Environnement

WEEKLY REVIEW OF CANADIAN CLIMATE

Atmospheric

Environnement

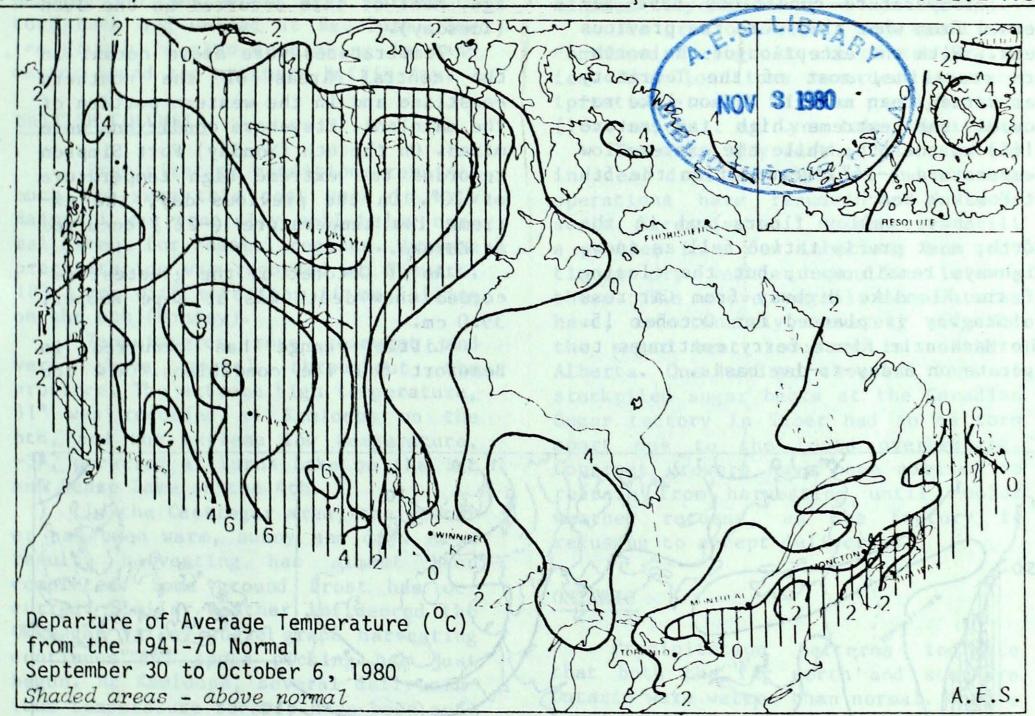
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THE CANADIAN CLIMATE CENTRE, ATMOSPHERIC ENVIRONMENT SERVICE, 4905 DUFFERIN ST., DOWNSVIEW, ONTARIO M3H 5T4

OCTOBER 10, 1980

(Aussi disponible en français)

VOL.2 NO. 40



WEATHER HIGHLIGHTS FOR THE WEEK - SEPTEMBER 30 - OCTOBER 6, 1980

B.C. and Prairies Enjoy Indian Summer

Warm, dry and sunny weather prevailed throughout most of British Columbia, Alberta, Saskatchewan and Manitoba. As a result, harvesting has progressed well. In southern Alberta, however, the high temperatures have hurt the sugar beet industry.

In the Arctic, the shipping season has ended. The ice pack has remained relatively stationary, approximately 100 to 130 km north of the Tuktoyak-Peninsula. In eastern Canada, conditions were often cool and wet. Tobacco, potato and apple harvesting have been delayed. A storm passing through southern Ontario on Friday October 3 resulted in several waterspouts clouds being sighted. and funnel

Maximum precipitation for the week 183.3 mm recorded at Stewart. was The extreme high temperature, occurred on the 6th at Kamloops. Eureka recorded the extreme low temperature on the 5th (-27°). Maximum snow depth measured 39.0 cm at Cape Hooper.

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

Precipitation was near or above normal. The maximum precipitation (25.0 mm) fell at Mayo, almost half of that occurring on the 3rd. Whitehorse recorded its normal October precipitation of close to 20 mm during the past week, alone.

Temperature conditions have reversed from what they were the previous week. With the exception of the northern coastline, most of the Territory was warmer than normal. Watson Lake recorded the extreme high temperature (16°) on the 6th, while the extreme low temperature (-14°) occurred on the 5th at Komakuk Beach.

Above valley floors and in the north, most precipitation fell as snow. Highways remain open, but the closing of the Klondike Highway from Carcross to Skagway is planned for October 15. The Mackenzie River ferry continues to operate on a day-to-day basis.

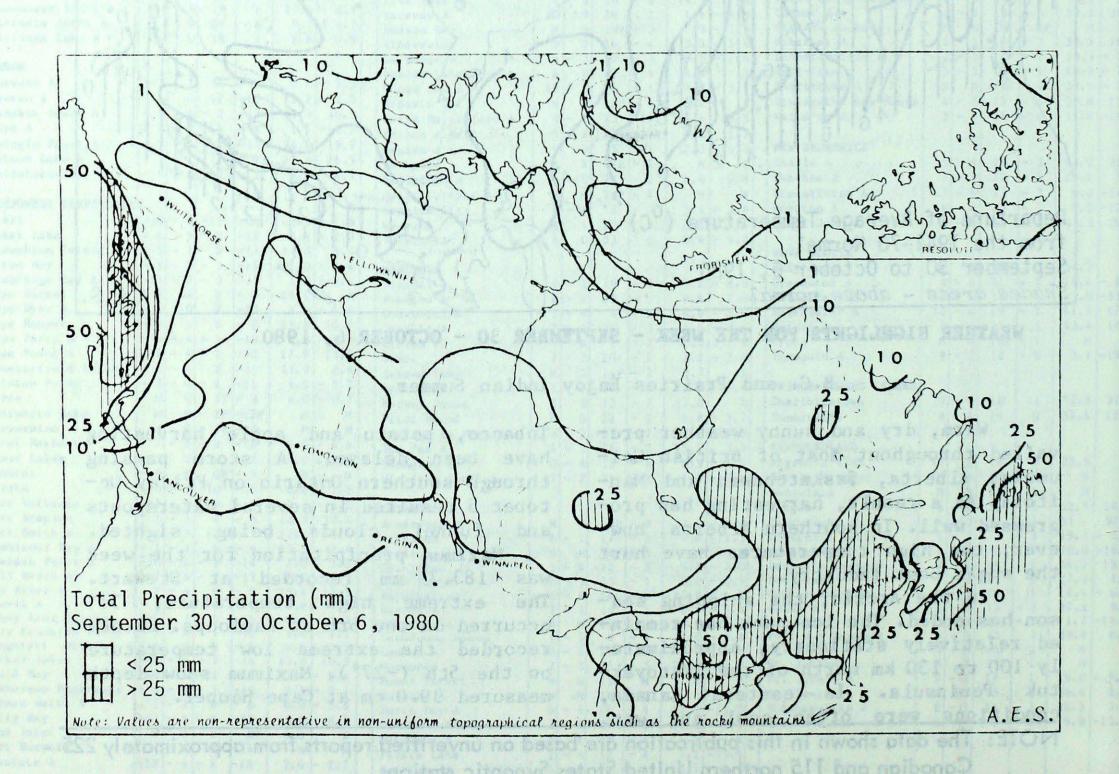
NORTHWEST TERRITORIES

Mixed precipitation patterns were continued another week. Precipitation was above average in western and central Baffin Island and in the northern half of continental N.W.T. Maximum precipitation (26.4 mm) was recorded at Sachs Harbour, 23.0 mm above the average. Most of this occurred on the 30th (Tuesday).

Temperatures were above normal in the central areas of the northern coastline and in the western portion of the mainland. Elswehere conditions were mixed. On the 6th (Monday) Fort Simpson recorded the extreme high temperature of 20°. On the previous day, the extreme low temperature (-27°) occurred at Eureka.

As of October 6, the greatest recorded snow depth was at Cape Hooper, 39.0 cm.

Little change has occurred in Beaufort Sea ice conditions. New ice



growth is variable and a few old ice floes remain scattered. The main ice pack is 100 to 130 km from Tuktoyaktuk Peninsula. Petroleum operations continue on a day-to-day basis.

The shipping season in the central Arctic has ended. Ice breakers left Lancaster Sound on the 6th. Last week a supply ship and two ice breakers heading for Rea Point were forced to turn back and unload at Resolute. New ice growth is also developing in Lancaster Sound and northern Baffin Bay.

BRITISH COLUMBIA

Precipitation conditions remained much the same this past week in B.C. Rainfall was generally well below normal except for coastal regions. Maximum precipitation was recorded at Stewart, 183.3 mm, with more than 60 mm falling on the 6th (Monday).

Temperatures rose somewhat and were above normal throughout the province. The extreme high temperature, 31° was recorded at Kamloops on the 6th, and the extreme low temperature, -3°, occurred at Burns Lake on the 1st and Dease Lake on the 4th.

In the Castlegar area, the weather has been warm, sunny and dry. As a result, harvesting has almost been completed. Some ground frost has occurred. Similar weather influenced the Okanagan Valley where grape harvesting continues and apple picking has just begun. At Kamloops, several daily minimum temperature records have been set. Apple farmers are anticipating the first frost in the area. Slash burning and harvesting are in full progress, both in the Thompson and Cariboo regions. To the north, at Fort Nelson, wet September weather (147% of normal precipitation) has also been replaced by warm, dry conditions. Although oil rigs are being brought in winter. prepared for construction continues. Snow in the mountains is melting.

PRAIRIE PROVINCES

The much below normal temperatures of last week gave way to considerably warmer conditions. Only northern Man-

itoba experienced relatively cool conditions. Many stations averaged between 5° and 8° above average, quite a change from the previous week when some areas in the Prairies were recording temperatures as much as 5° below normal. The extreme high temperature at Medicine Hat on the 30th (Tuesday) was 30°. Churchill recorded the extreme minimum temperature of -6° on the 2nd.

The previous week's dry spell was continued throughout all of the Prairies. Many locations recorded no precipitation at all. Maximum precipitation (16.4 mm) fell at Lynn Lake, Manitoba.

The warm, dry weather has resulted in ideal drying conditions and harvest operations have resumed on a large scale. Excessive soil moisture is still a problem in a few locations but continued dry weather should eliminate these. The above normal temperatures have, unfortunately, severely affected the sugar beet industry in southern Alberta. One hundred thousand tons of stockpiled sugar beets at the Canadian Sugar factory in Taber had to be torn apart due to the beets overheating. Contract growers have been advised to refrain from harvesting until cooler weather returns, as the factory is refusing to accept deliveries.

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Precipitation patterns indicate that both the far north and southern Ontario were wetter than normal. Only a portion of central Ontario, stretching from the Manitoba boundary along the north shore of Lake Superior and continuing eastward to the Quebec boundary, recorded below normal precipitation. The maximum fell at North Bay (60.2 mm), much of it occurring on the 30th.

The cool conditions of the previous week continued as most Ontario locations recorded near or below normal temperatures. On October 1, Windsor recorded the extreme high temperature of 26°. Both Geraldton and Armstrong recorded the extreme minimum temperature of -8° on the 5th. Daily minimum temperature records were set at several locations.

On October 3, Earlton and Sudbury received 9 and 4 cm of snow, respectively. On the same day, a storm passing through southern Ontario resulted in funnel clouds being sighted in several locations, including Willowdale. Waterspouts were also identified in Lakes Erie, Ontario and Simcoe.

Excessive summer rain resulted in the Delhi tobacco crop being short of its quota. However, the quality remains high as losses due to wind, hail and frost have been minimal.

QUÉBEC

Quebec weather remained generally unchanged for another week. Some areas in northern and eastern Quebec were drier than normal but elsewhere precipitation was above average. The maximum recorded precipitation (48.6mm) fell at Maniwaki, more than half of it on the 30th.

Temperatures continued to be below average throughout the province, with the Sherbrooke region being the sole exception. There, the extreme high temperature of 23° was recorded on the 1st. A -7° , the extreme minimum, was recorded at Nitchequon on the first.

ATLANTIC PROVINCES

Below average precipitation was recorded along the west shore of Nova

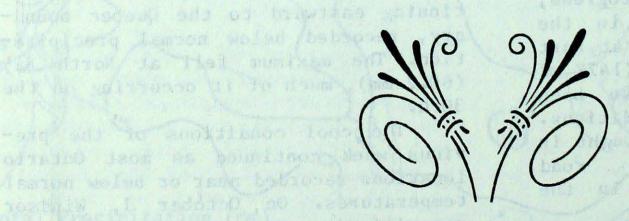
Scotia, in P.E.I., and throughout most of Newfoundland. Elsewhere, conditions were somewhat wetter than normal. St. John's Nfld. recorded the maximum precipitation, 70.0 mm, much of this occurring on the 6th.

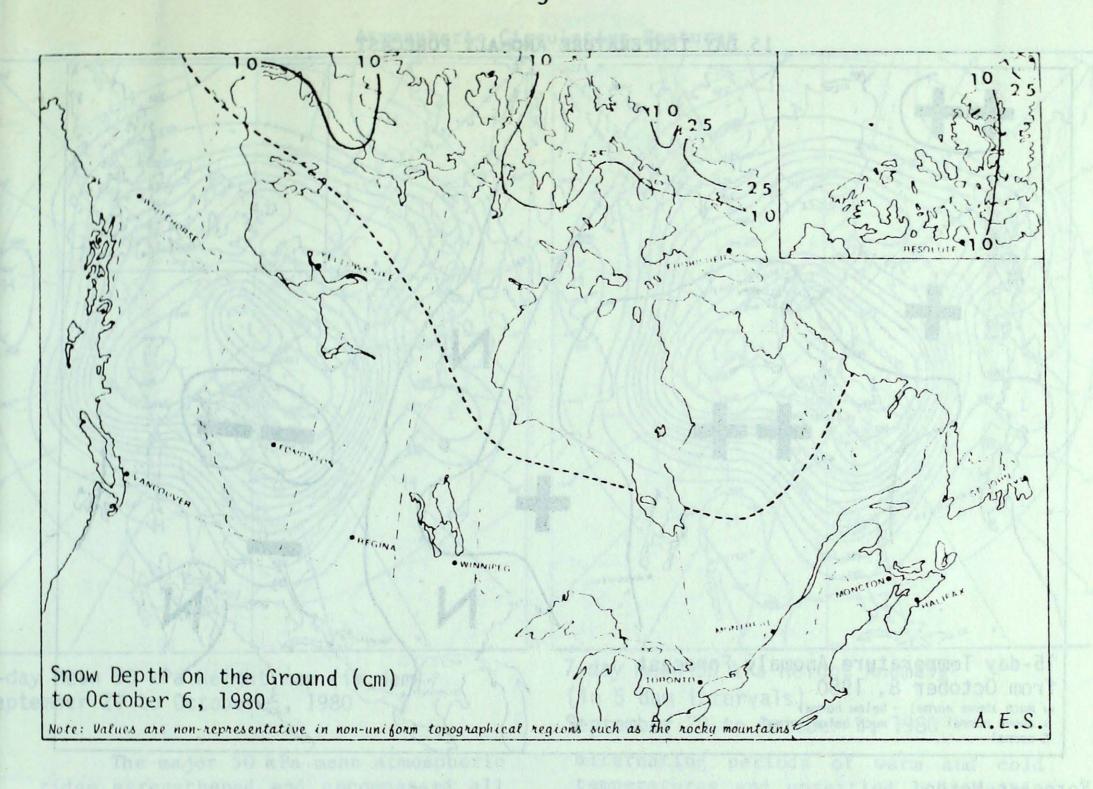
Temperature conditions rose from the previous week throughout most of the Maritime Provinces. Newfoundland temperatures remained near or below normal. Greenwood recorded the extreme high temperature of 24° on the 4th. The extreme low temperature, -6°, was recorded at Wabush Lake on the 1st.

The cool, wet weather delayed the maturing of the New Brunswick potato crop, 30% of which has already been harvested. Lack of sunshine has also slowed the final ripening of the apples in N.B., and thus picking has been slow.

In Nova Scotia, 60% of silage corn harvesting has been completed. Surprisingly, both the maturity rate and yield are slightly above normal. A large acreage in Nova Scotia has been planted with winter grain. Appropriately timed dry and wet spells encouraged ploughing and seeding and good autumn growth, respectively. The P.E.I. potato harvest is slow but the quality is generally good. Early frosts killed most potato tops so no further growth is possible.

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CLIMATIC PERSPECTIVES

Staff

Editor:
Assistant Editor:
Technical Staff:
Graphics and Layout:
Word Processing:

Yves Durocher
Joan Masterton
Fred Richardson, Andy

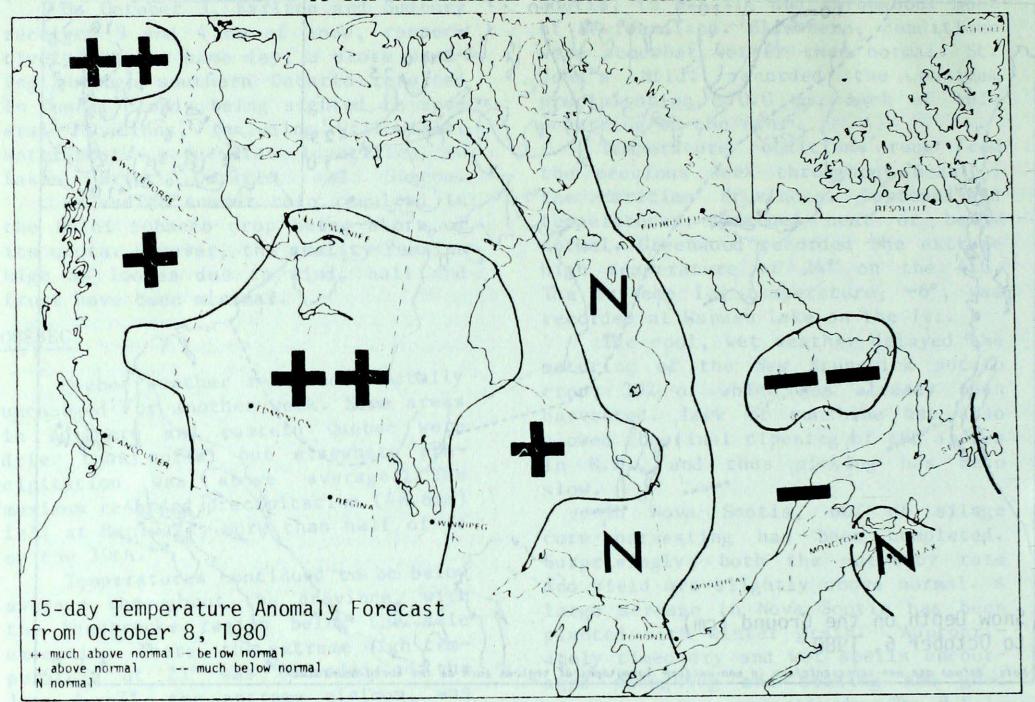
Fred Richardson, Andy Radomski Velma MacDonald, Debbie Allsopp Lillian Methven, Una Ellis

Correspondents

(Ice Forecasting Central) lerry Mullane, H.E. Wahl, (Whitehorse) Bill Prusak, (Western Region) Fred Luciow, (Central Region) (Ontario Region) Bryan Smith, (Quebec Region) Jacques Miron, (Atlantic Region) J.F. Amirault, Staff of Prince George, Kamloops, Castlegar, Fort Nelson, Penticton and Kelowna weather office (Pacific Region)

Telephone Inquiries (416) 667-4711/4906

15 DAY TEMPERATURE ANOMALY FORECAST



Forecast Method

Analogue technique based on point prediction at 70 Canadian stations.

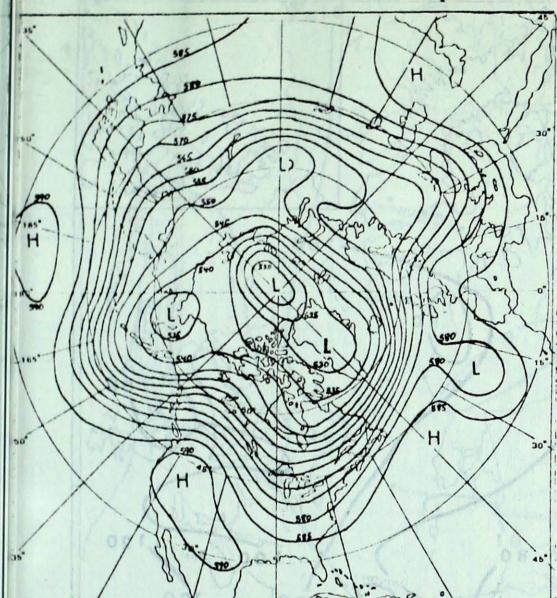
Temperature Scale

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	Above Normal	From 0.7° to 2.4° above Normal
Victoria	Above Normal	From 0.3° to 1.1° above Normal
Vancouver	Above Normal	From 0.3° to 1.1° above Normal
Edmonton	Much Above Normal	More than 2.7° above Normal
Regina	Much Above Normal	More than 2.4° above Normal
Winnipeg	Much Above Normal	More than 2.3° above Normal
Thunder Bay	Near Normal	Within 0.5° of Normal
Toronto	Below Normal	From 0.5° to 1.7° below Normal
Ottawa	Below Normal	From 0.5° to 1.7° below Normal
Montreal	Below Normal	From 0.5° to 1.6° below Normal
Quebec	Below Normal	From 0.5° to 1.6° below Normal
Fredericton	Below Normal	From 0.5° to 1.5° below Normal
Halifax	Near Normal	Within 0.4° of Normal
Charlottetown	Near Normal	Within 0.4° of Normal
St. John's	Near Normal	Within 0.3° of Normal
Goose Bay	Much Below Normal	More than 1.7° below Normal
Frobisher Bay	Below Normal	From 0.6° to 2.1° below Normal
Inuvik	Above Normal	From 0.8° to 2.7° above Normal

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

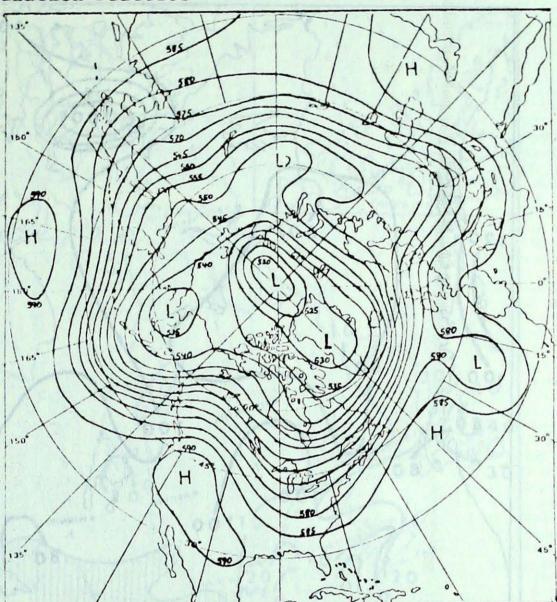
Atmospheric Circulation Features



7-day Mean 50 kPa Height map (in dam) September 29 to October 5, 1980

The major 50 kPa mean atmospheric ridge strengthened and encompassed all western North America. This effectively blocked low pressure systems in the north Pacific from penetrating inland and instead deflecting them northward across the Yukon and Northwest Terriwhere heavier precipitation amounts were recorded. At the surface a strong high pressure area, combined with strong subsiding air and southwesterly air flow during latter half of the period gave sunny warm conditions to all of Temperatures remained Canada. above normal across British Columbia and the Prairies where many temperature records were set. Maximum southern British temperatures in Columbia and Alberta reached the low 30s at a few locations.

The eastern half of the country continued to be affected by a long wave trough situated over Ontario and Québec. A strong northwesterly upper wind circulation steered low pressure systems developing in northwestern Canada southeastwards. Hence

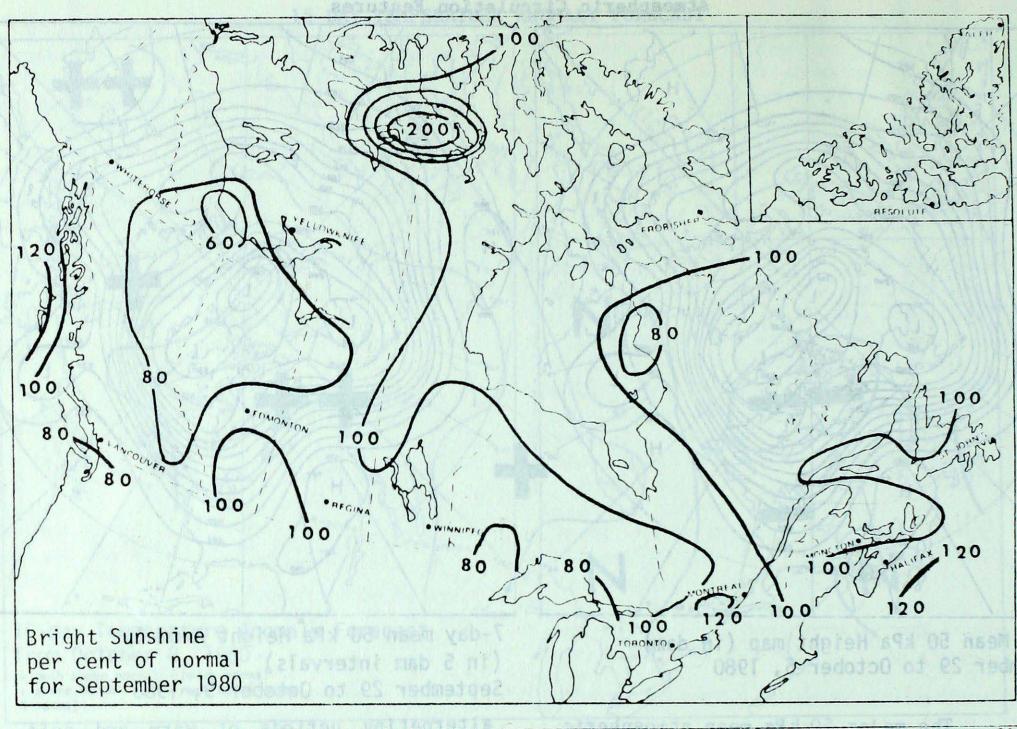


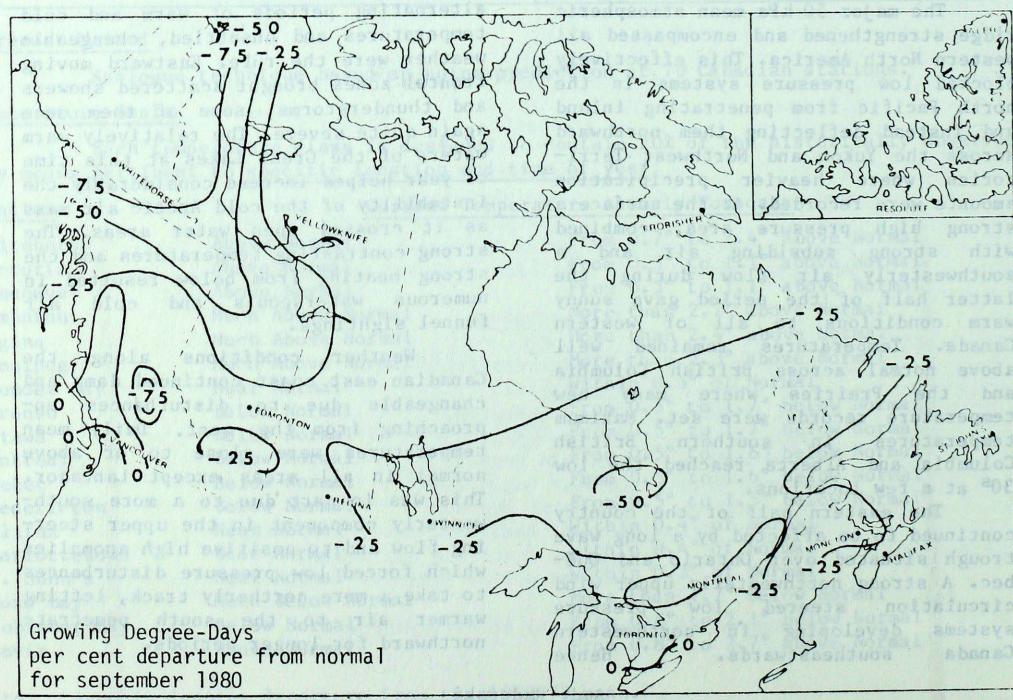
7-day mean 50 kPa Height Anomaly
(in 5 dam intervals)
September 29 to October 5, 1980

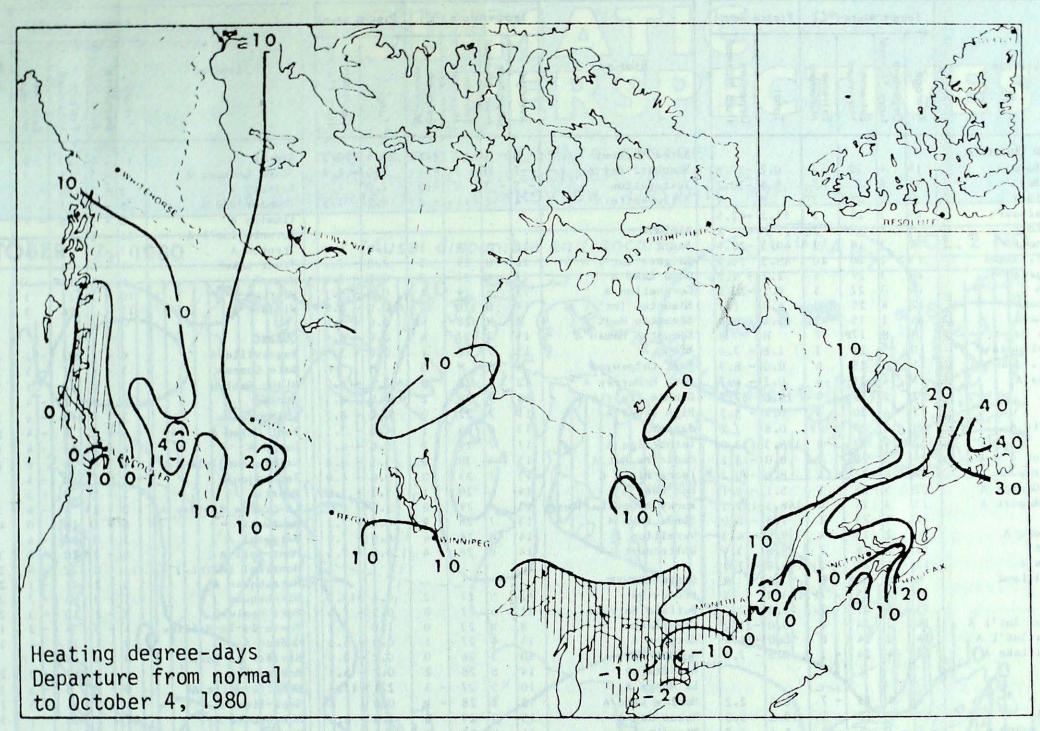
alternating periods of warm and cold temperatures and unsettled, changeable weather were the rule. Eastward moving frontal zones brought scattered showers and thunderstorms, some of them once again quite severe. The relatively warm waters of the Great Lakes at this time of year helped increse considerably the instability of the cold Arctic air mass as it crossed open water areas. The strong contrasting temperatures and the strong heating from below resulted in numerous waterspouts and cold air funnel sightings.

Weather conditions the along Canadian east coast continued damp and changeable due to disturbances approaching from the west. Daily mean temperatures were close to or above normal in all areas except Labrador. This was in part due to a more southwesterly component in the upper steering flow and to positive high anomalies which forced low pressure disturbances to take a more northerly track, letting warmer air to the south penetrate northward for longer periods.

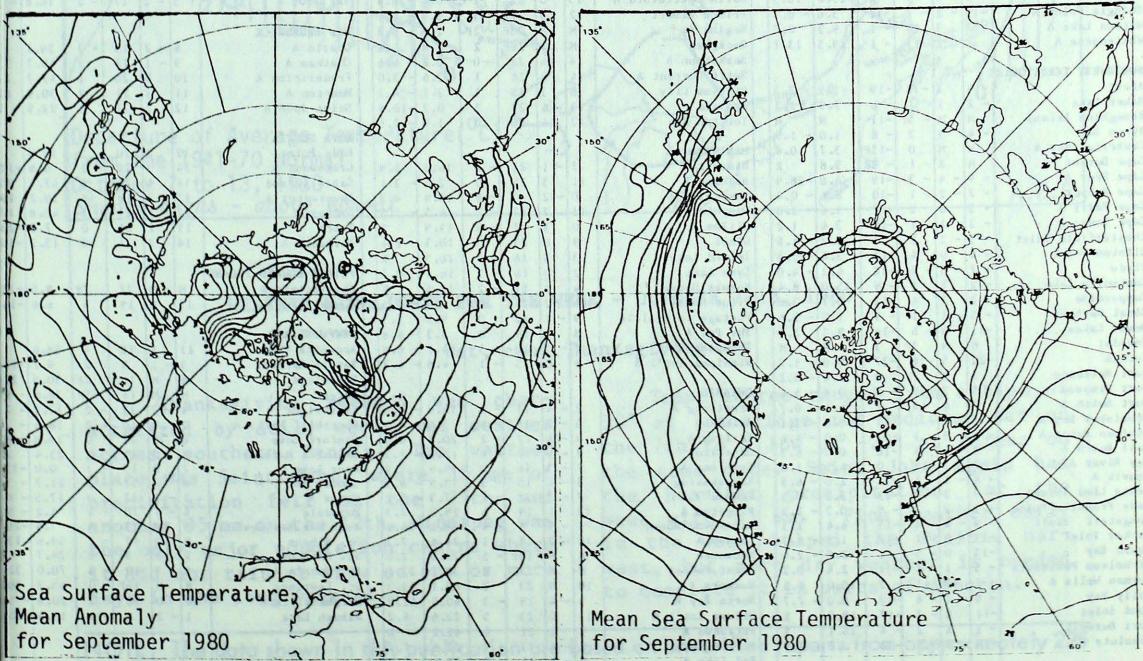
SEPTEMBER 1980







SEA SURFACE TEMPERATURE



	Temperature (°C) Precip. (mm)						Temperature (°C) Precip. (m				-		Temperature (°C)				Precip. (mm			
	Te			(°C)	Precip)		70			70	21016 (rrecip	
Station	Average	Departure from Norma	Extreme	Extreme	Total	Departure from Normal	Station	Average	Deporture from Normal	Extreme	Extreme	Total	Departure from Norma	Station	Average	Departure from Norma	Extreme	Extreme	Total	Departure from Normal
BRITISH COLUMBIA Abbotsford A Alert Bay Blue River Bull Harbour Burns Lake	16 15 M 14	4 X 3	28 23 25P 23 19P	7 7 3 3 - 3P	9.6 M	-27.8 -30.2 X -42.5	Sachs Harbour Shepherd Bay A Tuktoyaktuk Yellowknife A ALBERTA	- 8 - 7 - 5 4	- 1 0 - 3 2	- 2 0	-18 -14 -10 - 2	26.4 2.0 7.0 8.2	23.0 - 1.7 4.3 1.5	Simcoe Sioux Lookout A Sudbury A Thunder Bay A Timmins A Toronto Int'l A	11 5 5 5	- 3 - 3 - 3	23 15 18 17 18 24	1 - 3 - 1 - 6 - 2 1	3.3	0. - 2. 22. -16. -16.
Cape Scott Cape St. James Castlegar A Comox A Cranbrooke Dease Lake	14 13 14 14 12 6	3 3 4 1	19 20 27 22 25 15	9 10 4 5 0 - 3	40.5 49.3 2.2 0.2 4.0 15.6	- 9.9 -20.2 1.1 8.4	Banff Calgary Int'l A Cold Lake A Coronation A Edmonton Int'l. A Edmonton Mun. A Edmonton Namao A	12 16 13 13 14 M	5 8 6 6 6 M	24 29 27 29 28 28 28	1 3 3 1 2 4P	0.0 0.0 0.0	- 6.2 - 2.7 - 7.0 - 6.1 - 4.7 - 5.0 - 6.4	Trenton A Trout Lake Wawa A Wlarton A Windsor A	11 M 10 11	- 4 X - 2	21 8 15P 23 26	4 - 5 - 3P 3	20.3 23.9 M 39.9 15.5	1. 11. 23. - 2.
Estevan Point Fort Nelson A Fort St. John A Kamloops A Langara Lytton Mackenzie A	10 15 15 12 17 M	5 8 4 2	17P 21 25 31 16 30 20	7 1 6 4 9 4 2P	1.8 0.0 0.2 79.6 0.4 0.8	7.0 - 8.9 - 4.1 - 5.3	Edson A Fort Chipewyan Fort McMurray A Grande Prairie A High Level A Jasper	13 M 12 14 11	7 M 6 7 7 6	28 M 28 28 28 22 25	1 0 0 2 0 1	0.0 M 0.4 0.0 0.0	- 5.5 M - 6.7 - 8.3 - 8.7 - 3.1	Bagotville A Baie Comeau Blanc Sablon Border Chibougamau Fort Chimo A	6 5 5 M 3 - 1	- 2 - 2 0 M X - 3	17 10 0P 13	- 2 - 5 1 - 4 - 4	33.4 14.3	7. 15. -10.
McInnes Island Penticton A Port Hardy A Prince George A Prince Rupert A Quesnel A	12 14 14 12 13	3 4 5 3 4	17 28 22 23 21 23	8 2 6 1 4	119.3 0.0 8.6 5.1 148.3 1.8	- 3.2 -40.2 - 9.1 183.1 - 6.0	Lethbridge A Medicine Hat A Peace River A Red Deer A Rocky Mountain House Slave Lake A	17 15 13 14 13 13	7 5 7 6 6 7	29 30 23 29 29 28 28	2 0 0 1 0 2	3.5 0.0 5.2 2.3 0.0	- 6.1 - 0.8 - 4.0 - 1.6 - 4.7 - 7.2 - 7.0	Gaspé A Grindstone Island Inoucd jouac Koartak La Grande Rivière A Maniwaki Matagami A	6 10 - 1 - 2 0 8 3	- 2 X X - 1	16 3 1 4 18 14	- 4 - 6 - 5 - 6 0 - 4	100 1000 1000	- 9. - 5.
Revelstoke A Sandspit Smithers A Spring Island Stewart A Terrace A Vancouver Int'l A	10 13 12 M M 13	2 5 M X 4	16 22 18P 15 21	4 7 2 9 7P 7 6	9.6 29.6 5.4 M 183.3 71.0 0.0	- 4.3 3.4 - 7.1 M X 32.7 -21.2	Vermilion A Whitecourt SASKATCHEWAN Broadview Buffalo Narrows Cree Lake	14 14 12 11 8	8 8 5 6 X	28 27 27 23	2 0 0	0.0 0.6 0.3 1.0	- 7.5 -13.6 - 7.5 X	Mont-Joli A Montréal (A int.) Natashquan A Nitchequon Port Menier Poste-de-la-Baleine	6 11 5 - 1 5	- 3 0 - 2 - 3	20 22 11 5 10 4	- 4 - 1 - 7 - 3 - 2	33.7 25.1 20.8 21.9 24.2	14. 3. - 4. - 2. 1. - 5.
Victoria Int'l A Williams Lake A YUKON Burwash A Dawson A	14 12 5 - 3	4 2	24	- 7 - 5	0.8 6.4 10.8	-14.4 - 7.3	Estevan A Hudson Bay Kindersley La Ronge A Meadow Lake A Moose Jaw A	14 10 14 10 12 15	4 3 6 5 X	27 26 28 27 28 29 29	1 0 2 - 3 - 1 0 - 2	0.2 0.2 2.1 0.0	- 6.3 - 8.4 - 5.3 -11.3 X - 6.3	Rivière du Loup Roberval A Schefferville A Sept-Iles Sherbrooke A Ste-Agathe des Monts	M 6 0 4 11	- 2 - 3	22 9P 17 6 11 23	4 - 3 - 5 - 5 1	23.8 32.0 28.4 32.5 36.2	11. 13. 7. 12.
Komakuk Beach A Mayo A Shingle Point A Watson Lake A Whitehorse A NORTHWEST TERRITORIES	- 7 5 - 5 7 7	3	1 14 - 1 16 13	-14 - 2 -12 - 1 - 1	5.4 25.0 3.6 9.3 19.5	1.7 18.5 - 0.1 0.7 13.1	Nipawin A North Battleford A Prince Albert Regina A Rockglen Saskatoon A Swift Current A	13 12 M M 14 14	6 5 M X 6	28 27 28P 26P 28 28	1 - 3 - 2P 2 0 1	0.0 0.0 2.8 M 0.2		Val d'Or A NEW BRUNSWICK Charlo A Chatham A Fredericton A	6 9 10	- 1 0		- 2 - 3 2 1	36.1 49.7 47.7	13. 33. 27.
Alert Baker Lake Broughton Island Byron Bay Cambridge Bay A Cape Dorset	-14 - 2 M - 4 M M	1 M 3 M	1 - 5P 2 0	-19 - 6 -11 - 8 -15P - 8P	1.9 7.9 M 1.0 3.7 3.8		Uranium City Wynyard Yorkton A MANITOBA Bissett	6 13 12 7	3 6 4	16 27 26	1 3 0	1.0	- 4.2 -16.9 - 7.6	Moncton A Saint John A NOVA SCOTIA Eddy Point Greenwood A	12	x 3	20 24 20	5 - 2 5	15.6	-11. -11. -35.
Cape Dyer A Cape Hooper Cape Parry A Cape Young A Chesterfield Inlet Clinton Point	- 9 - 7 - 3 - 3 - 3 - 4	- 2	2 1 2	-19 -10 - 7 -10 -11 -12	4.8 6.4 1.6 3.4 5.7 3.4	-28.9 - 0.4 - 2.8 1.2 - 1.4 - 0.5	Brandon A Churchill A Dauphin A Gillam A Gimli Island Lake	0 11 0 9 3	3 - 2 2 X 0 X	25 5 23 7 23 16	0 - 6 - 2 - 5 0 - 3	2.4 15.6 4.5 15.9 10.3 16.5	- 3.1 4.9 - 1.5 X 2.4	Sable Island Shearwater A Sydney A Truro Yarmouth A	14 13 12 13 14	1 2	19 21 21 21	8 3 0 0	39.2	19. 17. -23.
Clyde Contwoyto Lake Coppermine Coral Harbour Dewar Lakes Ennadai	- 7 - 2 - 2 - 5 -11 M	- 1 - 3 M	1 4 1 - 6 3P	-12 - 9 -12 - 9 -16 - 3	4.2 15.0 9.7 1.0 8.2 M	- 4.0 8.4 3.8 - 5.6 3.4 M	Lynn Lake Norway House Pilot Mound Portage la Prairie The Pas A Thompson A	2 4 11 9 8 2	0 X 2 - 1 1 - 1	16 17 25 26 19 10	- 3 - 2 0 0 0 - 5	16.4 12.6 1.6 9.0 3.3 14.7	- 0.7 X - 4.5 2.3 - 6.8 - 6.8	PRINCE EDWARD ISLAND Charlottetown Summerside NEWFOUNDLAND Argentia VTMS Battle Harbour	M 11	0	18 9	7P 5	58.6	-12. -14.
	-22 3 5 7 - 5 - 4		7 20 19	-27 0 - 3 1 -11 -12		- 4.6	Winnipeg Int'l A ONTARIO Armstrong A Atikokan Earlton A Geraldton	2 5 5 2	- 4 - 2 - 4	11 15 17	- 8 - 6 - 2 - 8	15.0 3.6 20.3	- 4.3 - 0.8 -14.0 6.4 - 1.3	Buttle Harbour Bonavista Burgeo Cartwright Churchill Falls A Comfort Cove Daniel's Harbour	M M 4 2 8 8	- 2 0 0 0	16 14 12 10 17 15	2P 5P - 2 - 2 0 0	30.8 38.8 17.2 18.6 19.8 23.4	12. - 9. - 7. - 2. - 8.
Hall Beach A Hay River A Inuvik A Jenny Lind Island Lady Franklin Point Longstaff Bluff Mackar Inlet	- 9 - 4 - 3 - 2 - 9 - 11	- 2	-/ 1	-16 0 -11 -13 - 9 -15 -17	0.5 6.5 2.0 3.2 0.2 6.4 1.5	- 1.8 - 6.9 0.5 - 2.9 1.3 - 6.7	Gore Bay A Kapuskasing Kenora A Kingston A Lansdowne House London A	7 3 7 12 1 10 M	- 3 - 4 - 2 1 - 5 - 2	16 15 22 19 5 23	0 - 3 - 1 6 - 4 1 - 5	15.6	1100 100	Deer Lake Gander Int'l A Goose A Hopedale Port aux Basques St. Albans St. Anthony	7 8 5 4 9 9 5	0 0 - 1 - 1 0 0 X	17 12 10 13 17 9	- 3 1 0 - 1 4 - 2 - 2	17.5 5.2 3.4 59.6 24.7	- 3. - 0. - 9. -29. 13.
Mould Bay Nicholson Peninsula Norman Wells A Pelly Bay Pond Inlet Port Burwell Resolute A	-13 - 5 2 - 9 -11 - 1	- 1 2 - 1 X	1 11 - 4 - 7 2	-21 -11 - 2 -17 -17 - 4 -20	0.0 2.4 10.0 0.0 19.0 18.1 0.0	- 2.6 0.2 1.6 - 7.7 X X - 4.9	Moosonee Mount Forest Muskoka A North Bay A Ottawa Int'l A Petawawa A Pickle Lake	M M 10 5 11 9 2 5	M 0 4 0 X 4 3	23 23 19 23 21 11	- 3 M 2 - 3 5 0 - 7	38.2 62.1 60.2 22.6 42.2 22.6 20.6	23.7 41.3 42.2 6.2 X 7.7 4.3	St. John's A St. Lawrence Stephenville A Wabush Lake	8 10 1	- 1 M	19 16P 18	- 3 0 2 1- 6	70.0 65.2 20.8 10.9	
307							Red Lake A													