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A WEEKLY REVIEW OF CANADIAN CLIMATE

CLIMATIC PERSPECTIVES

THE CANADIAN CLIMATE CENTRE,

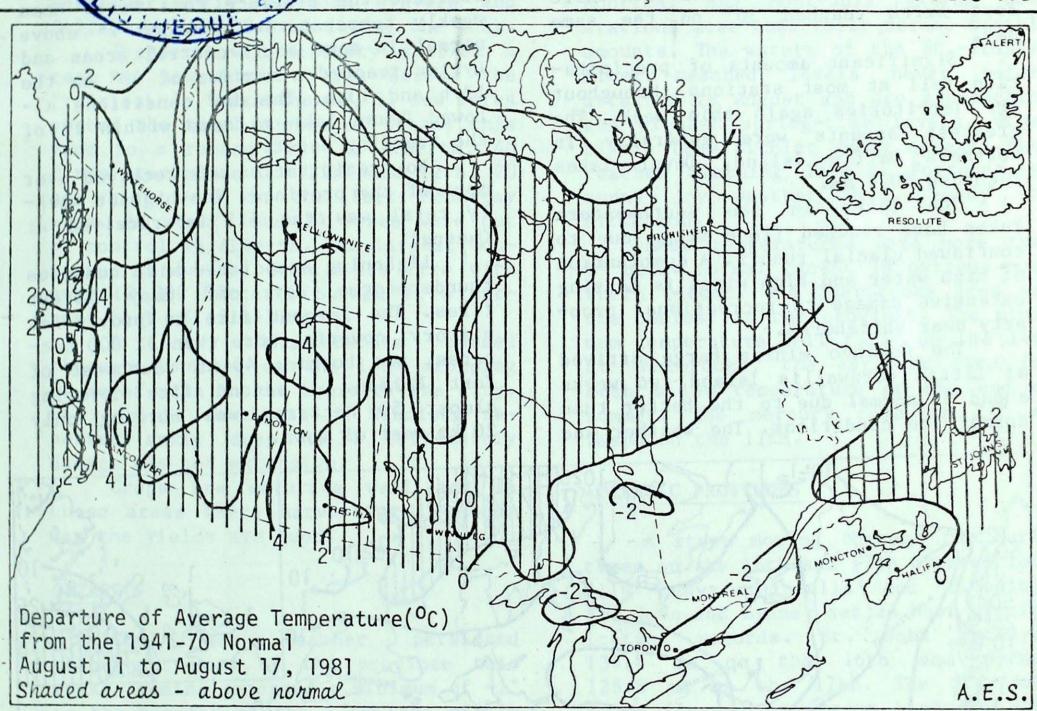
ATMOSPHERIC ENVIRONMENT SERVICE,

DUFFERIN ST., DOWNSVIEW, ONTARIO M3H 5T4

AUGUST @1, 1981

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VOL.3 NO.33



WEATHER HIGHLIGHTS FOR THE PERIOD - AUGUST 11 - 17, 1981

Hot and dry in the West, cool and wet in the East

Hot dry weather continued to dominate the West. Numerous lightning induced fires started as the dry conditions held the fire index in the extreme range in many areas. Forty fires were started in Alberta alone, 20 of which were in the Fort McMurray area. The largest was the Swan Hills fire with over 12 000 hectares burned.

The warm sunny conditions are helping the maturing crops. The crops look good and where harvesting is underway yields are good.

Cool and wet conditions prevailed in the East. Many stations received more than 80 mm. Heavy rains in Québec caused the St.-Francis River to flood taking out two bridges and washing out a section of road. Other rivers reached alarming levels. St. John (N.B.) and Sydney set new 24 hour rainfall records with 134.4 mm and 128.8 mm respectively.

Temperatures reached 40° at Lytton, B.C. and fell to -5° at some northern stations. Sydney recorded a weekly precipitation total of 140.2 mm.

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

Mean temperatures were above normal over most of the Territories with the exception of the Arctic Archipelago and the central Yukon. Much of the lower Mackenzie District was more than 3° above normal. Frost was general over the northern Yukon. Beaver Creek and Mould Bay fell to -5° on the 17th while Fort Smith reached 30° on the same day.

Significant amounts of precipitation fell at most stations throughout the Territories again this week. The greatest amounts were generally in northern Baffin Island. Dewar Lakes recorded 40.4 mm.

The lakes in the southwestern Yukon have reached flood stage due to continued glacial runoff. A combination of high water and high winds is causing extensive damage to recreational property near Whitehorse.

The Cominco mining barge arrived at Little Cornwallis Island two weeks ahead of normal due to the better than normal ice conditions. The weather and

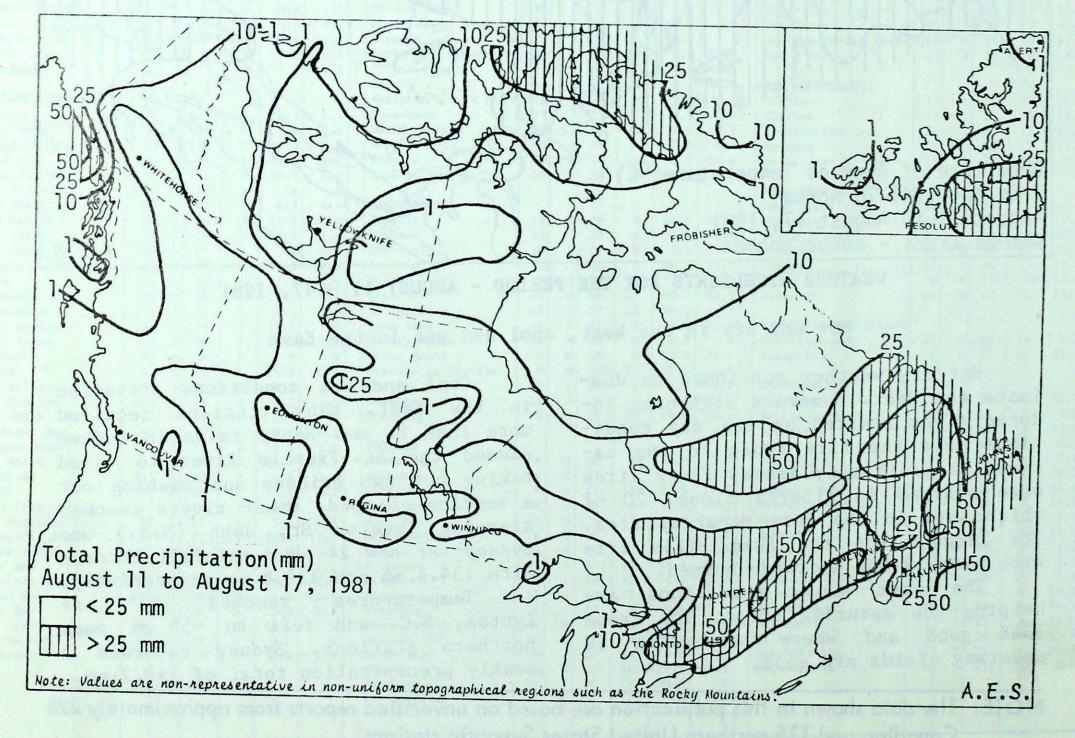
winds have not been favourable in the Beaufort Sea and the edge of the loose pack ice is almost at the drilling sites.

BRITISH COLUMBIA

Very warm dry weather continued to dominate the province this week. Mean weekly temperatures exceeded 7° above normal in some south-central areas and Lytton reached a maximum of 40° on the 12th and 13th. The dry conditions allowed Dease Lake to come within 1° of the freezing point.

No precipitation was received over most of the province. The highest week-ly total was the 5.2 mm received at Quesnel.

Lightning associated with numerous thunderstorms set off many forest fires. The largest fire in provincial history, covering more than 32 000 hectares, was burning 40 km southwest of Fort Nelson. A second fire covering almost 50 hectares was burning only 20 km west of town.



PRAIRIE PROVINCES

Hot dry weather was experienced throughout the Prairies this week. In west-central Alberta mean temperatures exceeded 5° above normal. The mercury reached 35° at Medicine Hat on the 12th.

Precipitation amounts were variable and due mainly to shower and thundershower activity. Both Wynyard and Gillam recived 38.8 mm during the week.

Thundershower activity sparked a rash of new forest fires across the Prairies. In Saskatchewan, 31 new fires pushed the total number of blazes this year to a record 759. In Alberta, 40 fires started on the 11th and 12th, 20 of which were in the Fort McMurray area. At week's end 14 fires were out of control in Alberta. The largest continued to be the Swan Hills fire with over 12 000 hectares burned at a current cost of \$3 million.

A heavy thunderstorm passed through Winnipeg on the 17th dropping 60 mm of rain in the heart of the city. St. Adolphe southeast of Winnipeg reported ankle deep hail. Fortunately damage was not extensive.

Crops are maturing well and in those areas where harvesting is under way the yields are good.

ONTARIO

Cool wet weather persisted throughout most of the province this week. Timmins recorded a minimum of -1° on the morning of the 17th, the earliest late summer below freezing temperature there. The previous earliest was August 23rd, 1951. Windsor and Thunder Bay reached 30° on the 13th and 14th respectively.

Rainfall was again heavy, with 20 mm to 40 mm recorded at many locations. The Mount Hope Airport at Hamilton recorded 88 mm for the week and Trenton recorded 60.2 mm.

The copious rains were beginning to cause problems for farmers. Previous wet conditions in late July and early August had done much to fill out crops, but now fields have become muddy and

the harvesting of some crops, especially potatoes, has been severely hampered.

QUÉBEC

Heavy rains caused the St.-Francis River to flood, taking out two bridges and washing out a section of road. Rains totaled more than 90 mm at Montreal and Mont-Joli giving both stations more than their normal monthly amounts. The waters of the St.-Francis River reached levels never before attained in August and are approaching the highest spring-time levels. Other rivers (the Nicolet among others) have reached alarming levels. Fortunately, sunny dry weather will remedy the situation.

Mean temperatures were more than 1° below normal except in extreme northern Québec. The Sherbrooke area was the coolest in the province. The minimum temperature fell to 1° on the 14th at Sherbrooke, the earliest ever for such a low temperature at the end of summer. The mercury rose to 27° at Gaspé on the 11th.

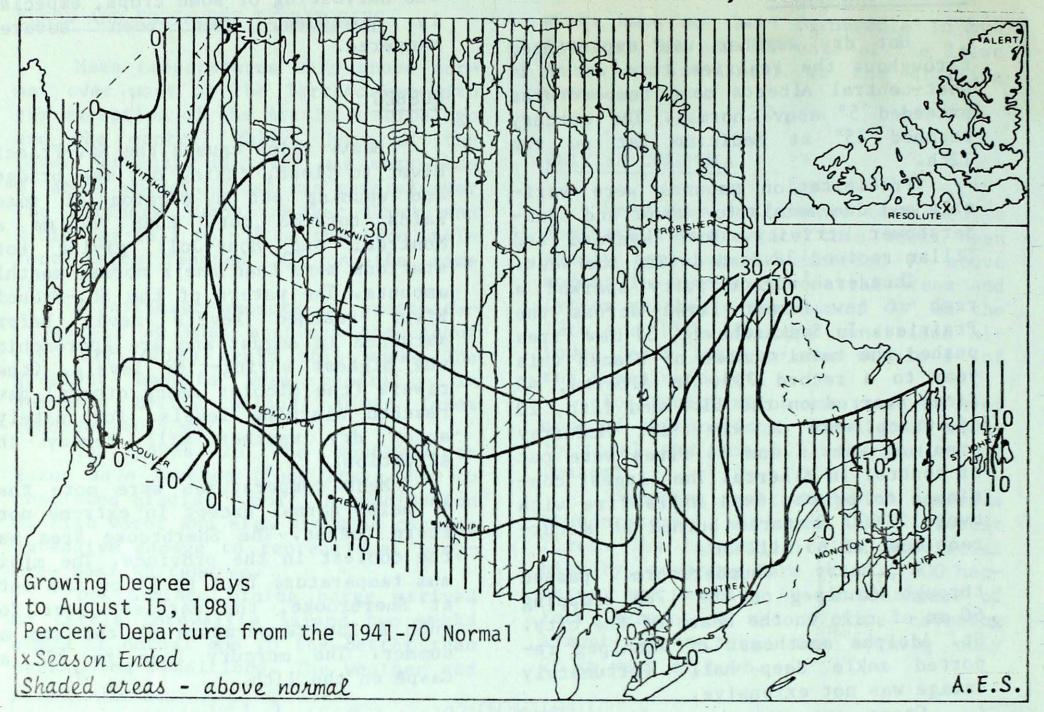
ATLANTIC PROVINCES

A storm moving through the Maritimes on the 16th and 17th created locally heavy rainfalls and flooding. St. John and Sydney set 24 hour precipitation records. St. John received 134.4 mm on the 16th and Sydney 128.8 mm on the 17th. The St. John River flooded and major highways were washed out near both St. John and Sydney. Sydney recorded a weekly total of 140.2 mm.

Mean temperatures were below normal throughout the Maritimes, but above normal over most of Newfoundland. Mean temperatures in some north coastal areas reached almost 3° above normal. The mercury rose to 29° on the 11th at Chatham, Fredericton and Goose Bay.

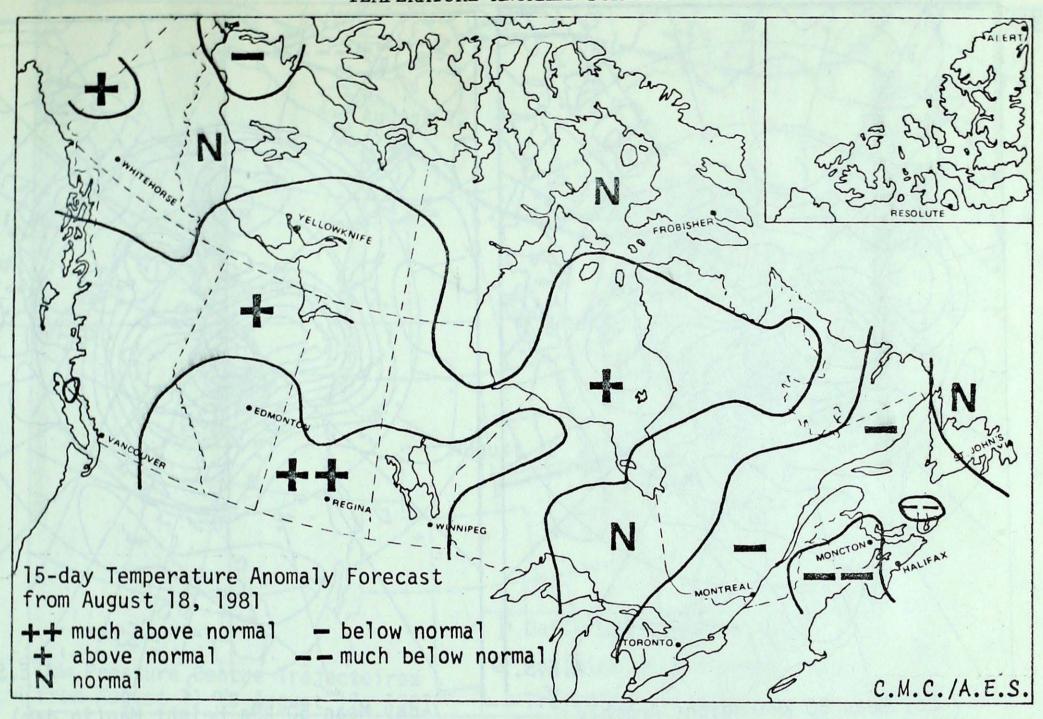
The temperature and humidity conditions have produced an excellent grain and corn harvest. The blueberry crop is well above average (the best in at least 10 years).

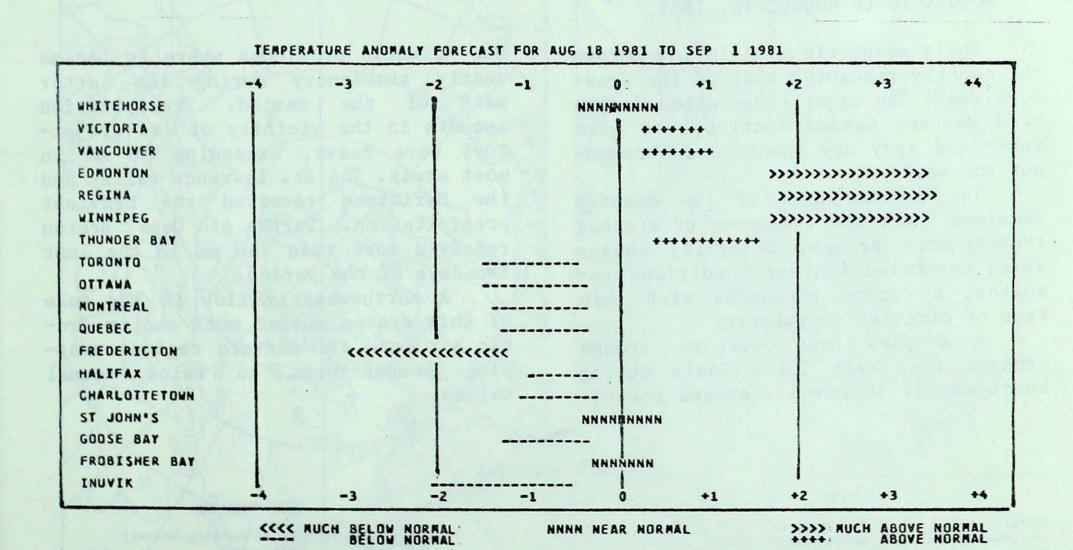
GROWING DEGREE-DAY SUMMARY TO AUGUST 15, 1981



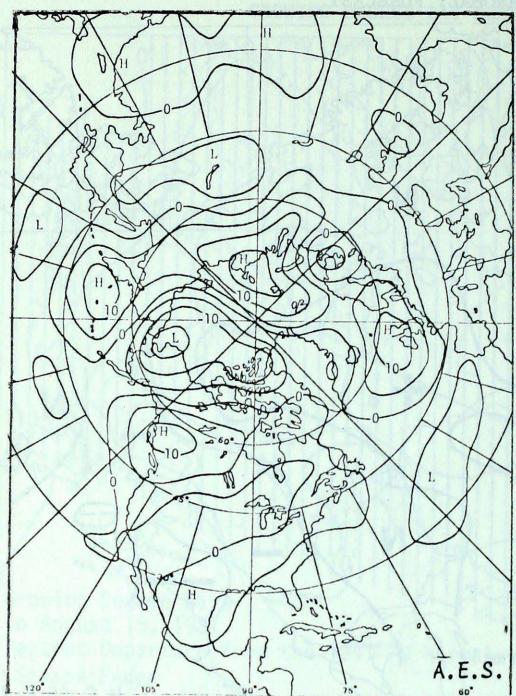
CITY	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL
Whitehorse	137.0	14.0	727.5	38.5	106
Penticton	277.0	52.0	1408.5	-43.5	97
Vancouver	224.0	36.0	1343.0	72.0	106
Edmonton	234.0	62.0	1227.0	252.0	126
Calgary	191.5	23.5	951.5	26.5	103
Regina	227.5	22.5	1299.5	157.5	114
Saskatoon	225.5	25.5	1257.5	122.5	111
Winnipeg	213.5	-7.5	1250.0	28.0	102
Thunder Bay	212.5	31.5	1019.5	65.5	107
Windsor	266.0	17.0	1723.5	93.5	106
Toronto	236.5	4.5	1323.0	-85.0	94
Ottawa		5.0	1323.0	9.5	101
	228.0		The second secon	-34.5	98
Montreal	219.5	-13.5	1382.5	6.5	101
Quebec	191.0	-7.0	1171.5		106
Fredericton	225.0	16.0	1240.0	72.0	
Halifax	203.5	5.5	1028.5	14.5	101
Charlottetown	206.0	3.0	1099.0	109.0	111
St John's	168.0	0.0	789.5	109.5	116

TEMPERATURE ANOMALY FORECAST





Atmospheric Circulation

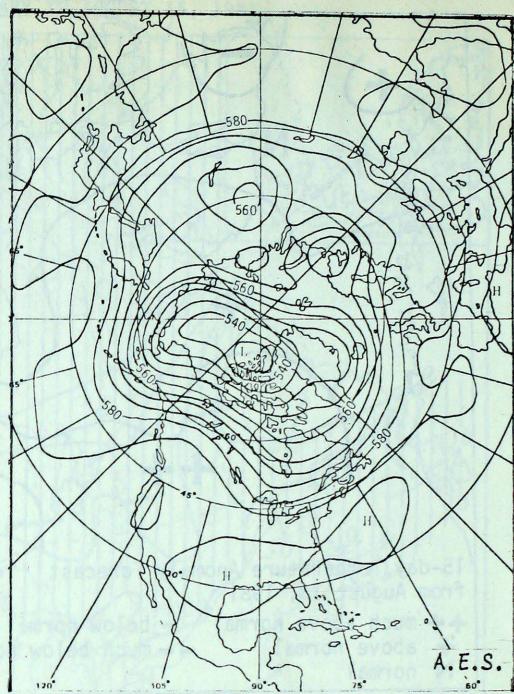


7-day Mean 50 kPa Height Anomaly (in 5 dam intervals) August 10 to August 16, 1981

The atmospheric circulation across the country resembled that of the previous week. The major ridge which dominated western Canada continued to give sunny and very dry conditions throughout the week.

The eastern half of the country remained under the influence of a broad tropospheric trough. Generally changable, unsettled weather conditions resulted, a common phenomena with this type of circulation pattern.

A complex low pressure trough crossed the Great Lakes Basin during the weekend. It moved eastward towards



7-day Mean 50 kPa Height Map(in dam) August 10 to August 16, 1981

the Atlantic provinces where it became nearly stationery during the latter part of the period. Precipitation amounts in the vicinity of its trajectory were heavy, exceeding 50 mm in most areas. The St. Lawrence valley and the Maritimes received the heaviest precipitation. Parts of Cape Breton received more than 140 mm in the last two days of the period.

A northwesterly flow in the wake of this system pushed much cooler Arctic air into all eastern regions droptemperatures below ping values.

CLIMATIC PERSPECTIVES

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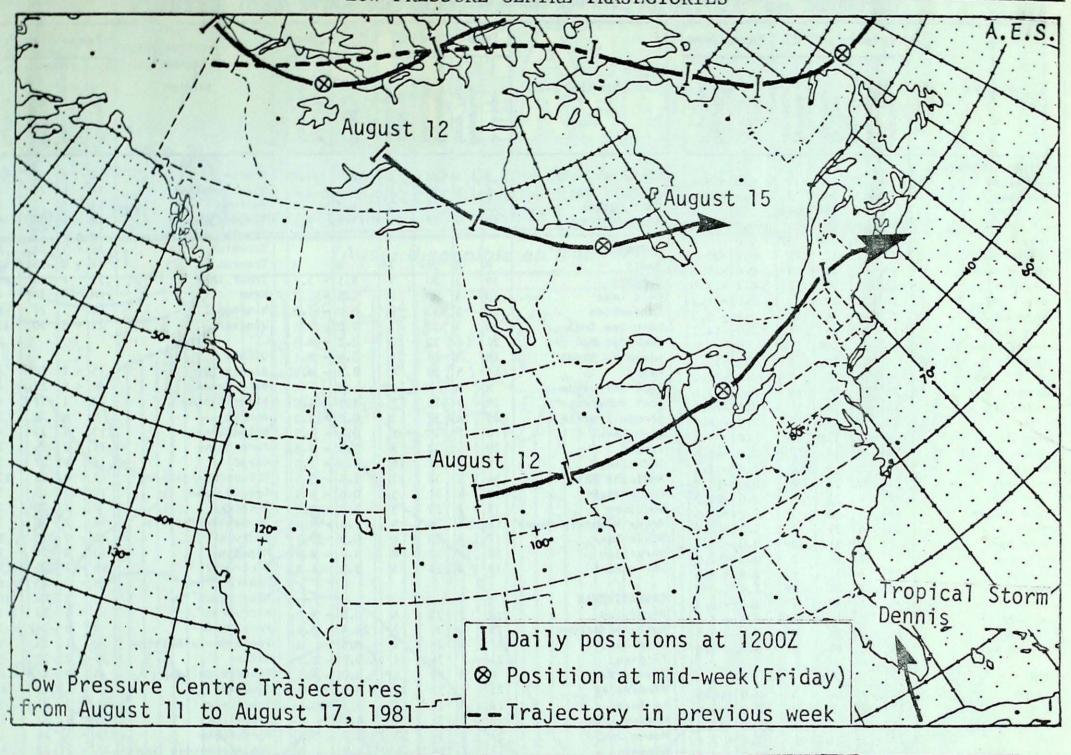
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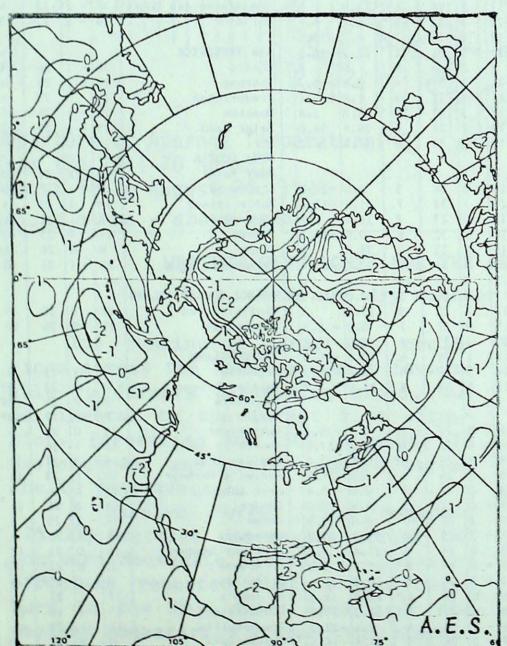
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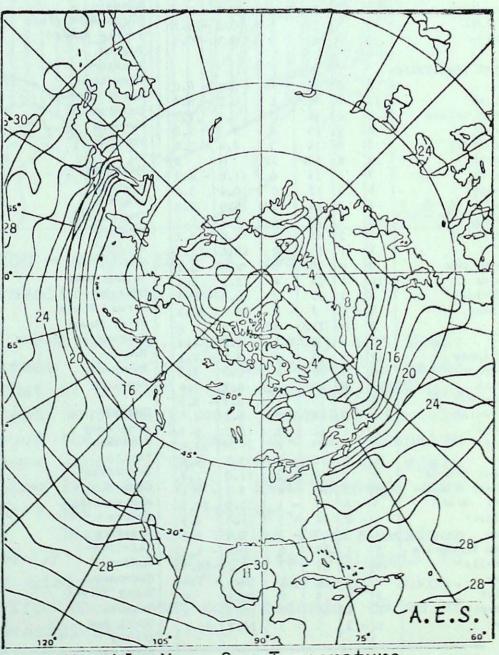
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Sea Surface Temperature Anomalies for mid July to mid August, 1981



Monthly Mean Sea Temperature for mid July to mid August, 1981

	TEMPERATURE AND PRECIPITA								
	Te	mper	Precip	Precip. (mm)					
Station	Average	Departure from Normal	Extreme Maximum	Extreme Minimum	Total	Departure from Normal			
BRITISH COLUMBIA Abbotsford Alert Bay Blue River Bull Harbour Burns Lake 'Cape Scott Cape St James Castlegar Comox Cranbrook Dease Lake Estevan Point Fort Nelson Fort St John Kamloops Langara Lytton Mackenzie McInnes Island Penticton Port Hardy Prince George Prince Rupert Quesnel Revelstoke Sandspit Smithers Stewart Terrace Vancouver Victoria Williams Lake	20 14 M 14 M 14 15 23 20 22 12 M 18 19 26 14 29 M 14 25 14 18 14 20 M 17 18 M 17 18 18 19 19 19 19 19 19 19 19 19 19 19 19 19	3 1 X O X O 2 3 3 4 O M 3 4 6 1 8 X -1 5 O 4 1 4 M 2 4 X 5 2 2 5	33 21 30P 18 30P 17 21 35 29 34 23 15P 30 30 39 18 40 33P 17 35 21 33 20 35 21 35 21 35 21 35 21 35 21 30 21 30 21 30 21 30 21 30 21 30 30 30 30 30 30 30 30 30 30 30 30 30	11 7 11P 10 5P 10 11 12 10 10 1 1 1P 6 8 15 11 18 4P 10 14 6 4 7 7 12P 12 6 6P 11 13 9 9	0.0 0.4 M 0.3 0.0 0.0 0.0 0.0 1.0 2.0 M 0.8 0.0 0.0 4.6 0.0 0.0 0.0 2.0 0.0 0.0 0.0 4.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	-15.1 X -20.5 X -35.6 -19.3 -14.0 -11.2 - 9.3 -14.7 M -12.3 -12.2 - 3.4 -18.3 - 8.7 X -49.6 - 2.3 -13.7 -20.7 -67.6 -12.4			
YUKON Burwash Giwson Komakuk Beach Hayo Shingle Point Watson Like Whirehorse	11 11 4 12 9 13 13	1 - 2 - 2 - 1 0 0 0 0	18 19 13 20 20 23 22	3 3 - 1 1 1 1 4	0.0 24.9 21.9 3.4 10.1 0.0 0.5	6.7			
NORTHWEST TERRITORIE Alert Baker Lake Broughton Island Byron Bay Cape Dorset Cape Dorset Cape Dyer Cape Hooper Cape Parry Cape Young Clinton Point Clyde Contwoyto Lake Coppermine Coral Harbour Dewar Lakes Ennadai Eureka Fort Reliance Fort Simpson Fort Smith Frobisher Bay Gladman Point Hall Beach Hay River Inuvik Jenny Lind Island Lady Franklin Point Longstaff Bluff Mackar Inlet Mould Bay Nicholson Peninsula Norman Wells Pelly Bay Pond Inlet Port Burwell Resolute	S M 13 7 8 7 M 7 6 7 10 9 5 M 14 9 3 M 1 16 16 17 8 5 4 18 12 6 9 3 4 - 1 9 16 6 4 8 0	M 3 2 1 0 X 1 3 2 1 M 4 1 - 2 M 4 1 - 2 M 6 1 3 3 3 3 1 - 1 1 4 0 1 3 - 4 2 - 3 1 3 0 0 X X - 3 1	9 24 14 15 14 10P 15 12 14 20 19 15 20P 24 17 7 21P 4 25 28 30 15 13 12 29 21 14 17 7 14 3 19 27 16 9 20 5	- 4P 2 0 3 3 2P 0 0 2 4 2 0 5 4 2 - 3 8P - 2 9 6 7 1 - 2 - 1 8 2 - 2 4 - 1 - 3 - 5 0 7 - 1 0 2 - 3	5.2 16.7 27.0 3.8 11.0 3.4 35.5 14.0 9.8 0.8 5.2	- 6.0 - 8.7 1.1 5.2 2.4 X - 8.3 3.4 9.8 0.6 - 3.5 12.5 - 3.2 4.4 - 2.7 30.5 M 4.6 - 7.1 7.3 1.6 - 6.2 1.5 6.5 22.6 - 9.4 2.7 - 2.1 28.7 4.2 4.3 - 5.1 - 15.3 - 7.4 X X 21.1			

TION DATA FOR THE			ature	Precip			
Station	Average	Departure from Normal	Extreme Maximum	Extreme Minimum	Total	Departure from Normal	
Sachs Harbour Shepherd Bay Tuktoyaktuk Yellowknife	4 6 10 17	0	11 16 19 25	0 1 2 11	8.0 9.0 4.2 15.8	- 2.0 - 1.4	S
ALBERTA Banff Calgary Cold Lake Coronation Edmonton Intl Edmonton Mun Edmonton Namao Edson Fort Chipewyan Fort McMurray Grande Prairie High Level Jasper Lethbridge Medicine Hat Peace River Red Deer Rocky Mountain House Slave Lake Vermilion Whitecourt	M 19 19 21 18 21 19 18 M 19 16 20 21 24 18 19 18	3 3 5 3 4 3 5 M 4 4 3 6 3 4 4 3 4 4 4 4 4 4 4 4 4 4 4 4	26P 30 30 33 31 31 29 29 M 32 32 30 33 32 35 31 29 28 29 28 29 29	7P 9 8 8 5 10 9 8 9P 7 6 1 8 10 11 5 9 8 6 8 5	8.5 1.6 0.0 0.0 0.2 3.6 8.4 M 1.5 0.0 0.6 3.8 4.0 2.4 0.0 5.4	- 2.7 -11.1 -11.0 -15.1 -14.6 - 8.1 - 8.8 M -11.0 - 5.5 - 4.8 - 1.5 - 3.5 - 6.9 - 6.7 - 9.7 - 20.1 - 8.9	QI W: W: QI B: B: B: B: B: G: G: G: K: M: M: M: M:
SASKATCHEWAN Broadview Buffalo Narrows Cree Lake Estevan Hudson Bay Kindersley La Ronge Meadow Lake Moose Jaw Nipawin North Battleford Prince Albert Regina Rockglen Saskatoon Swift Current Uranium City Wynyard Yorkton	19 19 17 21 M 23 18 17 21 17 20 18 21 21 21 17 19	4 3 X 2 X 3 2 3	34	6 7 4 11 6P 12 7 1 10 6 8 7 11 M 6 8 9 4 8	0.0 26.4 6.4 10.2 3.0 8.8 3.3 4.8 3.3 6.8 0.8 4.2 22.2 M 0.6 1.0 13.8 38.8 27.4	5.4 X - 2.7 - 6.3 4.9 -13.4 X - 3.8 X - 6.4 - 3.6 14.3 X - 5.7 - 4.1 2.8 34.0	Name of the second seco
MANITOBA Bissett Brandon Churchill Dauphin Gillam Gimli Island Lake Lynn Lake Norway House Pilot Mound Portage la Prairie The Pas Thompson Winnipeg	18 19 12 18 14 19 17 15 17 19 20 17 16 19	0 1 0 1 X 1 X 0 1 1 1 3	28 33 23 32 25 31 25 25 25 32 33 26 28 32	5 7 2 8 2 8 10 5 9 7 6 6 5 8	1.8 11.0 0.0 38.8 0.0 3.6 10.0 13.2 0.0	1.7 -14.7 X -22.4 X -10.3 X - 8.8 -17.1	Ed Gr Sa Sh Sh Tr Ya
ONTARIO Armstrong Atikokan Earlton Geraldton Gore Bay Kapuskasing Kenora Kingston Lansdowne London Moosonee Mount Forest Muskoka North Bay Ottawa Petawawa Pickle Lake Red Lake	M 16 M 15 18 14 18 18 15 19 11 M M 16 17 16 16	M - 1 M O O O - 2 1 - 3 O - 1 - 3 M M - 1 - 2 X O O - 1	27 27 23 26 25 27 27 23 26 28 26 26 25 27 27	- 1P 2 4P 3 9 3 10 10 6 8 0 6P 6 6 9 4 4 3	0.0 15.5 0.0 0.0 39.4 0.0 39.4 11.6 22.5 10.9 28.6 32.2 2.4 33.6 32.2 2.0	-18.4 -27.8 - 3.4 -26.2 - 9.4 17.0 -15.4 25.2 - 8.7 5.3 -12.6 18.5 13.9 -22.2 16.4 X -24.3 -17.2	Bu Ca Ch Co Da De Ga Go Ho Po St St St St St

	Temperature (°C) Precip. (mm							
Station	Average	Departure	from Normal	Extreme	Extreme Minimum	Total	Departure from Normal	
Simooe Sioux Lookout	M 17	5	M 1	27 26	8P 7	20.8	- 1.4 -18.7	
Sudbury	17		0	25 30	6	3.5	- 4.8	
Thunder Bay Timmins	14	-	2	25	- 1	25.9	6.4	
Toronto	19		2	28 25	8	60.2		
Trenton Trout Lake	15	5	1	25	7	11.4	-11.3	
Wawa Wiarton	M 18	1	X 1	24P 27	7P 8	32.2	17.7	
Windsor	21		ì	30	11	26.8		
QUÉBEC								
Bagotville Bule Comeau	15		2	26	6	34.2	- 4.8	
Blanc Sablon	13		1	17	9	58.4	27.4	
Border Chibougamau	M 13		M	M 23	3P	17.9	,	
Fort Chimo	11		0	26	2	20.6	8.9	
Gaspé Grindstone Island	16	3	X O	27	13	42.0	5.5	
Inoucd jouac	10		1	17	5	16.8	2.4	
Koartak La Grande Rivière	12		X	20	3	8.6 35.0)	
Maniwaki	16	-	1	25	5	M	1	
Matagami Mont-Joli	13		X	24 25	- 1	34.5	75.4	
Montréal	18	-	3	25	8	90.2	70.8	
Natashquan Nitchecun	12		M 1	20 22	10P	58.0 78.2	30.0	
Port Menier	М		M	19P	3P	M	1	
Poste-de-la-Baleine Québec	11	-	1 2	23 25	3 7	2.6	100000000000000000000000000000000000000	
Rivière du Loup	М		M	172	8P	M		
Roberval Schefferville	16	1	1	25 21	6	31.1		
Sept-Iles	15		0	22	7	10.2	-12.5	
Sherbrooke Sre Agathe des Monts	14		3 2	24	4	70.6	10.6	
Val d'Or	2000	-		23	3		-10-4	
NEW BRUNSWICK								
Charlo	16	-		26 29	7 6	51.8		
Chatham Fredericton	19		0	29	6	46.6	29.2	
Moneton	1 200	-		26 23	7 7	77.8		
Saint John	13			23		1		
NOVA SCOTIA Eddy Point	18		Х	24	10	34.4	X	
Greenwood	18	-	1	27	5	18.6	0.9	
Sable Island Shearwater	18	-	200	23	14	44.8	35.5	
Sydney	18		0	25	10	140.2	121.3	
Truro Yarmouth	M 16	1	M	26 21	6P		-14.7	
					- 1			
PRINCE EDWARD ISLAND	18		0	26	10	13.0	- 8.4	
Summerside	19		0	26	10	46.6	23.8	
NEWFOUNDLAND								
Argentia Battle Harbour	17 M		X	25 23	12 8P	45.4 35.4		
donavista	M		M	25	12P	45.5	25.9	
Burgeo Bartwright	M 13		M 0	19 26	13P 6	M 29.3	0.8	
Churchill Falls	12	-	l	24	3	45.4	20.4	
Comfort Cove Aniel's Harbour	18		3	27 23	11	38.8	54.8	
Deer Lake	17		2	26	8	53.6	28.6	
ander oose	18		2	26 29	11 6	30.6	16.4	
opedale	11	-	1	22	5	18.2	- 4.0	
ort aux Basques t Albans	16 M		0 0	21 22P	12 12P	78.4 M	52.2 N	
t Anthony	M)	x	23P	8	37.5	X	
t John's t Lawrence	17			22	11	31.6	8.9	
tephenville	18	1		23	13	49.6	29.3	
abush lake	M	1	11	23	3P]	25.1	0.6	