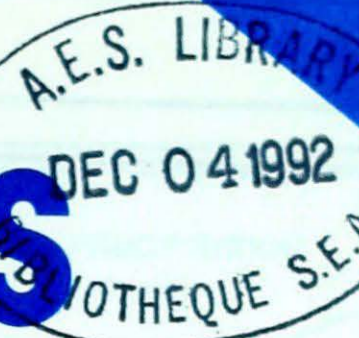


Climatic Perspectives



Sept. 28 to Oct. 4, 1992

A weekly review of Canadian climate and water

Vol. 14 No. 40

Perfect harvest weather arrives

After one of the poorest summers in memory, and then many weeks of unsettled weather during harvest time, weather conditions finally improved this week in central Canada, allowing frustrated farmers to rapidly catch-up on their delayed harvest.

It has been slow going for Prairie farmers trying to harvest their crops through the month of September, as cool and wet weather prevailed. Farmers were forced to wait patiently for better weather, as they watched the quality of their 1992 grain harvest steadily deteriorate.

For example, in the Peace River district of Alberta, some canola and wheat fields will not be harvested at all due to frost damage. In southern Alberta, beans, corn and alfalfa seed were also severely damaged. In southern Saskatchewan, although yields are expected to be above average, the quality of all crops in general has been affected severely due to frost, sprouting, mould and green kernels. In Manitoba, frost has done considerable damage to late seeded fields. In addition, many crops are maturing late due to the fact that this year's summer was just not sunny or warm enough. A fairly large portion of Manitoba's grain corn will be lost or be of very low quality, due to immaturity.

Because of the poor weather, by the middle of September only 18 percent of Saskatchewan's grain crop was combined, where normally 85 percent of the crop should have been in the bin. Past records indicate that the earliest date that Saskatchewan's harvest was completed

was August 31, 1961. The average date over the 1952-91 period is October 2, while the latest harvest was October 25 in the years 1954/85/86. In Alberta, only 44 percent of the harvest was completed by mid-September, compared to a five-year average of 76 percent. In Manitoba, harvesting has been delayed by at least one month. Only 35 percent of the cereals and 12 percent of canola has been harvested, where normally the crop should have been in the bin by this time.

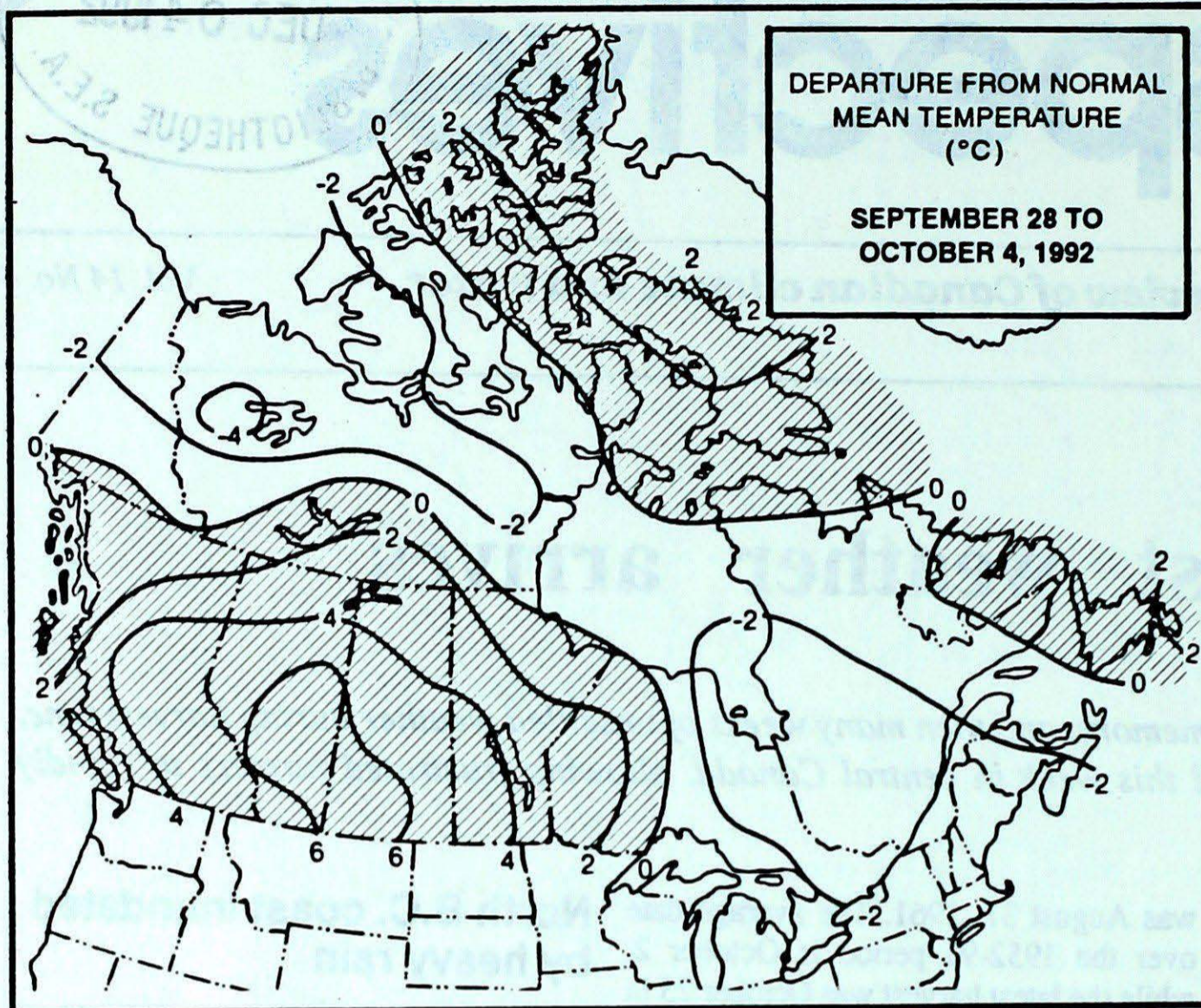
Luckily this past week Mother Nature decided it was time to give farmers a reprieve - and not a bit too soon. A strong ridge of high pressure, both at the surface and at upper levels of the atmosphere built across the Prairie provinces and stretched eastwards into Ontario. Under sunny skies and a brisk southerly flow, temperatures soared to the record thirties, producing ideal drying and harvesting conditions everywhere. As a result this week, farmers were able to make good harvesting progress throughout the western grain belt and even in the Great Lakes Basin. By the end of the period, harvesting in most areas of the grain belt was 50 to 65 percent complete, with the extreme southern agricultural districts of the Prairies reporting the fall harvest 85 to 90 percent complete. Two more weeks of good weather should wrapped it up.

North B.C. coast inundated by heavy rain

Although this area of British Columbia is known for long periods of wet weather, a rainfall event of record proportions drenched the Terrace/Kitimat region this week. Rain, which began on Sunday the 27th, and didn't end until three days later, exceeded 180 mm. In a 24-hour period beginning on the 28th, the storm produced 114.8 mm of rain, for a weekly rainfall total of 191.4 mm for the period. At Kitimat, the weekly total was 311.2 mm, or 201.2 mm in a two-day period beginning on the 28th. Needless to say, there was heavy localized flooding and property damage. The storm helped established new September rainfall records at both Terrace and Kitimat, 338.6 mm and 600.8 mm, respectively. This rainfall event is reminiscent of last year's very wet autumn, when precipitation from October through December totalled 1115.3 mm compared to a normal of 588.6 mm.

A Look Ahead...

For the week of October 12, above normal temperatures are expected for British Columbia, western Alberta, southern Ontario and southwestern Quebec. Elsewhere, near normal temperatures are likely.



Weekly normal temperatures (°C)

	max.	min.
Whitehorse A	8.2	-0.1
Iqaluit A	0.9	-3.7
Yellowknife A	5.2	-0.2
Vancouver Int'l A	16.1	8.4
Victoria Int'l A	16.6	7.1
Calgary Int'l A	15.5	2.1
Edmonton Int'l A	15.2	1.3
Regina A	16.2	1.9
Saskatoon A	14.9	1.9
Winnipeg Int'l A	15.4	3.6
Ottawa Int'l A	16.4	5.9
Toronto (Pearson Int'l A)	17.8	6.4
Montréal Int'l A	16.6	6.9
Québec A	14.6	4.8
Fredericton A	16.5	4.4
Saint John A	15.2	5.7
Halifax (Shearwater)	16.6	8.0
Charlottetown A	15.2	6.9
Goose A	9.4	1.5
St John's A	13.0	5.3

Weekly temperature and precipitation extremes

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Lytton 27	Dease Lake -2	Terrace A 191
Yukon Territory	Watson Lake A 12	Klondike -20	Shingle Point A 21
Northwest Territories	Fort Smith A 18	Mould Bay A -22	Iqaluit A 32
Alberta	Lethbridge A 33	High Level A -3	Red Deer A 13
Saskatchewan	Estevan A 34	Estevan A -6	Saskatoon A 7
	Swift Current A 34		
Manitoba	Portage La Prairie A 32	Brandon A -7	Gillam A 3
Ontario	Kenora A 26	Moosonee -4	Kapuskasing A 25
	Windsor A 26		
Quebec	Maniwaki 22	Val-d'Or -7	Blanc Sablon A 49
New Brunswick	Moncton A 22	St-Léonard A -3	Miscou Island (aut) 14
Nova Scotia	Sydney A 24	Greenwood A -1	Sable Island 39
Prince Edward Island	Charlottetown A 21	Charlottetown A 1	East Point (aut) 47
Newfoundland	St John's A 22	Wabush Lake A -3	Stephenville A 48

Across The Country...

Highest Mean Temperature	Moose Jaw A (Sask.)	17
Lowest Mean Temperature	Mould Bay A (N.W.T.)	-16

CLIMATIC PERSPECTIVES
VOLUME 14

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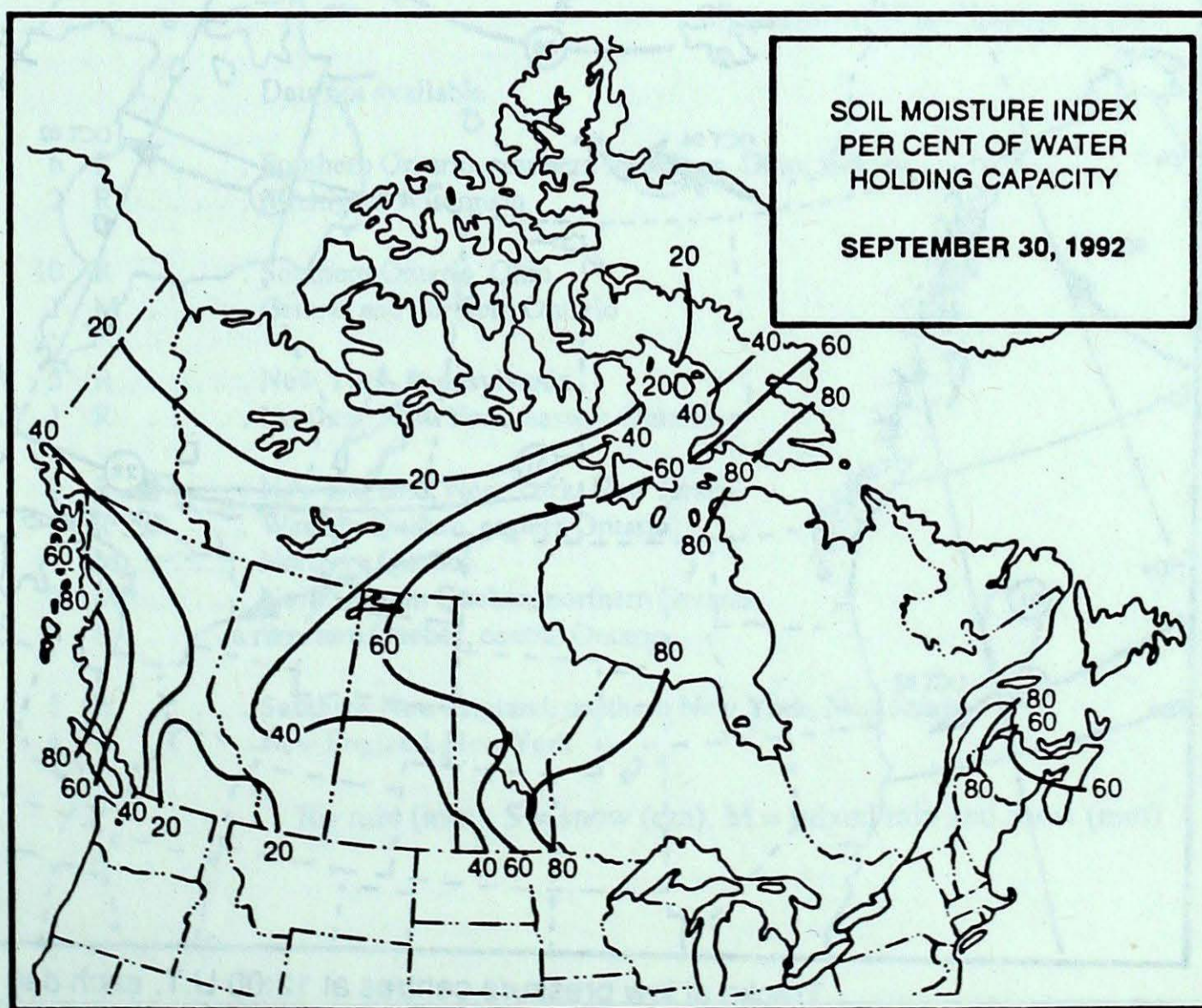
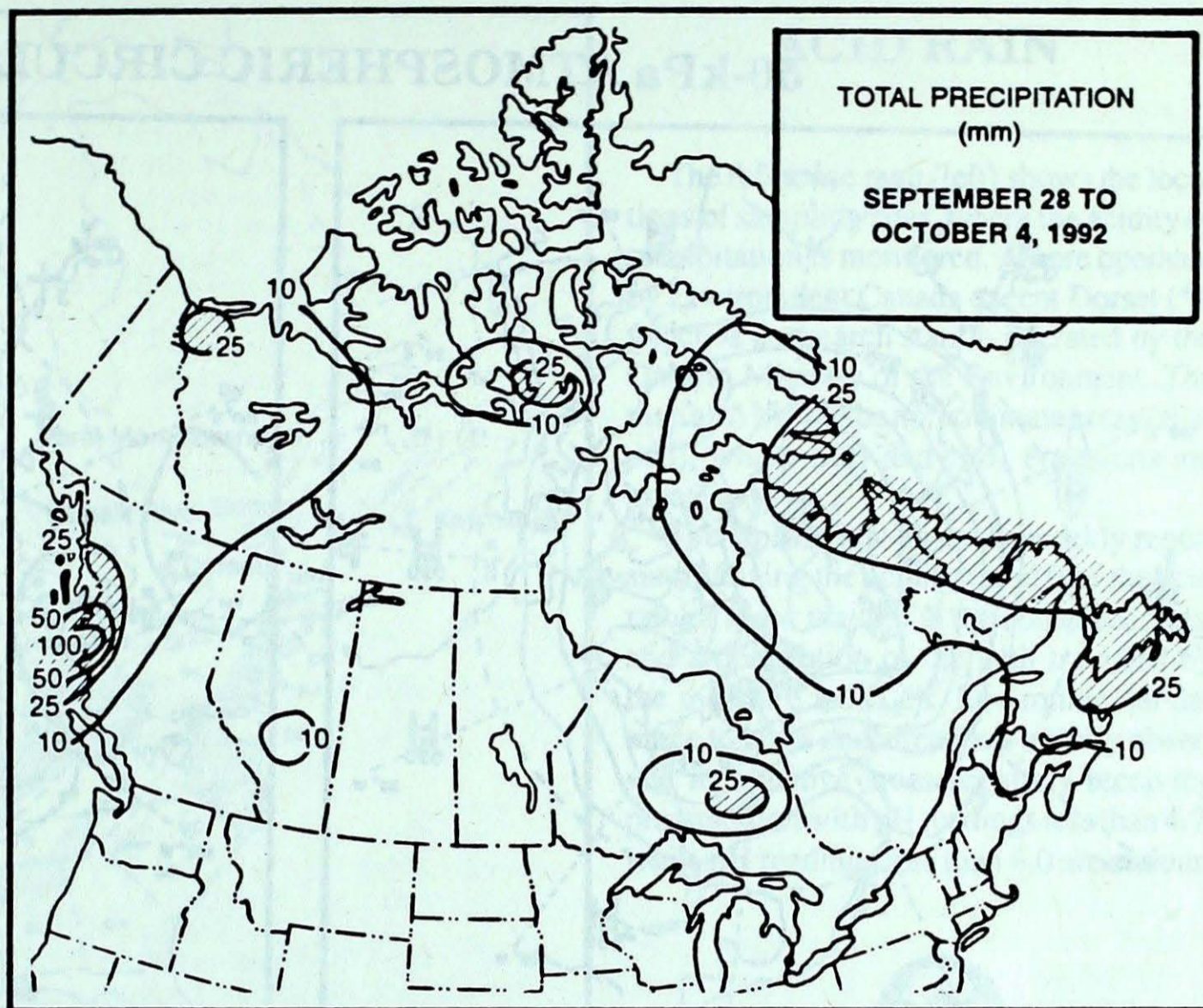
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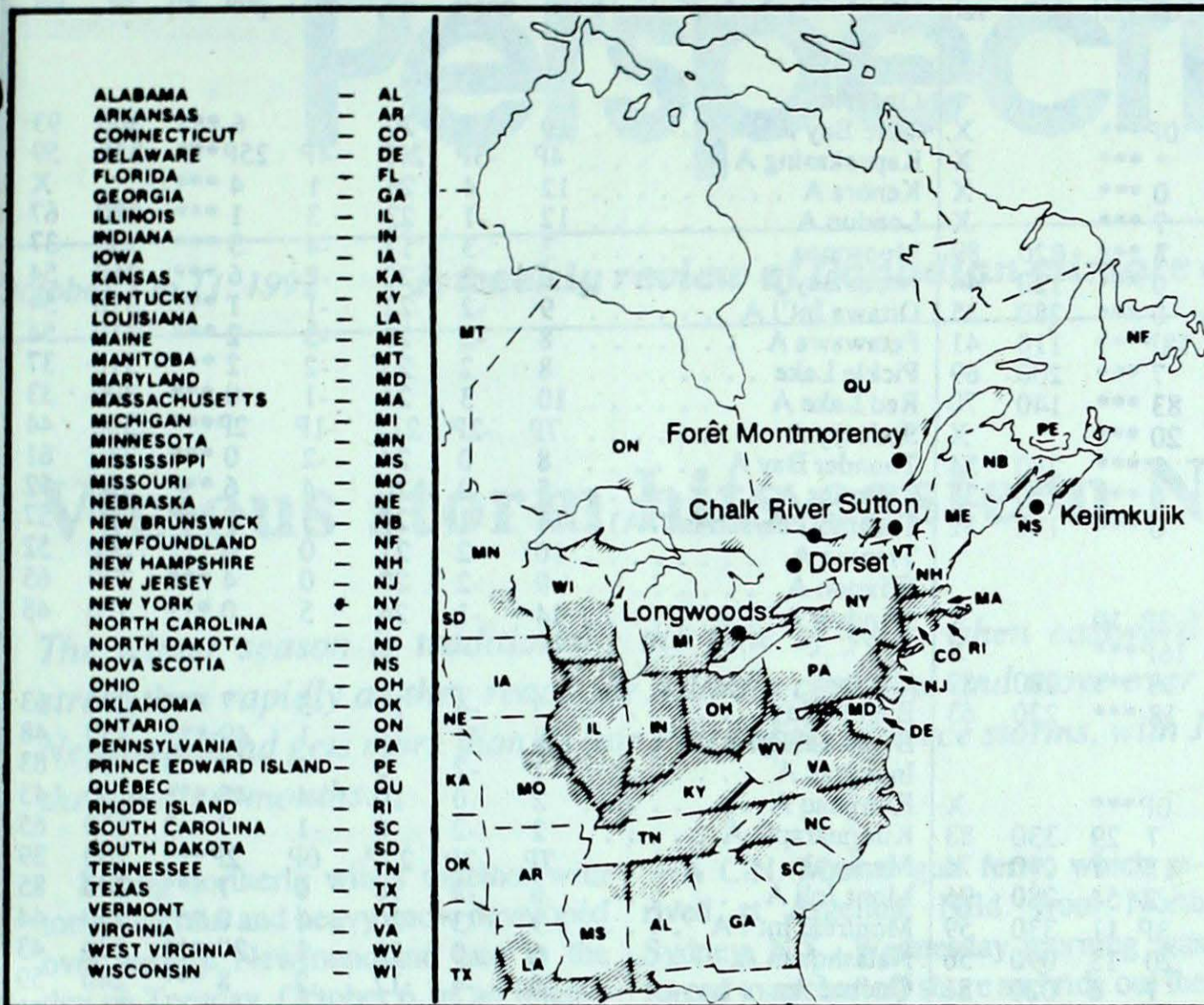
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ACID RAIN

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

September 27 to October 3, 1992

Longwoods					..... Data not available
Dorset *	27	4.2	6 R	.....	Southern Ontario, southern Michigan, Ohio, Indiana
	28	4.6	2 R	.....	Michigan, Wisconsin
Chalk River	27	4.5	10 R	.....	Southern Ontario, Ohio
	29	4.5	1 M	.....	Central and northern Ontario
Sutton	27	4.3	5 R	.....	New York, Pennsylvania
	29	5.8	1 R	.....	Northern New York, eastern Ontario
Montmorency	27	4.7	9 R	.....	New England, New York, New Jersey
	28	4.0	2 R	.....	Western Quebec, eastern Ontario
	29	4.8	1 M	.....	Northern Quebec
	01	4.7	3 M	.....	Northwestern Quebec, northern Ontario
	02	4.3	3 S	.....	Western Quebec, central Ontario
Kejimikujik	27	4.5	1 R	.....	Southern New England, southern New York, New Jersey
	29	4.5	6 R	.....	New England, New York

R = rain (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								
British Columbia								Ontario															
Blue River A	10P	2P	25P	0P	0P***		X	Gore Bay A	10	-1	20	3	6 ***	300	93								
Cape St James	*	*	*	*	* ***		X	Kapuskasing A	4P	-3P	20P	-4P	25P***	330	59								
Cranbrook A	13	4	25	-1	0 ***		X	Kenora A	12	4	26	1	4 ***		X								
Fort Nelson A	5	0	18	-2	7 ***		X	London A	12	-1	23	3	1 ***	280	67								
Fort St John A	13	6	24	4	3 ***	220	89	Moosonee	3	-3	17	-4	3 ***	300	37								
Kamloops A	16	4	25	7	0 ***	120	44	North Bay A	6	-3	20	-2	6 ***	260	54								
Penticton A	14	2	23	2	0 ***	280	35	Ottawa Int'l A	9	-2	22	-1	1 ***	310	54								
Port Hardy A	13P	2P	23P	4P	18P***	110	41	Petawawa A	8	-2	23	-3	2 ***	310	54								
Prince George A	13	5	23	0	7 ***	200	69	Pickle Lake	8	2	23	-2	2 ***	310	37								
Prince Rupert A	10	0	14	4	83 ***	140	70	Red Lake A	10	3	24	-1	0 ***	300	33								
Smithers A	9	2	14	0	20 ***		X	Sudbury A	7P	-2P	21P	-1P	2P***	300	44								
Vancouver Int'l A	15	3	24	8	1 ***	280	54	Thunder Bay A	8	0	24	-2	0 ***	330	61								
Victoria Int'l A	14	2	24	4	0 ***	260	35	Timmins A	5	-2	20	-4	6 ***	330	52								
Williams Lake A	14	5	25	0	0 ***	140	52	Toronto(Pearson Int'l A)	11	-1	25	3	0 ***	290	57								
Yukon Territory								Québec															
Komakuk Beach A	-9P	-6P	-6P	-15P	2P 10		X	Bagotville A	5	-4	15	-3	7 ***	270	63								
Teslin (aut)	5P	*	10P	-2P	16P***		X	Blanc Sablon A	8	*	14	1	49 ***	250	48								
Watson Lake A	5	1	12	-2	10 ***	280	52	Inukjuak A	1	-2	3	-4	14 3	150	83								
Whitehorse A	4	0	12	-3	18 ***	220	63	Kuujuuaq A	2	0	10	-4	45 ***	160	43								
Northwest Territories								New Brunswick															
Alert	-10P	6P	0P	-19P	0P***		X	Fredericton A	8	-3	22	-3	11 ***	250	67								
Baker Lake A	-5	-2	3	-11	7 29	330	83	Miscou Island (aut)	13P	3P	20P	8P	14P***										
Cambridge Bay A	-8	-2	-4	-13	11 7	090	74	Moncton A	8	-2	22	-2	6 ***	240	46								
Cape Dyer A	-4	2	1	-10	2 54	280	96	Saint John A	8	-2	21	-1	8 ***	210	54								
Clyde A	-3P	1P	2P	-9P	3P 11	330	59	Nova Scotia															
Coppermine A	-6	-3	3	-15	20 15	090	56	Greenwood A	10	-2	22	-1	8 ***	290	59								
Coral Harbour A	-3	0	2	-8	7 6	020	56	Shearwater A	10	-2	22	2	7 ***	290	46								
Eureka	-14	3	-3	-22	4 5		X	Sydney A	10	-1	24	0	23 ***	220	44								
Fort Smith A	7	4	18	-3	5 ***	290	46	Yarmouth A	9	-3	16	1	5 ***	320	70								
Hall Beach A	-4	1	0	-13	3 18	320	50	Prince Edward Island															
Inuvik A	-6P	-4P	-2P	-10P	25P 32	040	56	Charlottetown A	9	-2	21	1	22 ***	280	52								
Iqaluit A	0	1	3	-6	32 8	130	65	East Point (auto)	13P	*	16P	10P	47P***										
Mould Bay A	-16P	-2P	-10P	-22P	0P 5		X	Newfoundland															
Norman Wells A	-4	-5	5	-10	13 10	310	74	Cartwright	6	0	14	2	36 ***	340	48								
Resolute A	-9	1	-5	-16	5 6	030	61	Churchill Falls A	3	1	14	-2	24 3	290	54								
Yellowknife A	3	0	8	-2	8 ***	270	63	Gander Int'l A	10	1	19	2	25 ***	260	72								
Alberta								92/09/28-92/10/04															
Calgary Int'l A	16	7	28	1	7 ***	330	63	Environment Canada Environnement															
Cold Lake A	15	7	29	0	2 ***	290	52	CLIMATIC PERSPECTIVES : A WEEKLY REVIEW OF CANADIAN CLIMATE AND WEATHER															
Edmonton Namao A	15	7	28	3	2 ***	300	52	Vol: 14 No: 40 Date: 920928/1005959D															
Fort McMurray A	13	7	27	-2	2 ***	280	48	on the ground in cm X = no observation															
High Level A	8	2	19	-3	4 ***	290	48	wind, deg from north P = less than 7 days of data															
Jasper	*	*	26	*	* ***		X	* = missing data when go															
Lethbridge A	16	5	33	2	9 ***	290	70	DTM															
Medicine Hat A	17	6	32	5	0 ***	200	48	ARC															
Peace River A	13	6	25	-1	5 ***	240	41	COPY 1															
Saskatchewan								Manitoba															
Cree Lake	10	5	24	-1	1 ***	160	44	Brandon A	13	4	31	-7	0 ***	140	43								
Estevan A	15	5	34	-6	0 ***	140	54	Churchill A	1	-1	14	-4	2 3	300	87								
La Ronge A	11	5	29	-4	1 ***	120	37	Lynn Lake A	8	5	24	-2	1 ***	150	33								
Regina A	15	6	33	-5	0 ***	140	57	The Pas A	12	5	26	-4	0 ***	150	39								
Saskatoon A	14	6	31	-2	7 ***	140	54	Thompson A	7	3	21	-2	0 ***	190	30								
Swift Current A	17	7	34	-3	1 ***	330	61	Winnipeg Int'l A	14	4	31	-2	0 ***	160	39								
Yorkton A	14P	5P	31P	-5P	0P***	150	48																

mean = mean weekly temperature, °C
 max = maximum weekly temperature, °C
 min = minimum weekly temperature, °C
 anom = mean temperature anomaly, °C
 ptot = weekly precipita
 st = snow thickness
 dir = direction of max
 vel = wind speed in k

on the ground in cm X = no observation
 wind, deg from north P = less than 7 days of data
 * = missing data when go