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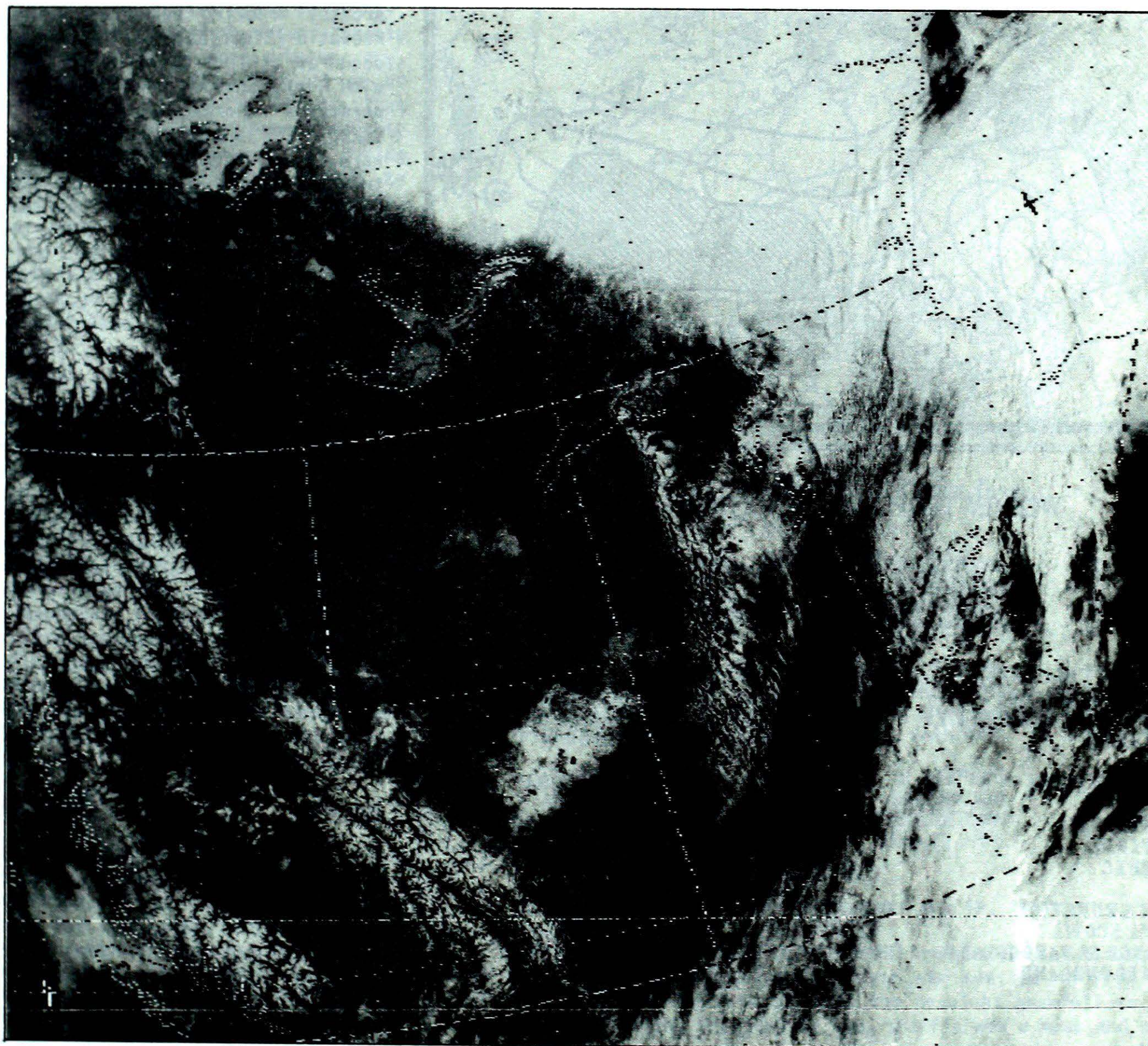
Environnement
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Climatic Perspectives

A weekly review of Canadian climate

May 19 to 25, 1987

Vol.9 No.21



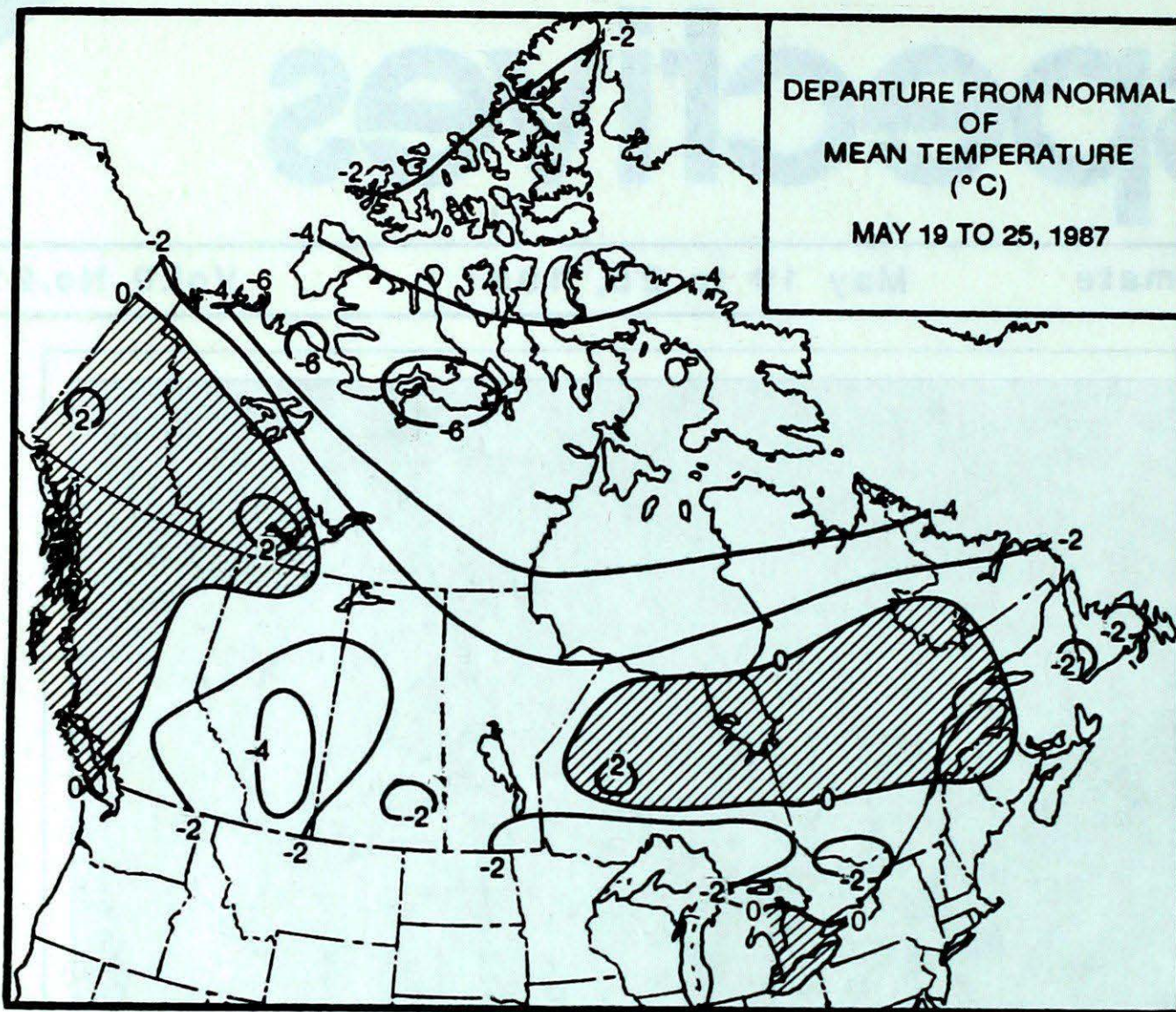
With mostly clear skies over western Canada, this NOAA 10 satellite image of May 20, 1987, clearly shows the swath of heavy snow, which buried central Alberta the day before. A substantial amount of snow still caps the higher elevations of the Rockies. The ice is breaking up on Great Slave Lake and Lake Athabaska. For more information about the Alberta snowstorm see page 3.

- ***Heavy snowfall surprises central Albertans***
- ***Farmers need rain in southern Ontario***

Canada

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TEMPERATURE



ACROSS THE COUNTRY...

Yukon and Northwest Territories

Snow and strong winds affected southern Baffin Island; blizzard warnings were in effect during the middle of the period. Light snow and record daily low temperatures were observed in the southern Arctic. Freezing rain fell in the Keewatin District. A thunderstorm occurred at Fort Smith on the 24th, with light snow and record low temperatures reported earlier. In the Yukon, the week began sunny and warm, with readings in the low twenties. Daily maximum temperature records were broken the first three days of the period, after which time it turned showery and cooler.

British Columbia

Most areas were cool, dry and sunny. Light frost damage occurred in the frost prone areas of the southern valleys on the 20th. It was a sunny week, with only scattered showers and thunderstorms. The forest fire hazard remained moderate to high, because of the lack of rain. A major forest fire was burning in the Kootenays. In the Peace River district, farmers were delaying completion of seeding, because of the dry soil conditions. The first hay cut was underway in the south. In Victoria, the Swiftsure Yacht Race was held under ideal weather conditions during the weekend.

Prairies

A late spring snowstorm hit central Alberta on the 19th, dumping 60 cm of snow on the Alberta foothills, west of Edmonton, and 10 to 20 centimetres of snow east of the Rockies. See page 3 for more details. Further to the east, rain was reported, with 20 to 40 millimetres falling in extreme southeastern Manitoba. In the north, Churchill received 20 cm of snow in a two-day period. In the wake of the system, skies cleared and temperatures dropped to daily record low values, with overnight frost reported in the southern agricultural districts. Temperatures recovered to the twenties over the weekend.

WEEKLY TEMPERATURE EXTREME (C)

	MAXIMUM		MINIMUM	
BRITISH COLUMBIA	LYTTON	28	DEASE LAKE	-3
YUKON TERRITORY	DAWSON	22	SHINGLE POINT A	-15
NORTHWEST TERRITORIES	FORT SIMPSON	25	CAMBRIDGE BAY	-22
ALBERTA	MEDICINE HAT	25	EDMONTON INT'L	-9
SASKATCHEWAN	REGINA	27	COLLINS BAY	-7
	YORKTON			
MANITOBA	DAUPHIN	26	THOMPSON	-10
ONTARIO	WINDSOR	30	PICKLE LAKE	-7
QUEBEC	BAGOTVILLE	26	INUKJUAK	-11
NEW BRUNSWICK	FREDERICTON	27	MONCTON	-2
NOVA SCOTIA	WESTERN HEAD	24	TRURO	-4
PRINCE EDWARD ISLAND	CHARLOTTETOWN	23	CHARLOTTETOWN	-2
NEWFOUNDLAND	BADGER	22	WABUSH LAKE	-7

ACROSS THE NATION

WARMEST MEAN TEMPERATURE	16	WINDSOR	ONT
COOLEST MEAN TEMPERATURE	-14	CAMBRIDGE BAY	NWT

PRECIPITATION

Ontario

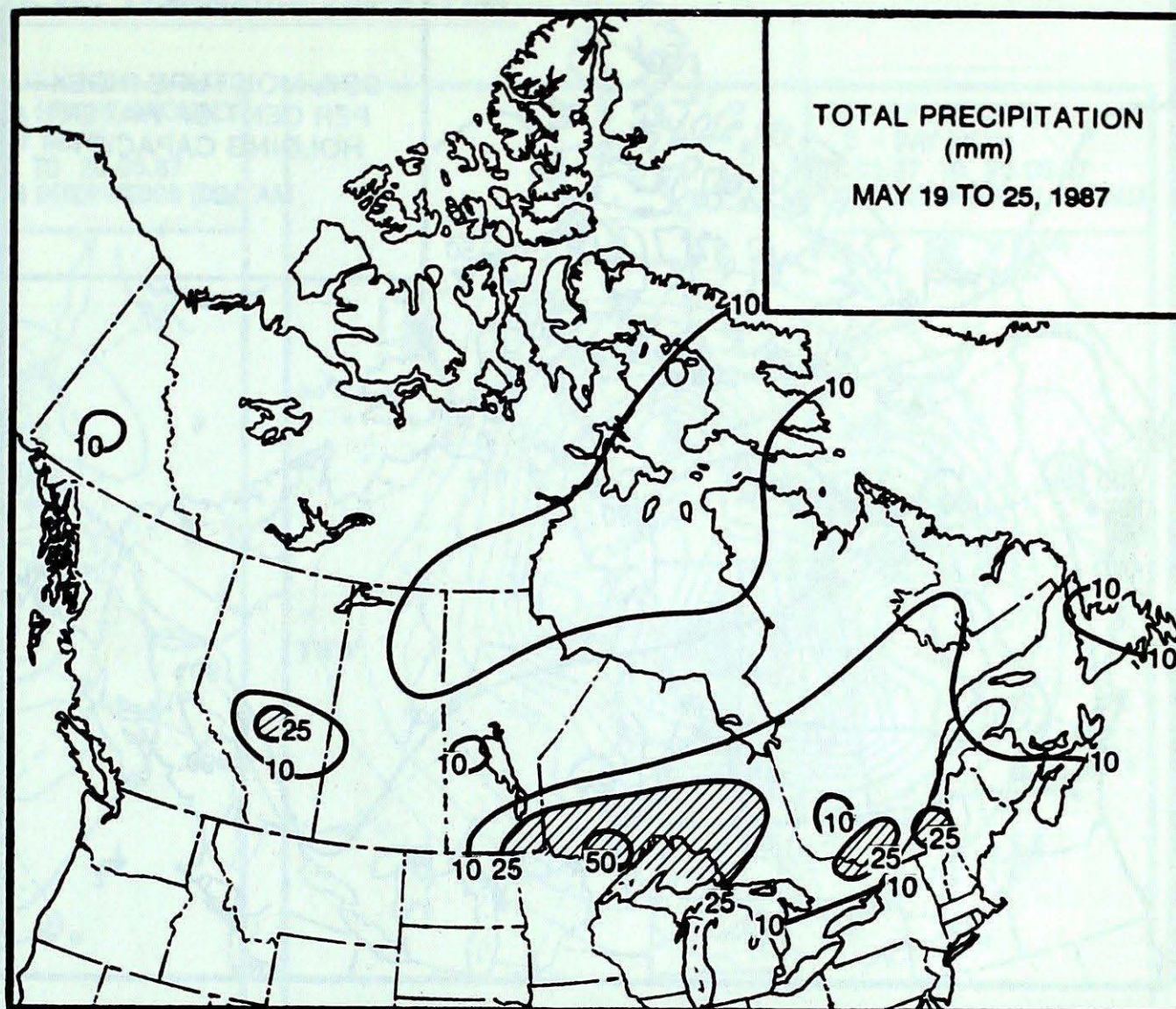
Cloudier and cooler weather prevailed, as frontal disturbances affected the north. Much needed rain fell across northern Ontario, helping to lower the forest fire hazard. Generally dry weather persisted in the southern regions, with only scattered showers and thunderstorms developing along a cold front on Friday. Agricultural districts around Toronto continue to be particularly dry, having received less than 15 mm of rain during May, which is less than one quarter of their normal monthly rainfall. Total precipitation during the 3 month period, February to April, was less than half the normal. As a result, soil moisture levels are very low. In southern Ontario, farmers are reporting frequent occurrences of blowing soil and dust on windier days.

Quebec

Weather systems moved across the more northern reaches of the province. The south saw a mixture of sun and cloud, and also some shower activity. On the 22nd and 23rd, a weak disturbance crossing the south produced thunderstorms and heavy downpours. The southern Laurentians and areas near the St. Lawrence Valley received 40 to 50 millimetres of rain. Both high and low daily temperature records were set during the week at different locations. Weather conditions were more favourable for fire fighters.

Atlantic

In the Maritimes, skies were predominantly sunny, while in Newfoundland it was dull and cold most of the week. Below freezing daily record minimums were set in Nova Scotia and New Brunswick on the 20th. Showers were reported on the 19th and 23rd. Also on the 19th, a thunderstorm produced hail in the Halifax-Dartmouth area. Light rain fell over Newfoundland on Friday, with slowly clearing skies during the weekend. A number of daily record low temperatures were established on the Island during the week. Weather conditions were variable in Labrador, with varying temperatures. Snow fell in the north, light rain in the south.



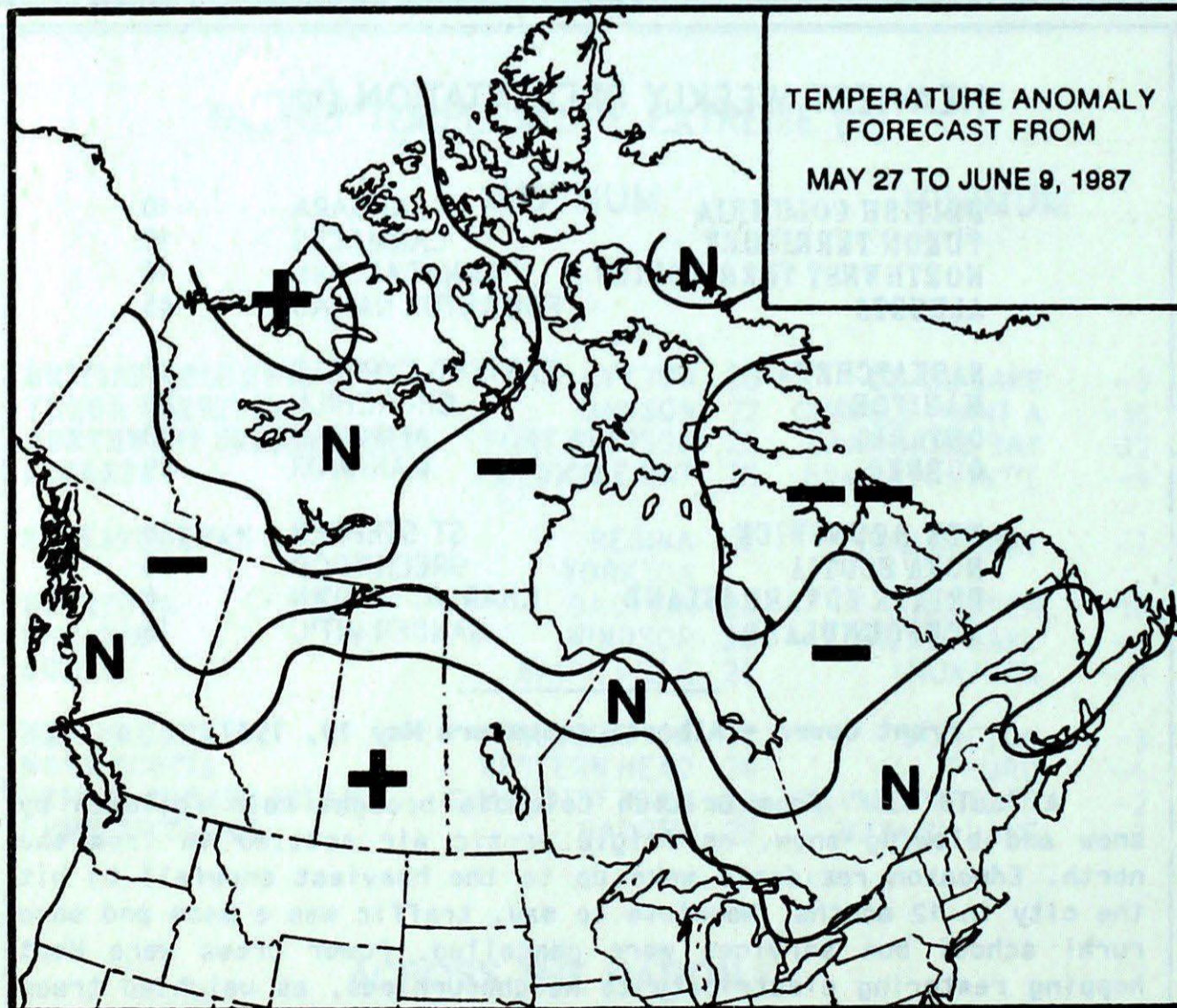
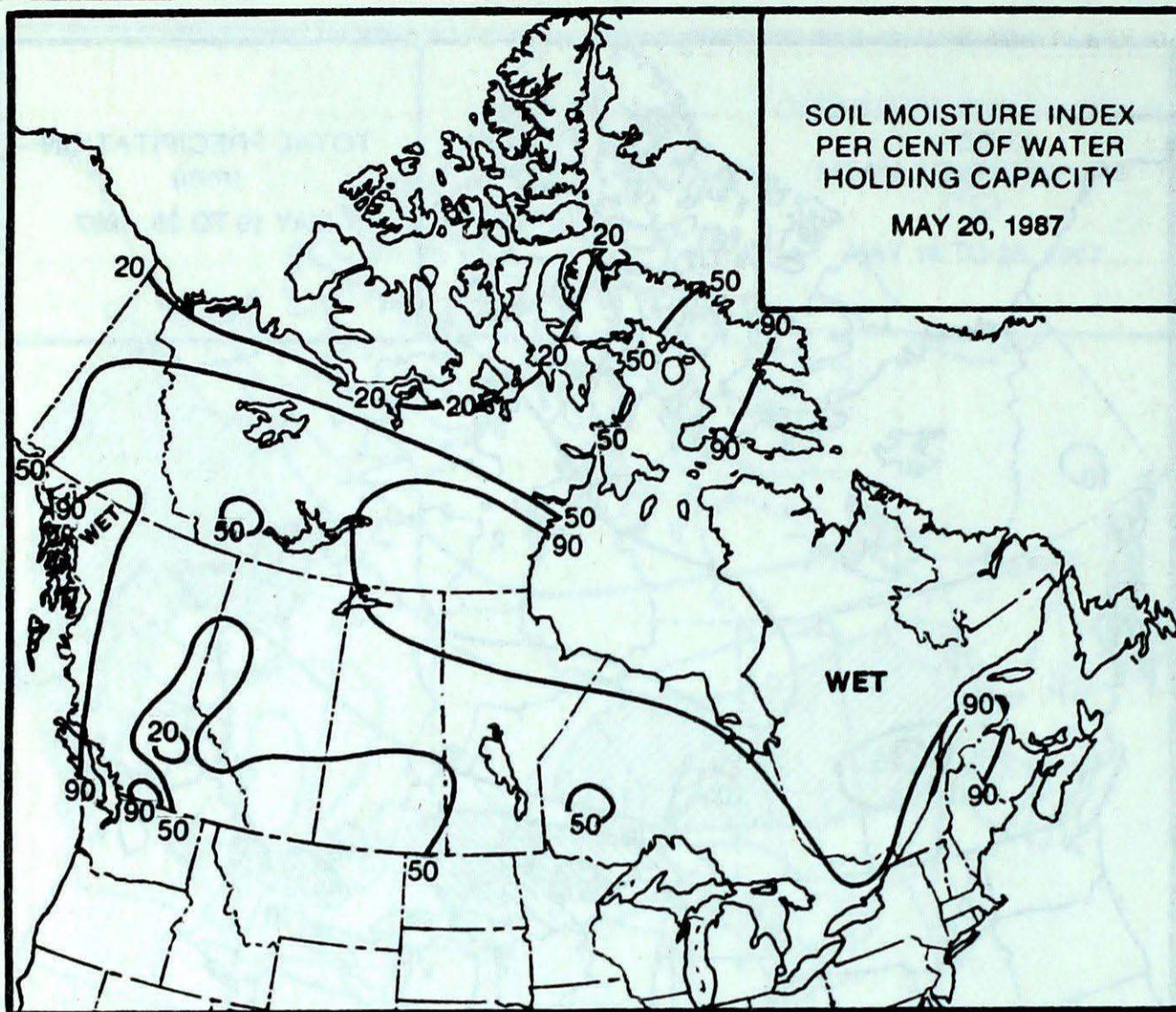
HEAVIEST WEEKLY PRECIPITATION (mm)

BRITISH COLUMBIA	LANGARA	10
YUKON TERRITORY	CARMACKS	10
NORTHWEST TERRITORIES	ENNADAI LAKE	16
ALBERTA	EDMONTON NAMAQ	45
SASKATCHEWAN	EASTEND CYPRESS	16
MANITOBA	CHURCHILL	20
ONTARIO	ATIKOKAN	53
QUEBEC	MANIWAKI	39
NEW BRUNSWICK	ST STEPHEN	18
NOVA SCOTIA	GREENWOOD	20
PRINCE EDWARD ISLAND	CHARLOTTETOWN	4
NEWFOUNDLAND	GANDER INT'L	16

Front Cover - Alberta snowstorm May 19, 1987

A "cold low" from British Columbia brought rain followed by snow and blowing snow, as frigid Arctic air settled in from the north. Edmonton residents woke up to the heaviest snowfall to hit the city in 12 months. Needless to say, traffic was a mess and some rural school bus services were cancelled. Power crews were kept hopping restoring electricity to neighbourhoods, as weighted trees sagged under the heavy wet snow and toppled hydro and telephone lines. The snow and freezing temperatures definitely lowered the fire hazard, and it is hoped that the tent caterpillar infestation plaguing east central Alberta will end. The snowfall in Edmonton came close to equaling the total snow previously recorded in all of 1987, a meager 24 cm. Surprisingly, Calgary further to the south did not get any snow. On May 14 and 15 of last year, a fierce blizzard dumped more than 30 cm of snow on that city.

FORECAST



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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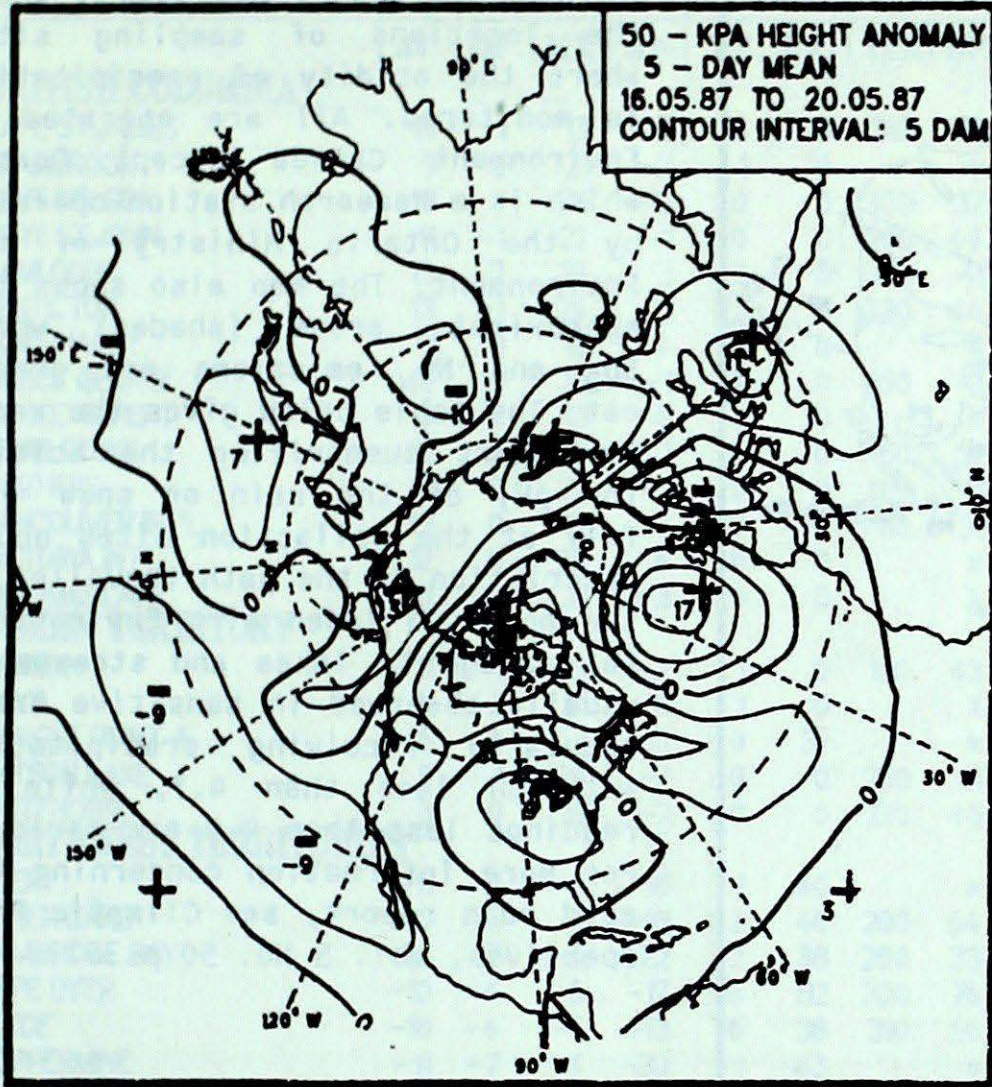
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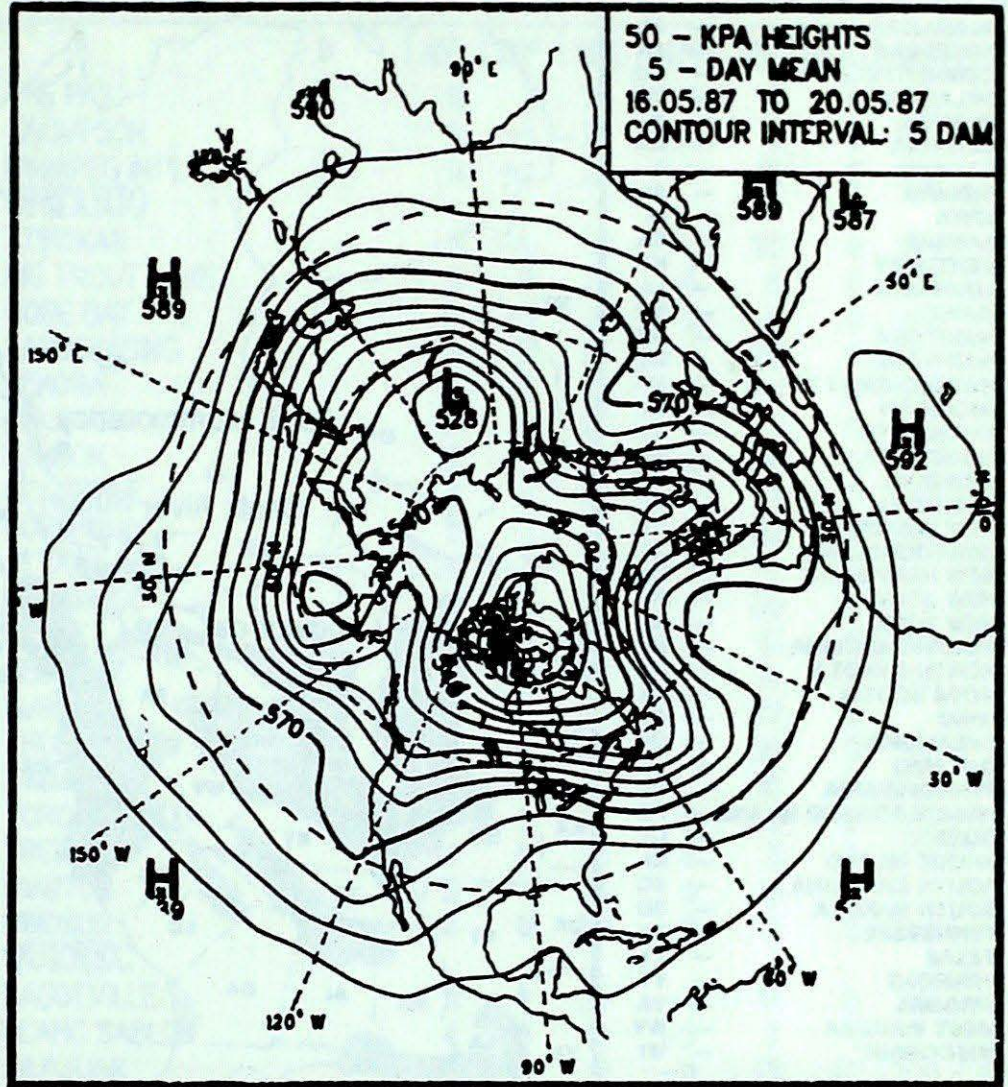
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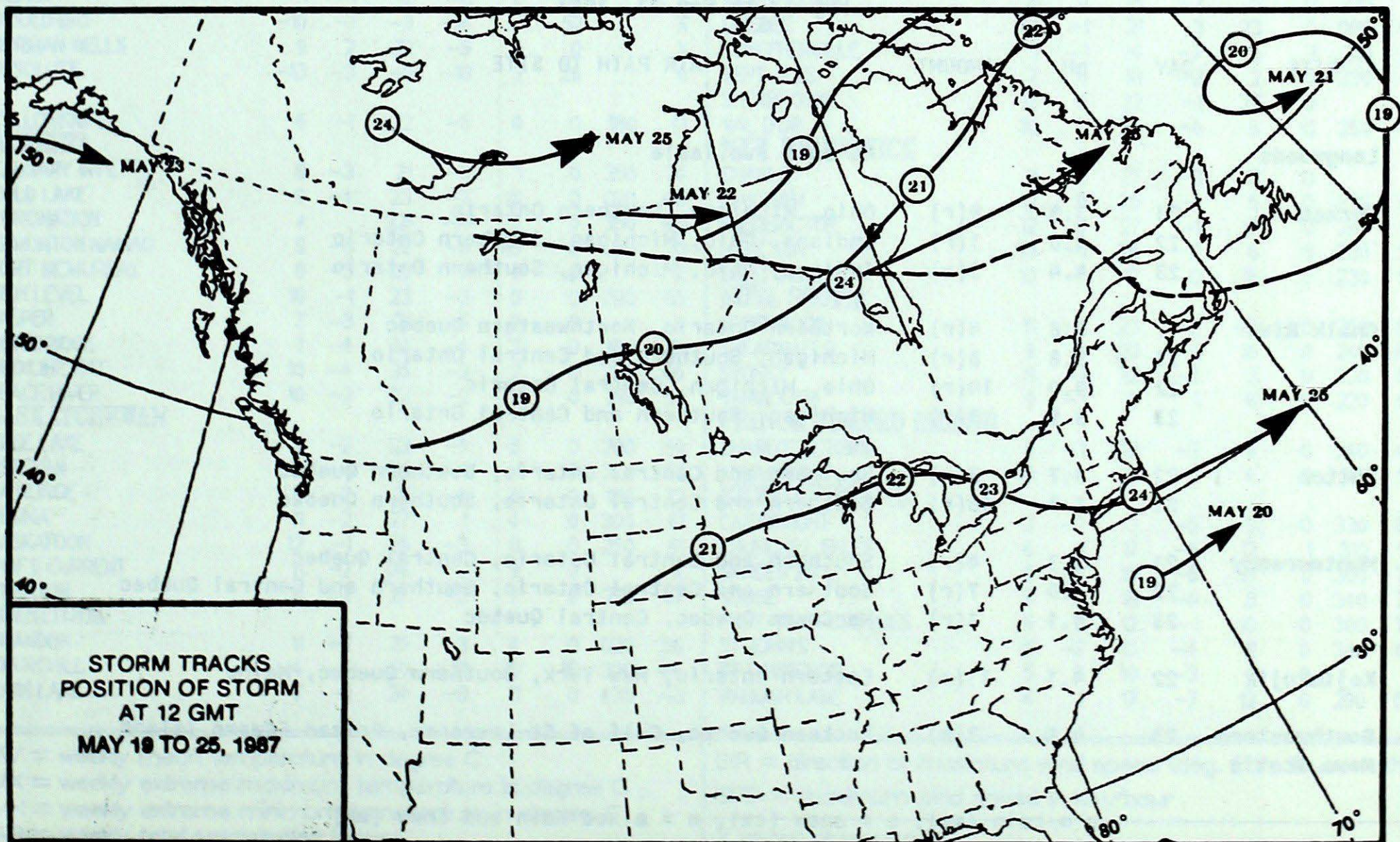
50 KPa ATMOSPHERIC CIRCULATION



MEAN 50 KPa HEIGHT ANOMALY (dam)
May 16 to 20, 1987

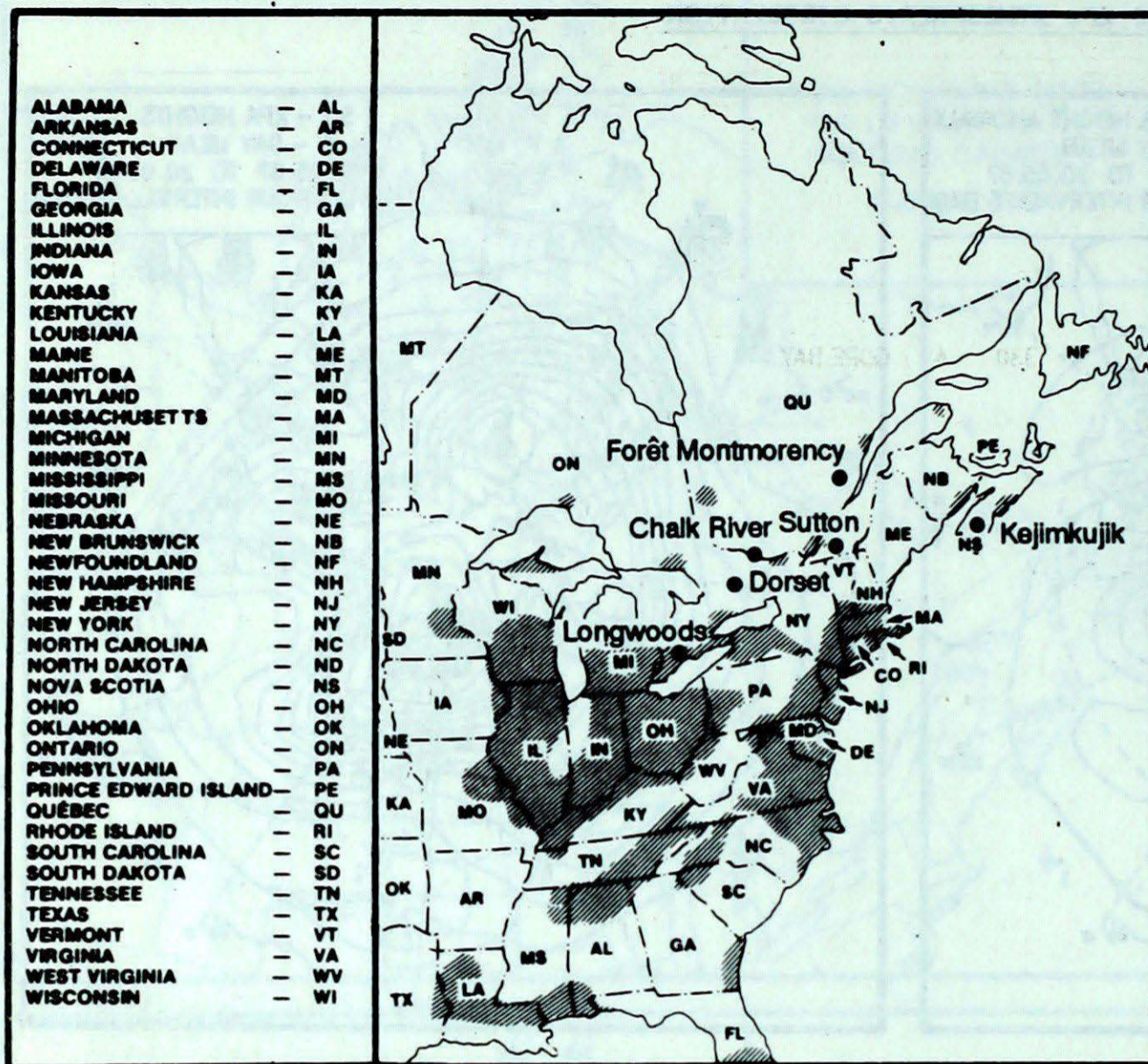


MEAN 50 KPa HEIGHTS (dam)
May 16 to 20, 1987



ACID RAIN

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.

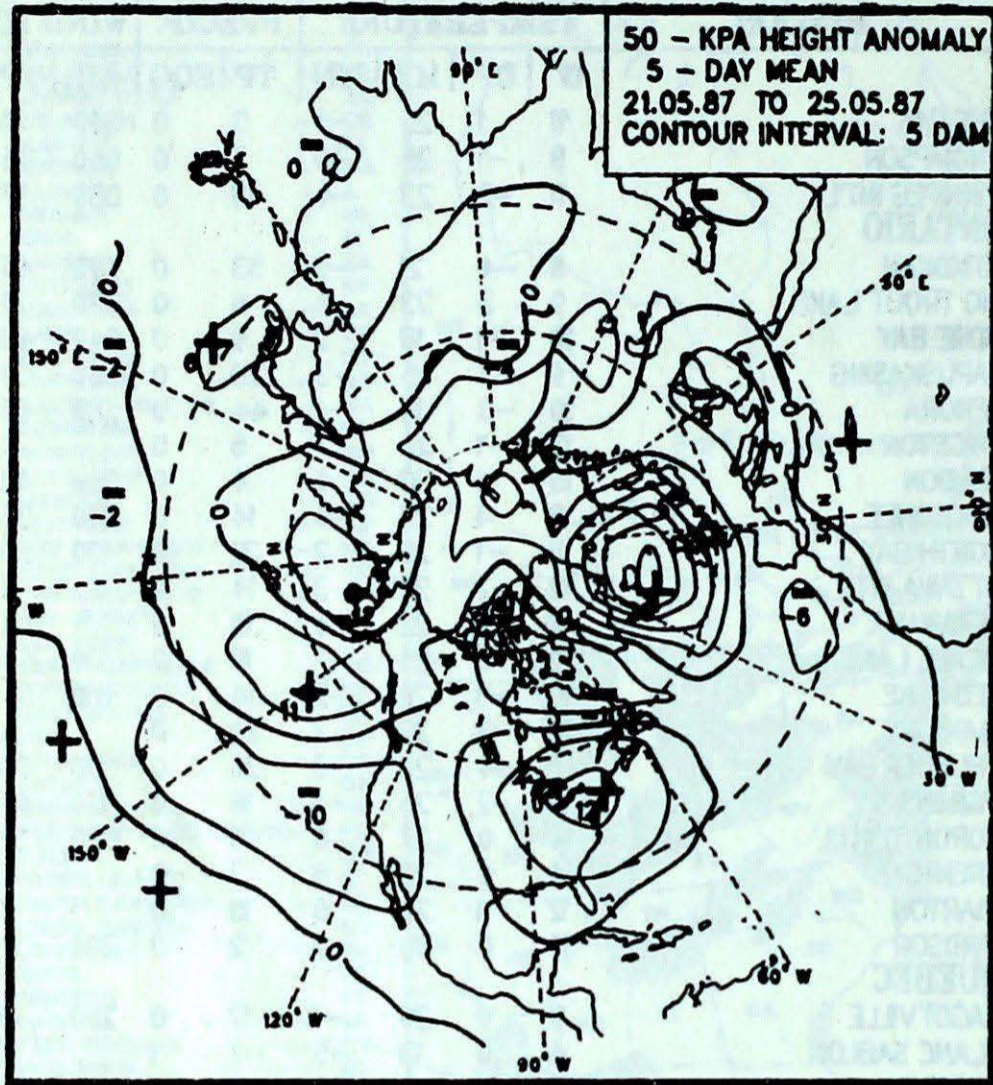
May 17 to May 23, 1987

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods				No data available
Dorset	21	3.8	9(r)	Ohio, Michigan, Southern Ontario
	22	4.0	1(r)	Indiana, Ohio, Michigan, Southern Ontario
	23	4.4	3(r)	Indiana, Ohio, Michigan, Southern Ontario
Chalk River	17	3.8	4(r)	Northern Ontario, Northwestern Quebec
	21	3.8	8(r)	Michigan, Southern and Central Ontario
	22	4.0	14(r)	Ohio, Michigan, Central Ontario
	23	3.9	3(r)	Michigan, Southern and Central Ontario
Sutton	22	3.7	3(r)	Southern and Central Ontario, Southern Quebec
	23	3.9	18(r)	Southern and Central Ontario, Southern Quebec
Montmorency	21	3.3	4(r)	Southern and Central Ontario, Central Quebec
	22	4.0	7(r)	Southern and Central Ontario, Southern and Central Quebec
	23	4.1	1(r)	Northern Quebec, Central Quebec
Kejimikujik	22	4.1	11(r)	Eastern Ontario, New York, Southern Quebec, Maine
Southwestern Nova Scotia	23	4.4	3(r)	Eastern Quebec, Gulf of St-Lawrence, Prince Edward Island

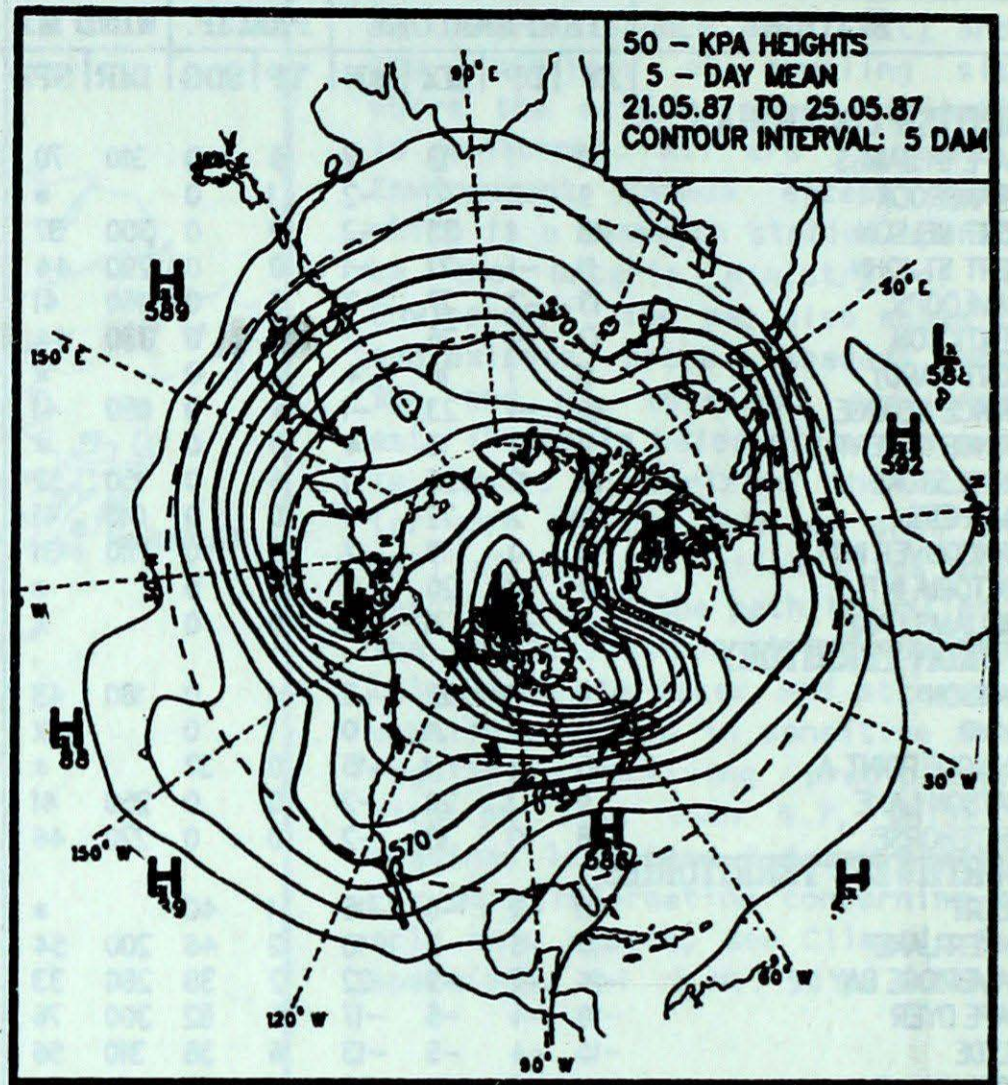
r = rain (mm), s = snow (cm), m = mixed rain and snow (mm)

CIRCULATION

50 KPa ATMOSPHERIC CIRCULATION



MEAN 50 KPa HEIGHT ANOMALY (dam)
May 21 to May 25, 1987



MEAN 50 KPa HEIGHTS (dam)
May 21 to May 25, 1987

