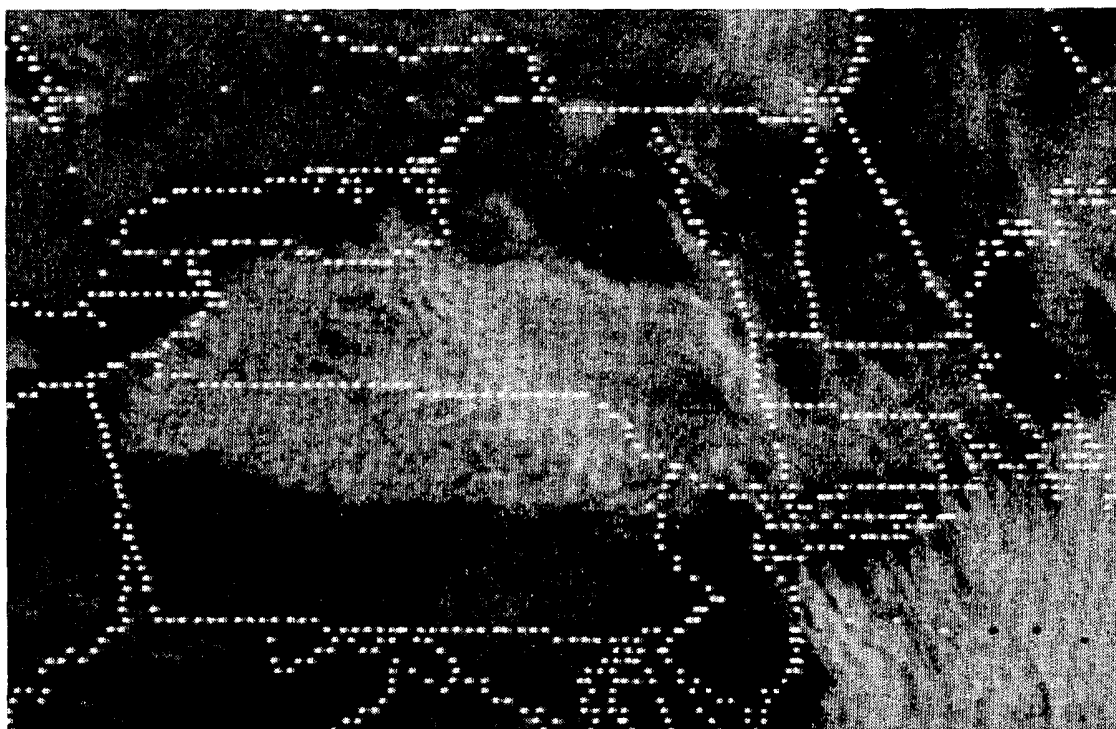


STORM DATA



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NATIONAL CLIMATIC DATA CENTER, ASHEVILLE NORTH CAROLINA"
28801

Kenneth D. Haden

DIRECTOR
NATIONAL CLIMATIC DATA CENTER

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noaa

NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

/ NATIONAL ENVIRONMENTAL SATELLITE,
DATA, AND INFORMATION SERVICE

/ NATIONAL CLIMATIC DATA CENTER
ASHEVILLE, N.C.

C O N T E N T S

Cover: Resultant of a rapidly-moving, early-season winter storm, a thick blanket of snow covering the ground across southern New York, northern Pennsylvania, and much of southern New England is seen in a GOES 6 satellite, visible image taken at 1830GMT (1330EST) on November 19th. Cold air funneling south-southeastward in the wake of the storm was responsible for the cloud streets extending downwind over the warm ocean water from the New England Coast and over the snow area from the southeast edge of Lake Ontario. (see pages 8 through 10) ---Photo from NESDIS.

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STORM DATA (ISSN 0039-1972)

The section on Outstanding Storms of the Month is prepared by Professor T. Theodore Fujita, editor, and Duane J. Stiegler, associate editor, the University of Chicago with funding by the U. S. Office of Naval Research. The Storm Data and Unusual Weather Phenomena narratives, and summaries of Hurricanes/Tropical Storms are prepared by the National Weather Service. The National Climatic Data Center compiles statistics on deaths, injuries, damage, and prepares the annual summaries of Tornadoes and Lightning. This publication contains our best information on storms, but, due to the difficulties inherent in collection of this type of data, it is not all-inclusive. Late reports and corrections will be carried quarterly. Maps of zones used in the Storm Data and Unusual Weather Phenomena will be published in these editions; Eastern States: JAN, APR, JUL, OCT.
Central States: FEB, MAY, AUG, NOV.
Western States: MAR, JUN, SEP, DEC.

Storm Data is published monthly by the National Climatic Data Center.

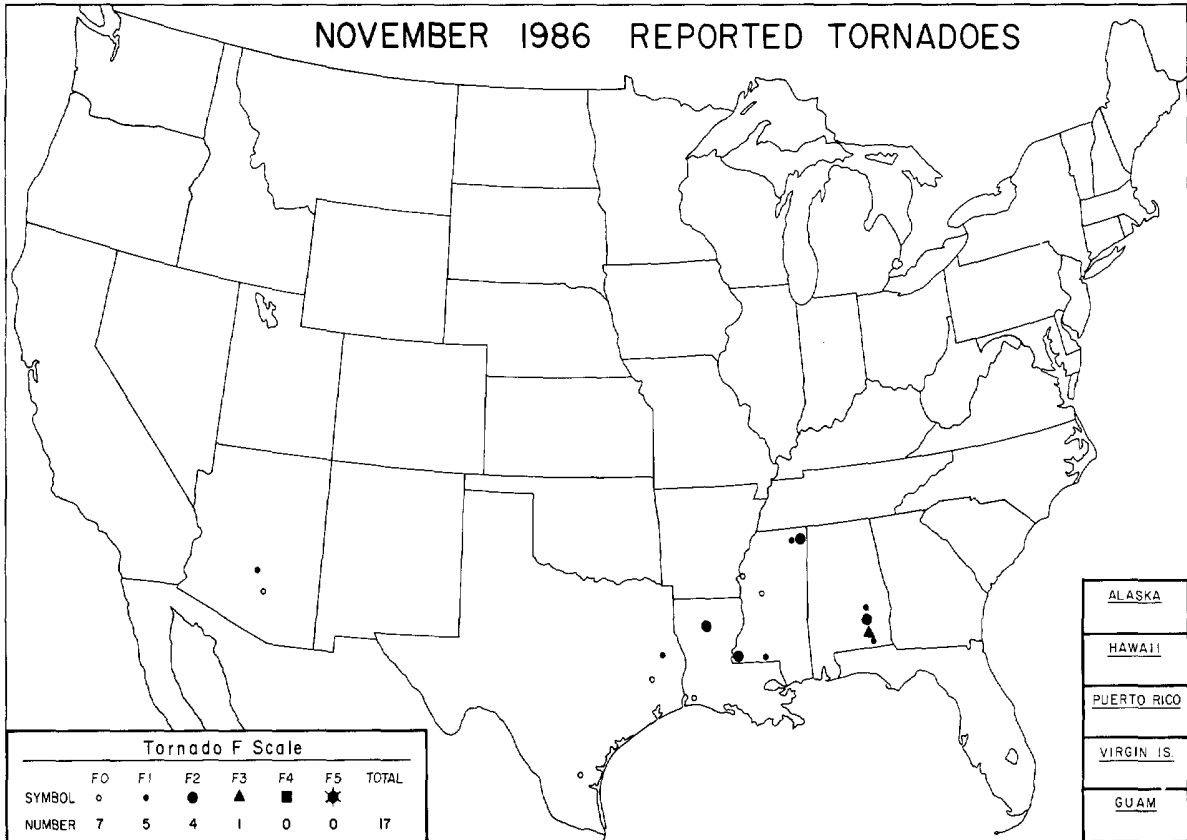
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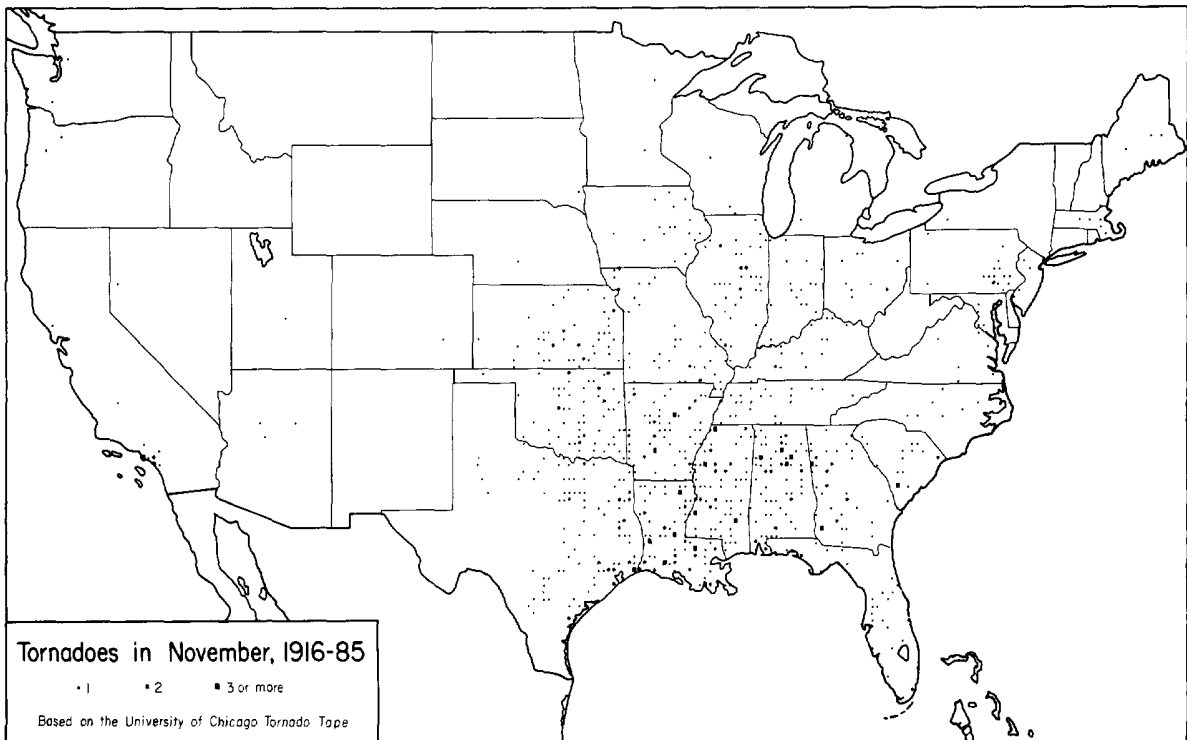
Subscription, pricing, and ordering information is available from:

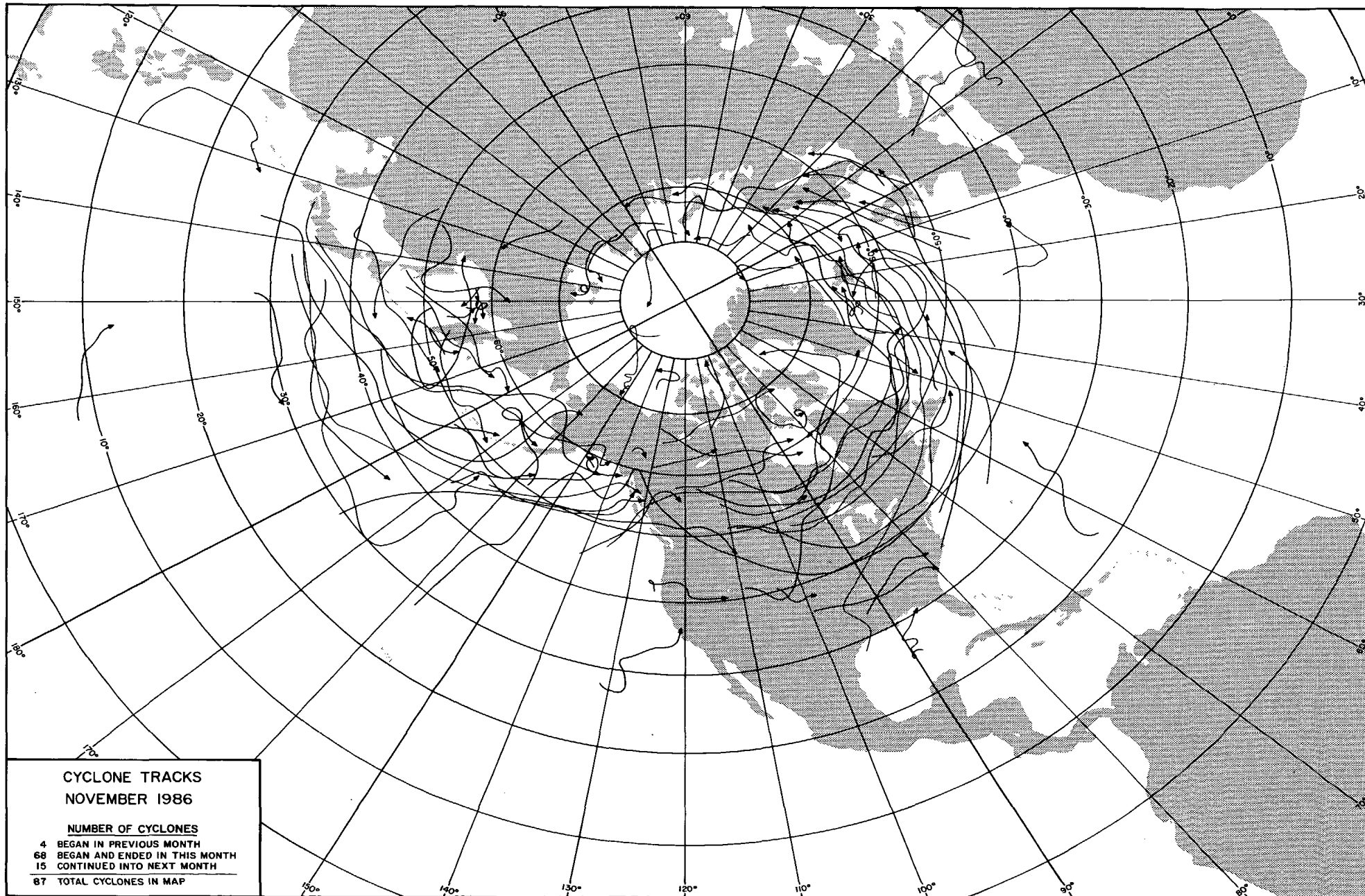
National Climatic Data Center
Federal Building
Asheville, NC 28801-2696

OUTSTANDING STORMS OF THE MONTH



<ul style="list-style-type: none"> ● COMPLETE REPORT RECEIVED ○ PRELIMINARY REPORT RECEIVED ○ REPORT NOT RECEIVED <p>(N) northern (W) western (S) southern (C) central (E) eastern (O) coastal (SE) southeastern</p>	<table style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td>● 1AL</td><td>● 7DE</td><td>● 14KS</td><td>● 21MN</td><td>● 28NJ</td><td>● 33OH</td><td>● 39SD</td><td>● 44VA</td><td>● 49AK(SE)</td> </tr> <tr> <td>● 2AZ</td><td>● 8FL</td><td>● 15KY</td><td>● 22MS</td><td>● 29NM</td><td>● 34OK</td><td>● 40TN</td><td>● 45WA</td><td>● 50HI</td> </tr> <tr> <td>● 3AR</td><td>● 9GA</td><td>● 16LA</td><td>● 23MO</td><td>● 30NY(O)</td><td>● 35OR</td><td>● 41TX(N)</td><td>● 46WV</td><td>● 51PR</td> </tr> <tr> <td>● 4CA(N)</td><td>● 10ID</td><td>● 17ME</td><td>● 24MT</td><td>● 30NY(C)</td><td>● 36PA(E)</td><td>● 41TX(S)</td><td>● 47WI</td><td>● 52VI</td> </tr> <tr> <td>● 4CA(S)</td><td>● 11IL</td><td>● 18MD</td><td>● 25NE</td><td>● 30NY(W)</td><td>● 36PA(W)</td><td>● 41TX(W)</td><td>● 48WY</td><td>● 53PC</td> </tr> <tr> <td>● 5CO</td><td>● 12IN</td><td>● 19MA</td><td>● 26NV</td><td>● 31NC</td><td>● 37RI</td><td>● 42UT</td><td>○ 49AK(N)</td><td></td> </tr> <tr> <td>● 6CT</td><td>● 13IA</td><td>● 20MI</td><td>● 27NH</td><td>● 32ND</td><td>● 38SC</td><td>● 43VT</td><td>○ 49AK(S)</td><td></td> </tr> </tbody> </table>	● 1AL	● 7DE	● 14KS	● 21MN	● 28NJ	● 33OH	● 39SD	● 44VA	● 49AK(SE)	● 2AZ	● 8FL	● 15KY	● 22MS	● 29NM	● 34OK	● 40TN	● 45WA	● 50HI	● 3AR	● 9GA	● 16LA	● 23MO	● 30NY(O)	● 35OR	● 41TX(N)	● 46WV	● 51PR	● 4CA(N)	● 10ID	● 17ME	● 24MT	● 30NY(C)	● 36PA(E)	● 41TX(S)	● 47WI	● 52VI	● 4CA(S)	● 11IL	● 18MD	● 25NE	● 30NY(W)	● 36PA(W)	● 41TX(W)	● 48WY	● 53PC	● 5CO	● 12IN	● 19MA	● 26NV	● 31NC	● 37RI	● 42UT	○ 49AK(N)		● 6CT	● 13IA	● 20MI	● 27NH	● 32ND	● 38SC	● 43VT	○ 49AK(S)	
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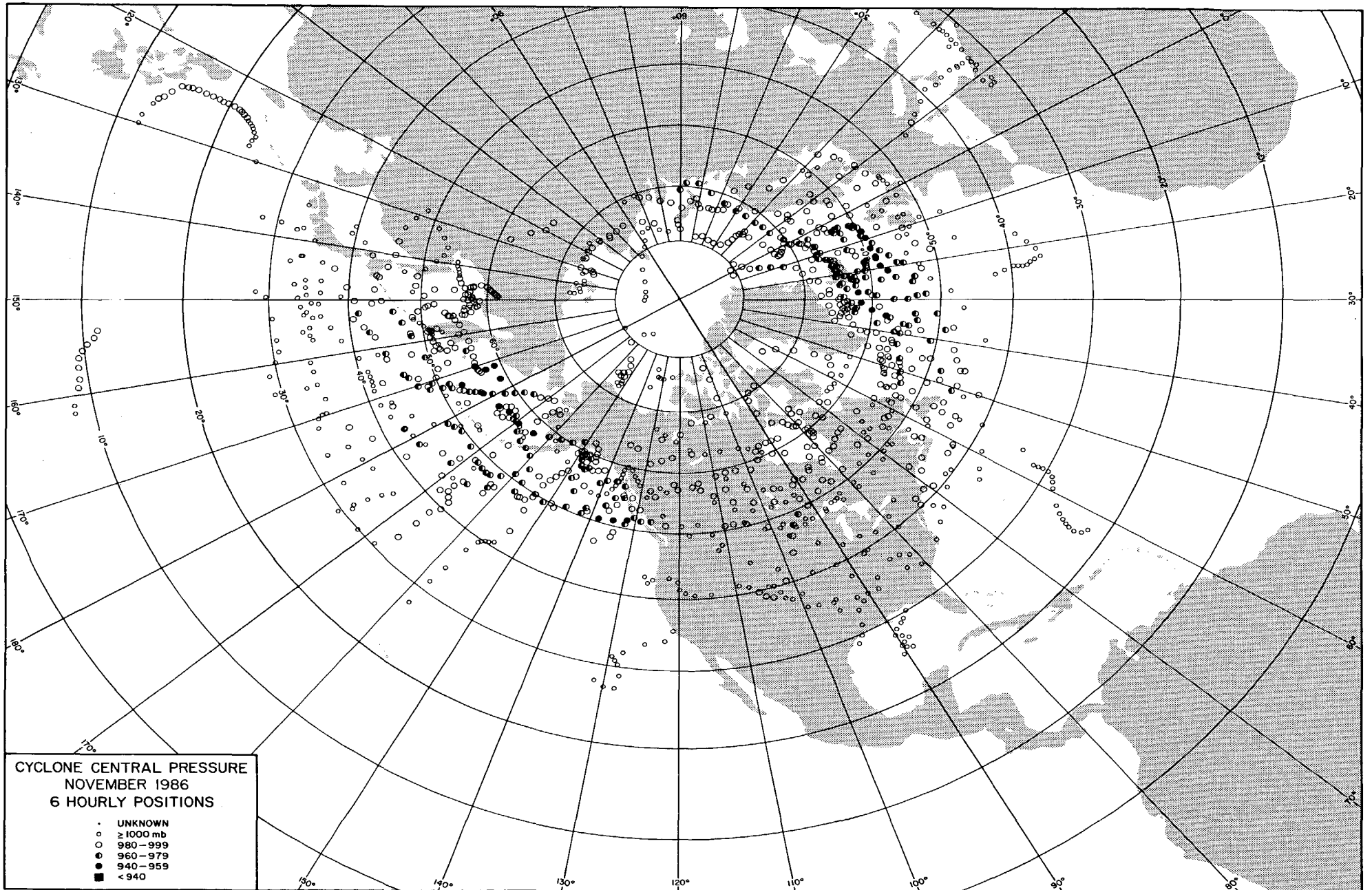




**CYCLONE TRACKS
NOVEMBER 1986**

NUMBER OF CYCLONES

- 4 BEGAN IN PREVIOUS MONTH
- 68 BEGAN AND ENDED IN THIS MONTH
- 15 CONTINUED INTO NEXT MONTH
- 87 TOTAL CYCLONES IN MAP



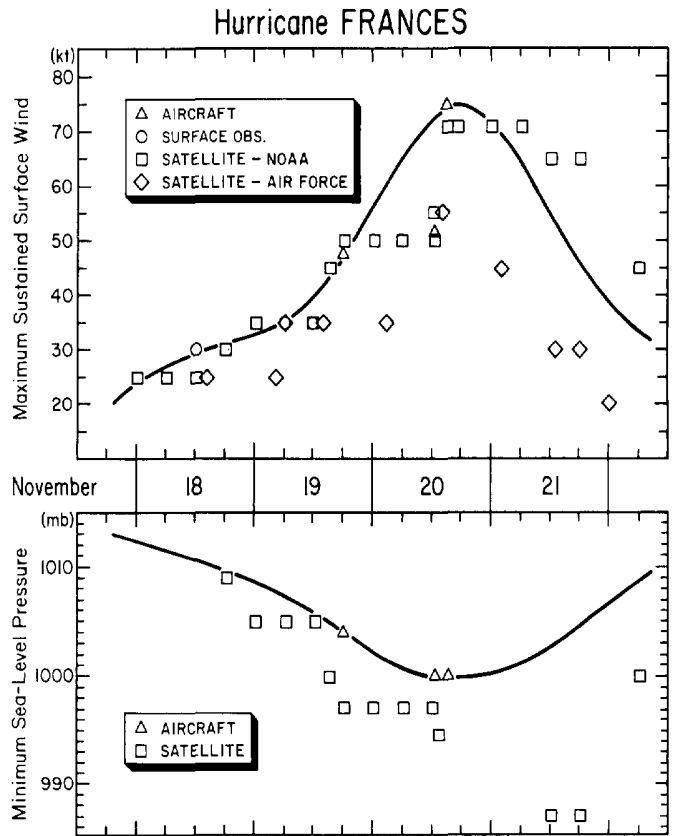
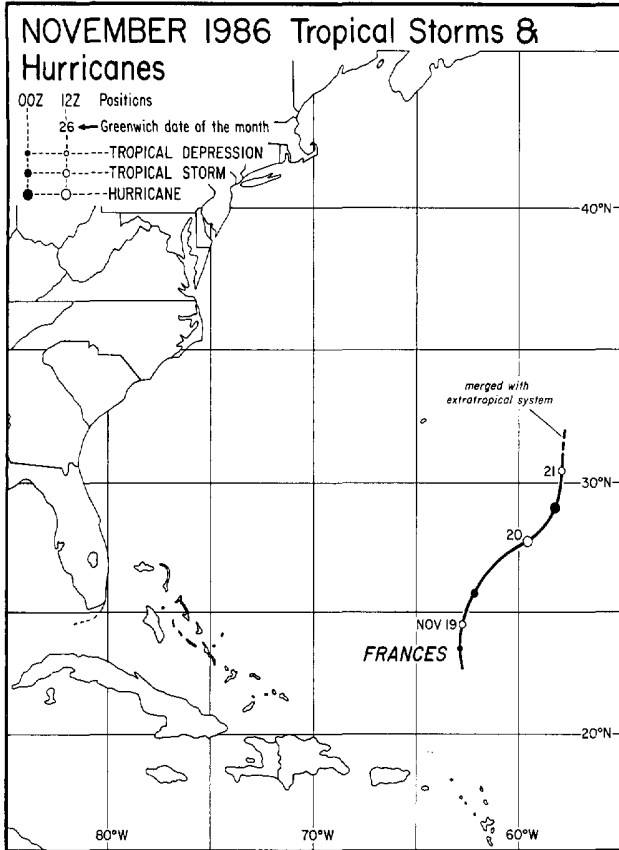
**CYCLONE CENTRAL PRESSURE
NOVEMBER 1986
6 HOURLY POSITIONS**

- UNKNOWN
- ≥ 1000 mb
- ◐ 980-999
- ◑ 960-979
- 940-959
- < 940

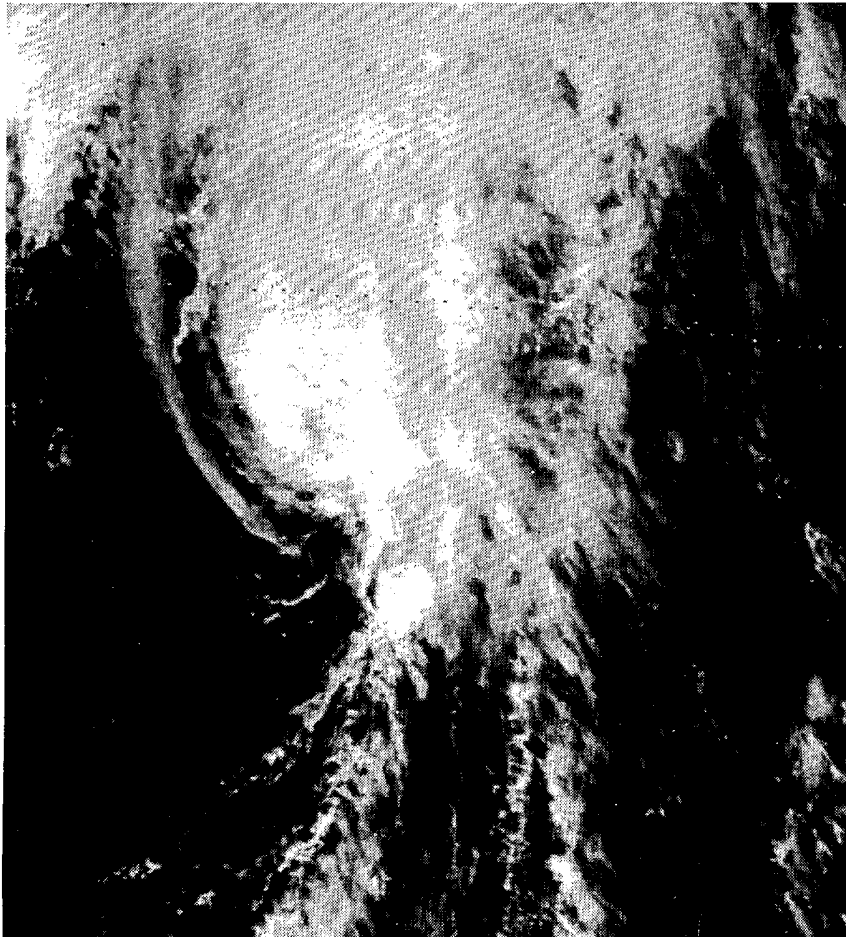
Missing data: Eurasian continent area only, OOGMT, Nov. 1 through OGGMT, Nov. 17

Mapped at the University of Chicago from NMC, 6-hourly surface maps

TROPICAL STORMS AND HURRICANES



The path from best track data (left) and plots of estimated, maximum sustained surface winds and minimum sea-level pressure versus time (right) for Hurricane FRANCES.



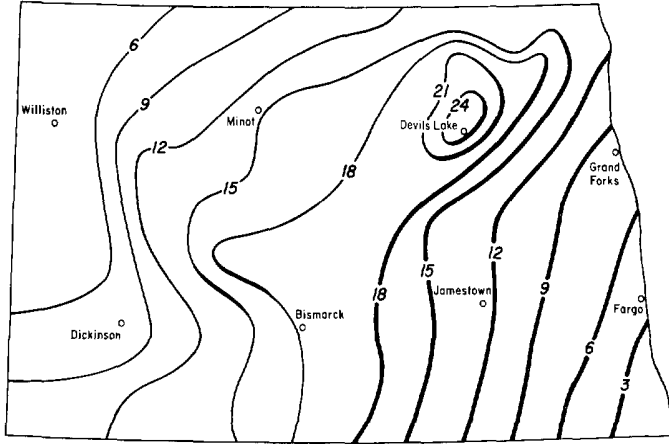
LEFT: Hurricane FRANCES at 1600GMT on November 20th as it attained its maximum intensity. Its small eye is barely noticeable beneath a veil of thin cirrus as seen in this visible, GOES 6 satellite image.

---Best track data, wind and pressure plots, and satellite photo from the National Hurricane Center and provided by the Atlantic Oceanographic and Meteorological Laboratory/ Hurricane Research Division, both of Miami, Florida.

1. HEAVY SNOW in the NORTHERN PLAINS on November 7-8, 1986

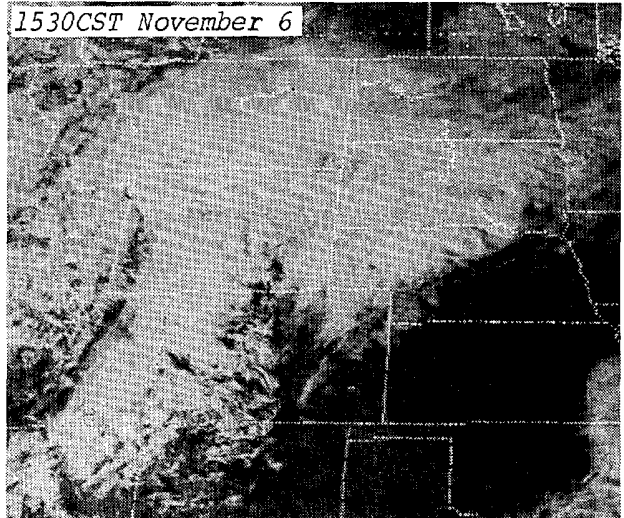
An early-season, major winter storm struck the Northern Plains with high winds and heavy snow on November 7th and 8th. Although portions of bordering states were affected, North Dakota took the brunt of the storm. Most of the state experienced blizzard conditions on the 8th as winds of 30 to 50 mph with gusts of up to 70 mph accompanied the heavy snow. Snowfall amounts were over a foot over most of the state, and as high as 25 inches at Devils Lake. ---Map below from the NWSFO at Bismarck, North Dakota.

NORTH DAKOTA SNOWFALL November 7-8, 1986



Snowfall in inches contoured at 3 inch intervals

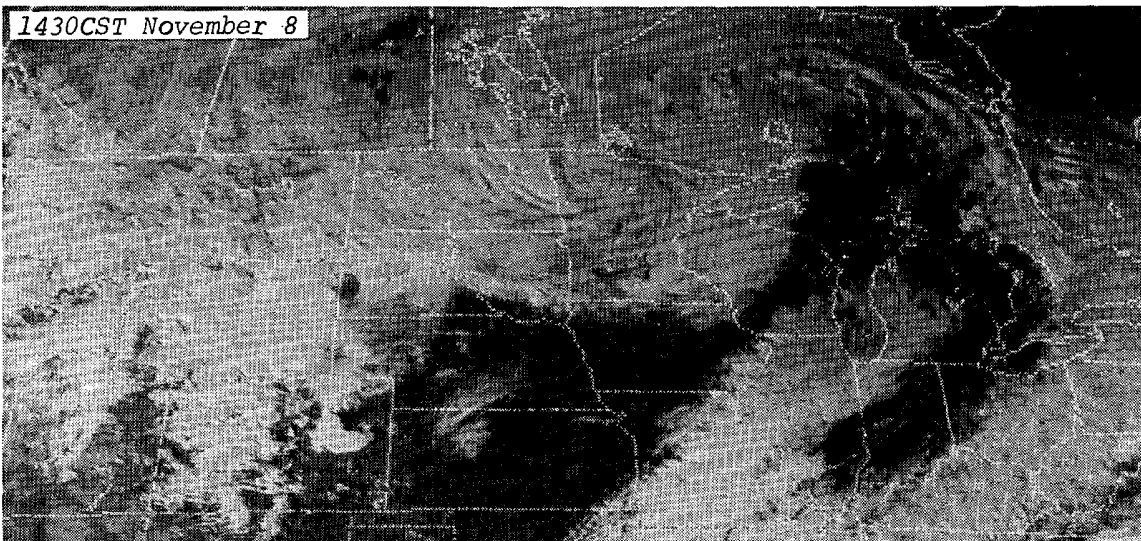
1530CST November 6



1430CST November 7



1430CST November 8

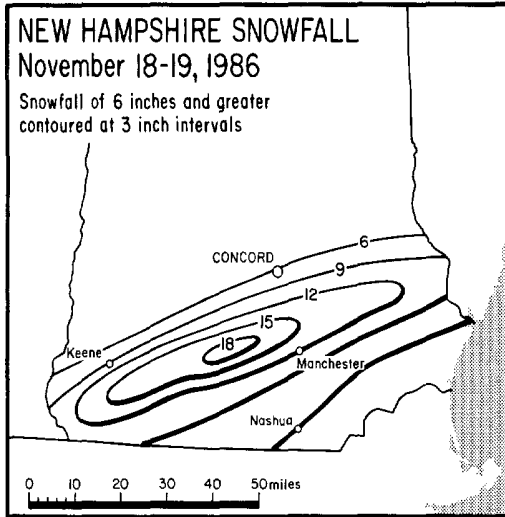


Three GOES 6 satellite, visible images above show the major winter storm intensifying as it moved east-northeast across the northern plains.

---Photos from NESDIS.

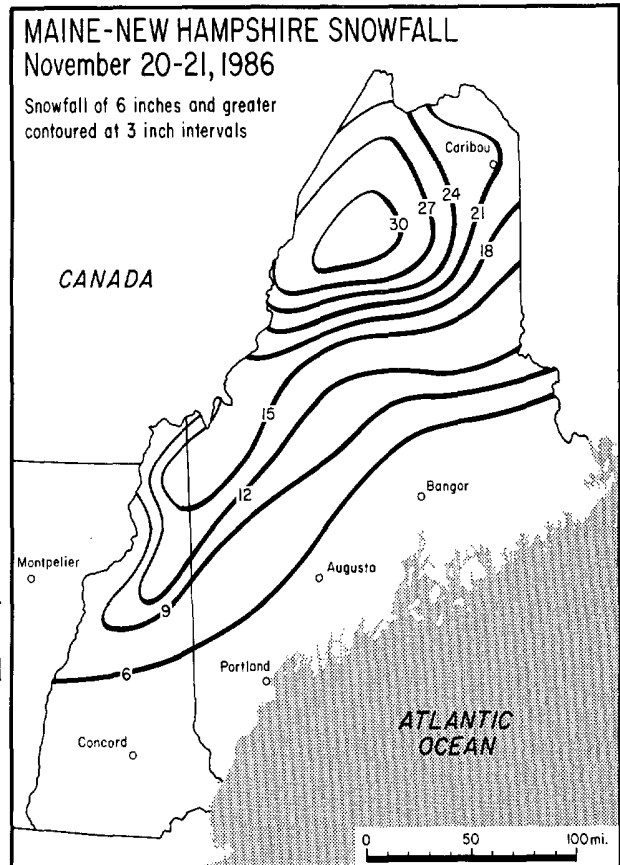
2. SNOWSTORMS in the NORTHEAST, November 18-21, 1986

Two fast-moving, early-season winter storms dumped heavy snows over the Northeast in quick succession on November 18th through the 21st. The first storm, moving due east, left snow throughout much of New York, northern Pennsylvania, and the southern half of New England on the 18th and 19th, with the heaviest snows having fallen in spotty fashion across the area and in amounts of up to 20 inches. The second storm moved east-northeastward through the area on the 20th and 21st, leaving its snow in New York and northern New England. Amounts reached 30 inches in northern Maine.

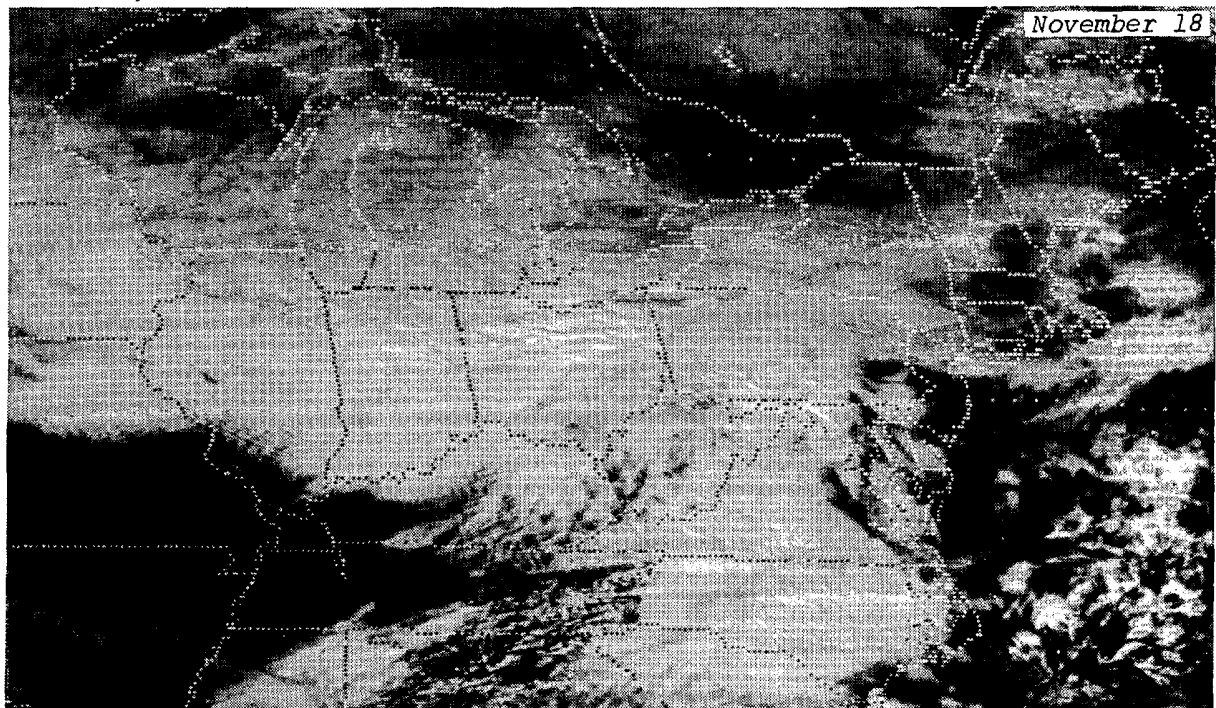


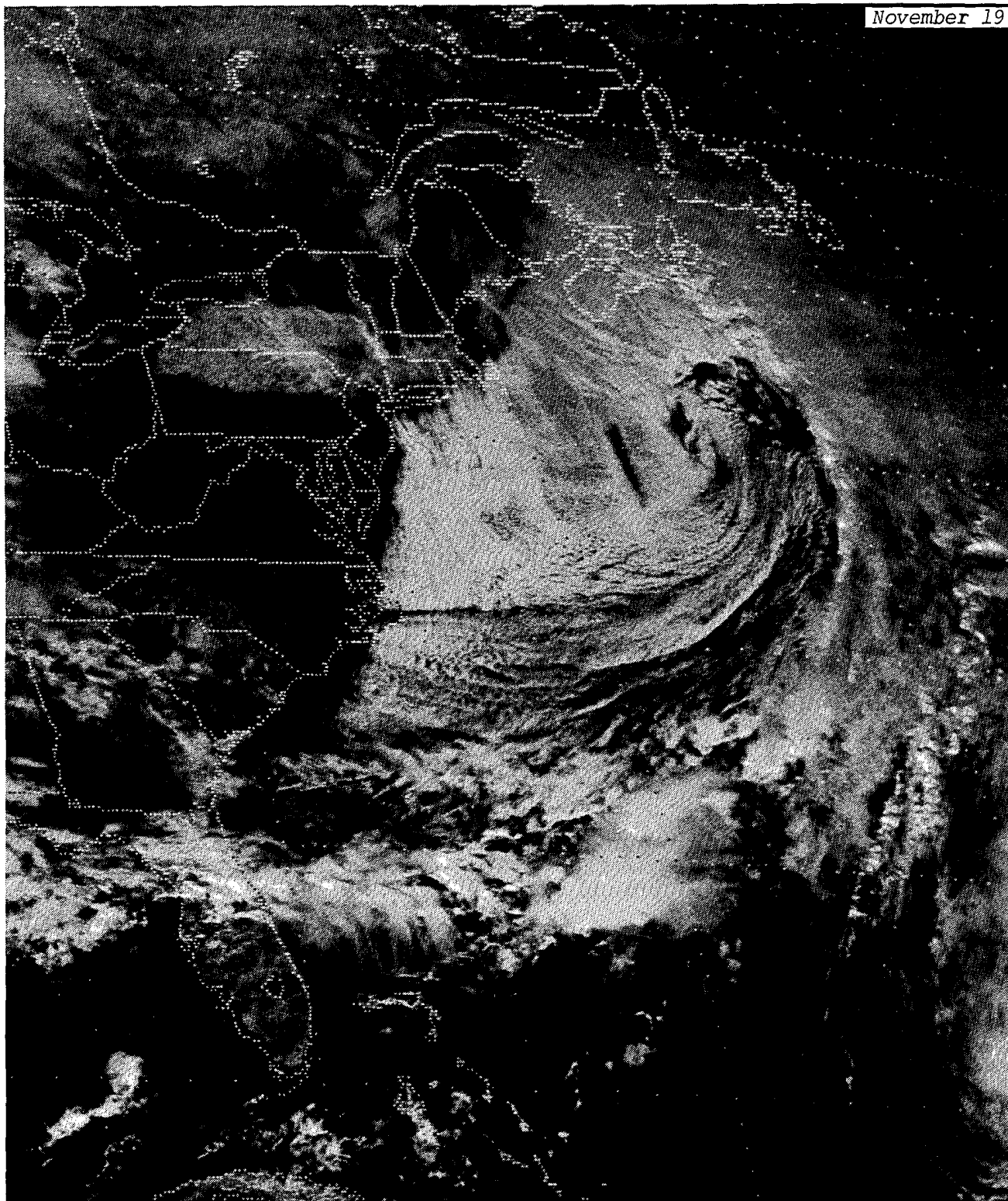
ABOVE: The area of southern New Hampshire that received the heaviest snowfall from the first storm. Franconstown, 15 miles west of Manchester, had 20 inches of snow.

RIGHT: New Hampshire and Maine snowfall from the second storm. The 30-inch amounts were in the Allagash Wilderness Waterway area.



---Both maps by the University of Chicago from data supplied by the NWSFO at Portland, Maine.

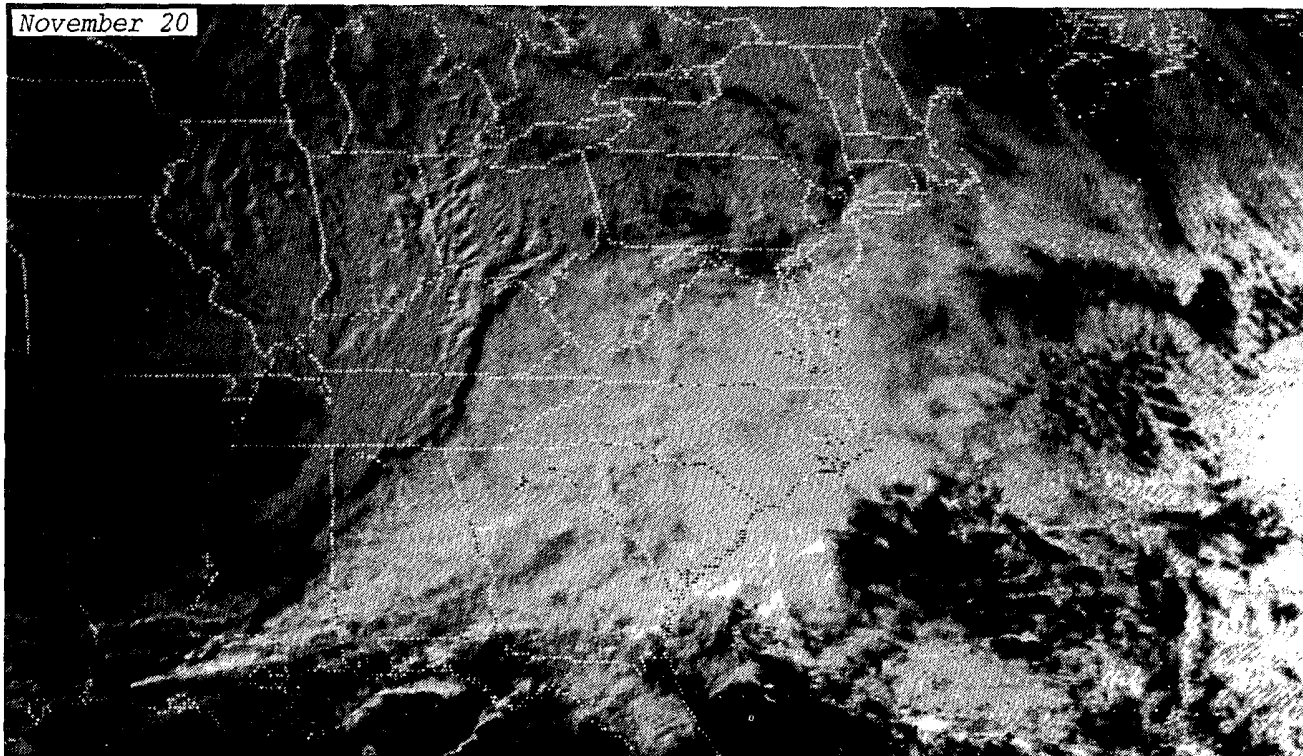




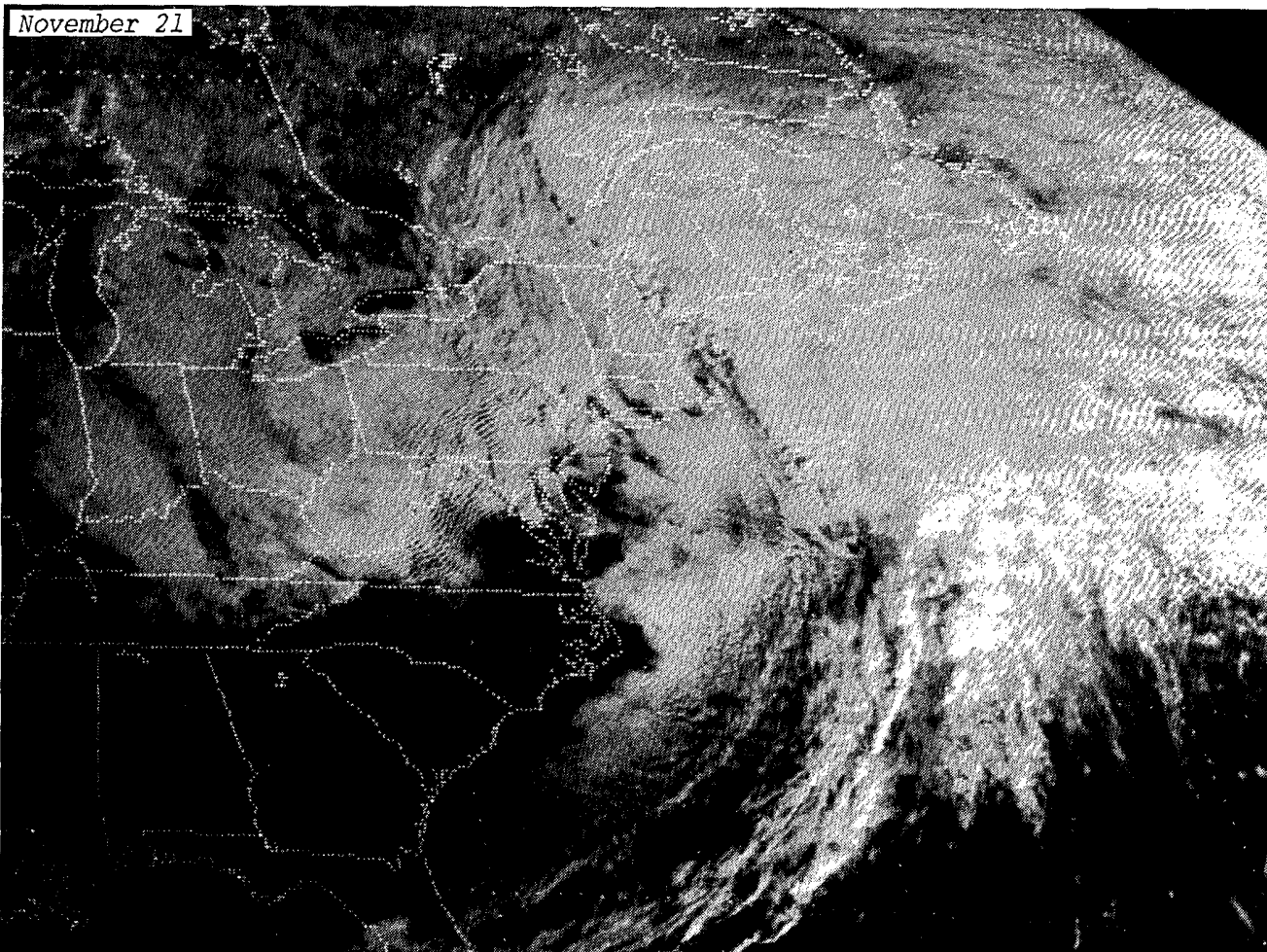
Above and on the preceding page, two GOES 6 satellite, visible images show the first storm at 1830GMT (1330EST) on November 18th and 24 hours later on the 19th. Note the rapid movement and intensification of the system. On the photo above, the snow left behind by the storm is visible in southern New York, northern Pennsylvania, and much of Massachusetts, Connecticut and Rhode Island (also see cover). Cold air moving in behind the storm produced the low-level clouds emanating from the East Coast and extending out over the warm ocean water. Clouds from Tropical Storm FRANCES, later Hurricane FRANCES, appear on the lower right edge of the photo. ---Both photos from NESDIS.

SNOWSTORMS in the NORTHEAST ---- continued

November 20



November 21



GOES 6 satellite, visible images above show the second storm at 1430GMT (0930EST) on November 20th and 24 hours later on the 21st. During the period, the storm center moved quickly east from Illinois to New Jersey, then somewhat slower toward the north-east to just offshore of Maine while intensifying. Note the mountain-induced, standing wave clouds over the Appalachian Ridge in the bottom photo. ---Photos from NESDIS.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

NOVEMBER 1986

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS				ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	PROPERTY	CROPS	
1 ALABAMA											
LSSE Bates Field, Mobile County	05	0500CST			0	0	3	0	TSTM	Wind	Thunderstorm winds destroyed a small wood-frame building and uprooted several trees.
Waterloo area, Lauderdale County	08	1930CST			0	0	2	0	TSTM	Wind	Thunderstorm winds downed trees and caused power outages.
Selma, Dallas County	20	0045CST			0	0	2	0	TSTM	Wind	Thunderstorm winds damaged the roof of a building.
Fulton and Dickinson area, Clarke County	20	0905CST			0	0	4	0	TSTM	Wind	Apparent downburst thunderstorm winds downed numerous trees and several powerlines. Some roads and a railroad were blocked by fallen trees. A mobile home was damaged and a home east of Dickinson was damaged when struck by two falling trees.
Honoraville, Crenshaw County	20	1010CST			0	0	3	0	TSTM	Wind	Thunderstorm winds blew a tree down on a barn and two fallen trees blocked a road.
IS Brantley, Crenshaw County	20	1115CST			0	0	4	0	TSTM	Wind	Thunderstorm winds downed some trees and powerlines and a home was damaged.
Gainesville area, Sumter County	25	1430CST			0	2	4	0	TSTM	Wind	A 76 year old woman and her husband were hospitalized for treatment of injuries received when thunderstorm winds overturned their mobile home. Some powerlines were also down in the area.
New Brocton to Arifton, Elamville, Clio and Clayton; Coffee, Dale and Barbour Counties	25	2120CST	44	200	0	4	6	1	Tornado	(F3)	A tornado first touched down in the New Brocton area of Coffee County and followed an intermittent path NE near Alabama Highway 51 to Arifton, in Dale County, and Elamville, Clio and Clayton in Barbour County. In the New Brocton area, three people were reported to have been injured and damage included one church destroyed and one damaged, three houses destroyed and 17 damaged, and two other buildings destroyed. Near Arifton, in Dale County, one person was reported to have been injured in a mobile home. Damage included two mobile homes destroyed and four damaged. The next major damage was in the Elamville area of SW Barbour County where four houses, a business building, six mobile homes and numerous outbuildings were destroyed, and at least four houses and one mobile home were damaged. Damage elsewhere along the path consisted mainly of downed trees and powerlines.
Mathews, Montgomery County to Chesson, Macon County	26	0100CST	4	100	0	2	5	1	Tornado	(F1)	A tornado followed an intermittent path from just south of Mathews, where some trees were blown down and a roof was damaged, to Chesson. Damage was more extensive in one area at Chesson where one house and two mobile homes were destroyed. Several cars were heavily damaged and one mobile home was thrown over several automobiles. Two minor injuries were reported.
Red Level area, Covington County	26	0100CST			0	0	3	0	TSTM	Wind	Thunderstorm winds destroyed a barn.
2S Troy to Banks, Pike County	26	0120CST	8	150	0	1	5	1	Tornado	(F2)	A tornado crossed U.S. 231 about 2 miles south of Troy and moved NE to the Banks area. Damage included one house, one mobile home and three chicken brooder houses destroyed, and one manufacturing plant heavily damaged, in addition to trees and powerlines down. One person was reported to have suffered minor injuries when their car was blown off the road.
Opp, Coffee County	26	0130CST			0	0	2	0	TSTM	Wind	A few trees and some powerlines were reported down.
2SW Enterprise to Ozark, Coffee and Dale Counties	26	0140CST	21	150	0	2	5	0	Tornado	(F1)	Two mobile homes were damaged when a tornado apparently first touched down about 2SW Enterprise in Coffee County and followed an intermittent path to the Ozark area in Dale County. The tornado struck a recreational park in Enterprise where several members of a charity organization narrowly escaped injury. The volunteer workers had been engaged in an outdoor cookout of turkeys, hams and beef, since 6 a.m. for delivery to area residents as a fundraiser and lost 54 hams that were cooking when the tornado struck. The workers dove underneath tables as debris from a structure adjacent to the park pelted the area. Numerous homes were reported to have been damaged in the Enterprise area, and two people were injured when their mobile home was hit. The tornado touched down again in Dale County on the Fr. Rucker reservation around 2 a.m. and a little later in Ozark where trees and powerlines were blown down. Reports indicated that a helicopter was damaged at Fr. Rucker.
Opelika, Lee County	26	0200CST			0	0	2	0	TSTM	Wind	Some trees were reported blown down.
2 ARIZONA											
Pinal County	18	1530NST	0.5	15	0	0	0	0	Tornado	(F0)	A pilot reported a tornado over open country north of Eloy.
Pinal County	18	1704NST	0.5	20	0	0	5	0	Tornado	(F1)	Up to 60 mobile homes sustained damage as a tornado moved northeast through Apache Junction. Several mobile homes were moved from their foundations. Pea-size hail and a sudden downpour of 1.2 inches of rain in 15 minutes accompanied the tornado.
3 ARKANSAS											
The Arkansas Health Department reported the following deaths due to overexposure to weather and/or hypothermia.											
Arkansas County	11	UNK			1	0	-	-	Low Temperature		The victim was a 54-year-old male.
Madison County	11	UNK			1	0	-	-	Low Temperature		The victim was a 44-year-old male.
Mississippi County	13	UNK			1	0	-	-	Low Temperature		The victim was a 48-year-old male.
4 CALIFORNIA, Northern — NONE REPORTED											
4 CALIFORNIA, Southern											
CAZ019	06	1014PST			0	0	0	0	Wind	(55)	Gusts of up to 55 knots were reported at the Mojave Airport. A watch had been issued.
CAZ011-012-013-016-017	23	all day			0	0	5	0	Wind	(30-56)	Santa Ana winds swept through Southern California, gusting throughout the valleys and the basin. Selected winds in knots were as follows:
Los Angeles, Riverside, and San Bernardino Counties											San Bernardino SBD (28) Sandberg SDB (42) Laguna Peak LGA (56) Point Mugu NTD (30) Chino (40) Ontario ONT (35) Beaumont BUD (24) Santa Ana SNA (30) El Toro NZJ (44) Lancaster LNF (22) Palm Springs PSP (27) Imperial IPL (22) Needles EED (33) Blythe BLH (32)
CAZ011-012	30	unknown			0	0	?	0	Wind	(56)	A large house under construction in La Crescenta was destroyed by winds estimated at greater than 70 mph. Debris from the house damaged the house next door. A wind-swept fire in the Hollywood area damaged several buildings.
Rialto Airport											A large pine tree was uprooted by wind at the Rialto Airport. The wind was reported to be steady at 35 knots with gusts of 46 knots. The peak gust reached 56 knots.

STORM DATA AND UNUSUAL WEATHER PHENOMENA

NOVEMBER 1986

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS				ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	PROPERTY	CROPS	
5 COLORADO											
Statewide	10/31-11/1				0	0	4	0	0	0	Snow
	Snow fell over most of the state. Oddly, it was heaviest in the usually dry Upper Arkansas Valley. 20 inches fell at Salida and three feet buried Buena Vista. There were widespread power outages in the area, and many hunters were stranded in the surrounding high country; 30 inches of snow fell at Monarch Pass, with 20 inches at Fairplay. Elsewhere, snowfall amounts ranged from 10 to 15 inches in other mountain areas and also in the eastern foothills. 4 to 8 inches fell from the Colorado Springs area north to the Wyoming border. Light snow also fell in the northwest, but it was warm enough in southwestern Colorado for 2 1/2 inches of rain to fall at Durango.										
Mountains, West, Northeast	7				0	0	0	0	0	0	Snow
	15 inches of snow fell at Wolf Creek Pass in the San Juan Mountains of southwestern Colorado. Other spots in the Rockies received 5 to 12 inches. 2 to 3 inches fell along the Front Range from Denver north to Fort Collins, with similar amounts in western Colorado. Even Grand Junction received two inches.										
COZ011-014 Eastern Foothills	15 evening				0	0	0	0	0	0	High wind
	Strong chinook winds buffeted Boulder County during the evening; the peak gust recorded was 81 mph at Table Mesa, in the southwest part of the city of Boulder, at 1925 MST. The winds also howled through the Colorado Springs area in El Paso County; a peak gust of 88 mph was recorded in the western part of Colorado Springs at 2145 MST.										
COZ004-007 Southwest Mountains	18-19				0	0	0	0	0	0	Snow
	16 inches of snow fell near Gothic, in Gunnison County. 11 inches buried nearby Crested Butte; farther south, 9 inches fell at Wolf Creek Pass.										
COZ008-009-015 Southwest, Southeast Foothills	22-23				0	0	0	0	0	0	Snow
	Huerfano County was buried under 8 to 15 inches of snow. 14 inches fell at Rye, in the foothills southwest of Pueblo. A foot fell at Silverton, in the San Juan Mountains. Parts of the San Luis Valley received significant snowfall as well; 6 1/2 inches fell at Del Norte.										
COZ007-008 Southwest	25-26				0	0	0	0	0	0	Snow
	A foot of snow fell at the Purgatory ski area, with 9 inches at Wolf Creek Pass. At lower elevations, 4 inches fell at Durango.										
Mountains, East	30				0	0	0	0	0	0	Snow
	The worst snowstorm so far this season dumped 8 to 16 inches of powder throughout the mountains and eastern foothills. Snowfall in the Denver area ranged from 5 inches at Stapleton airport to 14 inches in the higher southwestern suburbs. On the Sunday after Thanksgiving, one of the busiest travel days of the year at Stapleton, two of the four runways were closed and flights were delayed up to four hours. Near-blizzard conditions prevailed on the eastern plains. Many highways, including Interstates 70 and 76, were closed, and 1500 travelers were stranded in Limon. 2 to 6 inches of snow actually fell on the plains, but the wind whipped it into drifts several feet high.										
6 CONNECTICUT											
CTZALL Statewide	19	early morning			0	0	7	0	0	0	Heavy Snow
	Heavy wet snow brought down tree limbs and power lines throughout much of the state, resulting in power failures affecting up to a total of 210,000 customers. This was the third greatest weather-caused power loss for the state, trailing behind an ice storm in 1973 (250,000) and Hurricane GLORIA in 1985 (506,000). The greatest damage to power lines was concentrated in the south-central part of the state from Hartford to Danbury. Seven state armories were opened to accommodate people without power, and restoration of service was quite slow in some areas, taking up to 24 to 48 hours. The snow fell at a rapid rate of from one to three inches per hour, closing some highways and Bradley International Airport for several hours. Snowfall totals ranged from 3 to 10 inches with the heaviest amounts occurring in the northern portion of the state. Thunderstorms accompanied the snow in some areas as a rapidly intensifying, low pressure center to the south moved east-north-eastward. Three deaths including two in Newtown and one in Weston could be indirectly attributed to the storm. Each was the result of asphyxiation by carbon monoxide from gas-powered electrical generators in homes. Power companies expected their losses from the storm to reach \$10 million.										
7 DELAWARE ————— NONE REPORTED											
8 FLORIDA											
Hernando County, Spring Hill 35N TPA	30	0100EST			0	0	4	0	0	0	TSTM wind(660)
	Eight homes suffered minor damage due to high wind. Several screen enclosures were destroyed, a garden shed was destroyed, a car was damaged by flying debris, and several trees were downed.										
9 GEORGIA											
Southeast Appling County	17	1345EST			0	0	4	0	0	0	Tstm.Winds
	Thunderstorm winds destroyed two storage buildings, damaged another, and blew windows out of a house 15 miles south of Baxley.										
Carroll County	20	0816EST			0	0	5	0	0	0	Tstm.Winds
Douglas and South Paulding Counties	20	0855EST			0	0	4	0	0	0	Tstm.Winds
Cobb County	20	0905EST			0	0	4	0	0	0	Tstm.Winds
Fulton County	20	0910EST			0	1	5	0	0	0	Tstm.Winds
DeKalb County	20	0915EST			0	0	4	0	0	0	Tstm.Winds
Gwinnett County	20	0925EST			0	0	4	0	0	0	Tstm.Winds
Rockdale County	20	0930EST			0	0	2	0	0	0	Tstm.Winds
Walton County	20	1005EST			0	0	2	0	0	0	Tstm.Winds
Newton and Morgan Counties	20	1015EST			0	0	2	0	0	0	Tstm.Winds
Southeast Oconee County	20	1025EST			0	0	2	0	0	0	Tstm.Winds
Oliver County	20	1040EST			0	0	2	0	0	0	Tstm.Winds
Western Greene County	20	1045EST			0	0	2	0	0	0	Tstm.Winds
	A large macroburst averaging 25 miles wide swept across north Georgia at a forward speed of approximately 50 miles-per-hour. Winds of 50 to 70 mph uprooted trees and downed power lines in scattered location across the above area. The winds heavily damaged the roof of a grocery store west of Bowdon. A 53 year old woman was injured in Atlanta when struck by a falling tree.										
Northern Bibb and Twiggs Counties	20	1230EST			0	0	2	0	0	0	Tstm.Winds
	Thunderstorm winds downed trees and power lines at scattered locations across the northern parts of these counties.										
Eastern Dougherty County	20	1400EST			0	0	2	0	0	0	Tstm.Winds
	Thunderstorm winds downed trees near the Worth County line.										
Hall County	26	0400EST			0	0	4	0	0	0	Tstm.Winds
	26	0400EST			0	0	5	0	0	0	Flash Flood
	A strong slow-moving thunderstorm produced high winds and torrential rain across the northern part of the county. Numerous trees and power lines were downed and several chicken houses destroyed. Flash flooding caused the evacuation of a mobile home park, closed seven roads, and damaged several bridges and washed dirt roads severely.										
10 IDAHO											
IDZ002-006-008	6-7				0	0	0	0	0	0	Heavy snow
	A cold front and low pressure area from the Gulf of Alaska brought heavy snow to many areas of the state. Up to 5 inches of snow fell overnight in northern Idaho in the Boville and Elk River areas of Latah and Clearwater counties. From 6 to 8 inches of snow fell on the back country of the Central Mountains, and 24 inches fell during the 48-hour period at Pomerelle Ski Resort near Twin Falls.										
IDZ006-010	16-17	1800-1200MST			0	0	0	0	0	0	Heavy snow
	A surge of moisture riding a strong jet stream from the Pacific produced heavy snowfalls. Over 12 inches fell at Deadwood, 10 inches at Dixie, 8 inches at Stanley, 6 inches at Powell and 4 inches at McCall and Yellow Pine.										
IDZ008 Idaho Co.	18	2000MST			0	0	0	0	0	0	Flash Flood
	A deep low pressure area moving across southern British Columbia and accompanied by abundant moisture caused heavy rains and strong winds which touched off a mudslide. U.S. Highway 95 was blocked for several hours.										

STORM DATA AND UNUSUAL WEATHER PHENOMENA

NOVEMBER 1986

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS				ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	PROPERTY	CROPS	
IDAHO											
ID2008	22	all day			0	0	0	0			Heavy snow
A Pacific front moving in from the Washington Coast brought heavy snow to areas of northern Idaho. Schweitzer Basin Ski Area near Sandpoint measured 12 inches of new snow.											
ID2008 Kootenai Co.	23	all day 0830HST			0	0	4	0			High wind
An intense low pressure system over British Columbia caused sustained winds which blew the roof off a resort in Post Falls and toppled trees, power lines and a 50x50' drive-in theater screen. Gusts to 35mph were recorded at the Spokane Airport.											
ID2008 Bonner Co.	24	1230PST			0	0	4	0			Flash flood
Lightning Creek near the town of Clark Fork, southeast of Sandpoint, flooded as a result of heavy rains falling on heavy snowpack at higher elevations. A cabin was destroyed by the flooding creek. A mudslide also occurred in the area and had quite a few large boulders and trees embedded in it.											
ID2006	27	all day			0	0	0	0			Heavy snow
A southwesterly flow of very moist air pushing up over a warm front produced from 5 to 6 inches of snow in the Central Idaho Mountains.											
11 ILLINOIS ————— NONE REPORTED											
12 INDIANA											
INZ010-013 Central Indiana	26	0300 to 0900 EST			0	0	?	?			Flash Flood
Heavy rain in east-central and southeast Indiana very early on the 26th caused some flash flooding. At 330 am EST in the town of Sunman in Ripley County, as much as 8 inches of standing water had accumulated. In Greensburg in Decatur County, up to 4 inches of standing water was reported. At 530 am EST in Franklin County, 6 inches of standing water was reported in Laurel, and some of the local businesses were flooded. Later that morning, around 8 am EST, high water was reported on S.R. 121 in the town of Connersville in Fayette County.											
13 IOWA											
Pottawattamie County, 5 SW Griswold	07	2155 CST			0	0	5	0			Thunderstorm Wind
Cass County, rural Wlota	07	2200 CST			0	0	4	0			Thunderstorm Wind
Adair County, 8 N Greenfield	07	2215 CST			0	0	4	4			Thunderstorm Wind
Pocahontas County, 2NW Rolfe	07	2215 CST			0	0	5	0			Thunderstorm Wind
Dallas County, 5S Woodward	07	2230 CST			0	0	5	0			Thunderstorm Wind
Kossuth County, Bancroft	07	2245 CST			0	0	4	0			Thunderstorm Wind
Boone County, 2W Boxholm	07	2245 CST			0	0	5	0			Thunderstorm Wind
Polk County, Des Moines	07	2251 CST			0	0	5	0			Thunderstorm Wind
Polk County, Alleman	07	2300 CST			0	0	5	0			Thunderstorm Wind
Hancock County, 3E Woden	07	2300 CST			0	0	5	0			Thunderstorm Wind
Sioux County, Ireton	07	2305 CST			0	0	4	0			Thunderstorm Wind
Hamilton County, Webster City	07	2305 CST			0	0	5	0			Thunderstorm Wind
Winneshago County, Wright County, rural Belmont	07	2310 CST			0	0	4	0			Thunderstorm Wind
	07	2320 CST			0	0	5	0			Thunderstorm Wind
Cerro Cordo County, Ventura-Clear Lake	07	2330 CST			0	0	5	0			Thunderstorm Wind
Franklin County, Coulter	07	2335 CST			0	0	4	0			Thunderstorm Wind
Worth County, 2 W Manly	07	2340 CST			0	0	4	0			Thunderstorm Wind
Franklin County, 1W Ackley	07	2345 CST			0	0	5	0			Thunderstorm Wind
IOWA											
Poweshiek County, Brooklyn	08	0035 CST			0	0	4	0			Thunderstorm Wind
Tama County, Dysart	08	0045 CST			0	0	4	0			Thunderstorm Wind
Fayette County, Clayton County, Garnaville	08	0130 CST 0230 CST			0	0	4	0			Thunderstorm Wind
A line of thunderstorms developed along a cold front pushing through Iowa on Friday evening and early Saturday morning. The line of storms accelerated to 40 miles an hour, and some individual storms were moving at more than 70 miles an hour. Strong gradient winds added to the winds in the thunderstorms. The result was damage to numerous outbuildings, machinery, and vehicles, felled trees and power lines, some residences lost shingles and even parts of the roof, and a chimney was blown down from one home. This was the last "hurrah" for the convective season, as wintry weather ensued.											
Sioux County, rural Ireton	08	1145 CST			0	1	4	0			High Winds
Very strong winds caused an injury as a man and his teenage son were securing the roof of a hog confinement building. The whole building gave way, and the teenager suffered a broken arm and numerous bruises in the resulting fall.											
Statewide	11- 13				1	0	4	0			Cold
Bitterly cold temperatures for mid November struck the Hawkeye State with readings below zero in several areas and wind chills as low as 40 degrees below zero. Both people and animals were unprepared for the extremes. A man died of exposure, sitting in his car at a parking lot in Council Bluffs, though carbon monoxide poisoning may have contributed to the fatality.											
Northern Iowa IAZ007-008	17- Night 18 Morning				0	0	4	0			Snow and Heavy Snow
Snow tracked across Iowa on the 18th, leaving 2 to 9 inches in the northern half of the state, with the greatest totals in the Waterloo and Dubuque areas.											
Northern Iowa IAZ003-006-007	19- Night 20 Afternoon				0	0	4	0			Snow and Heavy Snow
Northern Iowa was hit with snow again, with the greatest amounts - 6 to 7 inches - occurring in a band from near Eldora to Waterloo to Fayette to Decorah.											
14 KANSAS											
KSZ001-002-004 Northwest Kansas	25	1330 to 1530CST			0	0	0	0			High Wind
Winds averaged a sustained 35 to 40 miles an hour and gusts frequently topped 50 mph across the northwest corner of Kansas, the afternoon of the 25th. Goodland measured a peak gust of 54 mph at 1413CST. No damage resulted.											
KSZ001 Northwest Kansas	30	0700 to 1600CST			0*	0*	5	0			Ice Storm
Freezing drizzle and freezing rain deposited a half-inch thick layer of ice on power lines and trees in Cheyenne, Sherman and western Rawlins Counties. Weight of the ice downed about 500 power poles around St. Francis, Bird City and McDonald. At least three thousand homes were left without electricity.											
The ground was warm at the start of the storm, so roads were just wet until around 1200CST. Temperatures dropped and ice made roads impassable during the afternoon. Interstate 70 was closed west of Goodland at 1400CST. Most roads in the extreme northwest corner of Kansas remained closed from the middle of the afternoon on the 30th until sunrise, December 1st.											
*Heavy icing caused a private aircraft to crash 4 miles south of Colby at 1305CST. One person was killed and another suffered serious injury.											
The precipitation changed to snow in the late afternoon. Interstate 70 was later closed west of Hays by poor visibility in blowing snow.											
SPECIAL HAIL SUMMARY											
Kansas-Oklahoma Hail Loss Service reports indicate hail was especially damaging to crops in the listed counties on the following dates:											
07 Atchison, Brown											

STORM DATA AND UNUSUAL WEATHER PHENOMENA

NOVEMBER 1986

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED ¹ DAMAGE		CHARACTER OF STORM		
					KILLED	INJURED	PROPERTY	CROPS			
15 KENTUCKY											
Southeastern Kentucky	08-09	1900 EST-0700 EST			0	0	4	0	Flash Flooding		
<p>Thunderstorms producing heavy rains deposited from three to five inches of rain in 12 hours over southeastern Kentucky, triggering flash flooding in many southeast Kentucky counties, and brought most upper parts of most rivers to bankful conditions or above. (The ground was previously saturated from soaking rains that began on the evening of November 5, 1986) Some river flooding was first reported near Salyersville (Magoffin County) at 1920 EST. By 2142 EST, Caney Creek and Elk Fork Creek were out of their banks and the Licking River was near bankful in Morgan County. In Magoffin County, the Salyersville City Park and other low-lying areas were flooded with the Licking River out of its banks. Flash flooding in Floyd County prompted warnings to be issued when Middle Creek rose above its banks. Some homes just west of Prestonburg were evacuated. Paintsville (Johnson County) Corps of Engineers reported a surface mine pond overrunning near the Johnson-Morgan county line at 2230 EST, resulting in evacuation of six people near Elma. By 2315 EST, water was spilling over State Highway 191 in the Caney Creek area of Morgan County. At 2320 EST a flood warning was issued for the Licking River from Salyersville (Floyd County) to West Liberty (Morgan County). The Licking River was reported out of its banks in many locations. Flooding was reported across some secondary roads near McKee (Jackson County). By 0210 EST, on November 9, 1986, Kentucky State Police Post reported flooding at Route 476 at Bulan (Perry County), as well as creeks at bankful in Knott County. District 10 Highway Department reported Highway 40 in Magoffin County as flooded and closed. Roads were flooded in Morgan County and at Highway 1098 and the South Fork Creek in Breathitt County. A silt dam broke above Peyton's Creek Road, located 8 miles south of Pikeville (Pike County), flooding the road and stranding 14 families.</p> <p>Mudslides were numerous across southeast Kentucky. A mudslide was reported on KY 52 in Lee County at 0230 EST. Leslie County Emergency Center reported mudslides on U.S. 421 south of Hyden near Shortcreek (Leslie County) and KY Highway 237 about 8 miles north of Hyden at 0240 EST. Between 0245 and 0248 EST, the Hazard Kentucky State Police reported mud slides on Route 160 in Knott County. At 0320 EST, Leslie County Rescue Squad reported people trapped in a house two miles west of KY 80 in the Outskin area of Leslie County and flooding on KY 699 at Saw Branch in Leslie County. Creeks and streams were running out of their banks between Pineville (Bell County) and Williamsburg (Whitley County) in the Greasy Creek area and many roads were reported under water. By 0415 EST, many roads were reported closed throughout southeast Kentucky due to high water, mudslides and rock slides.</p>											
Rockcastle County and Pulaski County	08-09	2250 EST-0215 EST			0	0	3	0	Flash Flooding		
<p>Rainfall totaling four to five inches closed numerous roads as they and bridge approaches were washed out. Creeks, streams, and Dix Run were either near or above flood stage. Highway 150 near Brodhead was blocked by a log jam. Route 25 near Conway in northern Rockcastle County was blocked by high water. In Pulaski County, several roads were under water, including portions of KY 39.</p>											
Powell County	08	2300 EST			0	0	2	0	Flash Flooding		
<p>Roads were blocked by high levels of rising water near Bowen.</p>											
Montgomery County	25-26	1800 EST-0800 EST			0	0	4	0	Flash Flooding		
<p>Flash flooding along Hinkston Creek in Mount Sterling forced residents from two families on South Queen Street to evacuate their homes.</p>											
16 LOUISIANA											
Cameron Parish	04	2000CST	0.1	18	0	0	3	0	Tornado (F0)		
<p>A small tornado tore off a porch from a house and broke some tree limbs in Oakgrove.</p>											
Terrebonne Parish	05	0052CST			0	0	5	?	SVR TSTM-Wind		
St. Charles Parish	05	0115CST			0	0	?	?	SVR TSTM-Wind		
<p>Severe thunderstorm winds did \$50,000 damage to the roof of the Houma YMCA. In addition, several roofs were ripped off from businesses around the Houma airport, about 0052CST. Finally, six metal buildings were damaged at an oil refinery at Taft at 0115CST.</p>											
Jackson Parish	07	1640CST			0	0	0	?	SVR TSTM-Wind		
Ouachita Parish	07	1655CST			0	0	5	?	SVR TSTM-Wind		
Sabine Parish	07	1728CST			0	0	0	?	SVR TSTM-Wind		
Natchitoches Parish	07	1740CST			0	0	0	?	SVR TSTM-Wind		
Red River Parish	07	1758CST			0	0	0	?	SVR TSTM-Wind		
Jackson Parish	07	1900CST			0	0	0	0	Funnel		
Jackson Parish	07	1920CST	4.0	100	0	0	5	?	Tornado (F2)		
Quachita Parish	07	1940CST			0	0	5	?	SVR TSTM-Wind		
<p>An area of severe thunderstorms moved rapidly across northwest Louisiana producing widespread straight-line wind damage and one tornado. Severe thunderstorm winds blew down several large trees north of Chatam in Jackson Parish at 1640CST. Two mobile homes were destroyed by strong winds 10 miles northwest of Monroe in Ouachita Parish, about 1655CST. Numerous trees and/or power lines were blown down southeast of Pleasant Hill (Sabine Parish) at 1728CST; near Powhatan (Natchitoches Parish), about 1740CST; and around Messick (Red River Parish) at 1758CST. A funnel cloud was sighted 5 miles southwest of Jonesboro in Jackson Parish at 1900 CST. A tornado moved along an intermittent path which began 5 miles southeast of Jonesboro and ended 8 miles northeast of Jonesboro. The tornado destroyed or heavily damaged a mobile home and two brick homes. In addition, the twister tore off the front part of a grocery store and the roof of a neighboring house. Numerous large pine and oak trees were uprooted. Finally, straight-line winds destroyed two mobile homes near Calhoun in Ouachita Parish at about 1940CST.</p>											
Pointe Coupee Parish	20	0400CST			0	0	5	?	SVR TSTM-Wind		
West Feliciana Parish	20	0500CST			0	0	0	?	SVR TSTM-Wind		
East Baton Rouge Parish	20	0520CST			0	1	4	?	SVR TSTM-Wind		
<p>A severe thunderstorm destroyed a mobile home and a gas station in Morganza in Pointe Coupee Parish, around 0400CST. In addition, several mobile homes were heavily damaged. Several trees were knocked down west of Port Hudson (West Feliciana Parish) and in Port Hudson (East Baton Rouge Parish) between 0500CST and 0510CST. Straight-line winds destroyed a mobile home in Pride (East Baton Rouge Parish), around 0520CST; one person was injured.</p>											
St. Landry Parish	22	1448CST			0	0	4	0	SVR TSTM-Wind		
<p>Straight-line winds from a severe thunderstorm ripped off the roof and patio from a Port Barre home.</p>											
Evangeline Parish	23	1617CST			0	0	5	?	SVR TSTM-Wind		
<p>A severe thunderstorm destroyed two cattle shelters, tore off a roof from a barn, blew away a storage shed and moved an outdoor kitchen off its foundation at a ranch near Vidrine.</p>											
Avoyelles Parish	23	1815CST			0	0	3	0	SVR TSTM-Wind		
<p>A severe thunderstorm damaged the roof of a house in Goudeau.</p>											
Terrebonne Parish	25	0751CST			0	0	?	?	SVR TSTM-Wind		
<p>A severe thunderstorm blew down several large trees in Houma. Some of them fell on top of parked cars and homes.</p>											
17 MAINE											
MEZ010-012 West-Central ME	06	0000EST			0	0	4		Heavy Snow		
<p>A low pressure area formed off the New Jersey coast and moved rapidly east-northeast. The snow was of the wet and heavy variety, and caused the usual amount of fender benders associated with the first snowfall of the season. There were no serious injuries reported. Several schools closed. Most of Maine recorded 1 to 3 inches of snow. Lesser amounts or no snow at all was reported in the extreme north and extreme southeast sections of the state. Snow mixed with sleet and freezing rain before changing to rain for several hours in the south before ending. However, a small area of west-central Maine reported heavy snow amounts which are reported in inches and by zones as follows:</p>											
			ZONE 010			ZONE 012			ZONE 013		
			Livermore Falls...7			Bethel.....7			Fryeburg.....8		
			Richmond.....7			Rumford.....5			East Haven.....7		
						West Paris...6					
<p>It should be noted that the heavy snow reported in zone 013 was over the extreme north portion, while the vast majority of the zone had much less snowfall. The wet snow bent tree limbs onto power lines, causing widely scattered power outages throughout most of the state.</p>											

STORM DATA AND UNUSUAL WEATHER PHENOMENA

NOVEMBER 1986

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MAINE																																																								
York County	11	0800EST			2	1	4				Wet Snow																																													
<p>A cold front that passed through the region Tuesday produced only a few inches of wet snow that made for treacherous travel through southwestern Maine. Many minor auto accidents and scattered power outages were reported throughout southwestern Maine. York County reported two fatalities on Route 236 in two separate accidents. An unknown person was killed when a car ran into the rear of a tractor trailer in Kittery, Tuesday morning. In the afternoon, a 16-year-old female was killed when the car in which she was a passenger, went out of control, entered the opposite lane and was broadsided by an oncoming car. The oncoming car's 23 year old female driver was hospitalized with head, leg, and back injuries. In both cases, the road was wet and slush covered. The worst power outage also occurred in York County where small sections of Eliot and Wells were affected for about 3 hours, when downed branches fell onto power lines, late Tuesday afternoon.</p>																																																								
MEZ001-002-003-005-006-007-009-010-012 Most of Interior Maine including the North and Mountains	20	1000EST			0	0	6				Heavy Snow and Freezing Rain																																													
<p>Another low pressure area formed off the New Jersey coast, intensified as it moved to just south of Rhode Island Friday morning, and reached the Cape Breton Islands Saturday morning. This system brought heavy snow to most of interior Maine, especially the north and mountains. The heavy snow fell north of a line that runs from North Fryeburg, in the west, to Topshfield in the east. South of this line, snowfalls of 3 to 5 inches were common, and even lesser amounts were recorded along the coast where the snow mixed with or changed to sleet and freezing rain and eventually to all rain. There was a 15 mile swath in central Maine where the freezing rain accretion raised havoc with trees and power lines. This area ran from Lisbon through New Gloucester, through Windham and ended in Sanford. Numerous ice-laden trees and branches bent or broke onto or through power lines, and approximately 12,000 customers in this region were affected. About 500 Windham residents were without power Saturday afternoon. Just north of the freezing rain area, there was a band from Greenville to Waterville where most of the precipitation was sleet; that made travel difficult. Along the coast, the precipitation was mostly rain. Portland, Brunswick and Eastport recorded around 2 inches in about 18 hours. The heavy rain produced flooded cellars and streets due to snow-clogged or frozen drains. On Mount Desert Island, Acadia National Park recorded 4 inches of rain during the storm which washed out the bike lane and shoulder bed of Eagle Lake Road, and the Seal Cove Road also suffered damage. The high winds downed limbs onto power lines, causing minor power outages in the Camden-Rockland area. The winds also tore down recently constructed walls of the new Rockland Golf Club. Following is a list of heavy snowfall amounts in inches and by zones:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">ZONE 001</td> <td style="width: 33%;">ZONE 006</td> <td style="width: 33%;">ZONE 010</td> </tr> <tr> <td>Fort Kent.....20</td> <td>Medway.....12</td> <td>Harmony.....7</td> </tr> <tr> <td>Caribou.....22</td> <td>Millinocket...12</td> <td>Augusta.....5</td> </tr> <tr> <td>Portage.....23</td> <td>Moosehead.....13</td> <td>ZONE 012</td> </tr> <tr> <td>ZONE 002</td> <td>Barnard.....9</td> <td>New Sharon...8</td> </tr> <tr> <td>Grand Lake...25</td> <td>Milo.....7</td> <td>Rumford.....7</td> </tr> <tr> <td>Houlton.....14</td> <td>Gulfport.....10</td> <td>Bethel.....6</td> </tr> <tr> <td>ZONE 005</td> <td>ZONE 009</td> <td>West Paris...5</td> </tr> <tr> <td>Allagash.....24</td> <td>Brassard Lake..13</td> <td>Lovell.....7</td> </tr> <tr> <td>Telos Lake...28</td> <td>Comstock.....16</td> <td>ZONE 013</td> </tr> <tr> <td>Allagash.....26</td> <td>Eustis.....17</td> <td>Bridgton.....7</td> </tr> <tr> <td>Wilderness to Waterway 30</td> <td>Flagstaff Lk..13</td> <td></td> </tr> <tr> <td></td> <td>Rangeley...12-16</td> <td></td> </tr> <tr> <td></td> <td>Kingfield.....10</td> <td></td> </tr> <tr> <td></td> <td>Phillips.....11</td> <td></td> </tr> </table> <p>It should be noted that the heavy snow amount in zone 013 occurred over the extreme northern edge of the zone. Also, Caribou reported 20.9 inches of snow on the 21st, which makes it the most ever to fall there on a November day. State wardens from the Inland Fisheries and Wildlife Department had to check on approximately 30 hunters who were stranded in camps around the Allagash Wilderness Waterway. Many backwoods roads were impassable still on Monday, due to the 26 to 30 inches of snow. Several vehicles owned by the hunters will remain stranded until spring. Wardens brought provisions and took out the stranded by snowmobile without any injuries or fatalities.</p>												ZONE 001	ZONE 006	ZONE 010	Fort Kent.....20	Medway.....12	Harmony.....7	Caribou.....22	Millinocket...12	Augusta.....5	Portage.....23	Moosehead.....13	ZONE 012	ZONE 002	Barnard.....9	New Sharon...8	Grand Lake...25	Milo.....7	Rumford.....7	Houlton.....14	Gulfport.....10	Bethel.....6	ZONE 005	ZONE 009	West Paris...5	Allagash.....24	Brassard Lake..13	Lovell.....7	Telos Lake...28	Comstock.....16	ZONE 013	Allagash.....26	Eustis.....17	Bridgton.....7	Wilderness to Waterway 30	Flagstaff Lk..13			Rangeley...12-16			Kingfield.....10			Phillips.....11	
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19 MASSACHUSETTS																																																								
MAZALL Statewide	19	morning			0	0	5	0			Heavy Snow																																													
<p>An early season, heavy snowstorm blanketed the state with up to a total of 10 to 15 inches of snow in southern Worcester County and the northern Berkshire Hills, 6 to 10 inches in the western and southwestern suburbs of Boston, 3 to 5 inches in the city, and amounts ranging down to about 1 inch over Cape Cod. Over the eastern portion of the state, rain changed over quickly to snow in the pre-dawn and fell at an unusually heavy rate of 2 to 3 inches per hour for several hours. Storm totals of 4 to 11 inches set all-time records for heavy snowfall so early in the season. At Blue Hill Observatory in Milton, a fall of 11 inches easily surpassed the previous early-season record of 8 inches. Almost all of that snow fell during a three hour period between 0400EST and 0700EST. Scattered power outages affected all parts of the state as the heavy, wet snow broke tree limbs which pulled down electric wires. Brief outages affected up to 8,000 customers in the Boston suburbs. Several thousand more lost power in central and western portions of the state. The morning commute to work around Boston was very, very slow as road crews were not prepared for the heavy snowfall. Over most of the state, the storm was accompanied by occasional thunder and lightning and gusty northeast to north winds around the rapidly intensifying, low pressure center moving north-eastward just to the south of the southern New England coast.</p>																																																								
MAZ003 Cape Cod and the Islands	19	morning			0	0	4	0			High Winds																																													
<p>Northeast to north winds gusting to 60 to 65 mph were recorded from Falmouth to Chatham on Cape Cod and on the nearby islands - Dukes, Nantucket, and Barnstable counties - for several hours. Scattered power failures affecting up to 7,000 customers were reported on the Cape. Most of the outages lasted only an hour or two. A small aircraft was flipped over by the high winds at the Nantucket Airport and a barge broke loose from a tug in Buzzards Bay. On Martha's Vineyard, a few boats broke from their moorings and were run up on the beach.</p>																																																								
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21 MINNESOTA																																																								
MNZ00NW Northwest Minnesota	7- 9	1700CST 0400CST			0	0	3	0			Heavy Snow, Ice Storm, High Wind																																													
<p>Snow started in northwest Minnesota late during the afternoon of November 7th. By 2115CST, 3 to 4 inches had accumulated from Thief River Falls to International Falls, but during the evening the snow became mixed with sleet and freezing rain. By 2115CST, glaze began to accumulate to the south of Hallock. Snow accumulations reached as much as 11 inches at Hallock on November 8th as wind increased causing near blizzard conditions. By 1545CST, near blizzard conditions occurred from Thief River Falls to Alexandria and along the Red River Valley. High winds continued through the early morning of November 9th, causing wind chills of 30° below zero. Power poles and lines were knocked down due to ice accumulation and high winds. Roads became impassable.</p>																																																								
MNZALL	7- 9	2340CST 0400CST			0	0	5	0			High Wind																																													
<p>A cold front accompanied by high winds and thunder passed through southern Minnesota late during the evening of November 7th and early morning of November 8th. Many communities received damage with the passage of the cold front. Barns were knocked down, cars were blown into ditches, trees and power lines were downed and building damage was widespread. The roof of a garage housing school buses was blown off in Henderson and a cement block structure caved in damaging cars and boats in Owatonna. Two light aircraft were destroyed at the airport in Red Wing. The damaging winds passed through Mankato at 2340CST and caused a gust of 67 miles per hour in Rochester at 0035CST. Gradient winds behind the cold front became strong statewide and persisted into the early morning of November 9th. Minneapolis recorded a peak gust of 66 miles per hour at 1504CST. The winds ripped off roofing material, overturned trailers and caused scattered power outages. There were numerous trees downed by the wind, especially in northern Minnesota where hunters were out for the opening of the deer hunting season.</p>																																																								
18 MARYLAND and D.C.																																																								
D.C.; Prince George, Montgomery, Howard, Baltimore, and Anne Arundle Counties	18-19	2300- 0130EST			0	0	4	0			Thunderstorm winds																																													
<p>Winds from thunderstorms downed power lines and caused structural damage.</p>																																																								

STORM DATA AND UNUSUAL WEATHER PHENOMENA

NOVEMBER 1986

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	
22 MISSISSIPPI									
Holmes County, 4NE Lexington	08	0630CST	.5	50	0	0	0	0	Tornado (F0)
		A small tornado touched down just east of Bowling Green Road or 4 miles northeast of Lexington. The tornado moved from southwest to northeast, but only moved through a wooded area. Several trees in the path of the tornado were either completely uprooted or had their tops twisted off.							
Washington County, NW of Greenville	08	1600CST			0	0	0	0	Funnel Cloud
		A funnel cloud was observed by Storm Spotters northwest of Greenville.							
Tishomingo County, 2SE Tishomingo to 3NE Tishomingo	08	1605 to 1615CST	5	200	0	0	5	0	Tornado (F2)
		A tornado touched down 2 miles southeast of Tishomingo and traveled north-northeast for 5 miles before dissipating. The heaviest damage was just east of Tishomingo in the Paradise Community where 10 homes received minor to major damage. In the path of the tornado, numerous trees and power lines were laid flat, 4 barns destroyed, and 1 hog building destroyed. One man watched the tornado approach. He described the tornado as 2 black clouds rolling together in the air. Everytime they touched the ground, they caused damage.							
Bolivar County, 6SW Cleveland	08	1615CST	.2	30	0	0	0	0	Tornado (F0)
		A sheriff's deputy saw a tornado touch down briefly in a soybean field. Since the growing season was over, no damage occurred in the field. The tornado quickly lifted back into the clouds after the touchdown.							
Bolivar County, 2SW Cleveland	08	1620CST			0	0	0	0	Funnel Cloud
		A funnel cloud, probably associated with the tornado 6 miles SW Cleveland, was spotted 2SW Cleveland.							
Pontotoc County, Randolph	08	1725CST			0	0	?	0	Hail (.75)
		Dime size hail was observed at Randolph.							
Lafayette County, Tula	08	1725CST			0	0	?	0	Hail (.75)
		Dime size hail was observed near Tula.							
Alcorn County, Corinth	08	1830CST			0	0	3	0	Thunderstorm Winds
		High winds from a thunderstorm blew down several trees in Corinth.							
Prentiss County, Booneville	08	1940CST	2.5	75	0	0	5	0	Tornado (F1)
		A tornado touched down 2 miles south of Booneville and damaged a home and downed power lines. The tornado tracked northeastward and damaged 5 other homes. One of the homes was a manufactured home that was almost completely taken apart.							
Wilkinson County, 2W Whittaker to 3E Whittaker	20	0305 to 0315 CST	5	175	0	0	5	0	Tornado (F2)
		A tornado touched down 2 miles west of Whittaker and traveled eastward for 5 miles. Extensive damage to timber and structures was noted along the path of the tornado.							
Pike County, 15SE Magnolia	20	0415CST	.5	40	0	4	5	0	Tornado (F1)
		A tornado struck the Thomas Grove Community or about 15 miles southeast of Magnolia. One weakly constructed home with 5 occupants was destroyed. All of the occupants heard the roar before the tornado struck and fell to the floor of the structure. A woman and three of the four children were injured, mainly with cuts and bruises. All of the injured were released later in the day. Some pine trees as large as a foot in diameter were leveled by the tornado.							
Wayne County, Waynesboro	24	1400 to 1800CST			0	0	4	0	Flash Flooding
		Heavy rainfall during the day of the 24th caused a number of streets in downtown Waynesboro to flood, as well as some businesses. Many roads in the Waynesboro and surrounding area were damaged from the excessive water. Rainfall amounts in the area varied from 3 to 6 inches.							
23 MISSOURI	NONE REPORTED								
24 MONTANA									
MTZ003 Sun River Canyon	15	1200 MST			1	1	2	0	High Wind
		A 37-year-old male was killed as he got out of his car to help a man control his pack horses which were blown into the burrow pit. As he approached the burrow pit, he too was blown down. As he fell he struck his head on rocks and died instantly. Winds were estimated at 60 m.p.h.							
MTZ003-007	23	0500 MST			0	0	3	2	High Winds
		High winds began early in the day, peaking at over 100 m.p.h. along the front range. Damage to buildings in Glacier Park was extensive. Numerous power poles were broken as a result of the high winds.							
25 NEBRASKA									
NEZ 005 Panhandle Nebraska	15	1522CST			0	0	1	1	High Wind (50)
		West winds gusted to 58 m.p.h. at Scottsbluff. No reported damage occurred.							
NEZ 002-003-006-007-012-016-017 North-Central and Southwest Nebraska	30	1030CST-2300CST			0	0	6	1	Ice Storm
		Freezing rain caused a heavy glaze from around Ainsworth and southern Cherry County south through Ogallala and North Platte to the Benkelman and McCook areas. Two and a half inches of ice brought down 1 1/2 miles of power lines at Elsie. Other heavy power line damage was reported from Chase and Dundy Counties east into western Frontier and Red Willow Counties, and also from around Ainsworth into southern Cherry County. Numerous cars slid off of icy roads. Travel was almost impossible for a time on I-80 from Ogallala to just west of North Platte.							
26 NEVADA									
Clark County	18	0000PST			0	0	3	0	Flash Flood
		A surge of moisture moved into southern Nevada from southern California and caused flash flooding. Most of the precipitation fell during the early morning hours, with 1.5 inches having fallen at Kyle Canyon and nearly nine-tenths of an inch at Desert Rock. Around six-tenths to an inch fell in Las Vegas. Many roads, highways, and intersections were flooded during the storm. The storm caused numerous road closures and power outages.							
NVZ003 Washoe and Douglas Counties	28-29	1800PST			0	0	0	0	Heavy Snow
		A Pacific weather system spread snow into the Lake Tahoe area during the night and following morning. Up to one foot of snow fell in the passes around Lake Tahoe; 6 inches fell at Incline and 4 inches at Daggett Pass. Chain and snowtire requirements were in effect on most of the roads in and around Lake Tahoe, and there were numerous travel delays.							
27 NEW HAMPSHIRE									
NHZ004 East-Central NH	05	+2300EST			0	0	5		Heavy Snow
		A low pressure area formed off the New Jersey coast and moved rapidly east-northeast. The snow was of the wet and heavy variety and caused what law enforcement agencies called, "The usual number of fender benders for a first snowfall of the season." There were only several minor injuries reported. Most of New Hampshire recorded 2 to 4 inches of snow with even lesser amounts in the extreme south where the snow was mixed with sleet and freezing rain which changed to rain for several hours before ending. However, a small area of east-central New Hampshire reported heavy snow amounts. In Carroll County, North Conway recorded 9 inches and Tamworth 8 inches. The wet snow also bent tree limbs onto power lines, causing widely scattered power outages throughout the state.							
Hillsborough County	09	0800EST			0	0	4		Rain and Snow
		In Peterborough, rain and apparently a strong wind gust combined to topple a large dead tree near the junction of Routes 136 and 202N. This set up a chain reaction that downed 2 utility poles and 3 transformers which, in turn, left 1,725 residences without power in Greenfield and North Peterborough for more than 6 hours. Damage estimate: \$35,000.							

STORM DATA AND UNUSUAL WEATHER PHENOMENA

NOVEMBER 1986

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED ¹ DAMAGE		CHARACTER OF STORM																														
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NEW HAMPSHIRE																																							
NH2005-006-007 Southern NH	18	2200EST			0	0	5		Heavy Snow																														
<p>A disturbance formed in Alberta, Canada, raced across the northern tier of states arriving off the New Jersey coast Tuesday. The low then intensified quickly as it moved rapidly east, passing south of Nantucket Island before turning to the northeast Wednesday morning. This system brought heavy snow to extreme southern New Hampshire, basically south of a line from Walpole to Concord to Rochester. Snowfall amounts varied greatly over a short distance. Frankestown, which reported 20 inches of snow, is only 27 miles to the southwest of Concord, which had 5.4 inches of snow. Unofficial reports said 12 to 18 inches of snow was commonplace over the Monadnock Region. Most schools as well as many businesses and federal offices were closed throughout southern New Hampshire Wednesday. According to law enforcement agencies, actually fewer than usual fender benders occurred for this type of weather and travel conditions, with only several minor injuries reported. North of the Lakes Region, only 1 to 2 inches fell, while extreme northern New Hampshire reported either none or a trace. Following is a list of snowfall amounts in inches and by zones:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">Zone 005</td> <td style="text-align: center;">Zone 006</td> <td style="text-align: center;">Zone 007</td> </tr> <tr> <td>Keene.....9</td> <td>Frankestown....20</td> <td>Portsmouth....6</td> </tr> <tr> <td>MacDowell Dam...14</td> <td>East Derry.....6</td> <td></td> </tr> <tr> <td>Otter Brook.....8</td> <td>Greenville.....8</td> <td></td> </tr> <tr> <td>Swanzey.....15</td> <td>Hopkinton.....6</td> <td></td> </tr> <tr> <td>Troy.....14</td> <td>Mont Vernon....6.8</td> <td></td> </tr> <tr> <td>Surry Mtn. Dam...4.5</td> <td>Nashua.....6</td> <td></td> </tr> <tr> <td>Walpole.....2</td> <td>Hooksett.....13</td> <td></td> </tr> <tr> <td></td> <td>Durham.....10</td> <td></td> </tr> <tr> <td></td> <td>Dover.....10</td> <td></td> </tr> </table>										Zone 005	Zone 006	Zone 007	Keene.....9	Frankestown....20	Portsmouth....6	MacDowell Dam...14	East Derry.....6		Otter Brook.....8	Greenville.....8		Swanzey.....15	Hopkinton.....6		Troy.....14	Mont Vernon....6.8		Surry Mtn. Dam...4.5	Nashua.....6		Walpole.....2	Hooksett.....13			Durham.....10			Dover.....10	
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NH2001-002 Northern and White Mountain sections of NH	20	1600EST			0	0	5		Heavy Snow and Freezing Rain																														
<p>Another low pressure area forced off the New Jersey coast, intensified as it moved to just south of Rhode Island on Friday morning, and reached the Cape Breton Islands, Saturday morning. This system brought heavy snow to the northern half of the state where amounts ranged from 6 to 16 inches. The rest of New Hampshire recorded from 3 to 5 inches over central portions, and only 1 to 2 inches in the south, where the snow turned to sleet, freezing rain and to rain. Some street flooding was reported in the south due to the snow-clogged drains. Snow- and freezing rain-laden branches and trees bent or broke onto power lines, causing scattered power outages. The Franklin-Tilton area in the Lakes Region was hardest hit as fallen limbs and trees took down power lines and left about 700 homes and businesses without power for up to 6 1/2 hours. Another power outage in Manchester, southern New Hampshire, left 3,200 homes and businesses powerless for a few hours. About 1,000 customers in the Milton area, east-central New Hampshire, were without telephone service Friday, from early morning to about 1445EST. Along the coast, the Hampton Police Department reported they lost their telephones Friday morning due to power failures caused by high winds and driving rain. Isles of Shoals Coast Guard Station reported 40 mph gusts. Following is a list of heavy snow fall amounts in inches and by zones:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">Zones 001-002</td> <td style="text-align: center;">Zones 003-004</td> </tr> <tr> <td>Berlin.....12</td> <td>Lebanon.....6</td> </tr> <tr> <td>Diamond Pond...16</td> <td>North Conway...6</td> </tr> <tr> <td>1st CT Lake....12</td> <td>Plymouth.....7</td> </tr> <tr> <td>Comerford.....6</td> <td>Tamworth.....7</td> </tr> <tr> <td>Lancaster.....6</td> <td></td> </tr> </table> <p>It should be noted that the heavy snow amounts in zones 003 and 004 occurred over the extreme northern edge of their zones, while the vast majority of these two zones were in the 3 to 5 inch range.</p>										Zones 001-002	Zones 003-004	Berlin.....12	Lebanon.....6	Diamond Pond...16	North Conway...6	1st CT Lake....12	Plymouth.....7	Comerford.....6	Tamworth.....7	Lancaster.....6																			
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28 NEW JERSEY, Northern — NONE REPORTED																																							
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29 NEW MEXICO																																							
San Miguel County	8	1330 MST			3	0	3	0	High Wind																														
<p>Three males lost their lives while fishing on Conchas Lake, northwest of Tucumcari, in winds of at least 20-35 mph or more. The 15-foot boat and one body have not been recovered. (M35, M30, M7)</p>																																							
North-Central Mountains and Central Highlands	22-23				0	0	?	?	Heavy Snow																														
<p>Heavy snow of 6-18 inches covered the area from Las Vegas and Santa Fe southward to the Vaughn area and forced the closure of I-40 just east of Albuquerque to Santa Rosa for almost 12 hours during the night of the 22nd and morning of the 23rd.</p>																																							
30 NEW YORK, Coastal — NONE REPORTED																																							
30 NEW YORK, Central																																							
Herkimer County	05	PM			0	1	5	0	Freezing Rain/Snow																														
<p>Freezing rain and occasional snow flurries produced hazardous driving conditions along Rt. 51 near Little Falls. A 13 car pile up with only one injury was reported.</p>																																							
Ontieda County, Franklin County, and Essex County	09	1800EST			0	0	4	0	High Wind																														
<p>High winds knocked down power lines around Rome at approximately 6:00 PM, Sunday evening. Winds were reported gusting to 51 MPH. Approximately 300 homes were without power. Along the Essex-Franklin county line, wind gusts of near sixty MPH were reported. Several thousand homes were without power in parts of Franklin and Essex Counties.</p>																																							
NYZ-006	11	0600EST			1	17	4	0	Snow																														
<p>Light snow fell along the PA-NY state line. Very slippery roads were listed as the cause of many car accidents.</p> <p style="text-align: center;">M-45-V</p>																																							
NYZ-008-018	12	PM			0	4	4	0	Snow																														
<p>Snowfall of six plus inches fell in the high peaks, and Tug Hill area, of the Adirondacks.</p>																																							
Statewide	18	AM			3	12	5	0	Snow																														
<p>Snow, over six inches in many areas of the southern tier and Catskill Mountains, caused bad driving conditions and downed power lines. One person was killed by drowning, and three injured as a result of a car accident. A second crash, in Stormville, sent a car and its driver into the Fishkill Creek; the woman was rescued after only a few moments in the creek. Light amounts of snow were reported from portions of the Adirondacks and Mohawk Valley.</p> <p style="text-align: center;">M-39-V (Drowning) M-44-V F-63-0</p>																																							
Ontieda County	18	1940EST			0	0	2	0	Lightning																														
<p>A bolt of lightning started a small fire at a local power sub-station.</p>																																							
Statewide	20	1700EST			1	6	5	0	Freezing Rain/Snow																														
<p>Snow started falling about rush hour around Glens Falls, causing several fender-benders. The snow changed to freezing rain, then to all rain by late evening. Heaviest snow was reported in the Adirondack Mountains and Lake Champlain areas of New York, with amounts close to one foot having been received.</p> <p>Elsewhere, a mix of light rain and snow fell over the Southern tier and lower Hudson Valley. Snow amounts in this area were in the 2-4 inch range.</p> <p style="text-align: center;">F-70-V</p>																																							
Orange County	21	1500EST			0	0	4	0	High Wind																														
<p>Sustained wind of 50 MPH was reported by a local power company. High winds were responsible for downed trees, and power outages. Pressure differences were reported to have sucked papers and loose clothing out of some homes.</p>																																							
NYZ-006 Delaware and Ontieda Counties	26	0400EST			1	2	5	0	Flood																														
<p>1.67 inches of rain in the Southern tier produced flooding along main stem rivers as well as small streams. The worst flooding occurred along a tributary of the Tioughnioga River where two people had to be rescued by boat. One person was killed when a swollen Catatunk Creek swept a young man under.</p> <p style="text-align: center;">M-23-0</p>																																							

STORM DATA AND UNUSUAL WEATHER PHENOMENA

NOVEMBER 1986

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30 NEW YORK, Western									
NYZ022 Cattaraugus and Allegany Counties	08	1815 EST			0	0	3	0	High Wind
		High winds severed power lines and knocked down trees in Olean and Whitesville.							
NYZ001 Genesee and Wyoming Counties	09	1600 EST			0	0	3	0	High Wind
		High winds with peak gust of 45 MPH downed trees and power lines. Hit hardest with power blackouts was Bergen.							
NYZ003 Tompkins County	11	Morning			0	?	4	0	Freezing Rain
		Freezing rain was blamed for many automobile accidents in Ithaca.							
NYZ001-004-021-022 Chautauque, Erie, Niagara, Lewis, & Jefferson Counties	13	Morning			0	0	4	0	Snow
		Bands of heavy snow moved across above named counties and dumped up to 7 inches of snow. Driving was difficult and hazardous.							
NYZ004 Oswego, Lewis, & Jefferson Counties	21	Morning			0	0	4	0	Snow
		Snow piled up to 7 inches. Poor driving conditions caused many vehicular accidents.							
31 NORTH CAROLINA									
Tryon, Polk County	21	0700EST			0	0	4	0	High Winds
		Post-frontal winds caused a number of trees to be blown down, some onto power lines. One car was totally destroyed when a tree fell on it, and a fire was started by the power lines.							
S Macon County Rosman, Transylvania County	26	0600EST			0	0	?	?	Flash Flood
	26	0900EST			0	0	4	?	Flash Flood, Lightning
		Heavy thunderstorms moved into the mountains following substantial overnight rain. Small streams in Macon County went out of their banks, and the French Broad River flooded parts of Rosman. Some residents in Rosman said that the water rose so rapidly that a "cloudburst" was likely over some of the tributaries away from populated areas. A few apartments had to be evacuated because of high water, and 2 men were rescued when their truck stalled in high water. Lightning caused considerable damage to power systems in the area.							
32 NORTH DAKOTA									
NDZALL Statewide	07	Morning to 08 Night			3	1	6	0	Blizzard, Heavy Snow, Ice Storm
		A major winter storm dumped 10 to 25 inches of snow over most of North Dakota. The snow combined with strong winds of 30 to 50 mph, and gusts to 70 mph, to create blizzard conditions.							
		Snow began over southern and eastern North Dakota on the morning of the 7th, and by late afternoon, had spread over the entire state. The snowfall was heavy at times, and continued through the night of the 7th. In the southeast quarter, the snow alternated with rain, freezing rain, and sleet. By daybreak on the 8th, snow and blowing snow were occurring statewide. By late morning, the storm had intensified into a blizzard over almost all of North Dakota. The blizzard ended over extreme western North Dakota by late afternoon of the 8th, and over the rest of the state that night.							
		The heaviest snowfall occurred over south-central and east-central North Dakota. The greatest amount, 25 inches, was reported at Devils Lake. The highest wind gusts of the storm occurred in the north-central and northeast sections of the state, between 0800 CST and 0900 CST on the 8th. Several wind gusts to 58 mph were recorded at Grand Forks, a gust to 55 mph occurred at the Minot Air Force Base, while unofficially higher wind gusts were reported elsewhere in these sections. Wind chill temperatures dipped to 40 below over some parts of the state.							
		The blizzard caused three deaths and one serious illness, all from exposure. The storm occurred on the opening day of deer hunting season, and forced many hunters to cancel their trips. The storm stranded motorists, delayed fire-fighting efforts (causing a few homes and buildings to burn down), stranded cattle on the open range, damaged unharvested sunflower crops, closed businesses, cancelled mail deliveries, closed airports, and caused							
33 OHIO									
OHZ003 Northeast Ohio	13	1000EST			0	0	?	0	Heavy Snow
		Scattered locations in Geauga County received 6 inches of snow. Except for relatively minor travel difficulties, the snow caused few problems.							
OHZ008 Adams County	26	1100EST			0	0	0	0	Flood
		Ohio Brush Creek went into flood at West Union. The stream crested at a stage of 15.3 feet (flood stage is 15 feet) at 1200EST on the 26th which was not high enough to cause significant damage.							
34 OKLAHOMA									
Rogers County	28	Morning			0	?	?	?	Fog
		Dense fog formed over the Highway 66 bridge south of Claremore, limiting visibilities to 10 feet at times. The fog also deposited a rime ice on the bridge. The fog and ice triggered a chain of accidents involving 12 autos. No one was seriously injured.							
35 OREGON									
ORZ001-002-003	17-18	2000PST			0	0	?	0	High Wind
		A strong low pressure system moved northward along the Oregon coast with very strong winds. Peak winds of 75 mph at Cape Blanco and 60 mph at Seaside were reported. Other coastal locals reported wind gusts in excess of 50 mph.							
ORZ001-002	23-25	1450PST to 0715PST			0	?	?	0	Heavy Rain / Flooding
		Several Pacific storms dumped heavy rain on the northwest corner of Oregon. This resulted in flooding on several of the north and central coastal streams and rivers, principally the Nehalem and Wilson rivers. Several small mud slides and road washouts were reported. Numerous rainfall totals for 24-hour periods were in excess of 4 inches. The central and northern Willamette Valley also experienced some minor flooding.							
36 PENNSYLVANIA, Eastern									
PAZ007 Upper Susquehanna	18	1300 EST			0	0	4	0	Heavy Snow
PAZ016 Poconos	18	1800 EST			0	0	4	0	Heavy Snow
		Snow fell over the northern part of Eastern Pennsylvania on the afternoon of the 18th into the early morning of the 19th. Over the Upper Susquehanna Zone, 4 to 14 inches of snow fell between 1:00 PM and 4:00 AM. Over the Poconos, 2 to 11 inches of snow fell between 6:00 PM and 6:00 AM. The heaviest amount was 14 inches at Westfield in Tioga County. Accumulations of less than 6 inches fell over the Northeast Metropolitan Zone and the Middle Susquehanna Zone. The snowfall caused numerous automobile accidents and brought down trees and power lines. Thousands of customers had power outages.							

STORM DATA AND UNUSUAL WEATHER PHENOMENA

NOVEMBER 1986

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— PENNSYLVANIA, Eastern									
Bucks County, Bensalem	26	1915 EST			0	0	5	0	ISIM Wind
	Thunderstorm winds caused about 10,000 dollar damage at an automobile dealership. Wind-blown gravel peppered the side of 10 automobiles and broke the rear windows on 2 others. A roof mounted exhaust fan was ripped out of the roof and blown 6 feet. Twenty pieces of temporary fence weighing 80 to 100 lbs. were pushed 30 to 40 yards. Temporary parking signs mounted in cement and weighing 50 to 60 lbs. were moved 30 to 40 yards. Another sign was pulled out of 5 hooks.								
PAZ012 Bucks County	27	0100 EST			0	0	2	0	Small Stream Flooding
	Heavy rain on the 26th caused drainage flooding on roadways and parking lots in Bucks and Montgomery Counties. In Bucks County, small streams flooded with the main flooding along the Meshaminy Creek which was over flood stage from after midnight until around 6:00 AM on the 27th.								
36 PENNSYLVANIA, Western									
PAZ004 Northern Mountains	18	Night			0	0	0	0	Heavy Snow
	Six to eleven inches of snow fell as a storm moved through the central Pennsylvania mountains. Coudersport in Potter County received eleven inches while Bradford in McKean County received six inches over a 12-hour period.								
Clearfield County, 6 NW Clearfield and 3 NW Clearfield	26	1515EST			0	0	0	0	Flood
	Small stream and road flooding occurred in Pine Township, 6 miles northwest of Clearfield and Lawrence Township, 3 miles northwest of Clearfield.								
37 RHODE ISLAND									
RIZALL Statewide	19	early morning			0	0	4	0	Heavy Snow
	A record-setting, early-season snowstorm with heavy, wet snow was accompanied by gusty northeast to north winds of up to 30 to 50 mph, especially near the coast. The snow fell in amounts of up to 14 inches in Foster, 4 inches in Providence, and 10 inches in Woonsocket. South coastal areas had about 2 inches of snow. Tree limbs and wires were knocked down by the snow and wind, resulting in power outages that affected up to 6,000 customers. Warwick, South Kingstown, and Narragansett were the most affected. Thunderstorm activity was observed during the storm as were snow-fall rates of 2 to 3 inches per hour. A storm total of 4.2 inches of snow at Providence made it the heaviest November, single-storm snowfall on record. The morning commute was very slow and difficult as highway crews could not keep roads clear. At Foster, the National Weather Service cooperative observer reported that 10 inches of snow fell between 0400EST and 0700EST. A rapidly intensifying storm center tracked northeastward as it passed to the south of the state, causing very heavy precipitation and the gusty winds.								
38 SOUTH CAROLINA									
Beaufort County, Hilton Head Island	1-5				0	0	4	0	Northeast Winds
	Northeasterly winds pushed tides to above normal levels. Moderate beach erosion was reported along the Hilton Head Island beaches, lowering the beach level by about one foot.								
Greenville County, Mountain Area	14	2300EST			0	0	2	0	Freezing rain
	Freezing rain and sleet developed in the mountain area of northwestern Greenville County, causing several wrecks.								
39 SOUTH DAKOTA									
SDZ00W-00C Western and Central South Dakota	06-07	morning evening			1	0	3	0	Heavy Snow
	Heavy snow fell over the western and central parts of the state. Ten to seventeen inches of snow were reported in the Black Hills and eight to ten inches fell in the western and northwestern plains. Three to seven inches were reported in the central part of the state. Heavier amounts included seventeen inches at Deerfield (Pennington County), fourteen inches at Deadwood (Lawrence County), and eleven inches at Lemmon (Perkins County). Many roads were blocked or temporarily closed. Winds gusting to 40 mph produced blowing snow, reducing visibilities to near zero in some areas. Many traffic accidents were reported. A man died of exposure on the evening of the 7th near Zeona (Perkins County). M530								
SDZ05E Southeast South Dakota	08	early morning			0	0	2	0	High Winds
	Strong winds of 50 to 60 mph occurred over the southeast part of the state. The winds blew down power lines and caused power outages in Sioux Falls (Minnehaha County) where a gust of 58 mph was reported. A gust of 53 mph was reported at Huron (Beadle County).								
SDZ00E Southeast South Dakota	17	afternoon-evening			1	0	0	0	Heavy Snow
	Three to six inches of snow fell across eastern South Dakota. Six inches was reported at Sisseton (Roberts County) and five inches was reported at Huron (Beadle County) and Vermillion (Clay County). The snow made many roads slippery. Numerous accidents occurred in the southeast part of the state. The slick roads were a major factor in the vehicle death of a woman on Interstate 29 five miles northwest of Beresford (Lincoln County) in the early afternoon. F20V								
40 TENNESSEE									
Jackson, Madison County	07	Evening			0	0	4	0	Flash Flood
	A 25-foot section of Country Club Lane in Jackson was washed out as nearly five inches of rain fell during the afternoon and evening hours. A storm drainage pipe broke when the roadway collapsed.								
Lawrence County	09	0530CST			1	0	0	0	Flash Flood
	A 46-year-old woman drowned when she was swept away by flood waters from Shoal Creek as she and her husband drove along Bluff Road. The current swept the car off the road and down an embankment. Both were able to get out of the car, but the woman, who apparently could not swim, lost her grip on the car and drowned. F46V								
41 TEXAS, Northern									
Angelina County, 9E Lufkin	04	1342CST	1.0	30	0	2	5	?	Tornado (F1)
	A tornado struck a quarterhorse farm, demolishing two mobile homes and a barn. Two people were injured.								
41 TEXAS, Southern									
Polk and San Jacinto Counties	07	1450CST	Short Narrow		0	0	?	?	Tornado (F0)
	Texas Department of Public Safety reported a tornado over the south end of Lake Livingston moving towards the northeast. There were some twisted trees in the area and downed powerlines.								
Jim Wells and Nueces Counties	09	1240CST	Short Narrow		0	0	0	0	Tornado (F0)
	FAA personnel at the Alice Airport reported seeing a tornado on the ground 8 miles southeast of Alice. Persons in Bishop in western Nueces County reported seeing the same tornado northwest of their community. The tornado was in open country and no damage was reported.								
Kleberg County	09	2200CST			0	0	0	0	Flooding
	Some minor flooding occurred in and around Kingsville where 6.50 inches of rain was measured at the Kingsville Naval Air Station. Several streets and FM roads were impassable.								

STORM DATA AND UNUSUAL WEATHER PHENOMENA

NOVEMBER 1986

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS				ESTIMATED DAMAGE				CHARACTER OF STORM
					KILLED	INURED	PROPERTY	CROPS	KILLED	INURED	PROPERTY	CROPS	
TEXAS, Southern													
Galveston and Harris Counties	23-24	Afternoon-Afternoon			0	0	5	0					Flooding
					Heavy rains over a two day period produced mostly minor flooding in northern Galveston and southern Harris counties. Santa Fe, in northern Galveston County, reported 7.50 inches of rain on the 23rd plus an additional 4 to 5 inches on the 24th. Resulting flood waters flooded some homes in Santa Fe near Hwy. 646 plus some homes northward from there towards Dickinson Bayou. All together about a dozen homes in Santa Fe, Dickinson and League City had water in them. Roads were flooded in Alvin, Kemah and over Hwy. 87 at Port Bolivar. Streets were also flooded in south Houston, especially along Clear Creek from Telephone Road to FM 528. Other rainfall reports in the area included: (two day totals) 9.75 inches at San Jacinto, Liberty 8.40, New Caney 6.06, and Spring Branch 6.50.								
Karnes County	24	1550CST			0	0	0	0					Hail (0.75)
					Three-quarter-inch hail fell between Kenedy and Runge.								
Montgomery County	24	1600CST			0	0	0	0					Hail (0.75)
					Hail the size of dimes fell at Magnolia.								
Walker County	24	1640CST			0	0	0	0					Hail (0.75)
					Hail the size of dimes fell at Huntsville.								
Karnes County	24	1720CST			0	0	0	0					Hail (?)
					Large hail was reported at Karnes City. Damage was not reported.								
Gonzales County	24	Evening			0	0	0	0					Hail (?)
					Large hail was reported south of Waelder. Size and damage were not given.								
Hardin, Jasper, Jefferson, Newton, and Orange Counties	24-28	*			0	0	6	0					Flooding
					Two days of torrential rains totaling up to near 14 inches occurred, leaving near record flooding over portions of the above counties. *Flooding began around 1730CST on the 24th in Hardin County. Pine Island Bayou, Village Creek and many other smaller streams rose out of their banks and flooded homes in Lumberton, Pinewood and the southern part of Kountz. In Jefferson County, Hillbrandt Bayou south of Beaumont produced some high water that threatened homes in Lovell Lake. A section of a bridge collapsed on a highway south of Lumberton. In Pinewood, 3 feet of water covered a bridge that led to the town. Water covered many roads throughout the 5 county area. Rainfall reports in the area included: (two day total) 10 to 12 inches over southern and eastern Hardin County, Evidale in Jasper County had 9.79, Toledo Dam 7.58 and China 3.82.								
Lee County	24	2015CST			0	0	0	0					Hail (0.75)
					Three-quarter-inch hail fell at Giddings. Damage was not reported.								
Fayette County	24	2015CST			0	0	0	0					Hail (1.50)
					Three-quarter of an inch hail fell at La Grange. One and a half inch diameter hail was reported 10 miles west of La Grange.								
41 TEXAS, Western ————— NONE REPORTED													
42 UTAH													
UTZ003 Wasatch Front Farmington	01	0000MST			0	0	1	0					High Wind
UTZ003 Wasatch Front Farmington	01	0015MST			0	0	1	0					High Wind
UTZ003 Wasatch Front Bountiful	01	0030MST			0	0	1	0					High Wind
UTZ003 Wasatch Front Farmington	01	0615MST			0	0	4	0					High Wind
UTZ003 Wasatch Front Bountiful	01	0815MST			0	0	1	0					High Wind
UTZ003 Wasatch Front Farmington	01	0835MST			0	0	1	0					High Wind
UTZ003 Wasatch Front Ogden	01	1135MST			0	0	1	0					High Wind
					Easterly downslope winds howled during this Friday night and Saturday morning time period. The hurricane force winds knocked out two power poles in Layton at about 4:00 a.m., causing a power outage for about 200 homes in Layton. One of the poles fell on a condominium carport roof. The winds also prompted other smaller								
43 VERMONT													
VIZ-004-005	19	AM			0	0	4	0					Snow
					Heavy snow fell in portions of Southern Vermont. Snow amounts ranged from 2-17 inches.								
Bennington County, Bennington	20	2330EST			0	0	5	0					High Wind
					High winds reaching 55 MPH (unofficial) blew down a concrete block building. Concrete blocks were hurled up to 100 feet from the structure.								
VIZ-001-002-003	21	AM			0	0	4	0					Snow
					A second snow storm hit Vermont in less than a week. This storm left heavy snow in northern sections of Vermont. Some areas reported as much as 18 inches. Hundreds of minor traffic accidents were reported.								
43 UTAH													
UTZ010 Northern Mountains Park West	06	1300MST			0	0	1	0					Heavy Snow
UTZ003 Wasatch Front Salt Lake City	06	2100MST			0	0	1	0					Heavy Snow
UTZ002 Great Salt Lake Desert, Tooele	06	2225MST			0	0	1	0					Heavy Snow
UTZ010 Northern Mountains Alta	07	0615MST			0	0	0	0					Heavy Snow
UTZ002 Great Salt Lake Desert, Tooele	07	0700MST			0	0	1	0					Heavy Snow
UTZ003 Wasatch Front Bountiful	07	1245MST			0	0	1	0					Heavy Snow
UTZ003 Wasatch Front Provo	07	1245MST			0	0	1	0					Heavy Snow
UTZ003 Wasatch Front South Jordan	07	1530MST			0	0	1	0					Heavy Snow
UTZ010 Northern Mountains Alta	08	0600MST			0	0	0	0					Heavy Snow
					A winter storm lingered over Northern Utah for 3 days and left over two feet of snow in some spots along the Wasatch Front. The most snow fell in the ski resorts in Little Cottonwood Canyon, with Alta reporting a storm total of 22 inches and Snowbird 20 inches as of Friday afternoon. In the valleys, Tooele received the most with a storm total of 16 inches. The heavy snowfall reports were received as follows: Park West ski resort reported 13 inches in 12 hours as of 1 p.m. on the 6th; the Mill Creek area of Salt Lake City received 6 inches in 12 hours as of 9 p.m. on the 6th; Tooele had 4 to 5 inches in 12 hours as of 10:25 p.m. on the 6th; Alta had 20 inches in 12 hours as of 6:15 a.m. on the 7th; Tooele had received 12 inches in approximately 9 hours as of 7:00 a.m. on the 7th, for a total of 15 inches; a spotter in Bountiful reported 12 inches in 24 hours as of 12:45 p.m. on the 7th; Provo received 9 inches in 24 hours as of 12:45 p.m. on the 7th; South Jordan had 8 to 10 inches in 12 hours as of 3:30 p.m. on the 7th and Alta received an additional 11 inches in 12 hours as of 6 a.m. on the 8th.								
UTZ006 Southwest Valleys Enterprise	25	1625MST			0	0	1	0					Heavy Snow
UTZ011 Southern Mountains Brian Head	25	1755MST			0	0	1	0					Heavy Snow
					A spotter in Enterprise received 4 inches of snow in 6 hours as of 4:25 p.m. on the 25th. Brian Head ski resort had 8 inches in less than 12 hours.								
UTZ010 Northern Mountains Alta	30	0430MST			0	0	0	0					Heavy Snow
UTZ010 Northern Mountains Snowbird	30	0623MST			0	0	0	0					Heavy Snow
					A fast-moving storm dumped up to 13 inches of new snow at both Alta and Snowbird ski resorts during this Saturday night and early Sunday morning.								

STORM DATA AND UNUSUAL WEATHER PHENOMENA

NOVEMBER 1986

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED ¹ DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	
44 VIRGINIA									
Albemarle County	15	Morning			0	3	4	0	Ice Storm
	A mixture of freezing rain and snow iced highways and bridges for about 2 hours before changing to rain. Twenty minor accidents were reported, with only one resulting in injuries.								
45 WASHINGTON									
Clallam County	07	0100PST			0	0	4	0	Lightning
	A thunderstorm developed around midnight with lightning strikes to power substations causing scattered power outages. A lightning strike at the Agnew substation east of Port Angeles caused \$6000-7000 damage to a transformer and utility pole.								
Washington Coast and Whatcom County	19	Evening			0	0	0	0	High Wind
	Strong southerly winds caused by a Pacific low pressure system moving across Vancouver Island knocked down trees and branches and caused scattered power outages along the coast and around Bellingham. Strongest gusts included 57 knots at Tatooosh Island, 46 knots at Destruction Island, 48 knots at Smith Island, and 42 knots at Bellingham.								
Spokane County	23	1500PST			0	0	4	0	High Wind
	Winds ahead of a frontal system were as strong as 55 miles an hour during the afternoon. In Spokane, a metal roof was cleanly blown off of a house and at the same time, the roof of a marina was partially blown off.								
Western Washington	23	All Day			1	0	7	0	Flood
	A Pacific frontal system stalled over Western Washington for the whole day, dumping 2 to 3 inches of rain over much of the Puget Sound Lowlands. The west foothills of the Cascades received 4 to 5 inches of rain from the storm. The largest 24-hour rainfall total reported was 7.12 inches at Spada Lake about 30 miles northeast of Seattle. Flood warnings were issued for 13 Western Washington rivers. A 75 foot section of State Route 542 washed out 25 miles east of Bellingham, stranding about 1000 people on Mount Baker for 2 days. One man drowned in flooding along the Skykomish River about 20 miles northeast of Seattle. M370								
46 WEST VIRGINIA ————— NONE REPORTED									
47 WISCONSIN									
Polk Co.	08	0140CST			0	0	5	0	Lightning
	Lightning struck a restaurant, starting a fire which destroyed the second level and caused nearly \$200,000 damage. The restaurant was on the shore of Deer Lake, about 5 miles east of St. Croix Falls.								
WIZ00N Northern Wisconsin	08- 09	0130CST 0115CST			0	0	6	0	High Wind
	An intense early-season storm raked the northern half of Wisconsin with winds gusting to between 60 and 72 mph from the early morning hours of the 8th until a little after midnight on the 9th. Some thunderstorms developed on the cold front which ushered in the powerful gusts. The winds knocked down hundreds of trees, many onto power lines, causing numerous power outages. Some property, road signs, and building damage was also reported. A hangar at the Taylor County Airport in Medford was blown over and demolished. Scattered reports of toppled sheds and out-buildings were received from other locations around northern Wisconsin. Also, sections of roof were torn off several buildings. 2 attached garages collapsed in Cameron (Barron County). 2 Cessna 172 airplanes were flipped over at an airport in Pierce County. An estimated \$50,000 in damage including some weather instruments occurred at the Rice Lake Airport in Barron County.								
48 WYOMING									
WYZ015-016-017 Southeast Corner	01	Overnight			0	0	0	0	Heavy Snow
	Twelve inches of snow fell overnight at Granite Reservoir, about 25 miles west of Cheyenne, and at Centennial. Eighteen inches or more was reported in the mountains west of Centennial. Six to 8 inches were reported at Encampment and Hecla.								
WYZ001 Northwest Corner	06-07	Both Days			0	0	?	0	Heavy Snow
	A storm dumped 8 to 14 inches of snow at many locations in the northwest corner, including Yellowstone National Park. Lewis Lake, in Yellowstone, received 16 inches over the two days.								
WYZ004-005-006-011-012 Northeast and East-Central	06-07	Both Days			0	0	?	0	Heavy Snow
	A winter storm brought heavy snow and strong winds to the northeast and the east-central part over most of two days. Snow accumulations of 6 to 10 inches were common. In the Black Hills, Elk Mountain received 14 inches and Moskee 12 inches. The snow, coupled with blowing and drifting, closed roads at times.								
WYZ016 Southeast Corner	09	0550MST			0	0	0	0	High Wind
	Gusts to 60 mph were logged at Vedaawoo, along the Laramie Range in extreme east Albany County.								
WYZ014-015-016-017 South	11	0000MST- 1500MST			0	0	0	0	High Wind
	A gust to 80 mph was logged at Vedaawoo shortly after 1100MST. Gusts to 70 mph and 65 mph were logged at Arlington and Granite Reservoir, respectively. Wind gusts to around 60 mph were common at other locations from Rock Springs east to Cheyenne.								
WYZ001 Northwest Corner	11	Morning			0	0	0	0	Heavy Snow
	Six inches of snow fell during the morning hours at Canyon, in Yellowstone National Park.								
WYZ016-017 Southeast Corner	16	Morning			0	0	0	0	High Wind
	At 1130MST, a gust to 65 mph was clocked at Granite Reservoir, 25 miles west of Cheyenne. Gusts to 60 mph were noted at Arlington, at the Cheyenne airport, and 7 miles west of Cheyenne.								
WYZ001 Northwest Corner	16-17	Overnight			0	0	4	0	Heavy Snow
	Overnight heavy snow fell in the northwest corner, causing power outages and numerous accidents. Fifteen inches of new snow was reported at Teton Village and 11 inches at Jackson.								
WYZ016 Southeast Corner	17	Overnight			0	0	0	0	High Wind
	Gusts to around 60 mph were recorded at Arlington, along the Snowy Range in extreme east Carbon County.								
WYZ015-016-017 Southeast Corner	19	Day			0	0	0	0	High Wind
	Shortly before 0300MST, a gust to 86 mph was clocked at Arlington. At 0815MST, Vedaawoo had gusts to 70 mph. Elsewhere in the southeast corner, gusts to 60 mph were common during the day.								
WYZ016 Southeast Corner	23	Evening			0	0	0	0	High Wind
	At 2320MST, a gust to 68 mph was logged at Arlington. At 2110MST, Vedaawoo had gusts to 61 mph.								
WYZ016 Southeast Corner	24	Morning			0	0	0	0	High Wind
	During the early morning hours, gusts to 66 mph were logged at Arlington and Vedaawoo.								
49 ALASKA, Northern ————— NO REPORT RECEIVED									
49 ALASKA, Southern ————— NO REPORT RECEIVED									

STORM DATA AND UNUSUAL WEATHER PHENOMENA

NOVEMBER 1986

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED ¹ DAMAGE		CHARACTER OF STORM	PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED ¹ DAMAGE		CHARACTER OF STORM	
					KILLED	INJURED	PROPERTY	CROPS							KILLED	INJURED	PROPERTY	CROPS		
49 ALASKA, Southeastern																				
Juneau Area	17-18								High Winds											
	<p>Strong winds, known locally as Iaku winds, gusted to over 60 mph in downtown Juneau, toppling trees and crushing at least one car. Such winds, similar to the Bora winds in Yugoslavia, occur several times each year when high pressure over Northwest Canada combines with lows offshore from Southeast Alaska.</p>																			
Ketchikan	24-25								High Winds											
	<p>A strong occluded front crashed through Southeast Alaska early on Nov. 25, bringing southeasterly winds gusting to over 60 mph in Ketchikan. Three power outages were caused by these winds in and around the city.</p>																			
50 HAWAII																				
HIZ004 Hawaii (Big Island)	08	2000HST			0	0	0	0	Flash Flooding											
	<p>Heavy showers over the Hilo, Puna, and Kau districts caused minor flash flooding. Some rainfall amounts were in excess of 10 inches in the Puna district by early morning.</p>																			
HIZALL Entire State	10-11				0	0	6	0	Flash Flooding											
	<p>Heavy rains covered the entire state for 24 to 48 hours as moisture from the deep tropics moved in from southerly and southeasterly directions, and a trough in the upper westerlies remained west of the islands, supplying favorable conditions for precipitating this moisture. Many parts of the island chain received between 10 and 20 inches of rainfall, with widespread-but-mostly-minor flash flooding resulting. On Kauai, mainly the northeast quadrant of the island was affected as rivers flowing out of the interior went out of their banks and closed roads and bridges. On Oahu, the windward coastal strip from Kahuku to Kaneohe experienced some minor flooding and rock slides. Some street flooding also occurred here and there within the Honolulu area on the lee side. On Maui, the road from Kaupo to Upcountry Maui was washed out, stranding Kaupo's 100 residents who had lost their other road out of town, via Hana, due to high surf during the passage of Hurricane ESTELLE on July 23rd. On the Big Island of Hawaii, the heaviest rainfall was over the Puna, Kau, and Hilo districts, but some portions of the Kona side also received heavy downpours. Seven homes were flooded in Hilo and Puna, while rock and mudslides and water intermittently closed roads in the area.</p>																			
51 PUERTO RICO ————— NONE REPORTED																				
52 VIRGIN ISLANDS ————— NONE REPORTED																				
53 PACIFIC ————— NONE REPORTED																				

STORM SUMMARY

DECEMBER 1986

TYPE	ALABAMA	ARIZONA	ARKANSAS	CALIFORNIA	COLORADO	CONNECTICUT	DELAWARE	FLORIDA	GEORGIA	IDAHO	ILLINOIS	INDIANA	IOWA	KANSAS	KENTUCKY	LOUISIANA	MAINE	MARYLAND & DC	MASSACHUSETTS	MICHIGAN	MINNESOTA	MISSISSIPPI	MISSOURI	MONTANA	NEBRASKA	NEVADA	NEW HAMPSHIRE
SEE PAGE 25																											
TORNADOES																											
Number	4	2														2						6					
Days	2	1														2						2					
Deaths																2						2					
Injuries	9																					4					
Property Damage	6	5														5						4					
Crop Damage	1															3						6					
HAIL																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											
THUNDERSTORM WINDS																											
Deaths																											
Injuries																											
Property Damage	4							4	1				6			1		4			5	3					
Crop Damage								6	6			4				3											
HIGH WINDS																											
Deaths																									1		
Injuries													1											1			
Property Damage													4											4	1		
Crop Damage				5						4			4					4						2		1	
LIGHTNING																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											
FLASH FLOODS																											
Deaths																											
Injuries																											
Property Damage									5	4					4								4				3
Crop Damage																											
FLOODS																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											
HEAVY SNOWSTORMS AND BLIZZARDS @																											
Deaths																											
Injuries																											
Property Damage													4				6		5								5
Crop Damage																											
ICE STORMS #																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage														5								3			6		5
HURRICANES AND TROPICAL STORMS																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											
ALL OTHERS																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											

SEE REFERENCE NOTES FOR STORM DAMAGE CATEGORIES

STORM SUMMARY

DECEMBER 1986

TYPE	NEW JERSEY	NEW MEXICO	NEW YORK	NORTH CAROLINA	NORTH DAKOTA	OHIO	OKLAHOMA	OREGON	PENNSYLVANIA	RHODE ISLAND	SOUTH CAROLINA	SOUTH DAKOTA	TENNESSEE	TEXAS	UTAH	VERMONT	VIRGINIA	WASHINGTON	WEST VIRGINIA	WISCONSIN	WYOMING	ALASKA	HAWAII	PACIFIC	PUERTO RICO	VIRGIN ISLANDS	NATIONAL DEATHS & INJURY TOTALS
TORNADOES																											
Number													SEE PAGE 25	3													
Days														3													
Deaths														2													
Injuries														5													15
Property Damage														2													
Crop Damage														1													
HAIL																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											
THUNDERSTORM WINDS																											
Deaths																											
Injuries																											2
Property Damage																											
Crop Damage																											
HIGH WINDS																											
Deaths		3																									4
Injuries																											2
Property Damage		3	4	4				?				2			4	5		4			6						4
Crop Damage																											2
LIGHTNING																											
Deaths																											
Injuries																											
Property Damage			2		?														4								
Crop Damage																					5						
FLASH FLOODS																											
Deaths																											1
Injuries																											
Property Damage					4																			6			
Crop Damage					?																						
FLOODS																											
Deaths			1																								2
Injuries			2																								2
Property Damage			5						?					6													2
Crop Damage									?																		?
HEAVY SNOWSTORMS AND BLIZZARDS @																											
Deaths																											4
Injuries																											1
Property Damage																											
Crop Damage																											
ICE STORMS #																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage			5																								
HURRICANES AND TROPICAL STORMS																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											
ALL OTHERS																											
Deaths																											4
Injuries																											?
Property Damage																											
Crop Damage																											

SEE REFERENCE NOTES FOR STORM DAMAGE CATEGORIES

REFERENCE NOTES

† Storm damage categories are from 1 to 9 as follows:

- 1 Less than \$50
- 2 \$50 to \$500
- 3 \$500 to \$5,000
- 4 \$5,000 to \$50,000
- 5 \$50,000 to \$500,000
- 6 \$500,000 to \$5 Million
- 7 \$5 Million to \$50 Million
- 8 \$50 Million to \$500 Million
- 9 \$500 Million to \$5 Billion

- * Miles instead of yards
- ** Yards instead of miles
- @ Includes heavy sleet storm
- # Freezing drizzle and freezing rain, commonly known as glaze
- ≠ Not received or incomplete
- o/c Under Estimated Damage, Property/Crops, indicates crop damage amount is included in the figure given

Definition of Fujita Tornado Scale (F scale)

(F0) Gale tornado (40-72 mph): Light damage
Some damage to chimneys; break branches off trees; push over shallow-rooted trees; damage sign boards.

(F1) Moderate tornado (73-112 mph): Moderate damage
The lower limit (73 mph) is the beginning of hurricane wind speed; peel surface off roofs; mobile homes pushed off foundations or overturned; moving autos pushed off the roads.

(F2) Significant tornado (113-157 mph): Considerable damage
Roofs torn off frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light-object missiles generated.

(F3) Severe tornado (158-206 mph): Severe damage
Roofs and some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted; heavy cars lifted off ground and thrown.

(F4) Devastating tornado (207-260 mph): Devastating damage
Well-constructed houses leveled; structure with weak foundation blown off some distance; cars thrown and large missiles generated.

(F5) Incredible tornado (261-318 mph): Incredible damage
Strong frame houses lifted off foundations and carried considerable distance to disintegrate; automobile-sized missiles fly through the air in excess of 100 m; trees debarked; incredible phenomena will occur.

(F6-F12) (319 mph to Mach 1, the speed of sound):
The maximum wind speeds of tornadoes are not expected to reach the F6 wind speeds.

(F0+F1) Weak Tornado

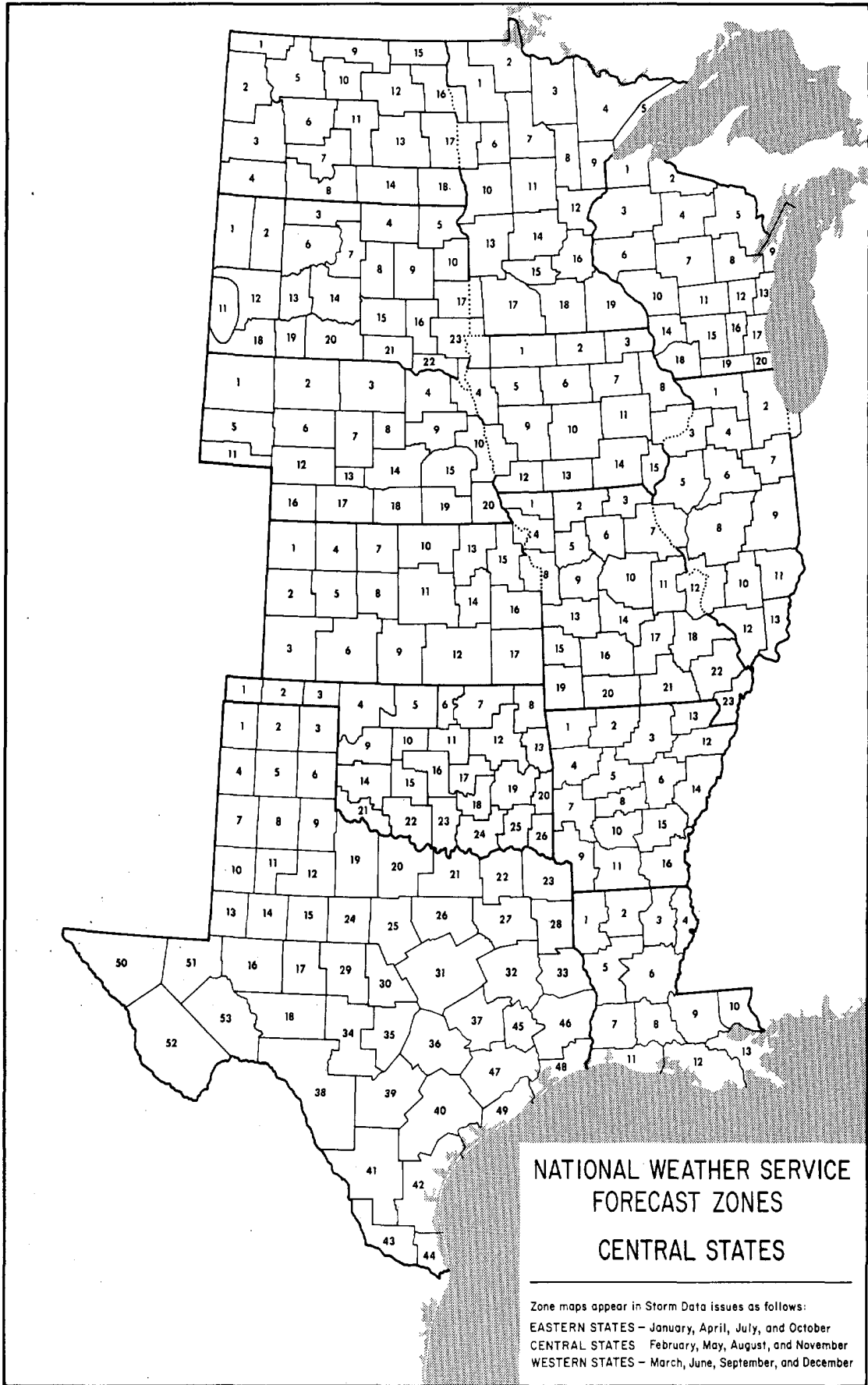
(F2+F3) Strong Tornado

(F4+F5) Violent Tornado

From J. Atmos. Sci., August 1981, p. 1517-1519



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