

At the end of a very mild Novem- ported. In contrast, some growers are

ber, cold arctic air spread throughout the Prairie Provinces, the interior of British Columbia and Northwestern Ontario during the weekend. Temperatures fell below -25° at most stations on November 30 and December 1st. Several low temperature records were set.

A snowstorm deposited 45.4 cm of snow in 24 hours at Sept-Iles on November 29 but no major incident was reworried about a possible winter wheat kill in Southern Alberta because of the poor snowcover.

Temperatures fluctuated between -43° (at Watson Lake, Alert and Eureka) and 13° (at Abbotsford and Calgary). A total of 95.8 mm of precipitation was recorded at Comox. The snow depth was slightly reduced to 120 cm at Broughton Point.

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

YUKON

Temperatures finally dropped to winterlike values during the last days of the week. On December 1st the temperature was in the -20° to -40° range throughout the Yukon, although the mean temperature for the week was above normal for all areas. Before the onset of the cold weather some high temperature records were set. The mercury rose to 3° at Whitehorse on November 27th. The temperature fell to -43° at Watson Lake on December 1st.

Snowfall was generally heavy. Most areas south of the Ogilvie Mountains received 5 cm to 15 cm. Some valley sites were reporting a snowcover of 15 cm to 25 cm while higher elevation sites reported 30 cm to 55 cm.

Ice bridges have been built at the Peel and Mackenzie River crossings opening the Dempster Highway for winter travel.

NORTHWEST TERRITORIES

A very cold airmass remained over northern and western portions of the Franklin district. Temperatures dropped to -43° at Alert and Eureka. In contrast, the weather was milder in eastern sections of the Keewatin district where average temperatures were more than 8° above normal. The mercury reached 1° at Fort Smith and Hay River.

ALL REPORTS

1. TOTO OTHER

Precipitation was heaviest on the shore of Hudson Bay and on the eastern coast of Baffin Island. Precipitation totalled 12.2 mm at Cape Dyer and 11.2 mm at Chesterfield.

BRITISH COLUMBIA

An outbreak of Arctic air during the last two days of this week displaced the mild weather of the past few weeks. Mean temperatures were above normal in most areas. In northeastern





areas the mean temperature was more than 6° above normal. The mercury reached 13° at Abbotsford on November 27th and fell to -33° at Fort Nelson on December 1st.

Precipitation totals were above normal along most coastal areas and in the southeastern interior. Weekly totals were 95.8 mm at Comox. In other areas the precipitation totals were below normal.

In northern areas the ground was frozen enough to begin moving heavy machinery. Loggers were preparing their trucks for the the start of winter during the weekend lowering the temperature to -38° on December 1st at High Level. Several cold temperature records were set on that day through most of the Prairies. Despite the cold, the weekly mean temperatures remained above normal, more than 4° above normal in central areas.

The arrival of the arctic airmass was accompanied by snow. Accumulations of 5 cm to 15 cm were reported in most areas of southern Alberta. Precipitation totalled 21.7 mm at Churchill.

The snow perturbed travelling in Southern Alberta but there was still not a sufficient amount of snow to protect the winter wheat from the cold. Some growers are worried about a possible winter wheat kill.

operations.

PRAIRIE PROVINCES

This week was one of contrast. The mild weather of the past weeks persisted well into this period producing some high temperature records in Southern Alberta. The mercury reached 13° in Calgary on November 27th but was down to -27° four days later. The very cold airmass marched through the Prairies

ONTARIO

The mild weather spread to all regions this week. Mean temperatures were more than 4° above normal in the northwestern area. The mercury touched 9° at Trenton and Windsor on December 1st. The cold wave, which spread throughout the Prairies during the weekend, penetrated into Northwestern Ontario on the first day of December. The temperature dropped to -27° at Pickle Lake and Trout Lake on that day.

The storm which swept the province on November 28 and 29 left snow over all areas. The snowcover gradually disappeared from southern areas but was still 27 cm at Timmins and more than 20 cm at several stations on December lst.

QUÉBEC

The temperature regime was reversed from last week. The temperature became milder in southern regions while weekly mean temperatures were falling below normal in central areas, dropping to more than 5° below normal at Schefferville. Temperatures fluctuated between a maximum of 7° recorded on the 25th at Gaspé and on the following day at Blanc Sablon, and a minimum of -31° on the 28th, at Schefferville.

Precipitation exceeded normal at most stations, totalling more than 30 mm at several locations. The area extending from Gaspé to the Lower North Shore region received the largest accumulations. Accompanied by winds up to 103 km/h, a storm deposited 45.4 cm of snow in 24 hours (on the 29th) at Sept-Iles where the weekly total reached 75.7 mm. As the storm passed during the weekend no major incidents were reported in the area due to a good response from the population to snow advisories.

ATLANTIC PROVINCES

With the exception of central Labrador, mean temperatures throughout the Atlantic Provinces were close to or above normal. The mercury reached 10° at Yarmouth and Daniels Harbour on November 25th and 26th respectively. It fell to -27° at Churchill Falls on November 28th.

Precipitation was above normal at most stations. Heavy rains fell in some areas of Nova Scotia on November 29th and caused some minor flooding in Halifax. St. John recorded a weekly total of 93.5 mm.

Strong winds with gusts to 111 km/h (recorded at Charlottetown) caused power outages on Prince Edward Island. Nova Scotia was still experiencing problems resulting from the previous week's storm.

November snowfall records were set at Halifax International Airport with a monthly total of 44.3 cm (previous record 33 cm in 1964) and at Nappan with a total of 57.7 cm (previous record 51.6 cm in 1933). Most of the snow received at Nappan fell on November 18th and 19th.

Pack ice continued to increase along the Labrador coast.

and bevery and steas product

NOTE

Climatic Perspectives will not be published during the Christmas Holidays. The temperature and precipitation data tables for December 16 to 29, 1980 will be inserted in the first bulletin in 1981.



STATION	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL	
Resolute	1126.0	-104.0	3775.0	-57.0	99	(31.18) (31.18)
Inuvik	1089.0	-57.0	2771.5	-11.5	100	MALEN
Whitehorse	603.5	-176.5	1746.0	-179.0	91	Vicity
Vancouver Int'l A	315.5	-29.5	764.0	-15.0	98	Vanad
Edmonton Mun A	482.0	-158.0	1208.0	-164.0	88	Reviewe
Calgary Int'1 A	466.0	-129.0	1227.5	-133.5	90	Plack
Regina	549.5	-119.5	1234.5	-102.0	92	then the
Winnipeg Int'l A	517.0	-76.0	1272.0	35.0	103	Lough
Thunder Bay	601.5	10.5	1361.0	77.0	106 👘	Toron
Windsor	425.5	32.5	778.5	106.5	116	Stort 30
Toronto Int'l A	461.0	41.0	913.5	112.5	114	CH LOCK
Ottawa Int'1 A	545.5	68.5	1081.5	153.5	117	120-2
Montreal Int'1 A	539.0	89.0	1082.0	230.0	127	ppers i
Quebec	580.5	70.5	1247.0	183.0	117	THE LEG
Saint John, N.B.	495.5	50.5	1139.5	108.5	111	A TRANS
Halifax	442.0	67.0	949.0	151.0	119	10.00
Charlottetown	472.5	49.5	1033.0	126.0	114	19300
St. John's, Nfld.	453.0	34.0	1345.5	216.5	119	10011
Liston words. La "La" La "La" La "La" bellow Normal						

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 Temperature Anomaly Forecast				
Whitehorse	Much Below Normal	More than 5.8° below Normal			
Victoria	Below Normal	From 0.5° to 1.5° below Normal			
Vancouver	Below Normal	From 0.5° to 1.8° below Normal			
Edmonton	Much Below Normal	More than 4.8° below Normal			
Regina	Much Below Normal	More than 4.0° below Normal			
Winnipeg	Below Normal	From 1.0° to 3.5° below Normal			
Thunder Bay	Near Normal	Within 0.8° of Normal			

Toronto Ottawa Montreal Quebec Fredericton Halifax Charlottetown St. John's Goose Bay Frobisher Bay Inuvik Much Above Normal Much Above Normal Much Above Normal Much Above Normal Above Normal Much Above Normal Much Above Normal Above Normal Below Normal Below Normal

More than 2.2° above Normal More than 2.6° above Normal More than 2.7° above Normal More than 2.5° above Normal From 0.7° to 2.5° above Normal More than 2.1° above Normal More than 2.3° above Normal From 0.5° to 1.7° above Normal From 1.0° to 3.3° above Normal From 1.2° to 4.1° below Normal

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

Atmospheric Circulation



7-day Mean 50 kPa height max (dam) November 24 to 30, 1980



7-day Mean 50 kPa height anomaly (in 5 dam intervals) November 24 to 30, 1980

The north-south component of the circulation intensified over North America this week. The average 5 kPa height rose slightly along the Pacific coast while the trough centered over Hudson Bay and Lake Superior deepened. The strong anomalies over the Atlantic ocean were a result of the split in the

mass during the later part of the week, the weekly average temperatures remained well above normal. During the weekend, however, the tropospheric current acquired a more northerly component which spread the cold arctic airmass into the interior valleys of British Columbia, all of the Prairies, and

tropospheric flow.

The tropospheric flow reaching the coast of British Columbia brought a series of disturbances to coastal regions. To the leeside of the coastal mountain range, the tropospheric ridge dominated the circulation over Western Canada during the first part of the week. Temperatures were so mild that despite the arrival of a very cold airnorthwestern Ontario.

In the east, the southwest circulation maintained above normal temperatures in all areas except central Québec and central Labrador. The storm which crossed eastern regions from November 27th to 29th deposited large amounts of snow in the Gaspé - Lower North Shore areas and copious amounts of rain in the Maritimes.

Andy Radomski



Monthly mean sea surface temperature November 1st to 30th, 1980



Sea Surface Temperature Anomalies November 1st to 30th, 1980

SEA SURFACE TEMPERATURE



CLIMATIC PERSPECTIVES

Staff

Editor: Assistant Editor: Technical Staff: Graphics and Layout: Word Processing: Yves Durocher Bob Paterson Fred Richardson, Andy Radomski Bill Johnson Una Ellis

Correspondents

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

Telephone Inquiries (416) 667-4711/4906

10 TEMPERATURE AND PRECIPITATION DATA FOR THE WEEK ENDING 06Q0 G.M.T. DECEMBER 2, 1980

	Temperature (°C) Precip. (mm			Temperature (°C)	Precip. (mm)		Temperature (°C)	Precip. (mm)	
Station	Average Departure from Normal Extreme Maximum Kinimum	Total Departure from Normal	Station	Average Departure from Normal Extreme Maximum Éxtreme Minimum	Total Departure from Normal	Station'	Average Departure from Normal Extreme Maximum	Total Departure from Normal	
BRITISH COLUMBIA Abbotsford A Alert Bay Blue River Bull Harbour Burns Lake Cape Scott Cape St. James Castlegar A Comox A Cranbrooke Dease Lake Estevan Point Fort Nelson A Fort St. John A Kamloops A Langara Lytton Mackenzie A Mc Innes Island Penticton A Port Hardy A Prince George A Prince Rupert A Quesnel A Revelstoke A Sandspit Smithers A Spring Island Stewart A Terrace A Vancouver Int'l A Victoria Int'l A Williams Lake A Mayo A Shingle Point A Watson Lake A Whitehorse A	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c} 85.2 \\ 85.2 \\ 38.6 \\ 59.6 \\ - 0.6 \\ M \\ X \\ 71.2 \\ 2.9 \\ 51.5 \\ -15.1 \\ 52.1 \\ 7.4 \\ 29.5 \\ 11.4 \\ 95.8 \\ 35.4 \\ 18.6 \\ 11.5 \\ 1.3 \\ - 5.6 \\ M \\ M \\ 3.6 \\ - 3.5 \\ 0.9 \\ - 7.5 \\ 9.7 \\ 4.0 \\ 56.0 \\ 16.5 \\ 60.3 \\ 47.3 \\ 15.8 \\ X \\ 64.2 \\ - 9.9 \\ 3.8 \\ - 3.3 \\ 69.6 \\ 6.8 \\ 2.3 \\ -11.0 \\ 43.8 \\ -37.7 \\ 6.5 \\ - 2.8 \\ 72.8 \\ 51.4 \\ 83.0 \\ 29.7 \\ 24.2 \\ 10.3 \\ M \\ M \\ X \\ 66.0 \\ 13.5 \\ 81.6 \\ 39.5 \\ 61.7 \\ 25.2 \\ 24.6 \\ 17.0 \\ 7.7 \\ 2.2 \\ 4.6 \\ - 0.6 \\ 5.0 \\ 3.7 \\ 9.7 \\ 5.3 \\ 6.8 \\ 6.2 \\ 6.4 \\ - 3.5 \\ 7.7 \\ 1.2 \\ \end{array}$	Sachs Harbour Shepherd Bay A Tuktoyaktuk Yellowknife A ALBERTA Banff Calgary Int'l A Cold Lake A Coronation A Edmonton Int'l. A Edmonton Mun. A Edmonton Namao A Edson A Fort Chipewyan Fort McMurray A Grande Prairie A High Level A Jasper Lethbridge A Medicine Hat A Peace River A Red Deer A Rocky Mountain House Slave Lake A Vermilion A Whitecourt SASKATCHEWAN Broadview Buffalo Narrows Cree Lake Estevan A Hudson Bay Kindersley La Ronge A Meadow Lake A Moose Jaw A Nipawin A North Battleford A Prince Albert Regina A Rockglen Saskatoon A	M -17P -37 -27 2 -6 -38 -22 3 -12 -31 -18 2 0 -36 - 8 -22 -25 -5 0 13 -27 -8 -2 2 -25 -5 0 13 -27 -8 2 4 -27 M M 5P -30 -7 4 7 -23 -6 2 7 -24 -6 3 7 -25 -8 2 6 -24 -14 4 2 -37 -9 5 6 -29 -7 4 8 -26 -12 1 6 -38 -7 -1 12 -27 M 7 -23 -10 4 8 -26P -27<	$\begin{array}{c} 0.0 & -1.4 \\ 2.9 & 1.5 \\ 2.0 & 0.1 \\ 7.2 & 2.6 \\ 12.7 & 2.9 \\ 14.5 & 12.3 \\ 1.0 & -3.2 \\ M & M \\ 1.2 & -3.3 \\ 1.1 & -2.9 \\ 0.0 & -4.5 \\ 7.2 & -0.6 \\ 7.3 & 2.4 \\ 0.4 & -4.5 \\ 1.0 & -5.6 \\ 4.4 & 0.8 \\ 5.8 & -3.5 \\ 6.3 & 1.7 \\ M & M \\ 0.3 & -4.2 \\ 10.1 & 6.7 \\ 14.2 & 11.3 \\ 0.5 & -6.9 \\ 0.0 & -3.1 \\ 1.8 & -3.1 \\ 1.8 & -3.1 \\ 1.8 & -3.1 \\ 1.6 & -0.2 \\ 0.0 & -5.8 \\ 2.4 & X \\ 0.8 & -3.1 \\ 1.8 & -3.1 \\ 1.8 & -3.1 \\ 1.6 & -0.2 \\ 0.0 & -5.8 \\ 2.4 & X \\ 0.8 & -3.1 \\ M & M \\ 7.7 & 5.4 \\ 8.0 & 2.6 \\ 3.8 & X \\ 3.6 & -0.9 \\ 0.0 & X \\ 0.2 & -3.2 \\ 0.0 & -4.0 \\ 2.4 & -0.7 \\ M & X \\ 0.4 & -3.9 \\ \end{array}$	Simcoe Sioux Lookout A Sudbury A Thunder Eay A Timmins A Toronto Int'l A Trenton A Trout Lake Wawa A Wiarton A Windsor A QUÉBEC Bagotville A Baie Comeau Blanc Sablon Border Chibougamau Fort Chimo A Gaspé A Grindstone Island Inoucdjouac Koartak La Grande Rivière A Maniwaki Matagami A Mont-Joli A Montréal (A int.) Natashquan A Nitchequon Port Menier Poste-de-la-Baleine Québec A Rivière du Loup Roberval A Schefferville A Sept-Iles Sherbrooke A Ste.Agathe des Monts Val d'Or A	M M BP -5 -6 5 0 -23 -4 2 2 -11 -4 3 3 -18 -7 2 1 -23 0 0 7 -6 0 1 9 -7 -12 2 -3 -27 M X 4P -19 0 1 6 -6 2 1 9 -6 -10 X -2 -25 M M -25 -12 10 X -2 -25 M M -3 -25 -10 X -2 -22 10 X - 2 -25 M M -3 -25 -10 X - 1 -20 10 - 2 -22 -3 -3 0 - 2	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
NORTHWEST TERRITORIES Alert Baker Lake Broughton Island Byron Bay Cambridge Bay A Cape Dorset Cape Dyer A Cape Hooper Cape Parry A Cape Young A Chesterfield Inlet Clinton Point Clyde Contwoyto Lake Coppermine Coral Harbour Dewar Lakes Ennadai Eureka Fort Reliance Fort Simpson Fort Smith A Frobisher Bay A Gladman Point A Hall Beach A Hay River A Inuvik A Junny Lind Island Lady Franklin Point Longstaff Bluff Mackar Inlet Mould Bay Nicholson Peninsula Norman Wells A Pelly Bay Pond Inlet Port Burwell Resolute A	S -37 -10 -31 -43 -23 1 -5 -33 -16 3 -8 -24 -28 -1 -15 -38 -30 -3 -16 -39 M X $-2P$ $-17F$ -18 0 -3 -31 M M $-10P$ -25 -22 1 -16 -27 -22 3 -14 -28 -19 3 -5 -34 -23 -1 -17 -32 -19 1 -8 -27 M $-13P$ $-34R$ -21 2 -10 -30 -13 8 -5 -24 -20 2 -11 -27 M $-7P$ $-33R$ M $-25P$ -43 -13 8 -5 -24 -20 2 -2	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Swift Current A Uranium City Wynyard Yorkton A MANITOBA Bissett Brandon A Churchill A Dauphin A Gimli Island Lake Lynn Lake Norway House Pilot Mound Portage la Prairie The Pas A Thompson A Winnipeg ONTARIO Armstrong Atikokan Earlton Geraldton Gore Bay A Kapuskasing Konora A Kingston Lansdowne London Moosonee Mount Forest Muskoka A North Bay Ottawa Petawawa Pickle Lake Red Lake A	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Moncton A Saint John A NOVA SCOTIA Eddy Point Greenwood A Sable Island Shearwater A Sydney A Truro Yarmouth A PRINCE EDWARD ISLAND Charlottetown Summerside NEWFOUNDLAND Argentia VTMS Battle Harbour Bonavista Burgeo Cartwright Churchill Falls A Comfort Cove Daniel's Harbour Deer Lake Gander Int'l A Goose A Hopedale Port aux Basques St. Albans St. Anthony St. John's A St. Lawrence Stephenville A Wabush Lake	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	43.4 17.6 93.5 50.0 58.1 X 48.1 16.7 32.9 - 2.7 58.0 16.8 50.2 12.1 M M 59.8 24.7 59.9 27.6 38.5 12.5 10.8 X 40.8 20.4 34.6 12.8 32.1 -31.5 18.1 - 0.3 36.8 15.8 M M 10.2 -13.6 35.8 0.6 27.0 0.1 53.8 35.2 27.4 12.3 66.6 27.8 M M 68.6 X 54.6 15.9 27.8 -11.5 17.5 -10.7 23.8 - 0.9	

P - extreme value based on less than 7 days

X = no normal due to short period

M = not available at press time