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CLIMATIC PERSPECTIVES

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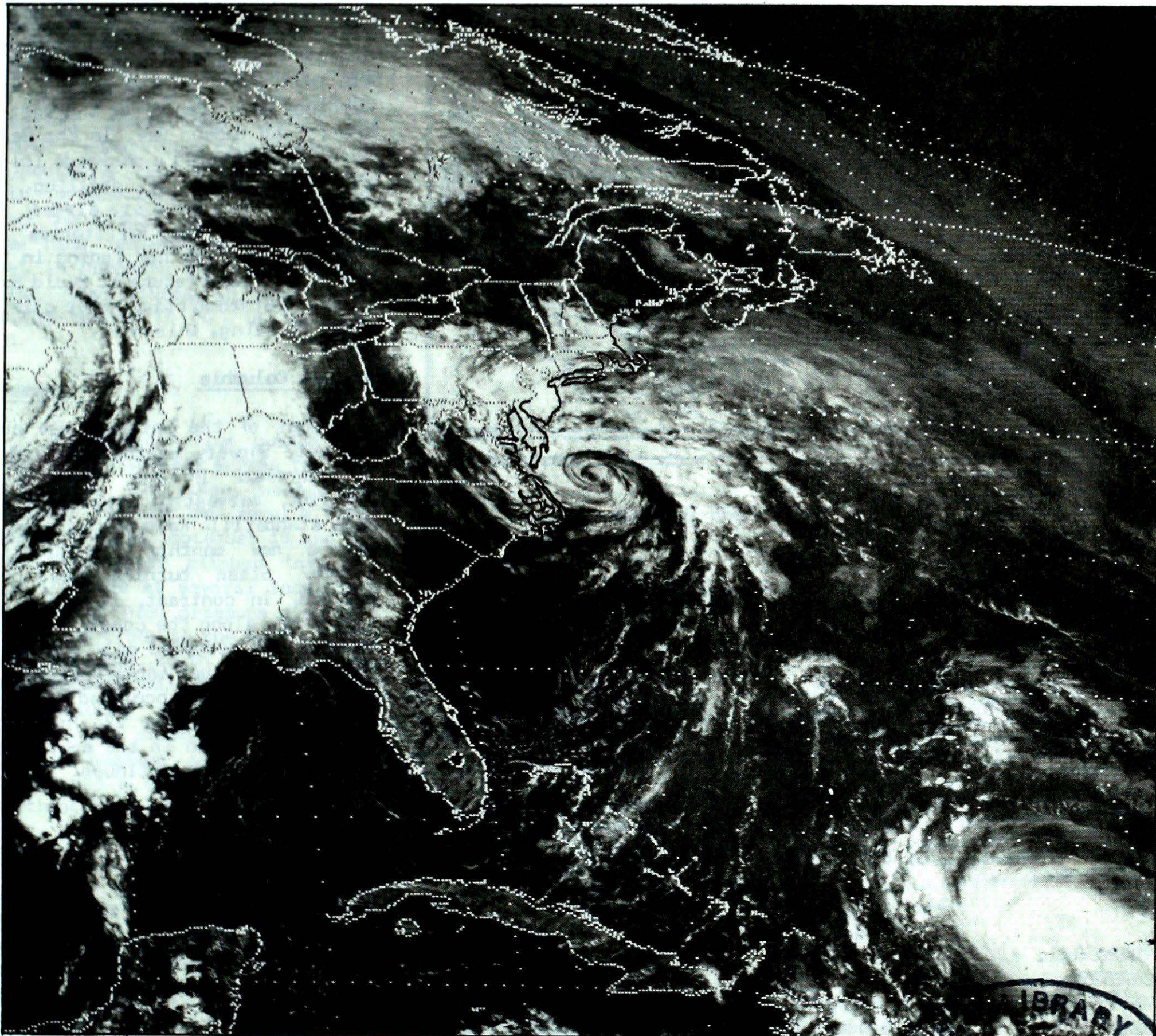
climatic perspectives

MONTHLY
SUPPLEMENT
INCLUDED

A weekly review of Canadian climate

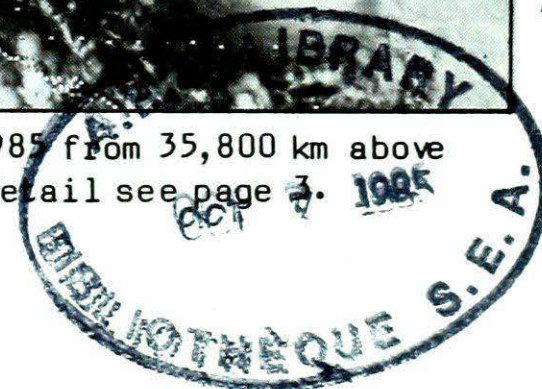
September 17 to 23, 1985

Vol.7 No.37



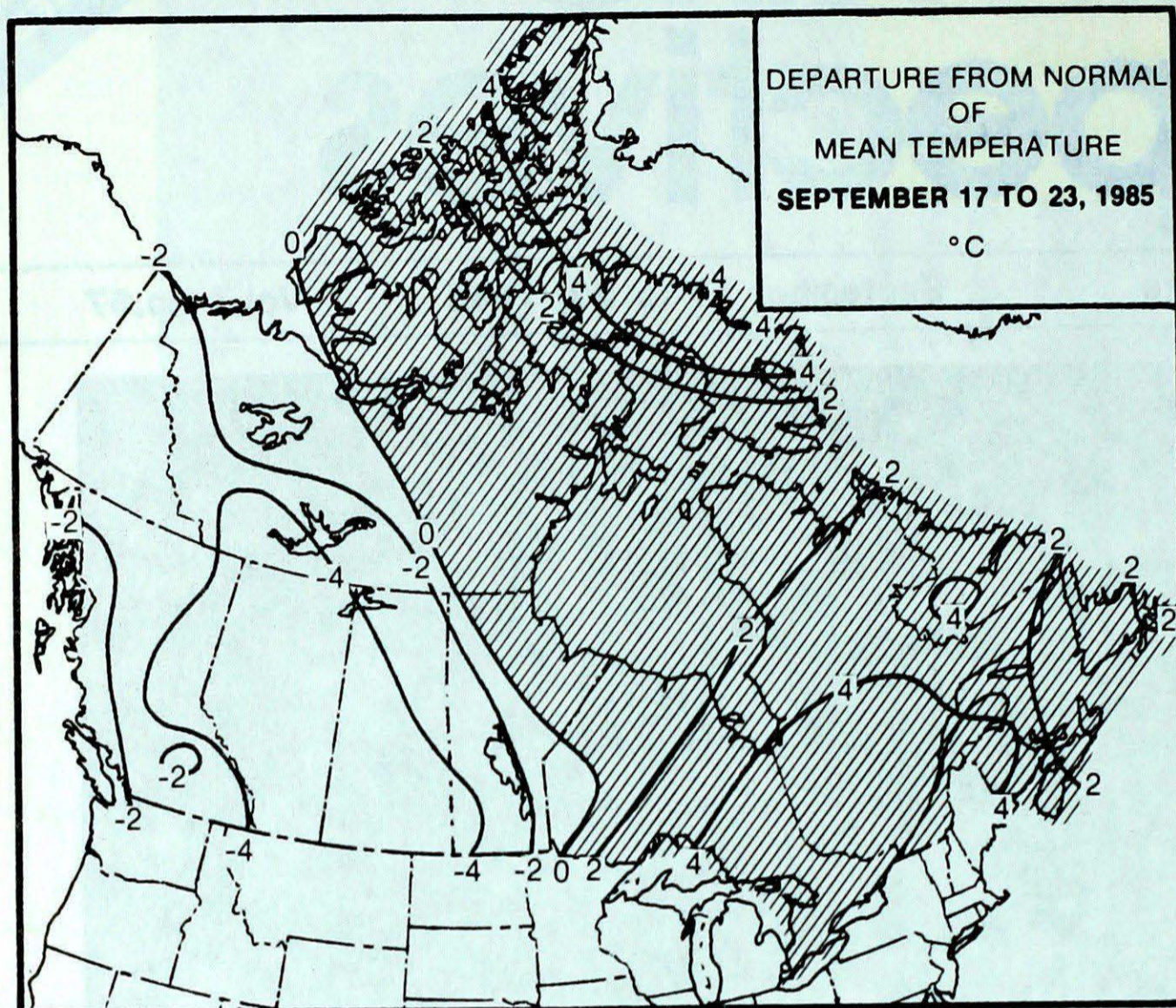
This GOES satellite picture taken during the afternoon of September 23, 1985 from 35,800 km above the equator, shows two tropical storms churning in the Atlantic. For more detail see page 7.

- **Cool and wet in the West**
- **Record warmth in the East**
- **Gale force winds in the Arctic**
 - Beaufort Sea drilling ring collapses



Canada

TEMPERATURE



ACROSS THE COUNTRY...

Yukon and Northwest Territories

Cloudy and cool weather conditions prevailed for the most part. Several disturbances gave light rain, but snow fell above the 1000 metre level in the mountains. Snow flurries were common in the Northwest Territories. Winds were unusually strong this week, gusting to 110 km/h early in the period. Gale warnings were issued for the eastern Arctic and Hudson Bay. In the Beaufort, waves eroded a man-made island and subsequently a drilling rig toppled over. Leaves are already off the trees in the Territories and autumn colors are now fading in the Yukon. The temperature at Mould Bay, in the western Arctic, never climbed above freezing, this week.

British Columbia

Most of the interior was cool and wet. Showery weather has slowed the harvest. In the Peace River District, harvesting operations are at a standstill. Kelowna has already set a new monthly precipitation record. Slash burning has been delayed. In contrast, it was relatively dry along the coast. Victoria to-date has recorded only one quarter of their usual monthly rainfall. The first frost occurred in the Okanagan on September 22. The apple harvest has begun in the south, and the grape harvest continues.

Prairies

In Alberta it was unseasonably cold and unsettled. A number of daily low temperature records were broken during the week, and all agricultural districts have been hit by a killing frost. Up to several centimetres of snow blanketed parts of Alberta on September 18; 14 cm of fresh snow fell in the Cypress Hills of southwestern Saskatchewan. Sky conditions were variable in the east. Slow moving weather systems gave periods of rain, delaying harvesting operations. Up to 90% of the crops remain in the fields in northern Alberta; wet weather is causing grains to sprout. The wet weather has increased the soil moisture, enabling more fall seeding.

WEEKLY TEMPERATURE EXTREMES (°C)

	MAXIMUM	MINIMUM
YUKON TERRITORY	14.3 Burwash	-12.0 Beaver Creek
NORTHWEST TERRITORIES	14.1 Fort Smith	-14.5 Mould Bay
BRITISH COLUMBIA	21.0 Lytton	-6.3 Puntzi Mountain
ALBERTA	17.5 Coronation	-7.8 Red Deer
SASKATCHEWAN	18.8 Elbow	-4.8 Collins Bay
MANITOBA	24.0 Winnipeg	-4.2 Lynn Lake
ONTARIO	30.2 Ottawa	-2.2 Upsala
QUÉBEC	31.3 Roberval	-4.0 Border
NEW BRUNSWICK	32.4 Chatham	1.2 St. Stephen
NOVA SCOTIA	29.2 Western Head	1.3 Truro
PRINCE EDWARD ISLAND	28.9 Summerside	5.8 Charlottetown
NEWFOUNDLAND	26.1 Badger	-3.4 Churchill Falls
	Comfort Cove	

ACROSS THE NATION

Warmest mean temperature	20.6	Port Weller, Ont.
Coollest mean temperature	-5.3	Alert, N.W.T.

Ontario

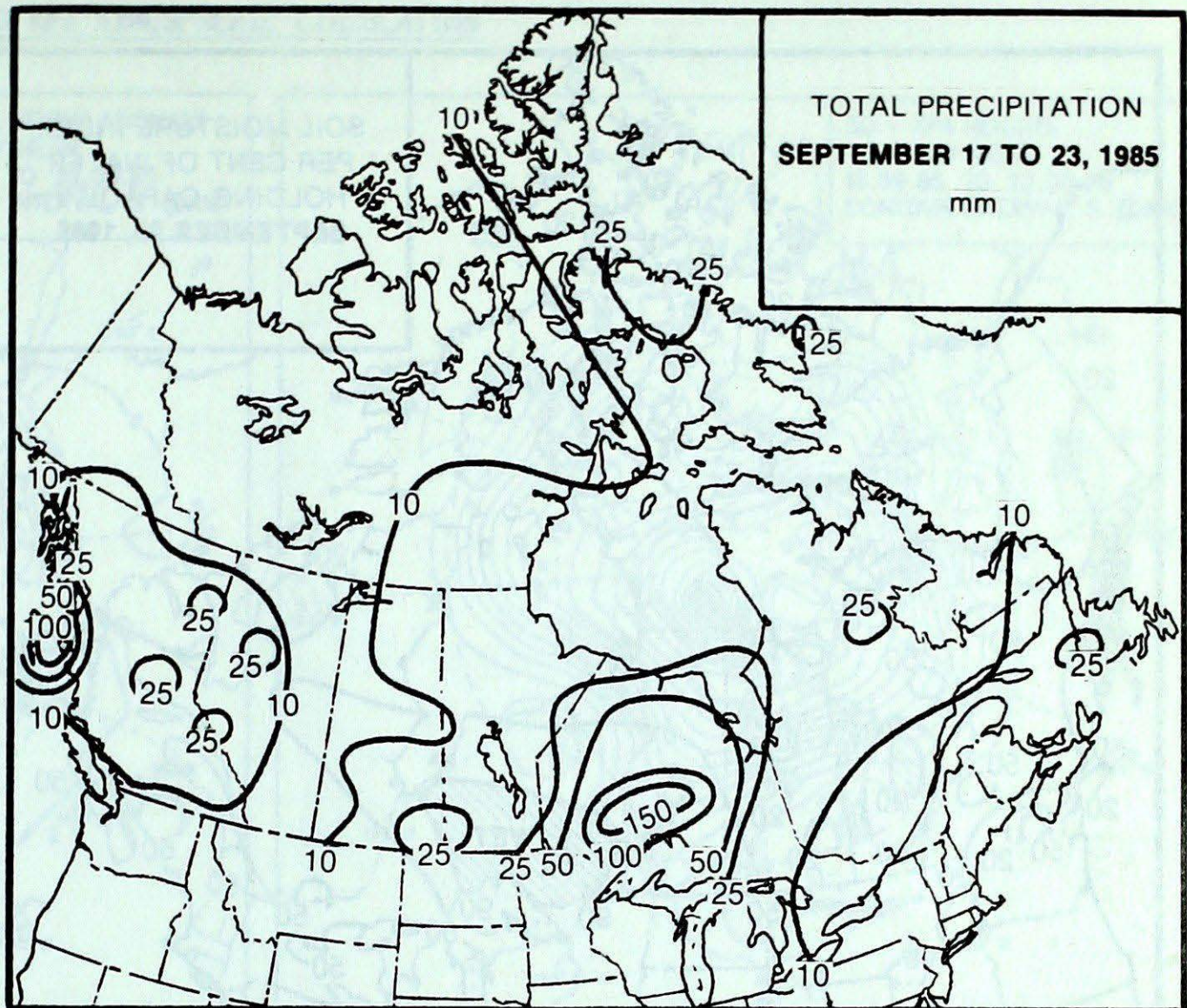
A series of disturbances moved through the northern half of the province, resulting in significant rainfall amounts. On September 19, heavy thunderstorms produced golf-ball sized hail at Nakina. Geraldton was deluged with 125 mm of rain, while several other northern communities received more than 75 mm of rain. A stationary ridge of high pressure gave sunny and dry weather conditions across the south. Temperatures fluctuated, but a southerly flow allowed very warm air to penetrate the province during the middle of the week. Many new high temperature records were set in northern and central Ontario. Temperatures in the Ottawa Valley soared to 30°C on September 20.

Quebec

A southerly flow pumped very warm air northwards across the province. No less than twenty five maximum temperature records were broken between September 18 and 20. The thermometer climbed into the low thirties at several locations. An area of high pressure displaced the storm track to the north, hence most of the south was dry. The seventh Montreal marathon was run under ideal weather conditions. Strong winds associated with a cold frontal passage on September 21, overturned a sea plane on lac Éon north of Sept-Îles.

Atlantic

The period was sunny, dry and very warm. New daily record high temperatures were set or tied at a number of locations during mid-week. Temperatures in New Brunswick soared to the thirties. A cooler airmass moved into the Maritimes over the weekend, dropping temperatures to more seasonal values. In Newfoundland, the weekend weather was damp; otherwise pleasant late summer weather prevailed. Daytime temperatures climbed into the twenties. Cold air flooded across Labrador late in the period. Fall field work and winter grain seeding was underway in the Maritimes.

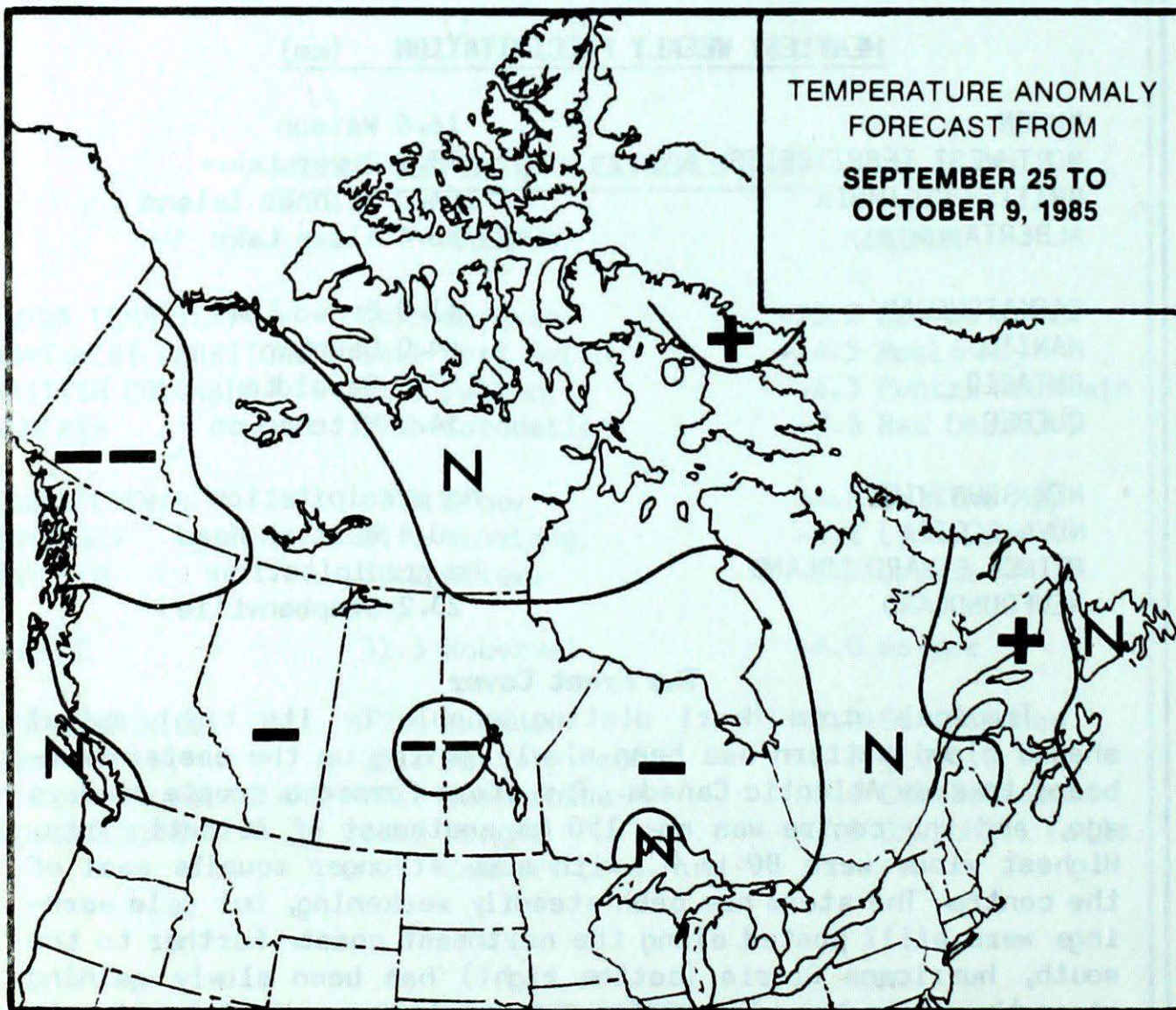
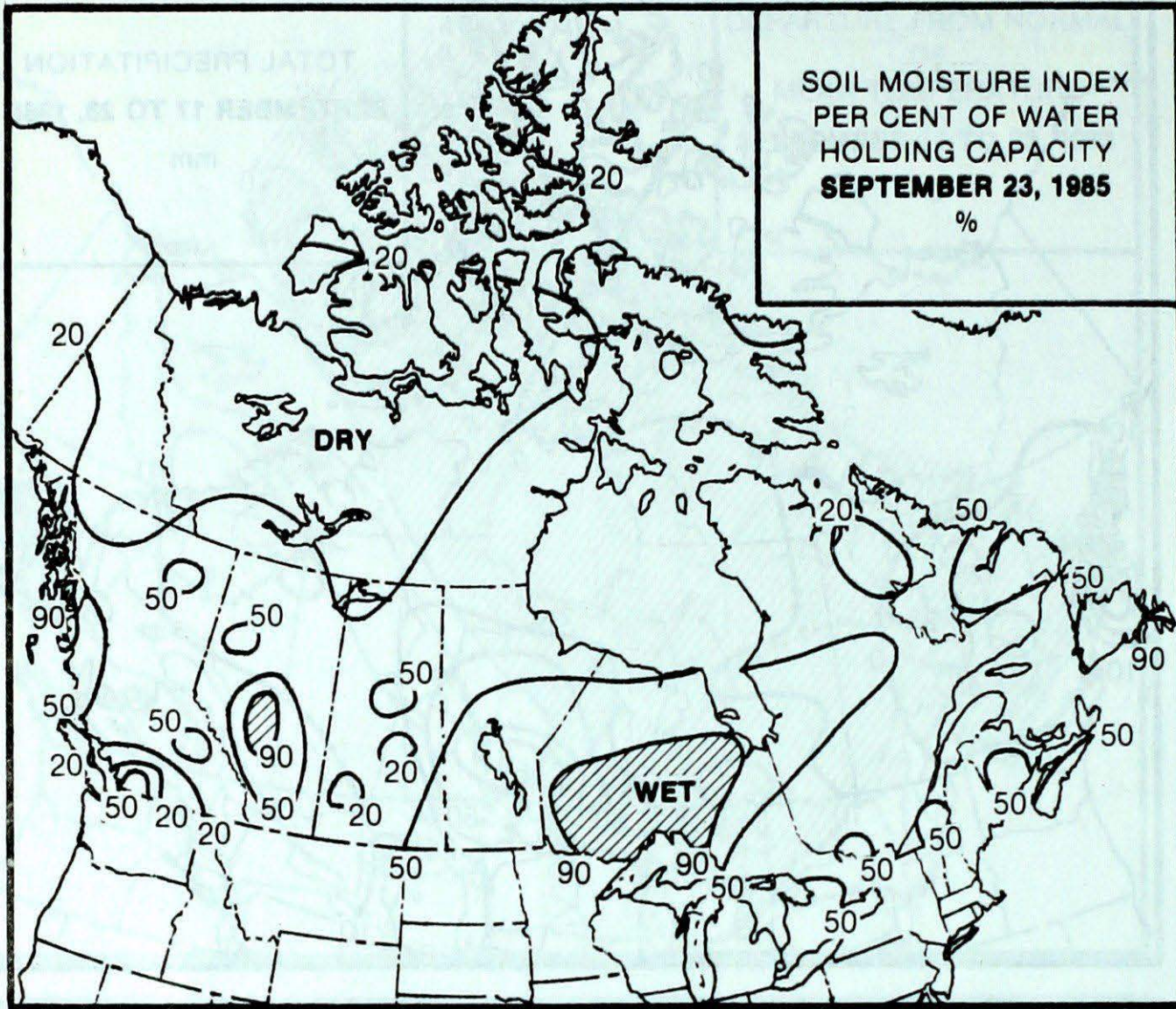
**HEAVIEST WEEKLY PRECIPITATION (mm)**

YUKON	16.6 Watson
NORTHWEST TERRITORIES	33.1 Dewar Lakes
BRITISH COLUMBIA	104.0 McInnes Island
ALBERTA	26.4 Slave Lake
SASKATCHEWAN	41.8 Broadview
MANITOBA	44.0 Dauphin
ONTARIO	157.0 Geraldton
QUEBEC	34.2 Nitchequon
NEW BRUNSWICK	No precipitation
NOVA SCOTIA	0.4 Western Head
PRINCE EDWARD ISLAND	No precipitation
NEWFOUNDLAND	23.2 Stephenville

The Front Cover

Tropical storm Henri distinguishable by its tight spiral shaped cloud pattern has been slowly moving up the eastern-sea-board towards Atlantic Canada. The storm formed a couple of days ago, and the centre was now 150 km southeast of Atlantic City. Highest winds were 80 km/h, with some stronger squalls east of the centre. The storm has been steadily weakening, but gale warnings were still posted along the northeast coast. Further to the south, hurricane Gloria (bottom right) has been slowly gaining strength, while tracking westwards across the south Atlantic. At this time, Gloria was located approximately 350 km north of Puerto Rico, and was expected to head northwestwards shortly. Maximum sustained winds have increased to 150 km/h, and conditions were favourable for further strengthening. Gloria has the potential of being one of the most destructive hurricanes this century, if it hits land.

FORECAST



Temperature Anomaly Forecast

- ++ much above normal
- + above normal
- N normal
- below normal
- much below normal

This forecast is prepared by searching historical weather maps to find cases similar to the present. The historical outcome during the 15 days subsequent to the chosen analogues is assumed to be a forecast for the next 15 days from now.

CLIMATIC PERSPECTIVES VOLUME 7

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It began in 1978 and in 1983 was expanded to include a monthly supplement (formerly known as the Canadian Weather Review). The purpose of the publication is to make topical information available to the public concerning the Canadian Climate and its socioeconomic impact.

Unsolicited articles are welcome but should be at maximum about 1500 words in length. They will be subject to editorial change without notice due to publishing time constraints. Black and white photographs can be used, but not colour. The contents may be reprinted freely with proper credit.

The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic weather stations. Information concerning climatic impacts is gathered from AES contacts with the public and from the media. Articles do not necessarily reflect the views of the Atmospheric Environment Service.

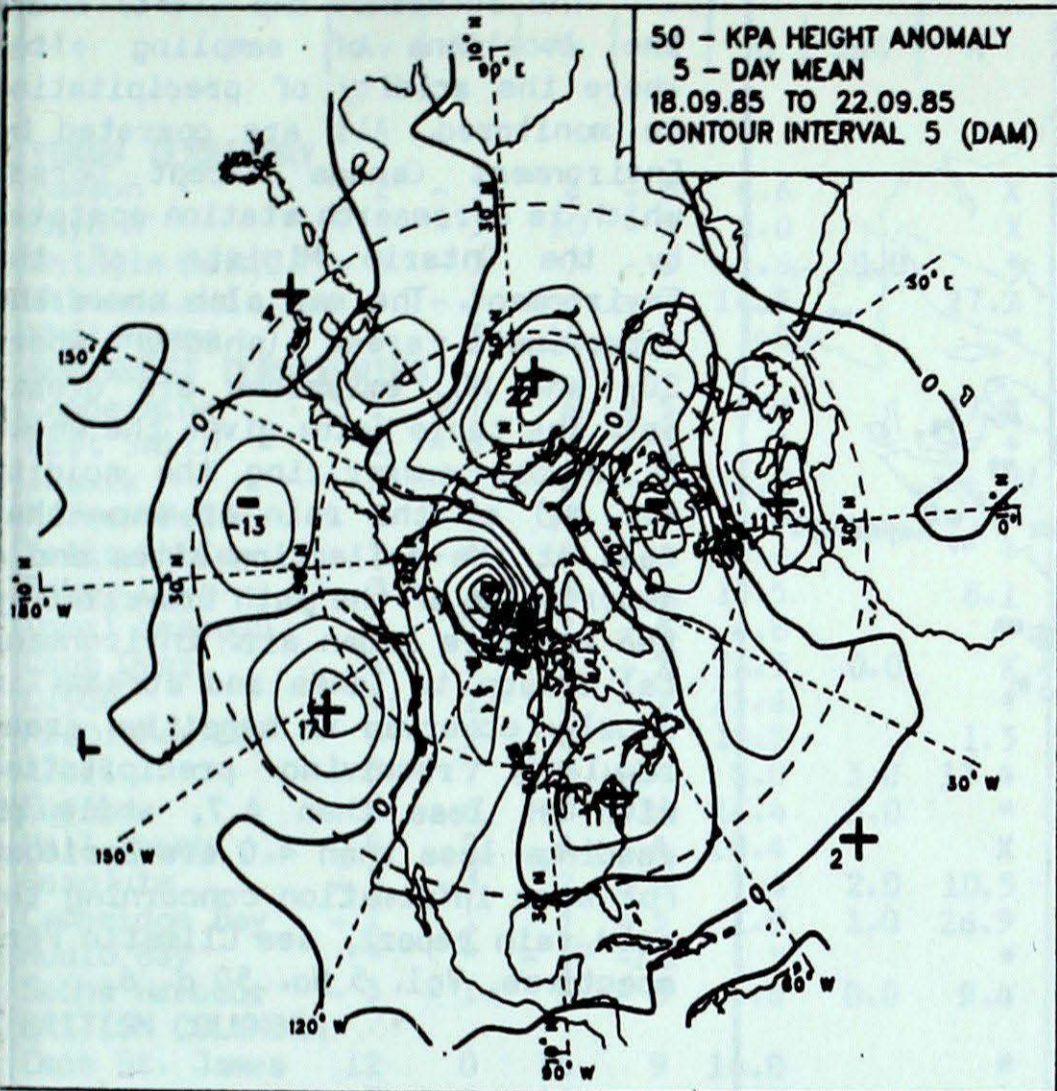
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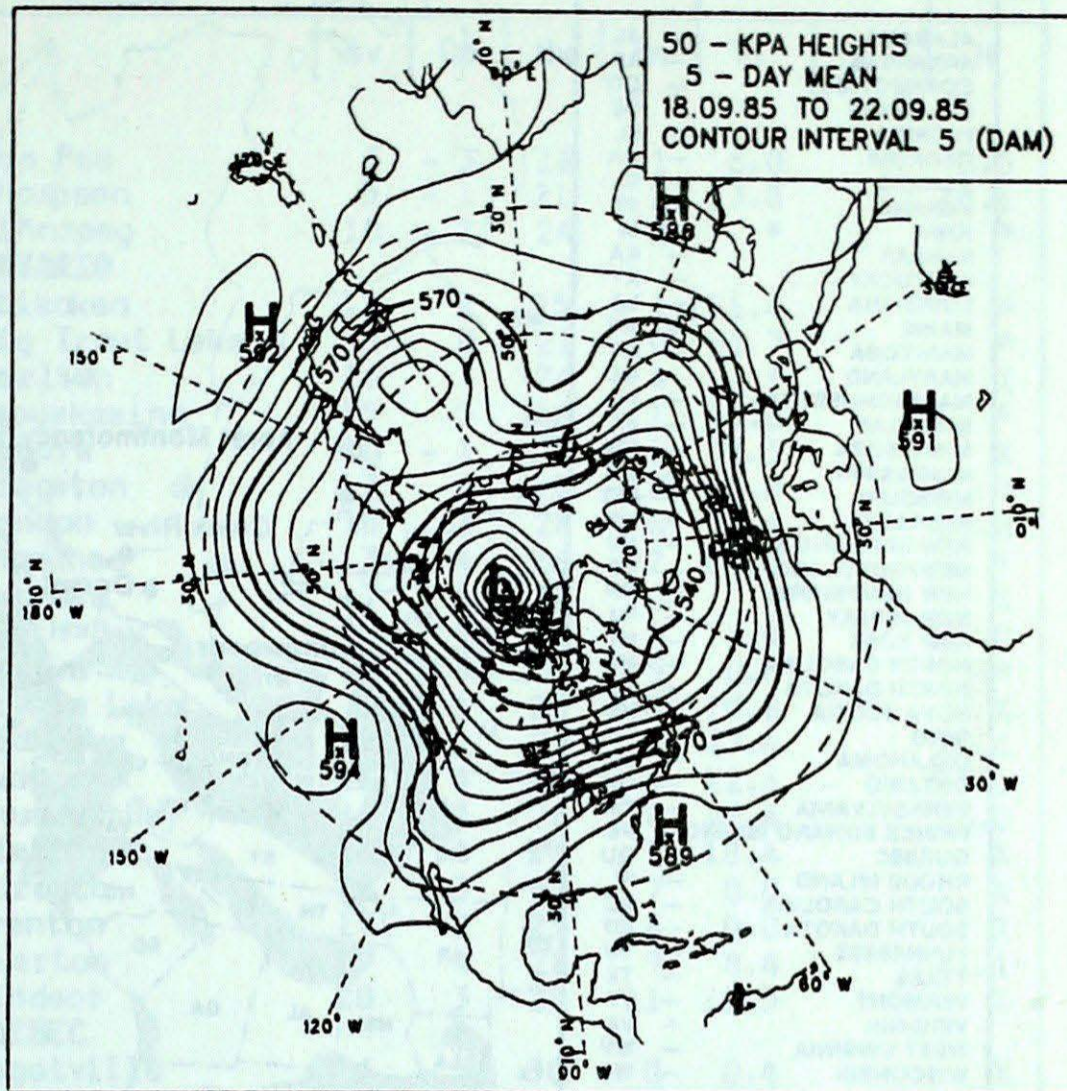
50 KPa ATMOSPHERIC CIRCULATION

50 - KPa HEIGHT ANOMALY
5 - DAY MEAN
18.09.85 TO 22.09.85
CONTOUR INTERVAL 5 (DAM)

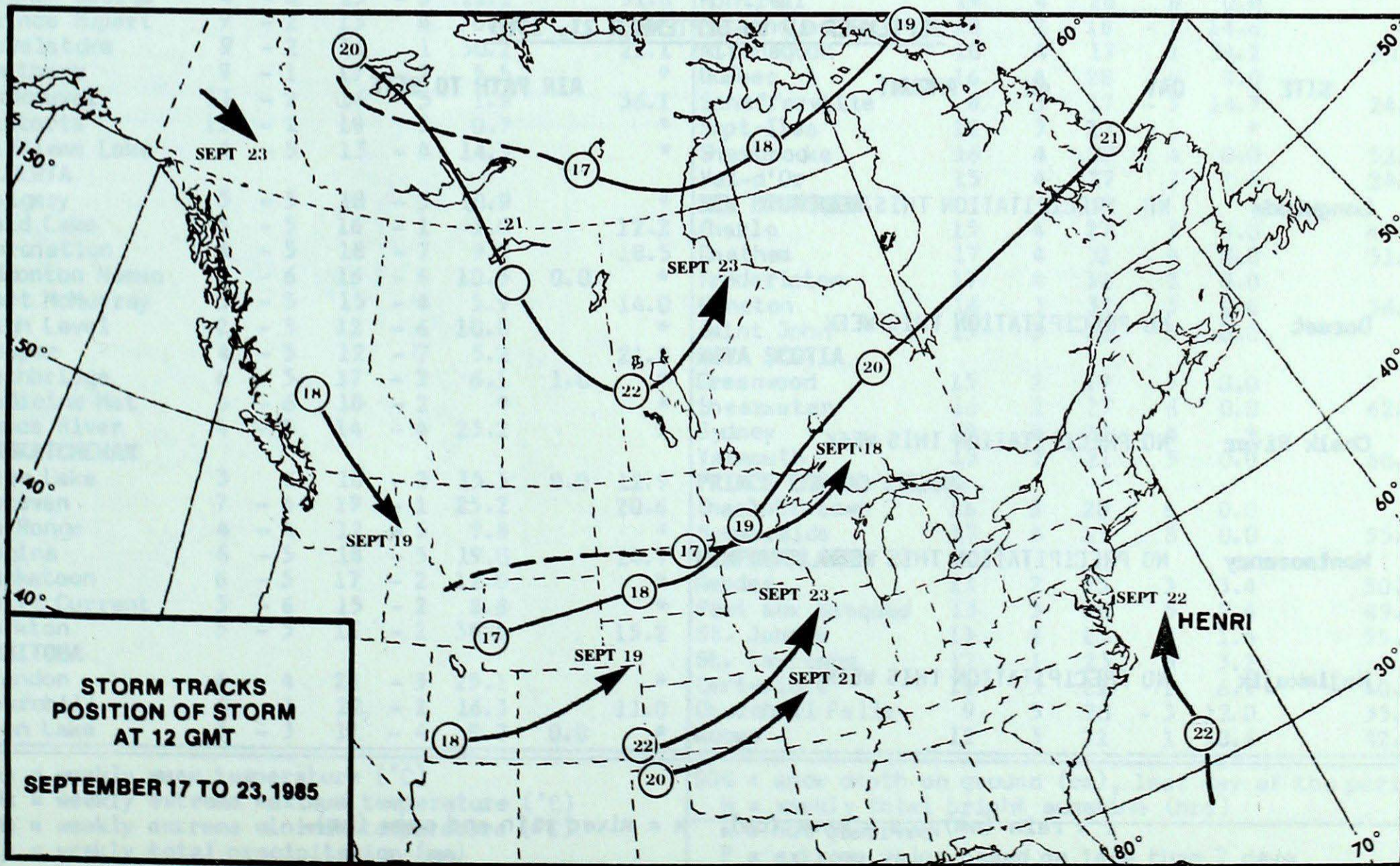


MEAN 50 KPa HEIGHT ANOMALY (dam)
September 18 to September 22, 1985

50 - KPa HEIGHTS
5 - DAY MEAN
18.09.85 TO 22.09.85
CONTOUR INTERVAL 5 (DAM)



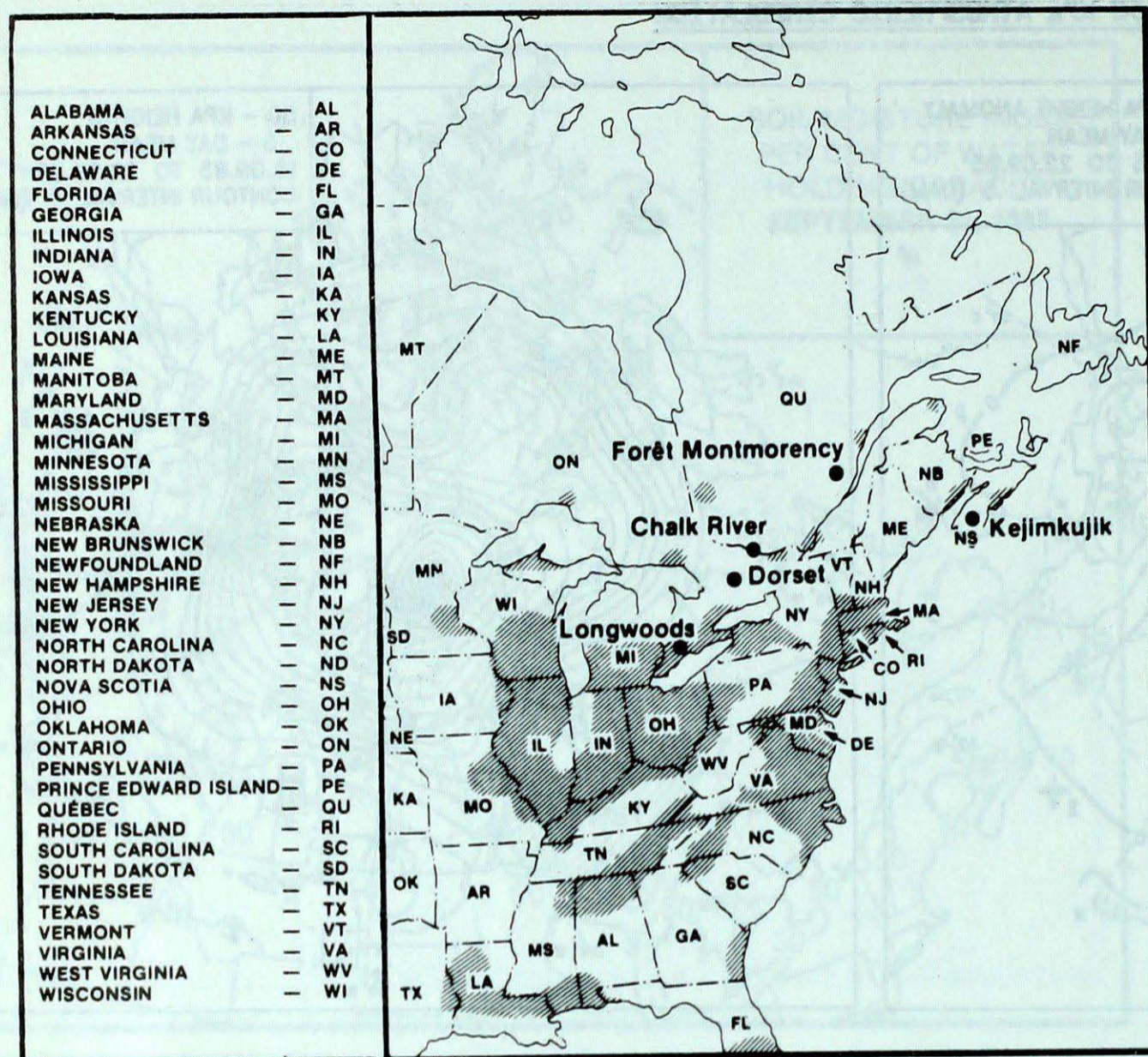
MEAN 50 KPa HEIGHTS (dam)
September 18, to September 22, 1985



**STORM TRACKS
POSITION OF STORM
AT 12 GMT
SEPTEMBER 17 TO 23, 1985**

ACID RAIN

ACID RAIN REPORT



The reference map (left) shows the locations of sampling sites where the acidity of precipitation is monitored. All are operated by Environment Canada except Dorset which is a research station operated by the Ontario Ministry of the Environment. The map also shows the approximate areas (shaded) where SO_2 and NO_x emissions are greatest. The table below gives the weekly report summarizing the acidity (or pH) of the rain or snow that fell at the collection sites and a description of the path travelled by the moisture laden air. Environmental damage to lakes and streams is usually observed in sensitive areas regularly receiving precipitation with pH less than 4.7, while pH readings less than 4.0 are serious. For more information concerning the acid rain report, see Climatic Perspectives, Vol. 5 No. 50 p. 6.

SEPTEMBER 15 to SEPTEMBER 21, 1985

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	NO		PRECIPITATION THIS WEEK	
Dorset	NO		PRECIPITATION THIS WEEK	
Chalk River	NO		PRECIPITATION THIS WEEK	
Montmorency	NO		PRECIPITATION THIS WEEK	
Kejimikujik	NO		PRECIPITATION THIS WEEK	

r = rain (mm), s = snow (cm), m = mixed rain and snow (mm).

TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT SEPTEMBER 24, 1985

STATION	TEMP				PRECIP		SUN	STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H		Av	Dp	Mx	Mn	Tp	SOG	H
YUKON TERRITORY								The Pas	6	-3	16	1	6.0		8.5
Dawson	2	-3	8	-8	6.6		X	Thompson	5	-1	21	-2	13.8		18.1
Mayo A	3	-3	10	-5	2.0		X	Winnipeg	10	-2	24	2	*		*
Shingle Point	-2	-3	3	-6	1.6	0.0	*	ONTARIO							
Watson Lake	4	-3	13	-7	16.6		27.2	Atikokan	12	2	25	-1	151.4		*
Whitehorse	3	-3	12	-5	3.8		*	Big Trout Lake	8	0	21	0	51.7		*
NORTHWEST TERRITORIES								Earlton	16	5	26	4	*		X
Coppermine	1	-1	6	-5	0.0		27.8	Kapuskasing	15	5	26	1	33.0		*
Fort Smith	2	-5	14	-4	1.2		*	Kenora	10	-1	23	1	31.3		X
Inuvik	0	-2	7	-8	1.8		*	Kingston	17	3	22	10P	0.0		*
Norman Wells	3	-1	10	-3	4.5		*	London	18	3	28	8	13.4		40.8
Yellowknife	2	-4	10	-4	0.0		*	Mosonoo	13	4	26	2	84.0		*
Baker Lake	3	1	10	-4	13.5		8.1	Muskoka	17	4	27	0	*		X
Coral Harbour	2	2	12	-4	4.8		*	North Bay	16	4	25	5	3.4		25.0
Cape Dyer	2	4	5	-2	26.5	0.0	X	Ottawa	18	4	30	5	0.0		*
Clyde	2	2	8	-3	25.6		*	Pickle Lake	8	-1	23	0	70.8		X
Frobisher Bay	3	1	8	-2	19.2		1.3	Red Lake	9	-1	22	0	17.4		22.6
Alert	-5	7	3	-14	0.0	3.0	13.4	Sudbury	16	4	26	6	12.6		27.1
Eureka	-4	6	3	-11	16.4	5.0	*	Thunder Bay	14	3	28	0	42.4		26.0
Hall Beach	0	2	4	-4	10.4		X	Timmins	15	4	26	1	18.4		X
Resolute	-3	3	2	-6	7.6	2.0	10.5	Toronto	18	3	29	7	0.0		X
Cambridge Bay	-1	1	3	-5	1.0	1.0	26.9	Trenton	17	2	25	6	0.0		X
Mould Bay	*	*	-3P	-14P	*		*	Warton	19	4	28	9	8.4		41.1
Sachs Harbour	-3	-1	1	-8	4.6	0.0	9.4	Windsor	20	3	29	11	15.5		X
BRITISH COLUMBIA								QUEBEC							
Cape St. James	12	0	16	9	14.0		*	Bagotville	16	5	30	0	0.4		X
Cranbrook	7	-3	15	-4	14.7		30.7	Blanc-Sablon	9	1	15	-1	3.2		21.7
Fort Nelson	4	-4	13	-3	7.4		19.5	Inukjuak	6	2	10	1	12.2		4.4
Fort St. John	5	-4	15	-1	25.6		X	Kuujuaq	7	2	19	-1	12.2		*
Kamloops	11	-3	18	2	9.7		*	Kuujuarapik	9	2	19	2	31.6		*
Penticton	10	-3	19	0	9.4		37.0	Maniwaki	17	5	28	4	0.0		42.9
Port Hardy	10	-1	15	4	8.2		39.9	Mont-Joli	16	5	25	2	1.0		41.1
Prince George	4	-6	13	-5	22.1		31.4	Montréal	19	4	28	8	0.0		*
Prince Rupert	9	-2	13	4	78.0		*	Natashquan	10	2	18	-1	14.6		*
Revelstoke	9	-2	16	1	30.2		21.1	Nitchequon	10	4	17	1	34.2		30.7
Smithers	9	-1	17	-2	5.5		*	Québec	16	4	28	6	0.0		*
Vancouver	11	-2	16	5	1.9		36.1	Schefferville	8	3	17	-3	14.7		24.1
Victoria	11	-2	18	5	0.7		*	Sept-Iles	12	3	27	1	*		*
Williams Lake	6	-5	13	-4	14.3		*	Sherbrooke	16	4	27	4	0.0		52.2
ALBERTA								Val-d'Or	15	4	27	3	1.4		24.9
Calgary	5	-5	18	-5	10.9		*	NEW BRUNSWICK							
Cold Lake	5	-5	16	-1	3.0		12.2	Charlo	15	4	27	3	0.0		49.2
Coronation	4	-5	18	-7	9.2		18.5	Chatham	17	4	32	4	0.0		51.4
Edmonton Nameo	4	-6	16	-6	10.5	0.0	*	Fredericton	17	4	32	3	0.0		*
Fort McMurray	3	-5	15	-4	5.9		14.0	Moncton	16	3	31	3	0.0		56.4
High Level	2	-5	12	-6	10.8		*	Saint John	15	3	28	5	0.0		*
Jasper	4	-5	12	-7	5.2		21.8	NOVA SCOTIA							
Lethbridge	6	-5	17	-2	6.1	1.0	*	Greenwood	15	2	29	3	0.0		X
Medicine Hat	6	-6	18	-2	*		*	Shearwater	16	2	27	6	0.0		62.4
Peace River	4	-5	14	-4	23.2		X	Sydney	15	2	27	4	*		*
SASKATCHEWAN								Yarmouth	15	2	21	5	0.0		60.0
Cree Lake	3	X	10	-2	15.3	0.0	12.9	PRINCE EDWARD ISLAND							
Estevan	7	-4	19	-1	25.2		20.6	Charlottetown	16	3	28	6	0.0		*
La Ronge	4	-4	12	-5	9.8		*	Summerside	17	4	29	8	0.0		55.0
Regina	6	-5	18	-5	19.0		24.7	NEWFOUNDLAND							
Saskatoon	6	-5	17	-2	12.0		*	Gander	13	2	25	3	3.4		50.1
Swift Current	5	-6	15	-2	8.8		*	Port aux Basques	13	3	20	5	2.4		49.0
Yorkton	5	-5	16	-2	38.6		15.2	St. John's	13	2	23	2	1.6		55.6
MANITOBA								St. Lawrence	12	1	23	3	3.2		X
Brandon	6	-4	21	-3	25.1		*	Cartwright	11	3	22	1	6.2		40.0
Churchill	6	1	22	-1	16.3		11.0	Churchill Falls	9	5	20	-3	12.0		35.6
Lynn Lake	3	-3	11	-4	9.7	0.0	*	Goose	12	3	22	1	10.6		42.3

Av = weekly mean temperature (°C)
 Mx = weekly extreme maximum temperature (°C)
 Mn = weekly extreme minimum temperature (°C)
 Tp = weekly total precipitation (mm)
 Dp = Departure of mean temperature from normal (°C)

SOG = snow depth on ground (cm), last day of the period
 H = weekly total bright sunshine (hrs)
 X = not observed
 P = extreme value based on less than 7 days
 * = missing