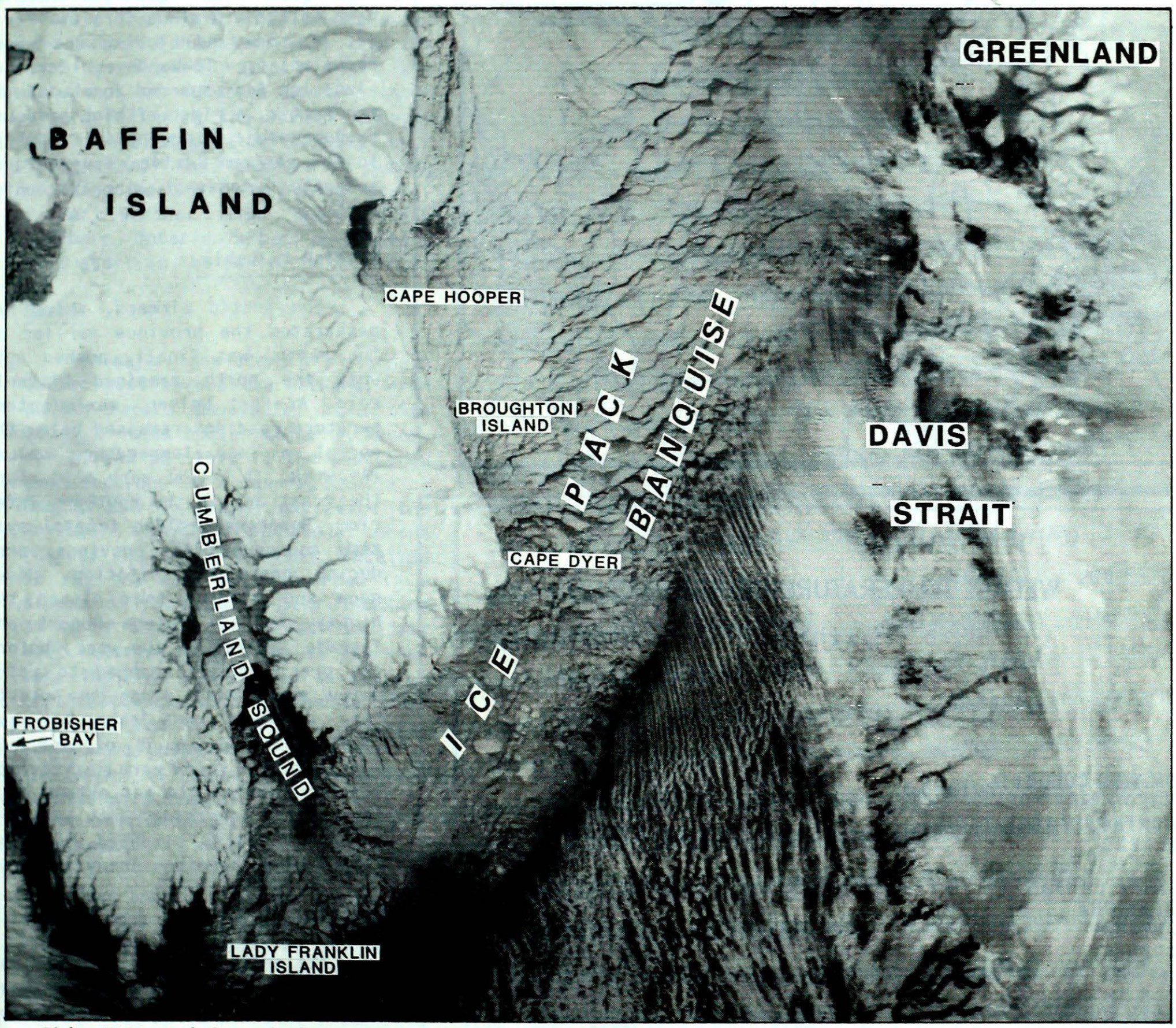
Environment Canada Environnement Canada

Climatic Perspectives

weekly review of Canadian climate | November 18 to 24, 1986 | Vol.8 No.47

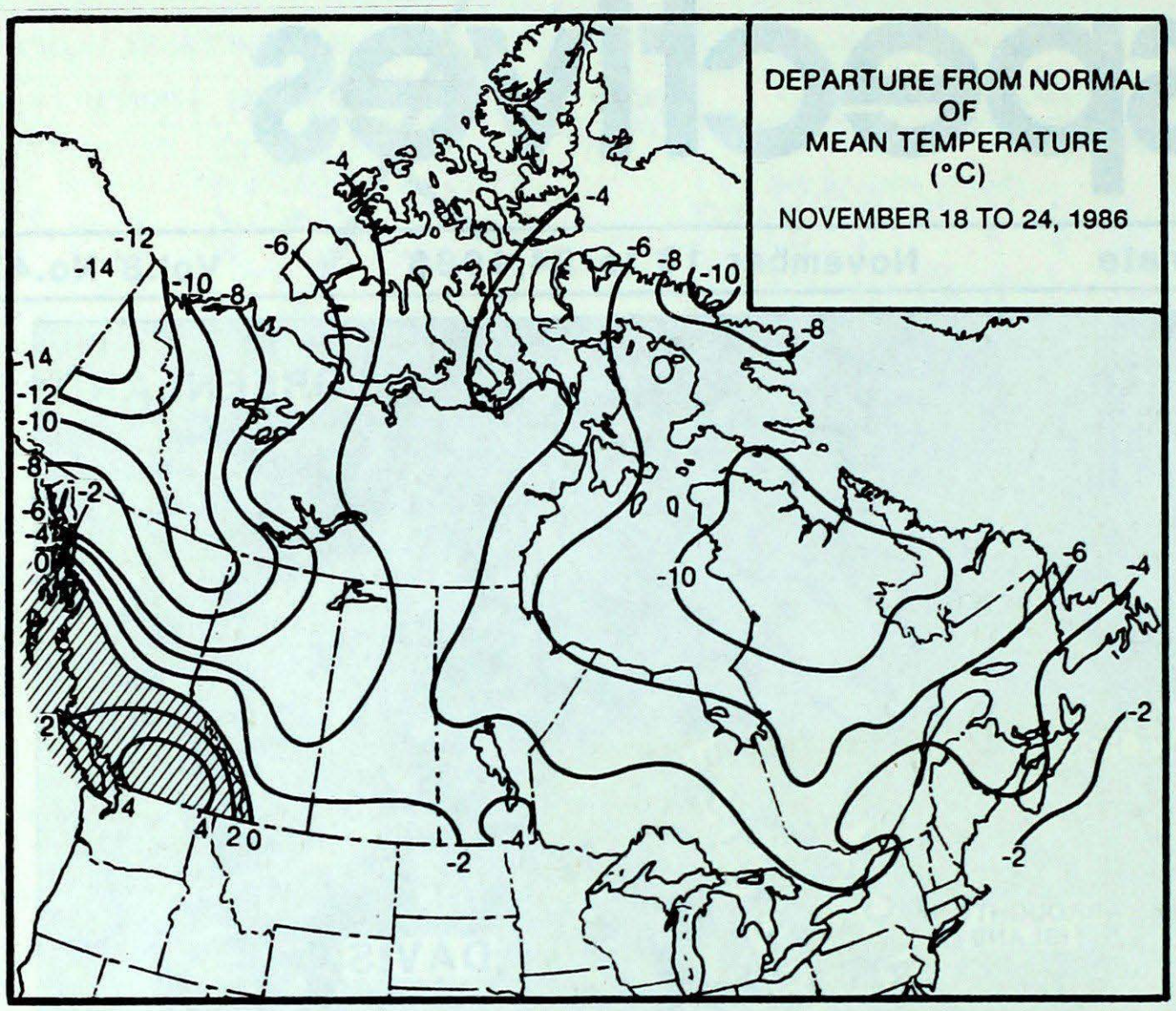


This NOAA 9 infrared photograph of November 24, 1986, shows the southern third of snow covered Baffin Island. Unusually cold weather of the past few weeks has advanced the pack ice southward along the coastline, and around the tip of Baffin Island. Cloud streamers have developed east of the ice pack over the relatively warm open water areas of Davis Strait.

- ***Major snow storms hit Eastern Canada***
- ***Temperatures moderate in the West***
- ***Heavy rains along the Pacific Coast***

Canada

TEMPERATURE



WEEKLY TEMPERATURE EXTREME (C)

	MAXIMUM		MINIMUM	
BRITISH COLUMBIA	KAMLOOPS	17	FORT NELSON	-32
YUKON TERRITORY	WHITEHORSE	-3	OGILVIE	-47
NORTHWEST TERRITORIES	FORT SMITH	-8	INUVIK	-41
ALBERTA	LETHBRIDGE	11	HIGH LEVEL	-39
SASKATCHEWAN	MOOSE JAW	8	MEADOW LAKE	-33
MANITOBA	GIMLI	9	THOMPSON	-35
ONTARIO	PORT WELLER	10	ARMSTRONG	-30
QUEBEC	MADELEINE ISLANDS	7	CHIBOUGAMAU	-31
NEW BRUNSWICK	MONCTON	10	CHARLO	-18
NOVA SCOTIA	SABLE ISLAND	13	SHELBURNE	-14
PRINCE EDWARD ISLAND	CHARLOTTETOWN	8	SUMMERSIDE	-10
NEWFOUNDLAND	ST LAWRENCE	9	WABUSH LAKE	-33

ACROSS THE NATION

WARMEST MEAN TEMPERATURE	8	ESTEVAN POINT	BC
		VICTORIA INT'L	BC
COOLEST MEAN TEMPERATURE	-36	DAWSON	YT

ACROSS THE COUNTRY...

Yukon and Northwest Territories

In the Yukon it was clear and very cold until the weekend. Several new daily low temperature records were set, with readings dropping down to the mid-minus forties. Periods of snow and blowing snow were prevalent in the Northwest Territories; ice fog occurred in the southern Arctic. A ridge of high pressure produced fair but very cold weather in the eastern Arctic. Temperatures moderated somewhat in the high Arctic.

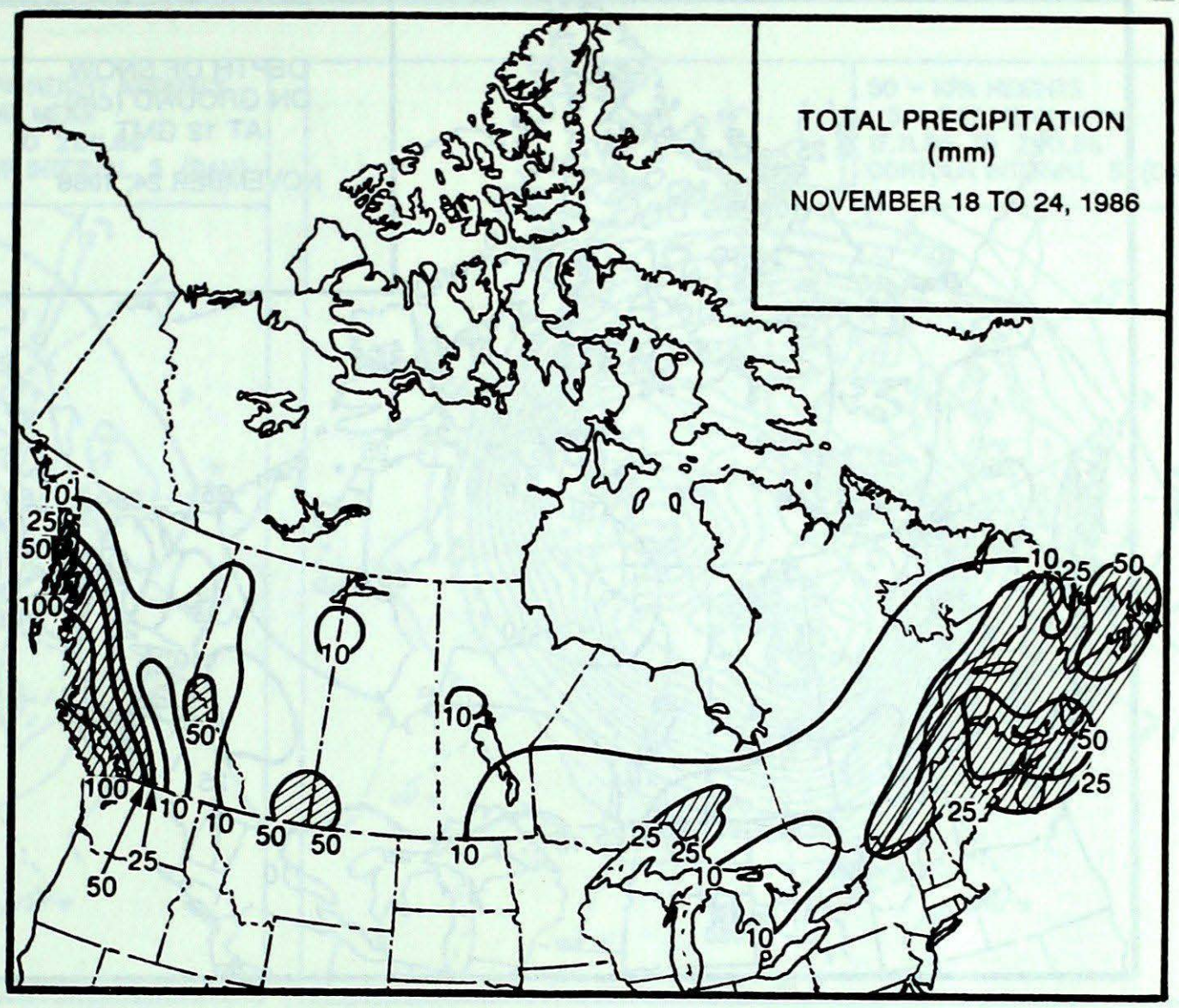
British Columbia

The Arctic airmass, which had penetrated the province earlier in the month, was finally pushed out. Only the north remained bitterly cold. At Fort Nelson, maximum temperature readings remained below the normal minimum temperature values all week. It became very mild along the coast and in the southern interior. Numerous Pacific frontal systems approached the province, producing heavy precipitation. Heavy snow and blowing snow closed the highway between Prince Rupert and Terrace earlier in the week, before the precipitation changed to rain. Heavy rains fell along the coast. Hope received more than 200 mm. Local flooding was a problem and some mountain roads were washed out. The heavy rains did not extend past the coastal mountains. Many southern interior valleys situated in rain-shadow areas remained sunny and dry.

Prairies

The early part of the week was cold, with periods of snow. Snowfalls generally varied between 5 and 10 centimetres; blowing snow occurred on November 18 and 19. New daily low temperature records were set in Saskatchewan and Manitoba each day until the 20th. By the middle of the week temperatures began moderating from the west. Chinooks, crossing the Rockies into southern Alberta, pushed temperatures up well above freezing on November 20 and 21. A more southerly circulation over the weekend produced milder conditions everywhere by the end of the period.

PRECIPITATION



HEAVIEST WEEKLY PRECIPITATION (mm)

BRITISH COLUMBIA	HOPE	280
YUKON TERRITORY	WATSON LAKE	8
NORTHWEST TERRITORIES	BAKER LAKE	14
ALBERTA	JASPER	20
SASKATCHEWAN	COLLINS BAY	11
MANITOBA	GIMLI	12
ONTARIO	KAPUSKASING	32
QUEBEC	GASPE	75
NEW BRUNSWICK	MONCTON	71
NOVA SCOTIA	SHEARWATER	76
PRINCE EDWARD ISLAND	CHARLOTTETOWN	54
NEWFOUNDLAND	ST LAWRENCE	95

Ontario

An early winter snow storm struck southern Ontario on November 20, dumping up to 20 cm of snow. The snow began falling during the early morning rush hour period and continued all day. The heavy wet snow snarled traffic in the Toronto area, and extended rush hour well into the evening. Downed feeder lines left thousands of suburban homes without power. Following the storm, temperatures moderated significantly over the weekend. Rain showers on Sunday depleted most of the white stuff. Milder weather also pushed into northern Ontario after a bitterly cold start to the period.

Quebec

A major snow storm hit southern Québec just before the weekend, producing record snowfalls. More than 70 cm of snow buried Gaspé on November 21 and 22. This is the most snow ever recorded in a two-day period at Gaspé, and is more than twice the November average. Sherbrooke, where records date back to 1901, received 52 cm, the most ever recorded in a single storm. Quebec City received 31 cm of snow, the heaviest snowfall ever recorded this early in the season. The snow was a boon to ski resort operators, which opened up their ski runs for the weekend. Temperatures were unseasonably cold most of the week; 46 daily low temperature records were broken.

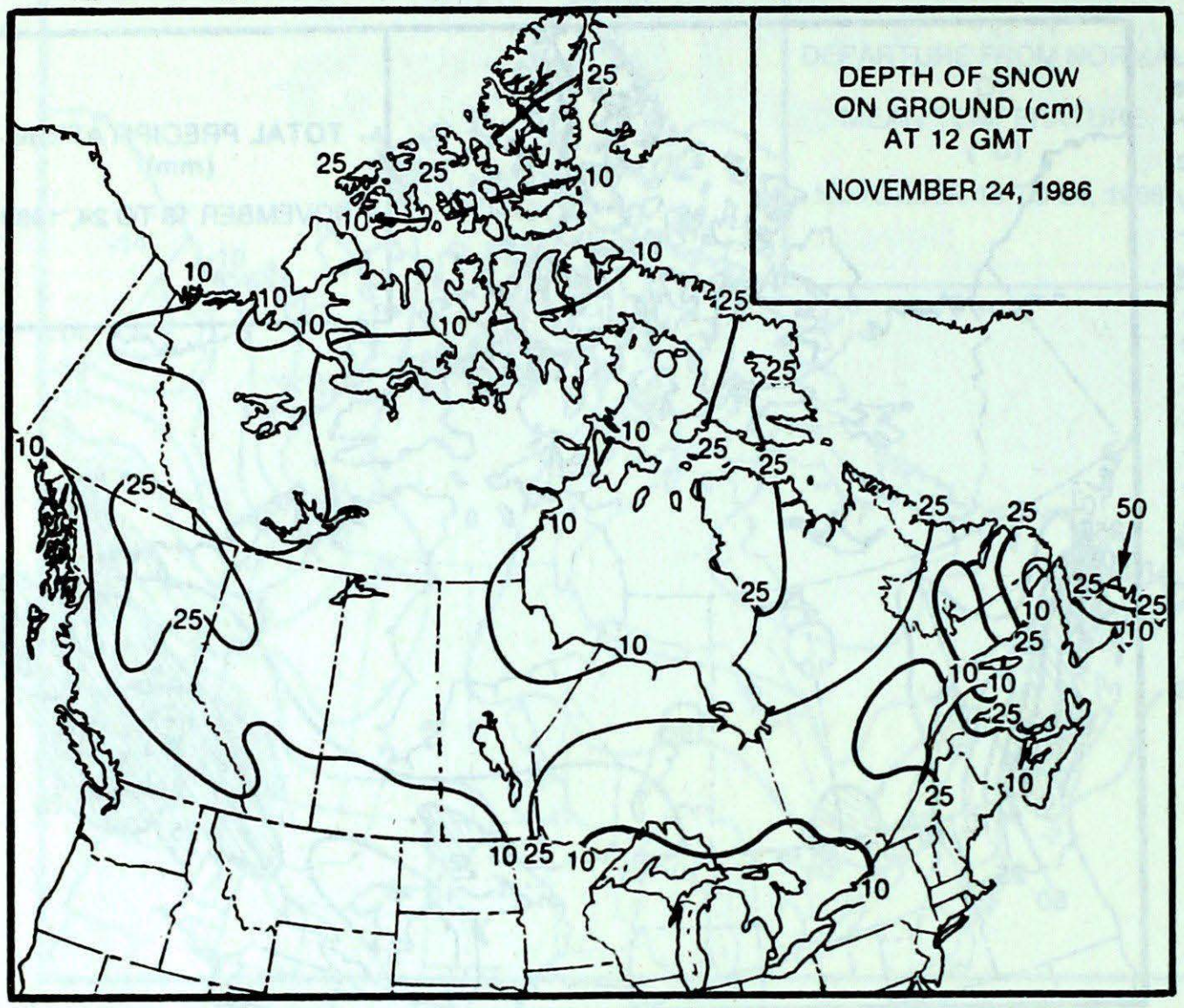
Maritimes

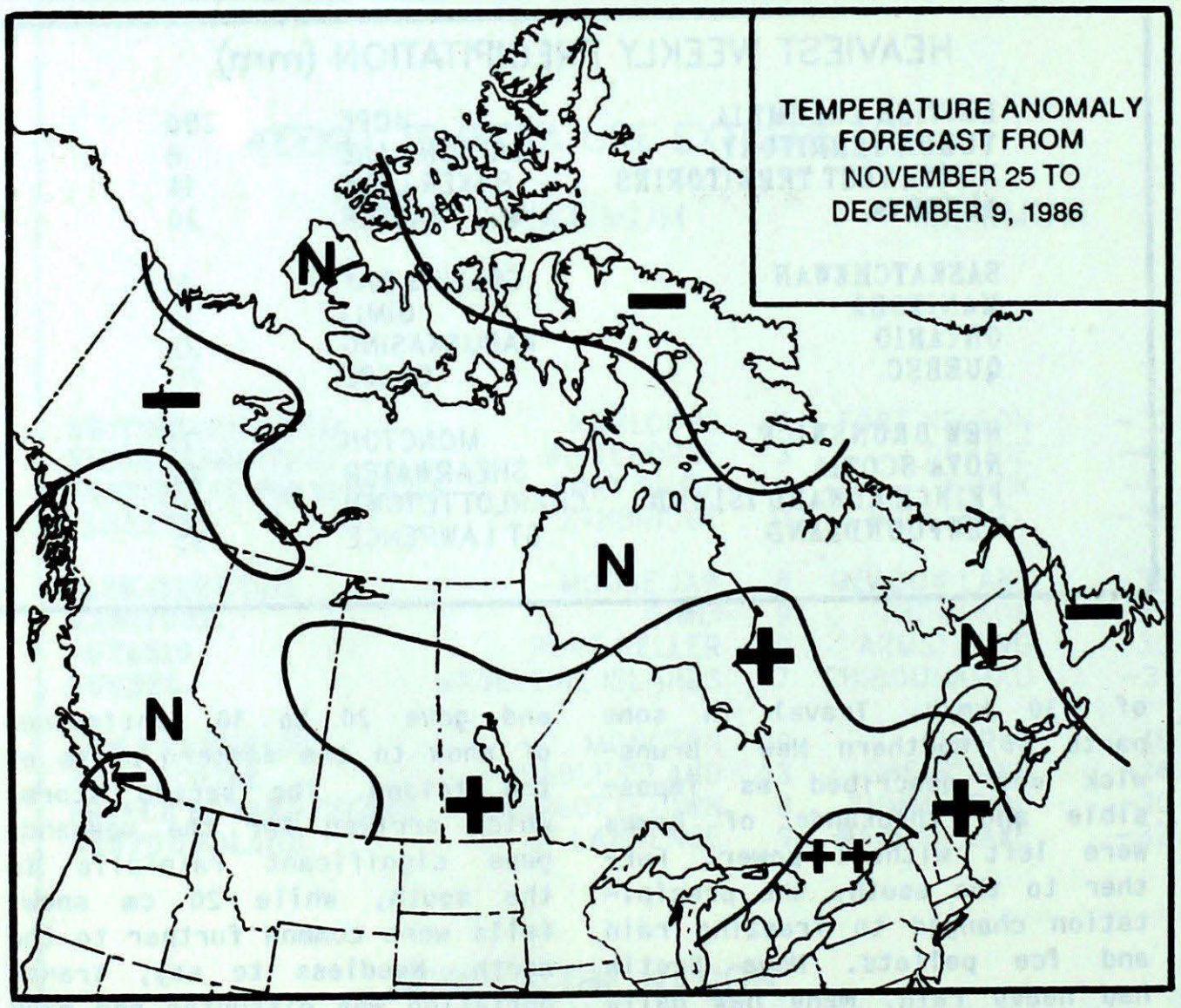
It was a cloudy, cold and stormy week in the Maritimes. The first major snow storm of the season struck the region on November 19. Nova Scotia received the brunt of the storm, with up to 28 cm of fresh snow falling at Halifax, making this the greatest 24-hour November snowfall on record. Shelburne received a 24-hour total of 27 cm, the heaviest November snowfall in 13 years. The snow caused numerous traffic tie-ups as well as accidents. Most schools and businesses were closed. Although a large portion of New Brunswick escaped the first storm, the province received the brunt of the next one on November 21 and 22. Chatham was buried under 62 cm of the white stuff. Winds on Prince Edward Island gusted in excess of 130 km/h. Travel in some parts of northern New Brunswick was described as impossible and thousands of homes were left without power. Further to the south, the precipitation changed to freezing rain and ice pellets. Nova Scotia had heavy rain. Many new daily temperature records were set early in the period.

Newfoundland

The same disturbances hit Newfoundland. The first one was accompanied by 100 km/h winds, and gave 20 to 30 centimetres of snow to the eastern parts of the Island. The second storm, which arrived for the weekend, gave significant rainfalls to the south, while 20 cm snowfalls were common further to the north. Needless to say, transportation was disrupted and many schools and businesses were closed. In Labrador relatively sunny weather was experienced, but it was unseasonably cold. Many daily low temperature records were broken. A 10 to 20 centimetres snowfall blanketted Labrador on the 18th.

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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The purpose of the publication is to make topical information available to the public concerning the Canadian Climate and its socio-economic impact.

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. The contents may be reprinted freely with proper credit.

The data shown in this publication are based on unverified reports from approximately 225 Canadian synoptic weather stations. Information concerning climatic impacts is gathered from AES contacts with the public and from the media. Articles do not necessarily reflect the views of the Atmospheric Environment Service.

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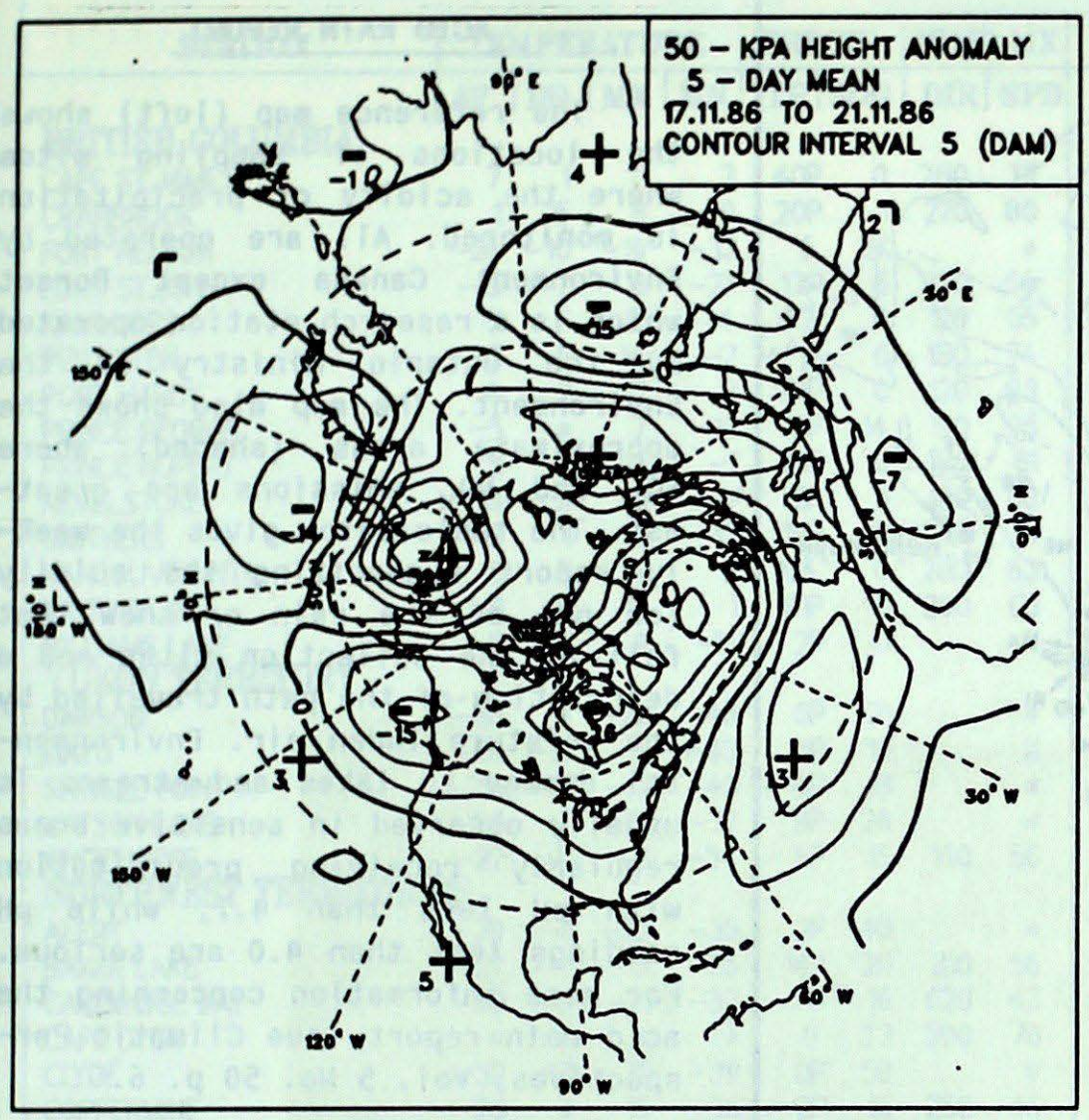
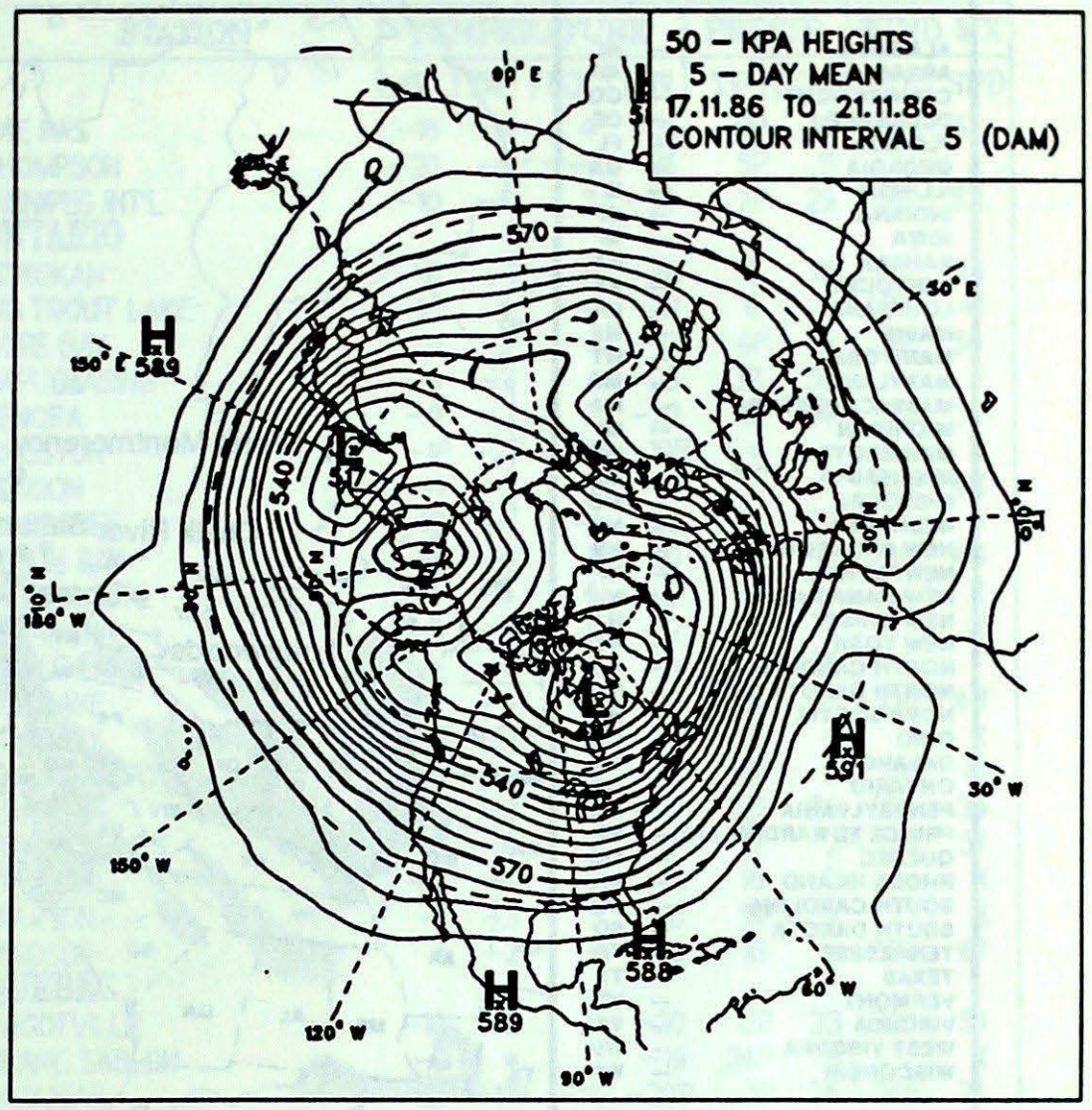
CIRCULATION

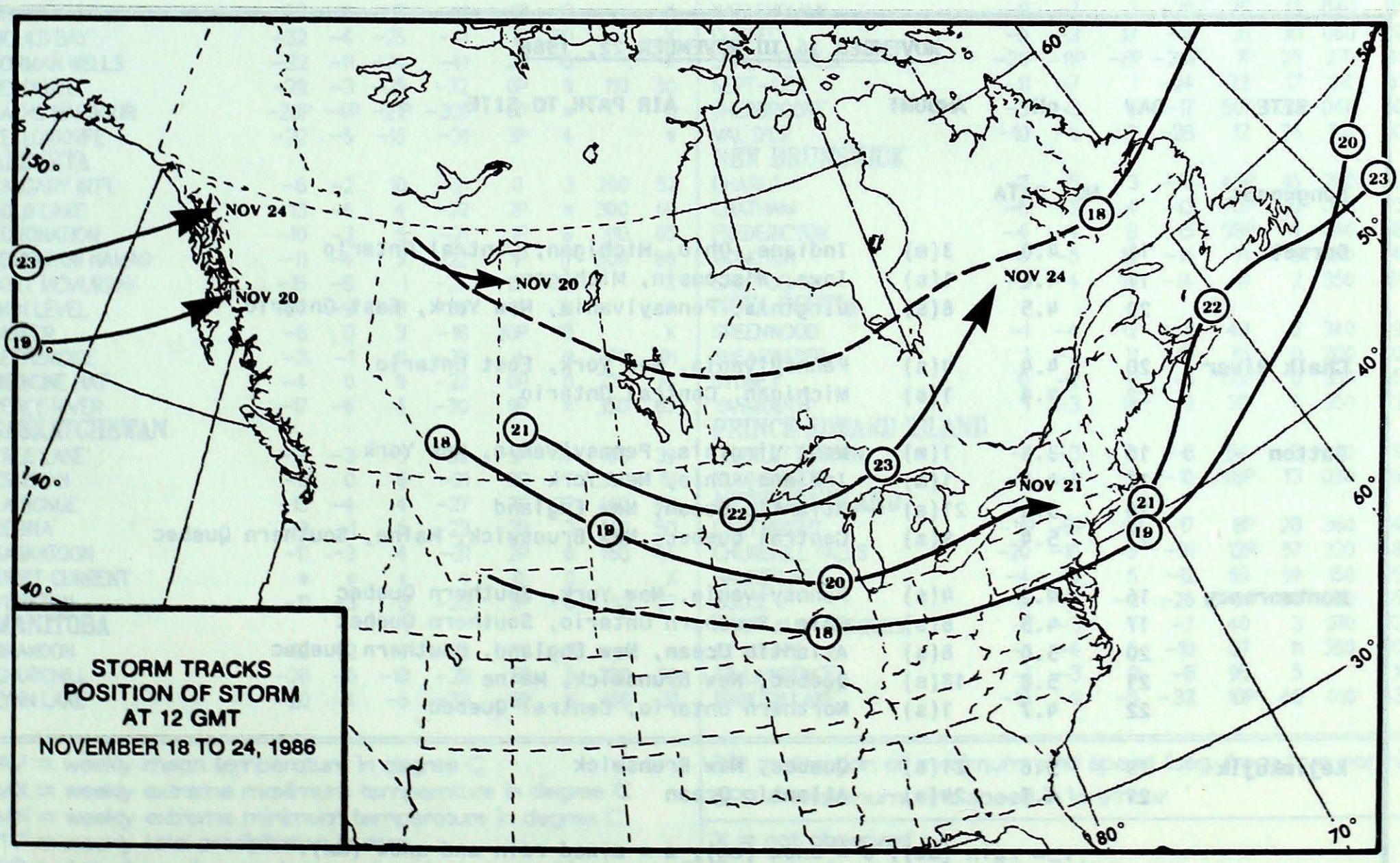
50 KPa ATMOSPHERIC CIRCULATION



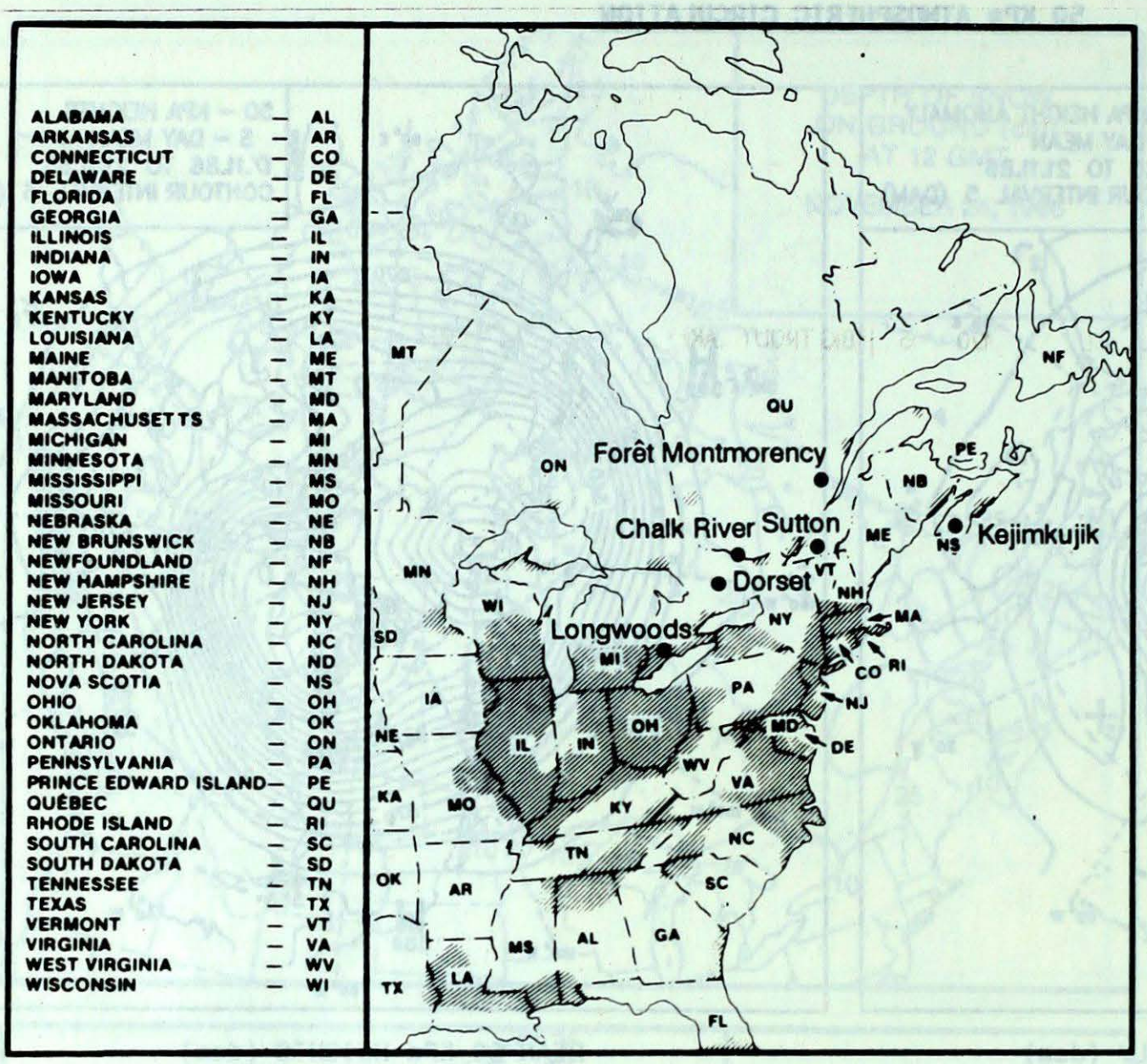
MEAN 50 KPa HEIGHT ANOMALY (dam)
November 17 to November 21, 1986



MEAN 50 KPa HEIGHTS (dam)
November 17 to November 21, 1986



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.

NOVEMBER 16 TO NOVEMBER 22, 1986

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	NO DATA			
Dorset	16	4.0	3(m)	Indiana, Ohio, Michigan, Central Ontario
	17	4.6	1(s)	Iowa, Wisconsin, Michigan
	20	4.5	8(s)	Virginia, Pennsylvania, New York, East Ontario
Chalk River	20	4.4	4(s)	Pennsylvania, New York, East Ontario
	22	4.4	1(s)	Michigan, Central Ontario
Sutton	16	3.4	1(m)	West Virginia, Pennsylvania, New York
	17	4.3	1(m)	Indiana, Ohio, New York
	20	5.4	21(s)	Atlantic Ocean, New England
	21	5.4	9(s)	Central Quebec, New Brunswick, Maine, Southern Quebec
Montmorency	16	4.2	4(s)	Pennsylvania, New York, Southern Quebec
	17	4.5	8(s)	Ohio, Southern Ontario, Southern Quebec
	20	5.0	8(s)	Atlantic Ocean, New England, Southern Quebec
	21	5.8	18(s)	Quebec, New Brunswick, Maine
	22	4.7	1(s)	Northern Ontario, Central Quebec
Kejimkujik	19	5.8	21(s)	Quebec, New Brunswick
	21	4.7	24(m)	Atlantic Ocean

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

STATISTICS

TEMPERATURE, PRECIPITATION AND MAXIMUM WIND DATA FOR THE WEEK ENDING 0600 GMT NOVEMBER 25,1986

STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
BRITISH COLUMBIA								
CAPE ST.JAMES	7	1	11	3	40P	0	280	111
CRANBROOK	1	5	8	-9	20P	1	270	80
FORT NELSON	-24	-10	-16	-32	6	27		*
FORT ST.JOHN	-15	-7	6	-27	13P	6	230	54
KAMLOOPS	5	5	17	-4	2	0	120	65
PENTICTON	7	5	14	-2	2	0	180	74
PORT HARDY	6	2	12	2	10P	0	120	83
PRINCE GEORGE	-5	*	7	-16	10P	14	190	96
PRINCE RUPERT	5	2	12	-1	79P	0	180	81
REVELSTOKE	2P	5P	6P	-2P	52	5	160	80
SMITHERS	-3	1	7	-15	19P	11	240	70
VANCOUVER INT'L	8	3	14	2	105	0	280	63
VICTORIA INT'L	8	3	16	1	81P	0	200	63
WILLIAMS LAKE	0	*	9	-16	2P	0		X
YUKON TERRITORY								
DAWSON	-36	*	-22	-46	0P	21		*
MAYO	-31	-13	-17	-43	3P	10		X
SHINGLE POINT A	-25P	-4P	-11P	-40	0P	18		*
WATSON LAKE	-24	-7	-15	-37	8P	26		*
WHITEHORSE	-22	-11	-3	-34	6P	15	160	56
NORTHWEST TERRITORIES								
ALERT	-29	-1	-22	-35	2P	40		*
BAKER LAKE	-27	-4	-15	-35	14P	28	310	56
CAMBRIDGE BAY	-30	-3	-21	-33	1P	16	020	43
CAPE DYER	*	*	*	*	0	33	300	78
CLYDE	-32	-13	-25	-39	0P	58		*
COPPERMINE	-28	*	-16	-36	2P	16	250	46
CORAL HARBOUR	-23	-5	-18	-31	1P	7		X
EUREKA	-32	0	-25	-40	0P	14		*
FORT SMITH	-20	-5	-8	-33	6P	12		X
FROBISHER BAY	-23P	-9P	-12P	-30P	3P	15	350	52
HALL BEACH	-29	-7	-18	-37	0P	12	150	39
INUVIK	-33	-10	-17	-41	1P	12		X
MOULD BAY	-32	-4	-25	-41	1P	30		X
NORMAN WELLS	-32	-11	-24	-41	2P	10		X
RESOLUTE	-29	-3	-25	-32	0P	9	110	30
SACHS HARBOUR	-28P	-4P	-21P	-33P	0P	*		X
YELLOWKNIFE	-22	-5	-15	-31	3P	4		*
ALBERTA								
CALGARY INT'L	-6	-2	10	-21	0	3	260	52
COLD LAKE	-13	-4	4	-22	2P	*	300	69
CORONATION	-10	-3	5	-21	1P	8	310	65
EDMONTON NAMAO	-11	-4	5	-22	1P	17	300	80
FORT MCMURRAY	-15	-5	1	-27	15	18		X
HIGH LEVEL	-24	-9	-8	-39	11	31		*
JASPER	-6	0	3	-18	20P	18		X
LETHBRIDGE	-3	-1	11	-22	9	0	270	91
MEDICINE HAT	-4	0	9	-22	0P	0	220	74
PEACE RIVER	-17	-6	4	-30	9P	*	350	65
SASKATCHEWAN								
CREE LAKE	-17	-3	-5	-30	5P	14	190	39
ESTEVAN	-6	0	6	-21	3P	7	200	61
LA RONGE	-15	-4	4	-27	7P	22	160	43
REGINA	-9	-1	6	-23	2P	2	140	50
SASKATOON	-11	-3	4	-21	2P	6	160	46
SWIFT CURRENT	*	*	*	*	0	0		X
YORKTON	-11	-3	5	-25	3P	6	150	57
MANITOBA								
BRANDON	-10	-2	4	-23	3P	3		*
CHURCHILL	-20	-6	-10	-28	5P	5	320	59
LYNN LAKE	-20	-4	-5	-33	6P	11	140	31
THE PAS	-15	*	4	-26	8P	16	150	57
THOMPSON	-20	-5	-4	-35	5P	11		*
WINNIPEG INT'L	-10	-4	3	-24	7P	29	170	63
ONTARIO								
ATIKOKAN	-8	-1	0	-28	19	18	180	33
BIG TROUT LAKE	-18	*	-4	-28	6	4	080	41
GORE BAY	-1	-2	6	-12	4P	*	270	56
KAPUSKASING	-9	-3	1	-25	32	38		*
KENORA	-9	-2	2	-23	17	34	170	37
KINGSTON	-1P	-2P	7P	-10P	*	*		X
LONDON	-1	-3	7	-8	11	*	280	48
MOOSONEE	-10	-4	-1	-26	12	29		*
NORTH BAY	-7	-6	3	-20	8	10	230	48
OTTAWA INT'L	-4	-4	5	-12	15P	9		X
PETAWAWA	-5	-4	5	-17	11	2		X
PICKLE LAKE	*	*	*	*	*	49		
RED LAKE	-12	-4	-2	-24	18P	47	150	43
SUDBURY	-7P	-5P	3P	-20P	11P	4		X
THUNDER BAY	-5	-2	1	-19	10P	5	170	41
TIMMINS	-8	-3	2	-27	22P	26	320	39
TORONTO INT'L	-1	-4	7	-11	17	2	320	57
TRENTON	-2	-4	7	-11	16	0		X
WIARTON	-1	-3	5	-8	9P	*		X
WINDSOR	1	-2	8	-6	16	*	030	67
QUEBEC								
BAGOTVILLE	-10	-7	6	-20	12P	23	290	59
BLANC SABLON	-9	*	2	-19	24P	8		X
INUKJUAK	-19P	-11P	-11P	-29P	1P	25	240	74
KUUJJUAQ	-20	-11	-12	-28	1P	*	270	56
KUUJJUARAPIK	-16	-10	-8	-25	4P	13	200	54
MANIWAKI	-6	-4	4	-16	11	2		*
MONT JOLI	-7	-5	5	-16	31P	5	060	85
MONTREAL INT'L	-3	-4	6	-11	31P	14	250	57
NATASHQUAN	-9	-7	3	-20	26	13	040	81
QUEBEC	-5	-3	17	-17	31	30	060	69
SCHEFFERVILLE	-21P	-11P	-8P	-30P	7P	25	270	41
SEPT-ILES	-11	-7	1	-24	23	17	010	61
SHERBROOKE	-5	-3	6	-17	50P	30	040	50
VAL D'OR	-10	-6	2	-28	12	26	310	50
NEW BRUNSWICK								
CHARLO	-8	-5	3	-18	43P	45	280	52
CHATHAM	-6	-5	4	-13	70P	30	060	85
FREDERICTON	-4	-4	8	-15	58P	4	060	78
MONCTON	-4	-5	10	-16	71	8	020	94
SAINT JOHN	-3	-4	10	-14	49	2	350	81
NOVA SCOTIA								
GREENWOOD	-1	-4	12	-11	43	2	340	89
SHEARWATER	1	-3	11	-10	76	0	200	80
SYDNEY	0	-2	11	-8	55P	0	350	85
YARMOUTH	1	-3	12	-9	35	0	350	83
PRINCE EDWARD ISLAND								
CHARLOTTETOWN	-1	-3	8	-8	54	3	330	89
SUMMERSIDE	-2	-4	7	-10	48P	13	030	89
NEWFOUNDLAND								
CARTWRIGHT	-11P	-8P	0P	-17	8P	28	360	74
CHURCHILL FALLS	-20	-10	-5	-31	12P	57	320	48
GANDER INT'L	-4	-5	5	-12	65	59	150	85
GOOSE	-15	-10	-3	-26	9P	36	280	46
PORT-AUX-BASQUES	-1	-3	7	-7	40	3	070	102
ST JOHN'S	-1	-4	5	-10	87	11	350	100
ST LAWRENCE	-1	-3	9	-8	95	5		X
WABUSH LAKE	-19	-9	-5	-33	10P	46	010	43

AV = weekly mean temperature in degree C
MX = weekly extreme maximum temperature in degree C
MN = weekly extreme minimum temperature in degree C
TP = weekly total precipitation in mm
DP = departure of mean temperature from normal in degree C
SOG = snow depth on ground in cm, last day of the period

DIR = direction of maximum wind speed (deg. from true north)
SPD = maximum wind speed in km/hour

X = not observed
P = value based on less than 7 days
* = missing