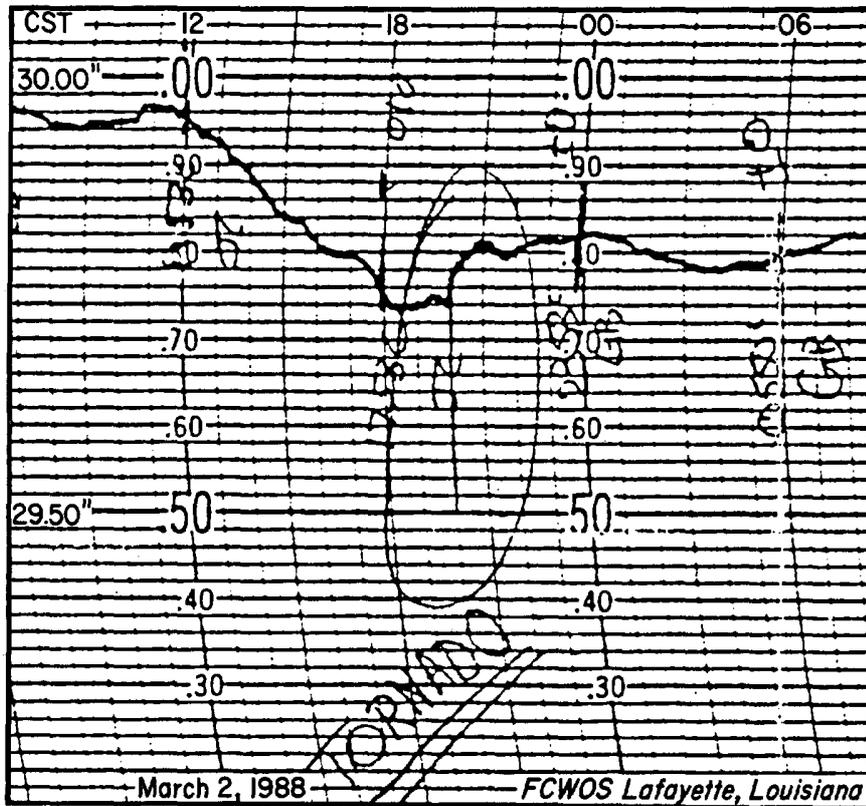


# STORM DATA



"I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND IS COMPILED FROM INFORMATION RECEIVED AT THE NATIONAL CLIMATIC DATA CENTER, ASHEVILLE NORTH CAROLINA" 28801

*Kenneth D. Nadeau*

DIRECTOR  
NATIONAL CLIMATIC DATA CENTER

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## C O N T E N T S

Cover: A barograph trace from the airport at Lafayette, Louisiana shows an instantaneous pressure drop of .24 inches that was recorded as a tornado passed through the airport grounds on March 2nd. An 83 mile per hour wind gust was also observed on a non-recording anemometer. The tornado, F1 in intensity, traveled only 0.8 mile but caused an estimated \$5 million in damage at the airport as it destroyed 35 light aircraft and damaged three hangars. (See report for Louisiana, page 21) ---Trace provided by the FCWOS at Lafayette, Louisiana.

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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 all editions.

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

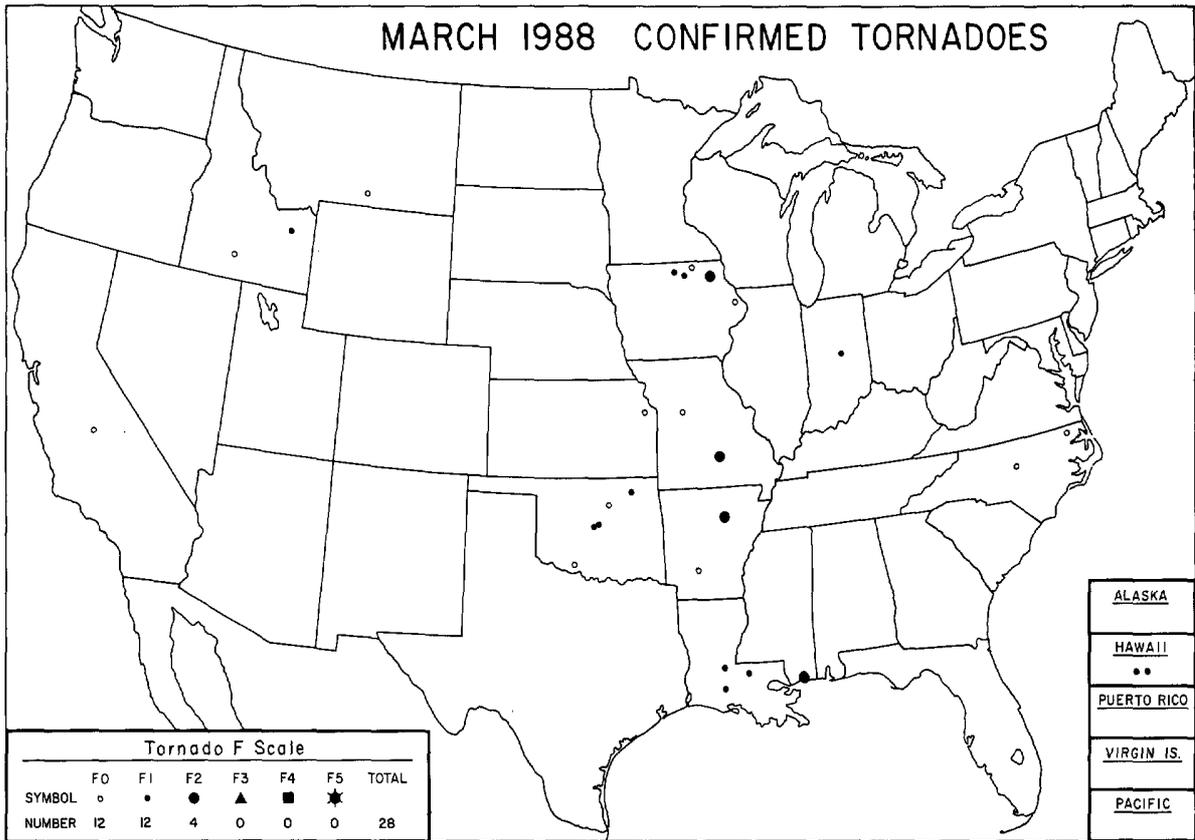
#### Publication Staff

J. D. Ziemianski	S. C. Lackey
Supervisory Meteorological Technician	Editorial Clerk

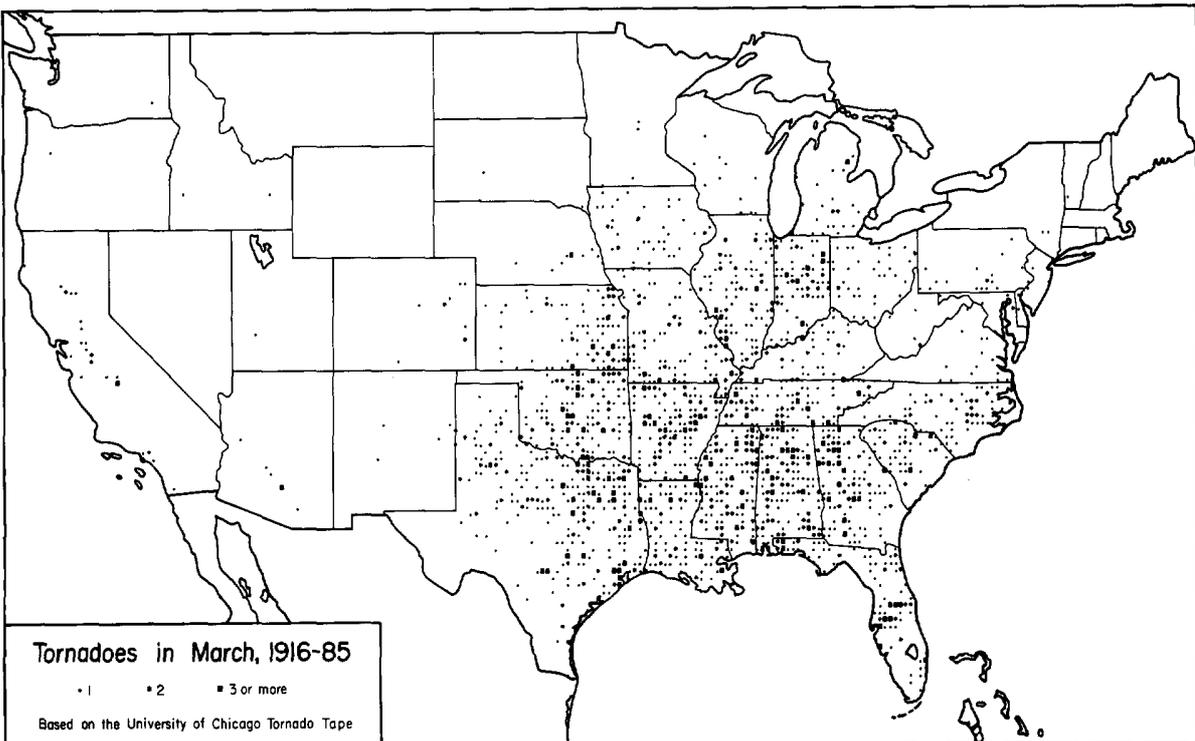
Subscription, pricing, and ordering information is available from:

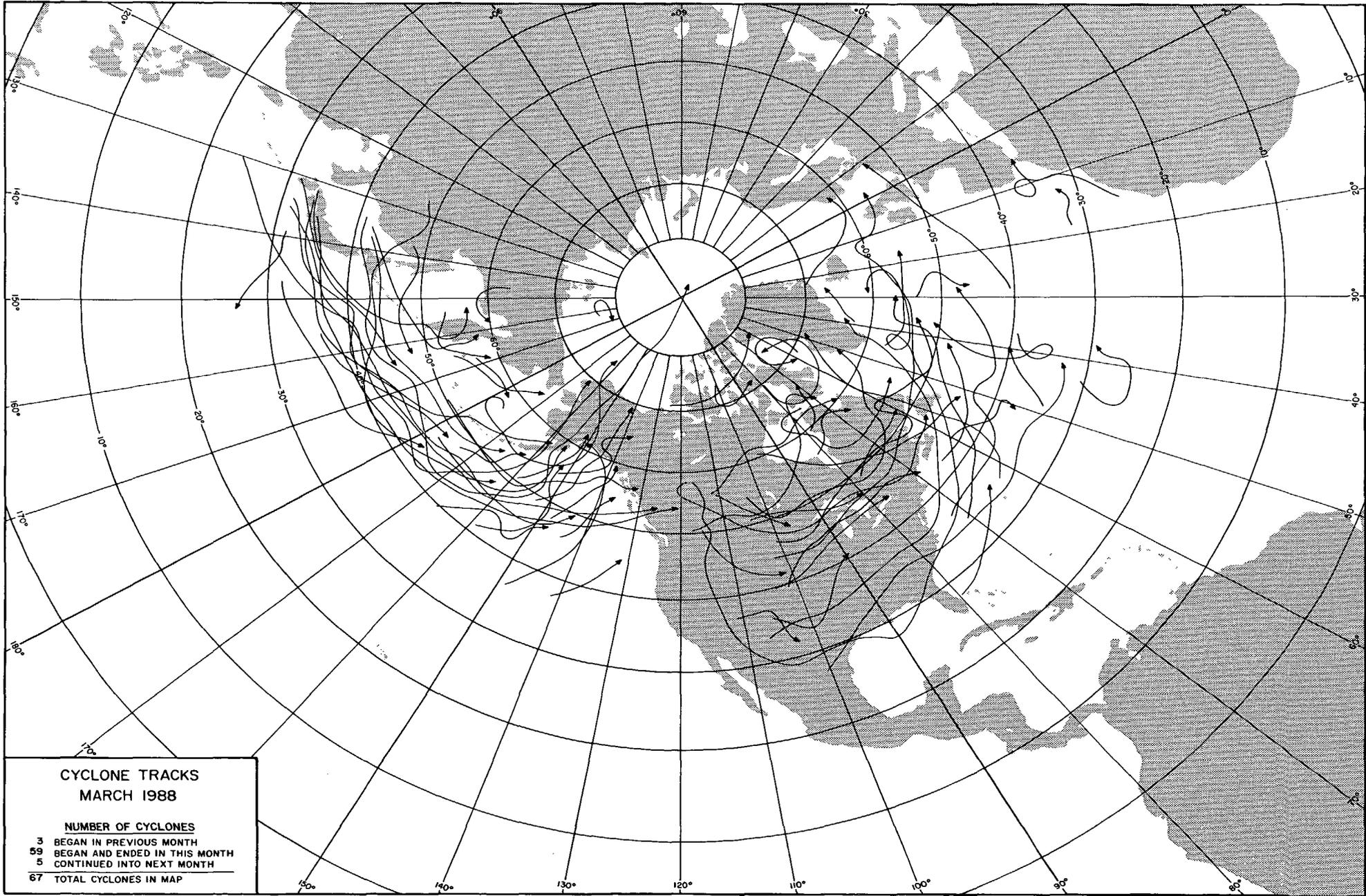
National Climatic Data Center  
Federal Building  
Asheville, NC 28801-2696

# OUTSTANDING STORMS OF THE MONTH



<ul style="list-style-type: none"> <li>● COMPLETE REPORT RECEIVED</li> <li>⊙ PRELIMINARY REPORT RECEIVED</li> <li>○ REPORT NOT RECEIVED</li> </ul> <p>(N) northern (W) western            (S) southern (C) central            (E) eastern (O) coastal            (SE) southeastern</p>	<table style="width: 100%; border-collapse: collapse;"> <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>● 40IN</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> </table>	● 1AL	● 7DE	● 14KS	● 21MN	● 28NJ	● 33OH	● 39SD	● 44VA	● 49AK(SE)	● 2AZ	● 8FL	● 15KY	● 22MS	● 29NM	● 34OK	● 40IN	● 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  
MARCH 1988**

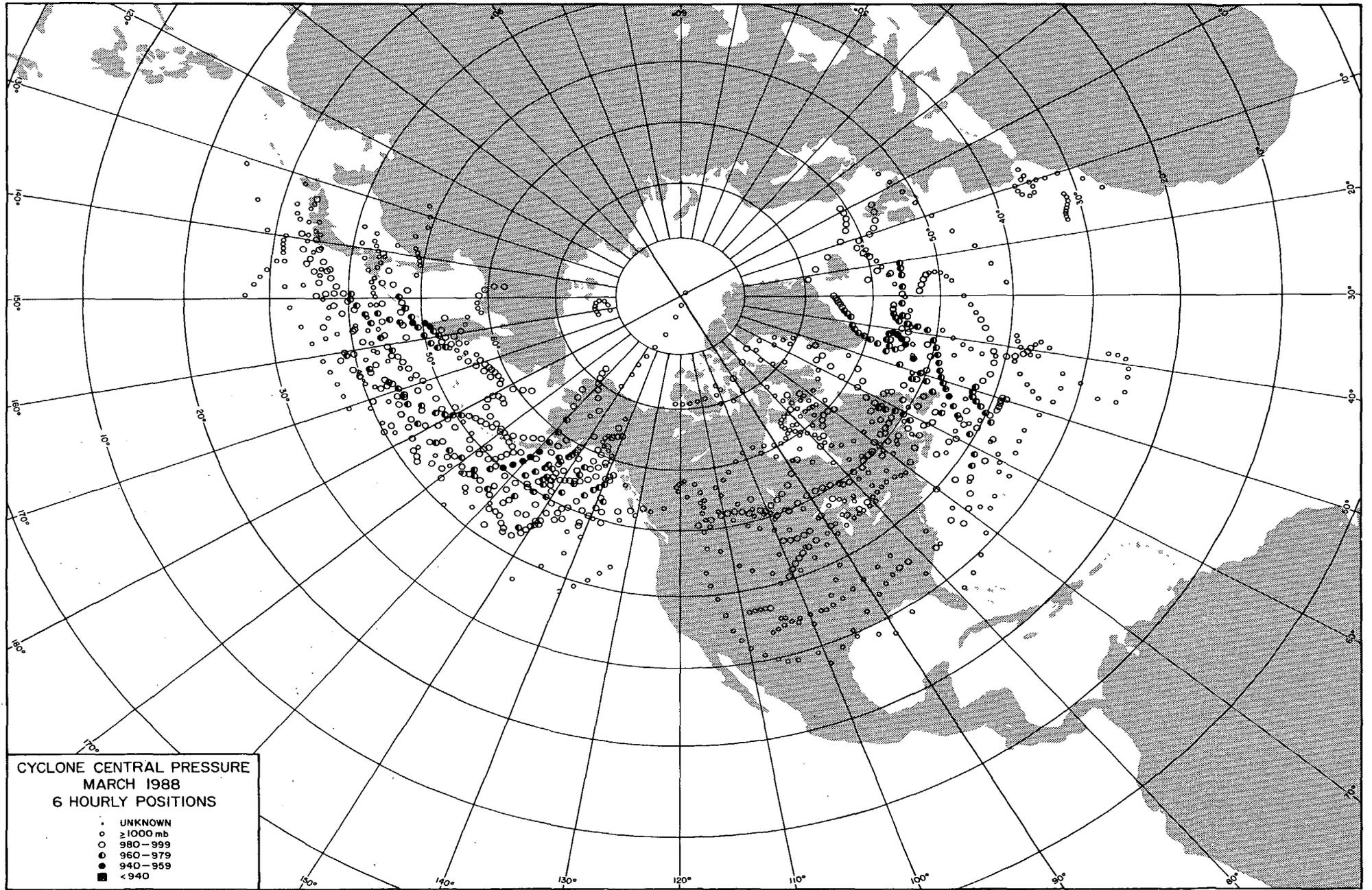
**NUMBER OF CYCLONES**

- 3 BEGAN IN PREVIOUS MONTH
- 59 BEGAN AND ENDED IN THIS MONTH
- 5 CONTINUED INTO NEXT MONTH

---

- 67 TOTAL CYCLONES IN MAP

Mapped at the University of Chicago from NMC, cyclone track data



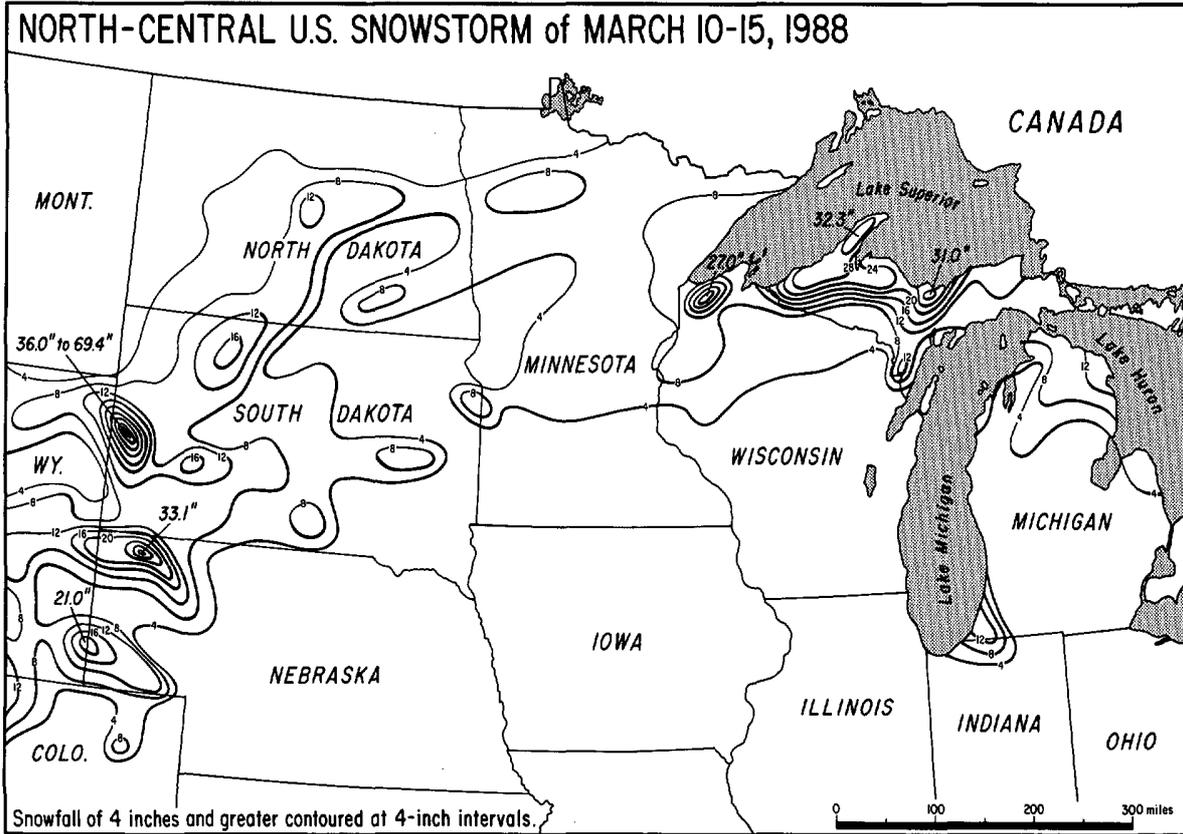
**CYCLONE CENTRAL PRESSURE  
MARCH 1988  
6 HOURLY POSITIONS**

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

# 1. SNOWSTORM in the NORTH-CENTRAL U.S. on March 10-15, 1988

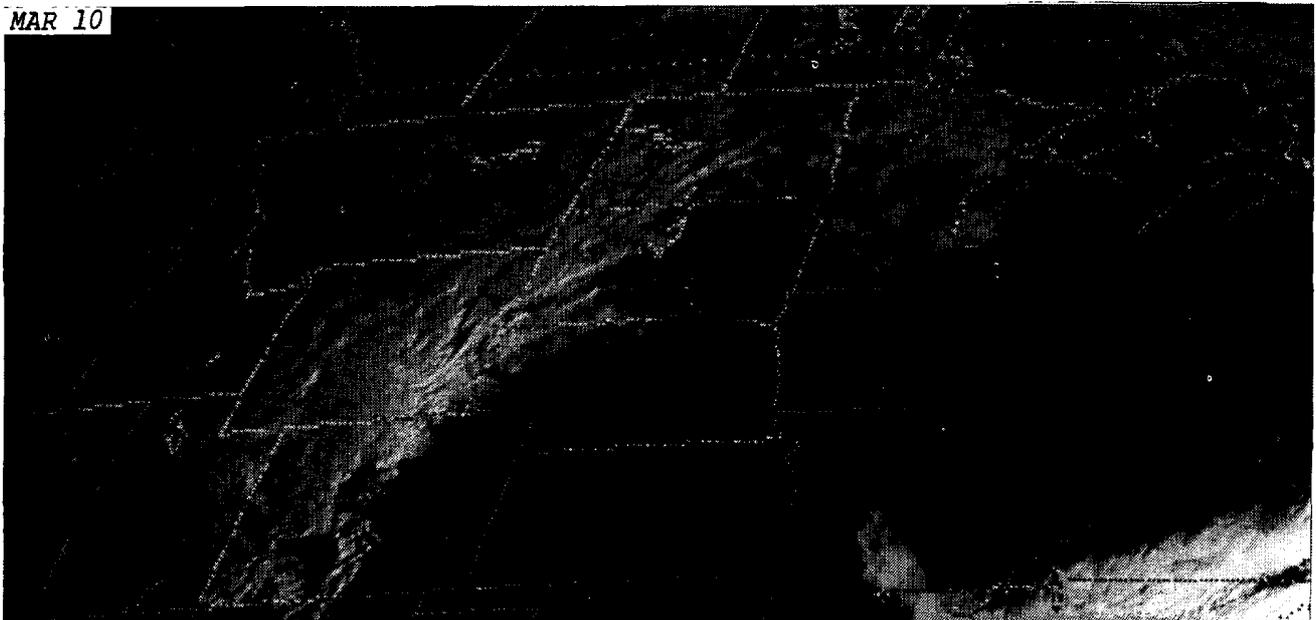
A frontal system moved through the Rockies on March 9th bringing heavy snow to the mountains of the West, a snow which had spread eastward to much of the northern and central High Plains by the 10th as a low pressure center developed in northern Colorado. This low moved slowly east-northeast through Nebraska, northern Iowa, and central Wisconsin and Michigan before reaching Lake Huron on the 13th. En route, heavy snow and high winds affected much of the North-Central U.S. lying to the north of the storm's path, at times making for blizzard conditions over large areas.

Snowfall was particularly heavy in portions of eastern Wyoming, the Nebraska Panhandle and western South Dakota. Amounts in excess of three feet were common along the north and northeast front of the Black Hills where wind direction and orography heavily influenced snowfall — the storm's maximum snowfall amount, 69.4 inches was measured at Lead. On the plains, a regional maximum of 33.1 inches was measured at Chadron in northwest Nebraska. Large snowfalls were also received in the Great Lakes area where lake-effect snow squalls persisted into the 15th, well after the storm had passed. These snowfalls occurred in the well-known "snowbelts" downwind of the Lakes where larger snowfalls would be expected.

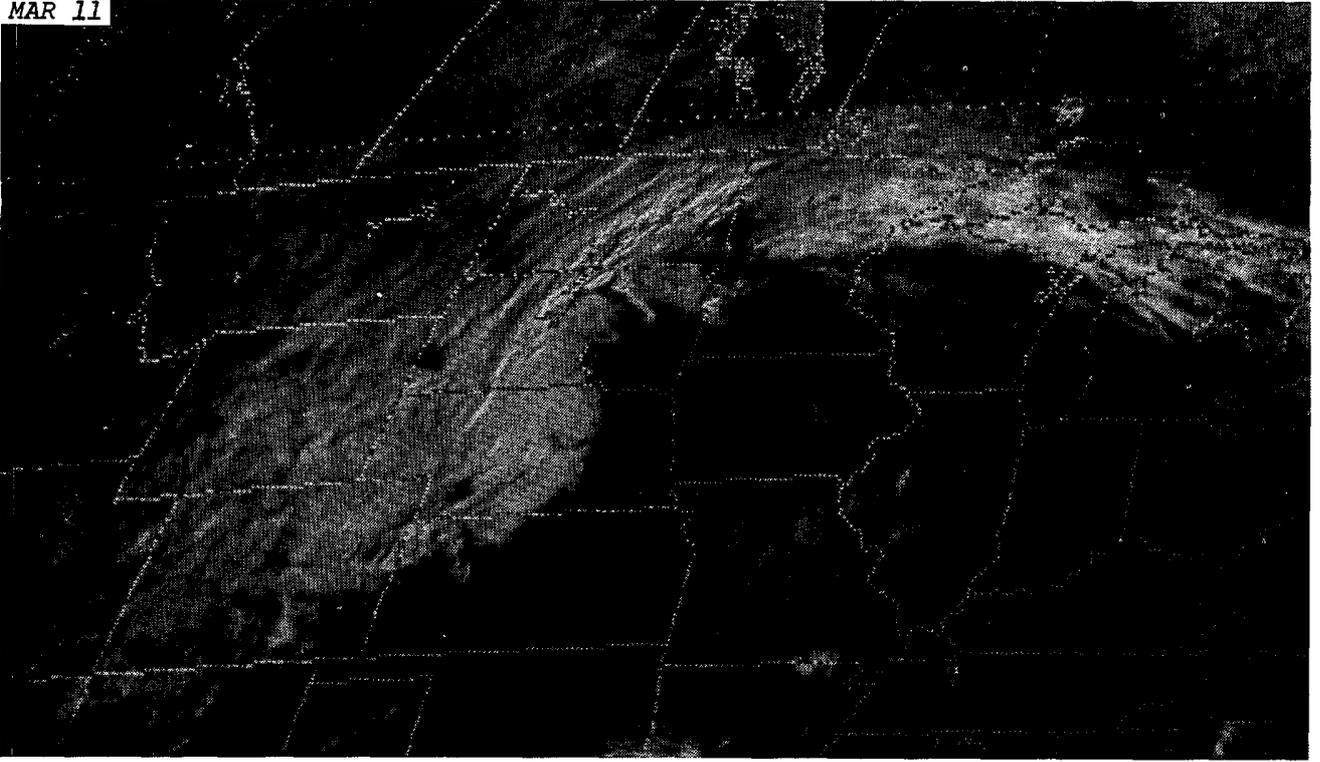


Analysis of storm-total snowfall in the North-Central U.S. on March 10th through 13th, 1988, including lake-effect snowfall in the Great Lakes through March 15th. ---Mapped by the University of Chicago from Cooperative Observer data supplied by NCDC and additional data supplied by NWSFO's at Omaha, Nebraska; Bismarck, North Dakota; Sioux Falls, South Dakota; Milwaukee, Wisconsin and Cheyenne, Wyoming.

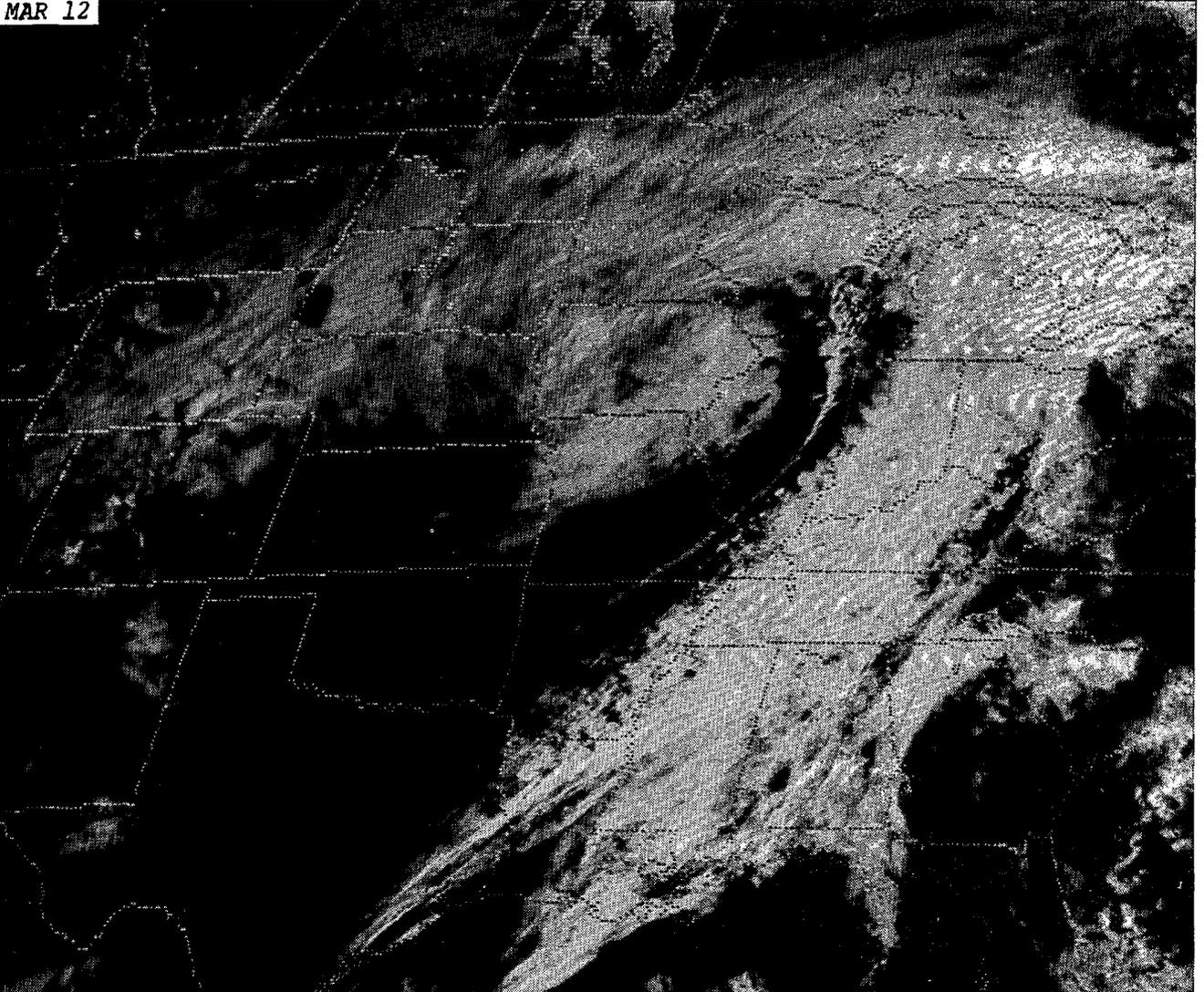
MAR 10



MAR 11



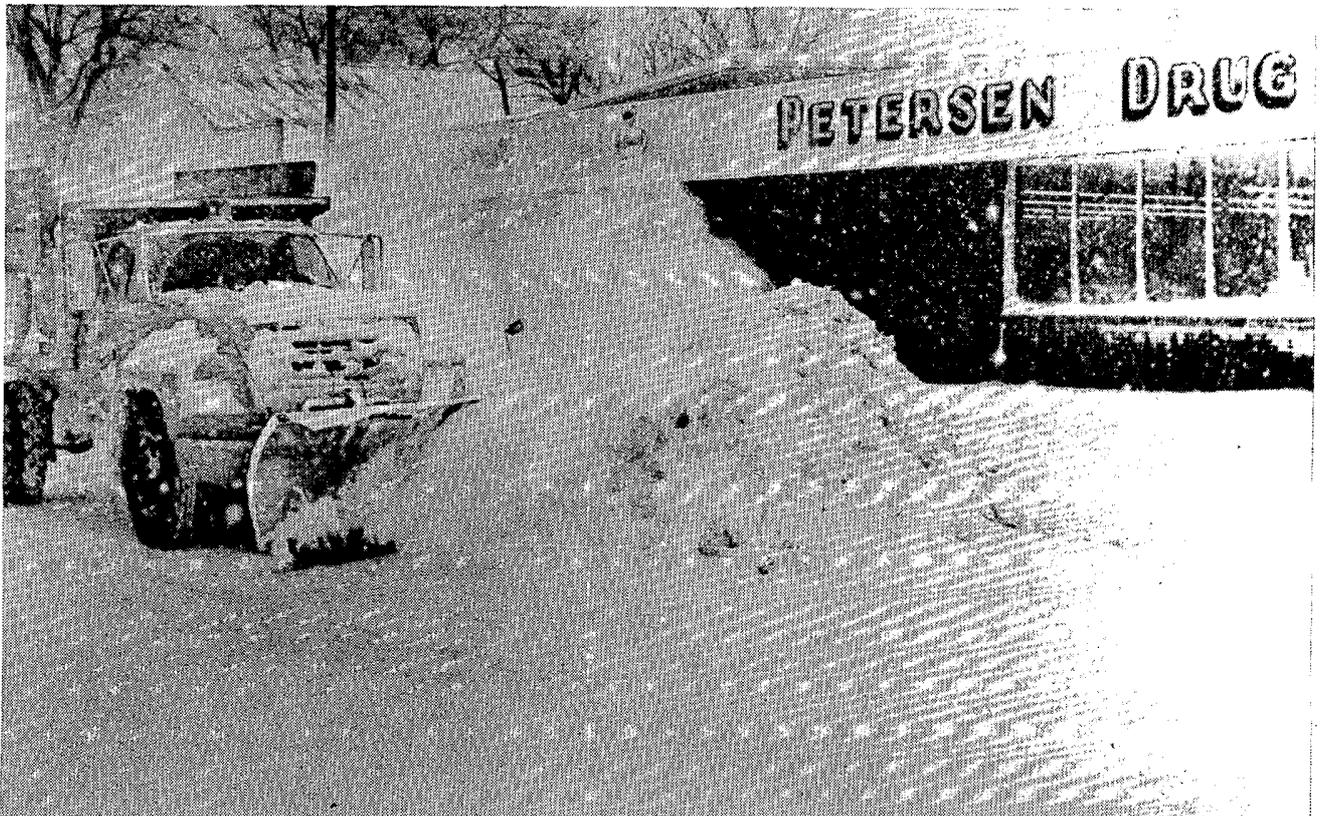
MAR 12



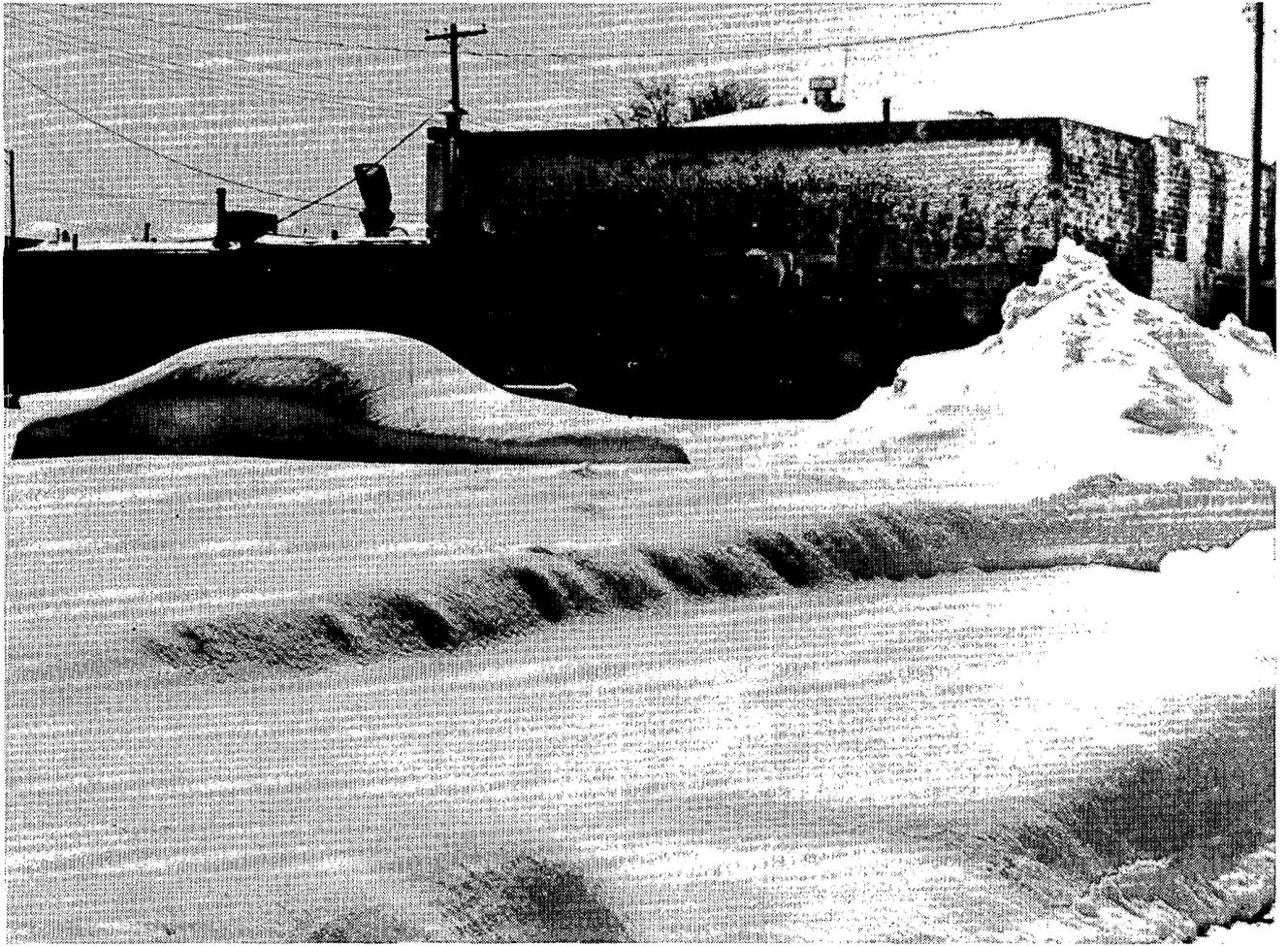
At the bottom of the previous page and above, three GOES 6 satellite, visible images, each taken at 0930CST, show the cloud system of the snowstorm as it moved through the Great Plains on March 10th through the 12th. Note in the last photo that even though snowfall in excess of three feet accumulated in the Black Hills of South Dakota, under cloudless skies they still appear as a black area surrounded by the white snowcover on the plains due to the dense pine forest that covers them. ---Photos from NESDIS.



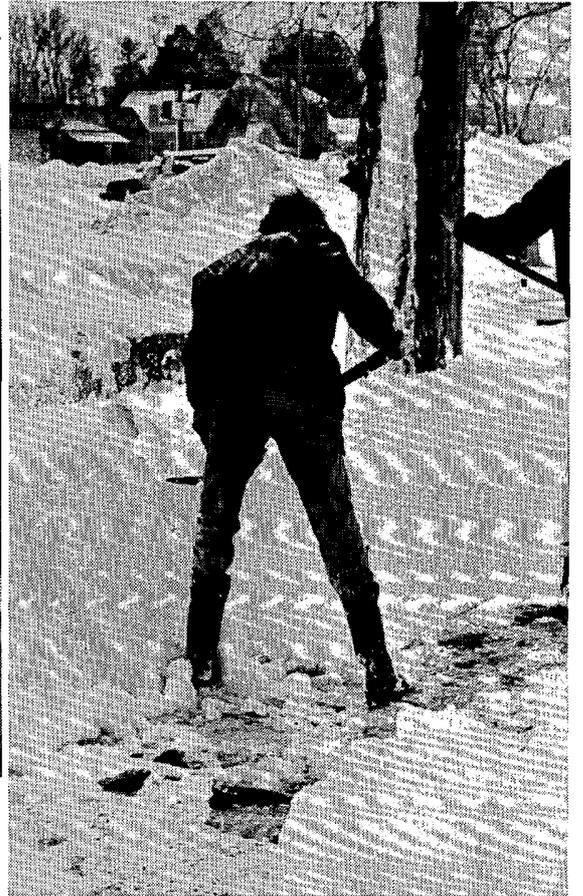
Above and at right, residents of Chadron, Nebraska do their best to carry on with the day's activities on March 11th, in spite of the heavy snow in progress that provided extra inconvenience for most. The store sign at right proved to be a poor albeit unintended prediction of the day's weather, as the town received 33.1 inches of snowfall by the storm's end on March 12th.



With the storm in progress on the 11th, a plow works to keep one of Chadron's main arteries open to traffic.



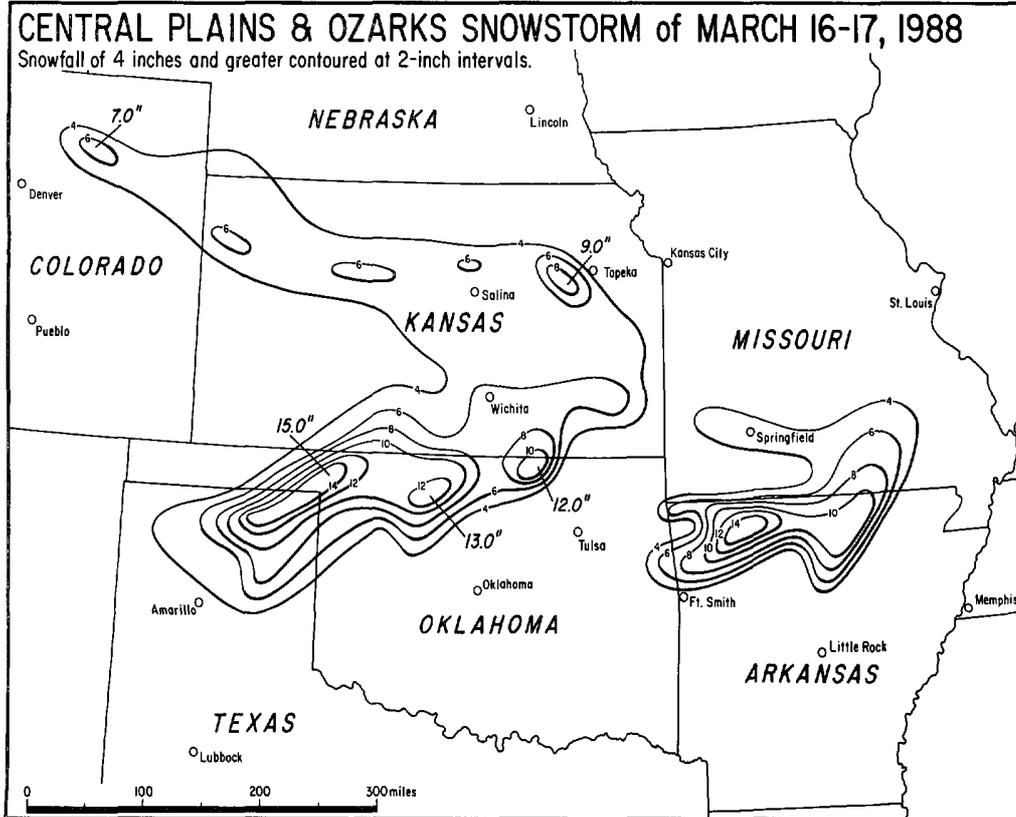
*The buried parking lot above is a microcosm of the large clean-up job that awaited Chadron residents as the sun finally broke through on March 12th, a job which many were eager to undertake as demonstrated below and at right.*



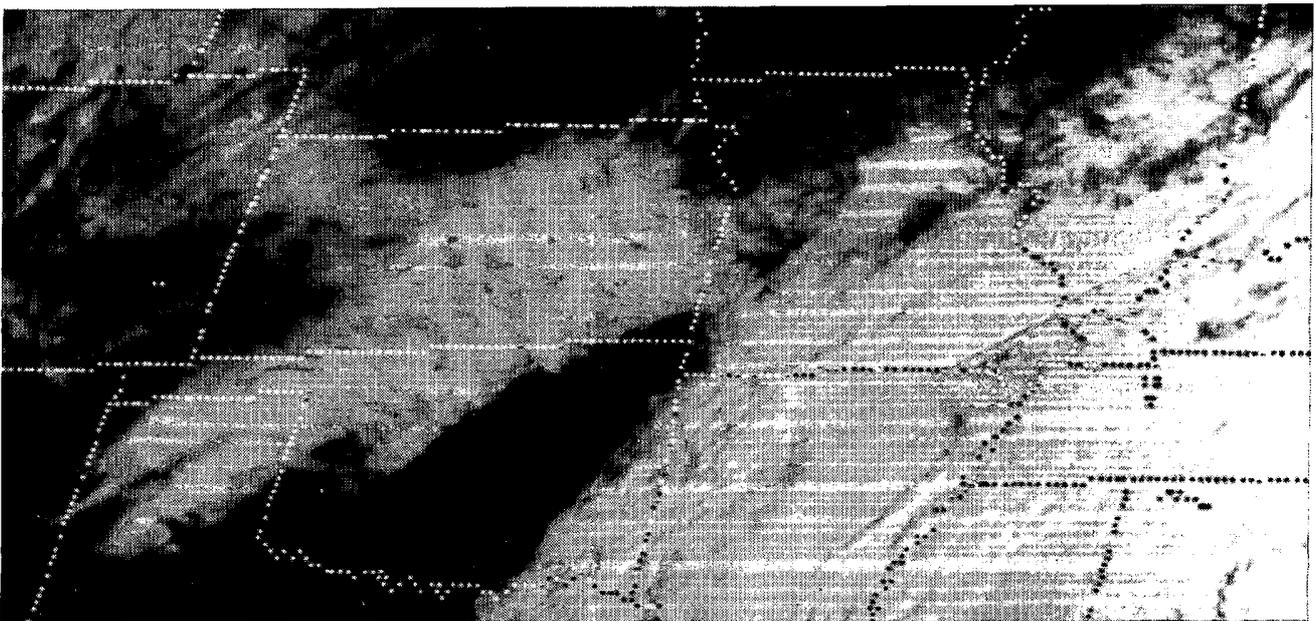
*---All photos on pages 8 and 9 by Les Mann, The Chadron Record, Chadron, Nebraska.*

## 2. SNOWSTORM in the CENTRAL PLAINS and OZARKS on March 16-17, 1988

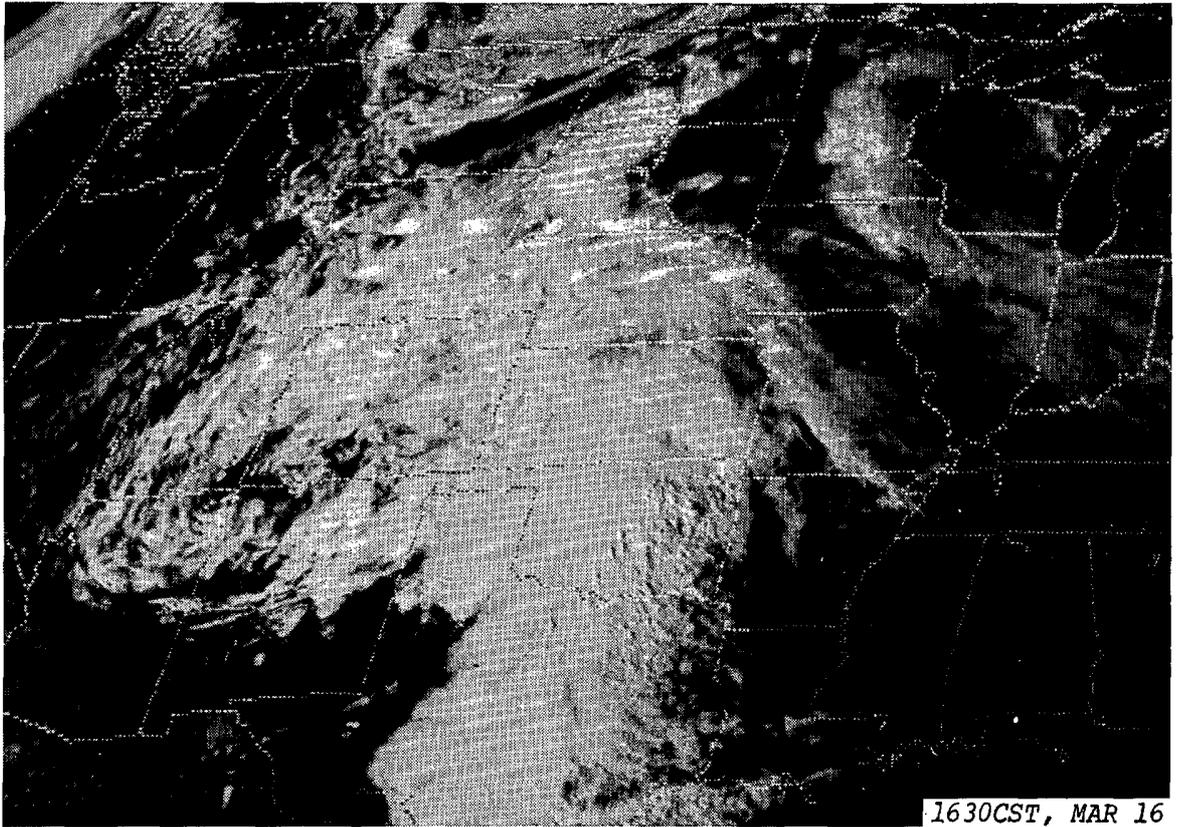
A heavy snow fell over much of the Central Plains and Ozarks on March 16th and 17th as cold air descended over the Central U.S., squeezing out low-level moisture along and north of a stationary front that extended northeast across Texas and Oklahoma from a weakening low pressure system that was being pushed southward from the Central Rockies to Mexico. The snowfall, considered late-season for the area, amounted to as much as 15 inches in the Texas and Oklahoma panhandles, and there were numerous reports of 14 inches in northwest Arkansas (unofficial reports of 22 inches were received from the Harrison area). The storm resulted in a number of auto accidents and school, business and road closings throughout the regions; and in Arkansas, power to more than 27,000 residents was knocked out, a turkey house collapsed under the weight of the snow, and 36,000 chickens smothered due to the power failures.



Analysis of storm-total snowfall in the Central Plains and Ozarks on March 16th and 17th, 1988. ---Mapped by the University of Chicago from Cooperative Observer data supplied by NCDC and additional data supplied by NWSFO's at Little Rock, Arkansas; Topeka, Kansas and Lubbock, Texas.

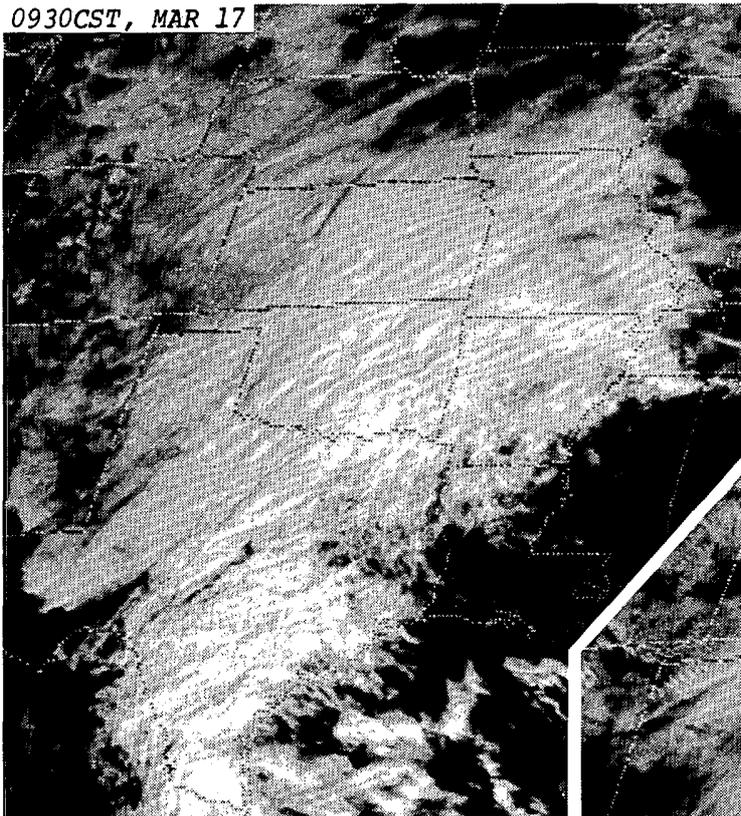


Under the clear skies of a cold, high pressure ridge, snowcover from the storm of the previous two days is seen in a GOES 6 satellite, visible image taken at 0830 CST on March 18th. Clouds across the lower right corner are from the departing storm system which regenerated a low pressure center over the Gulf of Mexico and subsequently crossed the Southeastern U.S. ---Photo from the National Environmental Satellite Data & Information Service.

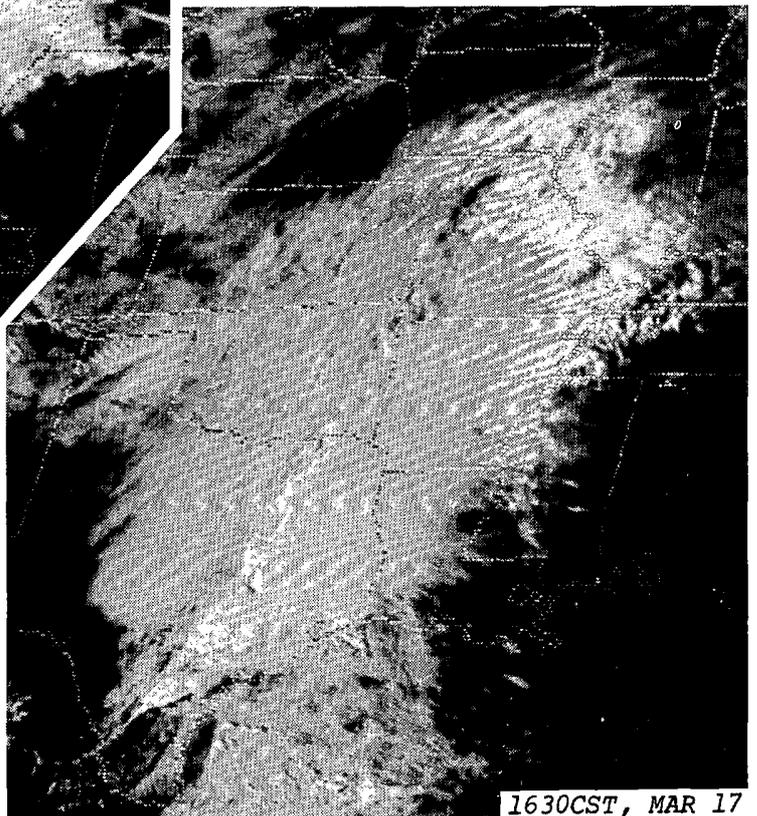


1630CST, MAR 16

0930CST, MAR 17



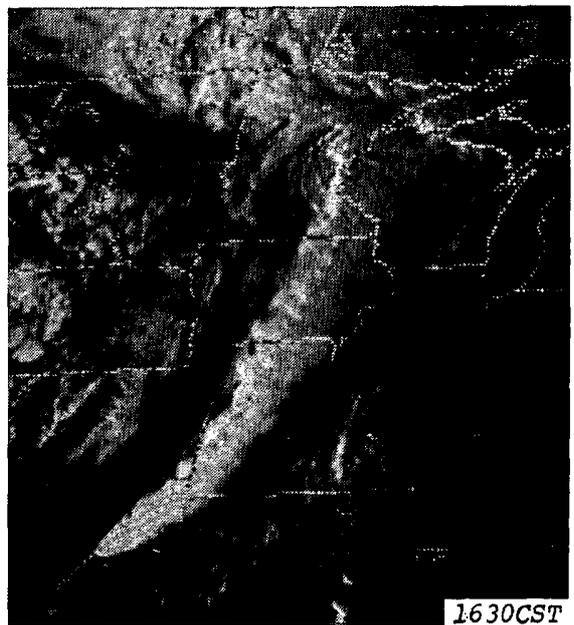
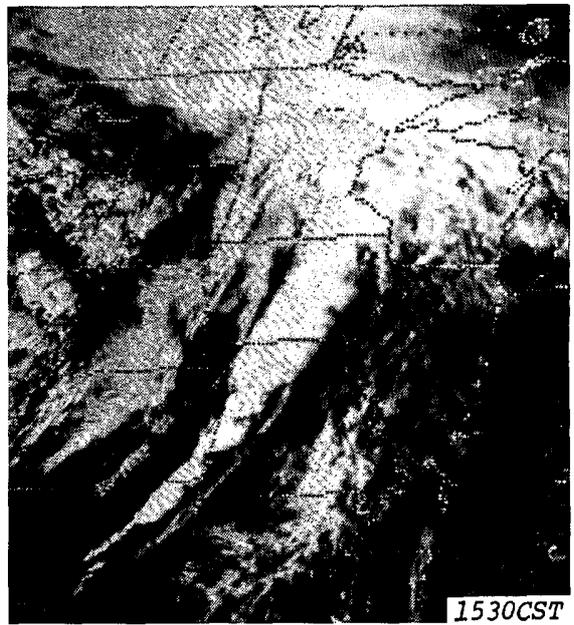
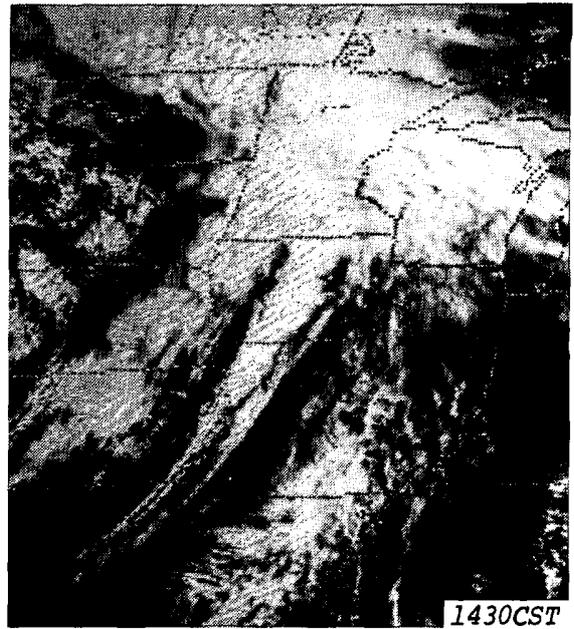
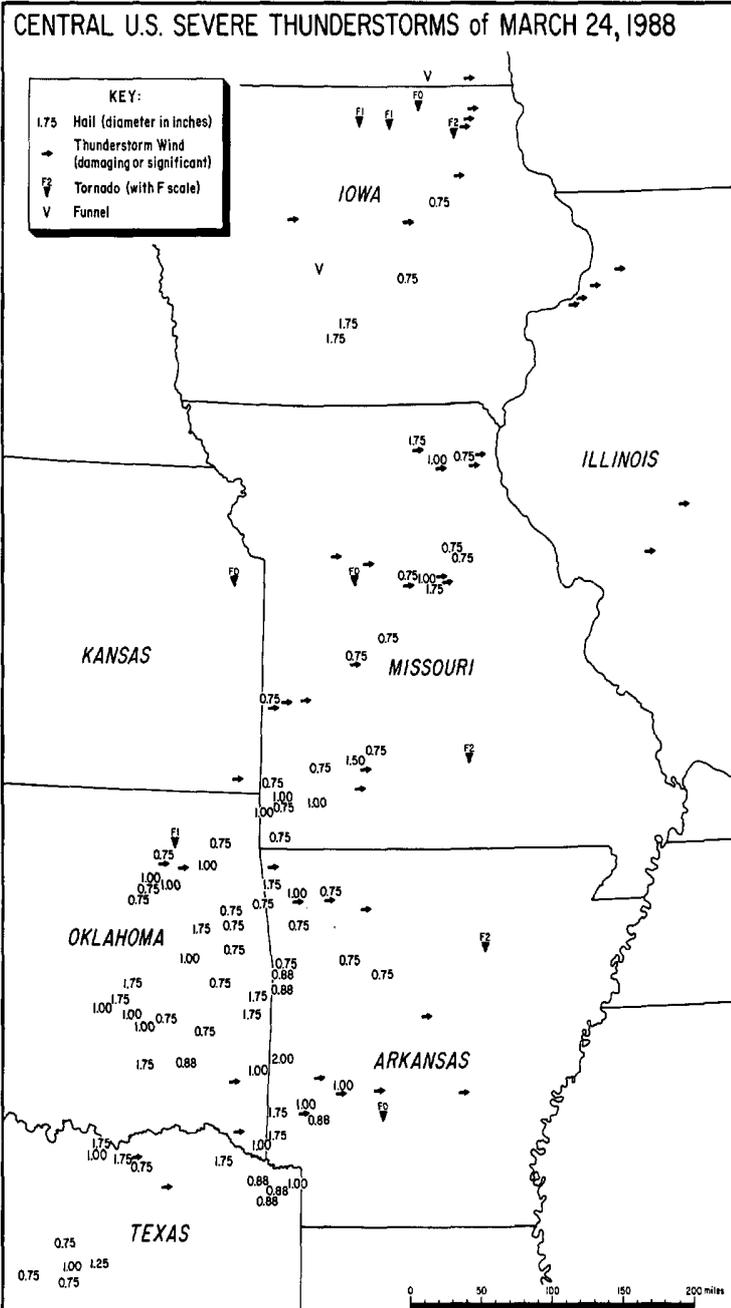
On this page, GOES 6 satellite, visible images show the snowstorm's cloud pattern which had the definite appearance of an organized cyclone on March 16th (above), but which became more of a purely overrunning (or undercutting) situation on March 17th (left and below) as the low pressure center weakened and was pushed south into Mexico. ---Photos from NESDIS.



1630CST, MAR 17

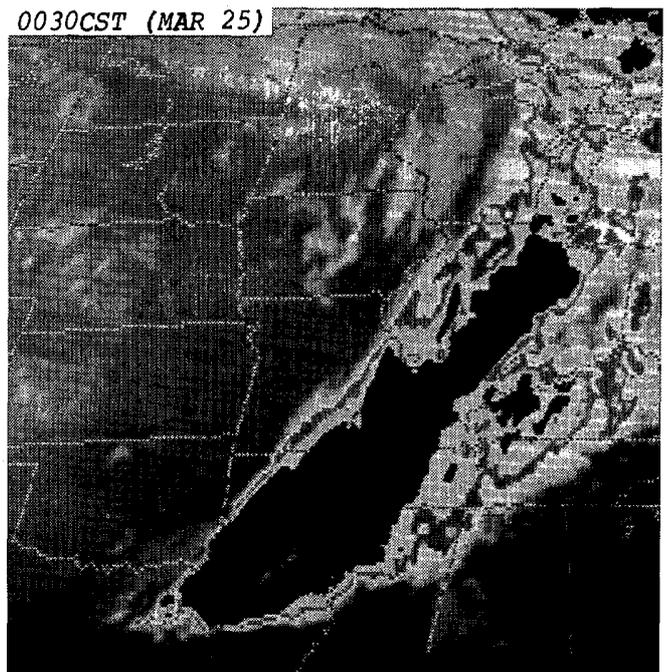
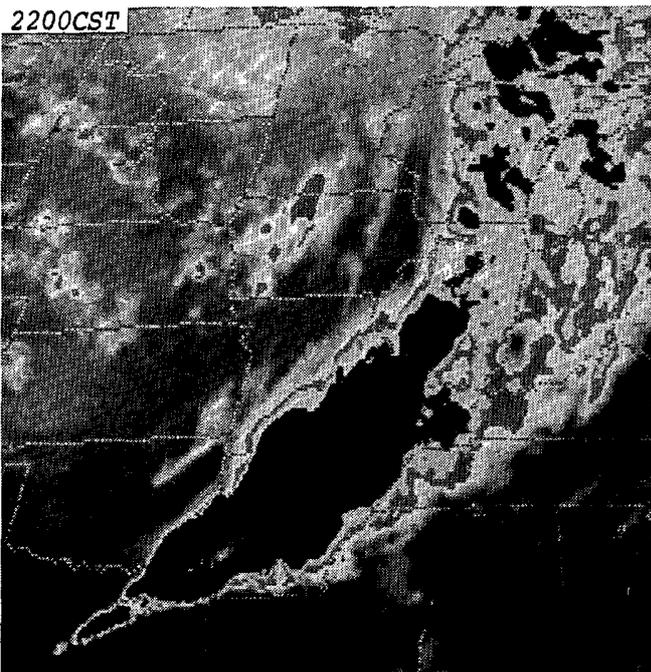
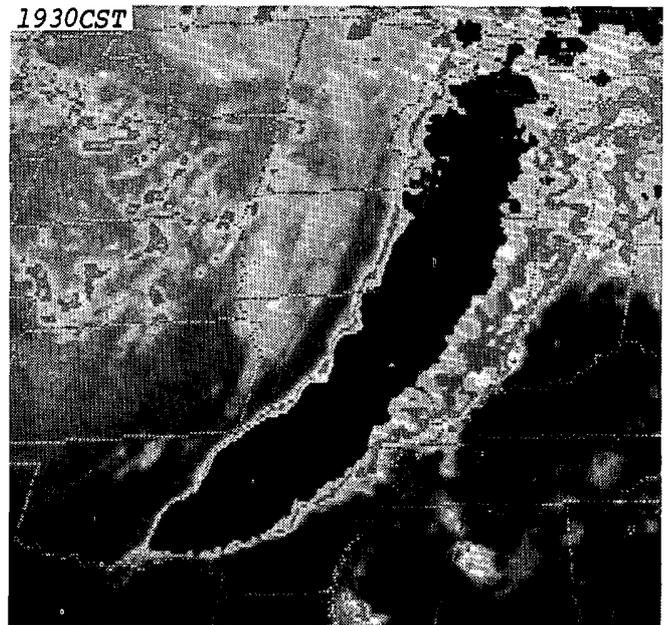
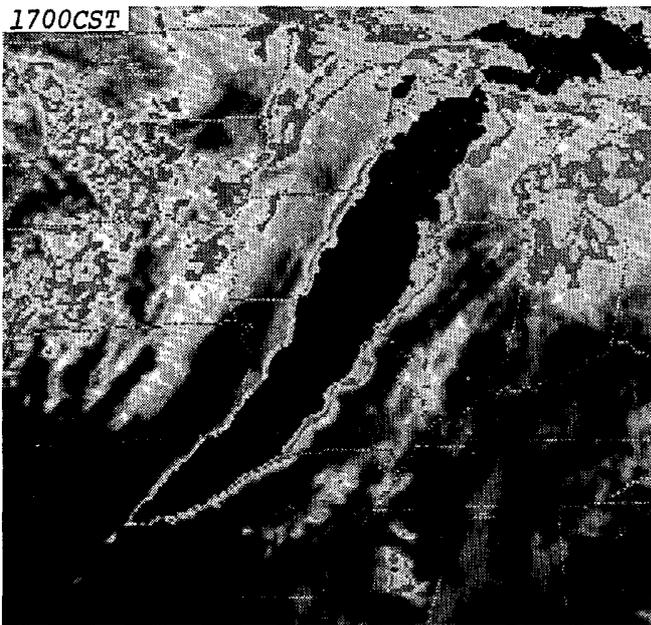
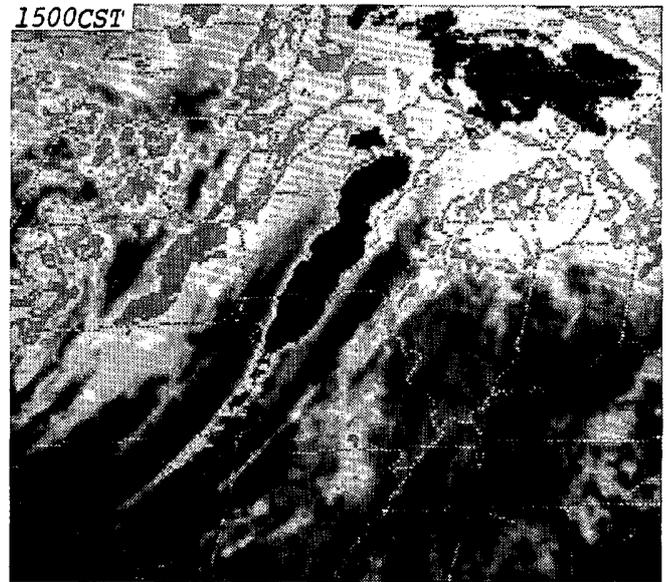
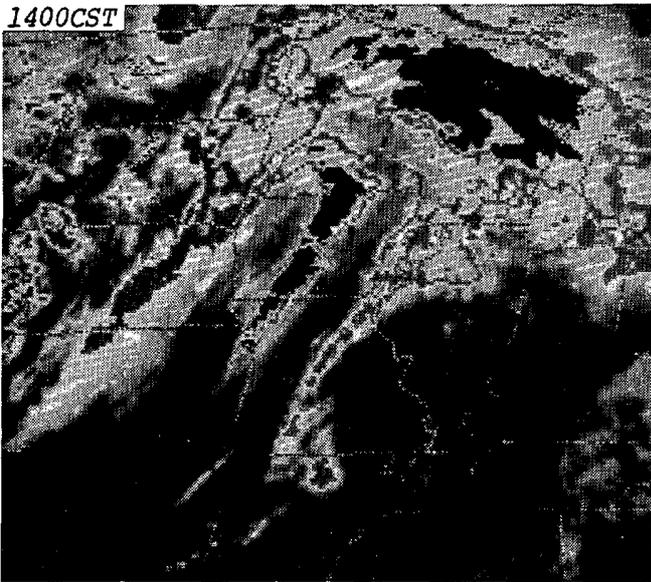
### 3. SEVERE THUNDERSTORMS in the CENTRAL U.S. on March 24, 1988

On March 24th, a strong cold front extending south through the center of the country from a deepening low pressure center that was organizing on the Minnesota-Manitoba border, triggered an approximately 1200 mile long line of severe thunderstorms that grew southward and at one time stretched from Lake Superior or to the Dallas-Fort Worth area of northern Texas. Large hail, damaging winds, tornadoes and funnels were produced by the storms over an 8-state area from extreme southern Minnesota to northern Texas. As severe weather outbreaks go, this was not a major devastator, but was the largest of this month and one of the largest during a Spring of less than usual severe thunderstorm activity.



Distribution of severe thunderstorm phenomena reported in the Central U.S. on March 24th, 1988. ---Graphic by the University of Chicago from data supplied by NWSFO's at Little Rock, AR; Chicago, IL; Des Moines, IA; Topeka, KS; Minneapolis, MN; St. Louis, MO; Norman, OK; and Fort Worth, TX.

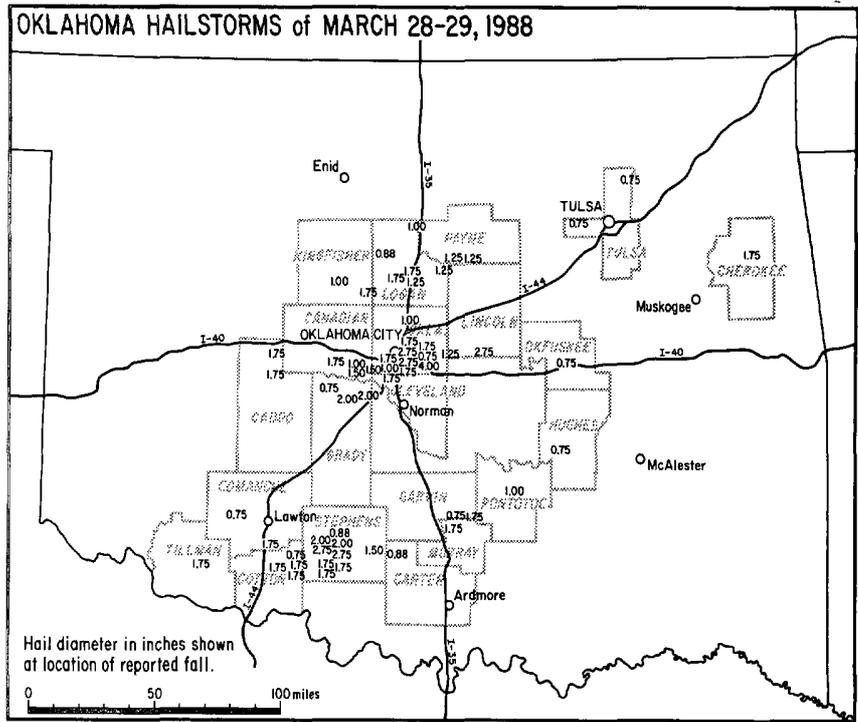
TOP TO BOTTOM RIGHT: The southward development of the severe thunderstorm line is depicted in three GOES 6 satellite, visible images taken at one-hour intervals during the afternoon of March 24th. ---Photos from NESDIS.



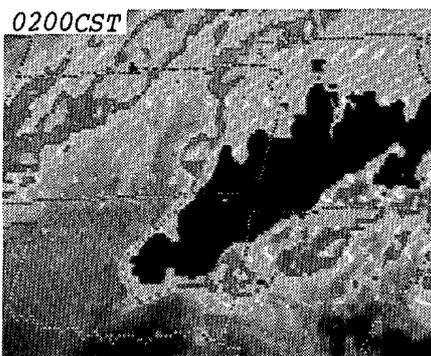
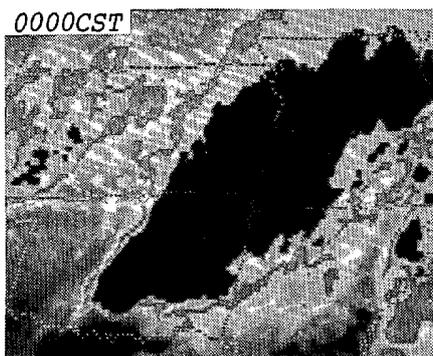
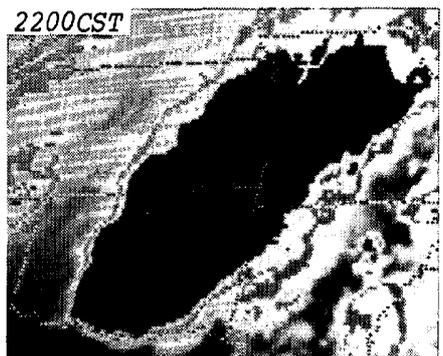
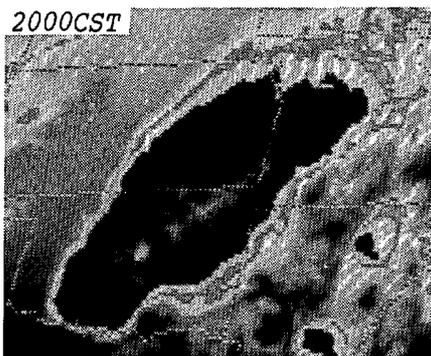
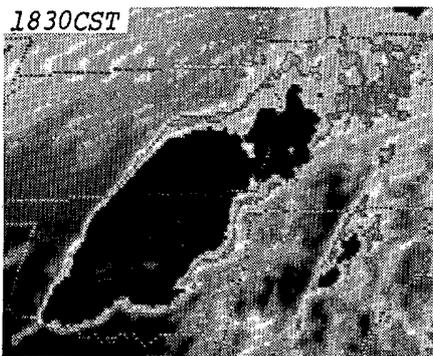
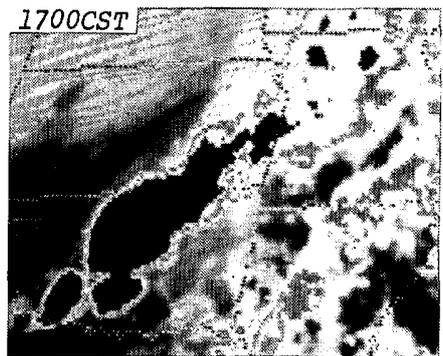
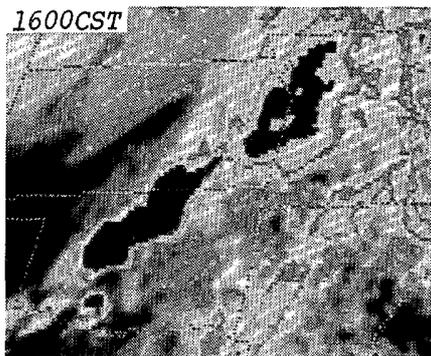
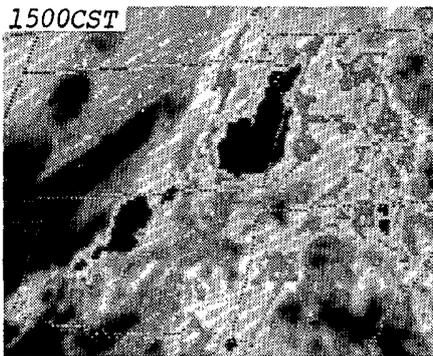
GOES 6 satellite, infrared images taken at selected times from the start to end of the period during which severe thunderstorm phenomena were being reported, depict the evolution of the thunderstorm line as well as give testament to its expanse. ---Photos from National Environmental Satellite Data & Information Service, Washington, DC.

#### 4. LARGE HAIL In OKLAHOMA on March 28-29, 1988

From the afternoon of March 28th through the early morning of the 29th, intense thunderstorms dropped large hail over portions of Oklahoma, especially in and around Oklahoma City. Hail of up to 2.75 inch diameter fell across the south half of Oklahoma County as a supercell thunderstorm traversed the area during the late afternoon, the only exception being a report of 4.00 inch diameter hail at Midwest City, southeast of Oklahoma City. Noteworthy damage included 1500 new cars that were totaled at the General Motors plant and several large aircraft that were heavily damaged at Tinker Air Force Base. Hail damage in the county was assessed at \$35 million. Also heavily affected was the Duncan-Comanche area of Stephens County which received \$18 million in hail damage. Areawide, the storms also produced high winds, lightning, flood-producing rains and a few weak tornadoes that resulted in additional but lesser damage.



Location and size of reported hail (0.75 inch diameter and larger) in Oklahoma on March 28th and 29th, 1988. Only affected counties are indicated. ---Graphic by the University of Chicago from data supplied by the NWSFO at Norman, Oklahoma.



GOES 6 satellite, infrared images taken during the afternoon of March 28th through the early morning of the 29th reveal the evolution of the hail-producing storms from their birth to demise through changes in the degree and area of their cloud-top temperature. The large hail in Oklahoma County occurred between 1705 and 1808 CST, in Stephens County between 1930 and 2330 CST. ---Photos from NESDIS.



*A Midwest City resident displays the hail-torn windowscreens from her home. Hail in the area reached a maximum diameter of 4.00 inches. ---Photo by Daryl Wilson, The Midwest City Sun, Midwest City, Oklahoma.*

# STORM DATA AND UNUSUAL WEATHER PHENOMENA

MARCH 1988

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED <sup>1</sup> DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED <sup>1</sup> DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	

## 1 ALABAMA

Sumter County	12 1735CST	Dime sized hail fell near Livingston.	0	0	0	0	0	0	Hail (0.75)
Hale County	12 1745CST	Dime sized hail fell near Greensboro.	0	0	0	0	0	0	Hail (0.75)
Dallas County	12 1920CST	One inch in diameter hail fell 10 miles southwest of Selma.	0	0	0	0	0	0	Hail (1.00)
Baldwin County	26 0825CST	Dime sized hail fell at Gulf Shores.	0	0	0	0	0	0	Hail (0.75)
Covington County	26 0810CST	Several trees were blown down at Rose Hill.	0	0	0	0	0	0	TSTM Wind

## 2 ARIZONA

Maricopa County Phoenix	02 1804 MST	At least three reports of well-developed funnel clouds from portions of central and north-central Phoenix.	0	0	0	0	0	0	Funnel Clouds
AZZ002-003 Mohave and northern Coconino	09 Evening	A cold front moved rapidly eastward through the state with the strongest gust reported from the Navajo Generating Station at Page..60 mph. Steady winds of 40-50 mph were common.	0	0	0	0	0	0	High Winds

## 3 ARKANSAS

Benton County	11 1736CST	3/4" hail was reported in Siloam Springs.	0	0	?	?	?	?	Hail (0.75)
Benton County	11 1803CST	Wind gusts to 60 MPH were reported in Rogers.	0	0	?	?	?	?	Thunderstorm Wind
Washington County	11 1841CST	3/4" hail was reported at Prairie Grove and County Line Highway 59.	0	0	?	?	?	?	Hail (0.75)
Crawford County	11 1909CST	Nickel-size hail fell at Van Buren.	0	0	?	?	?	?	Hail (0.88)
Sebastian County	11 1910CST	Nickel-size hail was reported from Arkoma.	0	0	?	?	?	?	Hail (0.88)
Franklin County	11 1950CST	High winds overturned a trailer home three miles south of Ozark.	0	0	?	?	?	?	Thunderstorm Wind
Franklin County	11 1955CST	3/4" hail was reported in Ozark.	0	0	?	?	?	?	Hail (0.75)
Logan County	11 2002CST	Nickel-size hail was reported at Booneville.	0	0	?	?	?	?	Hail (0.88)
Polk County	11 2015CST	Nickel-size hail fell in Mena.	0	0	?	?	?	?	Hail (0.88)
Sevier County	11 2030CST	Nickel-size hail fell at Gillham Reservoir.	0	0	?	?	?	?	Hail (0.88)
Howard County	11 2045CST	One inch diameter hail fell southwest of Empire at Burg, Arkansas. Also accompanied by strong winds.	0	0	?	?	?	?	Hail (1.00)
Conway County	11 2230CST	High winds from thunderstorms downed power lines in Solgohachia.	0	0	?	?	?	?	Thunderstorm Wind

## — ARKANSAS

Northern Arkansas	17 0600CST	A heavy wet snow fell over much of northern Arkansas, especially in the higher elevations of northwest Arkansas. Four to eight inches were common with 8 to 12 inches falling in an area from Jasper and Harrison to Salem and Mammoth Spring. Unofficial reports of 22 inches of snow were received from near Harrison. Other amounts included:  14 inches at Harrison Airport 14 inches at Huntsville 12 inches at Green Forest 11 inches at Berryville 10 inches at Salem 10 inches at Mountain View 9 inches at Mountain Home 6 inches at Fayetteville	0	0	5	?	?	?	Heavy Snow
Benton County	24 1732CST	The storm caught most off guard, trapping many students at school. Power was knocked out to more than 27,000 residents. An 18,000-foot turkey house collapsed under the weight of the snow near Mountain Home. Power outages caused 36,000 chickens to be smothered in Carroll County.	0	0	6	?	?	?	Hail (1.75)
Benton County	24 1800CST	A severe thunderstorm moved through Benton County and caused an estimated one million dollars in damage around the Siloam Springs area. Golfball-size hail fell in Siloam Springs and caused extensive damage to area automobiles. Houses, schools, and businesses didn't escape the storm either. At the Siloam Springs High School, 75 to 80 windows were smashed by the large hail. Car dealers were the worst affected as every car on the lots around Siloam Springs were damaged to some degree.	0	0	?	?	?	?	Thunderstorm Wind
Washington County	24 1808CST	High winds blew away metal buildings in Decatur. Several other out buildings were also damaged.	0	0	5	?	?	?	Hail (1.00)
Washington County	24 1833CST	Large hail was reported in Fayetteville and at the University of Arkansas campus in Fayetteville. High winds accompanied the storm and caused \$50,000 damage to a self storage facility.	0	0	?	?	?	?	Hail (0.75)
Madison County	24 1848CST	Dime-size hail fell at Winslow.	0	0	?	?	?	?	Hail (0.75)
Madison County	24 1900CST	Dime-size hail fell at Huntsville.	0	0	3	?	?	?	Thunderstorm Wind
Sebastian County	24 1912CST	In Huntsville, high winds damaged four houses, destroyed a barn and downed power lines in the Northview Subdivision. The Meadowview Lodge Nursing Home was evacuated after wind and water damage struck.	0	0	?	?	?	?	Hail (0.88)
Crawford County	24 1913CST	Nickel-size hail was reported in Fort Smith and later in Hackett.	0	0	?	?	?	?	Hail (0.75)
Newton County	24 2010CST	Dime-size hail fell in downtown Van Buren.	0	0	?	?	?	?	Thunderstorm Wind
Johnson County	24 2044CST	High winds downed trees and blew off the porch of a house just southwest of Parthenon.	0	0	?	?	?	?	Hail (0.75)
Polk County	24 2055CST	3/4" hail covered the ground. Power lines were downed at Clarkeville.	0	0	?	?	?	?	Hail (2.00)
Sevier County	24 2130CST	Hail larger than golfballs destroyed the metal top of a carport on Highway 8 west of Mena.	0	0	?	?	?	?	Hail (1.75)
Montgomery County	24 2130CST	Golfball-size hail fell near DeQueen.	0	0	?	?	?	?	Thunderstorm Wind
		Several trees were downed by thunderstorm winds in the Albert Pike Recreation Area in the Ouachita National Forest.	0	0	?	?	?	?	

# STORM DATA AND UNUSUAL WEATHER PHENOMENA

MARCH 1988

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	
<b>— ARKANSAS</b>											
Pope County	24	2137CST			0	0	?	?	Hail (0.75)		
			Large hail fell four miles north of Russellville.								
Howard County	24	2140CST			0	0	?	?	Hail (1.00)		
			One-inch hail along with 50 to 60 mph winds was reported in Dierks. Nickel-size hail fell later five miles north of Nashville.								
Pike County	24	2205CST			0	0	?	?	Hail (1.00)		
			One-inch hail accompanied high winds which caused tree limb damage five miles south of Glenwood.								
Little River County	24	2210CST			0	0	?	?	Hail (1.75)		
			Golfball-size hail was reported ten miles south of Moratio on Highway 41.								
Hot Spring County	24	2230CST			0	0	3	?	Thunderstorm Wind		
			High winds from a severe thunderstorm caused a large tree to heavily damage a house near Caney. The winds also cut a 300-yard wide swath through a nearby wooded area.								
Clark County	24	2247CST	0.25	100	0	0	4	?	Tornado (F0)		
			A weak tornado touched down eight miles south of Arkadelphia. A barn was damaged along with several trees. Numerous outbuildings were also destroyed. Damage was estimated at \$10,000.								
Faulkner County	24	2300CST			0	0	?	?	Thunderstorm Wind		
			High winds blew a roof off a house five miles west of Mayflower on Jones Mill Road.								
Independence County	24	2345CST	2.0	100	0	0	5	?	Tornado (F2)		
			A tornado touched down in the small community of Floral, destroying two houses and several outhouses. Several cattle were killed, and a barn was demolished.								
Jefferson County	25	0000CST			0	0	?	?	Thunderstorm Wind		
			Sheriff's Office reported that high winds took a roof and a wall of a barn off. Trees were downed and camper trailers overturned. No injuries were reported.								
Pulaski County	28	1830CST			0	0	?	?	Hail (1.75)		
			Golfball-size hail fell in western Little Rock during a severe thunderstorm.								
Polk County	29	1015CST			0	0	4	?	Thunderstorm Wind		
			A severe thunderstorm caused extensive roof damage to the Mena Rubber and Plastics Company. The rubber plant suffered approximately \$6,000 in damage when a 100 by 25 feet section of the roof was torn off. A nearby poultry house was also damaged.								
Logan County	29	1030CST			0	0	?	?	Thunderstorm Wind		
			High winds damaged and uprooted trees four miles northeast of Magazine.								
Searcy County	29	1152CST			0	0	?	?	Thunderstorm Wind		
			A severe thunderstorm moved through the town of Harriet. This storm uprooted trees, blew a roof off a barn, and damaged a service station.								
Desha County	29	1505CST			0	0	?	?	Thunderstorm Wind		
			High winds ripped off the Watson City Hall roof. High winds also ripped the porch from Bonnie's Cafe in Watson, and blew out a window of the Grave's Store.								
Phillips County	29	1600CST			0	0	?	?	Thunderstorm Wind		
			High winds downed trees onto power lines in Helena causing over 250 residents to be without power for four hours.								
<b>4 CALIFORNIA, Northern</b>											
Sacramento Co., 8 NE Sacramento	01	1039PST			0	0	0	0	Funnel Cloud		
8 NW Sacramento	01	1046PST			0	0	0	0	Funnel Cloud		
Madera Co., 3 NE Chowchilla	01	1400PST			0	0	0	0	Funnel Cloud		
Tulare Co., Oroshi	01	1640PST	?	?	0	0	0	0	Tornado (F0)		
			Cold unstable air associated with a cold front moving across Central California triggered showers and thunderstorms with 3 confirmed funnels and a tornado being reported.								
CAZ006 Southern Sacramento Valley	27	0600PST- 1700PST			0	0	4	?	Strong Winds		
			Deepening low pressure over Southern Nevada and high pressure building over Western Oregon combined with the orientation of the valley accelerated winds to 30 to 40 miles per hour with gusts to 50 to 55 miles per hour. A 75-foot elm tree crushed a pickup truck, and minor damage was done to trees and power lines throughout the area.								
<b>4 CALIFORNIA, Southern</b>											
CAZ 014-019 Inyo and Mono Counties Manzanar - Mammoth Lakes	9	1340pst			0	0	3	0	High Wind (80)		
			High winds developed throughout the Eastern Sierra all day. The high winds created massive dust storms which reduced visibilities to near zero, causing several roads to be closed. Interstate 395 was closed throughout the afternoon. Traffic was delayed on Route 6, north of Bishop at various times during the afternoon.								
			Very little damage occurred when a truck, carrying a load of explosives and rocket motors, was turned over near Pearsonville.								
			All areas in Southern California experienced strong gusty winds but no significant damage was reported.								
<b>5 COLORADO</b>											
Northern, Central Mountains, North- east COZ002-004-011- 012	1-2				0	0	0	0	Snow		
			A storm dropped up to 15 inches of snow in the Northern and Central Mountains. 3 to 6 inches fell along the Front Range and eastward into Weld county.								
Mountains COZ002-004-008	6-8				0	0	0	0	Snow		
			Most spots in the mountains had 7 to 14 inches of snow in 48 hours.								
Weld, Morgan Cys. COZ012	7	midday			0	0	0	0	High Winds (G63)		
			Wind gusts reached 63 mph at Fort Morgan at 1135 MST, and again at 1505. A 63 mph gust was also clocked at 1210 in Weld county at Briggsdale.								
Southeast COZ016-017	10	aftn.			0	0	4	0	High Winds (G72)		
			Wind gusts reached 72 mph in La Junta at 1405, the strongest speed recorded there in five years. 8 greenhouses near the airport were damaged as gusts over 60 mph occurred frequently from 1200 to 1600. U.S. 287 was closed south of Lamar due to poor visibility caused by blowing dust.								
Northeast COZ011-012-013-014	10-11				0	0	4	0	Snow, wind (G78)		
			A late winter storm produced some heavy snow and a lot of wind in Northeastern Colorado. A foot of snow fell in just five hours around midday on the 10th at Red Feather Lakes, a foothill community in Larimer county. At lower elevations, 10 inches buried Fort Collins in only six hours. A total of 16 inches fell in Estes Park on the 10th.								
			The heavy snow was pretty much confined to Larimer county; an inch or less fell farther south in Denver and Boulder. Farther east, 2 to 4 inches fell in much of Weld, Morgan, and Logan counties. Here the problem was wind. Gusts reached 62 mph at Keenesburg as early as 1450 on the 10th, and reached 61 mph at Fort Morgan by 1625. The winds caused blowing snow and poor visibility, closing many roads, including Interstate 70. Most schools in Weld county were closed, and some students were stranded at school for a time on the evening of the 10th.								

# STORM DATA AND UNUSUAL WEATHER PHENOMENA

MARCH 1988

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	
<b>COLORADO</b>									
Mountains CO2002-004-008-010	23-25				0	0	0	0	Snow/wind (G106)
	Strong winds continued on the 11th, reaching 78 mph in Fort Morgan at 1000. Many roads and schools remained closed that day, though little additional snow fell. A few calves were lost in Weld county during the storm, and there were minor power outages.								
Morgan County CO2012	24	0155MST			0	0	0	0	High wind (G60)
	A gust of 60 mph was clocked at Fort Morgan.								
Front Range CO2011	25	midday			0	0	0	0	High winds (G75)
	Strong northwest winds spread out of the mountains to the Front Range, causing power outages in Larimer and Boulder counties. Around 1500 MST a gust of 75 mph was noted in Boulder; a traffic light was downed. Earlier, a gust of 69 mph was clocked at 1024 3 miles SSE of Fort Collins.								
Eastern Foothills CO2011-014-015	30-31				0	0	0	0	Heavy snow
	Snow began falling in the afternoon on the 30th and continued through the 31st, burying the area in and near the eastern foothills. Many spots in the hills had two to three feet of snow, and some did better than that. 42 inches buried Lake Isabel, southwest of Pueblo; 20 inches fell in just 6 hours from 0900 to 1500 MST on the 31st. Well to the north in Larimer county west of Fort Collins, 39 inches were measured at Buckhorn Mountain. Fort Collins itself was hard hit, receiving one to two feet of snow, with the heaviest amounts on the west side of the city. Most schools were closed in the area including Colorado State University. The storm pushed the total snowfall for March in central Fort Collins to well over 30 inches. 12 to 18 inches fell to the west of Denver and Boulder, with 6 to 12 inches in the Denver metro area. This severely disrupted operations at Stapleton airport, causing delays of two to three hours. The storm produced snow in many other areas of the state, but by the end of the day on the 31st, only 3 to 6 inches had been measured in the mountains, the southwest, and the extreme northeast.								
<b>6 CONNECTICUT</b>									
New London Co., East Lyme, New London, Groton area	13	2000EST- 2100EST			0	0	4	0	Lightning
	Lightning that accompanied brief but heavy thunderstorms caused substantial damage to one house in East Lyme where a porcelain bathtub was shattered and caused less serious damage to another house in Waterford. Up to one thousand homes lost power when lightning struck electrical lines in East Lyme and Old Lyme. Also, other more minor electrical outages were reported in Norwich, New London and Groton.								
<b>7 DELAWARE</b>									
Sussex Co.	26	2130EST			0	2	3	0	Thunderstorm Wind
	Strong gusty winds destroyed two mobile homes in Midway, DE, and damaged others. Two people were injured.								
<b>8 FLORIDA</b> ————— NONE REPORTED									
<b>9 GEORGIA</b> ————— NONE REPORTED									
<b>10 IDAHO</b>									
Ada Co., near Boise	6	1120 MST			0	0	3	0	Lightning
	Lightning twice struck the nose of an inbound United Airlines plane. There was a small hole and large tear in the nose plus minimal damage to the left wing.								
ID2010, Island Park	6	0600- 1800 MST			0	0	0	0	Heavy Snow
	Six inches of snow fell at Island Park.								
ID2004, Blackfoot Reservoir	6	1700- 2100 MST			2	1	0	0	Blizzard
	Two teenage boys died of hypothermia as they encountered heavy snow and wind chills as low as -35°F as they attempted to walk across the Blackfoot Reservoir after their vehicle became stuck. A third, better-clothed boy succeeded but suffered from hypothermia.								
ID2002, ID2007	15	0400- 1200 MST			0	0	0	0	Heavy Snow
	Four to six inches of snow fell at Twin Falls, Jerome and Fairfield.								
Canyon Co., Caldwell	23	0630-0645 MST			0	0	5	0	High Wind
Gem Co., Emmett	23	0645-0700 MST			0	0	4	0	High Wind
Ada Co., West Boise	23	0700 MST			0	0	4	0	High Wind
	A strong cold front passed through the area. The Ford dealership in Caldwell sustained damage to 86 new vehicles and 40 used vehicles, which were battered by rocks and sand and glass from the shattered overhead billboard in front of the dealership and broken glass from smashed-in car windows. Damage was estimated up to \$130,000. This was the second year in a row that this dealer has sustained damage due to wind or hail. A 237x24 ft. cinder block wall at the Crookham Seed Company crumbled. It was part of a new warehouse construction. In Emmett a felled tree hit a house, wind blew the siding off another, and a blown off roof from a shed smashed in a roof of a car. In West Boise, wind gusts estimated to 60mph felled 11 power poles on Cloverdale Road which cut off power to 6000 homes. Peak wind gust at the Boise Airport was 36 knots.								
Twin Falls Co., Twin Falls	23	0945 MST			0	0	0	0	TSTM Wind (50)
	The above cold front spawned a thunderstorm which produced wind gusts of 50 knots at the Twin Falls Airport. No damage reports were received.								
Jefferson Co., North of Roberts to East of Rigby	23	1540- 1608 MST	15	40	0	0	2	0	Tornado (F1)
	North of Roberts on North Iona Road, two small pine trees were uprooted, a mailbox was uprooted, and a haystack was destroyed. There were no damage reports east of Rigby.								
Idaho Co., Elk City	26	1200 PST			0	0	3	0	High Wind
	A "major" wind storm knocked out the main power line to Elk City and neighboring towns.								
Melheur Co., OR Payette Co., Canyon Co., Northwest Owyhee Co.	26	1700- 1730 MST			0	0	4	0	High Wind (75)
	Ontario, Oregon Flight Service recorded a 75 knot wind gust. Winds were estimated to 60mph at Marsing and Parma. Power lines fell in Ontario and Parma while downed trees and powerlines blocked a road near Parma. A house on Pearl Road near Parma was damaged by a fallen tree.								
Kootenai Co., Coeur d' Alene	26	Evening			0	0	3	0	High Wind
	High winds uprooted an aged spruce tree which knocked over a chimney and broke through the roof of a local residence.								

# STORM DATA AND UNUSUAL WEATHER PHENOMENA

MARCH 1988

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	
<b>IDAHO</b>									
Whitman County, WA and Latah County	26	2100 PST			0	1	4	0	High Wind
									Winds estimated at 50mph knocked down trees and power lines. A Tekoa man was severely burned when a 7200 volt powerline snapped as he tried to move a downed power pole.
Bonner Co., Pend Oreille Lake	27	0400 PST			0	0	4	0	High Wind
									High winds completely destroyed a boat house on Pend Oreille Lake.
ID2002,003,004	27	0300-1400 MST			1	18	5	0	High Wind (S1)
									Very strong gradient winds after a passing cold front produced the following: > Blowing dust and near zero visibilities on I-86 near American Falls. Between 0300-0410, this caused a 13 vehicle pileup and injuries, a few serious, to 14 people. Leaking fuel burned one car and two semi-trailers to the ground. Estimated damage \$135,000-\$210,000. > In Blackfoot winds estimated to 60mph tore a new 30x70 foot roof off an antique store. > Brush fires, thought to be controlled the day before, reignited. Three sheds five miles east of Rigby were destroyed (\$1100 damage). > At Rexburg, \$5000 damage was done to a shed at a sporting goods store. > At Rupert a large tree fell on the courthouse. > Three-car accident on I-84 just south of Idaho Road due to blowing dust and zero visibilities. There was one death and injuries to four others. > In Burley a roof blew off a shed (\$300 damage) and took out power and cable TV lines. > In Minidoka County the high wind triggered several burglar alarms and reignited a tree fire whose embers ignited a shed. > Between Pocatello and Blackfoot high winds caused a TV antenna to come in contact with a high voltage line which sent a surge of electricity through a residence. No major inside damage but the rain gutters were knocked off and a section of siding was burned. Reported unofficial wind gusts during this time period: -- gusts between 57 and 67mph in the Pocatello area -- at mid-morning, 72mph at Rexburg -- 60mph at Ashton Recorded wind gusts of 56mph at the Pocatello Airport and 59mph at the Idaho Falls Airport. Numerous reports of downed power lines and trees and building damage were received.
Whitman County, WA and Latah County	28-29	2000-0800 PST			0	0	3	0	Heavy Snow
									About six inches of snow fell, closing the Pullman/Moscow Airport and causing fender-benders and slide-offs.
ID2003, 004,010	29	1200-1800 MST			0	0	0	0	Heavy Snow
									Four inches of snow fell at Island Park and Dubois. Eight to ten inches of snow fell in the Victor, Swan Falls and Palisades Reservoir areas.
Jerome Co., north-west of Jerome	30	0945 MST short	10-50		0	0	3	0	Tornado (F0)
									A barn under construction was blown apart by "what appeared to be a black funnel cloud". Nearby, several trees and a satellite dish were blown down.
<b>ILLINOIS</b>									
IL2009-010-011-012 South Central Illinois	03-04	0600-0600CST			0	0	?	0	Heavy Snow Ice Storm
									A winter storm produced a 50 mile wide band of snow 3 to 8 inches in depth; and the axis of the heaviest snow extended from Hannibal, Missouri, east through Springfield, Illinois to Danville. Just to the south of the heavy snow area, in a band of about 30 miles wide, extending south to about highway Interstate 70, a serious ice storm occurred. Ice accumulations of 1/2 to 1 1/2 inches coated trees, power lines and roads in the area. At the peak of the ice storm, early on March 5th, thousands of persons were without power as heavy ice accumulations brought down many power lines, trees and thousands of tree limbs in the area. The following counties experienced the most severe icing: Macoupin, Montgomery, southern Christian, Shelby, southern Moultrie, Coles, Edgar, northern Bond, Fayette, Effingham, Cumberland, and Clark. Just to the south of Interstate 70, the precipitation remained all rain as air temperatures remained above freezing. The ice storm was described in Edgar, Coles and northern Clark counties as more severe than the last major ice storm of March 25, 1978 that hit the area. Major power outages of up to around 72 hours occurred in some of the areas affected by the storm. In Edgar county 1 1/2 inches of ice accumulations brought down thousands of tree limbs, many trees and power lines. A massive cleanup effort was undertaken after the storm. Some communities hard hit by the ice storm included Pana in Christian county, Paris in Edgar county, Mattoon and Charleston in Coles county.
Henry County, Colona	24	2047CST			0	0	4	0	TSTM Wind
									High winds did considerable damage to the roof of an auto parts store at Colona. Some large trees and power lines were blown down in a three block area in the town.
Rock Island County, Coal Valley to 6 NE Moline	24	2110CST			0	0	4	0	TSTM Wind
									Very strong winds blew down some trees and power lines in a 5 to 10 mile wide band that extended from Coal Valley just to the south-east of Moline to Rapid City about 6 miles northeast of Moline. A church in Rapid City had part of its roof blown off. About 8500 customers were without electrical power for a time.
Whiteside County, 1/2 W Erie to 2 1/2 N Erie	24	2116CST			0	0	4	0	TSTM Wind
									Strong thunderstorm winds damaged several farm buildings 1/2 mile west of Erie and damage extended northward for 2 1/2 miles. Numerous trees and some power lines were blown down along Frog Pond and Fargo Road. Electrical power was out in the town of Erie for over 4 hours.
Whiteside County, Sterling	24	2130CST			0	0	3	0	TSTM Wind
									High winds badly damaged the front of a store in the 300 block of Sterling.
Montgomery County	24	2243CST			0	0	3	0	TSTM Wind
									Very strong winds tossed an aluminum boat 200 feet. The boat ended up hitting a mobile home, causing considerable damage to the home.
Christian County, 1 E and 3 S Moweaqua	24	2249CST			0	0	4	0	TSTM Wind
									Very high winds from a possible thunderstorm downburst caused \$50,000 damage to a house and mobile home, 1 mile east and 3 miles south of Moweaqua. The mobile home had extensive damage.
<b>INDIANA</b>									
IN2008-009-010 Central Indiana	3-4	0300 to 0200 EST			0	0	6	?	Ice Storm
									Freezing rain fell over parts of Central Indiana for about 24 hours. Numerous traffic accidents occurred, area schools were shut down, and thousands of homes were without power--many for as long as 3 days, and some for even longer. The ice storm covered an area about 50 miles wide generally along I-70 from around Cataract in Owen County through Indianapolis to Richmond in Wayne County. Few trees in the area escaped damage, as ice accumulations from 1/2 inch to 2 inches caused limbs to break off. Also, 4 to 7 inches of snow fell over north central Indiana, just north of the area of freezing rain.
Hamilton Co, 4SE Noblesville	25	0340 EST	0.25	75	0	0	4	?	Tornado (F1)
									A mini-tornado destroyed 2 implement barns, a chicken barn, and a garage. A mobile home was damaged and 3 trees were uprooted.

# STORM DATA AND UNUSUAL WEATHER PHENOMENA

MARCH 1988

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					KILLED	INJURED	PROPERTY	CROPS	
<b>13 IOWA</b>									
Webster County Gowrie	24	1330 CST			0	0	0	0	Tstm Winds (60)
Dallas County Woodward	24	1415 CST			0	0	0	0	Funnel Cloud
Cerro Gordo County 4 N Clear Lake	24	1445 CST	1.0	20	0	0	5	0	Tornado (F1)
Warren County New Virginia	24	1510 CST			0	0	4	0	Hail (1.75)
Floyd County 1E Nora Springs	24	1515 CST	1.0	20	0	0	5	0	Tornado (F1)
Warren County 1S Indianola	24	1534 CST			0	0	4	0	Hail (1.75)
Tama County Lincoln	24	1600 CST			0	0	4	0	Tstm Winds (61)
Mitchell County 1S Riceville	24	1622 CST	.1	15	0	0	3	0	Tornado (F0)
Black Hawk County 4SE Waterloo	24	1643 CST			0	0	2	0	Hail (0.75)
Foweshiek County Grinnell	24	1655 CST			0	0	2	0	Hail (0.75)
Fayette County 5W Oelwein	24	1705 CST			0	0	4	0	Tstm Winds (61)
Fayette and Wineshiek Counties Waucoma to 2W Clamar	24	1715 CST	9.0	100	0	0	6	0	Tornado (F2)
Wineshiek County: Calmar	24	1730 CST			0	0	4	0	Tstm Winds (50+)
Decorah	24	1730 CST			0	0	4	0	Tstm Winds (50+)
Jackson Junction	24	1749 CST			0	0	4	0	Tstm Winds (50+)
A line of thunderstorms developed rapidly during the early to mid-afternoon hours. A funnel cloud was spotted at Woodward, in Dallas County, moving north. Four tornadoes were reported. The first was 4 miles north and 1 1/2 miles east of Clear Lake. It struck a farm where and destroyed 3 buildings. Another tornado touched down east of Nora Springs. Structural damage was reported with it. A third tornado touched down briefly one mile south of Riceville. It did little in the way of damage other than destroying a machine shed. The last tornado was the strongest of the day. It first touched down near Waucoma in northwest Fayette County. The tornado was on the ground for about 9 miles, finally lifting back into the clouds 2 miles west of Calmar. Considerable damage to buildings in the path of the tornado was reported; some were almost completely destroyed. The tornadoes all moved north to northeast. Several reports of dime to golf ball size hail were received. For the most part, winds with the line of the storm were in the 30 to 50 MPH range with minor damage reported. Winds of around 70 MPH occurred in Webster, Fayette and Tama counties. Damage of trees and buildings in these areas was considerable. Winds around 60 MPH were common in Wineshiek County.									
Jackson County Maquoketa	25	1613 CST	.2	20	0	0	4	0	Cold Air Tornado (F0)
What started out as a cold air funnel near Maquoketa became a tornado when it touched down briefly. The tin roof of a printing plant was peeled off by the tornado.									
Jasper County Sully	28	1630 CST			0	1	0	0	Lightning
Lightning struck a woman while she was doing chores on a farm near Sully. She was critically injured with third degree burns caused by her clothing being set on fire.									
<b>14 KANSAS</b>									
KSZ003-006-009-012-015-016	2-3	1100 to 1200CST			0	0	4	0	Snow
Southern and Eastern Kansas									
A storm system moved across the Central Plains and brought snow and sleet to parts of southern and eastern Kansas. Snowfall amounts of 1 to 5 inches fell from Liberal and Dodge City across Wichita, Topeka and Chanute. Snow depths from the storm included 5 inches at Liberal; 4 inches at Emporia, Kansas City and Lawrence to 2 inches at Topeka and Wichita. In southern Kansas, sleet fell before the precipitation changed over to snow during the afternoon of the 2nd and accumulated to a depth of 1 to 2 inches in some spots. The ice buildup on power lines caused some power poles to fall in south central Kansas during the early morning hours on the 3rd. Power was knocked out for a short time in both Pratt and Newton. Strong northerly winds of 20 to 40 mph caused some blowing and drifting of the snow in southwestern Kansas. One to 2 inches of rain fell across southeast Kansas during the storm.									
<b>15 KANSAS</b>									
KSZ001-008-009-012	16-17	0600 to 1800CST			0	0	4	0	Heavy Snow
Northwest and South Central Kansas									
A strong storm system moved eastward across Oklahoma and produced locally heavy snow in parts of northwest and south-central Kansas. Eight inches of snow fell in Arkansas City while 6 inches was reported at Goodland, Russell, Wichita and Anthony. Lighter amounts of snow fell across the remainder of Kansas with 5 inches at Salina, Wellington and Chanute; 4 inches at Topeka, Manhattan, Hill City and Osage City. The heaviest snow fell from 0900 CST on the 16th to 1200CST on the 17th. Northeast winds of 15 to 25 mph did not cause any significant blowing and drifting snow with the storm. A total of four people were killed from automobile accidents during the storm. Snow packed roads and patches of ice made travel hazardous across central and western Kansas. Three people were killed in an accident during the evening of the 16th when their car lost control and slid into the path of a vehicle traveling in the opposite direction. The accident occurred 20 miles south of Concordia on US HWY 81. MS3V, F5BV, N22W. Another person was killed when his car slid into the path of a vehicle traveling in the opposite direction at the intersection of US HWY 54 and Kansas 54 in Pratt County. The accident occurred during the evening of the 16th. M72V.									
Johnson Co 1 SW DeSoto	24	1437CST	.1	25	0	0	3	0	Tornado (F0)
Cherokee Co 9 WSW Columbus	24	1607CST			0	0	0	0	TSTM Wind (52)
A line of thunderstorms formed along a cold front in far eastern Kansas during the afternoon of the 24th. A small tornado briefly touched down southwest of DeSoto and picked up a fence. A severe thunderstorm produced a wind gust of 60 mph and one-half inch diameter hail southwest of Columbus. No damage resulted from the storm. Marble size hail and winds up to 45 mph were also reported in parts of Leavenworth, Wyandotte, Johnson, Bourbon and Crawford counties as the thunderstorms moved across eastern Kansas.									
KSZ001-002-003-004-005-006-007-008-009-010-011-012	27	1100 to 2400CST			0	0	4	0	High Winds
Central and Western Kansas									
Strong southerly winds of 40 to over 60 mph at times caused damage to buildings, trees and power lines across central and western Kansas. Power was knocked out in both Newton and Clyde during the late morning and early afternoon hours. A peak wind gust of 66 mph was clocked at Newton at 1200CST. Other peak winds included 62 mph at Garden City at 2342CST, 60 mph at McPherson at 1500CST, 56 mph at Dodge City at 1500CST and 54 mph at Concordia at 1225CST. The strong winds also fanned numerous grass fires across parts of central Kansas throughout the day.									
<b>15 KENTUCKY</b>									
Union County	25	0230CST			0	0	5	0	Thunderstorm Wind
High wind gusting to around 60 mph blew the roof off a double-wide modular home and lifted the house from its foundation. The house was located south of Morganfield.									
Leslie County	26	1200EST 1400EST			0	0	3	0	Thunderstorm Wind
High wind lifted the front porch of a trailer over the roof of the trailer and behind the house. Also several trees and power lines were knocked down in in Simlas									
Letcher County	26	1200EST 1400EST			0	0	4	0	Thunderstorm Wind
Thunderstorm winds blew the roof of a mobile home off and dumped it on top of a pickup truck in Black Bottom. Other damage included a barn roof which was blown off and large trees which were blown down.									

# STORM DATA AND UNUSUAL WEATHER PHENOMENA

MARCH 1988

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	
<b>16 LOUISIANA</b>									
Jefferson Davis Parish, 5 SSM Jennings	02	1930CST			0	0	3	?	TSTM Wind
Acadia Parish, Duson	02	2010CST			0	1	3	?	TSTM Wind
Lafayette Parish, Lafayette	02	2021CST	0.8	75	0	0	7	?	Tornado (F1)
St. Landry Parish, Opelousas	02	2030CST			0	0	4	?	TSTM Wind
Lafayette Parish, Scott	02	2030CST			0	0	4	?	TSTM Wind
East Baton Rouge Parish, 15 NNE Baton Rouge	02	2200CST	0.5	50	0	2	5	?	Tornado (F1)
<p>A line of thunderstorms moving eastward across southern Louisiana produced a couple of tornadoes and several reports of damage from thunderstorm wind gusts. In Lafayette, a tornado touched down at the airport damaging or destroying 35 light aircraft, damaging 3 hangars, and causing minor damage to an industrial park just south of the airport. A wind gust of 83 miles per hour (73 knots) was recorded at the airport observation site. Dollar damage at the airport was estimated at \$5 million. Northeast of Baton Rouge, 2 people were injured as another tornado damaged 2 houses, demolished 1 mobile home, and damaged 5 other mobile homes. Near Duson, a child was injured when thunderstorm winds dislodged the mobile home she was in from its foundation. Thunderstorm wind gusts downed power poles and took the roof off a grain bin south of Jennings. Roof damage and barn roof damage was reported at Opelousas and a trailer was overturned by wind gusts near Scott.</p>									
Tensas Parish, St. Joseph	25	0500CST			0	0	4	?	TSTM Wind
<p>Several large farm buildings were destroyed by thunderstorm wind gusts.</p>									
Washington Parish, Franklinton	25	1005CST			0	0	?	?	TSTM Wind, Heavy Rain
<p>A severe thunderstorm wind gusts downed several trees and produced heavy rain and street flooding.</p>									
Webster Parish, 5 SE Minden	29	1335CST			0	0	4	0	TSTM Wind
Claiborne Parish, 3 S Athens	29	1340CST			0	0	?	?	TSTM Wind
Bienville Parish, 3 N Taylor	29	1350CST			0	0	?	?	TSTM Wind
Morehouse Parish, Bastrop	29	1445CST			1	1	4	0	TSTM Wind
Avoyelles Parish, 5 W Bunkie	29	1745CST			0	0	0	0	Funnel cloud
Avoyelles Parish, Bunkie	29	1753CST			0	0	?	?	Hail (1.00)
Avoyelles Parish, 2 S Bunkie	29	1800CST	1.0	250	0	2	5	?	Tornado (F1)
Avoyelles Parish, Evergreen	29	1810CST			0	0	3	?	TSTM Wind
Point Coupee Parish, New Roads	29	2030CST			0	0	4	?	TSTM Wind
<p>A line of thunderstorms moved across north and central Louisiana producing occasional damaging winds, hail, and one tornado. 2 people were injured near Bunkie when a tornado destroyed one house and heavily damaged another. Several farm buildings were also severely damaged and 25 power poles were snapped. Thunderstorm wind gusts in Bastrop downed a large tree which fell onto a trailer, fatally injuring a baby girl and injuring another child. Trees were downed by thunderstorm wind gusts near Minden, Athens, and Taylor. Thunderstorm wind gusts downed trees and damaged roofs and outbuildings at Evergreen and New Roads. F02M.</p>									
<b>17 MAINE</b> ————— NO REPORT RECEIVED									
<b>18 MARYLAND and D.C.</b>									
MD2005 Southern Prince Georges Co; District of Columbia	21	0400EST			0	0	3	0	Snow
<p>Light snow began before sunrise, with temperatures in the mid and upper 20s, and ended by mid morning. Although there was little accumulation, bridges and elevated highways turned very slippery, causing numerous accidents.</p>									
<b>19 MASSACHUSETTS</b> ————— NONE REPORTED									
<b>20 MICHIGAN</b>									
Shelby Township, Oakland Co.	23	1330EST			1	4	3		Wind (34)
<p>A gusty wind blew down a cinder block wall under construction, killing one man and injuring four. M190</p>									
<b>21 MINNESOTA</b>									
MNZ 001-005-006-008-009-010-011-012-013-014-015-017	11-12	1800CST			0	0	0	0	Blizzard and Heavy Snow
<p>Heavy snow spread across portions of northern and southwestern Minnesota Friday night the 11th and Saturday the 12th. A broad band of heavy snow was bounded on the north from Bemidji in northwest Minnesota to Minton in the extreme northeast. On the south, the band extended from Ortonville to 50 miles south of Duluth. This area received widespread amounts of 6-14 inches of snow. Over the rest of the state 2-5 inches of new snow was common. Strong winds of 60-70 mph drove the new snow into 4-6 ft. drifts and lowered visibilities to near zero, stranding many travelers in western Minnesota. Much of the southeast was spared the heavy snow due to most of the precipitation coming as rain. The strong winds caused some minor property damage and flood damage in the Duluth harbor area. Winds to 70 mph sent 12 ft. waves off of Lake Superior over the breakwalls of the Duluth ship canal.</p>									
Fillmore County, Ostrander	24	1643CST			0	0	0	0	Funnel
<p>Funnel sighted in southwest Fillmore County near Ostrander.</p>									
MNZ 018-019 South central and Southeast	24	1755CST			0	0	0	0	Thunderstorm Winds, Hail
<p>Tree damage and damage to a single building occurred near Lenora in Fillmore County. All damage was minor. Reports of a possible tornado touchdown have been discounted. There were many reports of pea size to marble size hail.</p>									
<b>22 MISSISSIPPI</b>									
Northern Warren, Yazoo, Eastern Holmes, Eastern Leflore, Western Carroll, Grenada, Yalobusha, Northern Calhoun, Southeastern Lafayette, Northwest Pontotoc, Union, Tippah, and Alcorn Counties	3	0120-0300CST			0	0	6	0	Intense Microscale Low Pressure System
<p>An intense, but small scale low pressure system entered northern Warren County around 0120CST and moved northeast at 90 mph and exited Alcorn County around 0300CST. There was no thunder associated with this low pressure system. The winds along the track of the low were estimated between 60 and 90 mph with trees, power lines and signs blown down. The most extensive damage occurred near Greenwood where a wind gust of 84 mph was recorded. Roofs at the airport and a nearby school were damaged. Damage to the airport was estimated at 200,000 dollars. South of Greenwood several buildings were damaged and three fourths of a mile of powerlines were blown down.</p>									
Harrison County, Biloxi	3	0315CST	1.2	30	0	0	5	0	Tornado (F2)
<p>A short-lived, but strong tornado moved northeast through a portion of south Biloxi. Heaviest damage was to a paint store where 8-inch I beams attached to the roof were twisted and removed from the building. Damage was estimated at 50,000 dollars. The tornado also picked up a car and carried it 150 feet into an unoccupied room in a retirement home. Damage was estimated at 15,000 dollars.</p>									
Leake County, 8 SW Carthage	3	1715CST			0	0	4	0	Thunderstorm Winds
<p>Strong winds blew a trailer off its foundation. Also, a roof was damaged to a small grocery store.</p>									
Jackson County, Ocean Springs	4	0130CST			0	0	3	0	Thunderstorm Winds
<p>A medium size pine tree and 2 permanent business signs were blown down by strong winds.</p>									

# STORM DATA AND UNUSUAL WEATHER PHENOMENA

MARCH 1988

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					KILLED	INJURED	PROPERTY	CROPS	
<b>MISSISSIPPI</b>									
Rankin County, 2 N Puckett	12	1430CST			0	0	0	0	Funnel Cloud
Northern Newton County	12	1435CST			0	0	?	0	Hail (.75)
Smith County, Polkville	12	1445CST			0	0	0	0	Funnel Cloud
Neshoba County, Philadelphia	12	1445CST			0	0	?	0	Hail (.75)
Southeast Noxubee County	12	1455CST			0	0	?	0	Hail (.75)
Kemper County, 7 SSE DeKalb	12	1525CST			0	0	?	0	Hail (.75)
Lauderdale County, Meridian	12	1623CST			0	0	4	0	Thunderstorm Winds (G 56); Hail (.75)
Lauderdale County, Meridian	12	1650CST			0	0	?	0	Dime sized hail fell at the airport in Meridian. Winds gusting up to 64 mph blew out 2 plate glass windows at a supply company.
Clarke County, 5 S Quitman	12	1707CST			0	0	?	0	Hail (.75)
Clarke County, 3 S Quitman	12	1745CST			0	0	?	0	Hail (.75)
Jones County, Overt	12	1840CST			0	0	?	0	Hail (.75)
Wayne County, Waynesboro	12	1840CST			0	0	?	0	Hail (.75)
Lincoln County, 5 NW Brookhaven	25	0700CST			0	0	?	0	Hail (.75)
Southern Marion and Walthall Counties	25	1200-1800CST			0	0	5	0	Flash Flood
Lauderdale County, Meridian	26	0325CST			0	0	?	0	Heavy rainfall of 5 to 8 inches caused many small streams and creeks to overflow their banks. Several bridges were washed out.
Clarke County, 12 N Crandall	26	0355CST			0	0	?	0	Hail (.75)
Simpson County, Pinola	26	0450CST			0	0	4	0	Thunderstorm Winds
Simpson County, Magee	26	0500CST			0	0	?	0	Trees and power lines were blown down in Pinola.
Covington County, 2 W Mt. Olive	26	0515CST			0	0	4	0	Hail (.75)
Covington County, 3 SW Seminary	26	0540CST			0	0	?	0	Trees and power lines were blown down 2 miles west of Mt. Olive.
Washington County, 4 E Leland	29	1610CST			0	0	?	0	Hail (.75)
Sunflower County, Indianola	29	1620CST			0	0	?	0	Thunderstorm Winds
Marshall County, Barton	29	1650CST			0	0	4	0	Thunderstorm Winds
Madison County, 3 W Flora	30	1630CST			0	0	4	0	Thunderstorm Winds
									Strong downburst winds in Barton, 6 miles north of Byhalia, damaged a mobile home and scattered some light-weight materials behind a shed.
									Heavy rains of 2 to 4 inches caused an already swollen creek to overflow in western Madison County. One home received water damage, while 10 other homes had to be evacuated.
<b>23 MISSOURI</b>									
Vernon County	24	1600CST			0	0	0	0	Hail (0.75), TSTM Wind
Lafayette County	24	1615-1630CST			0	0	3	0	Hail of up to 3/4 inch diameter and 50 mph winds occurred at Highways 54 and 43.
Jasper County, downtown Joplin	24	1622CST			0	0	0	0	Thunderstorm winds produced damage in an area just south of Dover extending north and east to the Missouri River. One mobile home was picked up and moved four feet from its tie-downs on Route N, north of Highway 24. A machinery shed was destroyed south of Dover, scattering debris a quarter of a mile. Six other outbuildings were also damaged. Power lines were downed as well.
Vernon County, Nevada	24	1645CST			0	0	3	0	Hail (0.75)
Saline County, Sweet Springs	24	1651CST	1/2	50	0	0	0	0	Damaging winds were reported by the Nevada Police.
Newton County, Seneca	24	1655CST			0	0	0	0	Tornado (FO)
Cedar County, Eldorado Springs	24	1700CST			0	0	0	0	State police reported a brief touchdown of a tornado at Sweet Springs.
Newton County, Neosho	24	1703CST			0	0	0	0	Hail from 3/4 to 1 inch diameter was reported just east of Seneca.
Newton County, Neosho	24	1705CST			0	0	0	0	Hail (0.75)
Saline County, Marshall	24	1705CST			0	0	0	0	Winds were estimated at up to 60 mph.
McDonald County, Pineville	24	1715CST			0	0	0	0	Hail (0.75)
Adair County, Kirksville	24	1720CST			0	0	4	0	Hail (0.75)
Benron County, Warsaw	24	1723CST			0	0	0	0	Chris Gentry of Channel 3 TV in Kirksville reported hail of up to 1 3/4 inch diameter and winds of up to 70mph. Minor wind damage occurred.
Lawrence County, Miller	24	1730CST			0	0	0	0	Hail (0.75), TSTM Wind (50)
Barry County, Monett	24	1737CST			0	0	0	0	Hail of up to 3/4 inch diameter and wind of up to 58 mph occurred at Warsaw.
Morgan County, Stover	24	1740CST			0	0	0	0	A spotter reported hail of up to 3/4 inch diameter.
Cooper County, Rocheport	24	1810CST			0	0	0	0	Hail (1.00)
Audrain County, Centralia	24	1813CST			0	0	0	0	Three-quarter to one inch diameter hail was reported by a weather observer in Monett.
Knox County, Novelty	24	1815CST			0	0	4	0	Hail (0.75)
Cooper County, Boonville	24	1815CST			0	0	4	0	Hail (0.75)
Boone County, Columbia	24	1822CST			0	0	0	0	Hail (0.75)
									Up to 3/4 inch diameter hail fell north of Centralia.
									Up to 3/4 inch diameter hail fell north of Novelty.
									Strong winds damaged trees and hail of 3/4 to one inch diameter was reported 2 miles north of Novelty.
									Sheds were blown down and several barn roofs were lost 6 miles southeast of Boonville. A number of trees were also downed.
									Up to one inch diameter hail fell on the west side of Columbia.

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					KILLED	INJURED	PROPERTY	CROPS		
<b>MISSOURI</b>										
Greene County, Fair Grove	24	1825CST			0	0	0	0	Hail (0.75)	Up to 3/4 inch diameter hail fell north of Fair Grove.
Boone County, Columbia	24	1825CST			0	0	0	0	Hail (1.75), TSTM Wind	Hail of up to 1 3/4 inch diameter and winds of up to 53 mph were reported by the Columbia Police.
Lewis County	24	1825CST			0	0	3	0	TSTM Wind	Winds of up to 65 mph produced tree damage and stopped traffic. Heavy rain was also falling.
Lewis County, Lewistown	24	1825CST			0	0	0	0	Hail (0.75), TSTM Wind	Up to 3/4 inch diameter hail was accompanied by winds of 50 to 60 mph.
Greene County, Willard	24	1830CST			0	0	0	0	Hail (1.50)	
Christian County, Nixa	24	1830CST			0	0	4	0	TSTM Wind	Wind damaged a house and blew a garage over in Nixa.
Greene County, Springfield	24	1830CST			0	0	4	0	TSTM Wind	Damaging winds in the east portion of Springfield sheared off 5 power poles at 3 to 4 feet off the ground. A power outage was reported.
Boone County, Columbia	24	1835CST			0	0	3	0	TSTM Wind	Thunderstorm downburst winds blew down 3 large tension poles 22 inches in diameter on the northeast side of Columbia.
Audrain County	24	1845CST			0	0	0	0	Hail (0.75)	Up to 3/4 inch diameter hail fell between Mexico and Centralia.
Texas County, Raymondville	24	2100CST	12	50	0	5	6	?	Tornado (F2)	A tornado skipped along a 12 mile path from about 1 1/2 miles east of Houston to about 5 miles northeast of Raymondville. There were 5 minor injuries, only one of which required medical attention due to some minor cuts. The tornado destroyed 5 houses and caused minor damage to 12 others in its path which averaged about 150 feet in width. Most of the damage was in the Raymondville area. Trees of up to 3 feet in diameter along a wooded path were sheared off near their base.
<b>24 MONTANA</b>										
Carbon County, 3 NE Bridger	23	1230 MST	short	10	0	0	2	0	Tornado (F0)	A roof was torn off of a metal shop.
<b>25 NEBRASKA</b>										
NE2001-002-003-005-006-007-011-012-013 Panhandle and North Central Nebraska	10-12	1700CST-1500CST			0	1	6	3	Blizzard High Wind (55)	Blizzard conditions lashed the panhandle starting on the 10th and worked eastward finally ending in the north central on the 12th. Visibilities were zero at times in snow and blowing snow as winds gusted upwards to near 65 m.p.h. Heavy snow fell in the panhandle with 33 inches reported at Chadron along with 6 to 10 foot drifts. Other larger snowfalls included 18 inches at Crawford, 15 inches at Harrisburg and Dalton, 14 inches at Harrison and Potter, and 12 inches at Hay Springs, Lodgepole and 15 miles north of Ellsworth. Travel came to a standstill as Interstate 80 and area highways became clogged with drifted snow. A number of motorists and truckers were stranded in snowbound vehicles and not rescued for up to 1 1/2 days. A North Platte woman suffered exposure when she became disoriented outside of her home and was not found until the next day. Ranchers suffered an estimated 5 to 10 percent loss to livestock. The strong winds blew down power lines resulting in many electrical outages. A large sign was blown down by wind gusts at North Platte. At Ogallala roofs of several mobile homes were damaged, windows were broken and signs damaged. Mobile home and sign damage was also reported at Bassett. Some peak wind gusts during the storm included 63 m.p.h. at Mullen at 1753CST on the 11th, 62 m.p.h. at Scottsbluff at 1400CST on the 11th, 59 m.p.h. at Valentine at 2048CST on the 11th, and 56 m.p.h. at 0318CST on the 12th at North Platte.
<b>NEBRASKA</b>										
NEZ010-015 East Central Nebraska	26	1100CST-1200CST			0	0	4	0	Damaging Wind	Strong south winds ripped a portion of the roof off the high school at Lyons. A shed roof was blown off at Morse Bluff. A peak gust to 55 m.p.h. was recorded at Lincoln at 1126CST.
<b>26 NEVADA</b>										
NVZ007 Extreme Southern Nevada	09	1500-2000PST			0	1	6	0	High Winds	High winds developed ahead of a strong cold front that moved through Extreme Southern Nevada in the early evening hours. Blowing dust and sand reduced visibilities at times and made driving hazardous. Winds gusting to 70 mph were common in the Las Vegas Valley. Winds gusting to 60 mph were reported in the Overton Beach area on Lake Mead and in the Pahump Valley. Uprooted and fallen trees caused extensive damage to trailers and parked cars. One person sustained minor injuries from a falling tree. There were numerous power outages.
NVZ003 Extreme Western Nevada	23	0600-0900PST			0	0	4	0	High winds	High winds developed in the valleys of Extreme Western Nevada ahead of a vigorous Pacific cold front. The strongest gust reported was 89 MPH in the southwest part of Reno. In Lemon Valley, north of Reno, sustained winds of 40 mph with gusts to 60 mph were reported. Gusts to 60 mph were also reported in the Gardnerville area south of Carson City.
<b>27 NEW HAMPSHIRE</b> ——— NO REPORT RECEIVED										
<b>28 NEW JERSEY, Northern</b> ——— NONE REPORTED										
<b>28 NEW JERSEY, Southern</b> ——— NONE REPORTED										
<b>29 NEW MEXICO</b>										
Central Mountains and Eastern Plains	10	0800MST-1700MST			0	0	?	0	High Wind	Spring storm produced gusts to 72 MPH at Artesia damaging a few mobile homes. Gusts in the 45 to 65 MPH range were reported in the areas of Raton, Ruidoso, and Corona.
Eddy County	28	late afternoon			0	0	3	0	High Wind	Spring storm produced 20 to 40 MPH winds state-wide. Gusts to 67 MPH in Carlsbad produced damage to Living Desert State Park.
Lea County Northeastern corner	30	1604MST			0	0	4	0	Thunderstorm Wind	Winds destroyed a mobile home and damaged a school bus northeast of Tatum at the intersection of route 508 and 125. A barn was also damaged. Residents claimed it was a tornado, but no one saw a funnel even though they were right on the scene.

# STORM DATA AND UNUSUAL WEATHER PHENOMENA

MARCH 1988

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					KILLED	INJURED	PROPERTY	CROPS	

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	

## NEW MEXICO

Central portion of state 31 1800MST 0 0 ? 0 Heavy Snow  
 Heavy snow of 9 to 14 inches blanketed mainly the Albuquerque area. Power was interrupted to more than half of the residents at some point. Roads were not a big problem since temperatures hovered around the freezing mark, producing only slush on the road surfaces. Much of the snow fell after midnight, so this report will be repeated in April storm summary on the 1st.

30 NEW YORK, Coastal — NONE REPORTED

30 NEW YORK, Central

NYZ 020 20 1420EST 0 0 5 0 High Winds  
 Winds gusted up to an estimated 45 mph. The winds damaged billboard signs and resulted in downed tree limbs and power lines.

30 NEW YORK, Western

NYZ022 22 0300 EST 0 0 4 0 Heavy Snow  
 Cattaraugus County: Sinclairville  
 Eight inches of snow fell by 7 AM.  
 NYZ022 26 1545 EST 0 0 4 0 High Winds  
 Chautauqua County: Jamestown, Frewsburg  
 High winds downed trees and power lines.  
 NYZ004 27 0 0 4 0 Snowmelt  
 Lewis County: Flats  
 Temperatures in the mid-fifties and a half inch of rain combined to melt snow. Some minor agricultural flooding occurred.

## 31 NORTH CAROLINA

Gates Co. Gatesville 06 2150EST 0 0 0 0 Hail (0.75)  
 Nickel size hail was reported near Gatesville.  
 New Hanover Co. Wilmington 10 1453EST 0 0 0 0 TSTM Winds (51)  
 Winds gusted to 59 MPH at the New Hanover County Airport. Some large tree limbs were knocked down just east of the airport.  
 NCZ008 20 0800EST 1200EST 0 0 4 0 High Winds  
 Winds gusting to around 80 mph downed electrical lines over much of Ashe County. Numerous small fires were started by the downed lines. The roof was blown off the West Jefferson Post Office. Debris from the roof damaged cars in the area. In Avery County 140 MPH winds were reported at Grandfather Mountain. Some minor damage was reported in the area.  
 Chowan Co. Gliden 26 1632EST 1/4 50 0 0 2 0 Tornado (F0)  
 A small tornado touched down briefly about one mile west of Gliden. Dime size hail was also reported with the storm.

## NORTH CAROLINA

Ashe Co. West Jefferson	26 1615EST	0 0 0 0	Hail (0.75)
Wilkes Co. Trap Hill	26 1610EST	0 0 0 0	Hail (0.75)
Rockingham Co. Madison	26 1745EST	0 0 0 0	Hail (0.75)
Moore Co. Robbins	26 2000EST	0 0 0 0	TSTM Winds
Chatham Co. Goldston	26 2013EST	0 0 0 0	Hail (1.50)
Chatham Co. Jordan Lake	26 2025EST	0 0 0 0	TSTM Winds
Wake Co. Fuquay-Varina	26 2040EST	0 0 5 0	Lightning
Wake Co. Fuquay-Varina	26 2052EST	0 0 2 0	TSTM Winds
Wake Co. 6 South New Hill	26 2055EST 1/4 15	0 0 0 0	Tornado (F0)
Wake Co. Holly Springs	26 2058EST	0 0 0 0	Funnel Cloud
Johnston Co. 8 South Smithfield	26 2130EST	0 0 0 0	Funnel Cloud
Wake Co. Wendell	26 2130EST	0 0 3 0	Lightning
Gates Co. Gatesville	26 2150EST	0 0 0 0	Hail (0.75)
Wilson Co. 3 South Wilson	26 2215EST	0 0 0 0	Hail (0.75)

A line of severe thunderstorms moved into the mountains from the northwest producing 3/4 inch hail near West Jefferson and Trap Hill. As the line moved southeast into the Piedmont reports of 3/4 inch hail persisted. Trees were blown down in northern Moore County. High winds blew a sheriff's car off the road near Goldston in Chatham County. A small tornado touched down in southwest Wake County six miles south of New Hill, taking tops out of trees. Shortly after, a funnel cloud was reported in Holly Springs and again eight miles south of Smithfield. As the storm moved northeast, windows were blown out of a store, and trees were downed in Fuquay-Varina. Lightning damaged a house in Wendell and destroyed a house in Fuquay-Varina.

## 32 NORTH DAKOTA

NDZ003-004-005-006-007-008-009-010-011-012-013-014-015-016-017-018 11 0500CST to 12 1000CST 0 0 4 0 Blizzard, Heavy Snow, Winter Storm  
 Wet snow and above freezing temperatures over south-central North Dakota gave way to snow accumulations and blowing snow during the morning of the 11th, as temperatures fell into the teens by the afternoon.  
 Snow accumulations and blowing snow, causing near blizzard conditions, prevailed over central, southwest and most of northeast North Dakota during the morning of the 11th.  
 By late morning, the storm had intensified into a blizzard over south-central and northeast North Dakota. Blizzard conditions gradually spread into the southeast during the afternoon of the 11th, and into the southeast corner of the state that evening.  
 Meanwhile near-blizzard conditions continued over the southwest and north-central sections into the afternoon of the 11th. Conditions improved in the north-central portion late in the afternoon, and over the southwest, south-central and northeast portions during the night of the 11th. The blizzard continued over the southeast corner through most of the morning of the 12th, ending late that morning.  
 The heaviest snowfall occurred over south-central North Dakota, along the Missouri River corridor, where up to 10 inches of snow fell. The strongest winds were in the east-central portion of the state, where gusts to 53 mph for several hours were recorded at the Jamestown airport. Wind chill temperatures were down to 45 below in many of the storm-affected areas.  
 The storm stranded travelers, forced authorities to close the storm gates on highways and interstates, caused power outages, closed schools and businesses, caused many traffic accidents, and forced the cancellation of airline flights.  
 A 70-year-old man was killed in a rural two-vehicle accident near LaMoure, in southeast North Dakota. A 37-year-old man walked a mile along Interstate 94 during the blizzard to reach his family. Fortunately, the man was not seriously injured.  
 There were no major property losses from the storm, livestock losses were minimal.

# STORM DATA AND UNUSUAL WEATHER PHENOMENA

MARCH 1988

PLACE	DATE	TIME - LOCAL STANDARD	LENGTH OF PATH (MILES)	WIDTH OF PATH (YARDS)	NO. OF PERSONS		ESTIMATED <sup>1</sup> DAMAGE		CHARACTER OF STORM
					KILLED	INJURED	PROPERTY	CROPS	
<b>— NORTH DAKOTA</b>									
NDZ003-004-005-006-007-008-010-011-012-013-014	25	1400GST to 2300GST			0	0	4	0	High Winds
Central and South-western North Dakota	<p>Strong northwest winds frequently gusted to 50 to 60 mph over southwest and most of central North Dakota during the afternoon and evening of the 25th. Wind gusts to 51 mph, 55 mph, 56 mph, and 51 mph were recorded at Minot, Bismarck, Dickinson, and Jamestown, respectively.</p> <p>The winds damaged a few roofs on houses and buildings.</p>								
<b>33 OHIO</b>									
OHZ004-007	03	1300 EST			0	0	?	0	Heavy Snow
Northeast Hills of Ohio and East Central Ohio									
OHZ005	03	1400 EST			0	0	6	0	Ice Storms
Miami Valley of Ohio									
OHZ010	03	1400 EST			0	0	?	0	Heavy Snow
West Central Ohio									
OHZ006-011	03	1430 EST			0	0	?	0	Heavy Snow
Central Ohio and Central Hills of Ohio									
OHZ001	03	1600 EST			0	0	?	0	Heavy Snow
Northwest Ohio									
OHZ006	03	1700 EST			0	0	6	0	Ice Storm
Central Ohio									
OHZ007	03	2000 EST			0	0	6	0	Ice Storm
East Central Ohio									
OHZ002	03	2100 EST			0	0	?	0	Heavy Snow
North Central Ohio									
OHZ008	03	2200 EST			0	0	6	0	Ice Storm
Southwest Ohio									
	<p>A major winter storm dropped large amounts of both snow and glaze on Ohio. During the course of the 3rd, freezing rain and snow developed from the west-central through the east-central portions of the state during the morning, spread across the northern counties by early afternoon, and then over the southwest counties by evening. The winter precipitation never spread into the more south-central counties. The storm tapered off from the north and west from early morning through early afternoon on the 4th. The precipitation was mainly freezing rain south and snow north of a line from roughly Sydney to Delaware to Stuebenville. Immediately north of that line, snow accumulations of 8 to 10 inches were common. Most of northern Ohio except the east lakeshore and areas adjoining Michigan received about 6 inches. South of the snow/freezing rain line, glaze accumulations of up to an inch occurred causing immense damage to trees and power lines. Approximately 100,000 homes and businesses lost power, and in some rural areas service was not restored for nearly a week.</p>								
OHZ008	04	0900 EST					1	0	Flood
Adams County	Ohio Brush Creek flooded at West Union. The creek crested at a stage of 18 feet (flood stage 15 feet) at 1730 EST on the 4th. Only minor low-land flooding occurred.								
OHZ009	04	1430 EST					1	0	Flood
Pike County	The Scioto River Flooded at Piketon. The river crested at a stage of 19.4 feet (flood stage 16 feet) at 1200 EST on the 5th. Only minor low-land flooding occurred.								
<b>— OHIO</b>									
OHZ003	14	1340 EST			0	0	?	0	Heavy Snow
Northeast Ohio	Six to 10 inches of snow fell on parts of north-east Ohio. Snow fall in the area had started on the evening of the 13th, and continued until the afternoon of the 15th. By the time the snow was over, accumulations in the area varied from as much as 14 inches to as little as 2 inches.								
OHZ002	15	0830 EST			0	0	?	0	Heavy Snow
North Central Ohio	Scattered locations in Cuyahoga and Lorain counties received about 6 inches of snow. The snow had started during the afternoon of the 14th and continued until the afternoon of the 15th. By the time the snow ended, some places in Lorain and Cuyahoga counties had received 6 to 8 inches.								
OHZ002-004	20	0200 EST			0	0	?	0	Heavy Snow
North Central Ohio and Northeast Hills of Ohio									
OHZ003	20	0430 EST			0	0	?	0	Heavy Snow
Northeast Ohio									
OHZ011	20	0700 EST			0	0	?	0	Heavy Snow
Central Hills of Ohio	Heavy snow fell on about the northeast quarter of Ohio. Snow fall in the area started on the evening of the 19th and ended during early morning on the 20th. Most of the state north of Mansfield and east of Sandusky got 4 to 8 inches.								
OHZ001	26	0300 EST			0	0	0	0	Flood
Williams County	The Tiffin River flooded at Stryker. The river crested at a stage of 11.4 feet (flood stage 11 feet) at 2000 EST on the 27th, causing no damage.								
<b>34 OKLAHOMA</b>									
Murray County,	01	1205CST			0	0	?	?	Hail (0.88)
1 S Joy									
Pontotoc County,	01	1245CST			0	0	?	?	Hail (1.00)
5 W Ada									
Pontotoc County,	01	1255CST			0	0	?	?	Hail (0.75)
Vannoss									
Okmulgee County,	01	1419CST			0	0	?	?	Hail (0.75)
5 S Henryetta									
Oklahoma County,	01	1528CST			0	0	?	?	Hail (0.75)
Edmond									
Logan County,	01	1530CST			0	0	?	?	Hail (1.00)
10 S Guthrie									
Lincoln County,	01	1545CST			0	0	?	?	Hail (1.25)
Fallis									
Washita County,	01	1615CST			0	0	?	?	Hail (0.75)
4 W Corn									
Caddo County,	01	1640CST			0	0	?	?	Hail (0.75)
Eakly									
Cotton County,	01	1700CST			0	0	?	?	Hail (1.75)
3 S Chattanooga									
Cleveland County,	01	1747CST			0	0	?	?	Hail (0.75)
Norman									
Cotton County,	01	1835CST			0	0	?	?	Hail (0.75)
3 E Hulen									
Caddo County,	01	1907CST			0	0	?	?	Hail (1.00)
Binger									
Kiowa County,	01	1935CST			0	0	?	?	Hail (0.75)
5 E Roosevelt									
Comanche County,	01	2012CST			0	0	?	?	Hail (1.75)
Meers									
Blaine County,	01	2051CST			0	0	?	?	Hail (0.75)
Geary									
Rogers County,	01	2240CST			0	0	3	?	Tstm Wind
1 S Claremore									
Seminole County,	02	0230CST			0	0	3	?	Tstm Wind
1 NW Seminole									
	A cold front produced thunderstorms across a large area of the state with some producing hail up to golfball size. Strong winds destroyed a barn near Claremore and another barn near Seminole. Heavy rain also caused street flooding in many areas.								



# STORM DATA AND UNUSUAL WEATHER PHENOMENA

MARCH 1988

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	
<b>OKLAHOMA</b>									
Payne County, 6 N Cushing	28	1715CST	0.2	30	0	0	3	?	Tornado (F0)
Cleveland County, SW Oklahoma City	28	1720CST	0.1	30	0	0	5	?	Tornado (F1) Hail (1.75)
Comanche County, Cache	28	1734CST			0	0	?	?	Hail (0.75)
Cotton County, 9 SW Walters	28	1735CST	0.1	20	0	0	0	0	Tornado (F0)
Creek County, Oilton	28	1745CST			0	0	?	?	Tstm Wind (56)
Creek County, Mannford	28	1800CST			0	0	?	?	Tstm Wind (61)
Grady County, 4 S Tuttle	28	1815CST			0	0	?	?	Hail (2.00)
Grady County, 6 E Tuttle	28	1815CST			0	0	?	?	Hail (2.00)
Tulsa County, 8 W Sand Springs	28	1817CST			0	0	?	?	Hail (0.75)
Oklahoma County, Nr Harrah	28	1825CST			0	0	?	?	Hail (1.25)
Cleveland County, Stella	28	1842CST			0	0	?	?	Tstm Wind
Tulsa County, Collinsville	28	1847CST			0	0	?	?	Hail (0.75)
Lincoln County, 2 S Meeker	28	1850CST			0	0	?	?	Hail (2.75)
Comanche County, Geronimo	28	1851CST			0	0	?	?	Hail (1.75)
Cotton County, 4 E Walters	28	1907CST			0	3	4	?	Tstm Wind (61) Hail (1.75)
Cotton County, Walters	28	1930CST			0	0	5	?	Tstm Wind (52) Hail (1.75)
Cotton County, 8 NE Walters	28	1935CST			0	0	?	?	Hail (0.75)
Cotton County, 8 NE Walters	28	2000CST			0	0	?	?	Hail (1.75)
<p>A tornado set down for a short time and moved toward the east 6 miles north of Cushing, destroying several barns and outbuildings. Another tornado set down briefly in extreme northern Cleveland County, unroofing a building and damaging several horse trailers. Another tornado touched down briefly 9 miles southwest of Walters, causing no damage. Thunderstorms also produced very heavy rain, hail ranging between 3/4 and 2-3/16 inch and strong winds. A mobile home was blown over east of Walters, injuring 3 people. Damage by wind and hail at Walters is estimated at \$250 thousand.</p>									
Stephens County: Duncan	28	1930CST			0	0	?	?	Hail (2.00) Heavy Rain
Duncan	28	1953CST			0	0	?	?	Hail (2.75) Heavy Rain
4 N Comanche	28	2015CST			0	0	?	?	Hail (2.75) Heavy Rain
Comanche	28	2040CST			0	0	?	?	Hail (1.75) Heavy Rain
Duncan	28	2050CST			0	0	?	?	Hail (0.88) Heavy Rain
Nr Velma	28	2120CST			0	0	?	?	Tstm Wind (52)
Comanche	28	2140CST			0	0	?	?	Hail (1.75)
Comanche	28	2225CST			0	0	?	?	Hail (1.75)
Velma	28	2330CST			0	0	?	?	Hail (1.50)
Stephens County	28	2345CST			0	2	?	?	Flash Flooding
<p>A series of thunderstorms moved across Stephens County producing large hail and heavy rain. Hail the size of dimes to baseballs fell at different times throughout the evening causing major damage to the county. Rainfall amounts of 4 to 7 inches fell causing Cow and Wildhorse creeks to overflow their banks, flooding portions of Duncan and Comanche and areas of eastern Stephens County. The flooding caused 80 homes to be evacuated in Comanche. Two people did not leave early enough and while trying to escape had to hold onto a stop sign for 3 hours before they were rescued. They both suffered from hypothermia. Flooding damaged roads, bridges, and approximately 100 homes, with damage estimates set at \$3 million. Hail damaged hundreds of homes and thousands of automobiles, with damage estimates of \$18 million.</p>									
Okfuskee County, Okemah	28	2105CST			0	0	?	?	Hail (0.75)
Mayes County, Chouteau	28	2131CST			0	0	5	?	Lightning
Okfuskee County, Weleetka	28	2300CST			0	0	4	?	Lightning
Oklahoma County, SE Oklahoma City	28	2334CST			0	0	?	?	Hail (0.75)
Carter County, Ratliff City	28	2345CST			0	0	?	?	Hail (0.88)
<p>Thunderstorms produced dime and nickel size hail across sections of the state. Lightning caused a \$65,000 house to burn and also caused \$10,000 damage to an oil battery.</p>									
<b>OKLAHOMA</b>									
Garvin County, 4 E Wynnewood	29	0000CST			0	0	?	?	Hail (0.75)
Murray County, 5 N Davis	29	0015CST			0	0	?	?	Hail (1.75)
Garvin County, 6 E Wynnewood	29	0015CST			0	0	?	?	Hail (1.75)
Cherokee County, 5 N Tahlequah	29	0050CST			0	0	?	?	Hail (1.75)
Pontotoc County, Ada	29	0055CST			0	0	?	?	Hail (1.00)
Hughes County, 3 N Atwood	29	0130CST			0	0	?	?	Hail (0.75)
<p>Thunderstorms produced heavy rain and hail ranging from dime to golfball size across portions of the state.</p>									
Jefferson County, Waurika	29	1500CST			0	0	4	?	Flash Flood
<p>Heavy rains of 4 to 7 inches the previous day across Stephens County caused Cow Creek to flood portions of that county. The water moved southward down Cow Creek into the Waurika area. The creek was described as a wall of water as in one hour's time (1400-1500CST) the water rose 6 1/2 feet. The creek crested 4.8 feet higher at 1800CST then began receding. The water got into 20 houses, with damage estimated at \$25,000.</p>									
<b>35 OREGON</b>									
North and Central Oregon Coast	22	0830 PST			1	?	?	?	High Wind
ORZ001-002	23	0200 PST							
<p>A low pressure system intensified west of Vancouver Island as wind gusts of 55 to 75 mph hit the north and central Oregon coast along and behind the associated cold front. Considerable damage to and uprooting of trees occurred. Some mud slides closed roads. A 15-year-old girl was killed by a falling tree near Ecola State Park north of Cannon Beach. F15V</p>									
ORZ011	26	1500 PST			0	0	?	?	Thunderstorm Wind and Hail (0.75)
Union County	<p>Thunderstorms formed in the northeast Oregon mountains during the afternoon. Thunderstorm winds reported by the public between LaGrand and Cove blew over trees, pushed limbs through the side of a house, destroyed a garage, and damaged cars inside. Three-quarter inch diameter hail was reported in the area.</p>								
<b>36 PENNSYLVANIA, Eastern - NONE REPORTED</b>									
<b>36 PENNSYLVANIA, Western - NONE REPORTED</b>									
<b>37 RHODE ISLAND - NONE REPORTED</b>									
<b>38 SOUTH CAROLINA</b>									
STATEWIDE	14-17				0	0	4	0	Low Temperature
<p>Early morning temperatures were below freezing over much of the state during the period from March 14 through March 17. Some cold damage was reported to early blooming peaches and early gardens across much of the state.</p>									
Greenville	16	unk			1	0	0	0	Hypothermia
<p>A male, age 65, in Greenville died from cold exposure. (M65P)</p>									

# STORM DATA AND UNUSUAL WEATHER PHENOMENA

MARCH 1988

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	

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	

## SOUTH CAROLINA

Chester County Chester	26	1950EST			0	0	0	2	Hail (0.50)
Union County Santuck	26	2000EST			0	0	0	2	Hail (0.50)

A cold front moving through the state triggered a thunderstorm which dropped hail in Chester and in Santuck.

## 39 SOUTH DAKOTA

SDZ008 Southwest South Dakota	07	0800 to 1500 MST			0	0	3	0	High Winds
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High winds occurred in parts of southwest South Dakota producing gusts to 66 mph at Rapid City. The winds destroyed the top part of a ventilation pipe on a hotel.

SDZ002-003-006- 007-008-009-013- 014-015 Western South Dakota	10	1100 to 12 0600 MST			0	0	5	0	Blizzard
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Snow and winds gusting to 60 mph produced blizzard conditions across most of western South Dakota. Visibilities were zero in many locations and snow drifts were 10 to 15 feet high. Many people were stranded and several communities were without power for several hours. More than 700 telephone poles were lost amounting to more than \$200,000 in damage. Several livestock were lost. Interstate 90 was closed from the Wyoming border to Wall, South Dakota from the 11th to the 12th. Two weather service employees were stranded at the Rapid City station from the afternoon of the 10th to the morning of the 12th. The following is a list of snowfall amounts in inches.

Fort Meade, Lead, Deadwood, Terry Peak	2 to 4 Feet
Sturgis	20 Inches
Bearfish	18
Rapid City	15
Custer	14
Philip	12
Belle Fourche, Hayes, Murdo, Winner	10
Mission	6

SDZ010-011-012 Central and East Central South Dakota	11	2000 to 12 1000 CST			0	0	0	0	Blizzard
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Heavy snow and strong winds combined to produce blizzard conditions. Visibilities were near zero in many locations. An icy Interstate 29 was a factor in the vehicle death of a woman and an injured man. The following is a list of snowfall amounts. FV40.

Brant County	12
Huron	10
De Smet	9
Miller	6

SDZ004-005-011- 012 Northeast South Dakota	25	1200 to 1900 CST			0	0	0	0	Blowing Dust
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Strong winds and blowing dust reduced visibilities to near zero in many locations. The reduced visibilities contributed to a few vehicle accidents. A peak gust of 52 mph was recorded at Huron and a gust of 56 mph was recorded at Aberdeen.

## 40 TENNESSEE

TNZ001-002-004 Northeastern TN	26	1300EST			0	1	4	0	High wind
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A cold front moving through the area caused strong damaging winds. Winds estimated at 50 to 55 mph knocked down numerous tree limbs and power lines. At Church Hill in Hawkins Co., a mobile home was seriously damaged with the roof being completely removed. Part of a tin roof of a business was blown off in Kingsport, a billboard fell on a home in Anderson Co., and in West Knoxville, a tree blew across the road and struck a car, injuring an occupant.

## 41 TEXAS, Northern

Stonewall County Aspermont	1	1600CST			0	0	?	?	Hail (0.75)
Haskell County:									
Haskell	1	1650CST			0	0	?	?	Hail (0.75)
Ruie	1	1650CST			0	0	?	?	Hail (0.75)
Haskell	1	1709CST			0	0	?	?	Hail (0.75)
Knox County	1	1740CST			0	0	?	?	Hail (0.75)
Munday									

Thunderstorms produced scattered areas of dime-size hail. Dime-size hail covered the ground at Haskell at 1709CST.

Wichita County:									
Wichita Falls	1	1630CST- 1700CST			0	0	0	0	Funnel Clouds
9 SW Iowa Park	1	1715CST			0	0	?	?	Hail (1.75)
Iowa Park	1	1720CST- 1750CST			0	0	6	?	Hail (1.00)
8 W Wichita Falls	1	1810CST			0	0	?	?	Hail (1.00)
Wichita Falls Arpt	1	1830CST			0	0	?	?	Hail (1.00)
Wichita Falls Arpt	1	1900CST			0	0	?	?	Hail (1.00)
Iowa Park	1	1900CST			0	0	?	?	Hail (1.00)
Wichita Falls	1	2100CST			0	0	?	?	Hail (0.75)

Several funnel clouds were observed in Wichita Falls between 1630CST and 1700CST. Widespread hail fell in and around Wichita Falls and Iowa Park. The roofs of numerous homes and buildings were damaged, especially in Iowa Park where hail fell continuously for 30 minutes. Approximately 2,000 vehicles were damaged by the hail in Iowa Park.

Throckmorton County:									
2 W Throckmorton	1	1812CST			0	0	?	?	Hail (1.75)
11 E Throckmorton	1	1835CST			0	0	?	?	Hail (1.75)
Young County:									
11 SW Olney	1	1900CST			0	0	?	?	Hail (0.75)
Olney	1	1930CST			0	0	?	?	Hail (0.75)
Baylor County	1	2045CST			0	0	?	?	TSTM Wind (54)
Lake Kemp									
Archer County	1	2140CST			0	0	?	?	Hail (2.75)
Lake Kickapoo									

Thunderstorms produced hail which ranged from dime-size to baseball-size. Thunderstorm winds of up to 62 miles an hour were reported at Lake Kemp in Baylor County.

Young County	7	2030CST			0	0	?	?	Hail (1.00)
1 S Newcastle									

One inch diameter hail fell 1 mile south of Newcastle.

Dallas County:									
4 SW Dallas	11	1858CST			0	0	?	?	Hail (1.75)
DeSoto	11	1858CST			0	0	?	?	Hail (1.75)
Seagoville	11	1930CST			0	0	?	?	Hail (1.75)
Cedar Hill	11	1939CST			0	0	?	?	Hail (1.75)
Duncanville	11	1955CST			0	0	?	?	Hail (1.75)
Hunt County	11	1950CST			0	0	?	?	Hail (0.75)
Celeste									

Kaufman County:									
10 W Terrell	11	2000CST			0	0	?	?	Hail (1.00)
Terrell	11	2015CST			0	0	?	?	Hail (1.75)
Ellis County:									
Red Oak	11	2020CST			0	0	?	?	Hail (0.75)
Red Oak	11	2040CST			0	0	?	?	Hail (1.00)
Sardis	11	2130CST			0	0	?	?	Hail (0.75)
Johnson County:									
3 S Cleburne	11	2035CST			0	0	?	?	Hail (0.75)
Alvarado	11	2050CST			0	0	?	?	Hail (0.88)
5 S Cleburne	11	2050CST			0	0	?	?	Hail (0.75)
Grandview	11	2105CST			0	0	?	?	Hail (0.75)

A slow-moving line of thunderstorms produced widespread reports of hail across Dallas, Hunt, Kaufman, Ellis and Johnson Counties. Golf ball-size hail fell in the South Oak Cliff section of Dallas (4 SW Dallas) as well as in several other South Dallas County communities. Dime-size hail covered the ground in Johnson County 5 miles south of Cleburne at 2050CST and at Grandview at 2105CST.

Grayson County:									
Denison	24	2026CST			0	0	?	?	Hail (1.75)
Sherman	24	2037CST			0	0	?	?	Hail (1.00)
Fannin County:									
7 NW Bonham	24	2040CST			0	0	?	?	Hail (1.75)
1 S Ivanhoe	24	2100CST			0	0	?	?	TSTM Wind
Dodd City	24	2120CST			0	0	?	?	Hail (0.75)

Dallas County:									
Irving	24	2113CST			0	0	?	?	Hail (0.75)
DeSoto	24	2156CST			0	0	?	?	Hail (1.00)
Seagoville	24	2207CST			0	0	?	?	Hail (1.25)
Red River County	24	2140CST			0	0	?	?	Hail (1.75)
Clarksville									
Johnson County	24	2155CST			0	0	?	?	Hail (0.75)
Joshua									
Delta County	24	2210CST			0	0	?	?	TSTM Wind
Cooper									
Ellis County	24	2237CST			0	0	?	?	Hail (0.75)
5 NW Waxahachie									
Bowle County:									
5 S Dekalb	24	2215CST			0	0	?	?	Hail (0.88)
Wake Village	24	2250CST			0	0	?	?	Hail (1.00)
7 NW Wright Patman Lake	24	2310CST			0	0	?	?	Hail (0.88)



# STORM DATA AND UNUSUAL WEATHER PHENOMENA

MARCH 1988

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					KILLED	INJURED	PROPERTY	CROPS	

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## TEXAS, Western

Lubbock County	31	2035CST	0	0	0	0	0	0	TSM Wind (51)
<p>Inflow wind poured from the east-northeast across Lubbock, bringing gusts to 51 knots at Lubbock International Airport. The thunderstorms causing the strong wind were 15 to 20 miles from the airport at the time.</p>									
Garza County	31	2043CST	0	0	?	?	?	?	Hail (2.75)
<p>The thunderstorm that caused the Lynn County hail damage around 2010 CST moved through the Post vicinity, dropping what was described by Sheriff's Department Dispatchers as "large chunks of ice." The irregular hailstones were around the size of baseballs and did an unknown amount of damage.</p>									
Hockley County	31	2045CST	0	0	0	0	0	0	Hail (0.75)
<p>Soft hail, about the size of pennies, fell for fifteen minutes along the highway between Sundown and Levelland, according to Skywarn Spotters.</p>									
Gaines County	31	2055CST	0	0	?	?	0	0	Hail (1.50)
<p>Sheriff's Deputies reported 1.50-inch hail at Seagraves in the northern part of the county. No damage was apparent.</p>									
Terry County	31	2120CST	0	0	0	0	0	0	Hail (1.75)
<p>Golfball-sized hail was reported by Skywarn Spotters five miles southwest of Brownfield on Highway 62/82. The hail fell in open country and inflicted no damage.</p>									
Kent County	31	2125CST	0	0	0	0	0	0	Hail (0.75)
<p>A Kent County Sheriff's Deputy encountered 3/4-inch hail along Ranch Road 643. The hail fell in open ranchland and did no damage.</p>									
Lynn County	31	2237CST	0	0	0	0	0	0	Hail (1.75)
<p>Hail the size of golfballs resulted in no noticeable damage as it fell on plowed fields five miles south of Woodrow, in the northern part of the county.</p>									
Dawson County	31	2250CST	0	0	4	0	0	0	Hail (0.75)
<p>Hail the size of pennies accumulated to a depth of four inches and piled up into drifts 18 inches deep in the Community of Welch. The hail broke out storm windows in at least two residences.</p>									
Lynn County	31	2305CST	0	0	4	0	0	0	Hail (0.75)
<p>The O'Donnell Fire Department reported 3/4-inch hail falling at O'Donnell. The combination of wind and hail -- which piled up two inches deep -- caused the partial collapse of a church roof.</p>									

## 42 UTAH

UTZ010 Northern Mountains	07	0610MST	0	0	1	0	0	0	Heavy Snow
<p>The Alta ski resort received 13 inches of snow in 24 hours as of 6:10 a.m. MST. Storm totals for Alta and nearby mountain locations included 16 inches at Brighton, 15 inches at Alta, 14 inches at Snowbird and Park City, and 9 inches at Deer Valley.</p>									
UTZ009	09	1930MST	0	0	1	0	0	0	High Wind (650)
UTZ008 Utah Dixie and Southeast	09	2115MST	0	0	1	0	0	0	High Wind (654)
<p>Prefrontal winds gusted to 58 mph and 62 mph at St. George and the Bullfrog Marine respectively.</p>									
UTZ010	10	0420MST	0	0	1	0	0	0	Heavy Snow
UTZ011	10	0620MST	0	0	1	0	0	0	Heavy Snow
UTZ003	10	0855MST	0	0	1	0	0	0	Heavy Snow
UTZ010	10	1640MST	0	0	1	0	0	0	Heavy Snow
UTZ006	10	1800MST	0	0	1	0	0	0	Heavy Snow
Wasatch Front, Southwest, Northern and Southern Mountains	<p>A cold front dumped heavy snow over most of western Utah. Storm totals ranged from 4 to 7 inches along the Wasatch Front to over three feet in the adjacent mountain areas. The Alta ski resort reported a storm total of 42.5 inches and Snowbird had 37 new inches. Further south the Brian head resort reported an accumulation of 36 inches in about 24 hours. In the southwest, Kanab and Fillmore both received 5 inches of snow during the day.</p>								
UTZ003 Wasatch Front	11	0710MST	0	0	1	0	0	0	Heavy Snow
<p>An additional 4 inches of snow fell overnight in the south part of the Salt Lake Valley.</p>									

## UTAH

UTZ004 Uinta Basin	12	0535MST	0	0	1	0	0	0	Heavy Snow
<p>The Vernal Utah Highway Patrol reported 5 to 6 inches of new snow overnight.</p>									
UTZ006 Southwest	15	2235MST	0	0	1	0	0	0	Heavy Snow
<p>Six inches of snow fell at Fillmore between 5 p.m. and 10:30 p.m. MST.</p>									
UTZ011	16	0355MST	0	0	1	0	0	0	Heavy Snow
UTZ006	16	0645MST	0	0	1	0	0	0	Heavy Snow
UTZ003	16	0700MST	0	0	1	0	0	0	High Wind (670)
UTZ008	16	1250MST	0	0	1	0	0	0	Heavy Snow
Wasatch Front, Southwest, Southeast, and Southern Mountains	<p>A low pressure system continued to produce heavy snow in Southern Utah during the nighttime hours. An additional 7 inches of snow fell in many spots in the southwest, and 6 inches of snow fell in the small community of Cainville in the southeast part of the state. At the same time, the easterly flow around the low pressure system over the Wasatch Mountains was producing canyon winds. A gust to 80 mph was reported by the spotter in Centerville.</p>								
UTZ010 Northern Mountains	24	0639MST	0	0	1	0	0	0	Heavy Snow
<p>Eleven inches of snow fell in 12 hours at the Snowbird ski resort.</p>									
UTZ002 Great Salt Lake Desert	27	1030MST	0	0	1	0	0	0	High Wind (650)
<p>Post frontal winds were sustained at 43 mph with gusts to 58 mph.</p>									
UTZ003	30	1030MST	0	0	1	0	0	0	Heavy Snow
UTZ011	30	1500MST	0	0	1	0	0	0	Heavy Snow
Wasatch Front, Southern Mountains	<p>A cold upper low moved through the state and produced heavy snow in several locations. A couple of spotters in the Salt Lake Valley reported 6 inches of snow in less than 12 hours. The storm then moved into the southern part of the state and dumped 15 inches of snow at the Brianhead ski resort in the southern mountains of Utah.</p>								
UTZ003	31	0168MST	0	0	1	0	0	0	High Wind (667)
UTZ003 Wasatch Front	31	0610MST	0	0	1	0	0	0	High Wind (670)
<p>Canyon winds gusted to 66 mph and 80 mph at Rick's Creek and Centerville during a canyon wind episode.</p>									

## 43 VERMONT ————— NONE REPORTED

## 44 VIRGINIA

Campbell Co Lynchburg	4	1500EST	0	0	3	0	0	0	Thunderstorm Wind (37kt)
<p>Gusty winds, lasting about 30 minutes, accompanied a thunderstorm in Lynchburg. The winds blew a porch off a building, destroyed a tool shed and stripped bark off some trees. Lynchburg Airport had a peak wind of 37 knots.</p>									
VAZ005-VAZ010 Northern Virginia	21	0400EST	0	0	2	0	0	0	Snow
<p>Light snow began before sunrise, with temperatures in the mid and upper 20s, and ended by mid morning. Although there was little accumulation, widespread accidents occurred. Two inches were reported in Culpeper and Orange counties, and about 1 inch elsewhere.</p>									
Rockbridge Co Buena Vista Rockbridge Co Lexington	26	1444EST	0	0	?	0	0	0	Hail (0.75)
Louisa Co Louisa	26	1450EST	0	0	2	0	0	0	Hail (0.75)
Louisa Co Louisa	26	1710EST	0	0	?	0	0	0	Hail (1.00)
Orange Co	26	1810EST	0	0	2	0	0	0	Hail (0.75)

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**— VIRGINIA**

Stafford Co	26	1815EST			0	0	2	0	Hail (0.75)
Spotsylvania Co Fredericksburg	26	1815EST			0	0	2	0	Hail (0.75)
Richmond Co Warsaw	26	2010EST			0	0	3	0	Lightning
James City Co Ft. Eustis	26	2030EST			0	0	3	0	Thunderstorm Winds

Thunderstorms moved through northern and eastern Virginia in the late afternoon and evening. Strong gusty winds at Ft. Eustis ripped the roof off one building, and the ensuing debris damaged another building and about 40 cars. Ft. Eustis airport reported 34 knot gusts. Property damage estimated at \$200,000. Lightning damaged two radio towers in Warsaw.

**48 WYOMING**

WYZ008-011-017 GREEN RIVER BASIN CENTRAL AND SOUTHEAST PLAINS	01- 1400 TO 02 1700MST				0	0	0	0	SNOW
MOIST UPPER LEVEL SOUTHWEST FLOW PRODUCED SNOWFALL TOTALS OF 3 TO 8 INCHES. A SNOWFALL TOTAL OF 11 INCHES WAS MEASURED ABOUT 30 MILES SOUTHEAST OF CHEYENNE NEAR THE TOWN OF CARPENTER.									
WYZ001-015 NORTHWEST AND SOUTHERN MOUNTAINS	03- 1400 TO 04 1700MST				0	0	0	0	SNOW
A MOIST NORTHERLY FLOW DUMPED ABOUT 3 TO 6 INCHES OF NEW SNOW IN THE NORTHWEST PART OF THE STATE AND SOUTHERN MOUNTAINS.									
WYZ005- NORTHERN FRONT RANGE	06 0030MST				0	0	0	0	WIND
WINDS GUSTING TO 55 MPH WERE CLOCKED AT THE SHERIDAN AIRPORT.									

**45 WASHINGTON**

Grays Harbor County	22	1300 PST			0	0	0	0	High Wind
As a frontal system moved onshore during the afternoon, strong winds developed along the southern Washington coast. Winds of 52 miles an hour with gusts to 78 miles an hour were recorded at Ocean Shores where a roof was badly damaged. Other parts of Western Washington also experienced scattered power outages.									
Central Basin of Eastern Washington and central Puget Sound	23	Aftern.			0	0	4	0	High Wind
As a low pressure center and associated frontal system continued to cross the state strong winds developed similar to the previous afternoon. Hardest hit was the Central Basin with winds to 55 miles per hour in the Tri-Cities area. In the town of Othello a small mobile home was knocked over and in other areas trees were blown down. On Interstate #90, at least one accident was blamed on strong winds. In the Seattle area, winds up to 50 miles an hour caused scattered power outages.									
Spokane and Whitman Counties	28	1700 PST			0	0	4	0	High Wind
A trough at upper levels moving over Eastern Washington during the afternoon produced strong surface winds along the eastern border of the state. In Spokane, 52 mile an hour winds blew a pine tree over onto the corner of a house and a car parked in the driveway. Winds also knocked over a chimney at another residence. In Pullman, 75 miles south of Spokane, a car was damaged by a falling tree.									

WYZ001-004- 009-011-015- 016 FAR WEST AND NORTH AND SOUTH CENTRAL WY	05- 1700 TO 07 0800MST				0	0	0	0	SNOW
MOIST WEST TO NORTHWEST FLOW DEPOSITED ABOUT 3 TO 12 INCHES OF NEW SNOW. SOME NOTICEABLE SNOWFALL TOTALS WERE 7 INCHES AT BURGESS JUNCTION. .8 INCHES AT ENCAMPMENT AND 12 INCHES AT SOUTH PASS. ALSO. . WINDS GUSTING UP TO 40 MPH REDUCED VISIBILITIES AT TIMES TO A ONE-HALF MILE FROM ROCK SPRINGS TO LARAMIE.									
WYZ00W-004- 011 WESTERN WY AND BIG HORN MTS AND CENTRAL WY	10- 0000 TO 2300MST				0	0	0	0	WINTER STORM
WYZ00E EASTERN WY	10- 1700 TO 12 0300MST				0	5	5	4	BLIZZARD
AN INTENSE WINTER STORM WHICH DEVELOPED OVER NEVADA ON THE 9TH MOVED THROUGH COLORADO ON THE 10TH AND 11TH AND INTO KANSAS ON THE 12TH. THIS WINTER STORM COMBINED WITH GOOD EASTERLY FLOW OVER WYOMING FIRST SMASHED INTO WEST AND CENTRAL WYOMING WITH 5 TO 14 INCHES OF NEW SNOW. AS THIS WINTER STORM MOVED THROUGH COLORADO IT INTENSIFIED AND PRODUCED BLIZZARD CONDITIONS OVER MUCH OF EASTERN WYOMING FROM THE 10TH TO THE MORNING OF THE 12TH. SIX TO TWENTY-FIVE INCHES OF NEW SNOW GENERALLY DUMPED ON EAST WYOMING WITH THIS STORM. ALSO SUSTAINED WINDS OF 25 TO 40 MPH WITH GUSTS OF 50 TO 65 MPH RAKED ACROSS EAST WYOMING. THIS HEAVY SNOW AND STRONG WINDS FREQUENTLY KEPT VISIBILITIES BELOW ONE-QUARTER OF A MILE OVER MUCH OF SOUTHERN AND EASTERN WYOMING. THE STRONG WINDS AND HEAVY SNOW WHIPPED SNOW DRIFTS TO A DEPTH OF 10 TO 30 FEET OVER EAST WYOMING. MOST ROADS WERE CLOSED AT TIMES OVER SOUTH AND EAST WYOMING DUE TO THE EXTREMELY LOW VISIBILITIES AND BLOWING AND DRIFTING SNOW. NUMEROUS TRAFFIC ACCIDENTS OCCURRED ACROSS THE STATE WITH AT LEAST FIVE PEOPLE SUSTAINING INJURIES. TRAVELERS WERE STRANDED THROUGHOUT EAST WYOMING WITH OVER 200 PEOPLE TRAPPED AT THE SNOWY RANGE SKI RESORT WEST OF LARAMIE. THE SKIERS SPENT THE NIGHT SLEEPING ON FLOORS OR TABLES. THE EASTERN PLAINS WERE PARTICULARLY HARD HIT BY THE BLIZZARD FROM DOUGLAS SOUTHEAST TO THE LAGRANGE AREA. A FEW TRAVELERS IN THE EASTERN PLAINS WERE COMPLETELY TRAPPED IN THEIR VEHICLES FOR 36 TO 40 HOURS. DRIFTS RANGING FROM 15 TO 30 FEET HIGH WERE COMMON AROUND THE CITY OF LUSK WITH A NUMBER OF VEHICLES TOTALLY BURIED BY THE SNOW. RANCHERS OVER THE EASTERN PLAINS WERE IN THE MIST OF CALVING AND LAMBING SEASON. ABOUT 15 TO 35 HEAD OF CALVES WERE LOST. SOME NOTICEABLE SNOWFALL TOTALS WERE LISTED BELOW:									

**46 WEST VIRGINIA** ————— NONE REPORTED

**47 WISCONSIN**

WIZ003-004 Northwest and North- Central Wisconsin	11	Late Evening into 12 Evening			0	0	?	0	Heavy Snow
WIZ001-002 Lake Superior Snow Belt	11	Late Evening into 14 Evening			0	0	?	0	Heavy Snow
A storm system dumped between 6 and 10 inches of snow across portions of northwest and northcentral Wisconsin. Along the Lake Superior Snow Belt, heavy snow squalls persisted for 2 days after the initial storm and deposited between 10 and 27 inches of snow. Poplar (Douglas County) measured 27 inches of snow while Ashland (Ashland County) and Superior (Douglas County) each received 10 inches of snow. Strong north winds caused considerable blowing and drifting snow especially in the Lake Superior Snow Belt region. The Blatnik Bridge between Duluth and Superior was closed during the height of the storm. U.S. Highway 2 near Ashland was closed from 130 am Saturday the 12th until noon Sunday the 13th. Many businesses remained closed and some power outages took place.									
Dane Co., Madison	25	1726CST			0	0	?	0	Thunderstorm Wind (53)
Fond du Lac Co.: Brandon	25	1805CST			0	0	4	0	Thunderstorm Wind
Fond du Lac	25	1815CST			0	0	?	0	Thunderstorm Wind (50)
A line of thunderstorms formed over southcentral Wisconsin and pushed through southeast Wisconsin. Winds gusted to 61 mph at Madison and 58 mph at Fond du Lac. Widespread minor tree damage took place, but a barn, a top of a silo and several sheds were damaged near Brandon.									

WYZ006 NORTHEASTERN PLAINS	11- 1700 TO 12 0800MST				0	0	0	0	SNOW																								
FIVE INCHES OF NEW SNOW FELL ABOUT 60 MILES NORTHEAST OF GILLETTE NEAR THE TOWN OF ALVA.																																	
<table style="width: 100%; border: none;"> <tr> <td>ALBION.....</td> <td>18 INCHES</td> <td>LAGRANGE.....</td> <td>21 INCHES</td> </tr> <tr> <td>BATES CREEK.....</td> <td>13 INCHES</td> <td>LANDER.....</td> <td>10 INCHES</td> </tr> <tr> <td>BURGESS JUNCTION.....</td> <td>20 INCHES</td> <td>LARAMIE.....</td> <td>11 INCHES</td> </tr> <tr> <td>DOUGLAS.....</td> <td>11 INCHES</td> <td>LUSK.....</td> <td>20 INCHES</td> </tr> <tr> <td>GILLETTE.....</td> <td>12 INCHES</td> <td>ROCK SPRINGS.....</td> <td>15 INCHES</td> </tr> <tr> <td>KEELINE.....</td> <td>10 INCHES</td> <td>SNOW RANGE.....</td> <td>14 INCHES</td> </tr> </table>										ALBION.....	18 INCHES	LAGRANGE.....	21 INCHES	BATES CREEK.....	13 INCHES	LANDER.....	10 INCHES	BURGESS JUNCTION.....	20 INCHES	LARAMIE.....	11 INCHES	DOUGLAS.....	11 INCHES	LUSK.....	20 INCHES	GILLETTE.....	12 INCHES	ROCK SPRINGS.....	15 INCHES	KEELINE.....	10 INCHES	SNOW RANGE.....	14 INCHES
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## WYOMING

WY2002-003-010 NORTH CENTRAL WY	15- 1900 TO 16 0800MST								HEAVY SNOW
A PACIFIC WEATHER SYSTEM DUMPED 5 TO 10 INCHES OF NEW SNOW.									
WY2017 SOUTHEAST PLAINS	16 0600 TO 1800MST								SNOW
MOIST NORTHEASTLY FLOW DEPOSITED ABOUT 4 INCHES OF NEW SNOW ABOUT 45 MILES NORTH OF CHEYENNE NEAR THE TOWN OF ALBIN.									
WY2016 LARAMIE VALLEY	19 0200 TO 1200MST								HIGH WIND
WY205E SOUTHEAST WY	19 0800 TO 1500MST								WIND
WIND AT VEDAUNOO ALONG INTERSTATE 80 IN THE LARAMIE MOUNTAIN RANGE WEST OF CHEYENNE REPORTED SUSTAINED WINDS OF 40 TO 50 MPH. ELSEWHERE OVER THE SOUTHEAST CORNER OF WYOMING WIND SPEEDS OF 30 TO 40 MPH WERE RECORDED WITH SEVERAL GUSTS NEAR 50 MPH.									
WY2001 NORTHWEST MOUNTAINS	22- 1800 TO 23 1500MST								SNOW
A COLD FRONT ASSOCIATED WITH A STRONG UPPER LEVEL WESTERLY FLOW DROPPED 5 TO 7 INCHES OF NEW SNOW. MOST OF THIS SNOW OCCURRED ABOVE THE 6000 FOOT LEVEL.									
WY2010-013 WIND RIVER BASIN AND SOUTHWEST WY	23 1100 TO 1300MST								HIGH WIND
WY2014 RED DESERT	23 1300 TO 1700MST								HIGH WIND
WY2011-016-017 CENTRAL PLAINS AND SOUTHEAST CORNER WY	23 1300 TO 2300MST								WIND
AS A COLD FRONT MOVED THROUGH CENTRAL AND SOUTHERN WYOMING SUSTAINED WINDS OF 25 TO 35 MPH WITH GUSTS OF 50 TO 55 MPH WERE RECORDED. HUNT FIELD NEAR LANDER... EVANSTON AND RAWLINS AIRPORTS ALL REPORTED WIND GUSTS AROUND 60 MPH.									
WY2001 NORTHWEST MOUNTAINS	23- 2200 TO 25 1700MST								SNOW
WY205E SOUTHEAST WY	24 0000 TO 1530MST								WIND
WY2015 SOUTHERN MOUNTAINS	24- 2200 TO 25 1700MST								SNOW
ANOTHER COLD FRONT MOVED THROUGH WYOMING AND DEPOSITED 5 TO 10 INCHES ABOVE THE 7500 FOOT LEVEL. WEST TO NORTHWEST WINDS OF 30 TO 40 MPH WITH BRIEF GUSTS OF 50 TO 55 MPH SWEEP ACROSS SOUTHEAST WYOMING BEHIND THE FRONT.									
WY2001 NORTHWEST MOUNTAINS	25 0000 TO 0100MST								HIGH WIND
WIND GUSTS OF 120 MPH WERE CLOCKED AT THE TOP OF RENDEZVOUS PEAK WHICH IS PART OF THE TETON VILLAGE SKI RESORT.									
WY2015 SOUTHERN MOUNTAINS ALBANY AND CARBON COUNTIES	25 0330 TO 1930MST								HIGH WIND
WY2012-017 EASTERN AND SOUTHEAST PLAINS	25 0600 TO 1800MST								HIGH WIND

## WYOMING

WY2005-006-011 NORTHERN FRONT RANGE, CENTRAL AND NORTHEAST PLAINS	25 1000 TO 1700MST								WIND
A STRONG NORTHWEST FLOW PREVAILED OVER WYOMING. SUSTAINED WINDS OF 35 TO 40 MPH WERE RECORDED AT LOWER ELEVATIONS OF SOUTH WYOMING WITH 45 TO 55 MPH WINDS AT HIGHER ELEVATIONS. WIND GUSTS OF 60 TO 85 MPH WERE OBSERVED OVER SOUTHEAST WYOMING. THE STRONGEST WIND GUSTS WERE CLOCKED WEST OF CHEYENNE AT VEDAUNOO AND HORSE CREEK WITH NUMEROUS GUSTS OF 70 TO 85 MPH. THESE VERY STRONG WINDS OVER THE HIGHER ELEVATIONS OF SOUTHEAST WYOMING CAUSED AREAS OF BLOWING SNOW WHICH REDUCED VISIBILITIES TO LESS THAN ONE MILE AT TIMES. NORTHEAST AND CENTRAL WYOMING HAD WINDS OF 20 TO 30 MPH WITH GUSTS OF 50 TO 55 MPH.									
WY2001 NORTHWEST	27 0000 TO 1800MST								SNOW
WY2005-011-05E NORTHERN FRONT RANGE, CENTRAL PLAINS AND SOUTHEAST WY	27 0800 TO 2230MST								WIND
A VIGOROUS COLD FRONT ENTERED NORTHWEST WYOMING EARLY ON THE THE 27TH AND MOVED THROUGH THE SOUTHEAST CORNER BY EARLY EVENING. THE FRONT DROPPED ABOUT 3 TO 6 INCHES OF NEW SNOW MAINLY OVER NORTHWEST WYOMING. WINDY CONDITIONS WERE NOTED WITH THIS FRONT AS IT TRACKED FROM THE NORTHWEST TO THE SOUTHEAST. WIND SPEEDS OF 20 TO 35 MPH WERE COMMON WITH GUSTS OF 45 TO 55 MPH FROM SHERIDAN TO CASPER.									
WY2001 NORTHWEST MOUNTAINS	29- 0800 TO 30 0630MST								SNOW
FOUR TO SEVEN INCHES OF NEW SNOW FELL FROM GRANT VILLAGE IN YELLOWSTONE NATIONAL PARK SOUTH TO THE TETON VILLAGE SKI RESORT NEAR JACKSON.									
WY2015-017 SOUTHERN MOUNTAINS AND SOUTHEAST PLAINS	30 0800 TO 31 1130MST								SNOW
A STRONG NORTHWEST FLOW OVER WYOMING DEPOSITED 3 TO 6 INCHES OF NEW SNOW OVER THE LOWER ELEVATIONS OF SOUTHEAST WYOMING. TEN TO TWENTY-TWO INCHES WERE REPORTED IN THE LARAMIE AND SNOWY MOUNTAIN RANGES. TO NORTH TO NORTHEAST WINDS OF 15 TO 30 MPH CAUSED AREAS OF BLOWING AND DRIFTING OVER SOUTHEAST WYOMING.									

49 ALASKA, Northern ————— NO REPORT RECEIVED

49 ALASKA, Southern

ALEUTIANS, SOUTHWEST & SOUTH CENTRAL	9 1800 AST								High Wind
A very strong, large storm with central pressure near 948 mb located about 100 miles east of Cold Bay, Alaska produced strong winds over a large area. Winds to 105 mph were reported at Dutch Harbor in the eastern Aleutians and 100 mph winds at Girdwood east of Anchorage. Fort Richardson recorded winds to 72 mph, and the hillside area also in Anchorage reported winds to 80 mph. Blizzard conditions with winds to nearly 50 mph were recorded at Cold Bay on the Alaska Peninsula and Cordova with winds to 50 mph on the North Gulf Coast. King Salmon on the coast of Bristol Bay reported winds to 50 mph also.									

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					KILLED	INJURED	PROPERTY	CROPS	PROPERTY	CROPS	PROPERTY	CROPS	
<b>ALASKA, Southern</b>													
SOUTH CENTRAL	11	1700 AST			0	0	4	0					High Wind
			A moderate storm in the Gulf of Alaska south of Kodiak Island produced east winds to nearly 55 mph at the Kodiak City Airport.										
SOUTH CENTRAL	16	1200 AST			3	0	5	0					High Winds/Seas
			A low in the North Pacific combined with higher pressure to the east over mainland Alaska produced winds to 50 mph over the waters around Kodiak Island.										
<b>49 ALASKA, Southeastern</b> — NONE REPORTED													
<b>50 HAWAII</b>													
Island of Hawaii	14-15	2200HST			0	0	3	0					Flash Flooding
			Moist northerly winds behind a cold front brought 5 to 10 inches of rain overnight along the Hamakua coast, causing minor flooding and rock slides.										
Maui	24	1500HST			0	0	4	0					Flash Flooding
			Heavy instability showers along the slopes of Haleakala caused some streams to overflow. The road to Hana was closed for a number of hours as water flowed over a bridge. Downpours with small hail occurred near Volcano on the neighboring Island of Hawaii. The last week of the month was characterized by the daily occurrence of thunderstorms throughout the state.										
Island of Hawaii	25	1205HST	short	narrow	0	0	0	0					Tornado (F1)
			A small tornado touched down briefly on the slopes of Mauna Kea near Bradshaw Field.										
Oahu	25	1240HST			0	0	0	0					Waterspouts
			Several large waterspouts persisted for about 20 minutes just offshore of Sunset Beach and Kahuku. They were associated with a large thunderstorm just north of Oahu.										
Oahu	26	1340HST	short	narrow	0	0	0	0					Tornado (F1)
			A small tornado touched down briefly 3 miles north of Barbers Point Naval Air Station.										
<b>51 PUERTO RICO</b> — NONE REPORTED													
<b>52 VIRGIN ISLANDS</b> — NONE REPORTED													
<b>53 PACIFIC</b> — NONE REPORTED													

# STORM SUMMARY

MARCH 1988

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
<b>TORNADOES</b>	0	0						0	0								##		0								##
Number			2							2		1	5	1		3						1	2	1			
Days			1							2		1	2	1		2						1	1	1			
Deaths			0							0		0	0	0		0						0	0	0			
Injuries			0							0		0	0	0		4						0	5	0	0		
Property Damage			5							3		4	6	3		7						5	6	2			
Crop Damage			?							0		0	0	0		?						0	?	0			
<b>HAIL</b>																											
Deaths			0										0									0	0				
Injuries			0										0									0	0				
Property Damage			6										4									?	4				
Crop Damage			?										0									0	0				
<b>THUNDERSTORM WINDS</b>																											
Deaths			0				0				0		0		0	1					0	0	0	0			
Injuries			0				2				0		0		0	2					0	0	0	0			
Property Damage			5				3				5		5		5	5					?	0	4				
Crop Damage			?				0				0		0		0	?					0	0	0				
<b>HIGH WINDS</b>																											
Deaths			0	0	0					0			0							1		0			0	0	
Injuries			0	0	0					0			0							4		0			0	0	
Property Damage			4	4	4					6			4							3		6			4	1	
Crop Damage			?	0	0					0			0							0		0			0	1	
<b>LIGHTNING</b>																											
Deaths						0				0			0														
Injuries						0				0			1														
Property Damage						4				3			0														
Crop Damage						0				0			0														
<b>FLASH FLOODS</b>																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											
<b>FLOODS</b>																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											
<b>HEAVY SNOWSTORMS AND BLIZZARDS @</b>																											
Deaths			0							2																	
Injuries			0							1																	
Property Damage			5							3																	
Crop Damage			?							0																	
<b>ICE STORMS #</b>																											
Deaths											0	0															
Injuries											0	0															
Property Damage											?	6															
Crop Damage											0	?															
<b>HURRICANES AND TROPICAL STORMS</b>																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											
<b>ALL OTHERS</b>																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											

SEE REFERENCE NOTES FOR STORM DAMAGE CATEGORIES

# STORM SUMMARY

MARCH 1988

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 DEATH & INJURY TOTALS
<b>TORNADOES</b>	0								0	0						0					4		0	0	0		
Number				2			5	1																			
Days				1			2	1															2				
Deaths				0			1	0															0			1	
Injuries				0			1	0															0			10	
Property Damage				0			5	0															0				
Crop Damage				0			?	?															0				
<b>HAIL</b>																											
Deaths							0				0			0			0										
Injuries							0				0			0			0										
Property Damage							8				0			6			3										
Crop Damage							?				2			?			0										
<b>THUNDERSTORM WINDS</b>																											
Deaths		0					0							1			0				0					2	
Injuries		0					3							2			0				0					9	
Property Damage		4					5							5			3				4						
Crop Damage		0					?							?			0				0						
<b>HIGH WINDS</b>																											
Deaths	0	0	0	0				1			0	0			0			0			0					2	
Injuries	0	0	0	0				?			0	1			0						0					6?	
Property Damage	?	5	4	4				?			3	4			1						?						
Crop Damage	0	0	0	0				0			0	0			0			4			0						
<b>LIGHTNING</b>																											
Deaths				0			0										0									0	
Injuries				0			0										0									1	
Property Damage				5			5										3										
Crop Damage				0			?										0										
<b>FLASH FLOODS</b>																											
Deaths							0																			0	
Injuries							2																			2	
Property Damage							6																				
Crop Damage							?																				
<b>FLOODS</b>																											
Deaths			0			0																					
Injuries			0			0																					
Property Damage			4			2																					
Crop Damage			0			0																					
<b>HEAVY SNOWSTORMS AND BLIZZARDS @</b>																											
Deaths	0	0	0	0	0	0	0				0				0					0	0					2	
Injuries	0	0	0	0	0	0	0				0				0					0	0					2	
Property Damage	?	4	4	4	?	?	?				5				1					?	5						
Crop Damage	0	0	0	0	0	?	?				0				0					0	4						
<b>ICE STORMS #</b>																											
Deaths						0																					
Injuries						0																					
Property Damage						7																					
Crop Damage						0																					
<b>HURRICANES AND TROPICAL STORMS</b>																											
Deaths																											
Injuries																											
Property Damage																											
Crop Damage																											
<b>ALL OTHERS</b>																											
Deaths											1						0									1	
Injuries											0						0									0	
Property Damage											4						2										
Crop Damage											0/c						0										

SEE REFERENCE NOTES FOR STORM DAMAGE CATEGORIES

## REFERENCE NOTES

### STORM DAMAGE CATEGORIES

- 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

- 0/Blank None reported.  
\* Miles instead of yards.  
\*\* Yards instead of miles.  
@ Includes heavy sleet storm.  
# Freezing drizzle and freezing rain, commonly known as glaze.  
# Report incomplete.  
## Report not received.  
o/c Indicates Crop Damage amount is included in the value given for property damage.

When reports are not received or are incomplete, the Storm Summary National Death and Injury totals may also be incomplete.

### 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.

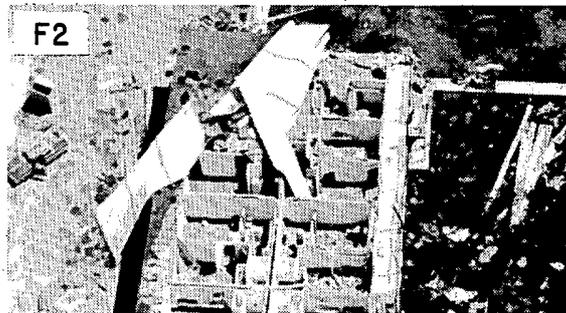
(F5) Incredible tornado (261-318 mph): Incredible damage  
Strong frame houses lifted off foundations and carried considerable distance to disintegrate; automobile-sized missiles fly through the air in excess of 100 m; trees debarked; incredible phenomena will occur.

(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.

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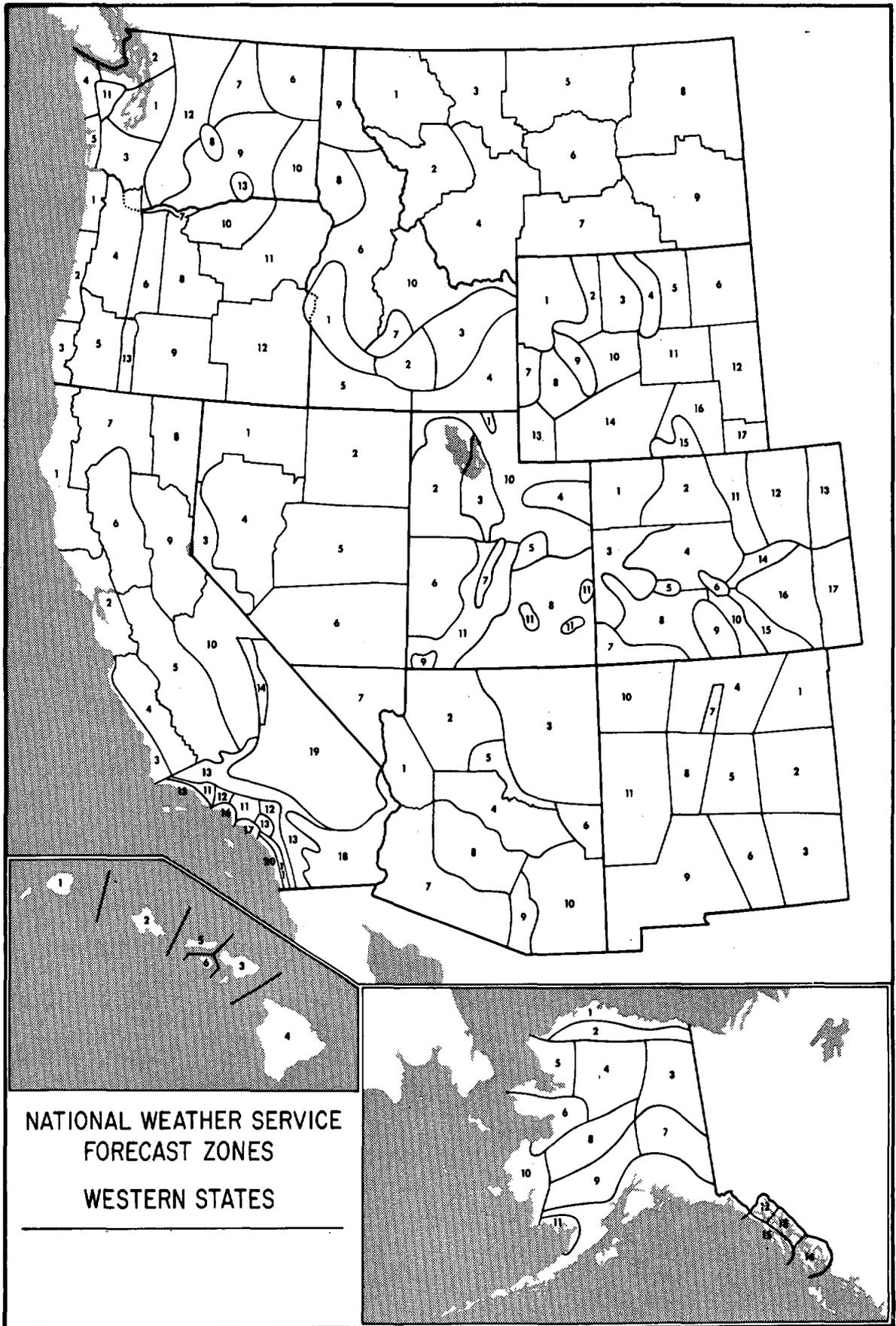
(F0+F1) *Weak Tornado*  
(F2+F3) *Strong Tornado*  
(F4+F5) *Violent Tornado*

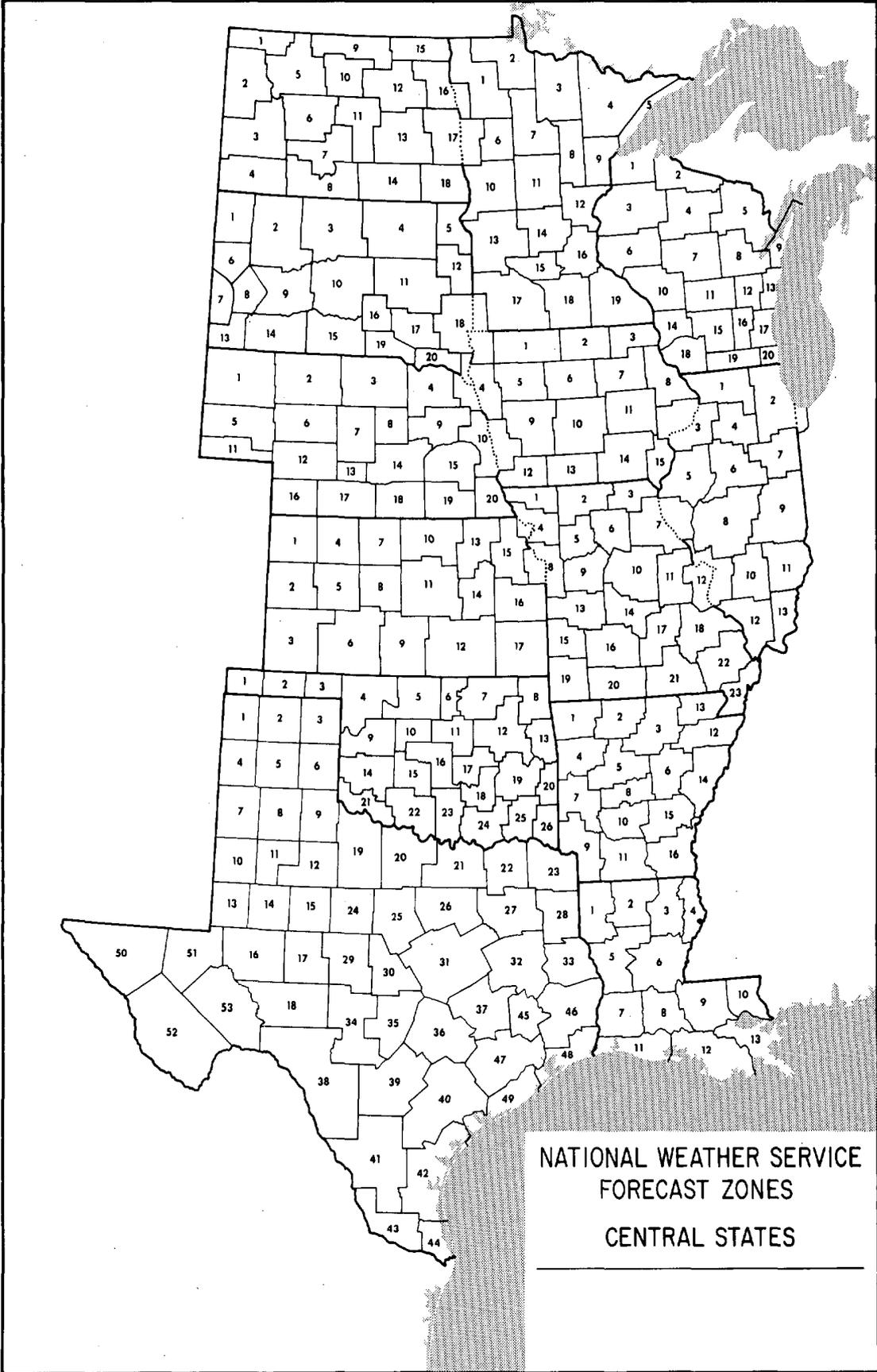
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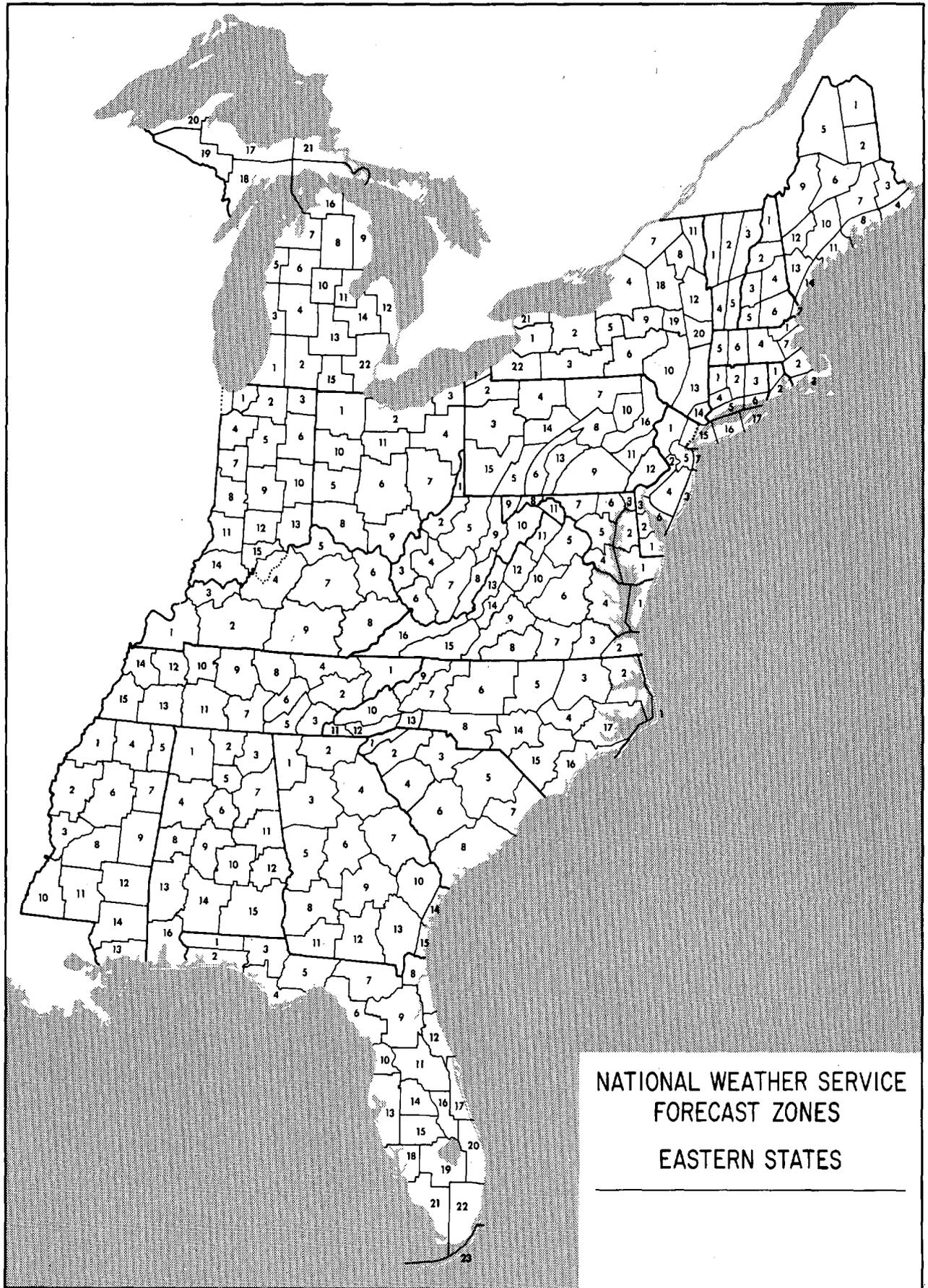
From J. Atmos. Sci., August 1981, p. 1517-1519

USCOMM-NOAA-ASHEVILLE, N.C. 1988-2000





NATIONAL WEATHER SERVICE  
FORECAST ZONES  
CENTRAL STATES

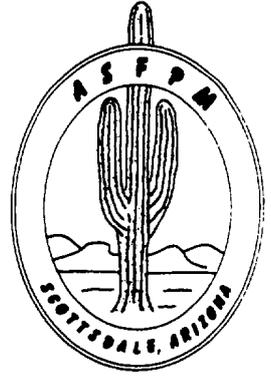


NATIONAL WEATHER SERVICE  
FORECAST ZONES  
EASTERN STATES



## Association of State Floodplain Managers 13th Annual Conference

Scottsdale, Arizona  
May 22-25, 1989



### **PARTNERSHIPS: Effective Flood Hazard Management**

The Association of State Floodplain Managers (ASFP) is a national organization. Its goal is the reduction of flood damages and hazards through sound floodplain management. Its members include representatives of local, state, and federal governments as well as those of the private and non-profit communities. The Association sponsors an annual conference on the state-of-the-art in flood damage and hazard reduction. Conference topics always span a broad spectrum of issues of interest to those involved in floodplain management, including the following:

- Effectively integrating watershed-wide floodplain management concerns with local planning and zoning.
- Status of "temporary taking" and other legal issues: what's happening in the courts?
- Case histories of communities under sanction for non-compliance with the NFIP.
- A decade of Section 406 Hazard Mitigation Planning: have we made progress?
- Reducing flood loss potential: what works?
- Do federal programs adequately address state and local needs?
- Multi-objective projects: what makes them successful?
- Improving flood prevention and awareness programs aimed at local officials and private property owners.
- How can we improve technical assistance to small communities?
- What's new and improved in the field of floodproofing?

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