



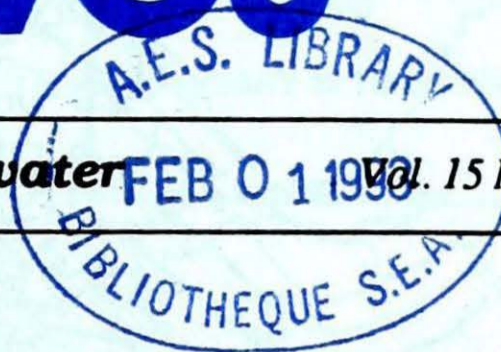
Climatic Perspectives

MONTHLY
SUPPLEMENT
INCLUDED

January 18 to 24 1993

A weekly review of Canadian climate and water

FEB 01 1993 15 No. 04



British Columbia finally warms up

The weather pattern that had given western Canada its unseasonably cold weather over the past few weeks gradually gave way, allowing milder Pacific air to push inland and flush the cold air mass out of the mountain valleys.

After enduring more than three weeks of below normal or subfreezing temperatures, residents of British Columbia finally got their long awaited reprieve from the chilly weather. But the change was not as placid as might be expected. The invading air mass produced heavy rainfalls on the west coast of Vancouver Island and across the lower mainland, while a combination of heavy snow and freezing rain was reported in the interior.

British Columbia's north coast inland valleys were hardest hit, with three heavy dumpings of snow this week, for a total accumulation of almost 70 cm at Terrace. The Kootanays, in southeastern B.C., were buried under almost 50 cm of the white stuff, causing problems for travellers. Highway passes had to be closed, as the combination of heavy snow, high winds and warmer weather created a severe avalanche hazard. In the Thompson region of the southern interior, many roads were also closed due to avalanche control operations. Over the weekend, the Coquihalla Highway received more than 20 cm of snow in a 24-hour period.

In northern B.C. and the southern Yukon, where maximum temperatures this week briefly climbed above freezing, Pacific disturbances produced heavy

snowfalls in and along the coastal passes. Reports indicated falls of 40 cm along the Skagway Highway.

On a wetter note, the west coast of Vancouver Island received more than 130 mm of rain this week. Fairing slightly better, but still quite wet, was B.C.'s lower mainland, where 50 to 90 millimetres of rain was reported.

Elsewhere...

Bitterly cold weather covered the northern Yukon. The minimum temperature at Old Crow registered in the minus fifties for six consecutive days, with the coldest reading down to -57°C. Winter ice roads and bridges in the north are standing up well to heavy traffic.

In Alberta, Chinook winds developed to the lee of the Rocky Mountains, pushing the temperature briefly up to 8°C, in the south. In the southwest, gusty Chinook winds reduced visibilities in blowing snow. The Pincher Creek area recorded gusts over 100 km/h.

Mild weather returned to Ontario, accompanied by rain and freezing rain at week's end. The combination of melting snow and liquid precipitation caused

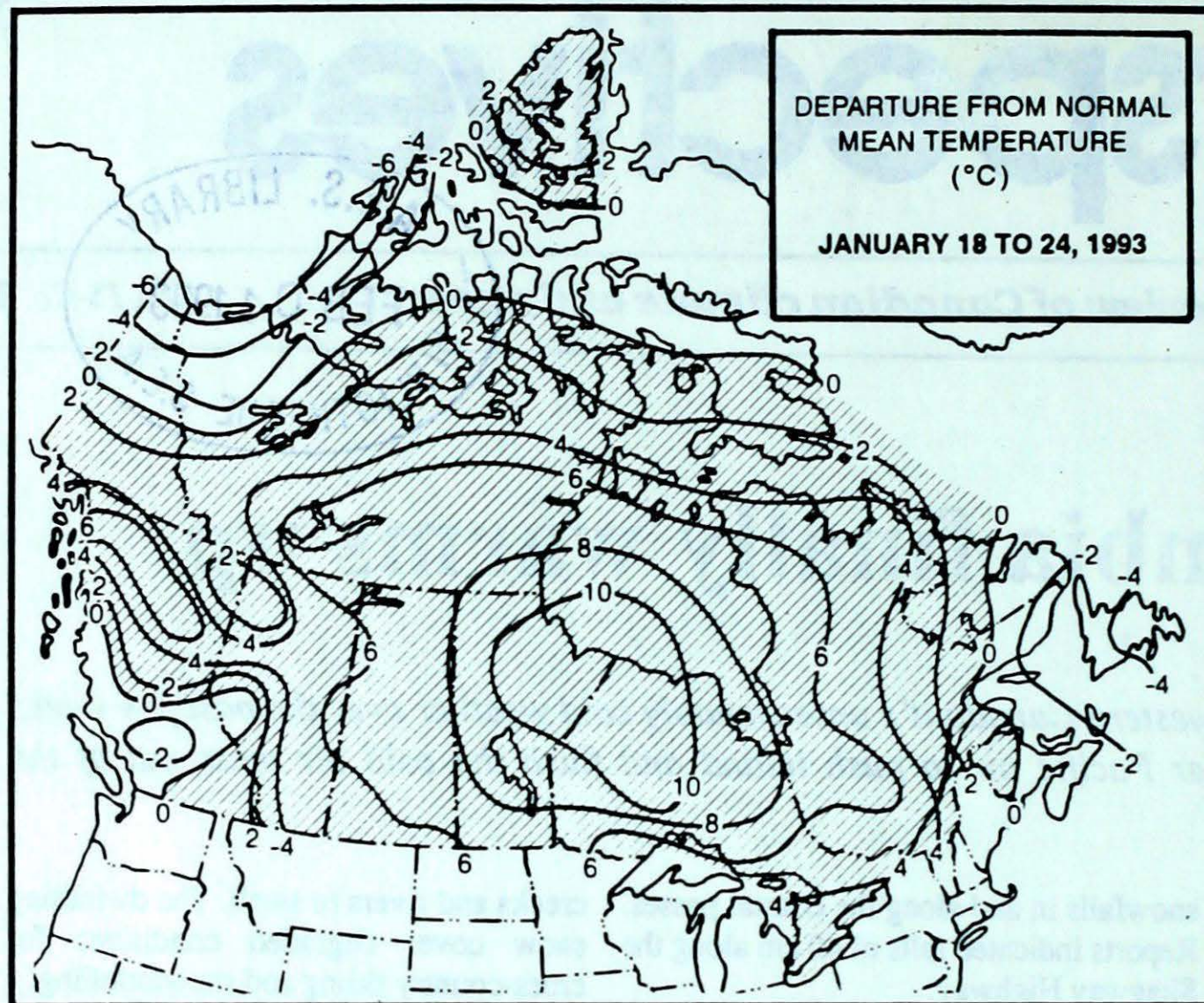
creeks and rivers to swell. The dwindling snow cover degraded conditions for cross-country skiing and snowmobiling.

The Maritimes savoured a relatively tranquil week; for the most part, a mixture of cloud and sun. The only significant disturbance crossed New Brunswick on Saturday, producing rain and some snow. The weather system pushed the mercury to 10°C at Yarmouth, N.S.

An intense low pressure system passed east of Newfoundland early in the period, producing a mixture of snow, freezing rain and ice pellets over the eastern half of the Island. In the wake of the system, cold air and strong northerly winds, with gusts to 95 km/h, produced snow squalls in the onshore flow. Milder conditions returned towards the end of the period. Labrador enjoyed a fair amount of sunshine with some light snowfalls.

A look ahead...

For the week of February 1, below-normal temperatures are expected for all of Canada, except for near-normal values across the southern Prairies, Ontario and southwestern Quebec. Unsettled weather is likely across B.C., southern Alberta and areas east of Manitoba.



Weekly normal temperatures (°C)

	max.	min.
Whitehorse A	-14.1	-22.5
Iqaluit A	-21.7	-30.3
Yellowknife A	-23.4	-31.6
Vancouver Int'l A	5.3	0.0
Victoria Int'l A	6.3	0.2
Calgary Int'l A	-4.9	-16.8
Edmonton Int'l A	-7.8	-19.5
Regina A	-11.7	-22.2
Saskatoon A	-13.0	-23.2
Winnipeg Int'l A	-13.8	-23.8
Ottawa Int'l A	-5.6	-14.9
Toronto (Pearson Int'l A)	-2.1	-11.0
Montréal Int'l A	-4.9	-14.2
Québec A	-6.6	-16.2
Fredericton A	-2.9	-14.4
Saint John A	-1.7	-12.9
Halifax (Shearwater)	0.5	-7.8
Charlottetown A	-2.6	-11.3
Goose A	-10.8	-20.2
St John's A	-0.2	-7.1

Weekly temperature and precipitation extremes

	Maximum temperature (°C)	Minimum temperature (°C)	Heaviest precipitation (mm)
British Columbia	Victoria Int'l A 10	Fort Nelson A -33	Estevan Point (aut) 134
Yukon Territory	Shingle Point A 0	Old Crow -57	Blanchard River 11
Northwest Territories	Fort Simpson A 1	Mould Bay A -48	Iqaluit A 19
Alberta	Calgary Int'l A 9	High Level A -33	Slave Lake A 9
Saskatchewan	Saskatoon A 5	Cree Lake -40	La Ronge A 2
Manitoba	Dauphin A 4	Thompson A -33	Gimli 3
Ontario	Port Weller (aut) 8	Lansdowne House -36	Windsor A 28
Quebec	Sherbrooke A 5	Kuujuaq A -36	Sept-Îles A 22
New Brunswick	St Stephen (aut) 8	St-Léonard A -24	Miscou Island (aut) 51
Nova Scotia	Yarmouth A 10	Greenwood A -22	Yarmouth A 25
Prince Edward Island	Charlottetown A 5	Charlottetown A -20	Charlottetown A 11
		East Point (aut) -20	
Newfoundland	Daniels Harbour 6	Churchill Falls A -38	Stephenville A 17

Across The Country...

Highest Mean Temperature	Estevan Point (aut) (B.C.)	4
Lowest Mean Temperature	Mould Bay, A (N.W.T.)	-42

93/01/18-93/01/24

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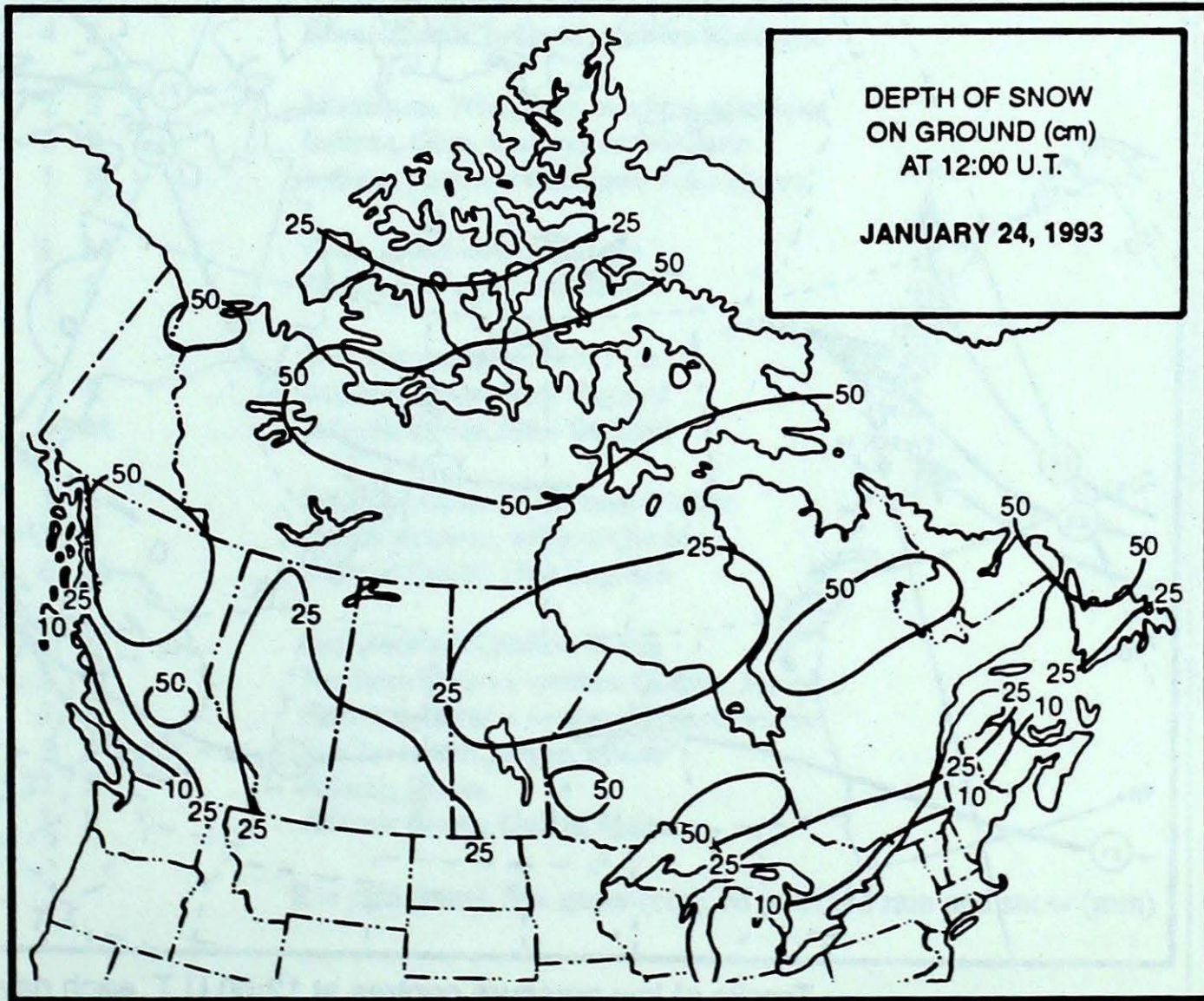
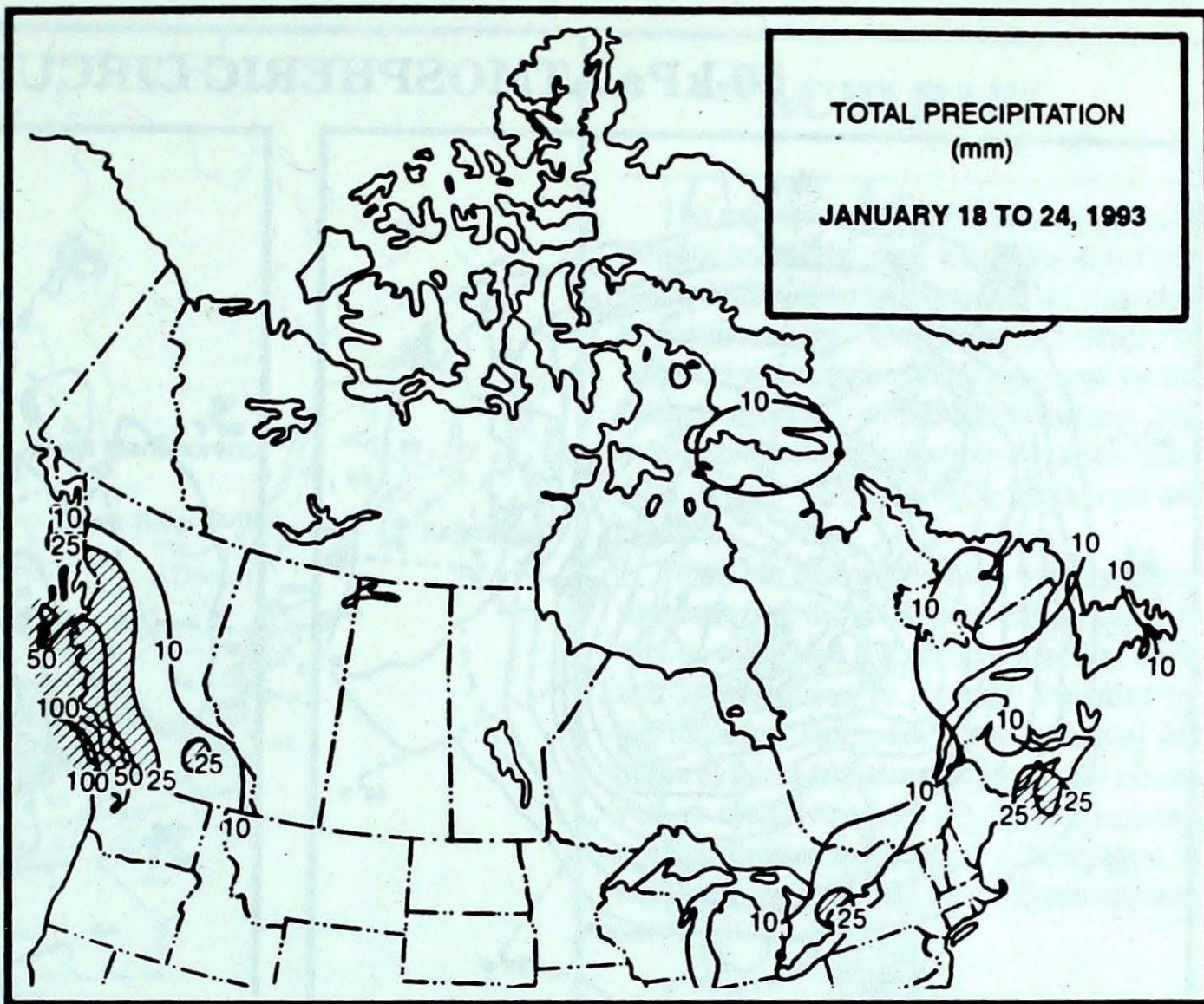
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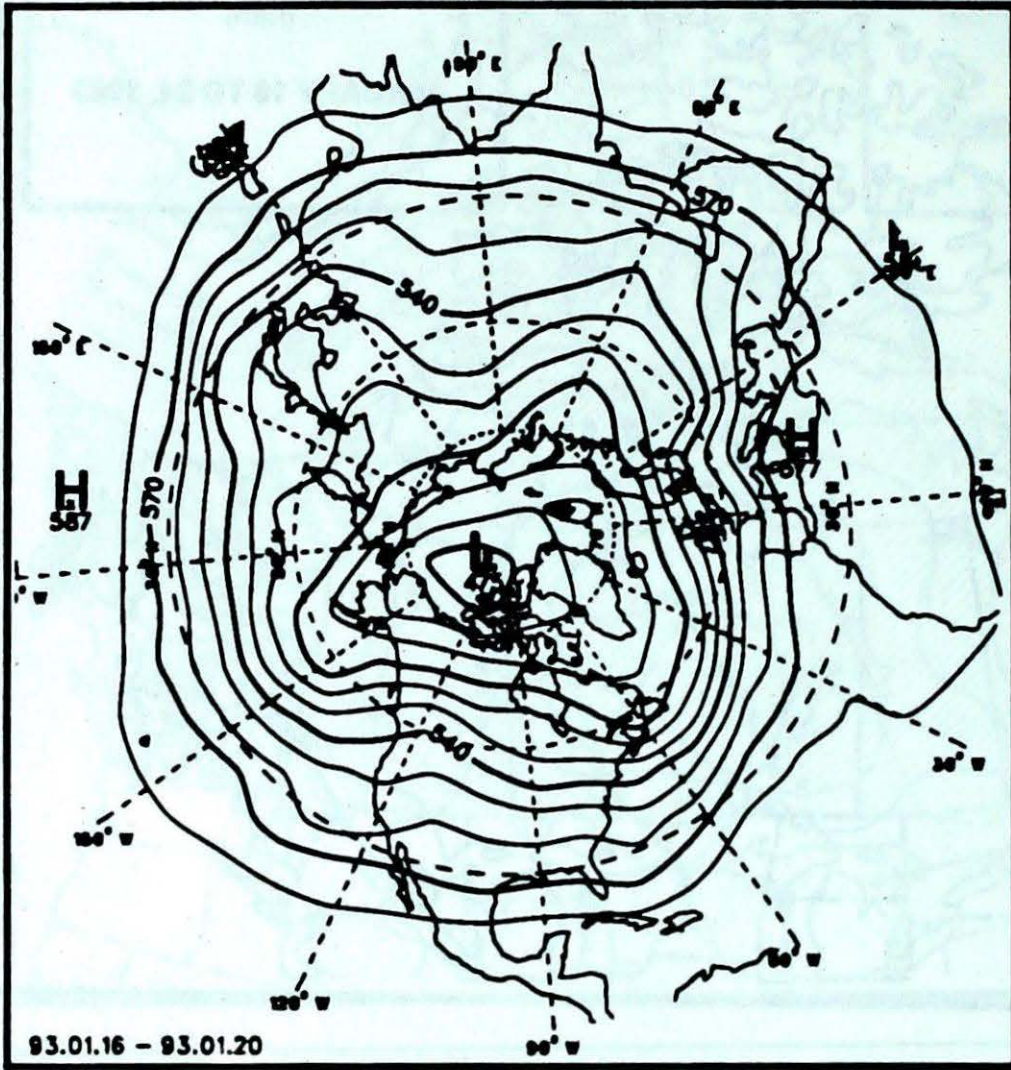
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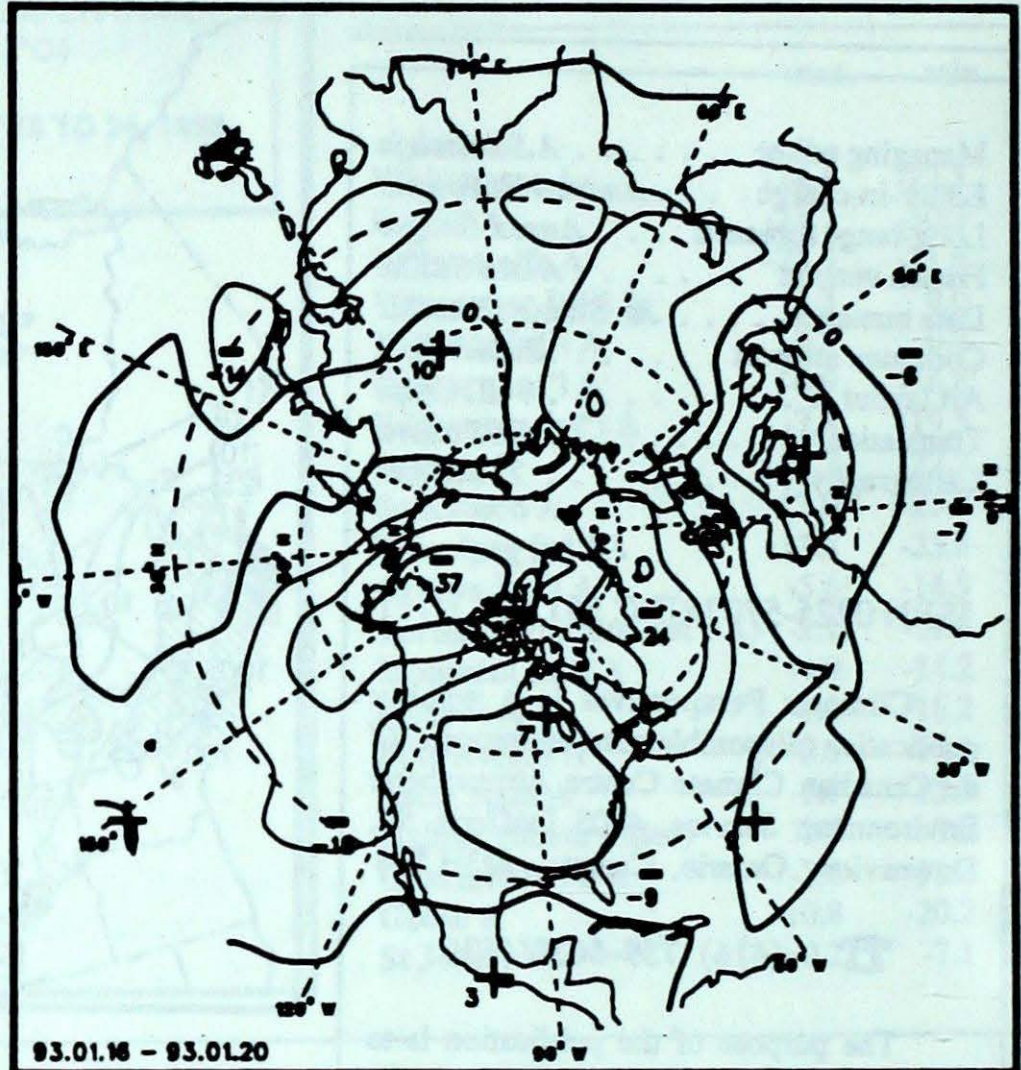
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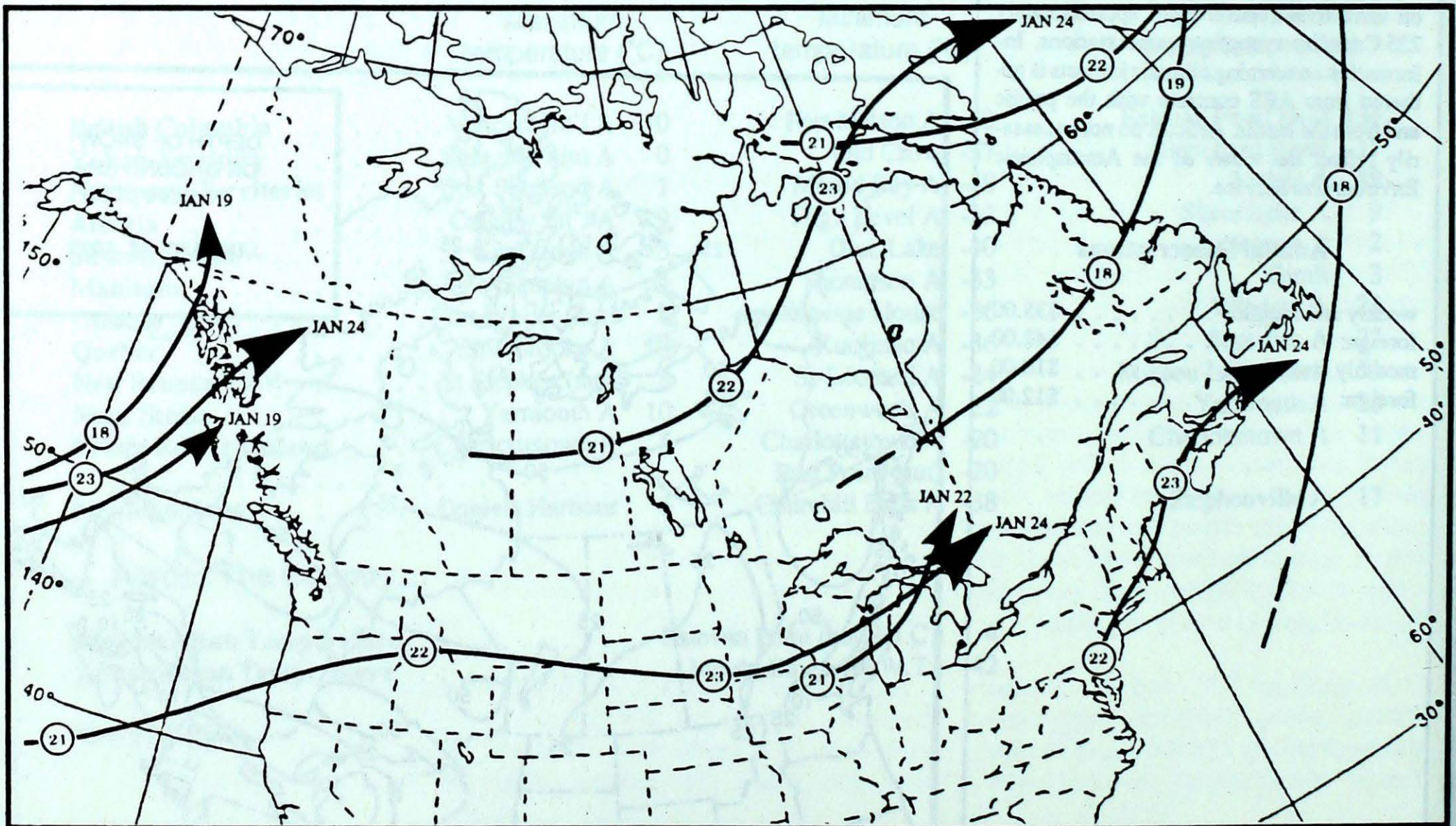
50-kPa ATMOSPHERIC CIRCULATION



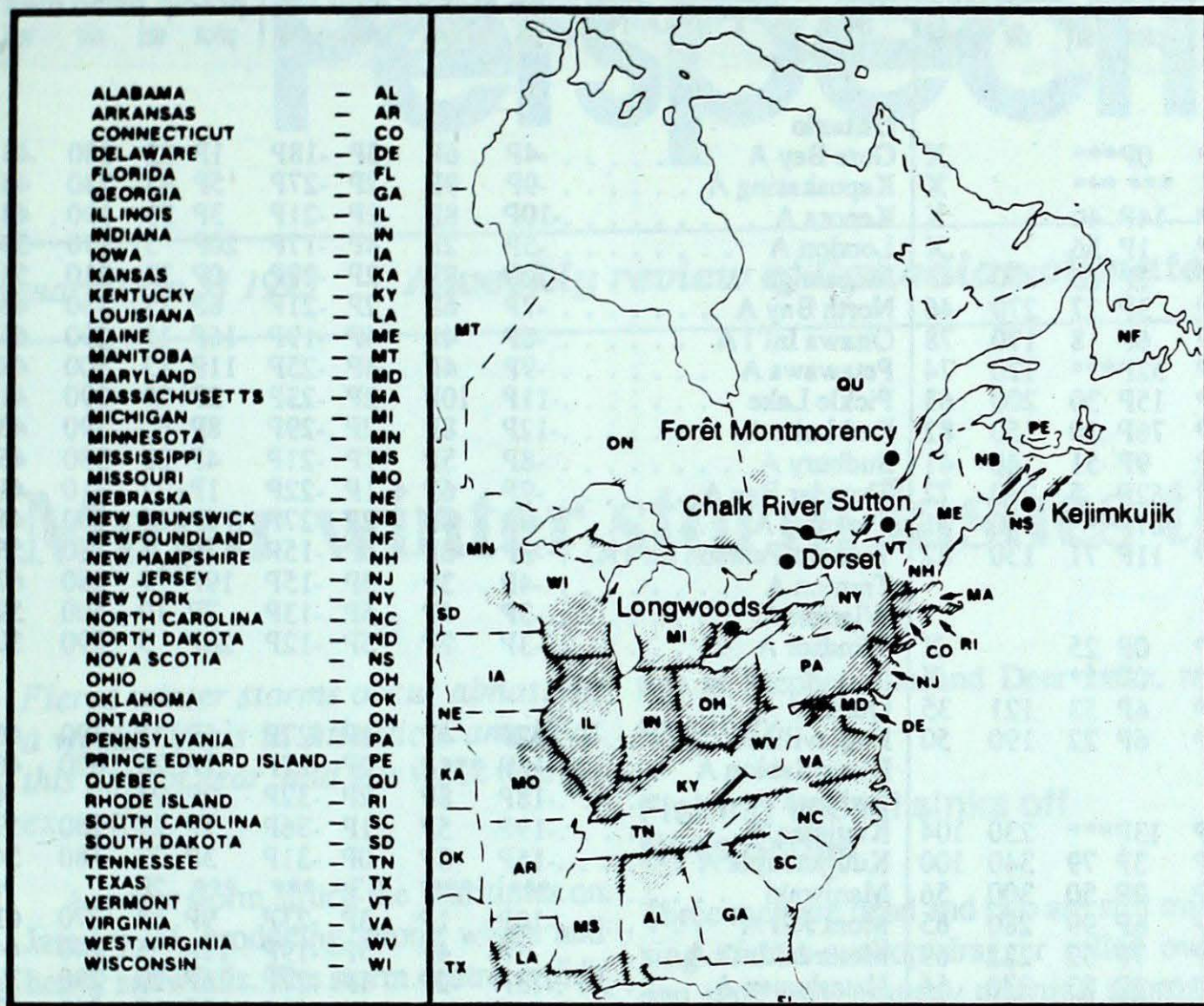
Mean geopotential height
50-kPa level (10 decametre intervals)



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
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January 17 to 23, 1993

Longwoods	21	4.2	13 R	... Kentucky, Indiana, Ohio
	23	4.3	4 S	... Iowa, Illinois, Indiana, southern Michigan
Dorset *	17	4.1	2 S	... Minnesota, Wisconsin, southern Michigan
	21	4.1	8 R	... Indiana, Ohio, southwestern Ontario
	22	3.9	1 R	... Indiana, southern Michigan, Lake Huron
Chalk River	21	4.2	1 M	... Ohio, southwestern Ontario
	22	4.5	1 S	... Ohio, southwestern Ontario
Sutton				... Data not available from 17 to 20
	21	4.9	7 R	... Atlantic Ocean, New England
	22	4.1	4 M	... Atlantic Ocean, New England
Montmorency	17	4.3	3 S	... Southern Ontario, southern Quebec
	19	4.4	3 S	... Central Ontario, western Quebec
	22	4.6	6 M	... Atlantic Ocean, New England
Kejimikujik	17	3.9	1 S	... Southwestern Quebec, Maine
	18	4.0	2 S	... Northern Ontario, western Quebec, Maine
	19	4.6	3 S	... Northern Ontario, western Quebec, Maine
	20	4.0	1 S	... Southwestern Quebec, Maine
	22	5.1	27 R	... Atlantic Ocean
	23	5.2	3 R	... Atlantic Ocean, Gulf of Maine

R = rain (mm), S = snow (cm), M = mixed rain and snow (mm)

