

Climatic Perspectives

MONTHLY SUPPLEMENT INCLUDED

A weekly review of Canadian climate

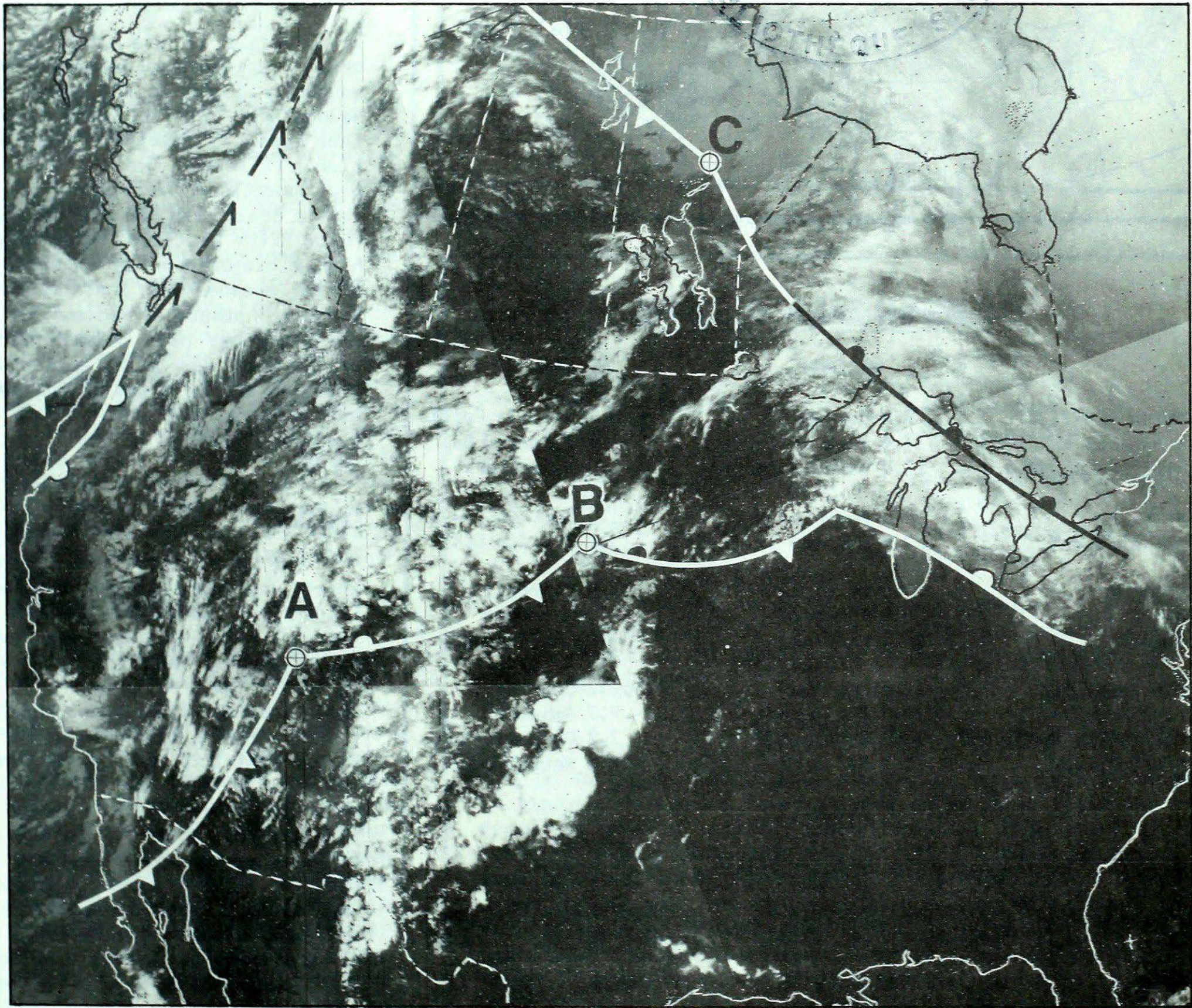
April 16 to 22, 1985

Vol.7 NO.16

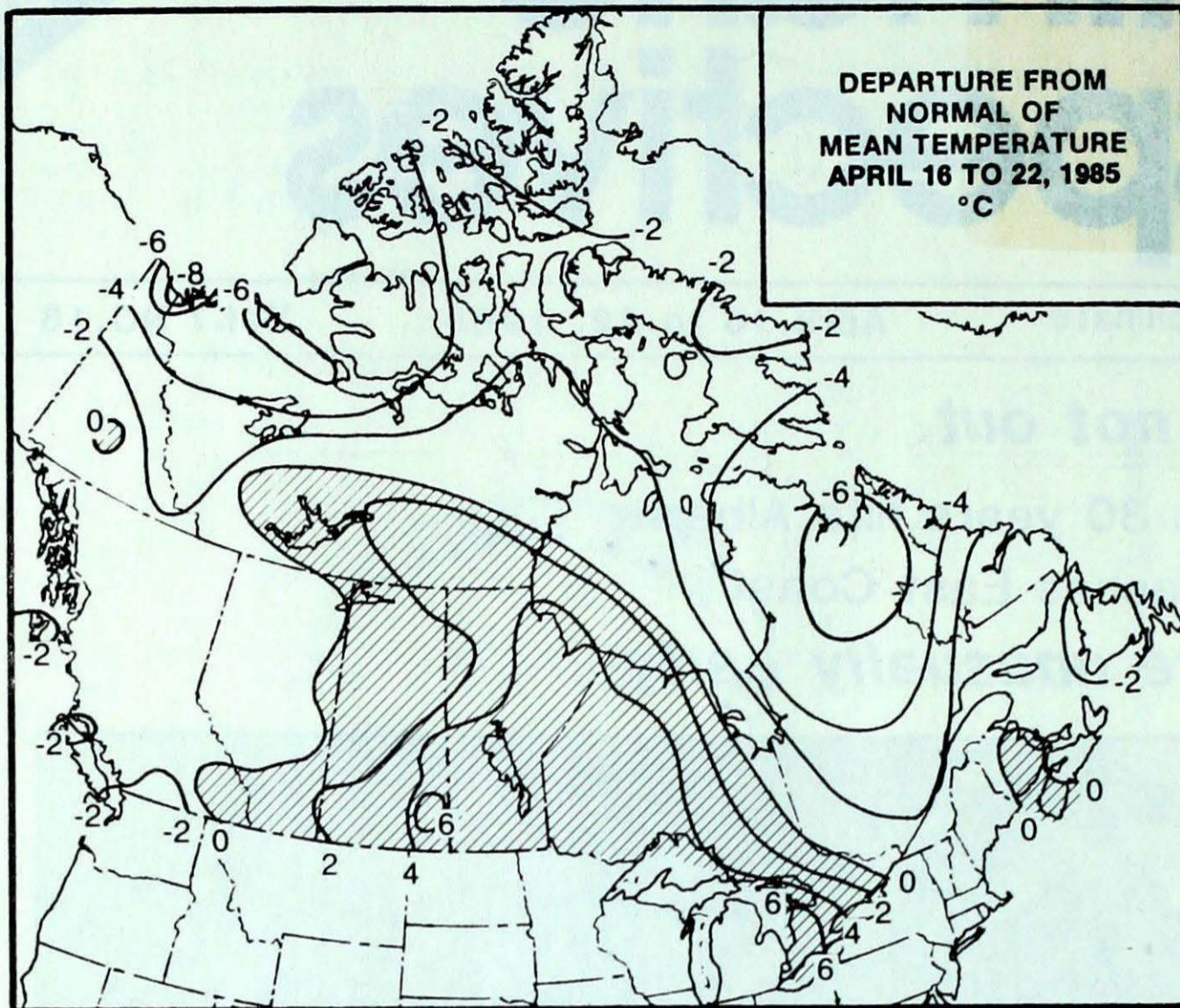
- **Winter down but not out**

- Worst snowstorm in 30 years hits Alberta
- Late winter storm lashes East Coast

- **Ontario heat wave unusually early**



A rather disorganized storm centred over Utah (A) in this NOAA 9 satellite image of April 18, 1985 developed 3 days later into a major snowstorm over Alberta. See page 3 for more details.

**ACROSS THE COUNTRY...****Yukon and Northwest Territories**

Temperatures were unseasonably cool across much of the north, but readings in the Mackenzie District did manage to reach 11°C around mid-week. Windy and relatively mild weather in the Yukon has significantly reduced the snow cover, although snow depths are still well above normal for this time of year. Locations on Baffin Island reported between 50 and 100 centimetres of snow on the ground, while elsewhere snow depths of 20 and 60 centimetres were more common.

British Columbia

Overall it was unsettled and cool. Precipitation continues to be unusually light in the north. Fort Nelson and Fort St. John received less than a millimetre of precipitation all month. Due to favourably dry conditions, harvesting of last year's grain crop has started in the Peace River District. Heavy snow at higher elevations has extended the skiing season. The installation of forestry observing sites in the Kootenays has been delayed because of the heavy snow pack. Apricots and cherries are in bloom in the southern valleys, but concern has been expressed because of cool temperatures.

Prairies

The worst April snow storm in thirty years hit Alberta. Snow began Friday and continued through the weekend, while temperatures hovered near freezing. Heaviest falls of 40 to 50 centimetres occurred in central Alberta. Elsewhere, snowfall ranged from a trace in the Peace River District, 10 to 20 cm in southern Alberta and 30 to 40 cm near Edmonton and Coronation. No 24-hour April snowfall records were established at Cold Lake and Fort McMurray. Strong winds resulted in poor visibilities, and several highways were closed. In contrast, most of Saskatchewan, except the north, was deluged with, 30 to 50 mm of rain. In Manitoba sunny and very warm weather conditions gave way to a cloudy and showery weekend.

WEEKLY TEMPERATURE EXTREMES (°C)

	MAXIMUM	MINIMUM
YUKON TERRITORY	9.0 Dawson	-36.2 Shingle Point
NORTHWEST TERRITORIES	11.4 Fort Reliance	-39.4 Shepherd Bay
BRITISH COLUMBIA	17.0 Saturna Island	-11.0 Dease Lake
ALBERTA	20.0 Medicine Hat	-11.0 Fort Chipewyan
SASKATCHEWAN	27.0 Estevan	-21.1 Uranium City
MANITOBA	27.0 Winnipeg	-31.8 Churchill
ONTARIO	30.3 Toronto	-24.6 Moosonee
QUÉBEC	23.7 Maniwaki	-33.6 Kuujuarapik
NEW BRUNSWICK	21.3 Chatham	-10.2 Charlo
NOVA SCOTIA	18.4 Shelburne	- 7.7 Amherst
PRINCE EDWARD ISLAND	18.4 Summerside	- 7.2 Charlottetown
NEWFOUNDLAND	12.3 St. John	-22.0 Wabush Lake

ACROSS THE NATION

Warmest mean temperature	16.6	Windsor, ONT
Coollest mean temperature	-26.7	Eureka, NWT

Ontario

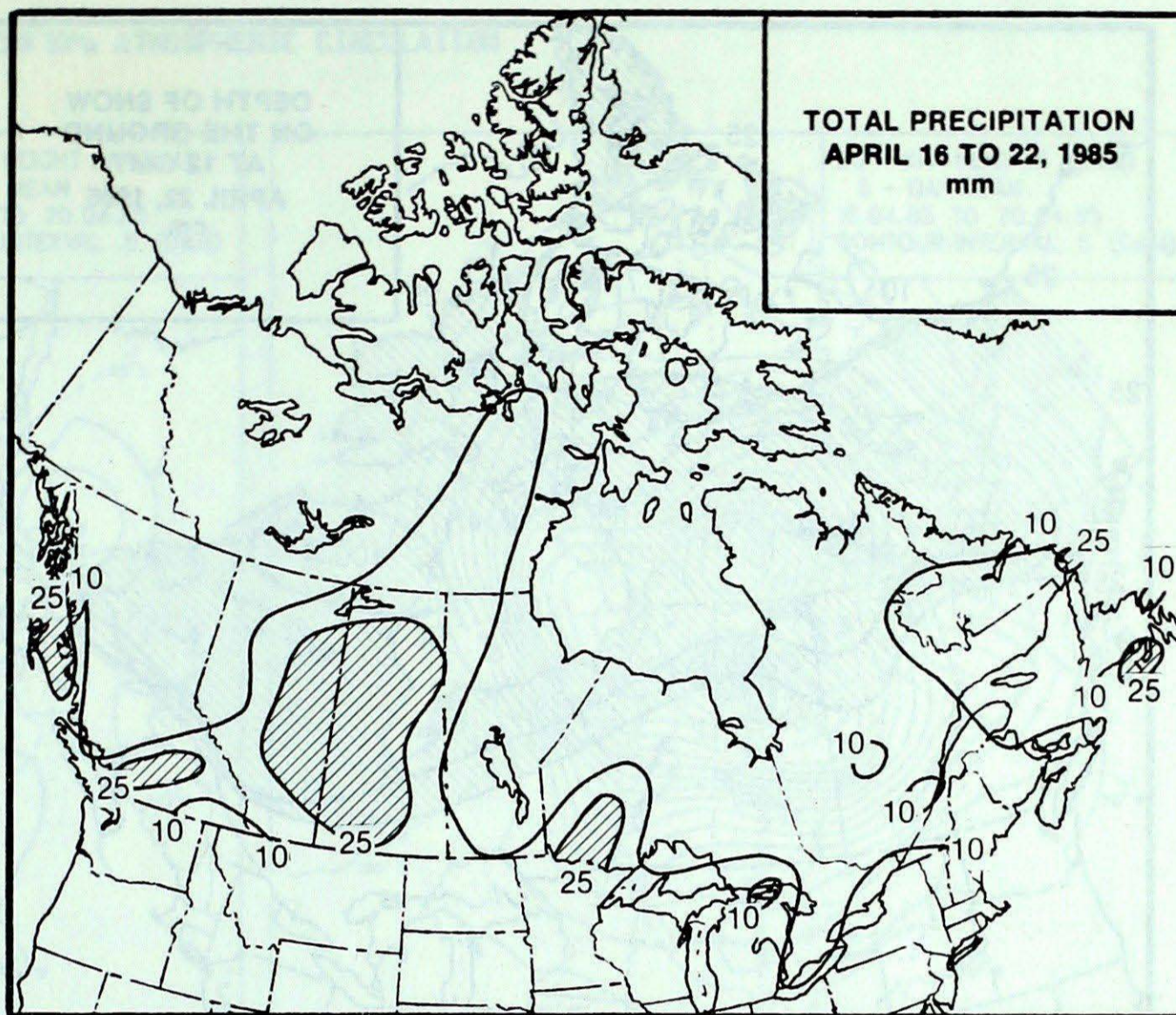
Very warm air gradually pushed up from the U.S. southwest, but not before heavy thunderstorm activity moved across southern and central Ontario on April 18 and 19. Hail was reported in many localities. North Bay was hardest hit, with hail 2 cm in diameter. During the early part of the week, several new minimum temperature records were set in the north, as low as -25°C at Moosonee. In contrast, numerous maximum temperature records were broken after mid-week in southern and central Ontario. On April 22, the mercury at Toronto soared to 30.3°C , a new monthly record.

Québec

Unseasonably cool weather conditions plagued the province. Several daily low temperature records were broken. Only the extreme southwest corner of the province experienced near seasonal temperatures. Southern portions of the province received 10 to 30 mm of precipitation. More than 20 cm of fresh snow fell in the Gaspé and along the North Shore. Blowing snow forced many rural schools to close. On April 16 and 17, winds gusting to 113 km/h along the lower north coast caused structural damage to buildings and several light planes. A fishing boat capsized near Havre St-Pierre in the Gulf of St. Lawrence, taking five lives.

Atlantic Provinces

The Maritimes were sunny and dry. Temperatures climbed briefly to the mid-teens early in the week, but by mid-week unseasonably cool weather returned. Numerous long-standing low temperature records were broken in Atlantic Canada. On April 18th, an intensifying disturbance stalled off the Labrador coast. Strong westerly winds swept across the region. In New Brunswick gusts in excess of 100 km/h overturned small aircraft, damaged buildings and caused power outages. More than 45 cm of snow blanketed Labrador. Blizzard condition persisted for two days in some districts. Some areas in western Newfoundland had record snowfalls.

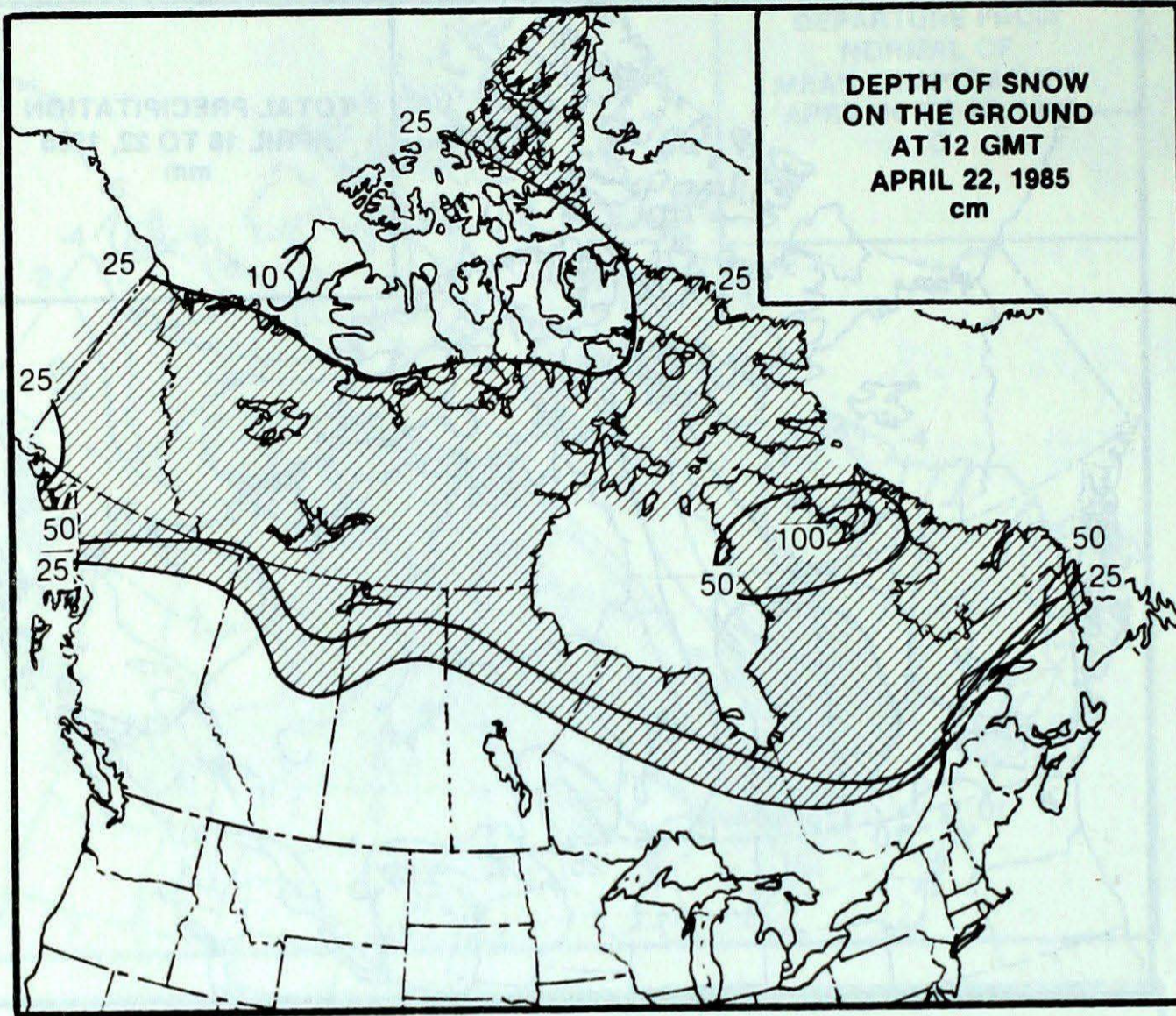


HEAVIEST WEEKLY PRECIPITATION (mm)

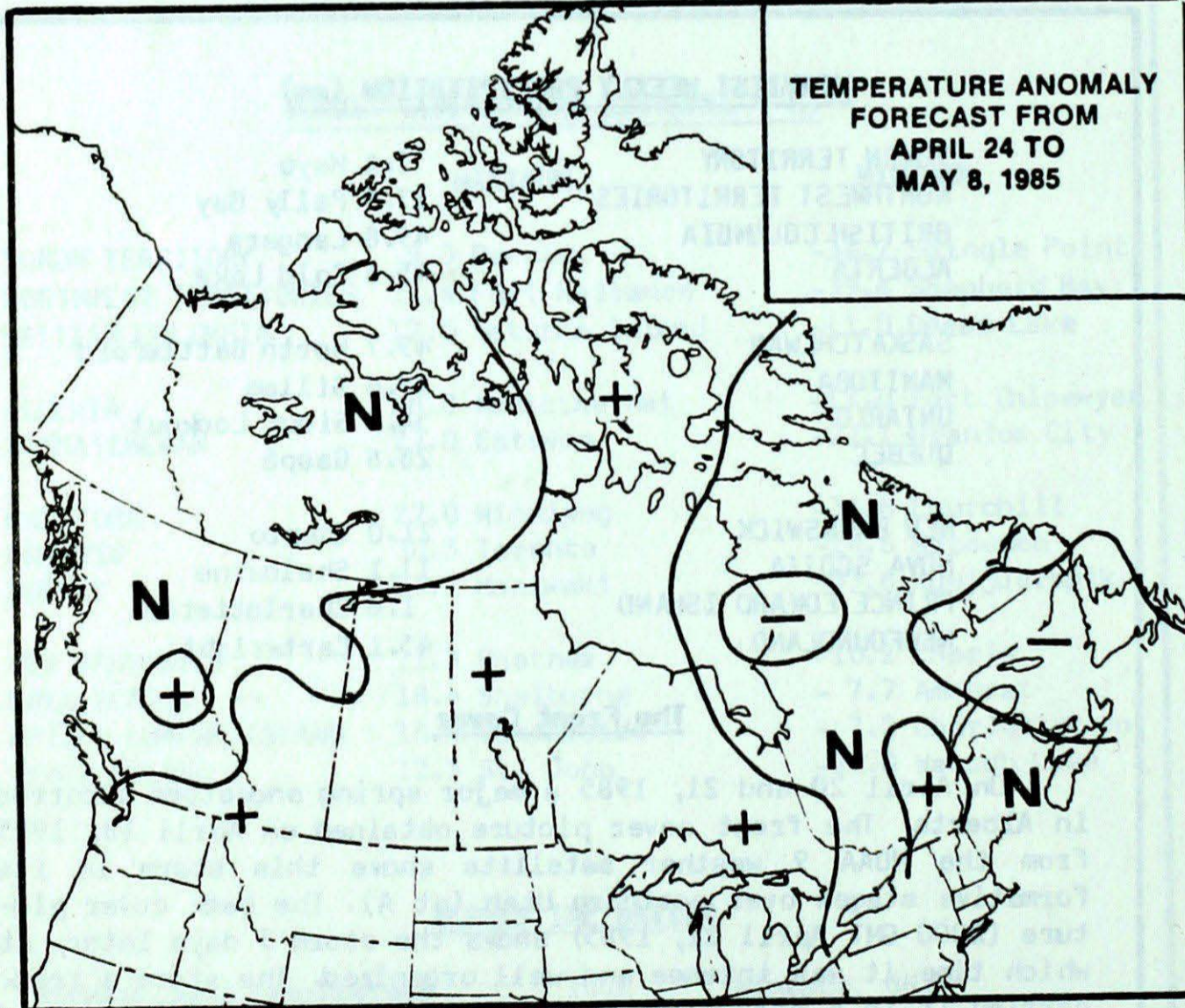
YUKON TERRITORY	2.4 Mayo
NORTHWEST TERRITORIES	17.0 Pelly Bay
BRITISH COLUMBIA	49.8 Langara
ALBERTA	45.6 Cold Lake
SASKATCHEWAN	49.7 North Battleford
MANITOBA	15.6 Gillam
ONTARIO	54.5 Sioux Lookout
QUÉBEC	28.6 Gaspé
NEW BRUNSWICK	21.0 Charlo
NOVA SCOTIA	11.1 Shelburne
PRINCE EDWARD ISLAND	1.6 Charlottetown
NEWFOUNDLAND	45.1 Cartwright

The Front Cover

On April 20 and 21, 1985 a major spring snowstorm occurred in Alberta. The front cover picture obtained on April 18, 1985 from the NOAA 9 weather satellite shows this storm in its formative stages over northern Utah (at A). The back cover picture (2000 GMT April 21, 1985) shows the storm 3 days later, at which time it was intense and well organized. The storm's track carried it in a northwards curve from Utah, across Colorado and North Dakota into Saskatchewan (the path followed by the storm centre is shown by dashed line). Arctic air, drawn into the storm spiral from the north, was responsible for up to 45 cm of snow in parts of Alberta, while a southerly flow across Saskatchewan resulted in rain.



DEPTH OF SNOW
ON THE GROUND
AT 12 GMT
APRIL 22, 1985
cm



TEMPERATURE ANOMALY
FORECAST FROM
APRIL 24 TO
MAY 8, 1985

Temperature Anomaly Forecast

- ++ much above normal
- + above normal
- N normal
- below normal
- much below normal

This forecast is prepared by searching historical weather maps to find cases similar to the present. The historical outcome during the 15 days subsequent to the chosen analogues is assumed to be a forecast for the next 15 days from now.

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Unsolicited articles are welcome but should be at maximum about 1500 words in length. They will be subject to editorial change without notice due to publishing time constraints. Black and white photographs can be used, but not colour. The contents may be reprinted freely with proper credit.

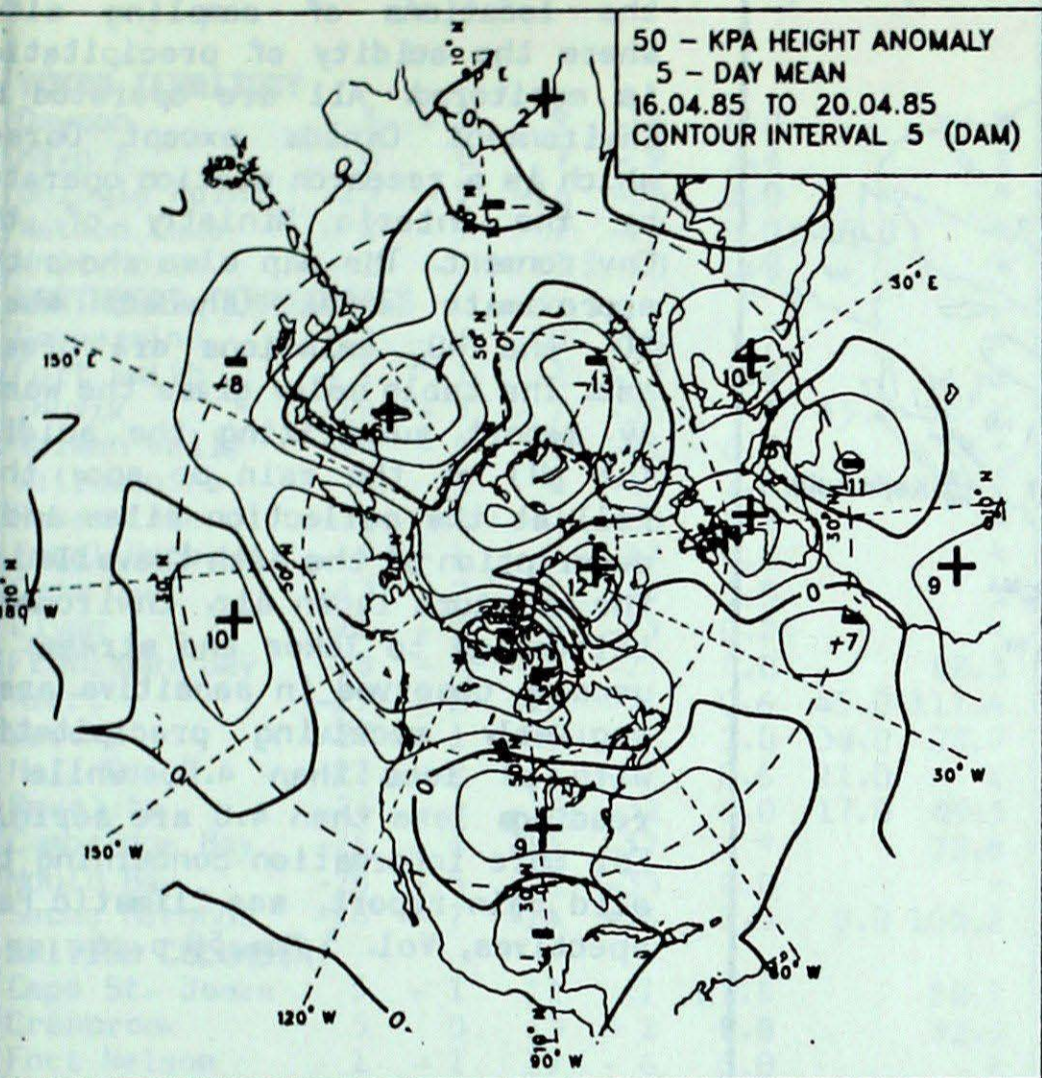
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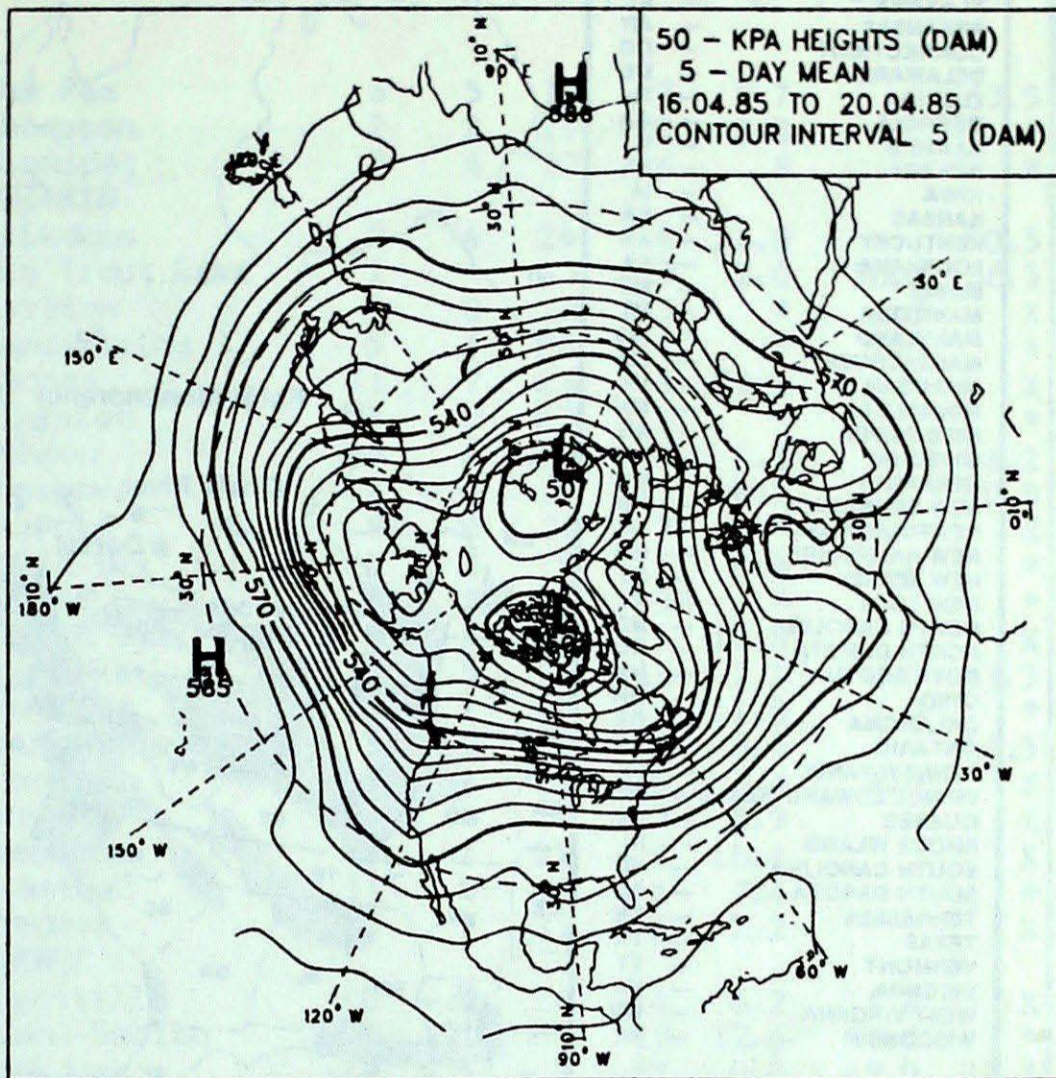
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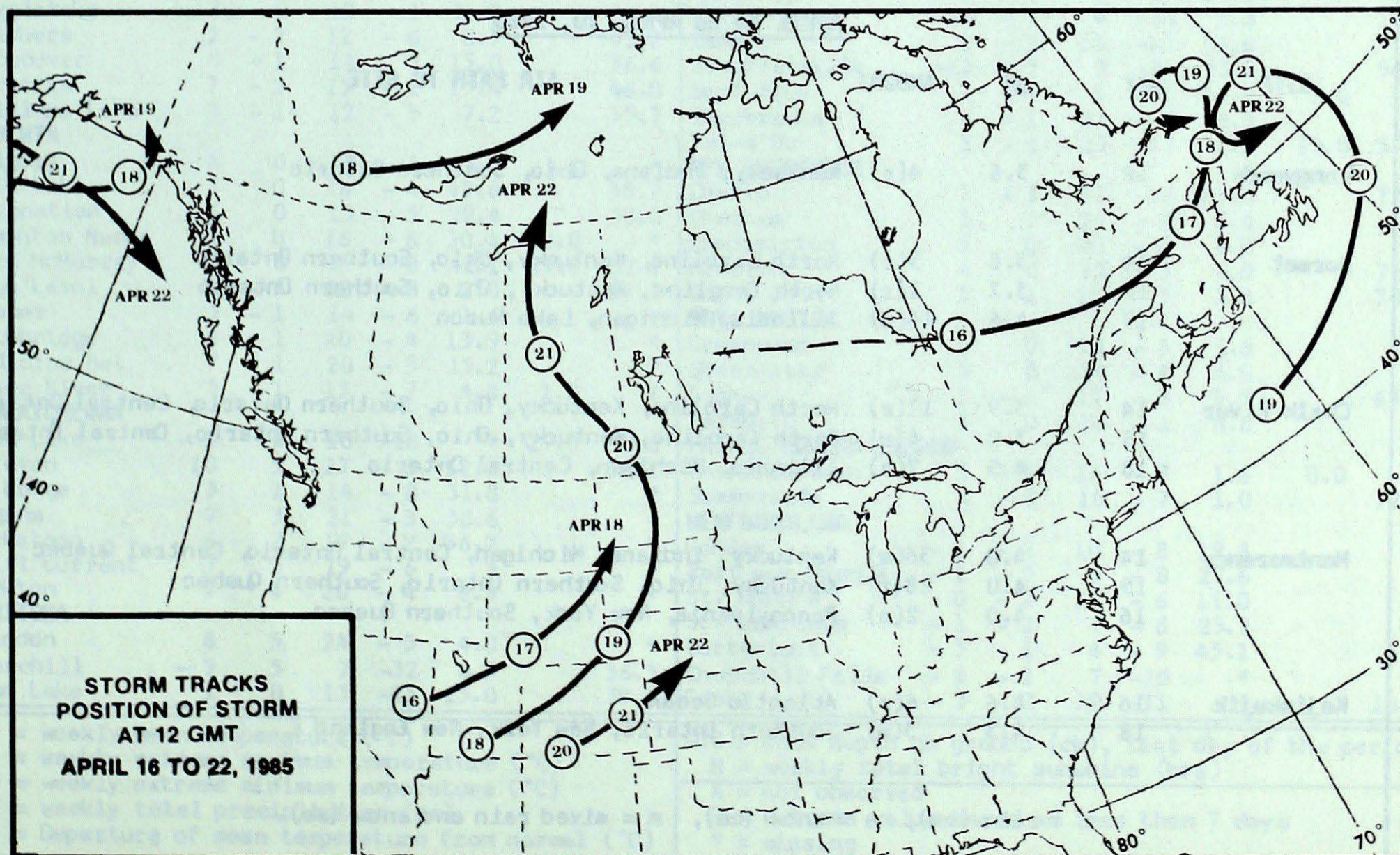
50 KPa ATMOSPHERIC CIRCULATION



MEAN 50 KPa HEIGHT ANOMALY (dam)
April 16 to April 20, 1985

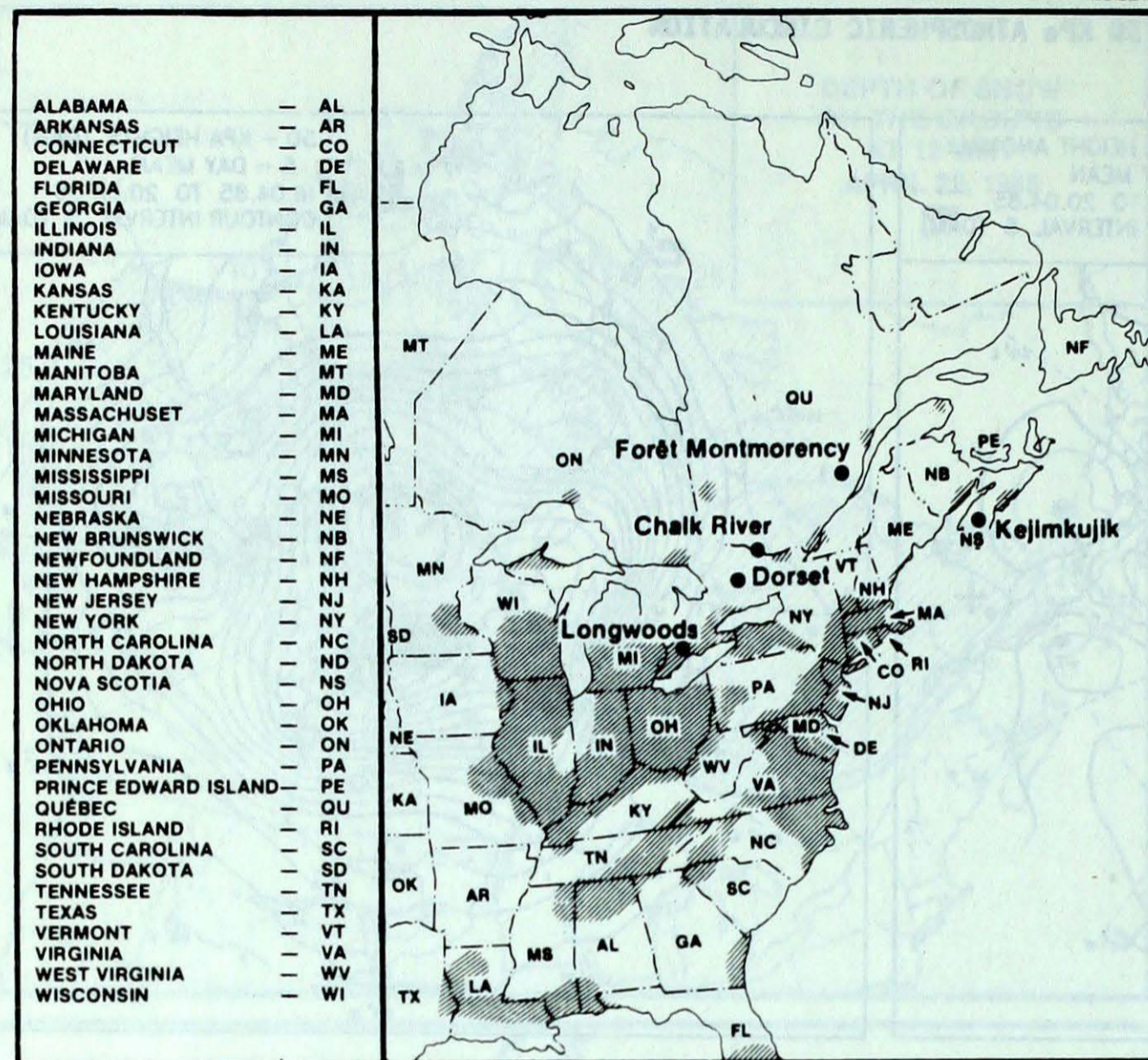


MEAN 50 KPa HEIGHTS (dam)
April 16 to April 20, 1985



STORM TRACKS
POSITION OF STORM
AT 12 GMT
APRIL 16 TO 22, 1985

ACID RAIN REPORT



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 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 less than 4.7, while pH readings less than 4.0 are serious. For more information concerning the acid rain report, see Climatic Perspectives, Vol. 5 No. 50 p. 6.

APRIL 14 to APRIL 20, 1985

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	19	3.6	4(r)	Kentucky, Indiana, Ohio, Southern Ontario
Dorset	14	3.8	5(r)	North Carolina, Kentucky, Ohio, Southern Ontario
	15	3.7	1(r)	North Carolina, Kentucky, Ohio, Southern Ontario
	17	4.6	14(m)	Illinois, Michigan, Lake Huron
Chalk River	14	3.9	11(r)	North Carolina, Kentucky, Ohio, Southern Ontario, Central Ontario
	15	3.8	4(r)	North Carolina, Kentucky, Ohio, Southern Ontario, Central Ontario
	18	4.5	7(r)	Illinois, Michigan, Central Ontario
Montmorency	14	4.0	36(m)	Kentucky, Indiana, Michigan, Central Ontario, Central Quebec
	15	4.0	28(r)	Kentucky, Ohio, Southern Ontario, Southern Quebec
	16	4.0	2(m)	Pennsylvania, New York, Southern Quebec
Kejimikujik	16	4.6	6(r)	Atlantic Ocean
	18	4.3	3(m)	Southern Ontario, New York, New England

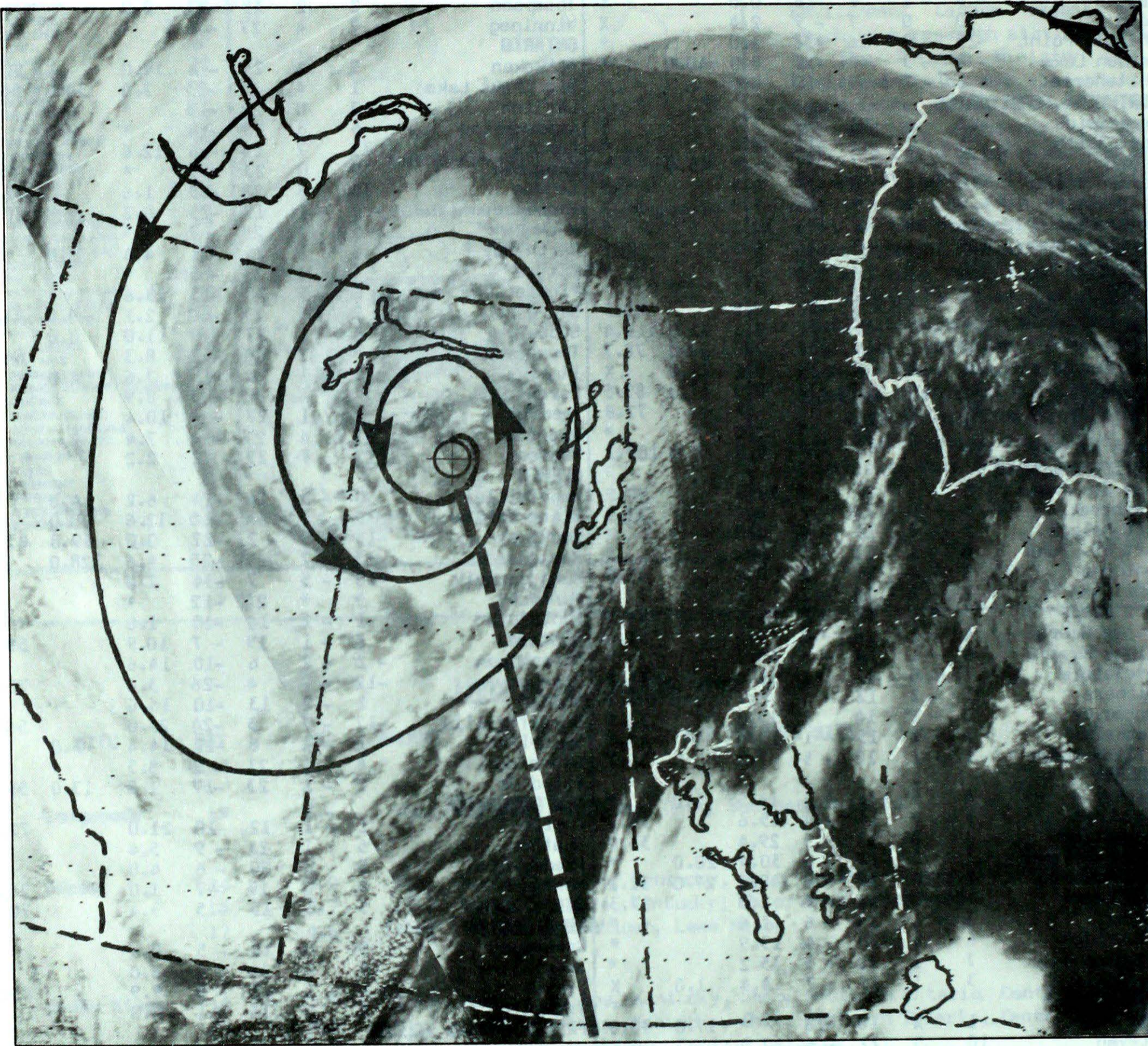
r = rain (mm), s = snow (cm), m = mixed rain and snow (mm).

TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT APRIL 23, 1985

STATION	TEMP				PRECIP		SUN	STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H		Av	Dp	Mx	Mn	Tp	SOG	H
YUKON TERRITORY								The Pas	6	5	17	-7	6.7		63.5
Dawson	-3	-2	9	-16	0.0		X	Thompson	2	2	15	-27	9.0		*
Mayo A	0	0	7	-9	2.4		X	Winnipeg	7	4	27	-6	*		*
Shingle Point	-25	-9	-16	-36	1.0		*	ONTARIO							
Watson Lake	-2	-3	7	-12	0.0	40.0	*	Atikokan	9	4	24	-4	34.0		50.5
Whitehorse	-1	-2	7	-10	0.0		*	Big Trout Lake	1	4	13	-23	2.0	30.0	50.3
NORTHWEST TERRITORIES								Earlton	3	0	22	-13	*	6.0	X
Coppermine	-22	-6	-10	-30	3.7		*	Kapuskasing	5	3	28	-14	*	2.0	*
Fort Smith	-1	1	11	-12	8.4		*	Kenora	11	7	24	-6	12.6		X
Inuvik	-19	-5	-7	-35	*	45.0	*	Kingston	7	0	23	-5	*		*
Norman Wells	-10	-4	0	-21	0.5		*	London	14	6	28	-3	1.6		56.2
Yellowknife	-5	2	9	-23	2.8		58.7	Moosonee	-2	-1	19	-25	8.2		60.5
Baker Lake	-16	0	-2	-33	10.2		*	Muskoka	9	3	28	-7	*		X
Coral Harbour	-16	-1	-5	-37	6.6		*	North Bay	6	1	25	-11	4.4	0.0	*
Cape Dyer	-13	2	-2	-27	3.0		X	Ottawa	*	*	23	-5P	*		*
Clyde	-21	-3	-9	-33	0.2		*	Pickle Lake	6	5	20	-15	18.6		X
Frobisher Bay	-18	-5	-6	-27	0.8		88.3	Red Lake	7	5	23	-10	2.1	0.0	41.3
Alert	-25	-2	-15	-31	0.6	45.0	111.4	Sudbury	6	1	27	-10	11.0	0.0	*
Eureka	-27	-1	-19	-38	2.0	38.0	78.7	Thunder Bay	5	2	18	-2	8.3		44.5
Hall Beach	-22	-2	-9	-37	0.6	21.0	X	Timmins	5	1	26	-15	3.6	4.0	X
Resolute	-26	-4	-16	-32	0.0	17.0	89.5	Toronto	11	4	30	-3	8.9		X
Cambridge Bay	-26	-6	-13	-37	*		72.8	Trenton	9	1	27	-4	10.4		X
Mould Bay	-28	-5	-21	-35	0.0		*	Warton	11	4	27	-4	7.4		*
Sachs Harbour	-26	-7	-14	-36	0.0	8.0	105.2	Windsor	17	7	29	2	2.2		X
BRITISH COLUMBIA								QUEBEC							
Cape St. James	5	-1	11	1	17.8		50.9	Bagotville	0	-3	14	-14	6.2	4.0	X
Cranbrook	5	0	13	-2	8.0		32.3	Blanc-Sablon	-3	-1	4	-10	12.6	30.0	*
Fort Nelson	1	-2	13	-6	0.0		*	Inukjuak	-15	-5	-2	-27	0.0	69.0	83.3
Fort St. John	4	1	11	-3	0.0		X	Kuujuuaq	-15	-7	-5	-25	4.6	128.0	*
Kamloops	8	-1	16	-2	0.2		33.0	Kuujuarapik	-10	-5	7	-34	2.0		*
Penticton	7	-2	16	-2	*		*	Maniwaki	*	*	24P	-12	*		*
Port Hardy	5	-2	10	-1	18.4		36.3	Mont-Joli	1	-2	14	-10	1.8		*
Prince George	4	-1	14	-6	4.5		51.4	Montréal	6	-1	19	-7	10.9		52.4
Prince Rupert	4	-1	10	-2	35.7		*	Natashquan	-2	-2	6	-10	14.6		*
Revelstoke	7	0	12	1	32.0		14.3	Nitchequon	-12	-7	4	-26	3.6		75.7
Smithers	3	-2	12	-6	0.7		41.2	Québec	2	-2	13	-10	16.6		*
Vancouver	8	-1	14	1	15.0		36.6	Schefferville	-12	-7	3	-24	23.0		56.7
Victoria	7	-2	15	-1	13.4		46.0	Sept-Iles	-1	-1	8	-12	14.4	3.0	*
Williams Lake	3	-1	12	-5	7.2		35.7	Sherbrooke	4	-1	21	-9	8.5		*
ALBERTA								VAL-D'OR							
Calgary	4	0	18	-5	13.5	1.0	*	Val-d'Or	2	-1	23	-17	1.8	13.0	59.0
Cold Lake	3	0	16	-4	45.6		38.7	NEW BRUNSWICK							
Coronation	3	0	15	-5	29.4		36.0	Charlo	1	-1	12	-10	21.0		72.5
Edmonton Namao	3	0	16	-6	30.4	20.0	*	Chatham	5	1	21	-9	5.4		*
Fort McMurray	2	0	15	-8	42.1	27.0	32.1	Fredericton	5	0	20	-6	4.0		*
High Level	1	-3	12	-8	2.0		27.3	Moncton	4	0	19	-7	1.0		76.0
Jasper	3	-1	14	-6	1.6		*	Saint John	5	1	15	-5	3.4		70.4
Lethbridge	6	1	20	-4	13.9		*	NOVA SCOTIA							
Medicine Hat	7	1	20	-3	15.2		*	Greenwood	5	0	18	-5	0.6		X
Peace River	3	1	13	-7	4.4	1.0	X	Shearwater	5	0	14	-4	6.0		*
SASKATCHEWAN								Sydney	1	-1	17	-8	9.9		63.0
Cree Lake	-1	X	10	-18	*	17.0	30.8	Yarmouth	5	0	16	-1	4.8		*
Estevan	10	5	27	-3	12.8		50.1	PRINCE EDWARD ISLAND							
La Ronge	3	1	14	-8	31.0		*	Charlottetown	3	-1	16	-7	1.6	0.0	*
Regina	7	3	21	-3	36.6		*	Summerside	4	0	18	-7	1.0		72.7
Saskatoon	6	2	19	-2	36.2		*	NEWFOUNDLAND							
Swift Current	7	3	19	-6	*		*	Gander	-1	-2	10	-8	19.8		*
Yorkton	7	4	20	-4	6.9		*	Port aux Basques	-1	-3	5	-8	27.6		*
MANITOBA								St. John's	0	-2	12	-6	11.0		*
Brandon	8	5	24	-5	4.0		*	St. Lawrence	-1	-2	7	-6	25.7		X
Churchill	-5	5	7	-32	4.9		36.3	Cartwright	-3	-1	4	-9	45.1		5.5
Lynn Lake	1	0	13	-23	13.0		39.1	Churchill Falls	-8	-2	7	-19	*		*
								Goose	-3	-2	10	-11	*		10.4

Av = weekly mean temperature (°C)
Mx = weekly extreme maximum temperature (°C)
Mn = weekly extreme minimum temperature (°C)
Tp = weekly total precipitation (mm)
Dp = Departure of mean temperature from normal (°C)

SOG = snow depth on ground (cm), last day of the period
H = weekly total bright sunshine (hrs)
X = not observed
P = extreme value based on less than 7 days
* = missing



This major spring storm gave parts of Alberta more than 3 times the normal April snowfall. Total snow accumulations in the province (up to 45 cm) made this April the snowiest since 1954/1955. See page 3 for more detail.