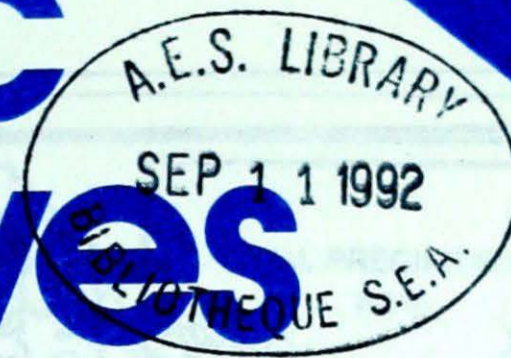




Climatic Perspectives



June 15 to 21, 1992

A weekly review of Canadian climate and water

Vol. 14 No. 25

Cool weather slows crop growth in Ontario

Across Ontario this spring the weather has been cool and dry. In the agricultural districts, precipitation has been sporadic, even heavy at times, but less cumulatively than average. Combined with below-normal temperatures, these conditions have delayed seed germination and crop development.

Low soil moisture levels in some farming districts have persisted since last year, and plants are showing signs of stress. With the extended dry spell, the first hay crop was harvested, and while most districts report healthy crops, in other areas, the plants are short and immature. Inadequate heat and moisture retards soil processes to break down nutrients for plants, and deficiencies of nitrogen have been reported. Crops cannot pass through critical stages of development without clusters of warm days together and a few days in the 20°C to 25°C range. Moisture is also needed at this time for cell development. This week, the precipitation that did fall coincided with temperatures below seasonal values. In Windsor, London and Ottawa, Ont. rainfall totals of 40.9 mm, 26.9 mm and 23.1 mm, respectively, were gratefully received. However, mean temperatures of 17.1°C, 14.8°C and 16.9°C, respectively, were less than desirable to take advantage of the new moisture, to assist plant growth.

The dry weather has resulted in a high incidence in forest fires, in Ontario. To date, there have been 726 forest fires, which have consumed over 170 000 hectares of woodland, surpassing the losses of all other provinces. The fire situation in the northern regions is the most serious. However, further south, conditions have improved, as the cold, damp weather from

the 18th to the 21st, lessened the risk, with only three new fires reported.

Tourists and recreational enthusiasts were not prepared for the cold and wet weather this week, unless they were clad in fall clothing. This has been the coldest beginning to the summer season on record as afternoon highs failed to reach even 10°C across most of the province. Indeed, the entire first weekend of the summer was more like a November weekend as thick cloud, record cold temperatures and even snow, as far south as Lake Simcoe, spoiled the debut of summer. In Toronto, highs on June 20 and 21 reached a chilly 10.7°C. This represents the lowest maximum temperature ever recorded since records began in 1840, for a day between the period June 6 and September 10.

Drought eases over southwestern Prairies

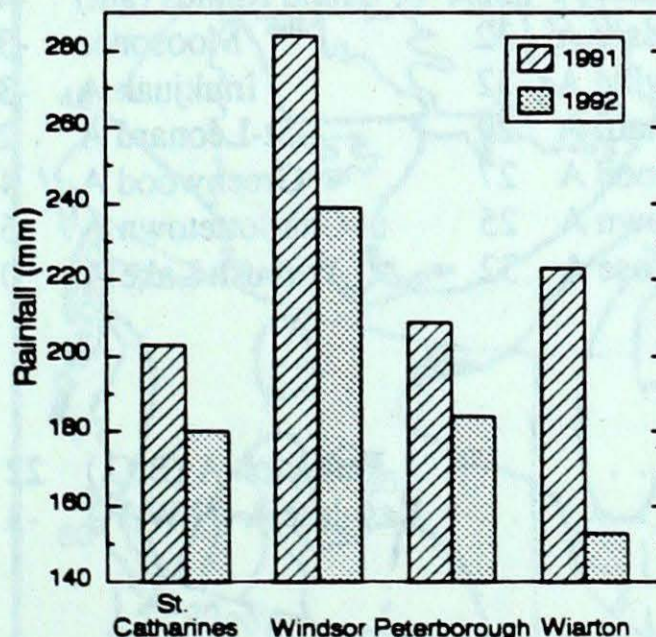
Recent rains have alleviated low soil moisture stress in the Palliser Triangle re-

gion, but subsoil reserves remain inadequate to support growing crops, and there are still supply shortages for livestock. A campaign for government assistance is growing. However, to the northwest in the Calgary area, 86 percent of prepared cropland has been seeded. Most wheat has been planted and farmers are busy putting oats and canola in.

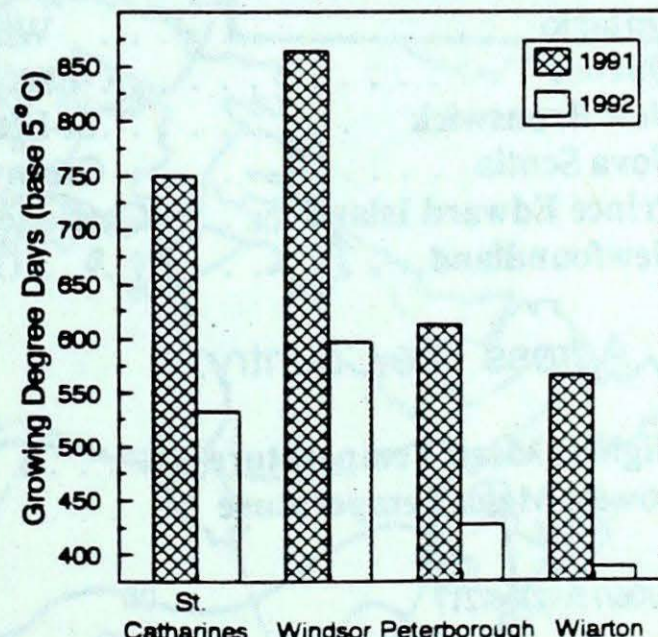
A look ahead...

For the week of June 29, below-normal temperatures are expected over Ontario, the southern half of Quebec, and the Maritimes. Temperatures are likely to be 2 to 5 degrees below normal in these areas. Elsewhere above-normal temperatures will dominate the week. Warm, dry weather will dominate the Prairies. Significant precipitation will fall over coastal British Columbia, and the southern half of Ontario and Quebec. Copious precipitation may occur across the Maritimes.

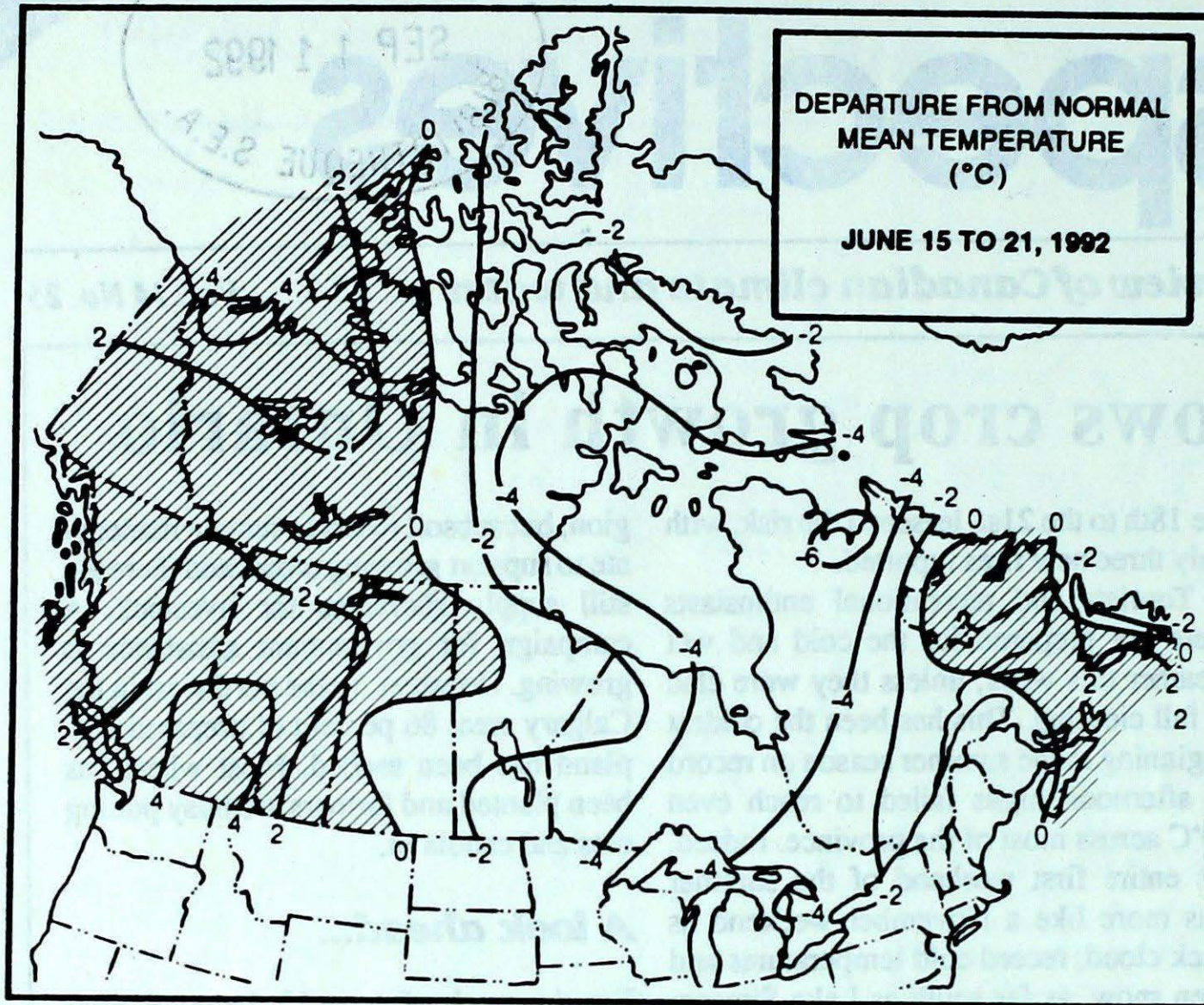
Cumulative Precipitation April 1 to June 17



Growing Degree Days April 1 to June 17



The warm, moist weather in 1991 provided near ideal conditions for agriculture



**Weekly normal
temperatures (°C)**

	max.	min.
Whitehorse A	18.9	5.7
Iqaluit A	7.5	0.8
Yellowknife A	18.4	8.4
Vancouver Int'l A	19.8	11.3
Victoria Int'l A	19.9	9.7
Calgary Int'l A	19.9	7.3
Edmonton Int'l A	21.3	7.8
Regina A	22.6	8.9
Saskatoon A	22.5	8.8
Winnipeg Int'l A	22.9	10.2
Ottawa Int'l A	24.0	12.5
Toronto (Pearson Int'l A)	24.0	11.8
Montréal Int'l A	24.0	13.5
Québec A	22.9	11.2
Fredericton A	23.5	10.3
Saint John A	19.6	8.7
Halifax (Shearwater)	18.7	9.5
Charlottetown A	20.3	10.2
Goose A	18.8	6.5
St John's A	17.1	6.8

Weekly temperature and precipitation extremes

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Lytton A 35	Dease Lake 0	Prince Rupert A 47
Yukon Territory	Watson Lake A 24	Shingle Point A -1	Whitehorse A 5
Northwest Territories	Hay River A 31	Shepherd Bay A -10	Cape Dyer A 20
Alberta	Fort McMurray A 29	Edson A 3	Fort McMurray A 24
Saskatchewan	Nipawin A 31	Wynyard 1	Prince Albert A 31
Manitoba	Lynn Lake A 30	Grand Rapids (aut) -4	Gretna (aut) 97
Ontario	Windsor A 32	Moosonee -3	Warton A 50
Quebec	Bagotville A 32	Inukjuak A -3	Kuujuarapik A 86
New Brunswick	St-Léonard A 29	St-Léonard A 2	Moncton A 43
Nova Scotia	Greenwood A 27	Greenwood A 4	Sydney A 57
Prince Edward Island	Charlottetown A 25	Charlottetown A 6	Charlottetown A 26
Newfoundland	Goose A 32	Wabush Lake A 0	Comfort Cove 77

Across The Country...

Highest Mean Temperature	Penticton A (B.C.) 22
Lowest Mean Temperature	Resolute A (N.W.T.) -3

92/06/15-92/06/21

CLIMATIC PERSPECTIVES
VOLUME 14

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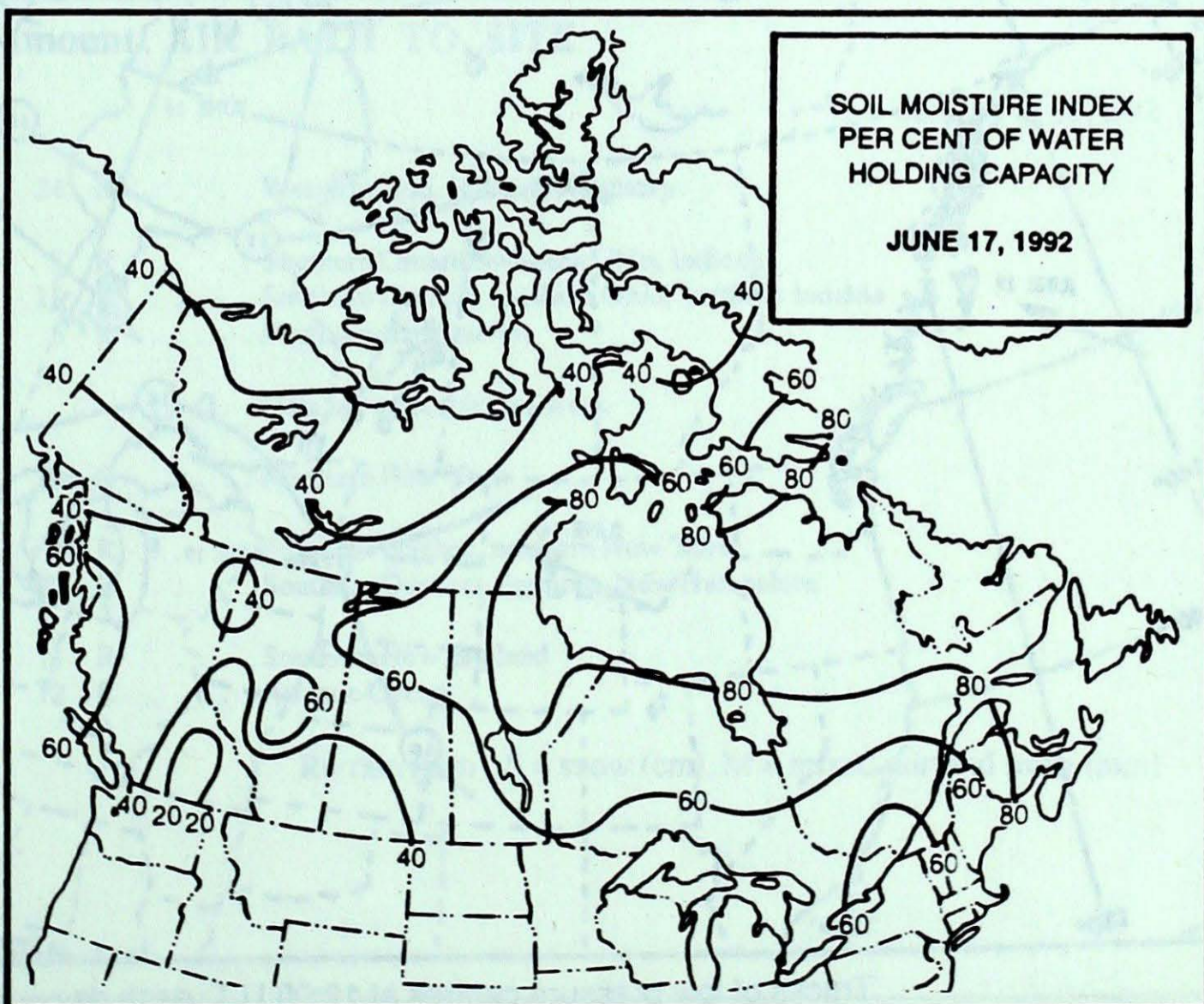
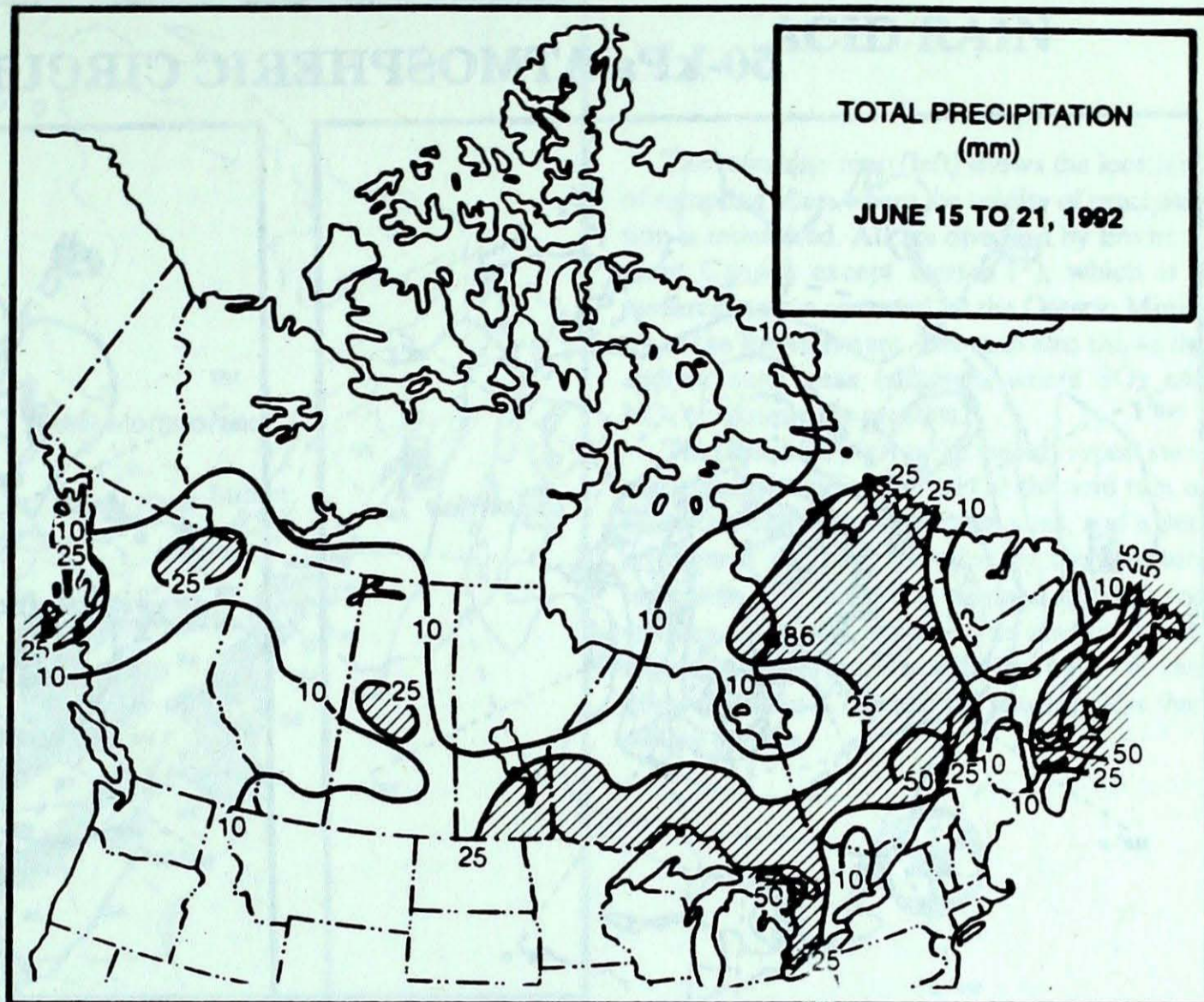
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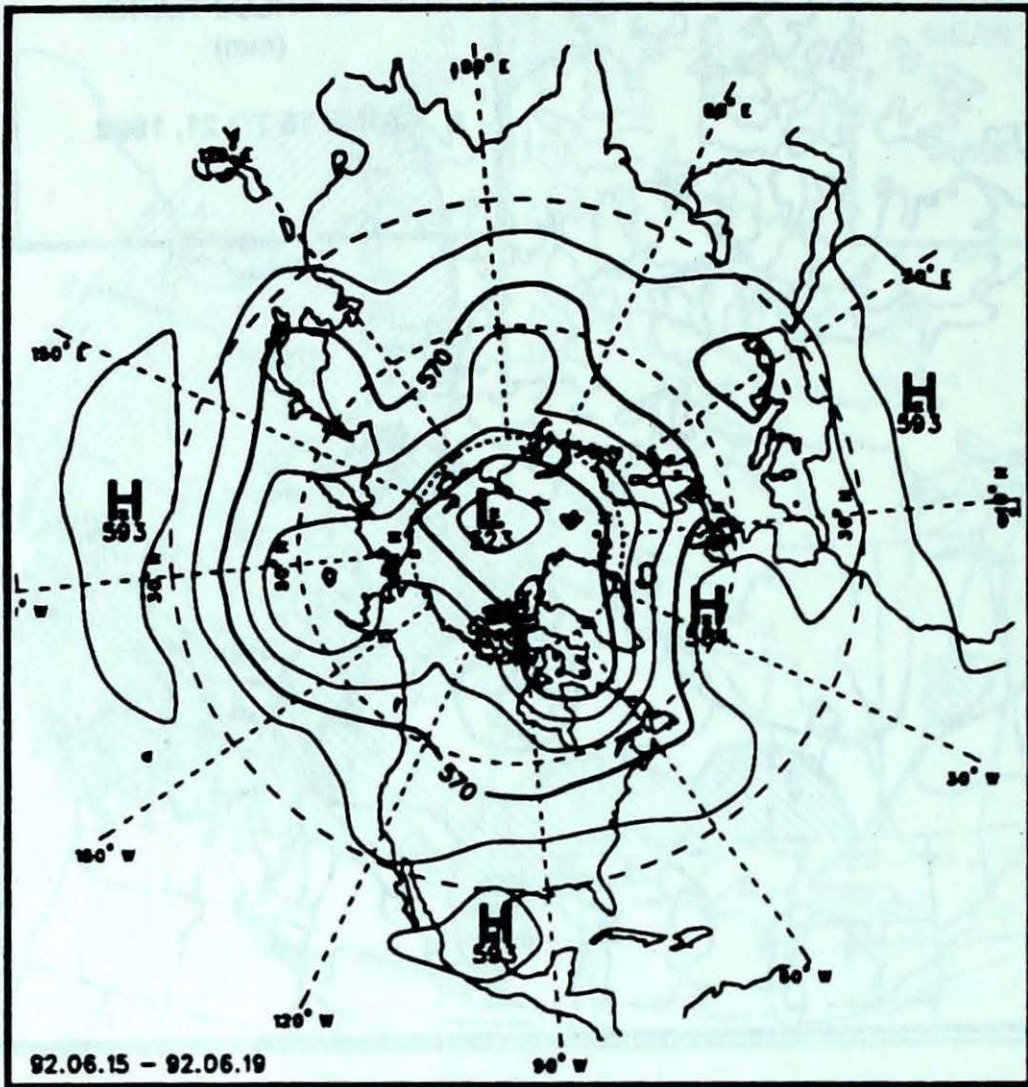
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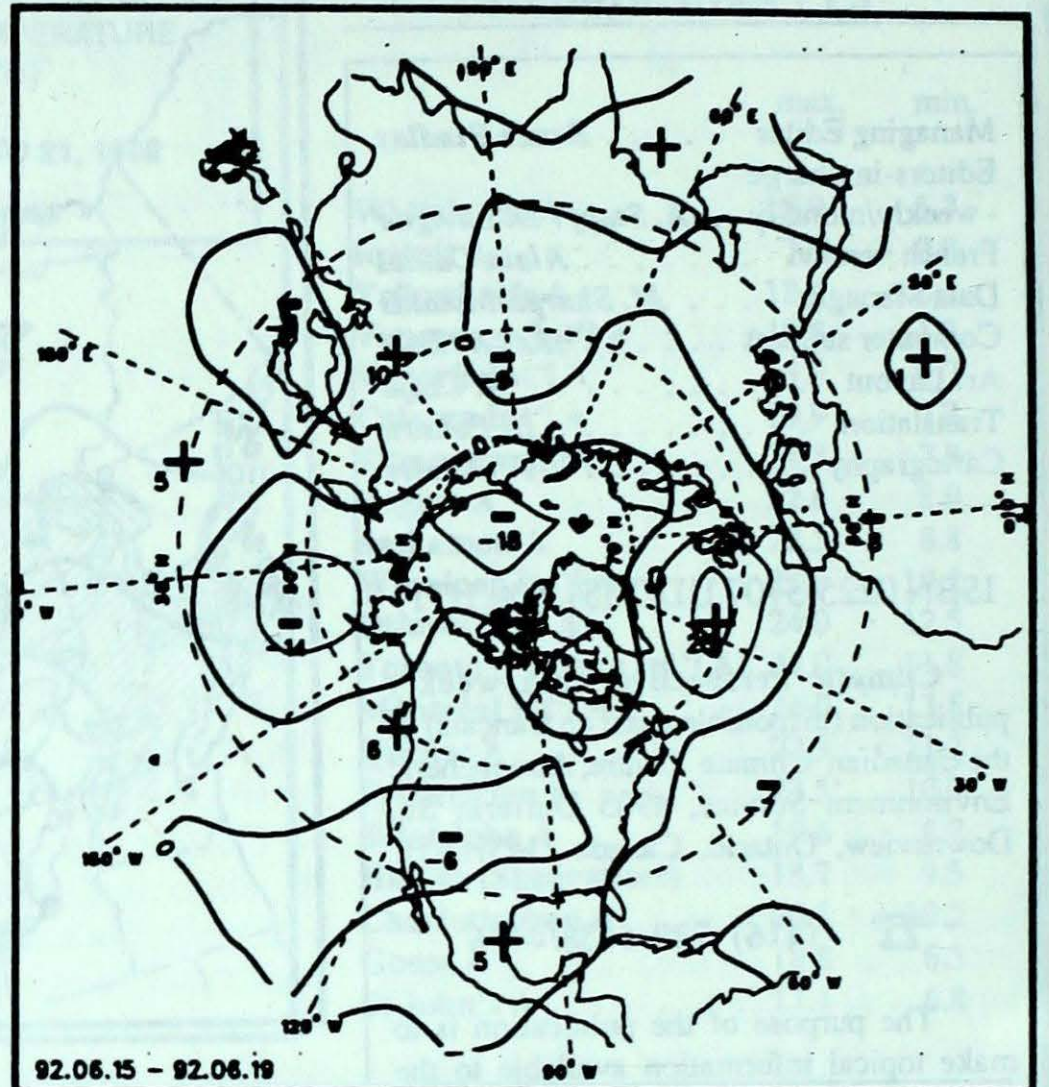
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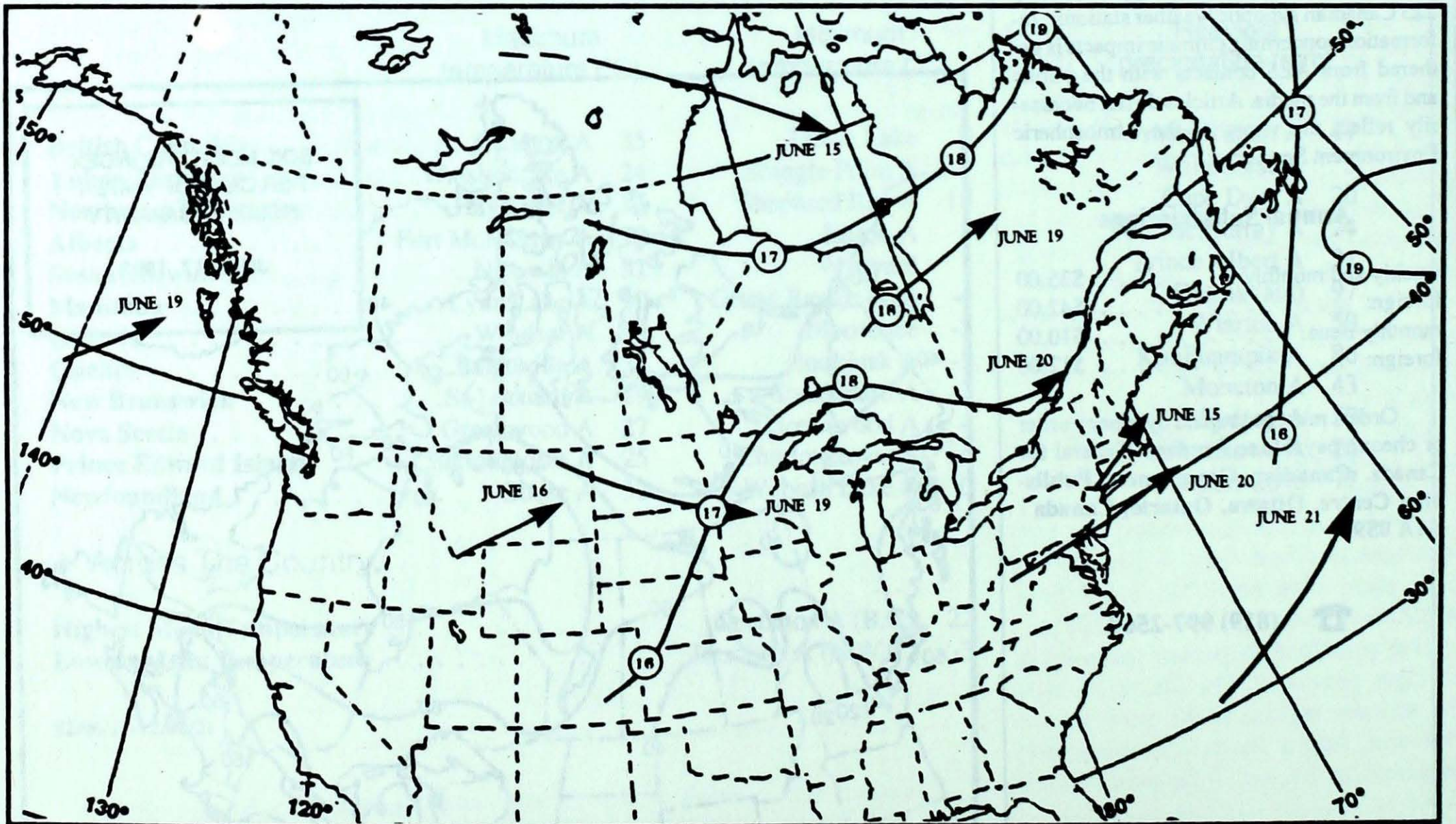
50-kPa ATMOSPHERIC CIRCULATION



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



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

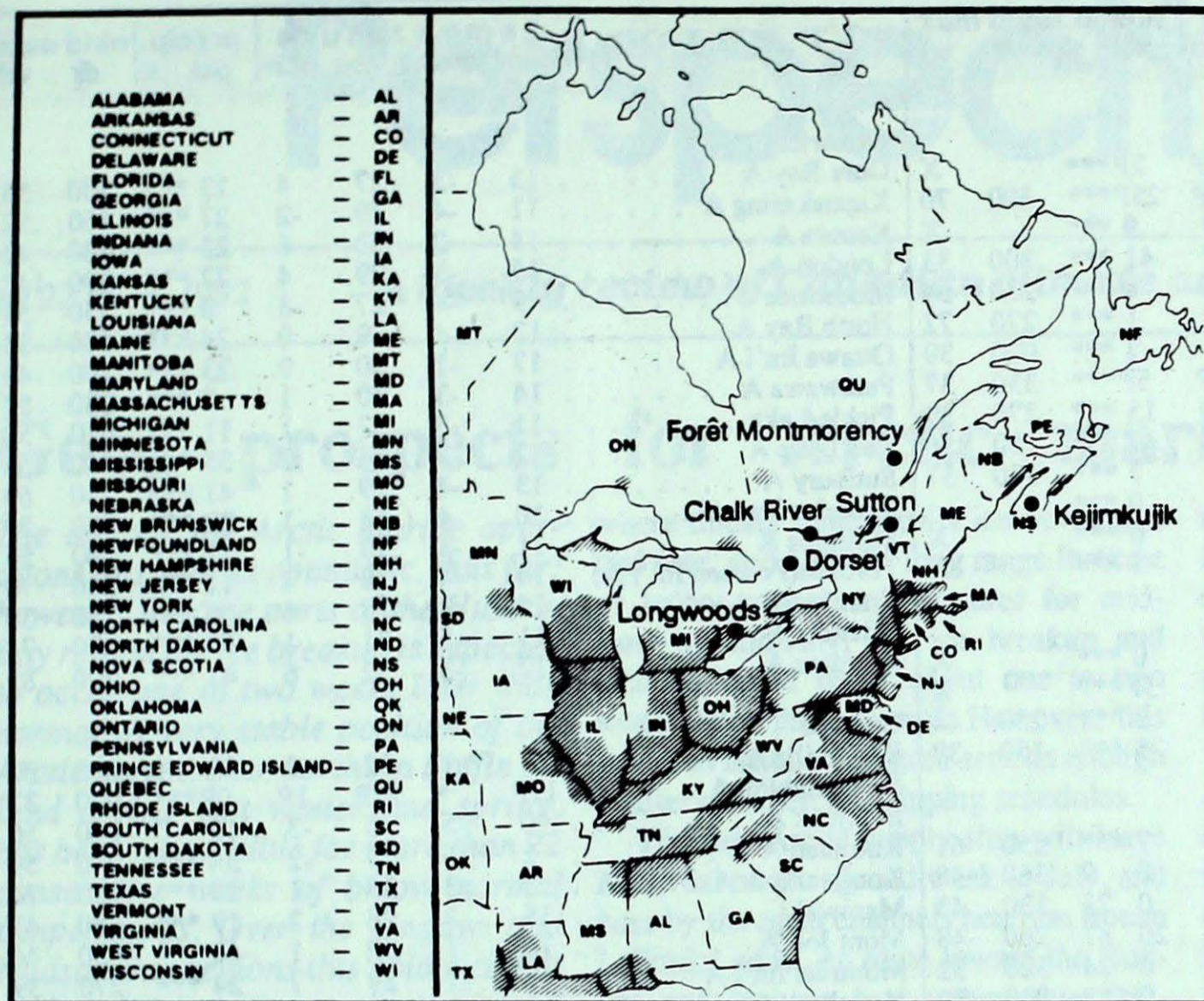


Tracks of low pressure centres at 12:00 U.T. each day during the period.

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.



SITE	day	pH	amount	AIR PATH TO SITE
------	-----	----	--------	------------------

June 14 to 20, 1992

Longwoods	17	4.3	24 R	Western Ohio, Indiana, Kentucky
Dorset *	17	3.9	3 R	Southern Ontario, western Ohio, Indiana
	18	4.7	15 R	Southern Ontario, northern Ohio, northern Indiana
	20	4.6	6 R	Northwestern Quebec
Chalk River				Data not available this week
Sutton	20	4.7	10 R	Northern New York
Montmorency	19	4.2	2 R	Southern Quebec, northern New York
	20	4.8	22 R	Southern Quebec, Vermont, New Hampshire
Kejimikujik	15	3.9	11 R	Southern New England
	20	4.9	12 R	Atlantic Ocean

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	18P	3P	30P	3P	2P***		X	Gore Bay A	13	-3	27	4	13 ***	200	56								
Cape St James	11P	0P	16P	8P	25P***	300	70	Kapuskasing A	11	-4	29	-2	27 ***	160	52								
Cranbrook A	20	4	31	9	9 ***		X	Kenora A	14	-2	23	6	23 ***	100	43								
Fort Nelson A	17	2	29	7	41 ***	300	33	London A	15	-3	29	4	27 ***	290	148								
Fort St John A	18	4	27	10	4 ***	230	54	Moosonee	9	-4	27	-3	8 ***	350	54								
Kamloops A	*		34	12	1 ***	270	72	North Bay A	12	-4	29	0	24 ***	180	54								
Penticton A	22	5	33	11	2 ***	020	39	Ottawa Int'l A	17	-1	30	9	23 ***	200	44								
Port Hardy A	13P	1P	23P	7P	5P***	330	37	Petawawa A	14	-3	30	1	7 ***	280	52								
Prince George A	17	4	25	6	15 ***	270	39	Pickle Lake	11	-3	27	-1	11 ***	010	54								
Prince Rupert A	12	1	15	7	47 ***	150	56	Red Lake A	12	-3	24	2	35 ***	360	56								
Smithers A	14	1	22	5	7 ***	330	37	Sudbury A	13	-4	29	1	41 ***	230	69								
Vancouver Int'l A	17	2	26	11	0 ***		X	Thunder Bay A	10	-4	18	-1	22 ***	080	56								
Victoria Int'l A	17	2	29	10	0 ***		X	Timmins A	11	-4	29	-1	21 ***	180	56								
Williams Lake A	17	2	26	5	5 ***		X	Toronto(Pearson Int'l A)	14	-4	28	7	11 ***	240	70								
Yukon Territory								Québec															
Komakuk Beach A	6	2	17	0	0 ***		X	Bagotville A	15	-1	32	0	52 ***	220	37								
Teslin (aut)	11P	*	19P	3P	3P***		X	Blanc Sablon A	11P	*	22P	1P	0P***	070	37								
Watson Lake A	14	1	24	3	3 ***	250	44	Inukjuak A	0	-5	5	-3	12 3	040	56								
Whitehorse A	12	0	21	5	5 ***	150	39	Kuujuuaq A	2	-6	7	-2	34 ***	270	59								
Northwest Territories								New Brunswick															
Alert	-1	-1	7	-7	7 ***	250	61	Fredericton A	16	-1	28	2	11 ***	300	44								
Baker Lake A	1	-4	7	-3	0 9	360	48	Miscou Island (aut)	13P	-2P	23P	3P	0P***										
Cambridge Bay A	2	-1	8	-4	0 21	130	43	Moncton A	16	0	27	2	43 ***	020	37								
Cape Dyer A	-2	-3	4	-6	20 81	260	48	Saint John A	14	0	24	5	26 ***	020	41								
Clyde A	0	-2	4	-5	6 24	320	52	Nova Scotia															
Coppermine A	9	6	24	-3	0 ***	090	39	Greenwood A	16	0	27	4	11 ***	270	37								
Coral Harbour A	-2	-5	3	-7	0 43	310	57	Shearwater A	16	2	25	8	5 ***	360	44								
Eureka	1	-2	8	-7	0 3		X	Sydney A	14	-1	23	6	57 ***	340	50								
Fort Smith A	15P	1P	30P	5P	17P***	210	50	Yarmouth A	14P	1P	22P	6P	8P***	240	46								
Hall Beach A	-2	-3	1	-6	2 28	320	44	Prince Edward Island															
Inuvik A	16	5	26	5	1 ***	030	48	Charlottetown A	16	1	25	6	26 ***	030	37								
Iqaluit A	1	-4	5	-6	3 5	320	48	East Point (auto)	12P	*	17P	8P	****										
Mould Bay A	1	1	10	-4	1 10		X	Newfoundland															
Norman Wells A	16	1	28	7	4 ***	110	44	Cartwright	11	2	30	2	0 ***	210	67								
Resolute A	-3	-4	2	-9	0 22	030	50	Churchill Falls A	12	1	29	1	3 3	190	56								
Yellowknife A	14	1	23	5	0 ***	160	37	Gander Int'l A	10	-3	21	1	72 ***	360	59								
Alberta								92/06/15-92/06/21															
Calgary Int'l A	16	3	27	6	5 ***	360	52	Environment Canada Environnement															
Cold Lake A	16	1	28	6	22 ***	290	41	CLIMATIC PERSPECTIVES : A WEEKLY REVIEW OF CA															
Edmonton Namao A	18	3	27	9	1 ***	280	50	NADIAN CLIMATE AND WEATHER															
Fort McMurray A	16	2	29	7	24 ***	300	54	Vol: 14 No: 25 Date: 920615															
High Level A	16P	1P	27P	5P	9P***	310	41	1005959D															
Jasper	17	4	27	4	4 ***		X	OTM															
Lethbridge A	18	2	28	9	13 ***	320	44	COPY 1 ARCH															
Medicine Hat A	18	2	29	10	7 ***		X																
Peace River A	17	2	27	5	1 ***	270	52																
Saskatchewan								Manitoba															
Cree Lake	15	2	29	4	12 ***	200	48	Brandon A	13	-3	24	1	17 ***	350	48								
Estevan A	16	0	26	7	18 ***	330	56	Churchill A	5	-3	17	-2	3 ***	070	48								
La Ronge A	15	1	27	3	12 ***	040	41	Lynn Lake A	15	2	30	0	0 ***	020	46								
Regina A	16	1	29	8	12 ***	320	57	The Pas A	13	-2	28	2	2 ***	050	41								
Saskatoon A	16	0	30	7	3 ***	310	52	Thompson A	14	1	29	-1	0 ***	040	63								
Swift Current A	16	1	27	7	23 ***	300	59	Winnipeg Int'l A	14	-2	25	4	23 ***	020	50								
Yorkton A	14	-1	27	5	17 ***	050	32																

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

ptot = weekly precipitation
 st = snow thickness on
 dir = direction of max wi
 vel = wind speed in km

no observation
 less than 7 days of data
 1005959D