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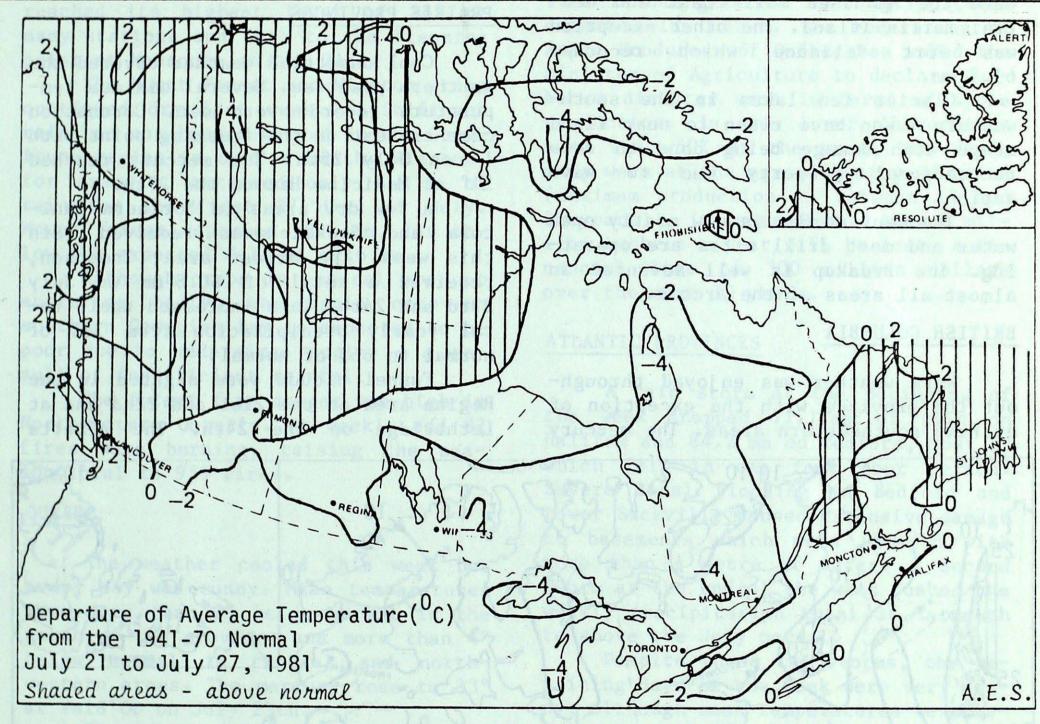
A WEEKLY REVIEW OF CANADIAN CLIMATE

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

JULY 31, 1981

(Aussi disponible en français)

VOL.3 NO.30



WEATHER HIGHLIGHTS FOR THE PERIOD - JULY 21 - 27, 1981

Disaster strikes the Québec apple crop

The disasterous effects of the cold December and of the periods of warm weather and frost of this winter and spring on the Québec apple crop are beginning to appear. According to La Presse, more than 750 000 apple trees are dead. In the lower Laurentians more than 50% are dead. The provincial apple crop will be reduced by 35% for the next 10 years as it takes this long for trees planted this year to bear fruit.

This is the greatest ever agricultural disaster in Québec. It is estimated that 2 million bushels a year will be lost, a financial loss of 300 million dollars over the next 10 years.

This week the mercury reached a maximum of 36° at Lytton, British Columbia and a minimum of -3° at several stations in the Northwest Territories. The highest weekly precipitation total was 96.8 mm at Terrace, B.C.

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

ON-CIRCULATING

YUKON AND NORTHWEST TERRITORIES

Cool weather moved into Baffin Island and the Arctic Archipelago while the rest of the Territories enjoyed warm temperatures. Mean weekly temperatures reached 5° above normal at Norman Wells and the mercury reached 32° on July 25th.

Precipitation was widespread but generally light. The main exceptions were the Amundsen Gulf coast and central Baffin Island. The other exception was Fort Reliance which recorded 61.3 mm.

Glacier fed lakes in the southwestern Yukon have risen to near flood stage with damage being done to some recreational property due to wave action.

The Beufort Sea is now mostly open water and most drill sites are operating. Ice Breakup is well advanced in almost all areas of the Arctic.

BRITISH COLUMBIA

Warm weather was enjoyed throughout the province with the exception of extreme southeastern areas. The mercury rose to 36° at Lytton on July 26th and fell to 6° at several stations from the 23rd to 25th.

Precipitation was light with two main exceptions; Cranbrook recorded 49.9 mm and Terrace 96.8 mm, both well above the expected normal.

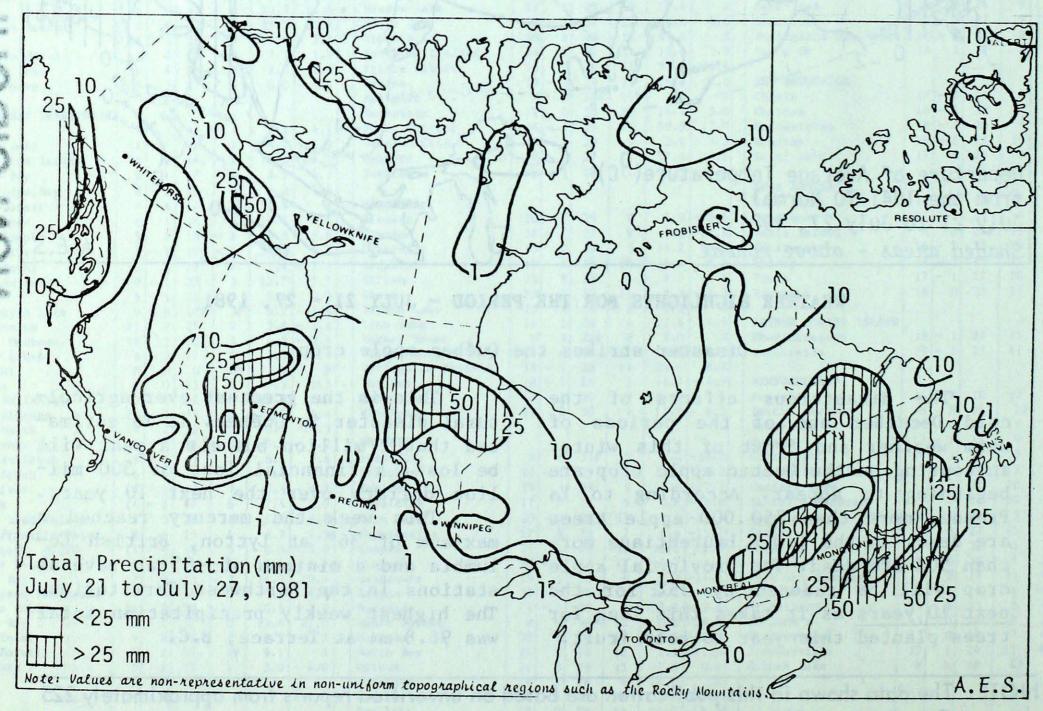
Shower activity in northern areas reduced the number of forest fires burning from 60 to 22 by the end of the week.

PRAIRIE PROVINCES

Cool unsettled weather covered the southern prairies. Several minimum temperature records were set. Coronation came closest to the freezing point with 1° on July 25th. The mercury reached 31° at Medicine Hat on the 27th.

A few dry areas in Northern Manitoba and Saskatchewan received rain this week. The driest area, Thompson, received a total of 60.8 mm on July 23rd and 24th. This increased their total yearly precipitation from 38% of normal to 66% of normal.

Funnel clouds were sighted in the Regina area on the 21st and 22nd and at Lethbridge on the 24th. The Alberta



Hail Project reports a below average number of hail storms this year. This is attributed mainly to occasional cool weather.

ONTARIO

Cool weather invaded all of Ontario this week. Mean weekly temperatures were more than 4° below normal in some extreme western areas. The mercury reached its highest level of 28° at many stations and fell to the freezing point at Moosonee on the 21st.

The Mount Forest and Wiarton areas continued dry last week. Siginificant rain has not been received in the Grey-Bruce region in over a month. Wiarton, for example, received only 1.6 mm of rain for the first 27 days of July. Mount Forest reported 16.4 mm, far below the expected fall of 82.6 mm.

Although crops in general are not suffering badly, the apple crop in southern Georgian Bay is expected to be poor due to undersized apples - a result of insufficient rainfall.

The forest fire danger was high in Northwestern Ontario. At week's end 82 fires were burning, raising the season total to 959 fires.

QUÉBEC

The weather cooled this week but every day was sunny. Mean temperatures were more than 2° below normal in the south of the province and more than 4° below normal in central and north-western areas. The mercury rose to 33° at Vald'Or on July 25th.

The Maniwaki-Saguenay corridor received most of the precipitation. Québec received a total of 56.2 mm, surpassing the normal by a factor of three.

The disasterous reperucussions of the cold December and of the periods of

warm weather and frost of this winter and spring are beginning to appear and take on the dimensions of a catastrophy. According to an article in La Presse, more than 750 000 apple trees are dead due to the effects of frost during blossom time. The provincial apple crop will be reduced by 35% for the next 10 years as it takes this long for trees planted this year to bear fruit. This is the greatest ever agricultural disaster in Québec. The Federation of Apple Producers of Québec has asked the Minister of Agriculture to declare Québec a disaster area in terms of apple production. In the lower Laurentians more than 50% of the trees are dead; many were at the age of best production (maximum production is between 12 and 20 years). It is estimated that 2 million bushels a year will be lost, a financial loss of 300 million dollars over the next 10 years.

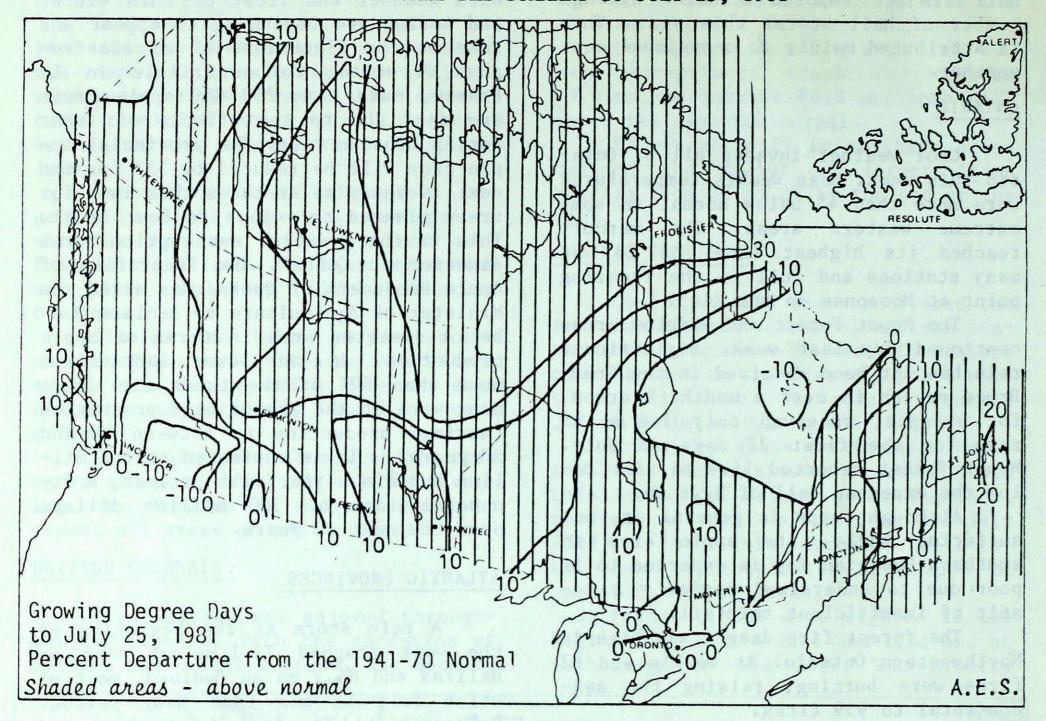
ATLANTIC PROVINCES

A rain storm at the beginning of the week dropped 71.1 mm of rain on Halifax and 84.2 mm on Bedford, most of which fell in one four hour period. Severe local flooding in Bedford and lower Sackville caused extensive damage to basements which were flooded with more than $\frac{1}{2}$ metre of water. A second storm at the end of the week pushed the weekly precipitation total at Yarmouth to above the July normal.

Despite these two storms, the remaining days of the week were very sunny, although mean temperatures were below normal in the Maritime Provinces. Chatham reached a temperature of 30° on July 25th and the mercury fell to 4° at Deer Lake on the 24th.

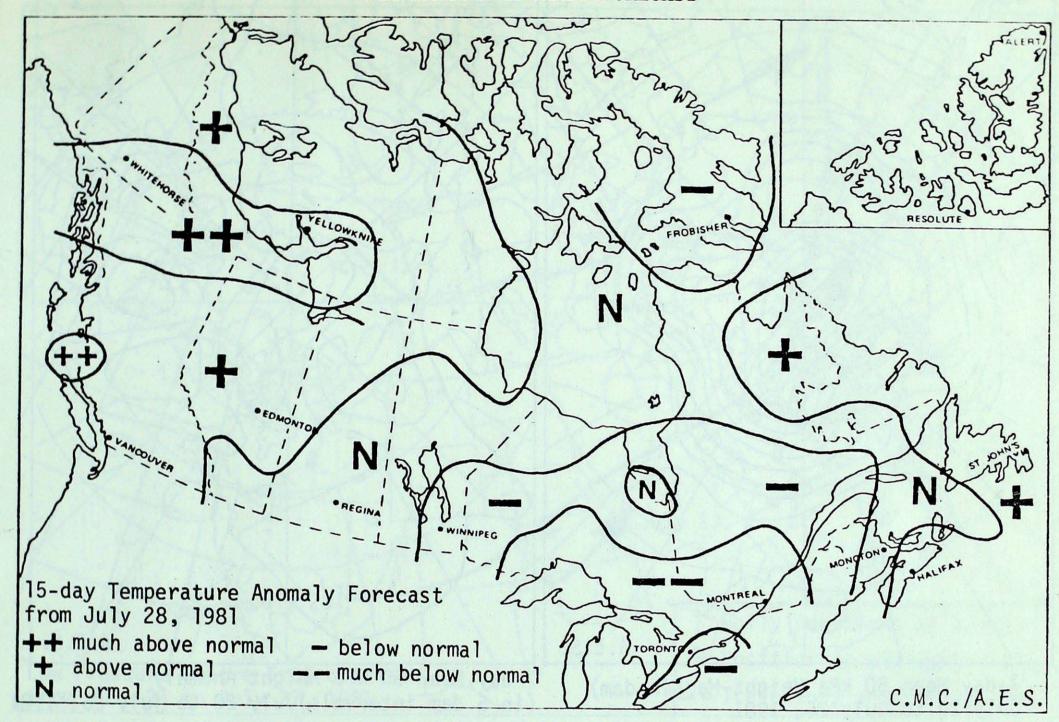
The alternation betwen rain and sun was ideal for crops which are about one week in advance of normal.

GROWING DEGREE-DAY SUMMARY TO JULY 25, 1981

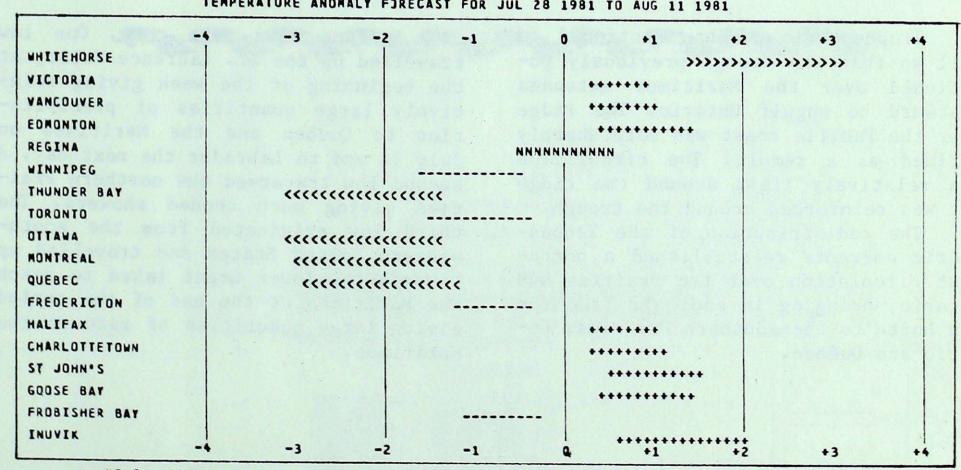


| CITY | MONTHLY CUMULATIVE TOTAL | MONTHLY DIFF. FROM 1941-70 NORMAL | SEASONAL TOTAL | SEASONAL DIFF. FROM 1941-70 NORMAL | SEASONAL PERCENT OF NORMAL |
|---------------|--------------------------------|---|-------------------|--|----------------------------------|
| Whitehorse | 235.5 | 10.5 | 532.0 | 22.0 | 104 |
| Penticton | 348.5 | -25.5 | 1034.5 | -96.5 | 91 |
| Vancouver | 293.0 | -14.0 | 1038.0 | 33.0 | 103 |
| Edmonton | 320.0 | 38.0 | 919.0 | 186.0 | 125 |
| Calgary | 251.5 | -34.5 | 695.5 | 10.5 | 102 |
| Regina | 385.5 | 42.5 | 990.5 | 141.5 | 117 |
| Saskatoon | 351.0 | 7.0 | 947.5 | 96.5 | 111 |
| Winnipeg | 391.0 | 24.0 | 952.0 | 41.0 | 105 |
| Thunder Bay | 328.0 | 19.0 | 729.5 | 34.5 | 105 |
| Windsor | 456.5 | 29.5 | 1367.0 | 94.0 | 107 |
| Toronto | 405.0 | 16.0 | 1004.5 | -71.5 | 93 |
| Ottawa | 415.0 | 30.0 | 1077.0 | 23.0 | 102 |
| Montreal | 414.5 | 13.5 | 1083.5 | 0.5 | 100 |
| Quebec | 372.0 | 21.0 | 906.0 | 29.0 | 103 |
| Fredericton | 378.0 | 28.0 | 944.5 | 73.5 | 108 |
| Halifax | 328.0 | 5.0 | 756.5 | 19.5 | 103 |
| Charlottetown | 337.5 | 4.5 | 822.5 | 119.5 | 117 |
| St John's | 235.0 | -15.0 | 558.0 | 115.0 | 126 |

TEMPERATURE ANOMALY FORECAST



TEMPERATURE ANOMALY FORECAST FOR JUL 28 1981 TO AUG 11 1981

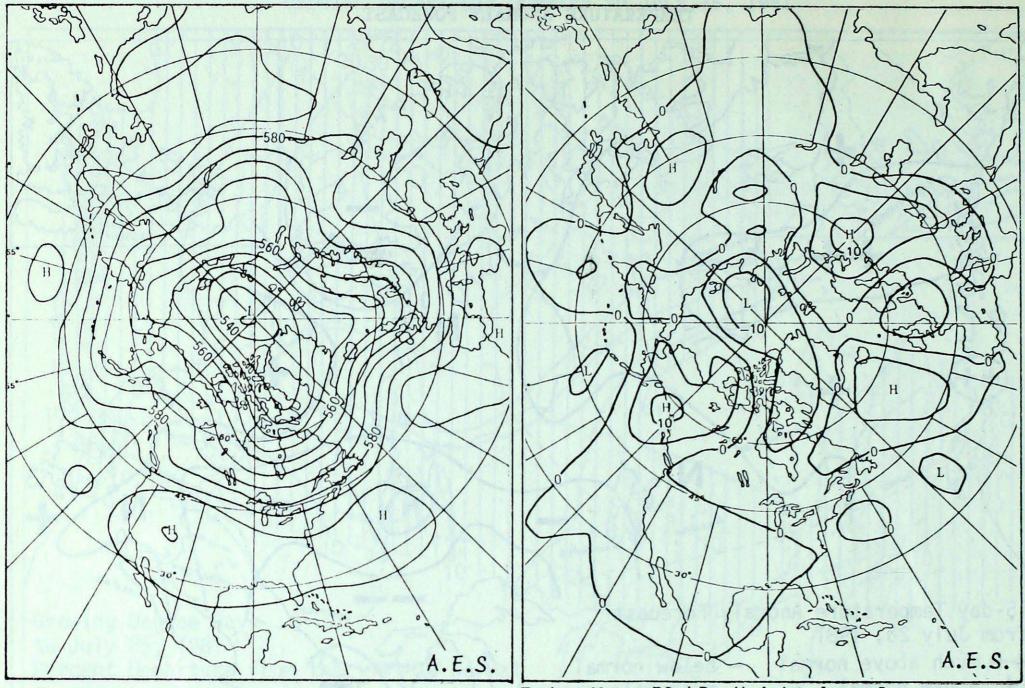


BELOW NORMAL ----MUCH BELOW NURMAL CCCC

NEAR HORMAL NNNN

ABOVE NORMAL ++++ MUCH AROVE NORMAL >>>>

Atmospheric Circulation



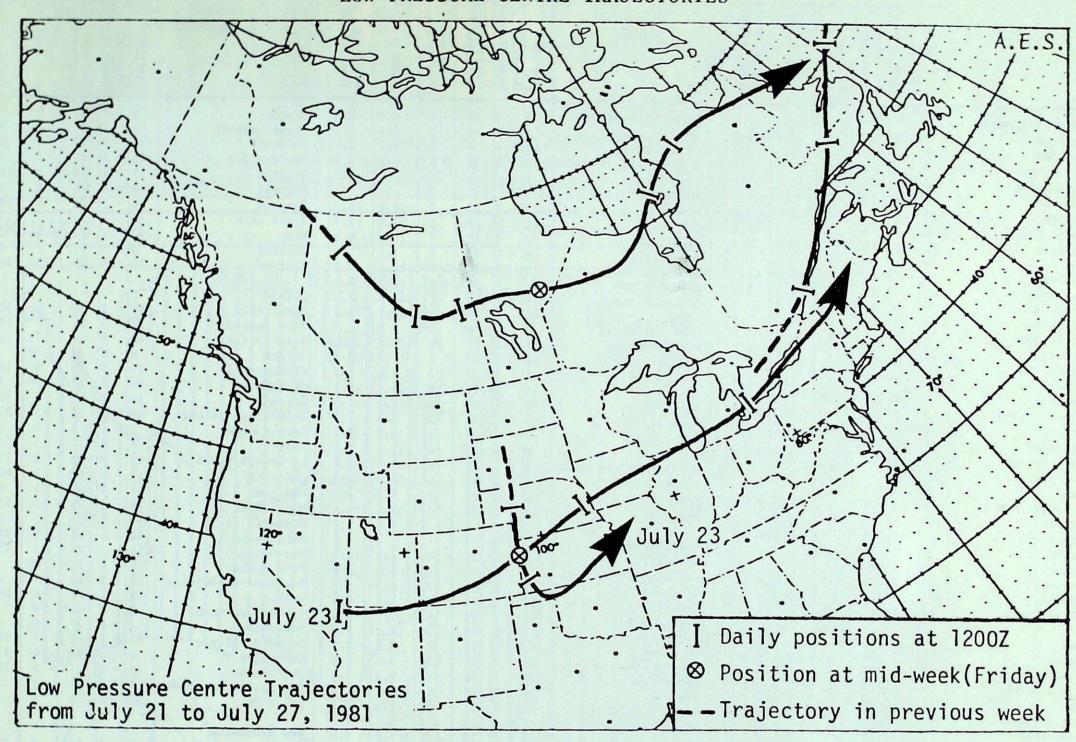
7-day Mean 50 kPa Height Map(in dam)
July 20 to July 26, 1981

7-day Mean 50 kPa Height Anomaly (in 5 dam intervals) July 20 to july 26, 1981

Tropospheric heights continued to fall so that the trough previously positioned over the Maritimes extended westward to engulf Ontario. The ridge over the Pacific coast was more sharply defined as a result. The circulation was relatively light around the ridge but was reinforced around the trough.

The redistribution of the Tropospheric currents reestablished a northwest circulation over the Prairies and Ontario, bringing in cool air from the Far North to the southern Prairies, Ontario and Québec. Surface lows were rare. One low travelled up the St. Laurence Valley at the beginning of the week giving relatively large quantities of precipitation to Quebec and the Maritimes on July 21 and to Labrador the next day. A second low traversed the northern Prairies giving much needed showers. The third low originated from the southwestern United States and travelled up towards the lower Great Lakes to reach the Maritimes at the end of the period giving large quantities of rain to the Maritimes.

LOW PRESSURE CENTRE TRAJECTORIES





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| | TEMPERATURE AND PRECIPITAL | | | | | | | |
|--|----------------------------|--------------------------|--------------------|--------------------|---|--------------------------|---|--|
| | Temperature (°C) | | | | Precip | | | |
| Station | Average | Departure from Normal | Extreme Maximum | Extreme Minimum | Total | Departure from Normal | | |
| BRITISH COLUMBIA | | | | | | | | |
| Abbotsford Alert Bay | 20 15 | 3 | 29 21 | 13 | 0.0 | - 9.7 - 8.4 | | |
| Blue River | M 15 | X 1 | 27P 19 | 6 | M 1.4 | - 9.5 | | |
| Bull Harbour Burns Lake | M | X | 25P | 8P | М | Х | | |
| Cape Scott Cape St James | 14 | 1 2 | 18 18 | 11 | 0.9 | -11.6 -12.3 | | |
| Castlegar | 20 | - 1 | 33 | 10 | 3.0 | 0.6 | | |
| Comox Cranbrook | 19 17 | - 3 | 26 29 | 11 | 0.0 | 47.5 | | |
| Dease Lake Estevan Point | 15 M | 3 M | 26 20P | 10 | 5.4 M | - 5.3 | | |
| Fort Nelson | 18 | 2 | 28 | 7 | 10.0 | - 3.9 | | |
| Fort St John Kamloops | 23 | 1 | 27 34 | 6 12 | 3.9 | 10.5 | | |
| Langara | M 24 | M 1 | 15P 36 | 11 15 | 23.6 | 5.6 | | |
| Lytton Mackenzie | М | X | 27 | 6P | 5.0 | X | | |
| McInnes Island Penticton | 15 22 | 0 2 | 18 | 11 | 0.0 | -17.1 - 4.5 | | |
| Port Hardy | 16 | 2 | 23 | 10 | 0.0 | - 9.6 | | |
| Prince George Prince Rupert | 17 | 2 2 | 28 18 | 8 | THE COLUMN TWO | - 8.3 - 9.8 | | |
| Quesnel | 19 | 2 | 29 28 | 8 10 | 0.0 | | | |
| Revelstoke Sandspit | 17 | 3 | 22 | .13 | 2.3 | - 4.7 | | |
| Smithers Stewart | 18 M | 4 X | 28 26P | 9 10P | 0.2 M | -10.8 X | | |
| Terrace | 20 | 3 | 30 | 12 | 6.8 | - 5.2 | | |
| Vancouver Victoria | 19 | 2 | 24 27 | 14 | 0.0 | | | |
| Williams Lake | 17 | 2 | 27 | 7 | 14.1 | 2.7 | | |
| YUKON | | | 21 | | | - 5.0 | | |
| Burwash Dawson | 14 | 2 | 24 26 | 6 | 6.7 | - 5.2 | | |
| Komakuk Beach | 8 | 1 2 | 23 28 | 6 | 0.0 | - 8.9 1.0 | | |
| Mayo Shingle Point | 13 | 3 | 23 | 5 | 6.4 | - 1.2 | | |
| Watson Lake Whitehorse | 16 | 2 2 | 27 27 | 7 8 | 5.5 | -10.0 - 1.4 | | |
| NORTHWEST TERRITORIES | | | | | | | | |
| Alert | 2 | - 2 | 11 | - 2 | 12.1 | 6.4 | | |
| Baker Lake Broughton Island | 12 | - 2 | 23 12 | 3 - 3 | 13.3 | -10.1 11.4 | | |
| Byron Bay | 9 8 | 1 0 | 19 19 | 0 2 | 23.6 | 18.8 | | |
| Cambridge Bay Cape Dorset | М | X | 12P | 1 | M | X | 1 | |
| Cape Dyer Cape Hooper | 7 3 | - 3 | 14 | 2 - 3 | 1.2 | - 2.0 14.7 | | |
| Cape Parry | 8 M | 2 | 15 | - 1 3P | 18.4 | 13.4 | | |
| Cape Young Clinton Point | 10 | M 3 | 24 | 1 | 45.2 | 37.8 | | |
| Clyde Contwoyto Lake | 3 M | - 2 M | 13 22P | - 1 3 | 12.6 M | 7.8 M | | |
| Coppermine | 12 | 2 | 29 | 3 | 3.9 | - 4.9 - 8.1 | | |
| Coral Harbour Dewar Lakes | 9 | - 3 | 17 | 0 | 11.9 | 2.9 | | |
| Ennadai Eureka | M 4 | - M | M 13 | M 0 | 0.0 | - 3.6 | | |
| Fort Reliance | 16 | 3 | 26 | 7 | 100000000000000000000000000000000000000 | -11.2 46.8 | | |
| Fort Simpson Fort Smith | 18 M | 4 M | 29 28P | 10P | М | M | | |
| Frobisher Bay Gladman Point | 10 | - 3 | 19 13 | 3 | | - 9.3 - 2.1 | | |
| Hall Beach | 6 | 0 | 14 | 0 | 3.0 | - 5.6 | | |
| Hay River Inuvik | 17 15 | 2 4 | 29 27 | 6 | 0.0 | - 8.5 | | |
| Jenny Lind Island lady Franklin Point | 6 | 0 2 | 16 17 | 1 3 | 8.0 | 1.5 | | |
| langatatt Blutt | 3 | - 4 - 5 | 12 | 0 - 3 | 6.8 | 3.9 | | |
| Micker Inlet Mould Bay | 3 | 0 | 9 | - 1 | 2.2 | - 2.2 | | |
| Nicholson Peninsula Norman Wells | 11 20 | 5 | 23 | 11 | 3.0 | - 4.6 - 9.6 | | |
| Pelly Bay | 6 | - 2 X | 15 | 0 | 7.0 | | | |
| Pond Inlet Port Burwell | 6 | X | 15 | 1 | 1.1 | X | | |
| Resolute | 3 | - 1 | 13 | - 1 | 8.9 | 3.9 | | |
| | | | | | | | | |
| | | | | | | rhan i | L | |

| | Ter | mper | ature (| (°C) | Precip. (mm) | | |
|--|---|---|---|--|--|--|---|
| Station | Average | Departure from Normal | Extreme Moximum | Extreme Minimum | Total | Departure from Normal | |
| Sachs Harbour Shepherd Bay Tuktoyaktuk Yellowknife | 8 5 14 18 | - 4 | 19 14 24 24 | 0 0 3 9 | 4.9 0.4 4.2 2.9 | 0.6 - 5.3 - 3.4 - 8.7 | |
| 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 | 13 15 17 16 16 16 17 18 17 16 16 18 17 M 14 16 16 17 | - 2 1 - 2 0 0 - 1 1 M 1 2 3 0 - 3 - 3 1 | 26 26 27 30 27 28 27 27 27 27 26 28 31 27 26P 26 25 28 26 | 5 5 7 1 3 8 7 2 4P 6 7 3 5 6 9 5 4 4 6 8 5 | 18.8 27.0 14.0 1.8 16.3 12.3 17.4 33.9 M 57.5 11.7 6.6 23.8 28.1 0.6 3.8 19.1 59.4 50.0 9.1 33.6 | 12.7 - 9.9 -12.2 - 7.8 - 7.8 - 1.5 11.2 M 39.0 - 2.5 - 8.7 12.1 21.9 - 7.9 -12.7 | |
| 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 | 17 M 16 19 17 17 17 17 17 17 17 17 17 17 17 17 17 | X - 1 - 1 - 2 0 X - 2 X - 2 - 1 X - 2 M 2 - 1 | 28 28P 26 29 28 29 28 28 28 28 27P 29 27P 26 25 27 | 4 11P 3 5 4 5 7 6 6 5 7 8 5 6 6 8 7 | 2.2 12.0 6.1 7.4 M 9.6 12.7 2.8 | 14.4 9.9 - 8.7 X - 8.9 X - 0.7 - 7.7 - 4.2 X 2.7 4.7 | |
| MANITOBA Bissett Brandon Churchill Dauphin Gillam Gimli Island Lake Lynn Lake Norway House Pilot Mound Portage la Prairie The Pas Thompson Winnipeg | 15 17 13 17 14 16 17 M 15 17 17 16 14 | 1 - 3 X - 3 X M X - 2 - 3 - 3 | 27 30 29 27 26 27 26 26 25 30 30 27 27 27 | 3 4 7 5 5 6 8 5P 5 6 7 5 3 6 | 8.6 42.9 8.0 35.2 38.6 11.8 3.7 0.0 25.2 60.8 | -10.2 - 5.4 X - 8.1 X 23.0 X -13.7 -19.3 9.7 | E C C S S S S S S S S S S S S S S S S S |
| ONTARIO Armstrong Atikokan Earlton Geraldton Gore Bay Kapuskasing Kanora Kingston Lansdowne London Moosonee Mount Forest Muskoka North Bay Ottawa Petawawa Pickle Lake Red Lake | M 14 15 13 18 15 17 18 16 18 14 M 17 16 18 16 18 | - 3 - 2 - 3 - 3 - 2 - 2 - 3 - 2 - 3 - 2 - 3 - 2 - 3 | 25P 23 26 24 27 26 25 27 28 28 28 28 27 27 27 26 | 1 4 5 2 9 5 8 10 7 8 0 5 4 6 11 5 7 | 11.5 0.0 8.1 11.2 1.2 12.3 5.8 7.1 0.0 | -12.6 - 1.2 -15.0 -14.3 - 5.7 -13.1 - 8.9 - 6.9 -12.9 -18.5 -20.0 | |

| | Temperature (°C) | | | | | Precip. (mm) | | | |
|---|--|------------|---|--|---|--|---|--|--|
| Station | Average | Departure, | from Normal | Extreme Maximum | Extreme Minimum | Total | Departure from Normal | | |
| Simcoe Sioux Lookout Sudbury Thunder Bay Timmins Toronto Trenton Trout Lake Wawa Wiarton Windsor | 19 16 17 15 18 18 16 12 M | - | 2 3 3 4 4 4 3 2 X M 3 | 27 25 27 24 26 27 26 26 26 22 27P 28 | 9 8 7 5 8 9 7 3 7 | 7.8 9.8 0.9 0.4 41.8 0.0 18.6 15.7 17.0 1.0 21.4 | - 7.6 -13.0 -17.6 -17.4 - 4.9 -14.3 5.0 - 4.7 X -11.3 - 1.1 | | |
| QUÉBEC Bagotville Baie Comeau Blanc Sablon Border Chibougamau Fort Chimo Gaspé Grindstone Island Inoucdjouac Koartak La Grande Rivière Maniwaki Matagami Mont-Joli Montréal Natashquan Nitchecun Port Menier Poste-de-la-Baleine Québec Rivière du Loup Roberval Schefferville Sept-Iles Sherbrooke Ste Agathe des Monts Val d'Or | 17 16 12 M 14 12 16 17 5 8 12 15 14 18 19 14 12 M 9 18 M 17 11 16 17 | - | 1 0 0 M X 0 0 X 0 6 X X 5 X 0 2 1 2 M 3 1 M 2 2 1 2 2 4 | 30 26 16 M 26 28 28 23 15 15 26 25 27 28 22 22 18P 24 27 24 27 26 24 27 24 27 24 27 24 33 | 9 7 7 7 3P 6 2 4 13 0 3 1 3 4 10 10 5 5 8P 1 8 9 9 3 6 4 6 2 | 56.2 M 4.8 20.6 35.1 12.7 12.6 | 7.9 2.1 2.0 M X - 6.6 X 24.8 - 3.9 X 29.4 X 35.9 -11.1 7.8 - 9.5 M -18.5 39.5 M -15.1 1.1 14.0 - 8.3 -15.0 -17.2 | | |
| NEW BRUNSWICK Charlo Chatham Fredericton Moncton Saint John | 18 M 18 18 17 | - | 0 M 2 1 0 | 29 30P 28 27 26 | 9 8 7 10 10 | 15.4 M 28.3 33.9 82.1 | 3.2 M 13.5 18.2 68.0 | | |
| NOVA SCOTIA Eddy Point Greenwood Sable Island Shearwater Sydney Truro Yarmouth | 18 18 18 18 17 M | | X 2 1 0 1 M 0 | 27 26 21 25 27 24P 24 | 12 7 14 12 10 7 9 | 62.4 21.8 11.4 72.6 34.0 M 88.6 | X 11.7 -10.3 54.5 14.3 M 72.4 | | |
| PRINCE EDWARD ISLAND Charlottetown Summerside | 18 19 | | 0 0 | 27 28 | 12 12 | 47.0 39.6 | 33.6 28.3 | | |
| NEWFOUNDLAND Argentia Battle Harbour Bonavista Burgeo Cartwright Churchill Falls Comfort Cove Daniel's Harbour Deer Lake Gander Goose Hopadalu Port aux Basques St Albans St Anthony St John's St Lawrence Stephenville Wabush Lake | 15 13 16 15 15 14 17 16 16 18 17 10 15 M 15 16 14 16 11 16 11 15 | | X 2 1 0 2 0 1 1 1 1 1 1 1 M X 0 1 0 1 | 20 26 28 20 28 25 29 20 29 29 29 25 20 25 20 25 20 25 20 27 29 29 29 29 29 29 29 29 20 24 25 26 26 26 26 26 26 26 26 26 26 26 26 26 | 10 6 8 9 6 6 8 10 4 9 6 5 10 6P 8 7 7 | 3.0 19.4 21.6 60.4 2.0 12.2 14.5 0.4 51.3 21.0 43.7 22.6 12.7 2.8 | X - 5.2 -12.1 - 8.1 0.1 37.0 -17.7 - 6.5 - 1.7 -24.0 28.4 3.9 22.3 - 5.4 X -19.1 -12.6 9.2 54.1 | | |
| | | | | | | | | | |