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Atmospheric Environnement Environment atmosphérique A WEEKLY REVIEW OF CANADIAN CLIMATE

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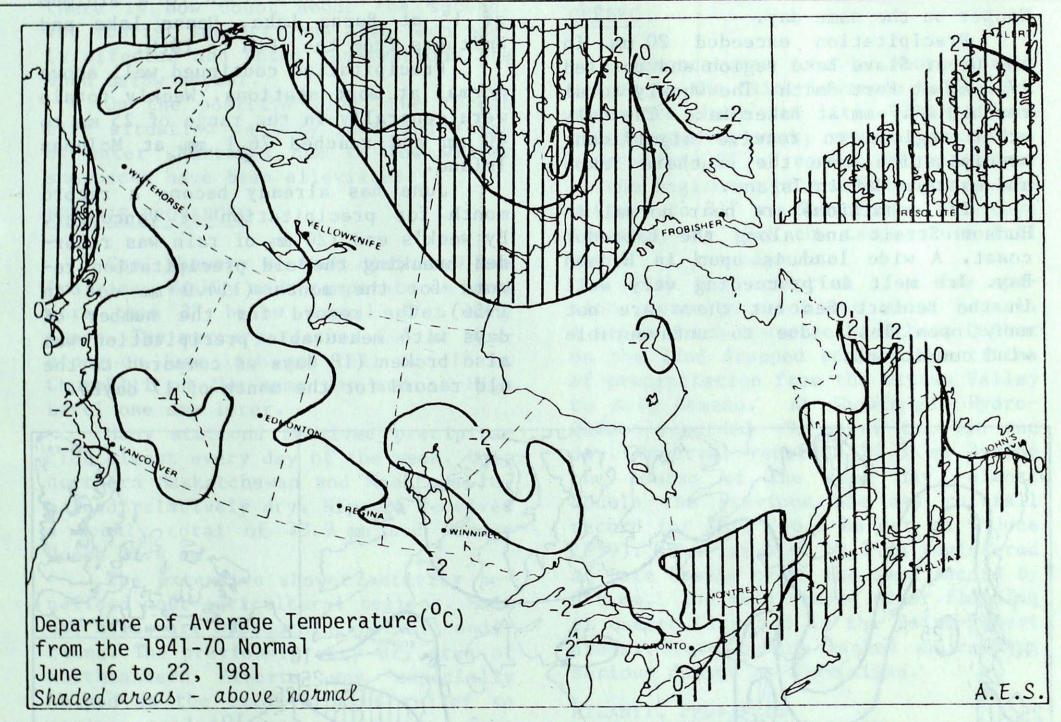
THE CANADIAN CLIMATE CENTRE,
ATMOSPHERIC ENVIRONMENT SERVICE,
4905 DUFFERIN ST., DOWNSVIEW, ONTARIO M3H

JUNE 26,1981

(Aussi disponible en français)

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WEATHER HIGHLIGHTS FOR THE PERIOD - JUNE 16 TO 22, 1981

Cool unsettled weather dominates most of the country

Extensive shower activity throughout the Prairies gave welcome relief to
many dry areas and benefited most agricultural regions. Northeastern Alberta
was especially helped as rains brought
relief to spring seeded crops suffering
from moisture stress.

Disaster for berry, vegetable and hay crops is the result of too much spring precipitation in the Frazer River Valley. The first crop has been lost and the second is in trouble. The Ontario Ministry of Agriculture reports that grain crops, particularly barley and winter wheat, look excellent. Rains are helping to keep the forest fire danger low.

Temperatures across the country varied from a maximum of 31° at Ottawa, Ontario and Sherbrook, Québec to a minimum of -8° at Cape Hooper, Northwest Territories. This week's highest precipitation total, 95 mm, was recorded at Québec City.

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

Cool weather dominated all of the Yukon and three quarters of the Macken-zie District. It also invaded eastern Baffin Island. Mean temperatures were above normal in the center of the Kewatin District and in the Arctic Archipellago. The mercury reached 23° at Dawson on the 16th and fell to -8 at Cape Hooper on the same day.

Precipitation exceeded 20 mm in the Great Slave Lake region and totaled 27.2 mm at Fort Smith. The weekly total reached 24.7 mm at Baker Lake. The only other regions to receive significant precipitation were the southern Yukon and eastern Baffin Island.

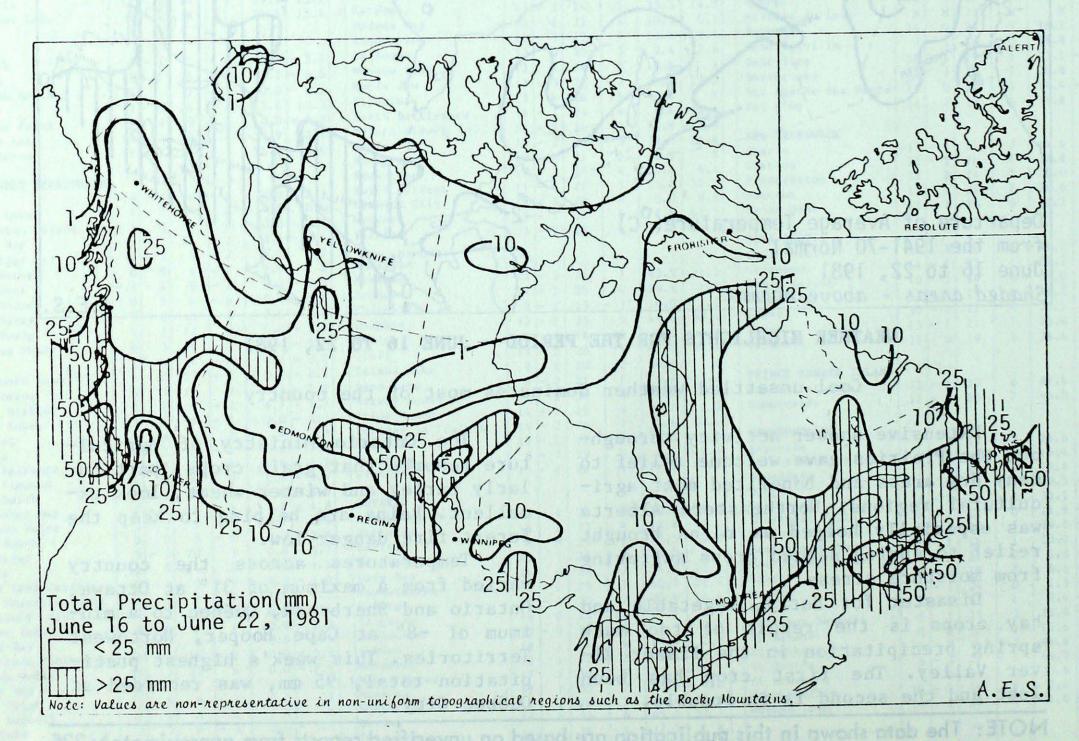
Ice conditions are near normal in Hudson Strait and along the Labrador coast. A wide lead is open in Hudson Bay. Ice melt is proceeding very well in the Beufort Sea but there are not many open leads due to unfavourable wind conditions.

BRITISH COLUMBIA

The cool wet weather increased its hold on the province. Only a few northern coastal stations recorded normal weekly mean temperatures while some areas of south-central British Columbia were more than 6° below normal. Temperatures varied from a maximum of 24° at Kamploops on the 19th to a minimum of 1° at Burns Lake, Dease Lake and Smithers from the 16th to 18th.

Precipitation continued well above normal at most stations. Weekly totals were generally in the range of 25 mm to 40 mm and reached 76.1 mm at McInnes Island.

June has already become a record month for precipitation at Vancouver. By week's end 120 mm of rain was recorded breaking the old precipitation record for the month (114.0 mm set in 1956). The record for the number of days with measurable precipitation was also broken (18 days as compared to the old record for the month of 17 days).



Records have already been set for the three month period of April-May-June. By week's end 345.3 mm of precipitation had been recorded since April 1st. This broke the old 3 month record of 258.8 mm set in 1937 by 86.5 mm.

This large amount of precipitation has been a disaster for berry, vegetable and hay crops in the Frazer Valley. The first crop has been lost and there is now doubt about the second. The Tourist Industry has also been badly affected and hotel reservations are much below normal.

On the positive side, the forest fire situation is very good and fears of water shortages due to low winter snowpacks have been alleviated.

PRAIRIE PROVINCES

Cool showery weather dominated the Prairies. Weekly mean temperatures were more than 3° below normal over many areas. The mercury reached 26° at Winnipeg on June 16th and fell to -1° at Churchill on the same day and at High Level one day later.

Many stations received precipitation almost every day of the week. Only northern Saskatchewan and Manitoba remained relatively dry. Nipawin received a weekly total of 73.9 mm and Norway House 72.4 mm.

The extensive shower activity benefited most agricultural regions. Most
dry areas are approaching normal conditions. The previously very dry area of
northeastern Alberta was especially
helped as the rains brought relief to
spring seeded crops suffering from
moisture stress.

ONTARIO

Hot and humid weather began the week in Ontario but was quickly replaced by cool unsettled conditions. As a result, weekly mean temperatures were below normal throughout the province with the exception of eastern regions. The mercury reached 31° at Ottawa on the 16th. It fell below the freezing point at Moosonee at the end of the week.

The arrival of the cool air was accompanied by heavy rain and some damaging winds. Peterborough reported

53 mm of rain on June 15th and a 73 mm total for the week.

The Ministry of Agriculture and Food reported no problems. In fact the grain crops look excellent, particularly barley and winter wheat. Haying is in full progress although frequent showers have hampered operations somewhat. The forest fire danger remains low.

QUÉBEC

Temperatures rose to above normal values in the Saint-Lawrence Valley but elsewhere there was little change from the preceeding week; mean temperatures were within 2° of normal. Warm weather at the beginning of the week pushed the mercury to 31° at Sherbrooke. Two days later on the 18th the temperature fell to -3° at lnoucdjouac.

With the exception of a few stations, precipitation was above normal. A storm which traversed southern Québec on the 22nd dropped copious quantities of precipitation from the Ottawa Valley At Shawinigan Hydroto Baie Comeau. 95 mm of rain in one Québec recorded day. Roberval recorded 82.3 mm during the course of the same day, almost double the previous one day rainfall record for June (46.2 mm set on 9 June 1959). The total of 44.3 mm registered at Baie Comeau broke the same record by 0.6 mm. The rain caused minor flooding at Québec City and in the Saint-Hubert areas. Storm sewers backed up causing serious damage at Shawinigan.

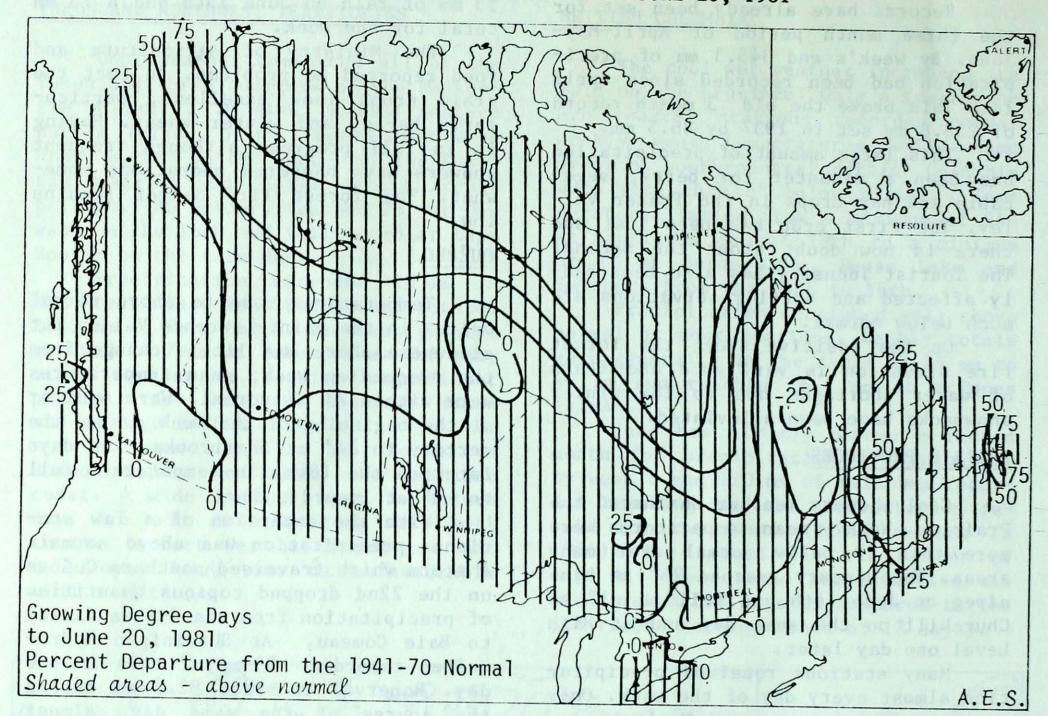
ATLANTIC PROVINCES

The weather was warm but wet this week. Only northeastern Newfoundland and northern Labrador experienced below normal mean temperatures. The mercury fell to -10° at St. Anthony on June 17th and rose to 30° at Chatham two days later.

Precipitation was extensive and a few locations have already reached their normal monthly amounts. Summerside recorded the highest weekly amount, 81.4 mm.

The wet weather is hampering agricultural spraying operations. Hay is now at its peak nutritional quality and the weather is creating problems for the first cut.

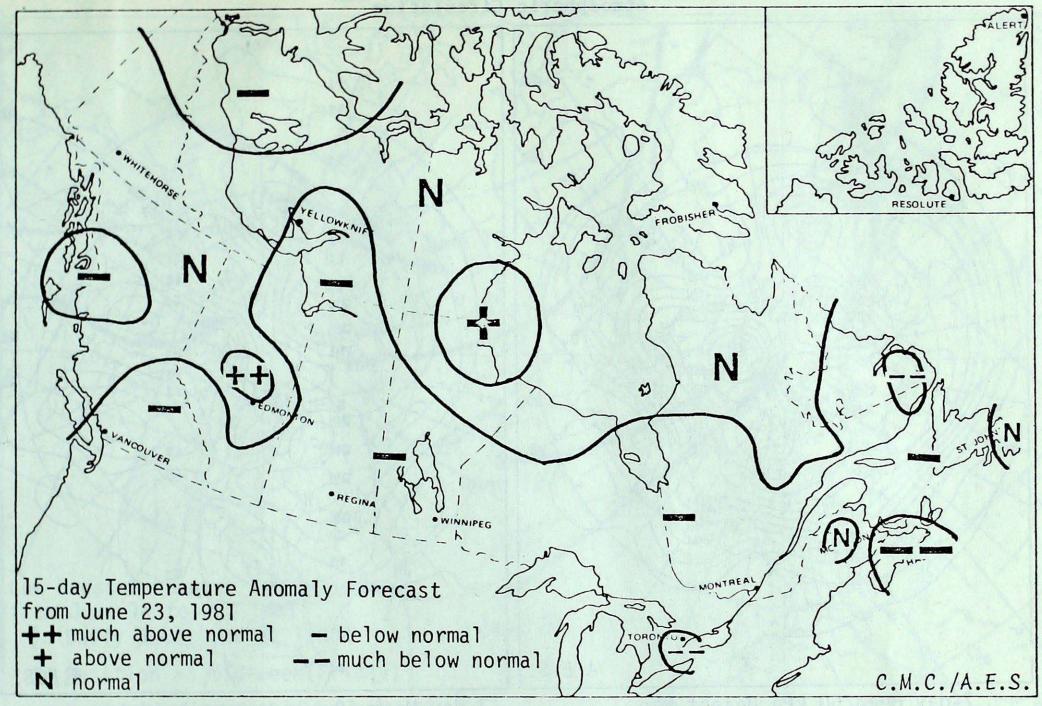
GROWING DEGREE-DAY SUMMARY TO JUNE 20, 1981



CITY	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL
Whitehorse	112.5	-29.5	234.5	29.5	114
Penticton	181.5	-57.5	574.5	56.5	91
Vancouver	165.0	-29.0	644.0	61.0	110
Edmonton	178.5	-5.5	490.5	132.5	137
Calgary	132.5	-28.5	358.5	43.5	114
Regina	180.5	-19.5	484.5	87.5	122
Saskatoon	186.5	-11.5	477.5	81.5	121
Winnipeg	210.0	-9.0	440.0	23.0	106
Thunder Bay	171.5	3.5	314.0	26.0	109
Windsor	308.5	34.5	758.5	86.5	113
Toronto	245.0	0.0	473.0	-64.0	88
Ottawa	257.0	5.0	530.0	4.0	101
Montreal	261.5	7.5	537.5	7.5	101
Quebec	225.0	20.0	425.0	32.0	108
Fredericton	221.5	21.5	452.5	63.5	116
Halifax	166.0	-11.0	324.0	16.0	105
Charlottetown	182.0	15.0	376.0	113.0	143
St John's	77.5	-15.5	218.0	98.0	182

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15 DAY TEMPERATURE ANOMALY FORECAST



Forecast Method

Analogue technique based on point prediction at 70 Canadian stations.

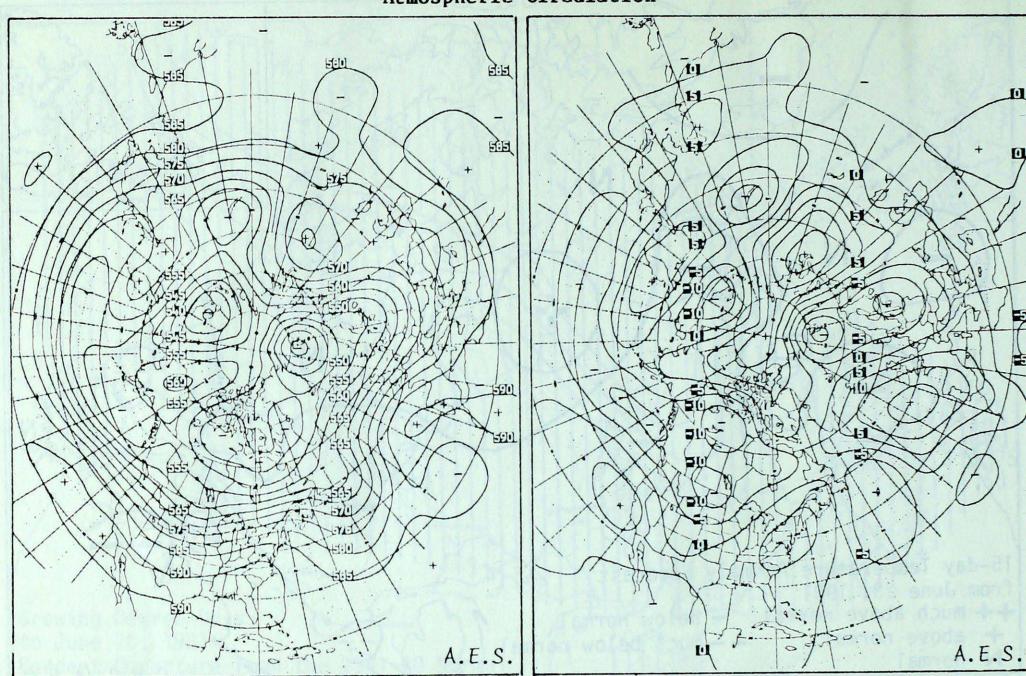
Temperature Scale

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 Temperat	ure Anomaly Forecast
Whitehorse	Near Normal	Within 0.5° of Normal
Victoria	Below Normal	From 0.3° to 1.1° below Normal
Vancouver	Below Normal	From 0.3° to 1.1° below Normal
Edmonton	Above Normal	From 0.4° to 1.5° above Normal
Regina	Below Normal	From 0.4° to 1.5° below Normal
Winnipeg	Below Normal	From 0.5° to 1.6° below Normal
Thunder Bay	Below Normal	From 0.4° to 1.2° below Normal
Toronto	Much Below Normal	More than 1.5° below Normal
Ottawa	Below Normal	From 0.4° to 1.4° below Normal
Montreal	Below Normal	From 0.4° to 1.3° below Normal
Quebec	Below Normal	From 0.4° to 1.3° below Normal
Fredericton	Below Normal	From 0.4° to 1.3° below Normal
Halifax	Much Below Normal	More than 1.0° below Normal
Charlottetown	Much Below Normal	More than 1.3° below Normal
St. John's	Near Normal	Within 0.5° of Normal
Goose Bay	Much Below Normal	More than 1.6° below Normal
Frobisher Bay	Near Normal	Within 0.4° of Normal
Inuvik	Below Normal	From 0.6° to 1.9° below Normal

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

Atmospheric Circulation



7-day Mean 50 kPa Height Map (in dam)June 15 to 21, 1981

7-day Mean 50 kPa Height Anomaly (in 5 dam intervals) June 15 to 21, 1981

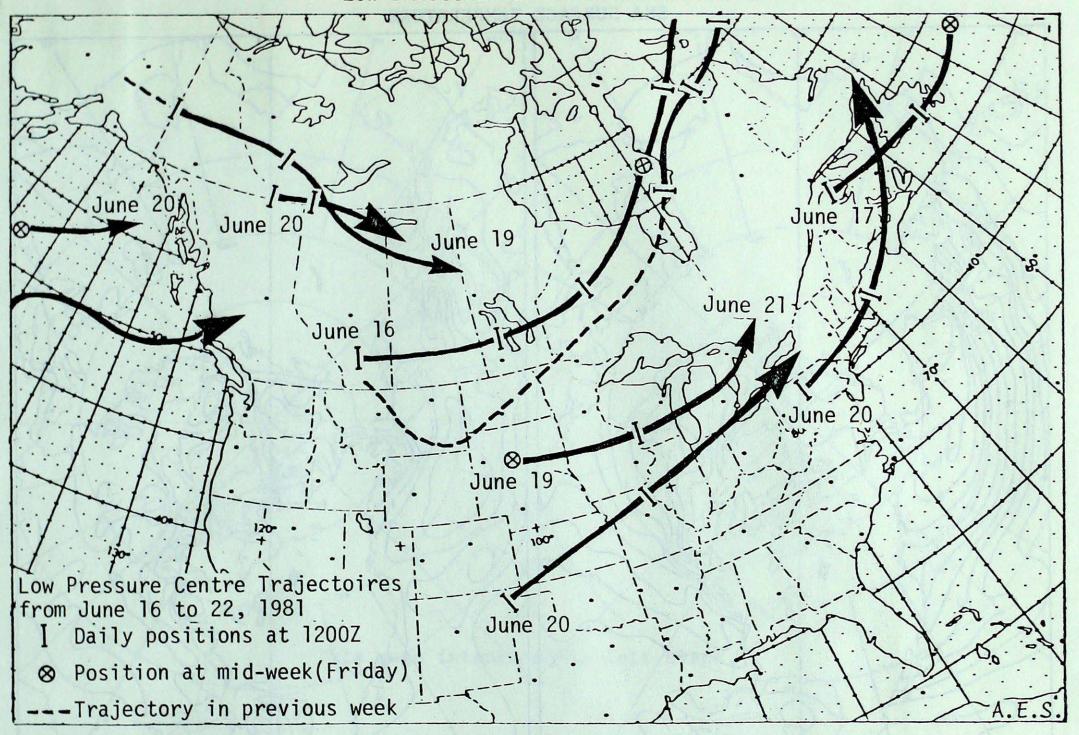
The main west-east upper level flow continued to be depressed further south than is normal at this time of year; the exception being the Maritimes. A cool unstable airmass covered most of western and central Canada. Unsettled showery weather conditions were the predominent feature for most of the week as pulses traversing the upper flow moved inland from the Pacific. Mean temperatures and 50 kPa heights remained below normal throughout the period.

Eastern Ontario, southern Quebec and the Atlantic Provinces enjoyed considerably warmer weather. Mean temperatures were above normal, due to a relatively more southwesterly flow and positive 50 kPa height anomalies.

A tongue of very warm and moist air which penetrated the lower Great Lakes Basin and adjacent areas of the St. Laurence Valley early in the week was displaced by a slow moving frontal zone; heavy shower and thunderstorm activity accompanied the front. Subsequently, weather systems developing in the American plains followed a more southerly track across the lower Great Lakes and the Maritimes. This resulted in cooler and changable weather conditions over much of the eastern half of the country.

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LOW PRESSURE CENTRE TRAJECTORIES



CLIMATIC PERSPECTIVES

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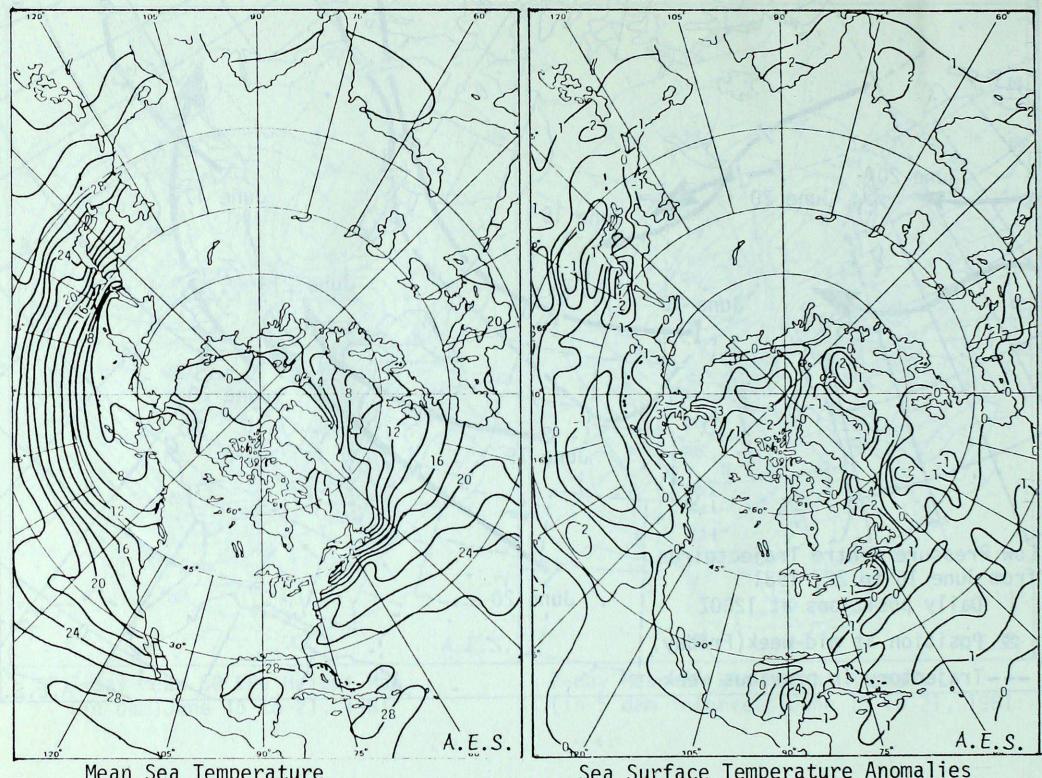
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SEA SURFACE TEMPERATURE



Mean Sea Temperature from mid-May to mid-June 1981

Sea Surface Temperature Anomalies from mid-May to mid-June 1981

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TEMPERATURE AND PRECIPITATION DATA FOR THE WEEK ENDING 0600 G.M.T. JUNE 23, 1981

	Temperature (°C) Precip. (mm)							
Station	Average	107	from Norma	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	13 11 11 11 12 12 12 13 11 11 14 11 15 M 11 11 11 10 M 11 11 11 11 11 11 11 11 11 11 11 11 1		32 X 1 X 0 0 1 6 3 3 5 2 M 2 3 3 5 1 5 X 1 4 4 1 1 4 4 6 6 1 3 X 3 2 2 2 6	18 19 15P 15 17P 15 17 22 21 19 20 14P 23 19 24 16 21 17P 16 22 18 16 16 18 17 15 17 17 17 18 19 19 19 19 19 19 19 19 19 19 19 19 19	9 7 2 6 1P 7 8 6 7 2 1 9 5 6 5 7 9 4P 8 5 7 3 6 2 4 7 1 6P 5 8 8 4	71.5 23.7 M 55.1 M 67.2 70.2 40.4 13.2 10.5 26.5 M 1.2 28.8 14.0 11.8 0.4 11.6 76.1 7.6 34.4 35.7 26.3 26.6 35.0 11.4 10.8 38.5 22.3 36.2	29.2	
YUKON Burwash Dawson Komakuk Beach Mayo Shingle Point Watson Lake Whitehorse	9 11 5 13 7 11		2 3 0 1 0 3 2	13 22 14 20	- 1 0 - 2 2 1 2 3	0.8	- 1.7 - 0.4 - 4.4 - 2.2	
NORTHWEST TERRITORIE. Alert Baker Lake Broughton Island Byron Bay Cambridge Bay Cape Dorset Cape Dorset Cape Dyer Cape Hooper 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	1 5 5 2 4 4 4 4 2 2 - 1 1 - 3 3 3 4 4 5 5 - 1 1 M 4 4 4 0 0 M M 7 7 8 8 12 2 12 3 3 5 5 2 10		0 1 2 1 2 2 X 1 3 3 M M O 0 1 1 3 3 3 1 1 2 2 2 4 4 4 1 2 2 3 X X X 2 2	15 6 10 11 7 4 6 9 9 9 4 13 10 12 4 12 15 17 21 22 10 11 8 20	- 4 0 0 - 6 1 0 0 - 2 - 7 - 8 - 2 0 1 - 6 - 1 P 0 - 1 - 5 3 2 2 1 1 - 1 0 0 - 3 0 0 0 - 2 3 - 2 - 5 M - 2	24.2 3.3 1.0 0.8 10.2 3.6 9.2 0.4 0.0 3.4 4.2 4.1 1.4 2.3 M 0.0 2.6 0.6 27.2 9.4 0.2 0.0 0.4 13.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.2 - 2.9 - 9.9 0.8 - 5.4 - 2.9 - 4.2 0.9 - 5.7 - 0.1 - 5.2 - 1.0 M - 1.1 - 6.3 - 5.3 18.3 - 0.9 - 1.7 - 2.0 - 5.5 9.2 - 4.2 - 3.4 - 2.5 - 1.9 - 0.3 - 1.4 - 8.0	

ION DATA FOR THE	ICCI	CIN	DINO	UUU	0,11	, 1 , 00m
	Temperature (°C) Precip. (mm			. (mm)		
Station	Average	Departure from Normal	Extreme	Extreme Minimum	Total	Departure from Normal
Sachs Harbour Shepherd Bay Tuktoyaktuk Yellowknife	6 5 5 11	3 3 0 - 1	13 11 13 20	- 1 0 - 1 5	0.0 0.0 0.0 22.5	- 2.1 - 0.6 - 1.6 18.2
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 11 12 11 11 12 12 12 12 12 11 10 13 14 11 10 10 11	- 3 - 4 - 1	15P 20 21 21 20 21 20 18 M 20 19 23 17 20 24 20 18 18 22 20	0 1 2 3 1 6 5 0 2 1 3 - 1 4 5 5 3 2 1 3 2 1 3 4 2 1 3 2 1 2 1	M 6.4 21.4 14.8 21.1 13.0 20.4 10.8 M 12.4 7.5 3.6 8.2 10.9 2.5 33.6 1.4 5.2 38.8 11.8	M -13.6 - 0.1 0.8 7.3 - 7.9 7.3 - 9.2 M - 4.2 - 6.1 - 2.4 - 2.7 - 9.5 - 8.6 23.5 -18.3 -23.6 21.2 - 4.6 - 4.2
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	13 M	- 2 X - 2 - 1 X - 2 X - 2 X - 2 - 2 X - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2	23 18 20 25 22 23 19 20 24 22 23 23 24 21P 23 21 20 22 22	4 7 0 5 5 5 3 3 7 5 4 4 5 5 5 5 7 7 5 7 7 8 4 4 4 5 5 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8	4.8 18.5 27.0	-10.8 X - 3.4 13.9 - 1.9 18.8 X 1.5 X - 0.8 0.3 - 1.9 X 11.4 - 8.8 0.1 - 7.6
MANITOBA Bissett Brandon Churchill Dauphin Gillam Gimli Island Lake Lynn Lake Norway House Pilot Mound Portage la Prairie The Pas Thompson Winnipeg	14 M 7 14 9 15 11 11 11 14 15 12 9	M - 1 - 1 X - 1 X - 2 - 2 - 3 - 3	23 24 21 24 22 25 19 22 22 23 25 21 23 26	2 3P - 1 6 0 4 1 3 1 5 7 3 - 1 5 5	20.0 29.6 0.0 34.2 33.6 10.9 22.6 0.0 72.4 48.8 13.4 27.7 12.8 14.5	7.4 X - 3.8 X -18.7 X 31.6 - 6.4 15.2
ONTARIO Armstrong Atikokan Earlton Geraldton Gore Bay Kapuskasing Kenora Kingston Lansdowne London Moosonee Mount Forest Muskoka North Bay Ottawa Petawawa Pickle Lake Red Lake	10 13 15 11 14 14 15 18 11 17 12 15 16 15 19 17	- 3 - 1 0 - 2 - 1 - 1 - 3 - 1 - 1 0 0 - 1 1 X - 2	21 24 23 20 19 23 24 28 23 27 23 24 26 23 31 29 27 23	1 1 2 2 7 4 5 12 3 8 - 1 3 5 9 13 6 2 3	9.6 25.4 3.7 13.8 17.1 28.9 7.5 31.6 19.7 50.4 9.9 37.6 44.5 15.5 70.4 24.6 10.0	- 9.7 1.8 -16.1 -12.4 5.7 6.4 -10.3 11.3 3.1 31.1 -11.0 20.6 30.0 0.3 55.1 X - 5.8 - 3.7

23, 1981	Te	maeri	ature	10(1)	Precio	lmr
	Temperature (°C)			Precip. (mr		
Station	Average	Departure from Norma	Extreme	Extreme	Total	Departure from Norma
Stucoe	18	1	27	11	М	
Stoux Lookout Sudbury	13 15	- 2 - 1	24	9	12.0	- 4. 6.
Thunder Bay	13	- 1	23	3	18.0	0.
Timmins Toronto	14	- 1 - 1	30	2 7	38.2	17.
Trenton	17	- 1	28	9	34.4	22. - 7.
Trout Lake Wawa	10	- 3 X	20	0	14.9	
Wiarton	14	- 2	25 27	13	23.6	9. 28.
Windsor	20	0	21	13	1 32.3	20.
QUÉBEC	16	0	25	6	35.2	14.
Bagotville Baie Comeau	13		23	4	48.5	30.
Blanc Sablon Border	M			0P	7.9 M	- 8.
Chibougamau	14	X	25	5	32.1	
Fort Chimo Gaspé	7	The state of the s		1 2	20.8	8.
Grindstone Island	13	1	21	9 - 3	39.7	26.
Inoucd jouac Koartak	2		100	- 1	29.8	22.
La Grande Rivière	9	1	14.050	0 6	26.7	25.
Maniwaki Matagami	16	B 6		3	33.8	
Mont-Joli	15 20			5 12	31.8	16.
Montréal Natashquan	12	1	20	4	14.7	- 6.
Nitchecun Port Menier	10 M	The state of the s	1.10	2 M	22.5 M	0.
Poste-de-la-Baleine	5	- 2	20	0	50.0	270 7100
Québec Rivière du Loup	18			9	95.0 M	2 10 10 10 10
Roberval	16	1	28	7	91.0	77.
Schefferville Sept-Iles	13		10 M	6	25.4	-10. 9.
Sherbrooke	18		100	6 7	17.2 70.8	33.
Ste Agathe des Monts Val d'Or	14		S. Santa	3	5.0	(4 PH)
NEW BRUNSWICK						
Charlo Chatham	18			9 8	41.2	26. 26.
Fredericton	17	0	29	10	60.5	44.
Moncton Saint John	17			10	58.2	1
NOVA SCOTIA Eddy Point	15			10	19.2	
Greenwood Sable Island	17	1		7 8	38.6	19.
Shearwater	15	1	24	10	77.8	52.
Sydney Truro	15 M	3.0		2 8	26.4	5. 20.
Yarmouth	14			7	25.1	4.
PRINCE EDWARD ISLAND						
Charlottetown Summerside	16 17			10	57.6	39. 65.
NEWFOUNDLAND Argentia	10	X	16	4	52.4	
Battle Harbour	7	0		0	13.8	- 4. 11.
Bonavista Burgeo	10	- I 1	100	2 4	23.7	23.
Cartwright	9	The State of the S	23 24	0	11.8	- 7. -14.
Churchill Falls Comfort Cove	11	- 1 - 1	26	2	44.2	27.
Daniel's Harbour	11 12	0 - 2	17 27	6	30.0	3. 13.
Deer Lake Gander	12	0	24	2	33.5	17.
Goose Hopedale	13 10	0 2	28 20	3	10.2	- 6. - 9.
Port aux Basques	10	1	16	4	32.6	8.
St Albans St Anthony	M 8	M X	23	5P - 1	49.6	34.
St John's	11	0	20	2	30.2	14.
St Lawrence Stephenville	9	0	17 21	3	38.8	13.
Wabush Lake	10	1	23	1	13.8	-10.



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