
during the week. As a result forest
fire hazards are dropping although subsurface fuels still remain quite dry.
New fire arrivals have shown little
tendency to spread but are burning
deep into this subsurface layer and
require a considerable amount of time
and effort to extinguish.

Precipitation was generally light in the Niagara and Southwestern regions with Harrow, Chatham, London and St. Thomas all recording less than 3 mm.

Provincial fruit crops appear to be maturing nicely with field crops approaching full maturity.

Hot dry weather is needed to kill blue mould which according to agricultural reports has infected 50% of Ontario's tobacco crops.

QUEBEC

Anomalously cold temperatures dominated the weather pattern during

the week, particularly in southern Quebec and Lac St-Jean region. Agriculture stations at Normandin, Peuboska and St-Ambroise registered minimum temperatures below 0°C on August 12 and 13, 2 weeks in advance of usual frost dates expected in the Lac St-Jean region.

Many low daily maximum and minimum temperature records were set from August 9 through August 13

Low Mir	nimum	Low	Max	imum
4.9(6.1	1957)			
1.6(4.6	1972)			
8.0(8.9	1960)			
	15.	0(15	. 6	1972)
5.0(6.5	1977)12.	0(16	. 7	1972)
	15.	0(17	8.	1953)
	15.	0(17	.2	1953)
4.3(5.2)				
	14.	7(15	.0	1962)
	18.	0(18	. 3	1957)
	4.9(6.1 1.6(4.6 8.0(8.9)	1.6(4.6 1972) 8.0(8.9 1960) 15. 5.0(6.5 1977)12. 15. 15. 4.3(5.2)	4.9(6.1 1957) 1.6(4.6 1972) 8.0(8.9 1960) 15.0(15 5.0(6.5 1977)12.0(16 15.0(17 15.0(17 4.3(5.2)	4.9(6.1 1957) 1.6(4.6 1972) 8.0(8.9 1960) 15.0(15.6 5.0(6.5 1977)12.0(16.7 15.0(17.8 15.0(17.2

 August 13
Bagotville 5.6(6.4 1963)

Note: previous records in brackets.

Precipitation was below normal except in the vicinity of Hudson Bay, Gaspé aand the south shore of the Gulf of St. Lawrence where amounts ranged up to 75 mm.

MARITIME PROVINCES

Maritimes during the week as temperatures averaged 2°C to 5°C below the 1941-70 normal and precipitation ranged from 50 mm to nearly 100 mm, most falling on the 12th and 13th. Normal weekly precipitation amounts for this time of year generally range from 20 mm to 30 mm. Many localities experienced near record or record breaking cool temperatures from the 9th through the 12th.

In Nova Scotia, excessive soil moisture is hampering harvest of vegetable crops. Also, the wet weather is delaying maturing of tobacco crops. In

the Annapolis Valley, considerable summer moisture has promoted the incidence of apple scab, necessitating frequent spraying of the crop. As a result the increased spraying may necessitate higher pricing of apples. Despite the scab, apples yields will be good.

In New Brunswick and Prince Edward Island the wet weather is delaying vegetable harvests.

NEWFOUNDLAND AND LABRADOR

Weekly temperatures averaged near normal along the Labrador coast and 1°C to 3°C below normal elsewhere.

20-50 mm of precipitation was measured throughout the island of Newfoundland. With the exception of 35 mm in the Goose Bay area, precipitation throughout Labrador was generally less than 15 mm.

In Newfoundland the vegetable harvest is earlier than last year. Growing degree-day seasonal accumulations are generally 20% above the 1941-70 normal.

ON THIS DATE ...

On the morning of August 20 1970 a cluster of severe thunderstorms formed over eastern Lake Superior and the upper Michigan Peninsula and moved eastward over northern Lake Huron on Georgian Bay. Within the complex, associated with an accelerating cold front, a tornado struck Sudbury and outlying communities. The storm path, varying from 200 metres to 400 metres width cut a semi-continuous strip of destruction from Elliot Lake eastward to the Quebec border.

Heavy damage was inflicted upon 65 houses and power lines in Lively, a small community to the west of Sudbury and upon several houses and small factories in southwestern Sudbury. 750 people were left homeless by the tornado. An oddity attributed to the storm was the apparent removal of some bottom sediments in the Lake Savage area and deposition nearly.

In total, the storm caused five deaths and property damage exceeding ten million dollars.

Reference:

The Sudbury Tornado, August, 1970 by G.W. Gee and B.F. Findlay, AES Tech. Circ. 764, 1972.

CLIMATIC PERSPECTIVES

Staff

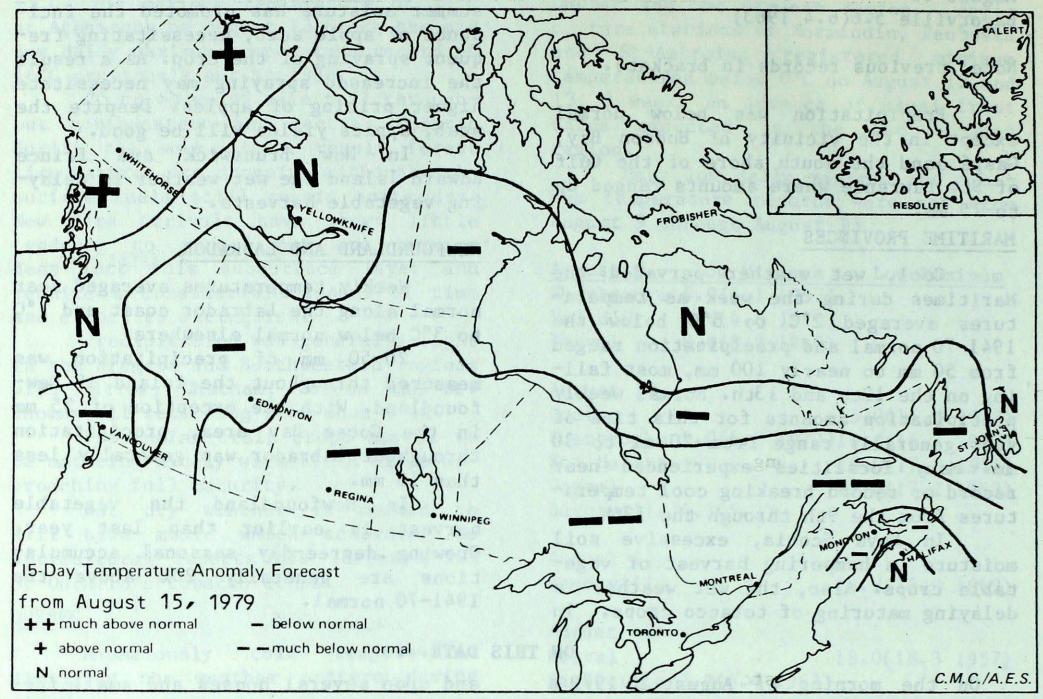
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15 DAY TEMPERATURE ANOMALY FORECAST



Forecast Method

Analogue technique based on point prediction at 70 Canadian stations.

Temperature Scale

Each temperature class is designed to contain 20% of the historically observed 15 day means pertinent to specific location and time of year:

Station	Current Temperatur	e Anomal	Ly (AT) Forecast
Whitehorse	Above Normal	(0.4°C	<ΔΤ	< 1.4°C)
Victoria	Below Normal	(-0.9°C	<ΔT	<-0.3°C)
Vancouver	Below Normal	(-1.0°C	TA>	<-0.3°C)
Edmonton	Below Normal	(-1.7°C	< ΔT	<-0.5°C)
Regina	Much Below Normal		(ΔΤ	<-1.8°C)
Winnipeg	Much Below Normal		(ΔΤ	<-1.7°C)
Thunder Bay	Much Below Normal		ΤΔ)	<-1.5°C)
Toronto	Much Below Normal		(ΔΤ	<-1.5°C)
Ottawa	Much Below Normal		(ΔΤ	<-1.5°C)
Montreal Montreal	Much Below Normal		(AT	<-1.3°C)
Quebec	Much Below Normal		(ΔΤ	<-1.3°C)
Fredericton	Much Below Normal		(ΔΤ	<-1.3°C)
Halifax	Normal	(-0.3°C	<ΔT	< 0.3°C)
Charlottetown	Below Normal	(-1.1°C	< Δ T	<-0.3°C)
St. John's	Normal	(-0.4°C	<ΔT	< 0.4°C)
Goose Bay	Normal	(-0.4°C	<ΔT	< 0.4°C)
Frobisher Bay	Normal	(-0.3°C	ΤΔ>	< 0.3°C)
Inuvik	Above Normal	(-0.6°C	<ΔT	< 1.5°C)

Note: Anomaly denotes departure from the 1949-73 mean.

ATMOSPHERIC CIRCULATION FEATURES

A strong 50 kPa closed low and associated upper trough continued to remain quasi-stationary in the vicinity of Hudson Bay, with a major upper ridge building and becoming the predominant feature over British Columbia.

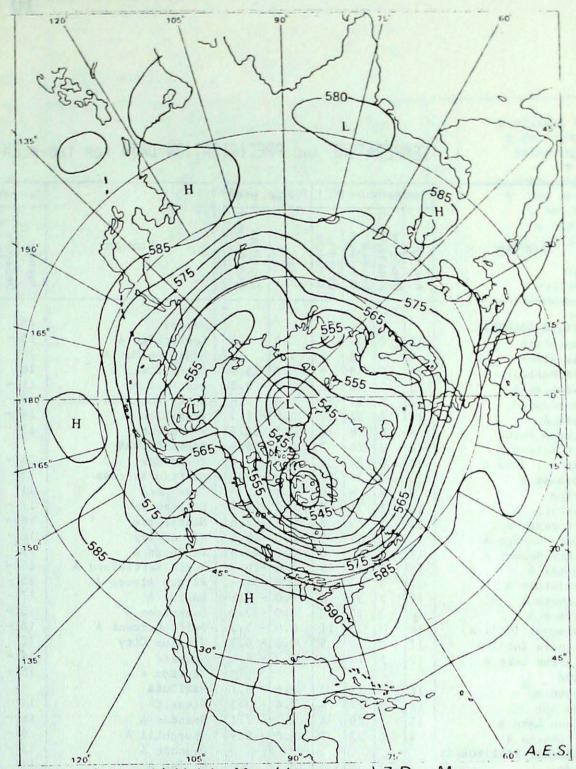
A relatively zonal, rapidly moving west to east upper air steering flow, across the south part of Canada during the first half of the period, became more meridional (sinuous) during the latter half, due to the major upper trough over central Canada increasing in amplitude. By the end of the period, with the exception of British Columbia, an overall cyclonic i.e. counter clockwise upper air flow was in evidence over most of Canada. This resulted in the Canadian Prairies being under the influence of a strong northwesterly upper air flow pushing cold Arctic air into the southern areas of Canada.

During the first part of the week, the leading edge of the cold air mass caused wide spread shower and thunderstorm activity across the prairie provinces. On Wednesday August 8, Regina received severe weather in the form of thunderstorms and high winds, with funnel clouds being reportted. As this frontal zone continued moving southeastwards, a high pressure cell associated with this Arctic airmass, gave generally fair but very cool weather.

British Columbia and Western Alberta, on the other hand, enjoyed fair dry weather conditions throughout, due to the presence of a quasistationary major upper ridge and predominantly higher surface pressures over British Columbia.

In the eastern half of the country, the surface storm track and frontal zone continued to influence weather conditions. Surface disturbances tracked rapidly eastward from the American west through Ontario, Quebec and into the Maritimes. Cold Arctic air interacting with warm moist tropical air to the south, resulted in changeable unsettled weather conditions causing locally heavy shower and thunderstorm activities.

On Tuesday August 7 a rapidly moving distrubance from Minnesota, with an associated trough and occluding frontal zone approached Ontario.



50 kPa (500 mb) Height Map (decametres) 7 Day Mean August 6 to 12, 1979

Very unstable warm moist tropical air from the American south penetrated northward into southern and central Ontario. The air being forced to rise aloft by the occluding system triggered severe thunderstorm activity along the frontal zones.

The first set of severe thunderstorms developed in the early morning along the warm front in Central Ontario. Strong downdrafts, high winds, frequent lightning and thunder were associated. A tornado was reported south of North Bay.

In southern Ontario several funnel clouds were sighted during the day, in the warm sector. By the afternoon severe thunderstorms had developed and reached southern and southwestern Ontario, ahead of an approaching cold front. High winds, hail and devastating tornadoes struck in the early evening with the Woodstock area being hit the hardest.

Andy Radomski

TEMPERATURE AND PRECIPITATION DATA FOR THE WEEK ENDING DOOD G.M.T.

	Temperature (°C) Precip. (mm) Temperature (°C) Precip. (mm												-, , ,	i colla coll							
	Tem	pera	ture	(°C)	Precip			Tem		ture (°C)	Precip	o. (mm)		Temperature (°C)				Precip	10.7	
Average Departure from Normal Extreme Minimum Total Departure from Normal	Departure from Normal	Station	Average	Departure from Normal	Extreme Maximum	Extreme	Total	Departure from Normal	Station	Average	from Norma	Maximum	Extreme	Total	Departure from Normal						
BRITISH COLUMBIA							Jasper	15	0	29	3	0.0	- 7.5	Timmins A	13 -	3	24	2	30.6 18.1	11.6	
Abbotsford	18	0	30	7	0.0	- 8.3	Lethbridge A	18	- 1 0	31	8	1.6	- 6.3 - 8.6	Toronto Int'l A Trenton A	17 -	3	28	7 8	18.6	3.6	
Blue River	M	M	M	5	5.1	-19.4	Medicine Hat A Peace River A	16	1	27	6	5.8	0.1	Trout Lake	12 -	_	20	3	21.3	- 0.6	
Bull Harbour	23	0	19 36	8	0.0	- 3.5	Red Deer A	14	- 2	26	5	5.6	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Wawa A	13	M	22	2	26.2	м	
Castlegar A Cranbrook A	20	M	31	89	0.0	М	Rocky Mountain House	14	- 1	26	4		- 5.2	Wiarton A	16 -	3	24	6	67.3	54.9	
Comox A	18	1	27	10	0.0	-11.3	Vermilion A	14	- 2	24	4	8.2		Windsor A	21 -	1	34	10	4.2	-11.5	
Estevan Point	М	M	М	11	0.3	-18.7	Whitecourt	15	1	25	6	14.5	- 8.3	QUEBEC	12 -	5	21	2	11 8	-11.3	
Fort Nelson A	18	2	29	7	0.9	- 8.9	SASKATCHEWAN	15	- 2	29	2	12.4	- 2.0	Bagotville A Baie Comeau	12 -	4	22	4		-13.6	
Fort St. John A	16	0	24	8	3.0	-11.6	Broadview Buffalo Narrows	15	_ M	22	7	M	M	Border	M	M	M	М	М	M	
Kamloops A	23 M	2	34 M	10 M	1.6 M	- 1.0 M	Cree Lake	11	M	21	1	24.4		Chibougamau	М	M	20	M	М	M	
Lytton Penticton A	M 23	3	32	10	0.0	- 2.7	Estevan A	17	- 2	30	5	7.2	The second secon	Fort Chimo A	10	0	22	4	16.4	3.1	
Port Hardy A	14	- 1	20	8	0.0	-12.8	Hudson Bay	14	- 3		1	M	M	Gaspé A	13	M	22	5	68.6	38.8	
Prince George A	17	2	29	5	0.0	-18.4	Kindersley	16	- 3	Vin Breizer	4	4.6	- 0.5	Grindstone Island	15 -	2	19	12	54.2 25.4	12.4	
Prince Rupert A	13	- 1	20	6	0.0	-74.9	La Ronge A	12	- 3	22	1	6.4	3.3	Inoucd jouac Maniwaki	13 -	4	23	4	8.6	-12.1	
Quesnel A	18	2	32	5	0.0	-16.3	North Battleford A Prince Albert A	13	- 4	24	3	17.6		Matagami A	12	M	21	3	М	M	
Revelstoke A	22	2	31	5	0.0	- 9.6	Regina A	17	- 2	32	3	0.4	- 7.6	Mont Joli A	13 -	4	20	7	12.5	- 1.3	
Smithers A Terrace A	20	3	33	10	0.0	-13.0	Saskatoon A	15	- 3	26	1	3.2	- 4.4	Montréal Int'l A	15 -	5	26	8	12.4	- 5.9	
Vancouver Int'l A	18	0	25	11	0.0	- 5.5	Swift Current A	18	- 1	34	3	2.4	2 C C C C C C C C C C C C C C C C C C C	Natashquan A	12 -	2	17	5	71.2	46.3	
Victoria Int'l A	17	0	26	9	0.0	- 4.3	Uranium City	12	M	22	3	11.9		Nitchequon	10 -	3	20	6	19.2	10.2	
Williams Lake A	17	1	29	6	5.2	- 4.4	Wynyard	14	- 4		2	5.6	1.9	Port Menier	12 -	3	16	4	58.8	39.1	
YUKON	1 2				0 /	0 1	Yorkton A MANITOBA	15	- 3	31	- 2	M	M	Poste de la Baleine Québec A	14 -	5	23	7	7.2	-18.0	
Dawson A	16	3	29	5	2.6	- 9.1 - 0.3	Bissett	14	М	23	4	38.6	M	Riviere du Loup	12 -	5	20	5	15.0	0.4	
Mayo A	16	3	28	6	2.2	- 7.1	Brandon A	16	- 2		3	13.6	2.8	Roberval A	13 -	4	21	5	М	M	
Watson Lake A Whitehorse A	14	1	27	3	The second second	- 9.9	Churchill A	9	- 4	16	4	2.2	STATE OF THE PARTY	Schefferville A	10 -	1	22	3	11.8	-15.6	
NORTHWEST TERRITORIES	1						Dauphin A	15	- 3	A LINE WATER CO.	5	16.6		Sept-Iles A	12 -	3	22 24	5	18.6	- 5.1	
Alert	- 1	- 3	6	- 5	10.7	2.0	Cillam A	11	M - 4		5	6.1	- 1.9	Sherbrooke A Val d'Or A	12 -	4	20	2	35.4	8.3	
Baker Lake	7	- 3	16	2	0.0	- 9.1	Gimli Lung Lake	15	- 4 M	24	1887	22.1	- 1.9 M	NEW BRUNSWICK						-	
Cambridge Bay A	6	- 2	12	2 - 1	1.2	- 5.7	Lynn Lake Norway House	13	M			21.6		Charlo A	13	M	24	5	59.3	M	
Cape Dyer	5	M	11	- 1 M	5.0	- 5.2	Pilot Mound	M	M	M	1933010	M	M	Chatham A	14 -	4	22	6	78.9	61.0	
Chesterfield Inlet	3	- 1	11	- 1	23.4	16.6	Portage la Prairie	16	- 4		6	13.1		Fredericton A	15 -	4	25	5	88.9 77.0	68.5	
Coppermine	11	1	24	2	3.8	- 4.3	The Pas A	13	- 5	1	4	20.6		Moncton A	14 -	2	22	8	91.4	65.9	
Coral Harbour	6	- 2	15	100000	0.4	- 9.4	Thompson A	10	- M		0	4.4	20 15 S. L.	Saint John A NOVA SCOTIA	13						
Ennadaí	9	- 4	18	3	3.6	- 3.7	Winnipeg Int'l A ONTARIO	16	- 4	24	0	9-	11.5	Greenwood A	15 -	- 5	24	7	73.0		
Eureka	1	- 4	6	- 4	4.2	- 9.8	Armstrong A	м	М	M	- 1	М	М	Shearwater A	15 -	3	21	9	67.3	41.6	
Fort Simpson Fort Smith A	17	- 2	28 26	8	0.0	- 6.4	Atikokan	14	- 2	26	1	30.7	11.3	Sydney A	15 -	4	21	8	50.7	29.0	
Frobisher Bay A	8	0	17	2		A ALTERNATION OF THE PARTY OF T	Earlton A	13	- 4	17.0	4	20.6		Truro	M 15 -	M 2	M 21	10	97.2	70.2	
Hall Beach A	5	M	12	1	5.9	М	Geraldton	12	M	24	2	13.2		Yarmouth A PRINCE EDWARD ISLAND	13	-	21	10	31.2	,	
Hay River A	14	- 1	25	4	1.3	Control of the last of the las	Gore Bay A	16	- 3 - 2	611	8	54.1 37.2		Charlottetown	14 -	- 4	21	8	78.5		
Inuvik A	18	6	29	9	4.6		Kapuskasing A	14	- 2		9	18.7		Summerside	15 -	4	21	9	70.8		
Mould Bay	1	- 2	6	- 4	0.7		Kenora A Kingston A	19	7 Den	30	8	M	A CONTRACTOR OF THE CONTRACTOR	NEWFOUNDLAND	3 =	37	-0	7.0			
Norman Wells A	18	- 2	29	- 3	0.2	- 8.8	Lansdowne House	12	- 4	21		17.7	- 2.6	Battle Harbour	11	0	18	8		-12.4	
Resolute A Sachs Harbour	8	3	14	1	0.8	- 5.0	London A	18	- 3	30	7	11.3		Cartwright	11 -	2	23	4		- 5.0	
Yellowknife A	14	- 1	21	8		- 4.6	Moosonee	13	- 2	24	2	21.5		Deer Lake Gander Int'l A	14 -	. 3	20	8		- 0.8	
ALBERTA							Mount Forest	M	- 3	M 25	6	24.8	THE RESERVE OF THE PERSON NAMED OF THE PERSON	Goose A	13 -	- 3	25	6	35.1	19.7	
Banff	15	1	27	3		- 1.6	Muskoka A North Bay A	15	- 4	23		26.8		Hopedale	11 -	- 1	20	6	7.4		
Calgary Int'l A	15	- 1	26	4	1.6	- 9.9 - 2.0	Ottawa Int'l A	16	- 4	1000		1.0	-18.6	St. Anthony	11	M	20	7	22.0		
Cold Lake A	14	- 3	24 27	2	4.0	- 5.6	Petawawa A	14	1000	24	3	17.8	M	St. John's A	1 1	1	20 21	10	39.9	The state of the state of the state of	
Coronation A Edmonton Mun. A	16	000000000000000000000000000000000000000	26		26.8		Pickle Lake	12	- 4	21	St. Commercial Control	10000		Stephenville A	15 -	2	20	A STANTED	11.0		
Edmonton Namao A	15	M. III FO.	25	6	23.2	11.5	Red Lake A	13	- 5	A PROPERTY.	5			Wabush Lake'	10		20	15	14		
	14	The state of the s	27	2	2.0	- 2.8	Simcoe	M	1000	M	Marie Register	43.1	1 10 1 10 10 10 10 10 10 10 10 10 10 10								
Edson A			The second section is a second	1 0	0 0	- 3.5	Sioux Lookout A	14	- 4	22)	1 47.1			1	100			THE REAL PROPERTY.		
Edson A Fort Chipewyan	12		24	0	3.0	(Carrier and Carr			_ 3	23	7	19.3	4.2								
	12 12 16	- 3	DE L	1	18.4	4.6	Sudbury A Thunder Bay A	15	- 3 - 2	A CONTRACTOR	7 3	19.3	4.2		27						

M-Dunotos missing data

frontal zone approached Catatio.