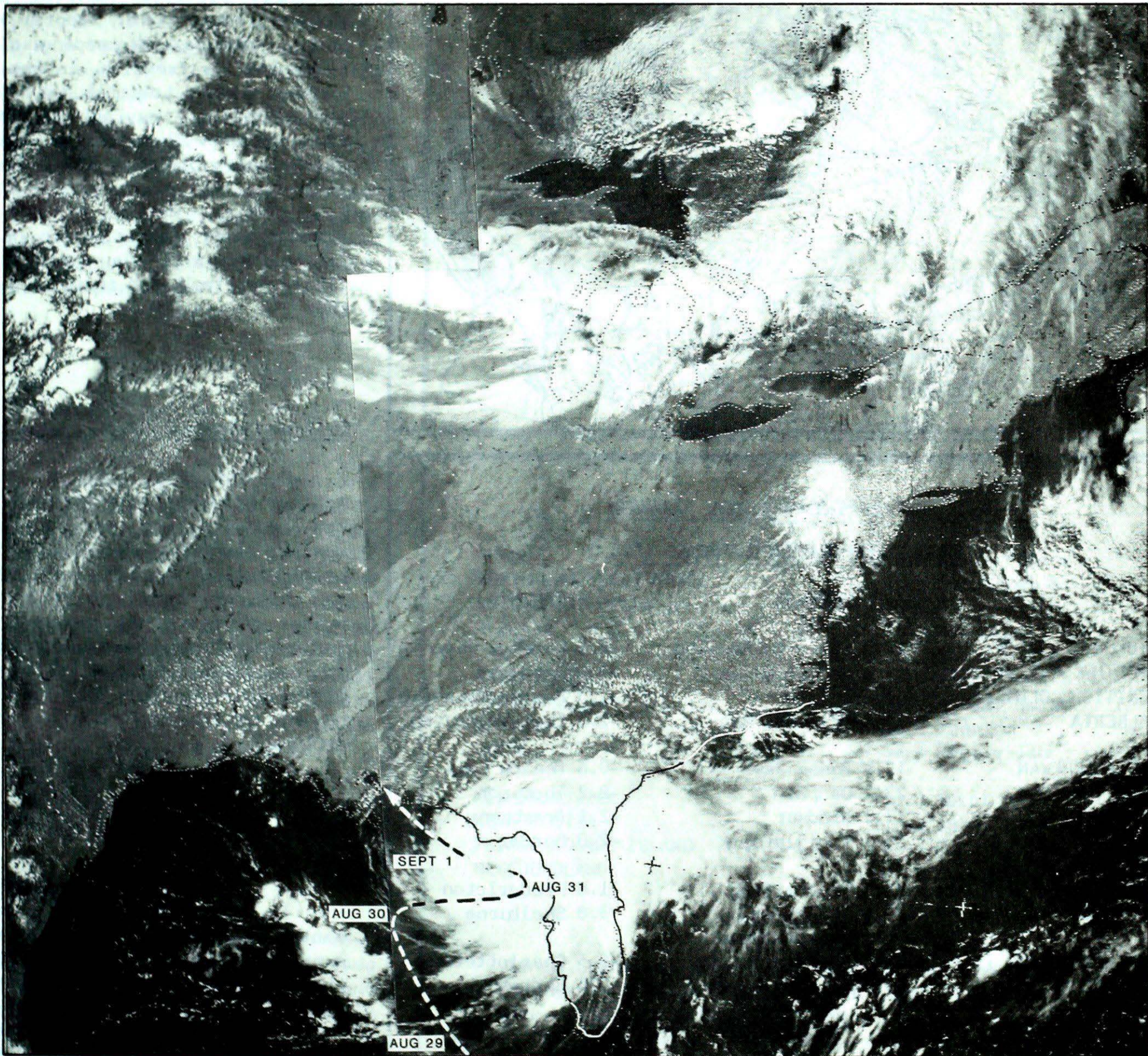


# Climatic Perspectives

A weekly review of Canadian climate

August 27 to September 2, 1985

Vol.7 No.34

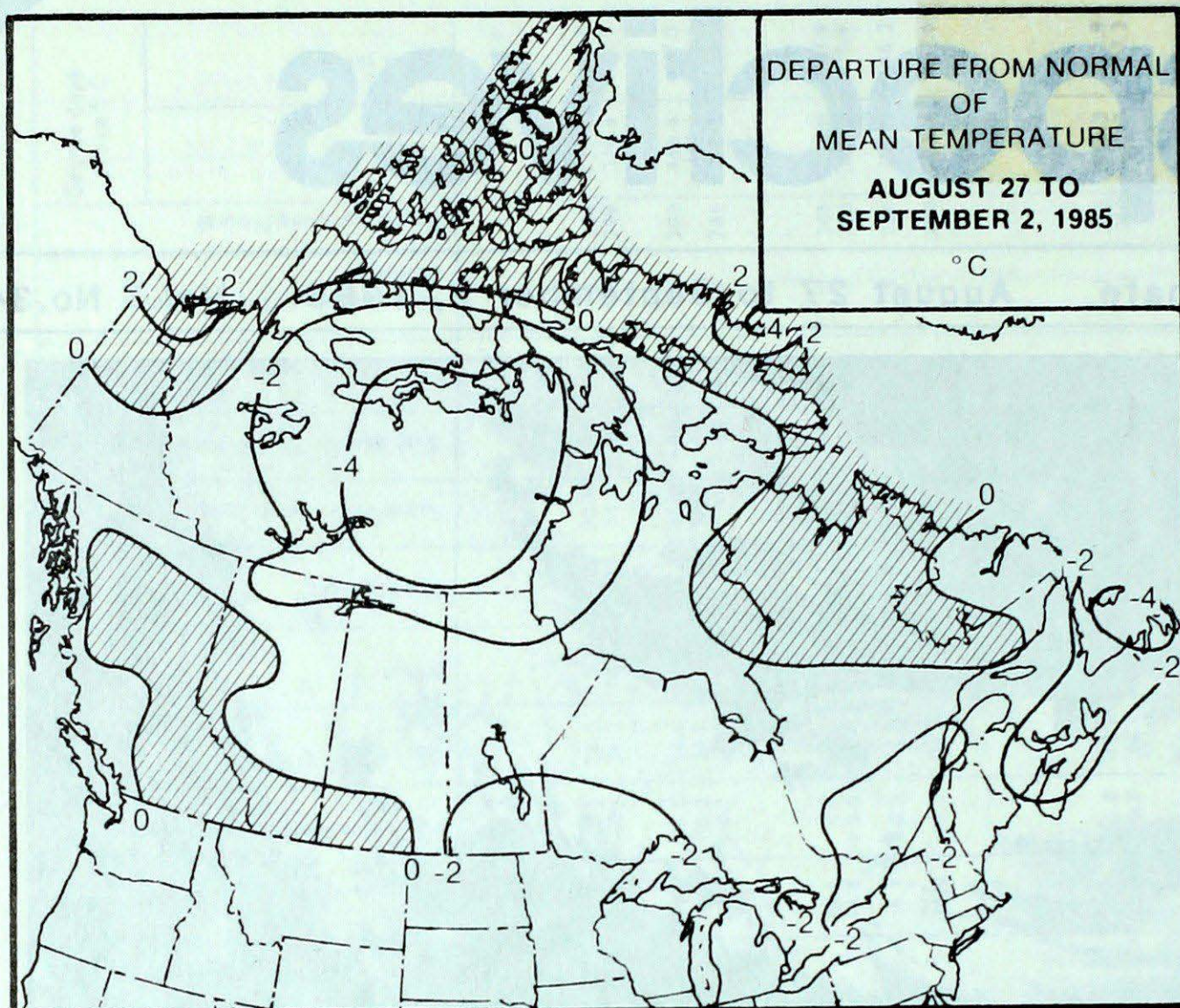


This NOAA 8 satellite picture of September 1, 1985 shows Elena, the seasons fourth hurricane, buffeting northern Florida's gulf coast. For more detail see page 3.

- ***Typical early Autumn weather***

- leaves changing colour in Northern Canada
- hail in Saskatchewan and Quebec

# TEMPERATURE



## ACROSS THE COUNTRY...

### Yukon and Northwest Territories

Autumn has arrived in the southern Yukon, as trees are gradually changing color. Frost has occurred in many areas. In the Mackenzie District, several daily maximum temperature records were broken, when daytime readings climbed to the low twenties. In the high Arctic, maximum temperatures hovered near freezing. Heaviest precipitation, between 20 and 40 mm, fell in the Keewatin District and on Baffin Island. The cruise ship *World Discoverer*, after manouevring through heavy concentration of ice in the Beaufort Sea, should have little difficulty in reaching Baffin Bay.

### British Columbia

By and large, pleasant summer weather prevailed across the southern half of the province. Weak weather systems produced only light precipitation. The fire index rating was high in many areas, but the number of fires has declined from last week. The weather was unsettled in the north. In the Peace River District, harvesting has been held up due to the showery weather conditions.

### Prairies

In the west, it was predominantly cloudy and cool. Record minimum temperatures were set early in the week, when overnight readings dropped to near freezing. It was relatively pleasant in the east. Heavy thunderstorms with hail developed in Saskatchewan on August 31. A tornado touched down near the community of Okla, northwest of Yorkton, destroying eight barns, farm machinery and trees. Hail also fell in Saskatchewan on September 1. Harvesting has resumed in Manitoba, but has been delayed by showery weather conditions in Alberta.

## WEEKLY TEMPERATURE EXTREMES (°C)

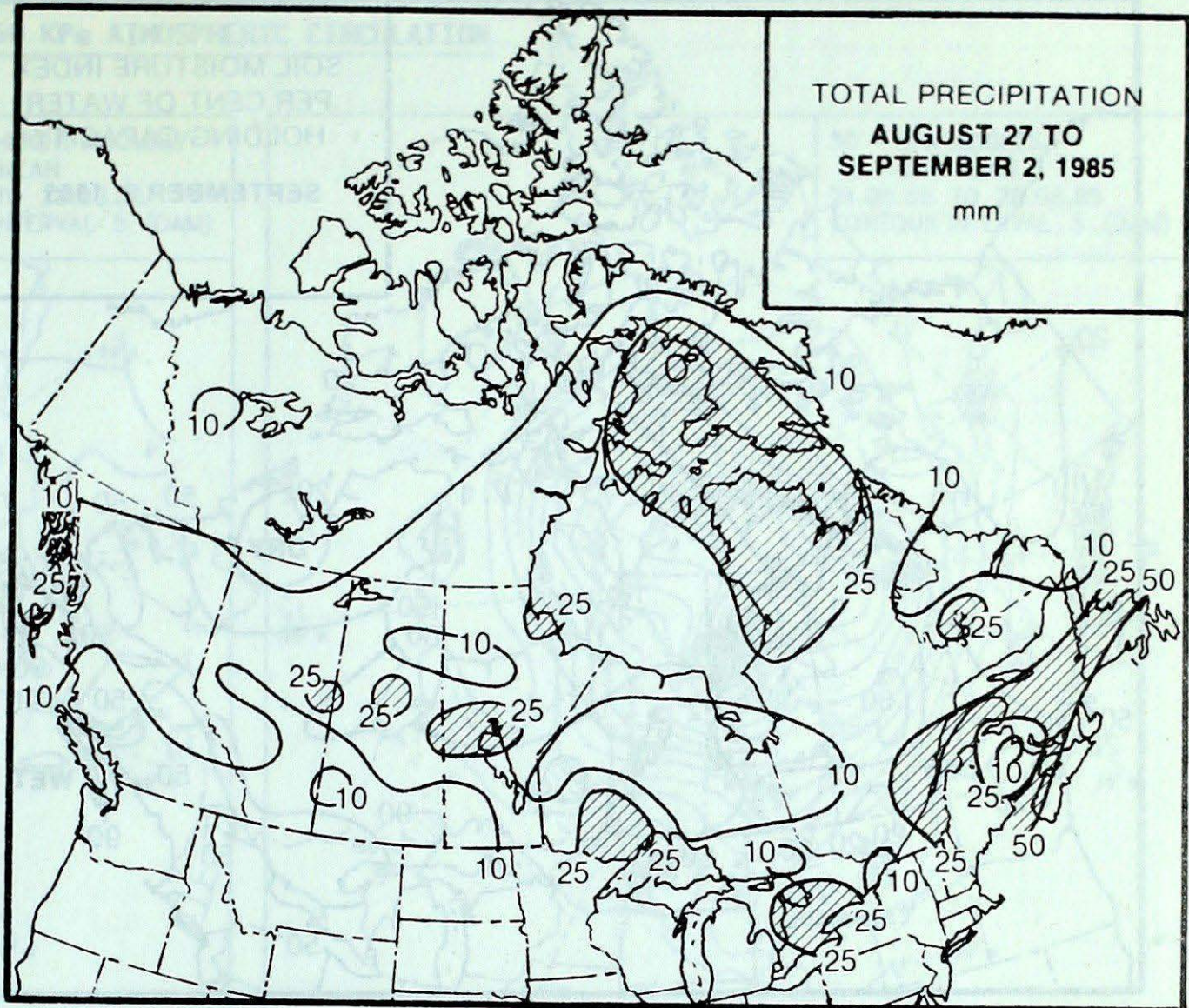
	MAXIMUM	MINIMUM
YUKON TERRITORY	19.0 Stewart Crossing	-4.5 Komakuk Beach
NORTHWEST TERRITORIES	21.2 Norman Wells	-9.0 Resolute
BRITISH COLUMBIA	31.6 Lytton	-1.3 Puntzi Mountain
ALBERTA	29.4 Medicine Hat	-2.0 Fort Chipewyan
SASKATCHEWAN	32.9 Moose Jaw	-0.6 Meadow Lake
MANITOBA	27.2 Dauphin	-2.2 Thompson
ONTARIO	27.9 Windsor	-2.1 Armstrong
QUÉBEC	25.2 Kujjuarapik	-2.0 Border
NEW BRUNSWICK	25.8 Fredericton	1.8 Fredericton
NOVA SCOTIA	25.0 Shelburne Western Head	3.8 Shelburne
PRINCE EDWARD ISLAND	23.3 Summerside	8.3 Charlottetown
NEWFOUNDLAND	25.7 Stephenville	-0.5 Badger

## ACROSS THE NATION

Warmest mean temperature	20.3	Windsor, ONT.
Coollest mean temperature	-2.7	Alert, N.W.T.

### Ontario

Overall, it was cool and unsettled as several disturbances crossed the province. There were significant daily temperature fluctuations. During part of the week, maximum temperatures even failed to reach the twenties. Thunderstorms rolled across southern Ontario on August 30, giving locally heavy downpours. Both Wiarton and Kitchener received 31 mm of rain. Damp weather has slowed the harvest, as many fields in the south were water-logged. The long weekend was relatively settled, with moderating temperatures.



### Quebec

Passing weather systems gave generally wet weather conditions to the province. Except for the north, temperatures were on the cool side. Frost on August 29 damaged some tobacco near St. Maurice. Heavy thunderstorms moved into southern Quebec on August 27, producing heavy downpours and hail. Bagotville and some areas of the Gaspé received 45 and 63 millimetres of rain, respectively.

### Atlantic Provinces

In Newfoundland, the week started sunny, but conditions deteriorated by mid-week and rainfalls were substantial, particularly in the southeast. In the Maritimes, it was cloudy and cool. A storm passed south of Nova Scotia and produced heavy rain on August 31; strong wind caused some minor power outages in the province. The weather turned chilly for the weekend. Record low temperatures were set both in Newfoundland and the Maritimes. Similar weather conditions existed in Labrador.

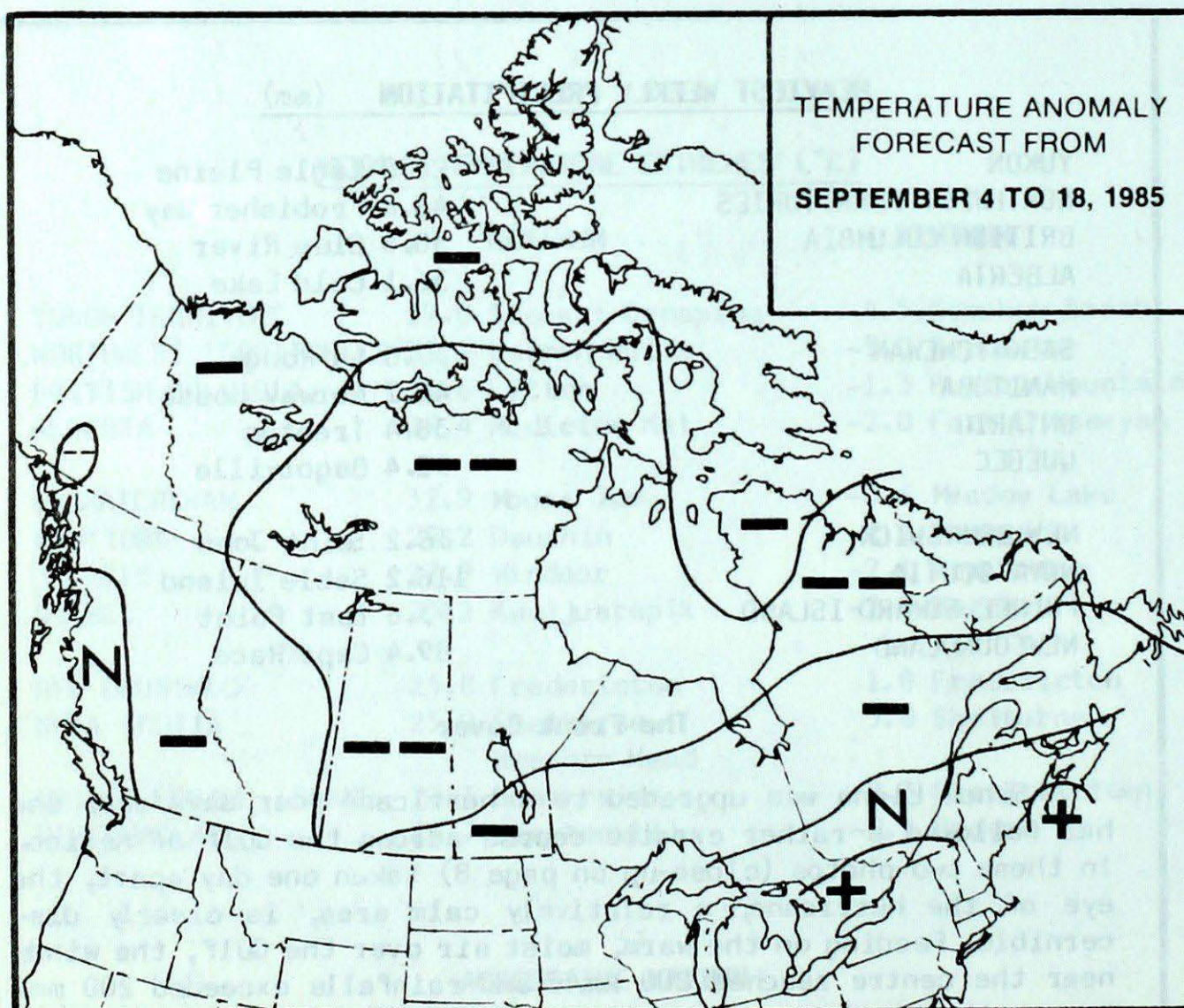
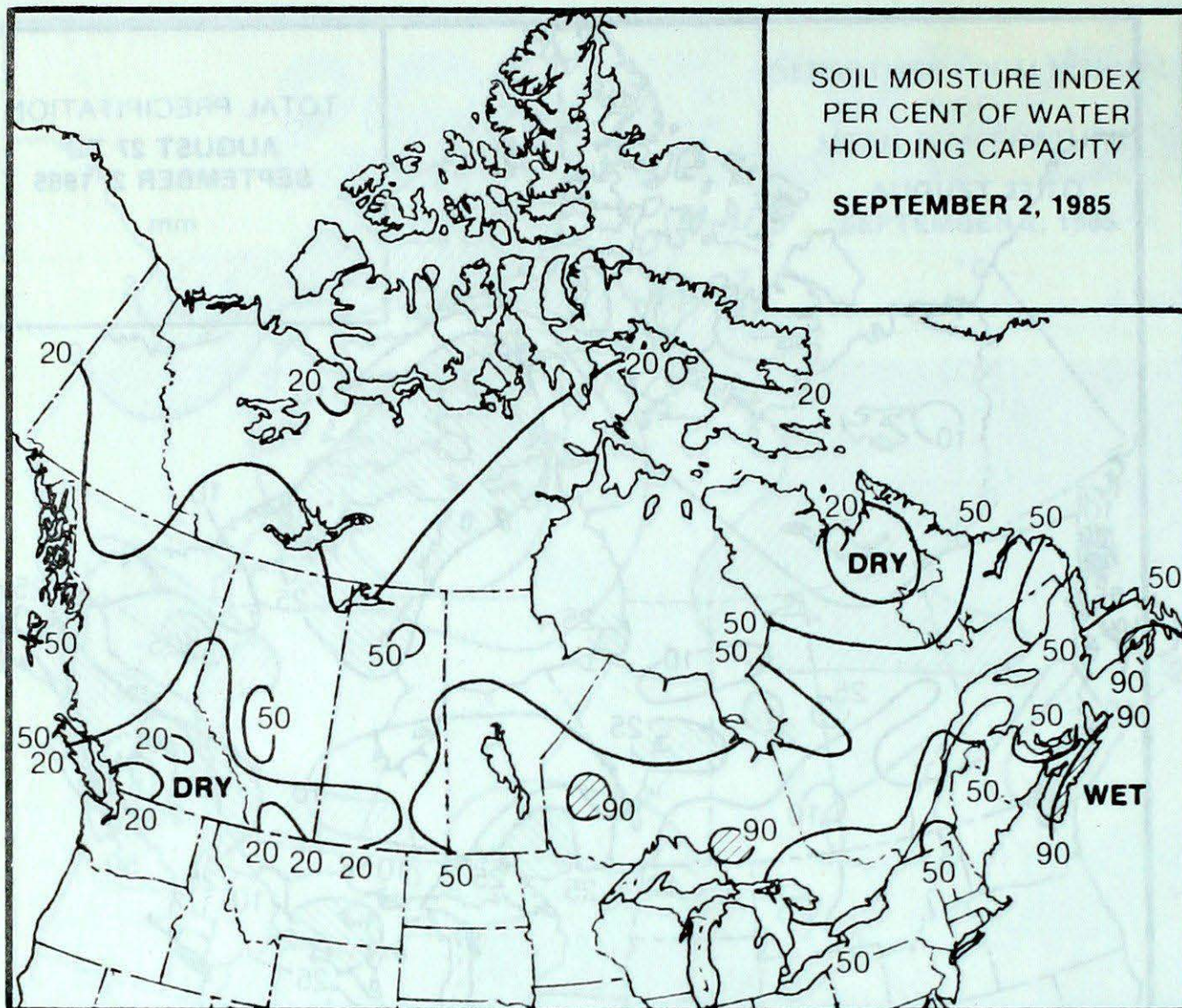
### HEAVIEST WEEKLY PRECIPITATION (mm)

YUKON	20.0 Eagle Plains
NORTHWEST TERRITORIES	46.8 Frobisher Bay
BRITISH COLUMBIA	30.8 Blue River
ALBERTA	36.1 Cold Lake
SASKATCHEWAN	37.0 La Ronge
MANITOBA	49.2 Norway House
ONTARIO	38.4 Trenton
QUEBEC	52.4 Bagotville
NEW BRUNSWICK	36.2 Saint John
NOVA SCOTIA	116.2 Sable Island
PRINCE EDWARD ISLAND	53.6 East Point
NEWFOUNDLAND	89.4 Cape Race

### The Front Cover

Since Elena was upgraded to a hurricane four days ago, she has followed a rather erratic course across the Gulf of Mexico. In these two photos (close-up on page 8) taken one day apart, the eye of the hurricane, a relatively calm area, is clearly discernible. Feeding on the warm, moist air over the Gulf, the winds near the centre reached 200 km/h and rainfalls exceeded 200 mm. Severe thunderstorms spawned many tornadoes inland. These images clearly show the swirling counterclockwise circulation into the centre of the storm. Florida's gulf coast, even though hard hit because of flooding, missed the brunt of the storm. The hurricane pounded the Alabama and Mississippi coastline before slamming into Louisiana with 195 km/h winds on Sept. 2, 1985 (photo page 8). Once inland, Elena weakened dramatically and in a matter of hours winds subsided to less than 100 km/h.

# 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.

### CLIMATIC PERSPECTIVES VOLUME 7

Managing Editor M.J. Newark  
 Editor (English) A. Radomski  
 Editor (French) A.A. Caillet  
 Staff Writer M. Skarpathiotakis  
 Art Layout K. Czaja  
 Cartography J. Strecansky  
                   G. Young/T. Chivers  
                   B. Taylor  
 Word Processing U. Ellis  
                   N. Khaja/P. Hare

### Regional Correspondents

Atl.: F. Amirault; Que.: J. Miron  
 Central: F. Luciw; Ont.: W. Christian  
 Western: W. Prusak; Pac.: N. Penny  
 Yukon : H. Wahl; Ice Central Ottawa  
 AES Satellite Data Lab  
 ISSN 0225-5707 UDC 551.506.1(71)

**Climatic Perspectives** is a weekly bilingual publication of the Canadian Climate Centre, Atmospheric Environment Service, 4905 Dufferin St., Downsview, Ont. Canada M3H 5T4. Phone (416)667-4906/4711.

It began in 1978 and in 1983 was expanded to include a monthly supplement (formerly known as the Canadian Weather Review). The purpose of the publication is to make topical information available to the public concerning the Canadian climate and its socioeconomic 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. Black and white photographs can be used, but not colour. 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.

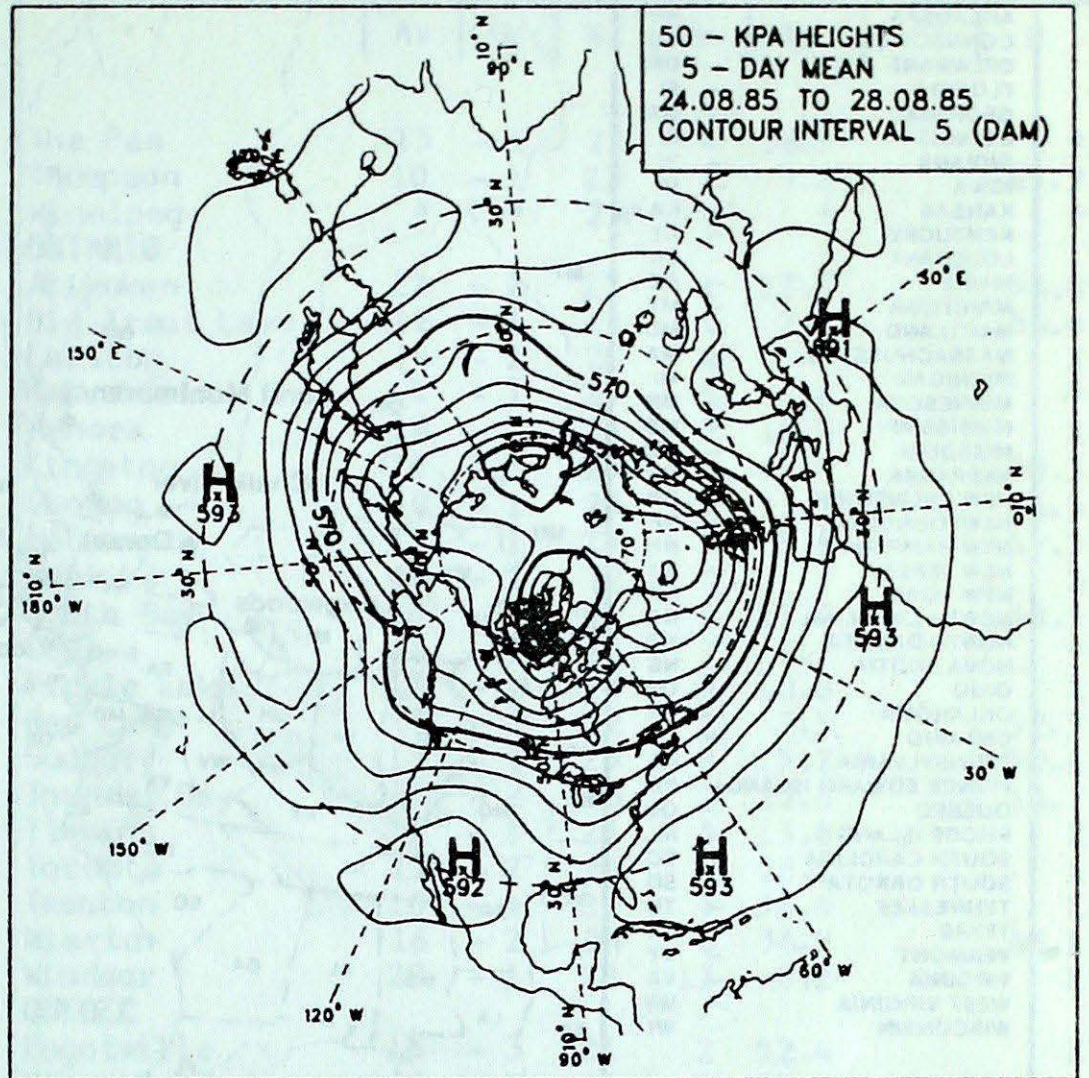
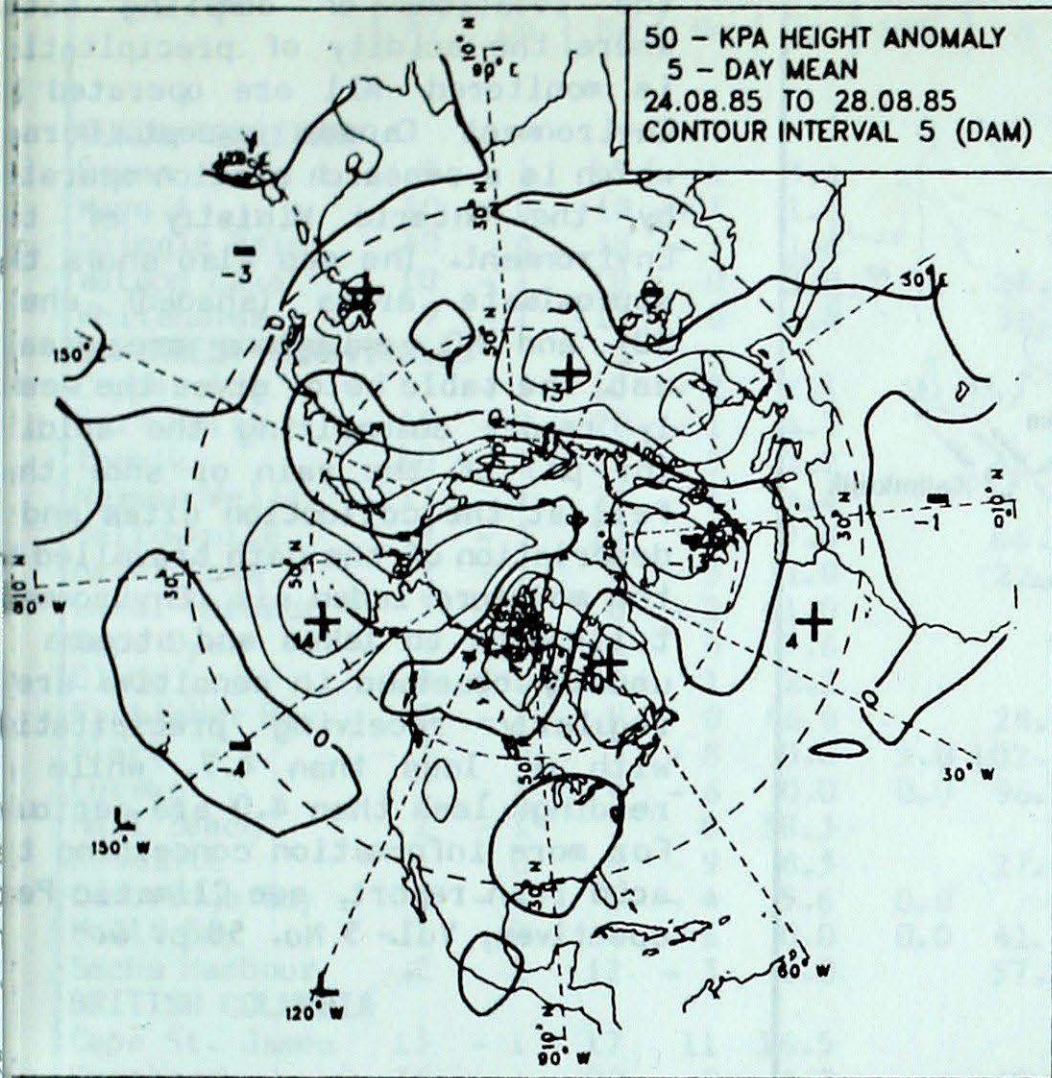
### Annual Subscriptions

Weekly issue including  
 monthly supplement: \$35.00  
 Monthly issue only: \$10.00

Subscription enquiries: Supply and Services Canada, Publishing Centre, Ottawa, Ontario, Canada, K1A 0S9. Phone (613)994-1495

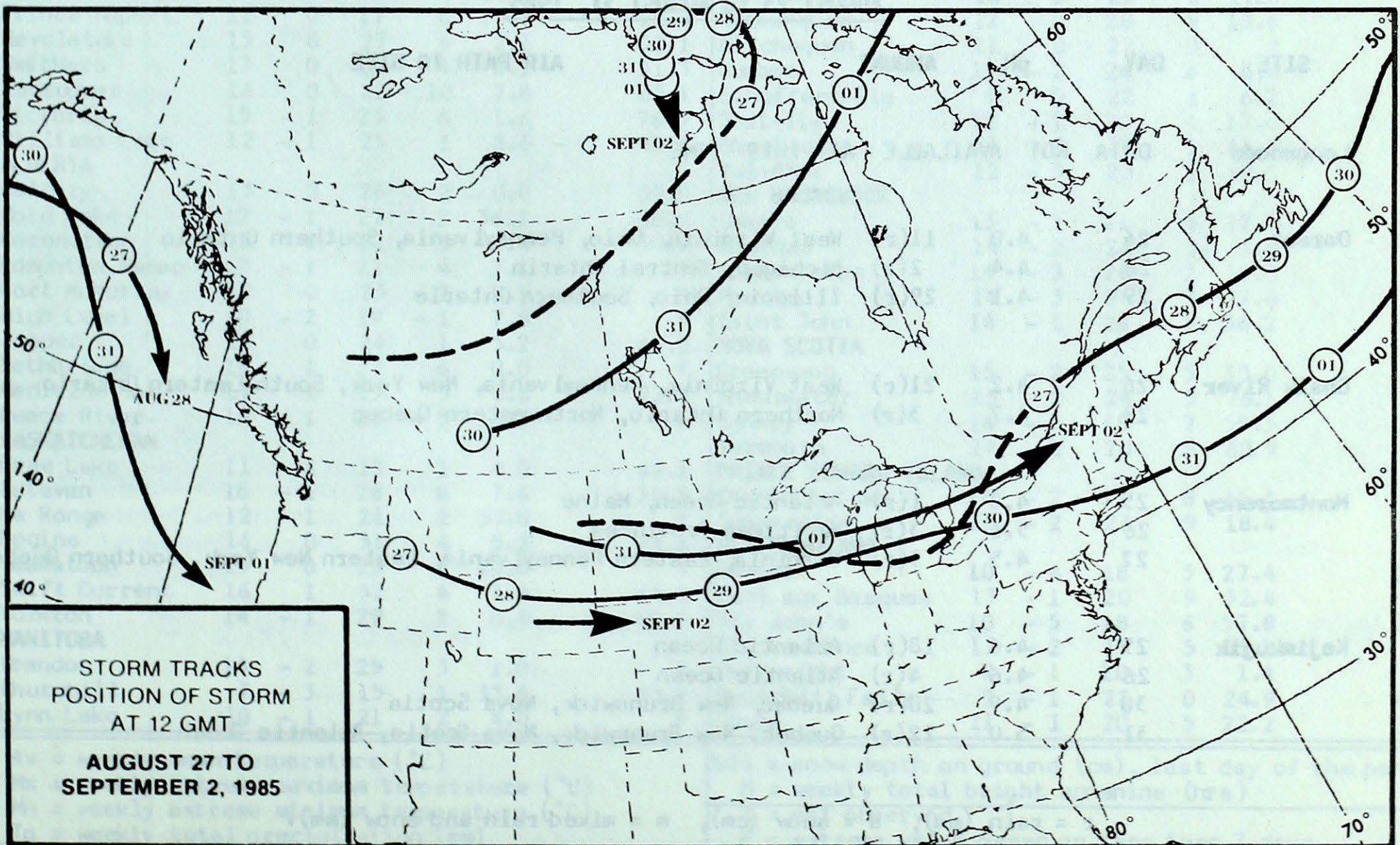
**CIRCULATION**

**50 KPa ATMOSPHERIC CIRCULATION**



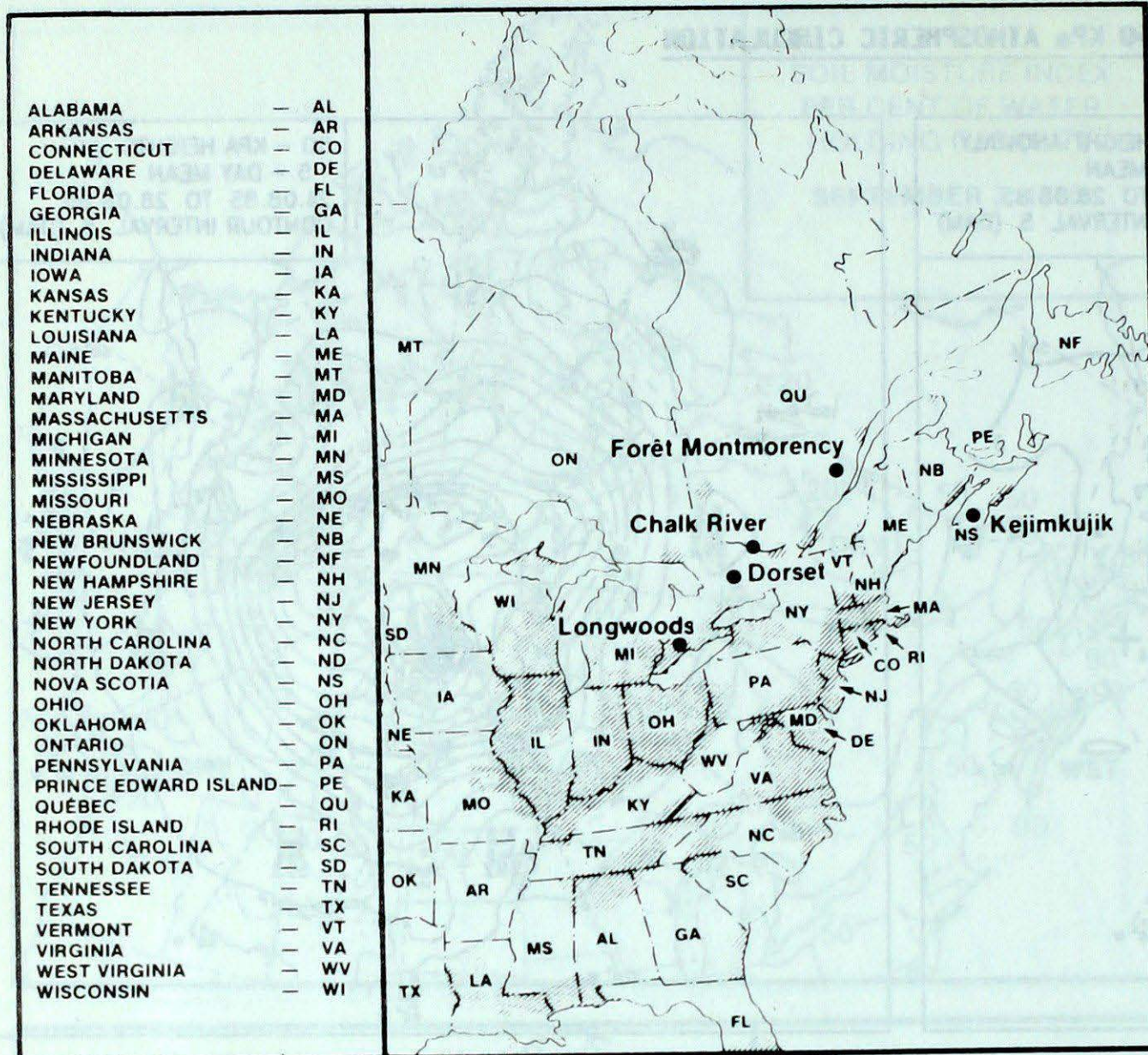
MEAN 50 KPa HEIGHT ANOMALY (dam)  
August 24 to August 28, 1985

MEAN 50 KPa HEIGHTS (dam)  
August 24, August 28, 1985



# 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  $\text{SO}_2$  and  $\text{NO}_x$  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.

AUGUST 25 to AUGUST 31, 1985

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
<b>Longwoods</b>	DATA NOT AVAILABLE AT THIS TIME			
<b>Dorset</b>	26	4.0	11(r)	West Virginia, Ohio, Pennsylvania, Southern Ontario
	28	4.4	2(r)	Michigan, Central Ontario
	29	4.1	29(r)	Illinois, Ohio, Southern Ontario
<b>Chalk River</b>	26	4.2	21(r)	West Virginia, Pennsylvania, New York, South Eastern Ontario
	29	4.7	3(r)	Northern Ontario, Northwestern Quebec
<b>Montmorency</b>	25	4.8	1(r)	Atlantic Ocean, Maine
	26	5.6	3(r)	Maritimes Provinces
	27	4.5	3(r)	Virginia, Eastern Pennsylvania, Eastern New York, Southern Quebec
<b>Kejimikujik</b>	25	4.6	18(r)	Atlantic Ocean
	26	4.6	4(r)	Atlantic Ocean
	30	4.9	20(r)	Quebec, New Brunswick, Nova Scotia
	31	5.0	22(r)	Quebec, New Brunswick, Nova Scotia, Atlantic Ocean

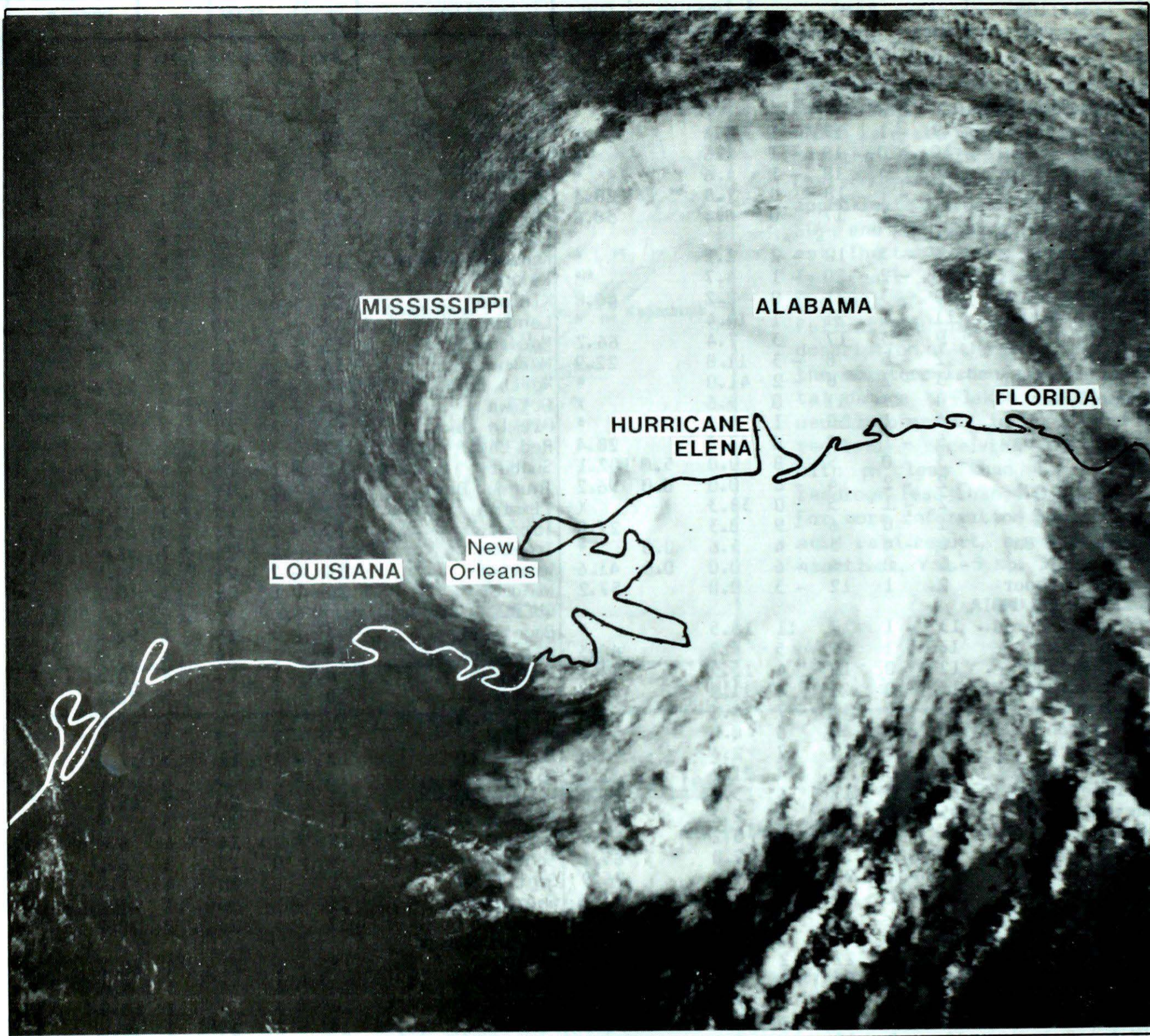
r = rain (mm), s = snow (cm), m = mixed rain and snow (mm).

## TEMPERATURE, PRECIPITATION AND BRIGHT SUNSHINE DATA FOR THE WEEK ENDING 0600 GMT SEPTEMBER 3, 1985

STATION	TEMP				PRECIP		SUN	STATION	TEMP				PRECIP		SUN
	Av	Dp	Mx	Mn	Tp	SOG	H		Av	Dp	Mx	Mn	Tp	SOG	H
<b>YUKON TERRITORY</b>								The Pas	13	-1	22	4	38.9		*
Dawson	9	-1	19	-1	3.4		X	Thompson	10	-1	23	-2	3.2		65.9
Mayo A	10	0	18	-1	1.6		X	Winnipeg	*	*	25P	4P	*		*
Shingle Point	10	4	18	-1	1.6		*	<b>ONTARIO</b>							
Watson Lake	10	-1	18	0	7.8		28.3	Atikokan	12	-2	22	1	27.6		54.0
Whitehorse	9	-1	17	0	6.4		38.8	Big Trout Lake	12	-1	21	1	7.0		56.4
<b>NORTHWEST TERRITORIES</b>								Earlton	14	-1	26	4	*		X
Coppermine	3	-3	10	-2	2.1		*	Kapuskasing	14	-1	25	5	6.6		*
Fort Smith	10	-2	20	-1	4.7		*	Kenora	14	-2	21	7	18.0		X
Inuvik	10	3	21	0	2.2		46.8	Kingston	16	-3	25	8	*		30.3
Norman Wells	11	1	21	1	14.4		*	London	18	-1	25	9	13.2		46.5
Yellowknife	9	-3	17	3	7.4		66.2	Moosonee	12	-1	25	1	8.6		55.5
Baker Lake	2	-5	8	-3	11.8		22.9	Muskoka	16	-2	22	6	*		X
Coral Harbour	3	-2	8	-2	41.0		*	North Bay	14	-2	23	9	12.0		40.3
Cape Dyer	4	1	11	0	5.6		X	Ottawa	16	-3	24	7	6.4		*
Clyde	4	1	10	1	2.2		*	Pickle Lake	13	-1	22	3	10.8		X
Frobisher Bay	5	-1	9	0	46.8		28.4	Red Lake	13	-3	22	2	7.5		52.3
Alert	-3	0	5	-8	0.0	5.0	102.1	Sudbury	15	-1	25	8	5.2		50.6
Eureka	-2	-2	4	-6	0.0	0.0	96.2	Thunder Bay	13	-2	25	2	12.6		64.7
Hall Beach	2	-1	5	0	38.3		X	Timmins	13	-1	25	3	13.4		X
Resolute	1	0	6	-9	8.3		27.8	Toronto	17	-2	26	9	28.1		X
Cambridge Bay	0	-4	5	-4	5.6	0.0	*	Trenton	16	-4	25	7	38.4		X
Mould Bay	-1	0	4	-6	0.0	0.0	41.6	Warton	16	-2	24	6	34.8		46.1
Sachs Harbour	2	1	12	-3	0.0		57.2	Windsor	20	-1	28	13	0.2		X
<b>BRITISH COLUMBIA</b>								<b>QUEBEC</b>							
Cape St. James	13	-1	17	11	16.5		*	Bagotville	13	-3	21	2	52.4		X
Cranbrook	16	1	29	5	4.7		60.3	Blanc-Sablon	10	-1	18	4	13.8		*
Fort Nelson	12	0	19	4	13.5		43.4	Inukjuak	8	1	14	4	18.4		34.9
Fort St. John	13	0	21	6	11.2		X	Kuujuaq	10	1	25	3	26.6		42.2
Kamloops	18	1	31	7	4.6		64.2	Kuujuarapik	10	0	25	2	47.0		*
Penticton	18	1	30	6	0.0		56.0	Maniwaki	13	-3	23	3	11.0		40.1
Port Hardy	13	-1	19	7	2.3		44.8	Mont-Joli	13	-2	21	3	37.6		48.1
Prince George	12	0	24	4	21.2		42.4	Montréal	16	-3	25	6	17.8		45.1
Prince Rupert	12	0	17	6	13.7		21.8	Natashquan	12	0	20	5	18.6		*
Revelstoke	15	0	27	6	2.2		51.1	Nitchequon	11	0	22	3	*		*
Smithers	13	0	21	4	0.2		31.3	Québec	15	-2	24	6	8.8		47.0
Vancouver	16	0	22	10	7.8		65.1	Schefferville	9	0	22	1	6.2		45.3
Victoria	15	-1	23	6	1.6		76.9	Sept-Iles	12	-1	20	4	17.6		51.0
Williams Lake	12	-1	25	1	8.6		43.8	Sherbrooke	13	-2	24	1	41.5		27.2
<b>ALBERTA</b>								Val-d'Or	12	-3	23	2	20.0		51.0
Calgary	13	0	26	2	0.0		59.0	<b>NEW BRUNSWICK</b>							
Cold Lake	12	-1	22	2	36.1		60.9	Charlo	13	-1	21	4	22.7		45.2
Coronation	12	-2	21	3	4.4		57.9	Chatham	14	-2	24	5	5.6		39.0
Edmonton Namao	12	-1	21	4	7.1		*	Fredericton	14	-3	26	2	16.0		*
Fort McMurray	12	0	23	-2	9.9		*	Moncton	14	-3	24	3	18.6		37.7
High Level	10	-2	19	-1	7.8		*	Saint John	14	-1	26	5	36.2		41.1
Jasper	12	0	24	1	5.2		46.0	<b>NOVA SCOTIA</b>							
Lethbridge	16	1	28	6	0.0		*	Greenwood	15	-2	25	5	30.0		X
Medicine Hat	17	1	29	5	0.8		72.6	Shearwater	15	-2	24	9	76.1		29.7
Peace River	13	1	23	5	13.3		X	Sydney	14	-3	19	7	59.5		18.8
<b>SASKATCHEWAN</b>								Yarmouth	14	-2	20	8	60.9		*
Cree Lake	11	X	18	1	4.0		69.1	<b>PRINCE EDWARD ISLAND</b>							
Estevan	16	-1	28	8	7.4		39.9	Charlottetown	14	-2	21	8	35.4		*
La Ronge	12	-1	21	2	37.0		*	Summerside	15	-2	23	9	18.4		29.3
Regina	16	0	31	4	5.8		61.6	<b>NEWFOUNDLAND</b>							
Saskatoon	15	0	29	4	10.4		*	Gander	10	-4	18	5	27.4		25.1
Swift Current	16	1	32	4	1.8		64.1	Port aux Basques	13	-1	20	9	32.4		*
Yorkton	14	-1	29	2	0.4		60.6	St. John's	10	-5	18	6	57.8		15.5
<b>MANITOBA</b>								St. Lawrence	11	-2	19	5	49.2		X
Brandon	14	-2	25	3	1.0		*	Cartwright	9	-1	20	3	1.4		*
Churchill	7	-3	15	1	33.4		53.2	Churchill Falls	9	-1	22	0	24.9		45.4
Lynn Lake	10	-1	21	2	4.0		*	Goose	11	-1	20	5	22.2		36.3

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



Taken on the morning of September 2, 1985 from 850 km above the earth's surface, this NOAA 8 satellite photo shows the eye of hurricane Elena moving inland across Louisiana shortly before she was downgraded to a tropical storm.

