

Climatic Perspectives

*archives**Ref 2*
Vol. 12 No 42

AN UNCERTAIN END TO THE GROWING SEASON IN EASTERN CANADA

In the Okanagan Valley, B.C., the apple yield was average this year but fruit size is smaller, and the "reds" are less rosy. In the extended summer conditions, which prevailed lately, the last stages of growth of the red-skinned apples took place with prolonged sun exposure, warm nights and dry air, causing a diminishing of the red colour development.

A very good growing season in the Prairies has resulted in bumper crops of high quality. Soil conditions, however, as winter approaches, are extremely dry in all southern areas and normal fall wind-up activities have been delayed in hope of a good general rain before freezeup. This, and a good snow cover in the upcoming winter will be required to prevent serious soil erosion problems.

In spite of a few good drying days in Southern Ontario, continued wet soil conditions are still slowing the harvesting of some crops, notably corn and soybeans. Growers are anxious for Indian Summer to dry out the fields so they can move in their heavy machinery. The frost of last week has further complicated the issue by damaging the corn stalks, making it riskier to leave the crop on the fields. Harvesting of the soybeans is about two weeks behind schedule, which delays the planting of winter wheat. Experts estimate that because the season is so advanced, winter wheat will be planted at only one third of normal.

In Quebec, the growing season got off to a slow start this spring, and now crops have reached maturity during a wet interval. At this time of year 30-50% of the

corn crop normally has been harvested, but due to the wet weather of the last four weeks, farmers have managed to bring in only 10% of what could still be a good yield.

The warm, dry, windy weather needed to aid the New Brunswick potato harvest didn't materialize this week. A cold front blasted through the Maritimes on the 19th, with heavy showers and strong winds, leaving this situation little improved over last week's gloomy outlook.

Forest Fire Update

Towards the close of the forest fire season in Canada, it has been confirmed that there

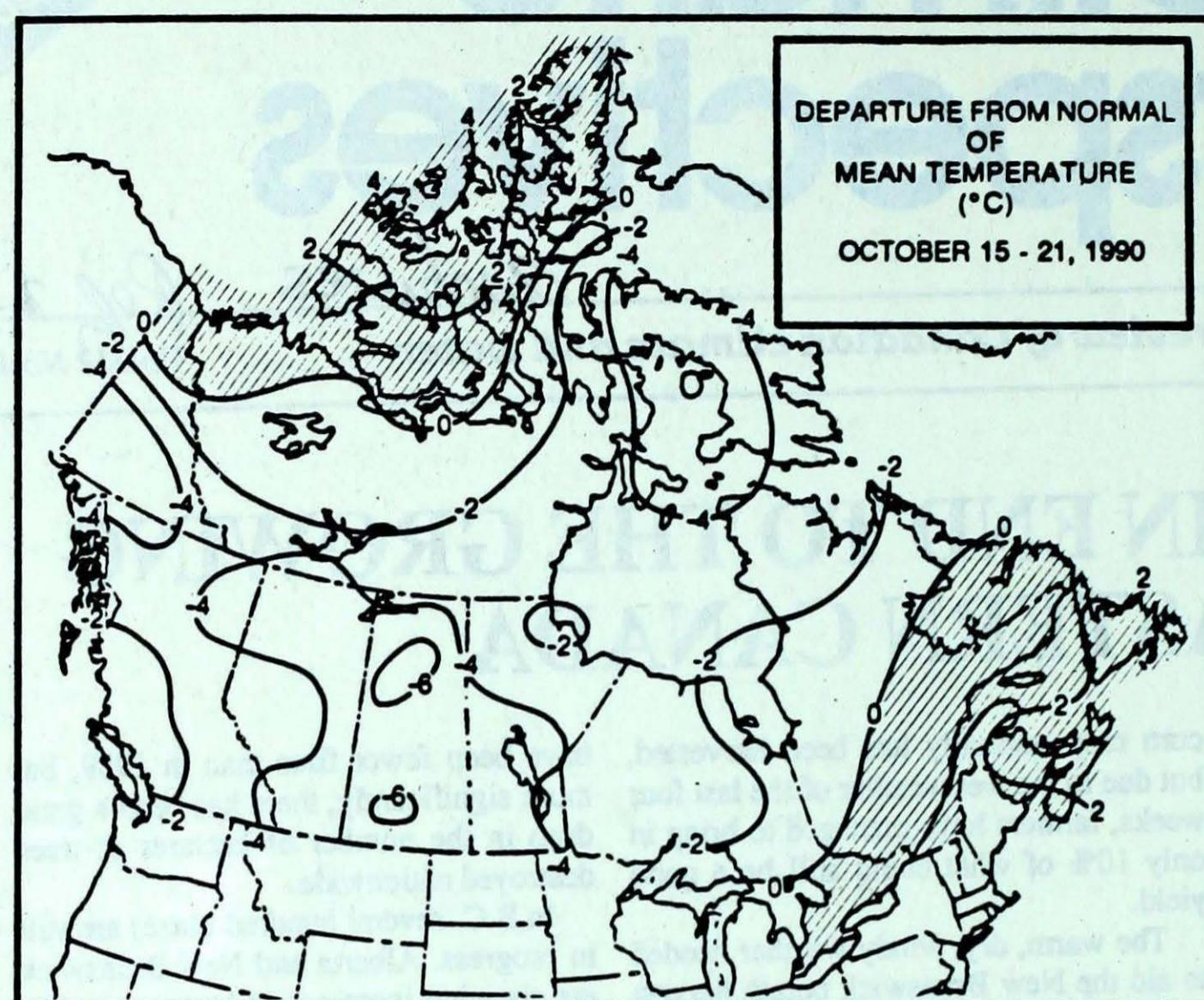
have been fewer fires than in 1989, but more significantly, there has been a great drop in the number of hectares of trees destroyed nationwide.

In B.C. several hundred blazes are still in progress. Alberta and New Brunswick are showing increases in losses over last year. Quebec, on the other hand, has had a much better season than usual, 848 fires thus far have claimed 81,280 ha. The 1980-1989 averages for Quebec are 1071 fires and 286,112 ha lost. Manitoba, too, has done well. Losses so far this season are 17,202 ha, as compared to their 10 year average of 536,946 ha.

Source: Canadian interagency forest fire centre, (CIFFC), Winnipeg

SUMMARY OF THE TOTAL FIRES AND LOSSES REPORTED TO MID-OCTOBER

	FIRES		HECTARES	
	1989	1990	1989	1990
British Columbia	3,511	3,214	22,358	70,996
Yukon Territory	244	154	314,793	170,096
Northwest Territories	613	234	553,789	104,572
Alberta	787	1,255	6,751	30,905
Saskatchewan	1,003	890	491,753	173,361
Manitoba	1,120	534	2,669,200	17,202
Ontario	2,364	1,588	402,804	182,035
Quebec	1,128	848	2,109,415	81,280
New Brunswick	365	372	313	5,808
Nova Scotia	414	492	1,057	1,066
Prince Edward Island	17	33	120	82
Newfoundland	188	192	68026	46354
Parks Canada	107	122	2,414	31,148



Weekly normal temperatures (°C)

	max.	min.
Whitehorse A	4.1	-3.4
Iqaluit A	-2.4	-8.1
Yellowknife A	0.6	-5.1
Vancouver Int'l A	13.0	5.8
Victoria Int'l A	13.7	5.2
Calgary Int'l A	12.4	-1.5
Edmonton Int'l A	11.8	-2.3
Regina A	12.2	-2.0
Saskatoon A	11.4	-1.7
Winnipeg Int'l A	11.6	0.1
Ottawa Int'l A	12.8	2.8
Toronto (Pearson Int'l A)	14.3	3.5
Montréal Int'l A	13.0	3.6
Québec A	10.9	2.0
Fredericton A	12.6	1.6
Saint John A	11.7	2.7
Halifax (Shearwater)	13.2	5.1
Charlottetown A	11.6	3.6
Goose A	6.0	-1.2
St John's A	10.1	3.0

Weekly temperature and precipitation extremes

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Kamloops A 17	Puntzi Mountain (aut) -12	Prince Rupert A 81
Yukon Territory	Whitehorse A 5	Watson Lake A -20	Whitehorse A 10
Northwest Territories	Yellowknife A 13	Eureka -37	Broughton Island 8
Alberta	Medicine Hat A 15	High Level A -14	High Level A 12
Saskatchewan	Rockglen (aut) 17	Cree Lake -18	La Ronge A 6
Manitoba	Gretna (aut) 12	Gillam A -14	Grand Rapids (aut) 11
Ontario	Toronto Int'l A 24	Upsala (aut) -8	Wawa A 104
Québec	Montréal Int'l A 23	Schefferville A -10	Schefferville A 77
New Brunswick	Moncton A 21	Fredericton A -5	St-Léonard A 33
Nova Scotia	Greenwood A 23	Greenwood A -3	Truro 31
Prince Edward Island	Charlottetown A 20	Summerside A 0	East Point (aut) 26
Newfoundland	Deer Lake A 21	Churchill Falls A -8	Nain A 57

Across The Country...

Highest Mean Temperature	Windsor (ON) 12
Lowest Mean Temperature	Eureka(NWT) -23

90/10/15-90/10/21

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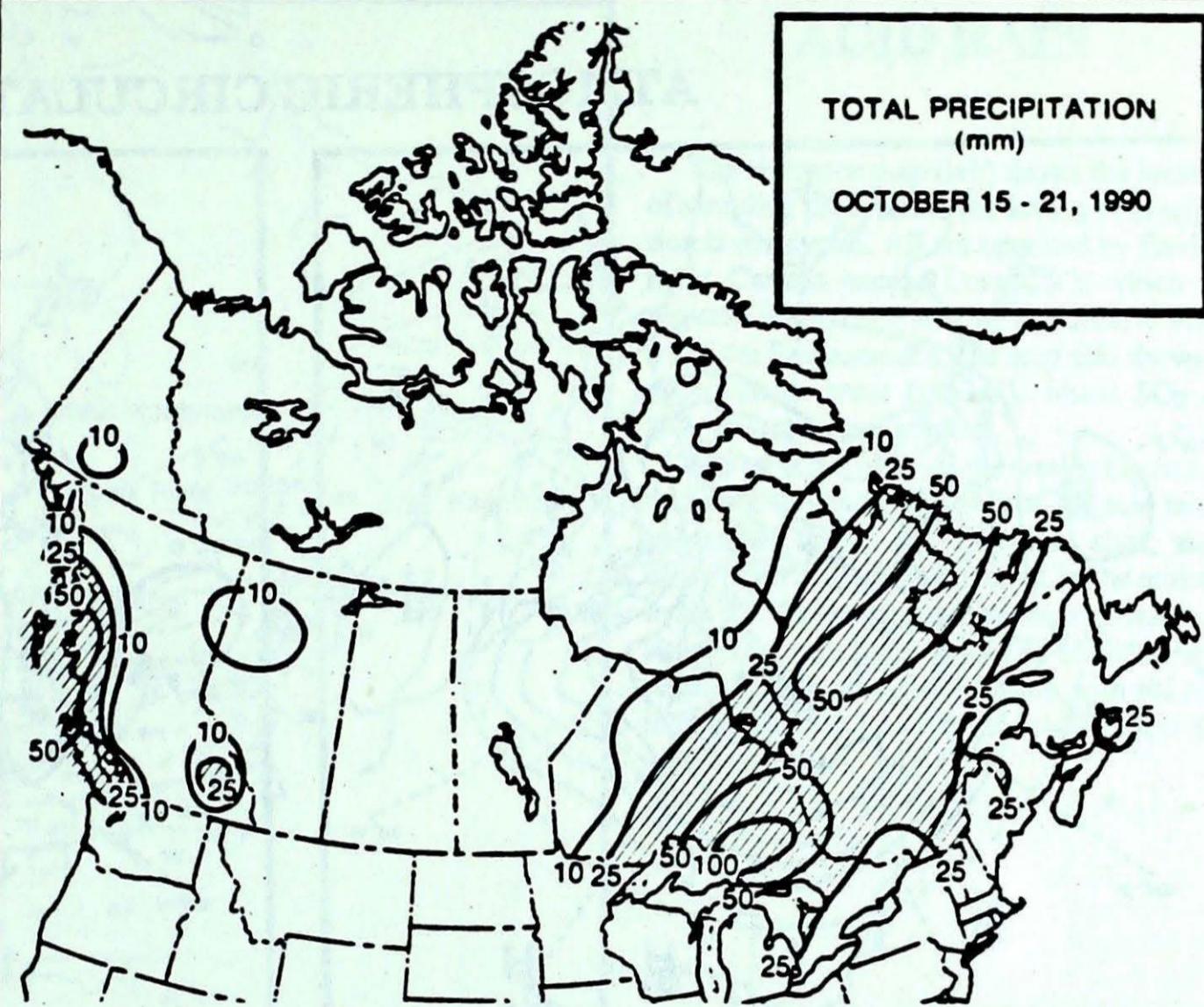
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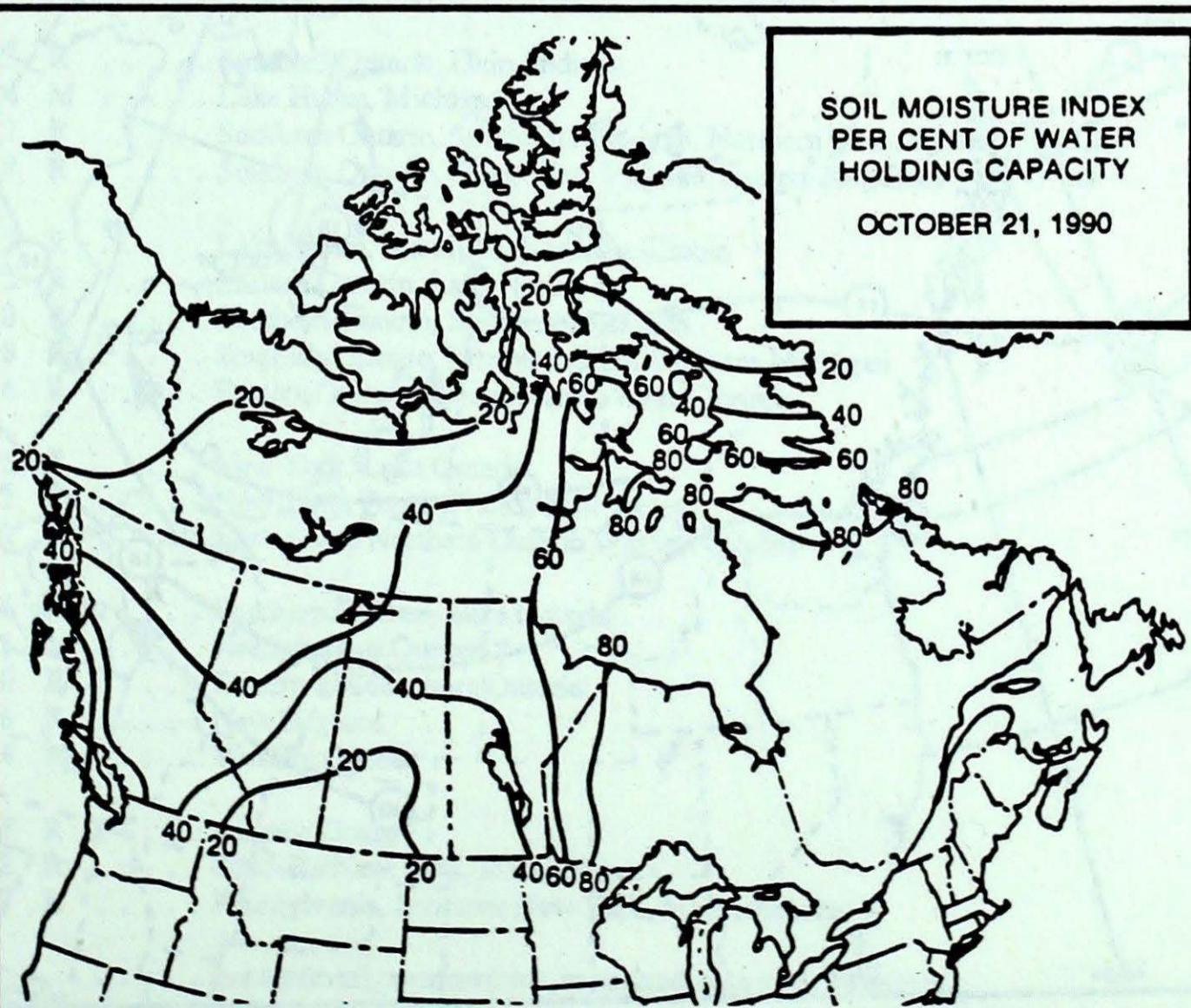
TOTAL PRECIPITATION (mm)

OCTOBER 15 - 21, 1990

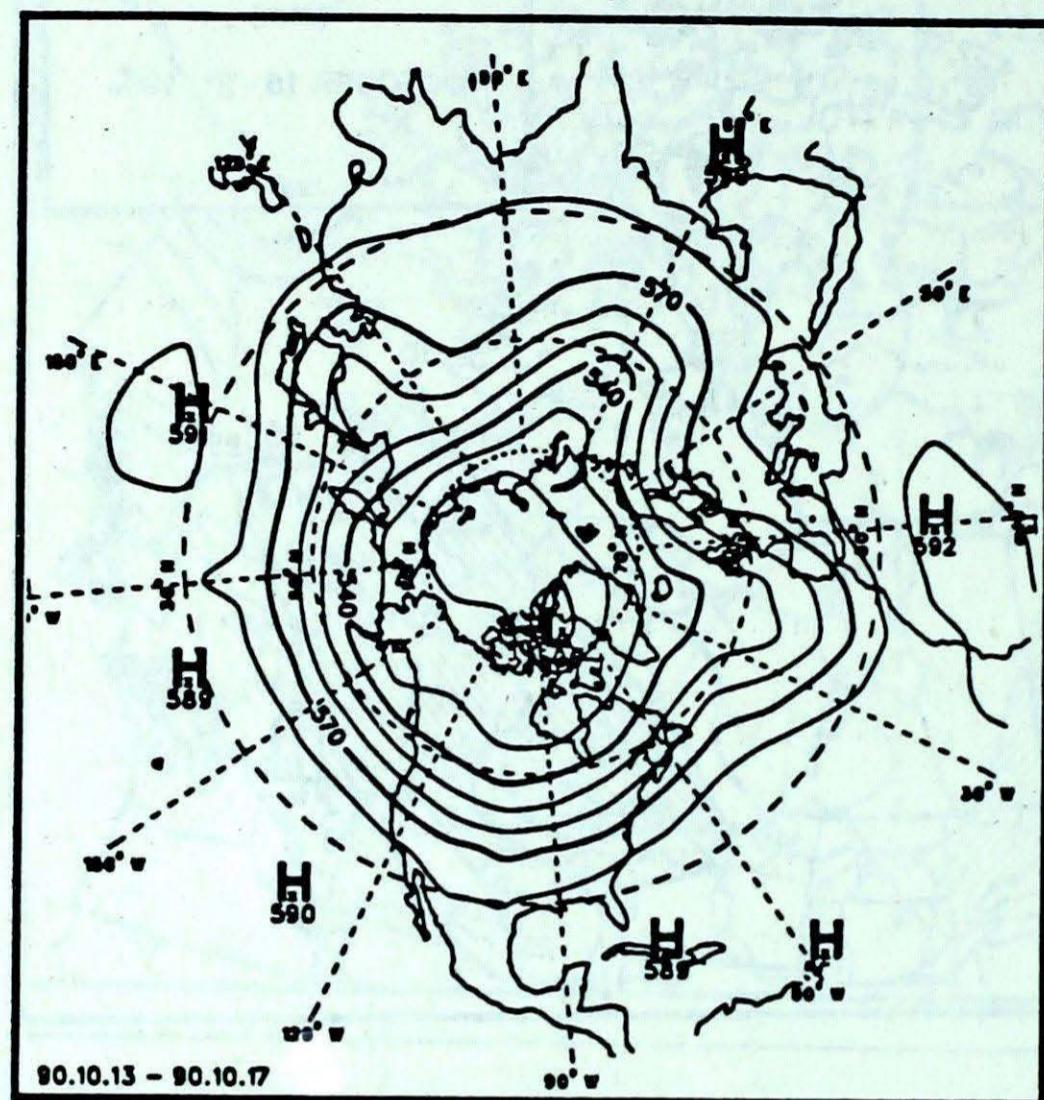


SOIL MOISTURE INDEX PER CENT OF WATER HOLDING CAPACITY

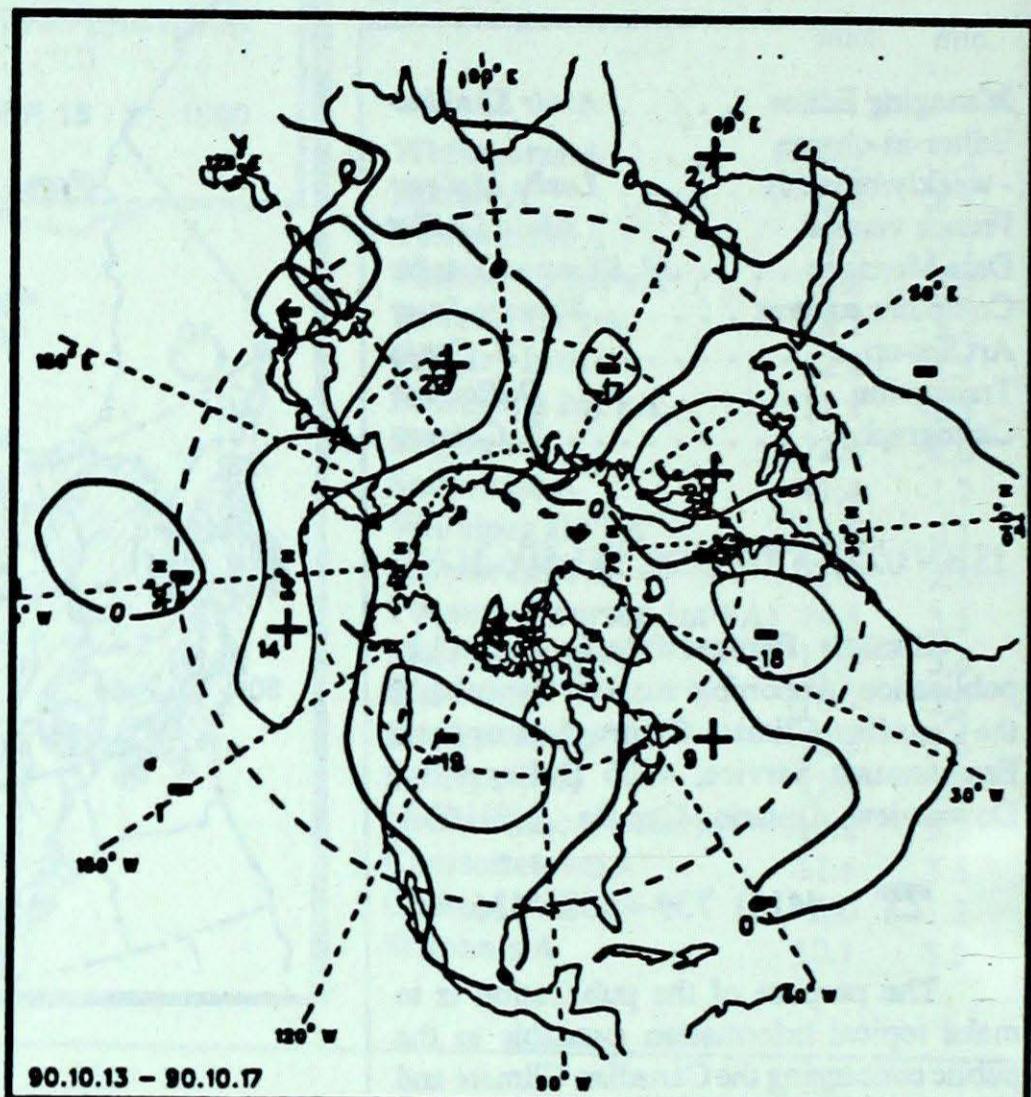
OCTOBER 21, 1990



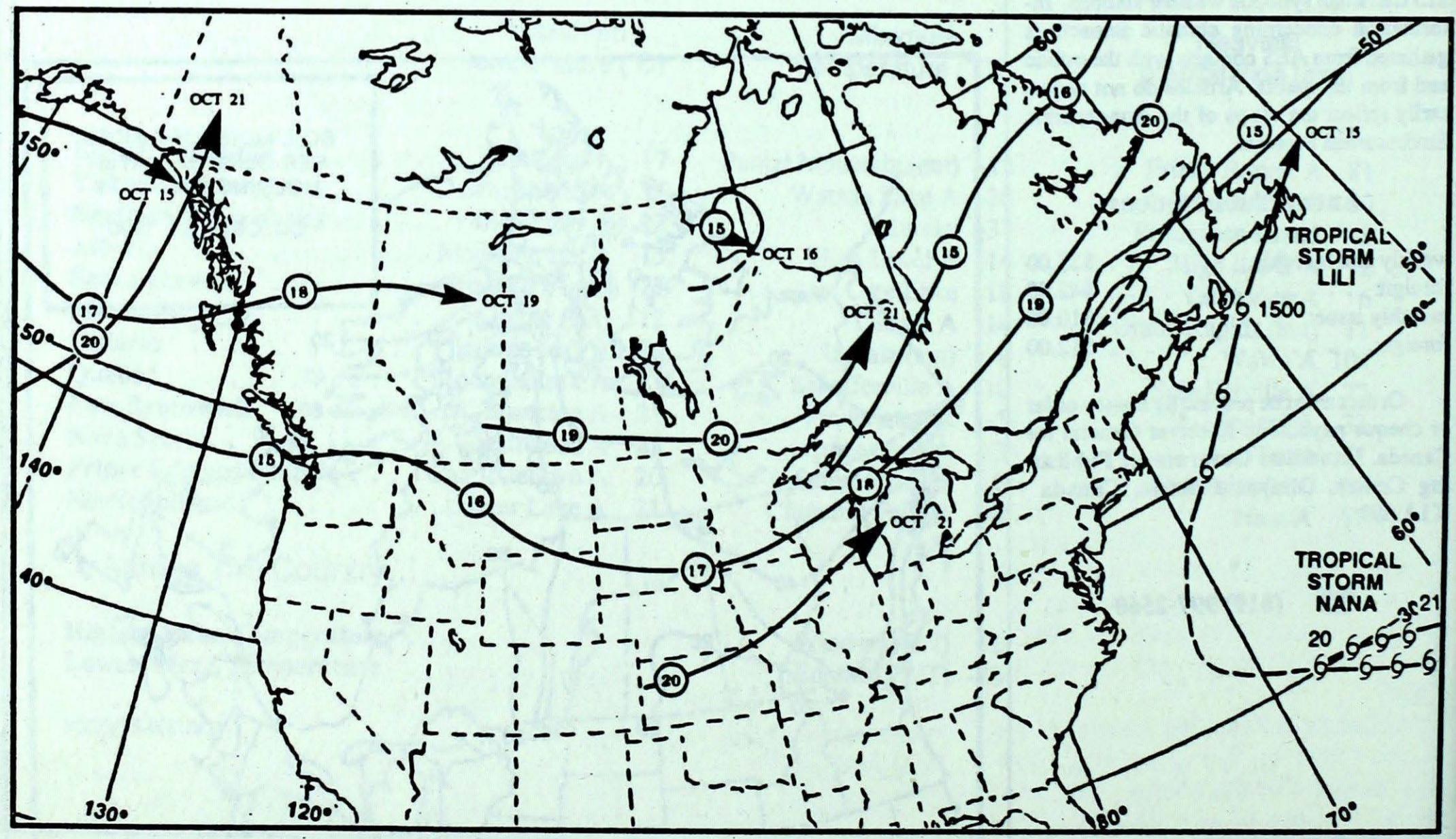
ATMOSPHERIC CIRCULATION



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

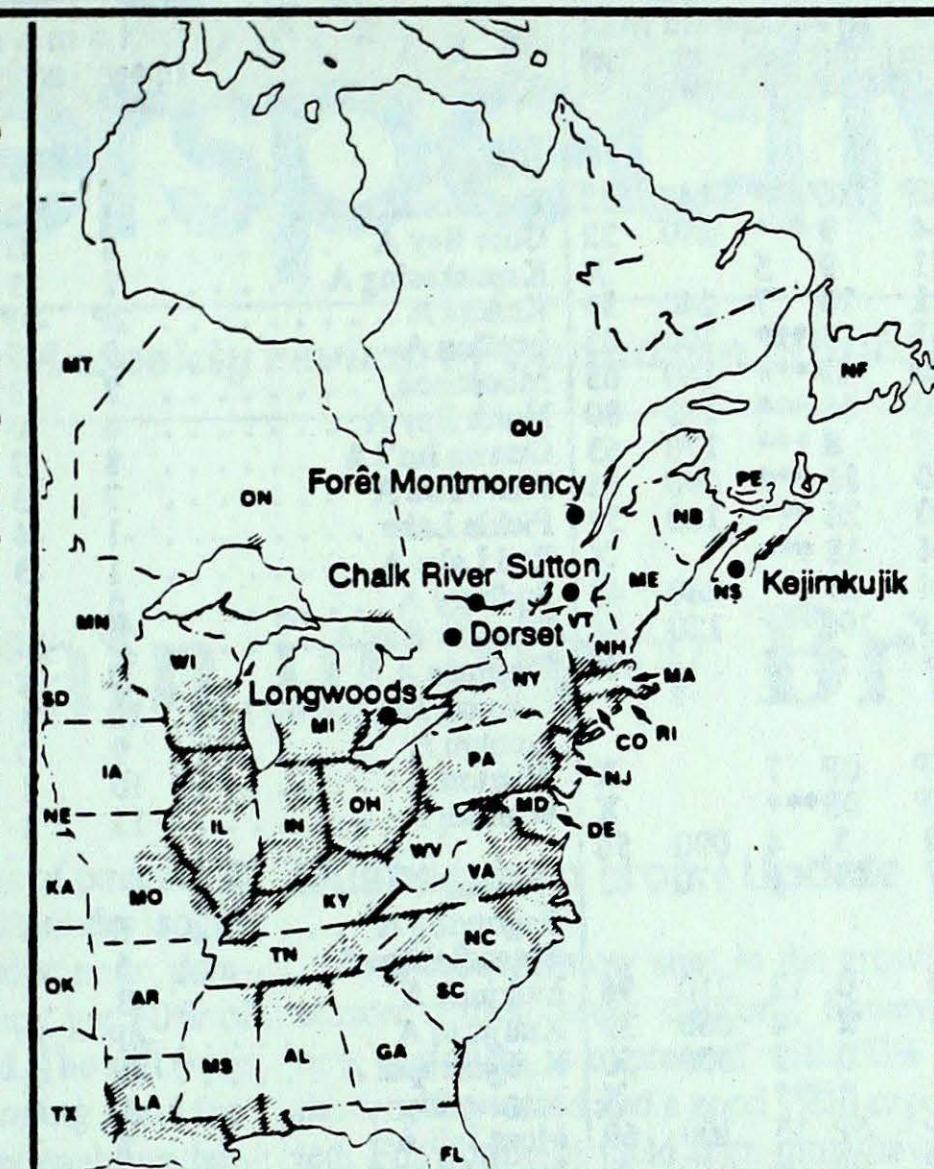


Mean geopotential height anomaly
50-kPa level (10-decametre intervals)



ALABAMA
ARKANSAS
CONNECTICUT
DELAWARE
FLORIDA
GEORGIA
ILLINOIS
INDIANA
IOWA
KANSAS
KENTUCKY
LOUISIANA
MAINE
MANITOBA
MARYLAND
MASSACHUSETTS
MICHIGAN
MINNESOTA
MISSISSIPPI
MISSOURI
NEBRASKA
NEW BRUNSWICK
NEWFOUNDLAND
NEW HAMPSHIRE
NEW JERSEY
NEW YORK
NORTH CAROLINA
NORTH DAKOTA
NOVA SCOTIA
OHIO
OKLAHOMA
ONTARIO
PENNSYLVANIA
PRINCE EDWARD ISLAND
QUEBEC
RHODE ISLAND
SOUTH CAROLINA
SOUTH DAKOTA
TENNESSEE
TEXAS
VERMONT
VIRGINIA
WEST VIRGINIA
WISCONSIN

- AL
- AR
- CO
- DE
- FL
- GA
- IL
- IN
- IA
- KA
- KY
- LA
- ME
- MT
- MA
- MI
- MN
- MS
- MO
- NE
- NB
- NF
- NH
- NJ
- NY
- NC
- ND
- NS
- OH
- OK
- ON
- PA
- PE
- QU
- RI
- SC
- SD
- TN
- TX
- VT
- VA
- WV
- 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 SO₂ 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	Oct. 14 to Oct. 20, 1990
Longwoods	17	4.8	14	R	Ohio, Kentucky, Tennessee
	18		3	R	Ohio, Kentucky, Tennessee
Dorset*	14	4.1	3	R	Southern Ontario, Ohio, Indiana
	15	4.8	4	M	Lake Huron, Michigan
	17	4.0	27	R	Southern Ontario, Southern Michigan, Northern Ohio, Northern Indiana
	18	4.4	18	R	Southern Ontario, Ohio, West Virginia, Eastern Kentucky
Chalk River	14	4.1	2	R	Lake Huron, Michigan, Northern Illinois
	15	3.8	2	R	Eastern Ontario, Lake Huron
	16	3.8	8	R	Southern Ontario, Southern Michigan
	17	4.2	8	R	Southern Ontario, Northern Ohio, Southern Michigan
	18	4.6	16	R	Eastern Ontario, Pennsylvania, West Virginia
Sutton	15	3.7	1	R	New York, Lake Ontario
	18	4.8	32	R	New York, Pennsylvania, New Jersey
	19	4.5	2	M	Eastern and Northern Ontario Western Quebec
Montmorency	15	4.8	6	M	Southern Quebec, Lake Ontario
	16	4.3	1	M	Northwestern Quebec
	17	4.0	10	R	Eastern and Southern Ontario
	18	4.7	16	R	New England
	19		4	M	Western Quebec
Kejimkujik	14	4.7	7	R	Atlantic Ocean
	15	3.3	2	R	Southern New York, Massachusetts
	19	4.7	7	R	Pennsylvania, Southern New York, Massachusetts

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

STATION	temperature			precip.	wind max			STATION	temperature			precip.	wind max		
	mean	anom	max min	ptot	st	dir	vel		mean	anom	max min	ptot	st	dir	vel
British Columbia															
Cape St James	8P	-1P	11P	6P	50P***	140	152								
Cranbrook A	2	-3	9	-4	9 ***	270	32								
Fort Nelson A	-3	-4	6	-11	9 5		X								
Fort St John A	-1	-6	6	-11	16 7	240	59								
Kamloops A	6	-2	17	-3	3 ***	100	33								
Penticton A	6P	-2P	13P	-2P	1P***	180	65								
Port Hardy A	*	*	12	0	66 ***	120	80								
Prince George A	2	-3	9	-8	8 ***	170	63								
Prince Rupert A	6	-1	10	0	81 ***	090	65								
Revelstoke A	4	-2	9	0	26 ***	160	57								
Smithers A	1	-3	8	-4	18 ***		X								
Vancouver Int'l A	9	-1	14	4	25 ***	280	48								
Victoria Int'l A	8P	-2P	15P	1P	19P***	120	46								
Williams Lake A	1	-3	8	-7	5 3		X								
Yukon Territory															
Komakuk Beach A	-10P	0P	-2P	-18P	0P 7		X								
Teslin (aut)	-4P	*	5P	-15P	0P***		X								
Watson Lake A	-5	-5	4	-20	3 4	090	56								
Whitehorse A	-5	-5	5	-17	10 1	170	61								
Northwest Territories															
Alert	-19	2	-12	-30	0 12	210	98								
Baker Lake A	-11	-2	-3	-23	2 4	060	39								
Cambridge Bay A	-11	3	-3	-21	0 3	050	50								
Cape Dyer A	*	*	*	*	* ***		X								
Clyde A	-12P	-5P	-6P	-20P	5P 15	300	69								
Coppermine A	-12P	-4P	5P	-22P	0P 6	020	39								
Coral Harbour A	-12	-4	-7	-18	0 3	040	63								
Eureka	-23P	1P	-7P	-37P	0P 8	170	82								
Fort Smith A	-4	-4	2	-11	6 ***		X								
Hall Beach A	-17	-6	-8	-23	0 6	340	56								
Inuvik A	-8	2	-2	-16	5 3		X								
Iqaluit A	-8P	-3P	1P	-17P	2P 2	330	82								
Mould Bay A	-14	5	-5	-27	7 21	180	65								
Norman Wells A	-7	-1	1	-14	0 3		X								
Resolute A	-14	2	-5	-24	5 26	200	52								
Yellowknife A	-3	-1	13	-9	5 3	130	44								
Alberta															
Calgary Int'l A	1	-5	12	-9	4 ***	270	59								
Cold Lake A	0	-5	9	-9	1 ***	300	35								
Edmonton Namao A	1	-4	14	-8	0 ***	290	59								
Fort McMurray A	-2	-6	5	-12	5 3	110	44								
High Level A	-4	-6	0	-14	12 10		X								
Jasper	2	-3	9	-8	0 ***		X								
Lethbridge A	2	-5	13	-9	3 ***	250	72								
Medicine Hat A	3	-5	15	-7	5 ***	250	78								
Peace River A	-2	-6	6	-10	10 1		X								
Saskatchewan															
Cree Lake	-5	-7	1	-18	4 9	130	57								
Estevan A	1	-5	15	-11	0 ***	290	59								
La Ronge A	-3	-5	1	-9	6 3	140	50								
Regina A	1	-4	13	-10	0 ***	140	61								
Saskatoon A	0	-5	13	-11	0 ***	150	41								
Swift Current A	2	-4	16	-10	0 ***	330	48								
Yorkton A	0	-5	9	-10	0 ***	140	59								
Manitoba															
Brandon A	0	-5	10	-13	0 ***	300	43								
Churchill A	-4	-2	1	-9	11 14	020	48								
Lynn Lake A	-4	-3	-1	-7	7 16	090	37								
The Pas A	-1	-5	3	-7	1 1	130	56								
Thompson A	-4P	-4P	1P	-9P	7P 10	120	37								
Winnipeg Int'l A	2	-4	10	-6	0 ***	020	44								
Ontario															
Big Trout Lake		-1		-2		13	-6		10	8	290	41			
Gore Bay A		8		0		18	-1		37 ***	330	59				
Kapuskasing A		1		-3		10	-7		66 5	310	69				
Kenora A		2P		-3P		9P	-2P		OP 1	130	46				
London A		9		0		21	-1		24 ***	220	82				
Moosonee		2		-2											