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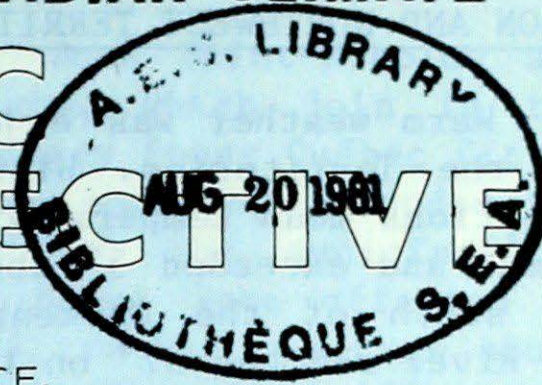
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# A WEEKLY REVIEW OF CANADIAN CLIMATE

# CLIMATIC PERSPECTIVES

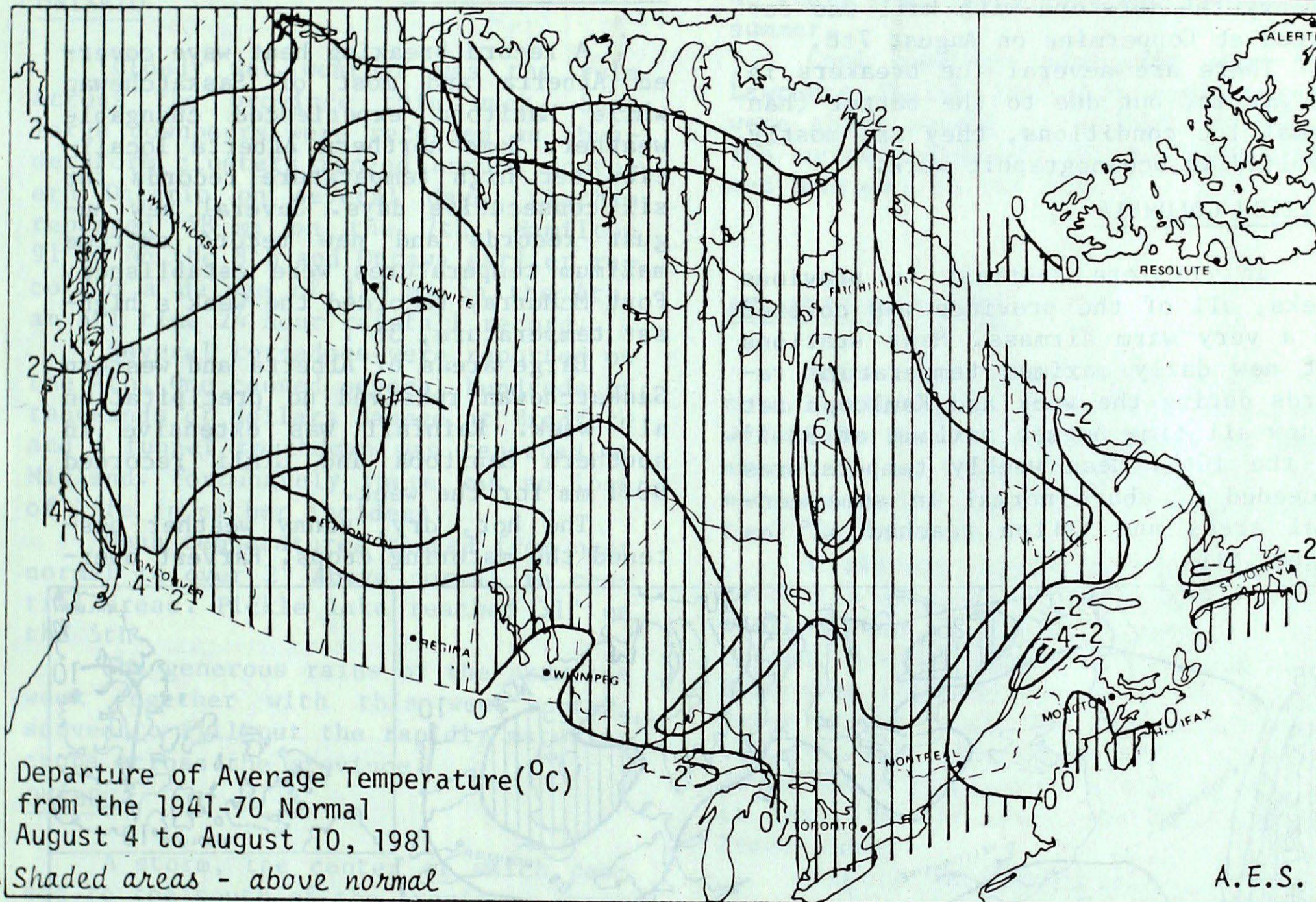


THE CANADIAN CLIMATE CENTRE,  
ATMOSPHERIC ENVIRONMENT SERVICE,  
4905 DUFFERIN ST., DOWNSVIEW, ONTARIO M3H 5T4

AUGUST 14, 1981

(Aussi disponible en français)

VOL. 3 NO. 32



## WEATHER HIGHLIGHTS FOR THE PERIOD - AUGUST 4 - 10, 1981

Heat wave in the West while East receives deluge

Most of the West experienced record breaking warm dry weather this week. Some extreme maximum temperature records were set.

The hot dry weather pushed the forest fire hazard index to very high to extreme in many areas. Many new fires broke out, some major. One fire in Alberta caused the evacuation of the 2500 residents of Swan Hills.

The hot weather also hastened the maturing crops. Harvesting operations were starting and should be in full swing in 7 to 10 days.

A storm dropped large amounts of rain on eastern regions. Ottawa set an all time 24 hour rainfall record, 115 mm. Montmagny, Québec was flooded when the river Bras Saint-Nicolas overflowed. The St. John River basin received 100 mm to 200 mm of rain.

Tropical storm Cindy passed close to the Atlantic Provinces but had little effect.

Temperatures varied from 42° at Lytton, B.C. to -2° at Alert and Mould Bay, N.W.T. Ottawa recorded 124.1 mm of precipitation for the week.

**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

Warm weather was enjoyed throughout the Territories. With only a few exceptions mean temperatures were above normal and exceeded  $5^{\circ}$  above normal in the south of the Mackenzie District. Hay River reached  $37^{\circ}$  on the 9th.

Precipitation was widespread and most stations received significant amounts. Cape Parry recorded 37.4 mm. A heavy thunderstorm with hail was reported at Coppermine on August 7th.

There are several ice breakers in the Arctic, but due to the better than normal ice conditions, they are mostly involved in oceanographic work.

### BRITISH COLUMBIA

In complete contrast to previous weeks, all of the province was covered by a very warm airmass. Many stations set new daily maximum temperature records during the week and Kamloops set a new all time August maximum of  $38.7^{\circ}$  on the 10th. Mean weekly temperatures exceeded  $6^{\circ}$  above normal in some central areas and Lytton reached  $42^{\circ}$  on August 9th.

Only a few stations received any precipitation at all this week. Prince Rupert and Stewart recorded 37.6 mm and 37.2 mm respectively.

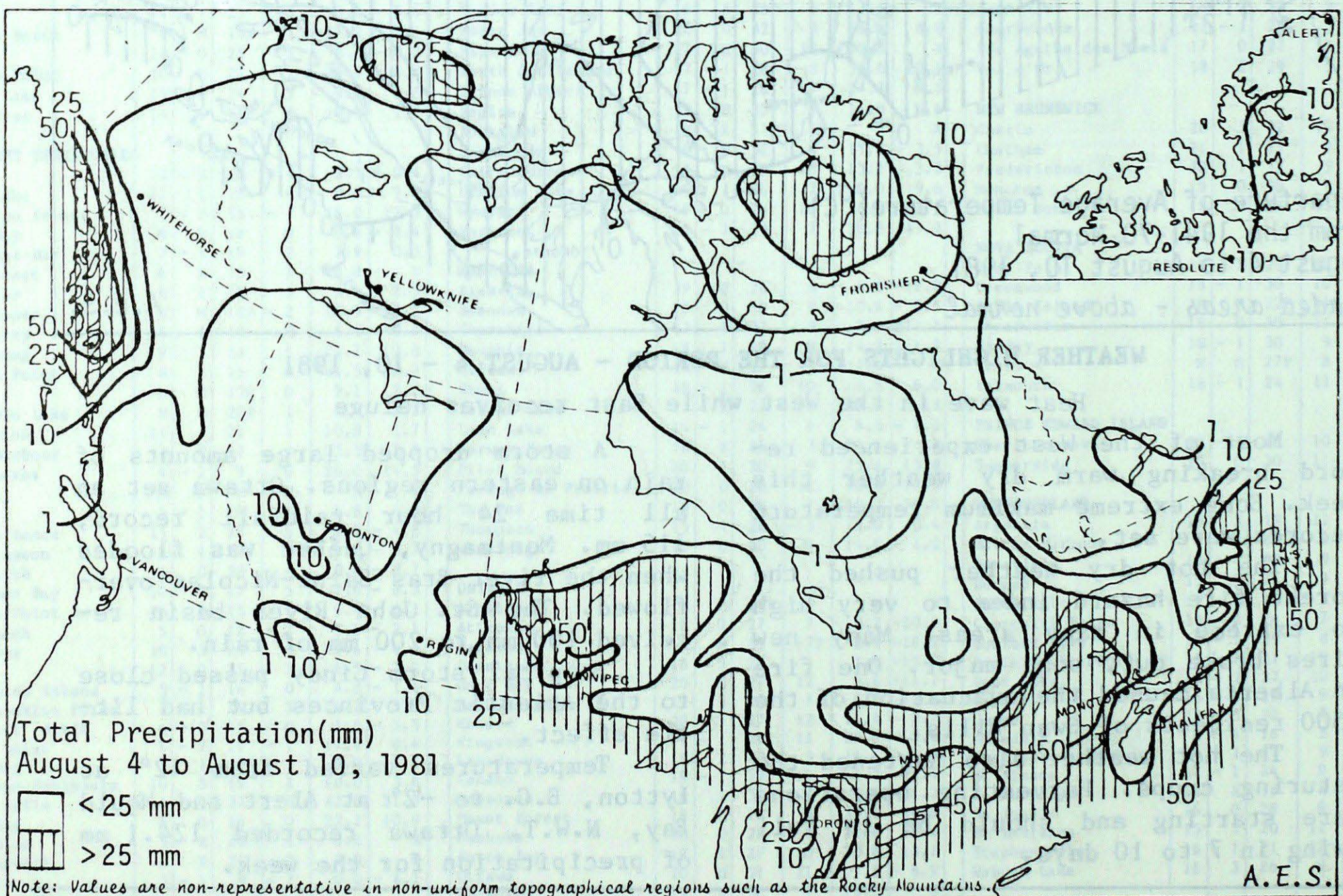
The hot dry weather pushed the forest fire hazard index to extreme in many central and northern areas. Major fires were reported in some central regions.

### PRAIRIE PROVINCES

A record breaking heat wave covered Alberta and most of Saskatchewan while Manitoba experienced changable weather. Some northern Alberta localities set high temperature records for six consecutive days. Several new August records and new record extreme maximum temperatures were established. Fort McMurray recorded the week's highest temperature,  $36^{\circ}$ .

Large areas of Alberta and western Saskatchewan received no precipitation all week. Rainfall was extensive in southern Manitoba and Gimli recorded 90.1 mm for the week.

The hot, dry, sunny weather hastened the maturing crops. Harvest oper-



ations were close to starting in many areas at the end of the week.

Eleven new forest fires broke out in northern Alberta during the last day of the week. The fire hazard is rated at very high to extreme. The most serious fire covers 7300 hectares only 8 km from the town of Swan Hills. Evacuation of the 2500 residents began Monday evening.

ONTARIO

Cloudy wet weather was the rule across the province this week. Some large downpours were recorded as thunderstorm clusters ranged across southern Ontario on several days. Chatham reported 58 mm on the 7th, Hamilton 91 mm on the 8th and Ottawa earlier recorded a deluge of 115 mm on the 4th, an all time 24 hour rainfall record.

Several tornadoes were reported on the 4th. One caused several hundreds of thousands of dollars damage at Bradford and a funnel touchdown was reported at Midland. Fortunately there was no loss of life in either incident.

Mean temperatures ranged from near normal to over 2° above normal in central areas. Pickle Lake reached 31° on the 5th.

The generous rains of the previous week together with this week's rain served to fill out the rapidly maturing crops across the province.

QUÉBEC

A storm, the center of which passed to the south of the province, dropped abundant quantities of precipitation in the Quebec City and Appalachian regions. Mont Joli recorded 102.7 mm.

The river Bras Saint-Nicolas and its southern arm, which join in the center of Montmagny (near Québec City), overflowed their banks and flooded the southern parts of the municipality. More than 250 homes were affected by the flood which crested 6 metres above the normal level. More than 400 people were evacuated. According to some residents, this was the first time in over 40 years that the rivers had flooded in summer.

Cool weather dominated the St. Lawrence Valley but mean temperatures were above normal in northern regions. The mercury reached 28° at Bagotville and Maniwaki on the 4th.

ATLANTIC PROVINCES

Mean temperatures were close to normal throughout the Maritimes and were more than 4° below normal in some areas of northern Newfoundland. The mercury varied from 31° at Fredericton to 3° at Hopedale.

A midweek storm generated heavy rainfalls over the St. John River basin where 100 mm to 200 mm of rain was recorded, most of which fell on the 6th. Edmundston received 114 mm in 24 hours. Water levels in the St. John River rose 4.5 m in less than 24 hours at a point 20 km above Edmundston. A rise of 2.5 m in less than 12 hours was recorded at Fredericton.

A small low 600 km south of Halifax turned into tropical storm Cindy and passed close to southern Newfoundland on the 4th. St. Lawrence received 40 mm of rain from the storm.

CLIMATIC PERSPECTIVES

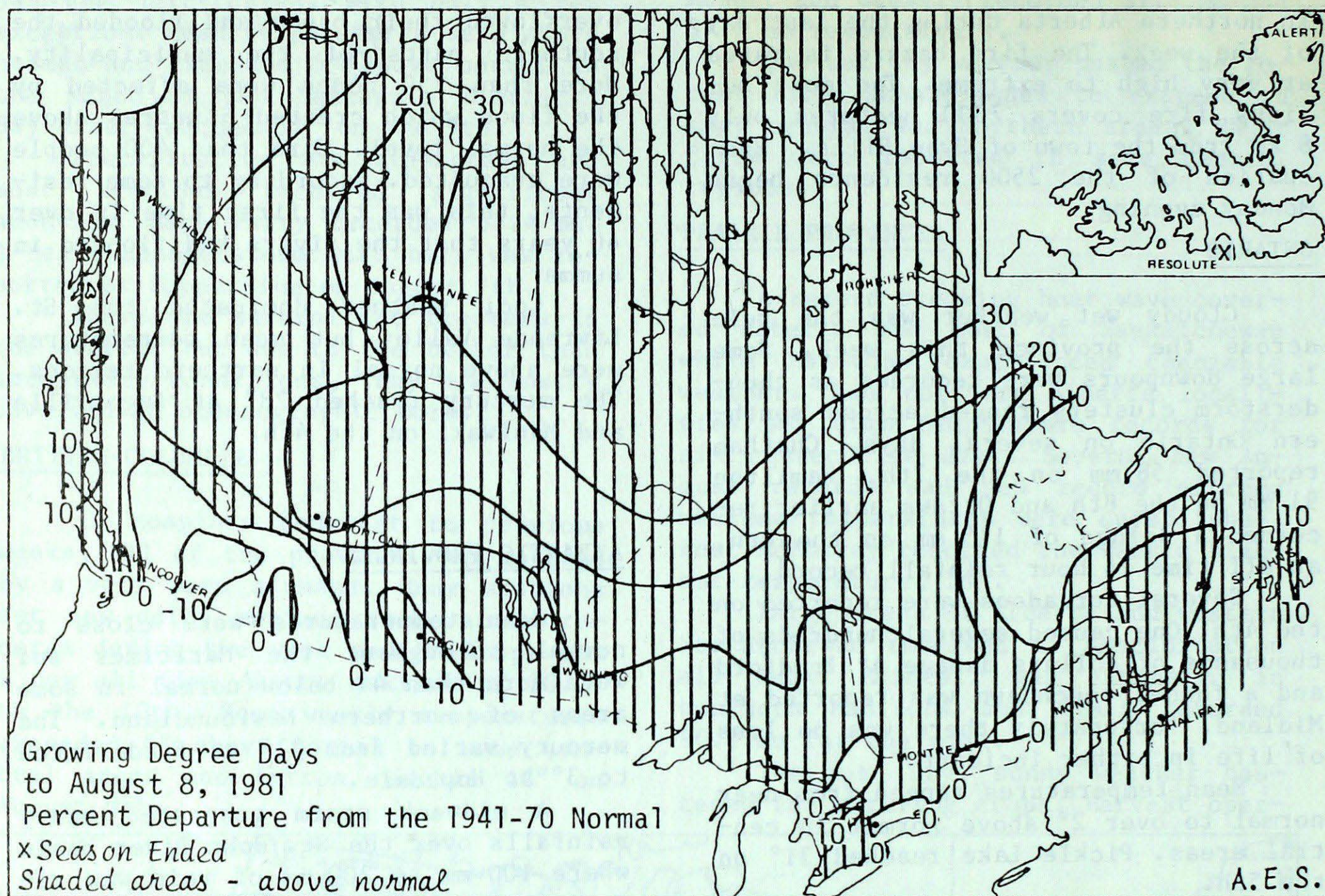
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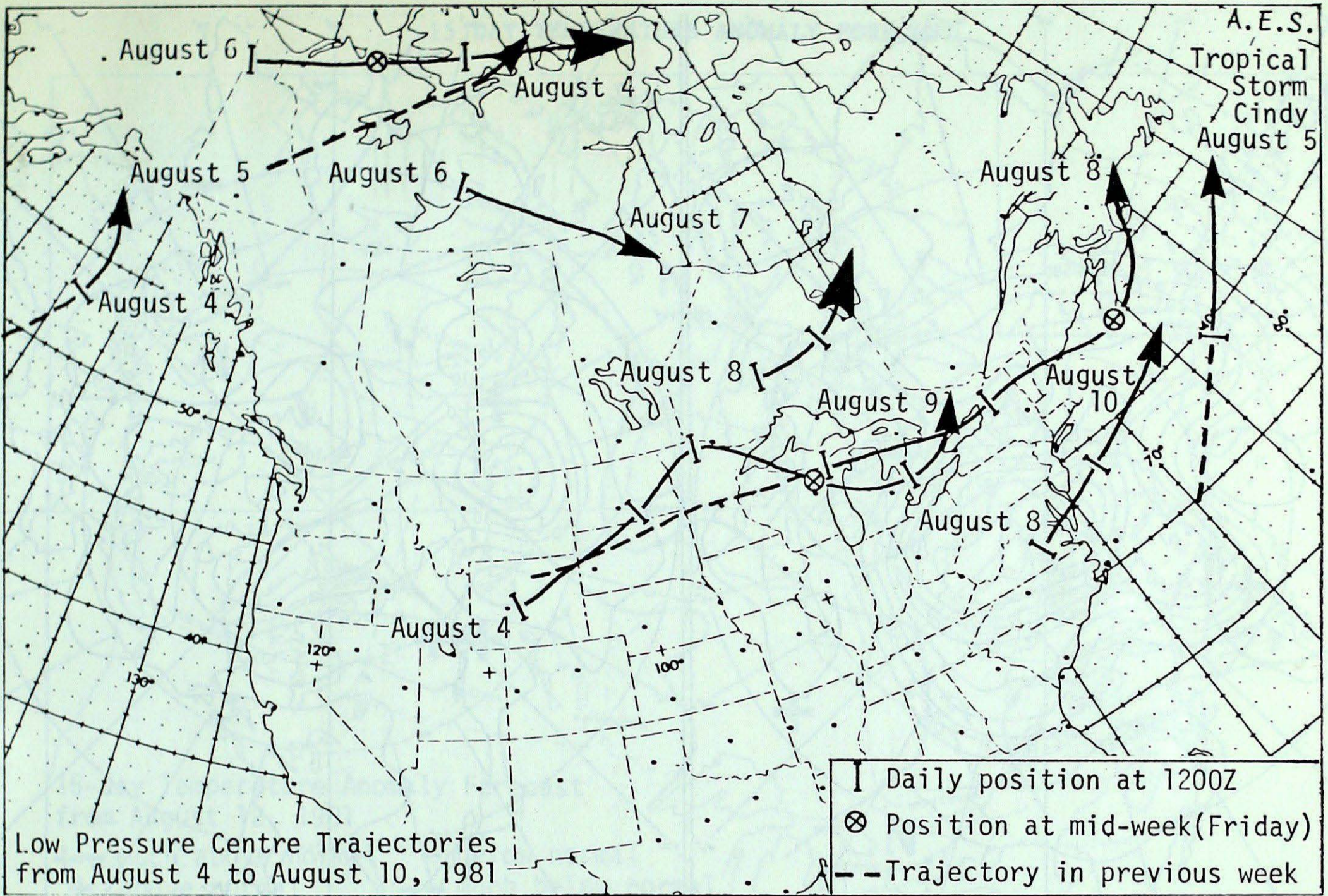
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## GROWING DEGREE-DAY SUMMARY TO AUGUST 8, 1981

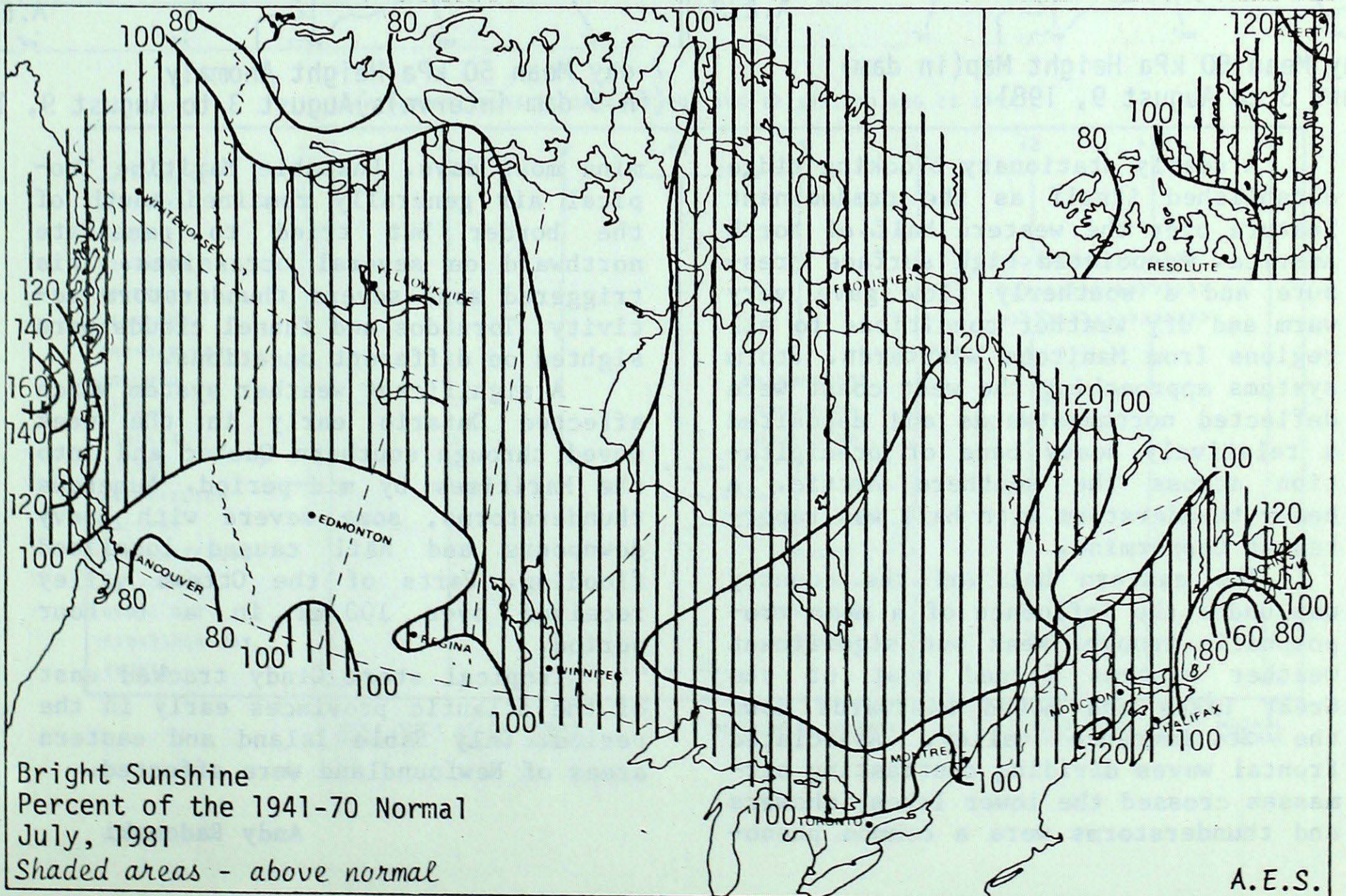


CITY	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL
Whitehorse	75.0	8.0	665.5	32.5	105
Penticton	136.5	14.5	1268.0	-81.0	94
Vancouver	112.0	8.0	1231.0	44.0	104
Edmonton	122.0	27.0	1115.0	217.0	124
Calgary	90.0	-3.0	850.0	0.0	100
Regina	116.5	2.5	1188.5	137.5	113
Saskatoon	118.0	7.0	1150.0	104.0	110
Winnipeg	113.0	-8.0	1149.5	27.5	102
Thunder Bay	118.5	22.5	925.5	56.5	107
Windsor	144.5	11.5	1602.0	88.0	106
Toronto	127.0	6.0	1213.5	-83.5	94
Ottawa	129.0	9.0	1287.5	13.5	101
Montreal	122.5	-5.5	1285.5	-26.5	98
Quebec	109.5	3.5	1090.0	17.0	102
Fredericton	129.0	17.0	1146.0	73.0	107
Halifax	115.5	9.5	940.5	18.5	102
Charlottetown	113.0	3.0	1006.0	109.0	112
St John's	95.5	4.5	717.0	114.0	119

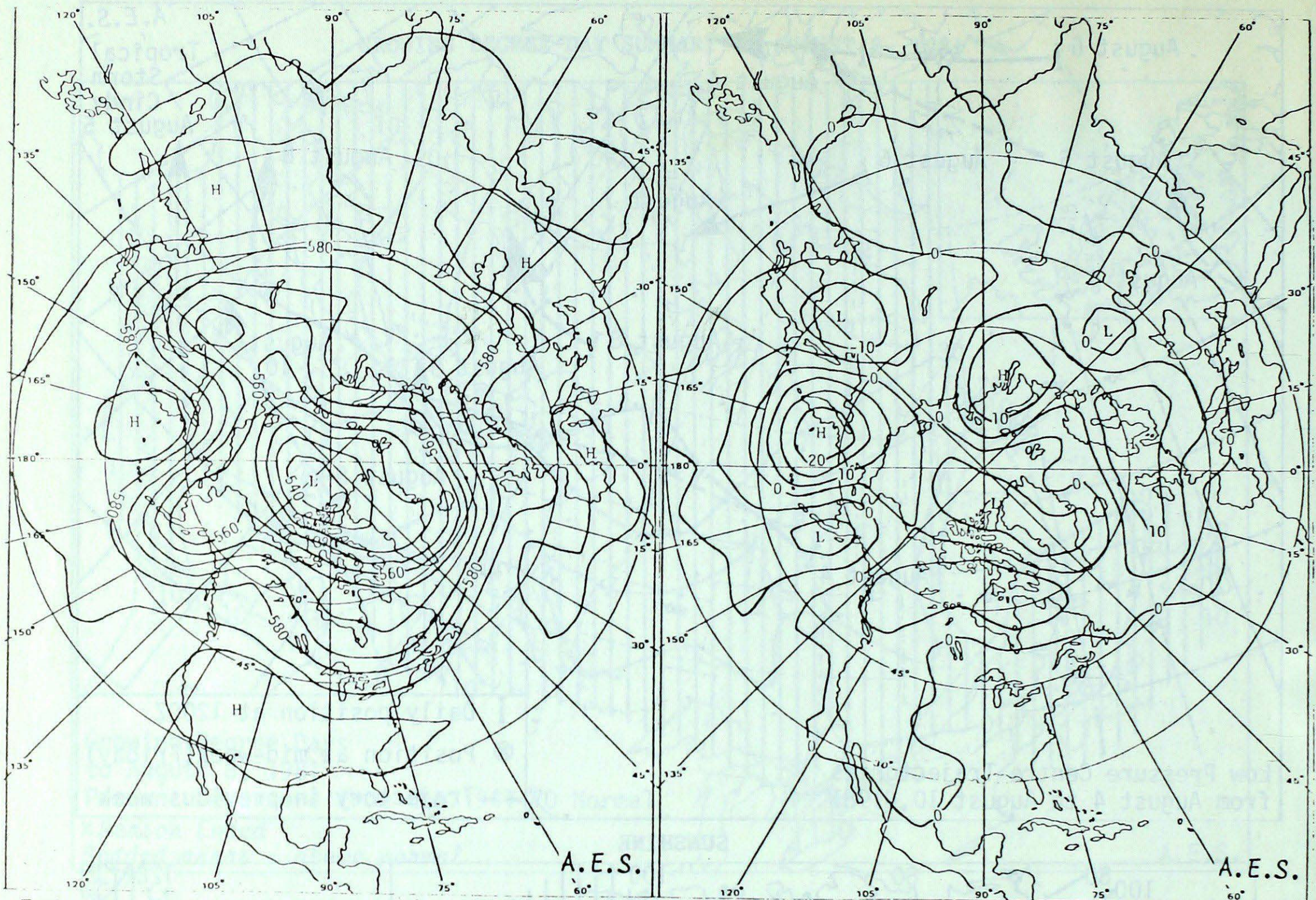
LOW PRESSURE CENTRE TRAJECTORIES



SUNSHINE



## Atmospheric Circulation



7-day Mean 50 kPa Height Map(in dam)  
August 3 to August 9, 1981

7-day Mean 50 kPa Height Anomaly  
(in 5 dam intervals) August 3 to August 9, 1981

A nearly stationary blocking ridge established itself as the predominant feature over the western half of North America. Associated high surface pressure and a southerly flow gave very warm and dry weather conditions to all regions from Manitoba westwards. Storm systems approaching the west coast were deflected northeastwards and deposited a relatively heavy band of precipitation across the southern Arctic. A heavy thunderstorm with hail was reported at Coppermine.

The eastern half of the country was under the influence of a mean tropospheric trough. Weak but significant weather systems formed west of the Great Lakes and moved eastwards down the St. Lawrence valley. Associated frontal waves dividing contrasting air-masses crossed the lower lakes; showers and thunderstorms were a common pheno-

mina most days. Unstable Maritime Tropical air generally remained south of the border but tried to penetrate northward on several occasions. This triggered some severe thunderstorm activity. Tornadoes and funnel clouds were sighted on different occasions.

A significant weather system which affected Ontario early in the week moved through southern Quebec and into the Maritimes by mid-period. Numerous thunderstorms, some severe with heavy downpours and hail caused localised flooding. Parts of the Ottawa valley received over 100 mm in a 6 hour period.

Tropical storm Cindy tracked east of the Atlantic provinces early in the period. Only Sable Island and eastern areas of Newfoundland were affected.

Andy Radomski



## TEMPERATURE AND PRECIPITATION DATA FOR THE WEEK ENDING 0600 G.M.T. AUGUST 14, 1981

Station	Temperature (°C)				Precip. (mm)		Station	Temperature (°C)				Precip. (mm)		Station	Temperature (°C)				Precip. (mm)	
	Average	Departure from Normal	Extreme Maximum	Extreme Minimum	Total	Departure from Normal		Average	Departure from Normal	Extreme Maximum	Extreme Minimum	Total	Departure from Normal		Average	Departure from Normal	Extreme Maximum	Extreme Minimum	Total	Departure from Normal
<b>BRITISH COLUMBIA</b>							Sachs Harbour	5	1	10	0	0.9	-1.8	Simcoe	M	M	27	14P	27.2	14.4
Abbotsford	23	5	36	9	0.0	-7.8	Shepherd Bay	9	1	17	3	14.2	5.3	Sioux Lookout	19	1	29	10	11.4	-5.1
Alert Bay	16	1	23	10	1.1	-12.1	Tuktoyaktuk	12	2	23	3	18.9	13.9	Sudbury	19	1	26	14	3.5	-16.1
Blue River	M	X	34P	8P	M	X	Yellowknife	21	5	28	12	3.2	-6.1	Thunder Bay	20	2	28	12	21.8	3.1
Bull Harbour	15	2	20	10	2.3	-11.7	<b>ALBERTA</b>							Timmins	18	2	28	8	13.0	-5.1
Burns Lake	M	X	33P	8P	0.6	X	Banff	M	M	27P	4P	M	M	Toronto	21	0	28	13	43.9	28.5
Cape Scott	15	1	19	12	1.8	-18.5	Calgary	18	1	30	8	0.0	-11.9	Trenton	21	0	27	13	18.0	3.1
Cape St James	16	2	22	11	18.0	4.9	Cold Lake	21	4	34	11	0.0	-19.1	Trout Lake	17	1	26	10	42.3	29.4
Castlegar	22	0	33	10	0.0	-3.4	Coronation	19	2	32	10	7.0	-6.3	Wawa	18	X	27	8	8.0	3.1
Comox	22	5	34	11	0.0	-10.0	Edmonton Intl	M	M	32	10P	0.6	-21.5	Warton	20	1	27	11	19.0	2.1
Cranbrook	20	1	33	8	0.0	-5.3	Edmonton Mun	22	5	33	13	0.0	-22.1	Windsor	23	1	30	17	5.2	-13.7
Dease Lake	15	2	28	3	1.4	-9.5	Edmonton Namao	21	4	33	12	0.0	-24.8	<b>QUÉBEC</b>						
Estevan Point	M	M	20P	12P	M	M	Edson	18	3	32	7	17.6	-6.8	Bagotville	17	0	28	11	23.8	3.3
Fort Nelson	21	5	34	10	0.2	-9.9	Fort Chipewyan	M	M	M	12	M	M	Haie Comeau	14	-2	21	8	29.5	9.2
Fort St John	21	5	34	11	0.0	-12.9	Fort McMurray	22	6	36	10	0.0	-17.0	Blanc Sablon	11	-2	15	6	5.6	-20.2
Kamloops	25	4	39	12	0.0	-6.0	Grande Prairie	21	5	35	8	0.0	-12.1	Border	M	M	12P	8P	M	M
Langara	15	2	19	12	23.4	2.6	High Level	20	5	35	8	0.0	-6.6	Chibougamau	17	X	27	11	0.2	X
Lytton	27	3	42	14	0.0	-1.1	Jasper	18	3	32	7	0.0	-13.4	Fort Chimo	13	2	27	2	6.8	-7.5
Mackenzie	M	X	34	6P	2.0	X	Lethbridge	19	0	30	9	19.0	9.8	Gaspé	14	X	23	9	49.5	X
McInnes Island	M	M	19P	13	M	M	Medicine Hat	M	M	33	11P	1.0	-10.3	Grindstone Island	16	-1	22	12	12.6	-1.0
Penticton	24	3	35	11	0.0	-4.0	Peace River	21	5	35	8	0.0	-10.6	Inoucdjouac	15	6	25	8	0.2	-12.4
Port Hardy	15	1	22	10	0.4	-12.0	Red Deer	18	2	30	7	16.0	1.7	Koartak	M	X	22P	3P	1.8	X
Prince George	20	5	33	8	0.2	-19.7	Rocky Mountain House	18	3	31	6	0.0	-18.2	La Grande Rivière	19	X	27	12	5.0	X
Prince Rupert	15	2	22	9	37.6	-12.0	Slave Lake	19	3	32	10	0.0	-15.9	Maniwaki	M	M	28P	11	M	M
Quesnel	21	5	35	9	0.0	-20.7	Vermilion	21	5	34	11	2.0	-15.1	Matagami	17	X	27	7	2.4	X
Revelstoke	20	1	34	10	0.0	-5.6	Whitecourt	20	5	32	8	0.0	-25.6	Mont-Joli	13	-4	21	8	102.7	89.2
Sandspit	18	3	25	11	3.8	-5.2	<b>SASKATCHEWAN</b>							Montréal	19	-1	27	14	35.6	15.9
Smithers	20	6	34	8	0.0	-11.3	Broadview	19	1	29	6	24.2	10.6	Natashquan	14	0	21	4	16.2	1.8
Stewart	M	X	29P	9P	37.2	X	Buffalo Narrows	M	M	35P	12	0.0	-13.3	Nitchecon	16	3	22	10	26.6	1.4
Terrace	23	6	34	13	0.0	-9.2	Cree Lake	21	X	35	10	0.0	X	Port Menier	M	M	22P	6P	M	M
Vancouver	21	4	29	12	0.0	-5.5	Estevan	21	1	30	10	14.2	2.5	Poste-de-la-Baleine	18	8	27	8	0.6	-16.1
Victoria	21	4	33	8	0.0	-3.2	Hudson Bay	20	3	31	10	23.4	10.2	Québec	17	2	25	12	60.2	42.6
Williams Lake	M	M	33	10P	0.0	-14.2	Kindersley	21	2	33	11	1.2	-12.3	Rivière du Loup	M	M	23P	8P	M	M
<b>YUKON</b>							La Ronge	21	5	33	10	4.6	-12.5	Roberval	17	0	26	12	3.9	-17.7
Burwash	13	2	23	-1	3.6	-7.9	Meadow Lake	20	X	32	8	0.0	X	Schefferville	15	3	23	5	0.8	-23.3
Dawson	15	1	24	2	15.4	3.0	Moose Jaw	21	1	31	12	9.3	-0.2	Sept-Îles	14	-1	21	7	27.6	4.2
Komakuk Beach	6	-1	20	0	8.9	1.2	Nipawin	20	X	31	11	0.0	X	Sherbrooke	17	0	26	7	42.3	6.8
Mayo	16	2	25	3	5.5	-4.1	North Battleford	21	3	33	11	0.0	-13.1	Ste Agathe des Monts	17	0	26	10	32.0	8.5
Shingle Point	10	1	22	2	32.6	23.2	Prince Albert	21	3	32	11	7.0	-6.5	Val d'Or	19	2	27	9	8.8	-17.8
Watson Lake	17	2	30	5	2.2	-6.4	Regina	20	1	31	9	0.2	-10.8	<b>NEW BRUNSWICK</b>						
Whitehorse	15	2	25	3	7.1	-1.0	Rockglen	M	X	M	M	M	X	Charlo	17	-1	24	12	56.5	34.1
<b>NORTHWEST TERRITORIES</b>							Saskatoon	21	2	33	11	8.8	-3.3	Chatham	18	-1	25	13	58.4	39.9
Alert	3	0	10	-2	1.3	-6.6	Swift Current	20	1	31	10	1.0	-9.9	Fredericton	20	1	31	15	67.7	45.8
Baker Lake	15	4	26	7	2.7	-5.2	Uranium City	22	5	31	14	0.5	-8.4	Moncton	18	-0	28	13	23.2	7.1
Broughton Island	6	2	11	1	15.9	4.8	Wynyard	20	2	29	11	2.8	-26.6	Saint Jean	18	1	26	12	0.4	-24.2
Byron Bay	10	2	18	3	13.4	6.0	Yorkton	19	1	29	10	12.2	0.2	<b>NOVA SCOTIA</b>						
Cambridge Bay	9	1	17	4	15.7	8.8	<b>MANITOBA</b>							Eddy Point	17	X	23	14	42.3	X
Cape Dorset	M	X	12P	4P	M	X	Bissett	18	-1	29	9	44.6	20.7	Greenwood	19	0	29	11	17.8	-0.4
Cape Dyer	6	1	12	-1	8.3	-8.4	Brandon	20	1	29	8	32.6	22.6	Sable Island	18	0	22	15	60.3	21.7
Cape Hooper	7	2	13	0	21.6	15.9	Churchill	14	2	27	8	4.6	-11.4	Shearwater	18	-0	24	14	29.2	7.6
Cape Parry	7	1	15	2	37.4	32.8	Dauphin	19	1	30	9	38.1	21.6	Sydney	17	-1	24	13	13.4	-10.9
Cape Young	10	4	21	5	3.4	-7.0	Gillam	16	X	25	8	5.5	X	Truro	M	M	28P	12P	17.3	-3.5
Clinton Point	10	3	19	4	31.9	22.6	Gimli	19	0	26	11	90.1	74.2	Yarmouth	17	0	22	12	19.7	-0.5
Clyde	M	M	15	1P	11.6	4.4	Island Lake	18	X	27	12	28.5	X	<b>PRINCE EDWARD ISLAND</b>						
Contwoyto Lake	M	M	26	7P	11.7	0.4	Lynn Lake	18	2	27	8	4.6	-11.6	Charlottetown	18	0	26	14	2.7	-12.1
Coppermine	14	4	27	6	12.5	1.9	Norway House	19	X	28	8	3.8	X	Summerside	19	0	27	14	26.4	11.1
Coral Harbour	11	2	20	3	11.5	1.8	Pilot Mound	M	M	28	8P	30.5	16.1	<b>NEWFOUNDLAND</b>						
Dewar Lakes	5	0	10	1	29.6	17.1	Portage la Prairie	M	M	29P	11	31.1	15.8	Argentia	15	X	23	10	37.3	X
Ennadai	M	M	M	M	M	M	The Pas	20	2	29	9	2.0	-8.9	Battle Harbour	9	-2	18	5	5.0	-16.2
Eureka	4	-2	11	-1	10.5	8.7	Thompson	18	3	29	7	2.2	-15.0	Bonavista	13	-3	25	8	33.2	16.3
Fort Reliance	19	5	29	12	4.2	-1.4	Winnipeg	19	-1	29	10	66.8	53.9	Burgeo	16	0	22	11	0.0	-31.4
Fort Simpson	20	5	33	8	1.7	-11.6	<b>ONTARIO</b>							Cartwright	11	-3	20	4	0.4	-20.0
Fort Smith	22	6	35	11	0.0	-7.9	Armstrong	M	M	28	8P	17.2	-0.2	Churchill Falls	16	3	25	8	0.2	-18.5
Frobisher Bay	9	2	17	4	18.0	6.7	Atikokan	18	2	27	9	19.9	-2.0	Comfort Cove	14	-3	24	8	32.2	17.2
Gladman Point	8	2	15	3	6.9	-0.5	Earlton	M	M	29	10P	29.6	12.3	Daniel's Harbour	14	-2	19	7	25.8	0.4
Hall Beach	6	1	12	0	31.7	22.7	Geraldton	18	2	28	8	35.2	21.1	Deer Lake	13	-4	24	5	19.2	-0.4
Hay River	21	5	37	9	0.4	-3.4	Gore Bay	19	0	26	13	42.0	30.2	Gander	14	-3	24	8	38.0	11.1
Inuvik	14	2	26	4	13.4	6.2	Kapuskasing	18	2	30	5	5.7	-12.9	Hopedale	16	0	26	6	1.0	-17.6
Jenny Lind Island	7	2	14	1	19.4	6.5	Kenora	19	0	27	13	20.8	-0.9	Port aux Basques	15	0	20	12	3.8	-16.8
Longstaff Bluff	5	-2	11	1	20.4	12.2	Kingston	21	1	27	15	51.9	38.2	St Albans	17	0	26	9	28.2	-6.0
Mack																				