



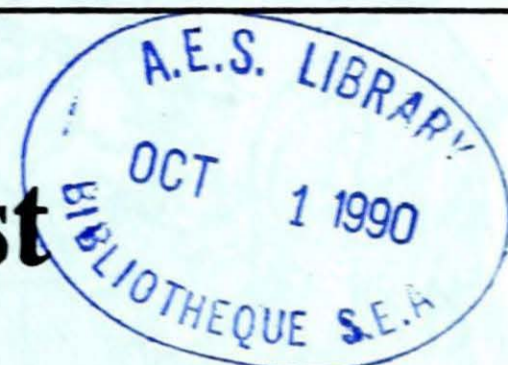
# Climatic Perspectives



archives

Ref 2

## Summer continues in the West



*While western Canada basks in sunshine and warm, summer-like temperatures, the eastern half of the country has had to endure cool and unsettled autumn weather.*

After a warmer than normal August, temperatures in western Canada continued their above normal trend. In many parts of the Prairies, mean weekly temperatures have been above normal for up to 9 consecutive weeks. In fact, in some areas, it has been downright hot. Both Medicine Hat, Alta. and North Battleford, Sask. have registered record highs of 32°C. Even in northern B.C. temperatures in the upper twenties were common place. The weather has been most beneficial for harvesting. In Saskatchewan, harvesting is almost complete, approximately one week earlier than normal. In the Peace River district of Alberta, the harvest is 70 percent complete. In B.C., where the apple harvest is in full swing, growers would prefer cooler temperatures and even some frost.

Unusually warm water off the west coast of Vancouver Island has brought some dramatic examples of algae bloom. Vast areas of red coloured water have been reported along the coast, with the *Red Tide*, as it is called, turning a bluish green colour when disturbed. There have also been reports of unusual warm water fish species in the area.

After a succession of disturbances, which produced plenty of rain, cloud and windy weather, a record cold Arctic air mass covered Ontario and Quebec. In Ontario, September 18 saw the first major

frost of the season. In northeastern Ontario, several centimetres of snow fell on the 22nd and 23rd. There were several instances of severe weather in Quebec, in the form of hail and high winds. The unsettled, cool weather has slowed the remaining harvest in both provinces. In Quebec, farmers are despairingly unable to finish bringing in their third hay crop, but on a positive note it has been a good year for apple growers both in quality and quantity.

The Maritimes fared considerably better weather-wise until this week, when it became very windy and wet. Coastal areas recorded wind gusts to 109 km/h. In the Annapolis Valley, the apple harvest began a little earlier than normal, with a better than average yield expected. The pear harvest is almost finished; the quality is good but size could be better.

### Summer-like temperatures in October

A strong ridge of high pressure covering most of central North America will bring abnormally warm temperatures from the

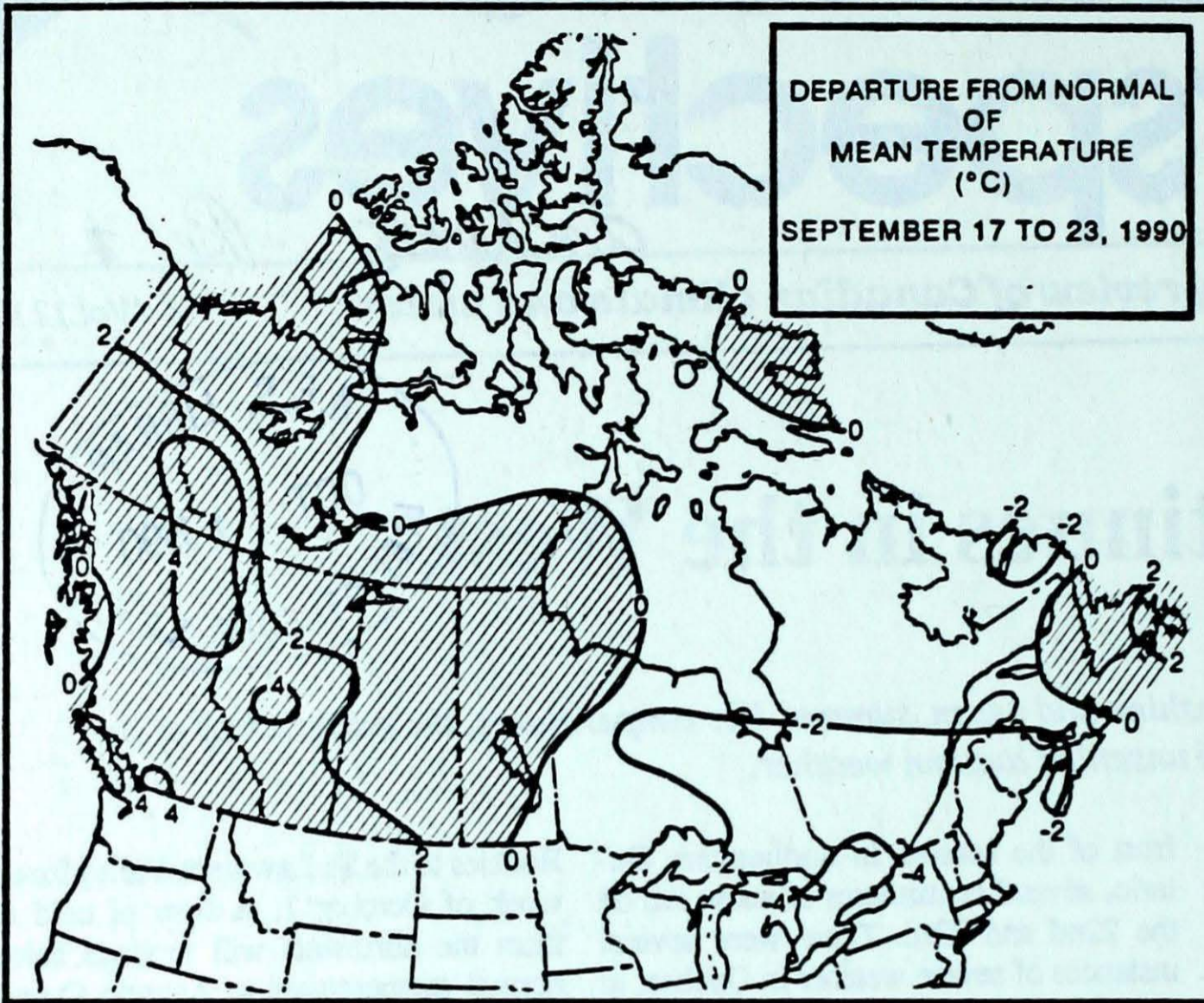
Rockies to the St. Lawrence Valley for the week of October 1. A flow of cold air from the northwest will produce below normal temperatures in Atlantic Canada for the same period. Southern B.C. will also experience below normal readings.

### Occurrence of snow cover

Mean date of first and last 2 cm of snow cover

Whitehorse	Oct 12	April 26
Yellowknife	Oct 14	May 6
Vancouver	Dec 23	Feb 14
Victoria	Dec 21	Feb 3
Penticton	Dec 2	Feb 23
Prince George	Oct 28	April 10
Calgary	Oct 20	April 25
Edmonton	Oct 27	April 14
Regina	Nov 1	April 18
Saskatoon	Oct 26	April 18
Winnipeg	Nov 4	April 17
Windsor	Nov 26	Mar 25
Toronto	Nov 26	April 2
Sudbury	Nov 6	April 21
Montreal	Nov 18	April 7
Quebec	Nov 10	April 23
Moncton	Nov 15	April 20
Fredericton	Nov 19	April 18
Charlottetown	Nov 16	April 22
Halifax	Nov 30	April 6
Yarmouth	Nov 26	April 2
Goose Bay	Oct 19	May 22
St. John's	Nov 15	April 30

Based on data from 1955 to 1980



**Weekly normal temperatures (°C)**

	max.	min.
Whitehorse A	11.8	2.1
Iqaluit A	3.9	-1.0
Yellowknife A	9.4	3.1
Vancouver Int'l A	17.5	9.5
Victoria Int'l A	18.4	8.4
Calgary Int'l A	16.2	3.1
Edmonton Int'l A	15.8	2.2
Regina A	16.7	3.4
Saskatoon A	16.3	3.5
Winnipeg Int'l A	16.9	5.2
Ottawa Int'l A	18.5	8.0
Toronto Int'l A	20.2	8.9
Montréal (Pearson Int'l A)	18.9	8.7
Québec A	17.3	6.4
Fredericton A	18.9	6.1
Saint John A	17.1	7.1
Halifax (Shearwater)	18.3	9.6
Charlottetown A	17.4	8.4
Goose A	13.2	3.6
St John's A	14.9	6.8

**Weekly temperature and precipitation extremes**

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Hope A 31	Puntzi Mountain (aut) -3	Port Hardy A 19
Yukon Territory	Watson Lake A 21	Shingle Point A -5	Watson Lake A 16
Northwest Territories	Fort Simpson A 26	Alert -20	Cape Dorset A 34
Alberta	Medicine Hat A 32	High Level A -4	Fort McMurray A 11
Saskatchewan	North Battleford A 32	Meadow Lake A -5	Nipawin A 22
Manitoba	The Pas A 24	Thompson A -6	Gimli 31
Ontario	Windsor A 20	Geraldton A -5	Red Lake A 53
Québec	Sept-iles A 18	Kuujuuaq A -4	Riviere Du Loup (aut) 48
New Brunswick	Moncton A 20	Chatham A -1	Saint John A 66
		St-Léonard A -1	
Nova Scotia	Sable Island 23	Greenwood A 2	Sydney A 86
Prince Edward Island	Charlottetown A 19	Summerside A 5	Charlottetown A 69
Newfoundland	Gander Int'l A 22	Wabush Lake A -1	Burgeo 112

**Across The Country...**

Highest Mean Temperature	Hope A(BC) 19
Lowest Mean Temperature	Alert(NWT) -12

90/09/17-90/09/23

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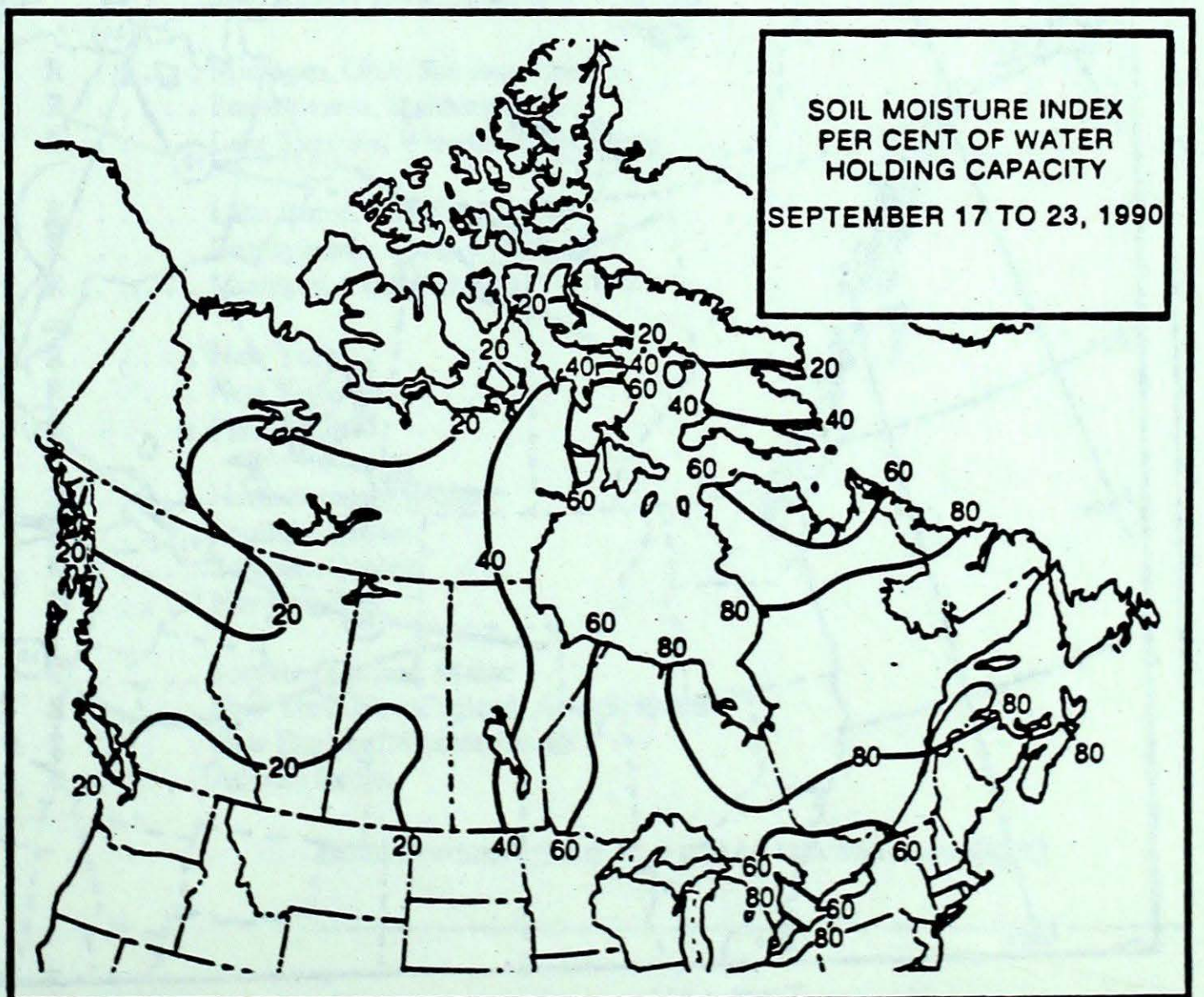
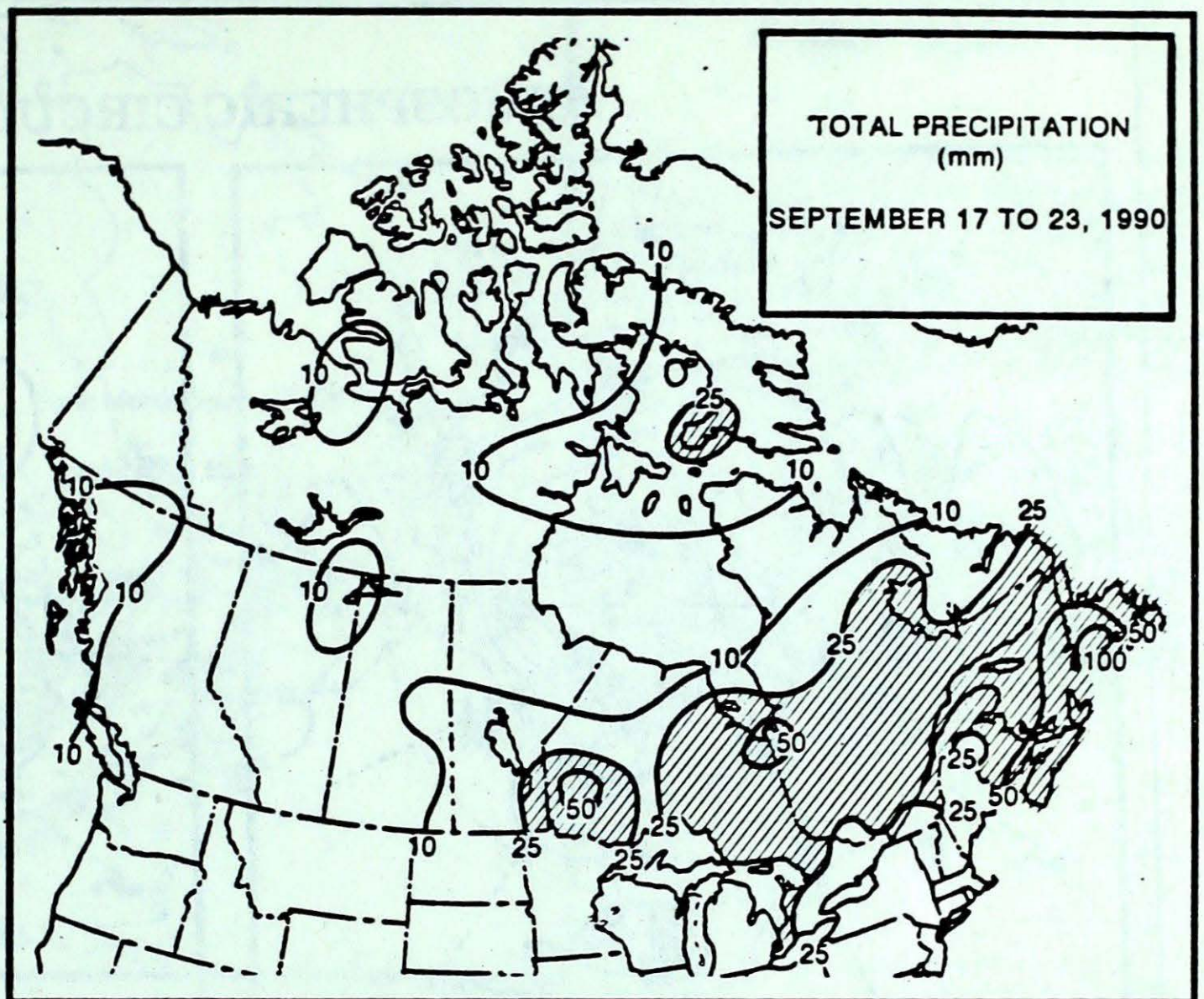
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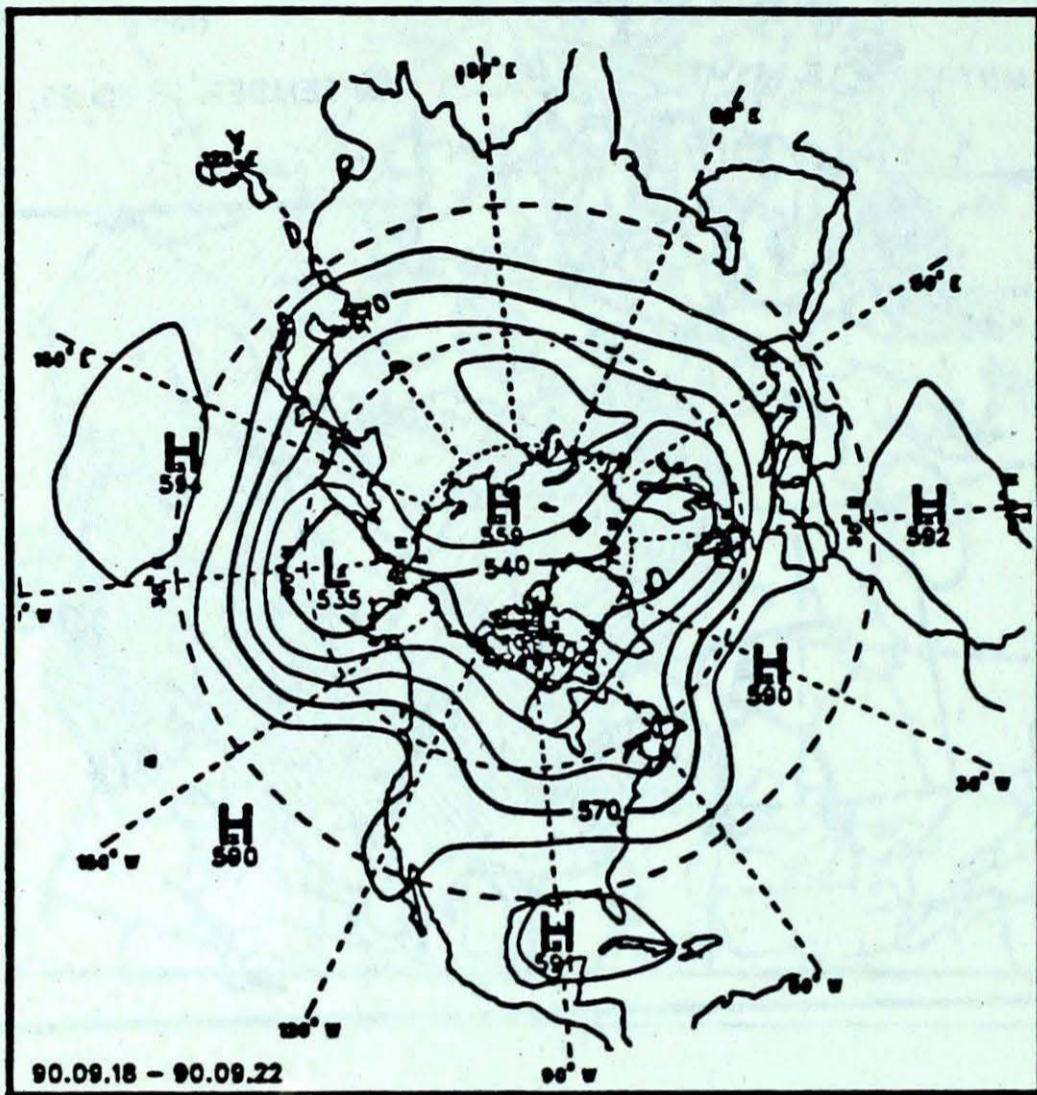
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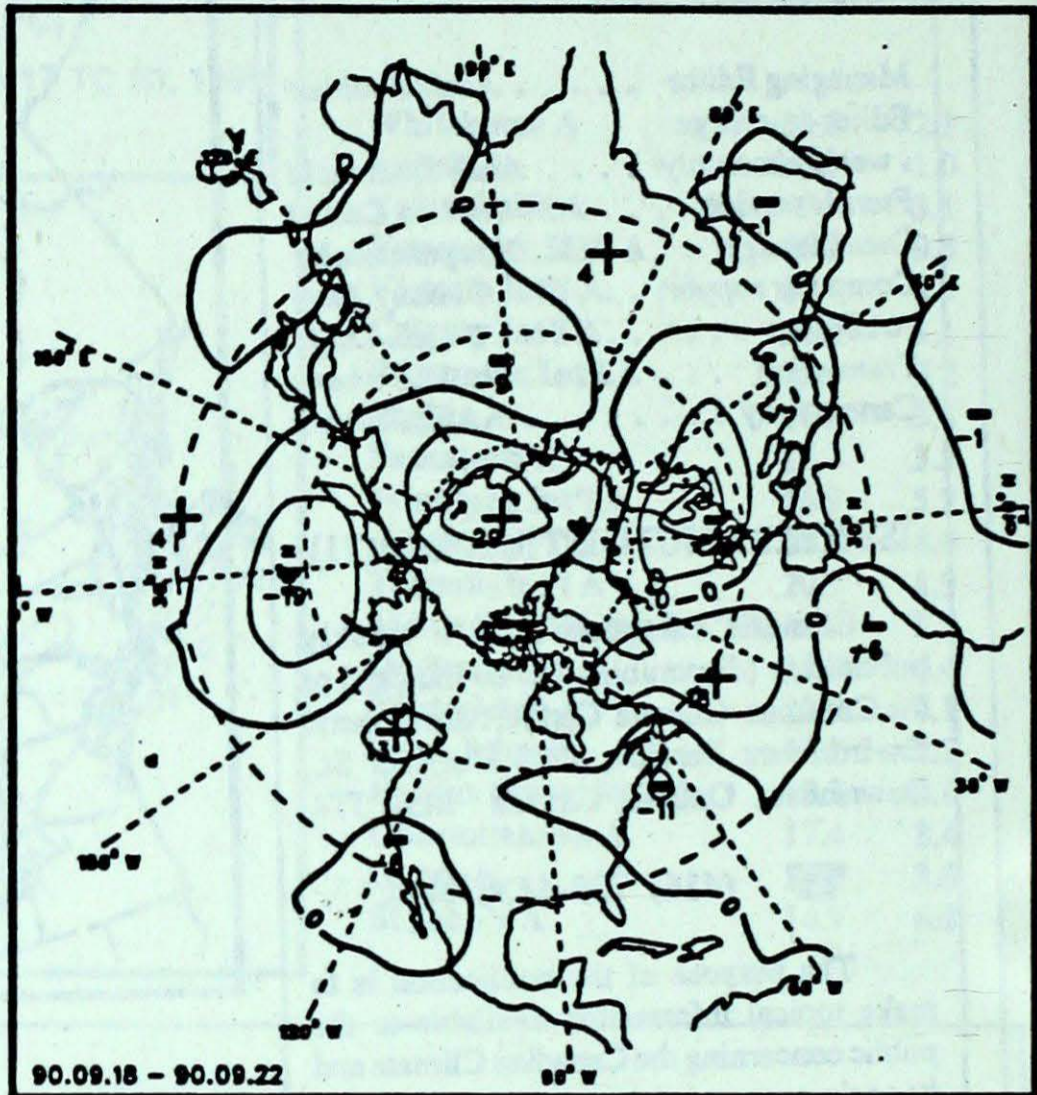
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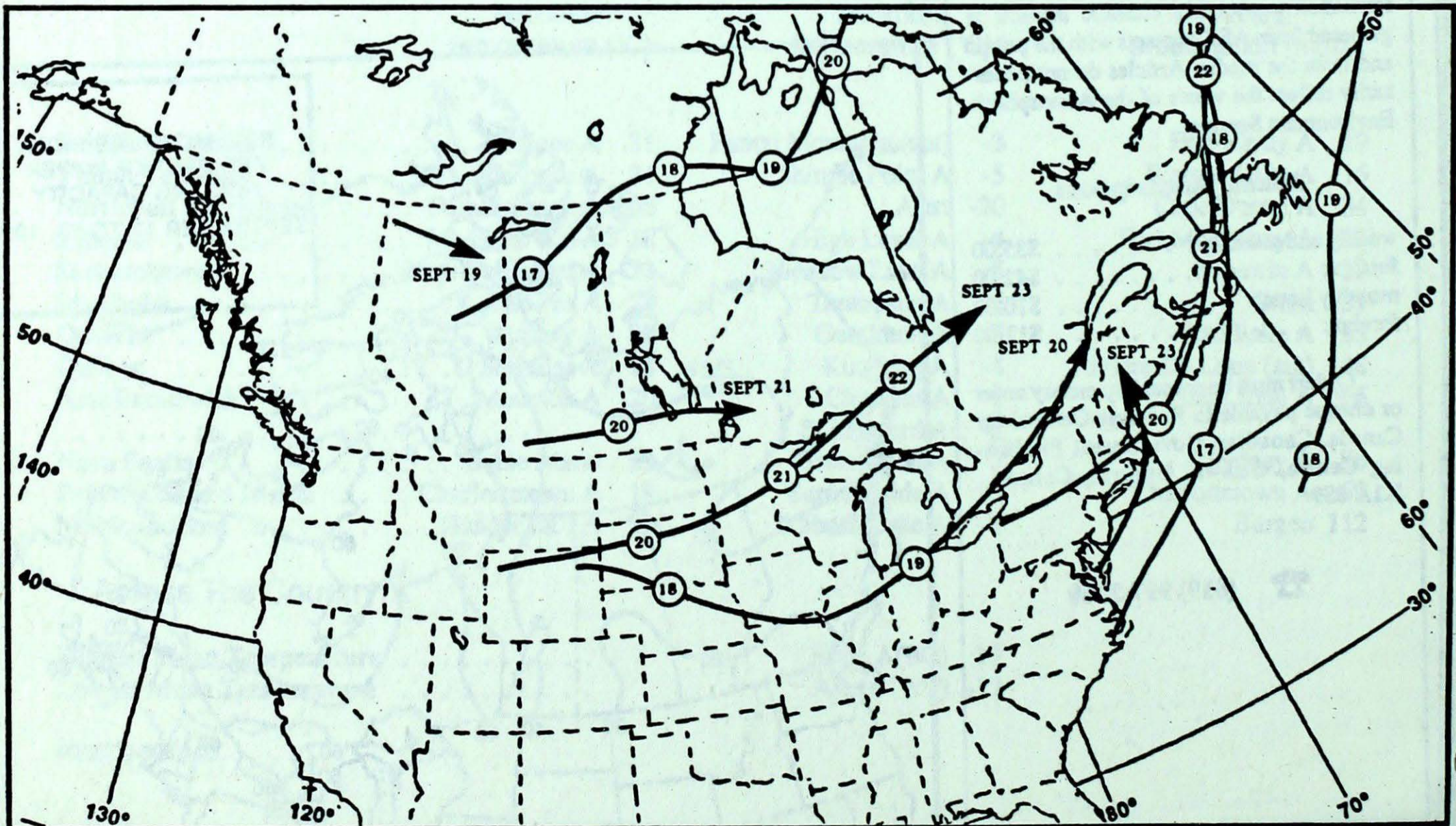
### ATMOSPHERIC CIRCULATION



Mean geopotential height  
50-kPa level (10-decametre intervals)



Mean geopotential height anomaly  
50-kPa level (10-decametre intervals)

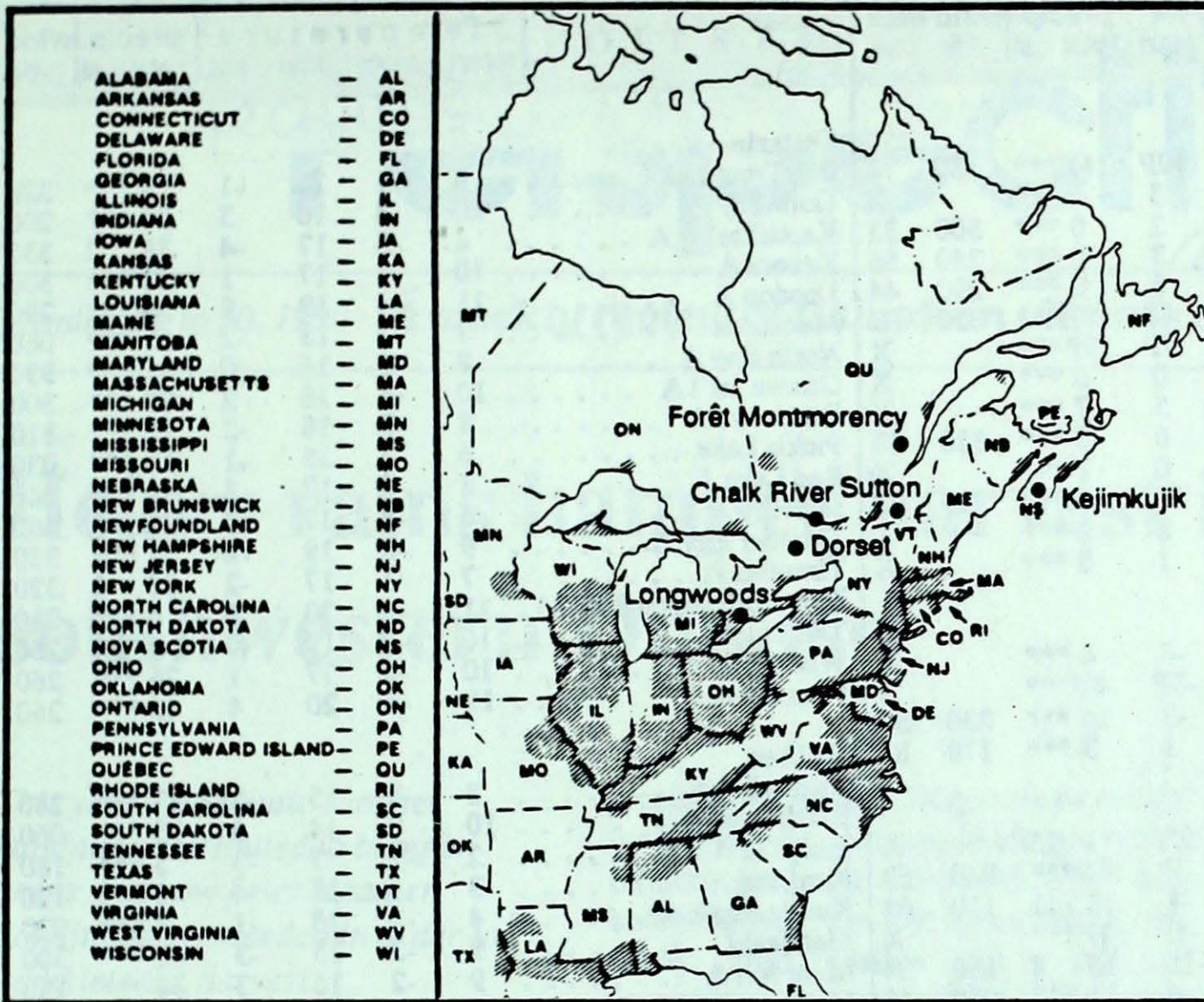


Tracks of low pressure centres at 12:00 U.T. each day during the period.

# ACID RAIN

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<sub>2</sub> and NO<sub>x</sub> emissions are greatest.

The table below gives the weekly report summarizing the acidity (or pH) of the acid 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 readings less than 4.7, while pH readings less than 4.0 are serious.



Site	day	pH	amount	air path to site	September 16 to 22, 1990
Longwoods				.....	DATA NOT AVAILABLE
Dorset *	19	3.8	2 R	.....	Michigan, Ohio, Southern Ontario
	21	3.8	7 R	.....	Pennsylvania, Southern Ontario
	22	4.7	7 R	.....	Lake Superior, Wisconsin, Michigan
Chalk River	19	3.9	1 R	.....	Lake Huron, Southern Ontario
	21	4.0	8 R	.....	Pennsylvania, Southern Ontario
	22	4.4	9 R	.....	Michigan, Central Ontario
Sutton	19	4.5	11 R	.....	New York
	20	5.0	5 R	.....	New York
	22	4.1	15 R	.....	New England
Montmorency	17	5.6	2 S	.....	Northwestern Quebec
	19	4.5	6 R	.....	Southern Quebec
	21	4.5	1 R	.....	Southern Quebec
	22	4.2	18 R	.....	New England
Kejimikujik	18	4.1	1 R	.....	Southern Quebec, Maine
	19	4.7	4 R	.....	New York, New England, Atlantic Ocean
	20	4.0	10 R	.....	New England, Atlantic Ocean
	22	4.3	13 R	.....	Atlantic Ocean

Environment Canada Environnement

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

STATION	temperature				precip. ptot st	wind max		STATION	temperature				precip. ptot st	wind max	
	mean	anom	max	min		dir	vel		mean	anom	max	min		dir	vel
<b>British Columbia</b>								<b>Ontario</b>							
Cape St James	15P	2P	19P	12P	16P***	160	74	Big Trout Lake	6	-1	17	-1	8 ***	320	48
Cranbrook A	14	3	27	3	0 ***		X	Gore Bay A	10	-3	16	3	30 ***	200	46
Fort Nelson A	13	4	27	2	0 ***	300	33	Kapuskasing A	6	-3	17	-4	38 2	330	48
Fort St John A	14	5	24	3	0 ***	240	56	Kenora A	10	-1	17	1	31 ***	300	46
Kamloops A	18	4	29	6	0 ***	290	44	London A	11	-4	19	2	25 ***	290	52
Penticton A	16P	2P	30P	6P	0P***	350	33	Moosonee	7	-2	15	-2	53 ***	060	35
Port Hardy A	14P	2P	23P	7P	19P***		X	North Bay A	8	-3	15	0	32 ***	330	48
Prince George A	12	3	26	0	0 ***		X	Ottawa Int'l A	10	-4	16	2	29 ***	300	48
Prince Rupert A	13	2	22	5	17 ***		X	Petawawa A	8	-3	18	-2	12 ***	310	43
Revelstoke A	15	4	25	6	0 ***	330	33	Pickle Lake	6	-3	15	-1	20 ***	030	54
Smithers A	12	2	24	0	1 ***		X	Red Lake A	8	-2	17	-3	53 ***	240	43
Vancouver Int'l A	16	3	25	10	0 ***	290	44	Sudbury A	8	-4	17	-1	29 ***	360	48
Victoria Int'l A	15	2	28	8	0 ***		X	Thunder Bay A	9	-2	19	-2	21 ***	350	50
Williams Lake A	13	3	26	1	0 ***		X	Timmins A	7	-3	17	-2	32 1	320	46
<b>Yukon Territory</b>								Toronto(Pearson Int'l A)							
Komakuk Beach A	1	1	10	-4	4 ***		X	Trenton A	10	-4	19	0	4 ***	230	61
Teslin (aut)	10P	*	19P	-3P	0P***		X	Warton A	10	-4	17	1	26 ***	260	52
Watson Lake A	11	4	21	-3	16 ***	230	50	Windsor A	13	-4	20	4	42 ***	260	54
Whitehorse A	10	3	20	1	3 ***	170	83	<b>Québec</b>							
<b>Northwest Territories</b>								Bagotville A							
Alert	-12	0	-2	-20	1 15		X	Blanc Sablon A	10	*	14	5	25 ***	060	83
Baker Lake A	2P	1P	9P	-3P	18P***	040	59	Inukjuak A	2	-2	7	-3	3 ***	180	52
Cambridge Bay A	-3	-1	1	-8	3 1	110	65	Kuujuuaq A	3	-1	15	-4	0 ***	120	46
Cape Dyer A	-1P	2P	6P	-4P	1P***		X	Kuujuuarapik A	4	-2	15	-1	7 ***	020	39
Clyde A	-2	-1	3	-15	15 8	150	54	Maniwaki	9	-3	15	-3	40 ***	300	39
Coppermine A	2	2	12	-4	14 ***	050	48	Mont Joli A	9	-2	16	3	44 ***	130	61
Coral Harbour A	-1	-1	6	-7	22 ***	130	35	Montréal Int'l A	11	-3	16	4	16 ***	290	39
Eureka	-10	0	-5	-17	2 3		X	Natashquan A	9P	1P	14P	4P	21P***	100	78
Fort Smith A	8	1	25	0	18 ***	290	46	Québec A	10	-2	15	3	34 ***	240	39
Hall Beach A	-3	-1	2	-7	5 1	280	67	Schefferville A	3	-1	10	-2	43 ***	090	57
Inuvik A	5	2	15	-4	8 ***		X	Sept-Îles A	8	-1	18	0	38 ***	100	91
Iqaluit A	2	0	7	-3	18 ***	160	50	Sherbrooke A	8	-3	15	-2	24 ***		X
Mould Bay A	-8	-1	-1	-13	7 8	120	43	Val-d'Or A	7	-3	14	-3	38 ***	310	41
Norman Wells A	7	2	20	-2	5 ***	300	52	<b>New Brunswick</b>							
Resolute A	-8	-1	-2	-12	1 13	040	52	Charlo A	9	-2	18	2	16 ***	100	63
Yellowknife A	6	0	16	0	0 ***	320	57	Chatham A	9	-3	19	-1	19 ***	220	44
<b>Alberta</b>								Fredericton A							
Calgary Int'l A	13	3	30	1	0 ***	350	57	Moncton A	10	-3	19	2	32 ***		X
Cold Lake A	10	1	26	1	4 ***	300	48	Saint John A	10	-2	17	4	66 ***	160	59
Edmonton Namao A	13	4	27	4	3 ***	300	54	<b>Nova Scotia</b>							
Fort McMurray A	10	2	27	0	11 ***	280	48	Greenwood A	11	-3	22	2	44 ***	150	65
High Level A	9	1	26	-4	8 ***	310	41	Shearwater A	13	-2	19	7	60 ***	290	70
Jasper	12	3	26	-1	1 ***		X	Sydney A	12	-1	19	5	86 ***	180	63
Lethbridge A	14	2	31	1	1 ***	240	63	Yarmouth A	12	-2	19	5	53 ***	310	78
Medicine Hat A	14	2	32	-1	0 ***	360	52	<b>Prince Edward Island</b>							
Peace River A	11	3	26	0	2 ***	320	59	Charlottetown A	11	-2	19	5	69 ***	340	56
<b>Saskatchewan</b>								Summerside A							
Cree Lake	7	1	23	0	3 ***	300	48	11	-2	19	5	49 ***	130	67	
Estevan A	11	0	25	-1	10 ***	310	63	<b>Newfoundland</b>							
La Ronge A	9	0	23	-2	10 ***	280	52	Cartwright	6	-2	12	1	36 ***	360	59
Regina A	12	2	28	-1	5 ***	320	57	Churchill Falls A	4	0	11	0	16 ***	100	63
Saskatoon A	11	1	30	-3	3 ***	010	50	Gander Int'l A	13	2	22	7	34 ***	110	50
Swift Current A	13	3	31	-1	0 ***	300	54	Goose A	6	-3	13	0	19 ***	050	39
Yorkton A	11	2	25	1	5 ***	290	48	Port Aux Basques	11	1	16	7	92 ***	080	89
<b>Manitoba</b>								St John's A							
Brandon A	10	0	22	-2	8 ***	240	46	14	3	21	8	23 ***	190	61	
Churchill A	5	1	19	-3	6 ***	330	72	St Lawrence	13	2	19	7	13 ***		X
Lynn Lake A	7	2	20	0	8 ***	300	56	Wabush Lake A	5	-1	11	-1	24 ***		X
The Pas A	9	1	24	-2	13 ***	290	52	90/09/17-90/09/23							
Thompson A	7	2	20	-6	3 ***	180	50								
Winnipeg Int'l A	11	0	22	0	22 ***	180	63								

mean = mean weekly temperature, °C  
 max = maximum weekly temperature, °C  
 min = minimum weekly temperature, °C  
 anom = mean temperature anomaly, °C

ptot = weekly precipitation total in mm  
 st = snow thickness on the ground in cm  
 dir = direction of max wind, deg. from north.  
 vel = wind speed in km/h

— Annotations —  
 X = no observation  
 P = less than 7 days of data  
 \* = missing data when going to printing.