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A WEEKLY REVIEW OF CANADIAN CLIMATE

CLIMATIC PERSPECTIVES

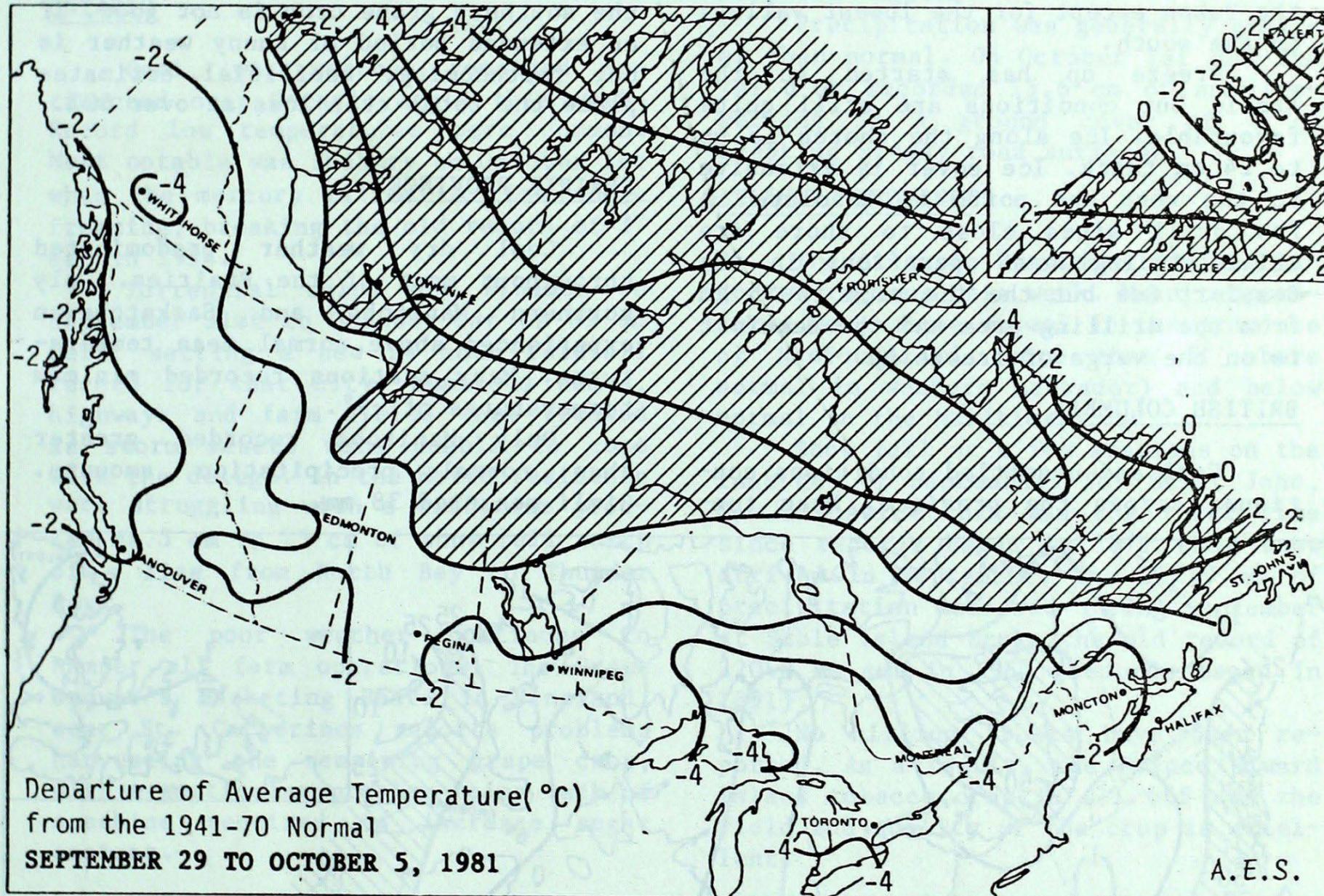


THE CANADIAN CLIMATE CENTRE,
ATMOSPHERIC ENVIRONMENT SERVICE,
4905 DUFFERIN ST., DOWNSVIEW, ONTARIO M3H 5T4

OCTOBER 9, 1981

(Aussi disponible en français)

VOL. 3 NO. 40



WEATHER HIGHLIGHTS FOR THE PERIOD - SEPTEMBER 29 TO OCTOBER 5, 1981

Record Alberta forest fire season nears end

Due to the cooler and more humid conditions of fall, only one forest fire was out of control in northern Alberta at the end of the week. At the height of the fire season more than 2000 people were involved in fire crews. More than 1.2 million hectares of forest were burned over and fire fighting costs reached \$42 million dollars.

Torrential rains set a new 24 hour rainfall record at Windsor, Ontario at the end of September. Numerous homes, highways and farm fields were flooded.

Temperatures across the country varied from a maximum of 26° at Moose Jaw, Saskatchewan to a minimum of -29° at Eureka, N.W.T. Cape Scott, British Columbia measured 189.5 mm of precipitation.

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

Most of the territories experienced above normal mean weekly temperatures but cold air persisted over the Yukon and extended into the Mackenzie Valley. The mercury fell to -29° at Eureka on the 2nd.

Norman Wells recorded 44.7 mm of precipitation during the week and Frobisher Bay measured 40.6 mm. Snow-cover is persisting throughout most of the Yukon except for the lowest valleys in the south.

Freeze up has started in the Arctic but conditions are still quite favourable. Ice along the shores is up to 24 cm thick. Ice cover is extensive to the west and north of Resolute. A few drill sites close to shore are still winding down operations in the Beaufort Sea but the ice pack is 25 km from the drilling area and the Beaufort is on the verge of freeze up.

BRITISH COLUMBIA

Cool and unsettled conditions continued across the province. Mean tem-

peratures in some central areas were more than 3° below normal. Many stations recorded below freezing temperatures.

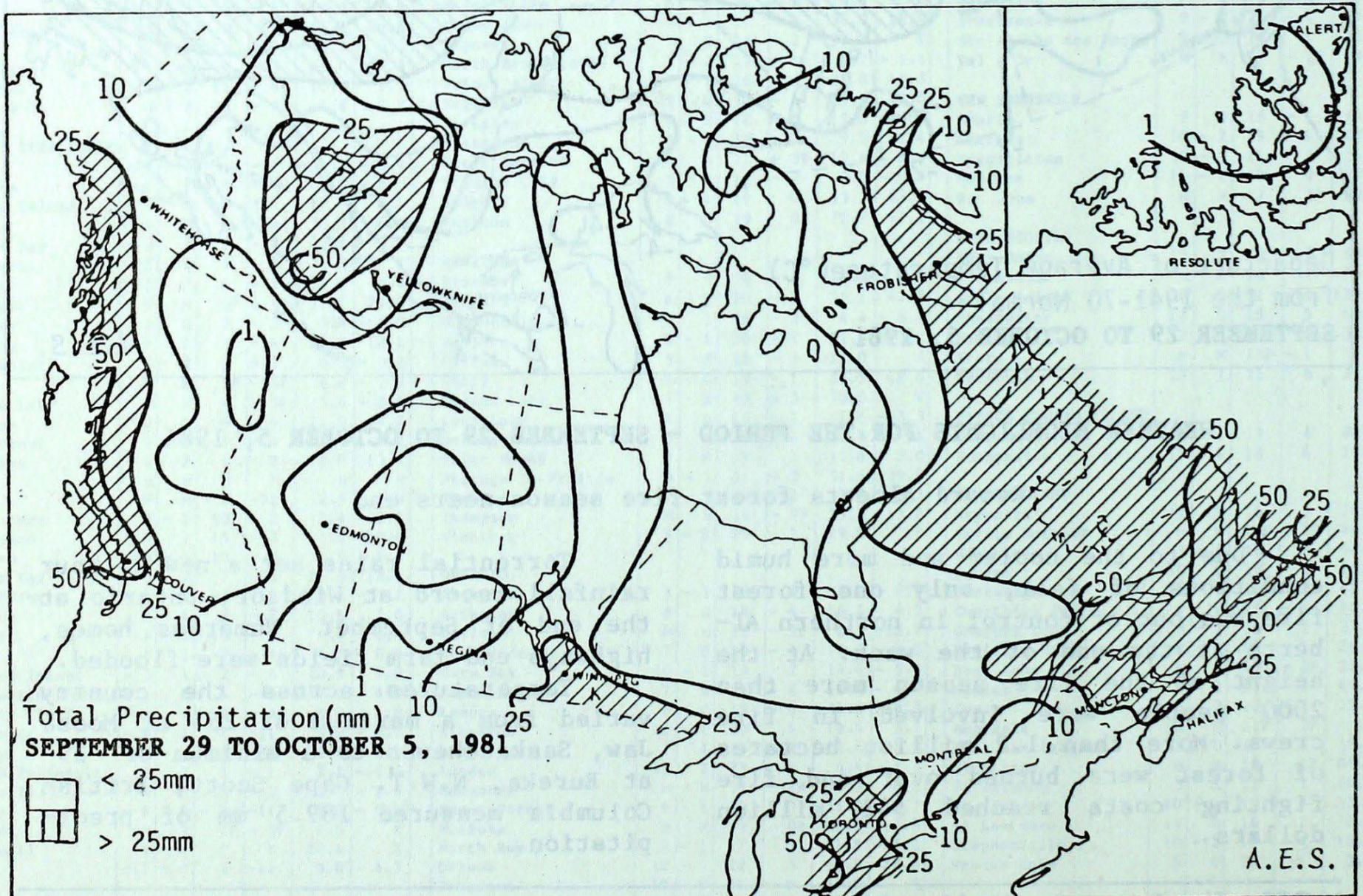
Precipitation totals were above normal at most stations. Cape Scott was deluged with a rainfall of 189.5 mm during the week and Cape Saint James was battered by winds of over 120 kph on October 5th.

The northern forest industry is shut down until winter. The outlook for the southern grape crop is not good. If an extended period of sunny weather is not forthcoming, unofficial estimates place the total crop loss at over 60%.

PRAIRIE PROVINCES

Cool dry weather predominated throughout most of the Prairies. Only northern Manitoba and Saskatchewan experienced above normal mean temperatures. Many stations recorded minimum temperatures of -9° .

Only Manitoba recorded greater than normal precipitation amounts. Gimli measured 38 mm.



With the onset of fall weather, only one forest fire was burning out of control in northern Alberta. The final figures are in on the Alberta forest fire season. At the height of the fire fighting operation fire crews totalled more than 2000 people. More than 1.2 million hectares were burned over at a total fire fighting cost of \$42 million dollars.

ONTARIO

Cool, wet weather remained entrenched over Ontario again this week. Record low temperatures were common. Most notable was Sudbury on October 1st when the mercury failed to rise above freezing, breaking the old record of 3° set in 1934.

Torrential rains hit Windsor on September 31st to October 1st as 89 mm fell, setting a new 24 hour rainfall record for that city. Numerous homes, highways and farm fields were flooded as storm sewers were unable to cope with the deluge. In the North residents were struggling with a different problem as 5 cm to 15 cm of snow fell north of a line from North Bay to Thunder Bay.

The poor weather continues to hamper all farm operations. The Grape Grower's Marketing Board in Vineland, near St. Catherines reports problems harvesting the remaining grape crop, with a particular problem being lack of sunshine required to increase sugar content.

QUÉBEC

The temperature regime which persisted through most of September in Québec continued into October. A demarcation line running from Sept-Iles to Poste-de-la-Baleine separated the province. Mean temperatures were more than 4° above normal in northern regions and more than 4° below normal in extreme southern regions.

Precipitation was generally greater than normal. On October 1st and 2nd Val d'Or recorded 15.6 cm of snow resulting in a ground cover of 4 cm creating greasy road surfaces.

ATLANTIC PROVINCES

The Atlantic Provinces divided into two regions this week. Mean temperatures were above normal in the province of Newfoundland (more than 5° above normal in western Labrador) and below normal in the Maritimes.

Snow fell at a few stations on the last day of September. For Saint John, New Brunswick this was the first time since records began in 1871 that snow arrived in September. The 292.9 mm of precipitation measured during September at Sable Island broke the old record of 220.8 mm set in 1962 (records began in 1891).

No killing frosts have been reported. As a result, the Prince Edward Island tobacco crop is all off and the yield and quality of the crop is excellent.

CLIMATIC PERSPECTIVES

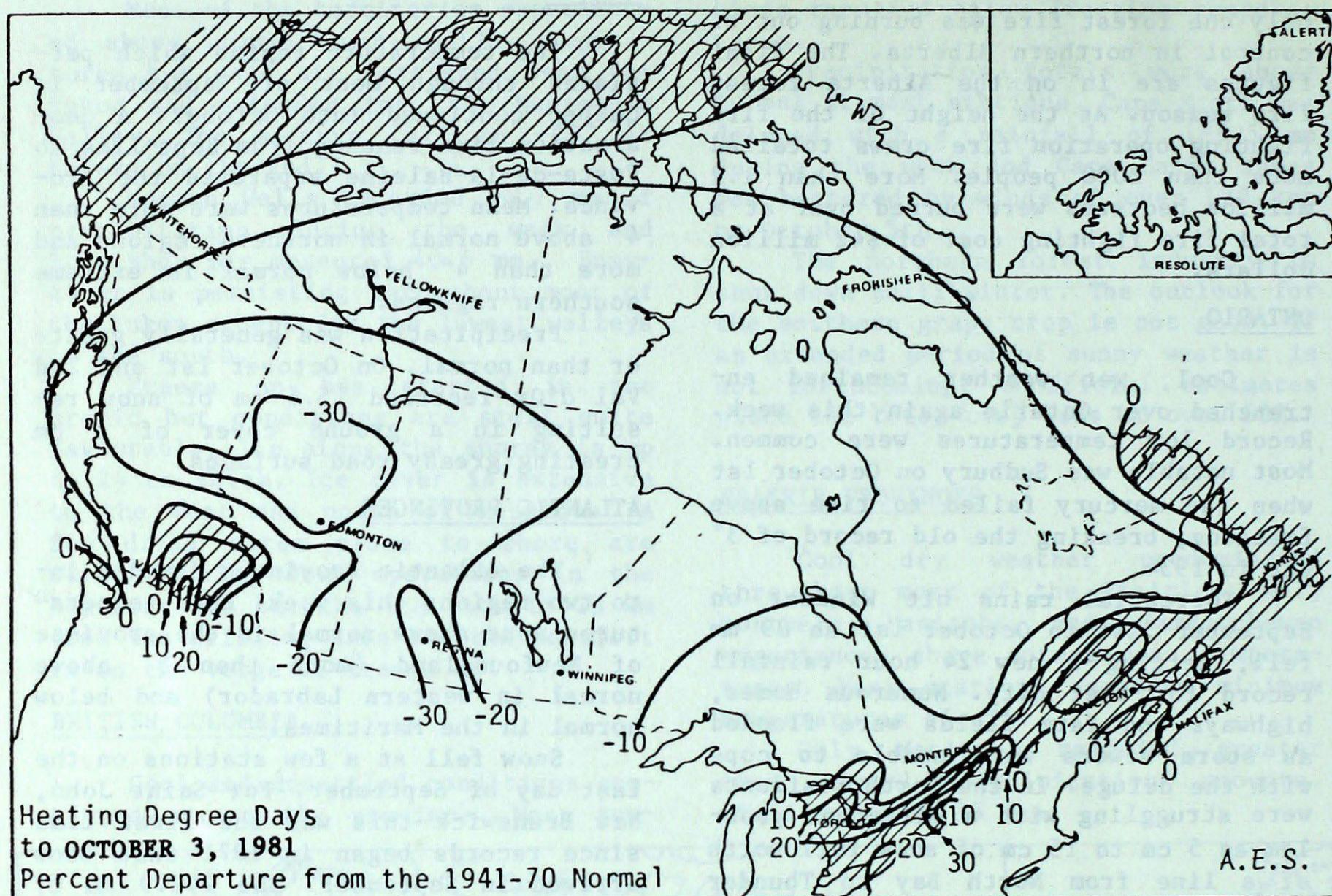
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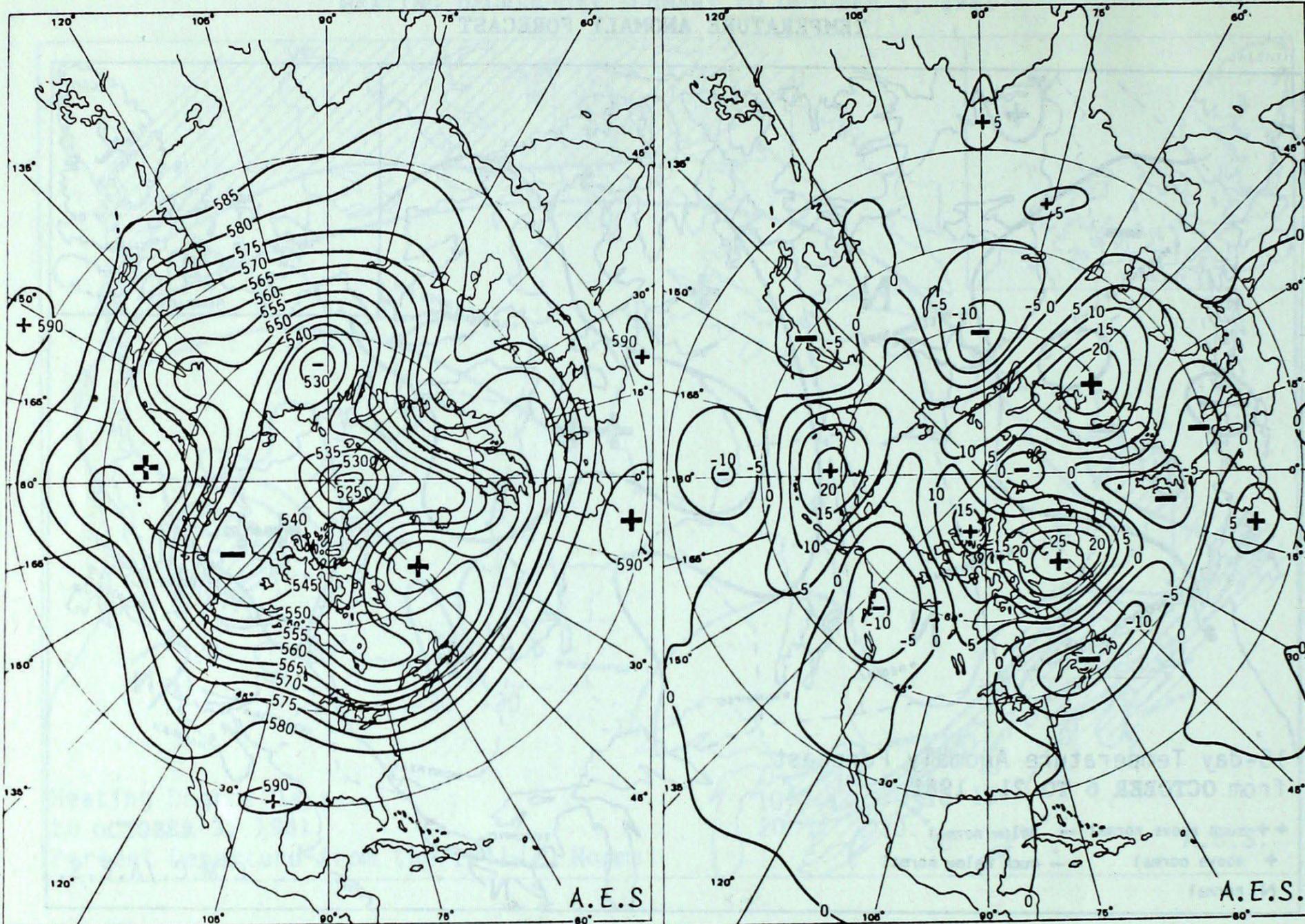
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HEATING DEGREE-DAY SUMMARY TO OCTOBER 3, 1981



STATION	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL
Resolute	76.5	-8.5	1707.0	36.0	102
Inuvik	57.0	-3.0	940.5	44.5	105
Whitehorse	55.5	13.5	658.5	8.5	101
Vancouver	22.5	4.5	171.5	-35.5	83
Edmonton Mun	29.5	-0.5	243.5	-130.5	65
Calgary	32.5	2.5	356.0	-57.0	86
Regina	25.5	-4.5	208.5	-94.5	69
Winnipeg	29.0	4.0	227.5	-31.5	88
Thunder Bay	48.0	18.0	342.5	-9.5	97
Windsor	26.5	13.5	111.5	23.5	127
Toronto	33.0	18.0	184.5	42.5	130
Ottawa	39.0	18.0	208.5	26.5	115
Montreal	35.5	17.5	203.5	52.5	135
Quebec	33.0	9.0	268.5	22.5	109
Saint John, N.B.	29.0	5.0	284.0	-13.0	96
Halifax	20.0	2.0	191.5	1.5	101
Charlottetown	20.5	-0.5	223.0	8.0	104
St. John's, Nfld.	23.5	-3.5	422.0	22.0	106

Atmospheric Circulation



7-day Mean 50 kPa Height Map (in dam)
SEPTEMBER 28 TO OCTOBER 4, 1981

7-day Mean 50 kPa Height Anomaly
 (in 5 dam intervals)
SEPTEMBER 28 TO OCTOBER 4, 1981

The atmospheric circulation over North America was much the same as last week. Mean 50 kPa troughs were predominant over both oceanic coasts; ridging was evident across the central plains and northward.

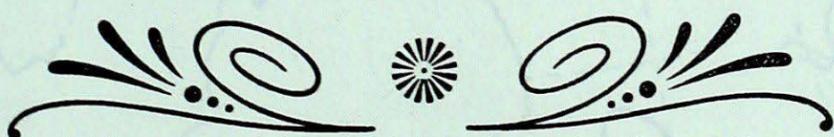
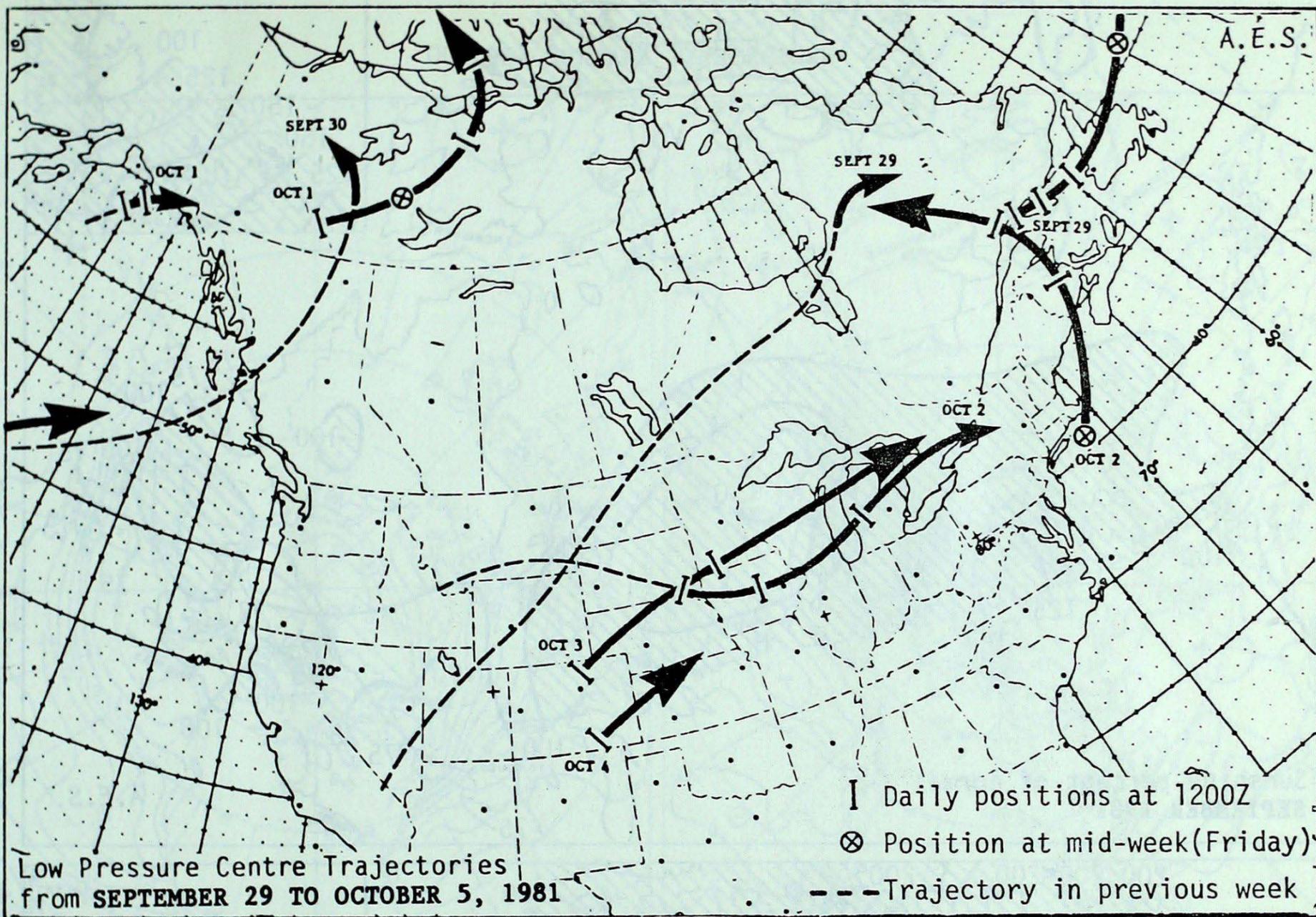
Vigorous waves moved across the continent triggering strong cyclonic development. One storm track originated in the Gulf of Alaska and the second in the American mid-west. Low pressure

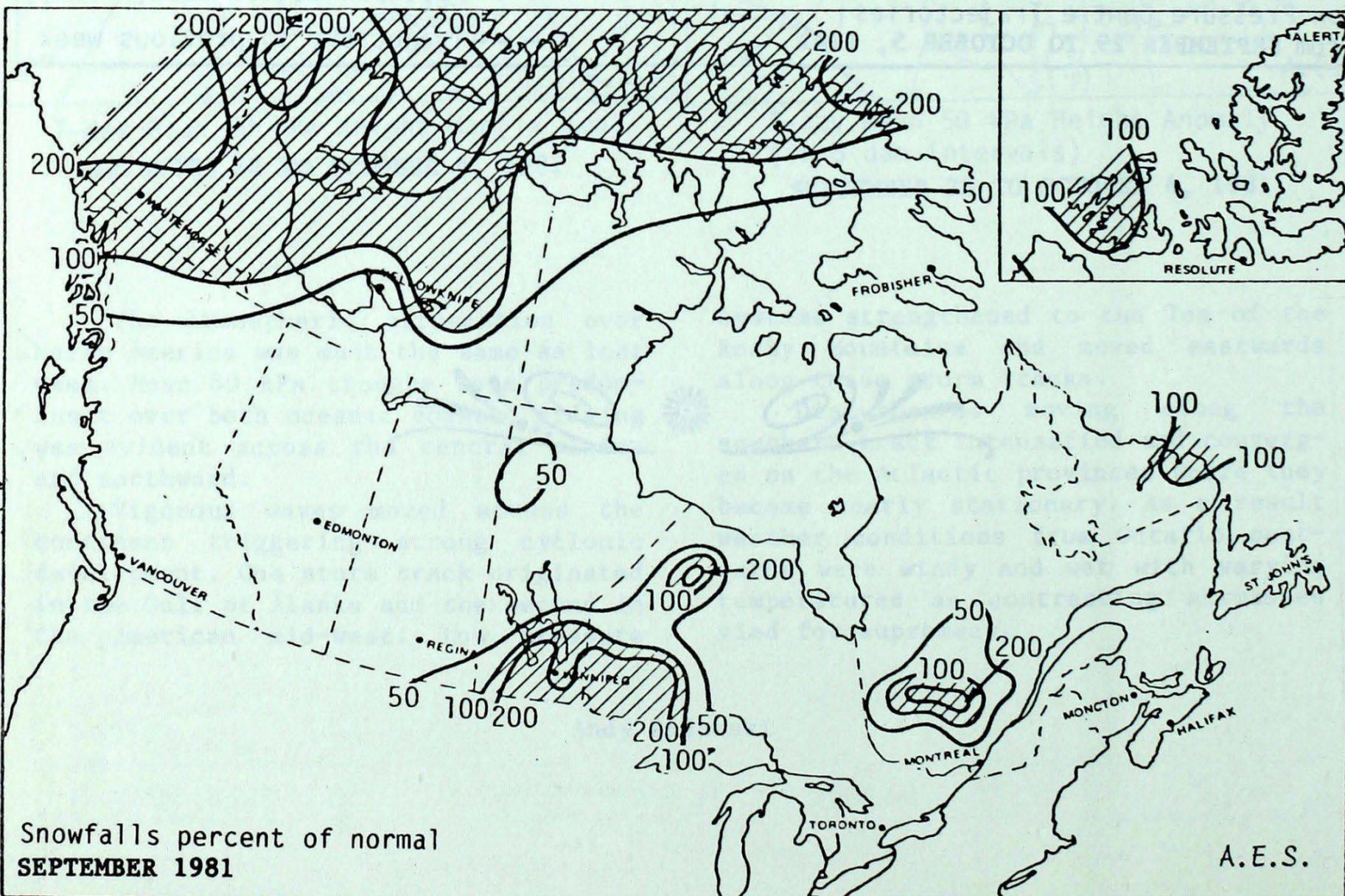
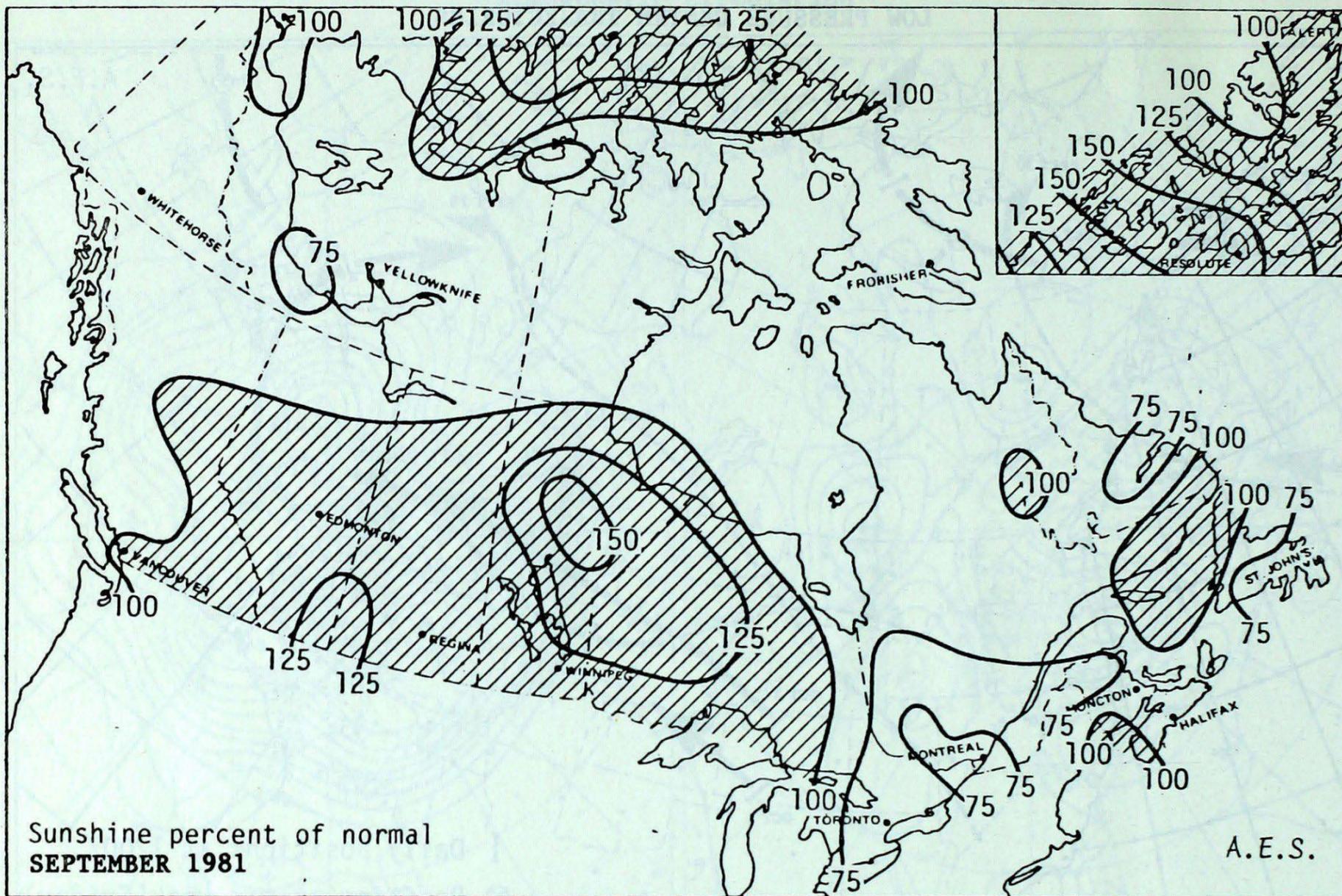
systems strengthened to the lee of the Rocky Mountains and moved eastwards along these storm tracks.

Disturbances moving along the southern track intensified and converged on the Atlantic provinces where they became nearly stationary. As a result weather conditions from Ontario eastwards were windy and wet with varying temperatures as contrasting airmasses vied for supremacy.

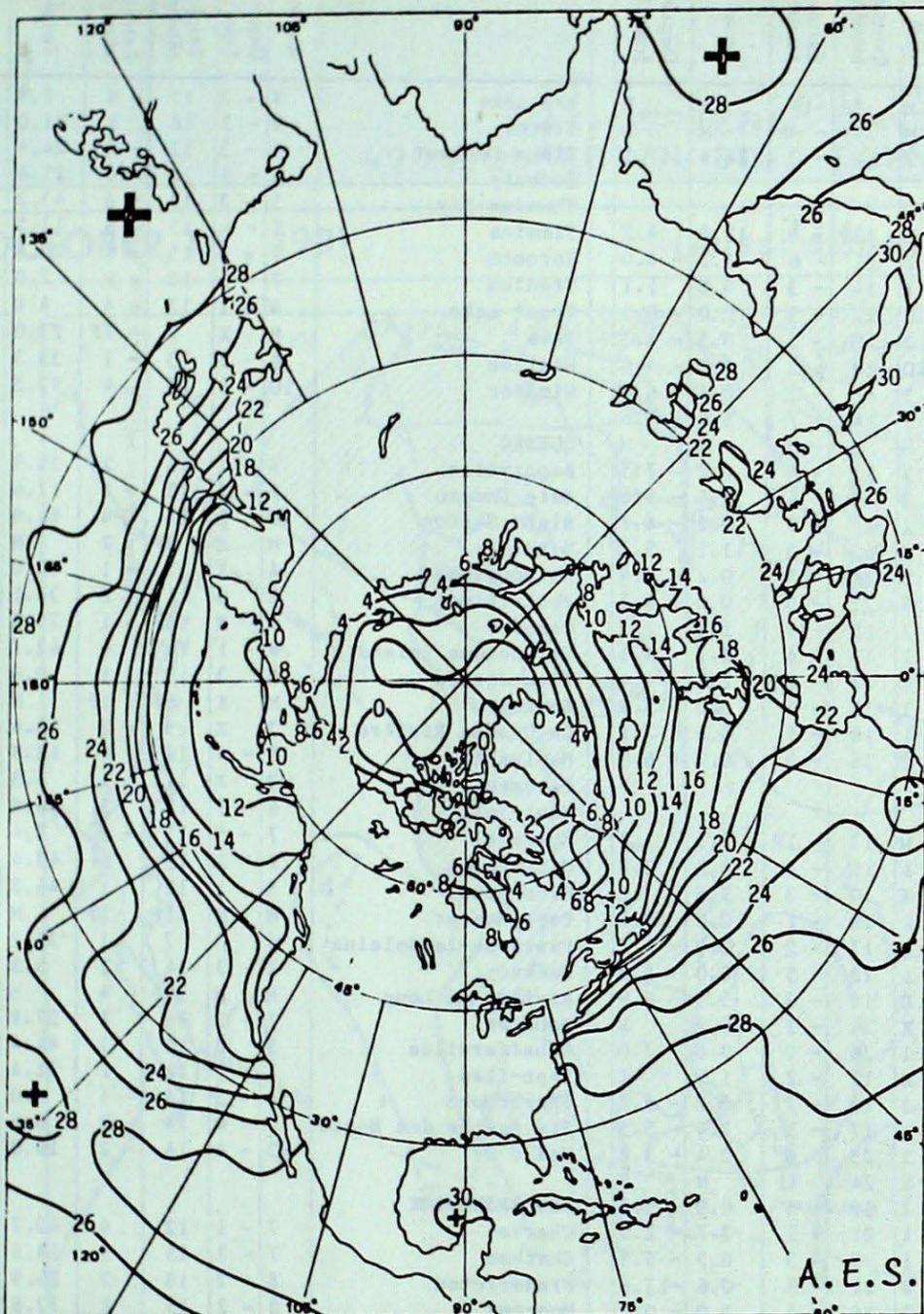
Andy Radomski

LOW PRESSURE CENTRE TRAJECTORIES

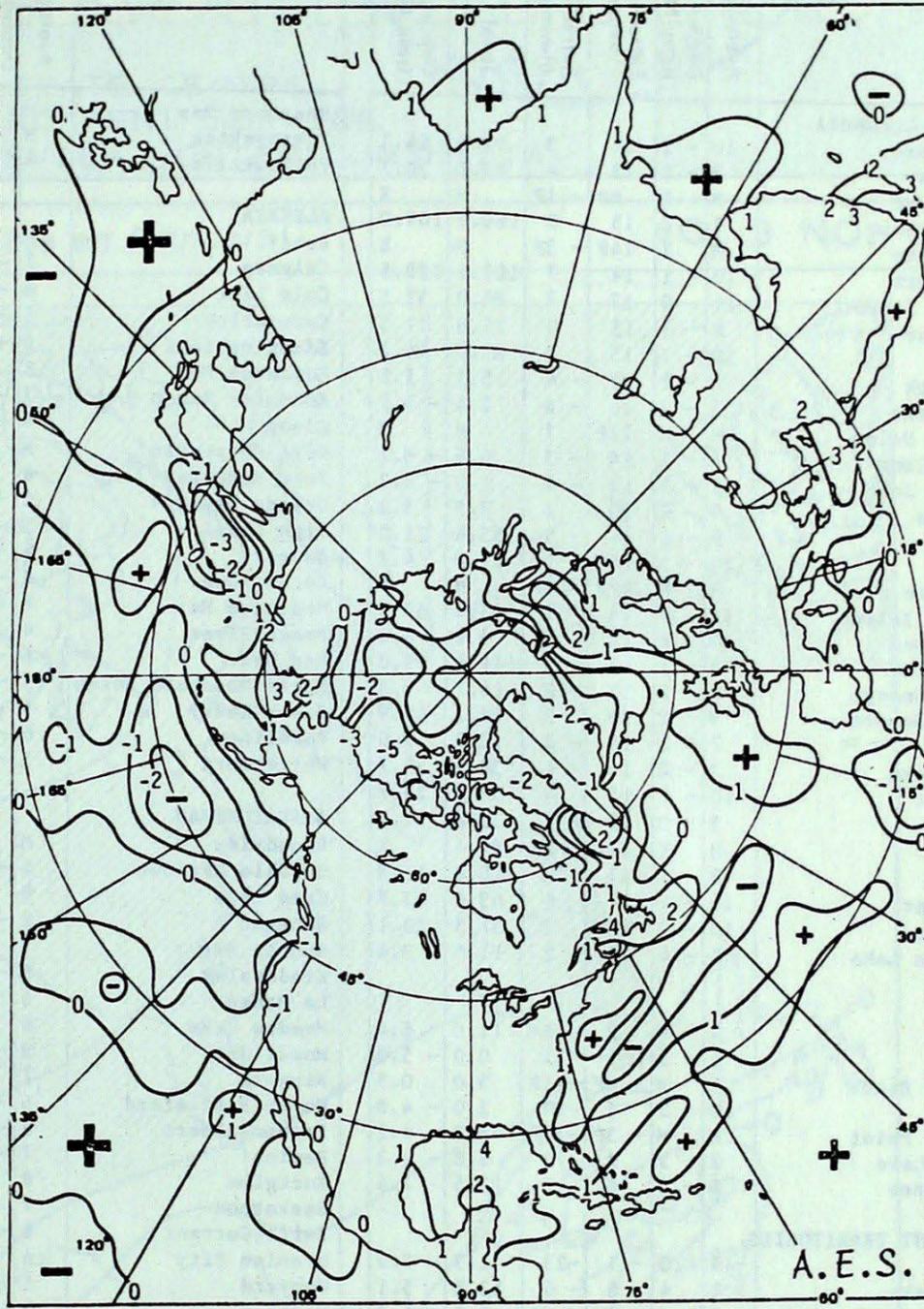




SEA SURFACE TEMPERATURE



Monthly Mean Sea Temperature
for **SEPTEMBER 1981**



Sea Surface Temperature Anomalies
for **SEPTEMBER 1981**

TEMPERATURE AND PRECIPITATION DATA FOR THE WEEK ENDING 0600 G.M.T. OCTOBER 6, 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
BRITISH COLUMBIA							Shepherd Bay	M	M	5P	-14	M	M	Red Lake	5	-3	13	-4	7.9	-2.0
Abbotsford	10	-2	16	3	92.5	64.3	Tuktoyaktuk	M	M	3P	-4P	M	M	Simcoe	9	-3	18	1	31.0	17.3
Alert Bay	9	-2	13	4	89.1	50.7	Yellowknife	4	2	11	-2	24.4	17.5	Sioux Lookout	4	-3	12	-4	24.4	6.9
Blue River	M	X	6P	-1P	M	X	ALBERTA							Sudbury	3	-5	12	-4	21.6	3.3
Bull Harbour	9	-2	15	2	160.8	109.0	Banff	M	M	12P	-8	12.0	4.2	Thunder Bay	5	-3	13	-6	43.2	25.0
Burns Lake	M	X	14P	-3P	M	X	Calgary	7	-2	21	-6	1.2	-4.0	Timmins	2	-4	15	-6	15.2	-7.5
Cape Scott	10	-1	14	7	189.5	129.8	Cold Lake	6	-1	14	-3	8.8	1.1	Toronto	7	-5	15	-1	20.6	7.7
Cape St James	11	0	17	7	80.0	52.5	Coronation	5	-2	22	-9	0.0	-6.1	Trenton	7	-5	13	-1	7.0	-10.8
Castlegar	8	-3	15	0	21.6	11.5	Edmonton Intl	6	-2	18	-5	0.5	-4.5	Trout Lake	4	-1	13	-4	4.6	-8.9
Comox	10	-1	15	3	63.0	44.7	Edmonton Mun	8	0	18	-2	0.2	-4.8	Wawa	M	X	9	-7P	23.0	X
Cranbrook	7	-2	18	-4	5.5	1.6	Edmonton Namao	7	-2	17	-2	0.4	-6.5	Warton	6	-5	13	-1	33.3	16.0
Dease Lake	2	-3	11	-6	2.4	-5.7	Edson	4	-2	14	-7	5.6	-3.6	Windsor	10	-4	19	4	93.3	78.0
Estevan Point	M	M	13P	3	M	M	Fort Chipewyan	M	M	M	-3	M	M	QUEBEC						
Fort Nelson	4	-1	14	-3	0.5	-8.2	Fort McMurray	6	1	15	-4	0.2	-7.5	Bagotville	6	-2	16	2	25.9	7.3
Fort St John	5	-3	13	-4	1.0	-8.2	Grande Prairie	5	-2	15	-4	2.6	-5.6	Baie Comeau	7	-1	13	1	17.6	0.6
Kamloops	9	-2	20	1	7.5	3.2	High Level	3	-2	17	-9	2.2	-6.7	Blanc Sablon	9	3	15	4	66.8	38.6
Langara	9	-2	14	5	65.4	21.5	Jasper	4	-3	12	-3	12.2	5.7	Border	M	M	8P	2	M	M
Lytton	10	-3	18	1	11.0	4.7	Lethbridge	8	-2	21	-5	0.2	-6.4	Chibougamau	4	X	13	-1	13.0	X
Mackenzie	M	X	12P	-3P	M	X	Medicine Hat	8	-2	21	-5	0.0	-4.2	Fort Chimo	7	5	11	-2	34.1	24.1
McInnes Island	11	-1	14	7	135.4	69.9	Peace River	4	-2	15	-5	1.2	-2.5	Gaspé	7	X	15	-1	75.8	X
Penticton	10	-2	18	0	9.8	6.2	Red Deer	6	-2	19	-6	2.2	-4.6	Grindstone Island	9	-1	14	4	42.7	20.0
Port Hardy	9	-1	13	1	144.6	99.3	Rocky Mountain House	5	-2	23	-8	2.4	-4.4	Inoucdjouac	5	3	9	1	0.4	-10.6
Prince George	6	-2	13	-2	14.1	0.3	Slave Lake	6	-1	16	-5	0.0	-5.8	Koartak	M	X	6P	1P	M	X
Prince Rupert	9	-2	15	3	69.1	-13.9	Vermilion	6	-1	16	-5	0.5	-7.1	La Grande Rivière	3	X	9	-2	15.4	X
Quesnel	7	-2	15	-2	10.0	2.0	Whitecourt	5	-2	16	-5	0.0	-6.8	Maniwaki	5	-4	14	-4	12.8	-3.0
Revelstoke	7	-2	15	-1	38.5	26.7	SASKATCHEWAN							Matagami	3	X	11	-1	4.5	X
Sandspit	10	-1	15	4	52.5	28.7	Broadview	M	M	17	-1P	5.1	1.3	Montréal	7	-5	15	-2	3.4	-18.2
Smithers	5	-3	12	-4	32.8	21.2	Buffalo Narrows	5	-1	11	-2	4.2	-2.8	Natashquan	9	2	13	5	43.4	18.3
Stewart	M	X	13	2P	57.4	X	Cree Lake	5	X	10	-3	9.6	X	Nitchecon	5	1	12	1	46.3	23.5
Terrace	8	-1	13	4	48.6	11.8	Estevan	8	-2	19	-1	10.8	6.7	Port Menier	M	M	11P	5P	M	M
Vancouver	11	-1	17	6	63.8	43.7	Hudson Bay	7	0	17	-2	0.9	-6.5	Poste-de-la-Baleine	4	0	7	1	33.2	15.6
Victoria	10	-2	16	2	37.5	23.1	Kindersley	8	-1	23	-5	0.0	-5.8	Québec	7	-3	14	2	5.3	-17.8
Williams Lake	5	-4	13	-2	11.5	3.4	La Ronge	6	0	14	-3	5.5	-6.9	Rivière du Loup	M	M	12P	4	M	M
YUKON							Meadow Lake	6	X	14	-2	0.7	X	Roberval	7	-2	16	2	27.9	12.7
Burwash	-4	-4	2	-15	11.0	6.4	Moose Jaw	9	-1	26	-2	0.0	-7.0	Schefferville	5	3	10	1	41.4	23.2
Dawson	-1	-3	5	-13	0.0	-5.0	Nipawin	7	X	19	-2	1.2	X	Sept-Iles	7	0	11	1	71.4	49.1
Komakuk Beach	M	M	-4P	-11P	5.0	0.3	North Battleford	6	-2	18	-7	0.2	-5.8	Sherbrooke	6	-3	14	-1	5.0	-12.6
Mayo	0	-3	6	-10	2.0	-4.8	Prince Albert	6	-1	17	-5	2.4	-5.5	Ste Agathe des Monts	4	-4	14	-3	6.5	-19.1
Shingle Point	M	M	-3P	-10P	8.2	4.2	Regina	7	-1	25	0	0.4	-3.8	Val d'Or	3	-4	14	-2	19.0	-3.7
Watson Lake	2	-3	7	-9	6.8	-2.2	Rockglen	8	X	24	1	M	X	NEW BRUNSWICK						
Whitehorse	0	-4	8	-10	13.5	7.4	Saskatoon	7	-2	18	-5	0.0	-5.7	Charlo	7	-1	12	4	40.7	17.5
NORTHWEST TERRITORIES							Swift Current	8	-1	21	-5	2.7	-2.0	Chatham	7	-3	15	3	28.6	10.1
Alert	-14	3	-1	-23	1.3	-2.9	Uranium City	4	1	9	-3	0.3	-5.5	Fredericton	8	-2	16	3	26.9	2.7
Baker Lake	2	4	6	-6	12.8	5.1	Wynyard	6	-2	21	-3	0.6	-12.8	Moncton	8	-2	15	2	32.8	11.9
Broughton Island	M	M	2P	-6P	9.0	-4.3	Yorkton	6	-2	16	1	5.0	-0.3	Saint John	8	-3	14	2	21.8	-6.2
Byron Bay	M	M	1P	-7P	9.0	5.5	MANITOBA							NOVA SCOTIA						
Cambridge Bay	M	M	2P	-7	2.1	-1.4	Bissett	7	-2	13	0	22.6	11.1	Eddy Point	10	X	17	4	12.4	X
Cape Dorset	M	X	5P	-2P	12.2	X	Brandon	6	-3	15	0	22.8	18.8	Greenwood	8	-3	15	2	27.0	7.7
Cape Dyer	M	M	4P	-10P	9.6	-23.6	Churchill	4	1	10	-4	26.4	16.2	Sable Island	13	-1	18	7	27.1	-3.7
Cape Hooper	M	M	3P	-6P	32.5	26.8	Dauphin	7	-2	18	1	20.6	15.7	Shearwater	10	-2	16	5	13.2	-9.8
Cape Parry	M	M	3P	-4P	M	M	Gillam	4	X	14	-9	14.1	X	Sydney	10	-1	18	3	39.6	12.7
Cape Young	M	M	1P	-10P	28.5	25.8	Gimli	8	-1	13	2	38.0	32.3	Truro	M	M	18P	2	M	M
Clinton Point	M	M	1P	-4P	3.2	-1.5	Island Lake	5	X	12	-4	13.4	X	Yarmouth	10	-2	14	6	21.0	-3.8
Clyde	-2	2	5	-8	14.1	5.5	Lynn Lake	5	1	14	-4	0.4	-14.9	PRINCE EDWARD ISLAND						
Contwoyto Lake	1	4	5	-7	4.8	-3.6	Norway House	5	X	14	-5	8.0	X	Charlottetown	10	-1	17	3	30.5	6.0
Coppermine	M	M	4P	-9P	28.0	22.2	Pilot Mound	6	-3	13	1	25.8	19.5	Summerside	9	-2	16	4	16.8	-6.9
Coral Harbour	-1	2	5	-9	4.9	-1.5	Portage la Prairie	7	-3	14	1	11.7	6.3	NEWFOUNDLAND						
Dewar Lakes	M	M	OP	-6	11.0	6.5	The Pas	7	1	15	-1	2.8	-6.0	Argentia	13	X	21	7	50.6	X
Ennadai	M	M	M	M	M	M	Thompson	4	1	12	-9	3.9	-14.7	Battle Harbour	6	0	12	3	74.1	52.5
Eureka	-20	-3	-1	-29	0.3	-1.1	Winnipeg	7	-2	15	1	28.5	21.4	Bonavista	11	1	15	6	23.9	4.4
Fort Reliance	5	4	11	-1	5.0	-3.2	ONTARIO							Burgeo	11	2	16	5	136.2	88.0
Fort Simpson	2	-2	10	-6	68.9	62.6	Armstrong	2	-4	11	-10	4.2	-11.6	Cartwright	7	1	14	0	33.8	10.8
Fort Smith	4	0	13	-5	8.8	1.1	Atikokan	4	-3	14	-8	46.4	28.4	Churchill Falls	7	5	12	1	40.6	18.2
Fort Smith	4	0	13	-5	8.8	1.1	Earlton	3	-5	15	-3	13.5	-3.3	Comfort Cove	11	3	18	4	41.2	10.0
Frobisher Bay	4	5	7	2	40.6	29.1	Geraldton	3	-4	13	-7	4.0	-11.2	Daniel's Harbour	10	1	20	5	74.2	52.3
Gladman Point	M	M	2P	-9	1.3	-3.5	Gore Bay	6	-5	12	-1	18.7	2.4	Deer Lake	9	2	20	3	58.9	23.6
Hall Beach	M	M	2P	-13	8.1	1.5	Kapuskasung	3	-5	15	-6	3.2	-20.3	Gander	11	2	18	4	47.0	22.5
Hay River	5	1	17	-4	18.8	10.5	Kenora	6	-3	14	0	29.0	19.4	Goose	9	3	14	4	41.2	22.6
Inuvik	-2	0	2	-6	17.1	9.4	Kingston	7	-5	13	1	9.7	-11.7	Hopedale	6	1	9	3	25.0	9.1
Jenny Lind Island	M	M	3P	-6	23.0	20.6	Lansdowne	4	-2	15	-2	0.4	-13.5	Port aux Basques	11	1	15	7	82.3	45.9
Lady Franklin Point	M	M	4P	-3	6.0	2.6	Moosonee	M	M	8P	-3	10.5	-7.4	St Albans	M	M	20	4P	84.4	38.1
Longstaff Bluff	M	M	3P	-5	19.4	13.3	Mount Forest													