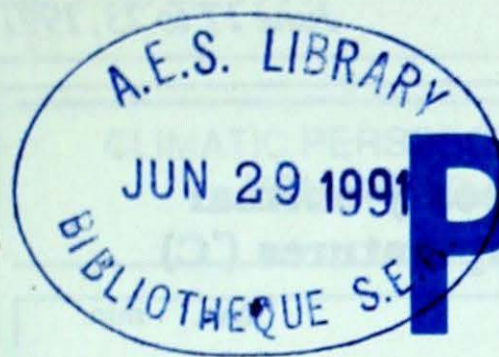




Climatic Perspectives



Archives

Ref 1

June 17 to 23, 1991

A weekly review of Canadian climate and water

Vol. 13 No. 25

Record warm spring in southern Ontario

Early summer-like weather has produced the warmest spring season (April to June) ever recorded in southern Ontario, and as a result, agriculture is approximately two weeks ahead of normal. Weekly mean temperatures have been running above normal for nine consecutive weeks. Both at London and Toronto this will be remembered as the warmest spring ever, with readings averaging 15.0 C and 15.7 C, respectively, which is well above the three month normal of 12.2 C and 13.4 C, respectively. The second warmest spring occurred in 1987, and Toronto's records date back 152 years. At Sudbury and Thunder Bay, spring 1991 will go down in the record books as the second warmest, with the warmest occurring in 1955. After a relatively wet April and May, Mother Nature this month has produced very little rain, with central, southern and eastern parts of the province being the driest. Whereas normally 50 to 60 millimetres of rain should fall in June, Ottawa, Warton, Sudbury and Muskoka have received only 12, 10, 12 and 15 millimetres of rain, respectively. Thundershowers produced heavier rainfalls in southwestern Ontario.

In contrast, the weather in western Canada continues to be unsettled and damp, while Newfoundland residents are enduring their 8th consecutive week of below normal temperatures. In British Columbia, most crops are behind schedule. Many B.C. farmers are waiting for a stretch of dry weather in order to be able to cut their first hay crop. Berry farmers in the Fraser Valley are concerned, as this year's strawberry and raspberry crop is already late by at least

two weeks, and yields are expected to be significantly lower than normal. In the Okanagan, the cherry harvest is close at hand, but dry weather is urgently needed to prevent splitting. The Prairies continue to receive rain, which at this time is considered beneficial.

High water levels in the Great Slave Lake region

Melting snow and heavy rainfalls, that occurred in late May and early June (as much as four times the June normal) have resulted in unusually high water levels on many of the lakes surrounding Great Slave Lake. Some of the lakes are more than one metre higher than normal, flooding shorelines, beaches and docks. In some areas high water marks, which have

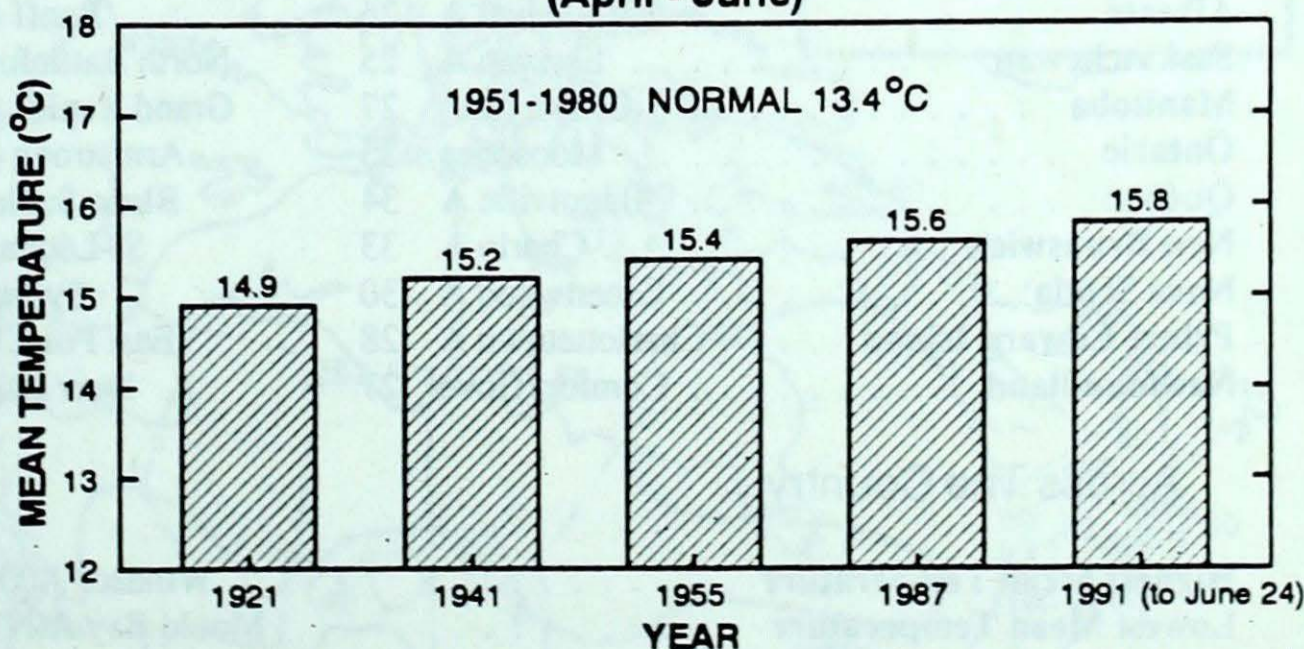
been above the waterline for more than ten years, are once again under water.

In the Keewatin district, Baker Lake has also risen 45 cm above its normal level, this spring. Although there was no danger to the community itself, shoreline properties were covered with water.

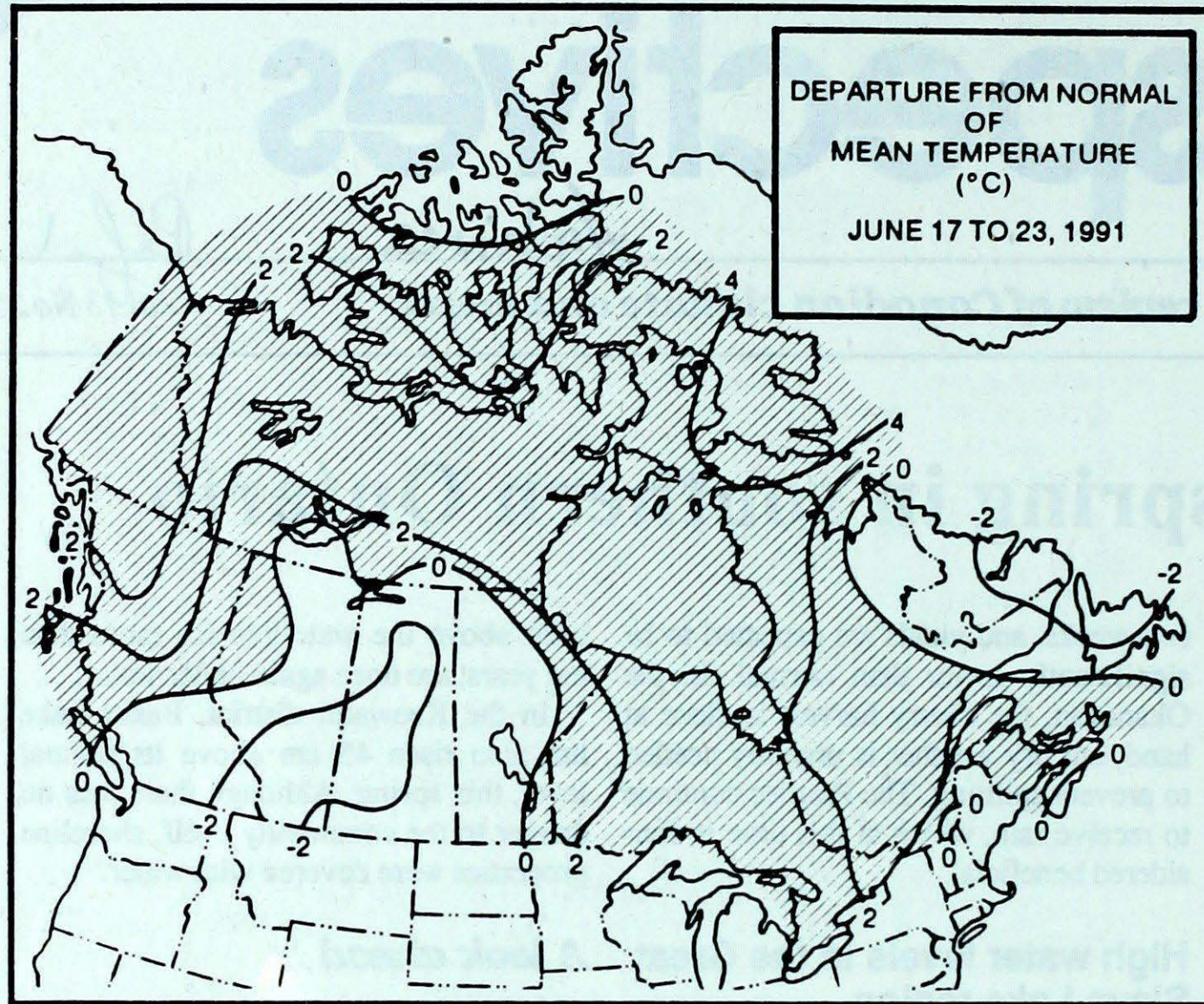
A look ahead ...

A trough of low pressure, deepening over the East Coast during the week of July 1, will moderate the warm episode in Ontario and Quebec. For the same period, above normal temperatures should prevail over the Yukon, BC and the Prairies, while the Atlantic provinces, particularly Newfoundland, will continue to be influenced by cooler Arctic air.

Warmest Springs on Record - Toronto City (April - June)



This has been the warmest spring on record at Toronto City, where records date back to 1839. However, the city itself contributes heat to the atmosphere, the amount increasing over the decades as the urban area has expanded.



**Weekly normal
temperatures (°C)**
max. min.

Whitehorse A	18.7	6.0
Iqaluit A	7.4	1.0
Yellowknife A	18.7	8.9
Vancouver Int'l A	20.0	11.4
Victoria Int'l A	19.9	9.7
Calgary Int'l A	20.3	7.5
Edmonton Int'l A	21.3	7.7
Regina A	22.9	9.0
Saskatoon A	22.8	8.9
Winnipeg Int'l A	23.0	10.5
Ottawa Int'l A	24.3	13.0
Toronto (Pearson Int'l A)	24.2	11.9
Montréal Int'l A	24.4	14.0
Québec A	23.1	11.6
Fredericton A	23.8	10.9
Saint John A	20.1	9.1
Halifax (Shearwater)	18.9	9.9
Charlottetown A	20.8	10.9
Goose A	19.1	7.0
St John's A	17.6	7.1

Weekly temperature and precipitation extremes

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Terrace A 30	Dease Lake 1	Clinton (aut) 30
Yukon Territory	Whitehorse A 28	Komakuk Beach A 0	Whitehorse A 7
Northwest Territories	Norman Wells A 32	MacKar Inlet -4	Resolute A 14
Alberta	High Level A 26	Banff (aut) 2	Lethbridge A 87
Saskatchewan	Estevan A 25	North Battleford A 3	Estevan A 29
Manitoba	Gretna (aut) 27	Grand Rapids (aut) -1	Thompson A 23
Ontario	Moosonee 33	Armstrong (aut) 2	Lansdowne House 16
Québec	Bagotville A 34	Blanc Sablon A 0	Chibougamau Chapais a 32
New Brunswick	Charlo A 33	St-Léonard A 5	Chatham A 11
Nova Scotia	Greenwood A 30	Sydney A 2	Sable Island 13
Prince Edward Island	Charlottetown A 28	East Point (aut) 9	Charlottetown A 2
Newfoundland	Comfort Cove 27	Deer Lake A -1	Goose A 25

Across The Country...

Highest Mean Temperature	Windsor A(ONT)	23
Lowest Mean Temperature	Mould Bay A(NWT)	0

CLIMATIC PERSPECTIVES
VOLUME 13

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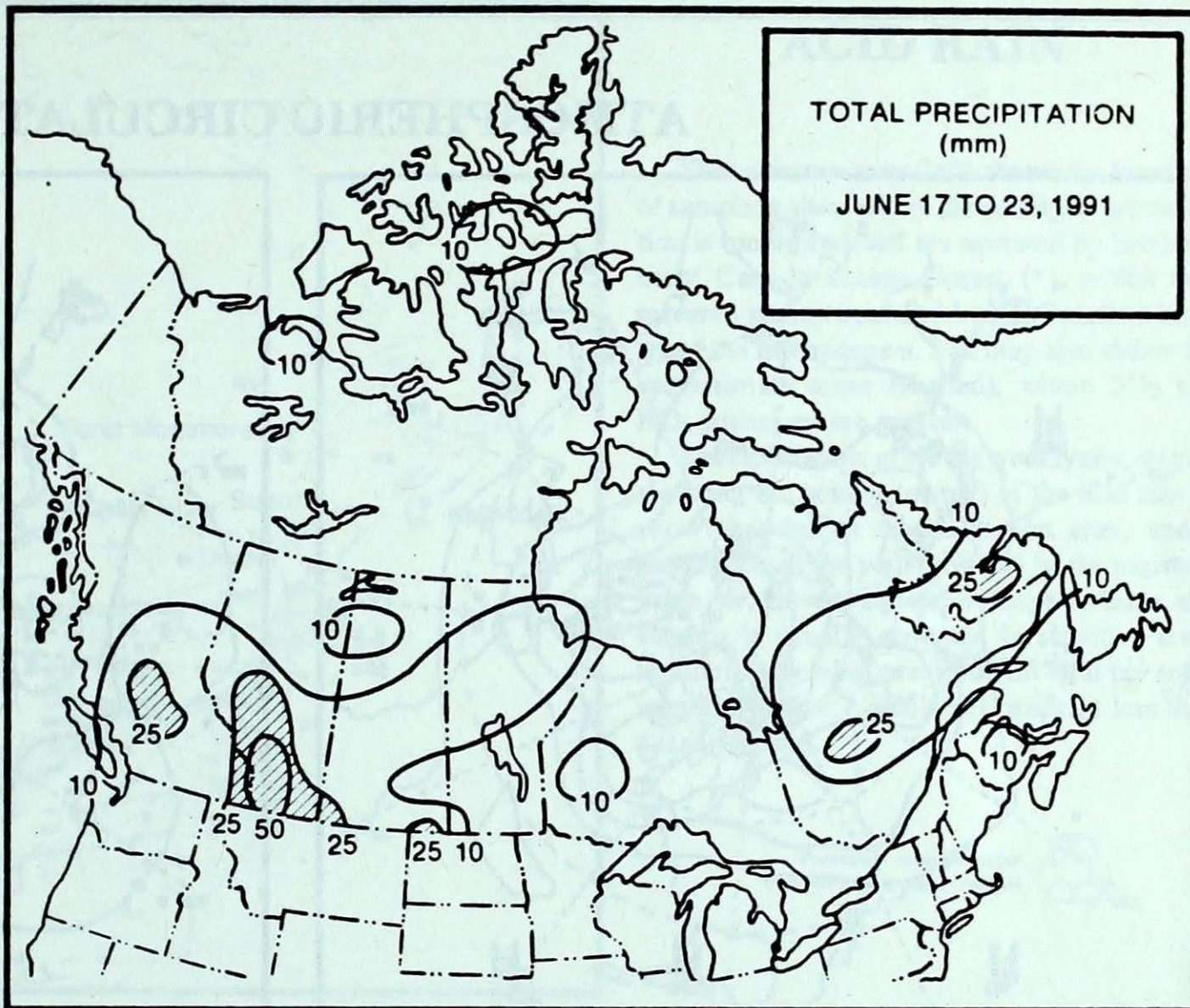
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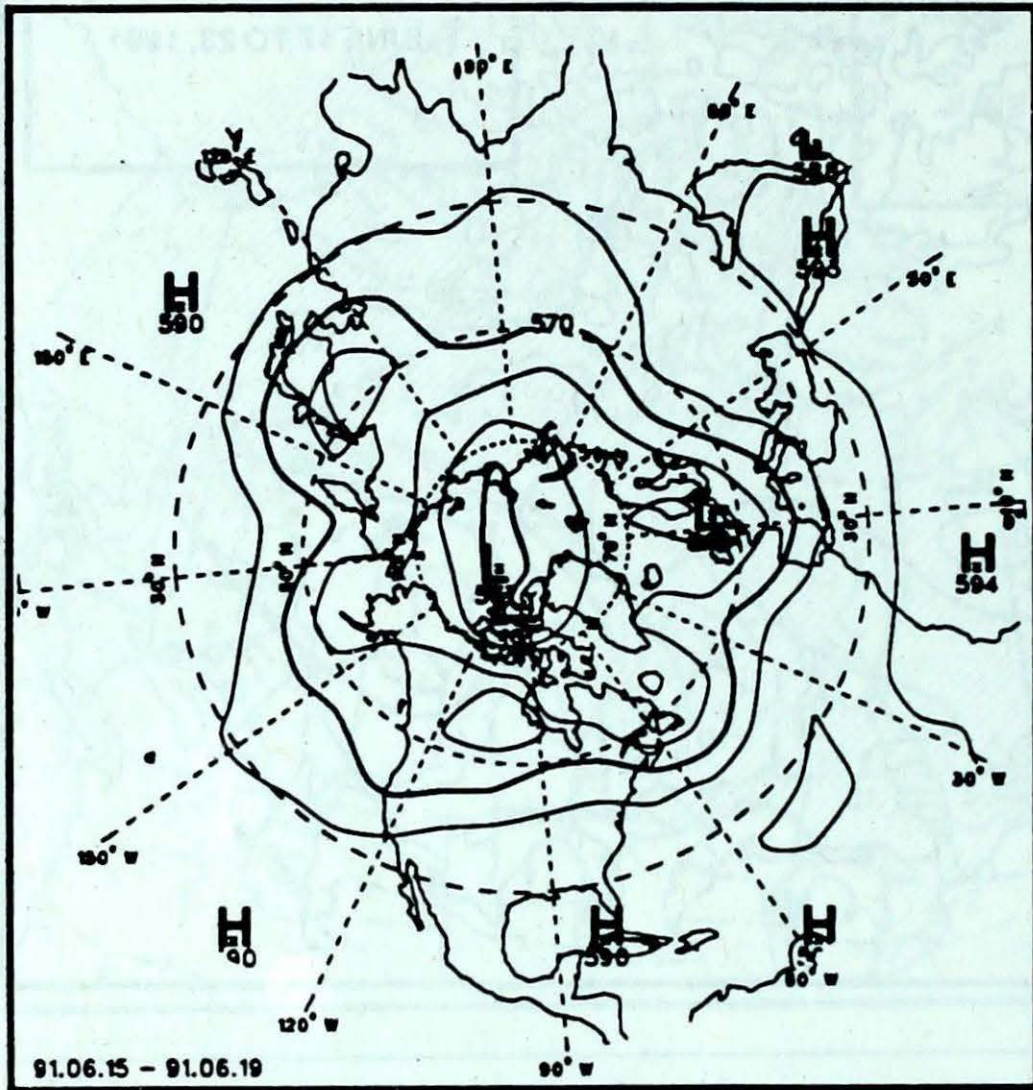
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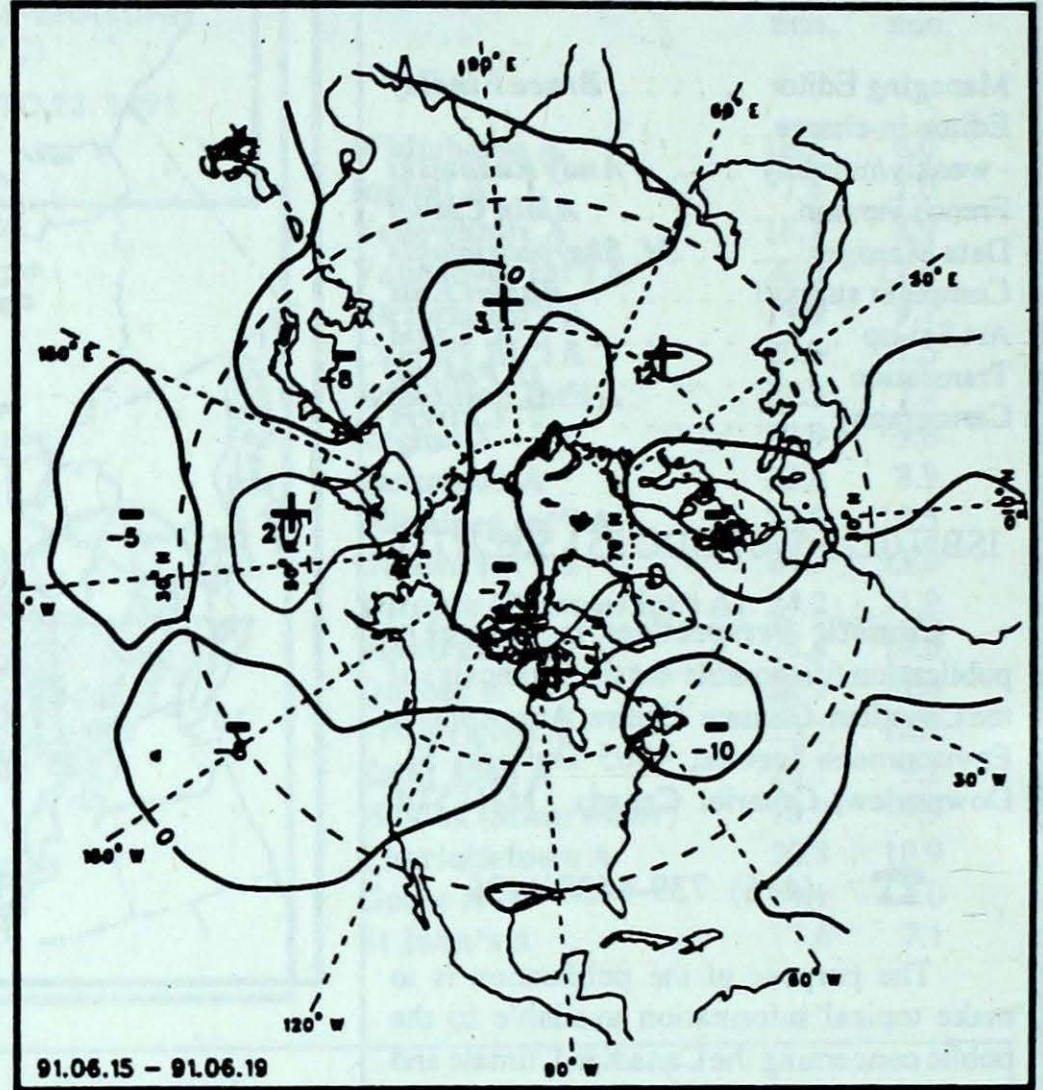
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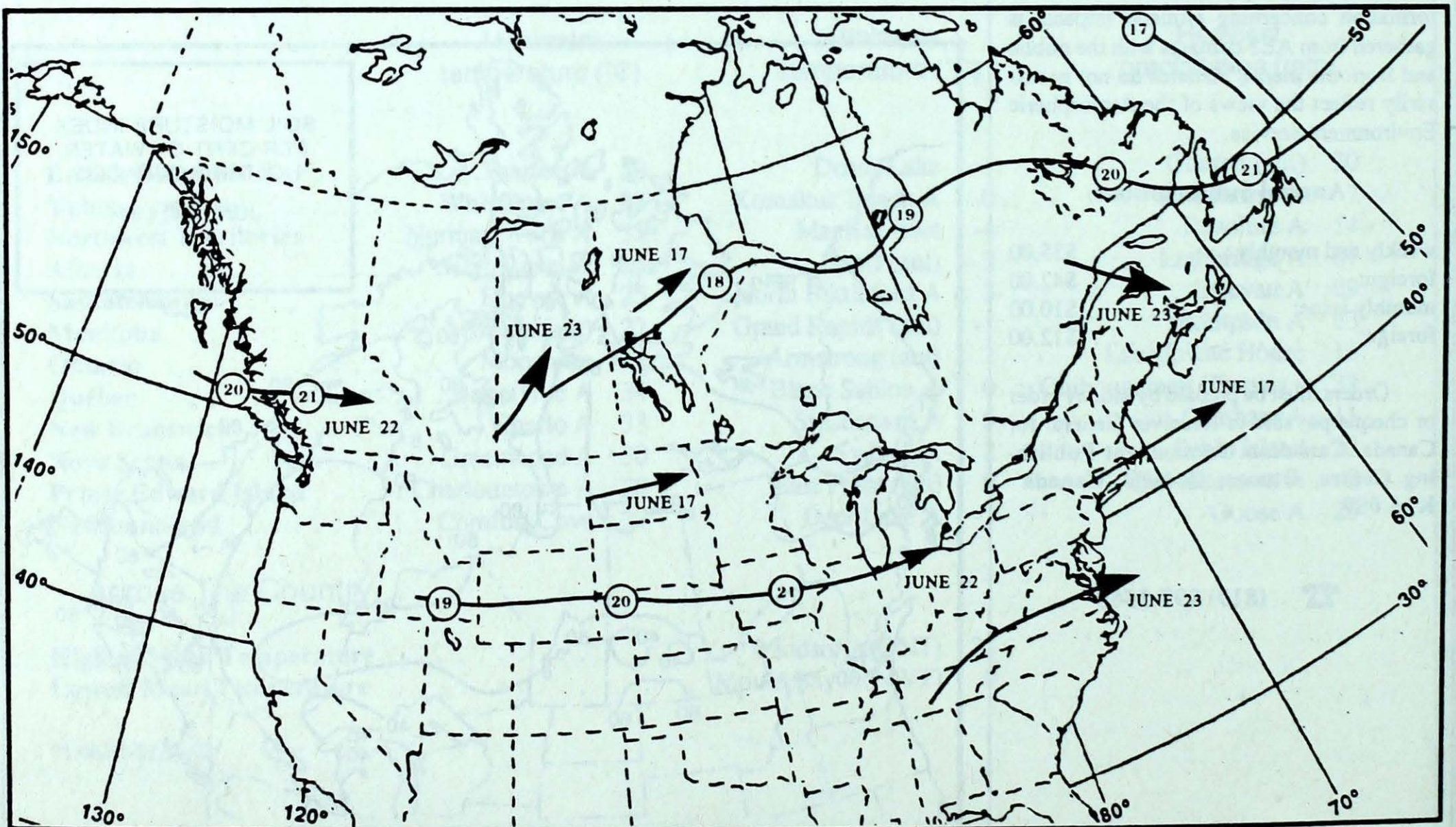
ATMOSPHERIC CIRCULATION



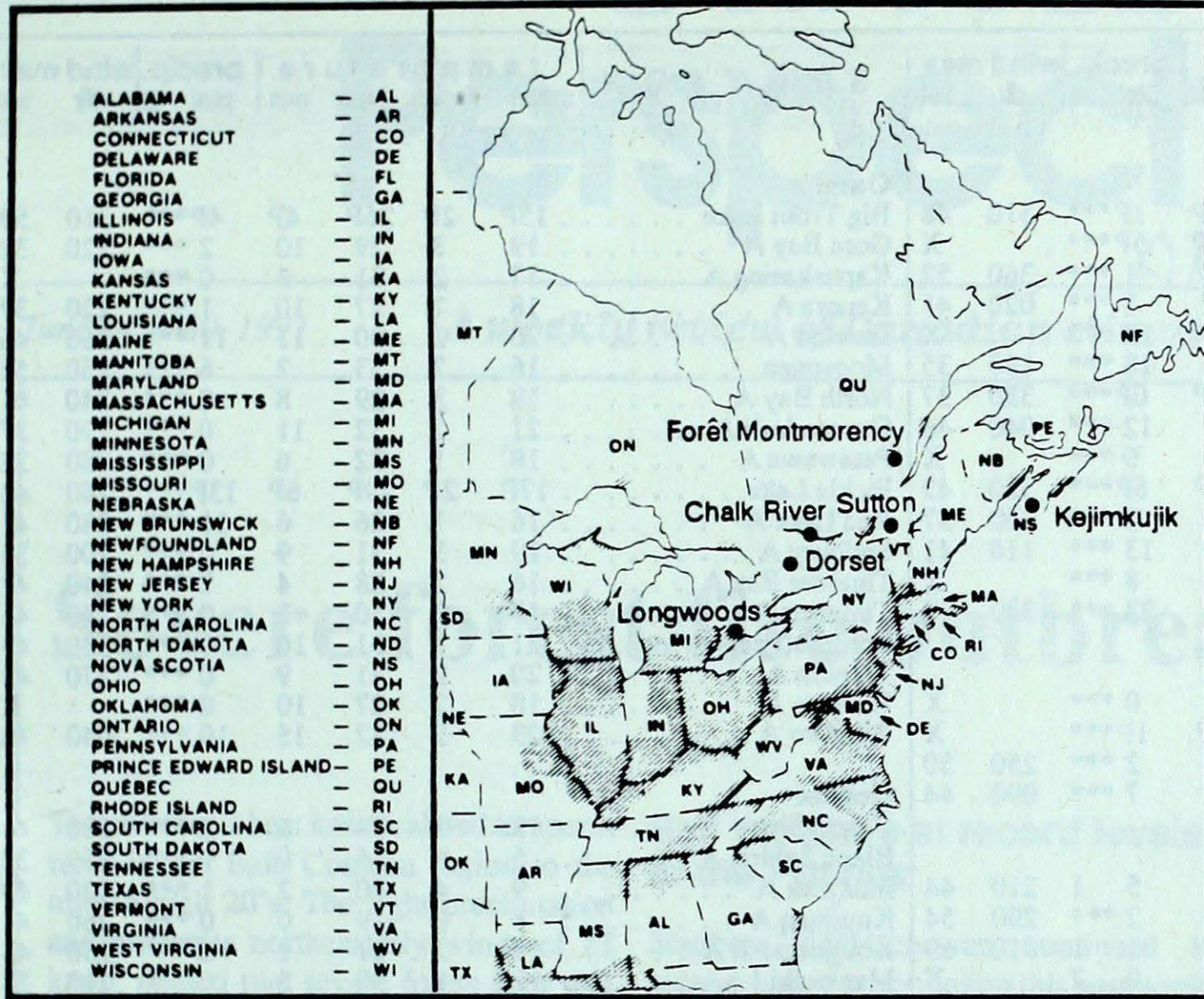
Mean geopotential height
50-kPa level (10-decametre intervals)



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 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.

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Site day pH amount air path to site

June 16 to 22, 1991

Longwoods				 No rain this week
Dorset*					..... No rain this week
Chalk River	16	4.3	7 R	.....	Lake Huron, Northern Michigan, Southern Wisconsin
Sutton	16	4.3	29 R	.....	Eastern and southern Ontario, Lake Ontario, Southern Michigan
Montmorency					..... No rain this week
Kejimikujik	16	4.9	5 R	.....	New Brunswick, Eastern Maine
	17	4.9	6 R	.....	New Brunswick, Eastern Maine

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

Environment Canada Environnement
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Vol: 13 No: 25 Date: 910617
OTM *ARCH* 1005959D
REF 1

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								Ontario									
Cape St James	12P	1P	22P	8P	1P***	310	48	Big Trout Lake	15P	2P	26P	4P	4P***	310	50		
Cranbrook A	13P	-3P	22P	4P	5P***		X	Gore Bay A	19	3	29	10	2***	220	32		
Fort Nelson A	17	2	27	8	1***	360	52	Kapuskasing A	17	2	31	3	0***		X		
Fort St John A	15	1	23	7	8***	020	41	Kenora A	18	2	27	10	1***	220	37		
Kamloops A	17	-2	27	9	21***		X	London A	20	2	30	11	11***	260	46		
Penticton A	16	-2	25	6	18***	190	35	Moosonee	16	2	33	2	6***	250	52		
Port Hardy A	13P	1P	22P	6P	0P***	330	37	North Bay A	19	3	29	8	0***	240	41		
Prince George A	16	2	25	7	12***	040	46	Ottawa Int'l A	21	2	32	11	0***	290	37		
Prince Rupert A	13	2	27	5	0***		X	Petawawa A	18	1	32	6	0***	280	32		
Revelstoke A	17P	0P	28P	10P	6P***	320	43	Pickle Lake	17P	2P	29P	6P	13P***	240	48		
Smithers A	16	4	28	6	2***	120	37	Red Lake A	16	1	26	6	11***	280	41		
Vancouver Int'l A	15	0	26	9	13***	110	41	Sudbury A	19	3	31	9	0***	200	33		
Victoria Int'l A	14	-1	27	6	8***		X	Thunder Bay A	16	2	28	4	2***	240	41		
Williams Lake A	13	-1	21	5	23***	330	37	Timmins A	17	2	30	3	0***	240	46		
Yukon Territory								Toronto (Pearson Int'l A)									
Komakuk Beach A	11	6	26	0	0***		X	Trenton A	20	2	31	9	0***	270	43		
Teslin (aut)	15P	*	27P	3P	1P***		X	Warton A	18	2	27	10	0***		X		
Watson Lake A	17	4	27	4	2***	250	50	Windsor A	23	2	32	15	10***	040	46		
Whitehorse A	16	4	28	3	7***	090	44	Québec									
Northwest Territories								Bagotville A	18	2	34	6	2***	280	44		
Alert	1	1	8	-2	5	1	210	44	Blanc Sablon A	6	*	16	0	9***	050	37	
Baker Lake A	10	4	24	0	2***	290	54	Inukjuak A	9	4	20	2	1***	020	63		
Cambridge Bay A	5	2	18	1	1	1	010	69	Kuujuuaq A	8	0	19	0	0***	260	44	
Cape Dyer A	7	6	13	1	0	2		X	Kuujuarapik A	10	2	21	1	2***	250	43	
Clyde A	4	3	13	-2	0	1	210	50	Maniwaki	17	1	30	5	0***	210	33	
Coppermine A	11	7	26	-1	3***	310	54	Mont Joli A	17	2	30	8	6***	270	63		
Coral Harbour A	7	3	16	0	2***	260	54	Montréal Int'l A	20	1	29	8	0***	270	44		
Eureka	2	-1	6	0	6***	170	57	Natashquan A	11	-1	18	3	9***	260	35		
Fort Smith A	15	1	26	6	4***		X	Québec A	20	2	30	10	0***	250	46		
Hall Beach A	5	3	11	0	3	1	320	59	Schefferville A	9	-1	20	0	8***	340	43	
Inuvik A	16	4	29	2	1***	170	46	Sept-Îles A	13	0	24	2	13***	320	46		
Iqaluit A	8	4	18	2	3***	330	52	Sherbrooke A	16	0	29	3	2***	270	41		
Mould Bay A	0	-1	3	-3	3	7	250	59	Val-d'Or A	17	2	29	4	0***	270	59	
Norman Wells A	18	2	32	8	1***	030	44	New Brunswick									
Resolute A	0	-1	3	-2	14	1	340	63	Charlo A	*	*	33	*	* **		X	
Yellowknife A	16	2	23	9	1***	010	52	Chatham A	19	2	32	7	11***	290	72		
Alberta								Fredericton A	18	1	31	8	4***	290	50		
Calgary Int'l A	11	-3	20	4	70***	340	78	Moncton A	17	1	30	8	2***	290	48		
Cold Lake A	14	-2	23	5	7***		X	Saint John A	16	1	26	8	2***	230	48		
Edmonton Namao A	14	-2	20	7	23***	330	48	Nova Scotia									
Fort McMurray A	15	1	24	3	12***	320	44	Greenwood A	18	1	30	8	10***	280	50		
High Level A	16	0	26	6	4***	330	63	Shearwater A	16	1	28	7	4***	330	35		
Jasper	12	-1	20	5	12***		X	Sydney A	15	0	30	2	0***	280	59		
Lethbridge A	13	-3	23	5	87***	250	74	Yarmouth A	14	0	22	6	6***	260	37		
Medicine Hat A	16	-2	24	7	22***	240	56	Prince Edward Island									
Peace River A	15	1	23	8	5***	271	37	Charlottetown A	17	1	28	9	2***	270	39		
Saskatchewan								East Point (auto)	13P	*	23P	9P	0P***				
Cree Lake	11	-3	22	5	12***	360	39	Newfoundland									
Estevan A	16	0	25	7	29***	120	56	Cartwright	6	-4	20	0	10***	310	46		
La Ronge A	13	-1	22	7	9***		X	Churchill Falls A	11	-2	22	0	4***	300	54		
Regina A	17	1	25	8	7***	240	104	Gander Int'l A	11	-3	25	2	5***	350	48		
Saskatoon A	15	-1	24	6	27***	320	50	Goose A	10	-3	24	1	25***	340	65		
Swift Current A	14	-1	23	7	24***	250	59	Port Aux Basques	11	1	20	4	1***	300	54		
Yorkton A	15	-1	23	3	3***	250	74	St John's A	11	-2	23	2	4***	270	56		
Manitoba								St Lawrence	10	1	20	3	0***		X		
Brandon A	15	-1	25	6	3***	050	67	Wabush Lake A	12	0	21	0	22***	320	46		
Churchill A	10	3	26	0	21***	210	74	91/06/17-91/06/23									
Lynn Lake A	12	-1	24	5	5***	020	32										
The Pas A	14	-1	24	3	13***	150	37										
Thompson A	11	-1	25	1	23***	180	41										
Winnipeg Int'l A	18	1	26	7	0***	160	56										

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.