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A WEEKLY REVIEW OF CANADIAN CLIMATE

Atmospheric Environnement Environment

atmosphérique

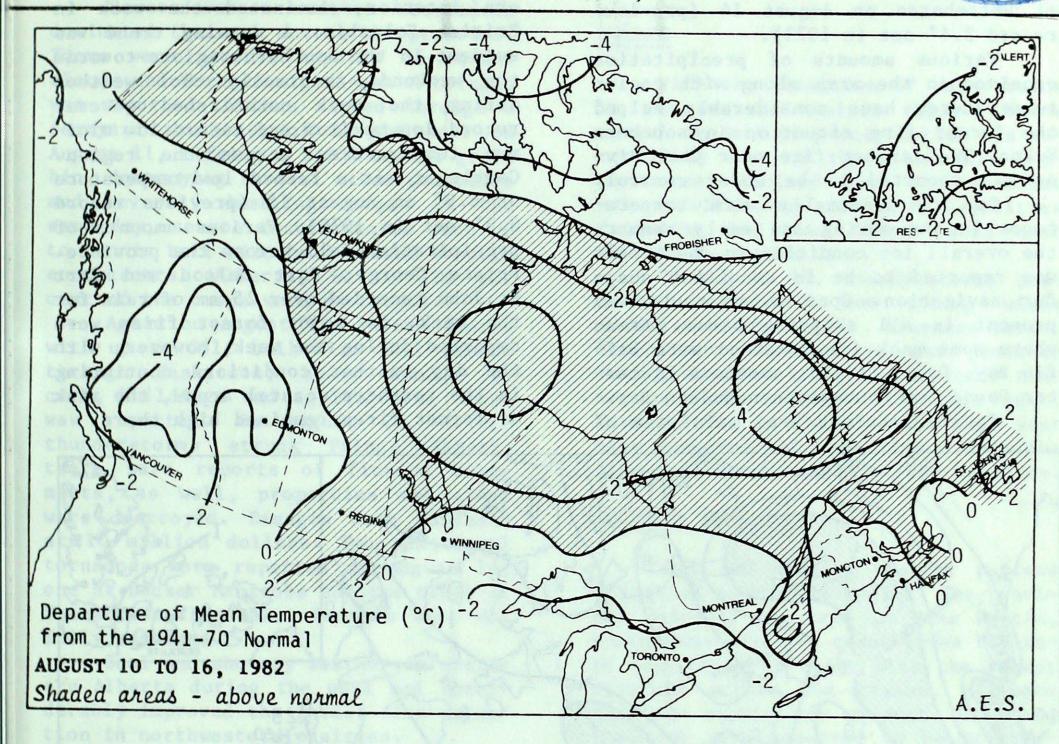
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THE CANADIAN CLIMATE CENTRE, ATMOSPHERIC ENVIRONMENT SERVICE, 4905 DUFFERIN ST., DOWNSVIEW, ONTARIO M3H 5T4

UGUST 20 1982

(Aussi disponible en français)

VOL 4 NO. 32



WEATHER HIGHLIGHTS FOR THE PERIOD - AUGUST 10-16, 1982

Tornadoes cause extensive damage in the prairies

Outbreak of severe thunderstorms spawning tornadoes, heavy rain and up to tennis ball size hail struck the prairie provinces. Substantial damage to properties and crop was reported. Hail damaged up to 100 per cent of the crop in some areas. Damage to properties and crops was assessed at \$10 million dollars in Prince Albert alone.

Rain and somewhat cooler temperatures have considerably helped the forest fire situation in northern Alberta.

Temperatures ranged from a high of 35.5° at Estevan, Saskatchewan to a low of -7° at Broughton Island, Northwest Territories. Prince Albert recorded 91.9 mm of rain.

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

YUKON AND NORTHWEST TERRITORIES

A sharp contrast from recent weather pattern was evident during the week as an upper weather disturbance kept temperatures below the normal values across the Yukon. Frost was reported in some areas on August 11, as well, mercury plunged to a record low of 1° at Whitehorse on August 14 (previous record 2.4° set in 1973).

Various amounts of precipitation received in the area along with cooler temperatures have considerably helped the forest fire situation in southern Yukon. The largest fire near Coal River was reported to be under control.

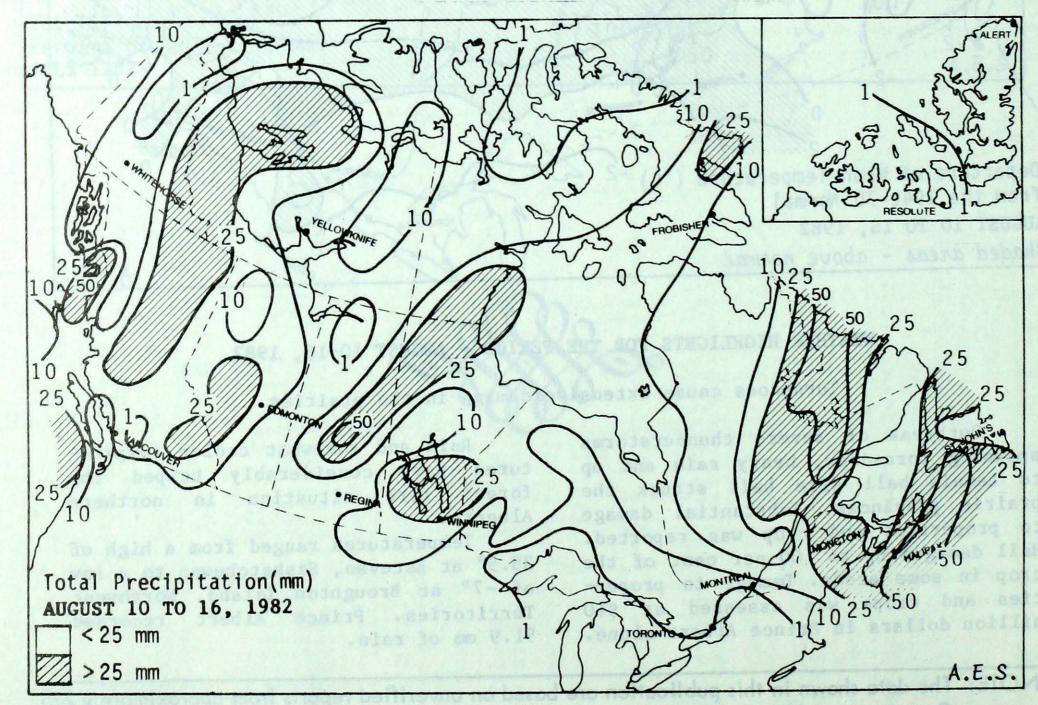
Due to abnormally warm temperatures in the spring and early summer, the overall ice condition in the Arctic was reported to be in excellent shape for navigation. Open water route was present in all shipping areas. Areas where some pack ice remained were Baffin Bay, Davis Strait, southern Lancaster Sound and southwestern Hudson Bay.

In the Beaufort Sea, main pack of

ice was reported Northwest of the drilling sites and slowly moving southward. This could present some problems to the drilling activities in the near future.

BRITISH COLUMBIA

Below normal temperatures, with well below the normal values in southern interior, dominated the week in British Columbia. A warming trend was evident in the southern regions towards the weekend. Abnormally cool weather during the week established several record low maximum and record low minimum temperatures across the region. Castlegar set a record low temperature of 6.9° on August 15 (previous record 8.3° set in 1970). Various amounts of precipitation fell across the province. Prince George, Fort Nelson and Fort St. John recorded over 25 mm of rain for the week. No major forest fires were reported during the week, however, with the dry weather conditions continuing in the northern coastal areas, the risk of forest fires remained high there.



Due to the cool and wet weather conditions in the agricultural areas this summer, crops were reported to be of poor quality. In the Okanagan, growth in the grapes and apples orchards was well behind schedule.

PRAIRIE PROVINCES

Severe summer weather occurences dominated the week across the prairies. There were several reports of funnel clouds and Tornado sightings. A tornado was reported to have ripped through a farmyard southeast of Lloydminster on August 11, lifting a 3,000 bushel grain bin, destroying several other granaries and severely damaging crops. On the same day, severe thunderstorms with up to tennis ball size hail passed through southcentral Alberta, 60 to 100 per cent of the crops were destroyed.

Again on August 11, severe storms with up to Golf ball size hail passed through Saskatoon; heavy damage to cars, buildings and agricultural crops was reported. On August 14, severe thunderstorms struck Prince Albert, there were reports of flooded basements, as well, properties and crops were destroyed. Damages were assessed at 10 million dollars. Two additional tornadoes were reported on August 14; one at Docker Manitoba and the other at Shamattawa, Manitoba. Damages were not fully assessed.

Cool and showery weather in northern Alberta during the week had considerably improved the forest fire situation in northwestern prairies.

ONTARIO

A cool and dry weather pattern prevailed across the province during

the week. Abnormally cool temperatures on August 10, resulted in low maximums for some of the southern localities and across most of the northern locations. In the south, mercury dipped into the 5 to 10 degrees range on the morning of August 11. Rainfall was sparse, with many areas receiving no precipitation at all.

QUÉBEC

With the exception of heavy rains in the extreme eastern region, below normal amounts of precipitation was recorded by most of the stations. Temperatures remained near the seasonal values with some southern localities recording day time temperatures near the thirty degree mark.

On August 16, thunderstorms producing some hail and strong winds passed through Val'Dor. Nineteen forest fires were reported in the province during the week bringing the total number of fires to over 1030 this year. Forest fires in the province this year have consumed 10% more timber than the five year normal of near 7100 hectares.

ATLANTIC PROVINCES

Cool and showery weather pattern prevailed across the region. The heaviest rainfall occurred in Nova Scotia, where some southern communities reported over 60 mm of rain. With the recent rainfall across the region, adequate moisture supply was present. Crops in the area were reported to be progressing on schedule. Three quarter of the hay crop had been harvested in the St. John area. Nova Scotia reported two small forest fires, both under control.

CLIMATIC PERSPECTIVES

Staff

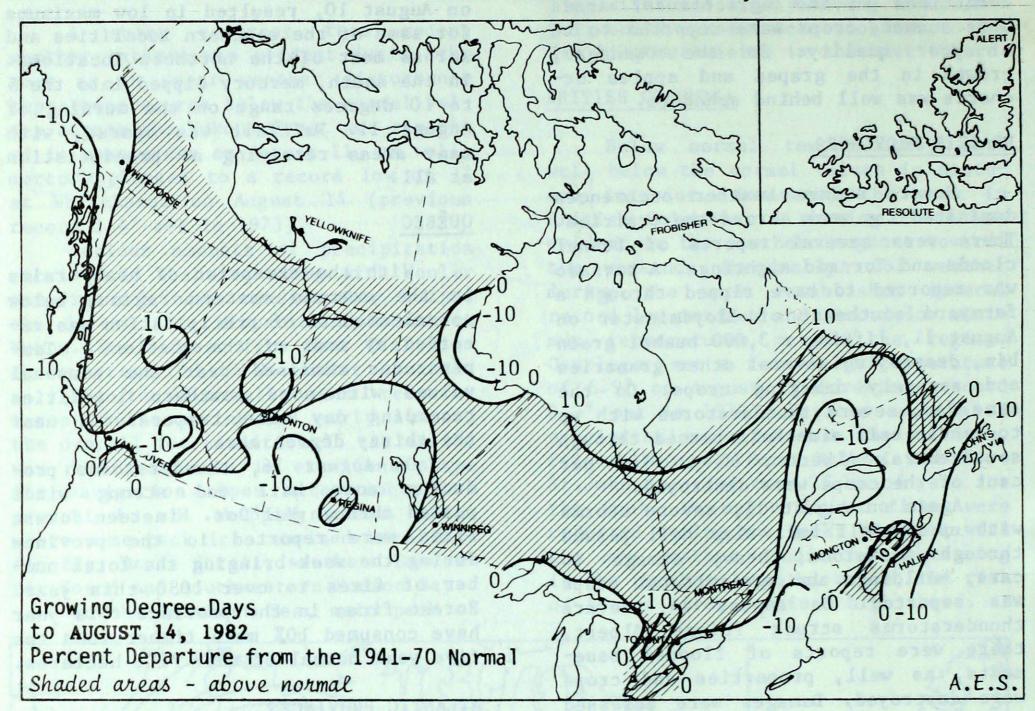
Editor: Assistant Editor: Technical Staff: Graphics and Layout: Word Processing: Yves Durocher Amfr Shabbar Fred Richardson, Andy Radomski Bruce Bradshaw, B. Johnson, J. Rautenberg Nascem Khaja

Correspondents

Terry Mullane, (Ice Forecasting Central) H.E. Wahl, (Whitehorse) Bill Prusak, (Western Region) (Central Region) Fred Luciou, Bryan Smith, (Ontarlo Region) Guy Borne (Quebec Region) Frank Anirault (Atlantic Region) Earl Coatta (Pactite Region)

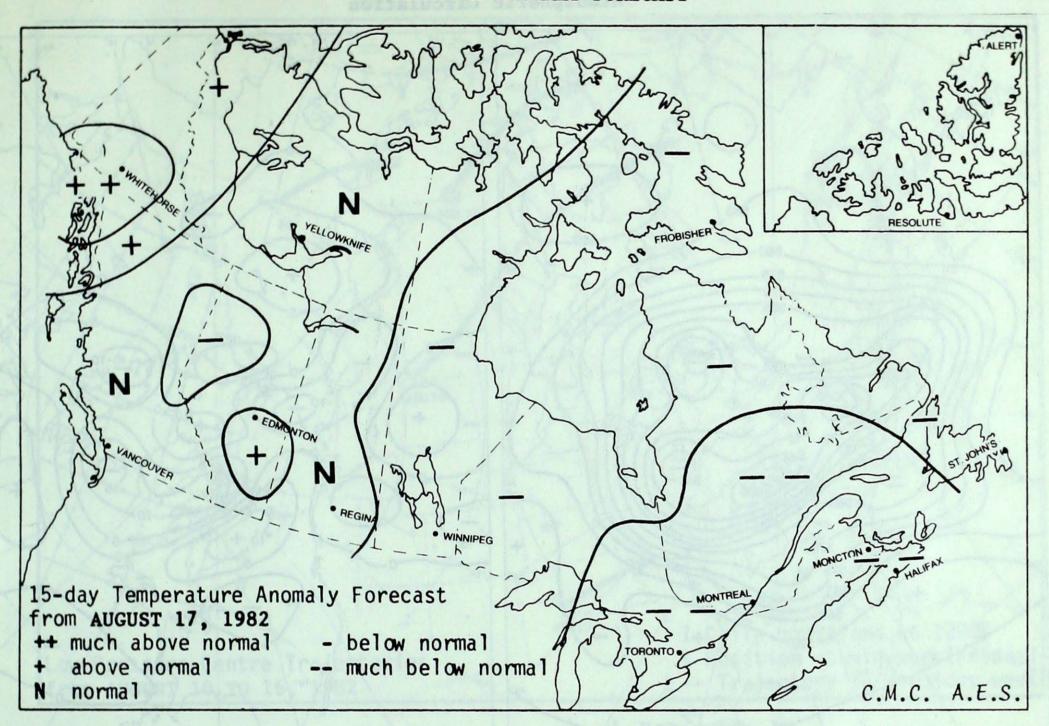
Telephone Inquiries (416) 667-4711/4906

GROWING DEGREE-DAY SUMMARY TO AUGUST 14, 1982

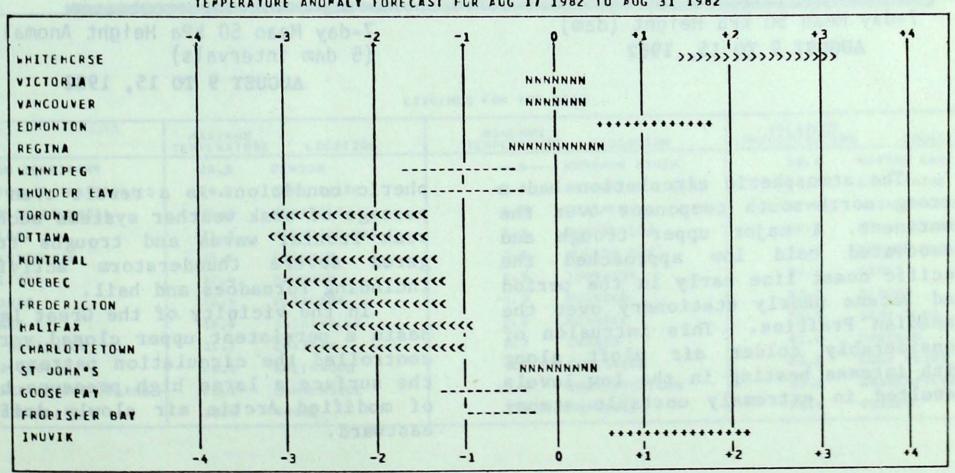


STATION	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL
	ALL PROPERTY OF		600.0		100
Whitehorse	92.0	-23.0	680.0	-1.0	
Penticton	194.0	-17.0	1377.0	-61.0	96
Vancouver	157.0	-19.0	1198.5	-60.5	95
Edmonton	159.5	-1.5	1098.0	134.0	114
Calgary	156.5	-1.5	926.5	11.5	101
Regina	202.5	10.5	1160.5	31.5	103
Saskatoon	188.5	0.5	1062.0	-61.0	95
Winnipeg	196.0	-12.0	1243.5	34.5	103
Thunder Bay	135.0	-34.0	924.0	-18.0	98
Windsor	225.5	-6.5	1661.0	48.0	103
Toronto	188.0	-28.0	1336.0	-56.0	96
Ottawa	188.0	-20.0	1417.0	55.0	104
Montréal	191.5	-26.5	1412.0	16.0	101
Quebéc	166.5	-18.5	1139.5	-12.5	99
Fredericton	164.0	-32.0	1138.0	-19.0	98
Halifax	168.5	-16.5	986.5	-94.5	91
Charlottetown	167.0	-23.0	637.5	-126.5	83
St. John's	148.0	-9.0	567.5	-101.5	85

TEMPERATURE ANOMALY FORECAST



TEPPERATURE ANUMALY FORECAST FOR AUG 17 1982 TO AUG 31 1982

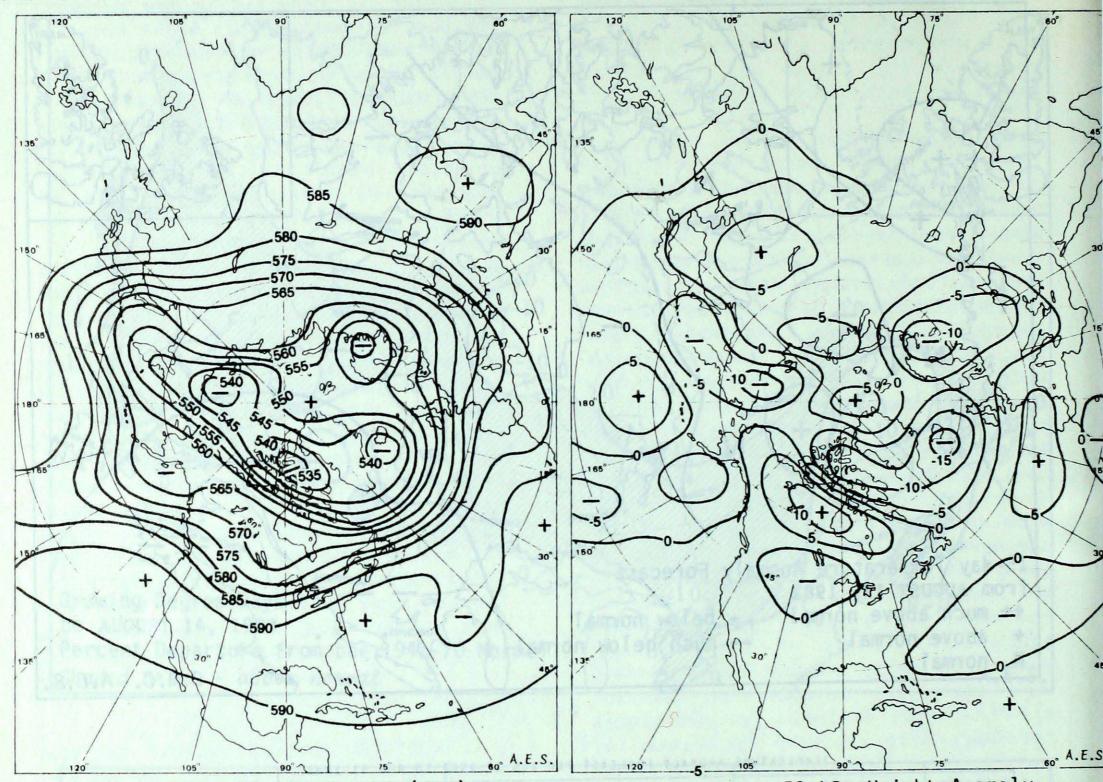


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ANNN NEAR NORMAL

>>>> MUCH AEOVE NORMAL

Atmospheric Circulation



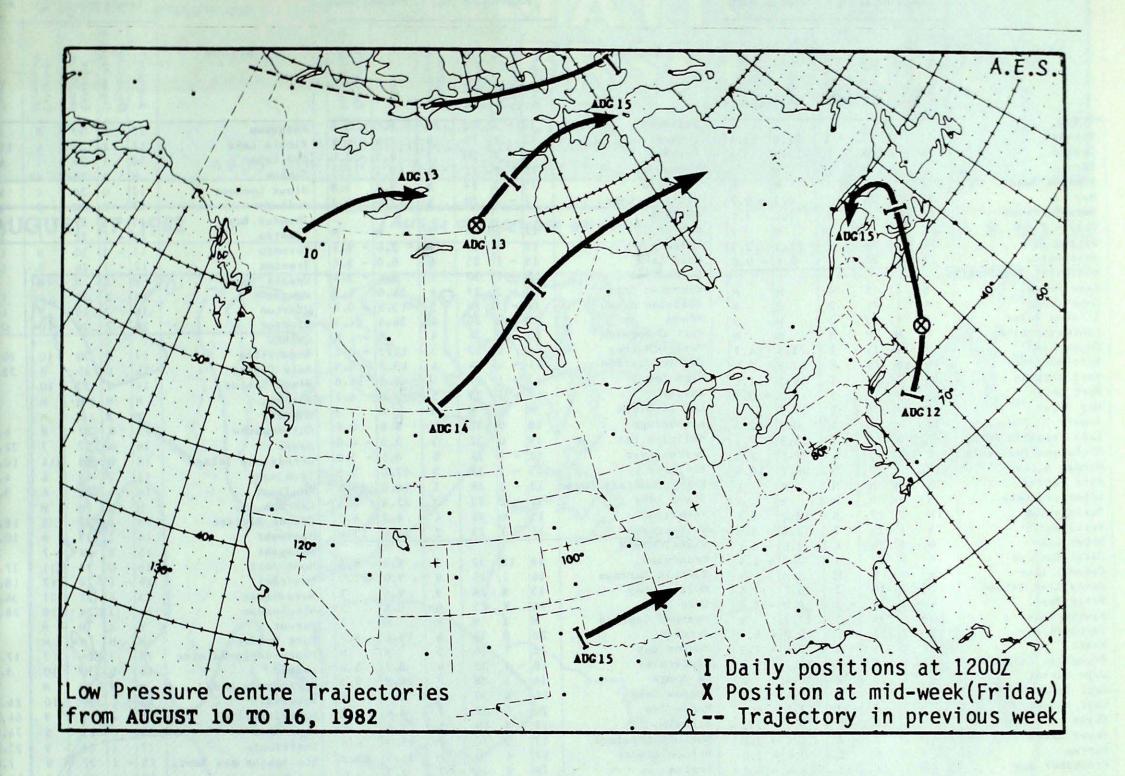
7-day Mean 50 kPa Height (dam) AUGUST 9 TO 15, 1982

7-day Mean 50 kPa Height Anomaly (5 dam intervals) AUGUST 9 TO 15, 1982

The atmospheric circulation had a strong north-south component over the continent. A major upper trough and associated cold low approached the Pacific coast line early in the period and became nearly stationary over the Canadian Prairies. This intrusion of considerably colder air aloft along with intense heating in the low levels resulted in extremely unstable atmos-

pheric condition. As a result even the passage of weak weather systems such as weak frontal waves and troughs triggered severe thunderstorm activity, including tornadoes and hail.

In the vicinity of the Great Lakes Basin a persistent upper closed vortex controlled the circulation pattern. At the surface a large high pressure cell of modified Arctic air slowly drifted eastward.



	MAXIMUM TEMPERATURE LOCATION	HINI HUN TEMPERATURE LOCATION	GREATEST LOCATION
YUKON TERRITORY	28.6 DAWSON	6 KOMAKUK BEACH	22.3 HATSON LAKE
NORTHWEST TERRITORIES	29.1 FORT SHITH	-7.0 BROUGHTON ISLAND	73.3 COPPERMINE
BRITISH COLUMBIA	26.9 PENTICTON	1.9 SHITHERS	52.6 PRINCE RUPERT
ALBERTA	31.7 HEDICINE HAT	1.1 CORONATION	40.0 ROCKY HOUNTAIN HOUSE
SASKATCHENAN	35.5 ESTEVAN	3.0 HUDSON BAY	91.9 PRINCE ALBERT
HANITOBA	32.4 DAUPHIN	1.5 THOMPSON	37.0 GIHLI
ONTARIO	30.4 PETAHAHA	-1.0 HUSKOKA	13.2 KENORA
QUEBEC	30.0 BAGOTVILLE	2.0 KOARTAK	74.9 SEPT-ILES
NEW BRUNSWICK	31.2 CHATHAM	8.7 CHARLO	41.8 CHATHAM
NOVA SCOTIA	28.6 GREENHOOD	9.7 GREENHOOD	75.0 EDGY POINT
PRINCE EDWARD ISLAND	27.1 SUMMERSIDE	12.8 CHARLOTTETOWN	33.1 CHARLOTTETOWN
NE HE OUNDLAND	29.4 GOOSE	5.7 HOPEDALE	70.4 BURGEO

EXTREMES FOR THE WEEK

TEMPERATURE AND PRECIPITATION DATA FOR THE WEEK ENDING 06Q0 G.M.T. AUGUST 17, 1982

	Temperature (°C) Precip. (mm)									
	lei		1	Precip. (mm)						
		OE				Normal				
Station	a G	No Z	num num	e E		207				
	Average	Departure from Nor	Extreme	Extreme	Total	Departure from Norn				
	A	Pro	X X	m Z	To	Fro -				
YUKON	1									
Burwash Dawson	11			- 1	15.8					
Furo	M	×	M	М	M	x				
Komakuk Beach Mayo A	14			- 1	0.2	D W NEW				
Shingle Point	12	3	23	2	7.4					
Teslin Watson Lake	12	- X		6P	22.3	A COLUMN TO SERVICE AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF				
Whitehorse	13	0	The same of the sa	o	9.4					
NORTHWEST TERRITORIE	S 8	2	15	4						
Cape Young	8	1	21	2	M M	M M				
Clinton Point Contwoyto Lake	- N	l M	19 M	3	М	М				
Coppermine	9	- 1	21	M 1	73.3	64.7				
Fort Reliance Fort Simpson	15	- 2 - 2	28	7	11.8	5.6				
Fort Smith	15	0	29	1 3	6.9	11.0				
Hay River Inuvik	15	0	28	6	17.7	13.7				
Lady Franklin Point	7	2 0	22 15	5 2	0.2	-12.7, 9.1				
Nicholson Peninsula	9	2	19	4	9.1	2.3				
Norman Wells Port Radium	14 M	0 X	25 M	5 M	30.2 M	10.9 X				
Robertson Lake	M	X	М	М	М	X				
Tuktoyaktuk Yellowknife	11	2	19 26	5 7	12.2	5.8				
Baker Lake	14	3	26	4	2.6	- 5.1				
Coral Harbour Ennadat Lake	8 M	1 M	23 M	1 M	7.3 M	- 1.9				
Jenny Lind Island	2	- 2	10	- 2	16.2	7.6				
Pelly Bay Rankin Inlet	10	- 2 X	14 24	- 3	17.7	-15.4				
Shepherd Bay	5	- 2	15	- 1	0.0	- 9.4				
Alert Broughton Island	2	5	9 7	- 3	25.6	THE RESERVE OF THE PERSON OF T				
Cape Dorset	5	X	13	1	16.4	X				
Cape Dyer Cape Hooper	3	- 3 - 2	10	- 4 - 3	7.2	0.3				
Clyde	3	- 2	9	- 2	0.4	- 7.2				
Dewar Lakes Eureka	2 2	- 2 - 3	7 6	- 2 - 2	0.6	- 3.8 - 2.0				
Frobisher Bay	7	- 1	14	1		-10.1				
Gladman Point Hall Beach		- 1 - 2	11	- 1 0	3.2	0.0				
Longstaff Bluff	5	- 2	12	1	1	- 5.9				
Mackar Inlet Pond Inlet	3	- 2 X	16	- 5 - 1	0.0	- 6.7 X				
Resolute	- 1	- 4	4	- 5	2.2	- 4.8				
Byron Bay Cambridge Bay	7	- 2	20	1	4.0	10.5				
Mould Bay	1	- 1	6	- 3	1.7	- 2.7				
Sachs Harbour BRITISH COLUMBIA	7	2	12	2	1.6	- 3.7				
Abbotsford		- 2	23	7	26.4	17.4				
Alert Bay Amphitrite Point	13 -	- 2 X	19	7 10	17.6	7.5 X				
Blue River	М	X	M	М	M	X				
Bull Harbour Burns Lake	13	- 1 X	17 20P	7 3P	18.8 M	- 2.2 X				
Cape Scott	13	- 1	18	9	16.9	-14.9				
Cape St James	13 M	O X	20 M	10 M	9.7 ·	-10.5				
Comox	15 -	- 2	21	9	8.1 -	- 3.5				
Cranbrook Dease Lake	15 -	- 3	26 23	5		10.2				
Estevan Point	М	M	M	M	M	М				
Ethelda Bay Fort Nelson	12 -	X 3	17 21	5	M 34.6	24.9				
Fort St John	11 -	- 4	20	4	11.8 -	1.2				
Hope Kamloops	M 17 -	X 3	22 26	9P 8	5.0	1.5				
Langara	12 -	- 1	15	10	10.4 -	-13.2				
Lytton Mackenzie	18 -	4 X	26 17P	8 5	0.0 -	8.5 X				
Mc Innes Island	14	0	18	10	Commercial (N. 2716)	23.6				
Nanaimo A Penticton	15	X 2	22 27	7	M 10.4	X 6. 1				
Port Alberni	М	X	M	M	10.4 M	6. 1 X				
Port Hardy	13 -	1	18	8	12.0 -	2.2				
Prince George Prince Rupert	12 -	2	19	3 5	41.8 52.6 -	22.0				
Puntzi Mountain	M	X	M	M	М	X				
Quesnel Revelstoke	13 -		21 25	7 8	39.8	22.8				
Sandspit	13]=	1	19	11	18.4	7.1				
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ILUN DATA FOR THE	MECI	CI	אוועו	3 000	10 0.1	1. 1 . AU	16021
	Temperature (°C)				Precip		
		OE				0	
Station	Q.		E	a E		Normal	
	Average	Departure from No.	Extreme	Extreme	0	Departure from Norr	
	Ave	Depar	X W	W Z	Total	Depar	
Smithers	13		22	2	6.0	(CGC 100)	Pet
Stewart Terrace	13			8 7	4.3		P1c Red
Vancouver	16	- 2	22	9	18.4	11.3	Sin
Victoria Williams Lake	15 12			8 5	9.2	3.8 12.3	Sid
ALBERTA Banft	12	- 2	24	2	м		The
Calgary	15	0	29	5	2.4	- 9.1	l'or
Cold Lake Coronation	15	- 1 - 1		6	9.0	- 5.1 - 2.4	Tre
Edmonton Intl	13	- 2	27	4	16.0	1.3	Waw
Edmonton Nameo	14	- 3 - 2	26 26	5 4	13.9	- 0.3	Wia
Fort Chipewyan Fort McMurray	15	0	The second second	4 5	M 12.5	М	QUE
Grande Prairie	11	- 4	24	4	13.3	- 0.5	Bag Bai
High Level Jusper	13	- 1 - 3	27 22	5	19.5	14.8	Bla
Lac La Biche	М	X	М	M	M	X	Che
Lethbridge Medicine Hat	18	0	31 32	6 5	8.6	1.9	Ch i
Peace River	12	- 3	24	5	3.5	- 3.0	Gri
Red Deer Rocky Mountain House	13	- 3 - 2	28 28	3	17.0	3.5	Inu
Slave Lake Vermilion	12	- 2	22	3	22.4	6.5	Lac
Whitecourt	15 11	- 3	26 23	2	8.2	13.6	Gra
SASKATCHEWAN Broadview	18	18	32	5	8.4	8.4	Mat
Buffalo Narrows	16	1	25	9	9.0	-11.0	Mon
Collins Bay Cree Lake	15	X	24 25	8	9.4	X	Na t Ni t
Eastend Cypress	М	X O	М	м	м	x	Par
Hudson Bay	20 16	1	36 26	6	16.6 M	4.2 M	Por
Kindersley La Ronge	18	- 1 1	30 28	7	8.2	5.8 9.3	Qué Ri v
Meadow Lake	16	X.	30	6	3.4	X	Rob
Moose Jaw Nipawin	17	O!	32 28	7 5	8.6	3.3 X	Sch
North Battleford	17	0	30	7	15.3	6.8	She
Prince Albert Regina	17	1	30 31	7	91.9	82. 2	Ste Val
Rockglen Saskatoon	M 18	X	M 31	M 8	15.0	7.6	NEW
Swift Current	19	0	32	4	М	M	Char
Uranium City Wynyard	16	1 X	28 29	7 8	3.0	-10.4 X	Free
Yorkton	17	0	30	4	TALBERT THE ST.	- 4.5	Sali
MANITOBA Bissett	16	x	25	2	28.0	x	St S
Brandon Churchill	17	- 1 5	31 29	7	16.8 M	1.4	Amhie
Dauphin	18	o	32	2	28.5	15.0	Gree
Gillam Gimli	17	X O	28 27	5	21.4 37.0	14.8	Sabl
Grand Rapids	M	X	M	М	M	X	Shel
Island Lake Lynn Lake	18	3	28	8 8	31.0	12.2	Sydi
Norway House Pilot Mound	17	X O	26	4 5	3.2	5.5	Yaru
Portage	19	0	31	6	20.0	4.5	Char
The Pas Thompson	18	3	27	7 2	47.500 S0000 I	- 4.9 -18.2	Sum
Winnipeg ONTARIO	18	0	30	4		- 6.6	NEWF
Armstrong	15	0	27	0	M	М	Arge
Atikokan Barrie	15 -	- 2 X	28 M	l M	0.0 - M	-20.9	Bona
Big Trout Lake	17	3	28	4	7.9 -	-14.9	Burg
Britt Caribou Island	M	X	M M	M	M	X	Comf
Earlton Geraldton	16	- 1	29 26	8	0.0 -	M -26.4	Deer
Core Bay	17 -	- 2	21	9	0.2 -	10.2	Gand Port
Kapuskasing Kenora	15	0	28 27	6 7	8.4 -	15.5	St A
Kingston	18 -	- 2	27	10	М	M	St J
Lansdowne London	17 -	2 3	29 29	5 8	THE STREET	16.4	St L Step
Moosonee Mount Forest	15 -	0 2	30 27	8 7	М	M 10.4	Batt
Muskoka	16 -	2	28 -	- 1	м	10.4 M	Churc
Nagagami North Bay	M 16 -	X 1	M 27	M 9	M 3.2 -	18.7	Hope
Ottawa	18 -		30	10		19.9	Wabus
ys X = no norma	l due	e to	shor	t per	lod	н -	not
		ASSESSMENT OF THE OWNER, WHEN					

		mpe	Drac'	Precip.		
	16	1 -	_	1	7.	
Station'		Norma	-			
	Average		ene	e He	-	
	Ave	Depo	Extreme	Extreme	Total	
Petawawa	17	X	30	9	1.2	
Pickle Lake Red Lake	17	- 1	25	4	11.8	
Simcoe Sioux Lookout	17	0.00	400	P 8P	5.2	1000
Sudbury	17	0	30	9	4.4	-
Thunder Bay Timmins	15	- 1	28	5 7	7.4	-
l'oronto Trenton	17	170		9	1.0	-
Upsala Wawa	13		Day - Chillian	M 4	1.0	
Wiarton Windsor	16	- 2	26	9	1.1	-1
QUEBEC					0.0	-
Bagotville Baie Comeau	17			10	20.2	1
Blanc Sablon Border	14 M	1	The state of the s	10 M	M	3 1
Chevery	М	X	M	М	M	
Chibougamau Gaspé	15 16	X	27	8 7	22.2	
Grindstone Island Inukjuak	18	0 2	1	14	10.7	-
Kuujjuaq Ac Eon	16 M	4	25	4 M	3.4 M	-
Grande Riviere	15	X	27	5	18.6	100
laniwaki latagami	16	X		8 7	10.6 M	
font-Joli fontréal	16 19	- 1		11 12	27.4	-1
latashquan II tchequon	15 16	1	21	11	34.0	
arent	M	X	М	M	М	
Port Menier Poste-de-la-Baleine	13	3	24	M 7	17.2	-
uébec ivière du Loup	18 M	0 M		10 M	3.6 M	-2
loberval schefferville	17 15	1 4	29 25	10	26.4	4
Sept-Iles	15	0	23	8	74.9	5
herbrooke te Agathe des Monts	17 15	- 1	27 27	9	23.8	-1
al D'Or EW BRUNSWICK	15	- 1	28	8	14.8	-
harlo hatham	18 18	0 - 1	30	9	16.5	- 2
redericton	18	0	30	10	35.9	1
oncton aint John	17 16	- 1	29	11	5.2 23.8	-1
t Stephen OVA SCOTIA	М	X	М	M -	М	
mherst ddy Point	M 19	X	M 26	M 13	75.0	
reenwood	19	0	29	10	22.6	1
able Island hearwater	19	- 1 - 1	22 24	16	37.8	38
helburne ydney	17	X	26 27	11	60.2 34.2	10
ruro armouth	M 16	M	25P 25	10P 12	M 38.4	13
RINCE EDWARD ISLAND						
harlottetown ast Point	19 M	0 X	26 M	13 M	33.1 M	1
EWFOUNDLAND	19	0	27	13	19.7	- :
rgentla udger	16 M	X	22 M	13 M	9.5 M	
onavista	19	3	25	13	23.6	35
irgeo	М	X	M	M	M	
omfort Cove	17	1	26 21	10	42.2	12
er lake	18	2 2	26 26	12	24.6	0
ort aux Basques Albans	15	0	20	11	30.6 M	7
Anthony	15	x	22 27	9	26.8	-17
John's Lawrence	17	2	23	12	28.6	0
ephenville ttle Harbour	17	0	23	12	32.6 12.6	12
rtwright urchill Falls	14	1 3	25 25	6	53.0	- 5 29
ose	18	3 2	29 24	11	25.4	12
pedale bush Lake	16	4	24	10	47.7	24
ot available at pres	8 t l	me	811.11			
And the second s						