Environment Canada Environnement Canada

Climatic Perspectives

MONTHLY SUPPLEMENT INCLUDED

September 16 to 22, 1991 ***A weekly review of Canadian climate and water*** *Vol. 13 No 38*

Fall weather favours harvest

British Columbia

Compared to the periodically dull and wet summer months, there has been a marked improvement in September's weather, especially along the coast. In fact, the last two weeks have been ideal. In the "sunny" Okanagan, the apple harvest is well underway - but it has been too warm, and apples need cooler temperatures to help bring out their colour. The grape harvest, which will begin in October, ought to be quite reasonable, as mostly sunny days this month have been increasing the sugar content of the grapes. Southern B.C. farmers are into their third cut of hay. However, on the lower mainland, heavy rains in August contributed to major losses in the potato crop.

Prairie Provinces

For the most part, favourable harvest weather conditions have been encountered, especially during August, which turned out to be a warm and dry month. Most areas of the Prairies experienced some frost in the last couple of weeks. Showers are also on the increase. Overall, above-average yields are expected for all major crops. The Manitoba grain harvest is running slightly ahead of Saskatchewan's and Alberta's, mainly because of earlier spring planting, and also conditions have been drier, which has hastened maturity. The harvesting of wheat and barley is almost complete. Flax and canola are 50 to 80 percent complete, respectively. The sugar beet and corn harvest is just beginning. In Alberta as of last week, 93% of the grains have been swathed and 74% combined. In Saskatchewan, the harvest continues to advance to 86% complete, compared to 74% for the previous week.

Ontario

After a relatively hot summer, weather conditions have been fairly dry and favourable for this year's harvest. During the summer months, eastern and extreme southwest portions of the province suffered from a lack of moisture. However, the overall quality of this year's crops is good. Combining is well underway. Grains are below normal in quality because of heat stress encountered earlier in the growing season. The soya harvest is one third complete, and yields so far have been very good. With the exception of some of the drier areas, corn has done very well this year and is maturing two weeks ahead of schedule. The white bean harvest is essentially complete, with very good yields. Field work and planting of cool season crops are ahead of schedule, as conditions are ideal.The seeding of winter wheat is proceeding well and early fields are now emerging. Moisture is needed soon in order to promote germination and growth. Farmers are cutting their third hay crop.

Quebec

Despite a relatively unsettled August, the harvest has been progressing well. However, summer dry spells, heat and hail has had some adverse effects on yields of different crops. There was a significant decline in the yields of second and third cuts of hay, as a consequence of dry conditions earlier in the summer. Barley and wheat are also not up to par. On the other hand, corn has done well. The potato crop in southwestern Quebec and the Lac Saint-Jean area, is 20 to 40 percent below average.

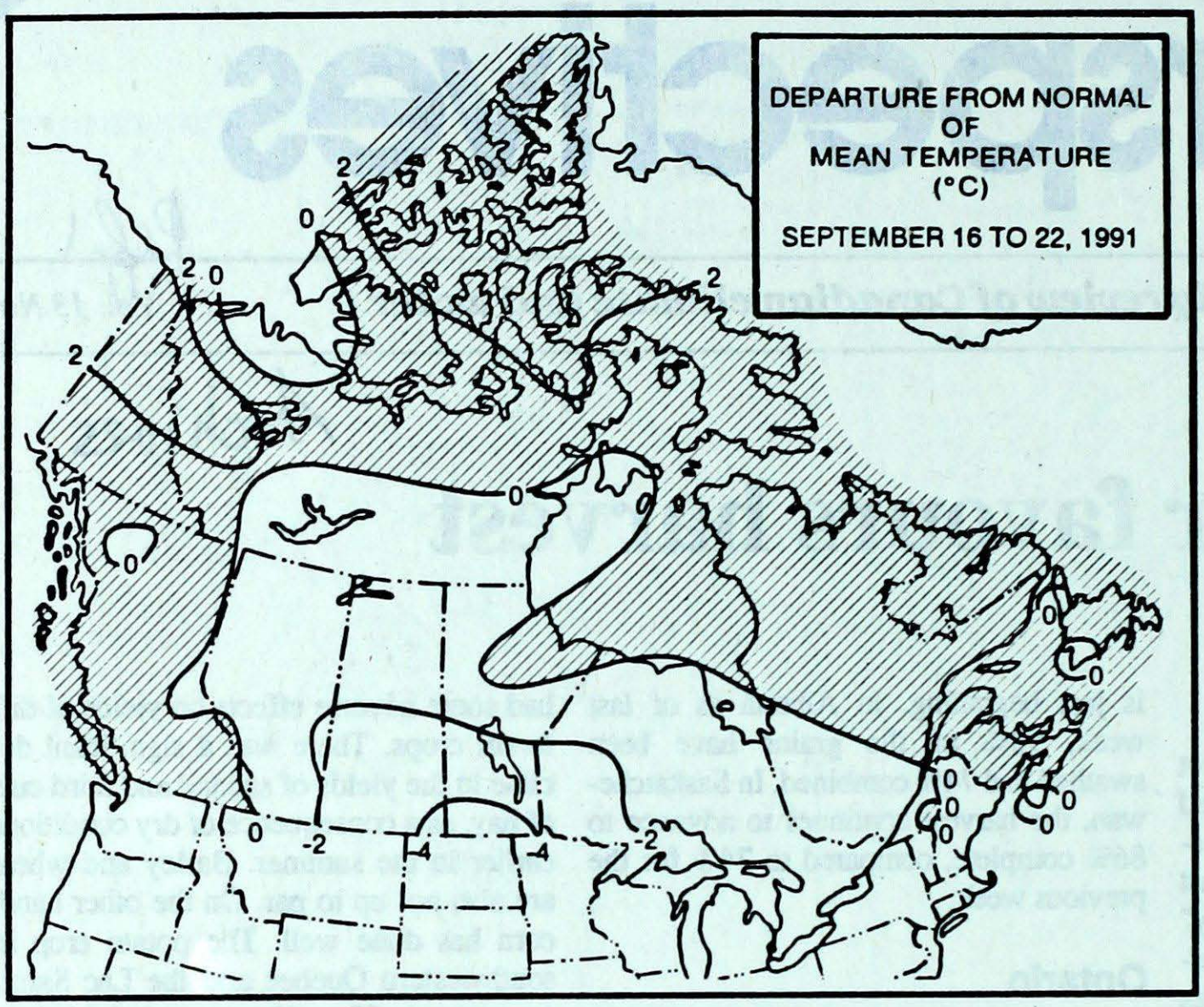
Atlantic Canada

The Annapolis Valley apple harvest is in full swing. Apples will be smaller because of the dry summer, and yields will be down due to frost encountered in May. In Newfoundland, poor weather delayed spring planting, and growth has been slow because of the unusually cool summer. As a result, crops are two to three weeks behind schedule and yields are low. Blueberries may not even ripen enough to complete this year's harvest.

A look ahead ...

The week of September 30, will see the high pressure system over western Canada greatly amplify, resulting in an influx of warm Pacific air and 3 to 6 degrees above normal temperatures in the Yukon, B.C., Alberta and Saskatchewan. Conversely, cold Arctic air will invade Manitoba, Ontario and most of Quebec. Further east, the Atlantic provinces and Labrador are forecasted to be in a southerly circulation and should experience above normal temperatures.

Canada



Weekly normal temperatures (°C)

	max.	min.
Whitehorse A	12.0	2.4
Iqaluit A	4.2	-0.9
Yellowknife A	9.9	3.4
Vancouver Int'l A	17.7	9.7
Victoria Int'l A	18.5	8.6
Calgary Int'l A	16.3	3.1
Edmonton Int'l A	16.0	2.3
Regina A	17.0	3.6
Saskatoon A	16.6	3.8
Winnipeg Int'l A	17.5	5.5
Ottawa Int'l A	18.5	8.2
Toronto (Pearson Int'l A)	20.3	9.2
Montréal Int'l A	19.0	8.9
Québec A	17.4	6.5
Fredericton A	19.1	6.0
Saint John A	17.2	7.0
Halifax (Shearwater)	18.4	9.6
Charlottetown A	17.5	8.3
Goose A	13.5	3.6
St John's A	15.0	6.8

Weekly temperature and precipitation extremes

	Maximum temperature (°C)		Minimum temperature (°C)		Heaviest precipitation (mm)	
British Columbia	Hope A	29	Blue River A	-2	Cape St James	35
Yukon Territory	Whitehorse A	18	Whitehorse A	-3	Shingle Point A	36
Northwest Territories	Fort Smith A	21	Alert	-20	Cape Dorset A	27
Alberta	Lethbridge A	27	Lloydminster A	-7	Banff (aut)	12
Saskatchewan	Rockglen (aut)	27	North Battleford A	-9	Rockglen (aut)	18
Manitoba	Dauphin A	24	Brandon A	-9	Winnipeg A	64
Ontario	Toronto Int'l A	32	Petawawa A	-3	Kenora A	78
Québec	Montréal Int'l A	27	Val-d'Or	-3	Sherbrooke A	47
New Brunswick	Fredericton A	30	St-Léonard A	-2	Saint John A	39
Nova Scotia	Greenwood A	28	Greenwood A	2	Shearwater A	58
Prince Edward Island	Charlottetown A	25	Charlottetown A	5	East Point (aut)	65
Newfoundland	St John's A	21	Badger (aut)	0	Stephenville A	63

Across The Country...

Highest Mean Temperature	Hope A(BC)	18
Lowest Mean Temperature	Alert(NWT)	-10

91/09/16-91/09/22

CLIMATIC PERSPECTIVES
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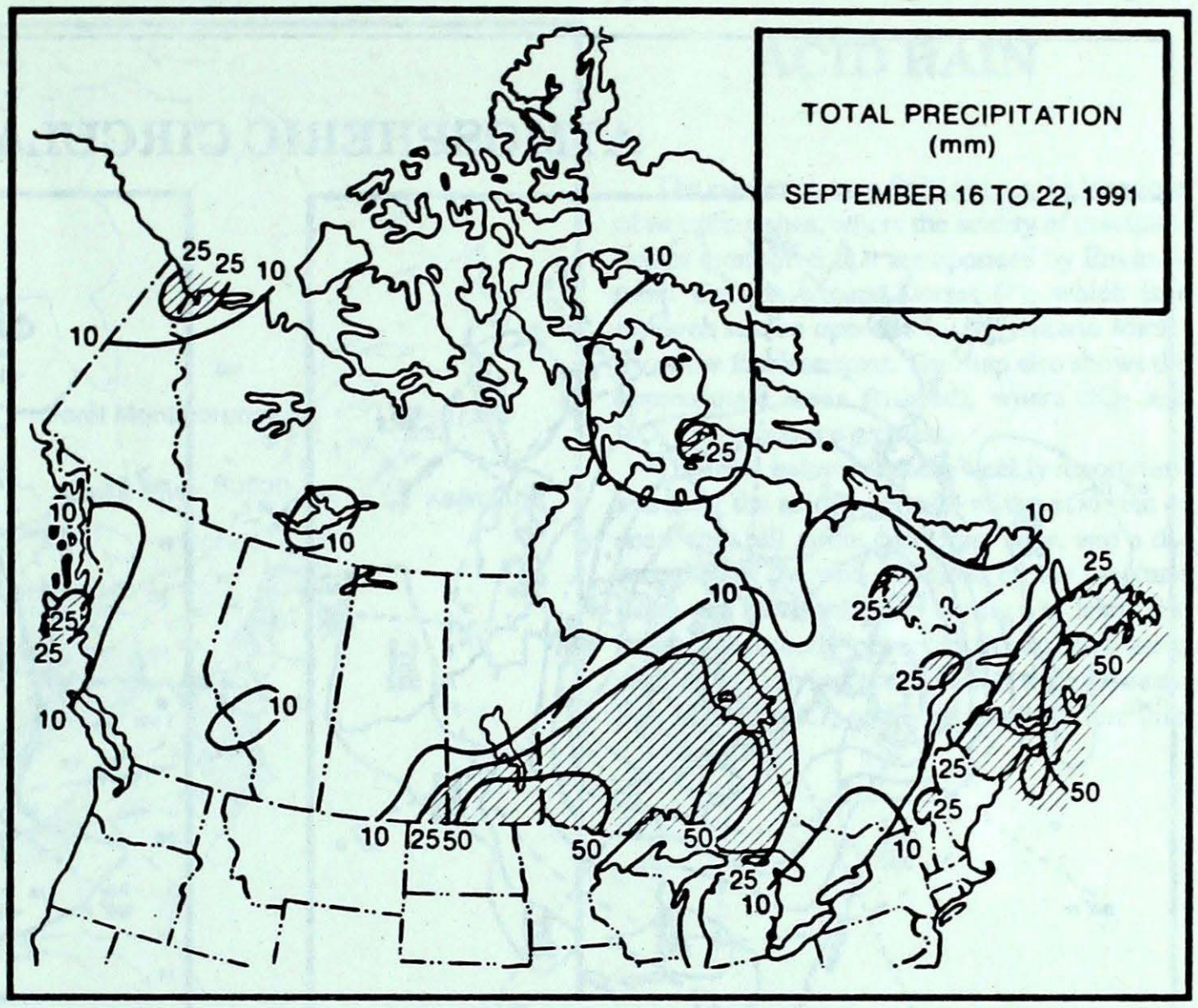
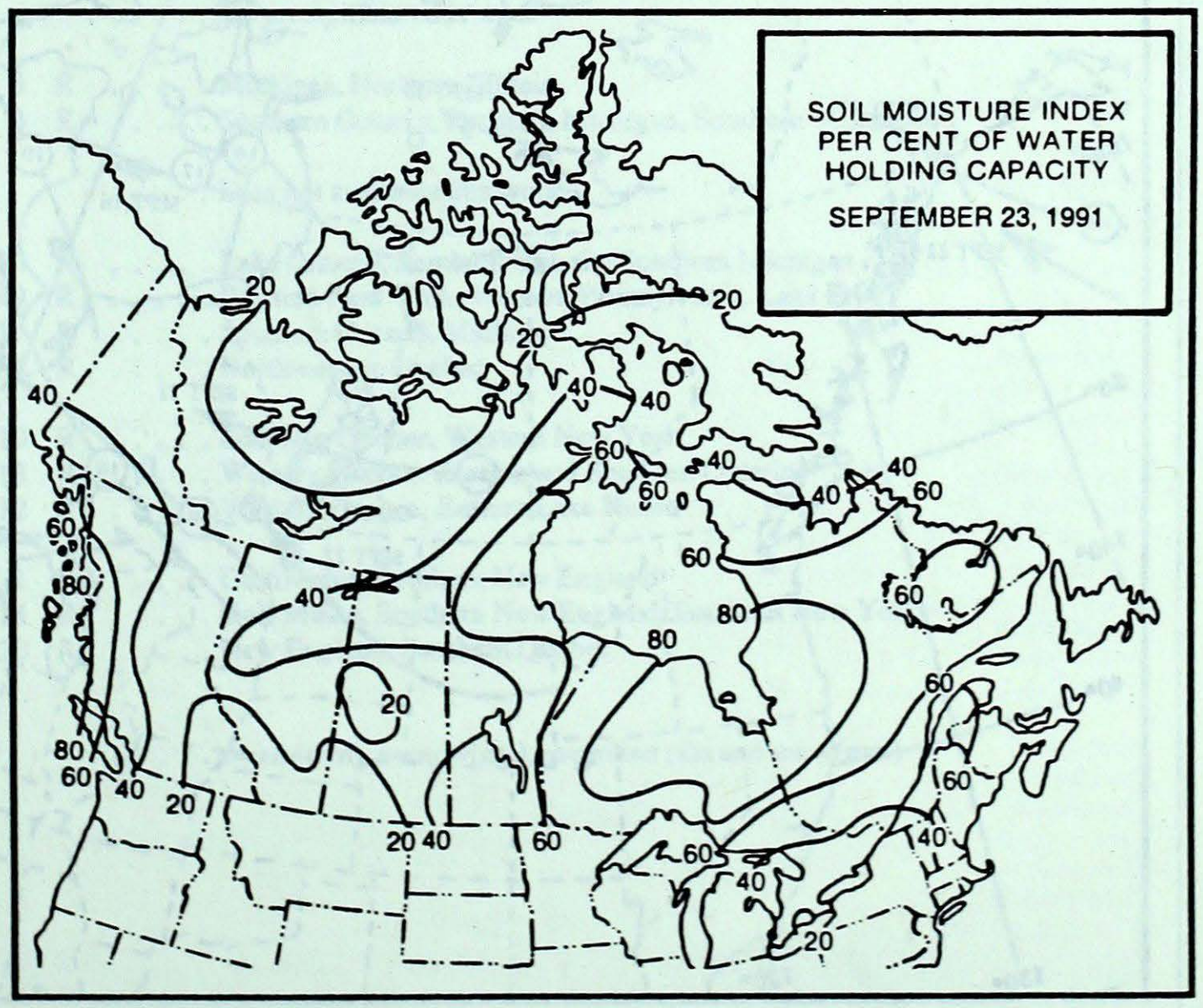
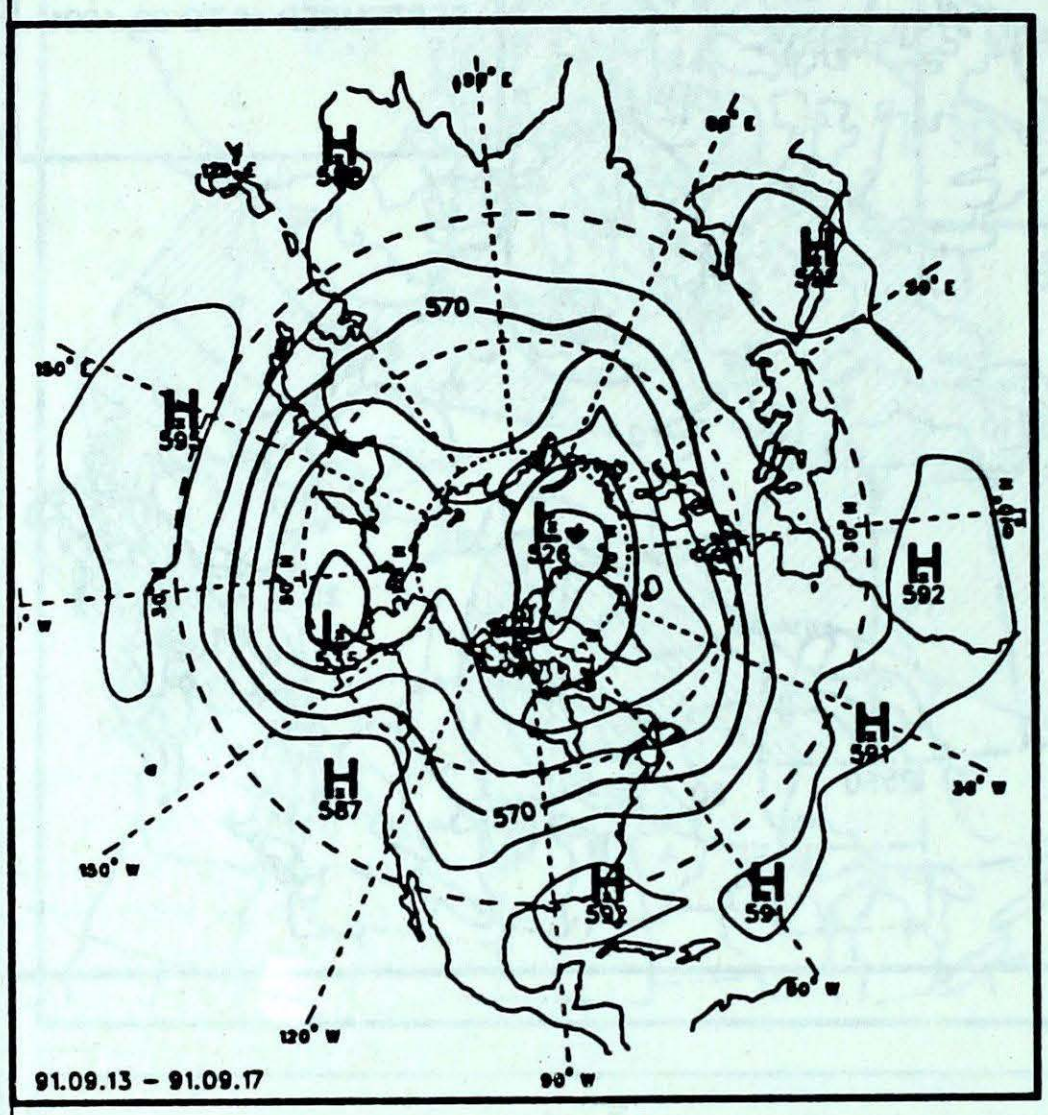
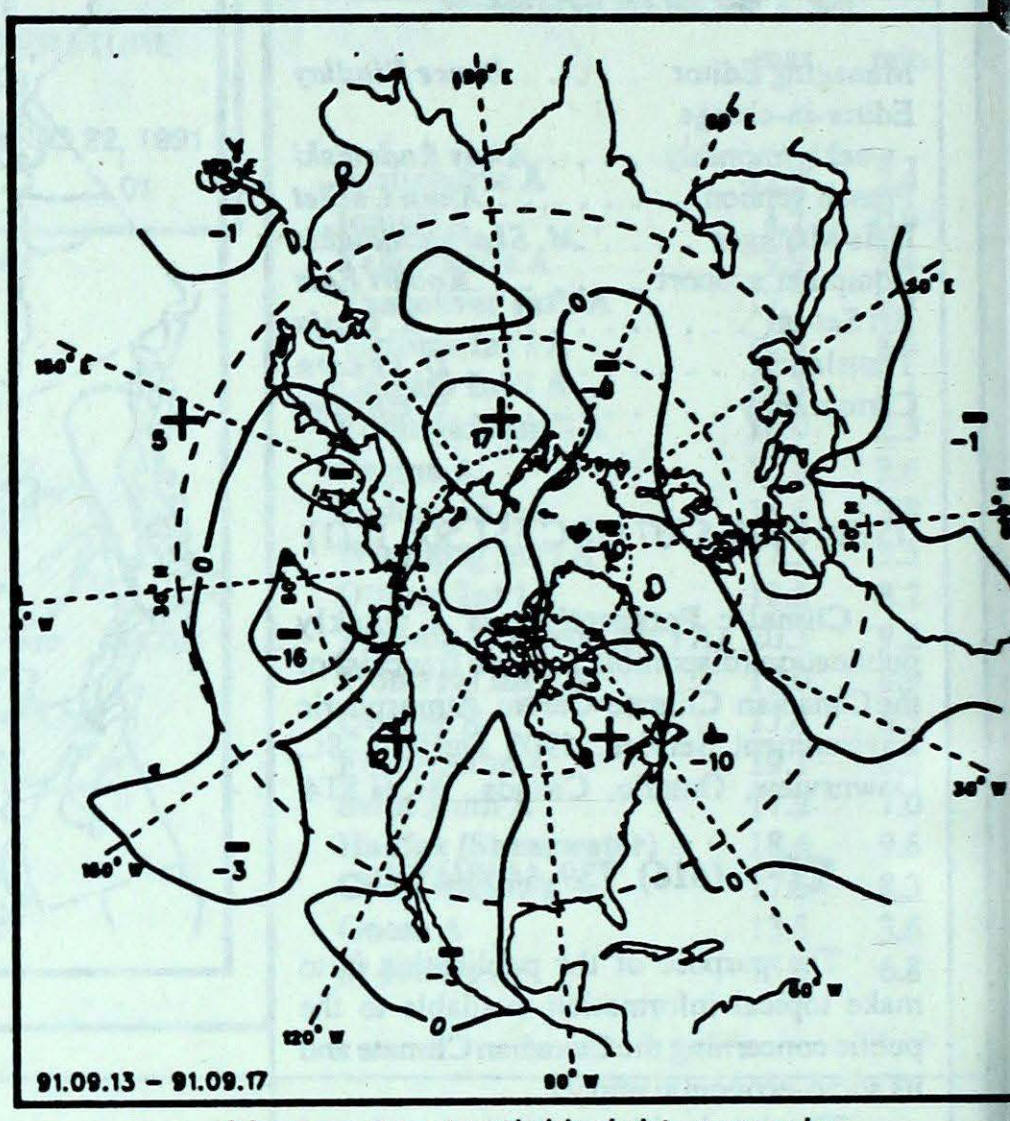




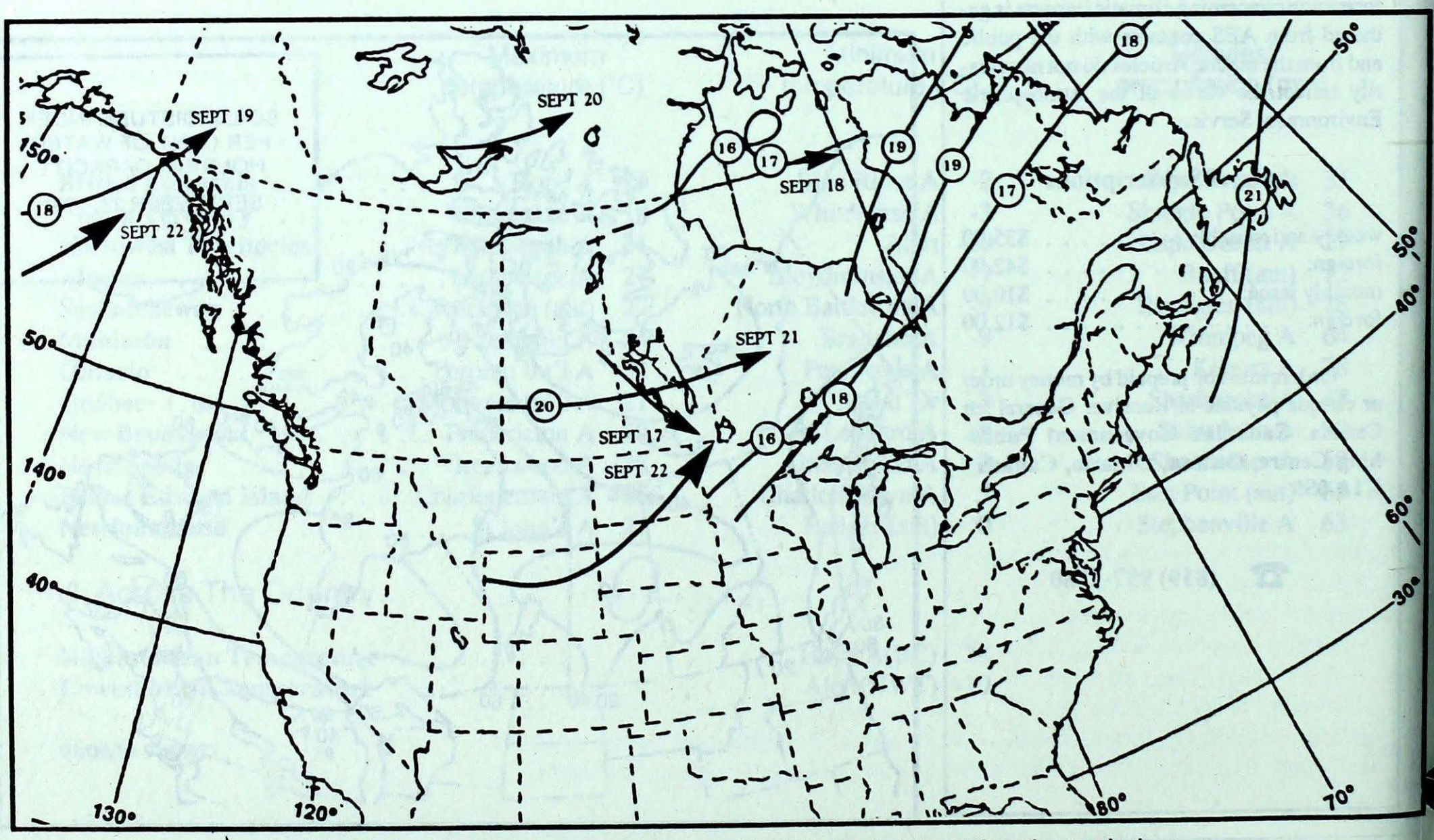
ATMOSPHERIC CIRCULATION



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

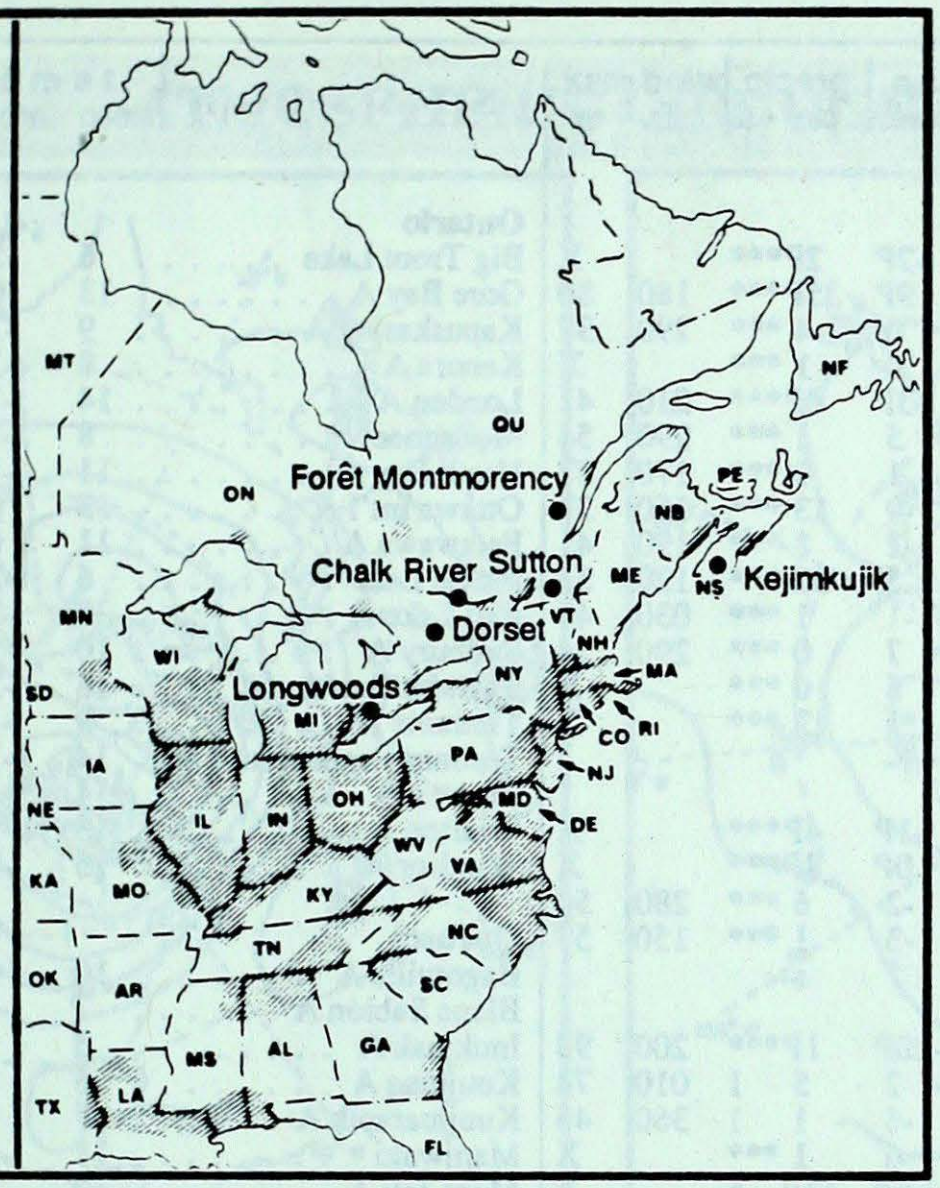


Mean geopotential height anomaly
50-kPa level (10-decametre intervals)



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

ALABAMA	—	AL
ARKANSAS	—	AR
CONNECTICUT	—	CO
DELAWARE	—	DE
FLORIDA	—	FL
GEORGIA	—	GA
ILLINOIS	—	IL
INDIANA	—	IN
IOWA	—	IA
KANSAS	—	KA
KENTUCKY	—	KY
LOUISIANA	—	LA
MAINE	—	ME
MANITOBA	—	MT
MARYLAND	—	MD
MASSACHUSETTS	—	MA
MICHIGAN	—	MI
MINNESOTA	—	MN
MISSISSIPPI	—	MS
MISSOURI	—	MO
NEBRASKA	—	NE
NEW BRUNSWICK	—	NB
NEWFOUNDLAND	—	NF
NEW HAMPSHIRE	—	NH
NEW JERSEY	—	NJ
NEW YORK	—	NY
NORTH CAROLINA	—	NC
NORTH DAKOTA	—	ND
NOVA SCOTIA	—	NS
OHIO	—	OH
OKLAHOMA	—	OK
ONTARIO	—	ON
PENNSYLVANIA	—	PA
PRINCE EDWARD ISLAND	—	PE
QUÉBEC	—	QU
RHODE ISLAND	—	RI
SOUTH CAROLINA	—	SC
SOUTH DAKOTA	—	SD
TENNESSEE	—	TN
TEXAS	—	TX
VERMONT	—	VT
VIRGINIA	—	VA
WEST VIRGINIA	—	WV
WISCONSIN	—	WI



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_2 and NO_x 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 15 to 21, 1991
Longwoods					. . . . . No precipitation this week
Dorset*	16	4.2	5	R	. . . . . Michigan, Northern Illinois
	18	4.6	3	R	. . . . . Southern Ontario, Southern Michigan, Southern Wisconsin
Chalk River					. . . . . Data not available this week
Sutton	15	3.9	10	R	. . . . . Lake Ontario, Southern Ontario, Southern Michigan
	18	4.2	49	R	. . . . . Western New York, Western Pennsylvania, Lake Erie
	19	4.6	10	R	. . . . . Southern Ontario, Michigan
	20	4.8	4	R	. . . . . Northwestern Quebec
Montmorency	15	5.2	10	R	. . . . . Southern Quebec, Western New York
	16	4.2	18	R	. . . . . Western Quebec, Eastern and Southern Ontario
	18	4.2	12	R	. . . . . Western Quebec, Eastern Lake Huron
Kejimkujik	15	4.4	1	R	. . . . . Gulf Maine, Southern New England
	19	4.5	14	R	. . . . . Gulf Maine, Southern New England, Southern New York
	20	5.1	20	R	. . . . . New England, Southern Quebec

. . . . . .

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

STATION	temperature mean	anom	max	min	precip. ptot	st	wind max dir	vel
British Columbia								
Blue River A	12P	2P	24P	-2P	2P***			X
Cape St James	14P	1P	18P	9P	35P***		180	80
Cranbrook A	11	1	24	0	4 ***		290	37
Fort Nelson A	11	2	22	0	1 ***			X
Fort St John A	10P	1P	17P	3P	0P***		210	41
Kamloops A	16	2	28	5	1 ***		290	54
Penticton A	16	2	28	1	0 ***		170	37
Port Hardy A	14	2	19	9	13 ***		150	37
Prince George A	9	0	23	-1	8 ***		190	41
Prince Rupert A	12	1	18	5	32 ***		120	52
Smithers A	10	1	22	-1	1 ***		030	46
Vancouver Int'l A	15	1	24	7	0 ***		290	54
Victoria Int'l A	14	1	26	5	0 ***			X
Williams Lake A	10	0	25	1	13 ***			X
Yukon Territory								
Komakuk Beach A	4P	4P	18P	-1P	4P***			X
Teslin (aut)	6P	*	12P	0P	8P***			X
Watson Lake A	9	1	18	-2	6 ***		280	50
Whitehorse A	8	1	18	-3	1 ***		150	57
Northwest Territories								
Alert	-10P	3P	-2P	-20P	1P***		200	93
Baker Lake A	2	0	7	-2	5	1	010	74
Cambridge Bay A	-1	1	5	-6	1	1	360	46
Cape Dyer A	-2	1	5	-6	1 ***			X
Clyde A	-1P	0P	2P	-9P	13P	5		X
Coppermine A	2P	2P	14P	-4P	2P***		340	59
Coral Harbour A	-1	-1	3	-8	10 ***		050	87
Eureka	-5	5	0	-15	5	4		X
Fort Smith A	7	-1	21	-6	5 ***		360	63
Hall Beach A	0	2	4	-3	11 ***		190	44
Inuvik A	6	4	15	1	26 ***			X
Iqaluit A	2	0	5	-4	6 ***		150	44
Mould Bay A	-3P	4P	-1P	-5P	0P***			X
Norman Wells A	9	3	20	-1	1 ***		120	59
Resolute A	-3P	3P	0P	-12P	1P	5	340	54
Yellowknife A	6	-1	12	-1	12 ***		160	61
Alberta								
Calgary Int'l A	9	-1	26	-2	4 ***		340	74
Cold Lake A	7	-2	24	-5	2 ***		350	50
Edmonton Namao A	8	-2	25	-4	4 ***		320	44
Fort McMurray A	7	-1	23	-4	5 ***		330	56
High Level A	7	-2	19	-6	2 ***		280	54
Jasper	10	1	23	-2	5 ***			X
Lethbridge A	10	-2	27	-3	2 ***		240	54
Medicine Hat A	10	-2	25	-5	5 ***		330	56
Peace River A	8	-1	20	-3	1 ***		260	52
Saskatchewan								
Cree Lake	5P	-1P	17P	-3P	3P***		330	72
Estevan A	7	-4	26	-6	14 ***		310	95
La Ronge A	6	-3	17	-1	3 ***		340	46
Regina A	8	-3	26	-4	4 ***		340	91
Saskatoon A	8	-3	21	-2	1 ***		340	48
Swift Current A	7	-3	21	-7	5 ***		340	57
Yorkton A	6	-3	24	-4	10 ***		360	85
Manitoba								
Brandon A	6	-5	23	-9	23 ***		290	67
Churchill A	5	0	16	-1	8 ***		320	85
Lynn Lake A	5	-1	15	-1	1 ***		330	52
The Pas A	7	-2	20	-2	1 ***		040	61
Thompson A	6	0	20	-1	0 ***		320	35
Winnipeg Int'l A	8	-3	19	1	64 ***		360	89

STATION	temperature mean	anom	max	min	precip. ptot	st	wind max dir	vel
Ontario								
Big Trout Lake	6	-2	20	-1	24 ***		340	52
Gore Bay A	13	0	26	5	26 ***		270	72
Kapuskasing A	9	-1	19	0	53 ***		230	96
Kenora A	8	-3	19	-1	78 ***		320	82
London A	14	-1	31	3	3 ***		240	78
Moosonee	8	-1	18	0	67 ***		300	46
North Bay A	11	-1	23	-1	11 ***		280	57
Ottawa Int'l A	13	0	28	2	2 ***		200	57
Petawawa A	11	0	29	-3	2 ***		250	41
Pickle Lake	6	-3	20	-1	43 ***		350	65
Red Lake A	7	-3	19	-1	31 ***		340	63
Sudbury A	10	-1	25	1	22 ***		240	63
Thunder Bay A	8	-3	19	-3	24 ***		330	69
Timmins A	9	-1	23	-1	31 ***		280	78
Toronto(Pearson Int'l A)	14	-1	32	3	7 ***		240	89
Trenton A	14	-1	29	1	1 ***		230	57
Wiarton A	13	-1	27	1	15 ***		230	56
Windsor A	15	-2	30	3	3 ***		230	50
Québec								
Bagotville A	10	0	25	0	15 ***		260	46
Blanc Sablon A	7	*	18	1	17 ***		270	56
Inukjuak A	5	1	10	1	3 ***		220	54
Kuujjuaq A	6	1	12	0	21 ***		270	52
Kuujjuarapik A	7	0	13	2	32 ***		170	57
Maniwaki	11	-1	26	-1	5 ***		260	41
Mont Joli A	12	1	22	4	17 ***		240	59
Montréal Int'l A	13	-1	27	2	6 ***		160	37
Natashquan A	10	1	17	2	23 ***		270	39
Québec A	12	-1	23	-1	17 ***		320	35
Schefferville A	6	1	14	0	38 ***		210	74
Sept-Îles A	10	1	20	2	37 ***		070	43
Sherbrooke A	12	1	25	-2	47 ***		260	46
Val-d'Or A	8	-2	22	-3	16 ***		220	50
New Brunswick								
Chatham A	*		*	*	* ***			X
Fredericton A	13	0	30	-1	15 ***		320	59
Miscou Island (aut)	11P	-1P	16P	6P	0P***			
Moncton A	13	0	27	1	21 ***		230	46
Saint John A	12	0	23	3	39 ***		200	50
Nova Scotia								
Greenwood A	14	1	28	2	44 ***		220	57
Shearwater A	15	1	24	6	58 ***		300	43
Sydney A	14	1	24	4	48 ***		210	52
Yarmouth A	13	0	23	5	33 ***		200	59
Prince Edward Island								
Charlottetown A	14	1	25	5	46 ***		250	54
East Point (auto)	14P	*	22P	9P	65P***			
Newfoundland								
Cartwright	9	1	17	1	3 ***			X
Churchill Falls A	8	3	15	0	12 ***		290	67
Gander Int'l A	11	1	21	4	30 ***		260	65
Goose A	9	1	18	2	10 ***		290	59
Port Aux Basques	10	-1	17	4	54 ***		290	56
St John's A	13	2	21	5	37 ***		250	69
St Lawrence	12	1	21	4	25 ***			X
Wabush Lake A	7	1	15	1	13 ***		240	67

91/09/16-91/09/22

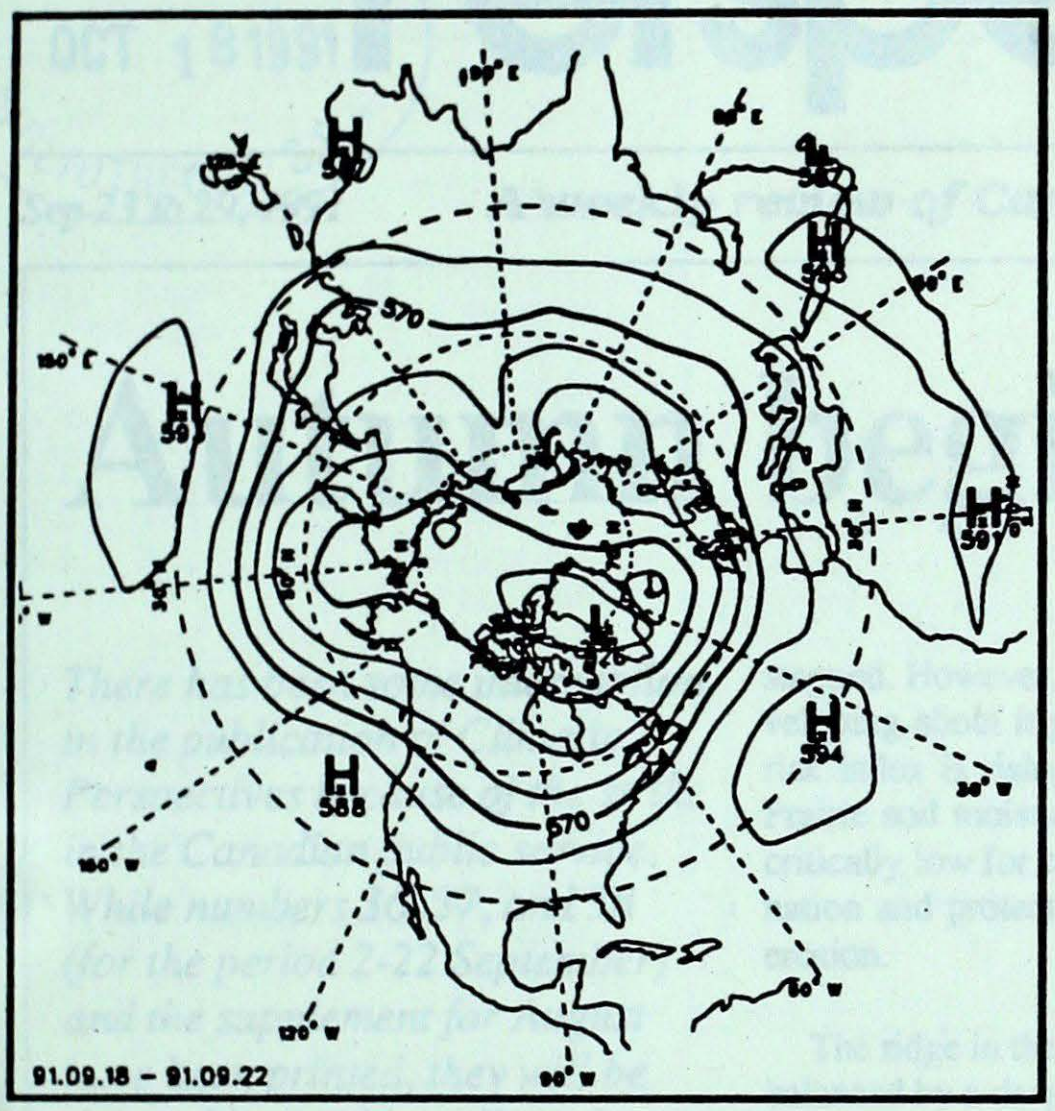
mean = mean weekly temperature, °C
max = maximum weekly temperature, °C
min = minimum weekly temperature, °C
anom = mean temperature anomaly, °C

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

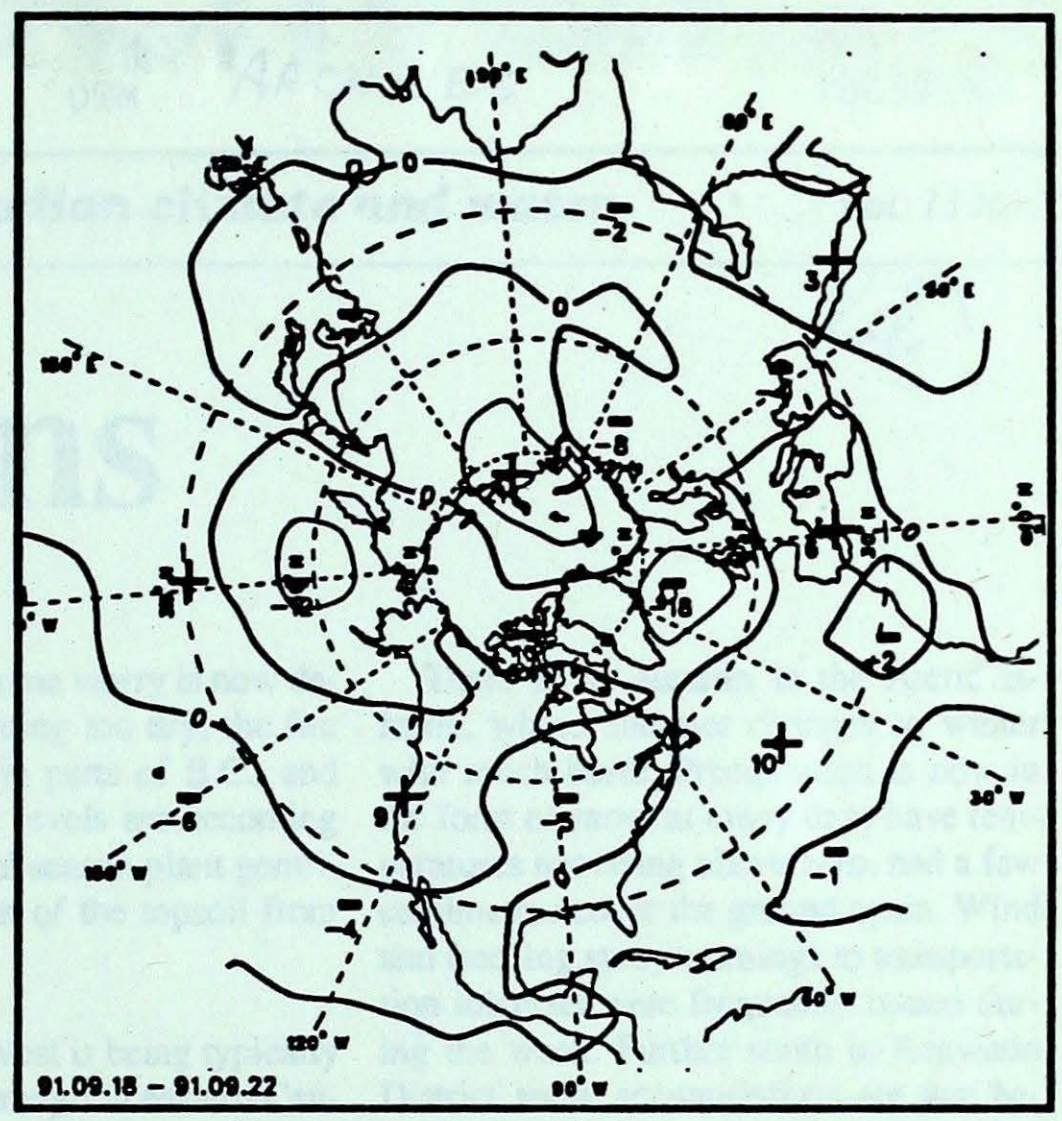
— Annotations —

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

ATMOSPHERIC CIRCULATION



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



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