

JANUARY 1997
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STORM DATA



AND UNUSUAL WEATHER PHENOMENA
WITH LATE REPORTS AND CORRECTIONS



noaa

NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

NATIONAL ENVIRONMENTAL SATELLITE
DATA, AND INFORMATION SERVICE

NATIONAL CLIMATIC DATA CENTER
ASHEVILLE, N.C.

Cover: The Mountain Gate Lodge in Mono County, CA is adjacent to the Walker River which overflowed its banks due to the large amounts of rain received in late December and early January. Also, rising temperatures in early January caused the deep snowpack in the Sierra Nevada Mountains to melt. The Reno, NV and Lake Tahoe areas received extensive flood damage to roadways, bridges and structures near the river banks. *(Photo courtesy of Mono County Sheriff's Dept., Bridgeport, CA)*

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STORM DATA

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National Climatic Data Center

Editor: Stephen A. Del Greco

Publication Staff: Stuart Hinson, William Angel

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The Storm Data and Unusual Weather Phenomena narratives and Hurricane/Tropical Storm summaries are prepared by the National Weather Service. Monthly and annual statistics and summaries of tornado and lightning events resulting in deaths, injuries, and damage are compiled by cooperative efforts between the National Climatic Data Center and the National Severe Storms Forecast Center.

STORM DATA contains all confirmed information on storms available to our staff at the time of publication. However, due to difficulties inherent in the collection of this type of data, it is not all-inclusive. Late reports and corrections are printed in each edition.

Maps of the National Weather Service Forecast Zones which are used in the Storm Data and Unusual Weather Phenomena section will be printed in all editions.

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The editor of **STORM DATA** solicits your help in acquiring photographs (prints or slides; black and white, or color), maps, clippings, etc. of significant or unusual weather events (past or present). These could be for use in the "Outstanding Storms of the Month" or "Et Cetera" sections of **STORM DATA**. We request our subscribers or other interested persons to mail such items to:

Stuart Hinson
National Climatic Data Center
151 Patton Avenue
Asheville, NC 28801-5001

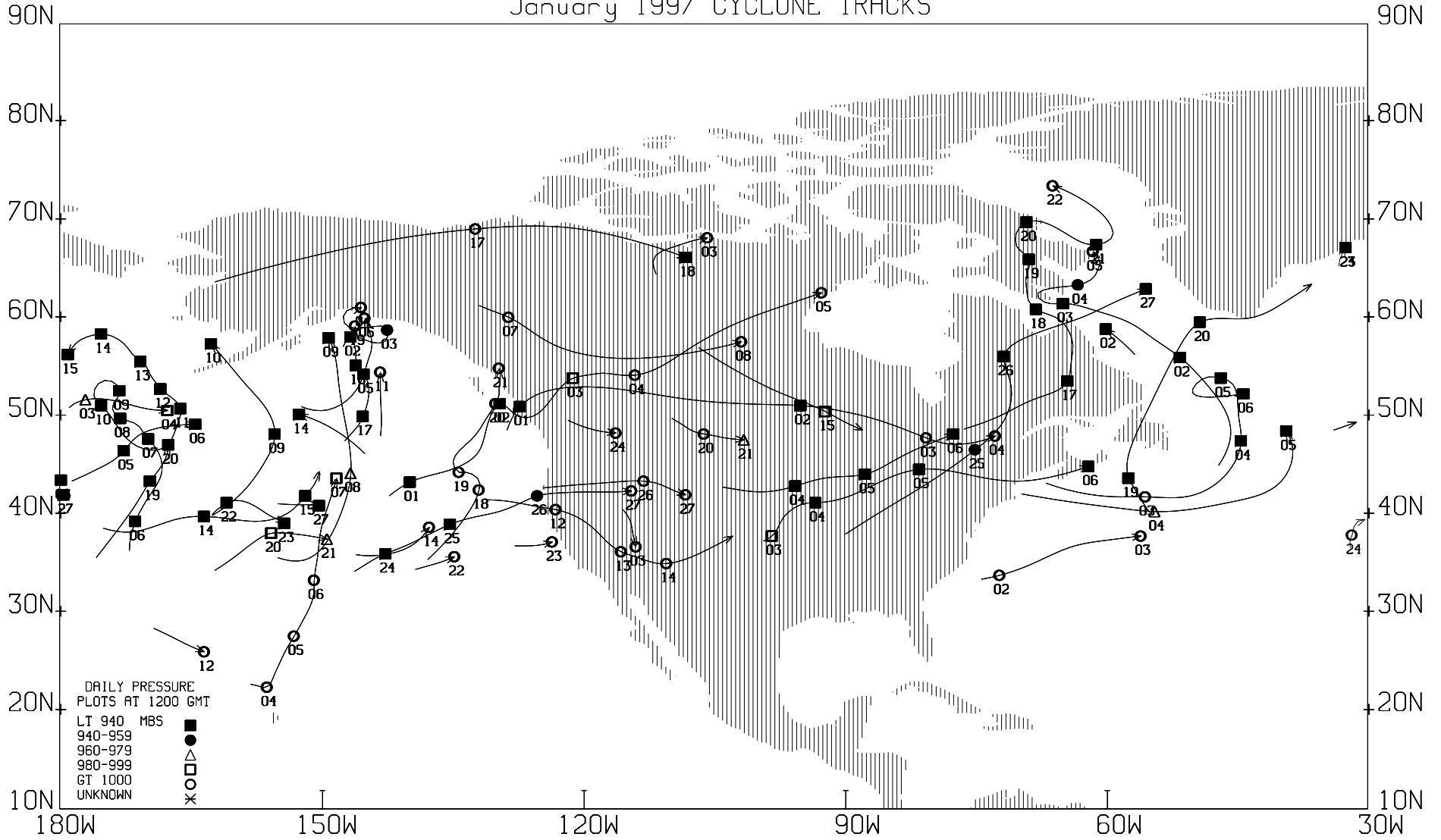
Any such items received by the editor will be for use in **STORM DATA** only. Any other use will be with the permission of the owner of said items. Materials submitted will be returned if requested in the original submission.

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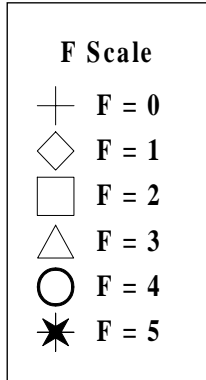


Acting Director,
National Climatic Data Center

January 1997 CYCLONE TRACKS



January 1997 Confirmed Tornadoes

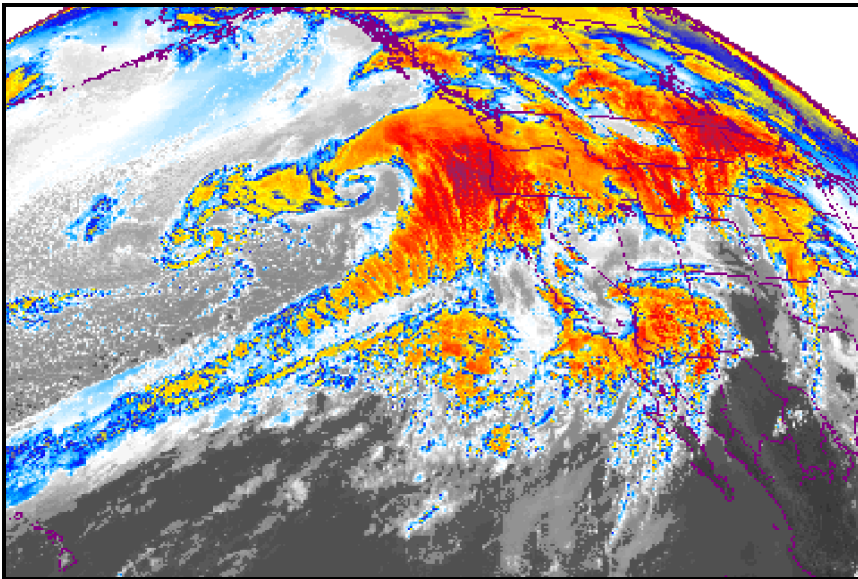


F Scale	F0	F1	F2	F3	F4	F5	Total
Number	13	23	17	0	1	0	54

OUTSTANDING STORMS OF THE MONTH

1. SEVERE FLOODING IN NORTHWEST CAUSES EXTENSIVE DAMAGE

The first month of 1997 was not a good one for western Nevada and east-central California. Excessive amounts of rainfall coupled with the melting of the deep snowpack in the Sierra Nevada Mountains, caused many rivers and their tributaries to flow out of their banks. A winter storm in late December deposited up to 8 feet of snow at the higher elevations and up to three feet in the valleys (See December 1996 issue of Storm Data). A 968 mb (28.59" Hg) low pressure system moved northeast over southern Canada, trailing a long band of moisture which streamed southwest to the Hawaiian Islands. The "Pineapple Express" dumped up to 8 inches of rain in northern California during the last week of December 1996 and the first week of January 1997. Warm air moved over California ahead of the front and raised surface temperatures into the low to mid 60's by Jan 1 and caused a rapid melting of the snowpack and an increased runoff in the mountains. The Susan, Truckee and Walker Rivers exceeded their banks and covered the low-lying valley floors and river canyons. Thousands of residential and commercial buildings were damaged or destroyed by the swift moving waters. The floods caused almost \$1 Billion in damage to the area. Most damage occurred to roads and bridges when they were washed away as the rivers rose to record levels. Only two deaths and 50 injuries resulted from the massive flooding event.



Left: A GOES-9 (Geostationary Orbiting Environmental Satellite) enhanced infrared image of the Pacific Ocean and the Northwest coast of the US. The clouds associated with two strong low pressure systems are visible with a continuous stream of moisture being pulled into the Northwest US from west of Hawaii.

(Image courtesy of the National Climatic Data Center, Asheville, NC)

Right: Heavy rain and melting snow caused the Walker River in Mono County, CA to flow out of its banks near the Mountain Gate community. It took 6 months to rebuild 14 miles of US Highway 395 in Walker Canyon.

(Photos courtesy of Mono County Sheriffs Department, Bridgeport, CA)





Left: A different view of the same store that was featured on the cover. This photo was taken after the flood waters had receded. Most of the debris left by the flood was in the form of tree branches, brush and garbage. It took many months to clean up the debris and rebuild the roadway.

(Photo courtesy of Mono County Sheriffs Department, Bridgeport, CA)

2. F4 TORNADO DAMAGES BARFIELD TENNESSEE

On January 24th, a warm front moved northward through the state of Tennessee during the early afternoon hours. Two hours of surface heating caused the atmosphere to rapidly de-stabilize. Temperatures in the area were in the mid 60's with dewpoints in the mid 50's. A strong surface low pressure system located in the Great Lakes Region pulled cold air southward from Canada and it's associated cold front paralleled the Mississippi River Valley. Temperatures behind the front were in the low 40's and dewpoint temperatures in the 30's and 40's. As the cold front moved through central Tennessee, a line of severe thunderstorms formed and produced heavy rainfall (1.12" at Nashville), frequent cloud-to-ground lightning and spawned a tornado near Barfield at 5:03 PM CST. Barfield is located 35 miles southeast of Nashville, TN. The tornado was rated an F4 (wind speeds 207 - 260 mph) by the National Weather Service and had a path length of 6.5 miles and a width of 300 yards. The tornado completely destroyed many homes, leaving only the foundations intact and debris scattered throughout the subdivision.



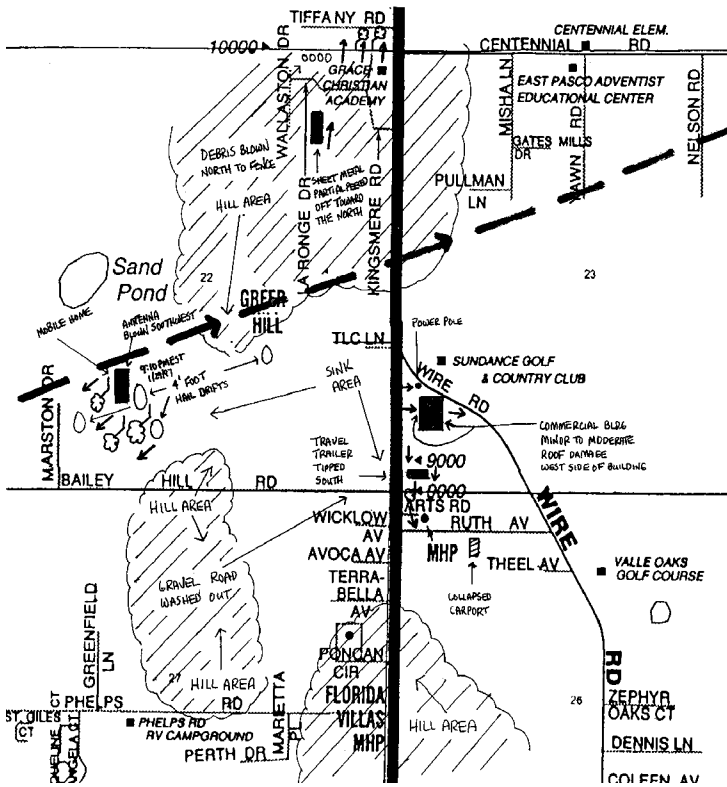
Left:

The F4 tornado in Barfield left the Southridge subdivision in ruins. There were 44 homes destroyed and another 47 damaged by the tornadic winds. Damage was estimated at \$4.7 million dollars. There were no deaths and only 18 people injured as there was a 41 minute advanced warning for the severe weather.

(Photo courtesy of Henry Steigerwaldt, Science Operations Officer (SOO), NWS, Nashville, TN)

3. LARGE HAIL, STRONG WINDS AND HEAVY RAIN DAMAGE FLORIDA

A severe thunderstorm struck Pasco County, near the town of Zephyrhills in west-central Florida on January 29. The thunderstorm produced heavy rain, dime-sized hail and a downburst which created 60 mph wind gusts. The high winds and heavy rain moved the hail on the ground into the low lying area and filled shallow ravines with up to four feet of hail. The downburst was confirmed by a damage survey shortly after the storm. Trees and debris were blown in different directions, called a “starburst pattern”, indicating a strong outflow had occurred. There were no deaths or injuries reported due to the storm and damage was light with estimates near \$10 thousand dollars.



Left: A map of the affected area. The storm track is indicated in bold arrows. The higher ground is shown in the hatched area. Note the small arrows indicating the direction of the fallen trees and the debris field.

(Map courtesy of Walt Zaleski, WCM, NWS, Tampa, FL)

Right: Mr. Chuck Tear, the Pasco County, FL Emergency Management Coordinator, is standing knee deep in the hail which was washed into shallow ravines. He is scooping a handful of dime-sized hail out of the hail drift which was also covered by a layer of straw from nearby fields.

(Photo courtesy of Walt Zaleski, WCM, NWS, Tampa, FL)



Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
ALABAMA, North Central									
ALZ006		Madison							
	02	1200CST			0	0	0	0	Excessive Heat
		1700CST							
									The record high of 68 degrees was tied at the Huntsville airport.
ALZ024		Jefferson							
	03	1200CST			0	0	0	0	Excessive Heat
		1700CST							
									The record high of 72 degrees was tied at the Birmingham airport.
ALZ006		Madison							
	03	1200CST			0	0	0	0	Excessive Heat
		1700CST							
									The record high of 68 degrees was tied at the Huntsville airport.
Colbert County									
9 SW Cherokee	04	2143CST			0	0	5K	0	Thunderstorm Wind (G52)
									A 60 mph wind gust was reported in Allsboro in the western part of the county.
Lauderdale County									
14 NW Florence	04	2150CST			0	0	5K	1K	Thunderstorm Wind (G50)
									Trees were blown down in Threet in the western part of the county.
Morgan County									
Decatur	04	2330CST			0	0	15K	3K	Thunderstorm Wind (G50)
									A tree was blown onto a house and a garage and six tree were downed in the area southwest of Decatur.
Madison County									
9 E Huntsville	04	2350CST			0	1	15K	1K	Thunderstorm Wind (G50)
									A mobile home was damaged during a thunderstorm in Brownsboro in the eastern part of the county. There was one minor injury.
Jackson County									
10 SE Stevenson to 11.5 SE Stevenson	05	0030CST	2.7	50	0	0	60K	5K	Tornado (F0)
		0035CST							
									A thunderstorm hit the Flat Rock area at exactly 12:30 am with what was probably a weak tornado. A church sustained heavy damage; the west wall collapsed and the roof fell in. Forty to 50 -foot oak trees near the church were downed. About a mile down the path of damage, a roof had shingles lifted off and several large trees were downed. About two miles from the church, 15 to 20 large pine trees were downed. The damage was very isolated to the path. A house 100 feet from the church sustained no damage.
Dekalb County									
Henagar	05	0044CST			0	0	0	0	Thunderstorm Wind
									Strong wind estimated at 72 mph with several gusts to 62 mph were reported in the Henagar area.
Marshall County									
Arab	05	0105CST			0	0	5K	2K	Flash Flood
		0145CST							
									Several roads were reported underwater in the town of Arab in the southwestern part of the county.
Jefferson County									
Pinson	05	0114CST			0	0	10K	0	Thunderstorm Wind (G50)
									Several trees were downed along with some power lines in the Pinson area.
Etowah County									
Gadsden	05	0117CST			0	0	10K	2K	Thunderstorm Wind (G65)
									A wind gust between 55 and 75 mph was reported by Gadsden-Etowah County EMA by their measuring equipment at the EOC in Gadsden. Trees and power lines were downed across the county with about 2,500 customers without power for up to 11 hours.
St. Clair County									
Countywide	05	0130CST			0	0	7K	2K	Thunderstorm Wind (G50)
									Several trees and power lines were downed in Wolf Creek in the southern part of the county. Several trees were also reported downed near Whitney in the northern part of the county.
Blount County									
Oneonta	05	0145CST			0	0	80K	0	Thunderstorm Wind (G55)
									Straight-line wind damaged two hangars and three airplanes at the Oneonta Municipal Airport. The roof was torn off one hangar, and a door was torn off another.
Randolph County									
Wedowee	05	0315CST			0	0	5K	0	Thunderstorm Wind (G50)
									A few trees were downed just north and just west of Wedowee in the central part of the county.
Autauga County									
17 N Prattville	08	0925CST			0	0	3K	0	Hail (0.75)
									Dime sized hail was reported in Marbury in the northeast part of Autauga County.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
ALABAMA, North Central									
Coosa County									
11 SE Rockford	08	0945CST			0	0	3K	0	Hail (0.75)
A storm spotter reported seeing dime size hail piled up along the road near Equality in the southeast part of the county.									
Elmore County									
5 NW Eclectic	08	0945CST			0	0	3K	0	Hail (0.75)
A spotter reported seeing dime size hail along the road near Central in the northern part of the county.									
Tallapoosa County									
Dadeville	08	1005CST			0	0	5K	1K	Hail (0.75)
Dime size hail was reported to be three inches deep and was on the ground for several hours.									
Chambers County									
9 NE Lafayette	08	1035CST			0	0	5K	1K	Hail (0.75)
Dime size hail was reported near Five Points in the northeast part of the county. The hail was still on the ground at 11:00 am.									
Winston County									
Haleyville	08	1845CST			0	0	10K	0	Lightning
A lightning bolt struck a tree outside a house and traveled into the house. A hole went through the vinyl siding and damaged the wood. Several windows were shattered.									
Jackson County									
10 NE Scottsboro	09	0000CST			0	0	18K	0	Thunderstorm Wind (G50)
Several trees were blown down in Martintown in the central part of the county. One tree landed on top of a car. An equipment trailer was picked up and moved about 30 yards.									
ALZ001>010	Lauderdale - Colbert - Franklin - Lawrence - Limestone - Madison - Morgan - Marshall - Jackson - Dekalb								
	10	1000CST 2000CST			0	0	64K	0	Winter Storm
One to two inches of snow fell during a snowstorm that entered into northwestern Alabama before noon. It snarled traffic and icy roadways were blamed for dozens of accidents including two deaths due to cars skidding off roads and into other cars. The storm exited the eastern part of the state around 8:00 pm CST. One of the factors that caused problems was the rapid entry of Arctic air which helped to create icy conditions as the precipitation was ending especially in the area from Florence to Huntsville.									
Autauga County									
Prattville	24	0720CST			0	0	15K	0	Thunderstorm Wind (G52)
Trees were reported across roads in Prattville. Storm spotters estimated wind gusts to 60 mph.									
Montgomery County									
Montgomery	24	0725CST			0	0	6K	0	Thunderstorm Wind (G50)
Trees and power lines were downed in Montgomery.									
Montgomery County									
Montgomery	24	0726CST			0	0	0	0	Funnel Cloud
A funnel cloud was reported along Mobile Avenue in Montgomery.									
Elmore County									
Millbrook	24	0730CST			0	0	15K	1K	Thunderstorm Wind (G55)
Four mobile homes were damaged including two the were totally destroyed. Trees and power lines also down.									
Elmore County									
1 N Elmore to 1.5 NNE Elmore	24	0737CST 0740CST	1.5	50	0	0	45K	0	Tornado (F1)
A small tornado occurred on the northeast side of Elmore in southwest Elmore County damaging several house roofs and two mobile homes. At least one shed was destroyed.									
Elmore County									
Santuck	24	0752CST			0	0	18K	2K	Thunderstorm Wind (G50)
A trailer and a barn were damaged at Santuck in central Elmore County by damaging wind.									
Coosa County									
Rockford	24	0800CST			0	0	7K	0	Thunderstorm Wind (G50)
Trees were reported down near Rockford in the central part of the county.									
Pike County									
11 SW Troy	24	0845CST			0	0	5K	0	Hail (0.75)
Dime size hail was reported at Henderson in the southwest part of the county.									
Lee County									
10 SE Auburn	24	0900CST			0	0	7K	1K	Thunderstorm Wind (G50)
A couple of trees were reported down in southern Lee County.									
Pike County									
Brundidge	24	0901CST			0	0	15K	0	Thunderstorm Wind (G50)
Power lines were reported down in Brundidge in the southeast part of the county.									

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>ALABAMA, North Central</u>									
Barbour County									
Eufaula	24	0955CST			0	0	5K	0	Hail (0.75)
									Dime sized hail was reported in Eufaula.
Marion County									
Hamilton	24	1345CST			0	0	5K	0	Hail (0.75)
									Dime sized hail was reported in Hamilton.
Marion County									
Hackleburg	24	1355CST			0	0	10K	3K	Hail (1.00)
									Hail the size of quarters was reported in Hackelburg in the northern part of the county.
Marion County									
9 E Hamilton	24	1405CST			0	0	12K	4K	Hail (2.00)
									The ground was covered by hail up to 2 inches in diameter east of Hamilton.
Winston County									
4 S Haleyville	24	1415CST			0	0	10K	3K	Hail (2.00)
									Two inch hail was reported near Delmar in the western part of the county.
Marion County									
Bear Creek	24	1425CST			0	0	8K	2K	Hail (1.00)
									Hail about the size of quarters was reported at Bear Creek in the northeast part of Marion County.
Winston County									
Haleyville	24	1435CST			0	0	5K	0	Hail (0.75)
									Hail ranging in size up to dimes was reported at Haleyville.
Winston County									
Double Springs	24	1450CST			0	0	10K	3K	Hail (2.00)
									Two inch hail was reported just west of Double Springs along US 278 in the central part of the county.
Lawrence County									
10 S Moulton	24	1450CST 1455CST	3	75	0	0	40K	8K	Tornado (F1)
									A weak tornado touched down in the William B. Bankhead National Forest and tracked across Highway 33 at the lookout tower. The majority of damage was done to trees and some damage was done to the Forest Service buildings at the tower.
Winston County									
Addison	24	1507CST			0	0	10K	3K	Hail (2.00)
									Two inch hail was reported near Addison in northeast Winston County.
Winston County									
4 ESE Addison	24	1508CST			0	0	4K	0	Thunderstorm Wind (G50)
									Several trees were blown down near the Winston/Cullman county line just off U. S. 278 east-southeast of Addison.
Cullman County									
15 W Good Hope to 13 W Good Hope	24	1510CST 1515CST			0	0	22K	5K	Thunderstorm Wind (G50)
									Wind damage started about 100 yards east of the Winston/Cullman county line near U. S. 278. A shed was damaged along with a few trees. The tin roof of a barn was peeled off and several more trees were uprooted. Another swath of damage from straight line wind occurred about one mile east near the White Oak Creek community. A small house was moved off its foundation and several trees were uprooted.
Tuscaloosa County									
Tuscaloosa	24	1515CST			0	0	7K	0	Hail (1.00)
									Hail the size of quarters was reported in downtown Tuscaloosa.
Cullman County									
15 W Cullman	24	1517CST			0	0	5K	0	Hail (0.75)
									Dime size hail was reported along the Cullman/Winston county line.
Tuscaloosa County									
Tuscaloosa	24	1530CST			0	0	7K	0	Hail (1.50)
									Hail larger than half dollars was reported in Tuscaloosa.
Cullman County									
12 NW Cullman	24	1530CST			0	0	9K	3K	Hail (1.75)
									Golf ball size hail was reported in Jones Chapel in the northwest part of the county.
Lauderdale County									
10 E Florence to Florence	24	1537CST			0	0	5K	0	Hail (0.75)
									Dime size hail was reported along County Road 72 east of Florence.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>ALABAMA, North Central</u>									
Lauderdale County									
Killen	24	1542CST			0	0	5K	0	Hail (0.75)
			Dimes size hail was reported at Killen.						
Morgan County									
Hartselle	24	1545CST			0	0	5K	0	Hail (0.75)
			Dime size hail fell at Hartselle.						
Cullman County									
6 E Cullman	24	1553CST			0	0	80K	5K	Thunderstorm Wind (G60)
			Four mobile homes were destroyed, two permanent homes sustained minor damage, and one permanent home had major damage when straight line wind occurred along U. S. 278 in the Berlin and Oak Level communities in the eastern part of Cullman County.						
Lauderdale County									
Lexington	24	1600CST			0	0	5K	0	Hail (0.75)
			Dime size hail was reported in Lexington.						
Morgan County									
18 SE Falkville	24	1605CST			0	0	7K	2K	Hail (1.00)
			One inch hail was reported in the Hulaco community in the southeast part of the county.						
Blount County									
7 N Snead	24	1610CST			0	0	20K	2K	Thunderstorm Wind (G55)
			Two mobile homes on Highway 79 south of the Marshall County line were shifted off their foundations. Two metal outbuildings were destroyed, and trees and power lines were down in the area of Snead in the northern part of Blount County.						
Marion County									
Hamilton	24	1617CST			0	0	5K	0	Hail (0.75)
			Dime size hail was reported in southwest Hamilton.						
Marshall County									
Arab	24	1620CST			0	0	8K	2K	Hail (1.50)
			Hail an inch and a half in diameter fell in the area east of Arab.						
Tuscaloosa County									
10 W Tuscaloosa	24	1620CST			0	0	5K	2K	Hail (0.75)
			Dime size hail was reported at Coker in western Tuscaloosa County.						
Jefferson County									
Midfield	24	1623CST			0	0	5K	0	Hail (0.75)
Marshall County									
Douglas	24	1640CST			0	0	7K	1K	Thunderstorm Wind (G50)
			Trees were downed in the Douglas community in the southern part of the county.						
Jefferson County									
Vestavia Hills	24	1644CST			0	0	5K	0	Hail (0.75)
Morgan County									
Trinity	24	1645CST			0	0	7K	1K	Hail (1.00)
			Quarter size hail was reported in Trinity in the northwest part of the county.						
Marshall County									
Albertville to Guntersville	24	1649CST 1655CST			0	0	7K	0	Hail (0.75)
			Dime size hail was reported along Highway 431 from Albertville to Guntersville.						
Jefferson County									
Liberty Park	24	1653CST			0	0	7K	0	Hail (1.25)
Jefferson County									
Homewood	24	1655CST			0	0	15K	0	Hail (1.75)
Morgan County									
Decatur	24	1658CST			0	0	5K	0	Hail (0.75)
			Dime size hail was reported on the west side of Decatur.						
Marshall County									
3 W Douglas	24	1700CST			0	0	8K	1K	Thunderstorm Wind (G50)
			Large trees were downed west of Douglas near the Blount County line.						
Marshall County									
Guntersville	24	1700CST			0	0	10K	3K	Hail (1.75)
			Golf ball size hail fell at Guntersville and at several other locations across the county.						

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
ALABAMA, North Central									
Shelby County									
3 N Indian Springs	24	1700CST			0	0	7K	0	Hail (1.00)
	Quarter size hail was reported in Meadowbrook.								
Limestone County									
12 NW Athens	24	1700CST			0	0	14K	2K	Thunderstorm Wind (G50)
	Two barns were destroyed and the West Limestone County High School press box was damage in Salem.								
Madison County									
Huntsville	24	1700CST			0	1	10K	0	Lightning
	A news reporter with a Huntsville television station was slightly injured when lightning struck a pole near him and traveled through the ground and through him. He was covering a weather story at the time.								
Tuscaloosa County									
5 S Tuscaloosa to 8 ENE Tuscaloosa	24	1700CST 1715CST	10	200	1	10	5M	5K	Tornado (F2)
	At approximately 5:00 pm CST, a tornado began on the east side of the Warrior River, south of Interstate 59 and west of County Road 95. Besides trees, the initial damage was to shingles of an apartment complex in the Crabtree area.								
	The tornado moved on a northeasterly track crossing U.S. 82 and Interstate 59. Two large businesses in a shopping center on the south side of I-59 sustained roof damage.								
	The tornado became stronger after crossing I-59 with significantly greater damage from this point to the end of the path. Numerous trees were downed, some house roofs were damage, and several outbuildings were destroyed in the Woodland Hills residential area.								
	Several buildings were damaged at Five Points East, the intersection of State Roads 215 and 216, including a Food World and a Big-B Drug Store, among others. Cars were tossed about like toys. One was tossed from the parking lot through the roof of the Food World. Another car was carried from the Food World parking lot into the backyard of a house immediately northeast of the Food World, a distance of between 300 and 400 feet.								
	The tornado continued northeast through the Lynn Haven residential area causing significant damage to numerous homes, much of it strong F2 damage. Many houses in this section sustained damage that ranged from minor roof damage to total roof loss.								
	The tornado continued across Tuscaloosa Memorial Gardens Cemetary, paralleling and crossing State Road 216. Six to eight homes in the Summerfield sub-division sustained light to moderate damage. A couple of mobile homes and several other buildings including a small corner grocery business were destroyed. The tornado dissipated in a wooded area just north of State Road 216 shortly after that around 5:15 pm CST.								
	Tuscaloosa EMA estimated that there were 150 structures with some damage. Total tornado path length was 10 miles with a path width of 200 yards.								
	There was one fatality, an elderly man in a vehicle in the Woodland Hills area, and ten injuries. Eight of the injuries were treated and released while 2 others were hospitalized. M71VE								
Madison County									
Huntsville	24	1706CST			0	0	10K	0	Thunderstorm Wind (G50)
	Several signs were downed along with traffic lights in Huntsville during strong wind with a thunderstorm.								
Morgan County									
7 SW Hartselle	24	1708CST			0	0	5K	0	Hail (0.75)
	Dime size hail was reported in Massey in southwest Morgan County.								
Jefferson County									
Leeds	24	1715CST			0	0	5K	0	Hail (0.75)
Madison County									
Huntsville	24	1715CST			0	0	5K	0	Hail (0.75)
	Dime size hail was reported at the Redstone Arsenal.								
Madison County									
Huntsville	24	1715CST			0	0	0	0	Funnel Cloud
	A funnel cloud was reported in southeast Huntsville.								
Lawrence County									
8 SE Moulton	24	1730CST			0	0	7K	1K	Hail (1.00)
	One inch hail was reported in Speake in southeast Lawrence County.								
Jefferson County									
Bessemer	24	1745CST			0	0	5K	0	Hail (0.75)
Jefferson County									
Hueytown	24	1745CST			0	0	5K	0	Hail (0.75)
Jefferson County									
Trussville	24	1745CST			0	0	5K	0	Hail (0.75)
	Hail fell across the Birmingham area ranging in size from dimes up to golf balls.								

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
<u>ALABAMA, North Central</u>									
Lamar County									
Millport	24	1755CST			0	0	5K	0	Hail (0.75)
									Hail ranging in size from pea to dime was reported in southern Lamar County.
Calhoun County									
10 SW Anniston	24	1800CST			0	0	5K	0	Hail (0.75)
									Dime size hail was reported on U. S. 78 near the Talladega County line.
Talladega County									
11 NE Talladega	24	1805CST			0	0	5K	2K	Hail (0.75)
									Pea to dime size hail fell near Munford in eastern Talladega County.
Fayette County									
Fayette	24	1805CST			0	0	5K	1K	Hail (0.75)
									Dime size hail covered the ground in Fayette.
Shelby County									
Hoover	24	1810CST			0	0	5K	0	Hail (0.88)
									Hail around nickel size was reported at Interstate 65 and Valleydale Road. This is part of the city of Hoover in Shelby County.
Franklin County									
Red Bay	24	1813CST			0	0	8K	2K	Hail (1.50)
									Hail up to one and a half inches in diameter was reported at Red Bay in the extreme western part of the county.
Jackson County									
Stevenson	24	1815CST			0	0	6K	0	Thunderstorm Wind (G50)
									A few trees were downed in Stevenson in central Jackson County.
Jackson County									
Section	24	1850CST			0	0	5K	0	Hail (0.75)
									Dime size hail was reported at Section.
Morgan County									
7 SW Hartselle	24	1853CST			0	0	5K	0	Hail (0.75)
									Dime size hail fell just south of Massey in the southwest part of Morgan County.
Walker County									
6 E Jasper	24	1853CST			0	0	6K	1K	Hail (0.88)
									Nickel size hail was reported in the Baldo area in eastern Walker County.
St. Clair County									
Logan Martin Dam	24	1900CST			0	0	5K	0	Hail (0.75)
									Dime size hail was reported near Logan Martin Dam in eastern St. Clair County.
Morgan County									
3 N Eva	24	1914CST			0	0	5K	0	Hail (0.75)
									Dime size hail fell at Oden Ridge in southern Morgan County.
Dekalb County									
Henager	24	1917CST			0	0	5K	0	Hail (0.75)
									Dime size hail was reported at Henager in northern Dekalb County.
Dekalb County									
Geraldine	24	1917CST			0	0	5K	0	Hail (0.75)
									Dime size hail was reported in Geraldine in southern Dekalb County.
Blount County									
5 W Hayden	24	1920CST			0	0	5K	0	Hail (0.75)
									Dime size hail was reported on Interstate 65 at exit 284 in the western part of Blount County.
Dekalb County									
3 W Geraldine	24	1922CST			0	0	9K	0	Thunderstorm Wind (G50)
									Numerous trees were downed in the western part of the county.
Blount County									
Nectar	24	1930CST			0	0	15K	0	Thunderstorm Wind (G50)
									One home was damaged and one outbuilding was destroyed near Nectar in central Blount County.
Calhoun County									
Anniston	24	1940CST			0	0	9K	0	Hail (1.75)
									Golf ball sized hail was reported near Anniston.
Madison County									
9 SE Huntsville	24	1946CST			0	0	5K	0	Hail (0.75)
									Dime size hail was reported at Farley.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
ALABAMA, North Central									
Calhoun County									
Anniston	24	1950CST			0	0	10K	0	Thunderstorm Wind (G50)
Several trees were downed in Anniston and a sporting goods store had its front windows blown out.									
Etowah County									
Attalla	24	2030CST			0	0	0	0	Funnel Cloud
A funnel cloud ws reported in Attalla in central Etowah County.									
Jefferson County									
9 NW Pleasant Grove	24	2050CST			0	0	5K	0	Hail (0.75)
Dime size hail was reported at Birmingham in western Jefferson County.									
Tuscaloosa County									
Northport	24	2104CST			0	0	5K	0	Hail (0.75)
Dime size hail was reported at Northport.									
Jefferson County									
Hueytown	24	2107CST			0	0	9K	0	Hail (1.75)
Golf ball size hail was reported at Hueytown.									
Etowah County									
Gadsden	24	2143CST			0	0	9K	0	Hail (1.75)
Golf ball size hail was reported just north of Gadsden.									
Jefferson County									
Vestavia Hills	24	2147CST			0	0	5K	0	Hail (0.75)
Dime size hail was reported at Vestavia Hills.									
St. Clair County									
Pell City	24	2150CST			0	0	5K	0	Hail (0.75)
Dime size hail was reported in Pell City.									
Shelby County									
Pelham	24	2154CST			0	0	5K	0	Hail (0.75)
Dime size hail was reported in Greystone and near Oak Mountain State Park.									
Shelby County									
6 SSE Alabaster to 6 SE Alabaster	24	2215CST			0	0	5K	0	Hail (0.75)
Dime size hail was reported just south of the Shelby County Airport.									
Calhoun County									
Jacksonville	24	2221CST			0	0	5K	0	Hail (0.75)
Dime size hail was reported in Jacksonville.									
Calhoun County									
9 W Oxford	24	2228CST			0	0	7K	1K	Hail (0.88)
Nickel size hail was reported in Bynum in southwest Calhoun County.									
Bibb County									
Centreville	24	2230CST			0	0	5K	0	Hail (0.75)
Pea to dime size hail covered the ground at Centreville.									
Talladega County									
3 NE Lincoln	24	2230CST			0	0	7K	1K	Hail (1.00)
Nickel to quarter size hail was reported near Lincoln in the northern part of the county.									
Calhoun County									
Anniston	24	2230CST			0	0	5K	0	Hail (0.75)
Dime size hail was reported in Anniston.									
Talladega County									
8 NW Talladega	24	2235CST			0	0	5K	0	Hail (0.75)
Dime size hail was reported near Stemly in western Talladega County.									
Tuscaloosa County									
5 N Coker to 5.5 NNE Coker	28	0008CST 0011CST	2	75	0	1	85K	2K	Tornado (F2)
A small tornado that apparently formed on the north side of a bow echo touched down in a lightly populated area just north of Lake Lurleen State Park and just west of State Road 171 in west central Tuscaloosa County. Damage was primarily to downed trees, however, several structures sustained minor damage with the exception of one house that was completely deroofed. The family in the house was asleep when the tornado struck and one young girl sustained a minor injury in the storm. EMA officials reported that three mobile homes were damaged along with the one house that was deroofed and at least two barns and several storage buildings were damaged.									

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
<u>ALABAMA, North Central</u>									
Hale County									
Greensboro	28	0100CST			0	0	10K	1K	Thunderstorm Wind (G50)
The Sheriff's office reported several trees and power lines down near Greensboro.									
Shelby County									
Pelham	28	0130CST			0	0	0	4K	Thunderstorm Wind (G50)
Several trees were blown down by thunderstorm wind in Oak Mountain State Park.									
<u>ALABAMA, Southeast</u>									
Houston County									
Countywide	05	0650CST 0715CST			0	0	150K	0	Thunderstorm Wind
A church steeple was toppled in Wicksburg in western Houston County. A short time later, trees were snapped and a Sony plant received some roof damage. The storm continued across the northern side of Dothan downing many trees and damaging numerous homes and other buildings. Finally, in the northeast part of the county, near Columbia, the storm damaged a mobile home and downed several trees.									
Henry County									
2.5 N Newville to 8 NE Newville	05	0655CST 0705CST	6	100	0	0	180K	0	Tornado (F2)
A tornado touched down north of Newville, knocking a small wood frame house off its blocks. Two miles further east the tornado caused extensive damage to a home and destroyed another unoccupied home. A barn was destroyed and several vehicles were damaged. The tornado then damaged a house two miles further east. Finally, another two miles east it damaged a house.									
Geneva County									
Hartford	24	2030CST			0	0	150K	0	Thunderstorm Wind
A severe thunderstorm caused widespread damage across Hartford. An awning to a store was shredded and a roof to a shed was blown off and landed on a fire truck. Numerous trees were downed causing power outages. Parts of a flat roof were blown off of the National Guard armory. One home lost most of its roof and several stores in town lost windows. A satellite dish, a pool and a trampoline were damaged or destroyed at one home.									
Houston County									
Dothan	24	2118CST			0	0	30K	0	Thunderstorm Wind
Several homes and businesses were damaged by strong winds. Several large trees were downed along with some power lines.									
<u>ALABAMA, Southwest</u>									
Choctaw County									
Ararat	08	0650CST			0	0			Hail (0.50)
Marble size hail covered the ground near Ararat. The hail stayed on the ground for about ten minutes before melting.									
Mobile County									
Wilmer	08	1230CST			0	0			Hail (0.75)
Dime size hail was reported just northwest of Wilmer.									
Choctaw County									
Bolinger	15	1900CST			0	0	1.5K		Thunderstorm Wind (G50)
Trees and power lines were blown down along US Hwy 84 just east of Bolinger.									
Baldwin County									
Magnolia Spgs	15	2055CST			0	0	0.50K		Thunderstorm Wind (G52)
A spotter reported 60 mph winds near Magnolia Springs. A few trees were also blown down.									
Choctaw County									
Bolinger	24	0600CST			0	0	1.5K		Thunderstorm Wind (G50)
Trees and power lines were blown down along US Highway 84 just east of Bolinger.									
Mobile County									
2 W Citronelle to 1 W Citronelle	24	0605CST 0606CST			0	0	1.5K		Thunderstorm Wind (G50)
Several trees were blown down just west of Citronelle.									
Clarke County									
Grove Hill	24	0620CST			0	0	1.5K		Thunderstorm Wind (G50)
Trees and power lines were blown down near Grove Hill.									
Washington County									
Tibbie	24	0625CST			0	0	1.5K		Thunderstorm Wind (G50)
Several trees were blown down near Tibbie.									
Washington County									
Chatom	24	0630CST			0	0	30K		Lightning
The library in Chatom was struck by lightning. The library suffered mayor damage from the resulting fire.									

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
ALABAMA, Southwest									
Baldwin County									
Blacksher	24	0640CST			0	0	1.5K		Thunderstorm Wind (G50)
			Several trees were blown down near Blacksher.						
Monroe County									
Frisco City	24	0655CST			0	0	1.5K		Thunderstorm Wind (G50)
			Several trees were blown down near Frisco City.						
Monroe County									
4 W Uriah to 3 W Uriah	24	0655CST 0656CST			0	0	10K		Thunderstorm Wind (G55)
			Several trees along with power lines were blown down along State Highway 59 and county road 11 near Palmers Crossroads which is west of Uriah. A home in the same area suffered roof damage and damage was also done to Bib Mim's hog parlor.						
Monroe County									
Ollie	24	0656CST 0657CST			0	0	25K		Thunderstorm Wind (G55)
			Shingles were blown from a motel near Ollie. A few storage buildings and signs in the area also suffered damage. Some skirting was blown from mobile homes at a dealership.						
Monroe County									
Monroeville	24	0700CST			0	0	1.5K		Thunderstorm Wind (G50)
			Several trees and power lines were blown down near Monroeville.						
Wilcox County									
Camden to Fatama	24	0700CST			0	0	2K		Thunderstorm Wind (G50)
			Several trees were blown down along State Highway 265 between Fatama and Camden.						
Butler County									
Georgiana	24	0700CST			0	0	3K		Thunderstorm Wind (G50)
			Some large tree limbs were blown down near Georgiana. A house also suffered minor damage to the roof.						
Conecuh County									
Burnt Corn	24	0730CST			0	0	1.5K		Thunderstorm Wind (G50)
			Several trees were blown down near Burnt Corn.						
Conecuh County									
Owassa	24	0745CST 0746CST			0	0	15K		Thunderstorm Wind (G55)
			Several trees and power lines were blown down near Owassa. A trailer was also damaged. No injuries were reported.						
Crenshaw County									
Luverne	24	0830CST			0	0			Hail (0.75)
			Dime size hail was reported in Luverne.						
Crenshaw County									
Glenwood	24	0830CST			0	0	1.5K		Thunderstorm Wind (G50)
			Several trees were blown down near Glenwood.						
Mobile County									
Tillmans Corner	24	0840CST			0	0	10K		Thunderstorm Wind (G50)
			Several trailers had skirting and loose objects blown from around them by high winds. A few trees near the trailer park were also blown down.						
Baldwin County									
Malbis	24	0900CST			0	1	15K		Thunderstorm Wind (G55)
			High winds damaged a construction site near Malbis. One person was injured but refused treatment. Several trees were also blown down.						
Escambia County									
Atmore	24	0930CST			0	0	1.5K		Thunderstorm Wind (G50)
			Several trees were blown down near Atmore.						
Escambia County									
Mc Cullough	24	0930CST			0	0	1.5K		Thunderstorm Wind (G50)
			Several trees and power lines were blown down near McCullough.						
Mobile County									
Grand Bay	24	1710CST			0	0			Hail (0.75)
			Dime size hail was reported in Grand Bay.						

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
<u>ALABAMA, Southwest</u>									
Mobile County									
Theodore to Bellefontaine	24	1723CST 1725CST			0	0			Hail (2.00)
									Large hail was reported in Theodore and also near Bellefontaine.
Baldwin County									
Fairhope	24	1800CST			0	0			Hail (1.75)
									Golfball size hail was reported in Fairhope.
Baldwin County									
Silverhill	24	1815CST			0	0			Hail (1.75)
									Golfball size hail was reported near Silverhill.
Baldwin County									
Robertsdale	24	1850CST			0	0			Hail (1.75)
									Golfball size hail was reported near Robertsdale.
Mobile County									
Bellefontaine	24	1900CST			0	0			Hail (0.75)
									Dime size hail was reported near Bellefontaine.
Mobile County									
2 SE Mobile Bates Fld	24	1958CST			0	0			Hail (0.75)
									Dime size hail was reported just southeast of the Mobile airport.
Baldwin County									
Orange Beach	24	2000CST			0	0			Hail (0.75)
									Dime size hail was reported near Orange Beach.
Baldwin County									
Fairhope	24	2003CST			0	0			Hail (0.75)
									Dime size hail was reported in Fairhope.
Mobile County									
Bellefontaine	24	2015CST			0	0	75K		Lightning
									Lightning struck a large home near Bellefontaine during the height of thunderstorm activity Friday evening. The home was heavily damaged and residents around the area could see the blaze for miles.
Baldwin County									
Fairhope	24	2045CST			0	0			Hail (0.75)
									Dime size hail was reported just southeast of Fairhope.
Mobile County									
Mobile Brookley Fld	24	2105CST			0	0			Hail (0.75)
									Dime size hail was reported just south of downtown Mobile.
Mobile County									
Dauphin Is	24	2130CST			0	0			Hail (0.75)
									Dime size hail was reported near Dauphin Island.
Baldwin County									
Orange Beach	24	2200CST 2203CST			0	0			Hail (0.75)
									Dime size hail was reported around Orange Beach.
Baldwin County									
Loxley	24	2330CST			0	0	90K		Lightning
									Lightning triggered from thunderstorms moving through the area struck a home in Loxley. The home was totally destroyed and a 60 year old male asleep in the home was killed.
Mobile County									
Citronelle	28	0500CST			0	0	1.5K		Thunderstorm Wind (G50)
									Several large limbs were blown down in Citronelle.

ALASKA, Northern

AKZ002-005>007

North Slopes Of Brooks Range - Lower Kobuk Valley-Northern Seward Peninsula - Southern Seward Peninsula-Eastern Norton Sound - Tanana Valley

07	0100AST	0	0			Extreme Windchill
09	1100AST					

Strong high pressure built over Alaska. A weak low pressure center moving northeast to the Seward Peninsula but increased winds to at least 20 mph in a cold airmass producing wind chills to 70 to 80 below across Zone 5 at mainly Kotzebue and Selawik. The low center dissipated but high pressure continued to build and drift east into Canada, causing locally windy conditions at Unalakleet (Zone 6), Anaktuvuk Pass (Zone 2), and Delta Junction (Zone 7), with wind chills of 80 to 100 below at Anaktuvuk

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

ALASKA, Northern

Pass, and 70 to 90 below at Unalakleet and Delta Junction.

AKZ024

St. Lawrence Island-Bering Strait Coast

08	1835AST			0	0			High Wind (G45)
10	1615AST							

Strong high pressure over Russia Far East persisted while a trough of low pressure developed over the inner West Coast of Alaska, causing strong winds at Zone 24, namely Gambell and Tin City. Peak Wind: Gambell 40 kts g45 kts.

AKZ007

Tanana Valley

09	0000AST			0	0			High Wind (G55)
10	0300AST							

Very strong high pressure over western Canada (1047 mb) produced a strong pressure gradient across the Tanana Valley which increased even more when an occluded front moved north over the area from the gulf of Alaska. PABI, Delta Junction, was the only reporting site in the affected area with max wind 44g55 kts. Nearby areas close to the Tanana River may well have received similar winds.

AKZ008

Lower Yukon Valley

10	1200AST			0	0			Heavy Snow
11	1200AST							

A moist flow of air over an existing cold air mass produced snow in locally heavy amounts over Zone 8, notably Nulato with 10.5" (Galena received only 2.6"). Heavy snow may have also been received over western Zone 4, but verification not available.

AKZ024

St. Lawrence Island-Bering Strait Coast

10	2035AST			0	0			Blizzard
12	2235AST							

A weather front moving over an existing strong pressure gradient across the outer West Coast of Alaska produced high winds and blizzard conditions. Winds at Tin City peaked at 40 kts sustained, at Gambell 45 kts sustained, gust 55 kts. Visibility sensor not working at Gambell to indicate period of blizzard, but at Tin City blizzard conditions likely from 11th 1000am to 12th 0235am.

AKZ001

Arctic Slope Coastal

13	0216AST			0	0			Blizzard
	1746AST							

Stationary strong high pressure over the Arctic Ocean and the slow movement north of a weather front over the Interior of Alaska produced blizzard conditions across the eastern Arctic coast...at Deadhorse, Prudhoe Bay, Kuparuk, and Barter Island.

AKZ001

Arctic Slope Coastal

18	0000AST			0	0			Winter Storm
19	2120AST							

Building high pressure and increasing cold air over the Arctic Ocean and Arctic Slope Coastal Zone produced increasing winds with blizzard conditions over far western zone 1 (Point Lay) during the entire time. Wind chills of 70 to 80 below were common over the remainder of the Arctic Coast during much of this time.

AKZ007

Tanana Valley

27	0000AST			0	0	0.50K		High Wind (G51)
28	0700AST							

Strong high pressure over western Canada and the development of a trough of low pressure over the central Interior created a strong pressure gradient across the Tanana Valley, resulting in locally strong winds: PABI 38g54 kts, Minchumina BLM's Remote Automatic Weather Station (RAWS) g51 kts. Damage at the village of Minchumina involved one home where the door was blown off the hinges, and insulation was blown out around newly installed windows. Co-op observer there estimated winds at 70 mph.

AKZ024

St. Lawrence Island-Bering Strait Coast

28	0700AST			0	0			High Wind (G49)
29	0300AST							

Strong high pressure over Far East Russia and a storm moving into the Gulf of Alaska caused strong winds at Zone 24: Gambell 37 kts, g48 kts; Tin City 38 kts, g 49 kts.

ALASKA, Southeast

NONE REPORTED.

ALASKA, Southern

Kodiak Island(C) E.

Ak Penin

Kodiak

08	1200AST			0	0			Lightning
	1800AST							

An unusual cold air outbreak and incoming front produced thunderstorms at Kodiak, which knocked out power and caused electrical surges which damaged some equipment for short periods of time.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Date	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage	Character of Storm
	Standard			Killed	Injured	Property Crops	

ALASKA, Southern

AKZ010-019>021 **Yukon-Kuskokwim Delta - Central Gulf Coast - Kodiak Island-Eastern Alaska Peninsula - Western Alaska Peninsula**

26	0000AST			0	0		High Wind (G50)
27	2359AST						

A moderate 967mb low moved northwest through the Gulf of Alaska toward Kodiak where it began to weaken early Tuesday. Easterly wind gusts to the north and northeast of the low reached close to 60 mph just offshore from Prince William Sound Monday. The storm also caused 10 inches of new snow at Kodiak, a record for the date.

AMERICAN SAMOA

NOT RECEIVED.

ARIZONA, Central and Northeast

AZZ004 **Kaibab Plateau**

02	2230MST			0	0		Heavy Snow
03	1300MST						

A quick storm dropped heavy wet snow overnight on the Kaibab Plateau. The deepest snowfall amount was reported 18 miles south of Jacob Lake where 16 inches of snow fell at about 8500 feet MSL.

AZZ015>017 **Western Mogollon Rim - Eastern Mogollon Rim - White Mountains**

06	0500MST			0	0		Winter Storm
07	1000MST						

A major winter storm brought heavy snow mainly along the Mogollon Rim and the White Mountains. In the Western Mogollon Rim (AZZ015) Doney Park (eastern Flagstaff) received 7 inches of snow with some blowing snow and the Arizona Snowbowl ski area (7 N of Flagstaff) received 14 inches of new snow at 10,800 feet. In the Eastern Mogollon rim (AZZ016) Happy Jack received 8 inches of new snow. In the White Mountains (AZZ018) Alpine received 14 inches and the Sunrise ski area on Baldy Peak reported 24 inches of new snow. This storm brought some high winds with areas of blowing and drifting snow which closed some state roads in the Mogollon Rim in southern Coconino and Navajo Counties.

AZZ015-018 **Western Mogollon Rim - Northern Gila**

06	1800MST			0	0		High Wind (G54)
	2200MST						

High winds, associated with the January 06-07 winter storm, were reported in Pine, in Northwestern Gila County. A peak gust of 62 MPH/54 Knots was recorded at 6:53 PM MST. Law enforcement reported many trees knocked over causing power and telephone outages. Trees blocked a dozen roads and fell on 2 houses causing minor damage. A tree fell on one car causing significant damage. Similarly, in the Arizona Snowbowl ski area, just north of Flagstaff, high winds occurred around 9:00 PM causing trees to fall on powerlines. No wind speed was recorded, but the winds were estimated in excess of 50 knots.

AZZ004-006-009>011-015>018 **Kaibab Plateau - Grand Canyon Country - Northeast Plateaus And Mesas - Chinle Valley - Chuska Mountains And Defiance Plateau - Western Mogollon Rim - Eastern Mogollon Rim - White Mountains - Northern Gila**

12	0800MST			4	0		Winter Storm
14	2300MST						

Perhaps the largest snow storm of the decade brought heavy snow to most of northern Arizona. Heavy snow fell from early Sunday morning, the 12th, through last Tuesday night, the 14th. Four deaths from exposure occurred during, or immediately after the storm, on the Navajo Nation Reservation and were directly related to this catastrophic winter storm. The Governor of Arizona declared a State of Emergency for Coconino, Gila and Navajo counties on Tuesday the 14th.

Following the storm, National Guard trucks and helicopters were needed to evacuate people on the Navajo Nation who required medical attention due to chronic medical problems and who were unable to obtain needed medication. National Guard helicopters also dropped food to people and livestock who were stranded for several days following the storm.

Unofficial snow accumulations up to 6 feet were reported along the Mogollon Rim in extreme southeastern Coconino county. Very strong winds created drifts as high as 10 feet at many wind-prone areas across northern Arizona.

Numerous trees fell on cars, houses and roads causing power outages and property damage. Hundreds of miles of major highways were closed mainly along the Mogollon Rim and the White Mountains area. Highways surrounding Flagstaff were the most affected. Interstate 40 from Winslow to Ashfork and Interstate 17 from Cordes Junction to Flagstaff were closed from noon Monday, Jan. 13 through 6 AM MST, Wednesday, Jan. 15. Over 200 vehicles were stranded on these two highways.

The heavy snow in Flagstaff caused Northern Arizona University to close for the first time in 20 years. Flagstaff public schools were closed for five days. This was the 12th biggest snow storm in Flagstaff's 100 years of weather records.

In the Western Mogollon Rim (AZZ015): unofficial snowfall of 38 inches was reported in Flagstaff. Official amounts included 30.8 inches at Bellemont, 26 inches in Doney Park with 5 foot drifts, 25 inches in Sunset Crater and 28 inches at Walnut Canyon. A higher elevations, Hart Prairie received 42 inches and the local ski area reported 51 inches of new snow. Winds as high as 50 MPH caused considerable blowing and drifting snow.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

ARIZONA, Central and Northeast

In the Eastern Mogollon Rim (AZZ016): between 5 to 6 feet of snow fell according to unofficial reports from Forest Lakes Estates. Official reports included 52 inches at Happy Jack and Lake Mary reported 33 inches of snow. Snow accumulations of 52 inches were reported at Heber and Overgaard, with an unofficial report from the public of 5 feet of snow.

In Northern Gila County (AZZ018): the Christopher Creek area in NW Gila county reported 4 feet of snow. Lower elevation stations such as Strawberry reported 2 1/2 feet of snow. Many trees fell due to strong winds and heavy wet snow causing property damage and power outages that lasted 72 hours.

In the White Mountains (AZZ017): Greer reported 28 inches of snow while Show Low reported 18 inches. Pinetop received 24 inches with 18 inches accumulating in Lakeside.

In the Chuska Mountains/Defiance Plateau (AZZ011): Window Rock reported 18 inches of snow with 5 foot drifts. There were unofficial reports of up to 36 inches on snow in the Black Mesa areas on the Navajo Nation (northern Navajo and Apache counties). A 63 year old man died of exposure 10 miles SE of Chinle.

In the Chinle Valley (AZZ010): up to 3 feet of snow was reported unofficially in the higher mesas. One 37 year old male died of exposure near Many Farms.

In the Northeast Mesas and Plateaus (AZZ009): unofficial reports of up to 3 feet of snow fell on the higher mesas. A 50 year old man died of exposure 3/4 mile west of Steamboat. A 64 year old infirm man died in his home in Indian Wells when he was unable to start a fire in his wood stove.

In the Grand Canyon Country (AZZ006): one foot of snow was reported at the South Rim of the Grand Canyon. While in the Kaibab Plateau (AZZ004) there were unofficial reports of up to two feet of snow. M63OU, M64PH, M50OU, M37OU

ARIZONA, Northwest

AZZ031	Lake Mead/Lake Mohave National Recreation Area						
	06 1145PST	0	0			High Wind (G50)	
	Strong gradient winds resulted in numerous reports of sustained winds of 30 to 40 mph and a peak gust at Laughlin-Bullhead Airport of 58 mph.						

AZZ003	Northwest Deserts						
	12 2000MST	0	0			Heavy Snow	
	13 2000MST						
	Up to 12 inches of snow fell on the Northwest Arizona plateau and deserts above 4000 feet during a 24 hour period. Chloride reported a foot of snow on the ground and 15 to 18 inches fell on Hualapai Mountain above 6000 feet.						

ARIZONA, South

AZZ019-026>030	Northern Greenlee - Tohono O/Odham And Organ Pipe National Monument - Southeast Pinal - Santa Cruz Valley - Upper Gila River Valley - Cochise						
	06 0800MST	0	0	100K		Winter Storm	
	07 0800MST						
	A cold winter storm created snowfall at unusually low elevations. A trace of snow was recorded at Tucson, and 4 to 10 inches at elevations between 4000 and 6000 feet. This storm closed schools, stranded many motorists, caused broken water pipes, and caused the death of many ostriches at commercial farms.						

AZZ028	Santa Cruz Valley						
	30 0105MST	0	0	5K		High Wind (G51)	
	0110MST						
	Surface high pressure caused strong gusty easterly winds across southeast Arizona.						

ARIZONA, Southwest

NONE REPORTED.

ARKANSAS, Central and North Central

Arkansas County							
3 SE Almyra	04 1735CST	0	0			Thunderstorm Wind (G50)	
	Thunderstorm winds downed some large tree limbs.						

ARZ003>007-012>016-020>025-030>034-037>047-052>056	Boone - Marion - Baxter - Fulton - Sharp - Newton - Searcy - Stone - Izard - Independence - Franklin - Johnson - Pope - Van Buren - Cleburne - Jackson - Logan - Conway - Faulkner - White - Woodruff - Scott - Yell - Perry - Polk - Montgomery - Garland - Saline - Pulaski - Lonoke - Prairie - Monroe - Pike - Clark - Hot Spring - Grant - Jefferson						
	08 0600CST	0	0			Winter Storm	
	09 0800CST						
	A combination of snow, sleet and freezing rain fell across parts of North-Central and Central Arkansas beginning on the morning						

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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ARKANSAS, Central and North Central

of the 8th and continuing into the morning hours on the 9th. Snow accumulated to between 3 and 6 inches over portions of Northern Arkansas, with some isolated amounts up to 8 inches in the higher elevations. Sleet and freezing rain fell across West-Central and Central Arkansas where the precipitation accumulated on mainly trees and grassy areas. There was some ice accumulation on a number of secondary roadways and overpasses for a period of time. Numerous traffic accidents occurred as a result of the wintry weather.

Yell County

4 N Danville	22	0115CST			0	0			Thunderstorm Wind (G50)
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Thunderstorm winds caused roof damage to a house 4 miles north of Danville.

Faulkner County

Greenbrier	22	0235CST 0240CST			0	0			Hail (1.00)
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The roofs of several buildings were damaged by hail up to quarter size in Greenbrier.

White County

Searcy	22	0320CST			0	0			Hail (1.00)
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Hail up to quarter size damaged the roofs of a few buildings in Searcy.

Ouachita County

4 SE Chidester	27	1740CST			0	0			Thunderstorm Wind (G50)
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Thunderstorm winds knocked down some large tree limbs.

Ouachita County

4 SE Chidester	27	1740CST			0	0			Lightning
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Lightning struck a tree that some cows were huddled under. Five of the cows were killed as a result.

ARKANSAS, East

ARZ008>009-017>018			Randolph - Clay - Lawrence - Greene						
	08	1600CST			0	0	0.04K		Winter Storm
	09	0200CST							

A mix of sleet and snow fell across parts of northwest Tennessee, the Missouri bootheel and northeast Arkansas. Between 1 to 3 inches of sleet and snow across the area with 3 inches reported at Union City in Obion county, Tennessee.

Mississippi County

Leachville to Manila	22	0520CST 0525CST			0	0	10K		Thunderstorm Wind
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A few houses suffered roof damage and some outbuildings were damaged near Leachville. Trees and power lines were blown down in Leachville and Manila.

ARKANSAS, Northwest

ARZ001>002-010>011			Benton - Carroll - Washington - Madison						
	08	1000CST 2345CST			0	0			Heavy Snow

3 to 6 inches of snow fell across much of northwest Arkansas on January 8th and resulted in several traffic accidents.

Crawford County

Artist Point	22	0045CST			0	0			Hail (0.75)
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A severe thunderstorm produced dime size hail at Artist Point.

ARKANSAS, Southeast

NONE REPORTED.

ARKANSAS, Southwest

Union County									
3 S El Dorado	04	1850CST			0	0			Hail (0.50)
ARZ050>051-059>061-070>073			Sevier - Howard - Little River - Hempstead - Nevada - Miller - Lafayette - Columbia - Union						

	06	1200CST			0	0			Ice Storm
	08	1800CST							

An arctic cold front swept southeastward from the northern Plains into the lower Mississippi Valley on January 6 bringing icy temperatures across the region while an upper level low over the 4 corners region pumped moisture northward across the region from the Gulf of Mexico. This warm moisture laden air rode up over the freezing ground temperatures resulting in widespread freezing rain, sleet, and snow northeast Texas, extreme southeast Oklahoma, southwest Arkansas, and northwest Louisiana. Overall accumulations of ice and sleet was generally one to two inches along a 45 mile wide band from Reader and Lewisville, Arkansas to Marshall and Jacksonville, Texas. Numerous power outages occurred from iced power lines and tree limbs across power lines. The icy mixture moved into northwest Louisiana by the night of the 8th. Little accumulations were noted.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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ARKANSAS, Southwest

ARZ050>051-059>061- Sevier - Howard - Little River - Hempstead - Nevada - Miller 070

14	0600CST								
15	1200CST				0	0			Ice Storm

For the second time in this month another surge of Artic air plunged southward. The cold front responsible for the Artic air stalled along the Gulf Coast states and a low pressure system formed along the front in the northwestern Gulf of Mexico. The storm pushed warm moist air northward up and over the freezing ground temperatures resulting in an overrunning condition with widespread precipitation in the form of freezing rain mixed with sleet and snow. Significant ice accumulations led to highway closings in some areas. Interstate I-49 was completely iced over and closed from Shreveport to Lafayette, Louisiana.

Lafayette County

Bradley	27	1715CST			0	0			Hail (0.75)
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Columbia County

Taylor	27	1732CST			0	0			Hail (0.50)
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CALIFORNIA, Extreme Southeast

NONE REPORTED.

CALIFORNIA, North Central

CAZ013>019-063>064- Shasta Lake/North Shasta County - Burney Basin/Eastern Shasta County - Northern Sacramento Valley - Central Sacramento Valley - Southern Sacramento Valley - Carquinez Strait And Delta - Northern San

Joaquin Valley - Mountains Southwest Shasta County To Northern Lake County - Clear Lake/Berryessa Highlands - Northeast Foothills/Sacramento Valley - Motherlode/Camptonville To Goverland - Mt Shasta/Western Plumas County - West Slope Northern Sierra Nevada/Sierra County South

01	0001PST				0	0			Flood
27	2100PST								

Several periods of rain (with snow to unusually low elevations in the mountains) beginning December 20, 1996, set up saturated conditions that finally gave way on the 1st as subtropical air moved in and melted snow up to the 8000-foot level. The moist airmass also left huge amounts of additional rain in the valley, foothills, and mountains with its nearly ideal orographic enhancement conditions. Some of the higher amounts from December 26 to January 3 follow:

Shasta Lake inflow area:	Stouts Meadow	36.39 inches
	Shasta Dam	23.70
Feather River basin:	Four Trees	41.32
	Bucks Lake	42.16
Yuba River basin:	Strawberry Vly	32.80
American River basin:	Blue Canyon	29.73
Stanislaus River basin:	Gianelli	18.66
Sacramento River valley:	Redding	5.29
	Sacramento	3.71

At Bucks Lake, rainfall rates were 6.94 inches in 12 hours, 12.16 inches in 24 hours, 20.72 inches in 48 hours, and 27.56 inches in 72 hours. At most locations, the highest rates occurred on the 1st and 2nd.

A dry spell from the 3rd to the 11th allowed the flooding to subside in the Shasta-Cascades and the Sierra Nevada mountains, but flooding worsened in the valley below. As the runoff moved downstream and flood control dams operated at near maximum releases, stress on the Sacramento River and San Joaquin River levees resulted in numerous levee breaks, especially from the 4th to the 10th. The result was considerable inundation of the areas near the break. The major breaks for which separate damage figures were available are broken out below. Heavy rains returned at the end of the month, beginning on the 22nd and lasting through the 27th. These storms were colder in nature, with flooding problems mainly in the foothills and valley floor. Levees continued to break in the Sacramento-San Joaquin River delta as the floodwaters headed out to San Francisco Bay.

Preliminary data indicated record peak stages were set at nine river gages in the Sacramento-San Joaquin river system. The particular rivers include the Sacramento, San Joaquin, San Joaquin Eastside Bypass, Feather, and especially the Cosumnes and Tuolumne Rivers.

The variety and magnitude of the damage were huge. Besides 5 deaths (all accounted for in the entries which follow) in interior northern California, at least 120,000 total people were evacuated. The flooding damaged or destroyed 20,000 homes and 1500 businesses, at a minimum, in the estimated 250 square miles that were inundated. The toll in dollars will be measured in the billions; early estimates put the total bill for the state at \$1.6 billion, much of it in interior northern California. Infrastructure took the hardest hit, conservatively estimated at \$400 million for roads and \$300 million for flood control facilities. Agricultural damage estimates of \$250 million is expected to increase. Hardest hit included the artichoke and winter wheat crops, and the dairy industry, losing thousands of livestock drowned. The flooding also virtually destroyed two large fish hatcherys, the Feather River fish hatchery and the San Joaquin fish hatchery. The American Red Cross labeled the flooding a level 5 disaster--their

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
CALIFORNIA, North Central									
highest rating.									
Shasta County									
Burney	01	0600PST 1600PST			1	0			Flash Flood
Flooding due to snow melt and heavy rain on Burney Creek swept a vehicle off the road, drowning the driver. M36VE									
El Dorado County									
American River	01	0900PST 1900PST			0	0	10M		Flash Flood
Heavy rains and melting snow caused flooding and a massive mudslide near the town of Kyburz. US route 50, the main route from California to the south Lake Tahoe area, was closed for 17 days due to the mudslide and additional washouts. Numerous homes, cabins, resorts, and bridges sustained heavy damage or were destroyed completely. Small communities were isolated and without power for several days afterward.									
Sacramento County									
Wilton	02	1200PST 2200PST			1	0	2.4M		Flash Flood
The heavy rains brought the Cosumnes River to record flows above designed limits for the protective levees. Twenty breaks occurred, with the largest near the town of Wilton in the southern end of the county. The surging floodwaters inundated 33,000 acres of cropland and 84 homes. Emergency workers effected several roof-top and car-top rescues by boat and helicopter. The single death occurred at the Cosumnes River bridge near the town of McConnel. M26VE									
Yuba County									
Arboga	02 03	2030PST 0230PST			3	0			Flash Flood
A large levee break on the Feather River occurred as river flows equaled or exceeded the design parameters for the levee system. The results were 900 flooded homes and many people stranded on the roofs of homes and other high areas. Emergency crews made numerous boat and helicopter rescues during the morning of the 3rd. F55VE, M86PH, F85VE									
San Joaquin County									
Tracy	10	1420PST 2200PST			0	0			Flash Flood
A levee on the Thom Paine Slough broke, forcing some residents of the city of Tracy to evacuate									
CAZ013-068>069 Shasta Lake/North Shasta County - Mt Shasta/Western Plumas County - West Slope Northern Sierra Nevada/Sierra County South									
	20 22	0001PST 2300PST			0	0			Winter Storm
A winter storm left two to three feet of snow at elevations as low as 3,000 feet in the Shasta-Cascades region (Burney Basin) and four to five feet at Donner Summit. The snow was enough to shut down Interstate 80 and US highway 50 for much of the 22nd. 11,000 homes and businesses lost power in Plumas County, 5000 homes and businesses in eastern Shasta County, and 10,500 customers in the tri-county region of Tuolumne/Calaveras/Amador Counties.									
Colusa County									
Ladoga	22	1000PST 1500PST			0	0			Flash Flood
Overflow from Indian Creek damaged six houses.									
Butte County									
Palermo	22	1300PST 1700PST			0	0			Flash Flood
Heavy rains brought two small creeks in the town above their banks, damaging 10 homes.									
Yolo County									
Esparto	22	1300PST 1900PST			0	0			Flash Flood
Flooding from Lamb Valley Slough damaged several businesses and homes.									
Sacramento County									
Sacramento	22	1400PST 2000PST			0	0	1.5M		Flash Flood
Localized heavy rain brought Chicken Ranch Slough out of its banks, flooding the Arden-Arcade area of the city. At least 1,000 homes and apartment buildings were flooded.									
Butte County									
Chico	22	1400PST 1800PST			0	0			Flash Flood
Flooding damaged 20 homes as heavy rains overflowed in more urbanized areas and along the city's creeks.									
Butte County									
Butte Creek Canyon	22	1400PST 1800PST			0	0			Flash Flood

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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CALIFORNIA, North Central

Flooding from Butte Creek damaged 20 homes and buildings.

Solano County

Countywide	22	1400PST 1800PST			0	0			Flash Flood
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Creek and stream flooding due to heavy rain damaged several buildings, including the Solano county courthouse in Fairfield. At nearby Travis Air Force Base, 70 homes were damaged in base family housing.

Placer County

Roseville	22	1500PST 2000PST			0	0			Flash Flood
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Heavy rains on saturated soil caused flooding on Dry Creek and Linda Creek, damaging 21 homes.

El Dorado County

American River	24 25	1900PST 0500PST			0	0	5M		Flash Flood
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The return of rain to the Sierra Nevada caused another, larger, mudslide on US highway 50 at 2330 PST on the 24th near the town of White Hall. The slide was 800 feet wide and reached heights of 70 feet and contained a total of 500,000 cubic yards of earth. One home was destroyed in the slide. The south fork of the American River was temporarily dammed but broke through the slide slowly.

Lake County

Clear Lake Region	25	0400PST 0800PST			0	0			Flash Flood
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Small creek flooding damaged 5 homes.

Plumas County

Quincy	26	0100PST 0200PST			0	0			Flash Flood
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A small weir broke, causing damage in a shopping center.

Sacramento County

Sacramento	26	0200PST 0500PST			0	0	500K		Flash Flood
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Heavy showers and thunderstorms moved over the metro area, re-flooding the neighborhoods surrounding Chicken Ranch Slough, which had just experienced flooding the previous 22nd. The flooding was higher and caused additional damage to 500 more homes.

Placer County

Roseville	26	0400PST 0700PST			0	0			Flash Flood
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Linda and Dry Creeks once again flooded the city, damaging 21 buildings.

Placer County

Granite Bay	26	0500PST 1000PST			0	0	150K		Flash Flood
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Miners Ravine Creek overflowed from rains left by heavy showers and thunderstorms. The water damaged 15 structures.

Sacramento County

Rio Linda	26	0800PST 1400PST			0	0			Flash Flood
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Heavy thunderstorm activity during the morning, upstream on Dry Creek, reached the city later in the day. The water inundated 36 homes.

CALIFORNIA, Northeast

CAZ070>073

Surprise Valley - Lassen/Eastern Plumas/Eastern Sierra - Greater Lake Tahoe Area - Mono

01	0000PST			0	2	330M		Flood
17	0000PST							

Please see flood summary under Nevada zones from 1/01/97 to 1/17/97.

Mono County

Mammoth Lakes	01 02	1230PST 1830PST			0	0			Heavy Rain
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A weather spotter in the town of Mammoth Lakes measured 7.39 inches of rain in a 36 hour period.

CAZ073

Mono

12	1910PST			0	0			Heavy Snow
13	0710PST							

A weather observer in the town of Mammoth Lakes measured 12 inches of snow in about a 12 hour period.

CAZ070>073

Surprise Valley - Lassen/Eastern Plumas/Eastern Sierra - Greater Lake Tahoe Area - Mono

13	0000PST			0	0			Extreme Cold
15	0000PST							

Please see narrative under NVZ001-005 for the same time period.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
CALIFORNIA, Northeast									
CAZ073		Mono							
	19	2340PST			0	0			Heavy Snow
	21	0640PST							
	A weather spotter in the town of Mammoth Lakes reported a storm total of 2 feet of snow in a 36 hour period.								
CAZ072		Greater Lake Tahoe Area							
	20	0350PST			0	0			Heavy Snow
		1350PST							
	10 inches of snow fell at Truckee in about a 10 hour period.								
CAZ072		Greater Lake Tahoe Area							
	20	0515PST			0	0			Heavy Snow
		1715PST							
	The California Department of Transportation measured about 15 inches of snow over Donner Summit (near 7200 feet) in about a 12 hour period.								
CAZ072		Greater Lake Tahoe Area							
	20	0710PST			0	0			Heavy Snow
	21	0710PST							
	The California Department of Transportation measured 22 inches of snow in a 24 hour period at Kingvale.								
CAZ072		Greater Lake Tahoe Area							
	21	1855PST			0	0			Heavy Snow
	22	0455PST							
	A weather spotter near the Sugar Bowl Ski Resort measured 12 inches of snow at the 7,000 foot level in about a 10 hour period.								
CAZ072		Greater Lake Tahoe Area							
	21	2145PST			0	0			Heavy Snow
	22	0345PST							
	The California Department of Transportation measured about 7 inches of snow in 6 hours at Kingvale. Snow was falling at the rate of about 1 inch an hour.								
CAZ072		Greater Lake Tahoe Area							
	22	0100PST			0	0			Heavy Snow
		1300PST							
	A weather spotter in the Olympic Valley (Placer County) measured 15 inches of snow in a 12 hour period.								
CAZ071		Lassen/Eastern Plumas/Eastern Sierra							
	22	0600PST			0	0	200K		Heavy Snow
		1700PST							
	Several power poles and lines were reported snapped from heavy wet snow in Lassen, eastern Plumas, and eastern Sierra Counties. Approximately 11,000 customers lost power throughout this region. Some trees had fallen on some structures as well.								
CAZ072		Greater Lake Tahoe Area							
	22	0630PST			0	0			Heavy Snow
	23	0630PST							
	Heavy wet snow fell on many ski resorts in the Lake Tahoe area. Some 24 hour storm totals were as follows: 3 feet at Mt. Rose, 3.5 feet at Sierra at Tahoe, 4 feet at Kirkwood, and 3 feet at Alpine Meadows.								
CAZ072		Greater Lake Tahoe Area							
	22	0745PST			0	0			Heavy Snow
		1345PST							
	A weather spotter along Brockway Pass (Placer County) reported 11 inches of snow in a 6 hour duration.								
CAZ071		Lassen/Eastern Plumas/Eastern Sierra							
	22	0810PST			0	0			Heavy Snow
		2010PST							
	A weather spotter reported 16 inches of snow in Susanville in a 12 hour period.								
CAZ072		Greater Lake Tahoe Area							
	22	0825PST			0	0			Heavy Snow
		2025PST							
	A weather spotter along Brockway Pass measured 2 feet of snow in a 12 hour period. Also, 12-24 inch snowfall amounts were common around Lake Tahoe during the same time frame. Several avalanches occurred over a few roads and highways around Lake Tahoe, but there was no damage to vehicles. Interstate 80, Highway 431 (Mt. Rose Highway), and U.S. Highway 50 were closed at times Wednesday afternoon and evening due to the heavy wet snowfall.								
CAZ073		Mono							
	22	1305PST			0	0			Heavy Snow
	23	0105PST							
	A weather spotter in the town of Mammoth Lakes measured 12 inches of snow in a 6 hour period. The storm total over a 12 hour duration was 16 inches.								

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
CALIFORNIA, Northeast									
CAZ071		Lassen/Eastern Plumas/Eastern Sierra							
	24	1630PST			0	0			Heavy Snow
	25	1030PST							
	A weather spotter in the town of Susanville reported 10 inches of snow in an 18 hour period.								
CAZ073		Mono							
	24	1830PST			0	0			Heavy Snow
	25	0630PST							
	A weather observer in the town of Mammoth Lakes measured 12 inches of snow in a 12 hour period.								
CAZ072		Greater Lake Tahoe Area							
	24	2030PST			0	0			Heavy Snow
	25	0830PST							
	A weather observer along Brockway Pass (Placer County) reported 17 inches of snow in about a 12 hour duration. At the same time, a weather spotter in Incline Village (7,000 feet) measured 16 inches.								
CAZ072		Greater Lake Tahoe Area							
	25	0340PST			0	0			Heavy Snow
	26	0340PST							
	The California Department of Transportation measured 18 inches of snow over a 24 hour period at Kingvale.								
CAZ072		Greater Lake Tahoe Area							
	25	0600PST			0	0			Heavy Snow
	26	0600PST							
	Several Lake Tahoe ski resorts reported heavy snow over a 24 hour period. Some reports were as follows: 30 inches at Alpine Meadows, 30 inches at Sierra at Tahoe, and 24 inches at Kirkwood.								
CAZ072		Greater Lake Tahoe Area							
	25	0930PST			0	0			Heavy Snow
	26	0930PST							
	The California Department of Transportation reported 23 inches of snow in a 24 hour period at Donner Summit (near 7200 feet).								
CALIFORNIA, Northwest									
CAZ001		Redwood Coast							
	01	0000PST			0	0	30.3M		Flood
	03	0600PST							
	Widespread flooding of streams, creeks and rivers caused extensive damage. The hardest hit towns were Klamath and Stafford. Klamath was flooded by the Klamath River which crested 11.22 feet above flood stage. Stafford was virtually wiped out by a mudslide. Other major rivers that flooded and their crests were: the Eel River near Scotia (3.97 ft above flood stage), Eel River at Fernbridge (5.22 above FS), Eel River at Miranda (0.64 above FS), Mad River at Arcata (3.46 above FS) and the Van Duzen River near Bridgeville (0.91 above FS). Numerous road closures due to flooding and mudslides. The Northwest Pacific Railway was closed due to extensive damage to sections of track.								
CAZ003		North Coast Interior							
	01	0000PST			0	0			Flood
	03	0800PST							
	Widespread flooding including the Klamath River at Orleans which crested approximately 0.23 feet above flood stage. This crest is estimated due to a gage outage. Many roads were close in the area due to flooding and mudslides.								
CAZ004		Upper Trinity River							
	01	0000PST			0	0	5M		Flood
	02	1200PST							
	Many streams and rivers in Trinity County flooded, especially in the north half of the county. These streams included Coffee Creek, Canyon Creek, Trinity River, Mumbo Creek, East Weaver Creek and Stuart's Fork. Many roads were washed out or closed by mudslides. Numerous homes and cabins were damaged.								
CAZ001		Redwood Coast							
	01	0000PST			0	0			High Wind (G51)
		1500PST							
	The powerful Pacific storm that brought the devastating floods also carried strong winds. The highest recorded gust was 59 mph at Cooskie Mountain near Cape Mendocino.								
CAZ004		Upper Trinity River							
	20	0600PST			0	0			Heavy Snow
	21	2200PST							
	Two cold Pacific storms passed through Northwest California within 48 hours of each other. The first storm dropped around 6 inches of snow in the coastal mountains. The second brought an additional 8 to 10 inches. The two day total in Kettentpom in southwest Trinity County was 13 inches.								

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons	Estimated Damage	Property	Crops	Character of Storm
					Killed	Injured			

CALIFORNIA, Northwest

CAZ003	North Coast Interior								
	20	0600PST			0	0			Heavy Snow
	21	2200PST							
	The same series of storms that brought the snow to Zone 4 also affected Zone 3. A spotter north of Laytonville reported a storm total of 12 inches, 4 from the first storm and 8 from the second.								
Mendocino County									
Numerous	22	1000PST			0	0			Urban/Sml Stream Fld
		1430PST							
	Heavy rains caused minor flooding of urban areas, coastal streams and rivers. The Garcia River flooded Highway 1 near Point Arena. The urban flooding was mainly in the Ukiah area. At least one home was damaged in Talmage, southeast of Ukiah.								
CAZ001	Redwood Coast								
	25	0000PST			0	0			High Wind (G63)
	26	0200PST							
	Two surges of strong winds accompanied flood inducing rains. The first period occurred as the storm just began to reach shore. Cooskie Mountain reported a peak gust of 72 mph at 3 am 1/26. The wind subsided for a while during the middle of the day before increasing in the evening. Cooskie Mountain again reached a peak gust of 72 mph at 5 pm 1/26								
CAZ003	North Coast Interior								
	25	0000PST			0	0			High Wind (G58)
		0300PST							
	High winds buffeted the coastal hills as a storm system approached. Maple Creek reported a peak gust of 67 mph at midnight and 1 am.								
Mendocino County									
Numerous	25	0300PST			0	0			Urban/Sml Stream Fld
		1100PST							
	Additional rain caused several streams to spill their banks and close highways. Urban flooding was again reported in Ukiah.								
CAZ001	Redwood Coast								
	28	0000PST			0	0			Strong Wind
		0300PST							
	Strong winds briefly blew across the coast as a storm system approached. A spotter 9 miles south of Honeydew reported 45 mph winds shortly after midnight. Cooskie Mountain had a peak gust of 56 mph at 1 am.								

CALIFORNIA, South Central

CAZ022	Southern Sierra Nevada Mountains								
	01	1345PST			1	0	190M	0	Flood
	03	2000PST							
	Heavy rainfall on a much above normal snowpack subsequently led to floods in the Southern Sierra Nevada as well as the adjacent San Joaquin Valley. Especially hard hit was Yosemite National Park as the Merced River ran over 80-year historical record high water marks. The water level reached 23.45' on the Pohono Bridge gauging station measuring 24,600 CFS of water discharge as compared to a normal height for the time of year near 3.5'. The crest of the flooding occurred very late on January 2nd lingering well into the morning of the 3rd. One drowning fatality occurred in Mariposa County as a vehicle was swept from a roadway through the Chowchilla River. Huge water flows, upward to 90,000 CFS, coursed through the streams and rivers leading into Millerton Lake with similar amounts on the Merced River into Lake McClure during January 3rd. Damage by County and type within CA Zone 22: Yosemite National Park; Damage to park trails, roads, sewer and water systems, and housing \$178M. Mariposa County; Damage to county roads and property \$8.5M; one fatality at 7:20 PM PST on January 2nd. Madera County; No damage assessed in mountain areas. Fresno County; Highway 180 was damaged along 7 miles of road into Cedar Grove going into Kings National Park plus bridge damage near Big Creek \$1.8M. Kings Canyon National Park; Trail and road damage from high water. Specific damage amount listed under CA Zone 23. F33VE								
CAZ023	Tulare County Mountains								
	02	0800PST			0	0	1.6M	0	Flood
	03	2000PST							
	Heavy rainfall on a much above snowpack subsequently led to high runoff and floods throughout zone streams and rivers. Adversely impacted were Kings and Sequoia National Parks with substantial road and trail damage. Like CA Zone 22 the crest of the flood occurred late on the 2nd and lingered into the 3rd. However, the wet ground continued to give problems for the area until the end of January as continued rains gave rise to mudslides and further damage. Damage by County and type within CA Zone 23: Kings Canyon National Park; Damage to trails, side roads, the General's Highway (Highway 198) inside the park \$287K. Sequoia National Park; Washout damage to roads and trails inside the park \$185K. Tulare County; Damage to bridges and approach to bridges, especially upstream of Three Rivers on the Kaweah River and the Springville area \$1.1M								

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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CALIFORNIA, South Central

CAZ024

Kern County Mountains

	02	2041PST			0	0	50K	0	Flood
	03	2359PST							

Like other rivers in the Southern Sierra Nevada Mountains, the Kern River experienced much above normal water flow into Lake Isabella as heavy rain on a much above normal snow pack occurred. By late January 2nd the Kern River reached 42,000 CFS flowing by Kernville in Kern County. One mobile home very low in a riverside park was swept down river with a couple of others damaged. No injuries were reported.

CAZ020

Central San Joaquin Valley

	03	0800PST			0	0	3.5M	15M	Flood
	04	2359PST							

Heavy rainfall on a much above normal snowpack led to flooding in California; and specifically the San Joaquin Valley floor and adjacent Southern Sierra Nevada Mountains. Central San Joaquin Valley agriculture suffered tremendously as farm land was inundated from runoff, uncontrolled small streams, and major river flooding thereby causing damage to permanent crops, irrigation equipment, and roads. Damage by County and type within CA Zone 20:

Fresno County; Flooding along the San Joaquin River below Millerton Lake flooded houses, and farm land adjacent to the river. Damage to agriculture \$1.0M; other damage to houses, roads at \$1.4M.

Madera County; Flooding along the San Joaquin River below Millerton Lake flooded a mobile home park, and farm land adjacent to the river. Damage to agriculture \$5.1M; other damage \$2M.

Merced County; Flooding along the Merced River and especially along the confluence with the San Joaquin River caused significant problems to agriculture. Damage to agriculture \$8.9M; other \$0.1M.

Flooding swept from the adjacent Southern Sierra Nevada early January 3rd and continued beyond the 4th. The peak flow in this valley floor zone rivers in the east occurred late on the 3rd with the crest reaching the west side of the zone late in the night / very early on the 4th.

CAZ021

Southern San Joaquin Valley

	04	0410PST 2359PST			0	0	150K	55.7M	Flood
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Heavy rainfall on a much above normal snowpack led to flooding in Central California. Southern San Joaquin Valley agriculture suffered as farmland was inundated, especially in Kings County as Tulare Lake reformed. Flooding continued to be a problem well beyond January 4th. Damage by County and type within CA ZONE 21:

Kings County; Tulare Lake reformation kept acreage from being farmed during the 1997 crop year. Damage to agriculture \$50.3M; no other damage.

Tulare County; Flooding on the San Joaquin Valley floor in the vicinity of Earlimart from the White River, Porterville from the Tule River, and other east side communities along the South Sierra.

Damage to agriculture \$5.4M; other damage \$0.1M.

Kern County; A breach in Poso Creek levees early on the 4th through the 5th put water onto the valley floor near Wasco. Damage to agriculture unassessed. Other damage \$50K to a couple of homes.

Tulare County

5 E Tulare

	15	1610PST 1625PST			0	0	0	0	Funnel Cloud
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A line of thunderstorms WNW-ESE through Northern Kings into Tulare County brought reports of funnel clouds...most notably reports of two funnel clouds 5 miles east of Tulare at 1610 PST. The only other reports of consequence with this line were locally heavy rain at Lemoore and Visalia, and pea-size hail in Porterville.

Tulare County

Porterville

	15	1653PST 1658PST			0	0	0	0	Hail (0.33)
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With some late afternoon thunderstorm activity in Kings and Tulare Counties, pea-size hail was reported. No damage to area crops or property was reported.

Fresno County

10 E San Joaquin

	20	1200PST 1205PST			0	0	0	0	Funnel Cloud
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Funnel cloud observed by Fresno County deputies from several miles away was first thought to have touched the ground. Post-storm interviews lead to the classification of funnel only. No damage reported.

Fresno County

8 N Hanford to
5 SW Kingsburg

	20	1330PST 1340PST			0	0	0	0	Funnel Cloud
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Spotter reports and NWS staff observed this funnel during its life as it crossed the valley along the Kings/Fresno County line. Pea-sized hail also accompanied this storm and was reported 5 miles southwest of Kingsburg. No damage report was received.

Tulare County

8 NNW Visalia

	20	1440PST 1445PST			0	0	0	0	Funnel Cloud
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Spotter report of funnel cloud but no damage reported in the area.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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CALIFORNIA, South Central

Tulare County

**1 N Exeter to
3 ENE Exeter** 20 **1535PST
1545PST** 3 10 0 0 50K 0 **Tornado (F0)**

Funnel presence with damage on the ground in the vicinity leads to the conclusion of a small F0 tornado. Roofs were damaged, fences and trees downed, and some debris lifted that caused power outages when striking power transmission lines in a 3 mile "path" for the funnel that only occasionally was on the ground. Severe weather reports from the general public in the area around Exeter and another small Tulare County town of Farmersville are viewed as chaotic. However WSR-88D signatures indicate the presence of outflow boundary interaction and subsequent thunderstorm re-development in the area.

Tulare County

**3 NE Exeter to
3 ENE Exeter** 20 **1545PST
1547PST** 0 0 0 0 **Hail (0.75)**

Storm spotter reports indicated that hail also occurred with funnel presence near Exeter in Tulare County (sizes from 1/2 to 3/4 inch). Duration of the hail size at 3/4 inch in diameter was only for 2 minutes. No damage reported from the hail.

Tulare County

**10 NNW Porterville to
10 N Porterville** 20 **1615PST
1620PST** 0 0 0 0 **Funnel Cloud**

One of many funnel clouds reported this day. Unlike the Exeter area to the northwest, no damage was reported in the vicinity of this funnel. Law enforcement observed the funnel but verified that it did not touchdown.

CAZ022

Southern Sierra Nevada Mountains

**23 1630PST
26 2359PST** 0 0 2.1M 0 **Heavy Rain**

Damage was reported in Kings National Park where a rock and mud slide on Thursday, Jan 23rd, at 1630 PST took out Generals Highway just below Giant Village. Numerous trails and other roads were damaged within the Kings National Park boundary from the winter rains. Other damage from January rains resulted in Highway 180 being damaged near Boyden Cave in the Fresno County high country. The repair cost for seven miles of Highway 180 leading to Cedar Grove in the park alone is \$1.8M.

CAZ023

Tulare County Mountains

**23 1630PST
26 2359PST** 0 0 190K 0 **Heavy Rain**

Across the Fresno/Tulare County line south into Sequoia National Park January rain continued to bring rock and mudslides to areas of the park complex. Damage to the General's Highway (Highway 198) occurred just below Giant Village on Thursday, Jan 23rd, at 1630 PST. In addition, high water from runoff resulted in damage to Highway 198 just above Three Rivers being washed away outside the park. No vehicles or other damage was reported in that location.

CAZ021

Southern San Joaquin Valley

**24 1500PST
2200PST** 0 0 25K 0 **Flood**

A 10 foot section of the Jaye Street bridge in Porterville was washed away as the forecast for large amounts of mountain rain caused enough concern to force large water releases from Lake Success on the Tule River. No injuries were reported as the water level stayed 9 feet below the bridge and the event was well anticipated.

Madera County

Oakhurst 24 **1700PST
26 2359PST** 0 0 **Heavy Rain**

Following the heavy rain and snowmelt floods of early January and another storm passage around Jan 20th, another period of heavy rain occurred from the afternoon of Friday, Jan 24th, through Sunday Evening, January 26th. With moist antecedent conditions on Southern Sierra Nevada watersheds, saturated soils on the Central San Joaquin Valley floor, and water releases from filling mountain reservoirs into area rivers, small streams and urban areas experienced flooding. Doppler storm total precipitation from the period from the 24th through the 26th showed areas in the Southern Sierra getting from routinely 3-4 inches of rain, and areas in the Central San Joaquin Valley getting close to an inch of rain. A Madera County spotter at Oakhurst reported a storm total of 4.06 inches; a Fresno County spotter in the low foothills at Wonder Valley reported a storm total of 1.54 inches. Visalia storm totals in Tulare County were close to 1.4 inches; Fresno .83 inches; Hanford .53 inches; and Bakersfield .31 inches. A NE Fresno spotter reported a January rain total through the 26th of 4.60 inches. Tuolumne Meadows in the high Southern Sierra Nevada reported 115 inches of high water content snow on the ground.

Madera County

**Coursegold to
5 SE Madera** 26 **1206PST
2130PST** 0 0 **Urban/Sml Stream Fld**

Small stream flooding in many CA Zone 22 streams and ponding of water in low lying areas on the adjacent San Joaquin Valley Floor (CA Zone 20). Spotter reports indicated some flooding in the Coursegold area from Coursegold Creek near Road 207. In addition, on the San Joaquin Valley floor, Cottonwood Creek west of Highway 99 to Highway, Coursegold Creek near Road 207 in Eastern Madera County. This flooding continued on the San Joaquin Valley floor until 0600 PST, Monday, January 27th.

Merced County

**2 WNW Le Grand to
9 W Le Grand** 26 **1536PST
27 0600PST** 0 0 **Urban/Sml Stream Fld**

Flooding in Merced County from South Sierra Nevada Mountain runoff produced minor flooding along small creeks such as

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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CALIFORNIA, South Central

Deadman's Creek, Dutchman Creek, and Mariposa Creek from late on the 26th through early on the 27th.

Tulare County

Lindsay

	26	2110PST			0	0			Urban/Sml Stream Fld
	27	0600PST							

Similar to locations in CA Zones 20 and 22, CA Zones 21 and 23 experienced small stream and urban flooding on Sunday, Jan 26th, until about 0600 PST Jan 27th. Tulare County reported numerous roads with ponded water. Lewis Creek flooded in the vicinity of Lindsay. Runoff and small stream flooding from Dry Creek affected the area around Woodlake near 0350 PST on the morning of the 27th. No damage reports were received.

Fresno County

Mendota

	27	0350PST			0	0			Urban/Sml Stream Fld
		0600PST							

Panoche and Silver Creek are frequent culprits of putting sheet flow onto western Fresno County resulting in flooding in the town of Mendota such as late in the evening of January 26th / early January 27th.

CALIFORNIA, Southeast

CAZ026

Owens Valley

	25	0500MST			0	0			Heavy Snow
	26	0500MST							

A Pacific Storm deposited 12 inches of snow on the community of Aspendell in the Sierra Nevada Mountains.

San Bernardino County

Needles

	26	1730PST			0	0			Hail (0.75)
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The San Bernardino County Sheriff reported hailstones up to three-quarters of an inch in the city of Needles.

San Bernardino County

Needles

	26	1745PST			0	0	10K		Flash Flood
		1815PST							

Heavy rain from severe thunderstorms produced flash flooding around Needles stranding two cars in flood waters and leaving mud and debris on highway 95 south of town.

CALIFORNIA, Southwest

CAZ055>056-060

San Bernardino County Mountains - Riverside County Mountains - Apple And Yucca Valleys

	05	0600PST			0	0			Winter Storm
	06	0600PST							

A rapidly deepening upper low over southern California produced snow and strong winds in the mountains and high deserts. Snow was reported as low as 3200 feet in the Cajon Pass, along with wind gusts to 58 mph. Sleet, snow pellets, and thunder accompanied the snow at many locations. At least 7500 customers lost power throughout the region, as falling trees and branches severed electric lines. Four to five inch snows were reported in the mountains, with two to three inches in the Apple Valley.

CAZ042>043-048>050-055>058-061>062

Orange County Coastal Plain - San Diego County Coasts - San Bernardino County Valley/The Inland Empire - Riverside County Valley/The Inland Empire - San Diego County Valleys - San Bernardino County Mountains - Riverside County Mountains - Santa Ana Mountains And Foothills - San Diego County Mountains - Coachella Valley - San Diego County Deserts

	06	0000PST			0	4			High Wind (G86)
	07	1200PST							

A deep cut-off low aloft, coupled with strong, surface high pressure over northern Nevada, funneled gusty Santa Ana winds through the passes and canyons of southern California. Wind gusts reached 99 mph through Fremont Canyon of Orange County on the morning of the sixth. The winds toppled trees onto homes, cars, and freeways, blew trucks off the road, and mowed down utility poles, shutting off electric and phone service to hundreds of thousands. One 63 year old man suffered cuts to his head, after his pickup and trailer overturned. The CSU campus at San Bernardino was shut down for the first time in ten years, when windows shattered in the dormitory complex and three students suffered minor injuries when they were toppled by the wind. Mission Viejo, in Orange County, was particularly hard hit, with more than 1000 trees reported down, along with entire rows of utility poles. The I-15 was closed for more than six hours between Corona and Devore, due to 14 tractor-trailer rigs which tipped over. Near Mecca, in the Coachella Valley, a sandstorm contributed to a pile-up that left several people with minor injuries, and destroyed all vehicles involved. Southern California Edison reported over 900,000 customers lost electric power, which made it the worst interruption of service since 1983. Several TV and radio stations were knocked off the air as well.

CAZ058

San Diego County Mountains

	07	0000PST			14	0			Cold And Snow
	18	2000PST							

Persistent northerly flow and low pressure aloft along the west coast, resulted in a prolonged period of cold and snow for the San Diego Mountains. Up to 18 inches of snow was reported over the higher elevations of the Laguna Mountains, with temperatures dipping into the upper teens and twenties at night. Undocumented immigrants were caught unprepared for the harsh conditions, resulting in a rash of fatalities due to hypothermia. One man died on the seventh, while clinging to a tree in the Tijuana River.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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CALIFORNIA, Southwest

Another was found on the Campo Indian Reservation on the tenth. Four more bodies were recovered near Pine Valley on the thirteenth and fourteenth. Elsewhere, a women in her late 20s died in rural Campo, and a 21 year old man died near Jamul. On January 16, four more undocumented immigrants died of exposure crossing the Laguna Mountains. Finally, on the seventeenth and eighteenth, a young male body was found in an open area near Campo and another was recovered near Potrero. M22IW, M?OU, M17OU, F28OU, M21OU, F20OU, M22OU, M36OU, M37OU, M?OU, M21OU, M19OU, M17OU, M23OU

CAZ042>043-048>050-055>058-060 - Orange County Coastal Plain - San Diego County Coasts - San Bernardino County Valley/The Inland Empire - Riverside County Valley/The Inland Empire - San Diego County Valleys - San Bernardino County Mountains - Riverside County Mountains - Santa Ana Mountains And Foothills - San Diego County Mountains - Apple And Yucca Valleys

12	0900PST	0	1	Winter Storm
13	1800PST			

An upper level trough, rotating around a strong upper low retrograding southwestward from Idaho into western Nevada, tapped considerable Pacific moisture and Arctic air, resulting in heavy precipitation, thunderstorms, and gusty winds across most of southern California. On the coasts, waves up to 10 feet pounded west facing beaches, along with 1 to 2 inch rains. Inland, 1 to 3 inches of rain contributed to a multitude of automobile accidents and local flooding of roadways. Lightning from thunderstorms, and falling tree branches, severed electricity to thousands. One storm, early on the thirteenth, left a 10 block area of Cypress and Buena Park, in Orange County, with dime size hail up to 1 foot deep. In the mountains, heavy snow, sleet, and wind combined to snap trees and power lines. Snowfall of 1.5 to 3 feet was common on elevations above 2500 feet with amounts increasing above 8000 feet. In the San Gorgonio Wilderness, blizzard conditions accompanied by single digit temperatures and 4 foot deep snow, stranded a family of hikers who were later rescued. In the Cuyamaca Mountains of San Diego County, a 9 year old boy suffered hypothermia while hiking with two other adults. It took up to a week to restore electric and phone service to some mountain communities. In the high deserts around the Yucca Valley, hundreds lost power and cable service, when a relay station was damaged by the wind.

San Diego County

2.1 SW (San)San Diego Intl	12 1500PST	0	0	Waterspout
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A cold upper low and surface cold front combined to spin up a waterspout off the San Diego County coast. The waterspout briefly came ashore on Shelter Island, in San Diego Bay, damaging the Kona Kai Resort. The storm pulled up a wood walkway weighing 2 tons, and slammed it back into the water. In addition, a water pipe was broken and electric power severed. A total of \$65,000 in damage was reported.

CAZ042-048>049-055-057 - Orange County Coastal Plain - San Bernardino County Valley/The Inland Empire - Riverside County Valley/The Inland Empire - San Bernardino County Mountains - Santa Ana Mountains And Foothills

29	0000PST	0	0	High Wind (G86)
30	0300PST			

Surface high pressure building into the Great Basin, combined with favorable northeast winds aloft, to produce gusty offshore winds through and below the Cajon Pass and Fremont Canyon. Wind gusts peaked at 100 mph through Fremont Canyon on the morning of January 29. Later that afternoon Rialto, in San Bernardino County, had sustained winds of 40 to 50 mph, with gusts to 87. A big rig was toppled on a freeway entrance ramp in Ontario, and jets landing at the Ontario International Airport reported some difficulties.

CALIFORNIA, Upper

CAZ011

Siskiyou

01	0600PST	0	0	High Wind (G61)
03	1730PST			

CAZ011>012

Siskiyou - Modoc County Except Surprise Valley

01	0800PST	0	0	11M	Flood
03	0800PST				

A warm southwest flow pushed temperatures into the mid 50s to lower 60s New Years Eve Day with the freezing level rising to above 10,000 ft. Melting snow and moderate rain drove streams and rivers to flood stage. Strong winds spread across northern California...spotters in Siskiyou County reported winds of 35-55 mph with gusts to 70 mph New Years Day..

CALIFORNIA, West South Central

Los Angeles County

Redondo Beach	01 1300PST	0	27	Storm Surge
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At the King Harbor Breakwater, two 12 foot waves swept 27 people off the breakwater into the Pacific Ocean. The high waves were produced by a strong Eastern Pacific storm.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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CALIFORNIA, West South Central

CAZ040>041-044>047-053>054 - Ventura County Coast - Los Angeles County Coasts Including Downtown Los Angeles - Ventura County Interior Valleys - Ventura County Coastal Valleys - Santa Monica Mountains Recreation Area - Los Angeles County Valleys - Ventura County Mountains - Los Angeles County Mountains Excluding The Santa Monica Range

05	2100PST				1	0			High Wind (G86)
07	1200PST								

Strong Santa Ana winds pummelled Southern California. Northeast winds 40 to 60 mph with gusts to 99 mph were reported. In Shadow Hills, a 55 year-old man was killed when the winds blew down a 70 foot tree onto him. At Burbank Airport, the winds flipped over several small planes. Eleven cities: Arcadia, Claremont, Duarte, LaCanada Flintridge, LaVerne, monrovia, Pasadena, San Dimas, Temple City, San Fernando and Walnut declared local states of emergency due to wind damage. M55OT

CAZ039>041 - Santa Barbara County South Coast - Ventura County Coast - Los Angeles County Coasts Including Downtown Los Angeles

12	1000PST				0	0			Heavy Surf
14	1200PST								

A strong Eastern Pacific storm produced heavy surf along the beaches of Southern California. On west facing beaches, 8 to 12 foot surf was reported.

CAZ035>036-038>041-044>047-052>054 - Santa Barbara County Central Coast - Santa Ynez Valley - Cuyama Valley - Santa Barbara County South Coast - Ventura County Coast - Los Angeles County Coasts Including Downtown Los Angeles - Ventura County Interior Valleys - Ventura County Coastal Valleys - Santa Monica Mountains Recreation Area - Los Angeles County Valleys - Santa Barbara County Mountains - Ventura County Mountains - Los Angeles County Mountains Excluding The Santa Monica Range

12	1400PST				0	0			Winter Storm
13	1000PST								

A cold Pacific storm system produced a mixed bag of weather across Southern California. Over the coasts and valleys, the storm dumped between 0.50 and 1.50 inches of rain. the rain caused mudslides in Playa del Rey and numerous urban flooding. In Anaheim, the rain collapsed the roof of an office building. In the mountains, snow combined with west winds 25 to 35 mph to produce blizzard conditions. Mount Wilson reported 10 inches of snowfall while Crystal Lake reported 6 inches.

CAZ053>054-059 - Ventura County Mountains - Los Angeles County Mountains Excluding The Santa Monica Range - Antelope Valley

14	1800PST				0	0			Winter Storm
15	2100PST								

A cold Pacific storm produced more snow across the mountains and high deserts of Southern California. In the mountains, 4 to 8 inches of snow fell. The snow forced the closure of Highway 39 north of Coldbrook and portions of Interstate 5 in northern Los Angeles county. Across the Antelope Valley, the storm dropped snow levels down to 2500 feet. Anywhere from 3 to 5 inches of snowfall were reported over the Antelope Valley.

Los Angeles County

Point Fermin	20	0850PST 0915PST			0	0			Waterspout
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A strong cold front produced a waterspout near Point Fermin in the San Pedro Bay.

Los Angeles County

Norwalk	20	1352PST 1500PST			0	4			Flash Flood
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Storm runoff produced a four-foot high wall of water that swept down the Los Angeles River riverbed. Four construction workers, working on the concrete riverbed, were trapped by the water and had to be rescued by helicopter. Several construction vehicles were swept down the river.

CALIFORNIA, Western

CAZ005 - Sonoma / Marin

03	2000PST				1	0			Flood
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A 33 year old male dove into the high water of the Sonoma Creek to avoid the police and drowned. M33IW

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

COLORADO, Central and Northeast

COZ035-038-042>043-050 Northern Front Range Foothills/Upper Laramie And Cache La Poudre River Basins - Eastern Larimer And Northwestern Weld Counties - Northeastern Weld County - Southern Weld County/Greeley And Vicinity - Sedgwick And Phillips Counties

04	0020MST 1240MST			0	0	0	0	High Wind (G70)
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High winds gusting to 81 mph developed along portions of the Front Range Foothills and spread into the adjacent plains. Some of the stronger gusts included: 81 mph (70 kts) 9 miles west-southwest of Rustic, 71 mph (62 kts) at Wellington, 70 mph (61 kts) 4 miles east of Haxtun, 67 mph (58 kts) 21 miles north of New Raymer and 61 mph (53 kts) at Greeley.

COZ035-038-043 Northern Front Range Foothills/Upper Laramie And Cache La Poudre River Basins - Eastern Larimer And Northwestern Weld Counties - Southern Weld County/Greeley And Vicinity

10	0000MST 0800MST			0	0	0	0	Heavy Snow
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A strong upper level jet brought bands of heavy snow showers to portions of the Front Range Foothills and adjacent plains. Some of the snowfall totals included: 11 inches 1 mile east of Buckhorn Mountain, 10 inches at Silver Spruce Ranch north of Ward, 7 inches at Evans, 6 inches at Greeley and Loveland, with 4 inches at Fort Collins, New Raymer and 5 miles west-southwest of Wellington.

COZ033>034 Rabbit Ears & Medicine Bow Ranges/Rocky Mountain National Park - Summit County/Mosquito Range/Indian Peaks

10	0000MST			0	0	0	0	Heavy Snow
11	1200MST							

More heavy snow fell in the northern mountains over a 36-hr period. Some of the more impressive amounts included: 35 inches at Eldora Ski Area, 25 inches at Copper Mountain, 22 inches at Loveland Ski Area, 16 inches at Arapahoe Basin and Breckenridge, with 13 inches at Winter Park.

COZ032-036 Middle Park - Southern Front Range Foothills/Clear Creek Basin

10	1800MST			0	0	0	0	Heavy Snow
11	0600MST							

A foot of new snow fell at Blackhawk overnight while Kremmling received 9 inches.

COZ033>035 Rabbit Ears & Medicine Bow Ranges/Rocky Mountain National Park - Summit County/Mosquito Range/Indian Peaks - Northern Front Range Foothills/Upper Laramie And Cache La Poudre River Basins

11	1800MST			0	0	0	0	Heavy Snow
12	0600MST							

Heavy snow continued in portions of the northern mountains and northeast foothills. Some of the totals included: 14 inches at Allens Park, 7 inches at Coal Creek Canyon, 6 inches at Keystone and Silver Spruce Ranch, with 5 inches reported at Estes Park and Winter Park.

COZ044>050 Morgan County/Fort Morgan And Vicinity - Eastern Adams And Eastern Arapahoe Counties - Eastern Elbert And Northern Lincoln Counties/Limon And Vicinity - Southern Lincoln County - Logan County/Sterling And Vicinity - Washington County/Akron And Vicinity - Sedgwick And Phillips Counties

13	1800MST			0	0			Extreme Windchill
14	0600MST							

A combination of brisk northerly winds and a bitter cold Arctic airmass allowed for dangerous wind chill temperatures to develop over a large portion of the northeast plains. Wind chill readings generally ranged from 25 below zero to 40 below zero.

COZ048>050 Logan County/Sterling And Vicinity - Washington County/Akron And Vicinity - Sedgwick And Phillips Counties

15	1800MST			0	0			Extreme Windchill
16	0600MST							

Brisk northerly winds combined with frigid Arctic air to create another round of dangerous wind chill temperatures over extreme northeast Colorado. Wind chill readings generally ranged from 25 below zero to 50 below zero.

COZ035>036 Northern Front Range Foothills/Upper Laramie And Cache La Poudre River Basins - Southern Front Range Foothills/Clear Creek Basin

21	1400MST 1900MST			0	2	0	0	High Wind (G77)
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High winds along the Front Range Foothills caused an empty 18-wheeler to overturn on I-70, near the Morrison and C-470 exits. The truck landed on top of a passenger car traveling beside it. The drivers received only minor injuries. A peak gust to 89 mph (77 kts) was reported 1 mile east of Buckhorn while a gust to 62 mph (54 kts) was registered 9 miles west-southwest of Rustic.

COZ035 Northern Front Range Foothills/Upper Laramie And Cache La Poudre River Basins

23	0800MST			0	0	0	0	High Wind (G67)
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A peak wind gust to 78 mph (67 kts) was reported at Estes Park.

COZ035 Northern Front Range Foothills/Upper Laramie And Cache La Poudre River Basins

24	0805MST			0	0	0	0	High Wind (G86)
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A peak wind gust to 99 mph (86 kts) was recorded 1 mile east of Buckhorn Mountain.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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COLORADO, Central and Northeast

COZ034	Summit County/Mosquito Range/Indian Peaks								
	26	0600MST			0	0		0	Heavy Snow
	27	0600MST							

Up to a foot of heavy snow fell across portions of the north central mountains. Snowfall totals included: 12 inches at Klondike, 8 to 10 inches at Arapahoe Basin, the Eisenhower Tunnel, Keystone and Loveland Ski Area, with 7 inches reported at Winter Park.

COLORADO, East Central

NONE REPORTED.

COLORADO, South Central and Southeast

COZ060>061	La Garita Mountains - Eastern San Juan Mountains								
	03	1200MST			0	0			Heavy Snow
		1800MST							

A fast moving storm system brought 3 to 6 inches of snow to parts of the La Garita and Eastern San Juan mountains during the afternoon hours.

COZ060>062-065>066-070-072-074	La Garita Mountains - Eastern San Juan Mountains - Northern San Luis Valley/Del Norte And Vicinity - Northern Sangre De Cristo Mountains - Southern Sangre De Cristo Mountains - Wet Mountains - Northern El Paso County/Monument Ridge - Upper Huerfano River Basin/Walsenburg And Vicinity								
	05	1200MST			0	0			Heavy Snow
	06	1200MST							

A storm system brought heavy snows to south central and southeast Colorado. Snowfall amounts ranged from 4 to 6 inches in Northern El Paso county, north of Colorado Springs, the Wet Mountains, and in the northern San Luis Valley. Amounts of 6 to 12 inches occurred in the Eastern San Juan, La Garita, Sangre de Cristo, and Spanish Peaks Mountains. Pueblo, Colorado Springs, and parts of the southeast plains received significantly less snowfall, ranging from 1 to 4 inches. Walsenburg, in Huerfano county received nearly 9 inches of snow. Wolf Creek Pass, in southwest Colorado received over one foot of snow and was closed for a time.

COZ060>066-068-070>072-074>075	La Garita Mountains - Eastern San Juan Mountains - Northern San Luis Valley/Del Norte And Vicinity - Alamosa County/Alamosa And Vicinity - Southern San Luis Valley - Northern Sangre De Cristo Mountains - Southern Sangre De Cristo Mountains - Western Fremont And Northern Custer Counties - Wet Mountains - Southern El Paso County/Colorado Springs And Vicinity - Northern El Paso County/Monument Ridge - Upper Huerfano River Basin/Walsenburg And Vicinity - Upper Purgatoire River Basin/Trinidad And Vicinity								
	11	1700MST			0	0			Heavy Snow
	14	1600MST							

A Pacific storm system moved across southern Nevada, pumping moisture into Colorado. This produced heavy amounts of snow in the mountains statewide, and across most areas of southwest and south central Colorado. Most areas received 4 to 10 inches of snow, with the mountains and ski areas receiving 2 to 3 feet of new snow. The Wolf Creek Pass area received the most snow, with 80 inches or more (more than 6 feet) recorded over a span of 60 hours.

COZ071>081	Southern El Paso County/Colorado Springs And Vicinity - Northern El Paso County/Monument Ridge - Pueblo And Eastern Fremont Counties/Pueblo And Vicinity - Upper Huerfano River Basin/Walsenburg And Vicinity - Upper Purgatoire River Basin/Trinidad And Vicinity - Crowley And Otero Counties/La Junta And Vicinity - Eastern Las Animas County - Kiowa County - Bent County/Las Animas And Vicinity - Prowers County/Lamar And Vicinity - Baca County/Springfield And Vicinity								
	11	1900MST			0	0			Extreme Windchill
	12	0500MST							

Arctic air in combination with strong winds produced wind chills of 20 to 35 degrees below zero across the southeast plains of Colorado, and the foothills.

COZ076-079	Crowley And Otero Counties/La Junta And Vicinity - Bent County/Las Animas And Vicinity								
	14	1800MST			0	0			Heavy Snow
	15	0000MST							

Heavy snow fell across Crowley, Otero, and Bent counties in the southeast plains of Colorado the evening of the 14th, producing rapid snowfall accumulations of 4 to 10 inches. Ordway, in Crowley county, picked up 8 to 10 inches of snow, while the city of La Junta received 4 to 6 inches of new snow.

COZ071>072	Southern El Paso County/Colorado Springs And Vicinity - Northern El Paso County/Monument Ridge								
	16	0330MST			0	0			Heavy Snow
		0900MST							

An area of snow moved across El Paso county early on the morning of the 16th, producing accumulations of 3 to 6 inches and causing widespread traffic problems across Colorado Springs for the morning commute. The heaviest accumulations were in the Monument Ridge area of northern El Paso county, where around 6 inches of snow fell in many locations.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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COLORADO, South Central and Southeast

COZ060>061-065 La Garita Mountains - Eastern San Juan Mountains - Northern Sangre De Cristo Mountains

	22	1800MST			0	0			Heavy Snow
	23	1800MST							

A Pacific storm system brought heavy snow to the Eastern San Juan, La Garita and northern Sangre de Cristo Mountains from the evening of the 22nd through the 23rd. Snow amounts ranged from 5 to 10 inches in parts of the Eastern San Juan Mountains, and 3 to 6 inches in the La Garita and northern sections of the Sangre de Cristo Mountains.

COZ060>061 La Garita Mountains - Eastern San Juan Mountains

	25	1800MST			0	0			Heavy Snow
	26	1500MST							

Another Pacific storm system brought heavy snow amounts to the Eastern San Juan and La Garita Mountains of southwest and south central Colorado. Snow amounts in parts of the area ranged from 6 to 12 inches.

COLORADO, West

COZ004>005-009>010-012-018 Elkhead And Park Mountains/Flat Tops/White River Plateau - Upper Yampa River Basin/Steamboat Springs And Vicinity - Grand And Battlement Mesas - Gore And Elk Mountains/Central Mountain Valleys/Aspen And Vicinity - West Elk And Sawatch Mountains/Taylor Park - Northwestern San Juan Mountains

	03	0500MST			0	0			Heavy Snow
	04	1000MST							

A moist west to northwest flow aloft brought 6 to 12 inches of new snow to the northern and central mountains of western Colorado, as well as the northwest San Juan Mountains in southwest Colorado. Heavier amounts included 14 inches at the Marvinne Ranch in the Flat Tops Mountains and 13 inches at Snowmass.

COZ002>005-007>012-015 Central Yampa River Basin/Craig-Hayden And Vicinity - Roan And Tavaputs Plateaus - Elkhead And Park Mountains/Flat Tops/White River Plateau - Upper Yampa River Basin/Steamboat Springs And Vicinity - Debeque Rifle Glenwood Springs Corridor - Central Colorado River Basin/Eagle And Vicinity - Grand And Battlement Mesas - Gore And Elk Mountains/Central Mountain Valleys/Aspen And Vicinity - Central Gunnison And Uncompahgre River Basin/Montrose And Vicinity - West Elk And Sawatch Mountains/Taylor Park - Leadville And Vicinity

	09	0400MST			0	0			Heavy Snow
	11	2000MST							

A persistent moist northwest flow aloft resulted in snowfall totals of 3 to 5 feet in the northern mountains and 2 to 4 feet in the central mountains of western Colorado. Lower elevation snowfall totals of 12 inches or more were common. Steamboat Springs received 37 inches, while the adjacent mountains picked up 45 to 60 inches.

COZ019-021>023 Southwestern San Juan Mountains - Four Corners/Upper Dolores River/Cortez And Vicinity - Animas River Basin/Durango And Vicinity - San Juan River Basin/Pagosa Springs And Vicinity

	11	1500MST			0	0			Winter Storm
	14	2100MST							

A persistent southwest flow aloft ahead of an upper low over the Great Basin resulted in a total of 3 to 5 feet of snowfall in the southwest San Juan Mountains and generally 1 to 3 feet of snow at elevations below the 8000 foot level. Some of the heaviest snowfall amounts included 60 inches at Tall Timber Resort just north of Rockwood, 60 inches at Lemon Reservoir (20 miles northeast of Durango), 46 inches at Pagosa Springs, and 41 inches at Durango. Strong winds in portions of Montezuma and La Plata counties resulted in blizzard-like conditions, with snow drifts up to 6 feet deep. Many roads became impassable during this storm.

COZ002 Central Yampa River Basin/Craig-Hayden And Vicinity

	12	1200MST			0	0	3K		High Wind
		1210MST							

A sudden gust of wind picked up hundreds of plastic squares off the ground which had just been delivered for use in construction at a coal burning power plant located 5 miles south of Craig. Each square was 12 inches thick and 3 feet square. Some of the plastic squares were impaled on louvers of the cooling tower as high as 60 feet above the ground.

COZ004>005-010-018 Elkhead And Park Mountains/Flat Tops/White River Plateau - Upper Yampa River Basin/Steamboat Springs And Vicinity - Gore And Elk Mountains/Central Mountain Valleys/Aspen And Vicinity - Northwestern San Juan Mountains

	14	1900MST			0	0			Heavy Snow
	15	0600MST							

A moist northwest flow aloft returned to the area and generally deposited 6 to 12 inches of snow in many mountain areas of western Colorado. 13 inches of new snow was reported at Steamboat Ski Area.

COZ004-009>010-012 Elkhead And Park Mountains/Flat Tops/White River Plateau - Grand And Battlement Mesas - Gore And Elk Mountains/Central Mountain Valleys/Aspen And Vicinity - West Elk And Sawatch Mountains/Taylor Park

	21	0400MST			0	0			Heavy Snow
		1400MST							

A moist westerly flow brought 5 to 10 inches of new snow to most northern and central mountains of western Colorado.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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COLORADO, West

COZ004>005-009>010-012-018>019-021>022	Elkhead And Park Mountains/Flat Tops/White River Plateau - Upper Yampa River Basin/Steamboat Springs And Vicinity - Grand And Battlement Mesas - Gore And Elk Mountains/Central Mountain Valleys/Aspen And Vicinity - West Elk And Sawatch Mountains/Taylor Park - Northwestern San Juan Mountains - Southwestern San Juan Mountains - Four Corners/Upper Dolores River/Cortez And Vicinity - Animas River Basin/Durango And Vicinity								
	23	0400MST 2100MST			0	0			Heavy Snow

A moist westerly flow generally produced 5 to 10 inches of new snow in many mountain areas of western Colorado, as well as the lower elevations in extreme southwest Colorado. 12 inches were reported on the Grand Mesa.

COZ002>005-008>010-012-014>015-017>019-021>023	Central Yampa River Basin/Craig-Hayden And Vicinity - Roan And Tavaputs Plateaus - Elkhead And Park Mountains/Flat Tops/White River Plateau - Upper Yampa River Basin/Steamboat Springs And Vicinity - Central Colorado River Basin/Eagle And Vicinity - Grand And Battlement Mesas - Gore And Elk Mountains/Central Mountain Valleys/Aspen And Vicinity - West Elk And Sawatch Mountains/Taylor Park - Upper Gunnison River Valley/Gunnison And Vicinity - Leadville And Vicinity - Uncompahgre Plateau - Northwestern San Juan Mountains - Southwestern San Juan Mountains - Four Corners/Upper Dolores River/Cortez And Vicinity - Animas River Basin/Durango And Vicinity - San Juan River Basin/Pagosa Springs And Vicinity								
	25	0800MST			0	0			Heavy Snow
	26	1200MST							

A westerly flow of Pacific moisture brought another round of heavy snow to the mountains and some valleys of western Colorado, with 6 to 12 inches common. Some of the heaviest amounts included 24 inches in the mountains above Marble, 18 inches at Crested Butte, 17 inches at Rico, 16 inches over Monarch Pass, and 13 inches on Coal Bank Pass.

COZ009>010-012-017>019	Grand And Battlement Mesas - Gore And Elk Mountains/Central Mountain Valleys/Aspen And Vicinity - West Elk And Sawatch Mountains/Taylor Park - Uncompahgre Plateau - Northwestern San Juan Mountains - Southwestern San Juan Mountains								
	26	1200MST			0	0			Heavy Snow
	27	0500MST							

A surge of Pacific moisture in a westerly flow produced an additional 5 to 10 inches of new snow in the central and southern mountains of western Colorado. The Grand Mesa was the exception with 12 inches.

CONNECTICUT, Northeast

CTZ002>004	Hartford - Tolland - Windham								
	24	1800EST			0	0			Freezing Rain
	25	0600EST							

Light freezing rain created very treacherous driving conditions and caused numerous skidding accidents, including many multiple-car accidents. State police at the Tolland barracks reported 60-80 accidents, mostly minor, late Friday night, January 24th. Several bridges had to be closed in the Hartford area when more than a dozen cars collided. Several other highways also were closed in northern Connecticut due to icing conditions. A spotter in Windsor reported 1/4" to 1/3" of ice on trees during the early morning hours on January 25th.

CONNECTICUT, Northwest

NONE REPORTED.

CONNECTICUT, Southern

New Haven County									
Milford	09	2325EST			0	0			Coastal Flood

A low pressure system intensified as it moved north along the coast.

High astronomical tides combined with brief easterly gales that developed across Long Island Sound during Thursday evening on January 9th and caused water to pile-up in the city of Milford at high tide.

Tidal flooding submerged cars and inundated parts of low-lying areas.

DELAWARE

DEZ001	New Castle								
	01	1900EST 2000EST			0	0			Freezing Drizzle

Freezing drizzle caused slippery roads to develop across New Castle County the evening of the 1st. Three multivehicle accidents including one 8 car pile-up occurred on Delaware State Route 141 in Newport within a ten minute span. Three accidents also occurred in Newark.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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DELAWARE

DEZ001>004

New Castle - Kent - Inland Sussex - Delaware Beaches

03	1000EST				0	0			Unseasonably Warm
06	2300EST								

A persistent west to southwest flow throughout the start of 1997 led to unseasonably warm weather from the 3rd through the 6th across Delaware. The warmest days statewide were the 3rd and the 5th. A weak backdoor cold front brought mostly cloudy skies and slightly cooler temperatures to the northern part of the state on the 4th. In spite of a cold frontal passage, during the 6th, some places in Sussex County still managed to reach into the 60s. A record breaking high of 62 degrees was set at the New Castle County Airport on the 3rd. The warmest day though was the 5th when the high reached 65 degrees, but was not a record. Georgetown reached 69 degrees on the 4th.

DEZ001

New Castle

09	1000EST				0	0			Sleet/Freezing Rain
	2200EST								

DEZ002

Kent

09	1000EST				0	0			Freezing Rain
	1700EST								

Double barrel low pressure systems spread a mixture of sleet and freezing rain across the northern half of Delaware. Precipitation started briefly as light snow across northern New Castle County. Precipitation spread across the area by noon on the 9th. Strong east winds helped change it from sleet and freezing rain to plain rain from southeast to northwest across the state. Very little freezing precipitation occurred in Sussex County. The significant precipitation ended by the late evening of the 9th. The wintry mix of sleet and freezing rain did cause slippery roads and contributed to a fatal accident just west of Dover. A 49-year-old and 66-year-old woman were both killed when they collided head-on with another vehicle. Farther north along Interstate 495 traffic was stopped for "miles" during rush hour due to the combination of slippery roads and accidents. The lows went from the central Ohio Valley and Georgia the morning of the 9th to Lake Huron (the former) and Boston (the latter) the morning of the 10th. Keeping separate identities prevented these lows from dropping heavier precipitation across the area.

DEZ001>002

New Castle - Kent

11	0100EST				0	0			Snow
	0800EST								

A weak low pressure system developed over Virginia the night of the 10th along a secondary cold front. As the low moved northeast and reached Block Island Rhode Island during the morning of the 11th, a swath of light snow accompanied it during the pre-dawn hours. For most places across central and northern Delaware, this was the first measurable snowfall of the season. Accumulations though were light, mainly between 1 and 2 inches across Kent and New Castle Counties. Just a trace of snow fell at Lewes. Since the snow fell very early on a Saturday morning, few accidents occurred.

DEZ001>004

New Castle - Kent - Inland Sussex - Delaware Beaches

17	0100EST				0	0			Extreme Cold
20	0900EST								

The coldest air mass of the winter season moved into Delaware on Friday the 17th. The high pressure system came straight from the arctic tundra and moved southeast reaching the Middle and South Atlantic States on the 19th and 20th. Strong gusty northwest winds brought wind chill factors well below zero on the 17th and 18th.

The coldest morning was the 19th. For most locations this was the coldest day of the winter season. Low temperatures that morning included 2F in Georgetown, 4F in Prices Corner (New Castle County), 5F in Pennyhill (New Castle County), 6F at the New Castle County Airport and Bridgeville (Sussex County) and 7F in Lewes. No new record lows were set.

DEZ001

New Castle

22	0500EST				0	0			Black Ice
	0800EST								

A moist south to southeast flow from Delaware Bay passing over road surfaces that were very cold from the recent deep freeze helped black ice to form on roadways, bridges and overpasses the morning of the 22nd. This thin layer of ice that is virtually impossible to detect helped contribute to three traffic fatalities and over 100 injuries in the Greater Philadelphia Metropolitan Area. All the fatalities occurred in Pennsylvania and New Jersey.

DISTRICT OF COLUMBIA

DCZ001

District Of Columbia

09	0700EST				0	0			Winter Weather
	1600EST								

The first city-wide winter weather event of the 1996/97 season spread a mix of snow, sleet, and freezing rain across the city during the daylight hours of the 9th. Before the precipitation ended, a crusty coating of 2 or 3 inches of snow and sleet had fallen.

The event was the result of subtropical moisture rapidly overrunning a dome of cold air, causing a period of moderate snow and sleet. A secondary wave of low pressure developed along the North Carolina coast, locking the low-level cold air in place over inland locations.

Precipitation had an immediate impact on the morning commute, causing numerous fender-benders and a several more serious accidents in the metropolitan area. One of the more notable accidents occurred in Southeast, where a 10-car pileup was noted on

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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DISTRICT OF COLUMBIA

the 11th Street bridge.

The changeover to mixed precipitation, combined with widespread road treatments, allowed for a more benign evening commute. Residential roads remained treacherous until the following day, when afternoon temperatures rose well above freezing.

Late on the 10th and early on the 11th, a band of moderate snow developed along an arctic front, producing 1 to 2 inches across the city. There was negligible human impact with this event, since it occurred overnight on a weekend.

FLORIDA, East Central

Martin County

Stuart	25	1500EST			0	0	0		Waterspout
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A waterspout in the North Fork of the St. Lucie River flipped three small boats. No one was injured.

FLORIDA, Northeastern

Suwannee County

10 NW Live Oak to 11.5 NNW Live Oak	09	0820EST 0830EST	1.5	30	0	0	100K		Tornado (F0)
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Tornado moved across the northern portion of Suwannee County. One singlewide unoccupied mobile home on 48th Street (off Nobles Ferry road) was destroyed. Five barns were damaged and numerous trees were downed.

FLORIDA, Northwest

Holmes County

Westville	08	0715CST			0	0			Hail (0.75)
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Dime sized hail was reported by county Emergency Management.

Jackson County

Graceville	08	0730CST			0	0			Hail (1.00)
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Graceville Police Department reported nickel sized hail.

Holmes County

Bonifay	08	0745CST			0	0			Hail (1.00)
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Nickel sized hail was reported by county Emergency Management.

Calhoun County

Countywide	08	0830CST			0	0			Hail (0.75)
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Dime sized hail covered the ground in places across the county according to county Emergency Management.

Leon County

Tallahassee	08	1035EST			0	0			Hail (0.75)
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Hail up to dime size was reported by NWS personnel and a Florida State University meteorologist over northern sections of Tallahassee.

Taylor County

1 SE Perry	09	0725EST			0	0	20K	0	Thunderstorm Wind
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Donwburst winds blew a mobile home just off its blocks toppled a large shed. Several other sheds and out buildings were damaged or destroyed. Numerous trees, mainly oaks and pines, were blown down or damaged.

Walton County

3 N Mossy Head	15	2222CST			0	0	5K	0	Thunderstorm Wind
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Several trees were blown down and a home sustained minor damage.

Walton County

6 SW De Funiak Spgs	15	2249CST	0.2	75	0	0	10K	0	Tornado (F1)
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A barn was destroyed and power poles were snapped by a tornado according to county Emergency Management.

Washington County

Hinsons Xrds	15	2312CST	0.2	50	0	3	30K	0	Tornado (F1)
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A tornado destroyed a mobile home injuring 3 people.

Washington County

Vernon	15	2314CST	0.2	50	0	0	50K	0	Tornado (F1)
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A tornado damaged four homes.

Calhoun County

5 W Camps Head	15	2343CST	0.5	150	0	1	50K	0.50K	Tornado (F2)
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A tornado completely destroyed a frame home badly injuring a man. Other nearby homes received minor damage. Scores of trees were snapped or uprooted.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>FLORIDA, Northwest</u>									
Calhoun County									
2 SW Camps Head	15	2345CST	0.5	50	0	0	50K	0	Tornado (F1)
A tornado pushed one mobile home over, damaged another and destroyed a shed. Numerous trees were snapped or uprooted.									
Jackson County									
Marianna	15	2345CST			0	0	5K	0	Thunderstorm Wind
A few trees and power lines were reported blown down over the western parts of Marianna.									
Calhoun County									
6 SW Altha	15	2350CST			0	0	10K	0	Thunderstorm Wind
Several homes and other buildings received minor damage. A few trees were snapped.									
Gadsden County									
3 W Greensboro	16	0120EST	0.5	75	0	0	0.50K	0	Tornado (F1)
A tornado touched down in a church cemetery downing trees and knocking over 20 or so tombstones. The church was only slightly damaged. The tornado crossed the road and snapped hundreds of trees in some thick woods to the east of the cemetery.									
Walton County									
De Funiak Spgs	24	2100CST			0	0	1K	0	Thunderstorm Wind
Power lines were blown down near De Funiak Springs.									
<u>FLORIDA, Southern</u>									
Broward County									
10-15Nm E Kfl	03	0701EST 0710EST			0	0			Waterspout
Two waterspouts sighted by aircraft									
Collier County									
Near Naples	09	2100EST 2110EST			0	0			Funnel Cloud
Palm Beach County									
North Of Gun Club Rd to South Of Gun Club Rd	09	2340EST 2359EST	1	25	0	0	75K		Tornado (F1)
One trailer destroyed...several with major damage									
FLZ063-066>070-073>074									
Glades - Hendry - Inland Palm Beach - Coastal Palm Beach - Coastal Collier - Inland Collier - Inland Dade - Coastal Dade									
	19	0300EST 0700EST			0	0		200M	Extreme Cold
Palm Beach County									
W. Boyton Bch to W.Boyton Bch	25	1540EST			0	0			Thunderstorm Wind (G50)
roof blown off trailer									
Palm Beach County									
Central P.B. County	28	1706EST 1715EST	0.5	25	0	0			Tornado (F0)
Pilot reported between Lion Country Safari and Pahokee									
<u>FLORIDA, West Central</u>									
FLZ039-042>043-048>051									
Levy - Citrus - Sumter - Hernando - Pasco - Pinellas - Hillsborough									
	01	0100EST 1000EST			0	0	0	0	Fog
Dense fog reduced visibilities to less than one quarter mile mainly west of the I-75 corridor from the Tampa Bay metropolitan area north to Wildwood.									
FLZ039-042>043-048>051									
Levy - Citrus - Sumter - Hernando - Pasco - Pinellas - Hillsborough									
	03	0100EST 1000EST			0	0	0	0	Fog
Dense fog reduced visibilities to less than one quarter mile, mainly west of the I-75 corridor, from the Tampa metropolitan area north to Wildwood.									
FLZ039-042>043-048>051									
Levy - Citrus - Sumter - Hernando - Pasco - Pinellas - Hillsborough									
	04	0100EST 1000EST			0	0	0	0	Fog
Dense fog reduced visibilities to less than a quarter mile, mainly west of the I-75 corridor, from the Tampa Bay metropolitan area									

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

FLORIDA, West Central

north to Wildwood.

FLZ039-042>043-048>052-055>057-060>061 **Levy - Citrus - Sumter - Hernando - Pasco - Pinellas - Hillsborough - Polk - Manatee - Hardee - Highlands - Sarasota - De Soto**

07	0400EST		0	0	0	0	0	0	Fog
	1000EST								

Dense fog reduced visibilities to less than a quarter mile over most of West Central Florida for several hours.

FLZ050>052-055>057-060>062-065 **Pinellas - Hillsborough - Polk - Manatee - Hardee - Highlands - Sarasota - De Soto - Charlotte - Lee**

08	0400EST		0	0	0	0	0	0	Fog
	0900EST								

Dense fog reduced visibilities to less than one quarter mile over most of West Central and Southwest Florida for several hours.

Levy County

32 SE Chiefland

09	1108EST		0	0	1K	0	0	0	Tstm Wind 40
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Thunderstorm winds of 45 mph caused minor wind damage to a mobile home porch at a Department of Forestry Youth Camp near the intersection of State Road 337 and County Road 336.

Pinellas County

3 E Clearwater

09	1245EST		0	0	10K	0	0	0	Tstm Wind 45
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Thunderstorm winds of 50 mph caused minor damage to seven mobile homes at the Twin Palms Mobile Home Park on the northeast intersection of State Road 60 and Belcher Avenue. The damage was confined to broken windows and wind ripped aluminum siding along the corners of the mobile homes.

Pasco County

Zephyrhills

09	1337EST		0	0	0	0	0	0	Thunderstorm Wind (G60)
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A thunderstorm wind gust of 69 mph was observed at the Zephyrhills Weightman Middle School.

Hillsborough County

Tampa to
8 E Tampa

09	1340EST		0	0	10K	0	0	0	Thunderstorm Wind
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Thunderstorm winds downed several power lines and a few trees throughout the city of Tampa east to Brandon. Nearly 2,000 residents lost power for up to two hours.

Manatee County

Anna Maria

09	1435EST	0.1	5	0	0	3K	0	0	Tornado (F0)
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A brief short-lived tornado touched down and removed the roof of a mobile home and snapped a telephone pole in the Paradise Bay Mobile Home Park on Anna Maria Island before it receded and dissipated.

Sarasota County

Sarasota

09	1612EST	0.1	5	0	0	0	0	0	Tornado (F0)
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A brief short-lived tornado touched down in Sarasota and quickly receded without producing damage.

FLZ039-043-048>049-051>052-055>057-060>062-065 **Levy - Sumter - Hernando - Pasco - Hillsborough - Polk - Manatee - Hardee - Highlands - Sarasota - De Soto - Charlotte - Lee**

19	0200EST		0	0	0	12.9M	0	0	Hard Freeze
	0800EST								

A hard freeze produced temperatures that dropped into the low to middle 20's across most of West Central Florida and Southwest Florida for durations of up to six to eight hours. Freeze damage to crops over the region was estimated to be 12.9 million dollars. Nearly 90 percent of Southwest Florida's winter crop was severely damaged by the freeze.

Primary crops severely damaged by the freeze were beans, squash, tomatoes, sweet corn, zucchini, peppers, eggplant, cucumbers, cabbage, watermelons and strawberries. Exotic fruit and plants were also damaged by the freeze, primarily over Southwest Florida.

Crop losses in Lee county were reported at \$9.8 million dollars, Charlotte county reported \$2.2 million dollars, Highlands county \$583,000 dollars, and \$294,000 dollars. Freeze damage to other counties in West Central and Southwest Florida was minimal.

Citrus damage was concentrated over Lee, Charlotte, De Soto, Hardee, Sarasota, Manatee, Highlands and Polk counties in descending order. Lee county reported citrus fruit losses of nearly 50 percent while Charlotte county reported a 45 percent loss. Citrus fruit damage in De Soto county was estimated at 35 percent, Sarasota and Manatee counties 30 percent, Hardee county 25 percent, while Highlands and Polk counties estimated nearly 20 percent. Wood damage to citrus trees in De Soto county was reported as serious while Highlands county reported moderate to heavy damage. Freeze damage to the wood of citrus trees, to a lesser extent, was also reported in Hardee, Sarasota, Manatee, Charlotte and Lee counties.

The freeze also caused a major power outage in the city of Arcadia in Hardee county where nearly 7,000

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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FLORIDA, West Central

residents were without electricity for at least eight hours.

FLZ039-042

Levy - Citrus

23	0300EST				0	0	0	0	Fog
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Dense fog reduced visibilities to less than a quarter mile, mainly west of the U.S. Highway 19 corridor, from Crystal River north to Chiefland.

Polk County

Lakeland

25	1405EST				0	0	8K	0	Tstm Wind (41)
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Thunderstorm winds of 46 mph downed a few rotted trees which caused minor to moderate damage to the walls and roofs of two homes near the intersection of Jefferson Street and Lexington in Lakeland.

Hillsborough County

6 NW Tampa

29	1851EST				0	0	3K	0	Thunderstorm Wind
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Thunderstorm winds downed three power poles and lines along Memorial Highway in the Town-in-Country area of northwest Tampa.

Pasco County

7 SW Zephyrhills

29	2015EST				0	0	6K	0	Thunderstorm Wind
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Thunderstorm winds caused moderate damage to the roofs of two mobile homes, minor damage to three additional mobile homes and toppled then destroyed a few sheds along State Road 54, four miles west of I-75 near Wesley Chapel.

Pasco County

2.5 N Zephyrhills

29	2110EST				0	0	0	0	Hail (0.75)
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Dime sized hail, driven by a 60 mph northeast wind, combined with a gentle northeast to southwest sloping terrain, and falling in torrential rain of four inches in less than 30 minutes, allowed hail to accumulate to depths of up to four feet in shallow ravines and low-lying areas in the hill country of eastern Pasco county.

Most of the accumulated hail occurred one-quarter mile west of U.S. Highway 301 and Bailey Hill Road intersection, 2.5 miles north of Zephyrhills.

Pasco County

2.5 N Zephyrhills to 5 NE Zephyrhills

29	2125EST				0	0	40K	0	Thunderstorm Wind (G52)
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Thunderstorm winds caused minor roof damage to the roofs of a few brick homes, a few mobile homes, and a commercial building and shed. Several large trees and power lines were also downed within one square mile along U.S. Highway 301, two miles north of Zephyrhills.

Pasco County

2.5 N Zephyrhills

29	2125EST				0	0	75K	0	Urban/Sml Stream Fld
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Heavy rain of four inches in less than a half hour caused localized flooding of up to four feet deep at a low-lying area near the intersection of U.S. Highway 301 and Bailey Hill Road. Three vehicles suffered major water damage at the low-lying intersection while a few mobile homes at an adjacent mobile home park received minor water damage.

Three to four secondary and gravel roads near the U.S. Highway 301 and Bailey Hill Road intersection were washed out from the heavy rains.

FLORIDA, West Panhandle

Okaloosa County

Destin

08	0600CST				0	0			Hail (0.75)
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Dime to penny size hail was reported offshore just south of Destin.

Santa Rosa County

Avalon Beach

09	0005CST				0	0	2K		Thunderstorm Wind (G50)
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High winds blew a car off of I-10 near the Avalon Blvd exit. Several trees were also blown down in the area.

Santa Rosa County

Pace

15	2130CST				0	0	3K		Thunderstorm Wind (G50)
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Several trees and large limbs were blown down just east of Pace High School. One house had some minor roof damage.

Santa Rosa County

.4 W Milton T Fld to .3 NE Milton T Fld

15	2145CST	1.1	50		0	0	100K		Tornado (F1)
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A weak F1 tornado touched down just northeast of Wright Basin. Numerous trees were blown down and several homes were damaged. One home had most of its roof taken off. Numerous boathouses were destroyed with several boats torn from their moorings. The tornado then skipped northeast and damaged two hangars at Milton airport. Two ultra light planes inside one of the hangars suffered damage. The tornado continued northeast and again touched down along Stagecoach Road. A chain-link

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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FLORIDA, West Panhandle

fence and several trees were blown down. A travel trailer was moved three feet with pots and pans inside the trailer sucked out of the cabinets and thrown onto the floor. The tornado then blew shingles from a couple of homes as it moved northeast. Just before lifting back into the cloud, the tornado flipped two vehicles parked at a home. The first, a pickup truck, was flipped two times and came to rest in a field on its wheels. The second, a Lincoln Continental, was flipped over on its top and came to rest against a tree. Both vehicles were destroyed. A couple of residents referred to the tornado sound as a sonic boom.

Okaloosa County

Baker	15	2205CST		0	0	1.5K		Thunderstorm Wind (G50)
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Several trees and power lines were blown down along State Highway 4, just west of Baker.

Okaloosa County

Baker	15	2210CST		0	0	20K		Thunderstorm Wind (G60)
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Wind blew part of a roof from a residence. The person in the home is deaf and did not hear anything. She was able to take shelter as part of the roof was blown from her home. She then rode her bicycle to a nearby relatives home. The lady was not injured. Trees were also blown down in the area.

Escambia County

Walnut Hill	24	0920CST		0	0	1.5K		Thunderstorm Wind (G50)
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Several trees were blown down near Walnut Hill. Marble size hail was also reported.

Okaloosa County

Shalimar	24	1130CST		0	0			Hail (0.75)
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Dime size hail was reported near Shalimar.

Escambia County

Cantonment	24	1855CST		0	0			Hail (0.75)
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Dime size hail was reported in Cantonment and Beulah.

Escambia County

Ensley to Cantonment	24	1902CST		0	0			Hail (1.00)
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Large hail was reported in Ensley and also Cantonment.

Santa Rosa County

Harold	24	1923CST		0	0	5K		Lightning
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Lightning struck the Harold Assembly of God Church and caused a small fire. A woman getting out of her car near the church felt the effects of the lightning, but did not require medical treatment.

Santa Rosa County

Pea Ridge	24	1925CST		0	0			Hail (0.75)
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Dime size hail was reported near Pea Ridge.

Santa Rosa County

Bagdad to Milton	24	1930CST 1934CST		0	0			Hail (1.75)
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Golfball size hail was reported in Bagdad and Milton. The hail lasted for several minutes. The ground was covered with Live Oak leaves that had been beat out of the trees by the large hail.

Okaloosa County

Baker	24	1945CST		0	0			Hail (0.75)
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Dime size hail was reported near Baker and also Paxton.

Escambia County

Cantonment	24	2000CST		0	0			Hail (0.75)
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Dime size hail was reported in Cantonment.

Okaloosa County

Crestview	24	2000CST		0	0			Hail (0.75)
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Dime size hail was reported just northeast of Crestview.

Santa Rosa County

Navarre	24	2055CST		0	0	75K		Lightning
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Lightning was blamed for a house fire along Santa Rosa Sound in the Navarre area. Lightning evidently hit near a utility room. A fire started in the utility room and spread up along a wall onto a portion of the roof. It took firefighters almost an hour to extinguish the blaze. No injuries were reported.

Escambia County

Warrington	24	2115CST		0	0			Hail (1.75)
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Golfball size hail was reported near Warrington.

Escambia County

Ensley	28	0645CST		0	0	100K		Thunderstorm Wind (G80)
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An intense microburst struck a hardware store in the Ensley area near the intersections of US Highway 90 and US Highway 29. Estimated wind speed of the microburst was 90 mph. Most of the roof was peeled from the building. After the wind got inside

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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FLORIDA, West Panhandle

the building through the roof it caused the inside of the building to bow out on three sides. One side of the concrete block building partially collapsed. Insulation and debris were blown in a fan-like pattern for about 200 yards south through west through northwest of the microburst. Several people reported seeing what looked like a funnel cloud moving along above the tree tops before the wind damaged the building. Nothing else in the area was damaged.

GEORGIA, East Central

NONE REPORTED.

GEORGIA, Lower

NONE REPORTED.

GEORGIA, North and Central

Fayette County

Brooks	01	1448EST 1504EST			0	0	5K		Lightning
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Lightning struck three homes causing minor damage.

Polk County

Countywide	05	0310EST			0	0	0.50K		Thunderstorm Wind
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Thunderstorm winds knocked a few trees and a power line down.

Bartow County

Cartersville	05	0330EST			0	0	20K		Thunderstorm Wind
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Thunderstorm winds caused roof damage to an apartment complex.

Macon County

2 SE Montezuma to 4 SE Montezuma	05	0800EST 0810EST			0	0	20K		Thunderstorm Wind
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Thunderstorm winds damaged a mobile home, partially blowing it off its leveling blocks. The home was not on tie-downs. The roof was torn off and insulation was strewn in a 360 degree pattern around the home. Large trees were blown over with tops pointing at angles towards each other. There was an unconfirmed report of a funnel cloud. Sight survey indicated there was probably a circulation beneath a severe thunderstorm, but there was no evidence that a funnel reached the ground. This storm was part of a long line of thunderstorms that passed from northwest to southeast across Georgia during the morning hours.

Dooly County

7 NW Byromville	05	0810EST			0	0	1K		Thunderstorm Wind
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The line of thunderstorms continued moving to the southeast. The same storm that produced damage in Macon county caused damage in Dooly county. Numerous medium to large trees were blown over just inside the Macon-Dooly county line.

Troup County

La Grange to 4 E La Grange	08	1154EST 1204EST			0	0			Hail (1.75)
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A deputy reported golf ball size hail just west of LaGrange and a HAM operator reported pea to dime size hail east of LaGrange. The county 911 reported a tree and a power line were blown down.

Webster County

Weston	08	1215EST			0	0			Hail (0.75)
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The public reported 3/4 inch hail covering the road.

Sumter County

Plains	08	1225EST			0	0			Hail (0.75)
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Dime size hail was reported at a convenience store.

Meriwether County

5 S Primrose to Greenville	08	1225EST 1233EST			0	0			Hail (1.75)
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Golf ball size hail was reported 5 miles south of Primrose by the Luthersville Police Department. Dime size hail was observed at the sheriff's office in Greenville.

Sumter County

4.5 SW Americus	08	1245EST			0	0			Hail (0.75)
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The sheriff's office reported 3/4 inch hail.

Dooly County

Unadilla	08	1325EST 1335EST			0	0			Hail (0.75)
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The Unadilla Police Department reported dime to nickel size hail.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons	Estimated Damage	Character of Storm
					Killed	Injured	Property Crops
GEORGIA, North and Central							
GAZ005>009-013>016-021>024-027 Murray - Fannin - Gilmer - Union - Towns - Pickens - Dawson - Lumpkin - White - Cherokee - Forsyth - Hall - Banks - Madison							
		08 1900EST			0	0	15K
		09 1100EST					Ice Storm
		Freezing rain coated trees and power lines in northeast Georgia as far south as northern Fulton county. About 25,000 northeast Georgians were without power and schools in 7 counties were closed.					
		Roads remained in fairly good shape over the area although there were a few traffic accidents with cars sliding off the road in icy areas or encountering fallen trees on the roadways. The hardest hit counties were Hall and Forsyth.					
Cobb County							
Acworth	24	2115EST			0	0	Hail (0.75)
		The Cobb county sheriff's office reported dime size hail.					
Paulding County							
Dallas	24	2117EST			0	0	Hail (0.75)
		Paulding county 911 reported dime size hail.					
Cherokee County							
Woodstock	24	2130EST			0	0	Hail (0.75)
		Dime size hail was reported.					
Floyd County							
Rome	24	2230EST			0	0	Hail (0.75)
		Floyd county 911 reported dime size hail.					
Bartow County							
Adairsville	24	2300EST			0	0	2K
		The Adairsville police reported a tree knocked down on a house and several large limbs blown down. Pea size hail was also reported.					
Cherokee County							
Waleska	24	2315EST 2320EST			0	0	Hail (1.75)
		The Cherokee county EMA reported dime to golfball size hail.					
Dawson County							
Countywide	24	2347EST			0	0	Hail (0.75)
		Dawson county 911 reported dime size hail just about everywhere in the county.					
Lumpkin County							
Dahlonega	24	2350EST			0	0	Hail (1.00)
		A spotter reported quarter size hail.					
Haralson County							
Tallapoosa to Buchanan	25	0014EST 0025EST			0	0	Hail (0.75)
		Haralson county 911 reported dime size hail.					
White County							
Cleveland	25	0020EST			0	0	Hail (0.75)
		White county 911 received several reports of dime size hail all around the Cleveland area.					
Cobb County							
5 WSW Marietta	25	0035EST			0	0	Hail (0.75)
		A spotter reported dime size hail.					
Fulton County							
Roswell	25	0035EST			0	0	Hail (0.75)
		Roswell police received a report of dime size hail.					
Douglas County							
5 W Winston	25	0035EST			0	0	Hail (0.75)
Carroll County							
Bowdon Jct to Mt Zion	25	0040EST 0045EST			0	0	Hail (0.75)
		Carroll county 911 received a report from a motorist who encountered dime size hail all along a route from just inside Douglas county into Carroll county from Villa Rica to Bowden Junction to Mount Zion.					
Paulding County							
Dallas	25	0045EST			0	0	Hail (0.75)
		A Weather Channel employee reported dime size hail.					

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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GEORGIA, North and Central

Heard County

2 N Franklin

28 0411EST

0 0

Hail (1.00)

Heard county 911 received a report of quarter size hail.

GEORGIA, Northeast

GAZ010-017

Rabun - Habersham

09 0000EST
1000EST

0 0

100K

Ice Storm

Heavy rain began to freeze around midnight resulting in very damaging accumulations of ice. Serious power outages occurred and numerous roads were blocked by downed trees in both Habersham and Rabun counties. Damage likely was considerably higher than what is listed.

GAZ010-017

Rabun - Habersham

10 2100EST
11 0200EST

0 0

Snow

One to two inches of snow fell.

GEORGIA, Southeast

Bulloch County

Register

05 1015EST
1020EST

0.5 25

0 4

25K

Tornado (F0)

A mobile home was lifted off its foundation and demolished. A small utility trailer was thrown some distance into a plowed field.

GEORGIA, Southwest

Terrell County

Dawson

08 1718EST

0 0

Hail (0.75)

The Sheriff's Office reported dime sized hail.

Early County

Blakely

24 1100EST

0 0

1K

0

Thunderstorm Wind

Trees and power lines were downed.

GEORGIA, West Central

NONE REPORTED.

HAWAII

HIZ004

Island Of Hawaii

01 1700HST
02 0200HST

0 0

High Wind (G52)

Southwest winds gusting to 60 mph were recorded near the summit of Mauna Kea.

Maui County

Olowalu

02 0000HST
0600HST

0 0

Urban/Sml Stream Fld

Roads ponded with water briefly closed one lane of the highway near Olowalu, West Maui.

HIZ001

Kauai

02 2315HST
03 1500HST

0 0

High Wind (G52)

South and southwest winds with gusts estimated near 60 mph by weather spotters in Kapaa and Kilauea. WSR-88D velocity data from the south coast radar indicated winds of 40 to 50 mph at 2 and 3 thousand feet. above ground level.

HIZ002

Oahu

03 0600HST
1500HST

0 0

High Wind (G52)

South to southwest wind gusts estimated near 60 mph by weather spotters in Kaneohe.

Kauai County

Hanalei to Lihue

03 0700HST
1000HST

0 0

Urban/Sml Stream Fld

Heavy showers caused streams to rise over north and northeast parts of the island. The Hanalei Bridge was closed and road ponding occurred along the east side of the island to Lihue.

Honolulu County

Waianae to Waimanalo

03 0900HST
1930HST

0 0

Urban/Sml Stream Fld

Heavy showers produced ponding on roads in many locations.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons	Estimated Damage	Character of Storm
					Killed	Injured	Property Crops
<u>HAWAII</u>							
HIZ003							
			Maui				
	03	1500HST			0	0	High Wind (G56)
	05	0600HST					
			South to southwest winds with gusts estimated near 60 mph over areas from Pukalani to Ulumalu to Kailua. Winds diminished at lower elevations by 2030 HST on the 3rd, but persisted over the upper slopes and summit areas of Haleakala.				
Kauai County							
Hanalei to Kapaa	04	0130HST			0	0	Urban/Sml Stream Fld
		0430HST					
			Keapona and Hanalei Bridges closed. Roads ponded and the Waiole Stream overflowed causing minor flooding.				
Kauai County							
Hanalei	04	0915HST			0	0	Urban/Sml Stream Fld
		1500HST					
			2.28 inches of rain in three hours at Kokee was representative of heavy showers over north central Kauai. Saturated soils increased runoff from the rainfall, flooding some roadways in the Hanalei area.				
Maui County							
Lanai City	04	0930HST			0	0	Flash Flood
			A stalled cold front brought heavy showers to Lanai, Maui, and Molokai during the morning and afternoon hours. Flooding was widespread in Lanai City with many roads closed and the airport runway was inundated with up to 2 feet of water.				
Maui County							
West Portion	04	0930HST			0	0	Flash Flood
		1730HST					
			Widespread flooding of the Mokulele Highway from Kahului to Kihei and the Honoapiilani Highway from Lahaina to Kaanapali occurred. Landslides blocked parts of the Kahekili Highway near Kahakuloa. One home was flooded in the Wailuku/Happy Valley area when an irrigation ditch overflowed.				
Maui County							
Kaunakakai	04	1530HST			0	0	Flash Flood
		1830HST					
			Flooding reported along the Kawela and Kaunakakai Streams and along the Maunaloa and Kamehameha Roads.				
HIZ004							
			Island Of Hawaii				
	04	1900HST			0	0	High Wind (G52)
	05	0800HST					
Hawaii County							
Captain Cook	05	0200HST			0	0	Urban/Sml Stream Fld
		0500HST					
			A stationary band of heavy showers produced widespread flooding of streets and low lying areas from Captain Cook to Kailua-Kona and in the Waikoloa Village area of South Kohala.				
HIZ001>006							
			Kauai - Oahu - Maui - Island Of Hawaii - Molokai - Lanai				
	08	1600HST			0	0	High Surf
	09	0730HST					
			A storm low far northwest of the Hawaiian Islands generated swell that produced surf of 8 to 12 feet along the north facing shores of the islands.				
HIZ001>006							
			Kauai - Oahu - Maui - Island Of Hawaii - Molokai - Lanai				
	10	0730HST			0	0	High Surf
	12	0530HST					
			A storm low far north of the Hawaiian Islands generated swell that produced surf of 10 to 15 feet along north facing shores and 6 to 10 feet along west facing shores of the islands.				
HIZ001>006							
			Kauai - Oahu - Maui - Island Of Hawaii - Molokai - Lanai				
	12	1200HST			0	0	High Surf
	14	0730HST					
			A storm low far north of the Hawaiian Islands generated swell that produced surf of 10 to 15 feet along north facing shores and 6 to 10 feet along west facing shores of the islands.				
Maui County							
.5 W Kihei	15	1520HST			0	0	Waterspout
			Three waterspouts observed may have formed along a cloud plume originating from Kahoolawe.				
HIZ001>006							
			Kauai - Oahu - Maui - Island Of Hawaii - Molokai - Lanai				
	16	0800HST			0	0	High Surf
	17	0500HST					
			A gale low northwest of the Hawaiian Islands generated swell that produced surf of 8 to 12 feet along north facing shores of the islands.				

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage	Character of Storm
Date				Killed	Injured	Property Crops	
<u>HAWAII</u>							
HIZ004	Island Of Hawaii						
	16	2000HST		0	0		High Wind (G61)
	17	1800HST					
	West to southwest winds of 50 to 70 mph along the summits and upper slopes of Mauna Kea and Mauna Loa.						
Kauai County							
Hanapepe to Wailua	19	1700HST 1900HST		0	0		Urban/Sml Stream Fld
	Minor flooding of roads from Hanapepe to Kapaa						
Honolulu County							
Waianae to Wahiawa	19	1900HST 2300HST		0	0		Urban/Sml Stream Fld
	Numerous roads were briefly impassable due to ponding. Water and debris closed the Kirsten Thot Bridge in Wahiawa.						
Maui County							
Kaunakakai to Lahaina	19 20	2000HST 0400HST		0	0	24K	Urban/Sml Stream Fld
	Drainageways overflowed in Lahaina flooding an underground parking lot and damaging several cars. Flooding closed a section of Kamehameha V Highway two miles east of Kaunakakai.						
Hawaii County							
Kailua Kona to Pahoa	20	0130HST 0800HST		0	0		Urban/Sml Stream Fld
	Heavy showers produced minor flooding of roads in the Kona, South Kohala, and Puna Districts. Six homes had minor flooding in Waikoloa.						
HIZ004	Island Of Hawaii						
	20	1200HST		0	0		High Wind (G97)
	24	0800HST					
	Westerly winds of 50 to 80 mph occurred along the summits and upper slopes of Mauna Kea and Mauna Loa. Wind gusts of 112 mph were recorded at the site of the United Kingdom Infrared Telescope atop Mauna Kea at 8 p.m. on the 21st.						
HIZ001	Kauai						
	21	1600HST 1815HST		0	0		High Wind (G52)
	Southwest winds near 40 mph with gusts to 60 mph occurred ahead of a rapidly moving cold front along the north and east sides of terrain.						
HIZ002	Oahu						
	21	1600HST 2030HST		0	0		High Wind (G52)
	Southwest winds near 40 mph with gusts to 60 mph occurred ahead of a rapidly moving cold front along the north and east sides of terrain.						
HIZ003-005>006	Maui - Molokai - Lanai						
	21	1815HST 2115HST		0	0		High Wind (G52)
	Southwest winds of 40 mph with gusts to 60 mph occurred ahead of a rapidly moving cold front along the north and east sides of terrain.						
HIZ001>006	Kauai - Oahu - Maui - Island Of Hawaii - Molokai - Lanai						
	23	0800HST		0	0		High Surf
	26	2000HST					
	A series of storm lows far to the north and northwest of the Hawaiian Islands generated swell that produced surf of 10 to 15 feet along north facing shores and 6 to 10 feet along west facing shores of the islands.						
HIZ001	Kauai						
	27	1600HST		0	0		High Wind (G52)
	28	2200HST					
	Wind gusts of 60 mph were estimated near Kapaa and Anahola.						
HIZ002	Oahu						
	27	2300HST		0	0		High Wind (G52)
	29	0600HST					
	Wind gusts to 60 mph buffeted the communities of Kailua and Kaneohe and other areas on the east side of the Koolau Range.						
HIZ003	Maui						
	28	0830HST		0	0		High Wind (G44)
	29	0600HST					
	Winds from 45 to 55 mph were reported near the summit of Haleakala.						

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

HAWAII

HIZ004

Island Of Hawaii

	28	1400HST 2000HST		0	0			High Wind (G52)
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Winds estimated at 60 mph blew several trees down in the Puna District.

Kauai County

Kekaha

	29	0445HST 0530HST		0	0	10K		Thunderstorm Wind (G65)
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Winds estimated at 75 mph associated with a thunderstorm ahead of an eastward moving cold front damaged a metal building at a seed corn company in Kekaha. Wind gusts to 53 mph were recorded at Lihue.

HIZ001>006

Kauai - Oahu - Maui - Island Of Hawaii - Molokai - Lanai

	30	0800HST		4	0			High Surf
	31	1600HST						

Several low pressure centers moving across the north central Pacific generated swell that produced surf of 8 to 12 feet with occasional sets to 15 feet along the north and west facing shores of the islands. Four tourists, 3 from Georgia and 1 from Utah, drowned in the high surf at Keanae Point, Maui at approximately 2 p.m. HST January 30, 1997. One person was swept into the ocean while taking pictures of the high surf. He was pulled from the water and given CPR by a visiting paramedic. While performing CPR, a second wave swept both individuals and six other people into the ocean. Four of the eight people were rescued by local residents, while the other four drowned. M32IW, M50IW, M30IW, M33IW

IDAHO, Extreme Southeast

NONE REPORTED.

IDAHO, North

NONE REPORTED.

IDAHO, Northwest

NONE REPORTED.

IDAHO, Southeast

NONE REPORTED.

IDAHO, Southwest

IDZ001-003>008-011>013

Northern Panhandle - Lewiston And The Palouse - Shoshone - Northern Clearwater Mountains - Southern Clearwater Mountains - Orofino/Grangeville Region - Lower Hells Canyon/Salmon River Region - West Central Mountains - Lower Treasure Valley - Boise Mountains/Camas Prairie

	01	0400MST		0	0			Flood
	03	2330MST						

In Northern Idaho, November and December brought above normal snowfall. From 11/16/96 through the end of December most locations had over 2 to 3 feet of snow with higher amounts at higher elevations. High temperatures remained in the 30s or below and some of the time rain fell saturating the snow and the soil. This persistent weather pattern brought a series of storms throughout this time period. Considerable snow amounts also fell in Southern and Central Idaho. Wet Pacific storm systems brought precipitation totals 3 to 5 times their normal for December. A rapid warming began 12/25/96 as the weather pattern shifted and a southwesterly moist flow extending past the Hawaiian Islands bringing warm, wet storms through the state. This pattern persisted through 1/3/97. The previous heavy snow pack, well above normal temperatures into the 50s and days of moderate rain brought significant runoff in all southern basins. This combination brought rapid river flooding and mud slides from the supersaturated soils. Heavy rain and mild temperatures continued the first two days of January...many locations received their normal precipitation for the month in those two days! Mid-elevation snow melt continued, with reports of 20 inches of low and mid elevation snow melt in 4 days! A colder, drier airmass moved in on 1/3/97 ending the precipitation and snow melt.

Record flooding occurred in these basins on 1/1/97 with peak flows occurring on 1/2/97.

The Weiser River at Cambridge crested at 14.26 ft. Flood stage is 12.0 ft. and the previous flood of record was 13.9 ft. on 12/22/55 and 8/22-24/77.

The Weiser River at Weiser's crest was estimated at 16.5 ft. (the gage was damaged during the event.) Flood stage is 9.5 ft. and the previous flood of record was 16.0 ft. on 12/14/79 due to ice jams.

The Payette River at Emmett crested at 32,300 cfs. Flood flow is 16,000 cfs and the previous flood of record was 32,700 cfs on 12/23/64.

The Snake River at Weiser crested at 14.47 ft. Flood stage is 12 ft. and the previous flood of record is 15.55 ft.

The major impacts due to the flooding included many road closures from the flooding and mud slides. Many communities were evacuated from their flooded homes causing overflow at many shelters. Many small communities were isolated by the road closures, several towns had to have medical supplies and food flown in by helicopter. Major flood damage occurred in the cities of Weiser, Emmett, Payette, Cambridge, Council and others. In Payette county, the Payette River and its tributaries flooded

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

IDAHO, Southwest

causing severe damage to farms, homes, and businesses. Nine levees on the Payette failed, HWY 52 and 95 covered, 15 head of livestock were lost in the flood, crop loss of winter wheat, no more topsoil, and 600 ton of hay lost. Expected recovery period is 10 years for housing, agricultural, land, livestock and crop repair. In Washington and Adams counties, six bridges to the outer areas were lost, substantial damage to residences and farm land, crop production was affected and these fields may not produce for several years, 100-120 homes flooded, severe levee and dike damage, and the estimated recovery period is 2 to 3 years. In Canyon county, banks of Boise river were washed away and one dike was broken. In Gem, Boise, and Valley counties financial and environmental problems from the flooding and mud slides occurred, emergency feeds of 100 ton, the winter wheat and barley crops were damaged. Nez Perce experienced collapsing buildings due to the heavy snow. Runoff caused road washouts and erosion to conservation structures. Other counties affected saw property and home damage, road damage and missing cattle. Only three injuries occurred with this event.

The State of Idaho was declared a major disaster area by President Clinton on 1/4/97. Several counties were declared disaster areas. They included: Gem, Adams, Washington, Idaho, Clearwater, Valley, Payette, Elmore, Latah, Boundary, Bonner, Shoshone, and Boise. The total flood damage was 25 million dollars.

IDZ001>002

Northern Panhandle - Coeur D'Alene Area

06	1600MST	0	0	Winter Storm
07	0900MST			

Overnight, a winter storm moved through Northern Idaho dropping 3 to 12 inches. Silver City reported 12 inches and 6 inches fell at Wallace in Shoshone county. All other reports were around 3 inches of new snow.

IDZ017-021

Eastern Magic Valley - Lower Snake River Plain

11	1200MST	0	0	Blizzard
	1900MST			

Blizzard conditions occurred in Southeast Idaho due to strong winds and 1-3 inches of new snow. Several communities in Bannock, Bingham, Minidoka and Lincoln counties reported 30 to 45 mph winds and visibilities at 1/4 mile or less. In Springfield, winds were sustained to 60 mph. Wind chills fell to 45 degrees below zero due to the wind and several pipes were frozen as well.

IDZ019>020-022>023

Upper Snake Highlands - Upper Snake River Plain - South Central Highlands - Caribou Highlands

23	0100MST	0	0	Heavy Snow
	0900MST			

A pacific storm system moved through the state overnight. The southeast was hit hardest with heavy snow. Fremont and Caribou counties reported the most with 10 to 13 inches of snow falling. Many reports from Teton, Madison, Bonneville, Cassia, Bingham, Power, Clark, Jefferson, Oneida, and Bingham counties had reports from 3 to 7 inches.

IDZ004

Shoshone

24	0600PST	0	0	Heavy Snow
	1230PST			

Shoshone county was hardest hit as another weather system moved through Northern Idaho. At Mullan 20 inches of new snow fell in less than 6 hours. 16 inches fell at Osburn and 13 inches fell at Kellogg.

IDZ016>017-020>021

Western Magic Valley - Eastern Magic Valley - Upper Snake River Plain - Lower Snake River Plain

26	0800MST	0	0	Heavy Snow
	1700MST			

As a winter storm moved through the state, the storm brought 7 to 16 inches of new snow to many locations in the southeast. Many of these being valley locations. Burley, Paul, Jerome and Island Park reported 7 inches new. Eight to nine inches fell at St. Anthony, Shoshone, and Downey. At Stanley, 12-16 inches fell.

ILLINOIS, Central

ILZ027>031-036>038-040>057-061>063-066>068-071>073

Knox - Stark - Peoria - Marshall - Woodford - Fulton - Tazewell - Mclean - Schuyler - Mason - Logan - De Witt - Piatt - Champaign - Vermilion - Cass - Menard - Scott - Morgan - Sangamon - Christian - Macon - Moultrie - Douglas - Coles - Edgar - Shelby - Cumberland - Clark - Effingham - Jasper - Crawford - Clay - Richland - Lawrence

08	2100CST	0	6	Heavy Snow
09	1300CST			

A winter storm developed over the southern Plains and tracked to the northeast across southern Illinois. The storm dumped between 3 and 11 inches of snow over central Illinois. The heaviest snow fell in a corridor just north of I-70. Charleston in Coles County reported the most snow with 11 inches. Numerous accidents were reported throughout central Illinois. However, only 6 minor injuries were reported.

ILZ027>031-036>038-040>057-061>063-066>068-071>073

Knox - Stark - Peoria - Marshall - Woodford - Fulton - Tazewell - Mclean - Schuyler - Mason - Logan - De Witt - Piatt - Champaign - Vermilion - Cass - Menard - Scott - Morgan - Sangamon - Christian - Macon - Moultrie - Douglas - Coles - Edgar - Shelby - Cumberland - Clark - Effingham - Jasper - Crawford - Clay - Richland - Lawrence

15	0300CST	1	7	Winter Storm
17	0400CST			

A winter storm developed over the central Rockies and moved east into the Midwest. The storm brought between 4 and 6 inches

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

ILLINOIS, Central

of snow to a large part of central Illinois north of I-70. South of I-70 a mixture of freezing rain, sleet, and snow occurred with snow totals of 1 to 3 inches. After the snow stopped, the winds picked up to between 20 and 30 mph with higher gusts, causing near whiteout conditions. Also, temperatures fell below zero across the entire area, so with the strong winds and cold temperatures, wind chill readings dipped well below minus 40 degrees in many locations. Numerous accidents were reported though only 6 minor injuries and one person with serious injuries was reported. A 78 year old man died of exposure after apparently trying to walk a short distance to his brother's house and his body was not discovered for over 24 hours. M78OU

ILZ027>031-036>038-040>043-047>053 **Knox - Stark - Peoria - Marshall - Woodford - Fulton - Tazewell - Mclean - Schuyler - Mason - Logan - De Witt - Cass - Menard - Scott - Morgan - Sangamon - Christian - Macon**

24	0700CST			0	0			Winter Storm
	1600CST							

A winter storm developed over the central Rockies and moved into southern Illinois on the 24th. Central Illinois received a mix of rain, freezing rain, sleet, and snow with the system which caused numerous accidents though no injuries were reported. Snow amounts were on the light side, up to 2 inches. However, some scattered areas in west central Illinois reported up to half an inch of ice accumulation.

ILZ027>031-036>038-040>057-061>063-066>068-071>073 **Knox - Stark - Peoria - Marshall - Woodford - Fulton - Tazewell - Mclean - Schuyler - Mason - Logan - De Witt - Piatt - Champaign - Vermilion - Cass - Menard - Scott - Morgan - Sangamon - Christian - Macon - Moultrie - Douglas - Coles - Edgar - Shelby - Cumberland - Clark - Effingham - Jasper - Crawford - Clay - Richland - Lawrence**

26	0500CST			0	9			Winter Storm
	27 2100CST							

A winter storm developed over the southern Plains and moved east, to the south of Illinois. One area of snow moved through central Illinois on the 26th with snow amounts ranging from 1 to 4 inches. Then the snow let up around 4 pm on the 26th. A mixed bag of precipitation began to fall over the southern areas of central Illinois around 4 am on the 27th and spread north into the rest of central Illinois. By the time the precipitation ended in the evening of the 27th, another 1 to 5 inches of snow had fallen. Numerous accidents were reported, especially in the morning hours on the 27th. Nine minor injuries were reported.

ILLINOIS, Northeast

ILZ014

Cook

04	0900CST			1	0			Extreme Cold
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A woman living in an unheated house died of cold exposure and heart disease. F58PH

ILZ005>006-012>014-022>023 **Mchenry - Lake - Kane - Du Page - Cook - Will - Kankakee**

09	0000CST			0	0			Winter Storm
	1800CST							

On January 9th, 5 to 7 inches of snow fell over much of the Chicago area. The heaviest snow was reported in the north suburbs of Chicago, with 9 inches reported in Barrington and Waukegan, 5.6 inches at O'hare, and 7.7 inches at Midway.

ILZ005

Mchenry

10	0658CST			1	0			Extreme Cold
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A man died while clearing snow at a High School. M58OU

ILZ014

Cook

12	0600CST			1	0			Extreme Cold
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A man found on his driveway, died of cold exposure and chronic alcoholism. M79OU

ILZ014

Cook

14	0600CST			1	0			Extreme Cold
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The frozen body of a man was found in a ditch covered with snow.

Time of death is unknown. M35OU

ILZ014

Cook

14	1930CST			1	0			Extreme Cold
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A woman was found dead on the back patio of her home after being exposed to the cold. F74OU

ILZ003>006-008-010>014-019>023-032>033-039 **Winnebago - Boone - Mchenry - Lake - Ogle - Lee - De Kalb - Kane - Du Page - Cook - La Salle - Kendall - Grundy - Will - Kankakee - Livingston - Iroquois - Ford**

15	0600CST			5	0			Winter Storm
	18 1200CST							

On January 15th, 4 to 6 inches of snow fell across much of northern Illinois. A narrow band of heavy snow fell from Aurora, in southeast Kane County, to southern Lake County Illinois. Snowfall totals: officially 4.2 inches fell at O'hare, 8.5 inches at Aurora, 10 inches at Lincolnshire, 5.3 inches at Midway, 5.5 inches at Rockford, and 5 inches at the NWS in Romeoville. The snow was followed by windy and bitter cold weather on the 16th and 17th. High wind gusts recorded: at O'hare, 39 knots, and at Rockford, 39 knots on the 16th. The coldest wind chill recorded at Chicago during this time was -42 degrees at 10am on the 16th. The coldest low temperatures were as follows: at O'hare, -4 on the 16th and -9 on the 17th. At Rockford, -6 on the 16th and -13 on the 17th and at the NWS in Romeoville, -6 on the 16th and -3 on the 17th. The combination of severe wind chill and blowing and

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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ILLINOIS, Northeast

drifting snow caused many schools to close.

There were 5 deaths in Cook County. A 75 year old man collapsed in his house after shoveling snow. An 85 year old Tinley Park woman died in her unheated home, a 39 year old man was found dead in his backyard, an 80 year old woman died outside after shoveling snow, a 71 year old man died of exposure outside.

F85PH, M71OU, M75PH, F80OU, M39OU

ILZ014

Cook

28 0500CST **1** **0** **Extreme Cold**

A homeless man found in an abandoned building, died of hypothermia and cold exposure. M?OT

ILZ014

Cook

28 1000CST **1** **0** **Extreme Cold**

A woman died in her home from exposure to the cold. Her home had no heat. F53PH

ILLINOIS, Northwest

ILZ001>002-007-009-015>018-024>026-034>035 **Jo Daviess - Stephenson - Carroll - Whiteside - Rock Island - Henry - Bureau - Putnam - Mercer - Henderson - Warren - Hancock - McDonough**

09 0400CST **0** **0** **Winter Storm**
10 0400CST

Three to five inches of snow fell across the area and caused numerous accidents.

ILZ001>002-007-009-015>018-024>026-034>035 **Jo Daviess - Stephenson - Carroll - Whiteside - Rock Island - Henry - Bureau - Putnam - Mercer - Henderson - Warren - Hancock - McDonough**

10 0400CST **0** **1** **Extreme Windchill**
12 2000CST

Strong winds and temperatures in the single digits, above and below zero, caused many schools to close Friday, January 10. This was also associated with snow and blowing snow, but the most significant element was the cold. One person was treated for exposure in the Mc Donough district hospital.

ILZ001>002-007-009-015>018-024>026-034>035 **Jo Daviess - Stephenson - Carroll - Whiteside - Rock Island - Henry - Bureau - Putnam - Mercer - Henderson - Warren - Hancock - McDonough**

15 0400CST **0** **0** **Winter Storm**
17 2000CST

A winter storm hit the area just before the beginning of the Martin Luther King Jr. weekend. This meant that many schools and other businesses were closed for six days. Strong winds and sub-zero temperatures accompanied three to seven inches of snow with the storm of January 15 and 16. Schools were closed due to icy roads and snowfall on the 15th and due to considerable blowing and drifting on the 16th and 17th.

Drifting of snow was so great in rural areas that state roads and major highways were closed through much of the weekend. Interstate 80 was closed to one lane of traffic for some time across northwest Illinois because the road continued to blow shut. No mail was delivered in some areas Friday the 17th or Saturday the 18th due to closed roads.

Numerous accidents occurred across the area on the 15th and 16th, but the most serious calls came on the 17th. Most of the Sheriff Department calls, on the 17th, came from motorists in ditches or otherwise stranded asking for assistance home. One man in Bureau County, Illinois was trapped for seven hours on highway 34 from 3 AM to 10 AM.

Winds averaged 20 to 25 mph with gusts to 45 mph and temperatures were below zero through much of the weekend. This produced dangerous windchill temperatures.

ILZ001>002-007-009-015>018-024>026-034>035 **Jo Daviess - Stephenson - Carroll - Whiteside - Rock Island - Henry - Bureau - Putnam - Mercer - Henderson - Warren - Hancock - McDonough**

17 0400CST **0** **0** **Extreme Windchill**
19 1000CST

Extreme windchill followed the winter storm of the 15th through the 17th. Temperatures ranged in the single digits, above and below zero, combined with winds which ranged from 20 to 25 mph with gusts to 45 mph.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

ILLINOIS, Northwest

ILZ001>002-007-009-015>018-024>026-034>035 **Jo Daviess - Stephenson - Carroll - Whiteside - Rock Island - Henry - Bureau - Putnam - Mercer - Henderson - Warren - Hancock - McDonough**

	24	0400CST 2000CST		0	0			Winter Storm
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Freezing drizzle and sleet coated streets and highways during the early morning hours, followed by 2 to 4 inches of snow. This mix caused very slick roads and exterior surfaces. Over 100 vehicle accidents were reported across southeast Iowa and northwestern Illinois. Numerous accidents were reported elsewhere, among them; one woman killed near Little York, Illinois when her vehicle side-swiped a semi-truck.

ILLINOIS, South

ILZ075>078-080>094 **Jefferson - Wayne - Edwards - Wabash - Perry - Franklin - Hamilton - White - Jackson - Williamson - Saline - Gallatin - Union - Johnson - Pope - Hardin - Alexander - Pulaski - Massac**

	08 09	1300CST 0200CST		0	0			Winter Storm
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A low pressure system moved northeast across the Tennessee River Valley, producing up to 7 inches of snow in southern Illinois. Generally 5 or 6 inches fell north of Marion and Carbondale to Mt. Vernon and Fairfield. South of the Marion-Carbondale area and in the Wabash River Valley, snowfall amounts were 3 to 4 inches. Most schools closed due to the storm.

ILZ075>078-080>094 **Jefferson - Wayne - Edwards - Wabash - Perry - Franklin - Hamilton - White - Jackson - Williamson - Saline - Gallatin - Union - Johnson - Pope - Hardin - Alexander - Pulaski - Massac**

	10 11	1000CST 0500CST		1	0			Extreme Windchill
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Arctic air blew into the region in the wake of a departing snowstorm. A wind chill advisory was issued for wind chills as low as minus 30. A woman in her 60s froze to death after she slipped and fell outside her home near Orient in Franklin County. The city of Murphysboro recommended letting faucets drip to prevent pipes from freezing. F65OU

ILZ075>078-080>094 **Jefferson - Wayne - Edwards - Wabash - Perry - Franklin - Hamilton - White - Jackson - Williamson - Saline - Gallatin - Union - Johnson - Pope - Hardin - Alexander - Pulaski - Massac**

	15	0400CST 1300CST		0	0			Ice Storm
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Freezing rain coated surfaces with around a half inch of ice. Travel became very difficult in a short period of time. The weather prompted Southern Illinois University in Carbondale to shut down for the fourth time in 30 years. The freezing rain virtually shut down several counties, closing schools, government offices, and health facilities. Franklin County was nearly paralyzed by the storm. Most Franklin County businesses and public offices closed for the day. A large number of vehicle accidents occurred, but no serious injuries were reported. State Route 13 in Jackson County and some county roads in Johnson, Pulaski, and Union Counties were closed because vehicles were unable to climb hills. The Southern Illinois Airport was closed for two hours. Hospitals brought in extra staff to handle an overload due to weather-related injuries. Mail delivery was cancelled in some areas due to icy conditions.

ILZ081-084>085 **Franklin - Jackson - Williamson**

	21 31	0800CST 2359CST		0	0			Flood
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Heavy rain and snowmelt late in the month sent the Big Muddy River above flood stage at Murphysboro on the 21st and at Plumfield on the 24th. The flooding was minor. The crest at Plumfield was less than a foot above flood stage on the 25th. At Murphysboro, the crest was almost 6 feet above flood level on the 28th.

ILZ083 **White**

	28 31	1000CST 2359CST		0	0			Flood
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Heavy rain and snowmelt late in the month sent the Little Wabash River above flood stage at Carmi on the 28th. The river did not crest until early February. No flood-related damage was reported in January.

ILZ087-092>094 **Gallatin - Alexander - Pulaski - Massac**

	30 31	0900CST 2359CST		0	0			Flood
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Heavy rain and snowmelt late in the month sent the Ohio River above flood stage at Shawneetown, Brookport, and Grand Chain on the 30th, and at Cairo on the 31st. The flooding was very minor. No damage was reported.

ILLINOIS, Southwest

ILZ058>060-064>065-069>070-074-079-095>102 **Greene - Macoupin - Montgomery - Bond - Fayette - Clinton - Marion - Washington - Randolph - Adams - Brown - Pike - Calhoun - Jersey - Madison - St. Clair - Monroe**

	08 09	1800CST 2300CST		0	0			Winter Storm
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A widespread winter storm affected the area from late afternoon on the 8th through the night of the 9th. Snow fall across the area was mostly in the 5 to 8 inch range. Strong winds and very cold temperatures moved in on the evening of the 9th creating more problems. The winds caused drifting snow and very cold wind chills. Schools remained closed for several days.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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ILLINOIS, Southwest

ILZ058>060-064>065-069>070-074-095>102 **Greene - Macoupin - Montgomery - Bond - Fayette - Clinton - Marion - Washington - Adams - Brown - Pike - Calhoun - Jersey - Madison - St. Clair - Monroe**

15	2300CST	0	0						Winter Storm
16	1800CST								

Freezing rain and sleet began falling late on the night of the 15th coating the area with a layer of ice by the morning rush. Numerous auto accidents occurred along with some power outages, and most area school were closed. Snow began by mid-morning of the 16th with 3 to 7 inches covering the area.

INDIANA, Central

INZ044-048 **Parke - Hancock**

08	2300EST	0	0						Winter Storm
09	2300EST								

INZ021>023-028>031-035>049-051>057-060>065-067>072 **Carroll - Cass - Miami - Warren - Tippecanoe - Clinton - Howard - Fountain - Montgomery - Boone - Tipton - Hamilton - Madison - Delaware - Randolph - Vermillion - Parke - Putnam - Hendricks - Marion - Hancock - Henry - Vigo - Clay - Owen - Morgan - Johnson - Shelby - Rush - Sullivan - Greene - Monroe - Brown - Bartholomew - Decatur - Knox - Daviess - Martin - Lawrence - Jackson - Jennings**

15	0700EST	0	0						Winter Storm
16	2359EST								

A winter storm in the plain states moved into Indiana on January 15th producing rain, freezing rain, sleet and snow across most parts of the state. Freezing rain did not result in widespread power outages but did lead to numerous car accidents. Snowfall amounts averaged 3 to 5 inches across the central third of Indiana with most accumulation occurring just before the precipitation ended. Bitter cold arctic air poured in behind this weather system producing wind chills to 30 below zero. Drifting and blowing snow also caused several hours of white-out conditions on the 16th. Heavy lake effect snows associated with the arctic outbreak were confined to Indiana counties near Lake Michigan.

INZ051>053-056 **Vigo - Clay - Owen - Shelby**

24	0600EST	0	0						Winter Storm
	1800EST								

INZ021>023-028>031-035>049-051>052 **Carroll - Cass - Miami - Warren - Tippecanoe - Clinton - Howard - Fountain - Montgomery - Boone - Tipton - Hamilton - Madison - Delaware - Randolph - Vermillion - Parke - Putnam - Hendricks - Marion - Hancock - Henry - Vigo - Clay**

27	1000EST	0	0						Winter Storm
	1900EST								

Yet another winter storm system followed by arctic high pressure impacted Indiana over a several day period. Beginning on the 27th, central and northern Indiana experienced light freezing rain which caused some traffic problems but no major power outages. On the 28th, arctic air began filtering into the state producing 2 to 3 inch snow amounts across the north half of the state. As temperatures fell towards zero, wind chills dropped to between 20 and 30 below zero late on the 28th. Some drifting of snow also occurred but did not cause any serious traffic problems.

INDIANA, Northeast

NONE REPORTED.

INDIANA, Northwest

INZ001>005-010>016-019>020 **Lake - Porter - La Porte - St. Joseph - Elkhart - Newton - Jasper - Starke - Pulaski - Marshall - Fulton - Kosciusko - Benton - White**

09	0000EST	0	0						Winter Storm
	1800EST								

On January 9th 5 to 10 inches of snow fell across northwest and north central Indiana. Some snowfall amounts were 7.5 inches at South Bend, 6.8 inches at LaPorte and 10 inches at Monticello.

INZ001>005-010>016-019>020 **Lake - Porter - La Porte - St. Joseph - Elkhart - Newton - Jasper - Starke - Pulaski - Marshall - Fulton - Kosciusko - Benton - White**

15	0600EST	0	0						Winter Storm
18	1200EST								

A winter storm brought 4 to 6 inches of snow to northern Indiana on January 15. The snow was followed by strong winds and cold temperatures creating wind chills of 20 to 40 below zero. Lake effect snow developed in north central Indiana on the 16th. The NWS office at South Bend recorded 8.6 inches of snow. The coldest low temperatures recorded at the NWS office at South Bend during that time are as follows: -9 on the 17th and -4 on the 18th.

INDIANA, South Central

INZ079 **Jefferson**

27	2100EST	0	0						Flood
28	2300EST								

The Muscatatuck River at Deputy crested at 19.7 feet (flood stage is 15 feet) at 7 am est on January 28.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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INDIANA, Southeast

Ripley County

Milan	04	2325EST 2335EST			0	0	10K		Thunderstorm Wind (G50)
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Porch was separated from a house. Numerous trees downed.

Switzerland County

Vevay	04	2350EST 2355EST			0	0	5K		Thunderstorm Wind (G50)
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Numerous trees downed.

INZ074>075-080

Dearborn - Ohio - Switzerland

24	0600EST 0900EST				0	0			Ice Storm
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A strong surge of moisture moved north into the Ohio Valley during the early morning hours. Temperatures were at or just below the freezing mark for several hours while rain fell. Roads quickly became icy and stayed slick for the morning rush hour causing numerous traffic accidents.

INDIANA, Southwest

INZ081>082-085>088 Gibson - Pike - Posey - Vanderburgh - Warrick - Spencer

08	1800CST				0	0			Winter Storm
09	0500CST								

A low pressure system moved northeast across the Tennessee River Valley, producing 3 to 4 inches of snow across southwest Indiana.

INZ081>082-085>088 Gibson - Pike - Posey - Vanderburgh - Warrick - Spencer

10	1000CST				0	0			Extreme Windchill
11	0500CST								

Arctic air blew into the region in the wake of a departing snowstorm. A wind chill advisory was issued for wind chills as low as minus 30.

INZ081>082-085>088 Gibson - Pike - Posey - Vanderburgh - Warrick - Spencer

15	0800CST 1200CST				0	0			Ice Storm
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Freezing rain glazed many surfaces with around a quarter inch of ice.

INZ085

Posey

27	0900CST				0	0			Flood
31	2359CST								

Heavy rain and snowmelt late in the month sent the Wabash River above flood stage at New Harmony on the 27th. The river crested less than a foot above flood stage on the 31st. Flooding was very minor, and no damage was reported.

IOWA, Central

IAZ004>007-015>017-023>026-033>037-046>047 Emmet - Kossuth - Winnebago - Worth - Palo Alto - Hancock - Cerro Gordo - Pocahontas - Humboldt - Wright - Franklin - Sac - Calhoun - Webster - Hamilton - Hardin - Greene - Boone

09	1830CST				0	0	75K		Blizzard
10	1400CST								

IAZ004>007-015>017-023>028-033>039-044>050-057>062-070>075-081>086-092>097 Emmet - Kossuth - Winnebago - Worth - Palo Alto - Hancock - Cerro Gordo - Pocahontas - Humboldt - Wright - Franklin - Butler - Bremer - Sac - Calhoun - Webster - Hamilton - Hardin - Grundy - Black Hawk - Crawford - Carroll - Greene - Boone - Story - Marshall - Tama - Audubon - Guthrie - Dallas - Polk - Jasper - Poweshiek - Cass - Adair - Madison - Warren - Marion - Mahaska - Adams - Union - Clarke - Lucas - Monroe - Wapello - Taylor - Ringgold - Decatur - Wayne - Appanoose - Davis

09	2100CST				0	0			Extreme Windchill
11	1200CST								

A major blast of Arctic air roared into the state during the afternoon and evening of the 9th creating blizzard conditions over much of the northwest half of Iowa. Low pressure moved north, passing to the east of Iowa as a massive Arctic high pressure center moved from Alaska into the northern Rockies. Snowfall was on the light side with accumulations in the one to two inch range. Gusty northwest winds of 25 to 40 MPH with occasional gusts of 50 to 55 MPH buffeted the state for 36 hours. The highest wind reported in the state came from Estherville, where a 70 MPH gust was recorded at 0700 CST on the 10th. The winds whipped up the newly fallen snow reducing visibility to a few feet over parts of northwest Iowa. Visibilities were rarely greater than one quarter mile in open areas. Further to the southeast, conditions were not as bad, however the blowing snow did cause travel problems. Many roads were closed over the northwest half of the state with cars becoming stranded in the snow drifts. Most schools and many businesses were closed on the 10th due to the blizzard conditions. Along with the winds and blowing snow came rapidly falling temperatures. Readings fell below zero by sunrise on the 10th over a large part of the state. Coupled with the strong northwest winds, wind chill indices were between 40 and 70 below zero over all of the state. Wind chill indices remained in the 40 to 60 below zero range into the morning of the 11th before winds finally slackened off. Temperatures dropped further during the night of the 11th and morning of the 12th however. This kept wind chill values in the 40 to 55 below zero

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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IOWA, Central

range off and on through the mid day hours of the 12th. Though quite extreme, the situation was not the threat to life of the previous day.

IAZ004>005-015-023>024 **Emmet - Kossuth - Palo Alto - Pocahontas - Humboldt**

15	1800CST				0	0	100K		High Wind (G54)
16	0200CST								

IAZ004>007-015>017-023>026 **Emmet - Kossuth - Winnebago - Worth - Palo Alto - Hancock - Cerro Gordo - Pocahontas - Humboldt - Wright - Franklin**

15	1800CST				0	0			Blizzard
16	0200CST								

IAZ004>007-015>017-023>028-033>039-044>050-057>062-070>075-081>086-092>097 **Emmet - Kossuth - Winnebago - Worth - Palo Alto - Hancock - Cerro Gordo - Pocahontas - Humboldt - Wright - Franklin - Butler - Bremer - Sac - Calhoun - Webster - Hamilton - Hardin - Grundy - Black Hawk - Crawford - Carroll - Greene - Boone - Story - Marshall - Tama - Audubon - Guthrie - Dallas - Polk - Jasper - Poweshiek - Cass - Adair - Madison - Warren - Marion - Mahaska - Adams - Union - Clarke - Lucas - Monroe - Wapello - Taylor - Ringgold - Decatur - Wayne - Appanoose - Davis**

15	2100CST				0	0	750K		Extreme Windchill
16	1500CST								

During the night of the 14th into the morning of the 15th a low pressure tracked east, then northeast across the central U.S. The low passed south of Iowa, leaving behind a fresh 2 to 5 inches of fluffy snow. There was no wind associated with this snowfall. On the 15th, an Arctic cold front dropped south out of Canada. It entered northwest Iowa during the mid afternoon hours and quickly swept southeast across the state. Behind in was sharply colder temperatures and very strong northwest winds. High winds moved into north central Iowa with wind gusts of 62 MPH recorded at Estherville in Emmet County and Emmetsburg in Palo Alto County. Sustained winds in those areas were between 45 and 50 MPH for a two hour period during the mid evening. Much of the state had winds of 30 to 40 MPH with frequent gusts to near 50 MPH. At the Des Moines Airport, a 52 MPH wind gust was recorded. The high winds whipped the fluffy snow up across the state. Visibility was reduced to zero over the northwest and north central counties of the state. Further south, occasional whiteouts were reported, however visibility was generally above one half mile. Several roads were closed by the drifting statewide with most school districts calling off classes on the 16th. Several colleges in the state also cancelled classes. Fortunately, there was no falling snow at the time, so conditions improved before dawn on the 16th. The winds and blowing snow produced drifts of 10 to 20 feet deep over northern Iowa. There were numerous accounts of snow drifts to the second story of houses. The next problem was with the falling temperatures. Readings fell below zero over most of the state. These readings, combined with the winds, produced wind chill values in the -50 to -60 degree range statewide. The low wind chills persisted into the day on the 16th, however they were not as severe by mid day and were generally above -40 by the evening. Following the blizzard, Governor Branstad declared 11 Iowa counties disaster areas. In the Des Moines County Warning Area, this included Kossuth, Emmet, and Palo Alto Counties. The combination of blowing snow, high winds, and extreme temperatures resulted on livestock loss across the state. There were cases of cattle frozen in the fields. On one case, a calf was found huddled next to its mother. Both were frozen to death. Several hundred head of cattle

IOWA, East Central and Southeast

IAZ040>042-051>054-063>068-076>078-087>089-098>099 **Buchanan - Delaware - Dubuque - Benton - Linn - Jones - Jackson - Iowa - Johnson - Cedar - Clinton - Muscatine - Scott - Keokuk - Washington - Louisa - Jefferson - Henry - Des Moines - Van Buren - Lee**

09	0400CST				0	0			Winter Storm
10	0400CST								

Three to five of snow fell across the area causing numerous accidents. One man was killed when he lost control of his pickup and struck another vehicle near Wilton, Iowa. In another area, a semi-tractor trailer overturned east of Walcott, Iowa.

IAZ040>042-051>054-063>068-076>078-087>089-098>099 **Buchanan - Delaware - Dubuque - Benton - Linn - Jones - Jackson - Iowa - Johnson - Cedar - Clinton - Muscatine - Scott - Keokuk - Washington - Louisa - Jefferson - Henry - Des Moines - Van Buren - Lee**

10	0400CST				0	0			Extreme Windchill
12	2000CST								

Strong winds and temperatures in the single digits, above and below zero, caused many schools to close Friday, January 10. This was also associated with snow and blowing snow, but the most significant element was the cold. Homecoming was cancelled for students of Andrew High School in Jackson County, Iowa, due to the dangerous windchill temperatures.

IAZ040>042-051>054-063>068-076>078-087>089-098>099 **Buchanan - Delaware - Dubuque - Benton - Linn - Jones - Jackson - Iowa - Johnson - Cedar - Clinton - Muscatine - Scott - Keokuk - Washington - Louisa - Jefferson - Henry - Des Moines - Van Buren - Lee**

15	0400CST				0	0			Winter Storm
17	2000CST								

A winter storm hit the area just before the beginning of the Martin Luther King Jr. weekend. This meant that many schools and other businesses were closed for six days. Strong winds and sub-zero temperatures accompanied three to seven inches of snow with the storm of January 15 and 16. Schools were closed due to icy roads and snowfall on the 15th and due to considerable blowing and drifting on the 16th and 17th.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

IOWA, East Central and Southeast

Winds averaged 20 to 25 mph with gusts to 45 and temperatures were below zero through much of the weekend. This produced dangerous windchill temperatures.

IAZ040>042-051>054-063>068-076>078-087>089-098>099 Buchanan - Delaware - Dubuque - Benton - Linn - Jones - Jackson - Iowa - Johnson - Cedar - Clinton - Muscatine - Scott - Keokuk - Washington - Louisa - Jefferson - Henry - Des Moines - Van Buren - Lee

17	0400CST			0	0			Extreme Windchill
19	1000CST							

Extreme windchill followed the winter storm of the 15th through the 17th. Temperatures ranged in the single digits, above and below zero, combined with winds which ranged from 20 to 25 mph with gusts to 45 mph.

IAZ040>042-051>054-063>068-076>078-087>089-098>099 Buchanan - Delaware - Dubuque - Benton - Linn - Jones - Jackson - Iowa - Johnson - Cedar - Clinton - Muscatine - Scott - Keokuk - Washington - Louisa - Jefferson - Henry - Des Moines - Van Buren - Lee

24	0400CST			0	0			Winter Storm
	2000CST							

Freezing drizzle and sleet coated streets and highways during the early morning hours, followed by 2 to 4 inches of snow. This mix caused very slick roads and exterior surfaces. Over 100 vehicle accidents were reported across southeast Iowa and northwestern Illinois. Elsewhere, numerous accidents were reported, among them; a woman injured when she lost control of her car and struck a semi-tractor trailer near Maquoketa. In another accident a straight-truck and a car collided west of Lone Tree causing three people to be hospitalized.

Several semi-trucks were reported to have jack-knifed on area roads and interstates causing roads to be closed. One accident involved one semi-truck narrowly missing another which was jack-knifed in the road. This second semi-truck carried 4 - 7500 lb drums of uranium hexafluoride. None of the drums leaked, but they were jostled, and a section of Interstate 80 was closed for four hours while the drums were lifted back into place aboard another truck and secured.

IOWA, Northeast

IAZ008>011-018>019-029>030 Mitchell - Howard - Winneshiek - Allamakee - Floyd - Chickasaw - Fayette - Clayton

15	1900CST			0	0			Winter Storm
16	0400CST							

Strong winds gusting to 40 mph caused considerable blowing and drifting snow. Travel was impossible in areas west of Decorah and West Union due to whiteout conditions.

IAZ008>011-018>019-029>030 Mitchell - Howard - Winneshiek - Allamakee - Floyd - Chickasaw - Fayette - Clayton

16	0400CST			0	0			Extreme Windchill
	2100CST							

Wind chills of 35 below to 55 below persisted throughout the day, forcing schools to close across northeast Iowa.

IOWA, Northwest

IAZ001>003-012>014-020>022-031>032 Lyon - Osceola - Dickinson - Sioux - O'Brien - Clay - Plymouth - Cherokee - Buena Vista - Woodbury - Ida

04	1100CST			0	0			Blizzard
05	0600CST							

Winds gusting to 45 mph and 2 to 4 inches of snow combined with existing loose snow cover to produce widespread blizzard conditions with frequent zero visibilities. Travel and commerce were temporarily halted with roads made impassable by drifting and zero visibility.

IAZ001>003-012>014-020>022-031>032 Lyon - Osceola - Dickinson - Sioux - O'Brien - Clay - Plymouth - Cherokee - Buena Vista - Woodbury - Ida

09	0900CST			0	3	80K		Blizzard
11	0400CST							

Strong winds gusting as high as 60 mph combined with loose snow cover and 1 to 3 inches of new snow to produce widespread and prolonged blizzard conditions. Transportation, schools, and commerce were brought to a halt as roads were blocked by drifts as high as 15 feet and zero visibility made travel otherwise impossible. Wind chills as cold as 70 below zero occurred. There were a few stranded motorists and weather related accidents, with some injuries from falls. The greatest damage was suspected to be long term economic loss from halted transportation and loss of commerce and farm services, and this damage could not be accurately estimated.

IOWA, Southwest

IAZ043-055>056-069-079>080-090>091 Monona - Harrison - Shelby - Pottawattamie - Mills - Montgomery - Fremont - Page

09	2200CST			0	0			Extreme Windchill
11	1400CST							

Strong northwest winds combined with cold temperatures to generate wind chills of 40 to 70 below zero.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

IOWA, Southwest

IAZ043-055>056-069	Monona - Harrison - Shelby - Pottawattamie	12	0100CST 1200CST			0	0		Extreme Windchill
Strong northwest winds combined with cold temperatures to produce wind chills of 40 to 50 below.									
IAZ043-055>056	Monona - Harrison - Shelby	15 16	2000CST 0200CST			0	0		Blizzard
A strong arctic cold front moved south from Canada through the central plains as low pressure moved east along the U.S./Canadian border into southeast Canada. Strong winds gusted over 60 mph. This produced considerable blowing and drifting snow with visibilities reduced to less than 1/4 mile in open areas. Visibilities were not as low in sheltered areas, although there was still extensive blowing and drifting. Snow showers did occur with the wind, but the low visibility was mainly caused by blowing snow.									
IAZ043	Monona	15 16	2100CST 1100CST			0	0		Extreme Windchill
Strong northwest winds gusting to 60 mph combined with cold temperatures to generate wind chills of 40 to 70 below zero.									
IAZ055>056-069	Harrison - Shelby - Pottawattamie	16	0100CST 1100CST			0	0		Extreme Windchill
Strong northwest winds gusting to 55 mph combined with cold temperatures to generate wind chills in the 40 to 60 below zero range.									
IAZ079>080-090>091	Mills - Montgomery - Fremont - Page	16	0300CST 0900CST			0	0		Extreme Windchill
Strong northwest winds combined with cold temperatures to generate wind chills in the 40 to 55 below zero range.									
IAZ043-055>056	Monona - Harrison - Shelby	24 25	2000CST 1100CST			0	0		Extreme Windchill
Strong northwest winds combined with cold temperatures to generate wind chills of 40 to 50 below zero.									
IAZ069-079	Pottawattamie - Mills	24 25	2200CST 0700CST			0	0		Extreme Windchill
Strong northwest winds combined with cold temperatures to generate wind chills of 40 to 50 below zero.									
IAZ043-055>056-069	Monona - Harrison - Shelby - Pottawattamie	27	0800CST 1700CST			0	0		Extreme Windchill
Strong northwest winds combined with cold temperatures to generate wind chills of 40 to 50 below zero.									
IAZ079>080-090>091	Mills - Montgomery - Fremont - Page	27	1200CST 1500CST			0	0		Extreme Windchill
Strong northwest winds combined with cold temperatures to generate wind chills of 40 to 50 below.									
<u>KANSAS, East</u>									
KSZ054-058	Lyon - Coffey	10	0600CST 1200CST			0	0		Extreme Windchill
Wind chills between 40 and 50 degrees below zero forced the closing of all school districts in Lyon County and several school districts in Coffey County. John Redmond Reservoir recorded a wind chill of 47 degrees below zero at 805 AM.									
KSZ039	Shawnee	10	0958CST			0	0		Extreme Windchill
The National Weather Service at Phillip Billard Airport in Topeka recorded a wind chill of 47 degrees below zero.									

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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KANSAS, East

KSZ040-055>056

Douglas - Osage - Franklin

27	0900CST 1300CST				0	0			Heavy Snow
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A burst of heavy snow accumulated 4 to 6 inches from mid morning into early afternoon. The precipitation began earlier that morning as a lighter mixture of snow, sleet and freezing rain. Some specific amounts include Lawrence 5 to 6 inches, Lyndon 4 inches and Ottawa 4 inches.

KANSAS, Extreme Southeast

KSZ073-097-101

Bourbon - Crawford - Cherokee

08	1200CST				0	0	60K		Heavy Snow
09	0600CST								

Six inches or more of snow fell over extreme southeast Kansas from noon on the eighth until the early morning of the ninth. The greatest amount of snow was reported in Fort Scott, where eight inches of snow fell. Damage costs were due to the costs of snow removal.

KANSAS, North Central

KSZ005>007-017>019

Phillips - Smith - Jewell - Rooks - Osborne - Mitchell

09	1600CST				0	0			Extreme Cold
11	1600CST								

An arctic air mass had its grip on North Central Kansas for several days. Winds to 30 mph and temperatures near zero forced wind chill factors to 40 to 50 below zero at times.

KSZ005>007-017>019

Phillips - Smith - Jewell - Rooks - Osborne - Mitchell

15	1200CST				0	0			Extreme Windchill
16	1200CST								

A stiff north wind combined with plunging temperatures to force wind chill factors to near 35 below zero across North Central Kansas.

KANSAS, Northeast

KSZ060

Linn

09	0000CST 0700CST				0	0			Heavy Snow
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Snowfall during the overnight hours on the 9th from a fast moving Southwest U.S low produced 6 inches of snow at La Cygne, 5 inches at Mound City and 4 inches at Centerville.

Several school closings and minor traffic accidents were reported.

KSZ025-057-060-102>105

Atchison - Miami - Linn - Doniphan - Leavenworth - Wyandotte - Johnson

10	0000CST				0	0			Extreme Cold
13	2359CST								

Very cold arctic air settled over Northeast Kansas and extreme Eastern Kansas on the 10th through the 13th. Daytime high temperatures through the period were in the singles digits, almost 30 degrees below normal, and nighttime low temperatures were in the single digits below zero. No record low temperatures were set during the cold wave but winds gusting up to 30 MPH on the 10th lowered wind chills to 30 to 50 below zero.

Many school districts were closed on the 10th due to the bitterly cold wind chills. Several cases of frostbite and hypothermia were reported but there were no serious injuries or fatalities. Kansas Power and Light reported well above average uses of power but no widespread outages.

KSZ057

Miami

15	0400CST 1900CST				0	0			Winter Storm
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A mixture of snow and freezing rain resulted in slippery roadways across Miami County. A least 6 traffic accidents were attributed to the icy roadways. Less than an inch of ice and snow accumulated.

KSZ103>105

Leavenworth - Wyandotte - Johnson

27	0400CST 1900CST				0	0			Heavy Snow
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A band of sleet and freezing rain developed just before daybreak and moved through the western half of the Kansas City Metro

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
Date				Killed	Injured	Property	Crops	

KANSAS, Northeast

area during morning drivetime. A coating to an inch of ice built up on streets and roadways which significantly slowed morning traffic and resulted in several minor traffic accidents. Later in the morning the mixed precipitation changed over to heavy snow which persisted into the early afternoon hours. Snowfall amounts ranged from 3 to 5 inches across Leavenworth County to 6 inches at Bonner Springs, Olathe and Stanley, 6.5 inches Lenexa and Overland Park and 7 inches in Kansas City, KS.

Temperatures during the precipitation were in the 10 to 15 degree range which made salting efforts ineffective in breaking up ice build up on roadways. Shortly after the snow ended, winds gusting up to 30 MPH pushed temperatures down close to zero with wind chills between 20 and 40 below zero and drifted the snow as deep as 2 to 4 feet in some locations.

A 66 year old Olathe man died while refueling a snowblower in his garage. The cause of the death is not known.

KANSAS, Northwest

NONE REPORTED.

KANSAS, Southeast

NONE REPORTED.

KANSAS, Southwest

NONE REPORTED.

KENTUCKY, Central

Clinton County

.5 W Albany	04	2355EST 2356EST	0.3	100	1	2	50K	Tornado (F1)
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An F1 tornado destroyed a mobile home and parts of a radio station and church in an isolated area along Highway 1590, one half mile west of Albany. The mobile home was thrown over 100 yards and 1 resident was killed and 2 others seriously injured. The deceased was a 39 year old male. The radio station lost its transmission tower as well as part of its roof. The tornado path was only 500 yards long and lifted and touched down again at least 2 times along the path. The path width was approximately 100 yards. M39MH

Marion County

Eastern Parts	04	2355EST			0	0		Thunderstorm Wind (G50)
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Several trees down across eastern parts of the county.

Bourbon County

Paris	05	0030EST			0	0		Thunderstorm Wind (G50)
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Several trees were down in the Georgetown road area as reported by local residents.

Fayette County

Lexington	24	1748EST			0	0		Hail (0.75)
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Dime size hail was reported by a spotter.

Green County

Summersville	24	1750EST			0	0		Hail (1.75)
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Golf ball size hail reported by a spotter.

Taylor County

1 S Campbellsville	24	1830EST			0	0	20K	Thunderstorm Wind (G60)
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A mobile home was overturned and destroyed. There was also some roof damage, and a porch was blown off a church. Power lines and trees also were downed. Report was from the county dispatch.

Barren County

Glasgow to 5 E Glasgow	24	1840EST 1850EST	5	600	0	2	1.8M	Tornado (F2)
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Metcalfe County

2 W Wisdom to Wisdom	24	1850EST 1854EST	2	500	0	0	20K	Tornado (F1)
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An F2 tornado swept a 500-600 yard 7 mile path from just south of Glasgow to the small town of Wisdom, 5 miles west of Edmonton. The tornado damaged over 40 homes and several mobile homes. 2 people were injured including one seriously in a mobile home 1 mile southeast of Glasgow along Highway 90. One \$275,000 home had its middle section completely destroyed. In addition, many large trees were downed in a convergent pattern. Residents and county DES said quarter to half a dollar size hail preceded the tornado by only seconds. Total damage was estimated at 2 million dollars.

Barren County

Glasgow to 5 E Glasgow	24	1840EST 1850EST			0	0		Hail (1.25)
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Quarter to half dollar size hail just preceded an F1-F2 tornado.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>KENTUCKY, Central</u>									
Green County									
Allendale	24	1840EST			0	0			Hail (1.75)
			Golf ball size hail reported in Allendale.						
Barren County									
Glasgow	24	1840EST			0	0			Tstm Wind/Hail
			Dime size hail reported along with power lines down.						
Metcalfe County									
2 W Wisdom to Wisdom	24	1850EST 1854EST			0	0			Hail (1.25)
			Quarter to half size hail just preceded an F1 tornado.						
Adair County									
Countywide	24	1930EST			0	0			Thunderstorm Wind (G50)
			Trees reported down.						
<u>KENTUCKY, Eastern</u>									
Wayne County									
1 N Monticello	05	0016EST			0	0	10K	0	Thunderstorm Wind
			The roof was blown off a building.						
Pulaski County									
5 S Somerset	05	0030EST			0	0	5K	0	Thunderstorm Wind
			Trees were blown down, and roofs were damaged.						
Pulaski County									
Eubank	05	0030EST			0	0	10K	0	Thunderstorm Wind
			Three television antenna towers were downed, several trees were blown over, and a few homes received minor damage.						
Rockcastle County									
Quail	05	0035EST			0	0	10K	0	Thunderstorm Wind
			Trees were blown down and barns were damaged in the western part of the county.						
McCreary County									
6 E Whitley City	05	0045EST			0	0	15K	0	Thunderstorm Wind
			Trees and power lines were downed. A large tree fell on a car and truck.						
Whitley County									
Corbin	05	0100EST			0	0	20K	0	Thunderstorm Wind
			Numerous trees were downed, and there was roof and garage damage.						
Laurel County									
8 S London	05	0110EST			0	0	3K	0	Thunderstorm Wind
			Numerous trees were blown down.						
Estill County									
2 N Irvine	05	0115EST			0	0	5K	0	Thunderstorm Wind
			Trees were downed, and buildings were damaged.						
Lee County									
7 N Beattyville	05	0145EST			0	0	10K	0	Thunderstorm Wind
			Trees were downed and the roof was blown off a barn.						
Breathitt County									
Jackson	05	0150EST			0	0	0	0	Thunderstorm Wind
			Trees were downed.						
Wolfe County									
Hazel Green	05	0155EST			0	0	2K	0	Thunderstorm Wind
			Numerous power lines blown down.						
Floyd County									
10 SE Prestonsburg	05	0200EST			0	0	5K	0	Thunderstorm Wind
			Damage to roof of house along with trees down.						
Magoffin County									
Salyersville	05	0205EST			0	0	3K	0	Thunderstorm Wind
			Trees and a light pole were blown down.						

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>KENTUCKY, Eastern</u>									
Harlan County									
Cranks	05	0210EST			0	0	3K	0	Thunderstorm Wind
			Trees were downed.						
Leslie County									
Stinnett	05	0215EST			0	0	3K	0	Thunderstorm Wind
			Trees and power lines were downed.						
Bell County									
12 NW Middlesboro	05	0220EST			0	0	0	0	Thunderstorm Wind
			Trees were downed.						
Johnson County									
Paintsville	05	0230EST			0	0	3K	0	Thunderstorm Wind
			Trees down and roof blown off barn.						
Bell County									
Middlesboro	05	0230EST			0	0	0	0	Thunderstorm Wind
			Trees were blown down.						
Letcher County									
Jenkins	05	0240EST			0	0	0	0	Thunderstorm Wind
			Trees were blown down.						
Martin County									
5 N Inez	05	0240EST			0	3	15K	0	Thunderstorm Wind
			A house trailer was blown off its foundation. A man sustained shoulder injuries, and two children received minor cuts.						
Martin County									
Inez	05	0245EST			0	0	1K	0	Thunderstorm Wind
			Trees were blown down.						
Pike County									
7 NE Pikeville	05	0245EST			0	0	20K	0	Thunderstorm Wind
			A garage and portable building were destroyed. A trailer home and automobile were also damaged.						
Pike County									
South Williamson	05	0300EST			0	0	2K	0	Thunderstorm Wind
			Power lines were blown down.						
Leslie County									
Thousandsticks	24	2205EST			0	0	0	0	Hail (0.75)
<u>KENTUCKY, Northeast</u>									
KYZ101>103-105	Greenup - Carter - Boyd - Lawrence								
	01	0000EST			0	0			Record Warmth
	05	1800EST							
			A prolong warm spell from late December carried over into the new year. The warmest temperatures were on the 4th and 5th, with mid 60s to lower 70s. Overnight low readings were mostly in the upper 40s and 50s.						
KYZ101>103-105	Greenup - Carter - Boyd - Lawrence								
	16	1800EST			0	0	8K		Cold
	20	0700EST							
			Minimum temperatures of 5 above zero to 5 below zero were common. Daytime high readings were in the teens on the 18th and 19th. Winds of 10 to 20 mph prompted wind chill advisories. Schools delayed or cancelled their openings on the coldest mornings. These readings are typical for the coldest period of a nonsevere winter.						
<u>KENTUCKY, Northern</u>									
Kenton County									
Ludlow	05	0010EST 0015EST			0	0	5K		Thunderstorm Wind (G50)
			Numerous electrical poles downed.						
KYZ090>096	Gallatin - Boone - Kenton - Campbell - Owen - Grant - Pendleton								
	24	0500EST 0900EST			0	0			Ice Storm
			A strong surge of moisture moved north into the Ohio Valley during the morning hours. Temperatures were at or just below the						

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

KENTUCKY, Northern

freezing mark for several hours while rain fell. Roads quickly became icy during the morning rush hour causing numerous traffic accidents. Several roads were closed due to one-quarter inch of ice accumulation.

KYZ091>093

Boone - Kenton - Campbell

27	0600EST 0900EST			0	0			Ice Storm
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Freezing rain occurred during the morning rush hour icing over roads, bridges, and overpasses. Numerous accidents occurred. The most serious accident occurred in Campbell county on southbound I-471 at the Newport exit. Nine cars piled up on the icy road and one person was trapped in a vehicle.

KENTUCKY, Southwest

KYZ001>022

Fulton - Hickman - Carlisle - Ballard - Mccracken - Graves - Livingston - Marshall - Calloway - Crittenden - Lyon - Trigg - Caldwell - Union - Webster - Hopkins - Christian - Henderson - Daviess - Mclean - Muhlenberg - Todd

08 09	1500CST 0300CST			0	0			Winter Storm
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A winter storm produced about 4 inches of snow in far western Kentucky, west of a line from Murray to Madisonville. Further east, from Owensboro to Murray, a mix of sleet and freezing rain limited accumulations to 1 to 3 inches. In the Hopkinsville area, mainly ice was reported, causing significant glazing of trees and power lines. In some counties, such as Union County, schools were closed for several days following the storm. No serious injuries were reported in weather-related accidents. A jackknifed tractor-trailer rig closed the Purchase Parkway for four hours. Snow-slickened highways were a factor in two fatal traffic accidents. A woman was killed in a wreck in Caldwell County, and another woman died in a Graves County crash.

KYZ001>022

Fulton - Hickman - Carlisle - Ballard - Mccracken - Graves - Livingston - Marshall - Calloway - Crittenden - Lyon - Trigg - Caldwell - Union - Webster - Hopkins - Christian - Henderson - Daviess - Mclean - Muhlenberg - Todd

10 11	1000CST 0500CST			0	0			Extreme Windchill
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An outbreak of arctic cold followed in the wake of a departing winter storm. Wind chills were occasionally minus 20 to minus 25. Area shelters reported a sharp rise in the number of homeless people checking in. Two vagrants were found by police suffering from severe exposure. The high temperature of 10 degrees was the lowest on record for January 11 at Paducah.

KYZ001>008-010>011-013>015-018>019

Fulton - Hickman - Carlisle - Ballard - Mccracken - Graves - Livingston - Marshall - Crittenden - Lyon - Caldwell - Union - Webster - Henderson - Daviess

15	0400CST 1200CST			0	0			Ice Storm
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A morning ice storm produced around a quarter inch of ice west of Kentucky Lake and from Paducah to Henderson. Ice caused numerous traffic accidents, especially on secondary roads. The temperature warmed above freezing by noon, changing the freezing rain to plain rain. In McCracken County alone, there were at least 18 non-injury accidents from 7 A.M. to noon. Many schools, churches, businesses, and government offices were closed. Local hospitals in the Paducah area reported a sharp increase in weather-related injuries, especially slips, falls, and accidents. Western Baptist Hospital reported four wrist fractures due to slips and falls.

Trigg County

Cadiz	22 1600CST			0	0			Hail (1.00)
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Todd County

Trenton	22 1723CST			0	0			Hail (0.75)
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Ballard County

Barlow to Lovelaceville	22 1805CST 1812CST			0	0			Hail (1.00)
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A severe thunderstorm passed across central and eastern Ballard County from Barlow to Lovelaceville. Hailstones about the size of dimes were observed in Barlow. The storm intensified as it moved southeast, producing hail nearly the size of quarters in Lovelaceville.

Mccracken County

6 SW (Pah)Barkley Arpt Pa	22 1810CST			0	0			Hail (0.75)
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The southwest corner of McCracken County was grazed by a severe thunderstorm that tracked from western Ballard County to northern Graves County.

Carlisle County

Cunningham	22 1830CST			0	0	10K		Hail (1.00)
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The quarter size hail dented vehicles.

Graves County

Hickory	22 1849CST			0	0			Hail (0.88)
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Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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KENTUCKY, Southwest

Graves County

Folsomdale to 2 S Kaler	22	1905CST 1915CST			0	0			Hail (0.88)
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A severe thunderstorm passed across northern Graves County, producing a very narrow swath of hail only a couple miles wide. Hail up to the size of nickels covered the ground along U.S. Route 45 about 8 miles north of Mayfield.

LOUISIANA, Northeast

Richland Parish

Rayville	23	2210CST			0	0	1K		Thunderstorm Wind
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Numerous large limbs were blown out of trees.

East Carroll Parish

1 N Sondheimer	23	2240CST			0	0			Hail (1.00)
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Madison Parish

5 N Tallulah	23	2245CST			0	0			Hail (1.00)
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Morehouse Parish

1 S Log Cabin	27	1650CST			0	0	30K		Thunderstorm Wind
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One mobile home was destroyed and two others were damaged. Several storage buildings were rolled over.

Morehouse Parish

6 S Beekman	27	1700CST			0	0	10K		Thunderstorm Wind
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One home and a mobile home were damaged. Several trees were blown down.

Morehouse Parish

Collinston	27	1900CST			0	0			Hail (1.00)
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LOUISIANA, Northwest

Caddo Parish

Keithville	04	1910CST			0	0			Hail (0.50)
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Caddo Parish

Shreveport	04	1913CST			0	0			Hail (0.75)
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De Soto Parish

Stonewall	04	1920CST			0	0			Hail (0.88)
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Webster Parish

3 SW Sibley	04	1935CST			0	0			Hail (0.50)
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Webster Parish

Dubberly	04	1950CST			0	0			Hail (0.75)
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Bienville Parish

6 SW Ringgold	04	2005CST			0	0			Hail (0.75)
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Lincoln Parish

Simsboro	04	2024CST			0	0			Hail (0.75)
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Lincoln Parish

Ruston	04	2024CST			0	0			Hail (0.75)
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Lincoln Parish

2 W Ruston	04	2032CST			0	0			Hail (0.75)
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Ouachita Parish

Calhoun	04	2115CST			0	0			Hail (0.75)
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Ouachita Parish

Monroe	04	2120CST			0	0			Hail (0.88)
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LAZ001>006-010>014-018>019-021 Caddo - Bossier - Webster - Claiborne - Lincoln - Union - De Soto - Red River - Bienville - Jackson - Ouachita - Natchitoches - Winn - Caldwell

06	2300CST			0	0			Ice Storm
08	2300CST							

An arctic cold front swept southeast from the northern Plains into the lower Mississippi Valley on January 6 bringing icy temperatures across the region while an upper level low over the 4 corners area pumped moisture laden air northward from the Gulf of Mexico. This warm moisture laden air rode up over the freezing ground temperatures resulting in widespread freezing rain, sleet, and snow. Overall accumulations was generally one to two inches along a 45 mile wide band from Reader and Lewisville, Arkansas, to Marshall and Jacksonville, Texas. Numerous power outages occurred from iced power lines and tree limbs across power lines.

LAZ003

Webster

07	0900CST			1	0			Extreme Cold
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George Gantt died of hypothermia after being hospitalized from exposure. Temperatures were hovering near freezing when Gantt

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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LOUISIANA, Northwest

was found. M92OU

LAZ001>006-010>014-017>022 Caddo - Bossier - Webster - Claiborne - Lincoln - Union - De Soto - Red River - Bienville - Jackson - Ouachita - Sabine - Natchitoches - Winn - Grant - Caldwell - La Salle

12	0600CST				0	0			Ice Storm
15	1200CST								

With Artic air over northern Louisiana an upper level storm system moved out of central Texas drawing copious amounts of moisture northward from the Gulf of Mexico. The moisture fell through the Artic air mass resulting in a significant ice storm with accumulations of 1/4 to 1 inch across the region. Several interstates were closed including I-220 north of Shreveport and I-49 from I-20 in Shreveport to Alexandria, La. The ice led to numerous traffic accidents and a few isolated power outages.

Jackson Parish

Hodge	23	1700CST			0	0			Thunderstorm Wind (G60)
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Caddo Parish

Shreveport	23	1850CST			0	0			Lightning
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A water tank was hit by lightning near Wallace Lake damaging the pumps.

De Soto Parish

.5 SW Rambin to 5.5 NE Rambin	23	1915CST 1923CST	5	400	0	0			Tornado (F2)
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A tornado touched down in southwest Rambin, moved northeast through Rambin, then lifted. Damage consisted of numerous trees twisted and snapped or completely uprooted. Four houses sustained major damage. Other houses were damaged from trees falling into them. A mobile home was lifted and blown 100 yds. No injuries or deaths.

De Soto Parish

Carmel	23	2000CST			0	0			Hail (0.88)
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De Soto Parish

Gloster	23	2000CST			0	0			Thunderstorm Wind (G60)
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Bossier Parish

4 E Plain Dealing	23	2010CST			0	0			Hail (0.88)
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Red River Parish

Hall Summit	23	2015CST			0	0			Hail (1.00)
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Bienville Parish

Bienville	23	2045CST			0	0			Thunderstorm Wind (G60)
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Jackson Parish

Quitman	23	2112CST			0	0			Thunderstorm Wind (G65)
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Trees down across power lines resulting in numerous power outages.

Ouachita Parish

West Monroe	23	2115CST			0	0			Thunderstorm Wind (G60)
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Numerous trees down across power lines causing power outages.

Natchitoches Parish

1 E Natchitoches	27	1720CST			0	0			Hail (0.50)
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Caddo Parish

Shreveport	27	1730CST			0	1	0	0	Lightning
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A mother, washing her daughters hair in the kitchen sink during a thunderstorm, was injured by a lightning strike to their home. Her left hand, which was on her daughters head received a jolt of electricity and threw her across the room. Paramedics arrived shortly after the event but only numbness occurred in the womans arm. The child was not injured except for some tingling to her head.

Bossier Parish

Benton	27	1740CST			0	0			Hail (0.75)
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Sabine Parish

2 NE Many	27	1746CST			0	0			Hail (0.75)
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Ouachita Parish

Calhoun	27	1857CST			0	0			Hail (0.75)
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Ouachita Parish

1 W West Monroe	27	1905CST			0	0			Hail (1.00)
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LOUISIANA, Southeast

Livingston Parish

Livingston	15	1559CST			0	0			Thunderstorm Wind (G65)
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A broadcast meteorologist reported a thunderstorm wind gust, estimated at 65 mph accompanied by pea size hail.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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LOUISIANA, Southeast

Jefferson Parish

5 N Metairie	15	1717CST			0	0			Waterspout
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An off-duty broadcast meteorologist reported a waterspout over Lake Pontchartrain near the Causeway Bridge.

Jefferson Parish

.5 W Jean Lafitte to Crown Pt	24	0605CST 0615CST	4	10	0	1	160K		Tornado (F1)
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A tornado touched down several times along an intermittent patch. Five mobile homes were damaged, two sustained major damage and were pushed off their foundation and three had minor damage to porches and roofs. One house's roof was damaged and three others had damage to porches, gutters or siding. A portion of the Jean Lafitte Auditorium's metal roof was ripped off at a cost of \$100,000 to repair.

St. Charles Parish

Destrehan to Luling	24	1220CST			0	0			Hail (1.00)
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The Office of Emergency Preparedness reported that quarter size hail fell along Interstate Highway 310.

Jefferson Parish

River Ridge	24	1225CST			0	0			Lightning
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The Office of Emergency Preparedness reported a shed was damaged by lightning.

Jefferson Parish

Metairie	24	1230CST			0	0			Hail (1.75)
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Golfball size hail was reported by the public on Homestead Avenue 1 mile east of Lakeside Mall.

Orleans Parish

New Orleans	24	1245CST 1300CST			0	0			Hail (0.88)
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Dime to nickel size hail was reported in the Lakefront and Lakeview areas of New Orleans.

LOUISIANA, Southwest

Calcasieu Parish

20 N Sulphur	06	2150CST			0	0	10K		Thunderstorm Wind
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Electric company reported several trees and power lines blown down two miles east of DeQuincy.

Jefferson Davis Parish

Jennings	07	0450CST			0	0	10K		Lightning
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Lightning struck a motel, damaging its computer equipment. A small fire in the lobby caused minor damage, but fortunately no injuries.

LAZ029>031-041>042-044 Avoyelles - Beauregard - Allen - Calcasieu - Jefferson Davis - Lafayette

12 14	0800CST 0900CST				2	15	11.8M		Ice Storm
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A record ice storm hit southwest Louisiana and southeast Texas. The hardest hit area was Calcasieu Parish. Over 40,000 electric customers were without power for up to six days due to the number of downed trees and power lines. Numerous traffic accidents were attributed to icy roadways. One 54 year old woman was killed in an accident in Avoyelles Parish, and one 41 year old man was killed in an accident in Beauregard Parish. Millions of tons of debris were removed, taking over two months to pick up in some areas. Hundreds of homes received minor roof damage due to trees and tree limbs falling on them. M41VE, F54VE

Iberia Parish

Loreauville	15	1430CST			0	3	25K		Thunderstorm Wind
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Downburst winds caused damage in the community of Loreauville. Two homes were pushed off their concrete foundations, and one barn was nearly destroyed. Three people received minor injuries - cuts and bruises. Two men were in the collapsed barn when the wind hit, and a woman was in one of the homes that was blown off its foundation. Debris was strewn across a field behind the home for over one mile.

Vernon Parish

Evans	23	1706CST			0	0	10K		Thunderstorm Wind
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A roof was blown off one barn and several trees were knocked down in the community of Evans.

St. Mary Parish

Berwick	24	0228CST			0	0	5K		Thunderstorm Wind
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During a thunderstorm, wind equipment in the town of Berwick recorded nearly 60 mph wind gusts.

Beauregard Parish

Merryville	27	1540CST			0	0	10K		Thunderstorm Wind
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Several trees were blown down near Merryville.

Beauregard Parish

Longville	27	1555CST			0	0	10K		Thunderstorm Wind
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Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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LOUISIANA, Southwest

Several trees were blown down across power lines near Longville.

MAINE

MEZ001>006

Northwest Aroostook - Northeast Aroostook - Northern Somerset - Northern Piscataquis - Northern Penobscot - Southeast Aroostook

05	1300EST								
06	0200EST				0	0			Winter Storm

The circulation around an intense low pressure center over the Great Lakes, combined with a secondary low pressure system that developed over western New England, brought more than 9 inches of snow to extreme northern Maine with heavy accumulations of freezing rain farther south in northern Maine. Other areas of Maine had lesser accumulations of freezing rain.

MEZ001>014

Northwest Aroostook - Northeast Aroostook - Northern Somerset - Northern Piscataquis - Northern Penobscot - Southeast Aroostook - Northern Oxford - Northern Franklin - Central Somerset - Southern Piscataquis - Central Penobscot - Southern Oxford - Southern Franklin - Southern Somerset

10	0000EST								
	1800EST				0	0			Winter Storm

A low pressure center that developed off the coast of Maine and New Hampshire brought mixed precipitation to coastal parts of the state with heavy snows in the north, western mountains, and foothills. Snow accumulations were over a foot in areas of the north and mountains.

Cumberland County

Countywide	10	1030EST							
		1330EST			0	0	37.5K		Storm Surge

Hancock County

Countywide	10	1030EST							
		1330EST			0	0	37.5K		Storm Surge

Knox County

Countywide	10	1030EST							
		1330EST			0	0	37.5K		Storm Surge

Lincoln County

Countywide	10	1030EST							
		1330EST			0	0	37.5K		Storm Surge

Sagadahoc County

Countywide	10	1030EST							
		1330EST			0	0	37.5K		Storm Surge

Waldo County

Countywide	10	1030EST							
		1330EST			0	0	37.5K		Storm Surge

Washington County

Countywide	10	1030EST							
		1330EST			0	0	37.5K		Storm Surge

York County

Countywide	10	1030EST							
		1330EST			0	0	37.5K		Storm Surge

Low pressure moving northeastward from Georgia intensified off the coast of New England with storm force winds near the center and gale force winds extending to the Maine and New Hampshire coastlines. Astronomical high tides were occurring while the strong winds were hitting the coastline. At 11:26 EST, the Portland tide gauge read 12.6 feet, a foot above normal, and .6 feet above flood stage.

Coastal flood damage due to the storm surge was light to moderate, but widespread, effecting the entire Maine and New Hampshire coastlines from the Merrimack River in Massachusetts to Eastport, Maine. Many piers in Maine were submerged. Route 1 at Lincolnville, Woolwich, Arrowsic, and Georgetown and Route 209 in Phippsburg, along with many other coastal roadways and causeways were flooded with up to 2 feet of water, temporarily closing the roads. Harbor towns, such as Camden, Chebeague Isle, Machias, and Kennebunkport reported wharf damage. In Kennebunkport, several inches of water filled the downtown areas. In the Pine Point area of Scarborough, basements were flooded with salt water.

MEZ007>014-017>021-024>025

Northern Oxford - Northern Franklin - Central Somerset - Southern Piscataquis - Central Penobscot - Southern Oxford - Southern Franklin - Southern Somerset - Interior Washington - Interior York - Interior Cumberland - Androscoggin - Kennebec - Coastal Cumberland - Sagadahoc

28	0000EST								
	1500EST				0	0			Winter Storm

Strong southerly winds from low pressure moving eastward from the Great Lakes combined with a stationary front along the coast to bring a mixture of precipitation to the state. Along the coast, the snow changed to rain with only a couple inches of snow accumulation. Snowfall was generally 6 to 10 inches in southwestern inland areas to about a foot in the western mountains and foothills. Downeast Maine had lesser amounts as the snow mixed with or changed to rain. Between 4 and 8 inches of snow fell in

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

MAINE

northern Maine.

MARYLAND, Central

MDZ005>007-009>011-013>014-016>018 **Carroll - Northern Baltimore - Harford - Montgomery - Howard - Southern Baltimore - Prince Georges - Anne Arundel - Charles - St. Mary'S - Calvert**

09	0630EST 1600EST	0	0	Winter Weather
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The first area-wide winter weather event of the 1996/97 season spread a mix of snow, sleet, and freezing rain across all of northern and western Maryland during the daylight hours of the 9th. Over the eastern Piedmont and coastal plain, 2 to 4 inches of snow and sleet fell before the changeover to freezing rain and rain.

The event was the result of subtropical moisture rapidly overrunning a dome of cold air, causing a period of moderate snow and sleet. A secondary wave of low pressure developed along the North Carolina coast, locking cold air in place over inland areas.

Precipitation had an immediate impact on the morning commute, causing numerous fender-benders and several accidents. In Anne Arundel Co (MDZ014), a Maryland State Highway Administration worker was struck by a vehicle while trying to aid another crash victim.

Fourteen of 23 school districts made early decisions to close (nearly all 14 districts were impacted by 2 or more inches of snow); only Montgomery Co (MDZ009) sent students to school on time. Three school buses were involved in accidents while travelling to their destinations; fortunately, there were no injuries.

Morning flights were delayed at Baltimore/Washington International Airport.

The changeover to mixed precipitation, combined with widespread road treatments, allowed for a more benign evening commute. Residential roads remained treacherous until the following day, when afternoon temperatures rose well above freezing.

Late on the 10th through early on the 11th, a band of moderate snow developed along an arctic front, producing 1 to 3 inches across much of the Piedmont through the western shore of the Chesapeake Bay. There was negligible human impact with this event, since it occurred around midnight on a Saturday.

MDZ002>004

Allegany - Washington - Frederick

09	1100EST 1700EST	0	0	Winter Storm
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A winter storm spread a mix of snow, sleet, and freezing rain across portions of western Maryland during the daylight hours of the 9th. Three to 5 inches of snow and sleet fell over the western Piedmont and Potomac highlands before precipitation changed to freezing rain.

The event was the result of subtropical moisture rapidly overrunning a dome of cold air, causing a period of moderate snow and sleet. A secondary wave of low pressure developed along the North Carolina coast, locking cold air in place over inland areas.

Precipitation had an immediate impact on the morning commute, causing numerous fender-benders and several accidents. Two indirect deaths occurred in Washington Co (MDZ003) when a couple was killed near Hagerstown after their late-model sedan collided head-on with a pickup truck. A man was struck by a careening car in Cumberland (MDZ002) along federal highway 220. Another notable accident involved a Georgia-Pacific transport trailer and a trash hauler in Frederick Co (MDZ004). This accident briefly shut state route 85 when nearly 100 gallons of diesel fuel spilled into Ballenger Creek.

The changeover to mixed precipitation, combined with widespread road treatments, allowed for a more benign evening commute. Residential roads remained treacherous until the following day, when afternoon temperatures rose well above freezing.

MDZ002>003

Allegany - Washington

24	1200EST	0	0	Winter Weather
24	1900EST			

A band of light to moderate snow developed across the Potomac highlands during the early afternoon of the 24th, dropping a quick 1 to 3 inches of snow. Later that afternoon, some areas received additional sleet and freezing rain. Several accidents were reported in western Maryland, but no structural or agricultural damage was noted.

MARYLAND, Northeast

MDZ008-012-015-019>020 **Cecil - Kent - Queen Annes - Talbot - Caroline**

03	1000EST	0	0	Unseasonably Warm
06	2300EST			

A persistent west to southwest flow throughout the start of 1997 led to unseasonably warm weather from the 3rd through the 6th

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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MARYLAND, Northeast

across the Maryland Eastern Shore. The warmest day was the 5th. A weak backdoor cold front brought mostly cloudy skies and slightly cooler temperatures to the northern part of the Eastern Shore on the 4th. In spite of a cold frontal passage on the 6th, some locations in the southern part of the Eastern Shore still managed to reach into the 60s. Warmest readings from around the area included 70 degrees in Salisbury (on the 4th), 69 degrees in Georgetown (on the 4th) and at the Baltimore-Washington International Airport (on the 5th).

MDZ008-012-015-019>020 **Cecil - Kent - Queen Annes - Talbot - Caroline**

09	0900EST 1900EST	0	0						Sleet/Freezing Rain
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Double barrel low pressure systems spread a mixture of sleet and freezing rain across the Maryland Eastern Shore. Precipitation started briefly as light snow across northern Cecil County. Precipitation spread across the area by noon on the 9th. Strong east winds helped change it from sleet and freezing rain to plain rain from southeast to northwest across the area with the least amount of freezing precipitation across Caroline and Talbot Counties. Freezing rain persisted the longest and into the evening in Cecil County. The significant precipitation ended by the late evening of the 9th. The wintry mix did cause slippery roads, but no very serious accidents were reported. The lows went from the central Ohio Valley and Georgia the morning of the 9th to Lake Huron (the former) and Boston (the latter) the morning of the 10th. Keeping separate identities prevented these lows from dropping heavier precipitation across the area.

MDZ008-012-015-019>020 **Cecil - Kent - Queen Annes - Talbot - Caroline**

11	0100EST 0700EST	0	0						Snow
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A weak low pressure system developed over Virginia the night of the 10th along a secondary cold front. As the low moved northeast and reached Block Island, Rhode Island during the morning of the 11th, a swath of light snow accompanied it during the pre-dawn hours. For most places along the Maryland Eastern Shore, this was the first measurable snow of the season. Accumulations though were light, mainly between 1.0 and 1.5 inches. Because snow fell during the pre-dawn hours of a Saturday morning, very few accidents occurred.

MDZ008-012-015-019>020 **Cecil - Kent - Queen Annes - Talbot - Caroline**

17 20	0100EST 0900EST	0	0						Extreme Cold
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The coldest air mass of the winter season moved into the Maryland Eastern Shore on Friday the 17th. The high pressure system came straight from the arctic tundra and moved southeast reaching the Middle and South Atlantic States on the 19th and 20th. Strong gusty northwest winds brought wind chill factors well below zero on the 17th and 18th.

The coldest morning was the 19th. For most places this was the coldest day of the winter season. Low temperatures that morning included 2F at the Baltimore-Washington International Airport, 5F in Salisbury and 6F in Bridgeville, DE. No new record lows were set.

MARYLAND, South

MDZ023 **Somerset**

09	0300EST 1300EST	0	0						Snow
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Low pressure moved north along the eastern seaboard during Thursday, January 9, and spread 2 to 3 inches of snow across parts of Somerset county. Princess Anne reported 3 inches of snow.

MARYLAND, West

MDZ001 **Garrett**

09	0400EST 1400EST	0	0		1K				Winter Storm
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A strong winter storm developed across the Gulf of Mexico and moved quickly north into Ohio. The storm spread an icy wintry mix of precipitation into the mountainous area of the Western Maryland Panhandle.

Garrett County Maryland reported 2 inches of snow, followed by a one-quarter inch coating of freezing rain. A few limbs were also downed.

MASSACHUSETTS, Central and East

MAZ020>022 **Southern Bristol - Southern Plymouth - Barnstable**

10	0500EST 1000EST	0	0						Strong Wind
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MAZ020>021 **Southern Bristol - Southern Plymouth**

10	0600EST 1000EST	0	0						Coastal Flood
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A combination of a new-moon high tide and southeast winds that became southwest and gusting to 40 to 55 mph resulted in a storm tidal surge which reached 2 to 4 feet in Buzzards Bay and Mount Hope Bay. Some peak wind gusts included: 55 mph at

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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MASSACHUSETTS, Central and East

Pocasset; 47 mph on West Island, Fairhaven; and 44 mph at Fall River. Numerous roads, yards, and cellars were flooded in low-lying waterfront areas. All communities from Wareham to Fall River and Westport along the south coast reported flooding. The most affected areas were along the waterfronts of Marion, Mattapoisett, Fairhaven, and Dartmouth. In Marion, water was reported 4 feet above high tide. Some local residents said this was the highest coastal flooding they had seen outside of a hurricane. This was the worst flooding since Hurricane Bob in 1991. There is the possibility that a "gravity wave" (which results in rapid changes in wind and atmospheric pressure fields) may have played a part in this sudden and unexpected coastal flooding event. Several small streams that empty into Mount Hope Bay rose up 3 feet out of their banks. Flooding occurred in several Bristol County towns. The Taunton and Assonet Rivers overflowed onto a few streets in Berkley as reported by local police. In Somerset, a beach entrance and a bridge were closed. Overall, the flooding was considered minor with no structural damage or road washouts.

MAZ004>005

Northern Worcester - Western Middlesex

10	1630EST 1730EST			0	0			Snow Squall
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A sudden snow squall, accompanied by thunder, hit parts of northern Worcester County and the Merrimack Valley just as the sun was setting and deposited a quick one to two inches of snow. In Leominster, police closed a three-mile section of Route 2 for 45 minutes as the sudden snow accumulation made the highway extremely icy and resulted in dozens of accidents. In the greater Lowell area, the late afternoon commute quickly became a grid-lock due to dozens of skidding accidents as roads became very slippery. Cars were at a standstill due to spinning tires unable to grip the icy road surfaces. The traffic jams lasted for several hours.

MAZ013-016>024

Western Norfolk - Eastern Norfolk - Northern Bristol - Western Plymouth - Eastern Plymouth - Southern Bristol - Southern Plymouth - Barnstable - Dukes - Nantucket

11	0500EST 1300EST			0	0			Heavy Snow
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A developing low pressure system south of Long Island spread bands of heavy snow across southeastern Massachusetts, Cape Cod, and the Islands. Six to nine inches of snow fell from just south of Boston to northern Rhode Island and southeastward to Cape Cod. This was a quick-hitting storm with snow accumulation rates up to 2 inches per hour. Most of the snowfall occurred during a 6-hour period. Some snowfall amounts included: Cohasset, 9.5 inches; Norwell, 9 inches; Taunton, 8.6 inches; Hingham and Blue Hill in Milton, both 8.0 inches; North Quincy, Norwood, and Stoughton, 7 inches; Attleboro, 6.5 inches; West Dennis, 6.3 inches; and Yarmouth, Acushnet, and New Bedford, 6 inches. Numerous minor traffic accidents were reported. An 18-car pile-up forced police to close Route 3 in Braintree for about 20 minutes. In another chain reaction collision, another 18-car pile-up on Route 3 in Duxbury closed the highway for 45 minutes. A 10-car collision closed a section of Interstate 95 near Dedham at 7 AM.

MAZ016

Eastern Norfolk

16	1253EST			0	0			High Wind (G56)
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A peak gust to 65 mph from the south was recorded at the Blue Hill Observatory in Milton at an elevation of 670 feet above sea level.

MAZ016

Eastern Norfolk

17	0924EST			0	0			High Wind (G52)
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The Blue Hill Observatory recorded a peak wind gust of 60 mph from the west-northwest.

MAZ005

Western Middlesex

17	1030EST			0	0			High Wind (G65)
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The Littleton Fire Department reported winds of 55 mph with a peak gust to 75 mph. Tree limbs were blown down and there were scattered power outages. The strong west winds accompanied the arrival of an Arctic airmass.

MAZ007

Eastern Essex

17	1030EST			0	0	2K		Strong Wind
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Strong west-northwest winds blew several sections of siding from a house in Lynnfield.

MAZ024

Nantucket

17	2000EST			0	0			Heavy Snow Squalls
18	0700EST							

Six to eight inches of "ocean-effect" snow fell across Nantucket Island as west-southwest winds transported Arctic air across the relatively warmer ocean waters. Several inches of snow also fell on the nearby island of Martha's Vineyard.

MAZ016-022

Eastern Norfolk - Barnstable

28	0600EST 1030EST			0	0			High Wind (G54)
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Strong south winds were reported from the eastern part of the state. Sustained south winds of nearly 40 mph with a gust to 60 mph was reported at Blue Hill, just south of Boston, in Milton. A peak gust to 62 mph was reported at Eastham on Cape Cod Bay. Pocasset reported a peak gust to 51 mph.

MAZ013>019

Western Norfolk - Southeast Middlesex - Suffolk - Eastern Norfolk - Northern Bristol - Western Plymouth - Eastern Plymouth

31	1900EST 2359EST			0	0			Freezing Drizzle
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Light freezing drizzle coated highways with a thin layer of glaze and caused dozens of crashes including a series of pile-ups on

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

MASSACHUSETTS, Central and East

both sides of Route 495 in Franklin, which involved 40 cars. The crashes resulted in both Routes 495 and 140 being shut down for more than an hour after 8 PM. There also were numerous accidents in the Boston area and as far south as Pembroke and Duxbury, where there was a 15-car pile-up on Route 3. A 16-car pile-up was reported in Canton near the junction of Route 128 and Route 95. A 4-car pile-up was reported in Quincy. Only minor injuries resulted from the automobile crashes.

MASSACHUSETTS, West

MAZ001

Berkshire

27	1900EST	0	0		Winter Storm
28	1200EST				

On January 27 and 28, a winter storm tracked from northern Indiana northeast to the Saint Lawrence Valley. A general snow accumulation of 4 to 7 inches fell across Berkshire County. The precipitation changed to sleet and freezing rain during the morning of January 28, then briefly to light rain before ending.

MICHIGAN, East

MIZ047>049-053>055-060-062 **Midland - Bay - Huron - Saginaw - Tuscola - Sanilac - Shiawassee - Lapeer**

09	0800EST 2200EST	0	0		Heavy Snow
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Low pressure tracked northeast from the Ohio valley across extreme southeast Michigan on the 9th. The result was snow across all of southeast Michigan, with the heaviest amounts falling from the Flint area north through the upper thumb and Saginaw valley. Some accumulations on the 9th included 10 inches at the Tri Cities airport near Saginaw, 8.5 inches at Cass City, 8 inches in Vassar and Owosso and 7 inches at Flint's Bishop airport. Farther south across the Detroit Metropolitan area accumulations ranged from 2 to 6 inches. Unusually heavy lake effect snow followed the storm on the 10th, bringing an additional 1 to 4 inches of snow to most areas. Numerous auto accidents and school closings were reported.

MIZ047>049-053>055-060>063-068>070-075>076-082>083 **Midland - Bay - Huron - Saginaw - Tuscola - Sanilac - Shiawassee - Genesee - Lapeer - St. Clair - Livingston - Oakland - Macomb - Washtenaw - Wayne - Lenawee - Monroe**

17	0000EST	2	0		Extreme Cold
19	1200EST				

The coldest weather of the winter occurred from the 17th through the 19th. During that period, lows reached as low as -6 at Detroit's metro airport, and -9 at Flint's Bishop airport and the National Weather Service forecast office at White Lake. One man died of hypothermia in Bay City. A few days earlier, on the 12th, another man died of hypothermia in Warren, when the temperature at metro airport fell to 2 above zero. Several other less severe cases of hypothermia were reported through mid-January. M33OU, M41OU

MICHIGAN, Extreme Southwest

NONE REPORTED.

MICHIGAN, North

MIZ008

Chippewa

04	0800EST	0	0		Winter Storm
05	0800EST				

LOW PRESSURE TRACKING NORTHEASTWARD ACROSS WISCONSIN ALLOWED WARM AIR TO OVERRUN A SHALLOW LAYER OF COLD AIR AT THE SURFACE. PRECIPITATION STARTED AS SNOW ON THE MORNING OF THE 4TH...WITH 4 TO 6 INCHES OF ACCUMULATION BY EARLY EVENING. THE SNOW THEN CHANGED TO FREEZING RAIN LATER IN THE EVENING. FREEZING RAIN...OCCASIONALLY HEAVY...CONTINUED OVERNIGHT. ICE ACCUMULATED UP TO AN INCH ON EXPOSED SURFACES IN MANY AREAS BY THE TIME PRECIPITATION ENDED.

THE COMBINATION OF HEAVY WET SNOW AND ICE ACCUMULATION BROUGHT DOWN MANY BRANCHES AND POWERLINES. NUMEROUS ACCIDENTS WERE REPORTED DUE TO THE HAZARDOUS DRIVING CONDITIONS.

MIZ015

Mackinac

04	0800EST	0	0		Winter Storm
05	0800EST				

LOW PRESSURE TRACKING NORTHEASTWARD ACROSS WISCONSIN ALLOWED WARM AIR TO OVERRUN A SHALLOW LAYER OF COLD AIR AT THE SURFACE. PRECIPITATION STARTED AS SNOW ON THE MORNING OF THE 4TH...WITH 4 TO 6 INCHES OF ACCUMULATION BY EARLY EVENING. THE SNOW THEN CHANGED TO FREEZING RAIN LATER IN THE EVENING. FREEZING RAIN...OCCASIONALLY HEAVY...CONTINUED OVERNIGHT. ICE ACCUMULATED UP TO AN INCH ON EXPOSED SURFACES IN MANY AREAS BY THE TIME PRECIPITATION ENDED. THE COMBINATION OF HEAVY WET SNOW AND ICE ACCUMULATION BROUGHT DOWN MANY BRANCHES AND POWERLINES. NUMEROUS ACCIDENTS WERE REPORTED DUE TO THE ADVERSE DRIVING CONDITIONS.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

MICHIGAN, North

MIZ016

Emmet

04 0800EST
05 0800EST

0 0

Ice Storm

LOW PRESSURE TRACKING NORTHEASTWARD ACROSS WISCONSIN ALLOWED WARM AIR TO OVERRUN A SHALLOW LAYER OF COLD AIR AT THE SURFACE. FREEZING RAIN BEGAN DURING THE MORNING OF THE 4TH AND CONTINUED...HEAVY AT TIMES...INTO THE MORNING OF THE 5TH. ICE ACCUMULATED 1 TO 2 INCHES ON EXPOSED SURFACES IN MOST AREAS...WITH LOCALIZED REPORTS OF IN EXCESS OF 3 INCHES OF ICE. MANY TREES...BRANCHES AND POWERLINES WERE DOWNED. WIDESPREAD POWER OUTAGES ALSO OCCURRED...WITH SOME AREAS REMAINING WITHOUT POWER FOR 2 TO 3 DAYS AFTER THE EVENT. NUMEROUS ACCIDENTS WERE ALSO REPORTED DUE TO THE ADVERSE DRIVING CONDITIONS.

MIZ017

Cheboygan

04 0800EST
05 0800EST

0 0

Ice Storm

LOW PRESSURE TRACKING NORTHEASTWARD ACROSS WISCONSIN ALLOWED WARM AIR TO OVERRUN A SHALLOW LAYER OF COLD AIR AT THE SURFACE. FREEZING RAIN BEGAN DURING THE MORNING OF THE 4TH AND CONTINUED...HEAVY AT TIMES...INTO THE MORNING OF THE 5TH. ICE ACCUMULATED 1 TO 2 INCHES ON EXPOSED SURFACES IN MOST AREAS...WITH LOCALIZED REPORTS OF IN EXCESS OF 3 INCHES OF ICE. MANY TREES...BRANCHES AND POWERLINES WERE DOWNED. WIDESPREAD POWER OUTAGES ALSO OCCURRED...WITH SOME AREAS REMAINING WITHOUT POWER FOR 2 TO 3 DAYS AFTER THE EVENT. NUMEROUS ACCIDENTS WERE REPORTED DUE TO THE ADVERSE DRIVING CONDITIONS.

MIZ018

Presque Isle

04 0800EST
05 0800EST

0 0

Ice Storm

LOW PRESSURE TRACKING NORTHEASTWARD ACROSS WISCONSIN ALLOWED WARM AIR TO OVERRUN A SHALLOW LAYER OF COLD AIR AT THE SURFACE. FREEZING RAIN BEGAN DURING THE MORNING OF THE 4TH AND CONTINUED...HEAVY AT TIMES...INTO THE MORNING OF THE 5TH. ICE ACCUMULATED 1 TO 2 INCHES ON EXPOSED SURFACES IN MOST AREAS...WITH LOCALIZED REPORTS OF IN EXCESS OF 3 INCHES OF ICE. MANY TREES...BRANCHES AND POWERLINES WERE DOWNED. WIDESPREAD POWER OUTAGES ALSO OCCURRED...WITH SOME AREAS REMAINING WITHOUT POWER FOR 2 TO 3 DAYS FOLLOWING THE EVENT. NUMEROUS ACCIDENTS WERE REPORTED DUE TO THE ADVERSE DRIVING CONDITIONS.

MIZ008

Chippewa

05 1700EST
06 0700EST

0 0

Heavy Snow

LOCALLY HEAVY LAKE EFFECT SNOWS DEVELOPED BEHIND EXITING LOW PRESSURE DURING THE EVENING OF THE 5TH AND CONTINUED INTO THE MORNING OF THE 6TH. LOCALIZED ACCUMULATIONS OF 6 TO 8 INCHES WERE REPORTED...PARTICULARLY ACROSS NORTHWEST PORTIONS OF THE COUNTY NEAR THE LAKE SUPERIOR SHORELINE IN THE VICINITY OF WHITEFISH POINT.

MIZ016

Emmet

05 1700EST
06 0700EST

0 0

Heavy Snow

LOCALLY HEAVY LAKE EFFECT SNOWS DEVELOPED BEHIND EXITING LOW PRESSURE DURING THE EVENING OF THE 5TH AND CONTINUED INTO THE MORNING OF THE 6TH. LOCALIZED ACCUMULATIONS OF UP TO 6 TO 8 INCHES WERE REPORTED ACROSS THE COUNTY.

MIZ019

Charlevoix

05 1700EST
06 0700EST

0 0

Heavy Snow

LOCALLY HEAVY LAKE EFFECT SNOWS DEVELOPED BEHIND EXITING LOW PRESSURE DURING THE EVENING OF THE 5TH AND CONTINUED INTO THE MORNING OF THE 6TH. LOCALIZED ACCUMULATIONS OF UP TO 4 TO 6 INCHES OF SNOW WERE REPORTED ACROSS THE COUNTY.

MIZ021

Antrim

05 1700EST
06 0700EST

0 0

Heavy Snow

LOCALLY HEAVY LAKE EFFECT SNOWS DEVELOPED BEHIND EXITING LOW PRESSURE DURING THE EVENING OF THE 5TH AND CONTINUED INTO THE MORNING OF THE 6TH. LOCALIZED ACCUMULATIONS OF UP TO 4 TO 6 INCHES WERE REPORTED ACROSS THE COUNTY.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>MICHIGAN, North</u>									
MIZ022									
		Otsego							
	05	1700EST			0	0			Heavy Snow
	06	0700EST							
		LOCALLY HEAVY LAKE EFFECT SNOWS DEVELOPED BEHIND EXITING LOW PRESSURE DURING THE EVENING OF THE 5TH AND CONTINUED INTO THE MORNING OF THE 6TH. LOCALIZED ACCUMULATIONS OF UP TO 5 TO 7 INCHES WERE REPORTED ACROSS THE COUNTY.							
MIZ026									
		Grand Traverse							
	05	1700EST			0	0			Heavy Snow
	06	0700EST							
		LOCALLY HEAVY LAKE EFFECT SNOWS DEVELOPED BEHIND EXITING LOW PRESSURE DURING THE EVENING OF THE 5TH AND CONTINUED INTO THE MORNING OF THE 6TH. LOCALIZED ACCUMULATIONS OF UP TO 4 TO 7 INCHES WERE REPORTED ACROSS THE COUNTY.							
MIZ027									
		Kalkaska							
	05	1700EST			0	0			Heavy Snow
	06	0700EST							
		LOCALLY HEAVY LAKE EFFECT SNOWS DEVELOPED BEHIND EXITING LOW PRESSURE DURING THE EVENING OF THE 5TH AND CONTINUED INTO THE MORNING OF THE 6TH. LOCALIZED ACCUMULATIONS OF UP TO 4 TO 6 INCHES WERE REPORTED ACROSS THE COUNTY.							
MIZ028									
		Crawford							
	05	1700EST			0	0			Heavy Snow
	06	0700EST							
		LOCALLY HEAVY LAKE EFFECT SNOWS DEVELOPED BEHIND EXITING LOW PRESSURE DURING THE EVENING OF THE 5TH AND CONTINUED INTO THE MORNING OF THE 6TH. LOCALIZED ACCUMULATIONS OF UP TO 4 TO 6 INCHES WERE REPORTED ACROSS THE COUNTY.							
MIZ018									
		Presque Isle							
	09	1400EST			0	0			Winter Storm
	10	0700EST							
		LOW PRESSURE TRACKING ACROSS THE GREAT LAKES REGION SPREAD LOCALLY HEAVY SNOWS ACROSS MUCH OF NORTHEAST LOWER MICHIGAN. ADDITIONAL ENHANCEMENT OF THE SNOW WAS PROVIDED BY EASTERLY WINDS OFF OF LAKE HURON. SNOWFALL TOTALS ACROSS THE COUNTY RANGED FROM 8 TO 10 INCHES.							
MIZ023									
		Montmorency							
	09	1400EST			0	0			Winter Storm
	10	0700EST							
		LOW PRESSURE TRACKING ACROSS THE GREAT LAKES REGION SPREAD LOCALLY HEAVY SNOWS ACROSS MUCH OF NORTHEAST LOWER MICHIGAN. ADDITIONAL ENHANCEMENT OF THE SNOW WAS PROVIDED BY EASTERLY WINDS OFF OF LAKE HURON. SNOWFALL TOTALS ACROSS THE COUNTY RANGED FROM 4 TO 8 INCHES.							
MIZ024									
		Alpena							
	09	1400EST			0	0			Winter Storm
	10	0700EST							
		LOW PRESSURE TRACKING ACROSS THE GREAT LAKES REGION SPREAD LOCALLY HEAVY SNOWS ACROSS MUCH OF NORTHEAST LOWER MICHIGAN. ADDITIONAL ENHANCEMENT OF THE SNOW WAS PROVIDED BY EASTERLY WINDS OFF OF LAKE HURON. SNOWFALL TOTALS ACROSS THE COUNTY RANGED FROM 8 TO 12 INCHES.							
MIZ029									
		Oscoda							
	09	1400EST			0	0			Winter Storm
	10	0700EST							
		LOW PRESSURE TRACKING ACROSS THE GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS MUCH OF NORTHEAST LOWER MICHIGAN. ADDITIONAL ENHANCEMENT OF THE SNOW WAS PROVIDED BY EASTERLY WINDS OFF OF LAKE HURON. SNOWFALL TOTALS ACROSS THE COUNTY RANGED FROM 6 TO 8 INCHES.							
MIZ030									
		Alcona							
	09	1400EST			0	0			Winter Storm
	10	0700EST							
		LOW PRESSURE TRACKING ACROSS THE GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS MUCH OF NORTHEAST LOWER MICHIGAN. ADDITIONAL ENHANCEMENT OF THE SNOW WAS PROVIDED BY EASTERLY WINDS OFF OF LAKE HURON. SNOWFALL TOTALS ACROSS THE COUNTY RANGED FROM 8 TO 12 INCHES.							

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons	Estimated Damage	Property	Crops	Character of Storm
					Killed	Injured			
<u>MICHIGAN, North</u>									
MIZ034			Roscommon						
	09	1400EST			0	0			Winter Storm
	10	0700EST							
	LOW PRESSURE TRACKING ACROSS THE GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS MUCH OF NORTHEAST LOWER MICHIGAN. ADDITIONAL ENHANCEMENT OF THE SNOW WAS PROVIDED BY EASTERLY WINDS OFF OF LAKE HURON. SNOWFALL TOTALS ACROSS THE COUNTY RANGED FROM 5 TO 6 INCHES.								
MIZ035			Ogemaw						
	09	1400EST			0	0			Winter Storm
	10	0700EST							
	LOW PRESSURE TRACKING ACROSS THE GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS MUCH OF NORTHEAST LOWER MICHIGAN. ADDITIONAL ENHANCEMENT OF THE SNOW WAS PROVIDED BY EASTERLY WINDS OFF OF LAKE HURON. SNOWFALL TOTALS ACROSS THE COUNTY RANGED FROM 8 TO 10 INCHES.								
MIZ036			Iosco						
	09	1400EST			0	0			Winter Storm
	10	0700EST							
	LOW PRESSURE TRACKING ACROSS THE GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS MUCH OF NORTHEAST LOWER MICHIGAN. ADDITIONAL ENHANCEMENT OF THE SNOW WAS PROVIDED BY EASTERLY WINDS OFF OF LAKE HURON. SNOWFALL TOTALS ACROSS THE COUNTY RANGED FROM 8 TO 12 INCHES.								
MIZ041			Gladwin						
	09	1400EST			0	0			Winter Storm
	10	0700EST							
	LOW PRESSURE TRACKING ACROSS THE GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS MUCH OF NORTHEAST LOWER MICHIGAN. ADDITIONAL ENHANCEMENT OF THE SNOW WAS PROVIDED BY EASTERLY WINDS OFF OF LAKE HURON. SNOWFALL TOTALS ACROSS THE COUNTY RANGED FROM 5 TO 7 INCHES.								
MIZ042			Arenac						
	09	1400EST			0	0			Winter Storm
	10	0700EST							
	LOW PRESSURE TRACKING ACROSS THE GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS MUCH OF NORTHEAST LOWER MICHIGAN. ADDITIONAL ENHANCEMENT OF THE SNOW WAS PROVIDED BY EASTERLY WINDS OFF OF LAKE HURON. SNOWFALL TOTALS ACROSS THE COUNTY RANGED FROM 8 TO 12 INCHES.								
MIZ017			Cheboygan						
	09	1400EST			0	0			Winter Storm
	10	0700EST							
	LOW PRESSURE TRACKING ACROSS THE GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS MUCH OF NORTHEAST LOWER MICHIGAN. ADDITIONAL ENHANCEMENT OF THE SNOW WAS PROVIDED BY EASTERLY WINDS OFF OF LAKE HURON. SNOWFALL TOTALS ACROSS THE COUNTY RANGED FROM 8 TO 10 INCHES.								
MIZ020			Leelanau						
	09	1400EST			0	0			Winter Storm
	10	0700EST							
	LOW PRESSURE TRACKING ACROSS THE GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS PORTIONS OF NORTHERN LOWER MICHIGAN. SNOWFALL TOTALS ACROSS THE COUNTY WERE AROUND 6 INCHES.								
MIZ031			Manistee						
	09	1400EST			0	0			Winter Storm
	10	0700EST							
	LOW PRESSURE TRACKING ACROSS THE GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS PORTIONS OF NORTHERN LOWER MICHIGAN. SNOWFALL TOTALS ACROSS THE COUNTY RANGED FROM 6 TO 8 INCHES.								
MIZ020			Leelanau						
	10	1200EST			0	0			Heavy Snow
	11	1900EST							
	LOCALLY HEAVY LAKE EFFECT SNOWS DEVELOPED BEHIND EXITING LOW PRESSURE DURING THE AFTERNOON OF THE 10TH AND CONTINUED THROUGH MUCH OF THE 11TH. LOCALIZED ACCUMULATIONS OF UP TO 10 TO 12 INCHES WERE REPORTED ACROSS THE COUNTY.								
MIZ021			Antrim						
	10	1200EST			0	0			Heavy Snow
	11	1900EST							
	LOCALLY HEAVY LAKE EFFECT SNOWS DEVELOPED BEHIND EXITING LOW PRESSURE DURING THE AFTERNOON OF THE 10TH AND CONTINUED THROUGH MUCH OF THE 11TH. LOCALIZED ACCUMULATIONS OF UP TO 6 TO 10 INCHES WERE REPORTED ACROSS THE COUNTY.								

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	
<u>MICHIGAN, North</u>								
MIZ025	Benzie							
	10	1200EST		0	0			Heavy Snow
	11	1900EST						
	LOCALLY HEAVY LAKE EFFECT SNOWS DEVELOPED BEHIND EXITING LOW PRESSURE DURING THE AFTERNOON OF THE 10TH AND CONTINUED THROUGH MUCH OF THE 11TH. LOCALIZED ACCUMULATIONS OF UP TO 6 TO 10 INCHES WERE REPORTED ACROSS THE COUNTY.							
MIZ026	Grand Traverse							
	10	1200EST		0	0			Heavy Snow
	11	1900EST						
	LOCALLY HEAVY LAKE EFFECT SNOWS DEVELOPED BEHIND EXITING LOW PRESSURE DURING THE AFTERNOON OF THE 10TH AND CONTINUED THROUGH MUCH OF THE 11TH. LOCALIZED ACCUMULATIONS OF UP TO 12 TO 18 INCHES WERE REPORTED ACROSS THE COUNTY.							
MIZ027	Kalkaska							
	10	1200EST		0	0			Heavy Snow
	11	1900EST						
	LOCALLY HEAVY LAKE EFFECT SNOWS DEVELOPED BEHIND EXITING LOW PRESSURE DURING THE AFTERNOON OF THE 10TH AND CONTINUED THROUGH MUCH OF THE 11TH. LOCALIZED ACCUMULATIONS OF UP TO 8 TO 10 INCHES WERE REPORTED ACROSS THE COUNTY.							
MIZ022	Otsego							
	15	1200EST		0	0			Winter Storm
	16	0400EST						
	LOW PRESSURE CROSSING THE GREAT LAKES BROUGHT ISOLATED AREAS OF HEAVIER SNOW TO NORTHERN LOWER MICHIGAN FROM THE AFTERNOON OF THE 15TH INTO THE EARLY MORNING HOURS OF THE 16TH. SNOWFALL TOTALS ACROSS THE COUNTY RANGED FROM 6 TO 9 INCHES.							
MIZ035	Ogemaw							
	15	1200EST		0	0			Winter Storm
	16	0400EST						
	LOW PRESSURE CROSSING THE GREAT LAKES BROUGHT ISOLATED AREAS OF HEAVIER SNOW TO PORTIONS OF NORTHERN LOWER MICHIGAN FROM THE AFTERNOON OF THE 15TH INTO THE EARLY MORNING HOURS OF THE 16TH. SNOWFALL TOTALS ACROSS THE COUNTY RANGED FROM 6 TO 10 INCHES.							
MIZ042	Arenac							
	15	1200EST		0	0			Winter Storm
	16	0400EST						
	LOW PRESSURE CROSSING THE GREAT LAKES BROUGHT ISOLATED AREAS OF HEAVIER SNOW TO NORTHERN LOWER MICHIGAN FROM THE AFTERNOON OF THE 15TH INTO THE EARLY MORNING HOURS OF THE 16TH. SNOWFALL TOTALS ACROSS THE COUNTY RANGED FROM 6 TO 8 INCHES.							
MIZ008	Chippewa							
	16	0800EST		0	0			Blizzard
		1800EST						
	BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 8 TO 12 INCHES.							
MIZ015	Mackinac							
	16	0800EST		0	0			Blizzard
		1800EST						
	BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED UP TO 8 TO 12 INCHES.							
MIZ016	Emmet							
	16	0800EST		0	0			Blizzard
		1800EST						
	BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH							

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Date	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Standard			Killed	Injured	Property	Crops	

MICHIGAN, North

HIGHER GUSTS.

WIND GUSTS IN EXCESS OF 50 MPH WERE REPORTED NEAR THE LAKE MICHIGAN SHORELINE. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES... RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED UP TO 10 TO 14 INCHES.

MIZ017

Cheboygan

16	0800EST 1800EST			0	0		Blizzard
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BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS.

WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATED UP TO 8 TO 12 INCHES ACROSS THE COUNTY.

MIZ018

Presque Isle

16	0800EST 1800EST			0	0		Blizzard
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BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 2 TO 4 INCHES.

MIZ019

Charlevoix

16	0800EST 1800EST			0	0		Blizzard
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BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS.

WIND GUSTS IN EXCESS OF 50 MPH WERE REPORTED NEAR THE LAKE MICHIGAN SHORELINE. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES... RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 8 TO 12 INCHES.

MIZ020

Leelanau

16	0800EST 1800EST			0	0		Blizzard
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BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIND GUSTS IN EXCESS OF 50 MPH...WERE REPORTED NEAR THE LAKE MICHIGAN SHORELINE. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 8 TO 12 INCHES.

MIZ021

Antrim

16	0800EST 1800EST			0	0		Blizzard
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BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 12 TO 18 INCHES.

MIZ022

Otsego

16	0800EST 1800EST			0	0		Blizzard
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BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY

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	Date			Killed	Injured	Property	Crops	

MICHIGAN, North

SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. THIS INCLUDED THE CLOSURE OF I-75 FOR SEVERAL HOURS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 8 TO 12 INCHES.

MIZ023

Montmorency

16	0800EST 1800EST			0	0			Blizzard
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BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 2 TO 4 INCHES.

MIZ024

Alpena

16	0800EST 1800EST			0	0			Blizzard
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BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONSS ACROSS THE COUNTY RANGED FROM 2 TO 4 INCHES.

MIZ025

Benzie

16	0800EST 1800EST			0	0			Blizzard
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BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIND GUSTS IN EXCESS OF 50 MPH WERE REPORTED NEAR THE LAKE MICHIGAN SHORELINE. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES... RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 4 TO 8 INCHES.

MIZ026

Grand Traverse

16	0800EST 1800EST			0	0			Blizzard
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BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 6 TO 10 INCHES.

MIZ027

Kalkaska

16	0800EST 1800EST			0	0			Blizzard
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BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 12 TO 18 INCHES.

MIZ028

Crawford

16	0800EST 1800EST			0	0			Blizzard
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BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. THIS INCLUDED THE CLOSURE OF I-75 FOR SEVERAL HOURS. WIND CHILL VALUES DROPPED TO 30 TO 50

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	Standard			Killed	Injured	Property	Crops	

MICHIGAN, North

DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 12 TO 18 INCHES.

MIZ029

Oscoda

16	0800EST 1800EST			0	0			Blizzard
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BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 2 TO 4 INCHES.

MIZ030

Alcona

16	0800EST 1800EST			0	0			Blizzard
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BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 2 TO 4 INCHES.

MIZ031

Manistee

16	0800EST 1800EST			0	0			Blizzard
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BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIND GUSTS IN EXCESS OF 50 MPH WERE REPORTED ALONG THE LAKE MICHIGAN SHORELINE. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 8 TO 12 INCHES.

MIZ032

Wexford

16	0800EST 1800EST			0	0			Blizzard
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BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 3 TO 6 INCHES.

MIZ033

Missaukee

16	0800EST 1800EST			0	0			Blizzard
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BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 2 TO 4 INCHES.

MIZ034

Roscommon

16	0800EST 1800EST			0	0			Blizzard
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BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 2 TO 4 INCHES.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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MICHIGAN, North

MIZ035

Ogemaw

16 0800EST
1800EST

0 0

Blizzard

BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 2 TO 4 INCHES.

MIZ036

Iosco

16 0800EST
1800EST

0 0

Blizzard

BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 2 TO 4 INCHES.

MIZ041

Gladwin

16 0800EST
1800EST

0 0

Blizzard

BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 2 TO 4 INCHES.

MIZ042

Arenac

16 0800EST
1800EST

0 0

Blizzard

BLIZZARD CONDITIONS DEVELOPED AS MERGING LOWS RAPIDLY INTENSIFIED NORTHEAST OF THE STATE. AS THE LOW DEEPENED...NORTHWEST WINDS INCREASED TO SUSTAINED SPEEDS OF 25 TO 35 MPH WITH HIGHER GUSTS. WIDESPREAD BLOWING AND DRIFTING SNOW PRODUCED WHITEOUT CONDITIONS. MANY SECONDARY ROADS BECAME IMPASSABLE AT TIMES...RESULTING IN THE CLOSURE OF SOME ROADWAYS. WIND CHILL VALUES DROPPED TO 30 TO 50 DEGREES BELOW ZERO AT TIMES. SNOWFALL ACCUMULATIONS ACROSS THE COUNTY RANGED FROM 2 TO 4 INCHES.

MIZ016

Emmet

24 2100EST
25 0900EST

0 0

Winter Storm

A WINTER STORM TRACKING ACROSS THE LOWER GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS NORTHERN LOWER MICHIGAN. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 5 TO 7 INCHES.

MIZ017

Cheboygan

24 2100EST
25 0900EST

0 0

Winter Storm

A WINTER STORM TRACKING ACROSS THE LOWER GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS NORTHERN LOWER MICHIGAN. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 6 TO 10 INCHES.

MIZ018

Presque Isle

24 2100EST
25 0900EST

0 0

Winter Storm

A WINTER STORM TRACKING ACROSS THE LOWER GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS NORTHERN LOWER MICHIGAN. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 5 TO 7 INCHES.

MIZ019

Charlevoix

24 2100EST
25 0900EST

0 0

Winter Storm

A WINTER STORM TRACKING ACROSS THE LOWER GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS NORTHERN LOWER MICHIGAN. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 5 TO 7 INCHES.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>MICHIGAN, North</u>									
MIZ021		Antrim							
	24	2100EST			0	0			Winter Storm
	25	0900EST							
	A WINTER STORM TRACKING ACROSS THE LOWER GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS NORTHERN LOWER MICHIGAN. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 6 TO 10 INCHES.								
MIZ022		Otsego							
	24	2100EST			0	0			Winter Storm
	25	0900EST							
	A WINTER STORM TRACKING ACROSS THE LOWER GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS NORTHERN LOWER MICHIGAN. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 6 TO 10 INCHES.								
MIZ023		Montmorency							
	24	2100EST			0	0			Winter Storm
	25	0900EST							
	A WINTER STORM TRACKING ACROSS THE LOWER GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS NORTHERN LOWER MICHIGAN. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 5 TO 7 INCHES.								
MIZ024		Alpena							
	24	2100EST			0	0			Winter Storm
	25	0900EST							
	A WINTER STORM TRACKING ACROSS THE LOWER GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS NORTHERN LOWER MICHIGAN. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 5 TO 7 INCHES.								
MIZ025		Benzie							
	24	2100EST			0	0			Winter Storm
	25	0900EST							
	A WINTER STORM TRACKING ACROSS THE LOWER GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS NORTHERN LOWER MICHIGAN. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 5 TO 7 INCHES.								
MIZ026		Grand Traverse							
	24	2100EST			0	0			Winter Storm
	25	0900EST							
	A WINTER STORM TRACKING ACROSS THE LOWER GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS NORTHERN LOWER MICHIGAN. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 5 TO 7 INCHES.								
MIZ027		Kalkaska							
	24	2100EST			0	0			Winter Storm
	25	0900EST							
	A WINTER STORM TRACKING ACROSS THE LOWER GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS NORTHERN LOWER MICHIGAN. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 6 TO 10 INCHES.								
MIZ028		Crawford							
	24	2100EST			0	0			Winter Storm
	25	0900EST							
	A WINTER STORM TRACKING ACROSS THE LOWER GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS NORTHERN LOWER MICHIGAN. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 6 TO 8 INCHES.								
MIZ029		Oscoda							
	24	2100EST			0	0			Winter Storm
	25	0900EST							
	A WINTER STORM TRACKING ACROSS THE LOWER GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS NORTHERN LOWER MICHIGAN. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 5 TO 7 INCHES.								
MIZ030		Alcona							
	24	2100EST			0	0			Winter Storm
	25	0900EST							
	A WINTER STORM TRACKING ACROSS THE LOWER GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS NORTHERN LOWER MICHIGAN. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 5 TO 7 INCHES.								
MIZ034		Roscommon							
	24	2100EST			0	0			Winter Storm
	25	0900EST							
	A WINTER STORM TRACKING ACROSS THE LOWER GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS NORTHERN LOWER MICHIGAN. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 6 TO 8 INCHES.								

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

MICHIGAN, North

MIZ035

Ogemaw

24 2100EST

0 0

Winter Storm

25 0900EST

A WINTER STORM TRACKING ACROSS THE LOWER GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS NORTHERN LOWER MICHIGAN. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 6 TO 8 INCHES.

MIZ036

Iosco

24 2100EST

0 0

Winter Storm

25 0900EST

A WINTER STORM TRACKING ACROSS THE LOWER GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS NORTHERN LOWER MICHIGAN. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 5 TO 7 INCHES.

MIZ041

Gladwin

24 2100EST

0 0

Winter Storm

25 0900EST

A WINTER STORM TRACKING ACROSS THE LOWER GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS NORTHERN LOWER MICHIGAN. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 5 TO 7 INCHES.

MIZ042

Arenac

24 2100EST

0 0

Winter Storm

25 0900EST

A WINTER STORM TRACKING ACROSS THE LOWER GREAT LAKES SPREAD LOCALLY HEAVY SNOWS ACROSS NORTHERN LOWER MICHIGAN. TOTAL SNOWFALL ACROSS THE COUNTY RANGED FROM 5 TO 7 INCHES.

MICHIGAN, Upper

MIZ001>007-009

Keweenaw - Ontonagon - Houghton - Baraga - Marquette - Alger - Luce - Gogebic

04 0700EST

0 0

Winter Storm

07 1600EST

Low pressure moved northeast from Iowa on the morning of Jan 4 to northern Lake Huron on the morning of the 5th. Heavy snow overspread the west half of Upper Michigan during the morning of the 4th. East of Iron Mountain and Marquette, a mix of sleet, freezing rain and snow fell. Between midnight and 6 am on the 5th, the synoptic scale snow ended and lake effect snow from Lake Superior developed. Cold northerly winds over the relatively warmer waters of Lake Superior kept the lake effect snow going until the morning of the 7th. Then, high pressure moved in cutting off the north winds and lake effect snows.

The highest snow totals were 38 inches at Phoenix in Keweenaw County, 29 inches at Wakefield in Gogebic County and 25 inches at Ontonagon and Houghton.

Other snow totals were...

Alger County
Shingleton.....19 inches
Munising.....17 inches

Baraga County
Watton.....16 inches

Houghton County
Chassell.....17 inches

Luce County
Two Heart.....14 inches

Marquette County
Negaunee.....23 inches
Marquette.....21 inches.

MIZ001-004>006-009

Keweenaw - Baraga - Marquette - Alger - Gogebic

09 1200EST

0 0

Winter Storm

11 2300EST

An Alberta Clipper type low pressure system moved southeast from Alberta on the evening of the 8th to Lake Erie on the evening of the 9th. Northeast winds developed across Lake Superior and Upper Michigan around 4 pm on the 9th producing heavy lake

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

MICHIGAN, Upper

effect snow across Marquette and Baraga Counties in north central Upper Michigan. The winds backed to the north then northwest during the evening of the 10th shifting the lake effect snows to west Upper Michigan, the Keweenaw Peninsula and Alger County in north central Upper Michigan. The snow diminished to flurries during the evening of the 11th.

The highest snow totals were Herman in Baraga County with 29 inches and Ironwood in Gogebic County with 23 inches. Other snow totals were

Alger County
Melstrand.....16 inches

Keweenaw County
Mohawk.....18 inches

Marquette County
Negaunee.....20 inches
Marquette.....18 inches
Ishpeming.....16 inches
Gwinn.....15 inches.

MIZ001>007-009>014 Keweenaw - Ontonagon - Houghton - Baraga - Marquette - Alger - Luce - Gogebic - Iron - Dickinson - Menominee - Delta - Schoolcraft

15	1630EST	0	0	Blizzard
16	2100EST			

Strong northwest winds between low pressure moving to the east of Upper Michigan and high pressure in the Plains combined with deep snow cover to produce blizzard conditions between the evening of the 15th and the afternoon of the 16th. Winds of up to 40 mph were recorded at several locations including Houghton, Marquette, Ironwood, Iron Mountain, Escanaba and Menominee during the morning of the 16th.

The blizzard subsided during the afternoon of the 16th and was followed by lake effect snow. The snow lasted through the evening of the 17th. Most of the snow fell within 25 miles of Lake Superior. The highest snow total was 18 inches at Phoenix in Keweenaw County. Other heavy snow totals were 15 inches at Two Heart in Luce County and 12 inches at Calumet and Chassell in Houghton County.

MIZ001>005-009 Keweenaw - Ontonagon - Houghton - Baraga - Marquette - Gogebic

22	0700EST	0	0	Heavy Snow
23	0100EST			

Low pressure moved east across Upper Michigan on the 22nd and much colder air entered West Upper Michigan behind it. Northerly winds across Lake Superior produced heavy lake enhanced snow across Baraga County where 14 inches fell at L'anse and 13 inches fell at Herman, most of which occurred in a 12 hour period between 8 am and 8 pm. Most of Northwest Upper Michigan including Marquette, Houghton and Ontonagon received 8 inches from this storm.

MIZ001>006-010 Keweenaw - Ontonagon - Houghton - Baraga - Marquette - Alger - Iron

24	2200EST	0	0	750K Heavy Snow
27	0700EST			

Another heavy lake enhanced snow took aim at northern Upper Michigan as low pressure moved northeast across Lower Michigan and Lake Huron on the 25th. With north winds, the maximum snowfall this time occurred at the Marquette County Airport with 20 inches. Other heavy snow totals were:

Phoenix.....18 inches
Herman.....17 inches
Munising.....16 inches
Shingleton...15 inches
Ironwood.....15 inches
Marquette....13 inches (city)
Paint Lake...13 inches (25 NW Iron River).

Heavy snow accumulation during this storm contributed to 2 roof collapses. One was at the Iron River Reporter, a weekly newspaper in Iron River, which completely destroyed the building. The other occurred at a vacant commercial building in Marquette.

MICHIGAN, West

MIZ043-050-056>057-064>065-071>074-077>080 Oceana - Muskegon - Ottawa - Kent - Allegan - Barry - Van Buren - Kalamazoo - Calhoun - Jackson - Berrien - Cass - St. Joseph - Branch

10	0200EST	0	0	Heavy Snow
12	0900EST			

A lake effect snow storm tied up all activities for over 3 days. Some schools closed early on Friday, the 10th. Numerous shift

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

MICHIGAN, West

workers were told not to report for 2nd and 3rd shifts. Heavy snow continued through Saturday and tapered off to flurries on Sunday morning. All areas reported new snowfall of 12 inches or more. In central Allegan county the snow was measured at 28 inches on Friday evening and 40 inches by Saturday afternoon. Schools were used as emergency shelters for stranded motorists throughout the affected area. Secondary roads across all of Central Lower and Southwest Lower Michigan were blocked from Friday night into Saturday and interstates were also closed for a few hours late Friday into Saturday. Accidents occurred at the rate of 50 to 100 per county per day from the 10th through the 12th. Some secondary roads remained plugged on Sunday but were open by Monday morning.

MIZ039-043-050-056>057-064-071-077 **Osceola - Oceana - Muskegon - Ottawa - Kent - Allegan - Van Buren - Berrien**

15	2300EST			0	0			Heavy Snow
16	2200EST							

In a 23 hour period lake effect snows piled up at depths of 9 to 12 inches throughout the affected area. High winds of 20 to 30 mph with gusts to 40 mph created blizzard conditions for most of the day. Schools were closed as highways were quickly blocked by the blowing and drifting. Road crews worked through the night of the 16th to have most roads cleared by daybreak on the 17th.

MIZ043-064-077 **Oceana - Allegan - Berrien**

25	0300EST			0	0			Heavy Snow
26	0100EST							

Lake effect snow fell in intense narrow bands causing 8 to 12 inch accumulations in the counties affected. Other surrounding counties received lesser amounts. Road crews were able to keep up with this event and only secondary roads were partially blocked for a few hours. Some rural schools were affected but most remained open.

MINNESOTA, Central and South Central

MNZ041>045-047>061-063 **Douglas - Todd - Morrison - Mille Lacs - Kanabec - Stevens - Pope - Stearns - Benton - Sherburne - Isanti - Chisago - Lac Qui Parle - Swift - Chippewa - Kandiyohi - Meeker - Wright - Hennepin - Anoka - Washington**

03	1700CST			0	0			Winter Storm
05	1700CST							

A storm system which passed through the central U.S. resulted in a major snow storm over central Minnesota. Snowfall exceeded a foot and a half in many central Minnesota locations including 21 inches at Alexandria and Glenwood, 20 inches at Long Prairie, 19 inches at Little Falls and Milaca and 18 inches at Colleeville. Snow accumulations dropped off rapidly towards the Twin Cities where 4 inches was recorded. Other snowfall amounts included 12 inches at St. Cloud and St. Francis, 10 inches at Cambridge and Benson, 8 inches at Forest Lake, Canby and Montevideo. Strong winds gusting to 40 mph at times developed in the evening on 1/4 resulted in near blizzard conditions over west central Minnesota. Drifts of 5 to 7 feet were reported in the Madison area. Interstate 94 remained closed for a 24 hour period from Sauk Centre northward. West central Minnesota also received a period of freezing rain which preceded the snow late in the day on 1/3. Numerous highways were closed across west central Minnesota due to the combination of ice, snow and blowing snow. Highway 10 closed west of Staples for a week. The additional snow and ice from this snowstorm in combination with previously fallen accumulations resulted in numerous roofs collapsing over west central Minnesota. Seven cows perished under a collapsed barn, south of the town of Brandon. A partial roof collapse occurred at the Belgrade Fire Department and a marine business in New London suffered a roof collapse. A grocery store lost its roof in Glenwood. Several structures also collapsed in the Staples area.

MNZ041-047>048-054>057-064>065-073>075-082>083-091>092 **Douglas - Stevens - Pope - Lac Qui Parle - Swift - Chippewa - Kandiyohi - Yellow Medicine - Renville - Redwood - Brown - Nicollet - Watonwan - Blue Earth - Martin - Faribault**

09	1500CST			0	0			Blizzard
10	2100CST							

Sustained winds of 30 to 45 mph with gusts to 50 mph at times produced blizzard conditions for over a 24 hour period and paralyzed much of west central into portions of south central Minnesota. The winds in combination with cold temperatures produced windchills in the 40 to 70 degree below range. Wind chills of 71 degrees below zero were reported west of St. James at 8 am on 1/10. Interstate 94 was closed north of Sauk Centre and Interstate 90 was closed west of Fairmont. Most roads were closed from Morris and Appleton to Fairmont west to the Dakota border. Visibilities were frequently near zero and many roads were blown shut. A number of locations near Clarkfield, Madison, Dawson, and Minnesota lost electrical power due to the strong winds. The winds finally began to diminish late in the day on 1/10, but extreme wind chills lingered over the area into the morning hours of 1/12.

One man stranded in his vehicle for 43 hours near the town of Renville. Numerous schools closed on 1/9 and 1/10.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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MINNESOTA, Central and South Central

MNZ041>047>048-054>057-064>065-073>075-082>085-091>093 **Douglas - Stevens - Pope - Lac Qui Parle - Swift - Chippewa - Kandiyohi - Yellow Medicine - Renville - Redwood - Brown - Nicollet - Watonwan - Blue Earth - Waseca - Steele - Martin - Faribault - Freeborn**

15	1600CST			0	0			Blizzard
16	1000CST							

A strong cold front swept through the area increasing wind speeds to 25 to 40 mph with occasional gusts to 50 mph. Simultaneously, temperatures plummeted well below zero resulting in wind chills of 40 to 65 below zero. The strong winds dropped visibilities to near zero at times in blowing snow. Interstates 90 and 35 closed in vicinity of Albert Lea. Interstate 35 was closed north of Albert Lea. Highway 67 closed between Clarkfield and Granite Falls.

MNZ041>045-047>070-073>078-082>085-091>093 **Douglas - Todd - Morrison - Mille Lacs - Kanabec - Stevens - Pope - Stearns - Benton - Sherburne - Isanti - Chisago - Lac Qui Parle - Swift - Chippewa - Kandiyohi - Meeker - Wright - Hennepin - Anoka - Ramsey - Washington - Yellow Medicine - Renville - Mcleod - Sibley - Carver - Scott - Dakota - Redwood - Brown - Nicollet - Le Sueur - Rice - Goodhue - Watonwan - Blue Earth - Waseca - Steele - Martin - Faribault - Freeborn**

15	1700CST			0	0			Extreme Windchill
16	2000CST							

Governor of Minnesota canceled school on 1/16 due to extreme wind chills. Wind chills in 40 to 60 below range much of period. Coldest wind chill noted was 63 below at Alexandria at 7 am on 1/16.

MNZ041>042-047>048-054>057-064>065-073>074-082>085-091>093 **Douglas - Todd - Stevens - Pope - Lac Qui Parle - Swift - Chippewa - Kandiyohi - Yellow Medicine - Renville - Redwood - Brown - Watonwan - Blue Earth - Waseca - Steele - Martin - Faribault - Freeborn**

22	0400CST 2200CST			0	0			Winter Storm
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Strong winds of 20 to 35 mph restricted visibilities to zero at times due to blowing snow and additional 1 to 3 inch fresh snowfall. Drifts reached 15 feet in some parts of west central Minnesota due to previous snowfall and strong winds. Interstate 35 near Albert Lea closed temporarily due to multiple vehicle accidents from blowing snow. Nearly a dozen highways closed over west central and southwest Minnesota. 250 students spent the night at school in the Belview, Danube, Renville, and Sacred Heart school district.

MINNESOTA, Northeast

MNZ010>012-018>021-025>026 **Koochiching - Northern St. Louis - Northern Cook / Northern Lake - Northern Itasca - Central St. Louis - Southern Lake - Southern Cook - Northern Cass - Southern Itasca**

01	1830CST			0	0			Ice Storm
02	0500CST							

Freezing rain left up to a quarter inch of ice on area roads. There were numerous traffic accidents, but no reported injuries. In Lake County, vehicles could not get up hills and were blocking roads. State Highway 61 along the North Shore between Two Harbors and Silver Bay was closed for several hours.

MNZ010>012-018>021-025>026-033>038 **Koochiching - Northern St. Louis - Northern Cook / Northern Lake - Northern Itasca - Central St. Louis - Southern Lake - Southern Cook - Northern Cass - Southern Itasca - Southern Cass - Crow Wing - Northern Aitkin - Southern Aitkin - Southern St. Louis / Carlton - Pine**

04	0400CST			0	0			Winter Storm
05	1600CST							

A strong winter storm moved across southern Wisconsin to northern Lake Michigan, producing a variety of precipitation types over northeastern Minnesota. Mainly snow fell north of Duluth, with a mixture of snow, sleet, and freezing rain to the south. Some of the heavier snowfalls were 23 inches at Pequot Lakes, 17-21 inches in the Duluth metro area, 19 in Crosby, 18 in Finlayson, 16 in Two Harbors, and 12 in Babbitt.

MNZ010>012-018>021-025>026-033>038 **Koochiching - Northern St. Louis - Northern Cook / Northern Lake - Northern Itasca - Central St. Louis - Southern Lake - Southern Cook - Northern Cass - Southern Itasca - Southern Cass - Crow Wing - Northern Aitkin - Southern Aitkin - Southern St. Louis / Carlton - Pine**

15	0330CST			0	0			Extreme Windchill
16	0500CST							

Temperatures in the teens below zero combined with winds gusting to 30 mph to create life-threatening wind chills of 60 to 70 degrees below zero. This prompted the governor to close all Minnesota schools on the 15th. The winds also caused travel problems due to blowing and drifting of snow.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage	Character of Storm
	Date			Killed	Injured	Property Crops	

MINNESOTA, Northeast

MNZ012-019>021-026-035>037 Northern Cook / Northern Lake - Central St. Louis - Southern Lake - Southern Cook - Southern Itasca - Northern Aitkin - Southern Aitkin - Southern St. Louis / Carlton

	23	1600CST		0	0		Heavy Snow
	24	0400CST					

Heavy snow fell across the Iron Range and Arrowhead regions of northeastern Minnesota. Some of the greater amounts were 9.5 inches near Two Harbors, 9 on the Gunflint Trail, and 6-8 in the Duluth metro area. Other locations had around 6 inches.

MINNESOTA, Northwest

MNZ002>003-022>024-027>032-040 Norman - Clay - Mahnomen - South Clearwater - Hubbard - West Becker - East Becker - Wilkin - West Otter Tail - East Otter Tail - Wadena - Grant

	04	0000CST		0	0		Heavy Snow
		2100CST					

A strong low pressure system tracked across southern Minnesota into Wisconsin, producing a band of heavy snow across west central Minnesota. 27 inches fell near Wadena, 24 inches at Orwell Dam, 20 inches in Elbow Lake, Fergus Falls, and New York Mills, 17 inches in Nevis, 15 inches in Detroit Lakes, and 13 inches fell in Dent. Due to the weight of the snow, numerous reports of collapsed roofs were received.

MNZ002>003-027-029>031-040 Norman - Clay - West Becker - Wilkin - West Otter Tail - East Otter Tail - Grant

	04	1800CST		0	0		Blizzard
	05	1000CST					

After the heavy snow had fallen across the area, strong north winds increased, producing blizzard conditions. Numerous gusts to 40 knots occurred during the course of the night. Interstate 94 was closed from Moorhead to Sauk Centre and US Highway 10 was closed from Moorhead to Staples. The strong winds produced huge snowdrifts from the fresh snow, hampering snowplows once the storm was over.

MNZ001>009-013>017-022>024-024-027>032-040 West Polk - Norman - Clay - Kittson - Roseau - Lake Of The Woods - West Marshall - East Marshall - North Beltrami - Pennington - Red Lake - East Polk - North Clearwater - South Beltrami - Mahnomen - South Clearwater - Hubbard - West Becker - East Becker - Wilkin - West Otter Tail - East Otter Tail - Wadena - Grant

	09	1400CST		1	0		Blizzard
	10	1700CST					

An Alberta Clipper raced across northeast North Dakota and then stalled over the Red River Valley, due to a blocking low pressure system over the Great Lakes. Strong winds and snow produced blizzard conditions across the area. A total of 8.8 inches of snow was reported in Grand Forks, while Fargo reported 7.5 inches. The heaviest snow fell across the Red River Valley between Crookston and Moorhead. Many schools across the area were closed on the 9th and 10th. Transportation officials closed Interstate 94 from Moorhead to Sauk Centre, US Highway 10 from Moorhead to Detroit Lakes, and US Highway 2 from East Grand Forks to Crookston. Despite the road closures, many motorists did attempt to travel, and had to be rescued during dangerous rescue attempts. One man, who left his stranded car, died in the storm. M57OU

MNZ001>005-007>008-013>015-022-027>031-040 West Polk - Norman - Clay - Kittson - Roseau - West Marshall - East Marshall - Pennington - Red Lake - East Polk - Mahnomen - West Becker - East Becker - Wilkin - West Otter Tail - East Otter Tail - Grant

	15	0900CST		0	0		Blizzard
		2200CST					

An arctic front plunged south across the area, bringing less than an inch of snow to northwest Minnesota. However, strong winds created blizzard conditions across the area. Fergus Falls reported a wind gust to 55 knots and Hallock reported a gust to 45 knots. These gusty winds produced wind chills from 50 to 70 below zero. The governor ordered all schools in the state to close on the 16th, and many also were closed on the 15th. Interstate 94 was closed from Moorhead to Sauk Centre and US Highway 2 was closed from East Grand Forks to Crookston. At the governor's request, President Clinton declared Becker, Clay, Clearwater, Grant, Kittson, Mahnomen, Marshall, Norman, Otter Tail, Pennington, Polk, Red Lake, Roseau, and Wilkin counties disaster areas, due to the stress the heavy amounts of snow had brought to these counties during the course of the winter.

MNZ001>005-007>008-013>015-022-027>031-040 West Polk - Norman - Clay - Kittson - Roseau - West Marshall - East Marshall - Pennington - Red Lake - East Polk - Mahnomen - West Becker - East Becker - Wilkin - West Otter Tail - East Otter Tail - Grant

	21	2200CST		0	0		Blizzard
	22	1500CST					

A combination of strong winds and snow created another blizzard across northwest Minnesota. 2 to 5 inches of new snow was reported. Many schools were forced to close on the 22nd, with some reporting this to be the 8th closure so far this winter. Several motorists that became stranded in the snow had to be rescued.

MNZ001>005-007>008-013>015-022-027-029>030 West Polk - Norman - Clay - Kittson - Roseau - West Marshall - East Marshall - Pennington - Red Lake - East Polk - Mahnomen - West Becker - Wilkin - West Otter Tail

	30	1900CST		0	0		Ice Storm
		2359CST					

0.05 inches of freezing rain fell across northwest Minnesota, causing numerous vehicle accidents. Many vehicles slid off roads,

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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MINNESOTA, Northwest

while others could not travel up slopes. Emergency officials could not reach accident scenes or help stranded motorists.

MINNESOTA, Southeast

MNZ079-086>088-094>096 Wabasha - Dodge - Olmsted - Winona - Mower - Fillmore - Houston

15	1900CST								
16	0400CST								Winter Storm

Strong winds gusting to 40 mph caused considerable blowing and drifting snow. Travel was impossible in areas west of Rochester due to whiteout conditions.

MNZ079-086>088-094>096 Wabasha - Dodge - Olmsted - Winona - Mower - Fillmore - Houston

16	0400CST								
	2100CST								Extreme Windchill

Wind chills of 40 below to 60 below persisted during the day, prompting the closure of schools throughout southeast Minnesota.

MNZ079-086>088-095 Wabasha - Dodge - Olmsted - Winona - Fillmore

24	0000CST								
	1200CST								Heavy Snow

6 to 8 inches of accumulation was the rule as a slow moving band of snow advanced across southeast Minnesota.

MINNESOTA, Southwest

MNZ071>072-080>081-089>090-097 Lincoln - Lyon - Murray - Cottonwood - Nobles - Jackson - Pipestone

03	1700CST								
04	0400CST								Ice Storm

Freezing rain caused ice accumulation on trees, power lines, and roads. The ice produced widespread tree and power line damage, although the amount of damage could not be determined.

MNZ071>072-080>081-089>090-097>098 Lincoln - Lyon - Murray - Cottonwood - Nobles - Jackson - Pipestone - Rock

04	1000CST								
05	0800CST					130K			Blizzard

Winds gusting to 45 mph combining with 2 to 4 inches of new snow and existing loose snow cover produced widespread blizzard conditions with frequent zero visibilities. Several people were stranded, some overnight, several vehicles slid into ditches, and businesses were closed. The snow and winds combined with freezing rain which fell just before the blizzard to produce considerable tree and power line damage, and resulting power outages. Otherwise, damage was mainly economic and long term in combination with other storms during the winter; and could not be determined for this storm alone.

MNZ071>072-080>081-089>090-097>098 Lincoln - Lyon - Murray - Cottonwood - Nobles - Jackson - Pipestone - Rock

09	0800CST								
11	0400CST					80K			Blizzard

Strong winds gusting as high as 60 mph combined with loose heavy snow cover and 1 to 3 inches of new snow to produce widespread and prolonged blizzard conditions. Transportation, schools, and commerce were brought to a halt for almost two full days. Roads were blocked by drifts as high as 20 feet, and travel was otherwise made impossible by zero visibility. Wind chills as cold as 80 below zero accompanied the blizzard. Several people were stranded and at least two suffered frostbite while waiting in vehicles. Several power outages occurred from fallen poles and broken lines. Roofs collapsed from the weight of snow, mainly on farm buildings. The greatest damage was long term economic loss from the loss of commerce and transportation, and could not be accurately estimated.

MINNESOTA, West

NONE REPORTED.

MINNESOTA, West Central

MNZ039-046 Traverse - Big Stone

03	1600CST								
05	0700CST			1	1				Winter Storm

A powerful area of low pressure and a deep Arctic High brought all winter elements to Big Stone and Traverse counties. The Winter storm first began with widespread freezing rain, where significant accumulations of ice occurred on roads, trees, and power lines. Late in the evening of the 3rd, the freezing rain changed to sleet and then snow, with substantial snowfall accumulations of 15 to 27 inches by storm's end. As the Arctic High pushed in on the morning of the 4th, northwest winds increased to 25 to 45 mph gusting to 55 mph, creating blizzard conditions, drifts up to 15 feet, and wind chills of 40 to 80 below.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

MINNESOTA, West Central

The heavy accumulation of ice and snow resulted in the roof collapse of over fifty, mainly rural, buildings. The roofs collapsed onto farm machinery and onto livestock, damaging the machinery and injuring or killing the livestock. Due to possible damage or collapse, the snow was shoveled off most other buildings across the counties. One man was killed when he fell through a skylight while shoveling his roof and another man was injured when he was electrocuted clearing his roof. Also, due to the heavy ice accumulation, some power outages occurred across Big Stone and Traverse counties. For some people in the area, the power was out for as much as 8 hours. Emergencies were difficult to respond to, taking up to several hours to go short distances. Throughout the area, many businesses and grocery stores were closed. Most roads were blocked, closed, or had one-lane traffic with snow plows called back in. Many vehicles went into the ditch and there were some accidents, with mainly minor injuries. Some people had to be rescued. The National Guard helped to clear roads of the huge snowdrifts. This storm was described by some as the worst ever winter storm here. Some snowfall amounts include, 15 inches at Ortonville, 16 inches at Browns Valley, and 27 inches at Wheaton.

M?LS

MNZ039-046

Traverse - Big Stone

09	0600CST	0	0		Blizzard
11	0400CST				

A powerful Alberta Clipper and a deep Arctic High brought widespread and prolonged blizzard conditions, heavy drifting snow, and dangerous wind chills of 40 to 70 below to Big Stone and Traverse counties. North winds were from 30 to 50 mph gusting to 60 mph. The clipper dropped from 3 to 5 inches of snow, adding to the already expansive and deep snowpack of 2 to 4 feet.

As with previous storms, most roads again became blocked by huge snowdrifts resulting in road closures, leaving people stranded to wait out the storm. Some people became stuck in snowdrifts or went off the road because of low visibilities, and had to be rescued. Emergency personnel again had a difficult time responding to emergencies, taking up to several hours to go short distances. All schools were closed, with the amount of days missed accumulating for the winter season. Many businesses were closed, with some grocery stores running low on milk, bread, and other food necessities. Ranchers were running out of or were unable to access food for their livestock. As a result of the extreme conditions and lack of food, many livestock died. Some people were trapped in their homes, and had to climb out their windows. Snow removal budgets in both counties were being depleted. In the middle of January, President Clinton declared the counties a disaster area. The total damage estimate for this January blizzard and for the previous January winter storm is 5 million dollars. This includes the added snow removal costs, livestock losses, building damages, and other economic losses.

MNZ039-046

Traverse - Big Stone

15	1600CST	0	0		Blizzard
16	0200CST				

An intense Arctic High brought widespread blizzard conditions and dangerous wind chills to Big Stone and Traverse counties. One to 3 inches of snow fell on top of an already deep snowpack of 2 to 4 feet. The blizzard winds created another round of widespread heavy drifting, blocking area roads and highways. Also, many area schools were closed once again. Fortunately, this blizzard as compared to previous blizzards was short-lived and the people were better prepared.

MNZ039-046

Traverse - Big Stone

22	0700CST	0	0		Blizzard
	1400CST				

North winds of 25 to 40 mph along with the existing snow cover resulted in blizzard conditions and extreme wind chills across Big Stone and Traverse counties. The low visibilities and drifting snow made travel almost impossible with many schools again closed.

MISSISSIPPI, Central

Copiah County

Georgetown	08	0635CST		0	0		Hail (1.75)
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Simpson County

1 S Harrisville	08	0650CST		0	0		Hail (0.75)
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Simpson County

D Lo	08	1010CST		0	0		Hail (0.75)
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Adams County

Natchez	08	1105CST		0	0		Hail (1.25)
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Hinds County

Jackson	08	1248CST		0	0		Hail (1.00)
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Marion County

Columbia	15	1645CST		0	0	1K	Thunderstorm Wind
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A couple of trees were blown down.

Lamar County

9 S Sumrall to 4 NW Oak Grove	15	1649CST 1702CST	7	80	0	2	100K	Tornado (F1)
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Six houses were damaged by this tornado. One grocery store had major damage. Two people inside the grocery store had minor

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
MISSISSIPPI, Central									
injuries. One mobile home was destroyed. Three cars were blown off of Highway 98. Numerous trees were blown down.									
Jones County									
Laurel	15	1725CST			0	0	10K		Thunderstorm Wind
The windows were blown out of several police vehicles at at police firing range. Several trees were blown down.									
Leake County									
4 SW Edinburg	23	1730CST			0	0			Hail (0.75)
Issaquena County									
Valley Park	23	2310CST			0	0			Hail (0.75)
Warren County									
Eagle Bend	23	2315CST			0	0	3K		Thunderstorm Wind
Several trees were blown down on power lines.									
Yazoo County									
Yazoo City	23	2330CST			0	0	3K		Thunderstorm Wind
Several trees were blown down at several locations throughout the county.									
Madison County									
4 W Canton	23	2345CST			0	0	2K		Thunderstorm Wind
Several trees and numerous large limbs were blown down.									
Attala County									
2 S Sallis	24	0030CST			0	0	1K		Thunderstorm Wind
Several trees were blown across a road.									
Leake County									
Madden	24	1900CST			0	0			Hail (0.88)
Neshoba County									
Philadelphia	24	1910CST			0	0			Hail (0.75)
Neshoba County									
7 SE Philadelphia	24	1943CST			0	0			Hail (0.88)
Noxubee County									
Shuqualak	24	1956CST			0	0			Hail (0.75)
Kemper County									
Scooba	24	2011CST			0	0			Hail (0.75)
Rankin County									
2 SE Brandon	24	2043CST			0	0			Hail (1.75)
Scott County									
Homewood	24	2115CST			0	0			Hail (0.75)
Issaquena County									
Fitler	27	1630CST			0	0			Hail (0.75)
Marion County									
Goss	27	1830CST			0	0			Hail (0.88)
Sunflower County									
Moorhead	27	1945CST			0	0	10K		Thunderstorm Wind
A roof and a brick wall was damaged at Moorhead Junior College. Some cars were also damaged.									
Leflore County									
Greenwood	27	2038CST			0	0			Hail (0.75)
Montgomery County									
Duck Hill	27	2125CST 2127CST	1	40	0	0			Tornado (F0)
This weak tornado was sighted by a spotter. It touched down briefly and moved through an open area where no damaged occurred.									
Webster County									
3 SW Eupora	27	2200CST			0	0	1K		Thunderstorm Wind
Several trees were blown down.									
Choctaw County									
8 NE Ackerman	27	2225CST			0	0	1K		Thunderstorm Wind
Several trees were blown along Highway 9.									
Oktibbeha County									
8 S Starkville	27	2235CST			0	0	1K		Thunderstorm Wind
Several trees were blown down along Highway 25.									

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
<u>MISSISSIPPI, Central</u>									
Noxubee County									
1 E Macon	27	2315CST			0	0	3K		Thunderstorm Wind
									Several trees and power lines were blown down. The windows of one house were blown out.
Copiah County									
Hazlehurst	27	2355CST			0	0			Hail (1.00)
Neshoba County									
Stallo	27	2355CST			0	0			Hail (0.75)
Rankin County									
Pearl	28	0010CST			0	0			Hail (0.75)
Smith County									
Taylorville	28	0100CST			0	0	1K		Thunderstorm Wind
									Several trees were blown down.
Jasper County									
Heidelberg	28	0155CST			0	0	1K		Thunderstorm Wind
									A few trees were blown down along Highway 11.
<u>MISSISSIPPI, North</u>									
De Soto County									
Hernando	04	1900CST 1905CST			0	0	0.01K		Hail (0.75)
Prentiss County									
Booneville	04	2104CST 2109CST			0	0	1K		Thunderstorm Wind
									An awning that was covering some gas pumps was blown off.
Lee County									
3 W Nettleton to Nettleton	24	1547CST 1553CST			0	0	0.51K		Hail (1.75)
Itawamba County									
Evergreen	24	1608CST 1613CST			0	0	0.01K		Hail (0.75)
Lafayette County									
Taylor	24	1632CST 1637CST			0	0	0.50K		Hail (1.75)
Union County									
3 W New Albany	24	1650CST 1655CST			0	0	0.10K		Hail (0.75)
Yalobusha County									
Coffeeville to Water Vly	24	1700CST 1710CST			0	0	0.20K		Hail (0.75)
Pontotoc County									
Longview	24	1716CST 1721CST			0	0	0.02K		Hail (0.75)
Pontotoc County									
Sherman	24	1717CST 1722CST			0	0	0.02K		Hail (0.75)
Lee County									
Belden	24	1724CST 1729CST			0	0	0.10K		Hail (1.00)
Monroe County									
Amory to Aberdeen	24	1731CST 1741CST			0	0	0.02K		Hail (0.75)
Monroe County									
Amory to Aberdeen	24	1731CST 1741CST			0	0	1K		Thunderstorm Wind
									Several trees were knocked down between Amory and Aberdeen.
Lee County									
2 N Tupelo to 5 N Tupelo	24	1735CST 1741CST			0	0	0.75K		Hail (1.75)

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>MISSISSIPPI, North</u>									
Lee County									
Mooreville	24	1811CST 1816CST			0	0	0.01K		Hail (0.75)
Itawamba County									
Mantachie	24	1815CST 1820CST			0	0	0.25K		Hail (0.88)
Calhoun County									
3 NE Banner	24	1820CST 1822CST	0.1	10	0	0	0.01K		Tornado (F0)
A tornado briefly touched down in an open field with little damage reported.									
Itawamba County									
Fulton	24	1840CST 1845CST			0	0	0.01K		Hail (0.75)
Clay County									
12 W West Pt	27	2235CST 2240CST			0	0	0.50K		Thunderstorm Wind
Five trees were blown down.									
Lowndes County									
Columbus	27	2315CST 2320CST			0	0	10K		Thunderstorm Wind
Three businesses were damaged and several highway signs were blown down. The tin roof from the fire station was peeled back. A beam was blown through a car window.									
<u>MISSISSIPPI, South</u>									
Jackson County									
2 SE Ocean Spgs	08	0110CST			0	0			Hail (0.75)
Marble to dime size hail covering the ground along U.S. Highway 90 was reported by off-duty military personnel.									
Pearl River County									
Poplarville	08	1740CST			0	0			Hail (0.88)
Nickel size hail was reported by the Sheriff's Office.									
Pearl River County									
6 NE Poplarville	15	1730CST	0.1	10	0	0			Tornado (F1)
The Office of Emergency Preparedness reported that a tin roof was blown off a house on Ott Davis Road. Downed power lines caused a house fire. A large tree was uprooted and a short swath of pine trees were snapped off.									
Pearl River County									
13 N Picayune	24	0520CST			0	0	0.50K		Thunderstorm Wind
City Police reported trees downed near Interstate Highway 59.									
Jackson County									
5 N Pascagoula	24	0955CST			0	0	1K		Thunderstorm Wind
Two barns were destroyed on Pollack Ferry Road.									
Hancock County									
Lakeshore	24	1320CST			0	0			Hail (1.75)
The Sheriff's Office reported golfball size hail.									
Harrison County									
5 NW Biloxi	24	1655CST			0	0			Hail (2.75)
Radio station personnel reported that baseball size hail fell at the Menge Avenue exit of Interstate Highway 10.									
Harrison County									
Gulfport	24	1710CST			0	0			Hail (1.75)
The Sheriff's Office reported golfball size hail at U.S. Highway 49 and Mississippi State Highway 53.									
Harrison County									
Saucier	24	1840CST			0	0			Hail (1.75)
The Sheriff's Office reported golfball size hail.									
Harrison County									
Lyman	24	1840CST			0	0	0.50K		Thunderstorm Wind
The Sheriff's Office reported trees downed.									
Amite County									
10 NNE Gloster to Gloster	27	1555CST			0	0	0.50K		Thunderstorm Wind
The Sheriff's Office reported thunderstorm winds downed trees.									

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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MISSISSIPPI, South

Pike County

10 W Magnolia	27	1700CST			0	0			Hail (1.75)
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The Office of Emergency Preparedness reported golfball size hail.

Pike County

5 W Magnolia	27	1708CST			0	0			Hail (0.75)
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The Office of Emergency Preparedness reported dime size hail.

Pike County

Magnolia	27	1715CST			0	0			Hail (1.75)
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The Office of Emergency Preparedness reported golfball size hail.

MISSISSIPPI, Southeast

George County

Agricola	08	1245CST			0	0			Hail (0.75)
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Dime size hail was reported in Agricola. Marble size hail was reported in Lucedale.

Wayne County

Mulberry	15	1745CST			0	0	1.5K		Thunderstorm Wind (G50)
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Trees and power lines were blown down in the southwest part of the county near Mulberry.

Greene County

Leakesville	15	1845CST			0	0	1.5K		Thunderstorm Wind (G50)
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Trees and power lines were blown down just north of Leakesville.

Stone County

5 W Wiggins to 5 E Wiggins	24	0505CST 0510CST			0	0	2K		Thunderstorm Wind (G50)
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Several trees and power lines were blown down along State Hwy 26.

Perry County

Oak Grove	24	0515CST			0	0	1.5K		Thunderstorm Wind (G50)
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Several trees were blown down near Oak Grove.

George County

2 NE Lucedale	24	0600CST			0	0	3K		Thunderstorm Wind (G50)
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Seven greenhouses were destroyed by high winds at a nursery just north of Lucedale.

Wayne County

Waynesboro	28	0300CST			0	0	2K		Thunderstorm Wind (G52)
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Several trees were blown down during the passage of a squall line. The thunderstorms caused winds of around 60 mph. The damage was confined to a small area along US Highway 45, just northwest of Waynesboro.

MISSOURI, East

MOZ009>010-

018>019-026>027-

034>036-041>042-

047>052-059>065-

072>075-084>085-099

Scotland - Clark - Knox - Lewis - Shelby - Marion - Monroe - Ralls - Pike - Boone - Audrain - Moniteau - Cole - Osage - Callaway - Montgomery - Lincoln - Gasconade - Warren - St. Charles - Franklin - St. Louis - St. Louis (C) - Jefferson - Crawford - Washington - St. Francois - Ste. Genevieve - Iron - Madison - Reynolds

08	1500CST		0	0		Winter Storm
09	2300CST					

A winter storm affected much of central, east and northeast Missouri on the 8th and 9th. Snow began falling from mid to late afternoon on the 8th and continued into the afternoon on the 9th. Snowfall amounts ranged from 3 to around 8 inches, with the heaviest snow. a general area of 5 to 7 inches, falling from Columbia east across the St. Louis area.

Besides the snow, strong winds and very cold temperatures moved in on the night of the 9th, causing drifting snow and very cold wind chills. Schools remained closed for several days.

MOZ009>010-

018>019-026>027-

034>036-041>042-

047>052-059>065-

072>073

Scotland - Clark - Knox - Lewis - Shelby - Marion - Monroe - Ralls - Pike - Boone - Audrain - Moniteau - Cole - Osage - Callaway - Montgomery - Lincoln - Gasconade - Warren - St. Charles - Franklin - St. Louis - St. Louis (C) - Jefferson - Crawford - Washington

15	2200CST		0	0		Winter Storm
16	1800CST					

A winter storm started the night of the 15th with a mix of freezing rain and sleet across much of central, east and northeast Missouri. from 1/4 to 1/2 inch of ice was left on area roads by the morning of the 16th, creating a mess for the morning commute. By mid-morning of the 16th, snow began falling, with amounts ranging from 3 to 8 inches.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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MISSOURI, East

St. Louis County

Fenton	22	0220CST 0225CST			0	0	100K		Thunderstorm Wind (G70)
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A downburst, generating winds estimated around 80 mph, caused damage in an industrial area of Fenton. The corner of a factory was destroyed, numerous loading dock doors was blown out, some windows broken, and a couple of roofs damaged. An empty truck trailer was blown across a road, downing power lines, and then crashing into other empty trailers.

MOZ009>010-018>019-026>027-034>036-041>042-047>052-059>065-072>073

Scotland - Clark - Knox - Lewis - Shelby - Marion - Monroe - Ralls - Pike - Boone - Audrain - Moniteau - Cole - Osage - Callaway - Montgomery - Lincoln - Gasconade - Warren - St. Charles - Franklin - St. Louis - St. Louis (C) - Jefferson - Crawford - Washington

	27	0400CST 2200CST			0	0			Winter Storm
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A winter storm first produced freezing rain from central into northeast Missouri the morning of the 27th. A coating of 1/2 to 1 inch of ice was reported by mid-morning from Columbia northeast toward Hannibal. Trees and power lines were reported down in Boone, Moniteau, and Pike counties. By mid-afternoon, the colder temperatures had moved south into the St. Louis area. Rain quickly changed to freezing rain and sleet, creating a traffic nightmare during the afternoon rush hour.

MISSOURI, Lower

MOZ113-115

Dunklin - Pemiscot									
	08	1600CST			0	0	0.02K		Winter Storm
	09	0200CST							

MISSOURI, Northwest

MOZ045>046-053>054 Pettis - Cooper - Bates - Henry

	09	0000CST 0800CST			0	0			Heavy Snow
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Snow during the overnight and early morning hours on the 9th, several bands of snow with a fast moving Southwestern U.S system produced up to 7 inches of snow in Boonville, Sedalia and Clinton. Snowfall amounts of 4 to 6 inches were measured at Butler, Blairstown and Windsor.

Many school districts canceled classes on the 9th and there were several reports of minor traffic accidents.

MOZ001>008-011>017-020>025-028>033-037>040-043>046-053>054

Atchison - Nodaway - Worth - Gentry - Harrison - Mercer - Putnam - Schuyler - Holt - Andrew - De Kalb - Daviess - Grundy - Sullivan - Adair - Buchanan - Clinton - Caldwell - Livingston - Linn - Macon - Platte - Clay - Ray - Carroll - Chariton - Randolph - Jackson - Lafayette - Saline - Howard - Cass - Johnson - Pettis - Cooper - Bates - Henry

	10	0000CST			0	0			Extreme Cold
	13	2359CST							

Very cold arctic air settled over Northwest and West Central Missouri from the 10th through the 13th. Daytime temperatures through the period only reached the single digits which is almost 30 degrees below normal. Nighttime low temperatures were in the single digits below zero. No record low temperatures were recorded but, winds gusting up to 30 MPH on the afternoon of the 10th produced wind chills as low as 30 to 50 below zero.

In Kansas City, homeless shelters were full to overcrowded and there were several reports of frozen water pipes throughout the Kansas City metro area. Schools throughout much of Western Missouri closed on the 10th due to the bitterly cold wind chills. There were reports of frostbite and hypothermia but no serious injuries or fatalities.

In Chillicothe, Municipal Utilities workers were called out on the evening of the 12th to repair a leaking 4 inch water line leading into a private residence that was damaged from the cold.

MOZ021>025-028>033-037>040-043

Clinton - Caldwell - Livingston - Linn - Macon - Platte - Clay - Ray - Carroll - Chariton - Randolph - Jackson - Lafayette - Saline - Howard - Cass

	27	0400CST 2200CST			0	0			Heavy Snow
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A band of sleet and freezing rain moved through the Kansas City Metro area during morning rush hour producing a 1 to 2 inch build up of ice on roadways. There were numerous minor traffic accidents resulting from the slippery highways. During the late morning hours, the precipitation changed to heavy snow which accumulated 5 to 7 inches across the Kansas City Metro area. Many schools and businesses closed early.

Officially, 5 inches of snow was recorded at Kansas City International Airport. KCI was closed for 2 hours during the storm which marked only the second time in the 25 year history of the airport that operations were shut down due to winter weather. The heaviest snowfall was measured in Kearney at 7.5 inches. Elsewhere, 7 inches of snow were measured at Raytown and Grandview, 6.5 inches at Blue Springs and 5 inches at Platte City and Lee's Summit.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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MISSOURI, Northwest

Temperatures during the precipitation were in the 10 to 15 degree range which made salting efforts ineffective. After the snow ended, winds gusting to 25 to 30 MPH pushed temperatures down close to zero with wind chills of 20 to 40 below zero. The winds also drifted the snow as deep as 2 to 4 feet.

Further to the east from the Kansas City area along and north of the Missouri River, a mixture of sleet and freezing rain fell throughout the morning hours depositing 1 to 2 inches of ice before changing to snow. The snow fell heavy at times through the early afternoon before tapering off. Snowfall amounts of 8 inches were measured at Carrollton, 7 inches at Lexington, and 6 inches at Plattsburg, Kingston, Richmond, Chillicothe, Brookfield and Long Branch. Most schools were closed or closed early and there were reports of minor traffic accidents.

Temperatures fell from around 20 degrees in the morning into the single digits above zero by late afternoon. Strong winds gusting up to 30 MPH produced 1 to 3 foot snow drifts which made snow removal difficult for road crews. Also the very cold temperatures reduced the effectiveness of salting efforts.

MISSOURI, Southeast

Wayne County

Piedmont to Patterson	04	1650CST 1655CST			0	0			Hail (0.75)
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Bollinger County

Dongola	04	1745CST			0	0			Thunderstorm Wind (G52)
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Trees were blown down.

Bollinger County

Dongola	04	1745CST			0	0			Hail (1.00)
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MOZ076-086>087-100-107>112-114 Perry - Bollinger - Cape Girardeau - Wayne - Carter - Ripley - Butler - Stoddard - Scott - Mississippi - New Madrid

08	1300CST				0	0			Winter Storm
09	0100CST								

A low pressure system that moved northeast across the Tennessee River Valley produced 4 to 7 inches of snow across southeast Missouri. Generally 5 or 6 inches fell, with the exception of New Madrid and Mississippi Counties, where a little sleet limited totals to 4 inches. Most schools closed due to the storm. Treacherous road conditions were blamed for numerous vehicle accidents. Two fatal weather-related traffic accidents occurred in southeast Missouri. One teenage female was killed in an accident in Bollinger County. A 53-year-old female was killed in an accident in Butler County.

MOZ076-086>087-100-107>112-114 Perry - Bollinger - Cape Girardeau - Wayne - Carter - Ripley - Butler - Stoddard - Scott - Mississippi - New Madrid

10	1000CST				0	0			Extreme Windchill
11	0500CST								

Arctic air invaded the region in the wake of a departing snowstorm. Wind chill advisories were issued for wind chills as low as 30 below zero.

MOZ076-086>087-100-107>112-114 Perry - Bollinger - Cape Girardeau - Wayne - Carter - Ripley - Butler - Stoddard - Scott - Mississippi - New Madrid

15	0100CST 1400CST				0	0			Ice Storm
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An ice storm coated surfaces with up to an inch of ice. The worst icing was around Dexter and Bloomfield, where an inch of ice was reported. Elsewhere across southeast Missouri, around a half inch of ice accumulated. Slightly warmer temperatures in New Madrid and Mississippi Counties limited ice accumulations to a quarter inch or less. In regions of heavier icing, scattered power outages resulted from tree limbs falling on power lines. About 3,000 customers near Fruitland lost power. A communications tower in Cape Girardeau was snapped by the ice and wind. Parts of southeast Missouri were nearly paralyzed. Schools, businesses, and courthouses shut down. So many accidents occurred that the wait for a wrecker was as long as 4 hours. Cape Girardeau police suspended road patrols due to extremely slippery roads. Chains were placed on the tires of emergency vehicles. Local hospitals reported over 120 weather-related injuries, especially slip-and-fall injuries and auto accidents.

MISSOURI, Southwest

MOZ055>058-066>071-077>083-088>096-101>104 Benton - Morgan - Miller - Maries - Vernon - St. Clair - Hickory - Camden - Pulaski - Phelps - Barton - Cedar - Polk - Dallas - Laclede - Texas - Dent - Jasper - Dade - Greene - Webster - Wright - Newton - Lawrence - Christian - Douglas - McDonald - Barry - Stone - Taney

08	1200CST				0	0	670K		Heavy Snow
09	1200CST								

Six inches or more of snow fell over much southwest, south central and central Missouri from noon on the eighth to noon on the ninth. The heaviest snow fell in a band from Cassville to Springfield north to Hermitage where up to ten inches was recorded. Damage estimates were due to the cost of snow removal.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
<u>MISSOURI, Southwest</u>									
Newton County									
Saginaw	21	2335CST			0	0	0		Hail (1.75)
Jasper County									
Duenweg	21	2340CST			0	0			Hail (1.00)
Jasper County									
Fidelity	21	2345CST			0	0			Hail (1.00)
Dade County									
3 E Greenfield	21	2345CST			0	0			Hail (1.00)
Lawrence County									
2 W Mt Vernon	22	0011CST			0	0	0		Hail (1.75)
Greene County									
Springfield	22	0055CST			0	0			Hail (1.00)
<u>MONTANA, Central</u>									
MTZ015									
		Gallatin/Madison							
	01	0100MST			0	0			Heavy Snow
		2000MST							
		Big Sky ski resort received 8 inches of new snow.							
MTZ014									
		Broadwater/Jefferson/Meagher Central And Southern Lewis And Clark							
	01	0600MST			0	0			Heavy Snow
		1800MST							
		Lincoln received 4 inches of new snow.							
MTZ011									
		Blaine/Hill							
	01	0915MST			0	0			High Wind (G64)
		A spotter 11 miles south of Chinook reported a wind gust of 73 mph.							
MTZ011									
		Blaine/Hill							
	01	1952MST			0	0			High Wind (G65)
		A spotter 11 miles south of Chinook reported a wind gust of 74 mph.							
MTZ015									
		Gallatin/Madison							
	03	0100MST			0	0			Heavy Snow
		2000MST							
		West Yellowstone received 6 inches of new snow.							
MTZ009									
		Rocky Mountain Front							
	06	0632MST			0	0			High Wind (G69)
		A spotter in Heart Butte reported a gust of 79 mph.							
MTZ014>015									
		Broadwater/Jefferson/Meagher Central And Southern Lewis And Clark - Gallatin/Madison							
	07	0600MST			0	0			Heavy Snow
		1800MST							
		A few spots in the mountains of southwest Montana received 6 to 10 inches of snow.							
MTZ010>014									
		Eastern Glacier/Eastern Pondera/Toole/Liberty - Blaine/Hill - Cascade/Eastern Teton/Judith Basin - Fergus/Chouteau - Broadwater/Jefferson/Meagher Central And Southern Lewis And Clark							
	08	1200MST			0	0			Winter Storm
	09	1800MST							
		Most of central and southwest Montana received 4 to 7 inches of snow. Both Roy and Grassrange received 12 inches.							
MTZ012-014>015									
		Cascade/Eastern Teton/Judith Basin - Broadwater/Jefferson/Meagher Central And Southern Lewis And Clark - Gallatin/Madison							
	10	0000MST			0	0			Heavy Snow
		2000MST							
		Many locations in southwest Montana received 5 to 8 inches of new snow with over a foot in the mountains.							
MTZ015									
		Gallatin/Madison							
	11	0000MST			0	0			Heavy Snow
		1700MST							
		Ennis received 7 inches of new snow and Alder received 6 inches.							
MTZ015									
		Gallatin/Madison							
	13	0400MST			0	0			Heavy Snow
		2000MST							
		Big Sky ski resort received 7 inches of new snow.							

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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MONTANA, Central

MTZ012>014 Cascade/Eastern Teton/Judith Basin - Fergus/Chouteau - Broadwater/Jefferson/Meagher Central And Southern Lewis And Clark

15	0000MST 2000MST				0	0			Heavy Snow
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4 to 6 inches of snow fell over central Montana in and around the Little Belt, Big Belt, and Highwood mountains.

MTZ011 Blaine/Hill

18	0300MST				0	0			High Wind (G55)
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A gust of 63 mph was reported at Fort Belknap.

MTZ015 Gallatin/Madison

19	0000MST 2200MST				0	0			Heavy Snow
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A foot of new snow fell at Big Sky ski resort.

MTZ011-013>014 Blaine/Hill - Fergus/Chouteau - Broadwater/Jefferson/Meagher Central And Southern Lewis And Clark

21	0000MST 2300MST				0	0			Heavy Snow
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4 to 7 inches of snow fell over central Montana...mostly over the north central portion. Havre received 9 inches.

MTZ011 Blaine/Hill

21	1100MST				0	0			High Wind (G52)
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A gust of 60 mph was reported at Fort Belknap.

MTZ009-014 Rocky Mountain Front - Broadwater/Jefferson/Meagher Central And Southern Lewis And Clark

24	0000MST 2300MST				0	0			Heavy Snow
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A few spots near the continental divide received heavy snow. Austin and St. Mary reported 6 inches while E. Glacier received 8 inches.

MTZ012-014>015 Cascade/Eastern Teton/Judith Basin - Broadwater/Jefferson/Meagher Central And Southern Lewis And Clark - Gallatin/Madison

25	1700MST				0	0			Heavy Snow
26	1200MST								

6 to 8 inches of new snow fell across portions of southwest Montana.

MTZ009>011 Rocky Mountain Front - Eastern Glacier/Eastern Pondera/Toole/Liberty - Blaine/Hill

29	0800MST 2030MST				0	0			High Wind (G83)
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Strong winds were reported along the front range of the Rockies, mostly during the late afternoon hours. Several gusts of 70 to 85 mph were reported. Heart Butte had the highest wind gust at 96 mph. Further east, a spotter 11 miles south of Chinook also reported high winds with a gust of 64 mph.

MTZ009>013 Rocky Mountain Front - Eastern Glacier/Eastern Pondera/Toole/Liberty - Blaine/Hill - Cascade/Eastern Teton/Judith Basin - Fergus/Chouteau

30	0700MST 1800MST				0	0			High Wind (G116)
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Widespread high winds occurred across north central Montana. Many locations reported wind gusts of 60 to 80 mph with a few spots reporting gust over 90 mph. A spotter at Heart Butte, along the front range of the Rockies, reported a wind gust of 133 mph. Also in Heart Butte, a 5 year old boy fractured his skull when winds blew him down. In addition, there were numerous reports of damage along the front range of the Rockies. Sections of roofs were blown off in Heart Butte and Dupuyer. In the Choteau area, windows were broken, farm equipment was damaged, an empty grain bin was blown off its foundation, and seven power poles were snapped.

MONTANA, East

MTZ016>027 Phillips - Valley - Daniels - Sheridan - Roosevelt - Petroleum - Garfield - McCone - Richland - Dawson - Prairie - Wibaux

08	2100MST				1	0			Extreme Windchill
10	0455MST								

Very strong winds and extremely cold temperatures dropped wind chills to colder than 80 below zero at times. The strong winds also caused blowing and drifting snow which made travel treacherous. One man died when his vehicle became stuck in a snow drift. After staying with his car until it ran out of gas, he decided to walk for help. He was found dead 500 feet from his car. M87OU

MTZ016>020 Phillips - Valley - Daniels - Sheridan - Roosevelt

21	0900MST 2300MST				0	0			Winter Storm
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A winter storm produced winds of 25 to 35 miles an hour. The winds in combination with some newly fallen snow caused blowing and drifting. Visibilities dropped to zero at times and snow drifts as high as three feet formed on roads in some areas. Travel was not recommended.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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MONTANA, East

MTZ017>020-024

Valley - Daniels - Sheridan - Roosevelt - Richland

22	1600MST				0	0			Winter Storm
23	0400MST								

After a brief break in the weather during the day, more strong winds and light snow moved into northeast Montana during the evening again causing reduced visibilities and blowing and drifting snow. Snow drifts of 2 to 3 feet formed on area highways and travel again was not recommended.

MTZ016>027

Phillips - Valley - Daniels - Sheridan - Roosevelt - Petroleum - Garfield - McCone - Richland - Dawson - Prairie - Wibaux

28	1100MST				0	0			Winter Storm
	2000MST								

A winter storm with 20 to 30 mile an hour winds and 1 to 2 inches of new snow caused areas of white out conditions.

MONTANA, South

Sweet Grass County

1 N Melville

01	1000MST				0	0			Urban/Sml Stream Fld
	1900MST								

The bridge on the Lower Sweet Grass Creek was completely washed out just south of Melville on the Sweet Grass River.

Stillwater County

2.5 SW Columbus

01	1300MST				0	0			Flash Flood
	2200MST								

An ice jam break 2 miles southwest of Columbus on the Stillwater River flooded a ranch. The flood stranded two people who had to be rescued by emergency personnel.

Yellowstone County

1 N Worden

02	1030MST				0	0			Urban/Sml Stream Fld
	1500MST								

Ice jam on the Yellowstone River near the city of Worden flooding two mobile homes there.

Yellowstone County

6 W Billings

03	1530MST				0	0			Flash Flood
	2230MST								

Ice jam on Yellowstone river broke causing rapid rise in River which flooded at least 4 mobile homes and several cars in Blains's Mobile Home Court in Billings.

Stillwater County

3 SE Columbus

08	1800MST				0	0			Flash Flood
	2200MST								

An ice jam broke loose causing waters to rise 3 to 4 feet quickly on the Yellowstone River 3 miles southeast of the city of Columbus. A house was damaged as well as some farm equipment.

MTZ028

Wheatland/Park/Sweet Grass

30	1157MST				0	0			High Wind (G74)
	1159MST								

85 mph wind gust recorded at airport in Livingston.

MONTANA, West

MTZ001

Kootenai/Cabinet Region

01	0000MST				0	0			Heavy Snow
03	2359MST								

Continued heavy snowpack from the previous month (see December storm data) caused more collapsed buildings, including many businesses and logging shops, Libby Middle School, and "Shed Six," the largest building in Lincoln County at more than 4 acres. At least 37 buildings in Lincoln County alone fell under the weight of snow not including dozens of carports and other outbuildings. One insurance company spokesman has estimated between \$3 million and \$4 million in insurance claims in Lincoln County. Other buildings collapsed in Flathead and Sanders counties, and many others were saved through aggressive snow removal. The snow removal bill for Tidyman's grocery store was \$40,000 while costs throughout the area ran up to 3 times that of normal.

MTZ002

West Glacier/Bob Marshall Region

06	0830MST				0	0			Heavy Snow
07	0830MST								

Ten inches of new snow at Big Mountain Ski Resort

MTZ004

Lower Clark Fork/Bitterroot Mountains

08	0400MST				0	0			Heavy Snow
09	0400MST								

Ten to twelve inches of new snow at Lookout Pass Ski Area.

Storm Data and Unusual Weather Phenomena

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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January 1997

MONTANA, West

MTZ006

Blackfoot/Pintlar Region

	10	0001MST			0	0			Heavy Snow
	11	0001MST							

Ten inches new snow at Discovery Ski Area.

MTZ004

Lower Clark Fork/Bitterroot Mountains

	23	0001MST			0	0			Heavy Snow
	25	0400MST							

Six inches of snow in 6 hours at Noxon, ending 845 pm on the 23rd, with 11 inches since midnight. Other reports include 5 inches at Haugan in 4 hours ending at 715 am, 9 inches at De Borgia in 24 hours ending 800 am and another 6 inches the following night.

Lookout Pass Ski Area reported snow in excess of 2 feet for the 24 hours ending 400 am on the 24th, and more than 2 feet again for 24 hours ending 400 am on the 25th.

NEBRASKA, Central

NEZ006>010-026>029

Keya Paha - Boyd - Brown - Rock - Holt - Blaine - Loup - Garfield - Wheeler

	04	1300CST			1	0			Blizzard
		2130CST							

45-55 mph winds created blizzard conditions across northcentral Nebraska. Blowing and drifting snow caused icy roads and visibilities near zero. A storm-related fatality occurred when an 18 year-old male was struck and killed by a passing vehicle. M18VE

NEBRASKA, East

NEZ011>012-016>018

Knox - Cedar - Antelope - Pierce - Wayne

	09	1600CST			0	0			Extreme Windchill
	11	1400CST							

Strong northwest winds gusting to 55 mph combined with cold temperatures to generate wind chills of 40 to 75 below zero.

NEZ030>034-042>045-050>053-065>068-078

Boone - Madison - Stanton - Cuming - Burt - Platte - Colfax - Dodge - Washington - Butler - Saunders - Douglas - Sarpy - Seward - Lancaster - Cass - Otoe - Saline

	09	2200CST			0	0			Extreme Windchill
	11	1400CST							

Strong northwest winds gusting to 55 mph combined with cold temperatures to generate wind chills of 40 to 70 below zero.

NEZ088>093

Jefferson - Gage - Johnson - Nemaha - Pawnee - Richardson

	09	2200CST			0	0			Extreme Windchill
	10	1800CST							

Strong northwest winds combined with cold temperatures to generate wind chills of 40 to 65 below zero.

NEZ011>012-015-031>033

Knox - Cedar - Thurston - Madison - Stanton - Cuming

	11	2000CST			0	0			Extreme Windchill
	12	1500CST							

Strong northwest winds combined with cold temperatures to generate wind chills of 40 to 50 below zero.

NEZ030-034-042>045-050>053

Boone - Burt - Platte - Colfax - Dodge - Washington - Butler - Saunders - Douglas - Sarpy

	12	0100CST			0	0			Extreme Windchill
		1200CST							

Strong northwest winds combined with cold temperatures to generate wind chills of 40 to 50 below zero.

NEZ011>012-015-018

Knox - Cedar - Thurston - Wayne

	15	2000CST			0	0			Blizzard
	16	0200CST							

A strong arctic cold front moved south from Canada through the central plains as low pressure moved east along the U.S./Canadian border into southeast Canada. Strong winds gusted over 60 mph. This produced considerable blowing and drifting snow with visibilities reduced to less than 1/4 mile in open areas. Visibilities were not as low in sheltered areas, although there was still extensive blowing and drifting. Snow showers did occur with the wind, but the low visibility was mainly caused by blowing snow.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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NEBRASKA, East

**NEZ011>012-016>018- Knox - Cedar - Antelope - Pierce - Wayne - Madison - Stanton - Cuming - Burt
031>034**

15	2100CST				0	0			Extreme Windchill
16	1100CST								

A strong arctic cold front raced south from southern Canada through the central plains behind low pressure that moved east along the U.S. Canadian border. Strong northwest winds gusting as high as 60 mph combined with cold temperatures to generate wind chills of 40 to 70 degrees below zero.

**NEZ030-042>045- Boone - Platte - Colfax - Dodge - Washington - Butler - Saunders - Douglas - Sarpy
050>053**

16	0100CST 1100CST				0	0			Extreme Windchill
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Strong northwest winds gusting to 55 mph combined with cold temperatures to generate wind chills of 40 to 65 below zero.

**NEZ065>068-078- Seward - Lancaster - Cass - Otoe - Saline - Jefferson - Gage - Johnson - Nemaha - Pawnee - Richardson
088>093**

16	0300CST 0900CST				0	0			Extreme Windchill
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Strong northwest winds combined with cold temperatures to generate wind chills of 40 to 55 below zero.

**NEZ011>012-016>018- Knox - Cedar - Antelope - Pierce - Wayne - Madison - Stanton - Cuming
031>033**

24	2000CST				0	0			Extreme Windchill
25	1100CST								

Strong northwest winds combined with cold temperatures to generate wind chills of 40 to 50 below zero.

**NEZ030-034-042>045- Boone - Burt - Platte - Colfax - Dodge - Washington - Butler - Saunders - Douglas - Sarpy
050>053**

24	2200CST				0	0			Extreme Windchill
25	0700CST								

Strong northwest winds combined with cold temperatures to generate wind chills of 40 to 50 below zero.

**NEZ011>012-016>018- Knox - Cedar - Antelope - Pierce - Wayne - Madison - Stanton - Cuming - Burt
031>034**

27	0300CST 1800CST				0	0			Extreme Windchill
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Strong northwest winds combined with cold temperatures to generate wind chills of 40 to 50 below zero.

**NEZ030-042>045- Boone - Platte - Colfax - Dodge - Washington - Butler - Saunders - Douglas - Sarpy - Seward - Lancaster
050>053-065>066**

27	0800CST 1700CST				0	0			Extreme Windchill
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Strong northwest winds combined with cold temperatures to generate wind chills of 40 to 50 below zero.

**NEZ067>068-078- Cass - Otoe - Saline - Jefferson - Gage - Johnson - Nemaha - Pawnee - Richardson
088>093**

27	1200CST 1500CST				0	0			Extreme Windchill
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Strong northwest winds combined with cold temperatures to generate wind chills of 40 to 50 below zero.

NEBRASKA, Extreme Northeast

NEZ013>014

Dixon - Dakota

04	1500CST				0	0			Blizzard
05	0400CST								

Winds gusting to 45 mph combined with 1 to 3 inches of snow and existing loose snow cover to produce blizzard conditions with frequent zero visibilities. Travel and commerce were temporarily brought to a halt, with the zero visibility and roads closed by

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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NEBRASKA, Extreme Northeast

drifting.

NEZ013>014

Dixon - Dakota

09 0900CST

0 0

Blizzard

11 0400CST

Strong winds gusting as high as 50 mph combined with loose snow cover and 1 to 3 inches of new snow to produce prolonged blizzard conditions. Transportation, schools, and commerce were halted as many roads were blocked by drifting and zero visibility made travel otherwise impossible. The greatest damage was suspected to be long term economic loss from the loss of transportation, commerce, and farm services; and the amount of this damage could not be accurately estimated.

NEBRASKA, Extreme Southwest

NONE REPORTED.

NEBRASKA, South Central

NEZ063

Hamilton

07 1200CST

0 0

Ice Storm

1600CST

A disturbance in the upper atmosphere moved quickly across a part of South Central Nebraska producing a brief period of freezing rain and depositing a layer of ice on local roads.

Near Aurora, a two car accident occurred when the driver of an eastbound car lost control, crossed the median and hit a west bound vehicle head on. Near that accident, another driver lost control of his vehicle, slid into the median and into a crossover road. No serious injuries were reported in either case.

NEZ039>041-046>049- Valley - Greeley - Nance - Sherman - Howard - Merrick - Polk - Dawson - Buffalo - Hall - Hamilton - York -
060>064-072>077-
082>087

Thayer

09 1600CST

0 0

Extreme Cold

11 1600CST

An arctic air mass was the source for extremely cold temperatures and wind chill factors. Temperatures below zero and a stiff northwest breeze combined to drop wind chill factors to 60 below zero in some areas.

NEZ039>041-046>049- Valley - Greeley - Nance - Sherman - Howard - Merrick - Polk - Dawson - Buffalo - Hall - Hamilton - York -
060>064-072>077-
082>087

Thayer

15 0400CST

0 0

Extreme Windchill

16 1200CST

Bitterly cold wind chills returned to South Central Nebraska again aboard strong north winds. Temperatures dropped sharply into the single digits. In turn, wind chill factors ranged from 35 to 50 below zero for much of a two day period.

The strong winds may have played a role in a one vehicle accident near on Interstate 80 near Aurora. No injuries were reported.

NEBRASKA, West

NEZ002

Dawes

04 0900MST

0 0

Blowing Snow

1400MST

Whiteout conditions created by blowing snow caused a two-vehicle collision 15 miles south of Chadron on Nebraska Highway 385. A 13-year-old female was hospitalized as a result.

NEZ003

Box Butte

15 1000MST

0 0

High Wind (G36)

1300MST

Strong winds occurred over the northern Nebraska panhandle. Sustained winds were around 40 MPH and Alliance reported a sustained wind of 41 MPH at 1053 AM.

NEVADA, North

NVZ011

White Pine

12 1800PST

0 0

Heavy Snow

13 1800PST

A strong winter storm dropped heavy snow over parts of East Central Nevada. 24 hour totals were: 12 inches at Ruth...10 miles west of Ely, and 7 inches in the city of Ely.

NVZ012

Lander/Eureka

13 1500PST

0 0

Heavy Snow

A winter storm dropped heavy snow over parts of East Central Nevada. 24 hour totals at Eureka were 8 inches.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

NEVADA, North

NVZ011>012

White Pine - Lander/Eureka

13 1800PST 0 0 Heavy Snow

A strong winter storm dropped heavy snow over parts of East Central Nevada. 24 hour snowfall totals ending at 6:00 pm included: 12 inches at Ruth...10 miles west of Ely, 8 inches at Eureka and 7 inches at Ely.

NVZ006-008>009-012

Humboldt - Southwest And South Central Elko - Southeast Elko - Lander/Eureka

23 0800PST 0 0 Heavy Snow

A winter storm dropped heavy snow over parts of northern and central Nevada. 24 hour amounts ending at 08:00 included: 11 inches at Wells, 10 inches at Carlin, 12 inches at McCoy Mine...32 miles south of Battle Mountain, and 10 inches at

NVZ007-009

Northern Elko - Southeast Elko

24 0700PST 0 0 Heavy Snow

A winter storm dropped heavy snow over parts of northern Nevada. 24 hour totals ending at 07:00 included: 10 inches at Gibbs Ranch...50 miles northeast of Elko, 8 inches at Wildhorse Reservoir and 11 inches at Wells.

NVZ006>009-011>012

Humboldt - Northern Elko - Southwest And South Central Elko - Southeast Elko - White Pine - Lander/Eureka

24 0800PST 0 0 Heavy Snow

A winter storm dropped heavy snow over parts of Northern and East Central Nevada. 24 hour totals ending at 0800 included: 12 inches at McCoy mine...32 miles south of Battle Mountain, 11 inches at Wells, 10 inches at Carlin, Gibbs Ranch...50 miles northeast of Elko, and Winnemucca and 8 inches at Wildhorse Reservoir.

NEVADA, South

NVZ019

Spring Mountains

12 1000PST 0 0 Heavy Snow
13 2000PST

A powerful winter storm blanketed the Spring Mountains west of Las Vegas with deep snow. Kyle Canyon received 14 inches accumulation in 12 hours and had a storm total of 22 inches. The ski area in Lee Canyon reported a total of 30 to 36 inches of snowfall. State routes 157 and 158 were closed for several hours as a result.

NVZ015

Lincoln County Except The Sheep Range

12 1100PST 0 0 Heavy Snow
13 1700PST

Significant snowfall occurred across Lincoln County. Pioche and Rachel received at least 12 inches in 24 hours and the storm total at Pioche was 16 inches.

NEVADA, West

NVZ001>005

Mineral/Southern Lyon - Greater Lake Tahoe Area - Greater Reno/Carson City/Minden Area - Western Nevada Basin And Range - Northern Washoe

01 0000PST 2 50 640M Flood
17 0000PST

The floods of January 1997 were caused by several factors. First, the Sierra and western Nevada had experienced two above normal precipitation years (1995, 1996). Second, a major winter storm December 21st and 22nd 1996 deposited heavy snow in the Sierra and western Nevada. Four to six feet of snow was common below 7000 feet in the Sierra with up to eight feet at the higher elevations. One to three feet of snow was found across the valleys of western Nevada. The following week into New Years' Day showed a dramatic change in the weather pattern. Copious amounts of moisture and warm air were transported from the subtropics into the Sierra and western Nevada. The heaviest rainfall occurred January 1st and 2nd, and snow levels were as high as 11,700 feet on the 1st.

An incredible amount of rainfall and snowmelt runoff poured out of the Sierra Nevada from December 30, 1996 to January 6, 1997. For example, an estimated 25 inches of rain and snowmelt runoff occurred during the period on the Squaw Creek Basin (in the upper Truckee River Basin in Placer County, California) during this period. This scenario was typical throughout the region and resulted in extensive flooding on the Truckee, Carson, Walker, and Susan Rivers. Record flooding occurred on much of the Truckee, Carson, and Walker Basins. This flooding caused tremendous amounts of public and private damage throughout the eastern Sierra and extreme western Nevada.

A winter storm on January 22nd again dropped heavy amounts of snow in the Sierra and the valleys of western Nevada but not as much as the December storm. This storm was followed by another significant storm January 24th through the 26th which aggravated flooding along the Truckee and Carson Rivers. However, this storm system was much colder than the New Years' storm. Snow levels were around 6500-7000 feet in the Sierra and western Nevada, minimizing the amount of snowmelt from the higher elevations. Thus, river stages were much lower than the New Years' flooding. The main result was urban and small stream flooding.

The following information provides details of damages, deaths, and injuries caused by flooding in the Reno County Warning Forecast Area (CWFA). The CWFA includes parts of the eastern Sierra and western Nevada.

NVZ005-CAZ070 Northern Washoe County Nevada and Surprise Valley California

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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NEVADA, West

NVZ005-CAZ070 Northern Washoe County Nevada and Surprise Valley California

There were no reports of damage in Northern Washoe County Nevada. However, parts of Surprise Valley California were inundated by heavy rainfall, causing mud and debris from mountain and hill sides to slide into homes in the community of Lake City (north of Cedarville). Also, parts of County Road One were either covered by mud or washed out. Estimated damage to the road was about \$1.5 million. Estimated damage to area homes was about \$500,000.

CAZ071 Lassen...Eastern Plumas...and Eastern Sierra Counties

The greatest damage due to flooding occurred in Plumas County. \$90,000 in damage was done in the city of Portola alone. The most extensive damage was to homes, bridges, and roadways. Flooding and rain caused a 50 foot section of Highway 70 to crumble between Blairsden and Sloat. There was also extensive damage to railroad infrastructure. Damage amounts were as follows: 1) public facilities \$60 million, 2) private owners and businesses \$10 million (50 homes reported damage), and 3) Federal Highway System \$21.2 million (which includes severe damage to Highway 70). For Lassen County, damage amounts were as follows: 1) public facilities not available, 2) private owners and businesses \$500,000, and 3) Federal Highway System \$1 million. Finally, there was one injury reported in Sierra County. Sierra County estimated damage to private owners, businesses, and public facilities at \$2 million. The Federal Highway System destruction was near \$25.6 million (includes damage to Highway 49).

NVZ002-CAZ072 The Greater Lake Tahoe Area

The Greater Lake Tahoe experienced extensive damage due to flooding rivers, streams, and mudslides. There was so much rain and melted snow that Lake Tahoe was pushed over its legal limit by 3.5 inches, reaching an altitude of 6,229.39 feet on January 5th. This was the highest elevation of the lake since July 17, 1917. Each county that lies within this zone is examined below:

Placer County: Flooding in this county eroded away mountain sides which broke sewer and power lines. Serious damage occurred at Squaw Valley Lodge, a separately owned facility behind the Squaw Valley Ski Area main entrance. The south fork of Squaw Creek jumped its bank and burst through the lodge. This destroyed many units in the lodge as well as depositing thick mud. Many public roads, bridges, and other infrastructure were affected by the floods, especially along the Truckee River. All bridges across Highway 89 were destroyed or severely damaged. Damage estimates for public property was near \$11 million. 137 homes and 22 businesses were damaged. Total damage to private homes, businesses, agricultural losses, and private roads was near \$10 million. Destruction to the Federal Highway System was near \$7.7 million which includes widespread damage to Highway 89.

Nevada County: Property along the Truckee River, Donner Creek, and Trout Creek was severely damaged. On the Truckee River, two small bridges were ripped out and several others were under water. Mudslides closed several major roads and Union Pacific railroad tracks. Estimated damage to public facilities was \$5 million. 100 homes and 40 businesses were damaged, costing an estimated \$20 million. Federal Highway System damage was about \$3.9 million.

El Dorado County: The Upper Truckee River reached its highest level ever on January 2nd. The National Weather Service does not have a flood stage here, and there is no telemetry on the gage. The American River west of Echo Summit tore away a number of bridges that provided access to summer homes. U.S. Highway 50 received extensive damage from water undermining sections and also from mud slides. One injury was reported when a boulder dislodged by a saturated hillside slammed into a truck. A 43 year old woman received serious head injuries. Estimated damage in El Dorado County was as follows: 1) public facilities \$17 million, 2) private owners and businesses \$5 million, and 3) Federal Highway System \$40.5 million. This includes severe damage to U.S. Highway 50. Most of the damage was not in the Reno CWFA.

Alpine County: The most damage in this county was to the Federal Highway System which was estimated at \$5.5 million. Public damage was projected to be near \$400,000.

The following shows selected crests at certain sites along the Truckee River in Placer and Nevada Counties and the east and west forks of the Carson River in Alpine County:

River/Location	Flood State	Maximum Crest (feet) and Date
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Truckee River near Truckee, CA	4.5 ft	9.97 ft (11,900 cfs) on 1/2/97*. The United States Geological Survey (USGS) estimated this to be a new record stage/flow here. USGS estimated this to be greater than a 100-year flood at this location.
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Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

NEVADA, West

		location.						
Truckee River at Farad, CA			11.0 ft 13.17 ft (14,800 cfs) on 1/2/97. This was short of the record stage of 14.50 feet (17,500 cfs) set 11/21/50. This was estimated by the USGS to be less than a 50 year flood.					
East Fork Carson River near Markleeville, CA			7.0 ft* 11.78 ft (21,000 cfs) on 1/2/97. This was a new record stage/flow for this location. This was estimated by the USGS to be greater than a 100 year flood.					
West Fork Carson River at Woodsfords, CA			6.0 ft Estimated greater than 11.0 ft (8,000 cfs) since river diverted away from gage on 1/2/97. This was a new record stage/flow here. This was estimated by the USGS to be greater than a 100 year flood.					

*Telemetry inoperative or unreliable during most of the flood event.

NVZ001-003-004 MINERAL AND SOUTHERN LYON COUNTIES...THE GREATER RENO-CARSON CITY-MINDEN AREA...WESTERN NEVADA BASIN AND RANGE

Flood devastation was widespread across western Nevada. Most of the damage occurred from the Truckee, Carson, and Walker Rivers early in January. As reported by the American Red Cross, two deaths and at least 50 injuries occurred in western Nevada (four of the injuries required hospitalization). The Truckee and Carson Rivers crested above flood stage again later in the month (January 25th and 26th), but the flooding was much less than the record flooding at the beginning of the month. Each county within Nevada zones one, three, and four is analyzed below:

Mineral County: Only minor damage occurred here. Estimated cost was \$2,400.

Pershing County: No damage was reported here as the flooding rivers mentioned above do not flow into this county.

Churchill County: Damage to the public facilities (including public buildings, utilities, and roads) was about \$30,000. Total private damage was estimated at \$315,000 of which \$267,000 was to the Truckee-Carson Irrigation District facilities.

Carson City: The mainstem Carson river in combination with swollen creeks and streams flowing from the eastern Sierra caused extensive damage in the Carson City area. The heavy rains of January 1st and 2nd deluged parts of Carson City, forcing the closure of roads and businesses. Damage to public facilities was about \$6.4 million. Damage to homes and businesses was not available at the time of this documentation.

Storey County: There was damage done to public and private property in Storey County, both on the mainstem Truckee and on small streams. Estimated public damage was about \$2 million. This includes the destruction of five bridges on the Truckee, two miles of levees, and Six Mile Canyon Road. Damage to private owners and businesses was about \$1 million. This includes \$500,000 to the Mustang Ranch and \$125,000 to three homes.

Lyon County: Widespread devastation occurred in the towns of Dayton (from the Carson River), Wellington and Smith (from the West Walker River), and Yerington (from the mainstem Walker River). The greatest destruction was inflicted on the town of Yerington. Over 250 homes received extensive damage from flood waters. Estimated damage for private property in Yerington alone was near \$15 million. Over 30 homes were damaged in the Wellington and Smith areas, bringing damage estimates here to \$1.5 million. Damage to public facilities in the county was over \$3 million. Parts of Highway 208 and 339 in the Wilson Canyon area were completely washed away. Damage to agricultural land was widespread, but losses will not be known for some time.

Douglas County: The raging Carson River caused massive destruction to homes and levees. Over 75 homes in the Minden/Gardnerville area were known to receive damage estimated at \$5 million. Public damage, especially to the Carson Valley

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
Date				Killed	Injured	Property	Crops	

NEVADA, West

River while operating a front-end loader near its banks.

Washoe County: Devastation was immense in this county due to the concentration of businesses and homes along the Truckee River. Estimated damage to 1,420 businesses and homes in the city of Reno was near \$200 million. Four major casinos had to close during the climax of the flood, including the Reno Hilton which received \$15 million in damage (a part of the total \$200 million calculated for the city). Parks and recreational facilities along the Truckee River in Washoe County were either damaged or ruined, costing about \$3.2 million. The Reno-Tahoe International Airport also took a heavy blow from flooding. Runways and parts of the terminal building were submerged in water. Consequently, there was extensive damage to the east-west runway and the terminal building. Cost to repair the airport was calculated near \$32 million. Sparks, just east of Reno, was also devastated. The Sparks industrial park was flooded by the Truckee River. In some parts of the industrial area, standing water reached as high as six feet. Damage to homes and businesses in the city of Sparks was estimated near \$300 million. One death occurred in Sparks. A 53 year old man was believed to have been swept into the Truckee River. He apparently went to his place of business in order to retrieve some personal belongings. The road to his business was washed away, and it was surmised that he and his truck were swept into the Truckee River.

In addition to the homes and businesses damaged, roads in Washoe County were also affected by erosion and mudslides. Three mudslides closed Highway 431 (Mt. Rose Highway) between the Mt. Rose Ski area and the 8,911 foot summit for several days. Interstate 80 near the California border was smothered by a mudslide, closing the area to commuters for a period of time on January 2nd. A part of the westbound lane of Interstate 80 in Sparks was closed for several days when flood waters eroded the south wall of the nearby Helm's Gravel Pit. Heavy flooding on the south side of the interstate forced water to flow in the opposite direction and into the Helm's Gravel Pit, eroding the banks of the pit to a depth exceeding one hundred feet. This caused the nearby westbound lane to collapse. Cost to repair the interstate was near \$2.5 million. Finally, U.S. Highway 395 in Washoe Valley was covered by water for two days, closing the main link between Reno and Carson City. Total damage to the Federal Highway System in Washoe County alone was about \$5 million. Overall damage to the Federal Highway System in the state of Nevada was estimated over \$13 million.

The following shows selected crests along the Truckee, Carson, and Walker Rivers in western Nevada:

River/Location	Flood Stage	Maximum Crest (feet) and Date
Truckee River at Reno, NV	12.0 ft	Estimated at 14.94 ft (18,200 cfs) on 1/2/97. This was short of the record flow of 20,800 cfs set 12/23/55. This was estimated by the USGS to be less than a 50 year flood.
Truckee River at Sparks, NV	11.5 ft	Estimated over 17.5 ft (over 19,000 cfs). This was a new record stage/flow for this location.
Truckee River at Vista, NV	14.0 ft	24.04 ft (flow unknown) on 1/2/97 which was a new record stage/flow for this location.
Truckee River at Nixon, NV	10.0 ft	16.08 ft (22,000 cfs) on 1/3/97 which was a new record stage/flow for this location.
East Carson River near Gardnerville, NV	7.0 ft	Estimated at 12.8 ft (20,000 cfs) on 1/2/97 which was a new record stage/flow for this location. This was estimated by the USGS as a greater than 100 year flood.
Mainstem Carson River near Carson	10.0 ft	18.4 ft (27,500 cfs) on 1/3/97 which was a new

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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NEVADA, West

City, NV				record stage/flow. This was a 100 year flood by the USGS estimates.					
Mainstem Carson River near Fort Churchill, NV			10.0 ft	Estimated at 15.2 ft (25,000 cfs) on 1/3/97 which was a new record stage/flow. The USGS estimated this a greater than 100 year flood.					
West Walker River near Wellington, NV			8.0 ft	Estimated at 13.6 ft (5,800 cfs) on 1/3/97 which was a new record stage/flow. The USGS estimated this as a greater than 100 year flood.					
Mainstem Walker River at Yerington, NV			11.3 ft	14.47 ft (flow unknown) on 1/4/97 which was a new record stage/flow.					

CAZ073 MONO COUNTY CALIFORNIA

The floods of January 1997 did not spare Mono County. Heavy rains with high snow levels produced disastrous results. For example, the town of Mammoth Lakes reported about eight inches of rain in a 36 hour period (January 1st and 2nd). This same intensity was common across the eastern Sierra in Mono County, causing a rapid rise to rivers, creeks, and streams. In fact, the West Walker River became a powerful torrent of water which caused massive destruction. Damage from flooding was found in the towns of Mammoth Lakes, Coleville, Walker, and Topaz. 111 homes and 4 businesses were destroyed by the floods, totaling at least \$25 million in damage. Destruction to public facilities (including national monuments) was near \$5 million. Above all, extensive damage was done to the Federal Highway System. In fact, a 12 mile stretch of U.S. Highway 395 (roughly between Topaz and Sonora Junction at Highway 108) was completely destroyed by the West Walker River. The cost for repairs was estimated at \$20 million. Total damage to the Federal Highway System in the county was near \$48 million.

The following shows river information near Coleville, California for the West Walker River:

River/Location	Flood Stage	Maximum Stage and Crest
West Walker below Little Walker near Coleville, CA	5.5 ft	10.06 ft (11,700 cfs) on 1/2/97 was a record stage/flow. The USGS estimated this to be a greater than 100 year flood
West Walker near Coleville, CA	7.0 ft	9.12 ft was the highest stage recorded before the gage was washed away on 1/2/97. Crest was estimated over 12 feet. This was considered a greater than 100 year

flood

M53VE, M59VE

NVZ003 Greater Reno/Carson City/Minden Area

01	0144PST								
	0145PST			0	0				High Wind (G81)

A weather spotter in southwest Reno reported a wind gust of 81 kts.

NVZ003 Greater Reno/Carson City/Minden Area

01	0235PST								
	0240PST			0	0	3K			High Wind (G55)

A weather spotter in southwest Reno measured sustained winds of 50-60 kts. Damage was done to shingles in the area. A window was reported broken.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm	
NEVADA, West										
NVZ003			Greater Reno/Carson City/Minden Area							
	01	0259PST 0300PST			0	0	1K		High Wind (G70)	
	A weather spotter in southwest Reno reported a wind gust of about 70 kts. A fence was blown over. Also, several large trees were uprooted.									
NVZ003			Greater Reno/Carson City/Minden Area							
	01	0314PST 0315PST			0	0			High Wind (G70)	
	A weather spotter in Gardnerville recorded a wind gust of 70 kts.									
NVZ003			Greater Reno/Carson City/Minden Area							
	01	0359PST 0400PST			0	0			High Wind (G64)	
	A weather spotter in Gardnerville measured a wind gust of 64 kts.									
Washoe County 15 SW Reno										
	01	0840PST			0	0			Heavy Rain	
	02	2040PST								
	A weather spotter in Galena Forest measured 7.7 inches of rain in a 36 hour period.									
NVZ003			Greater Reno/Carson City/Minden Area							
	12	0830PST 1830PST			0	0			Heavy Snow	
	A weather spotter 6 miles north of Topaz Lake in Douglas County reported 5 inches of snow in about a 10 hour period.									
NVZ003			Greater Reno/Carson City/Minden Area							
	12	0830PST 1830PST			0	0			Heavy Snow	
	A weather spotter in Minden reported 5 inches of snow in about a 10 hour period.									
NVZ001			Mineral/Southern Lyon							
	12	1020PST 2020PST			0	0			Heavy Snow	
	6 inches of snow fell in the town of Wellington in approximately 10 hours.									
NVZ001			Mineral/Southern Lyon							
	12	1020PST 2020PST			0	0			Heavy Snow	
	6 inches of snow fell in the town of Hawthorne in about a 10 hour period.									
NVZ001>005			Mineral/Southern Lyon - Greater Lake Tahoe Area - Greater Reno/Carson City/Minden Area - Western Nevada Basin And Range - Northern Washoe							
	13	0000PST			0	0	50K		Extreme Cold	
	15	0000PST								
	An arctic airmass settled in over the eastern Sierra and western Nevada during a 48 hour period. High temperatures across western Nevada on Monday (1/13) peaked only in the teens. In fact, the Reno Airport recorded a high of 17 degrees for the date. This broke the low maximum for the date (previous record 24 degrees in 1917). Temperatures across the eastern Sierra and western Nevada dropped below zero overnight (1/14), causing pipes to freeze.									
NVZ003			Greater Reno/Carson City/Minden Area							
	21	2135PST 2140PST			0	0			High Wind (G50)	
	A wind sensor in Washoe Valley measured sustained winds of 50 kts with a wind gust of 63 kts.									
NVZ003			Greater Reno/Carson City/Minden Area							
	22	1400PST			0	0			Heavy Snow	
	23	0000PST								
	4-8 inches of heavy wet snow covered parts of extreme Western Nevada (including the Reno-Carson City-Minden Area). This snow fell in about a 10 hour period.									
NVZ003>004			Greater Reno/Carson City/Minden Area - Western Nevada Basin And Range							
	25	1200PST			0	0			Flood	
	26	2300PST								
	The East Carson River and the mainstem Truckee in western Nevada rose above flood stage for a short period of time. Urban and small stream flooding occurred in parts of western Nevada as well. For a better description, please see storm entry for floods in Nevada zones from 1/01/97 to 1/17/97.									
NVZ003			Greater Reno/Carson City/Minden Area							
	25	1959PST 2000PST			0	0			High Wind (G55)	
	The NWSFO in Reno measured a wind gust of 55 kts.									

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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NEVADA, West

NVZ003

Greater Reno/Carson City/Minden Area

25	2149PST 2150PST				0	0			High Wind (G53)
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A wind sensor in Washoe Valley reported a wind gust of 53 kts.

NEW HAMPSHIRE, North and Central

NHZ001>005

Northern Coos - Southern Coos - Northern Grafton - Northern Carroll - Southern Grafton

09	2200EST				0	0			Winter Storm
10	2200EST								

A low pressure center that developed off the coast of Maine and New Hampshire brought mixed precipitation to the state. Snowfall accumulations ranged from about an inch along the immediate coast to up to a foot in parts of Coos County.

Rockingham County

Countywide

10	1030EST 1330EST				0	0	50K		Storm Surge
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Low pressure moving northeastward from Georgia intensified off the coast of New England with storm force winds near the center and gale force winds extending to the Maine and New Hampshire coastlines. Astronomical high tides were occurring while the strong winds were hitting the coastline.

Coastal flood damage due to the storm surge was light to moderate, but widespread, effecting the entire Maine and New Hampshire coastlines from the Merrimack River in Massachusetts to Eastport, Maine. Plows were required to clear seawater on Route 1 near Rye Beach. Restaurants along Route 1 in Portsmouth had to be bailed out. In Ester, 4 to 6 feet of soil was eroded around area homes. Roads and parking lots were flooded in the Hamptons.

NHZ004>005

Northern Carroll - Southern Grafton

24	1900EST				0	0			Winter Storm
25	0700EST								

A low pressure center that tracked up the Mississippi Valley across the Great Lakes combined with a secondary low pressure center that developed off the New England coast to bring mixed precipitation to southern and central parts of the state with light snow to the north. Snowfall ranged from several inches in the north to more than 7 inches in parts of central New Hampshire. Coastal areas had about an inch of mixed precipitation.

NHZ001>009

Northern Coos - Southern Coos - Northern Grafton - Northern Carroll - Southern Grafton - Southern Carroll - Sullivan - Merrimack - Belknap

27	2200EST				0	0			Winter Storm
28	1100EST								

Strong southerly winds from low pressure moving eastward from the Great Lakes combined with a stationary front along the coast to bring a mixture of precipitation to the state. Along the coast, the snow changed to rain with only a couple inches of snow accumulation. Snowfall was generally 6 to 12 inches in central areas with more than a foot in the north, except in the Connecticut River Valley where lesser amounts fell.

NEW HAMPSHIRE, Southern

NHZ012

Hillsborough

10	1630EST 1700EST				0	0			Snow Squall
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A sudden snow squall, accompanied by thunder, hit the Merrimack Valley just as the sun was setting and deposited a quick one to two inches of snow. In the greater Nashua area, the late afternoon commute quickly became a grid-lock of stalled automobiles unable to move on icy streets. Nashua police reported more than 70 accidents. Traffic jams lasted for several hours.

NHZ011

Cheshire

28	0000EST 0800EST				0	0			Heavy Snow
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A total snowfall of 7.5 inches was reported from the town of Westmoreland and about 6 inches fell in Alstead before precipitation changed to sleet and freezing rain.

NEW JERSEY, Northeast

NONE REPORTED.

NEW JERSEY, South and Northwest

NJZ009>010-012>026

Hunterdon - Somerset - Middlesex - Western Monmouth - Eastern Monmouth - Mercer - Salem - Gloucester - Camden - Burlington - Western Ocean - Cumberland - Western Atlantic - Western Cape May - Eastern Cape May - Eastern Atlantic - Eastern Ocean

03	1000EST				0	0			Unseasonably Warm
05	2300EST								

A persistent west to southwest flow throughout the start of 1997 led to unseasonably warm weather from the 3rd through the 5th across Central and Southern New Jersey. The warmest days were the 3rd and the 5th. A weak backdoor cold front brought mostly cloudy skies and slightly cooler temperatures on the 4th. A record tying high of 56 degrees was set at the Marina within

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

NEW JERSEY, South and Northwest

City on the 3rd. Nearby record breaking high temperatures of 63 degrees were set at the Lehigh Valley International Airport on the 3rd and 66 degrees at the Philadelphia International Airport on the 5th. Other high temperatures through this period included 64 degrees in New Brunswick (on the 3rd), 63 degrees in Wertsville (on the 3rd) and Mount Holly (on both the 3rd and 5th), 62 degrees in Cherry Hill (on the 5th), 61 degrees at the Atlantic City International Airport in Pomona (on the 3rd) and 60 degrees in Millville (on the 5th).

NJZ007>010

Warren - Morris - Hunterdon - Somerset

09	1000EST 2200EST	0	0					Winter Storm
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A double barrel low pressure system brought a mixture of snow, sleet and freezing rain across the region. This caused numerous accidents. Snow overspread the region during the late morning on the 9th and started mixing with and changing over to sleet and freezing rain by the early evening commute home. Snowfall accumulations averaged between 1 and 2 inches. This was topped by a layer of sleet and freezing rain which made travel extremely hazardous on untreated roadways. Over thirty separate accidents were reported by the New Jersey State Police in Warren and Hunterdon Counties. Farther east numerous crashes snarled traffic for hours along Interstate 287 in Morris and Somerset Counties.

The two low pressure systems responsible for the wintry mix moved from the Ohio Valley and Georgia the morning of the 9th to Lake Huron (the former) and Boston (the latter) the morning of the 10th. Since these lows kept their separate identities and did not merge into one, precipitation amounts were not as heavy as they could have been. All of the significant precipitation was over by the late evening of the 9th.

NJZ001

Sussex

09	1100EST 2200EST	0	0					Snow
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Double barrel low pressure systems spread snow across Sussex County from the late morning through the evening on the 9th. Precipitation ended as a brief period of sleet and freezing rain. Accumulations averaged between two and three inches. The lows went from the central Ohio Valley and Georgia the morning of the 9th to Lake Huron (the former) and Boston (the latter) the morning of the 10th. Keeping separate identities prevented these lows from dropping heavier snow across the area.

NJZ010-012>013-015>023

Somerset - Middlesex - Western Monmouth - Mercer - Salem - Gloucester - Camden - Burlington - Western Ocean - Cumberland - Western Atlantic - Western Cape May

09	1100EST 2100EST	0	0					Wintry Mix
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Double barrel low pressure systems spread a mixture of snow, sleet and freezing rain across Central and Southern New Jersey from the late morning through the evening on the 9th. Precipitation started as snow by noon on the 9th and changed from snow to sleet and freezing rain during the late afternoon. Strong east winds from the relatively warm Atlantic Ocean raised temperatures above the freezing mark and changed precipitation to plain rain during the early evening. The significant precipitation ended by the late evening of the 9th. Accumulations were light, mainly an inch or less. For most, this was the first measurable snowfall of the season. Although the wintry mix of precipitation did cause slippery roads, no serious accidents or traffic tie-ups were reported. The lows went from the central Ohio Valley and Georgia the morning of the 9th to Lake Huron (the former) and Boston (the latter) the morning of the 10th. Keeping separate identities prevented these lows from dropping heavier precipitation across the area.

NJZ009>010-012>022-026

Hunterdon - Somerset - Middlesex - Western Monmouth - Eastern Monmouth - Mercer - Salem - Gloucester - Camden - Burlington - Western Ocean - Cumberland - Western Atlantic - Eastern Ocean

11	0200EST 1000EST	0	0					Snow
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A weak low pressure system developed over Virginia the night of the 10th along a secondary cold front. As the low moved northeast and reached Block Island Rhode Island during the morning of the 11th, a swath of light snow accompanied it during the pre-dawn and morning hours. Accumulations averaged between two and four inches, except around one inch fell in Western Atlantic and Hunterdon Counties. The highest accumulations (all near 4 inches) fell in a band across Eastern Burlington, Northwest Ocean and Southern Monmouth Counties. Since the snow fell into the Saturday morning, several accidents were reported especially across Central New Jersey. The most serious occurred along The Garden State Parkway in Woodbridge where a two car collision caused a serious injury.

NJZ001-007

Sussex - Warren

16	0300EST 1000EST	0	0					Winter Storm
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A large high pressure system brought a cold and dry air mass into Northwest New Jersey. As the high drifted off the Middle Atlantic Coast, a slow moving cold front tapped the moisture in the Gulf of Mexico and dropped heavy precipitation across the area. Precipitation started briefly as snow across the area during the early morning of the 16th, but then changed over to a prolonged period of sleet and freezing rain that lasted through the morning commute. Snow accumulations averaged an inch or less. Ice accretions averaged between one-quarter to one-half of an inch across most of the area and made travelling extremely hazardous on untreated roadways and surfaces. As precipitation was ending the morning of the 16th, temperatures rose above the freezing mark and helped melt the ice and snow.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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NEW JERSEY, South and Northwest

NJZ008>010-015 Morris - Hunterdon - Somerset - Mercer

	16	0300EST			0	0			Freezing Rain
	16	0700EST							

A large high pressure system brought a cold and dry air mass into New Jersey. As the high drifted off the Middle Atlantic Coast, a slow moving cold front tapped the moisture in the Gulf of Mexico and dropped heavy precipitation across the area. Since the air mass was so dry and cold to start, temperatures dropped below the freezing mark as the rain began during the early morning of the 16th. But winds were blowing strongly from the southeast and warmer air took temperatures above the freezing mark in all areas by the end of the morning commute. There were some locally slippery spots during the predawn hours in Hunterdon, Mercer, Morris and Somerset Counties. The rain ended by noon on the 16th.

NJZ001-007>010-012>026 Sussex - Warren - Morris - Hunterdon - Somerset - Middlesex - Western Monmouth - Eastern Monmouth - Mercer - Salem - Gloucester - Camden - Burlington - Western Ocean - Cumberland - Western Atlantic - Western Cape May - Eastern Cape May - Eastern Atlantic - Eastern Ocean

	17	0100EST			0	0			Extreme Cold
	20	0900EST							

The coldest air mass of the winter season moved into New Jersey on Friday the 17th. The high pressure system came straight from the arctic tundra and moved southeast reaching the Middle and South Atlantic States on the 19th and 20th. Strong gusty northwest winds brought wind chill factors well below zero on the 17th and 18th.

The coldest morning was the 19th. For most places this was the coldest day of the winter season. Low temperatures that morning included -4F in Wantage (Sussex County), -2F in Long Valley (Morris County), -1F in Estell Manor (Atlantic County), 1F in Wertsville (Hunterdon County) 2F at the Atlantic City International Airport, 3F in Mount Laurel (Burlington County) and Millville (Cumberland County), 5F in Mount Holly (Burlington County) and 8F at Pennsauken (Camden County) and the Marina in Atlantic City. No new record lows were set.

NJZ015>022 Mercer - Salem - Gloucester - Camden - Burlington - Western Ocean - Cumberland - Western Atlantic

	22	0500EST			0	0			Black Ice
		0800EST							

A moist south to southeast flow from Delaware Bay passing over road surfaces that were very cold from the recent deep freeze helped black ice to form on roadways, bridges and overpasses the morning of the 22nd. This thin layer of ice is virtually impossible to detect and helped contribute to three traffic fatalities and over 100 injuries in the Greater Philadelphia Metropolitan Area. More than 80 of the injuries occurred within Southern New Jersey as medivac helicopters were used in Burlington, Camden, Gloucester, Ocean and Salem Counties. In Southern New Jersey one fatality occurred, a 23-year-old man was killed in a collision in Winslow Township (Camden County).

NJZ001-007>008 Sussex - Warren - Morris

	24	1700EST			0	0			Wintry Mix
	25	0400EST							

A high pressure system moved across nearby Canada on the 23rd and 24th. It pushed down a wedge of cold air into Northern New Jersey. Meanwhile, a low pressure system developed over the lower Tennessee Valley the morning of the 24th and moved northeast passing through the eastern Great Lakes by the morning of the 25th. This placed New Jersey "on the warm side" of the low pressure system and southeast winds eventually brought warmer air at both the surface and aloft into the region. Precipitation started as snow during the evening commute on the 24th, but quickly changed over to freezing rain during the evening hours. A change to plain rain laboriously took place overnight starting in Southeast Morris County first and taking until the early morning of the 25th to scour the last vestiges of cold air in the deeper valleys of northwest Sussex County. Snowfall accumulations were generally less than an inch. Untreated roadways, bridges and overpasses were slippery before the change to plain rain.

Burlington County

	24	1900EST			0	0			Heavy Rain
	25	0500EST							

Camden County

	24	1900EST			0	0			Heavy Rain
	25	0500EST							

Hunterdon County

	24	1900EST			0	0			Heavy Rain
	25	0500EST							

Mercer County

	24	1900EST			0	0			Heavy Rain
	25	0500EST							

Middlesex County

	24	1900EST			0	0			Heavy Rain
	25	0500EST							

NJZ010

Somerset

	25	1115EST			0	0			Flood
		1700EST							

A low pressure system developed over the lower Tennessee Valley the morning of the 24th and moved northeast passing through

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

NEW JERSEY, South and Northwest

the eastern Great Lakes by the morning of the 25th. It tapped moisture over the Gulf of Mexico and Western Atlantic and produced heavy rain across Central New Jersey. The heaviest rain fell from the evening of the 24th through the pre-dawn hours on the 25th. Storm totals averaged one inch to one and a half inches with the heaviest rain falling in Hunterdon County. The ground was still saturated from the heavy rains of the previous month and this led to river flooding in Somerset County as well as the usual urban and poor drainage flooding in low-lying areas in other counties.

The Raritan River at Manville exceeded its 12 foot flood stage from 1115 a.m. EST through 5 p.m. EST on the 25th. It crested at 12.7 feet at 2 p.m. EST. Storm totals included 1.63 inches in Flemington (Hunterdon County), 1.58 inches in Lebanon Township (Hunterdon County), 1.39 inches in New Brunswick (Middlesex County), 1.32 inches in South Plainfield (Middlesex County), 1.28 inches in Hightstown (Mercer County), 1.2 inches in Blackwells Mills (Somerset County), 1.19 inches at McGuire AFB and 1.13 inches in Cherry Hill (Camden County).

NJZ001-007>008

Sussex - Warren - Morris

27	1900EST			0	0			
28	0400EST							Snow

A low pressure system developed to the lee of the Rocky Mountains on the 26th. It moved east to the lower Tennessee Valley the morning of the 27th and then northeast and reached the central Saint Lawrence Valley the morning of the 28th. This once again placed New Jersey on the relative warm side of the storm. The atmosphere was cold enough at the start though for precipitation to start as snow during the latter stages of the evening commute on the 27th. Warmer air moved in from the southeast and precipitation changed over to rain by a little after midnight on the 28th in Morris County and before dawn on the 28th in Warren and Sussex Counties. Accumulations averaged from 2 inches in Western Morris County and Eastern Warren County to nearly 4 inches in Northwest Sussex County. Wantage reported 3.5 inches and Long Valley reported 2 inches of new snow. Precipitation also started as snow farther south in New Jersey. But accumulating snows (around an inch) at the start were confined to locations north of Interstate 195.

NEW MEXICO, Central and North

NMZ004

Sangre De Cristo Mountains

03	1000MST			0	0	3K		High Wind
	1100MST							

The Angel Fire Police reported that five parked vehicles were damaged when the wind blew them across an icy parking lot.

NMZ017

Capitan/Northern Sacramento Mountains

03	1200MST			0	0			High Wind (G50)
	1500MST							

Sustained wind reached 40 to 44 mph with gusts to 58 mph for several hours at the Sierra Blanca airport.

NMZ002>006-008-010>014-016>018-020>021

Northwest Mountains Including Jemez - Upper Rio Grande Valley - Sangre De Cristo Mountains - Northeast Highlands - Harding - Westcentral Mountains - Sandia/Manzano Mountains - Central High Plains/Estancia Valley County - Conchas Lake/Guadalupe - Quay - Southwest Mountains/Upper Gila Region - Lincoln County High Plains/Hondo Valley - Capitan/Northern Sacramento Mountains - De Baca - Roosevelt - Curry

05	0600MST			2	0			Winter Storm
06	1800MST							

A winter storm produced widespread heavy snow and icy roads across much of New Mexico. Icy roads were the direct cause of numerous auto mishaps as many drivers failed to reduce speed in the early hours of the storm as road conditions deteriorated very quickly. At least two fatal accidents were directly related to the weather, with weather an indirect cause of a third fatal crash. A car spun while in snow south of Carrizozo and collided with a school bus killing a 27 year old passenger. A passenger was also killed near Tucumcari when a van slid off the road in a snow storm and overturned several times. A 30 year old woman and her 3 year old son were also killed when their automobile crashed into the rear a semi-truck stopped at the end of traffic tie-up about 15 miles west of Grants. The interstate had been closed 3 miles ahead to clear other accidents. Roads were snow packed and icy. Weather and visibility at the site were unknown. Snow totals in many areas averaged 7 inches with amounts of 10 to 19 inches reported on the Highlands between Edgewood and Santa Rosa and south to Carrizozo. Amounts of 14 inches were also recorded near Zuni and Pietown in west central sections of the state. Many rural roads remained snow clogged for several days and large sections of the interstate highways leading to Albuquerque in all directions were closed overnight until late on the 6th. M57VE, M27VE

NMZ008

Westcentral Mountains

11	0000MST			1	0			Hypothermia/Exposure
	0830MST							

A man from Gamerco died from exposure in west Gallup. Overnight weather was clear and cold with a low of 16 degrees. M33OU

NMZ002>007-009>013-017>018-021

Northwest Mountains Including Jemez - Upper Rio Grande Valley - Sangre De Cristo Mountains - Northeast Highlands - Harding - Far Northeast Plains - Middle Rio Grande Valley - Sandia/Manzano Mountains - Central High Plains/Estancia Valley County - Conchas Lake/Guadalupe - Quay - Capitan/Northern Sacramento Mountains - De Baca - Curry

11	0600MST			1	0			Winter Storm
14	0600MST							

The second winter storm in less than a week dumped another 20 to 45 inches of fresh snow across northern New Mexico in a period of 48 to 72 hours. Storm totals included 29 inches at Chama, 30 inches at Brazos Lodge, and nearly 4 feet of new snow at

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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NEW MEXICO, Central and North

the ski resorts in Taos county. One man died of exposure near Embudo on the 12th after running off the road in his vehicle and trying to walk for help. His snow covered body was found two days later within several hundred yards of the automobile. Snow came too often and heavy to avoid more widespread shutdown of rural roads and the interstate highways crossing New Mexico. Interstate 40 east and west of Albuquerque was closed one period for 17 consecutive hours. Strong winds of 35 to 45 mph accompanied this storm producing blizzard-like white out across the open Highlands east of Albuquerque. Some roads across southern Santa Fe and northern Torrance counties had not yet fully reopened from the previous storm and highway crews were caught in a futile effort to keep state highways and county roads open. Some roads north of Edgewood were blocked by 20 foot snow drifts and rural residents were locked into homes by road closures through the 18th. No significant injuries or fatalities were reported during the storm. County and state highway snow removal funds and resources were near depletion after this latest storm as overtime and other costs escalated. M35OU

NMZ008

Westcentral Mountains

19	0500MST			1	0			Hypothermia/Exposure
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Exposure was listed as the cause of death for a man found near Tsayatoh. Overnight temperatures were in the single digits over a 3 to 5 inch snow cover. M33OU

NMZ001>002-004-008-010 Northwest Plateau - Northwest Mountains Including Jemez - Sangre De Cristo Mountains - Westcentral Mountains - Sandia/Manzano Mountains

25	1800MST			0	0			Heavy Snow
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27 0900MST

Heavy snow of 6 to 10 inches was reported from Farmington east across Rio Arriba county and southeast into open mesas of northern McKinley county. Isolated heavier amounts included 17 inches at Tres Piedras, 10 inches at Wolf Canyon east of Cuba and 7 inches at Zuni Pueblo.

NMZ001-008

Northwest Plateau - Westcentral Mountains

27	0000MST			2	0			Hypothermia/Exposure
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0700MST

One man was found in Gallup covered in frost and lying in a sleeping position. Another man, found near Shiprock, died of hypothermia or exposure. Overnight low temperature from both Gallup and Farmington was near 32 degrees. Intermittent light snow was reported the previous evening, but produced no snow cover. M52OU, M30OU

NEW MEXICO, South Central and Southwest

NMZ022>025-030>032 Southwest Mountains/Lower Gila Region - Sierra County Lakes Region - Tularosa Basin/Southern Desert - Southern Sacramento Mountains - Southwest Desert/Boothill - Southwest Desert Mimbres Basin - Southern Desert

06	0800MST			0	0			Winter Storm
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07 2000MST

A major winter storm brought snow to most of New Mexico with 3 to 6 inches of snow common at valley locations in the local area and significantly heavier amounts in the mountains. 1280 motorists were stranded in Truth or Consequences as Interstate 25 was closed for most of the distance between Las Cruces and a point about 30 miles north of Socorro. Interstate 10 was also closed between El Paso, Texas and the Arizona border. Several other state or U.S. highways were either closed due to the storm or partially blocked due to traffic accidents. As a result of these road closures, an estimated 400 people were forced stay overnight in the Pan American Center on the Campus of New Mexico State University after a concert.

NEW MEXICO, Southeast

NMZ027>029 Guadalupe Mountains Of Eddy County - Eddy County Plains - Lea

06	0600MST			0	0			Heavy Snow
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08 1500MST

An upper level storm system that parked itself over Baja California sent waves of energy that helped to produce heavy periods of snow over a three day period. Several places in Eddy County received heavy snow (see below) with Hobbs leading the way in Lea County with 5". Numerous traffic accidents were reported during the three days. Heavy snows also extended into adjacent counties in New Mexico and West Texas.

Heaviest snows included :

Hope	12"
Artesia	7"
Carlsbad	5"
Hobbs	5"

NEW YORK, Central

NYZ009-018-036>037-046 Northern Onedia - Onondaga - Madison - Southern Oneida - Otsego

06	2100EST			0	0			Heavy Snow
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08 0400EST

A strong cold front crossed the region on the morning of the 6th. An arctic air mass in the wake of this front brought locally

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

NEW YORK, Central

heavy lake effect snow to portions of central New York from late at night on the 6th into the very early morning hours of the 8th. An intense single band first developed off Lake Ontario on the evening of the 6th and dropped into northern Oneida county before midnight. For the next 24 hours or so, the band edged very slowly southward. This eventually brought heavy squalls to much of Oneida county and northern sections of Onondaga, Madison, and Otsego counties. Some specific amounts for this event are as follows:

- Camden (northern Oneida) - 12 inches
- Cazenovia (Madison) - 12 inches
- Forestport and Boonville (northern Oneida) - 9-10 inches
- Cooperstown (Otsego) - 8 inches

The snow band weakened and ultimately dissipated early in the morning of the 8th as a ridge of high pressure moved in.

NYZ009-037

Northern Oneida - Southern Oneida

12	0300EST							
14	0900EST	0	0					Heavy Snow

A strong push of cold air from central Canada invaded central New York on the evening of the 11th. By the early morning hours of the 12th, this cold air was interacting with the relatively warm waters of Lake Ontario to produce heavy lake effect snow.

A narrow but intense single band formed just after midnight on the 12th and moved into northern Oneida county prior to daybreak.

For approximately the next 48 hours, this band fluctuated through central and northern portions of Oneida county. Very heavy amounts were observed in these areas. Boonville received just under 30 inches of snow, while Point Rock tallied around 21 inches. Many other localities picked up between 14 and 18 inches of snow.

The band finally weakened by mid morning on the 14th.

NYZ009-018-037

Northern Oneida - Onondaga - Southern Oneida

16	2200EST							
17	1700EST	0	0					Heavy Snow

A surge of cold air across Lake Ontario produced yet another round of heavy lake effect snow for sections of central New York.

A well organized single band marched into northern portions of Onondaga and Oneida counties late on the evening of the 16th and basically remained about stationary until later in the afternoon of the 17th. Heavy squalls occasionally migrated into central Oneida county during this time frame. Northern Onondaga county took the brunt of the heavy accumulations, with Baldwinsville receiving

about 14 inches of snow. Generally, 6 to 10 inches fell in northern and central portions of Oneida county.

The band quickly dissipated late in the day on the 17th.

NYZ009-015>018-022>025-036>037-044>046-055>057-062

Northern Oneida - Yates - Seneca - Southern Cayuga - Onondaga - Steuben - Schuyler - Chemung - Tompkins - Madison - Southern Oneida - Cortland - Chenango - Otsego - Tioga - Broome - Delaware - Sullivan

17	0400EST							
18	1200EST	0	0					Extreme Windchill

A bitterly cold arctic air mass invaded central New York and northeast Pennsylvania during the evening hours of the 16th and remained over the area through the 18th.

Air temperatures dropped to near zero degrees over much of the region by early morning of the 17th. During the day, readings only managed to reach the single digits and lower teens. That night, temperatures from 5 to 15 below zero were observed in many areas. In some of the remote colder valleys in Oneida county, 25 to 30 below zero temperatures were seen.

Perhaps the biggest problem, though, was the strong winds accompanying this cold snap. Wind chills of 35 to 55 below zero were common over central New York and the northern tier of Pennsylvania on the morning of the 17th. This prompted many school districts to cancel classes that day.

NYZ009-037-046-057

Northern Oneida - Southern Oneida - Otsego - Delaware

27	2100EST							
28	0800EST	0	0					Heavy Snow

A strong low pressure system brought a mixed bag of wintery precipitation to central New York from the evening of the 27th into the morning hours of the 28th. Although the storm center tracked to our north and west through the Great Lakes region, a period of heavy snow did develop from the higher terrain of the Catskills through Otsego and Oneida counties. Generally, accumulations ranged from 6 to 10 inches in these areas during the overnight and early morning hours on the 28th. Stamford in Delaware county picked up about 10 inches of new snow while Boonville in northern Oneida county received 9 inches.

Snow mixed with sleet, freezing rain, and rain by mid morning on the 28th and eventually tapered off by midday.

NEW YORK, Coastal

Rockland County

Countywide	09 1400EST							
	2200EST	0	3					Mixed Precip

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
<u>NEW YORK, Coastal</u>									
Nassau County									
Countywide	09	1600EST 2300EST			1	0			Mixed Precip
		M10VE							
Suffolk County									
Countywide	09	1600EST 2300EST			0	1			Mixed Precip
Nassau County									
Coast	10	0900EST 1100EST			0	0			Coastal Flood
Queens County									
Coast	10	0900EST 1100EST			0	0			Coastal Flood
Suffolk County									
Coast	10	0900EST 1100EST			0	0			Coastal Flood
<p>A low pressure system intensified as it moved north along the coast.</p> <p>High astronomical tides combined with brief easterly gales that developed in advance of the approaching low and caused water to pile-up along sections of the coast during Friday morning's high tide.</p> <p>Tidal flooding submerged cars under 2 feet of water along Rockaway Blvd. in Brookville. Moderate tidal flooding was also reported at Howard Beach in Queens.</p> <p>In Nassau County, moderate tidal flooding occurred in Freeport.</p> <p>In Suffolk County, moderate flooding caused some road closures in Southampton.</p>									
Nassau County									
East Meadow	16	1545EST			1	0			Wind
<p>A strong gust of wind blew a teenage boy off the side of the roof of United Artists Plaza in East Meadow around 3:45 pm. M19LS</p>									
NYZ077									
Nassau									
	19	2035EST			1	0			Extreme Cold
<p>A man was found dead in a 100 foot long tunnel under Arterial Highway in Glen Cove of Nassau County. It was determined that he died from exposure to cold temperatures. M40OU</p>									
Suffolk County									
Countywide	22	0500EST 0800EST			1	24			Black Ice
<p>Black ice formed and was widespread across Suffolk County roads. Numerous traffic accidents resulted in "dozens" of injuries, where people were treated at local area hospitals. M63VE</p>									
<u>NEW YORK, East</u>									
NYZ032									
Northern Herkimer									
	06	1800EST			0	0			Heavy Snow
	07	1000EST							
<p>On January 6 and 7, a westerly flow of arctic air moving across the relatively warm waters of Lake Ontario produced heavy lake effect snow over northern Herkimer County. Snowfall totals included 7 inches at Stillwater Reservoir and 8 inches at Old Forge. Locally over a foot of snow was reported in the most persistent bands.</p>									
NYZ032>033									
Northern Herkimer - Hamilton									
	09	1800EST			0	0			Heavy Snow
	10	1000EST							
<p>On January 9 and 10, a low pressure system tracked from the Tennessee Valley north across the Great Lakes. The storm dumped heavy snow across parts of the southern Adirondacks. Snowfall reached 7 inches at Stillwater Reservoir in northern Herkimer County and 7 inches at Piseco in Hamilton County. Most locations in eastern New York, received 2 to 5 inches of snow.</p>									
NYZ065									
Western Dutchess									
	09	2000EST 2200EST			0	0	8K		High Wind
<p>During the evening of January 9, damaging winds associated with an intensifying low pressure system downed several trees at</p>									

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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NEW YORK, East

Beacon in southern Dutchess County. The high winds were the result of a gravity wave which moved across eastern New York that evening.

NYZ032-038

Northern Herkimer - Southern Herkimer

16	2000EST				0	0			Heavy Snow
17	0800EST								

During January 16 and 17, arctic air moving across the open waters of Lake Ontario produced heavy lake effect snow in Herkimer County. Snowfall totals ranged from 5 to 10 inches in many locations with accumulations over one foot in the most persistent lake snows. Strong winds also caused blowing and drifting snow with whiteout conditions. The Thruway was closed during part of the storm in southern Herkimer County.

NYZ032-038

Northern Herkimer - Southern Herkimer

21	2200EST				0	0	35K		Freezing Rain
22	0900EST								

Light sleet and freezing rain caused treacherous driving conditions in Herkimer County on the morning of January 22. Many schools were closed throughout the county and numerous cars slid off the roadways. State Route 28 in northern Herkimer County was closed from McKeever to Old Forge until late morning.

NYZ032>033-042

Northern Herkimer - Hamilton - Warren

24	1700EST				0	0	15K		Winter Storm
25	0500EST								

On January 24 and 25, low pressure moved from northern Indiana northeast to the Saint Lawrence Valley. The winter storm produced heavy snow over the southern Adirondacks, which occasionally mixed with sleet and freezing rain. Snowfall totals in Warren, Hamilton and northern Herkimer Counties ranged from 5 to 7 inches. Toward the end of the storm, the precipitation changed to a mix of freezing rain and sleet which caused icing on top of the snow pack.

NYZ032>033-038>043-048>054-061-063

Northern Herkimer - Hamilton - Southern Herkimer - Fulton - Montgomery - Northern Saratoga - Warren - Washington - Western Schenectady - Eastern Schenectady - Southern Saratoga - Western Albany - Eastern Albany - Western Rensselaer - Eastern Rensselaer - Eastern Columbia - Western Ulster

27	1900EST				0	0			Winter Storm
28	1200EST								

On January 27 and 28, a winter storm tracked from northern Indiana northeast to the Saint Lawrence Valley. Heavy snow fell across much of eastern New York. The precipitation changed to sleet and freezing rain during the morning of January 28, then briefly to light rain south of the Adirondacks before ending. Some specific snowfall totals included: 7 inches at Albany, 11 inches at Gloversville in Fulton County, 9 inches at Piseco in Hamilton County, 8 inches at Tribes Hill in Montgomery County, 9 inches at Ballston Spa in Saratoga County, 7 inches at Phoenecia in Ulster County and 10 inches at Warrensburg in Warren County.

NEW YORK, North

NYZ026>031-034>035

Northern St. Lawrence - Northern Franklin - Northeast Clinton - Southern St. Lawrence - Southern Franklin - Southwest Clinton - Western Essex - Eastern Essex

09	2200EST				0	0	60K		Light Snow
10	1200EST								

A storm system off the North Carolina coast Thursday afternoon (1/9/97) moved north across Long Island NY Friday (1/10/97) and into Maine Friday night. Generally 3 to 6 inches of snow fell across Northern New York.

NYZ026>031-034>035

Northern St. Lawrence - Northern Franklin - Northeast Clinton - Southern St. Lawrence - Southern Franklin - Southwest Clinton - Western Essex - Eastern Essex

10	2200EST				0	0	50K		Lake Effect Snow
11	1800EST								

Cold air blowing across Lake Ontario resulted in Lake Effect Snow across portions of the following New York counties: St. Lawrence, Franklin, Essex and Clinton. The heaviest snow...with accumulations of 12 to 18 inches...fell across extreme southern St Lawrence County, extreme Southern Franklin County and extreme western Essex County. Elsewhere, accumulations were 4 to 8 inches.

The heaviest reported snowfalls reported were:

Oswegatchie (St Lawrence County).....12 inches
 Lake Placid (Essex County).....8 inches

NYZ026>031-034>035

Northern St. Lawrence - Northern Franklin - Northeast Clinton - Southern St. Lawrence - Southern Franklin - Southwest Clinton - Western Essex - Eastern Essex

17	0000EST				0	0			Extreme Windchill
	2359EST								

An outbreak of arctic air resulted in extreme windchills across much of Northern New York. The windchills frequently ranged between 30 and 60 below zero.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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NEW YORK, North

NYZ029>030-034 Southern St. Lawrence - Southern Franklin - Western Essex

17	1700EST	2359EST			0	0			Lake Effect Snow
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A flow of arctic air across Lake Ontario resulted in localized Lake Effect Snow across southern St Lawrence County, Southern Franklin County and Western Essex County in New York. Generally 4 to 8 inches of snow fell in these areas.

NYZ026>031-034>035 Northern St. Lawrence - Northern Franklin - Northeast Clinton - Southern St. Lawrence - Southern Franklin - Southwest Clinton - Western Essex - Eastern Essex

19	0000EST	1000EST			0	0			Extreme Cold
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An arctic airmass centered over the Northeast resulted in bitterly cold early morning low temperatures on Sunday January 19, 1997. A few of the colder readings were:

Newcomb (Essex County).....minus 34
 Gouverneur (St Lawrence County).....minus 28
 Raybrook (Essex County).....minus 27

NYZ026>031-034>035 Northern St. Lawrence - Northern Franklin - Northeast Clinton - Southern St. Lawrence - Southern Franklin - Southwest Clinton - Western Essex - Eastern Essex

22	0300EST	1200EST			0	0	60K		Mixed Precipitation
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Cold air remained entrenched at the surface as a warm front moved north across the area into Canada. A mixture of light snow, sleet and freezing rain resulted in slippery roads and numerous traffic accidents. In Jay, New York (Essex County) a 5 car pile up resulted in traffic backups on Route 9N.

NYZ029>031-034 Southern St. Lawrence - Southern Franklin - Southwest Clinton - Western Essex

24	1800EST				0	0	30K		Winter Storm
25	0600EST								

An area of low pressure moved through the Eastern Great Lakes Friday night (1/24/97) and then into Canada on Saturday (1/25/97).
 Snowfall across the region ranged from 3 to 7 inches.

A few of the heaviest snowfall reports were:

Newcomb (Essex County).....6 inches
 Gouverneur (St Lawrence County)...5 inches

NYZ029>030-034 Southern St. Lawrence - Southern Franklin - Western Essex

27	1800EST				0	0	30K		Winter Storm
28	1000EST								

A low pressure system moved east from the Great Lakes region Monday (1/27/97) and up the St Lawrence Valley Monday night and then into Canada Tuesday morning (1/28/97).

Across much of Northern New York...between 3 and 7 inches of snow.
 The heaviest snowfall reports were as follows:

Newcomb (Essex County).....6 inches
 Canton (St Lawrence).....4.5 inches

NEW YORK, West

NYZ010-012-019>020 Erie - Wyoming - Chautauqua - Cattaraugus

06	0300EST				0	0	28K		Heavy Snow
07	2200EST								

Cold air crossing the warmer waters of Lake Erie produced multiple bands of lake effect snow which persisted for nearly 36 hours. Numerous accidents were blamed on the snow and whiteouts. Specific reports included: 17" in Sinclairville, 15" in New Albion, 12" in Arcade and 11" in Springville

NYZ005>008 Northern Cayuga - Oswego - Jefferson - Lewis

06	0300EST				0	0	35K		Heavy Snow
08	0900EST								

Cold air crossing the warmer waters of Lake Ontario produced a single, intense band of lake effect snow which remained nearly stationary for almost two days. The snow totalled more than 24" in a few spots. Numerous accidents were blamed on the snow and whiteouts. Specific reports included: Lowville 30"; Redfield 25"; Montague 24"; Adams 12"; and Fair Haven 7".

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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NEW YORK, West

**NYZ001>002-010>012- Niagara - Orleans - Erie - Genesee - Wyoming - Chautauqua - Cattaraugus
019>020**

10	1000EST				0	0	58K		Heavy Snow
12	2200EST								

Lake effect snowbands set up Friday morning over the Niagara peninsula and Niagara county before shifting south to the Buffalo metro area during the afternoon. Although the band at times drifted north and south, the Buffalo metro area bore the brunt of the storm receiving near record snowfall. Some Buffalo suburbs received 24-30" of snow. During Saturday morning, over a foot of snow fell in just four hours over Amherst and Tonawanda. Numerous accidents were blamed on the storm, several of which were fatal. Specific snow totals included: Hamburg and Orchard Park 24-30"; Tonawanda 20"; Boston, Grand Island and Varysburg 18"; Buffalo and Niagara Falls 12-18"; Silver Creek, Batavia and Perryburg 10".

NYZ006>008

Oswego - Jefferson - Lewis

10	2000EST				0	0	47K		Heavy Snow
14	1900EST								

An intense band of lake effect snow brought unprecedented amount of snow to the eastern Lake Ontario region. Snowfall rates of three to six inches per hour were received. Snow totals for the four day event ranged from five to seven feet! Isolated areas exceeded 84". Specific snow totals for the storm included: Montague 95"; North Osceola 75"; Redfield 67"; Highmarket 50", and Mannsville 28".

NYZ010>012-019>020 Erie - Genesee - Wyoming - Chautauqua - Cattaraugus

16	0700EST				0	0	31K		Heavy Snow
18	0500EST								

Lake effect snows dropped between six and twelve inches of snow in intense bands off Lake Erie. The snows combined with strong winds to produce hazardous conditions. The New York State Thruway was closed between Henrietta and Depew for a good portion of the 17th. Numerous auto accidents, several fatal, were blamed on the snow and frequent whiteouts. Specific amounts included: Orchard Park and Dunkirk 12"; Silver Creek 11"; Perryburg 8"; and Arcade and Batavia 6".

NYZ006>008

Oswego - Jefferson - Lewis

16	1900EST				0	0	21K		Heavy Snow
19	0600EST								

Lake effect snows dropped up to two feet of snow downwind of Lake Ontario. Highest amounts were along the immediate Oswego county shore. Specific reports included: Oswego 24"; Adams and Montague 18"; Fulton 17"; and Watertown 10".

Erie County

**Evans to
Buffalo**

23	1030EST				0	0	3K		Flash Flood
	1145EST								

Warm temperatures resulted in enough melting and runoff to cause ice jams on Muddy Creek in the Town of Evans and along Cazenovia Creek near Cazenovia Park in Buffalo. Several dozen homes were evacuated.

Erie County

**Evans to
Buffalo**

23	1145EST				0	0	7K		Flash Flood
	1700EST								

Flooding continued along Muddy and Cazenovia Creeks.

Erie County

**Evans to
Buffalo**

23	1700EST				0	0	10K		Flash Flood
	2300EST								

Flooding continued along Cazenovia Creek.

Erie County

**Evans to
Buffalo**

23	2300EST				0	0	3K		Flash Flood
24	0400EST								

Flooding continued along Cazenovia Creek.

NYZ006>008

Oswego - Jefferson - Lewis

24	2300EST				0	0	15K		Heavy Snow
25	0600EST								

Low pressure brought snow to the region during the overnight hours. Over the higher elevations east of Lake Ontario, the colder temperatures resulted in heavy snow amounts. Several auto accidents were blamed on the snow and slippery conditions. Specific reports included: Highmarket 11"; Carthage 8"; and Redfield 7".

NYZ006

Oswego

27	2000EST				0	0	5K		Heavy Snow
28	0815EST								

Low pressure tracking northeast from the midwest U.S. brought snow to the western half of New York. The snow was enhanced by moisture from Lake Ontario resulting in higher amounts downwind of the lake. In Redfield, seven inches of snow was measured.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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NORTH CAROLINA, Central

NCZ021>022-038 Forsyth - Guilford - Davidson

08	1300EST				0	0			Winter Storm
09	1500EST								

SLEET AND FREEZING RAIN DEVELOPED ACROSS THE WESTERN PIEDMONT OF NORTH CAROLINA DURING THE MID AFTERNOON HOURS THEN SPREAD ACROSS THE NORTHERN PIEDMONT BY SUNSET, BECOMING A MAJOR ICE STORM OVERNIGHT. THE HARDEST HIT AREAS EXTENDED FROM THE WINSTON-SALEM AND GREENSBORO AREAS EAST TO NEAR BURLINGTON WHERE 1 TO 2 INCHES OF SLEET FELL BEFORE THE PRECIPITATION CHANGED TO FREEZING RAIN. FREEZING RAIN ACCUMULATED TO BETWEEN 1/4 TO 3/8 OF AN INCH ON TOP OF THE SLEET. THIS CAUSED MAJOR TRAVEL PROBLEMS WITH SOME ROAD CLOSURES MAINLY IN DAVIDSON, FORSYTH, AND GUILFORD COUNTIES. TWO TRAFFIC FATALITIES OCCURRED IN DAVIDSON COUNTY DURING THE EVENING OF THE 8TH. TEN THOUSAND RESIDENTS LOST POWER DURING THE STORM IN THE PIEDMONT TRIAD AREA. TEMPERATURES REMAINED IN THE 25 TO 30 DEGREE RANGE THROUGHOUT THE STORM.

OVER THE EASTERN AND SOUTHERN PIEDMONT FROM ALBEMARLE AND TROY NORTHEAST TO RALEIGH/DURHAM TO WARRENTON, A NARROW BAND OF MIXED FREEZING RAIN AND RAIN FELL WITH A LITTLE SLEET AT THE ONSET. TEMPERATURES REMAINED IN THE LOW TO MID 30S DURING THE EVENT, PREVENTING A MAJOR ICE STORM. THERE WERE SOME ICY BRIDGES AND OVERPASSES REPORTED BUT GLAZE ACCUMULATIONS WERE LIMITED TO METAL OBJECTS AND IN THE TREE TOPS. A FEW TREE LIMBS FELL MAINLY IN DURHAM AND ROXBORO WHICH CAUSED SOME POWER OUTAGES, BUT THESE PROBLEMS WERE MINOR COMPARED TO THE AREAS TO THE WEST.

NORTH CAROLINA, Central Coastal

Pitt County

Bruce	16	0640EST			0	0	40K		Thunderstorm Wind
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Roof damage to two houses and irrigation system twisted on farm complex.

NORTH CAROLINA, Extreme Southwest

Cherokee County

Murphy	05	0345EST			0	0			Hail (0.75)
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3/4 inch hail reported by local sheriff.

Clay County

Brasstown	05	0350EST			0	0			Hail (0.75)
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3/4 inch hail reported by county sheriff.

NCZ060>061

Cherokee - Clay

10	1100EST				0	0			Winter Storm
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An arctic cold front and associated upper level disturbance swept through the southern Appalachians. Snowfall amounts ranged between 2 and 3 inches.

Cherokee County

Countywide	24	2130EST			0	0			Hail (1.00)
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3/4 inch to 1 inch hail and 74 mph wind gust reported by ham radio operators in the towns of Murphy, Marble and Andrews.

Cherokee County

5 W Murphy	24	2135EST			0	0			Hail (1.00)
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1 inch hail on ground.

NORTH CAROLINA, North Coastal

Pasquotank County

(Ecg)Elizabeth City	16	0755EST			0	0			Thunderstorm Wind (G55)
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NORTH CAROLINA, Northwest and North Central

NCZ001>002-018

Ashe - Alleghany - Watauga

10	2000EST				0	0			Heavy Snow
11	0230EST								

Heavy snow developed across the mountains of northwestern North Carolina during the evening hours on the 10th. Snowfall accumulations ranged from 3 to 6 inches across Watauga, Ashe, and Alleghany Counties. Snow covered and slippery road conditions resulted in several accidents.

NCZ002-019

Alleghany - Wilkes

23	0230EST				0	0			Black Ice
	1300EST								

Moist air with temperatures from the upper 30s to the mid 40s moved across a frozen ground and resulted in black ice in Wilkes and Alleghany Counties during the morning and early afternoon hours on the 23rd. Numerous traffic accidents occurred and 10 injuries were reported.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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NORTH CAROLINA, South Coastal

NONE REPORTED.

NORTH CAROLINA, Southwest

Graham County

Countywide	05	0330EST 0400EST			0	0			Thunderstorm Wind (G50)
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Jackson County

Countywide	05	0415EST 0445EST			0	0			Thunderstorm Wind (G50)
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Swain County

Whittier	05	0415EST 0430EST			0	0			Thunderstorm Wind (G52)
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Macon County

Franklin	05	0430EST 0445EST			0	0			Thunderstorm Wind (G50)
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Macon County

Highlands	05	0445EST 0500EST			0	0			Thunderstorm Wind (G50)
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Severe thunderstorms moved in from Tennessee and caused damaging winds. Most locations above had trees down along with some downed power lines and power outages. At Whittier a resident reported their home shook violently in the wind for about 15 minutes. At Dillsboro, near Sylva, the carts in a discount store's parking lot were scattered.

NCZ033>035-048>055-058>059-062>067 Avery - Caldwell - Alexander - Madison - Yancey - Mitchell - Swain - Haywood - Buncombe - McDowell - Burke - Graham - Northern Jackson - Macon - Southern Jackson - Transylvania - Henderson - Polk - Rutherford

08	1200EST 2359EST			0	0			Snow And Sleet
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NCZ033>037-048>055-058>059-062>067-069 Avery - Caldwell - Alexander - Iredell - Davie - Madison - Yancey - Mitchell - Swain - Haywood - Buncombe - McDowell - Burke - Graham - Northern Jackson - Macon - Southern Jackson - Transylvania - Henderson - Polk - Rutherford - Lincoln

09	0000EST 1200EST			0	0	2M		Ice Storm
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NCZ068-070>071 Cleveland - Gaston - Mecklenburg

09	0000EST 1200EST			0	0			Freezing Rain
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A light mix of snow and sleet accumulated to an inch or two in parts of the mountains and foothills during the day. Freezing rain and sleet became predominant during the night and caused fairly widespread damage. Power outages extended for a day or two in some cases. The hardest hit counties were Transylvania and Henderson where up to 3 inches of ice was reported to have accumulated on trees. Trees fell for hours after the freezing rain ended. In the northern mountains there was more sleet - up to 2 to 3 inches accumulation. Light icing conditions extended well into the piedmont after 6 am with fairly good coatings of ice on trees as far southeast as Monroe. True damage estimates were not available.

NCZ033-048>053-058>059-062>065 Avery - Madison - Yancey - Mitchell - Swain - Haywood - Buncombe - Graham - Northern Jackson - Macon - Southern Jackson - Transylvania - Henderson

10	2000EST			0	0			Heavy Snow
11	0300EST							

Heavy snow fell in the mountains resulting in accumulations of 3 to 6 inches. The highest totals were reported from Graham and Jackson counties. Over 200 car wrecks were reported in western North Carolina during the snow. Icy roads the next morning contributed to many accidents with one indirect fatality near Statesville, well away from the high accumulations of precipitation.

NCZ057

Rowan

11	0600EST			1	0			Extreme Cold
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A man died outside his home, at least in part because of exposure to the cold. M42OU

NCZ034>037-055>057-068>072 Caldwell - Alexander - Iredell - Davie - Burke - Catawba - Rowan - Cleveland - Lincoln - Gaston - Mecklenburg - Cabarrus

15	1400EST 1900EST			0	0			Snow
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NCZ033-048>049

Avery - Madison - Yancey

15	2100EST 2359EST			0	0			Freezing Rain
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Unusual thunder snowshowers moved across the foothills and piedmont during the afternoon causing rapid accumulations ranging from 1/2 inch to 3 inches. Freezing rain followed in the northern mountains with several accidents reported. Icy roads the next

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

NORTH CAROLINA, Southwest

morning caused many accidents - over 20 McDowell county alone.

NCZ034

Caldwell

**23 0600EST
0900EST**

0 0

Icy Roads

So called "black ice" developed from fog apparently, and caused at least one accident with a fatality (indirect).

NCZ034>035-054>056-066>070 **Caldwell - Alexander - McDowell - Burke - Catawba - Polk - Rutherford - Cleveland - Lincoln - Gaston**

**31 0500EST
0900EST**

0 0

Fog

Dense fog developed in the pre-dawn hours and became widespread over portions of the foothills and western piedmont. Numerous traffic accidents resulted from the poor visibility.

NORTH DAKOTA, Central and West

NDZ017>023-025-031>037-040>048-050>051

Mckenzie - Dunn - Mercer - Oliver - Mclean - Sheridan - Wells - Foster - Golden Valley - Billings - Stark - Morton - Burleigh - Kidder - Stutsman - Slope - Hettinger - Grant - Bowman - Adams - Sioux - Emmons - Logan - La Moure - Mcintosh - Dickey

**04 0600CST
05 1800CST**

0 10

6.5M

Blizzard

The first blizzard of 1997 hit east-central North Dakota on the morning of the 4th. The blizzard was preceded by freezing rain that lasted most of the day before switching over to snow. The snow became so heavy that the highway department pulled the plows off of the roads the evening of the 4th and all day on the 5th. It was during the evening of the 4th that the northwest winds began to blow. Winds of 25 to 35 mph were common. Some of the higher snow amounts include 14 inches of snow at Ellendale (Dickey Co) and Linton(Emmons Co), 11 inches at Hague(Emmons Co) and 18 inches of snow at Oakes(Dickey Co). The roof collapsed at the Lull plant in Oakes from the weight of the snow. Although the snow was not as heavy in the western part of North Dakota, the freezing rain made travel very hazardous. A Greyhound bus slid into the ditch on I-94 near New Salem. This would turn out to be the first of 4 major snow events that would hit western and central North Dakota during January. Injuries and dollar damage amounts estimated.

NDZ001>005-009>013-017>023-031>037-040>048-050>051

Divide - Burke - Renville - Bottineau - Rolette - Williams - Mountrail - Ward - Mchenry - Pierce - Mckenzie - Dunn - Mercer - Oliver - Mclean - Sheridan - Wells - Golden Valley - Billings - Stark - Morton - Burleigh - Kidder - Stutsman - Slope - Hettinger - Grant - Bowman - Adams - Sioux - Emmons - Logan - La Moure - Mcintosh - Dickey

**04 0600CST
22 1700CST**

0 0

Blizzard Summary

The economic impact these 4 blizzards had on North Dakota were staggering. On the agricultural side alone, it is estimated that over 6 million was lost for buildings and machinery, 4.7 million in livestock deaths, 21.7 million for extra feed consumption, and \$50,000 worth of dumped milk when transporters couldn't get to the farms. In addition, its estimated that \$600,000 was spent by the Game and Fish Dept. to help farmers battle the deer that was eating their hay reserves. Also, its estimated that the National Guard spent \$800,000 in January to help with snow removal. Many communities spent up to 10 times their snow removal budget just in January alone, with the state itself spending an estimated additional \$125,000 in salaries and operating expenses. Damage totals are still coming in as of this writing. The January of 1997 will be long remembered in the minds of many North Dakotans.

NDZ001>005-009>013-017>023-025-031>037-040>048-050>051

Divide - Burke - Renville - Bottineau - Rolette - Williams - Mountrail - Ward - Mchenry - Pierce - Mckenzie - Dunn - Mercer - Oliver - Mclean - Sheridan - Wells - Foster - Golden Valley - Billings - Stark - Morton - Burleigh - Kidder - Stutsman - Slope - Hettinger - Grant - Bowman - Adams - Sioux - Emmons - Logan - La Moure - Mcintosh - Dickey

**09 0400CST
11 1800CST**

2 45

55.1M

Blizzard

The second blizzard in less than 1 week brought North Dakota to a virtual standstill. This blizzard didn't bring as much snow as the first storm, but the winds gusted from the northwest as high as 40 mph and they lasted for 3 days. Snowfall amounts from this storm varied from 1-2 inches in the southwest to 2-4 inches in the central. But the strong winds combined with this snow as well as the snow from the blizzard a few days earlier created widespread whiteout conditions that lasted for 3 days. There were numerous communities that halted mail delivery and cancelled school. In Emmons Co. every road was blocked by drifts, some as high as 18 feet. In McLean Co. there was a drift at the intersection of highways 83 and 37 that was 12 feet high and 150 yards long. It took snow plow operators working from both directions 10 hours to open. The Standing Rock Indian Reservation had severe hardship with snow drifts taller than buses blocking all the entrance roads. Most of the people on the reservation ran out of propane to heat their homes, and food shortages were widespread. Again, almost every major road in North Dakota was closed and plows pulled off. In Foster Co., the county road department had to abandon some roads because they no longer had to money or equipment to open them back up. When plows were running, the operators were putting in 12-14 hours days. The drifts were so big that 2 coal trains got stranded in the blizzard and an Amtrack train was stranded in Stanley. Many buildings were beginning to fail from the weight of the snow of this storm and the previous one. There were reports of people getting stranded in vehicles for up to 40 hours. Those that stayed with the vehicle survived, but those that didn't either perished or suffered 2nd and 3rd degree burns over 70-90 percent of their body. A 41 year old Carrington man died from exposure when he tried to walk from his stranded car to his parents farm house 1/2 mile away. A 66 yr. old Dunseith man died of hypothermia when he fell off of his porch when

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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NORTH DAKOTA, Central and West

the railing gave way and couldn't get back up. As the storm was winding down on the 11th and 12th, bitter cold air moved in, and with the strong northwest winds still blowing, wind chills plummeted to 85-90 below with actual air temperatures 20-30 below. In Elgin(Grant Co), the water tower froze and broke open due to the cold temperatures. With the amount of suffering and hardship going on, Gov. Schafer of North Dakota declared the state a disaster area. This was followed on the 12th with President Clinton approving the 1st ever request to declare a major statewide disaster. The national guard was called in to help with snow removal as many communities had already spent their snow removal money before this storm. Injuries and dollar damage amounts estimated. M66PH, M41OU

NDZ025-036>037-047>048-050>051 Foster - Kidder - Stutsman - Logan - La Moure - McIntosh - Dickey

15	0600CST				2	10	6.3M		Blizzard
16	1800CST								

The 3rd blizzard to hit North Dakota in less than 3 weeks affected mainly the east-central and eastern part of the state. Again, like the previous blizzard, the winds was the major weather factor. Wind gusts at times were over 50 mph. This created widespread blowing and drifting snow. All major roads in the area were closed again for the 3rd time this year. In Logan Co. the machine shed that is used by the Logan Co. Historical Society to store antiques was damaged by the roof falling in. With the severity of the blowing and drifting snow, roads that were just opened from the last storm were once again blown shut. This lead to the death of a 71 yr. old Fredonia(Logan Co.) man. He suffered a heart attack at his farm, and was able to call 911 for help. However, the ambulance couldn't get to him because of the blocked roads. A 57 yr old man from Napoleon(Logan Co.) also suffered a heart attack on his farm and passed away before assistance could get to him. Injuries and dollar damage amounts estimated. M71PH, M57PH

NDZ023-025-036>037-047>048-050>051 Wells - Foster - Kidder - Stutsman - Logan - La Moure - McIntosh - Dickey

21	2300CST				0	10	6.3M	0	Blizzard
22	1700CST								

The last in a string of 4 blizzards to hit North Dakota struck in the morning of the 22nd. Snow amounts with this storm ranged from 2-4 inches, but northwest winds gusted to near 45 mph. Again, east-central and eastern North Dakota were hardest hit. I-29 in North Dakota and I-94 from Bismarck to Fargo were closed again. Injuries and damage amounts estimated.

NORTH DAKOTA, East

NDZ039-049-052>053 Cass - Ransom - Sargent - Richland

04	0000CST				0	0			Heavy Snow
	2100CST								

A strong low pressure system tracking through southern Minnesota into Wisconsin produced a heavy snow band across southeast North Dakota. 11 inches of snow fell in Fargo and 12 inches fell in Forman. Falling on top of an already deep snow cover, numerous reports of roofs collapsing under the weight of the snow were received.

NDZ028>030-038>039-049-052>053 Griggs - Steele - Traill - Barnes - Cass - Ransom - Sargent - Richland

04	1800CST				0	0			Blizzard
05	1000CST								

After the heavy snow had fallen across parts of the area, strong north winds increased, producing blizzard conditions. Numerous gusts to 40 knots occurred across the area. Once again, many roads were closed, including Interstate 29 from Grand Forks to the South Dakota border and Interstate 94 from Jamestown to Fargo. A snowplow, clearing Interstate 29 before it was closed, rescued about a dozen vehicles and cleared a path for them to a casino near Hankinson to wait out the storm.

NDZ006>008-014>016-024-026>030-038>039-049-052>053 Towner - Cavalier - Pembina - Benson - Ramsey - Walsh - Eddy - Nelson - Grand Forks - Griggs - Steele - Traill - Barnes - Cass - Ransom - Sargent - Richland

09	1400CST				1	0			Blizzard
10	1700CST								

An Alberta clipper raced across northeast North Dakota and then stalled over the Red River Valley, due to a blocking low pressure system over the Great Lakes. Strong winds and snow produced blizzard conditions across the area. A total of 8.8 inches of snow was reported in Grand Forks, while Fargo reported 7.5 inches. The heaviest snow fell across the Red River Valley between Grand Forks and Fargo. Many schools across the area were forced to close on the 9th and 10th. Transportation officials closed Interstates 29 and 94 in North Dakota, reporting it to be the 6th time that one or both interstates had been closed so far this winter. US Highway 2 was also closed from Lakota to Grand Forks. Despite the road closures, many motorists did attempt to travel, and had to be rescued during dangerous rescue attempts. One woman, whose car got stuck in the snow, died in the storm. At the governor's request, President Clinton declared the state a disaster area, the first statewide wintertime disaster declaration for North Dakota. F40VE

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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NORTH DAKOTA, East

**NDZ006>008-014>016- Towner - Cavalier - Pembina - Benson - Ramsey - Walsh - Eddy - Nelson - Grand Forks - Griggs - Steele -
024-026>030-038>039- Traill - Barnes - Cass - Ransom - Sargent - Richland
049-052>053**

	15	0900CST 2200CST			0	0			Blizzard
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An arctic front plunged south across the area, bringing less than an inch of snow to eastern North Dakota. However, strong winds created blizzard conditions across the area. Fargo reported a peak wind of 49 knots and Devils Lake had a gust to 44 knots. These gusty winds produced wind chills from 50 to 70 below zero. Some schools closed on the 15th and 16th. Interstates 29 and 94 were again shut down in North Dakota, as well as US Highway 2 from Grand Forks to Lakota. At the governor's request, the National Guard and US Air Force loaned troops and snow removal equipment to help clear roads. A heavy buildup of snow over the course of the winter led to the collapse of the large North Dakota Winter Show building in Valley City on January 20th.

**NDZ006>008-014>016- Towner - Cavalier - Pembina - Benson - Ramsey - Walsh - Eddy - Nelson - Grand Forks - Griggs - Steele -
024-026>030-038>039- Traill - Barnes - Cass - Ransom - Sargent - Richland
049-052>053**

	21	2200CST			0	0			Blizzard
	22	1500CST							

A combination of strong winds and snow produced another blizzard across eastern North Dakota. Snow totals included 5 inches in Devils Lake, 4 inches in Grand Forks, and 2 inches in Fargo. Interstate 29 was closed in North Dakota, Interstate 94 was closed from Jamestown to Fargo, and US Highway 2 was closed from Lakota to Grand Forks. Some schools closed on the 22nd, with some reporting this to be the 8th time they had been forced to close this winter. Several stranded motorists had to be rescued.

**NDZ006>008-014>016- Towner - Cavalier - Pembina - Benson - Ramsey - Walsh - Eddy - Nelson - Grand Forks - Griggs - Steele -
024-026>030-038>039- Traill - Barnes - Cass - Ransom - Sargent - Richland
049-052>053**

	30	1900CST 2359CST			0	0			Ice Storm
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0.05 inches of freezing rain fell across eastern North Dakota, causing numerous vehicle accidents. Many vehicles slid off roads, while others could not travel up slopes. Emergency officials could not reach accident scenes or help stranded motorists.

OHIO, East

Coshocton County

	23	2200EST			0	0	5K		Flash Flood
	24	0900EST							

An ice jam on the Wauhoning River, about 5 miles west-northwest of Warsaw, near the Mohawk Dam, caused flood waters to rise behind the jam. Three vacant summer homes were affected. Evacuations were also ordered from Nellie Bridge to Six-mile Dam. The flooding continued for several days.

Coshocton County

	24	0900EST 1900EST			0	0			Flash Flood
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Coshocton County

	24	1900EST			0	0			Flash Flood
	25	0800EST							

Coshocton County

	25	0800EST 1900EST			0	0			Flash Flood
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Coshocton County

	25	1900EST			0	0			Flash Flood
	26	0800EST							

OHZ048

Coshocton

	26	0800EST			0	0			Flood
	29	0800EST							

OHIO, North

Wayne County

	05	0320EST 0323EST	0.2	50	0	0	50K		Tornado (F1)
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A rare winter tornado touched down on a farm on Baumgartner Road, throwing a 40 x 80 foot machine shed through the roof of a barn 300 feet away. A house trailer was knocked off its foundation and the garage door of the house was damaged. Two silos and attached building were also damaged.

OHZ008

Sandusky

	05	1400EST			0	0	500K		High Wind
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One side of a manufacturing building under construction on State Route 53 N. in Fremont was brought down. The store window of a pharmacy in Clyde was blown out.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Date	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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OHIO, North

OHZ012>014

Lake - Geauga - Ashtabula

07	0300EST			0	0			Heavy Snow
	1900EST							

Heavy lake effect snow fell across extreme Northeast Ohio. Whiteouts occurred countywide in Geauga County where Montville and Chesterland each received six inches of snow and Chester Township received 7 inches. In Lake County, Madison received six inches of snow and Pierpont, in Ashtabula County, received nine inches.

OHZ011

Cuyahoga

09	1200EST			1	0			Extreme Cold
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A 97 year old white female died of hypothermia in her home. F97PH

OHZ002>003-

005>014-017>023-

027>033-036>038-047

Fulton - Lucas - Henry - Wood - Ottawa - Sandusky - Erie - Lorain - Cuyahoga - Lake - Geauga - Ashtabula - Hancock - Seneca - Huron - Medina - Summit - Portage - Trumbull - Wyandot - Crawford - Richland -

Ashland - Wayne - Stark - Mahoning - Marion - Morrow - Holmes - Knox

10	0000EST			4	0	195K		Extreme Cold
	2359EST							

Low temperatures were in the single digits or below zero across all of Northern Ohio, causing frozen and ruptured water pipes. With wind chills of 40 to 50 below zero, many schools were forced to close. On the 19th, Possum Run (Richland County), just south of Mansfield, reported a temperature of minus 15 degrees. Also, on the 19th, Toledo (Lucas) had a low temperature of minus 10 degrees and Wauseon (Fulton) had a low of minus eight degrees. There were four hypothermia deaths reported in Cuyahoga County during this time period. A 66 year old black male, and an 83 year old white female died in their homes on the 13th of the month. A 67 year old black female, and another female, age and race unknown, died in their homes on the 14th. M66PH, F83PH, F67PH, F?PH

OHZ011>014

Cuyahoga - Lake - Geauga - Ashtabula

16	1000EST			0	0			Heavy Snow
	1300EST							

Heavy lake effect snow fell over Northeast Ohio, with locally heavy squalls of six to eight inches occurring during the day on Thursday the 16th. Total storm accumulations of up to 10 inches were reported in Southern Geauga County. Also, in Geauga County, Burton and Newbury each received six inches. In Cuyahoga County, Old Brooklyn, North Royalton, Rocky River, Bedford, Garfield Heights and Brecksville all received six inches of snow. Heavy snow caused whiteout conditions in Lake and Ashtabula Counties.

OHZ009-020>023-031>032-036

Erie - Medina - Summit - Portage - Trumbull - Wayne - Stark - Marion

16	1000EST			0	1	25K		Snow
	1300EST							

A burst of heavy snow, although accumulating only one to three inches, caused whiteout conditions in many locations, resulting in numerous vehicular accidents. In Akron (Summit County), there were dozens of car crashes and one person was injured in a nine car pile-up. In Marion County, an ODOT truck was overturned and, in Erie County, whiteout conditions caused a 16 vehicle crash on State Route 2.

OHZ009

Erie

22	2000EST			0	0			Flood
	2315EST							

The Huron River at Milan exceeded its flood stage of 14 feet and crested at 15.8 feet at 2221 EST on January 22. Minor flooding occurred in some lagoon communities and access roads.

OHZ007

Ottawa

30	1130EST			0	0			Ice
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Thirty fishermen were stuck on two ice floes that formed about 1/4 mile off of Catawba Peninsula when a small crack in the ice turned into a 450 foot chasm in about an hour. All were rescued by the Coast Guard and the Catawba Fire Department.

OHIO, Northwest

NONE REPORTED.

OHIO, Southeast

OHZ066>067-

075>076-083>087

Perry - Morgan - Athens - Washington - Jackson - Vinton - Meigs - Gallia - Lawrence

01	0000EST			0	0			Record Warmth
	1800EST							

A prolong warm spell carried over into the new year from late December. The warm weather peaked on the 4th, with 60s common. Overnight low readings were unusually mild, with readings of 45 to 55 common.

Athens County

New Marshfield

05	0320EST			0	0	3K		Thunderstorm Wind
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The fire department reported several large trees were fallen.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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OHIO, Southeast

Power outages also occurred.

**OHZ066>067-
075>076-083>087**

Perry - Morgan - Athens - Washington - Jackson - Vinton - Meigs - Gallia - Lawrence

16	1800EST				0	0	16K		Cold
20	0700EST								

Minimum temperatures of 5 above zero to 5 below zero were common. The coldest reading from preliminary data was minus 12 in rural western Gallia County near Patriot.

These readings are typical for the coldest temperatures of a nonsevere winter. Winds of 10 to 20 mph prompted wind chill advisories. Schools delayed or cancelled their openings on the coldest mornings.

OHIO, Southwest

Hamilton County

Cincinnati

05	0000EST 0020EST				0	0	70K		Thunderstorm Wind (G65)
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Several roofs were blown off homes. A roof was peeled off of an apartment building. Numerous downed trees fell across electrical wires causing power outages.

Butler County

**Hanover Twp to
Monroe**

05	0010EST 0030EST				0	0	1M		Thunderstorm Wind (G85)
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A three mile path received extensive damage. Numerous buildings were damaged with a trucking company building being nearly destroyed. A trailer was thrown into a fence and several tractor trailers were overturned. High school bleachers were blown 50 feet which caused damage. Several homes received minor roof damage. Numerous trees were downed with a few electrical poles being snapped.

Hamilton County

Cincinnati

05	0015EST				0	0	50K		Lightning
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Lightning struck a home, which started a fire. The fire caused major damage to the home.

Warren County

Countywide

05	0020EST 0040EST				0	0	10K		Thunderstorm Wind (G50)
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Numerous trees downed.

Clermont County

Goshen

05	0025EST 0030EST				0	0	5K		Thunderstorm Wind (G50)
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Numerous large tree branches downed.

Montgomery County

Englewood

05	0025EST 0030EST				0	0	5K		Thunderstorm Wind (G50)
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Numerous electrical poles downed.

Greene County

**Bellbrook to
Wilberforce**

05	0035EST 0045EST				0	0	5K		Thunderstorm Wind (G50)
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Numerous trees downed.

Clark County

**Enon to
South Vienna**

05	0035EST 0055EST				0	1	75K		Thunderstorm Wind (G60)
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A tractor trailer was blown over on I-70. The driver was treated with minor injuries. Numerous homes received light structural damage. Several trees were downed.

Champaign County

Urbana

05	0040EST 0045EST				0	0			Thunderstorm Wind (G50)
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58 mph wind gust recorded with an automated wind sensor.

Miami County

Fletcher

05	0040EST 0045EST				0	0	15K		Thunderstorm Wind (G50)
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Winds blew the roofs off both a camper and a truck. The roofs landed on some cars causing damage to the cars.

Madison County

Big Plain

05	0110EST 0115EST				0	0	5K		Thunderstorm Wind (G50)
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Tool shed destroyed and numerous large branches downed.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
<u>OHIO, Southwest</u>									
Highland County									
Countywide	05	0115EST 0125EST			0	0	5K		Thunderstorm Wind (G50)
									Numerous trees downed.
Franklin County									
Dublin	05	0130EST 0140EST			0	1	1M		Thunderstorm Wind (G85)
									A three block area of a neighborhood received extensive damage from a downburst. Major structural damage occurred to 8 homes while 37 other homes received minor damage. Numerous trees were downed. One injury occurred when debris was blown through a window into a child's bedroom.
Ross County									
Austin to Clarksburg	05	0140EST 0150EST			0	0	5K		Thunderstorm Wind (G50)
									Numerous trees downed.
Delaware County									
Genoa Twp	05	0150EST 0200EST			0	0	10K		Thunderstorm Wind (G50)
									Damage occurred to one home. Numerous trees downed.
Fairfield County									
Royalton	05	0210EST 0215EST			0	0	5K		Thunderstorm Wind (G50)
									Numerous trees downed.
Licking County									
Hartford Twp	05	0235EST 0240EST			0	0	10K		Thunderstorm Wind (G50)
									Roof blown off home and numerous trees downed.
OHZ042-051>056- 060>065-070>072- 077>078									Darke - Miami - Champaign - Clark - Madison - Franklin - Licking - Preble - Montgomery - Greene - Fayette - Pickaway - Fairfield - Butler - Warren - Clinton - Hamilton - Clermont
	24	0700EST 1100EST			0	0			Ice Storm
									A strong surge of moisture moved north into the Ohio valley during the morning hours. Temperatures were at or just below the freezing mark for several hours while rain fell. Roads quickly became icy during the morning rush hour causing numerous traffic accidents. Several roads were closed due to one-quarter inch of ice accumulation. In Montgomery county alone, over 80 accidents were reported.
OHZ073-077>082									Ross - Hamilton - Clermont - Brown - Highland - Adams - Pike
	27	0700EST 0900EST			0	0			Ice Storm
									Freezing rain occurred during the morning rush icing over roads, bridges, and overpasses. Numerous accidents occurred across the region.
<u>OKLAHOMA, Eastern</u>									
OKZ054>070									Osage - Washington - Nowata - Craig - Ottawa - Pawnee - Tulsa - Rogers - Mayes - Delaware - Creek - Okfuskee - Okmulgee - Wagoner - Cherokee - Adair - Muskogee
	08	0900CST 2300CST			0	0			Heavy Snow
									5 to 7 inches of snow fell in extreme northeast Oklahoma on January 8th, with 3 to 5 inches of snow falling across much of the rest of northeast Oklahoma. The snow resulted in several traffic accidents throughout northeast Oklahoma.
Ottawa County									
Miami	21	2250CST			0	0			Hail (1.00)
Ottawa County									
Afton	21	2300CST			0	0			Hail (0.75)
									A severe thunderstorm produced quarter size hail at Miami and dime size hail at Afton.
Le Flore County									
Big Cedar	22	0030CST			0	0			Hail (0.88)
									A severe thunderstorm produced dime to nickel size hail at Big Cedar.
<u>OKLAHOMA, Extreme Southeast</u>									
OKZ077									Mccurtain
	06	1200CST			0	0			Ice Storm
	08	1800CST							An arctic cold front swept southeast from the northern Plains into the lower Mississippi Valley bringing icy temperatures across the

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

OKLAHOMA, Extreme Southeast

region while an upper level low over the 4 corners area pumped moisture laden air northward from the Gulf of Mexico. The warm moisture laden air rode up over the freezing ground temperatures resulting in widespread freezing rain, sleet, and snow. Overall ice accumulations ranged from 2 to 4 inches. Several county roads were closed due to ice accumulations.

OKZ077

Mccurtain

12	0600CST	0	0		Ice Storm
15	1200CST				

For the second time this month another surge of Artic air plunged southward across the region. The cold front responsible for the Artic air stalled along the Gulf Coast states and a low pressure system formed along the front in the nothwest Gulf of Mexico. The storm pushed warm moist air northward up and over the freezing ground temperatures resulting in an overrunning condition with widsperead precipitation in the form of freezing rain mixed with sleet and snow. Significant ice accumatiions led to highway closings in some areas.

OKZ077

Mccurtain

14	0600CST	0	0		Ice Storm
15	1200CST				

Abundant low level moisture pumped northward from the Gulf of Mexico resulted in ice accumulations of 1/4 to 1/2 inch. Several traffic accidents was a result.

OKLAHOMA, Panhandle

OKZ001

Cimarron

11	1000CST	0	0		Heavy Snow
12	1000CST				

Snowfall across the western Oklahoma panhandle ranged from 4 to 5 inches.

OKLAHOMA, Western, Central and Southeast

OKZ004>053

Harper - Woods - Alfalfa - Grant - Kay - Ellis - Woodward - Major - Garfield - Noble - Roger Mills - Dewey - Custer - Blaine - Kingfisher - Logan - Payne - Beckham - Washita - Caddo - Canadian - Oklahoma - Lincoln - Grady - McClain - Cleveland - Pottawatomie - Seminole - Hughes - Harmon - Greer - Kiowa - Jackson - Tillman - Comanche - Stephens - Garvin - Murray - Pontotoc - Coal - Cotton - Jefferson - Carter - Johnston - Atoka - Pushmataha - Love - Marshall - Bryan - Choctaw

08	2350CST	0	0		Heavy Snow
09	2100CST				

Snow began to fall across most of Oklahoma Tuesday night (January 8) and fell through Wednesday evening. Around 4 inches of snow blanketed western Oklahoma with about 2 inches across central and southeastern portions of the state. An isolated area of heavy snow fell across Beckham County, where 7 and 8 inches were reported in Elk City and Sayre, respectively. A second band of heavy snow extended across the southeastern half of Oklahoma County from Tinker AFB to Luther, with a bullseye of 9.5 inches of snow reported in Choctaw.

Interstate 40 through Oklahoma City was closed for a time due to heavy snow, treacherous driving conditions, and reduced visibilities. One fatality and numerous injury accidents were attributed to the heavy snow and poor driving conditions. The fatality occurred in Stephens County when a 25-year-old woman lost control of her car on an icy patch of road.

OKZ019>020-023-025-027>029-033>040-045 **Logan - Payne - Caddo - Oklahoma - Grady - McClain - Cleveland - Harmon - Greer - Kiowa - Jackson - Tillman - Comanche - Stephens - Garvin - Jefferson**

11	2000CST	0	0		Snow
12	2100CST				

On January 11, a Sunday, 2 to 3 inches of snow fell over southwest Oklahoma with a band of heavy snow over Altus where snow measured 4 inches. Elsewhere, one to two inches of snow blanketed parts of central and south-central Oklahoma with a band of heavier snow over Oklahoma City, where 2.5 inches fell.

One traffic accident in rural Payne County resulted in an injury and a fatality when the driver lost control of his car on a patch of ice on the road. The 17-year-old driver was killed and his passenger was injured in the crash. Numerous other traffic accidents throughout central and southern Oklahoma were attributed to icy road conditions; however, law enforcement officials stated that the rate of accidents was much lower than could have been expected if the snow had occurred on a work day.

OKZ007>008-012>013-019>020-025>026

Grant - Kay - Garfield - Noble - Logan - Payne - Oklahoma - Lincoln

14	0230CST	0	0		Heavy Snow
	0900CST				

Heavy snow fell throughout the morning of January 14th over north-central Oklahoma. Areas from Enid to Mulhall and eastward

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons	Estimated Damage	Character of Storm
	Date			Killed	Injured	Property Crops

OKLAHOMA, Western, Central and Southeast

received upwards of 2 inches, with a maximum of 4 inches from Perry to Stillwater. Other portions of central Oklahoma, including the Oklahoma City metro area, received around 1 inch of snow.

OREGON, Central and East

ORZ013	North Central Oregon					
	01	0000PST		0	0	Flood
	02	1000PST				
	Minor flooding in Maupin and Dufur.					
ORZ019	Northeast Oregon					
	01	0000PST		0	0	Flood
	02	1800PST				
	Several roads closed, sand bagging in progress, at least one house damaged by a mud slide.					
ORZ019	Northeast Oregon					
	01	0000PST		0	0	2.7M
	04	0000PST				Flood
	Road damage in the Imnaha area estimated at \$ 2.7 million dollars.					
ORZ016	Lower Columbia Basin					
	01	0000PST		0	0	Flood
	06	0000PST				
	Creek flooded tree nursery, no major damage.					
ORZ019	Northeast Oregon					
	01	0000PST		0	0	9.9M
	05	0000PST				Flood
	\$4.5 million damage to public and private land in Wallowa County. Over \$5 million in road damage.					
ORZ019	Northeast Oregon					
	01	0500PST		0	0	Flood
	02	1600PST				
	Many bridges out, some evacuations, some houses partly taken away by mud slides, many power outages.					
ORZ019	Northeast Oregon					
	01	0800PST		0	0	Flood
	02	1800PST				
	Several roads closed due to mud slides and partial washouts.					
ORZ019	Northeast Oregon					
	01	1200PST		0	0	Flood
	1800PST					
	A 3000-square-foot building was destroyed by a torrent of mud, logs, and boulders.					
ORZ010	Eastern Columbia River Gorge					
	16	1400PST		0	0	Flood
	1530PST					
	Numerous vehicle accidents on I-84.					
ORZ013	North Central Oregon					
	16	1800PST		0	0	Ice Storm
	17	1200PST				
	Schools closed because of ice storm.					
ORZ014	Central Oregon					
	16	1800PST		0	0	Ice Storm
	17	1000PST				
	Head-on collision between two slow moving vehicles on icy highway, numerous cars slid off road, at least two cars rolled on to their sides.					
ORZ016>017-019	Lower Columbia Basin - Foothills Of The Blue Mountains - Northeast Oregon					
	17	1600PST		0	5	Ice Storm
	19	0900PST				
	Icy roads caused several traffic accidents and injuries on I-84.					
ORZ018	Columbia Deschutes Plateau					
	31	1300PST		0	0	Flood
	2359PST					
	High river caused water to seep into houses and knocked an AM radio station off the air. About 400 feet of a road washed and two other roads received a little damage. John Day river breached a levy flooding Grant County Fairgrounds.					
ORZ016>017	Lower Columbia Basin - Foothills Of The Blue Mountains					
	31	1600PST		0	0	Flood
	2330PST					
	Adams and Helix had up to six inches of mud was deposited on town streets as creeks overflowed through town. Up to two feet					

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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OREGON, Central and East

of mud was left in a house and shed when a creek overflowed in northern Umatilla County. An eighteen mile stretch of highway 37 was closed due to flood water and mud.

OREGON, Northwest

ORZ001>002-004>006 Northern Coast - Central Coast - Northern Willamette Valley Including Prtlnd Metro Area - Central Willamette Valley Including Salem - Southern Willamette Valley Including Eugene

01	0000PST								
09	1200PST			0	0	200K			Flood

Heavy rainfall over Northwest Oregon during the last week of December caused 16 rivers in Northwestern Oregon to flood. Dozens of homes were flooded on various rivers and numerous highways were inundated throughout the region.

ORZ001>002-004>006 Northern Coast - Central Coast - Northern Willamette Valley Including Prtlnd Metro Area - Central Willamette Valley Including Salem - Southern Willamette Valley Including Eugene

01	0000PST								
07	2300PST			0	0				Mudslides

Heavy rains during the last week of December continued into January and caused numerous mudslides throughout Northwestern Oregon. A few homes and businesses were damaged with many roads and highways temporarily cut by mudslides.

ORZ009-011 Western Columbia River Gorge - Northern Cascades

16	1200PST								
17	1700PST			0	0				Ice Storm

Freezing rain produced significant accumulations of ice and disrupted traffic through the Columbia Gorge and over the passes of the North Oregon Cascades. Pockets of light freezing rain were also reported in the Willamette Valley at Albany and Eugene as well as the eastern parts of the Portland metropolitan area.

Lincoln County

Yachats

17	1800PST								
18	0600PST			0	0				Urban/Sml Stream Fld

A localized area of heavy rain on the Central Oregon Coast near Yachats caused small stream flooding and mudslides which damaged several homes and flooded Highway 101 with 3 to 4 feet of water during the night of January 17.

ORZ004-009 Northern Willamette Valley Including Prtlnd Metro Area - Western Columbia River Gorge

27	1200PST								
28	1200PST			0	0				Ice Storm

Heavy freezing rain disrupted travel in the Columbia River Gorge. Ice accumulation was also reported in the Portland metropolitan area as far south as Clackamas.

ORZ004-006 Northern Willamette Valley Including Prtlnd Metro Area - Southern Willamette Valley Including Eugene

31	0000PST								
	2359PST			0	0				Flood

Heavy rain from a Pacific storm system caused minor flooding on 3 rivers in the Willamette Valley. Most inundation was confined to agricultural land and secondary roads.

OREGON, Southeast

NONE REPORTED.

OREGON, Southwest

ORZ003-007>008-012-015 Southern Coast - Umpqua Basin - Rogue Basin - Southern Cascades And Siskiyou Mountains - South Central Oregon

01	0000PST								
	2200PST			0	0				High Wind (G86)

ORZ003-008-015 Southern Coast - Rogue Basin - South Central Oregon

01	0000PST								
05	0000PST			0	0	76.6M	13.4M		Flood

A warm southwest flow pushed temperatures into the 60s New Years Eve Day with the freezing lifting to above 10,000 ft. Melting snow and copious amount of rain drove rivers and streams well above flood stage across Southern Oregon New Years Day with wide spread flooding through Jan 3. The basin average storm total rainfall for the New Years Day storm averaged 2-4 inches with rainfall amounts excess 8 inches. Strong winds spread across Southern Oregon with Cape Blanco reporting 100+ mph winds...spotters in Klamath and Lake counties reported winds of 35-55 mph and gusts to 70 mph New Years Day.

PACIFIC

NOT RECEIVED.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Property Damage	Crops	Character of Storm
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PENNSYLVANIA, Central

PAZ042

Sullivan

15	1200EST				0	0			Heavy Snow
16	1200EST								

Snow fell heavily over Sullivan County with as much as 8.0 inches at LaPorte. Elsewhere, snowfall was much lighter, accumulating 1 to 3 inches.

Lancaster County

Northern Half

25	0345EST				0	0			Flash Flood
	1200EST								

A number of roads were flooded due to ice jams after 1/2 to 1 inch of rain fell across the area.

Warren County

Tidioute

26	0215EST				0	0			Flash Flood
	0900EST								

Ice jams formed after rain and snowmelt caused streams to rise. Residents of a trailer park were evacuated.

PAZ005

McKean

26	1200EST				0	0			Heavy Snow
	2359EST								

A narrow band of Lake Effect Snow dumped 7 inches of snow on Kane in McKean County.

PAZ041>042

Northern Lycoming - Sullivan

27	1200EST				0	0			Heavy Snow
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3 to 6 inches of snow fell across Lycoming and Sullivan Counties eastward into the Poconos. Elsewhere, 1 to 3 inches of snow fell.

PENNSYLVANIA, East

PAZ060>062-067>071 Berks - Lehigh - Northampton - Chester - Montgomery - Bucks - Delaware - Philadelphia

03	1000EST				0	0			Unseasonably Warm
05	2300EST								

A persistent west to southwest flow throughout the start of 1997 led to unseasonably warm weather from the 3rd through the 5th across Southeast Pennsylvania. The warmest days were the 3rd and the 5th. A weak backdoor cold front brought mostly cloudy skies and slightly cooler temperatures on the 4th. A record breaking high of 63 degrees was set at the Lehigh Valley International Airport on the 3rd and a record breaking high temperature of 66 degrees was set at the Philadelphia International Airport on the 5th. Other high temperatures through this period included 66 degrees at Neshaminy Falls, 65 degrees at Reading and 64 degrees at the Willow Grove NAS (All occurred on the 3rd.).

PAZ060>062

Berks - Lehigh - Northampton

09	0900EST				0	0			Winter Storm
	2100EST								

A double barrel low pressure system brought a mixture of snow, sleet and freezing rain across the region. This caused numerous accidents and helped contribute to at least one fatality in Berks County. Snow overspread the region during the late morning on the 9th and started mixing with and changing over to sleet and freezing rain during the early evening commute home. Snowfall accumulations averaged between 1.5 and 3 inches. This was topped by a layer of sleet and freezing rain which made travel extremely hazardous on untreated roadways.

In Berks County, a bus driver and two school children were injured the morning of the 9th when the bus they were on skidded into a ditch in Douglass Township. That same afternoon in Douglass Township, a Good Samaritan was critically injured by a car after he left his own car to help a stranded motorist. Around noon, a 34-year-old woman was critically hurt after she drove into a house in Longswamp Township. A 21-year-old male was killed later that day in Longswamp Township after his vehicle spun out of control and was struck by a pickup truck. Numerous accidents were reported around Hamburg and in Cumru, Exeter and Ontelaunee Townships. Many accidents were also reported in the Lehigh Valley as roadways became skating rinks. In Bethlehem alone there were two dozen minor accidents.

The two low pressure systems responsible for the wintry mix moved from the Ohio Valley and Georgia the morning of the 9th to Lake Huron (the former) and Boston (the latter) the morning of the 10th. The lows kept their separate identities and did not merge into one. This kept precipitation from becoming heavier. All of the significant precipitation was over by the late evening of the 9th.

PAZ067>071

Chester - Montgomery - Bucks - Delaware - Philadelphia

09	1000EST				0	0			Wintry Mix
	2200EST								

Double barrel low pressure systems spread a mixture of snow, sleet and freezing rain across Southeast Pennsylvania from the late morning through the evening on the 9th. Precipitation started as snow by noon on the 9th and changed from snow to sleet and freezing rain during the early evening hours. Precipitation went over to plain rain for a while near the Delaware River. Accumulations were light, mainly two inches or less. For extreme Southeast Pennsylvania, this was the first measurable snowfall of the season. Although the wintry mix of precipitation did cause slippery roads, no serious accidents or traffic tie-ups were reported. The lows went from the central Ohio Valley and Georgia the morning of the 9th to Lake Huron (the former) and Boston

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PENNSYLVANIA, East

(the latter) the morning of the 10th. Keeping separate identities prevented these lows from dropping heavier precipitation across the area.

PAZ054>055

Carbon - Monroe

09	1100EST				0	0			Snow
	2100EST								

A double barrel low pressure system brought snow that mixed in with some sleet and freezing rain toward the end on the 9th. Accumulations averaged between 2.5 and 4 inches across the Southern Poconos. Snow overspread the region during the late morning on the 9th and ended during that evening. The two low pressure systems responsible for the snow moved from the Ohio Valley and Georgia the morning of the 9th to Lake Huron (the former) and Boston (the latter) the morning of the 10th. Keeping their separate identities prevented these lows from dropping heavier snow across the area.

PAZ067>071

Chester - Montgomery - Bucks - Delaware - Philadelphia

11	0200EST				0	0			Snow
	0900EST								

A low pressure system developed over Virginia along a secondary cold front the evening of the 10th. It spread a swath of light snow across Southeast Pennsylvania during the predawn and morning hours of the 11th. Accumulations averaged between 1.0 and 2.5 inches. Accumulations were less than an inch in the far northwestern parts of Chester, Montgomery and Bucks Counties. The highest accumulations occurred across southeast Bucks County: 2.5 inches fell at Southampton. Since the snow lingered into the morning, several accidents were reported. The greatest concentration of reported accidents were in Lower Makefield and Northampton Townships in Bucks County.

PAZ054>055-061>062

Carbon - Monroe - Lehigh - Northampton

16	0100EST				0	0			Winter Storm
	1000EST								

A large high pressure system brought a cold and dry air mass into Eastern Pennsylvania. As the high drifted off the Middle Atlantic Coast, a slow moving cold front tapped the moisture in the Gulf of Mexico and dropped heavy precipitation across the area. Precipitation started briefly as snow across the area during the early morning of the 16th, but then changed over to a prolonged period of sleet and freezing rain that lasted through the morning commute. Snow accumulations averaged around two inches in the Poconos and an inch or less in the Lehigh Valley. Ice accretions averaged around one-quarter of an inch across most of the area and made travelling extremely hazardous on untreated roadways and surfaces. As precipitation was ending the morning of the 16th, temperatures rose above the freezing mark and helped melt the ice and snow.

PAZ060-067>069

Berks - Chester - Montgomery - Bucks

16	0200EST				0	0			Freezing Rain
	0700EST								

A large high pressure system brought a cold and dry air mass into Eastern Pennsylvania. As the high drifted off the Middle Atlantic Coast, a slow moving cold front tapped the moisture in the Gulf of Mexico and dropped heavy precipitation across the area. Since the air mass was so dry and cold to start, temperatures dropped below the freezing mark as the rain began during the early morning hours of the 16th. Since winds were blowing strongly from the southeast, warmer air took temperatures above the freezing mark in all areas by the end of the morning commute. But there were some locally slippery spots during the predawn hours in Berks County and northwestern sections of Chester, Montgomery and Bucks Counties. The rain ended by noon on the 16th.

PAZ054>055-060>062-067>071

Carbon - Monroe - Berks - Lehigh - Northampton - Chester - Montgomery - Bucks - Delaware - Philadelphia

17	0100EST				3	0			Extreme Cold
	0900EST								

The coldest air mass of the winter season moved into Eastern Pennsylvania on Friday the 17th. The high pressure system came straight from the arctic tundra and moved southeast reaching the Middle and South Atlantic States on the 19th and 20th. Strong gusty northwest winds brought wind chill factors well below zero on the 17th and 18th. Three men within Philadelphia died of hypothermia on the 17th and 18th. A 75-year-old man was found dead within his unheated house the night of the 17th. A 48-year-old man was found dead behind a church on the afternoon of the 18th. A third man was found dead in his parked car in a gas station in West Philadelphia.

The coldest morning was the 19th. For most places this was the coldest day of the winter season. Low temperatures that morning included -7F in East Stroudsburg (Monroe County), -6F in Long Pond (Monroe County), 0F in Sellersville (Bucks County), 1F at the Lehigh Valley International Airport, 2F in Reading, 3F in Valley Forge (Montgomery County) and 8F at the Philadelphia International Airport. No new record lows were set. M75PH, M?VE, M48OU

PAZ067>071

Chester - Montgomery - Bucks - Delaware - Philadelphia

22	0500EST				0	0			Black Ice
	0800EST								

A moist south to southeast flow from Delaware Bay passing over road surfaces that were very cold from the recent deep freeze helped black ice to form on roadways, bridges and overpasses the morning of the 22nd. This thin layer of ice that is virtually impossible to detect helped contribute to three traffic fatalities and over 100 injuries in the Greater Philadelphia Metropolitan Area. In Southeast Pennsylvania, a 26-year-old woman was killed in West Pikeland Township (Chester County) when her vehicle hit a patch of ice on Pennsylvania State Route 113, spun out of control and flipped over. Within Philadelphia a 39-year-old male

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PENNSYLVANIA, East

passenger (the driver was critically injured) was killed as the car he was riding in spun out of control and crashed into another car and school bus. In Wrightstown (Bucks County), a 36-year-old female was critically injured after her 4-wheel-drive vehicle skidded on a patch of ice.

PAZ054>055-060>062 Carbon - Monroe - Berks - Lehigh - Northampton

24	1600EST				0	0			Wintry Mix
25	0300EST								

A high pressure system moved across nearby Canada on the 23rd and 24th. It pushed down a wedge of cold air into Eastern Pennsylvania. Meanwhile, a low pressure system developed over the lower Tennessee Valley the morning of the 24th and moved northeast passing through the eastern Great Lakes by the morning of the 25th. This placed Eastern Pennsylvania "on the warm side" of the low pressure system and southeast winds eventually brought warmer air at both the surface and aloft into the region. Precipitation started as snow during the late afternoon of the 24th, but quickly changed over to freezing rain in Berks County and the Lehigh Valley. Accumulations were less than an inch. Precipitation turned over to plain rain during the evening of the 24th. The changeover to both freezing rain and plain rain took longer in the Poconos. Consequently 1 or 2 inches of snow accumulated through the early evening commute before changing to sleet and freezing rain. The highest reported accumulation was 3 inches in Tobyhanna. The transition to plain rain took about six hours from about 9 p.m. EST on the 24th through 3 a.m. EST on the 25th before the last vestiges of cold air were scoured from the deeper valleys. Untreated roadways, bridges and overpasses were slippery.

Bucks County

Countywide	24	2000EST			0	0			Heavy Rain
	25	0400EST							

Montgomery County

Southeastern	25	0030EST			0	0			Urban/Sml Stream Fld
		0330EST							

Philadelphia County

Countywide	25	0030EST			0	0			Urban/Sml Stream Fld
		0230EST							

Chester County

Countywide	25	0230EST			0	0			Flood
		0830EST							

PAZ067-070

Chester - Delaware

25	1030EST				0	0			Flood
	1600EST								

A low pressure system developed over the lower Tennessee Valley the morning of the 24th and moved northeast passing through the eastern Great Lakes by the morning of the 25th. It tapped moisture over the Gulf of Mexico and Western Atlantic and produced heavy rain across Southeast Pennsylvania. The heaviest rain fell from the evening of the 24th through the pre-dawn hours on the 25th. Storm totals averaged one inch to one and a half inches. The ground was still saturated from the heavy rains of the previous month and this led to the flooding of some of the streams and creeks in Southeast Pennsylvania along with the usual urban and poor drainage flooding.

In Chester County, the East Branch of the Brandywine Creek at Downingtown was above its 7 foot flood stage from 230 a.m. through 830 a.m. EST on the 25th. It crested at 9.2 feet at 530 a.m. EST. The West Branch of the Brandywine Creek at Coatesville crested at 6.6 feet at 8 a.m. EST on the 25th. Flood stage is 6.5 feet. Later in the day the main stem of the Brandywine Creek at Chadds Ford (Along the Delaware/Chester County border) was above its 9 foot flood stage from 1030 a.m. EST through 4 p.m. EST. It crested at 9.4 feet at 1 p.m. EST. Within Philadelphia, the Frankford Creek at Caster Avenue crested at 6.0 feet at 115 a.m. EST on the 25th. Flood stage is 5 feet. In Montgomery County, the Valley Creek near Valley Forge crested at 7.4 feet at 145 a.m. EST on the 25th. Flood stage is 7 feet.

Storm totals included 1.61 inches in Glenmoore (Chester County), 1.48 inches in Fricks, 1.45 inches in Perkasie (both in Bucks County), 1.45 inches in Green Lane (Montgomery County), 1.41 inches in Honey Brook (Chester County), 1.31 inches in Valley Forge (Montgomery County) and 1.14 inches at the Willow Grove NAS (Montgomery County).

PAZ054>055-061>062 Carbon - Monroe - Lehigh - Northampton

27	1800EST				0	0			Snow
28	0400EST								

A low pressure system developed to the lee of the Rocky Mountains on the 26th. It moved east to the lower Tennessee Valley the morning of the 27th and then northeast and reached the central Saint Lawrence Valley the morning of the 28th. This once again placed Eastern Pennsylvania on the relative warm side of the storm. The atmosphere was cold enough at the start for precipitation to start as snow during the early evening commute on the 27th. Warmer air from the southeast changed the precipitation over to rain a little after midnight on the 28th in the Lehigh Valley and before dawn on the 28th in the Poconos. Accumulations averaged 2 to 4 inches with the highest amounts in the Poconos. Jundale reported 4 inches and Long Pond reported 3.5 inches. Precipitation also started as snow farther southeast in Pennsylvania. But accumulating snows (around an inch) were limited to Berks County and the northern parts of Chester, Montgomery and Bucks Counties.

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PENNSYLVANIA, Northeast

PAZ038>040-043>044- Bradford - Susquehanna - Wayne - Wyoming - Lackawanna - Luzerne - Pike 047>048

	17	0400EST			0	0			Extreme Windchill
	18	1200EST							

A bitterly cold arctic air mass invaded northeast Pennsylvania during the evening hours of the 16th and remained over the area through the 18th.

Air temperatures dropped to near zero degrees over much of the region by early morning of the 17th. During the day, readings only managed to reach the single digits and lower teens. That night, temperatures from 5 to 15 below zero were observed in many areas.

Perhaps the biggest problem, though, was the strong winds accompanying this cold snap. Wind chills of 35 to 55 below zero were common over the northern tier of Pennsylvania on the morning of the 17th. This prompted many school districts to cancel classes that day.

PENNSYLVANIA, Northwest

PAZ001>003 Northern Erie - Southern Erie - Crawford

	06	1300EST			0	0			Heavy Snow
	08	0700EST							

Heavy lake effect snow, with locally heavy squalls of six to eight inches occurring during the day on the 7th, brought total snow accumulations of six to sixteen inches to many locations. In Erie County, Franklin Center received 15 inches, Union City 14 inches, Corry 9 inches, Edinboro 14 inches, Albion 6 inches, and Waterford 9 inches. In Crawford County, Cambridge Springs received 16 inches, Meadville 6 inches, and Spartansburg 7 inches.

PAZ001>003 Northern Erie - Southern Erie - Crawford

	10	0000EST			0	0	25K		Extreme Cold
	20	2359EST							

Low temperatures were in the single digits or below zero across Northwest Pennsylvania, causing numerous water pipes to freeze and break. With wind chills of 40 to 50 below zero, many schools were forced to close. In Jamestown (Crawford County), the temperature was minus 15 on the 19th. Union City (Erie) had a low of minus 16 on the 19th and Corry (Erie) reported a low temperature of minus 18 on the 19th. Titusville (Crawford) had a low of minus 15 on the 19th and minus 14 on the 20th.

PAZ001>003 Northern Erie - Southern Erie - Crawford

	16	1000EST			0	0			Heavy Snow
	17	1300EST							

Heavy lake effect snow, primarily occurring during the day on the 16th, accumulated up to seven inches in many locations. In Erie County, Green Township, Albion, Waterford, Edinboro and Corry received 6 inches, while Union City and Hatch Hollow each received 7 inches. In Crawford County, Summit Township and Meadville received 6 inches.

PAZ001>003 Northern Erie - Southern Erie - Crawford

	26	0100EST			0	0			Heavy Snow
	28	0500EST							

Lake effect snow occurred, with heavy squalls of six to eight inches on Saturday night and a total storm accumulation of 13 inches in some places. In Erie County, Edinboro received 13 inches of snow, Corry 12 inches, Union City 8 inches, Franklin Center 9 inches, Waterford 6 inches and French Creek 6 inches. In Crawford County, Cambridge Springs received 6 inches of snow, Spartansburg 7 inches, Titusville 6 inches and Meadville 10 inches.

PENNSYLVANIA, West

PAZ008-016 Venango - Jefferson

	09	0400EST 1400EST			0	0			Winter Storm
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A strong winter storm developed across the Gulf of Mexico and moved quickly north into Ohio. The storm brought an icy wintry mix of precipitation to parts of western Pennsylvania.

Venango County Pennsylvania reported 2 to 3 inches of snow followed by a quarter inch coating of ice. One-quarter inch accumulation of freezing rain was also reported in Jefferson County Pennsylvania.

PAZ008>009 Venango - Forest

	16	0100EST			0	0			Heavy Snow
	17	1700EST							

Cold arctic winds, blowing across partially open waters of Lake Erie, contributed to lake effect snow that piled heavy snow across parts of northwest Pennsylvania.

A total of 6 inches fell in Franklin, Venango County. Seven inches was reported just north of Marienville in Forest County.

Storm Data and Unusual Weather Phenomena

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Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<u>PENNSYLVANIA, West</u>									
PAZ015		Clarion							
	16	0400EST			0	0	2K		High Wind (G52)
	Strong, gusty winds associated with a sharp cold frontal passage were estimated around 60 miles per hour. A garage wall, 8 miles south-southeast of Clarion, was blown in by the wind.								
PAZ008		Venango							
	23	0700EST 1300EST			0	0	8K		Flood
	Ice began to build up on the Allegheny Rivers and its tributaries since January 11th. Below zero temperatures on the 18th and 19th rapidly increased ice development. On the morning of the 23rd, ice began to move out of Oil Creek, a tributary of the Allegheny River, and became jammed downstream near the mouth of the Allegheny River. Low-lying areas and some basements in Oil City flooded as water levels behind the jam rose. Three homes and a couple of businesses were also evacuated. The ice began to break up and water levels fell early in the afternoon.								
PAZ022		Armstrong							
	25	2300EST			0	0	1K		Flood
	27	1000EST							
	Ice began building up on the Allegheny River and its tributaries since the 11th of January. Below zero temperatures on the 18th and 19th rapidly increased ice development. Ice movement on the Allegheny River upstream of Parker began to affect the stage at Parker and a large ice jam formed from near Parker downstream for several miles to Miller's Eddy.								
	It wasn't until late on the 25th that the stage at Parker went above its 20 foot flood stage. Only very minimal property damage occurred. The river crested at 20.8 feet early on the morning of the 26th. Ice continued to move and then re-jam downstream causing fluctuations in the river level. The river went below flood stage on the morning of the 27th, but had two subsequent rises just above flood stage.								
PAZ008		Venango							
	27	1500EST 2230EST			0	0			Heavy Snow
	A winter storm moving through Pennsylvania quickly dumped heavy snow in Venango County. Heavy, wet snow accumulated 7.2 inches in Oil City. Much of the area received less snow. The snow then changed over to rain or freezing rain.								
PAZ022		Armstrong							
	27	1700EST 1900EST			0	0			Flood
	The Allegheny River at Parker rose again due to ice jam flooding. The river went above flood stage and crested at 20.4 feet, 0.4 feet above flood stage.								
PAZ022		Armstrong							
	28	2000EST 2200EST			0	0			Flood
	The Allegheny River at Parker once again rose to flood stage due to the effects of ice on the river. The river crested at its 20 foot flood stage on the evening of the 28th.								
	Gradual thawing of the jams along the Allegheny River allowed the ice to soften and rot. By late February, after a couple of light rain events and a period of above normal temperatures, the ice broke free and moved downstream uneventfully.								
<u>PUERTO RICO</u>									
Guayanilla Yauco									
Sabana Grande	02	1430AST 1530AST			0	0			Heavy Rain
	Civil Defense reported heavy rains in Sabana Grande.								
Ponce Juana Diaz									
Villalba	02	1430AST 1530AST			0	0			Heavy Rain
	Police department reported heavy rains in Villalba.								
Vega Baja Manati									
Ciales Morovis	03	1447AST 1800AST			0	0			Heavy Rain
	Civil Defense reported heavy rains in Ciales and Morovis.								
Vega Baja Manati									
Barceloneta	03	1835AST 2130AST			0	0			Urban/Sml Stream Fld
	Civil Defense reported a small stream out of its banks.								

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					Killed	Injured	Property	Crops	
<u>PUERTO RICO</u>									
San Juan									
San Juan	07	0100AST 0500AST			0	0	10K		Flash Flood
The remnants of a cold front produced heavy rains across the San Juan metropolitan area. Civil Defense reported flooding in Ocean Park and Punta Las Marias sectors in the San Juan metropolitan area and over the municipalities of Dorado and Toa Baja.									
Vega Baja Manati									
Vega Alta	20	1215AST 2330AST			0	0			Flash Flood
Civil Defense reported that the Cibuco River went out of its banks flooding roads 620 and 647. An automobile and its occupants were swept when the river crested but they were rescued. Roads Trio de 6 in Manati, and 647, 677, and 620 in Vega Alta were impassable.									
Vega Baja Manati									
Barceloneta Manati	20	1720AST 2330AST			0	0			Flash Flood
Civil Defense reported that river Rio Grande de Manati was out of its banks at the Cachete sector. Also Barrio Cortez in Manati was reported flooded, as well as road 642 and the Montebello bridge.									
Vega Baja Manati									
Manati	20	2230AST 2330AST			0	0			Flash Flood
Civil Defense indicated that flooding was still occurring across Manati, and that most of the rivers were near bankful.									
Carolina									
Carolina Loiza	21	0003AST 0600AST			0	0			Urban/Sml Stream Fld
Civil Defense reported small streams out of their banks along road 951 in Carolina and along road 187, Halcon Viejo sector in Loiza.									
Vega Baja Manati									
Vega Alta	21	0040AST 0600AST			0	0			Flood
River Cibuco was reported out of its banks along roads 620, 647, 675 and 676.									
Aguadilla									
Aguadilla Moca San S	21	0150AST			0	0			Heavy Rain
Civil Defense reported heavy rains in Aguadilla, Moca and San Sebastian.									
Aguadilla									
Isabela	21	0150AST 0750AST			0	0			Urban/Sml Stream Fld
Civil Defense reported that a small stream went out of its banks flooding roads 2 and 113 in Isabela.									
Mayaguez Anasco									
Anasco	21	0150AST 0750AST			0	0			Heavy Rain
Civil Defense reported heavy rains in Anasco.									
Aguadilla									
Aguadilla	21	1305AST 1905AST			0	0			Flood
Civil Defense reported flooding continued in Aguadilla.									
Aguadilla									
San Sebastian	21	1305AST			0	0			Landslides
Lanslides were reported in San Sebastian.									
La Plato Dorado									
Naranjito Comerio	21	2000AST			1	1	5K		Landslides
One person died Tuesday night and another lost his leg when a rock slid off a mountain and crashed into the pickup these persons were riving along highway 156 heading from Naranjito to Comerio in Puerto Rico. Although the area where this incident occurred was not affected by significant flooding, the terrain was saturated due to the rains. This area is along the interior mountaineous section, an area where landslides, mudslides or rockslides are very common during or after heavy rains. M33VE									
Fajardo Rio Grande									
Luquillo Fajardo	23	0105AST 0405AST			0	0			Heavy Rain
Civil Defense rported heavy rains in the Fajardo Luquillo area.									
Vega Baja Manati									
Orocovis	24	0815AST 1215AST			0	0			Heavy Rain
Civil Defense reported heavy rains in Orocovis									

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PUERTO RICO

RHODE ISLAND

RIZ006>007

Washington - Newport

10	0500EST				0	0			Strong Wind
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RIZ005>007

Bristol - Washington - Newport

10	0600EST				0	0			Coastal Flood
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A combination of a new-moon high tide and southeast winds that became southwest and gusted to 40 to 50 mph resulted in a storm tidal surge which reached 2 to 4 feet on Narragansett and Mount Hope Bays. There is the possibility that a "gravity wave" (which results in rapid changes in wind and atmospheric pressure fields) may have played a part in this sudden and unexpected flooding event. In Newport, where high tide occurred at 8:21 AM, two and one-half feet of water was reported on streets and there was basement flooding. In Barrington, the Palmer River flooded some streets, and in Providence a park was reported flooded. Also, in Providence, the tide came within a foot of topping the hurricane barrier. In Tiverton and Portsmouth, the tide covered parts of several roads and parking lots. Overall, the flooding was considered minor and there was no structural damage or road washouts.

RIZ001>005

Northwest Providence - Southeast Providence - Western Kent - Eastern Kent - Bristol

11	0400EST				0	0			Heavy Snow
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A developing low pressure system south of Long Island spread snow across the entire state. Snowfall totals ranged from about 4 inches along the south coast to 7 inches in the northwest corner of the state. The maximum total was 7.4 inches at North Foster. Some other totals included: Warwick, 7.1 inches; Scituate and Burrillville, 7.0 inches; East Providence, 6.7 inches; Pawtucket, 6.5 inches; and Glocester, Lincoln, and downtown Providence, 6.0 inches. This was a quick-hitting storm system with snowfall rates up to two inches per hour. Most of the snowfall lasted only 6 hours. Since this snow fell on a Saturday morning, there were minimal effects on highway travel, but there were the usual spinouts and minor collisions on the highways.

RIZ007

Newport

25	0617EST				0	0			High Wind (G55)
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A peak wind gust to 63 mph from the south was recorded at 6:17 AM and the tide was reported to be 3.6 feet above normal at the Fox Point Barrier in Providence. There were no reports of significant flooding.

RIZ001>005

Northwest Providence - Southeast Providence - Western Kent - Eastern Kent - Bristol

31	1600EST				0	0			Freezing Drizzle
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Light freezing drizzle coated roads with a thin layer of glaze, resulting in treacherous driving conditions. Countless skidding accidents occurred throughout the area. The Jamestown Bridge was closed temporarily. Mostly only minor injuries were reported but one man was killed in Lincoln when the jeep he was driving skidded off Route 99 and rolled down an embankment.

SOUTH CAROLINA, Central

Kershaw County

Cassatt	16	0330EST			0	0			Thunderstorm Wind (G50)
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A severe thunderstorm took down some trees in Cassatt with minor damage to utility poles and powerlines.

Aiken County

2 S Aiken	24	1522EST			0	0			Thunderstorm Wind (G50)
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A severe storm took down trees and powerlines just south of Aiken.

Richland County

3 NNW Columbia to 4 NNW Columbia	24	1550EST			0	0			Thunderstorm Wind (G50)
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A severe storm took down a few trees just east of Irmo.

Aiken County

Aiken	24	1550EST			0	0			Thunderstorm Wind (G50)
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A severe storm broke large tree branches which took down powerlines.

Lexington County

Swansea	24	1615EST			0	0			Hail (0.75)
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A severe storm produced 3/4 inch hail in swansea.

Richland County

Columbia	24	1625EST			0	0			Hail (0.75)
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A severe storm produced 3/4 inch hail in East Columbia.

Bamberg County

Bamberg	24	1625EST			0	0			Thunderstorm Wind (G50)
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A severe storm took down a few trees in and around Bamberg.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
<u>SOUTH CAROLINA, Central</u>									
Orangeburg County									
Cope	24	1625EST			0	0			Tstm Wind/Hail
A severe storm took down several trees and produced 3/4 inch hail in and around Cope.									
Orangeburg County									
Orangeburg	24	1630EST			0	0			Thunderstorm Wind (G50)
A severe storm took down several trees in and around Orangeburg.									
Calhoun County									
4 SSW St Matthews	24	1645EST			0	0			Hail (0.75)
A severe storm produced 3/4 inch hail between Jamison and St. Matthews.									
Sumter County									
Sumter	24	1710EST			0	0			Hail (0.75)
A severe storm produce 3/4 inch hail in Sumter.									
<u>SOUTH CAROLINA, North Coastal</u>									
Florence County									
Lake City	24	1800EST 1805EST			0	0			Thunderstorm Wind (G60)
In addition to wind gusts estimated at 60 kts, this storm also produced pea size hail and heavy rain causing minor street flooding. Reported by Fire Department Chief.									
<u>SOUTH CAROLINA, Northwest</u>									
Oconee County									
Walhalla	05	0520EST 0530EST			0	0			Hail (0.75)
Oconee County									
Seneca	05	0530EST 0545EST			0	0			Thunderstorm Wind (G50)
Anderson County									
Iva	05	0600EST 0615EST			0	0			Thunderstorm Wind (G58)
Thunderstorms became severe as they moved in from the Georgia mountains and caused a few reports of large hail and damaging wind.									
SCZ001>007	Northern Oconee - Northern Pickens - Northern Greenville - Southern Oconee - Southern Pickens - Southern Greenville - Spartanburg								
	08	1300EST 2359EST			0	0			Wintry Mix
SCZ001>008	Northern Oconee - Northern Pickens - Northern Greenville - Southern Oconee - Southern Pickens - Southern Greenville - Spartanburg - Cherokee								
	09	0000EST 1200EST			0	0	200K		Ice Storm
SCZ009-012>013	York - Laurens - Union								
	09	0000EST 1200EST			0	0			Freezing Rain
A light mix of wintry precipitation began during the day near the mountains and gradually increased in intensity. Most precipitation was originally moderate to heavy rain in the piedmont and foothills but changed over to freezing rain, primarily along and north of Interstate 85, as the night wore on. Ice storm conditions developed during the night with a number of downed trees and power lines causing power outages which lasted into the next day. The greatest accumulations of ice were in and near the mountains with significant damage also noted around Anderson, Greenville, and in northern Spartanburg county. Numerous trees continued to fall after the precipitation ended causing enormous work for road crews in Oconee, Pickens, and Greenville counties. Damage could be considerably higher than the amount listed.									
Laurens County									
6 W Laurens	24	2331EST 2346EST			0	0			Hail (0.75)
Chester County									
Richburg	25	0225EST 0235EST			0	0			Hail (0.75)
Marginally severe thunderstorms caused a couple of reports of large hail.									

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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SOUTH CAROLINA, Northwest

SCZ005>008 Southern Pickens - Southern Greenville - Spartanburg - Cherokee

31	0500EST	0900EST			0	0			Fog
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Dense fog developed in the pre-dawn hours and became widespread across much of the foothills region. Numerous traffic accidents resulted from the poor visibility. A woman in Spartanburg county was killed (indirect) when the car she was driving was hit by a train.

SOUTH CAROLINA, South Coastal

NONE REPORTED.

SOUTH DAKOTA, Central and North

SDZ003>011-015>023-033>037-045-048-051 Corson - Campbell - Mcpherson - Brown - Marshall - Roberts - Walworth - Edmunds - Day - Dewey - Potter - Faulk - Spink - Clark - Codington - Grant - Hamlin - Deuel - Stanley - Sully - Hughes - Hyde - Hand - Jones - Lyman - Buffalo

03	1200CST				0	3			Winter Storm
05	0400CST								

A powerful area of low pressure and deep Arctic high pressure brought almost all winter elements to central and northeast South Dakota from the afternoon of the 3rd to the early morning of the 5th. The storm first began with widespread freezing rain, especially over northeast South Dakota, where significant accumulations of ice occurred on roads, trees, and power lines. Late in the evening of the 3rd, the freezing rain changed to sleet and then snow, with substantial snowfall accumulations of 6 to as much as 26 inches by late on the 4th. As the deep Arctic high pressure pushed in through the morning and afternoon of the 4th, northwest winds increased to 25 to 45 mph gusting to 55 mph creating widespread blizzard conditions, drifts up to 20 feet, and wind chills from 40 to 70 below.

The heavy accumulation of ice and snow across parts of central and mainly across northeast South Dakota resulted in the roof collapse of over 100, mainly rural, buildings. The roofs collapsed onto farm machinery and livestock with a lot of the machinery damaged and a lot of livestock injured or killed. The collapse of so many buildings from snow and ice was believed to be the first in this area. On most other buildings, the snow had to be shoveled or blown off. One roof collapse near Lake Poinsett, 7 west of Estelline, killed four horses, damaged a boat, and flattened a car. A few homes during the storm were buried by the huge snowdrifts.

Many power outages also occurred across parts of central and northeast South Dakota as power lines and poles were downed from the heavy ice accumulation. Some people were without power for several days in the extreme cold conditions. The cities of Miranda, Rockham, Zell, Garden City, Bryant, Vienna, Glenham, Hazel as well as other cities were without power for many hours. Some of the communities were out of power for up to 2 days.

In Aberdeen, heavy snow blocking a furnace exhaust vent, sent 3 family members to the hospital for carbon monoxide poisoning. Also, in Aberdeen, the snowmobile club, the driftbusters, were called upon for the first time in several years to deliver medicine, take patients to the hospital, and carry essential workers to work and home. Emergencies were difficult to respond to, taking many hours to short distances. Throughout central and northeast South Dakota, many businesses and grocery stores were closed.

Interstates 29 and 90 were both closed for a few days along with most state highways. The rest of the roads were either blocked by huge drifts or had one-lane traffic. Snow plows were called off the roads until conditions improved and when they did start to clear the roads, they worked 12 to 18 hour days. Many vehicles went into the ditch, with mainly minor injuries. Some people had to be rescued. Travelers and truckers were stranded for several days until the roads opened. When Interstate-29 was opened, there was a log jam of vehicles for 3 miles. One Watertown policeman said he has never seen a log jam as bad as this in 28 years. Area airports were closed or flights were canceled or delayed. The mail was delayed for several days, most activities were canceled or postponed, and many schools closed on the 6th.

The heavy snowfall from this storm brought the widespread snowpack up to 2 to 5 feet. For the winter season so far, the area had record snowfall and record cold. Some of the snowfall amounts include, 6 inches at McLaughlin, 8 inches 22 SSW Keldron and 4 NW Onida, 9 inches at Pollock, Timber Lake, Highmore, Mobridge, and Kennebec, 10 inches at Castlewood, Clear Lake, Miller, Fort Thompson, and Clark. Snowfall amounts of 1 to over 2 feet include, 12 inches at Eureka, and Redfield, 13 inches at Selby and Aberdeen, 14 inches at Pierre and Roscoe, 16 inches at Mellette, 18 inches at Faulkton and 1 ENE Stephan, 20 inches at Webster, 22 inches at Britton, 24 inches at Sisseton, and 26 inches 10 NW Britton.

SDZ003>011-015>023-033>037-045-048-051 Corson - Campbell - Mcpherson - Brown - Marshall - Roberts - Walworth - Edmunds - Day - Dewey - Potter - Faulk - Spink - Clark - Codington - Grant - Hamlin - Deuel - Stanley - Sully - Hughes - Hyde - Hand - Jones - Lyman - Buffalo

09	0300CST				2	3			Blizzard
10	2100CST								

A powerful Alberta Clipper and a deep Arctic High brought widespread and prolonged blizzard conditions, heavy drifting snow, and dangerous wind chills of 40 to 80 below to central and northeast South Dakota. North winds were from 30 to 50 mph gusting to 60 mph. The clipper dropped from 2 to 7 inches of snowfall on top of an already solid 2 to 5 foot snowpack.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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SOUTH DAKOTA, Central and North

As with previous storms, most roads again became blocked by huge snowdrifts. As a result of the blockage and the blizzard conditions, both Interstates 29 and 90 were closed along with all state highways leaving hundreds of people stranded to wait out the storm. This winter has been the worst for road closings. Many people became stuck in snowdrifts or went off the road because of low visibilities, and had to be rescued. One dramatic rescue near Webster, involving tens of rescue workers, occurred after a woman was stranded in her vehicle for nearly 40 hours. A couple with a one year old child were rescued after spending a night in their car and they were unharmed. A Wakpala women died from carbon monoxide poisoning in her stalled pickup on Highway 1806 near Wakpala. Emergency personnel had a very difficult time responding to emergencies. Some emergencies took up to several hours to go short distances. A rural Leola man died, when emergency workers could not get to him in time. In Mclaughlin, seven people had to be taken by air ambulance, because their was no way out.

All area schools were closed the 9th and 10th with most schools at this point in the winter season missing over 7 days. A state record was set when Faulkton School had closed for its 13th day. Mail was delayed and area airports had flight delays or were closed. Many businesses were also closed and were suffering economic losses as a result of this storm and previous storms because customers could not get to them. Many grocery stores ran low or out of bread, milk, and other food necessities. There were some power outages across the area, but were not widespread. The power was out at Isabel, Timber Lake, and Firesteel, for as much as 8 hours. The power outage in Isabel resulted in extensive water pipe breaks at the Isabel School. Willow Lake was without power for over 2 days. Some homes across the area were also without heat for several days in the bitter cold.

The majority of ranchers were running out of or were unable to access feed for cattle, sheep, and hogs. As a result of the extreme conditions and lack of food, over fifty thousand livestock died. In addition, many livestock suffered frostbite and were significantly weakened. There was also a lot of wildlife and pheasants killed. As a result, the Emergency Feed Grain Donation Program was activated for the ranchers. One rancher said that he had been ranching in this area for 34 years and had never lost cattle before. Also, some dairy farmers had to dump their milk because trucks could not get them in time.

Some people were trapped in their homes up to several days as snowdrifts buried their homes and blocked the roads with some people having to crawl out their windows. In Wilmot, a 12 foot drift covered the community home, where residents had to turn the lights on during the day. As a result of snow removal budget depletions and other storm damages, President Clinton declared all of the counties a disaster area. Snowplows from Iowa, Nebraska, and plows and manpower from the South Dakota National Guard helped to break through hundreds of roads. The snowdrifts in some places were packed so hard and were measured at 300 pounds per square inch. Some long time residents said this has been the worst winter they had seen in their lifetimes. The total damage estimate for this January blizzard and for the previous January winter storm is 50 million dollars. This includes the added snow removal costs, livestock losses, building damages, and other economic losses. F35VE, M?PH

SDZ003>011-015>023-033>037-045-048-051 **Corson - Campbell - Mcpherson - Brown - Marshall - Roberts - Walworth - Edmunds - Day - Dewey - Potter - Faulk - Spink - Clark - Codington - Grant - Hamlin - Deuel - Stanley - Sully - Hughes - Hyde - Hand - Jones - Lyman - Buffalo**

15	0900CST 2200CST	0	0				Blizzard
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An intense Arctic High brought widespread blizzard conditions and dangerous wind chills of 40 to 70 below to central and northeast South Dakota. One to 3 inches of snow fell on top of the already deep snowpack of 2 to 5 feet. The blizzard winds brought another round of widespread heavy drifting, blocking area roads and highways. Also, many area schools were closed once again to add to their large number of days missed for the winter season. Fortunately, this blizzard as compared to previous blizzards was short-lived and the people were better prepared.

SDZ007>008-011-021 **Marshall - Roberts - Day - Grant**

22	0700CST 1300CST	0	0				Blizzard
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North winds of 25 to 40 mph along with the existing snow cover resulted in blizzard conditions and extreme wind chills across far northeast South Dakota. The low visibilities and drifting snow made travel almost impossible resulting in some road and school closures.

SOUTH DAKOTA, Southeast

SDZ039>040-055>056 **Kingsbury - Brookings - Lake - Moody**

03	1600CST	0	0				Ice Storm
04	0400CST						

Freezing rain caused ice accumulations on surfaces including trees, power lines, and roads. The ice caused snapped power lines and broken trees, although the amount of damage could not be determined.

SDZ038>040-050-052>071 **Beadle - Kingsbury - Brookings - Gregory - Jerauld - Sanborn - Miner - Lake - Moody - Brule - Aurora - Davison - Hanson - Mccook - Minnehaha - Charles Mix - Douglas - Hutchinson - Turner - Lincoln - Bon Homme - Yankton - Clay - Union**

04	0900CST	0	5	180K			Blizzard
05	0600CST						

Winds gusting to 45 mph combined with 2 to 4 inches of new snow and existing loose snow cover to cause widespread blizzard conditions in blowing snow. Visibility was frequently reduced to near zero, roads were blocked, and businesses were closed. There was damage to trees and power lines, mainly north of Sioux Falls and east of Huron where freezing rain preceded the blizzard.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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SOUTH DAKOTA, Southeast

Scattered power outages occurred, mainly in rural areas. Near Lake Preston a train was derailed and stranded. Livestock loss was suspected. The amount of most of the damage could not be determined as much of the economic impact was long term and could neither be accurately estimated nor separated well from other events during the winter.

SDZ038>040-050-052>071 **Beadle - Kingsbury - Brookings - Gregory - Jerauld - Sanborn - Miner - Lake - Moody - Brule - Aurora - Davison - Hanson - Mccook - Minnehaha - Charles Mix - Douglas - Hutchinson - Turner - Lincoln - Bon Homme - Yankton - Clay - Union**

09	0600CST				0	6	210K		Blizzard
11	0400CST								

Strong winds, gusting as high as 60 mph, combined with loose heavy snow cover and 1 to 3 inches of new snow to produce widespread and prolonged blizzard conditions. Wind chills as cold as 80 below zero also occurred. Transportation, schools, and commerce were halted as roads were blocked by drifting and zero visibility otherwise made travel impossible. Drifts as high as 20 feet were reported. Livestock losses were suspected to be in the thousands as many died during the blizzard and stress was expected to produce additional losses with time. Some roofs collapsed from the weight of snow, especially on farm buildings. Some power outages occurred from broken lines and poles, mainly in rural areas. Several accidents occurred including an 18 vehicle accident just north of Sioux Falls shortly after the onset of the blizzard. The greater part of the damage was suspected to be long term economic damage from the transportation shutdown and the resulting loss of commerce and farm services such as milk pickup, from snow removal costs, and from the livestock losses. The amount of most of this damage could not be determined.

SDZ038>040-050-052>071 **Beadle - Kingsbury - Brookings - Gregory - Jerauld - Sanborn - Miner - Lake - Moody - Brule - Aurora - Davison - Hanson - Mccook - Minnehaha - Charles Mix - Douglas - Hutchinson - Turner - Lincoln - Bon Homme - Yankton - Clay - Union**

15	1600CST				2	2			Extreme Windchill
16	1500CST								

Temperatures a few degrees below zero were accompanied by wind gusts over 40 mph creating wind chills as cold as 70 below zero. Drifting snow and areas of low visibility in blowing snow also occurred in open areas. Two men stranded in a car overnight near Pukwana froze to death while a third man stranded with them survived. M59VE, M63VE

SOUTH DAKOTA, West

SDZ001>002-012>014-024>025-028-031>032-043>044-046>047-049 **Harding - Perkins - Butte - Meade Co. Plains - Ziebach - Northern Black Hills - Northern Foot Hills - Central Black Hills - Pennington Plains - Haakon - Jackson - Bennett - Mellette - Todd - Tripp**

04	0000MST				0	0			Blizzard
05	1200MST								

A mix of wintry precipitation changed to all snow. Across the plains of western South Dakota, two to six inches of snow fell with Harding and Perkins counties being the hardest hit. Up to nine inches fell in the central and northern Black Hills. Strong northwest winds, frequently to 40 mph, caused near zero visibility in blowing and drifting snow. Most roads, along and north of Interstate 90 and in the northern Black Hills, were closed or blocked by drifted snow. Numerous auto accidents and isolated power outages were reported.

SDZ001>002-012>014-024>026-030>032-042>044-046>047-049 **Harding - Perkins - Butte - Meade Co. Plains - Ziebach - Northern Black Hills - Northern Foot Hills - Central Foot Hills - Custer Plains - Pennington Plains - Haakon - Shannon - Jackson - Bennett - Mellette - Todd - Tripp**

09	0400MST				0	0			Blizzard
10	2000MST								

A surge of arctic air with 40 to 60 mph winds created deadly wind chill indices to 80 below. Snowfall amounts were light over the plains, but winds lifted snow already on the ground resulting in zero visibility. Most roads, including Interstate 90, were closed along and north of a line from Belle Fourche to Wall to Winner. Heavy snow occurred in the northern Black Hills with a maximum of 12 inches near Lead. Numerous automobile accidents and scattered power outages were reported.

SDZ001>002-012>014-024>032-041>044-046>047-049 **Harding - Perkins - Butte - Meade Co. Plains - Ziebach - Northern Black Hills - Northern Foot Hills - Central Foot Hills - Southern Foot Hills - Central Black Hills - Southern Black Hills - Custer Plains - Pennington Plains - Haakon - Fall River Co. - Shannon - Jackson - Bennett - Mellette - Todd - Tripp**

09	1200MST				0	0			Extreme Cold
12	1200MST								

Arctic air lowered temperatures into the ten to 30 below zero range for overnight lows with highs remaining below zero. A persistent northwest wind produced wind chill indices from 30 to 70 below zero through the period. The bitter cold made digging out from the recent blizzard difficult. Also, the cold contributed to damage and loss of livestock.

SDZ001>002-012>014-024>025-031>032-043 **Harding - Perkins - Butte - Meade Co. Plains - Ziebach - Northern Black Hills - Northern Foot Hills - Pennington Plains - Haakon - Jackson**

15	0300MST				0	0			Blizzard
16	1200MST								

TENNESSEE, Central

Houston County

5 E Erin

04	2015CST				1	0	30K	0	Thunderstorm Wind (G95)
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Strong thunderstorm winds picked up a mobile home and wrapped the mobile home around a tree. A 58 year old white male was

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	
TENNESSEE, Central								
								killed instantly inside his mobile home. The mobile home was thrown a 100 feet. It was located on Jo Adams Rd. off Highway 49 North. M58MH
Cheatham County								
Southeast Section	04	2055CST		0	0			Thunderstorm Wind (G50)
								Large pine tree uprooted in a yard.
Cheatham County								
2 E Mt Zion	04	2055CST		0	0	10K	0	Thunderstorm Wind
								A horse barn on Johns Rd. was destroyed. A roof was damaged to a nearby home. A swing set and trampoline were also demolished outside this home.
Davidson County								
Madison	04	2120CST		0	2	500K	0	Thunderstorm Wind (G50)
								Severe property damage in Madison near Gallatin Rd. and Myatt Dr. Parts of roofs were ripped off several buildings including the Olive Garden restaurant. About 200 people scurried under tables when the Olive Garden lost part of its roof. The facade of a Blockbuster Music store was also destroyed. Other businesses that sustained heavy damage were Audio Video Environments, Bow Boot Store, Picture Frame Warehouse, Rio Bravo Restaurant, and Doctor's ValuVision.
								Several homes in Madison had roof damage. A power pole was knocked down on Jannette Ave. Several trees were blown down in the Madison area. An outdoor satellite dish was blown over.
								A total of 12 businesses and 6 homes received some damage. There were 2 minor injuries. Both individuals were treated and released.
Sumner County								
Hendersonville	04	2140CST		0	0	5K	0	Thunderstorm Wind
								Sheriff's office reported a roof blown off a house on New Shackle Island Rd.
Sumner County								
Gallatin	04	2140CST		0	0			Hail (0.75)
								NWS employee reported dime size hail.
Sumner County								
Bethpage	04	2150CST		0	0			Thunderstorm Wind (G50)
								Sheriff's office reported widespread trees and power lines down.
Macon County								
Countywide	04	2215CST		0	0			Thunderstorm Wind (G50)
								Sheriff's office reported downed trees and power lines across the county.
Lawrence County								
Lawrenceburg	04	2218CST		0	0			Thunderstorm Wind (G50)
								SKYWARN Spotter reported a tree blown down in Lawrenceburg.
Trousdale County								
Cato	04	2220CST		0	0			Thunderstorm Wind (G50)
								Local power company reported trees and power lines down in Cato and near the Sumner county line.
TN2033								
								Overton
	10	0600CST		0	0			Heavy Snow
		1800CST						The Overton County News reported more than 4 inches of snow fell in some areas in Overton county. This caused hazardous driving conditions and several traffic accidents Friday evening.
Decatur County								
Decaturville	24	1422CST		0	0			Hail (0.75)
								0.75 inch hail reported by local law enforcement.
Perry County								
Pine View	24	1445CST		0	0			Hail (0.75)
								Report was by sheriff's office.
Benton County								
Camden	24	1450CST		0	0			Hail (0.88)
								0.88 inch hail reported by local law enforcement.
Stewart County								
Dover	24	1452CST		0	0			Hail (0.75)
								Local law enforcement reported 0.75 inch hail.
Humphreys County								
Northern Sections	24	1505CST		0	0			Hail (0.75)

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
TENNESSEE, Central									
Local law enforcement reported hail covering the ground.									
Hickman County									
Centerville	24	1520CST			0	0			Hail (0.75)
									Report was by local law enforcement.
Lewis County									
Gordonsburg	24	1520CST			0	0			Hail (1.75)
									Local law enforcement reported hail covering the ground.
Perry County									
Lobelville	24	1525CST			0	0			Hail (0.75)
									Report was by sheriff's office.
Montgomery County									
1 E Clarksville	24	1540CST			0	0			Hail (0.75)
									Report was by sheriff's office.
Hickman County									
5 N Centerville	24	1545CST			0	0			Hail (0.75)
									Report was by local law enforcement.
Maury County									
Williamsport	24	1552CST			0	0			Hail (0.75)
									Hail report was given by weather spotter.
Maury County									
Columbia	24	1600CST			0	0			Hail (0.75)
									Report was given by sheriff's department.
Maury County									
10 NE Columbia	24	1610CST			0	0			Hail (0.75)
									Report was by local law enforcement.
Williamson County									
15 SW Franklin	24	1610CST			0	0			Hail (0.75)
									Local law enforcement reported hail covering the ground.
Giles County									
Good Spg	24	1615CST			0	0			Thunderstorm Wind (G50)
									Power lines were blown down.
Williamson County									
Nolensville	24	1625CST			0	0			Hail (1.75)
									Hail was reported by weather spotter and local law enforcement.
Rutherford County									
Smyrna to 4.8 E Smyrna	24	1637CST 1648CST	4.8	440	0	0	500K		Tornado (F2)
									The tornado downed trees, ripped off roofs from homes located at Waller Estates and Young Subdivision. Smyrna Middle School sustained roof damage. 4 apartments, 2 mobile homes and 3 homes were damaged in the Smyrna area. One person hid in a bathtub when the tornado struck. Another person left his mobile home and went into a ditch. The tornado width and length are approximations.
Marshall County									
5.4 E Lewisburg to 7.4 NE Lewisburg	24	1638CST 1648CST	2.4	60	0	0	100K		Tornado (F1)
									Mobile homes were damaged by the tornado in the Belfast area and a home and a barn were damaged in the Endsley-Rankin Rd. region.
Rutherford County									
La Vergne	24	1645CST			0	0			Hail (1.75)
									Hail was reported by local law enforcement.
Lincoln County									
2.4 NE Dellrose to 6.3 NE Dellrose	24	1650CST 1658CST	4.2	200	0	0	250K		Tornado (F2)
									Hot Rock area was hardest hit. 3 homes were totally destroyed and 9 more were damaged by the tornado. 14 outbuildings and one house trailer were damaged.
									Tornado path width and length are approximations.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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TENNESSEE, Central

Wilson County

Vine to 2 W Watertown	24	1653CST 1715CST	10.7	440	0	0	2M		Tornado (F2)
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A tornado in Wilson county started near Vine at Fall Creek Rd. and Hwy 231. The tornado moved northeast and affected the area of Norene especially on Sherrilltown Rd. and Phillips Rd. Storm damage for Wilson county was 2 million dollars. The tornado went from Norene to 2 miles west of Watertown. 100 hogs were killed near Norene on Blue Well Rd. when a barn collapsed on the hogs.

7 homes and 7 mobile homes were destroyed. 40 other homes sustained damage. A dozen barns were destroyed.

Bedford County

.3 E Wheel to 3 NE Wheel	24	1653CST 1700CST	2.8	400	0	3	250K		Tornado (F2)
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Most of the damage from the tornado occurred in Wheel and just to the east of Wheel. 1 home was destroyed and 3 homes were damaged. Also a general store was damaged along with one mobile home. 2 mobile homes were destroyed. There were 3 minor injuries.

Tornado path width and length are approximations.

Wilson County

Bairds Mills	24	1700CST			0	0	10K		Thunderstorm Wind
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Several telephone poles and power lines were down.

Rutherford County

6 SW Murfreesboro to 4.8 NE Barfield	24	1700CST 1712CST	6.5	300	0	18	4.7M		Tornado (F4)
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This was one of those extraordinary cases where the National Weather Service had a 41 minute lead time on a tornado warning . The F4 tornado struck the Southridge Subdivision, near Barfield, TN, at 503 PM. The tornado caused 18 injuries and 4.7 million dollars in property damages. One person had to be hospitalized overnight. The last time an F4 tornado struck Middle Tennessee was on May 18, 1995. The path length of the tornado was 6.5 miles with its intensity reaching F4 and its maximum width of 300 yards.

44 homes were destroyed and 47 other homes were damaged in the Barfield area. There was also damage to a Middle School, Food Lion Supermarket and to the Chalet Apartments.

The tornado first touched down on Yeargan Road, about 6 miles southwest of Murfreesboro, with an intensity of F1 and path width of 100 yards. At this location, a sheet metal roof was peeled back off a barn and a couple of trees were broken off. Also close by, a trailer was lifted off its foundation and overturned. Several trees were uprooted in the area. The tornado proceeded northeast and increased to F2 intensity with a width of 300 yards. As it struck the community of Barfield, an entire roof was lifted off a house, several homes were partially destroyed, and a barn was totally destroyed. The tornado crossed the West Fork of the Stones River and struck the Southridge Subdivision. At this time the tornado increased to a maximum intensity of F4 with its width remaining at 300 yards. About half a dozen homes were totally destroyed. The tornado then struck a large apartment complex just west of U.S. Hwy 231 on the south side of Murfreesboro. The tornado produced some structural damage and extensive roof damage as it weakened to F1 intensity and its width decreased to 150 yards. The tornado then crossed U.S. Hwy 231 and the Indian Wells Golf Course. Large trees were uprooted and structural damage occurred to several businesses as it approached I-24. The tornado continued moving to the northeast across I-24 snapping and uprooting trees as it narrowed to 50 yards wide. On the southeast side of Murfreesboro near the intersection of Elam Road and U.S. Hwy 41, and near Brandyville Road and East Rutherford Boulevard, the tornado uprooted numerous trees and damaged the roofs of several homes. It was at this point the track of the tornado ended as it lifted back into the clouds. Newspaper accounts told stories of people going to a basement, or an interior room of a house such as a bathroom or closet for safety. The low casualties from this tornado indicated all the preparedness activities of the National Weather Service for many years certainly paid off.

Franklin County

7 NE Winchester	24	1800CST			0	0			Hail (0.75)
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Dime size hail was reported.

Grundy County

3 W Altamont	24	1820CST			0	0			Hail (0.75)
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Dime size hail was reported.

Overton County

10 SE Livingston	24	1830CST			0	0			Hail (1.00)
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Sheriff's office reported quarter size hail.

White County

5 N Sparta	24	1830CST			0	0	1K		Thunderstorm Wind (G50)
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A few power lines were blown down.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
TENNESSEE, Central									
Jackson County									
5 SE Gainesboro	24	1910CST			0	0	1K		Thunderstorm Wind (G50)
									Power lines were blown down.
Overton County									
10 E Livingston	24	1920CST			0	0			Hail (0.75)
									Dime size hail reported.
De Kalb County									
Alexandria to 2 NE Alexandria	24	1723CST 1728CST	2	220	0	1	5K		Tornado (F2)
									One woman was injured by flying glass when the tornado turned her car around on US RT 70 at Alexandria and the windows popped out. Tornado path width and length are approximations.
Sumner County									
White House	24	1725CST			0	0			Thunderstorm Wind (G50)
									Power lines were down.
Smith County									
Brush Creek to 4 NE Club Spgs	24	1728CST 1738CST	14	440	0	6	1M		Tornado (F2)
									6 people were injured, none seriously, in the tornado that struck Smith county. 11 vehicles were destroyed and 7 vehicles damaged, 5 livestock killed, 22 outbuildings destroyed and one cattle trailer was destroyed. 7 houses and 7 mobile homes were destroyed and 43 buildings received some damage from the tornado. Most of the damage occurred in the Brush Creek area. Numerous trees and power lines were down in southern Smith county. Tornado path length and width are approximations.
Smith County									
Gordonsville	24	1730CST			0	0			Hail (0.88)
									Report was given by weather spotter.
Cannon County									
1.5 SE Pleasant Ridge to 1.5 S Gassaway	24	1733CST 1738CST	3.2	440	0	2	150K		Tornado (F2)
									The tornado destroyed 1 home and damaged 10 others. 2 mobile homes were damaged. 2 people were injured, but they were treated and released. Many barns and outbuildings were damaged. Numerous trees were down on State Rt 53 causing portions of the road to be blocked. Tornado path width and length are approximations.
Sumner County									
2 W Portland to 1.7 W Portland	24	1736CST 1737CST	0.3	10	0	0			Tornado (F0)
									SKYWARN Spotter observed the tornado. It did no damage. Path length and width are approximations.
De Kalb County									
Liberty	24	1745CST			0	0			Hail (0.75)
Putnam County									
Buffalo Vly to Bloomington Spgs	24	1745CST 1800CST	13	200	0	0	1K		Tornado (F1)
									8 structures received damage from the tornado. The tornado travelled from the Buffalo Valley area to Gentry and Gentry to Bloomington Springs. Tornado path width and length are approximations.
De Kalb County									
Smithville to 7.3 NE Smithville	24	1748CST 1754CST	7.3	440	0	0	250K		Tornado (F2)
									The tornado caused structural damage to 12 homes. 3 barns were also damaged along with many sheds and outbuildings. Most of the damage to homes were on Allens Ferry Rd., Cordell Love Rd. and Big Hurricane Rd. Tornado path width and length are approximations.
Putnam County									
9 W Baxter	24	1800CST			0	0	20K		Thunderstorm Wind
									Wind damage occurred to a house.
Franklin County									
Pleasant Ridge	24	1800CST			0	0			Hail (0.75)
Jackson County									
1 SW Mt Union to 2.4 NE Mt Union	24	1808CST 1813CST	3.2	70	0	0	500K	0	Tornado (F2)
									The tornado destroyed 4 homes and damaged 6 others. It also destroyed 6 mobile homes and damaged 2 others. Numerous barns and outbuildings were destroyed. Most of the damage occurred on Mayberry School Road and Dodson Branch Road.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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TENNESSEE, Central

The tornado path length and width are approximations.

Putnam County

4 N Cookeville

24 1840CST 0 0 Hail (0.75)
Report was given by sheriff's office.

Putnam County

6 N Cookeville

24 1850CST 0 0 Thunderstorm Wind (G50)
Numerous trees were blown down.

TENNESSEE, East

Cumberland County

10 N Crossville

05 0054CST 0 0 10K 4K Thunderstorm Wind
Tree and a powerline downed in northern part of county. Reported by sheriff's office.

Fentress County

Countywide

05 0058CST 0 0 5K Thunderstorm Wind
Trees downed all across the county. Reported by sheriff's office.

Scott County

West Part Of County

05 0105EST 0 0 8K Thunderstorm Wind
Trees downed and winds estimated at 45 to 65 mph across western part of county. Reported by a ham radio operator.

Morgan County

Sunbright

05 0110EST 0 0 5K Thunderstorm Wind
Several trees downed in and around Sunbright. Reported by the sheriff's office.

Roane County

Harriman

05 0130EST 0 0 15K Thunderstorm Wind
Roof of a lumber company building was blown off by high winds. Reported by the sheriff's office.

Rhea County

Countywide

05 0145EST 0 0 3K Thunderstorm Wind
Numerous trees downed all across the county. Reported by the sheriff's office.

Meigs County

Countywide

05 0145EST 0 0 7K Thunderstorm Wind
Numerous trees downed all across county. Reported by the sheriff's office.

Anderson County

Marlow

05 0155EST 0 0 25K Thunderstorm Wind
A mobile home was overturned by high winds in the community of Marlow, north of Oak Ridge. Reported by a ham radio operator.

Campbell County

Jacksboro/Lafollette

05 0200EST 0 0 10K Thunderstorm Wind
Numerous trees downed in and around the Jacksboro and LaFollette areas. Reported by the sheriff's office.

Hamilton County

Countywide

05 0205EST 0 0 Hail (0.75)
Several reports of 3/4 inch hail across the county and reports of winds estimated at 50 mph.

Claiborne County

Countywide

05 0208EST 0 0 9K Thunderstorm Wind
Trees downed all across county. Reported by the sheriff's office.

Knox County

Fountain City

05 0209EST 0 0 Thunderstorm Wind (G55)
Wind gust to 58 mph recorded on an anemometer. Reported by a ham radio operator.

Union County

Maynardville

05 0210EST 0 0 5K Thunderstorm Wind
Several trees downed in and around the Maynardville area with a few trees across roads. Reported by the sheriff's office.

Loudon County

Loudon

05 0215EST 0 0 2K Thunderstorm Wind
One tree downed in the city of Loudon. A few power outages reported across the western portion of the county. Reported by the sheriff's office.

Mcminn County

Athens And Niota

05 0225EST 0 0 9K Thunderstorm Wind
Numerous trees downed all over the Athens and Niota areas. Reported by the sheriff's office.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Property Damage	Crops	Character of Storm
TENNESSEE, East									
Monroe County									
Madisonville	05	0230EST			0	0		2K	Thunderstorm Wind
One tree downed in Madisonville area. Reported by the sheriff's office.									
Blount County									
West Part Of County	05	0230EST			0	0		4K	Thunderstorm Wind
Several trees downed, mainly across western part of county.									
Grainger County									
Bean Station	05	0235EST			0	0		2K	Thunderstorm Wind
One tree downed across Highway 375. Reported by the sheriff's office.									
Hancock County									
Sneedville	05	0235EST			0	0			Thunderstorm Wind (G52)
Winds estimated at 60 mph in the Sneedville area. Reported by the sheriff's office.									
Bradley County									
Cleveland	05	0245EST			0	0			Hail (0.75)
3/4 inch hail reported in the Cleveland area. Reported by the sheriff's office.									
Polk County									
5 N Benton	05	0255EST			0	0	19K	8K	Thunderstorm Wind
Powerlines and large tree limbs downed in the northwest part of the county. Reported by the sheriff's office.									
Jefferson County									
White Pine	05	0310EST			0	0		2K	Thunderstorm Wind
Large tree limbs downed on power lines. Reported by the sheriff's office.									
Hawkins County									
Church Hill	05	0310EST			0	0		5K	Thunderstorm Wind
Several trees downed in and around the Church Hill area. Reported by the sheriff's office.									
Hamblen County									
Morristown	05	0310EST			0	0		7K	Thunderstorm Wind
Trees down on South Fairmont Road and Lakeway Road. Reported by the sheriff's office.									
Blount County									
Countywide	05	0315EST			0	0		11K	Thunderstorm Wind
Numerous trees down all over the county. Reported by the sheriff's office.									
Sevier County									
Gatlinburg	05	0325EST			0	0		4K	Thunderstorm Wind
A few trees downed in the Gatlinburg area. Reported by the Gatlinburg Fire Dept.									
Cocke County									
Countywide	05	0330EST			0	0		2K	Thunderstorm Wind
Tree down on State Highway 107. Reported by the sheriff's office.									
Greene County									
Countywide	05	0338EST			0	0	21K	8K	Thunderstorm Wind
Trees and powerlines downed all across the county. Reported by the sheriff's office.									
Sullivan County									
Countywide	05	0345EST			0	0		10K	Thunderstorm Wind
Trees down across entire county. Reported by local dispatch.									
Unicoi County									
Erwin	05	0430EST			0	0		7K	Thunderstorm Wind
A few trees down across the county. Reported by the sheriff's office.									
Carter County									
Countywide	05	0430EST			0	0		2K	Thunderstorm Wind
Tree down near lake. Reported by sheriff's office.									
TN2012>018-034>047-066>074-083>087-099>102	10	1100EST 2300EST			0	0			Winter Storm

An arctic cold front and associated upper level disturbance swept through the southern Appalachians. Snowfall amounts were 1-3 inches in southeast Tennessee, 2-4 inches across the northern Cumberland plateau and central east Tennessee, and 3-5 inches in

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
<u>TENNESSEE, East</u>									
			northeast Tennessee.						
<u>TENNESSEE, West</u>									
Shelby County									
Millington to Bolton	04	1815CST 1833CST			0	0	0.02K		Hail (0.75)
Gibson County									
Gibson to Milan	04	1830CST 1845CST			0	0	25K		Thunderstorm Wind
			In Gibson, the town's municipal auditorium lost half of its roof. One home was blown off its foundation. One home had a tree fall through its roof. Five families were left homeless. Numerous trees and power lines were blown down. In downtown Milan, a business had a plate glass window blown out. The police and fire department building suffered roof damage.						
Shelby County									
Rosemark	04	1840CST 1845CST			0	0	0.10K		Hail (1.00)
TN001>004									
			Lake - Obion - Weakley - Henry						
	08	1800CST			0	0	0.04K		Winter Storm
	09	0200CST							
TN2019>020-048>053-088>090									
			Dyer - Gibson - Lauderdale - Tipton - Haywood - Crockett - Madison - Chester - Shelby - Fayette - Hardeman						
	10	0400CST 1400CST			0	0	0.11K		Heavy Snow
			Snow fell across much of southwest Tennessee with accumulations of 3 to 5 inches over most of the area.						
<u>TEXAS, Central</u>									
TXZ073-077-154-168-170									
			Concho - Schleicher - Mcculloch - Menard - Mason						
	06	1100CST			0	0			Heavy Snow
	07	0600CST							
			Between two and five inches of snow fell over parts of the southern Heartland, the northern Edwards Plateau, the northwest Hill Country, and the eastern Concho Valley. Five inches of snow was reported at Eden in Concho County. The snow cover on the roads caused hazardous driving conditions and many schools were closed.						
TXZ154>155-168>170									
			Mcculloch - San Saba - Menard - Kimble - Mason						
	12	1200CST			0	0			Winter Storm
	14	0800CST							
			Cold arctic air settled over west central Texas on the 11th. Warm and moist air from the Gulf of Mexico moved northwest above the frigid air on the night of the 11th. This combination produced snow, sleet, temperatures in the teens, and wind chills to 15 below over the area on the 12th, 13th, and morning of the 14th.						
			Two to three inches of snow fell over most of the northwest Hill Country and the southern Heartland. This was followed by about one inch of sleet on top of the snow. The sleet and snow formed a thick ice cover on roads and highways which caused many wrecks. On the afternoon of the 13th, Interstate 10 was closed for 200 miles from Junction to Fort Stockton and not reopened until the next day.						
<u>TEXAS, Central Southeast</u>									
TXZ163>164-176>179-195>200-210>214-226>227-235>238									
			Houston - Trinity - Madison - Walker - San Jacinto - Polk - Burleson - Brazos - Washington - Grimes - Montgomery - Liberty - Colorado - Austin - Waller - Harris - Chambers - Wharton - Fort Bend - Jackson - Matagorda - Brazoria - Galveston						
	12	0600CST			3	0			Ice Storm
	13	2359CST							
			Freezing rain/sleet event occurred on the 12th-13th. Trees, powerlines and roadways were all effected. The weight of the ice caused trees and powerlines to snap/fall. Glazed roadways posed hazardous driving conditions. Over 1100 traffic accidents were reported in Southeast Texas which accounted for 3 deaths. Estimated damage was set at \$800,000. F32VE, M34VE, M?VE						
Houston County									
2 N Crockett	23	1750CST			0	0	5K		Thunderstorm Wind
			Trees and powerlines blown down along HWY 287.						
Brazoria County									
Manvel	27	1500CST			0	0	5K		Thunderstorm Wind
			Trees and powerlines blown down near Manvel.						
Harris County									
South Houston	27	1510CST			0	0	5K		Hail (0.75)

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage	Crops	Character of Storm
					Killed	Injured	Property		
TEXAS, Central Southeast									
Harris County									
Pasadena	27	1539CST 1544CST	1.5	30	0	0	12M		Tornado (F1)
A F1 tornado (1.5 mi long/30 yd wide) touched down in Pasadena. It destroyed a temporary school building, damaged apartment roofs, destroyed a stormage facility, severely damaged an office building and parked cars, caused minor roof damage to a Dairy Queen and moderate structural damage to a church. Damage was set at \$12 million and no injuries were reported.									
Harris County									
7 NE Crosby	27	1540CST	0.1	10	0	0	5K		Tornado (F0)
Several trees blown down by brief touchdown of F0 tornado 7 miles NE of Crosby.									
Harris County									
Deer Park	27	1549CST	0.1	10	0	0	15K		Tornado (F0)
F0 tornado touched down in Deer Park causing minor roof damage and trees blown down.									
Harris County									
6 NE Deer Park	27	1553CST	0.1	10	0	0	20K		Tornado (F0)
F0 tornado tore half a barn roof off 6 miles NE of Deer Park.									
Harris County									
19 E Houston	27	1615CST			0	0	5K		Hail (0.75)
Fort Bend County									
Arcola	27	1650CST 1651CST	0.1	30	0	0	5K		Tornado (F0)
Brief tornado touchdown near Arcola. Trees blown down.									
Polk County									
2 S Corrigan	27	1723CST			0	0	5K		Thunderstorm Wind
Trees blown down and blocked HWY 94E.									
Polk County									
Corrigan	27	1726CST			0	0	5K		Hail (1.00)
Liberty County									
Liberty	27	1730CST			0	0	5K		Thunderstorm Wind
6" diameter limbs blown down.									
Trinity County									
Trinity	27	1730CST			0	0	5K		Thunderstorm Wind
Trees blown down blocking HWY 94.									
Harris County									
Houston	27	1737CST			0	0	5K		Hail (0.75)
3/4" hail at HWY 288 & Beltway 8.									
Harris County									
Addicks	27	1816CST			0	0	5K		Hail (0.75)
Brazoria County									
Manvel	27	1855CST			0	0	5K		Hail (0.75)
Harris County									
Baytown	27	1915CST 1916CST	0.2	20	0	0	15K		Tornado (F0)
Brief F0 tornado touchdown in Baytown. Trees, fences and a shed blown down.									
Chambers County									
Anahuac	27	1925CST			0	0	5K		Thunderstorm Wind
Truck blown off road into ditch.									
Galveston County									
Dickinson	27	1930CST			0	0	5K		Hail (0.75)
Brazoria County									
Alvin	27	1940CST			0	0	5K		Hail (0.75)
Galveston County									
League City	27	1945CST			0	0	5K		Hail (0.75)
Galveston County									
Countywide	27	2024CST 2330CST			0	0	5K		Flash Flood
Widespread street flooding.									

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons	Estimated Damage	Character of Storm
					Killed	Injured	Property Crops

TEXAS, Central Southeast

Polk County

5 E Camden	27	2035CST			0	0	5K	Thunderstorm Wind
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Trees blown down at FM 942 just east of FM 350.

Polk County

5 SW Livingston	27	2040CST			0	0	5K	Hail (0.75)
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3/4" hail at Lake Livingston Dam.

Polk County

5 SW Livingston	27	2040CST			0	0	5K	Thunderstorm Wind (G50)
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50 kt wind gusts at Lake Livingston Dam.

Brazoria County

Countywide	27	2103CST 2359CST			0	0	5K	Flash Flood
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Widespread street flooding.

Chambers County

Countywide	27	2103CST 2359CST			0	0	5K	Flash Flood
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Widespread street flooding.

Fort Bend County

Se County	27	2103CST 2359CST			0	0	5K	Flash Flood
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Widespread street flooding.

Harris County

Se County	27	2103CST 2359CST			0	0	5K	Flash Flood
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Widespread street flooding.

Liberty County

Countywide	27	2103CST 2350CST			0	0	5K	Flash Flood
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Widespread street flooding.

TEXAS, Extreme West

TXZ055>056

El Paso - Far West Plateau

06	0800MST				3	0		Winter Storm
07	2000MST							

A major winter storm brought relatively heavy snow to Far West Texas. By more northerly standards, the 3 to 6 inches of snow that fell was not great however it produced significant problems for the local area. Interstate 10 between El Paso and Las Cruces, New Mexico was closed and numerous traffic accidents were reported including three fatalities.
M77VE, F18VE, F73VE

TEXAS, Mid - South

NONE REPORTED.

TEXAS, North

TXZ132

Somervell

06	0950CST				0	0		Winter Storm
07	0000CST							

An arctic front pushed through North Texas late on the 4th. The cold air deepened over the area on the 5th and 6th as a secondary surge of arctic air spread southward from the northern and central plains. While the cold air established itself over the southern plains, a strong upper level storm organized over the southwestern United States. Several upper level disturbances moved from the developing storm across northern Texas on the 6th. Relatively warm, moist air was lifted over the shallow arctic air near the surface, resulting in the formation of precipitation. By the time this precipitation developed, the atmosphere over much of North Texas was cold enough for snow. A band of one to three inch snows fell from Goldthwaite and Brownwood, across southern Tarrant and Dallas Counties, and into northeastern Texas. Within this 50-mile wide band there were areas of heavier snowfalls of four to six inches. Travel problems resulted in traffic accidents and school closures.

Four inches of snow fell across the county between 1000 am and midnight.

TXZ131

Hood

06	1000CST				0	0		Heavy Snow
07	0000CST							

Two inches of snow fell between 1000 am and midnight. (See paragraph 1 under Somervell County for meteorological discussion of the event.)

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons	Estimated Damage	Character of Storm
					Killed	Injured	Property Crops
TEXAS, North							
TXZ142			Mills				
	06	1200CST			0	0	Heavy Snow
	07	0000CST					
	Two inches of snow accumulated on grassy areas but the snow melted on road surfaces. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)						
TXZ143			Hamilton				
	06	1200CST			0	0	Heavy Snow
	07	0000CST					
	Two to three inches of snow accumulated across the county. Heavier amounts were reported in Hamilton and in Hico where four to five inches fell. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)						
TXZ159			McLennan				
	06	1200CST			0	0	Heavy Snow
	07	0000CST					
	Sleet fell during the afternoon across the county resulting in a light accumulation. The sleet changed to snow during the evening with three inches accumulating in the town of West. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)						
TXZ129			Eastland				
Eastland	06	1200CST			0	0	Winter Weather
	07	0000CST					
	Light snow during the afternoon produced a dusting on the ground across the southern portion of the county while melting on contact elsewhere. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)						
TXZ104			Collin				
Mc Kinney	06	1200CST			0	0	Winter Weather
	07	0000CST					
	Snow during the afternoon and evening produced mainly trace amounts across the county, although around one half inch was reported in the southern portions. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)						
TXZ121			Kaufman				
	06	1200CST			0	0	Heavy Snow
	07	0000CST					
	Snow during the afternoon and evening accumulated to one to two inches in Forney and Terrell. Between two and three inches were reported in Kaufman and across the southern portion of the county. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)						
TXZ134			Ellis				
	06	1200CST			0	0	Heavy Snow
	07	0000CST					
	Two to three inches of snow accumulated during the afternoon and evening across much of the county. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)						
TXZ133			Johnson				
	06	1200CST			0	0	Heavy Snow
	07	0000CST					
	Two to three inches of snow accumulated during the afternoon and evening across much of the county. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)						
TXZ144			Bosque				
	06	1200CST			0	0	Heavy Snow
	07	0000CST					
	Between three and five inches of snow fell during the afternoon and evening at Meridian and Cranfills Gap. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)						
TXZ130			Erath				
	06	1200CST			0	0	Heavy Snow
	07	0000CST					
	One to three inches of snow fell across much of the county during the afternoon and evening. Three to five inches were reported in the southern portion of the county. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)						
TXZ145			Hill				
	06	1200CST			0	0	Heavy Snow
	07	0000CST					
	Between two and four inches of snow fell across the northern portion of the county during the afternoon and evening. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)						
TXZ118			Tarrant				
	06	1200CST			0	0	Heavy Snow
	07	0000CST					
	Two inches of snow fell in southeastern Tarrant County, including Arlington, during the afternoon and evening hours with trace						

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

TEXAS, North

amounts occurring elsewhere across the county. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)

TXZ119

Dallas

06	1200CST			0	0			Heavy Snow
07	0000CST							

Two to four inches of snow fell across the southeastern half of the county during the afternoon and evening hours. Two inches occurred in south Dallas, Grand Prairie, and Mesquite; three inches fell in Lancaster; and four inches fell in Seagoville. Less than one inch occurred in the northwestern half of the county. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)

TXZ146

Navarro

06	1200CST			0	0			Heavy Snow
07	0000CST							

One to two inches of snow fell across the northwest half of the county, including Corsicana, during the afternoon and evening. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)

TXZ135

Henderson

06	1200CST			0	0			Heavy Snow
07	0000CST							

One to three inches of sleet and snow accumulated in the northwestern half of the county during the afternoon and evening. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)

TXZ120

Rockwall

06	1200CST			0	0			Heavy Snow
07	0000CST							

Two to four inches of snow fell across the county during the afternoon and evening. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)

TXZ105

Hunt

06	1200CST			0	0			Heavy Snow
07	0000CST							

Two to three inches of snow fell in the southern portion of the county while up to an inch accumulated across the northern half. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)

TXZ123

Rains

06	1200CST			0	0			Heavy Snow
07	0000CST							

Two to four inches of snow fell across the county during the afternoon and evening. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)

TXZ122

Van Zandt

06	1200CST			0	0			Heavy Snow
07	0000CST							

Two to four inches of snow fell across the county during the afternoon and evening. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)

TXZ107

Hopkins

06	1200CST			0	0			Heavy Snow
07	0000CST							

Three to five inches of snow occurred in the southern two thirds of the county while the northern third received one to three inches. (See paragraph 1 under Somervell County for a meteorological discussion of the event.)

TXZ159

Mclennan

07	2150CST			0	0			Ice Storm
08	0600CST							

During the overnight hours on the 7th and the early morning hours of the 8th, the upper level storm that had been nearly stationary over the southwestern U.S. for several days, finally moved across Texas. Ahead of the storm, strong southerly winds above the surface brought warmer air into North Texas. This layer of above freezing temperatures aloft caused the ensuing precipitation to fall in the form of freezing rain and sleet. Accumulations of ice were heaviest in the south central counties where up to an inch of glaze accumulated on trees and power lines. Widespread power outages occurred in Bell, Falls, Limestone, and southern Mclennan Counties. The precipitation changed back to light snow before it ended late on the 8th, as cold air spread back into the area behind the exiting storm system.

Freezing rain during the night and early morning hours produced up to one inch of ice on trees and power wires across the southern half of the county. Widespread power outages and travel problems occurred due to heavy icing.

TXZ158

Bell

07	2200CST			0	0			Ice Storm
08	0600CST							

Freezing rain during the night and early morning hours made travel hazardous across the county. (See paragraph 1 under

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
Date				Killed	Injured	Property	Crops	
TEXAS, North								
Mclennan County for a meteorological discussion of the event.)								
TXZ157	Coryell							
	07	2200CST		0	0			Ice Storm
	08	0600CST						
Freezing rain during the night and early morning hours made travel hazardous across mainly the northern half of the county. (See paragraph 1 under Mclennan County for a meteorological discussion of the event.)								
TXZ160	Falls							
	07	2200CST		0	0			Ice Storm
	08	0600CST						
Freezing rain during the night and early morning hours made travel hazardous across much of the county. (See paragraph 1 under Mclennan County for a meteorological discussion of the event.)								
TXZ122	Van Zandt							
	07	2200CST		0	0			Ice Storm
	08	0600CST						
Freezing rain during the night and early morning hours made travel hazardous. (See paragraph 1 under Mclennan County for a meteorological discussion of the event.)								
TXZ091>095-098>107-115>123-129>135-141>148-156>162-174>175	Montague - Cooke - Grayson - Fannin - Lamar - Haskell - Throckmorton - Young - Jack - Wise - Denton - Collin - Hunt - Delta - Hopkins - Stephens - Palo Pinto - Parker - Tarrant - Dallas - Rockwall - Kaufman - Van Zandt - Rains - Eastland - Erath - Hood - Somervell - Johnson - Ellis - Henderson - Comanche - Mills - Hamilton - Bosque - Hill - Navarro - Freestone - Anderson - Lampasas - Coryell - Bell - Mclennan - Falls - Limestone - Leon - Milam - Robertson							
Dallas	12	2000CST		0	0			Winter Weather
	13	0800CST						
Another major winter storm developed into the southwestern United States on the 11th and 12th while arctic air remained entrenched over the southern plains. An upper level disturbance moved away from the developing storm and toward Texas late on the 12th. Precipitation developed over North Texas ahead of this disturbance as relatively warm and moist air was lifted over the shallow arctic air near the surface. Over the northwestern sections, specifically northwest of the Dallas/Fort Worth Metroplex, the atmosphere was cold enough for snow. One to two inches accumulated by daybreak on the 13th across much of Montague, Jack, Wise, Cooke, Denton, and northeastern Parker Counties. A shallow layer of above freezing air aloft caused the precipitation to fall as a mixture of sleet and snow over much of the remainder of northern Texas. This wintry mixture covered the ground in most places and accumulated up to half an inch deep in some areas. Travel problems developed, mainly on bridges and overpasses, across much of North Texas.								
TXZ091>095-102>107-117>123-131>135	Montague - Cooke - Grayson - Fannin - Lamar - Wise - Denton - Collin - Hunt - Delta - Hopkins - Parker - Tarrant - Dallas - Rockwall - Kaufman - Van Zandt - Rains - Hood - Somervell - Johnson - Ellis - Henderson							
	14	2300CST		0	0			Glaze
	15	1000CST						
During the late night hours of the 14th and early morning hours of the 15th, the upper level storm moved across the southern plains. Strong southerly winds ahead of the storm brought warmer temperatures into the area a few thousand feet above the surface. The arctic air mass remained intact at the surface across the north central and northeastern areas but surface temperatures warmed above freezing across the south. When the precipitation developed early on the 15th, it therefore was able to fall as a cold rain over the entire area with the exception of north central and northeastern areas. Below freezing temperatures remained in these areas until mid-morning on the 15th and therefore light freezing rain produced a light glaze on exposed surfaces, and bridges and overpasses. The commute to work was treacherous for morning motorists and numerous traffic accidents resulted.								
Bell County								
Nolanville	23	1420CST		0	0			Hail (0.75)
Bell County								
4 N Belton	23	1435CST		0	0			Hail (0.75)
Leon County								
Buffalo	23	1650CST		0	0			Hail (1.00)
Anderson County								
Elkhart	23	1723CST		0	0			Hail (1.00)
Anderson County								
4 S Elkhart to 4 SE Elkhart	23	1723CST 1725CST	1	30	0	4	50K	Tornado (F1)
A tornado destroyed a mobile home and injured its four occupants. Another home received minor roof damage. Trees were snapped and uprooted by the tornado.								

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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TEXAS, North Panhandle

TXZ001>004-006>009-012-014>015 **Dallam - Sherman - Hansford - Ochiltree - Hartley - Moore - Hutchinson - Roberts - Potter - Gray - Wheeler**

	11	1000CST			0	0			Heavy Snow
	12	1000CST							

Snowfall across the northern and eastern Texas panhandle ranged from 4 inches at Dalhart and Miami to 8 inches at Shamrock.

TEXAS, Northeast

TXZ096>097-108>112-124>126-136>138-149>151 **Red River - Bowie - Franklin - Titus - Camp - Morris - Cass - Wood - Upshur - Marion - Smith - Gregg - Harrison - Cherokee - Rusk - Panola**

	06	1200CST			0	0			Ice Storm
	08	1800CST							

Abundant low level moisture was pumped northward across the region from low pressure over the northwest Gulf of Mexico. The moisture overran a freezing airmass across northeast Texas. The result was 2 to 4 inches of freezing rain and sleet across the area. Numerous accidents were reported along with power outages. Several highways were closed.

TXZ136>138-149>153-165>167 **Smith - Gregg - Harrison - Cherokee - Rusk - Panola - Nacogdoches - Shelby - Angelina - San Augustine - Sabine**

	12	1200CST			0	0			Ice Storm
	15	0600CST							

Freezing rain with sleet accumulated to depths of 1/4 to 1/2 inch across the region. Several highways were closed and numerous traffic accidents occurred. Isolated power outages from fallen power lines also occurred.

TXZ096>097-108>112-124 **Red River - Bowie - Franklin - Titus - Camp - Morris - Cass - Wood**

	14	0600CST			0	0			Ice Storm
	15	1200CST							

Ice accumulations of 1/4 to 1/2 inch occurred across portions of northeast Texas. Several traffic accidents resulted.

Cherokee County

	23	1748CST			0	0			Thunderstorm Wind (G60)
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Several trees blown down across powerlines resulting in numerous power outages.

Rusk County

	23	1830CST			0	0			Hail (0.50)
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Panola County

	23	1910CST			0	0			Hail (0.75)
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Reported near Lake Murval.

Smith County

	27	1505CST			0	0			Hail (0.50)
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San Augustine County

	27	1645CST			0	0			Hail (0.75)
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Angelina County

	27	1755CST			0	1			Lightning
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A 13 year old boy was injured when he was sitting next to a window in his house and lightning struck the home. He suffered minor burns.

Angelina County

	27	1806CST			0	0			Hail (1.00)
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Angelina County

	27	2215CST			0	0			Hail (1.00)
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Angelina County

	27	2215CST			0	0			Thunderstorm Wind (G65)
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Several trees were blown down across powerlines resulting in power outages.

TEXAS, South

TXZ252>255

Starr - Hidalgo - Willacy - Cameron

	12	1400CST			0	0			Extreme Cold
	14	1300CST							

Temperatures in the upper 20s to near 30 and extensive freezing drizzle caused damage to tropical ornamental plants, sugar cane, aloe, and some citrus.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

TEXAS, South Central

TXZ183>184-202>206-217>222-228 **Val Verde - Edwards - Kinney - Uvalde - Medina - Bexar - Comal - Maverick - Zavala - Frio - Atascosa - Wilson - Karnes - Dimmit**

01	0001CST			0	0	8M	15M	Drought
31	2359CST							

Drought persisted through January across the southwestern half of South Central Texas. Brief periods of light rain, sleet and snow during the month again added some moisture to soils across the area. Monthly damages are based on the estimated annual loss to agriculture across all of Texas through this year. Property damages do not include business or commercial revenue losses.

TXZ183>192

Val Verde - Edwards - Real - Kerr - Bandera - Gillespie - Kendall - Blanco - Hays - Travis

07	0800CST			0	0	5M	100K	Winter Storm
08	1000CST							

A strong cold front moved southward into central Texas on the evening of Saturday, January 4th, and for the next three days, colder air continued to filter southward into the area. By early Tuesday morning, an upper level system to the west had begun a slow approach toward south Texas, and widespread light rain began changing into sleet across the western part of the Texas Hill Country. The sleet developed into a wintery precipitation mixture of sleet, freezing rain and snow across the Hill Country by Tuesday evening as the upper level system continued to draw closer. The only reports of sleet across the remainder of South Central Texas were very random and indicated no significant accumulations. The upper level system passed across the area early the next morning. By 1000 on the morning of Wednesday, January 8th, the sleet and snow had changed back into light rain and all winter advisories and warnings were cancelled. Residents of the area from Burnet to Austin and Georgetown reported the heaviest accumulations of ice and sleet. Over 60,000 residents suffered power outages across the area due to tree limbs falling onto power lines. Many of the outages continued for as long as five days. One sentimental casualty of the storm in Williamson County was a large oak tree located in front of the county courthouse and known as the "courthouse oak." Its actual age was not known, but it was estimated to have been several centuries old. The tree, weakened several years earlier by disease, drought and earlier storms, lost all its limbs in this event, and was destroyed. Hundreds to thousands of limbs were lost across central Texas due to the weight of ice, sleet and snow. Many residents referred to this storm as the "worst winter storm in the past 25 years or

TXZ183>192-202>209-217>225 **Val Verde - Edwards - Real - Kerr - Bandera - Gillespie - Kendall - Blanco - Hays - Travis - Kinney - Uvalde - Medina - Bexar - Comal - Guadalupe - Caldwell - Fayette - Maverick - Zavala - Frio - Atascosa - Wilson -**

Karnes - Gonzales - De Witt - Lavaca

11	2000CST			0	0	1M	20K	Winter Storm
14	1100CST							

A second strong cold front moved into central Texas on the evening of Friday, January 10th, and again temperatures began to drop steadily across the area. Again, an upper level disturbance moving through the southwestern U.S. began to form widespread rain and showers as it approached south Texas on Saturday the 11th. By that evening, rain had begun to change to freezing rain across the Hill Country. By early Sunday morning, driving had become hazardous across the Hill Country. By Sunday evening, the wintery mixture of sleet and freezing rain had spread across the Austin and San Antonio metropolitan area. By early on the morning of Monday, January 13th, the precipitation had become primarily snow across the Hill Country and Austin area with freezing rain and sleet continuing over the Del Rio and San Antonio areas and eastward. Precipitation began to taper off during Monday evening, with only very light amounts of sleet or freezing rain being reported in South Central Texas from Monday evening into Tuesday morning. Many schools and businesses from the Hill Country eastward past San Marcos, Austin and Georgetown and southeastward as far as Giddings, Luling, Gonzales, LaGrange, and Cuero were closed on Monday, with some schools remaining closed again on Tuesday. Ice caused problems on bridges and overpasses as far south as Interstate 10 eastward from San Antonio beyond Luling to the Schulenburg area, with many automobile and truck accidents reported. However, in general, ice accumulations in this storm were lower than with the earlier storm this month. Power outages were reported by around 2000 residents, with power generally restored the same day.

TEXAS, South Panhandle

TXZ031-036-041>042 **Motley - Crosby - Lynn - Garza**

07	1700CST			0	0	0	0	Heavy Snow
08	1200CST							

Heavy snow fell across parts of the South Plains late on the 7th into the first half of the 8th. Lynn, Crosby, Garza, and Motley Counties received the most snow. Crosbyton reported over 6 inches, Tahoka and Post had 5, and Matador received 6.5 inches.

TEXAS, Southeast

TXZ201-215>216

Hardin - Jefferson - Orange

12	0800CST			1	20	18M		Ice Storm
14	0900CST							

A record ice storm paralyzed southeast Texas and southwest Louisiana. Around 90,000 electric customers across southeast Texas were without power for up to six days. Emergency shelters were opened for several nights due to the cold weather following the ice storm. More trees and power lines were knocked down in this ice storm than what came down during Hurricane Bonnie in 1986. Hundreds of homes received minor damage due to trees or tree limbs falling on roofs. Several house fires were directly or indirectly related to the ice storm, but fortunately there were only no injuries. Numerous traffic accidents attributed to icy roads led to several minor injuries. One death was indirectly attributed to the ice storm. Two men were electrocuted on Tuesday, January 21st, while doing cleanup work for a local electric company. One 48 year old man died, and a 19 year old man was seriously injured in the accident. M48VE

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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TEXAS, Southeast

Hardin County

Sour Lake	27	2030CST			0	0	10K		Thunderstorm Wind
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Several trees were blown down on power lines near Sour Lake.

TEXAS, West

TXZ045>046-050-060 Gaines - Dawson - Andrews - Winkler

06	0600CST				0	0			Heavy Snow
09	0400CST								

A snowstorm that sputtered much of its three day life eventually dumped heavy snow in a band from Kermit, through Andrews, and to Lamesa. Numerous traffic accidents were reported during the three days in these counties and surrounding counties with lesser amounts of snow. There were four fatal accidents during the inclement weather--each with one fatality. Three of the deaths were on the 7th and one on the 8th. The deaths will not be recorded in the statistics, since the weather was only considered partly to blame.

The culprit of the snow was an upper level storm system that parked itself over Baja California. The heaviest snow fell on the evening of the 7th, after frustrating forecasters for two days with lack of snowfall. Adjacent areas of New Mexico had heavy snows as well.

Heaviest Snows :

Andrews	7.5"
Lamesa	6.0"
Seminole	5.5"

TEXAS, Western North

TXZ083>090 Hardeman - Foard - Wilbarger - Wichita - Knox - Baylor - Archer - Clay

08	2300CST				0	0			Snow
09	2200CST								

Snow began to fall across north Texas Tuesday night (January 8) and fell through the day Wednesday. By Wednesday evening, around 2 inches of snow blanketed western portions of north Texas.

UTAH, North, Central and South

UTZ007>009 Wasatch Mountains I80 North - Wasatch Mountains South Of I80 - Western Unita Mountains

02	1800MST				0	0	20K		Heavy Snow
03	1800MST								

The subtropical moisture in a southwesterly flow led to heavy snow in Utah's northern mountains. Generally 10-20 inches of snow fell during this time. The Alta ski resort measured the most with 20 inches. A rock slide closed Ogden canyon for awhile on the morning of the 3rd. No other significant damage was reported.

Washington County

St George	03	0100MST 1200MST			0	11	5M		Flash Flood
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Subtropical moisture brought heavy rains to southwest Utah to kick-off the new year. Washington county had hundreds of reports of flood damage. Most Streets and basements were flooded in the towns of St. George and Bloomington. Total rainfall amounts during this time were 2.38 inches in St. George and 2.42 inches in Bloomington. Damage in Washington county was estimated at 5 million dollars, worst in its history.

UTZ019 Utah'S Dixie And Zion National Park

06	1600MST 1601MST				0	0			High Wind (G57)
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A strong north-south pressure gradient caused local north winds to blow in Washington county on this date. Generally sustained wind speeds of 40-50 mph occurred, especially near the mouths of canyons. In the town of Virgin a peak wind gust of 66 mph was measured. No significant damage was reported.

UTZ002>004-006>018-020>021-023-025 Northern Wasatch Front/Brigham City/Ogden Bountiful - Salt Lake And Toole Valleys - Southern Wasatch Front/Lehi/Provo/Nephi - Wasatch Mountain Valleys/Huntsville/Park City/Heber - Wasatch Mountains I80 North - Wasatch Mountains South Of I80 - Western Unita Mountains - Wasatch Plateau/Book Cliffs - Western Unita Basin - Castle Country/Price/Castle/Dale/Emery - San Rafael Swell/Greene River/Hanksville - Sanpete/Sevier Valleys - West Central Utah/Delta - Southwest Utah/Cedar City/Milford - Central And Southwest Mountains - Southeast Mountains/Canyonlands - South Central Utah/Kanab/Escalante - Glen Canyon Recreation Area/Lake Powell - Eastern Uinta Mountains - Tavaputs Plateau

11	0200MST				3	50	40M		Blizzard
14	1400MST								

A historic winter storm brought death and destruction to Utah during this 3 day period in January. Initially a moist westerly flow was in place over the state. Then a strong arctic front blew through on the 12th creating blizzard conditions. High northeast- east winds were reported along and behind the arctic front. Peak gusts occurred on the Bountiful Bench at 77 mph and East Millcreek Canyon at 66 mph. Deadly wind chill temperatures of 40-50 below zero developed across northern Utah. Some snow fell just

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

UTAH, North, Central and South

about everywhere in the state. From 1-4 feet of snow fell in the mountains and 2-18 inches in the valleys. The highest storm total of 54 inches was reported at the Skyline Mine (at about 9,000 feet) in northwest Carbon county. Several avalanches occurred during this storm. One near Logan Peak in Cache county killed 3 men. Avalanches also damaged vehicles and closed roads stranding vacationers at the various ski resorts. The high winds downed power lines and large trees. There was numerous reports of waterlines and pipes bursting causing extensive water damage throughout the state. Hundreds of flights were cancelled to and from the Salt Lake International Airport. This was indeed the Blizzard of '97. M29OT, M36OT, M38OT

UTZ006>008

Wasatch Mountain Valleys/Huntsville/Park City/Heber - Wasatch Mountains I80 North - Wasatch Mountains South Of I80

21	0100MST			0	0			Heavy Snow
	1200MST							

An upper-level disturbance moved over northern Utah with just enough moisture for warning criteria snow to fall. The northern mountains received from 12-17 inches. The highest mountain report of 17 inches came from Alta. In the mountain valleys, Kimball Junction measured 7 inches.

UTZ001>003-006>008-017

Cache Valley/Utah Portion - Northern Wasatch Front/Brigham City/Ogden Bountiful - Salt Lake And Toole Valleys - Wasatch Mountain Valleys/Huntsville/Park City/Heber - Wasatch Mountains I80 North - Wasatch Mountains South Of I80 - Central And Southwest Mountains

22	2100MST			0	10	0.50K		Heavy Snow
	2300MST							

A fast-moving storm system left northern Utah and the southern mountains with warning criteria snowfall. The Snowbasin ski resort received the most snow with 22 inches. A record for the highest daily snowfall occurred in Logan with 14 inches. 6-10 inches fell in Utah's southern mountains. Avalanches again were a problem in the northern mountains. Several vacation cabins were hit with the occupants being injured. Fortunately there were no deaths. Numerous traffic accidents and road closures were the other main problems.

UTZ006>008-010-012

Wasatch Mountain Valleys/Huntsville/Park City/Heber - Wasatch Mountains I80 North - Wasatch Mountains South Of I80 - Wasatch Plateau/Book Cliffs - Castle Country/Price/Castle/Dale/Emery

25	0800MST			1	20	300K		Winter Storm
	2700MST							

A strong winter storm hit Utah during this time. Winds of 50-70 mph were common in the mountains. Hidden peak at the Snowbird ski resort measured a wind gust of 100 mph. Heavy snowfall generally left the mountains with 1-2 feet. 2-5 inches were common in the northern valleys. The Sundance ski resort measured the most snowfall from this storm with 42 inches. Several avalanches occurred during this storm. One in Provo canyon claimed the life of a 27 year old male ice climber. Two vacation houses were damaged in other avalanches. Numerous traffic accidents occurred with at least 20 know injuries. M27OT

UTAH, Northeast

NONE REPORTED.

VERMONT, North and Central

VTZ001>012

Grand Isle - Franklin - Orleans - Essex - Chittenden - Lamoille - Caledonia - Washington - Addison - Orange - Rutland - Windsor

09	2200EST			0	0	180K		Winter Storm
	1000EST							

A storm system off the North Carolina coast Thursday afternoon (1/9/97) moved north across Long Island NY on Friday (1/10/97) and into Maine Friday night.

Generally 6 to 12 inches of snow fell across northern Vermont with 4 to 8 inches in Rutland and Windsor counties of Vermont. A few of the heavier snowfall reports were as follows:

Eden (Lamoille County).....12 inches
 Brookfield (Orange County).....10 inches
 Burlington (Chittenden County).....9.5 inches
 Albany (Orleans County).....9.2 inches
 Waitsfield (Washington County).....8 inches
 Bethel (Windsor County).....7.5 inches
 Sutton (Caledonia County).....7.5 inches
 St. Albans (Franklin County).....7 inches
 East Haven (Essex County).....7 inches
 Shoreham (Addison County).....6 inches

VTZ002-006-008-010-012

Franklin - Lamoille - Washington - Orange - Windsor

16	0300EST			0	0	25K		Mixed Precipitation
	1000EST							

A cold front moved across the northeast during Thursday, January 16, 1997. Gusty winds and a mixture of light snow, sleet and

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

VERMONT, North and Central

freezing rain preceded and accompanied the front. Snow squalls followed the front. The heaviest accumulation of frozen precipitation fell in the higher terrain of the following Vermont counties; Franklin, Washington, Lamoille, Windsor and Orange where 3 to 6 inches accumulated. Elsewhere, 3 inches or less fell.

VTZ001>010

Grand Isle - Franklin - Orleans - Essex - Chittenden - Lamoille - Caledonia - Washington - Addison - Orange
17 0000EST 2359EST 0 0 Extreme Windchill

An outbreak of arctic air resulted in extreme wind chills across much of Vermont. These wind chills frequently ranged from between 30 and 60 below zero.

VTZ001>012

Grand Isle - Franklin - Orleans - Essex - Chittenden - Lamoille - Caledonia - Washington - Addison - Orange - Rutland - Windsor
19 0000EST 1000EST 0 0 Extreme Cold

An arctic airmass centered over the Northeast resulted in bitterly cold early morning low temperatures on Sunday, January 19, 1997. A few of the coldest locations were:

Canaan (Essex County).....minus 38
 Morrisville (Lamoille County).....minus 36
 West Burke (Caledonia County).....minus 35
 Albany (Orleans County).....minus 32
 Bethel (Windsor County).....minus 32
 Westford (Chittenden County).....minus 29
 Montpelier (Washington County).....minus 27
 South Lincoln (Addison County).....minus 25

VTZ001>010

Grand Isle - Franklin - Orleans - Essex - Chittenden - Lamoille - Caledonia - Washington - Addison - Orange
22 0300EST 1200EST 0 0 150K Mixed Precipitation

Cold air was entrenched at the surface as a warm front moved north across the region into Canada. A mixture of light snow, sleet and freezing rain fell across the area.

There were numerous automobile and truck accidents. Portions of Interstate 89 were closed in Washington and Chittenden Counties due to extremely slippery conditions. Burlington International Airport was closed during part of the morning with numerous flight delays.

VTZ003-005>008-010>012

Orleans - Chittenden - Lamoille - Caledonia - Washington - Orange - Rutland - Windsor

24 1800EST 25 0600EST 0 0 85K Winter Storm

An area of low pressure moved through the eastern Great Lakes region Friday night (1/24/97) and then into Canada on Saturday (1/25/97). Snowfall across the region ranged from 3 to 8 inches, with the heaviest snowfall in southeast portions of the area.

The heaviest snowfall reports received were:

Springfield (Windsor County).....8 inches
 Albany (Orleans County).....6 inches
 Brookfield (Orange County).....5 inches
 East Wallingford (Rutland County).....5 inches
 Morrisville (Lamoille County).....4 inches
 Waitsfield (Washington County).....4 inches
 Burlington (Chittenden County).....4 inches

VTZ002>004-006>008-010>012 **Franklin - Orleans - Essex - Lamoille - Caledonia - Washington - Orange - Rutland - Windsor**

27 1800EST 28 1000EST 0 0 110K Winter Storm

A low pressure system moved east from the Great Lakes region Monday (1/27/97) and up the St Lawrence Valley Monday night and then into Canada Tuesday morning (1/28/97).

Across Central and Northeast Vermont between 6 and 12 inches of snow fell...except in the Champlain Valley where between 2 and 6 inches of snow fell. The heaviest snowfall reports were as follows:

Canaan (Essex County).....12.5 inches
 Ludlow (Windsor County).....11.8 inches
 Sutton (Caledonia County).....9.1 inches

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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VERMONT, North and Central

Newport (Orleans County).....9.0 inches
 Marshfield (Washington County).....8.1 inches
 East Wallingford (Rutland County).....6.5 inches
 Union Village (Orange County).....6.0 inches
 East Berkshire (Franklin County).....6.0 inches

VERMONT, South

VTZ013>014

Bennington - Windham

27	1900EST				0	0			Winter Storm
28	1200EST								

On January 27 and 28, a winter storm tracked from northern Indiana northeast to the Saint Lawrence Valley. This storm produced heavy snow in southern Vermont. A general accumulation of 7 to 10 inches with locally high amounts fell across Bennington and Windham Counties. The precipitation changed to sleet and freezing rain during the morning of January 28, then briefly to light rain before ending. Snowfall totals included, 11 inches at Townsend and 14 inches at West Wardsboro in Windham County.

VIRGIN ISLANDS

St. Thomas County

St. Thomas to Coastal Waters	08	1320AST 1335AST			0	0			Waterspout
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A waterspout was reported 14 miles southeast of St. Thomas.

St. Thomas County

St. Thomas	08	1550AST 1605AST			0	0			Funnel Cloud
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A funnel cloud was reported by a pilot 50 miles south of St. Thomas moving west.

St. Croix County

St. Croix	24	1300AST 1600AST			0	0			Heavy Rain
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A storm spotter from St. Croix reported one to three inches of standing water on road.

VIRGINIA, East

VAZ048>049-061>064-073>074-077 **Fluvanna - Louisa - Cumberland - Goochland - Hanover - Caroline - King And Queen - Essex - Northumberland**

09	0200EST 1200EST				0	0			Snow
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Low pressure moved north along the eastern seaboard during Thursday, January 9, and spread 2 to 3 inches of snow across portions of the central piedmont and northern neck of Virginia. Between 3 and 4 inches of snow was reported at Palmyra in Fluvanna county and at Ashland in Hanover county.

VIRGINIA, Extreme Southwest

Lee County

West Part Of County	05	0235EST			0	0	2K		Thunderstorm Wind
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Tree downed in western part of county near Cumberland Gap. Reported by the sheriff's office.

Wise County

Countywide	05	0315EST			0	0	8K		Thunderstorm Wind
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Several large trees blown down in the town of Wise. Numerous large limbs down throughout the county. Reported by the sheriff's office.

Scott County

Weber City	05	0320EST			0	0	8K		Thunderstorm Wind
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Several signs blown down by high winds. Also winds estimated at 60 mph.

Washington County

Countywide	05	0415EST			0	0	8K		Thunderstorm Wind
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A few trees down throughout county. Reported by local dispatch.

VAZ001>002-005>006-008 **Lee - Wise - Scott - Russell - Washington**

10	1100EST 2300EST				0	0			Winter Storm
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An arctic cold front and associated upper level disturbance swept across the southern Appalachians. Snowfall amounts across southwest Virginia ranged from 2 to 5 inches.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
	Date			Killed	Injured	Property	Crops	

VIRGINIA, North

VAZ026-029>031-036>040-042-050>057 **Rockingham - Page - Warren - Clarke - Nelson - Albemarle - Greene - Madison - Rappahannock - Loudoun - Orange - Culpeper - Prince William - Fairfax - Arlington - Stafford - Spotsylvania - King George**

09	0600EST 1600EST	0	0		Winter Weather
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The first area-wide winter weather event of the 1996/97 season spread a mix of snow, sleet, and freezing rain across all of northern and western Virginia during the daylight hours of the 9th. From the Piedmont through the coastal plain, 2 to 4 inches of snow and sleet fell before the changeover to rain and freezing rain. Several school jurisdictions closed prior to the event.

The event was the result of subtropical moisture rapidly overrunning a dome of cold air, causing a period of moderate snow and sleet. A secondary wave of low pressure developed along the North Carolina coast, locking the low-level cold air in place over inland locations.

Precipitation had an immediate impact on the morning commute, causing numerous fender-benders and several more serious accidents. A serious accident occurred in Arlington Co (VAZ054) when a tractor-trailer flipped over an exit ramp on interstate 395 near Washington, DC.

The changeover to mixed precipitation, combined with widespread road treatments, allowed for a somewhat more benign evening commute. Residential roads remained treacherous until the following day, when afternoon temperatures rose well above freezing.

Late on the 10th and early on the 11th, a band of moderate snow developed along an arctic front, producing 1 to 3 inches across much of northern Virginia from the Blue Ridge east. There was negligible human impact with this event, since it occurred overnight on a weekend.

VAZ021-025-027>028-041 **Highland - Augusta - Shenandoah - Frederick - Fauquier**

09	0900EST 1600EST	0	0		Winter Storm
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A winter storm spread a mix of snow, sleet, and freezing rain across all of northern and western Virginia during the daylight hours of the 9th. From the Blue Ridge to points west, between 3 and 5 inches of snow fell before precipitation changed to mixed sleet and freezing rain. Many area schools closed prior to the storm.

The event was the result of subtropical moisture rapidly overrunning a dome of cold air, causing a period of moderate snow and sleet. A secondary wave of low pressure developed along the North Carolina coast, locking the low-level cold air in place over inland locations.

Precipitation had an immediate impact on the morning commute, causing numerous fender-benders and several more serious accidents. A serious accident occurred in the northern Shenandoah Valley, when a tractor trailer jackknifed along interstate 81, closing the highway for at least an hour.

The changeover to mixed precipitation, combined with widespread road treatments, allowed for a somewhat more benign evening commute. Residential roads remained treacherous until the following day, when afternoon temperatures rose well above freezing.

VAZ021

Highland

24	1200EST 1900EST	0	0		Winter Weather
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A band of light to moderate snow, followed by freezing rain, caused several accidents and slippery roads across Highland Co during the afternoon of the 24th. Countywide accumulations were around 2 inches, with a coating of freezing rain on top. No damage was reported.

VIRGINIA, Northwest

VAZ003>004

Dickenson - Buchanan

01	0000EST	0	0		Record Warmth
05	1800EST				

A prolong warm spell from late December carried over into the new year. The warmest temperatures occurred on the 4th and 5th, with 60s common. Overnight low readings of 45 to 55 were felt.

VAZ003>004

Dickenson - Buchanan

08	2200EST	0	0	10K	Ice Storm
09	0700EST				

Snow and sleet changed to freezing rain, leaving an ice

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage	Character of Storm
	Date			Killed	Injured	Property Crops	

VIRGINIA, Northwest

deposit of 1/4 to 1/2 inch. No widespread power outages were reported.

VAZ003>004

Dickenson - Buchanan

16	1800EST			0	0	5K	Cold
20	0700EST						

Minimum temperatures of 5 above zero to 5 below zero were common. Daytime high readings on the 18th and 19th were in the teens. Winds of 10 to 20 mph prompted wind chill advisories.

VIRGINIA, Southwest

VAZ024

Rockbridge

08	2330EST			0	0		Heavy Snow
09	0830EST						

Snow developed across west-central Virginia during the late evening hours on the 8th. The snow mixed with sleet before ending during the morning hours on the 8th. Snow accumulations ranged from 4 to 5 inches in Rockbridge County. Slippery road conditions resulted in several traffic accidents.

VAZ044

Pittsylvania

09	0800EST			0	0		Ice Storm
	1500EST						

Freezing rain on the 9th in Pittsylvania County resulted in downed tree limbs and power lines and power outages.

VAZ007-009

Tazewell - Smyth

10	2230EST			0	0		Heavy Snow
11	0300EST						

Heavy snow during the late evening hours on the 10th and the early morning hours on the 11th deposited 4 to 5 inches of snow in Smyth and Tazewell Counties. Slippery road condition resulted in several traffic accidents.

WASHINGTON, Northeast

NONE REPORTED.

WASHINGTON, Northwest

WAZ003>010

Northern Casade Foothills - Central Casade Foothills - Northwest Interior - Everett And Vicinity - Seattle Metropolitan Area - Tacoma Area - Admiralty Inlet Area - Hood Canal/Kitsap Peninsula

01	0000PST			0	0		High Wind (G56)
	1100PST						

Sustained winds of 40 mph with gusts to 65 mph were reported in Mukilteo. The Hood Canal Bridge was closed for several hours. Winds to 60 mph in Arlington destroyed two airplanes that were tied down. In the Seattle area winds were a bit less, but still knocked down trees and cut off power to 113,000 homes.

In Granite Falls, NE of Everett, a gustnado blew down nearly 200 trees which destroyed a car and killed a dog.

In Colfax (eastern WA) winds blew over a radio tower that cost 40,000 to replace.

WAZ013>016

Eastern Strait Of Juan De Fuca - Western Strait Of Juan De Fuca - North Coast - Central Coast

01	0000PST			0	0		High Wind (G69)
	0900PST						

Winds on the Olympic Peninsula gusted to 80 mph, downing trees and cutting off power to some residents. Tatoosh Island, just off the coast, had sustained winds of 69 mph. Highway 101 was impassable at several spots due to flooding, mudslides and fallen trees. Highway 101 near Blyn was covered with 4 feet of water, mainly due to melting snow.

WAZ006>008

Everett And Vicinity - Seattle Metropolitan Area - Tacoma Area

01	2000PST			1	0	20M	Flood
03	2000PST						

Melting snow and rain caused mudslides and sinkholes in conjunction with the late December storms. Redmond got an inch of rain in 12 hrs. About 30 roads in King County were closed due to flooding or mudslides. A 58 year old woman died under a collapsed roof from the weight of the snow. Mercer Island had 7 major mudslides causing 1 million in damage. Some main roads were closed for the first week of the new year and cleanup from the mudslides and repairs to roads and bridges will cost around 20 million. In Lynnwood there were dozens of homes flooded some with up to 6 feet of flood water. On Camano island some homes were inaccessible due to slides. In Seattle, a mudslide knocked out secondary supports to the Magnolia bridge. The bridge carries about 17,000 cars a day and was closed for many weeks. In Shoreline a 100' long sinkhole engulfed an intersection into a steep ravine that would cost 2 million to repair. All in all about 50 homes around the Seattle area had to be evacuated due to mudslides. Lake Sammamish was at its highest level since 1962. The lake was about 7 feet above normal which flooded many lawns and docks. F58PH

WAZ032-034

Palouse - Spokane

02	0100PST			0	0		Flood
	2200PST						

The towns of Rosalia, Rockford, Tekoa and Oaksdale all flooded as Hangman and Rock Creek overflowed. Buses and trucks

Storm Data and Unusual Weather Phenomena

January 1997

Location	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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WASHINGTON, Northwest

banned from all Whitman County roads. Most flooded homes and businesses had two feet or three feet of water in them.

King County

Maple Vly

02 1330PST

0 0

Lightning

Lightning struck a home knocking gutters off, blew the electric box out of the wall, left burn marks across the floor and melted a sewing machine. The lightning also affected two other homes, disabling a garage door and blacking out a computer.

WAZ004

Central Casade Foothills

11 1200PST

3 0

Avalanche

An avalanche killed 3 hikers. The hikers left on Dec. 27th, didn't return on the 29th as expected and weren't found until Jan 11th. They were found buried in an avalanche near Index. M31OU, M31OU, M28OU

Snohomish County

Edmonds

15 2230PST

0 0

Mudslide

A mudslide in Edmonds covered 200 feet of railroad track, went 900 feet into Puget Sound, and was up to 25 feet deep. The slide knocked 5 cars from a passing train into Puget Sound, some with second class mail. Amtrak suspended passenger service along the tracks and it cost them money in passengers cancelling. Round the clock maintenance was kept on the tracks from Everett to Seattle as nearly 100 slides effected the tracks since the first of the year.

WAZ027

East Yakima/East Klickitat

17 0500PST

0 0

Ice Storm

18 1900PST

Icy roads were a factor in the automobile death of a 69 year old man. The man lost control of his car and rolled it, the death was not directly related to the weather. Freezing rain was reported over much of the central basin, including the Tri-Cities, and forced the closure of I-82 eastbound for most of the day and was a factor in another multiple car pileup. 2 inches of snow was also reported in Vantage. The next day 9 inches of new snow was reported in Mazama bringing the total on the ground to 53".

WAZ010

Hood Canal/Kitsap Peninsula

19 0800PST

4 0

Mudslide

A mudslide kills a family of four while they were sleeping in their home. The house, on Bainbridge Island, slid down a hill into Puget Sound. 20 other homes in the vicinity were evacuated. Two days before the slide, the nearby city of Hoodport received 2.91 inches of rain in 24 hours. M43PH, F36PH, M2PH, M1PH

Kitsap County

Bremerton

21 0600PST

0 0

Mudslide

In Bremerton, an important road to Brownsville Elementary was closed for four days and the school closed for one as a mudslide wiped out powerlines to the area.

WAZ002-005>006

Western Whatcom - Northwest Interior - Everett And Vicinity

30 0010PST

0 0

High Wind (G51)

0600PST

In Mukilteo winds gusted to 59 mph and in Bellingham winds gusted to 54 mph, however sustained winds were much less and only 2100 people lost power.

WASHINGTON, Southeast

WAZ028

Lower Columbia Basin

01 0000PST

0 0

Flood

03 1800PST

Minor flooding in the flood plain, high school parking lot partially flood.

WAZ029

Blue Mountain Foothills

01 0000PST

0 0

Flood

09 0000PST

Several roads and levees damaged by mud slids and washouts.

WAZ028

Lower Columbia Basin

16 1600PST

1 5

Ice Storm

17 1400PST

One traffic fatality, numerous traffic accidents, several personal injuries from slipping on ice. M69VE

WAZ028

Lower Columbia Basin

31 0800PST

0 0

Flood

2000PST

Water and mud covered many streets in Connell. Several downtown businesses had flooded basements. Significant road damage to some area roads.

WASHINGTON, Southwest

WAZ020>022-039>040 Southwest Interior - South Coast - Lower Columbia - Vancouver Area - Southern Cascade Foothills

01 0000PST

0 0

Flood

09 1200PST

Heavy rains during the last week of December caused 4 major rivers and numerous smaller streams throughout Southwest Washington to flood. Most damage was confined to roads and farmland with a few homes and businesses inundated.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Property Damage	Crops	Character of Storm
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WASHINGTON, Southwest

WAZ020>023-039>040 Southwest Interior - South Coast - Lower Columbia - West Columbia River Gorge - Vancouver Area - Southern Cascade Foothills

01	0000PST				0	0			Mudslides
31	2300PST								

Heavy rains from a series of strong Pacific storms during the last week of December loosened hillsides throughout Southwest Washington. Numerous mudslides cut roads and threatened homes during the first week of January. A large slide near Battle Ground slowly flowed down a hillside and threatened nearby homes through the month of January.

WAZ021 South Coast

01	0600PST				0	0			High Wind (G35)
	1800PST								

Cape Disappointment reported sustained winds of 40 mph.

WAZ023 West Columbia River Gorge

16	1200PST				0	0			Ice Storm
17	1700PST								

Freezing rain in the Columbia River Gorge resulted in significant ice accumulation. Scattered power outages and numerous minor traffic accidents were reported.

WAZ021 South Coast

18	1100PST				0	0			High Wind (G37)
	2000PST								

A Pacific weather system produced sustained winds of 43 mph along the Southwest Washington Coast at Cape Disappointment.

WAZ023-039 West Columbia River Gorge - Vancouver Area

27	1200PST				0	0			Ice Storm
28	1600PST								

Rain falling through cold air in the Columbia River Gorge produced significant accumulations of ice on roads and surfaces in the Gorge and near the western end of the gorge at Vancouver.

WEST VIRGINIA, East

WVZ048>049-054>055 Grant - Mineral - Pendleton - Hardy

09	0700EST				0	0			Winter Weather
	1600EST								

Subtropical moisture, rapidly overrunning a dome of cold air, produced an area of 1 to 3 inches of snow across portions of the Potomac highlands during the daylight hours of the 9th.

WVZ050>053 Hampshire - Morgan - Berkeley - Jefferson

09	1100EST				0	0			Winter Storm
	1600EST								

Subtropical moisture, rapidly overrunning a dome of cold air, produced a swath of 4 to 5 inches of snow and sleet over the eastern panhandle of West Virginia during the daylight hours of the 9th. A secondary wave of low pressure developed along the North Carolina coast, locking subfreezing air in place.

Although some freezing rain fell towards the end of the event, no damage was noted.

WVZ048>052-054>055 Grant - Mineral - Hampshire - Morgan - Berkeley - Pendleton - Hardy

24	1200EST				0	0			Winter Weather
	1900EST								

A band of light to moderate snow developed across the Potomac highlands during the early afternoon of the 24th, dropping a quick 1 to 2 inches of snow, with isolated areas receiving 3 inches. Later that afternoon, some areas received additional sleet and freezing rain. Some accidents were reported in eastern West Virginia, but no structural or agricultural damage was noted. Several school districts closed early.

WEST VIRGINIA, North

WVZ023 Preston

09	0400EST				0	0	1K		Winter Storm
	1400EST								

A strong winter storm developed across the Gulf of Mexico and moved quickly north into Ohio. The storm spread an icy wintry mix of precipitation into the mountainous area of northern West Virginia.

Preston county reported up to one inch accumulation of sleet and freezing rain. A few limbs were also downed.

WEST VIRGINIA, Southeast

WVZ045 Greenbrier

08	2230EST				0	0			Heavy Snow
09	0630EST								

Snow developed across southeast West Virginia during the evening hours on the 8th and continued into the morning hours on the

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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WEST VIRGINIA, Southeast

9th. Snowfall amounts in Greenbrier County ranged from 2 to 5 inches. Slippery road conditions resulted in several traffic accidents.

WVZ043

Summers

19	2000EST	0	0	Heavy Snow
20	0010EST			

Snowfall during the evening hours on the 19th and into the early morning hours on the 20th deposited 2 to 5 inches of snow in Summers County.

WEST VIRGINIA, West

**WVZ005>011-
013>020-024>040-
046>047**

Wayne - Cabell - Mason - Jackson - Wood - Pleasants - Tyler - Lincoln - Putnam - Kanawha - Roane - Wirt - Calhoun - Ritchie - Doddridge - Mingo - Logan - Boone - Clay - Braxton - Gilmer - Lewis - Harrison - Taylor - Mcdowell - Wyoming - Raleigh - Fayette - Nicholas - Webster - Upshur - Barbour - Pocahontas - Randolph

01	0000EST	0	0	Record Warmth
05	1800EST			

A unusually long warm spell carried over into the new year from late December. The warmest temperatures were on the 4th and 5th, with afternoon readings in the 60s and lower 70s. Overnight readings were unusually mild too, with upper 40s to upper 50s common.

Mingo County

Breeden

05	0300EST	0	0	1K	Thunderstorm Wind
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Several trees were knocked down on the ridges around the community.

Logan County

Holden

05	0305EST	0	0	1K	Thunderstorm Wind
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Trees were blown down across roads.

WVZ033>036

Mcdowell - Wyoming - Raleigh - Fayette

08	2200EST	0	0	20K	Ice Storm
09	0700EST				

Snow and sleet changed to freezing rain, leaving an ice deposit of 1/4 to 1/2 inch. No widespread power outages occurred.

**WVZ005>011-
013>020-024>040-
046>047**

Wayne - Cabell - Mason - Jackson - Wood - Pleasants - Tyler - Lincoln - Putnam - Kanawha - Roane - Wirt - Calhoun - Ritchie - Doddridge - Mingo - Logan - Boone - Clay - Braxton - Gilmer - Lewis - Harrison - Taylor - Mcdowell - Wyoming - Raleigh - Fayette - Nicholas - Webster - Upshur - Barbour - Pocahontas - Randolph

16	2200EST	0	0	25K	Cold
20	0700EST				

Minimum temperatures of 5 above zero to 5 below zero were common.

Daytime readings were in the teens on the 18th and 19th for the lowlands, with single digits across the mountains. Preliminary data indicates Gladys of Randolph County had the coldest reading on the 19th. The cooperative observer had 19 below zero. These temperatures are fairly typical for the coldest period of a nonsevere winter. No records were set. Winds of 10 to 20 mph prompted wind chill advisories. A few shelters were set-up, but not many individuals came. Schools delayed or cancelled their openings on the coldest mornings.

WISCONSIN, Extreme Southwest

NONE REPORTED.

WISCONSIN, Northeast

**WIZ005-010>013-
018>022-030>031-
035>040-045-048>050**

Vilas - Oneida - Forest - Florence - Marinette - Lincoln - Langlade - Menominee - Oconto - Door - Marathon - Shawano - Wood - Portage - Waupaca - Outagamie - Brown - Kewaunee - Waushara - Winnebago - Calumet - Manitowoc

01	0100CST	0	0	Glaze
	0630CST			

A narrow band of freezing rain and sleet moved southeast across the region, depositing a glaze of ice on the roadways. The ice-covered roads made early morning travel hazardous.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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WISCONSIN, Northeast

WIZ013-020>022-030>031-035>040-045-048>050 **Marinette - Menominee - Oconto - Door - Marathon - Shawano - Wood - Portage - Waupaca - Outagamie - Brown - Kewaunee - Waushara - Winnebago - Calumet - Manitowoc**

02	0400CST								
	1300CST			0	0				Fog

Dense fog reduced visibilities to one-quarter mile or less across much of northeast, central and east central Wisconsin. Warm air advecting over the top of a snow covered ground led to the fog development.

WIZ005

Vilas

04	0900CST								
	1100CST			0	0				Heavy Snow

A two-punch combination brought heavy snow to Vilas county over a 50 hour period. Low pressure tracking through southern Wisconsin brought up to eight inches of snow to the area on the 4th. As the low pushed to the east, cold arctic air poured into the region, causing lake-effect snows to develop. On January 5th and the morning of the 6th up to an additional 8 inches of lake-effect snow fell. Total storm accumulations of 16 inches were measured in the Boulder Junction area, with 11 inches reported at Manitowish Waters. Accumulations of 6 to 10 inches were common across the southern and eastern portions of the

WIZ040-050

Kewaunee - Manitowoc

09	0700CST								
	2100CST			0	0				Heavy Snow

Low pressure tracking through southern Lake Michigan brought 3 to 5 inches of snow to much of east central Wisconsin. Northeast winds off of Lake Michigan enhanced the snowfall in Kewaunee and Manitowoc counties, with 7 inch amounts reported in Kewaunee, Two Rivers and Manitowoc.

WIZ005-010>013-018>021-030>031-035>036

Vilas - Oneida - Forest - Florence - Marinette - Lincoln - Langlade - Menominee - Oconto - Marathon - Shawano - Wood - Portage

21	1500CST								
	1200CST			0	0				Glaze

Light rain froze on road surfaces across much of north central, central and northeast Wisconsin. The resulting ice-covered roadways led to numerous accidents and some school closures.

WIZ005-010>013-018>019-021-030-035

Vilas - Oneida - Forest - Florence - Marinette - Lincoln - Langlade - Oconto - Marathon - Wood

24	0000CST								
	0600CST			0	0				Heavy Snow

Heavy snow fell across all of north central Wisconsin, as well as parts of central and northeast Wisconsin. The heaviest amounts were found in western Vilas and northwest Oneida counties, where 10 to 12 inches of snow were measured. Six to nine inch amounts were common across the rest of the region.

WISCONSIN, Northwest

WIZ001>004-006>009 **Douglas - Bayfield - Ashland - Iron - Burnett - Washburn - Sawyer - Price**

04	0400CST								
	0500CST			0	0				Heavy Snow

A strong winter storm moved across southern Wisconsin to northern Lake Michigan producing sleet and freezing rain followed by heavy snow across northern Wisconsin. Several roads were closed. Snow amounts ranged from about half a foot in the Phillips area to over 2.5 feet on the Bayfield Peninsula. Some specific totals were 33 inches in Cornucopia, 22 at Superior, 17 in Ashland, 13 in Hurley, and 12 in Bayfield.

WIZ002>004

Bayfield - Ashland - Iron

05	0400CST								
	1145CST			0	0				Heavy Snow

This was a continuation of the previous event. As the winter storm moved to the northeast from southern Wisconsin, winds over the Lake Superior snow belt shifted to the northwest, beginning a period of heavy lake effect snow. Additional amounts ranged from around 9 inches in the Apostle Islands to about 10 inches in the Hurley area.

WIZ001>004

Douglas - Bayfield - Ashland - Iron

10	1600CST								
	1600CST			0	0				Heavy Snow

Wisconsin's snow belt received over two feet of lake effect snow. The heavier amounts were in Iron County where 26 inches fell at Hurley and 18 at Saxon. The rest of the lake shore received between 8 and 14 inches.

WIZ001>004-006>009 **Douglas - Bayfield - Ashland - Iron - Burnett - Washburn - Sawyer - Price**

15	0500CST								
	0930CST			0	0				Extreme Windchill

Temperatures in the teens below zero combined with winds gusting to 30 mph to create life-threatening wind chills of 60 to 70 degrees below zero. The winds also caused travel problems due to blowing and drifting of snow.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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WISCONSIN, Northwest

WIZ001>003	Douglas - Bayfield - Ashland	22 0430CST			0	0			Heavy Snow
		23 0845CST							

Strong winds off Lake Superior dumped up to 10 inches of snow on the Wisconsin snow belt. Cornucopia reported 10 inches, with 8 at Pattison State Park and Ashland. Blowing and drifting of snow by the strong winds prompted the closure of U.S. Highway 2 in Ashland, which had 4-5 foot drifts.

WIZ003>004	Ashland - Iron	25 0000CST			0	0			Heavy Snow
		0600CST							

Strong northwest winds created heavy lake effect snow along the Lake Superior shoreline of Ashland and Iron Counties. Hurley received 17.5 inches and Saxon had 15 inches.

WISCONSIN, Southeast

WIZ052-059>060	Sheboygan - Washington - Ozaukee	09 0600CST			0	0			Heavy Snow
		10 0600CST							

Low pressure moving northeast through Illinois and Indiana produced a prolonged period of snow over a part of eastcentral and southeast Wisconsin. The system's snow was enhanced by moisture input from Lake Michigan due to a northeast flow of air in the lower atmosphere. Newburg (Washington co.) picked up 8.2 inches, while both Sheboygan (Sheboygan co.) and Port Washington gathered 8 inches. Otherwise 4 to 7 inches fell east of a line from Green Bay to Janesville. Interstate-43 in Sheboygan county was closed for 1.5 hours in the morning due to the intense snowfall at that time. Many vehicles ended up in roadside ditches and there were many accidents. There were 10 indirectly-related deaths due to the accidents. The 6.5 inches at Milwaukee was the first substantial snowfall of the season.

WIZ071	Racine	15 0000CST			0	0			Heavy Snow
		2359CST							

Two upper-level weather disturbances swept across southeast Wisconsin and produced two separate periods of snow. Eventually 8 inches was recorded in the city of Racine. There was no snowfall in the 3 hour period of 1200-1500 CST. Outside of Racine county snow amounts of 4 to 7 inches were noted southeast of a line from Janesville to Sheboygan.

WIZ052-058>060-063>066-069>072	Sheboygan - Dodge - Washington - Ozaukee - Dane - Jefferson - Waukesha - Milwaukee - Rock - Walworth - Racine - Kenosha	16 0200CST			0	0			Other
		1700CST							

Frequent ground blizzard conditions affected the rural areas of southcentral and southeast Wisconsin as bitter cold air poured into this area on northwest winds gusting to 40 mph. Whiteout conditions, due to blowing snow, stopped traffic on I-94 in Kenosha county before daybreak. Traffic was also brought to a standstill in rural points of Racine county during the late afternoon hours. Elsewhere, whiteout conditions slowed or stopped traffic at times. Temperatures plunged from 22 degrees in Milwaukee at 1am to only 4 above by the noon hour. Madison dropped to 2 above by noon. Wind chills fell to 25 below to 40 below. Many rural schools were closed.

WIZ046>047-051>052-056>060-062>072	Marquette - Green Lake - Fond Du Lac - Sheboygan - Sauk - Columbia - Dodge - Washington - Ozaukee - Iowa - Dane - Jefferson - Waukesha - Milwaukee - Lafayette - Green - Rock - Walworth - Racine - Kenosha	17 0000CST			0	3	20K		Extreme Cold
		2359CST							

The coldest arctic air of the winter season enveloped southeast and southcentral Wisconsin, resulting in many school closings and cancellation of evening activities. There were 3 frostbite injury cases reported in Milwaukee county. Maximum temperatures only reached zero at Madison and 5 above at Milwaukee, roughly 20 degrees below normal. Morning lows in the 7 below to 14 below range, coupled with northwest winds of 10 to 20 mph, generated wind chills of 30 below to 50 below zero. A water pipe froze in a Watertown (Dodge county) church. The resulting flooding damaged the building's 2nd and 3rd floors. Electrical lines in the cities of North Fond du Lac (Fond du Lac county), and Sheboygan (Sheboygan county) contracted and snapped due to the extreme cold air. About 2000 customers were without power for about 1 hour.

WISCONSIN, Southwest

WIZ017-029-032>034-041>044-053>055-061	Taylor - Clark - Buffalo - Trempealeau - Jackson - La Crosse - Monroe - Juneau - Adams - Vernon - Crawford - Richland - Grant	15 1900CST			0	0			Winter Storm
		16 0400CST							

Winds of 20 to 30 mph caused considerable blowing and drifting snow. Travel became nearly impossible in open country and higher terrain where visibility was reduced to less than 1/4 mile.

WIZ017-029-032>034-041>044-053>055-061	Taylor - Clark - Buffalo - Trempealeau - Jackson - La Crosse - Monroe - Juneau - Adams - Vernon - Crawford - Richland - Grant	16 0400CST			0	0			Extreme Windchill
		2100CST							

Wind chills of 30 below to 50 below forced the closure of schools throughout western and central Wisconsin.

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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WISCONSIN, Southwest

WIZ017-029-032>033 Taylor - Clark - Buffalo - Trempealeau

24	0200CST				0	0			Heavy Snow
	1400CST								

A slow moving band of snow brought 6 to 9 inches of accumulation from Alma and Fountain City to Whitehall, Neillsville and Medford.

WISCONSIN, West

WIZ014>015

Polk - Barron

04	0500CST				0	0			Heavy Snow
	1500CST								

Strong storm system passing through the central U.S. deposited heavy snow over northwest Wisconsin. 9 inches was reported in Luck while 13 inches was reported near Cushing. Other snowfall reports include 6 inches at Cumberland and St. Croix Falls.

WIZ014>016-023>028 Polk - Barron - Rusk - St. Croix - Pierce - Dunn - Pepin - Chippewa - Eau Claire

15	1700CST				0	0			Extreme Windchill
	2000CST								

Strong northwest winds of 25 to 40 mph in combination with temperatures around or below zero dropped windchills into the 40 to the 40 to 60 below zero range.

WYOMING, Central and West

WYZ015

Natrona

01	1200MST				0	0			High Wind (G56)
	2300MST								

Gust to 64 mph reported in downtown Casper.

WYZ005-009-026

North Big Horn Basin - South Big Horn Basin - Western Big Horn Mountains

09	1800MST				0	0			Heavy Snow
	1400MST								

Up to 18 inches of snow in the Big Horn Basin and western slopes of the Big Horn Mountains.

WYZ018-022>024

Kemmerer - Rock Springs/Green River - Red Desert - Flaming Gorge

11	1700MST				0	0			Blizzard
	1800MST								

Blizzard conditions over Sweetwater and southern Lincoln counties. Sustained winds of 40 mph and visibilities less than 100 feet at times.

WYZ001-006

Yellowstone National Park Mt Id - Teton/Moutains

22	2000MST				0	0			Heavy Snow
	0800MST								

Over a foot of snow in northwest mountains.

WYZ001-006

Yellowstone National Park Mt Id - Teton/Moutains

25	1300MST				0	0			Heavy Snow
	1300MST								

Over a foot of snow northwest mountains.

WYOMING, Extreme Southwest

NONE REPORTED.

WYOMING, North Central

NONE REPORTED.

WYOMING, Northeast

WYZ054>058

Gillette - South Campbell - Moorcroft - Wyoming Black Hills - Weston

04	0000MST				0	0			Blizzard
	1800MST								

Three to five inches of snow combined with 40 mph winds created hazardous travel conditions. Visibility was near zero at times with blowing and drifting snow.

WYZ054>058

Gillette - South Campbell - Moorcroft - Wyoming Black Hills - Weston

09	0200MST				0	0			Blizzard
	0600MST								

Two to eight inches of snow combined with 50 mph winds to reduce visibilities to zero. Along with hazardous travel conditions, wind chill indices dropped to 60 below zero.

WYZ054>058

Gillette - South Campbell - Moorcroft - Wyoming Black Hills - Weston

09	1200MST				0	0			Extreme Cold
	1200MST								

Arctic air brought temperatures into the 15 to 35 below zero range for overnight lows with daytime highs only near zero. Persistent

Storm Data and Unusual Weather Phenomena

January 1997

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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WYOMING, Northeast

northwest winds kept wind chill indices between 30 and 60 below zero through the period.

WYOMING, Southeast

WYZ061>063-065>066-069>070 Southwest Carbon - North Carbon - Snowy Range - Laramie Valley - Laramie Range - Cheyenne Foothills - Pine Bluffs

09	1800MST								
		0	0						Blowing Snow
11	2200MST								

Heavy snow that began January 9 and ended January 10 combined with strong winds to create whiteout conditions in southeast and south central Wyoming and the Nebraska panhandle. Interstate 80 was closed between Cheyenne and Big Springs, NE due to blowing and drifting snow January 10 from 100 AM to 645 AM, and Nebraska Highway 71 was closed between Scottsbluff and Kimball January 10 from 100 AM until 830 AM. Some snowfall totals include three inches at Scottsbluff NE, four inches at Kimball NE, seven inches at Sidney NE, five inches at Potter NE, six inches at La Grange, four inches at Cheyenne, and eight inches at Snowy Range Ski Area.

Additionally, Interstate 80 was closed January 11 for a few hours at night between Rawlins and Laramie, and for almost 24 hours between Laramie and Cheyenne.

WYZ061>063-065>066-069 Southwest Carbon - North Carbon - Snowy Range - Laramie Valley - Laramie Range - Cheyenne Foothills

12	0400MST								
		0	0						Extreme Windchill
13	0000MST								

Strong winds of 30 to 40 MPH combined with temperatures around zero degrees to create dangerously cold wind chills in southeast Wyoming. Wind chills of 70 below zero were recorded at Arlington as well as at the summit of Interstate 80 between Cheyenne and Laramie at 1050 AM. A wind chill of 65 below was recorded at Laramie at 1100 PM, and a wind chill of 60 below was recorded at Rawlins at 1050 AM. Cheyenne recorded a wind chill of 45 below at 1050 AM.

WYZ062>064-066>067-069 North Carbon - Snowy Range - North Laramie Range - Laramie Range - Platte - Cheyenne Foothills

17	2200MST								
		0	0						High Wind (G74)
18	1600MST								

Strong winds occurred over and adjacent to the Snowy Range and Laramie Range. Sustained winds were 40 to 50 MPH with a gust to 85 MPH ten miles south of Wheatland at 423 AM.

WYZ061 Southwest Carbon

25	1400MST								
	2300MST	0	0						Blizzard

Strong winds combined with snow to create whiteout conditions in south central Wyoming. Highway 287 was closed north of Rawlins by 700 PM due to blowing and drifting snow. Sustained winds were 40 to 45 MPH with a gust to 63 MPH at Rawlins at 950 PM.

WYZ059-064-066>067-069 Converse - North Laramie Range - Laramie Range - Platte - Cheyenne Foothills

26	0900MST								
	1500MST	0	0						High Wind (G52)

Strong winds occurred over and east of the Laramie Range. Sustained winds were 40 to 50 MPH with gusts of 60 to 70 MPH.

WYZ062>067 North Carbon - Snowy Range - North Laramie Range - Laramie Valley - Laramie Range - Platte

30	2100MST								
	2100MST	0	0						High Wind (G61)
31	2100MST								

Strong winds occurred over and adjacent to the Snowy Range and Laramie Range. Sustained winds were 40 to 50 MPH with gusts to 70 MPH ten miles south of Wheatland at 538 AM and 1008 PM.

Flood/Flash Flood Fatalities - 1960 through 1996 United States, Puerto Rico and the Virgin Islands Year by Year / State by State

**Compiled by Richard A. Wood, Ph.D.
Research Meteorologist, Tucson, AZ**

From 1960 through 1996, a total of 4,629 people have lost their lives in the United States and its territories due to floods and flash floods. Most flash flood fatalities (56%) are vehicle related.

Texas leads the nation with the most flood/flash flood deaths during the past 37 years with 619, followed by Puerto Rico (367), California, West Virginia, Virginia and South Dakota.

In 1996, 164 people died in floods/flash floods, the greatest total since 1985. Of the 164 deaths, 59% were vehicle related. Pennsylvania had 17% of the 1996 fatalities, occurring mostly in January.

All but 11 of the 248 fatalities in South Dakota occurred during the flash floods in the Rapid City area on June 9-10, 1972. More than half of the Virginia deaths occurred during the August 1969 floods associated with Hurricane Camille in the western portion of the state. Most of the Colorado deaths (81%) happened during the Big Thompson Canyon flash flood of August 1, 1976.

The top fifteen flood/flash flood fatality states during 1960 - 1996 are:

1. Texas	619	6. Pennsylvania	216	11. New York	119
2. California	258	7. Mississippi	187	12. Georgia	112
3. West Virginia	252	8. Colorado	171	13. Ohio	105
4. Virginia	251	9. Louisiana	149	14. North Carolina	97
5. South Dakota	248	10. Missouri	130	15. Arizona	96

1996 fatalities by month:

Jan.	38	Jul.	18
Feb.	13	Aug.	3
Mar.	0	Sep.	51
Apr.	2	Oct.	3
May	12	Nov.	7
Jun.	16	Dec.	1

Total 164

1996 fatalities by locations:

59%	in a vehicle
26%	in or near a waterway
9%	in a permanent home
3%	in a mobile home
2%	in boats or boating
1%	unknown/other

Sources: Dr. Richard Wood, National Weather Service, Office of Hydrology, National Climatic Data Center "Storm Data" Publications.

U.S. Flood/Flash Flood Fatalities 1960 - 1996 (AL - NH)

	AL	AZ	AR	CA	CO	CT	DE	FL	GA	ID	IL	IN	IA	KS	KY	LA	ME	MD	MA	MI	MN	MS	MO	MT	NE	NV	NH
1960				7							1			3	2			2	3								
1961			4						1		1		5	5													
1962				2	1		7						1		1			4									
1963	1		1	3			1				1		1		2			2	1				1				
1964				19				4	5						10	28							1				1
1965	2			8	22			5	2				4			58		1			12	1	5	36	2	1	1
1966				6					1				1		2										1		
1967	7			4			3		1				1		3			1			1		1				
1968	4			1					1		1		5			2		2	2	4			1				
1969	1		2	58	1				2			4	1		3	3		4		4	6	132	2		1		
1970	1	23	1	21								1			1						3	1					
1971		1													1			16							1		
1972	2	8		1				1			1		2		11			19	4		3	3					
1973	2		4	5					1		1	11		4		3	3		3			19	12			1	8
1974		3	3	5			1	5			3		1	3	1	5					1	9	4	2		9	
1975	2		3	1	1	2	2				1	2	1	2	7	2		1		1		3	1			3	
1976	2	1		4	139				1	11				3													
1977			1						39		1			6	8	1							26				
1978	1	17	10	26							2	2			2	6		1			13				1		
1979	15		2	1		1		5	3		4	4			6	4		1				4	3				
1980	3	5		6		1			4							2					1	2			1		
1981		8		8							1	3	2	3	2	2		1		1			1				1
1982		2		11	4	5			1		5		1	5	2	6						1	6				
1983	1	15	2	7							2	2		6	1	6	2	1				5	1				
1984		1	1	2											7	1							4	2	2	8	
1985		1	2								6				4			1					4				
1986				13							1		1				1	1	1	2	1	4	2			1	
1987			4						4		1	2		1	2		1			1	2						
1988	1	1		3				4				2				5											
1989			4	1		3		1				2		2	3	3		7					1				
1990	16	3	1	3					14		5	3	3		2				4		1	2	5		1	2	
1991	1	1	1	1								3	3		3	3	1					2		1	1		
1992		1		2				2	2			1		1	5	1							5			1	
1993		3	2	17				2	2		1	1	3	2	2						2	1	30		4		
1994				2					28		2	1		1								1	3				
1995	1	2		7							1	2			2	6						1	2				
1996	1			3	3					1	2	2		2	2		1	3		2			7	4			1
Totals	64	96	48	258	171	9	17	29	112	12	44	48	36	49	95	149	8	68	14	15	46	187	130	49	14	26	10

U.S. Flood/Flash Flood Fatalities 1960 - 1996 (NJ - VI)

	NJ	NM	NY	NC	ND	OH	OK	OR	PA	RI	SC	SD	TN	TX	UT	VT	VA	WA	WV	WI	WY	AK	HI	PR	VI	TOTALS	
1960	9		7	3				1	1					15		1			1	1					111		168
1961			1	1				2						36	6		1		22					8		93	
1962	15		7	3			2							4			4		1			1				53	
1963												2	4	4			2		12				3			41	
1964				3		8		18			2		4	5				1					1			142	
1965		3		1				1			9		6	28	7		1	2			1			6		188	
1966		1			4									36									2	2		56	
1967	1	7	3	1					3				3	10					3							53	
1968	8					3							2	16												57	
1969	1	2				30		1	2		2	3	2	12			153		4	2				10	1	445	
1970								1	3					17		2								55	1	131	
1971	3					2				17				23				1					2	1		68	
1972	2	5	21	2				7	51			237	1	24			20	4	125				2	1		555	
1973	9		2	16		1	10		7		3		11	27		5	3		3					4		178	
1974	3	2		1	1		1	9	1				2	22									5	9		111	
1975	6		6	4	5	2			4		1		5	13			2		3					41		127	
1976		2	3	4	1		3		1		2		1	9		2	1	1						2		193	
1977			6	11		1		5	78				11	5			4	1	2					4		210	
1978		7	1			3	2		1					40			1	1	2	1			1	3		143	
1979		3	5	6		1	3						2	28			8	2	1					9		121	
1980			6			3	2	2	9				3	6	1				2	2	1		2			62	
1981						2	4		4				3	36							1			1		84	
1982		1					6						1	1				1						1		60	
1983			4		1	1	4	2			3		5	19		1		5							1	97	
1984		6	4	5			15		5		2		3	7		5			2					1		83	
1985							8		3					16			19		38			12		52		166	
1986		2	4			1	2		9		4		1	18	1	3	3	1	1	1				2		80	
1987			11				3	1	1		1		3	17		1	3						3	9		71	
1988		3												7										5		31	
1989		2	4	6		4	1		1				12	17			6		4		1					85	
1990		2		1		32	1		1		9		5	14		1		2	7					2		142	
1991		4		1				1	1				2	16			2		2				7	3		61	
1992	2		2	3		2	3							4			2									39	
1993			8	2	1		5					5		6			1			1	1				1	103	
1994	1		2			1	5		1				3	28					5	2			3			89	
1995				9		5	2		1		3			26		1	5	1		1				1		79	
1996	1	5	12	14	2	3	5	7	28		2			7	1	2	10		12					19		164	
Totals	61	57	119	97	15	105	87	58	216	17	43	248	91	619	16	24	251	22	252	11	15	1	29	367	4	4629	

National Summary of Lightning, 1996

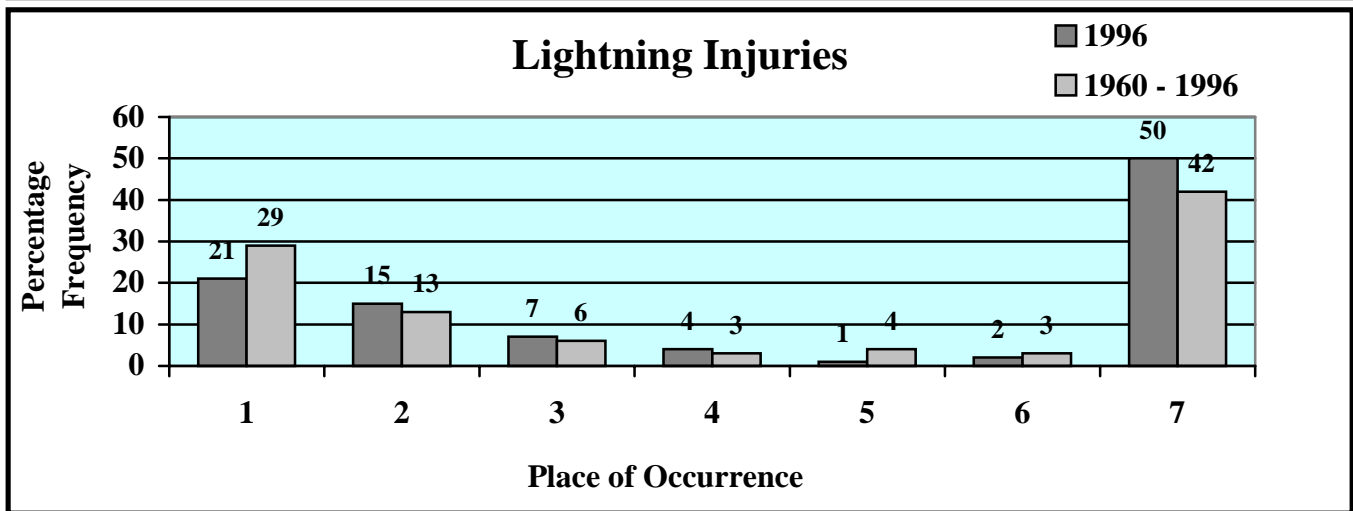
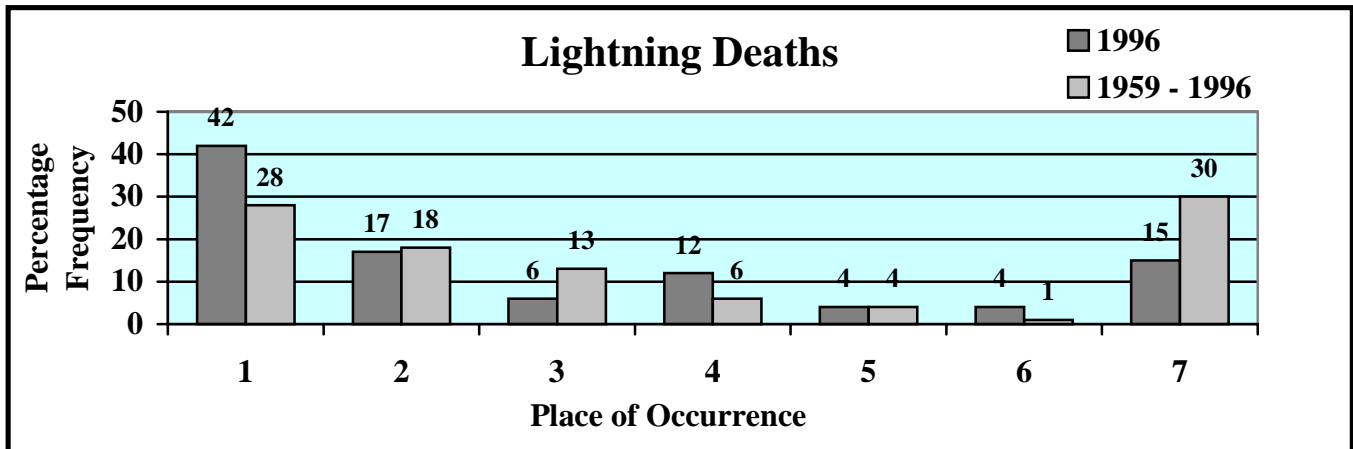
Stuart Hinson and William Angel

National Oceanic and Atmospheric Administration

National Environmental, Satellite, Data and Information Service

National Climatic Data Center, Asheville, NC

There were 52 lightning deaths in 1996, which is 42% below the annual national average of 89. A 33% increase of deaths in open areas such as parks and fields was reported while there was a 50% decrease in various/other unknown locations. This is most likely due to the increased accuracy in the definition of death/injury locations. There were 309 injuries reported in 1996, 10% above the national average of 280. In 1996, Florida ranked number 1 in both lightning deaths with 10 (19%) and injuries with 85 (27.5%)



Place of Occurrence:

1. Open fields, ball fields, parks, etc.
2. Under trees
3. Boating, fishing, water related, etc.
4. Golf courses
5. Farming, construction, near heavy machinery, etc.
6. On telephones, radios, electronics, etc.
7. Various other/unknown

TOTAL DEATHS BY STATE AND NATION FOR YEAR 1996

STATE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
ALABAMA	0	0	0	0	0	1	0	0	0	0	0	0	1
ALASKA	0	0	0	0	0	0	0	0	0	0	0	0	0
ARIZONA	0	0	0	0	0	0	0	0	0	0	0	0	0
ARKANSAS	0	0	0	0	0	0	0	0	0	0	0	0	0
CALIFORNIA	0	0	0	0	0	0	0	0	0	0	0	0	0
COLORADO	0	0	0	0	0	1	1	0	1	0	0	0	3
CONNECTICUT	0	0	0	0	0	0	0	0	0	0	0	0	0
DELAWARE	0	0	0	0	0	0	0	0	0	0	0	0	0
DISTRICT OF COLUMBIA	0	0	0	0	0	0	0	0	0	0	0	0	0
FLORIDA	0	0	0	1	0	3	2	3	1	0	0	0	10
GEORGIA	0	0	0	0	0	0	0	0	0	0	0	0	0
HAWAII	0	0	0	0	0	0	0	0	0	0	0	0	0
IDAHO	0	0	0	0	0	0	1	0	0	0	0	0	1
ILLINOIS	0	0	0	0	1	1	0	0	0	0	0	0	2
INDIANA	0	0	0	0	1	0	0	0	0	0	0	0	1
IOWA	0	0	0	0	1	0	0	0	0	0	0	0	1
KANSAS	0	0	0	0	0	2	0	0	0	0	0	0	2
KENTUCKY	0	0	0	0	0	0	0	0	1	0	0	0	1
LOUISIANA	1	0	0	1	0	0	0	0	0	0	0	1	3
MAINE	0	0	0	0	0	0	0	0	0	0	0	0	0
MARYLAND	0	0	0	0	0	1	0	0	0	0	0	0	1
MASSACHUSETTS	0	0	0	0	0	0	0	0	0	0	0	0	0
MICHIGAN	0	0	0	0	0	0	1	0	0	0	0	0	1
MINNESOTA	0	0	0	0	0	1	0	1	0	0	0	0	2
MISSISSIPPI	0	0	0	0	0	1	0	0	0	0	0	0	1
MISSOURI	0	0	0	0	0	1	0	0	0	0	0	0	1
MONTANA	0	0	0	0	0	0	0	0	0	0	0	0	0
NEBRASKA	0	0	0	0	0	0	0	0	0	0	0	0	0
NEVADA	0	0	0	0	0	0	0	0	0	0	0	0	0
NEW HAMPSHIRE	0	0	0	0	0	0	0	0	0	0	0	0	0
NEW JERSEY	0	0	0	0	0	0	0	0	0	0	0	0	0
NEW MEXICO	0	0	0	0	0	0	0	3	0	0	0	0	3
NEW YORK	0	0	0	0	0	0	0	1	0	0	0	0	1
NORTH CAROLINA	0	0	0	0	0	0	0	1	0	0	0	0	1
NORTH DAKOTA	0	0	0	0	0	0	0	0	0	0	0	0	0
OHIO	0	0	0	0	0	2	0	1	0	0	0	0	3
OKLAHOMA	0	0	0	0	0	0	1	0	0	0	0	0	1
OREGON	0	0	0	0	0	0	0	0	0	0	0	0	0
PENNSYLVANIA	0	0	0	0	0	0	0	0	0	0	0	0	0
PUERTO RICO	0	0	0	0	0	0	0	0	0	0	0	0	0
RHODE ISLAND	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH CAROLINA	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH DAKOTA	0	0	0	0	0	0	0	0	0	0	0	0	0
TENNESSEE	0	0	0	0	0	0	1	0	0	0	0	0	1
TEXAS	0	0	0	1	0	3	0	2	0	0	0	0	6
UTAH	0	0	0	0	0	0	0	1	0	0	0	0	1
VERMONT	0	0	0	0	0	1	0	0	0	0	0	0	1
VIRGINIA	0	0	0	0	0	0	1	0	0	0	0	0	1
WASHINGTON	0	0	0	1	0	0	0	0	1	0	0	0	2
WEST VIRGINIA	0	0	0	0	0	0	0	0	0	0	0	0	0
WISCONSIN	0	0	0	0	0	0	0	0	0	0	0	0	0
WYOMING	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL: UNITED STATES	1	0	0	4	3	18	8	13	4	0	0	1	52

TOTAL INJURIES BY STATE AND NATION FOR YEAR 1996

STATE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
ALABAMA	0	0	1	1	0	2	1	0	0	0	0	0	5
ALASKA	0	0	0	0	0	0	0	1	0	0	0	0	1
ARIZONA	0	1	0	0	0	2	0	1	2	0	0	0	6
ARKANSAS	0	0	0	0	0	2	3	0	0	0	0	0	5
CALIFORNIA	0	0	1	0	0	0	0	2	0	0	0	0	3
COLORADO	0	0	0	0	0	2	3	5	2	3	0	0	15
CONNECTICUT	0	1	0	0	0	0	0	0	0	0	0	0	1
DELAWARE	0	0	0	0	0	0	0	0	0	0	0	0	0
DISTRICT OF COLUMBIA	0	0	0	0	0	1	0	0	0	0	0	0	1
FLORIDA	0	0	1	10	12	16	24	10	12	0	0	0	85
GEORGIA	0	0	0	0	1	1	0	0	0	0	0	0	2
HAWAII	0	0	0	0	0	0	0	0	0	0	0	0	0
IDAHO	0	0	0	0	0	0	1	0	0	0	0	0	1
ILLINOIS	0	1	0	0	2	0	0	1	3	0	0	0	7
INDIANA	0	0	0	0	5	1	0	1	1	0	0	0	8
IOWA	0	0	0	0	1	0	0	1	0	0	0	0	2
KANSAS	0	0	0	0	0	0	1	0	0	0	0	0	1
KENTUCKY	0	0	0	0	2	0	0	0	0	0	0	0	2
LOUISIANA	1	0	0	0	0	0	1	1	0	0	0	2	5
MAINE	0	0	0	0	0	0	0	1	0	0	0	0	1
MARYLAND	1	0	0	0	0	2	0	0	0	0	0	0	3
MASSACHUSETTS	0	0	0	0	0	12	2	3	0	0	0	0	17
MICHIGAN	0	0	0	0	1	0	0	0	0	0	0	0	1
MINNESOTA	0	0	1	0	0	1	3	1	0	0	0	0	6
MISSISSIPPI	0	0	0	0	0	0	0	0	0	0	5	0	5
MISSOURI	0	0	0	0	0	0	0	1	0	0	0	0	1
MONTANA	0	0	0	0	0	0	0	0	0	0	0	0	0
NEBRASKA	0	0	0	0	2	0	0	3	0	0	0	0	5
NEVADA	0	0	0	0	0	0	1	0	0	0	0	0	1
NEW HAMPSHIRE	0	0	0	0	0	0	5	0	0	0	0	0	5
NEW JERSEY	0	0	0	0	0	0	2	1	1	0	0	0	4
NEW MEXICO	0	0	0	0	0	0	0	0	0	1	0	0	1
NEW YORK	0	0	0	0	1	2	3	6	0	0	0	0	12
NORTH CAROLINA	0	0	0	0	0	20	2	4	0	0	0	0	26
NORTH DAKOTA	0	0	0	0	0	0	0	0	0	0	0	0	0
OHIO	0	0	0	0	2	13	5	0	0	0	0	0	20
OKLAHOMA	0	0	0	0	0	0	2	0	0	0	0	0	2
OREGON	0	0	0	0	0	0	0	0	0	0	0	0	0
PENNSYLVANIA	0	0	0	0	1	7	5	0	0	0	0	0	13
PUERTO RICO	0	0	0	0	0	0	0	0	0	0	0	0	0
RHODE ISLAND	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH CAROLINA	0	0	0	0	3	1	0	1	0	0	0	0	5
SOUTH DAKOTA	0	0	0	0	0	0	0	0	0	0	0	0	0
TENNESSEE	0	0	0	0	0	0	0	0	0	0	0	0	0
TEXAS	0	0	0	0	0	4	0	2	0	1	0	0	7
UTAH	0	0	0	0	0	0	0	0	0	0	0	0	0
VERMONT	0	0	0	0	0	1	0	0	0	0	0	0	1
VIRGINIA	0	0	0	0	3	1	0	3	0	0	0	0	7
WASHINGTON	0	0	0	0	0	0	0	0	0	0	1	0	1
WEST VIRGINIA	0	0	0	0	0	0	0	0	0	0	0	0	0
WISCONSIN	0	0	0	1	0	11	2	0	0	1	0	0	15
WYOMING	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL: UNITED STATES	2	3	4	12	36	102	66	49	21	6	6	2	309

TOTAL DEATHS BY STATE AND NATION FOR PERIOD 1959-96

STATE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
ALABAMA	0	0	2	3	5	25	31	20	2	1	0	0	89
ALASKA	0	0	0	0	0	0	0	0	0	0	0	0	0
ARIZONA	0	0	0	0	4	1	23	17	14	1	0	0	60
ARKANSAS	0	0	8	0	13	33	29	20	6	0	0	1	110
CALIFORNIA	1	0	0	0	0	2	8	5	5	0	0	0	21
COLORADO	0	0	0	4	10	22	42	17	6	1	0	0	102
CONNECTICUT	0	0	0	0	0	4	5	3	1	0	0	0	13
DELAWARE	0	0	0	0	3	2	7	3	0	0	0	0	15
DISTRICT OF COLUMBIA	0	0	0	0	1	2	1	1	0	0	0	0	5
FLORIDA	0	1	5	5	30	86	97	92	47	4	1	1	369
GEORGIA	0	0	2	5	7	18	34	12	3	1	0	0	82
HAWAII	0	0	0	0	0	0	0	0	0	0	0	0	0
IDAHO	0	0	0	1	1	7	9	5	1	0	0	0	24
ILLINOIS	0	0	0	4	12	27	16	16	11	2	0	0	88
INDIANA	0	0	1	3	9	25	20	16	5	2	0	0	81
IOWA	0	0	1	3	12	22	7	14	5	4	0	0	68
KANSAS	0	0	0	4	10	10	15	12	4	2	2	0	59
KENTUCKY	1	0	0	3	10	22	19	15	13	0	0	0	83
LOUISIANA	2	0	1	7	11	22	42	18	11	0	4	2	120
MAINE	0	0	0	0	0	3	7	9	0	3	0	0	22
MARYLAND	0	0	0	0	5	7	10	11	2	1	0	81*	117
MASSACHUSETTS	0	0	0	1	3	4	6	9	1	0	0	0	24
MICHIGAN	0	0	0	1	7	23	31	24	7	0	0	0	93
MINNESOTA	0	0	0	3	3	13	12	15	10	1	0	0	57
MISSISSIPPI	1	0	4	2	12	15	29	22	6	0	0	0	91
MISSOURI	0	0	5	4	21	21	14	12	3	1	0	0	81
MONTANA	0	0	0	0	2	10	6	2	1	0	0	0	21
NEBRASKA	0	0	0	1	4	16	10	6	4	0	0	0	41
NEVADA	0	0	0	0	1	2	0	2	1	0	0	0	6
NEW HAMPSHIRE	0	0	0	0	0	5	3	0	0	0	0	0	8
NEW JERSEY	0	0	0	1	3	8	23	14	6	0	0	0	55
NEW MEXICO	0	0	0	1	8	12	23	33	8	0	0	0	85
NEW YORK	0	0	0	0	9	21	64	27	6	2	0	0	129
NORTH CAROLINA	0	1	6	3	23	38	55	36	7	0	0	0	169
NORTH DAKOTA	0	0	0	0	0	4	4	3	0	0	0	0	11
OHIO	0	0	1	4	12	28	46	21	11	2	2	0	127
OKLAHOMA	1	1	1	10	15	17	8	20	13	3	2	0	91
OREGON	0	0	0	0	2	0	0	1	3	1	0	0	7
PENNSYLVANIA	0	1	0	2	8	28	36	28	10	1	0	0	114
PUERTO RICO	0	0	0	0	0	3	9	9	6	3	0	0	30
RHODE ISLAND	0	0	0	0	0	1	1	0	2	0	0	0	4
SOUTH CAROLINA	0	0	1	1	8	12	34	18	8	0	0	0	82
SOUTH DAKOTA	0	0	0	0	4	2	6	2	3	3	0	0	20
TENNESSEE	0	1	1	8	17	32	28	21	14	2	3	0	127
TEXAS	0	1	1	18	32	22	45	30	17	8	1	0	175
UTAH	0	0	0	3	1	5	8	13	6	1	0	0	37
VERMONT	0	0	0	0	0	5	5	4	0	0	0	0	14
VIRGINIA	0	0	0	0	11	15	13	12	3	0	0	0	54
WASHINGTON	0	0	0	1	0	1	1	1	1	0	0	0	5
WEST VIRGINIA	0	0	0	0	4	4	10	5	1	0	0	0	24
WISCONSIN	0	0	1	1	2	9	13	17	2	1	1	1	48
WYOMING	0	0	0	0	2	4	7	6	2	0	0	0	21
TOTAL: UNITED STATES	6	6	41	107	357	720	972	719	298	51	16	86	3379

* ON DECEMBER 8, 1963 THE CRASH OF A JETLINER KILLING 81 PEOPLE NEAR ELKTON, MARYLAND, WAS ATTRIBUTED TO LIGHTNING BY THE CIVIL AERONAUTICS BOARD INVESTIGATION.

TOTAL INJURIES BY STATE AND NATION FOR PERIOD 1959-96

STATE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
ALABAMA	6	2	13	5	14	28	83	57	5	7	0	0	220
ALASKA	0	0	0	0	0	0	1	1	0	0	0	0	2
ARIZONA	2	4	0	0	6	5	34	51	22	3	1	0	128
ARKANSAS	2	2	3	28	32	54	45	71	13	1	0	2	253
CALIFORNIA	1	0	4	13	0	2	15	10	15	1	1	1	63
COLORADO	0	0	0	7	44	99	87	82	21	3	0	0	343
CONNECTICUT	0	1	2	1	7	21	20	17	6	3	0	0	78
DELAWARE	0	0	0	0	8	12	5	1	2	0	0	0	28
DISTRICT OF COLUMBIA	0	0	0	0	10	9	1	1	0	0	1	0	22
FLORIDA	0	8	28	33	69	295	358	263	212	46	1	3	1316
GEORGIA	2	0	5	9	29	99	151	42	5	6	0	1	349
HAWAII	0	1	0	0	0	0	0	3	1	0	2	0	7
IDAHO	0	0	0	1	6	20	28	21	4	1	0	0	81
ILLINOIS	12	1	2	2	25	61	79	56	41	7	0	0	286
INDIANA	0	0	2	7	32	42	51	37	8	0	0	0	179
IOWA	0	0	2	9	24	50	40	22	19	3	1	0	170
KANSAS	0	0	5	11	20	29	47	31	33	5	1	0	182
KENTUCKY	0	0	0	2	25	65	65	37	11	1	0	0	206
LOUISIANA	2	0	6	4	25	26	106	48	15	2	2	3	239
MAINE	0	0	0	0	4	13	39	55	0	0	1	0	112
MARYLAND	1	0	0	0	36	25	42	25	8	3	0	0	140
MASSACHUSETTS	0	0	1	11	24	62	119	103	26	4	2	1	353
MICHIGAN	0	0	2	10	43	160	167	215	51	6	0	0	654
MINNESOTA	0	0	1	0	15	35	36	30	10	4	0	0	131
MISSISSIPPI	1	2	9	3	13	15	111	40	10	2	8	1	215
MISSOURI	0	1	3	16	20	17	8	21	10	2	4	0	102
MONTANA	0	0	0	1	5	15	10	11	2	0	0	0	44
NEBRASKA	0	0	0	4	17	10	15	24	7	0	0	0	77
NEVADA	0	0	0	0	3	2	3	4	1	0	0	0	13
NEW HAMPSHIRE	0	0	0	0	2	21	39	9	2	0	0	0	73
NEW JERSEY	0	0	0	0	5	18	77	28	17	0	0	0	145
NEW MEXICO	0	0	1	1	25	19	64	62	8	1	0	0	181
NEW YORK	0	0	0	1	22	91	173	165	25	4	1	0	482
NORTH CAROLINA	0	2	29	17	42	102	179	136	33	2	1	0	543
NORTH DAKOTA	0	0	0	0	2	5	10	6	5	0	0	0	28
OHIO	0	0	33	6	63	99	91	119	57	4	12	0	484
OKLAHOMA	1	1	3	20	33	43	65	49	26	20	7	3	271
OREGON	0	0	0	1	2	2	0	12	5	0	0	0	22
PENNSYLVANIA	1	6	0	0	25	155	176	155	50	3	0	0	571
PUERTO RICO	0	0	0	0	0	0	4	0	2	1	0	0	7
RHODE ISLAND	0	2	0	0	2	13	12	12	3	0	1	0	45
SOUTH CAROLINA	0	0	2	6	26	33	118	43	24	1	1	0	254
SOUTH DAKOTA	0	0	0	1	5	19	21	12	1	2	0	0	61
TENNESSEE	1	1	4	26	52	64	129	54	23	5	1	0	360
TEXAS	2	2	7	40	55	55	42	74	40	48	2	0	367
UTAH	0	0	0	1	12	19	18	24	10	3	0	0	87
VERMONT	0	0	0	0	0	4	11	4	0	0	0	0	19
VIRGINIA	0	0	4	5	15	26	113	48	11	0	0	0	222
WASHINGTON	0	0	0	0	5	13	9	8	0	1	1	1	38
WEST VIRGINIA	0	0	0	11	3	6	50	29	1	1	0	0	101
WISCONSIN	0	1	2	5	21	44	81	48	10	3	2	0	217
WYOMING	0	0	0	1	4	32	19	21	7	0	0	0	84
TOTAL: UNITED STATES	34	37	173	319	977	2154	3267	2497	918	209	54	16	10655

NATIONAL TOTAL DEATHS BY YEAR FOR PERIOD 1959-96

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
1959	1	0	1	4	18	25	50	39	13	7	0	0	158
1960	0	0	1	5	7	33	25	17	9	0	0	0	97
1961	0	0	1	2	9	23	47	20	10	1	0	0	113
1962	0	0	3	6	27	20	26	28	9	1	0	0	120
1963	0	0	4	3	11	37	42	20	10	2	0	81*	210
1964	0	0	9	6	15	21	29	19	7	1	1	0	108
1965	0	0	2	4	12	34	39	28	4	2	0	0	125
1966	0	0	1	1	8	15	21	16	11	3	0	0	76
1967	1	0	1	2	3	26	21	14	1	2	1	1	73
1968	0	0	0	1	5	24	30	29	9	3	1	1	103
1969	0	0	1	5	13	17	27	13	14	3	0	0	93
1970	0	0	0	1	17	25	27	19	21	1	0	0	111
1971	0	0	2	1	12	27	33	19	19	0	0	0	113
1972	0	0	1	1	5	21	31	28	3	1	0	0	91
1973	0	1	2	3	10	24	31	18	13	2	1	0	105
1974	0	2	0	7	12	21	28	24	6	0	2	0	102
1975	0	1	3	3	11	19	28	18	6	2	0	0	91
1976	0	0	0	1	9	19	19	19	3	2	0	0	72
1977	0	0	0	4	9	19	16	35	14	1	0	0	98
1978	0	0	1	1	9	26	24	22	3	1	0	1	88
1979	0	0	0	3	11	4	20	16	4	3	2	0	63
1980	0	0	0	0	7	16	27	20	5	1	0	0	76
1981	0	0	0	4	5	13	19	19	5	0	2	0	67
1982	1	0	0	3	5	14	29	18	4	3	0	0	77
1983	0	0	1	2	4	8	28	23	8	1	2	0	77
1984	0	0	1	3	10	14	20	10	7	1	1	0	67
1985	0	0	0	5	12	12	26	8	8	1	1	0	73
1986	0	0	0	2	9	13	21	17	5	1	0	0	68
1987	0	0	0	2	14	18	28	15	7	2	0	0	86
1988	0	0	0	3	9	17	21	14	2	1	2	0	69
1989	0	0	1	1	9	14	19	18	4	1	0	0	67
1990	1	0	3	1	3	18	22	15	10	0	0	1	74
1991	0	0	0	2	8	15	23	19	6	0	0	0	73
1992	0	0	0	2	6	6	9	10	8	0	0	0	41
1993	1	0	0	0	6	9	11	12	4	0	0	0	43
1994	0	2	2	3	7	24	17	8	10	1	0	0	74
1995	0	0	0	6	7	11	30	19	12	0	0	0	85
1996	1	0	0	4	3	18	8	13	4	0	0	1	52
TOTAL	6	6	41	107	357	720	972	719	298	51	16	86	3379
MEAN	0	0	1	3	9	19	26	19	8	1	0	2	89

* ON DECEMBER 8, 1963 THE CRASH OF A JETLINER KILLING 81 PEOPLE NEAR ELKIN, MARYLAND, WAS ATTRIBUTED TO LIGHTNING BY THE CIVIL AERONAUTICS BOARD INVESTIGATORS.

NATIONAL TOTAL INJURIES BY YEAR FOR PERIOD 1959-96

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
1959	0	0	0	5	27	52	110	103	23	3	1	1	325
1960	0	0	2	11	12	70	28	50	16	9	4	0	202
1961	0	0	7	14	15	49	83	50	31	5	1	1	256
1962	0	0	3	5	39	38	90	49	12	6	0	0	242
1963	7	0	0	6	14	64	55	44	18	1	0	0	209
1964	0	0	10	15	14	38	99	53	8	1	1	0	239
1965	3	2	2	4	26	42	59	59	19	1	0	0	217
1966	0	2	1	2	37	39	42	44	15	1	0	0	183
1967	0	0	0	4	7	35	59	33	4	2	0	1	145
1968	0	0	4	2	16	52	117	155	14	9	1	0	370
1969	0	0	0	4	19	75	39	23	12	0	0	1	173
1970	0	0	1	5	40	40	82	43	43	4	1	0	259
1971	0	1	0	1	24	71	79	54	22	1	1	0	254
1972	0	0	8	6	12	24	72	54	24	2	1	0	203
1973	0	0	10	2	20	23	74	59	29	9	2	0	228
1974	1	9	1	3	12	27	56	51	12	1	0	0	173
1975	0	3	0	1	30	60	107	154	42	1	0	1	399
1976	0	1	0	7	16	39	73	68	13	1	0	1	219
1977	0	0	0	3	35	58	58	67	62	4	4	0	291
1978	0	0	5	3	19	100	73	54	42	5	0	0	301
1979	0	2	4	26	32	73	55	49	9	2	2	0	254
1980	0	1	2	11	11	49	50	134	16	1	0	0	275
1981	1	0	2	9	34	60	108	52	9	3	13	0	291
1982	1	0	2	6	38	20	54	32	11	4	4	2	174
1983	0	0	24	3	25	24	87	113	30	31	0	0	337
1984	0	0	7	5	13	43	80	53	44	7	1	0	253
1985	0	0	29	4	42	48	61	33	27	4	0	0	248
1986	0	2	4	2	15	68	112	43	22	3	0	0	271
1987	0	0	2	8	66	49	121	70	43	3	1	1	364
1988	0	0	1	14	22	53	133	63	19	5	1	0	311
1989	1	0	8	16	23	70	135	51	12	4	2	0	322
1990	12	0	4	6	10	43	88	62	25	1	0	1	252
1991	0	0	2	30	48	111	94	107	37	3	0	0	432
1992	0	0	4	10	41	38	80	46	31	42	0	0	292
1993	1	0	4	4	15	75	103	65	20	5	0	3	295
1994	1	7	6	32	39	151	156	106	55	19	4	1	577
1995	4	4	10	18	33	81	229	102	26	0	3	0	510
1996	2	3	4	12	36	102	66	49	21	6	6	2	309
TOTAL	34	37	173	319	977	2154	3267	2497	918	209	54	16	10655
MEAN	1	1	5	8	26	57	86	66	24	6	1	0	280

LIGHTNING DEATHS BY STATE, RANK, AND LOCATION OF OCCURRENCE

1959-1996

1996

STATE	1959-1996														1996														
	RANK		OPEN FIELDS, BALL PARKS, AND OPEN SPACES		UNDER TREES		BOATING, FISHING AND WATER RELATED		NEAR TRACTORS, HEAVY ROAD EQUIPMENT		GOLF COURSES		AT TELEPHONES		VARIOUS OTHER AND UNKNOWN LOCATIONS		OPEN FIELDS, BALL PARKS, AND OPEN SPACES		UNDER TREES		BOATING, FISHING AND WATER RELATED		NEAR TRACTORS, HEAVY ROAD EQUIPMENT		GOLF COURSES		AT TELEPHONES		VARIOUS OTHER AND UNKNOWN LOCATIONS
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
ALABAMA	15	21	24	24	27	10	11	4	4	1	1	2	2	27	30	1	100	0	0	0	0	0	0	0	0	0	0	0	
ALASKA	51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARIZONA	24	27	45	8	13	5	8	0	0	4	7	3	5	13	22	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARKANSAS	10	35	32	22	20	11	10	8	7	3	3	0	0	31	28	0	0	0	0	0	0	0	0	0	0	0	0	0	
CALIFORNIA	39	6	29	3	14	2	10	3	14	0	0	0	0	7	33	0	0	0	0	0	0	0	0	0	0	0	0	0	
COLORADO	11	50	49	19	19	5	5	3	3	7	7	0	0	18	18	2	67	0	0	0	0	0	0	0	0	0	1	33	
CONNECTICUT	43	3	23	2	15	0	0	0	0	3	23	0	0	5	38	0	0	0	0	0	0	0	0	0	0	0	0	0	
DELAWARE	41	5	33	0	0	4	27	1	7	0	0	0	0	5	33	0	0	0	0	0	0	0	0	0	0	0	0	0	
DIST.OF COLUMBIA	49	2	40	2	40	0	0	0	0	1	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
FLORIDA	1	101	27	48	13	88	24	26	7	11	3	0	0	95	26	4	40	3	30	0	0	2	20	0	0	0	1	10	
GEORGIA	20	23	28	21	26	12	15	1	1	5	6	2	2	18	22	0	0	0	0	0	0	0	0	0	0	0	0	0	
HAWAII	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
IDAHO	35	12	50	3	13	2	8	4	17	1	4	0	0	2	8	0	0	0	0	0	0	1	100	0	0	0	0	0	
ILLINOIS	16	23	26	16	18	3	3	8	9	7	8	1	1	30	34	2	100	0	0	0	0	0	0	0	0	0	0	0	
INDIANA	21	13	16	24	30	7	9	7	9	1	1	2	2	27	33	1	100	0	0	0	0	0	0	0	0	0	0	0	
IOWA	23	9	13	9	13	3	4	7	10	2	3	0	0	38	56	0	0	0	0	1	100	0	0	0	0	0	0	0	
KANSAS	25	17	29	1	2	5	8	10	17	2	3	0	0	24	41	2	100	0	0	0	0	0	0	0	0	0	0	0	
KENTUCKY	18	25	30	12	14	4	5	4	5	2	2	1	1	35	42	1	100	0	0	0	0	0	0	0	0	0	0	0	
LOUISIANA	7	15	13	36	30	37	31	8	7	0	0	0	0	24	20	0	0	2	67	0	0	0	0	0	0	1	33		
MAINE	36	0	0	3	14	7	32	0	0	0	0	0	0	12	55	0	0	0	0	0	0	0	0	0	0	0	0	0	
MARYLAND	8	10	9	6	5	16	14	1	1	0	0	0	0	84	72	0	0	0	0	0	0	1	100	0	0	0	0	0	
MASSACHUSETTS	33	4	17	3	13	1	4	0	0	1	4	1	4	14	58	0	0	0	0	0	0	0	0	0	0	0	0	0	
MICHIGAN	12	25	27	26	28	11	12	2	2	10	11	2	2	17	18	0	0	1	100	0	0	0	0	0	0	0	0	0	
MINNESOTA	26	18	32	14	25	5	9	6	11	2	4	2	4	10	18	2	100	0	0	0	0	0	0	0	0	0	0	0	
MISSISSIPPI	13	29	32	21	23	12	13	6	7	0	0	0	0	23	25	0	0	0	0	0	0	0	0	0	0	1	100	0	
MISSOURI	22	18	22	18	22	12	15	5	6	5	6	2	2	21	26	0	0	1	100	0	0	0	0	0	0	0	0	0	
MONTANA	37	7	33	2	10	2	10	5	24	0	0	0	0	5	24	0	0	0	0	0	0	0	0	0	0	0	0	0	
NEBRASKA	30	18	44	2	5	4	10	10	24	0	0	0	0	7	17	0	0	0	0	0	0	0	0	0	0	0	0	0	
NEVADA	47	0	0	0	0	1	17	0	0	1	17	0	0	4	67	0	0	0	0	0	0	0	0	0	0	0	0	0	
NEW HAMPSHIRE	45	2	25	0	0	3	38	0	0	1	13	0	0	2	25	0	0	0	0	0	0	0	0	0	0	0	0	0	
NEW JERSEY	27	19	35	5	9	13	24	2	4	4	7	2	4	10	18	0	0	0	0	0	0	0	0	0	0	0	0	0	
NEW MEXICO	17	39	46	14	16	8	9	0	0	1	1	2	2	21	25	1	33	0	0	0	0	0	0	0	2	67	0	0	
NEW YORK	4	21	16	31	24	17	13	5	4	7	5	1	1	47	36	0	0	0	0	0	0	1	100	0	0	0	0	0	
NORTH CAROLINA	3	36	21	25	15	22	13	6	4	8	5	1	1	71	42	1	100	0	0	0	0	0	0	0	0	0	0	0	
NORTH DAKOTA	44	2	18	0	0	0	0	3	27	0	0	0	0	6	55	0	0	0	0	0	0	0	0	0	0	0	0	0	
OHIO	5	36	28	22	17	16	13	6	5	9	7	1	1	37	29	0	0	0	0	0	0	1	33	0	0	0	2	67	
OKLAHOMA	14	31	34	11	12	15	16	7	8	3	3	2	2	22	24	0	0	0	0	0	0	0	0	0	0	1	100	0	
OREGON	46	3	43	1	14	0	0	0	0	0	0	0	0	3	43	0	0	0	0	0	0	0	0	0	0	0	0	0	
PENNSYLVANIA	9	33	29	16	14	4	4	5	4	12	11	2	2	42	37	0	0	0	0	0	0	0	0	0	0	0	0	0	
PUERTO RICO	32	12	40	8	27	1	3	0	0	0	0	0	0	9	30	0	0	0	0	0	0	0	0	0	0	0	0	0	
RHODE ISLAND	50	0	0	0	0	1	25	0	0	0	0	0	0	3	75	0	0	0	0	0	0	0	0	0	0	0	0	0	
SOUTH CAROLINA	19	17	21	16	20	10	12	10	12	1	1	4	5	24	29	0	0	0	0	0	0	0	0	0	0	0	0	0	
SOUTH DAKOTA	40	6	30	1	5	2	10	8	40	1	5	0	0	2	10	0	0	0	0	0	0	0	0	0	0	0	0	0	
TENNESSEE	6	35	28	32	25	9	7	10	8	7	6	2	2	32	25	0	0	0	0	0	0	1	100	0	0	0	0	0	
TEXAS	2	68	39	27	15	28	16	11	6	5	3	0	0	36	21	1	17	1	17	2	33	0	0	1	17	0	0	17	
UTAH	31	15	41	11	30	2	5	1	3	1	3	1	3	6	16	1	100	0	0	0	0	0	0	0	0	0	0	0	
VERMONT	42	2	14	1	7	4	29	0	0	0	0	0	0	7	50	1	100	0	0	0	0	0	0	0	0	0	0	0	
VIRGINIA	28	12	22	15	28	6	11	3	6	2	4	0	0	16	30	1	100	0	0	0	0	0	0	0	0	0	0	0	
WASHINGTON	48	3	60	1	20	0	0	1	20	0	0	0	0	0	0	1	50	1	50	0	0	0	0	0	0	0	0	0	
WEST VIRGINIA	34	7	29	6	25	2	8	1	4	1	4	0	0	7	29	0	0	0	0	0	0	0	0	0	0	0	0	0	
WISCONSIN	29	9	19	3	6	9	19	5	10	6	13	0	0	16	33	0	0	0	0	0	0	0	0	0	0	0	0	0	
WYOMING	38	11	52	2	10	3	14	1	5	0	0	0	0	4	19	0	0	0	0	0	0	0	0	0	0	0	0	0	
UNITED STATES	0	935	28	593	18	444	13	214	6	138	4	36	1	1019	30	22	42	9	17	3	6	6	12	2	4	2	4	8	15

* ON DECEMBER 8, 1963 THE CRASH OF A JETLINER KILLING 81 PEOPLE NEAR ELTON, MARYLAND, WAS ATTRIBUTED TO LIGHTNING BY THE CIVIL AERONAUTICS INVESTIGATORS.

LIGHTNING INJURIES BY STATE, RANK, AND LOCATION OF OCCURRENCE

1959-1996

1996

STATE	1959-1996														1996															
	RANK		OPEN FIELDS, BALL PARKS, AND OPEN SPACES		UNDER TREES		BOATING, FISHING AND WATER RELATED		NEAR TRACTORS, HEAVY ROAD EQUIPMENT		GOLF COURSES		AT TELEPHONES		VARIOUS OTHER AND UNKNOWN LOCATIONS		OPEN FIELDS, BALL PARKS, AND OPEN SPACES		UNDER TREES		BOATING, FISHING AND WATER RELATED		NEAR TRACTORS, HEAVY ROAD EQUIPMENT		GOLF COURSES		AT TELEPHONES		VARIOUS OTHER AND UNKNOWN LOCATIONS	
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%		
ALABAMA	18	63	29	51	23	4	2	1	0	1	0	12	5	88	40	2	40	1	20	0	0	0	0	0	0	0	1	20	1	20
ALASKA	52	1	50	0	0	0	0	0	0	0	0	0	0	1	50	1	100	0	0	0	0	0	0	0	0	0	0	0	0	0
ARIZONA	29	65	51	8	6	2	2	6	5	1	1	0	0	46	36	0	0	0	0	0	0	0	0	0	0	0	0	6	100	
ARKANSAS	15	59	23	37	15	14	6	9	4	4	2	13	5	117	46	1	20	0	0	0	0	2	40	0	0	0	0	2	40	
CALIFORNIA	39	13	21	10	16	6	10	2	3	0	0	1	2	31	49	0	0	0	0	0	0	0	0	0	0	0	0	3	100	
COLORADO	11	136	40	36	10	20	6	8	2	18	5	6	2	119	35	6	40	4	27	0	0	1	7	0	0	0	0	4	27	
CONNECTICUT	36	6	8	25	32	4	5	0	0	3	4	4	5	36	46	0	0	0	0	0	0	0	0	0	0	0	0	1	100	
DELAWARE	45	9	32	10	36	0	0	0	0	0	0	3	11	6	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIST. OF COLUMBIA	46	11	50	6	27	0	0	1	5	1	5	0	0	3	14	0	0	0	0	0	0	0	0	0	0	0	0	1	100	
FLORIDA	1	391	30	125	9	173	13	56	4	41	3	30	2	500	38	26	31	33	39	10	12	3	4	0	0	0	0	13	15	
GEORGIA	10	127	36	52	15	27	8	3	1	21	6	5	1	114	33	0	0	0	0	1	50	0	0	0	0	0	0	1	50	
HAWAII	51	2	29	0	0	0	0	0	0	0	0	2	29	3	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IDAHO	35	13	16	7	9	2	2	3	4	2	2	4	5	50	62	0	0	0	0	0	0	1	100	0	0	0	0	0	0	0
ILLINOIS	12	98	34	70	24	4	1	10	3	17	6	10	3	77	27	0	0	0	0	2	29	0	0	0	0	0	0	5	71	
INDIANA	24	30	17	33	18	16	9	11	6	8	4	7	4	74	41	0	0	1	13	0	0	0	0	0	0	0	7	88		
IOWA	25	30	18	20	12	5	3	1	1	3	2	3	2	108	64	0	0	0	0	1	50	0	0	0	0	0	0	1	50	
KANSAS	22	27	15	14	8	2	1	9	5	10	5	7	4	113	62	0	0	0	0	0	0	0	0	0	0	0	0	1	100	
KENTUCKY	21	55	27	24	12	9	4	4	2	14	7	9	4	91	44	0	0	0	0	0	0	0	0	0	0	0	0	2	100	
LOUISIANA	16	98	41	41	17	26	11	4	2	0	0	3	1	67	28	0	0	1	20	0	0	0	0	0	0	0	0	4	80	
MAINE	30	4	4	39	35	4	4	0	0	2	2	2	2	61	54	0	0	0	0	0	0	1	100	0	0	0	0	0	0	0
MARYLAND	27	48	34	17	12	18	13	5	4	3	2	1	1	48	34	0	0	0	0	1	33	0	0	0	0	0	0	2	67	
MASSACHUSETTS	9	65	18	14	4	11	3	5	1	10	3	9	3	239	68	7	41	0	0	2	12	0	0	0	0	0	1	6	41	
MICHIGAN	2	228	35	103	16	26	4	17	3	35	5	19	3	226	35	0	0	0	0	0	0	0	0	0	0	0	0	1	100	
MINNESOTA	28	16	12	22	17	7	5	11	8	14	11	11	8	50	38	1	17	2	33	0	0	0	0	0	0	0	3	50		
MISSISSIPPI	20	76	35	38	18	31	14	2	1	4	2	15	7	49	23	5	100	0	0	0	0	0	0	0	0	0	0	0	0	0
MISSOURI	31	40	39	17	17	1	1	2	2	4	4	3	3	35	34	0	0	1	100	0	0	0	0	0	0	0	0	0	0	0
MONTANA	42	14	32	5	11	8	18	2	5	4	9	0	0	11	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NEBRASKA	37	25	32	2	3	1	1	5	6	6	8	5	6	33	43	0	0	1	20	0	0	0	0	0	0	0	0	4	80	
NEVADA	49	4	31	1	8	0	0	0	0	1	8	0	0	7	54	0	0	0	0	0	0	0	0	0	0	0	0	1	100	
NEW HAMPSHIRE	38	15	21	1	1	0	0	1	1	4	5	1	1	51	70	1	20	0	0	0	0	0	0	0	0	0	0	4	80	
NEW JERSEY	26	58	40	14	10	8	6	1	1	5	3	2	1	57	39	0	0	0	0	0	0	0	0	0	0	0	0	4	100	
NEW MEXICO	23	98	54	23	13	3	2	4	2	11	6	2	1	40	22	0	0	0	0	0	0	0	0	0	0	0	0	1	100	
NEW YORK	6	58	12	109	23	28	6	24	5	8	2	11	2	244	51	0	0	0	0	0	0	0	0	0	0	0	0	12	100	
NORTH CAROLINA	4	147	27	38	7	28	5	44	8	27	5	11	2	248	46	1	4	0	0	0	0	1	4	0	0	1	4	23	88	
NORTH DAKOTA	44	7	25	1	4	1	4	5	18	0	0	1	4	13	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OHIO	5	97	20	91	19	17	4	4	1	40	8	12	2	223	46	0	0	0	0	2	10	0	0	3	15	0	0	15	75	
OKLAHOMA	13	89	33	15	6	9	3	10	4	6	2	17	6	125	46	0	0	0	0	0	0	0	0	0	0	0	0	2	100	
OREGON	47	9	41	0	0	0	0	1	5	0	0	1	5	11	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PENNSYLVANIA	3	192	34	34	6	5	1	8	1	14	2	8	1	310	54	6	46	0	0	0	0	3	23	0	0	0	0	4	31	
PUERTO RICO	50	1	14	1	14	0	0	0	0	0	0	0	0	5	71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RHODE ISLAND	41	10	22	15	33	0	0	0	0	2	4	0	0	18	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH CAROLINA	14	61	24	21	8	11	4	7	3	4	2	7	3	143	56	0	0	0	0	0	0	0	0	0	0	1	20	4	80	
SOUTH DAKOTA	40	13	21	5	8	2	3	9	15	0	0	2	3	30	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TENNESSEE	8	133	37	80	22	4	1	7	2	8	2	16	4	112	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TEXAS	7	165	45	41	11	36	10	11	3	4	1	7	2	103	28	0	0	0	0	2	29	0	0	0	0	0	0	5	71	
UTAH	33	30	34	18	21	4	5	4	5	5	6	5	6	21	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VERMONT	48	5	26	1	5	0	0	0	0	0	0	0	0	13	68	0	0	0	0	0	0	0	0	0	0	0	0	1	100	
VIRGINIA	17	24	11	43	19	8	4	2	1	9	4	4	2	132	59	1	14	3	43	0	0	0	0	0	0	0	0	3	43	
WASHINGTON	43	15	39	4	11	0	0	1	3	0	0	3	8	15	39	0	0	0	0	0	0	0	0	0	0	1	100	0	0	0
WEST VIRGINIA	32	26	26	12	12	3	3	2	2	2	2	1	1	55	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WISCONSIN	19	76	35	8	4	7	3	7	3	10	5	6	3	103	47	8	53	0	0	2	13	0	0	0	0	0	0	5	33	
WYOMING	34	39	46	3	4	13	15	9	11	4	5	0	0	16	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNITED STATES	0	3122	29	1405	13	608	6	338	3	390	4	301	3	4491	42	66	21	47	15	23	7	11	4	4	1	5	2	153	50	

National Summary of Tornadoes, 1996

Stuart Hinson and William Angel

National Oceanic and Atmospheric Administration

National Environmental, Satellite, Data and Information Service

National Climatic Data Center, Asheville, NC

There were 1174 tornadoes reported in 1996. This was 45.3% above the national average of 808. The national average figure is computed over a 46 year period from 1950 – 1996. There has been a steady increase in the number of confirmed tornadoes due to recent advances in technology and meteorological instrumentation. Tornadoes were the direct cause of 25 fatalities and 686 injuries. Alabama and Arkansas accounted for 18 of the 25 fatalities (72%). Alabama had 7 (28%) and Arkansas had 11 (44%).

TABLE I LOCATION OF KILLER TORNADES

Date	Begin Time	Zone	State	County Name	Length (miles)	Width (yards)	F-Scale	Injured	Deaths
01/26/96	5:27 PM	CST	AL	Mobile	2.0	500	1	3	1
02/02/96	6:15 PM	EST	FL	Putnam	6.5	10	0	0	1
03/06/96	3:42 AM	CST	AL	Dallas	19.0	400	3	40	4
03/06/96	5:20 AM	CST	AL	Montgomery	4.0	200	2	17	2
04/14/96	6:10 PM	CST	AR	Stone	16.0	880	4	5	5
04/14/96	6:39 PM	CST	AR	Izard	28.0	880	4	30	2
04/19/96	7:55 PM	CST	IL	Champaign	2.0	1500	3	13	1
04/21/96	10:12 PM	CST	AR	Sebastian	4.0	1050	2	40	2
04/21/96	11:15 PM	CST	AR	Madison	15.0	1050	3	6	2
05/12/96	9:10 PM	EST	FL	Okeechobee	0.1	20	0	0	1
07/18/96	6:07 PM	CST	WI	Fond du Lac	4.4	200	2	1	1
11/08/96	5:35 AM	EST	GA	Dodge	4.0	50	2	6	1
11/30/96	2:14 PM	CST	LA	Lincoln	10.0	250	2	9	1
12/07/96	2:58 PM	EST	FL	Hillsborough	2.0	83	2	0	1

TABLE II NEW MONTHLY RECORDS (SINCE 1953)

Month	State	Record # of Tornadoes	Previous Record (Year)
April	Illinois	40	21 (1974)
April	North Carolina	24	11 (1974)
May	Kentucky	11	8 (1989)
May	Utah	3	2 (1993)
June	Virginia	8	4 (1975)
July	Maryland	12	6 (1975)
July	North Carolina	6	4 (1977)
July	Pennsylvania	12	10 (1976)
July	Puerto Rico	1	
July	Virginia	12	5 (1994)
August	Colorado	17	6 (1992)
September	Arkansas	8	2 (1973)
September	North Carolina	8	3 (1963)
September	North Dakota	4	2 (1956)
September	South Carolina	9	5 (1963)
September	Tennessee	3	1 (1970)
October	Florida	19	18 (1995)
October	Minnesota	13	2 (1973)
October	South Dakota	10	3 (1971)
November	Arizona	4	1 (1968)
November	Pennsylvania	8	5 (1989)

TABLE III NEW ANNUAL RECORDS (SINCE 1953)

State	Record # of Tornadoes	Previous Record (Year)
California	22	20 (1992)
Colorado	98	81 (1992)
North Carolina	53	38 (1973)

TABLE IV STATE-TO-STATE BORDER CROSSINGS

Date	Time	State		State
04/21/96	10:12 PM CST	Oklahoma	into	Arkansas
05/17/96	5:06 PM CST	South Dakota	into	Minnesota
07/19/96	2:24 PM EST	Maryland	into	Virginia
07/19/96	2:50 PM EST	Maryland	into	Virginia

More detailed information about tornado activity can be obtained from the monthly Storm Data publications. The annual tornado statistics from 1950 – 1996 have been compiled by the Storm Prediction Center (SPC), formerly know as the National Severe Storms Forecast Center (NSSFC), and the National Climatic Data Center (NCDC). The statistics in raw format are available in various media types. For more information regarding raw data, please contact the National Climatic Data Center at (704) 271-4800.

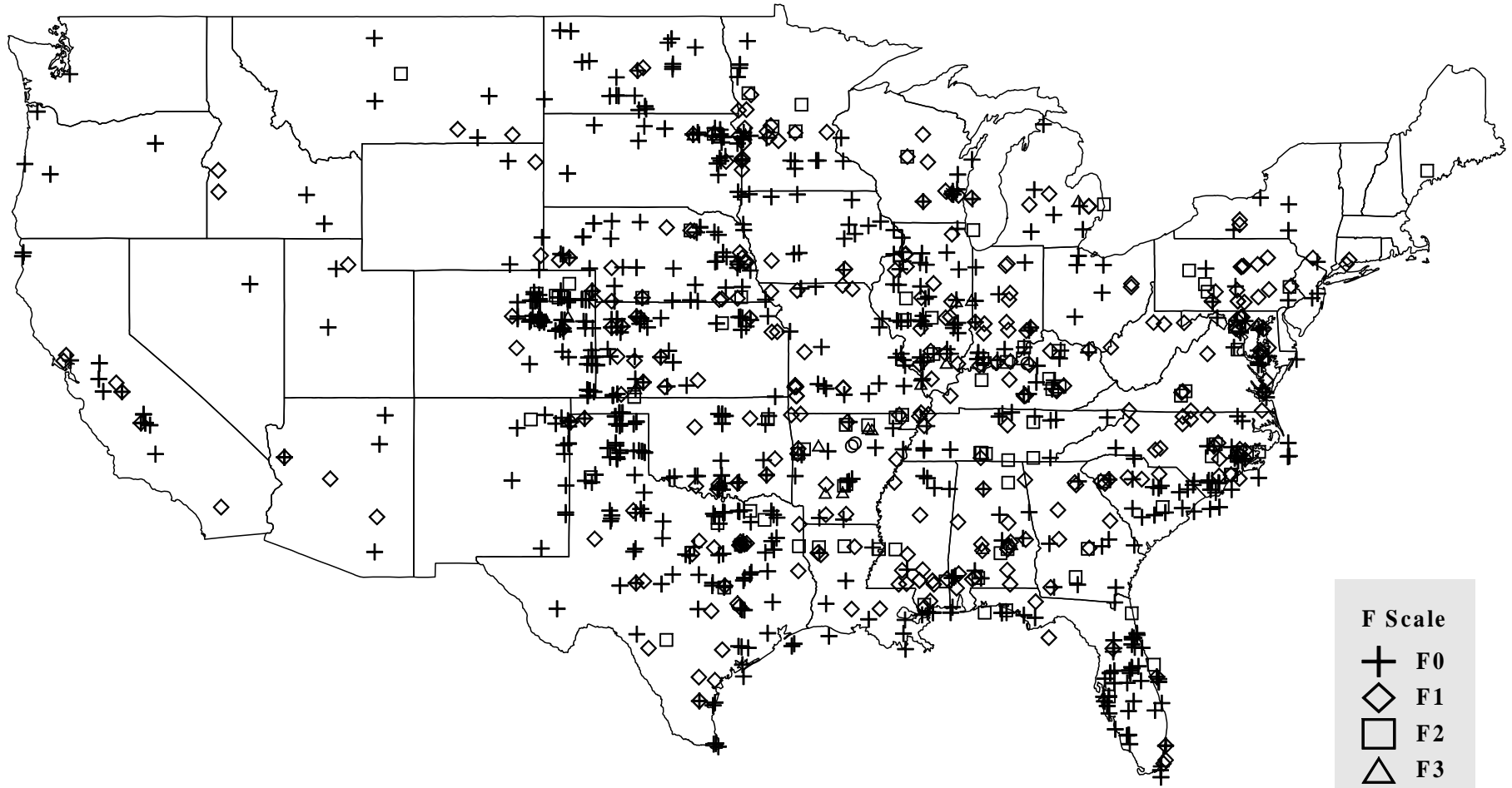
Definition of the Fujita Tornado Scale *

- (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 auto pushed off the road.
- (F2) Significant Tornado (112 – 157 mph): Considerable Damage
Roofs torn off frame houses; mobile home demolished; boxcars pushed over; large trees snapped or uprooted; light-objects missiles are generated.
- (F3) Severe Tornado (158 – 206 mph): Severe Damage
Roof and some walls are torn off well-constructed houses; trains overturned; most trees in forest uprooted; heavy cars are lifted off ground and thrown.
- (F4) Devastating Tornado (207 – 260 mph): Devastating Damage
Well-constructed houses are leveled; structures with weak foundations are blown off some distance; cars thrown and large missiles generated.
- (F5) Incredible Tornado (261 – 318 mph): Incredible Damage
Strong frame houses are lifted off foundations and carried a considerable distance to disintegrate; automobile-sized missiles fly through the air in excess of 100 meters; trees debarked. Incredible phenomenon will occur.
- (F6 +) (319 – Mach 1, the speed of sound) The maximum wind speed of tornadoes is not expected to reach the F6 wind speeds.

- F0 – F1 Weak Tornado
- F2 – F3 Strong Tornado
- F4 – F5 Violent Tornado

* *From J. Atmos. Sci., August 1981, p.1517 – 1519*

1996 Confirmed Tornadoes



F Scale

- +
- ◇
-
- △
-
- ★

F0
F1
F2
F3
F4
F5

F Scale	F0	F1	F2	F3	F4	F5	Total
Number	745	314	93	18	3	1	1174

TORNADO SUMMARY BY STATE AND NATION, 1996

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
ALABAMA													
NUMBER	2	1	20	2	0	0	0	0	4	0	3	1	33
DAYS	2	1	3	2	0	0	0	0	2	0	2	1	13
DEATHS	1	0	6	0	0	0	0	0	0	0	0	0	7
INJURIES	3	0	82	0	0	0	0	0	0	0	2	0	87
ARIZONA													
NUMBER	0	0	0	0	2	0	1	1	1	0	4	0	9
DAYS	0	0	0	0	1	0	1	1	1	0	1	0	5
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	0	0	0	0	0
ARKANSAS													
NUMBER	4	0	7	8	4	0	1	0	8	0	0	0	32
DAYS	1	0	3	3	1	0	1	0	2	0	0	0	11
DEATHS	0	0	0	11	0	0	0	0	0	0	0	0	11
INJURIES	3	0	2	138	0	0	0	0	15	0	0	0	158
CALIFORNIA													
NUMBER	2	1	2	8	0	0	0	0	0	1	4	4	22
DAYS	1	1	1	2	0	0	0	0	0	1	1	3	10
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	0	0	0	1	1
COLORADO													
NUMBER	0	0	0	0	22	7	48	17	4	0	0	0	98
DAYS	0	0	0	0	3	5	9	7	2	0	0	0	26
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	0	0	0	0	0
CONNECTICUT													
NUMBER	0	0	0	0	0	0	2	0	0	0	0	0	2
DAYS	0	0	0	0	0	0	2	0	0	0	0	0	2
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	0	0	0	0	0
FLORIDA													
NUMBER	3	4	9	3	3	4	5	7	4	19	2	3	66
DAYS	2	1	4	1	3	4	5	5	4	2	2	2	35
DEATHS	0	1	0	0	1	0	0	0	0	0	0	1	3
INJURIES	9	0	18	0	0	0	2	0	0	1	7	0	37
GEORGIA													
NUMBER	0	1	8	0	0	1	0	0	1	0	7	0	18
DAYS	0	1	2	0	0	1	0	0	1	0	3	0	8
DEATHS	0	0	0	0	0	0	0	0	0	0	1	0	1
INJURIES	0	0	6	0	0	0	0	0	0	0	18	0	24
IDAHO													
NUMBER	0	0	0	0	2	1	1	0	0	0	0	0	4
DAYS	0	0	0	0	1	1	1	0	0	0	0	0	3
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	0	0	0	0	0
ILLINOIS													
NUMBER	0	1	0	40	11	3	2	2	0	1	0	1	61
DAYS	0	1	0	2	7	2	2	1	0	1	0	1	17
DEATHS	0	0	0	1	0	0	0	0	0	0	0	0	1
INJURIES	0	0	0	79	0	0	0	0	0	1	0	0	80
INDIANA													
NUMBER	1	0	0	13	12	2	2	0	0	0	0	0	30
DAYS	1	0	0	2	4	2	2	0	0	0	0	0	11
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	6	0	0	0	0	0	0	0	0	6
IOWA													
NUMBER	0	0	1	2	9	4	4	2	0	0	0	0	22
DAYS	0	0	1	1	4	2	4	2	0	0	0	0	14
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	2	0	0	0	0	0	0	0	2
KANSAS													
NUMBER	0	0	2	0	30	11	20	4	1	0	0	0	68
DAYS	0	0	1	0	6	5	7	3	1	0	0	0	23
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	0	0	0	0	0
KENTUCKY													
NUMBER	1	0	0	9	11	1	0	0	0	0	3	0	25
DAYS	1	0	0	1	3	1	0	0	0	0	1	0	7
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	2	0	0	21	20	0	0	0	0	0	5	0	48

* CORRECTED FOR BOUNDARY-CROSSING TORNADOES.
& TORNADO DAYS FOR COUNTRY AS A WHOLE.

TORNADO SUMMARY BY STATE AND NATION, 1996

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
LOUISIANA													
NUMBER	2	0	1	5	1	0	0	1	0	0	7	1	18
DAYS	2	0	1	4	1	0	0	1	0	0	3	1	13
DEATHS	0	0	0	0	0	0	0	0	0	0	1	0	1
INJURIES	33	0	0	1	0	0	0	0	0	0	9	0	43
MAINE													
NUMBER	0	0	0	0	0	0	1	0	0	0	0	0	1
DAYS	0	0	0	0	0	0	1	0	0	0	0	0	1
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	0	0	0	0	0
MARYLAND													
NUMBER	0	0	0	0	0	3	13	2	1	0	2	0	21
DAYS	0	0	0	0	0	2	3	2	1	0	2	0	10
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	3	0	0	0	1	0	4
MICHIGAN													
NUMBER	1	0	0	1	0	8	1	2	0	0	0	0	13
DAYS	1	0	0	1	0	4	1	2	0	0	0	0	9
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	0	0	0	0	0
MINNESOTA													
NUMBER	0	0	0	0	6	5	6	0	1	13	0	0	31
DAYS	0	0	0	0	4	2	5	0	1	2	0	0	14
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	0	10	0	0	10
MISSISSIPPI													
NUMBER	3	5	9	5	0	0	0	0	2	0	3	0	27
DAYS	1	1	2	5	0	0	0	0	2	0	2	0	13
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	1	14	5	0	0	0	0	0	3	0	2	0	25
MISSOURI													
NUMBER	2	0	2	9	10	1	2	0	1	0	0	2	29
DAYS	1	0	1	3	4	1	2	0	1	0	0	1	14
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	1	0	0	12	1	0	0	0	0	0	0	0	14
MONTANA													
NUMBER	0	0	0	0	1	6	1	0	0	0	0	0	8
DAYS	0	0	0	0	1	6	1	0	0	0	0	0	8
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	0	0	0	0	0
NEBRASKA													
NUMBER	0	0	0	0	12	22	15	7	1	3	0	0	60
DAYS	0	0	0	0	4	5	5	3	1	1	0	0	19
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	15	0	0	0	0	4	0	0	19
NEVADA													
NUMBER	0	0	0	0	1	0	0	0	0	0	0	0	1
DAYS	0	0	0	0	1	0	0	0	0	0	0	0	1
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	0	0	0	0	0
NEW JERSEY													
NUMBER	0	0	0	0	0	1	0	0	1	0	0	0	2
DAYS	0	0	0	0	0	1	0	0	1	0	0	0	2
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	0	0	0	0	0
NEW MEXICO													
NUMBER	0	0	0	0	3	6	5	1	1	0	0	0	16
DAYS	0	0	0	0	2	3	4	1	1	0	0	0	11
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	5	0	0	0	0	0	5
NEW YORK													
NUMBER	0	0	0	1	0	1	3	1	1	0	1	0	8
DAYS	0	0	0	1	0	1	2	1	1	0	1	0	7
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	3	0	1	0	0	0	4
NORTH CAROLINA													
NUMBER	1	0	0	24	4	0	6	1	8	7	1	1	53
DAYS	1	0	0	4	3	0	3	1	3	1	1	1	18
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	36	0	0	0	0	2	1	0	0	39

* CORRECTED FOR BOUNDARY-CROSSING TORNADOES.
& TORNADO DAYS FOR COUNTRY AS A WHOLE.

TORNADO SUMMARY BY STATE AND NATION, 1996

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
NORTH DAKOTA													
NUMBER	0	0	0	0	5	6	8	2	4	0	0	0	25
DAYS	0	0	0	0	2	4	4	2	1	0	0	0	13
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	0	0	0	0	0
OHIO													
NUMBER	0	0	0	1	6	1	1	1	0	0	0	0	10
DAYS	0	0	0	1	3	1	1	1	0	0	0	0	7
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	2	0	0	0	0	0	0	0	2
OKLAHOMA													
NUMBER	0	0	1	18	9	7	0	6	7	0	1	0	49
DAYS	0	0	1	1	4	4	0	5	2	0	1	0	18
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	9	1	0	0	0	0	0	0	0	10
OREGON													
NUMBER	0	0	0	0	1	0	0	0	1	1	0	1	4
DAYS	0	0	0	0	1	0	0	0	1	1	0	1	4
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	1	0	0	0	1
PENNSYLVANIA													
NUMBER	0	0	0	0	2	2	12	0	2	0	8	0	26
DAYS	0	0	0	0	1	2	3	0	2	0	1	0	9
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	0	0	2	0	2
PUERTO RICO													
NUMBER	0	0	0	0	0	0	1	0	0	0	0	0	1
DAYS	0	0	0	0	0	0	1	0	0	0	0	0	1
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH CAROLINA													
NUMBER	2	0	4	1	4	0	3	0	9	1	0	0	24
DAYS	1	0	2	1	2	0	2	0	1	1	0	0	10
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	2	0	0	0	2
SOUTH DAKOTA													
NUMBER	0	0	0	0	23	0	8	4	0	10	0	0	45
DAYS	0	0	0	0	4	0	2	2	0	2	0	0	10
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	1	0	0	0	0	0	0	0	1
TENNESSEE													
NUMBER	1	0	3	4	1	1	0	0	3	0	2	0	15
DAYS	1	0	1	1	1	1	0	0	2	0	1	0	8
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	2	12	0	0	0	0	0	0	1	0	15
TEXAS													
NUMBER	9	1	2	24	36	8	3	8	34	8	4	1	138
DAYS	1	1	1	7	8	5	3	6	10	1	3	1	47
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	6	1	0	0	0	0	3	0	2	8	2	0	22
UTAH													
NUMBER	0	0	0	0	3	0	0	0	0	0	0	0	3
DAYS	0	0	0	0	2	0	0	0	0	0	0	0	2
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	1	0	0	0	0	0	0	0	1
VIRGINIA													
NUMBER	1	0	1	1	0	8	12	0	1	1	0	0	25
DAYS	1	0	1	1	0	3	4	0	1	1	0	0	12
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	1	9	0	0	0	0	0	10
WASHINGTON													
NUMBER	0	0	0	0	0	1	0	0	0	0	0	0	1
DAYS	0	0	0	0	0	1	0	0	0	0	0	0	1
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	0	0	0	0	0
WEST VIRGINIA													
NUMBER	0	0	0	0	0	0	3	0	0	0	0	0	3
DAYS	0	0	0	0	0	0	2	0	0	0	0	0	2
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	0	0	0	0	0

* CORRECTED FOR BOUNDARY-CROSSING TORNADOES.
& TORNADO DAYS FOR COUNTRY AS A WHOLE.

TORNADO SUMMARY BY STATE AND NATION, 1996

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
WISCONSIN													
NUMBER	0	0	0	1	0	4	12	3	0	0	0	0	20
DAYS	0	0	0	1	0	3	2	1	0	0	0	0	7
DEATHS	0	0	0	0	0	0	1	0	0	0	0	0	1
INJURIES	0	0	0	0	0	0	14	0	0	0	0	0	14
WYOMING													
NUMBER	0	0	0	0	2	2	2	0	0	0	0	0	6
DAYS	0	0	0	0	2	1	2	0	0	0	0	0	5
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0	0	0	0	0	0	0
UNITED STATES													
NUMBER	35	14	72	180*	236*	127	204*	72	101	65	52	15	1170*
DAYS	10	5	10	16	29	27	28	25	20	10	8	8	196
DEATHS	1	1	6	12	1	0	1	0	0	0	2	1	25
INJURIES	58	15	115	314	43	1	39	0	26	25	49	1	686

* CORRECTED FOR BOUNDARY-CROSSING TORNADOES.
& TORNADO DAYS FOR COUNTRY AS A WHOLE.

NATION SUMMARY OF TORNADOES, TORNADO DAYS AND DEATHS BY MONTH AND ANNUAL, 1953-96

YEAR	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE			JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER			ANNUAL		
	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS
1953	14	6	0	16	3	3	40	10	24	47	16	34	94	21	161	111	24	244	31	19	0	24	15	0	5	4	0	6	4	0	12	6	0	21	8	49	421	136	515
1954	3	1	0	17	9	2	63	13	10	112	22	3	101	22	9	107	26	5	45	23	0	49	21	1	21	10	3	14	8	2	2	2	0	17	3	1	550	160	36
1955	3	2	0	4	3	0	43	15	5	99	18	7	147	26	103	154	28	2	49	21	5	33	18	0	15	8	2	23	7	1	20	4	1	3	2	0	593	152	126
1956	3	2	0	47	12	8	31	7	1	85	15	67	79	24	4	63	21	0	91	26	1	43	20	2	16	10	0	29	8	0	3	6	0	9	4	0	504	155	83
1957	17	3	13	5	3	0	38	7	1	216	21	29	227	26	87	147	25	14	55	19	0	20	14	0	17	10	2	18	11	2	58	11	25	38	4	19	856	154	192
1958	12	7	0	20	5	13	15	10	0	76	19	4	68	21	0	127	27	42	121	30	1	46	20	1	24	14	1	9	6	4	45	6	0	1	1	0	564	166	66
1959	16	2	3	20	5	21	43	11	9	30	12	1	226	28	8	73	25	2	63	24	0	38	18	0	58	15	14	24	10	0	11	4	0	2	2	0	604	156	58
1960	9	4	0	28	10	0	28	10	0	70	20	7	201	26	34	124	27	3	43	22	0	47	23	1	22	13	0	18	10	1	25	6	0	1	1	0	616	172	46
1961	1	1	0	31	8	0	124	17	7	74	19	3	137	25	23	107	23	2	77	27	0	27	16	0	53	16	15	14	5	0	36	7	1	16	5	0	697	169	51
1962	12	3	1	25	7	0	37	9	17	41	8	1	200	22	3	171	29	0	78	26	0	51	21	6	24	11	0	11	10	0	5	4	0	2	2	0	657	152	28
1963	15	5	1	6	3	0	48	12	8	84	14	16	71	21	1	91	23	0	62	26	0	26	13	2	33	13	3	13	5	0	15	6	0	0	0	0	464	141	31
1964	14	3	10	2	2	0	36	11	6	157	23	15	135	20	16	136	24	0	63	23	0	79	23	2	25	10	0	22	4	22	17	8	0	18	5	2	704	156	73
1965	21	11	0	32	4	0	34	9	2	129	20	267	275	25	17	147	28	6	86	26	0	61	23	1	64	21	0	16	4	1	34	6	5	7	4	0	906	181	299
1966	1	1	0	28	5	0	12	6	58	80	20	12	98	17	0	126	28	19	100	27	3	58	21	0	22	13	0	29	6	6	20	3	0	11	3	0	585	150	98
1967	39	4	7	8	5	0	42	14	3	149	18	73	116	25	3	210	28	6	90	25	1	28	16	2	139	16	5	36	7	4	8	5	0	61	10	10	926	173	114
1968	5	3	0	7	3	0	28	8	0	102	15	40	145	26	72	136	27	11	56	22	2	66	23	2	25	14	0	14	9	0	44	12	3	32	9	1	660	171	131
1969	3	1	32	5	5	0	8	2	1	68	15	2	145	25	4	137	28	7	99	27	0	69	21	19	20	11	0	26	10	5	3	0	23	7	1	608	155	66	
1970	9	5	0	16	3	0	25	12	2	117	16	29	88	19	26	134	24	6	81	26	3	55	21	0	54	20	0	50	13	6	10	4	0	14	8	0	653	171	72
1971	18	7	1	83	12	131	40	13	2	75	14	11	166	24	7	199	28	1	100	30	1	50	21	0	47	15	0	38	12	0	16	7	0	56	9	2	888	192	156
1972	33	10	5	7	4	0	69	17	0	96	20	16	140	27	0	114	25	2	115	29	0	59	23	2	49	19	0	34	10	0	17	4	2	8	6	0	741	194	27
1973	33	7	1	10	4	0	80	16	17	150	22	10	250	26	35	224	26	2	80	26	0	51	23	4	69	22	3	25	11	0	81	11	12	49	12	3	1102	206	87
1974	24	8	2	23	9	0	36	12	1	269	22	313	144	28	10	194	26	31	59	19	0	107	26	0	25	11	0	45	10	4	13	8	0	8	5	0	947	184	361
1975	52	7	12	45	12	7	84	16	12	108	20	13	188	30	5	196	28	6	79	26	2	60	25	2	34	17	0	12	7	0	40	8	0	22	8	1	920	204	60
1976	12	5	0	37	6	5	180	18	21	113	23	1	155	24	8	169	26	3	84	28	2	38	18	1	35	15	3	11	5	0	0	0	1	1	0	835	169	44	
1977	5	4	0	17	3	2	64	15	0	88	15	26	228	29	4	132	27	0	99	27	1	82	26	6	65	21	1	25	5	1	24	10	0	23	7	2	852	189	43
1978	23	7	2	6	3	0	17	8	0	107	17	4	213	27	7	148	28	17	143	30	11	65	24	1	20	10	6	7	5	0	9	5	0	30	9	5	788	173	53
1979	16	9	0	4	3	0	53	13	1	120	17	58	112	23	2	150	24	8	132	30	1	127	27	5	68	19	2	47	12	7	21	8	0	2	1	0	852	186	84
1980	5	4	0	11	9	0	41	15	2	137	16	4	203	25	8	217	30	7	95	26	5	73	27	0	37	14	1	43	7	1	3	2	0	1	1	0	866	176	28
1981	3	3	0	25	5	2	33	13	1	84	18	13	187	24	0	223	29	8	98	27	0	64	22	0	26	16	0	32	12	0	7	5	0	1	1	0	783	175	24
1982	18	8	1	3	2	0	60	15	6	150	20	30	327	28	14	198	30	4	95	29	0	34	15	0	38	12	2	9	4	0	19	6	0	95	13	7	1046	182	64
1983	13	2	2	41	7	1	71	21	0	65	15	6	249	26	14	178	27	2	99	27	4	76	21	0	20	15	0	12	5	0	49	11	0	58	13	5	931	190	34
1984	1	1	0	27	4	0	73	15	64	176	22	33	169	27	6	242	25	14	72	21	0	47	20	0	17	12	0	49	12	4	30	5	1	4	2	0	907	166	122
1985	2	2	0	7	4	0	38	12	2	134	19	5	182	28	78	82	24	3	51	19	0	108	26	3	40	16	0	18	8	0	19	8	3	3	2	0	684	168	94
1986	0	0	0	30	11	2	75	9	6	84	17	2	173	25	1	134	25	0	88	24	3	67	23	1	65	17	0	26	7	0	17	8	0	5	2	0	764	168	15
1987	6	3	0	19	4	6	38	11	1	20	8	1	126	25	31	132	29	2	163	28	0	63	24	1	19	10	0	1	1	0	55	5	11	14	3	6	656	151	59
1988	17	3	5	4	3	0	28	10	1	58	16	4	132	24	3	63	21	0	103	23	0	61	13	3	76	16	1	19	8	0	121	13	14	20	6	1	702	156	32
1989	15	6	0	18	3	0	44	14	1	82	13	0	234	28	9	253	27	5	59	19	0	36	20	0	31	12	0	30	7	4	58	10	31	3	1	0	856	160	50
1990	11	7	0	57	10	1	88	8	3	108	17	0	243	27	5	335	28	11	106	26	0	60	22	29	45	15	0	35	9	2	18	5	0	35	7	2	1133	181	53
1991	29	6	1	11	5	0	159	16	13	206	20	21	335	30	0	216	30	1	65	22	1	46	17	0	26	16	0	22	9	0	20	5	2	3	3	0	1132	179	39
1992	15	6	0	29	9	0	55	17	5	53	11	0	137	21	0	400	29	1	214	30	0	115	22	3	82	17	0	34	10	4	149	14	26	20	9	0	1298	195	39
1993	17	8	0	34	7	3	49	11	5	85	15	10	179	26	2	316	27	1	242	31	0	112	26	6	65	17	2	55	9	4	19	6	0	6	3	0	1176	186	33
1994	13	5	0	9	7	0	61	12	40	206	23	12	161	27	0	236	29	3	155	27	3	120	24	4	30	17	0	51	15	0	42	10	7	4	3	0	1082	199	69
1995	36	9	3	7	4	6	49	11	0	130	17	1	394	28	16	219	25	0	163	28	0	53	22	0	19	11	0	7											

TORNADOES, TORNADO DAYS AND DEATHS BY STATE AND NATION, 1953-96

STATE	TORNADOES							DAYS		DEATHS		
	TOTAL	AVERAGE	GREATEST	YEAR	LEAST	YEAR	PER # 10,000 SQ. MI.	TOTAL	AVERAGE	TOTAL	AVERAGE	PER # 10,000 SQ. MI.
ALABAMA	938	21	45	1983+	5	1956	4.07	480	10	280	6	54
ALASKA	1	0	1	1959	0	1989+	.00	1	0	0	0	0
ARIZONA	167	3	17	1972	0	1965	.27	131	2	3	0	0
ARKANSAS	870	19	78	1982	2	1987+	3.58	401	9	178	4	34
CALIFORNIA	240	5	22	1996	0	1968+	.32	168	3	0	0	0
COLORADO	1246	28	98	1996	1	1959	2.69	623	14	2	0	0
CONNECTICUT	60	1	8	1973	0	1988+	2.00	53	1	4	0	8
DELAWARE	54	1	6	1992	0	1987+	4.86	43	0	2	0	10
DISTRICT OF COLUMBIA	1	0	1	1995	0	0+	.00	1	0	0	0	0
FLORIDA	2145	48	97	1975	10	1956	8.20	1329	30	86	1	15
GEORGIA	910	20	52	1994	2	1987	3.40	475	10	108	2	18
HAWAII	27	0	4	1971	0	1987+	.00	23	0	0	0	0
IDAHO	127	2	11	1991+	0	1977+	.24	102	2	0	0	0
ILLINOIS	1256	28	107	1974	4	1953	4.96	547	12	178	4	32
INDIANA	921	20	49	1990	4	1984	5.51	420	9	221	5	61
IOWA	1422	32	71	1990	7	1956	5.69	611	13	60	1	11
KANSAS	2123	48	116	1991	14	1976	5.83	868	19	190	4	23
KENTUCKY	421	9	34	1974	0	1953	2.23	219	4	104	2	26
LOUISIANA	1117	25	79	1992	3	1955	5.15	623	14	103	2	21
MAINE	83	1	11	1971	0	1987+	.30	73	1	1	0	0
MARYLAND	185	4	24	1995	0	1988+	3.78	109	2	2	0	2
MASSACHUSETTS	131	2	12	1958	0	1988+	2.42	93	2	102	2	124
MICHIGAN	727	16	39	1974	2	1959	2.75	408	9	236	5	41
MINNESOTA	885	20	47	1993	5	1988+	2.38	454	10	81	1	10
MISSISSIPPI	1077	24	62	1988	1	1979	5.03	513	11	369	8	77
MISSOURI	1208	27	79	1973	6	1987+	3.88	529	12	137	3	20
MONTANA	257	5	30	1991	0	1974+	.34	177	4	1	0	0
NEBRASKA	1735	39	88	1990	10	1966	5.05	759	17	51	1	7
NEVADA	50	1	8	1987	0	1985+	.09	45	1	0	0	0
NEW HAMPSHIRE	72	1	9	1963	0	1987+	1.07	63	1	0	0	0
NEW JERSEY	116	2	17	1989	0	1984+	2.55	87	1	0	0	0
NEW MEXICO	411	9	31	1991	0	1953	.74	295	6	3	0	0
NEW YORK	262	5	25	1992	0	1953	1.01	178	4	21	0	4
NORTH CAROLINA	652	14	53	1996	2	1970	2.66	368	8	82	1	16
NORTH DAKOTA	823	18	52	1976	2	1961	2.55	435	9	21	0	3
OHIO	658	14	61	1992	0	1988	3.40	330	7	171	3	41
OKLAHOMA	2339	53	107	1957	17	1988	7.58	915	20	213	4	30
OREGON	51	1	5	1991	0	1988+	.10	45	1	0	0	0
PENNSYLVANIA	467	10	33	1985+	0	1959	2.21	278	6	77	1	17
PUERTO RICO	10	0	2	1979	0	1989+	.00	9	0	0	0	0
RHODE ISLAND	8	0	3	1986	0	1988+	.00	7	0	0	0	0
SOUTH CAROLINA	497	11	54	1995	1	1986+	3.54	285	6	45	1	14
SOUTH DAKOTA	1187	26	85	1993	1	1958	3.37	527	11	8	0	1
TENNESSEE	529	12	44	1974	1	1987+	2.84	270	6	97	2	23
TEXAS	5812	132	232	1967+	32	1953	4.94	2103	47	458	10	17
UTAH	80	1	6	1984+	0	1989+	.12	69	1	0	0	0
VERMONT	32	0	5	1962	0	1985+	.00	29	0	0	0	0
VIRGINIA	306	6	28	1993	1	1982+	1.47	186	4	23	0	6
VIRGIN ISLANDS	2	0	1	1979+	0	1989+	.00	2	0	0	0	0
WASHINGTON	56	1	4	1989+	0	1988+	.15	48	1	6	0	1
WEST VIRGINIA	84	1	6	1980+	0	1988+	.41	65	1	2	0	1
WISCONSIN	859	19	43	1980	3	1953	3.44	429	9	82	1	15
WYOMING	445	10	42	1977	0	1970	1.02	290	6	2	0	0
PACIFIC ISLANDS	2	0	1	1981+	0	1989+	.00	2	0	0	0	0
TOTAL: UNITED STATES	35914*	816	1298	1992	421	1953	2.26	7573&	172	3810	86	11

+ ALSO IN EARLIER YEAR(S).

* CORRECTED FOR BOUNDARY-CROSSING TORNADOES.

& TORNADO DAYS FOR COUNTRY AS A WHOLE.

MEAN ANNUAL TORNADOES PER
10,000 SQUARE MILES.

' NUMBER OF DEATHS PER
10,000 SQUARE MILES.

NATIONAL TORNADOES, TORNADO DAYS, DEATHS AND RESULTING LOSSES BY YEARS, 1916-96

YEAR	NUMBER TORNADOES	TORNADO DAYS	TOTAL DEATHS	MOST DEATHS IN SINGLE TORNADO	TOTAL PROPERTY LOSSES \$	PROPERTY LOSS FREQUENCY *		
						CATEGORY 5	CATEGORY 6	CATEGORY 7 AND OVER
1916	90	36	150	30	6	7	1	0
1917	121	38	551	101	7	21	9	0
1918	81	45	136	36	7	20	5	0
1919	64	35	206	59	7	10	2	0
1920	87	50	499	87	7	14	10	0
1921	105	55	202	61	7	22	3	0
1922	108	64	135	16	7	27	5	0
1923	102	59	110	23	6	21	1	0
1924	130	57	376	85	7	26	11	1
1925	119	65	794	689	7	34	2	1
1926	111	57	144	23	6	28	0	0
1927	163	62	540	92	7	42	9	1
1928	203	79	95	14	7	40	7	0
1929	197	74	274	40	7	48	4	0
1930	192	72	179	41	7	38	6	0
1931	94	57	36	6	6	14	1	0
1932	151	67	394	37	7	23	1	1
1933	258	96	362	34	7	46	9	0
1934	147	77	47	6	6	10	3	0
1935	180	77	71	11	6	29	0	0
1936	151	71	552	216	7	17	5	1
1937	147	75	29	5	6	24	0	0
1938	213	76	183	32	7	29	6	0
1939	152	75	91	27	7	21	3	0
1940	124	62	65	18	7	13	2	0
1941	118	57	53	25	6	24	1	0
1942	167	66	384	65	7	42	10	0
1943	152	61	58	5	7	28	8	0
1944	169	68	275	100	7	50	9	0
1945	121	66	210	69	7	21	10	1
1946	106	65	78	15	7	29	7	0
1947	165	78	313	169	7	46	7	1
1948	183	68	139	33	7	62	11	2
1949	249	80	211	58	7	54	13	0
1950	200	88	70	18	7	47	9	0
1951	262	113	34	6	7	35	11	2
1952	240	98	229	57	7	53	19	0
1953	421	136	515	116	8	63	18	7
1954	550	160	36	6	7	63	8	1
1955	593	152	126	80	7	74	13	1
1956	504	155	83	25	7	83	24	1
1957	856	154	192	44	8	129	26	3
1958	564	166	66	19	7	70	8	1
1959	604	156	58	21	7	70	4	1
1960	616	172	46	16	7	65	11	1
1961	697	169	51	16	7	103	21	1
1962	657	152	28	17	7	51	10	0
1963	464	141	31	5	7	77	15	1
1964	704	156	73	22	7	113	17	5
1965	906	181	299	44	8	126	30	11
1966	585	150	98	58	8	79	13	4
1967	926	173	114	33	8	125	33	8
1968	660	171	131	34	8	82	26	6
1969	608	155	66	32	8	98	16	3
1970	653	171	72	26	8	97	24	6
1971	888	192	156	58	8	71	30	5
1972	741	194	27	6	8	100	28	1
1973	1102	206	87	7	9	219	67	9
1974	947	184	361	34	9	166	82	25
1975	920	204	60	9	9	189	31	11
1976	835	169	44	5	8	145	41	5
1977	852	189	43	22	8	173	40	6
1978	788	173	53	16	9	153	53	6
1979	852	186	84	42	9	169	62	11
1980	866	176	28	5	9	201	79	13
1981	783	175	24	5	9	144	43	12
1982	1046	182	64	10	9	254	79	13
1983	931	190	34	3	9	211	85	10
1984	907	166	122	16	9	193	90	35
1985	684	168	94	18	9	114	55	14

NOTE: - THE ABOVE ESTIMATED LOSSES ARE BASED ON VALUES AT TIME OF OCCURRENCE.
MEAN WAS DERIVED FROM DATA FOR PERIOD 1953-1992

\$ STORM DAMEGES IN CATEGORIES:

- | | |
|--------------------------------|----------------------------------|
| 5. \$50,000 TO \$500,000 | 8. \$50 MILLION TO \$500 MILLION |
| 6. \$500,000 TO \$5 MILLION | 9. \$500 MILLION AND OVER |
| 7. \$5 MILLION TO \$50 MILLION | |

* NUMBER OF TIMES PROPERTY LOSSES REPORTED IN STORM DATA IN CATEGORIES 5, 6, 7 AND OVER.

NATIONAL TORNADOES, TORNADO DAYS, DEATHS AND RESULTING LOSSES BY YEARS, 1916-96

YEAR	NUMBER TORNADOES	TORNADO DAYS	TOTAL DEATHS	MOST DEATHS IN SINGLE TORNADO	TOTAL PROPERTY LOSSES \$	PROPERTY LOSS FREQUENCY *		
						CATEGORY 5	CATEGORY 6	CATEGORY 7 AND OVER
1986	764	168	15	3	9	157	66	9
1987	656	151	59	30	8	112	32	6
1988	702	156	32	5	9	148	48	17
1989	856	160	50	21	9	133	60	18
1990	1133	181	53	29	8	215	91	18
1991	1132	179	39	17	8	194	49	15
1992	1298	195	39	12	8	212	83	25
1993	1176	186	33	7	8	186	59	13
1994	1082	199	69	22	8	194	68	15
1995	1235	178	30	6	8	203	52	11
1996	1170	196	25	5	8	224	86	22
MEAN	816	172	87	-	-	137	43	9

NOTE: - THE ABOVE ESTIMATED LOSSES ARE BASED ON VALUES AT TIME OF OCCURRENCE.
MEAN WAS DERIVED FROM DATA FOR PERIOD 1953-1992

\$ STORM DAMEGES IN CATEGORIES:

- | | |
|--------------------------------|----------------------------------|
| 5. \$50,000 TO \$500,000 | 8. \$50 MILLION TO \$500 MILLION |
| 6. \$500,000 TO \$5 MILLION | 9. \$500 MILLION AND OVER |
| 7. \$5 MILLION TO \$50 MILLION | |

* NUMBER OF TIMES PROPERTY LOSSES REPORTED IN STORM DATA IN CATEGORIES 5, 6, 7 AND OVER.

Annual Hurricane & Tropical Storm Summary - 1996

Name	Type	Dates	Max. Winds	Min. Pressure	Areas Affected	Fatalities		Injured	Damage
						US	Other	US	
Arthur	Tropical Storm	6/17-6/21	45 knots (52 mph)	992 mb (29.29 inches Hg)	NC Coast	0	0	0	2 M
Bertha	Hurricane Category 3	7/5-7/14	100 knots (115 mph)	960 mb (28.35 inches Hg)	N. SC Coast NC Coast Mid-Atlantic States	5	2	13	270 M
Cesar	Hurricane Category 1	7/24-7/29	70 knots (81 mph)	990 mb (29.23 inches Hg)	Costa Rica Caribbean Nicaragua	0	51	N/A	N/A
Dolly	Hurricane Category 1	8/19-8/25	70 knots (81 mph)	989 mb (29.21 inches Hg)	Yucatan Peninsula NE Mexico	0	14	N/A	N/A
Edouard	Hurricane Category 4	8/19-9/3	125 knots (144 mph)	933 mb (27.55 inches Hg)	NE United States	0	0	2	N/A
Fran	Hurricane Category 3	8/23-9/8	105 knots (121 mph)	946 mb (27.94 inches Hg)	N. SC Coast NC Coast Mid-Atlantic States	14	6	19	3.2 B
Gustav	Tropical Storm	8/26-9/2	40 knots (46 mph)	1005 mb (29.68 inches Hg)	Atlantic Ocean	0	0	0	0
Hortense	Hurricane Category 4	9/3-9/16	120 knots (138 mph)	935 mb (27.61 inches Hg)	Puerto Rico Caribbean Canada	18	3	N/A	250 M
Isidore	Hurricane Category 3	9/24-10/1	100 knots (115 mph)	960 mb (28.35 inches Hg)	Atlantic Ocean	0	0	0	0
Josephine	Tropical Storm	10/4-10/8	60 knots (69 mph)	981 mb (28.97 inches Hg)	SE United States Mid-Atlantic States	0	0	1	130 M
Kyle	Tropical Storm	10/11-10/12	45 knots (52 mph)	1001 mb (29.56 inches Hg)	Guatemala Honduras	0	0	0	0
Lili	Hurricane Category 3	10/14-10/27	100 knots (115 mph)	960 mb (28.35 inches Hg)	Cuba N Caribbean	0	14	N/A	N/A
Marco	Hurricane Category 1	11/16-11/24	65 knots (75 mph)	983 mb (29.03 inches Hg)	N. Caribbean	0	8	N/A	N/A
Totals						37	98	32	3.852 B

STORM DAMAGE CATEGORIES

REFERENCE NOTES

1	Less than \$50	0 / Blank	None reported.
2	\$50 to \$500	*	Miles instead of yards.
3	\$500 to \$5,000	**	Yards instead of miles.
4	\$5,000 to \$50,000	@	Includes heavy sleet storm.
5	\$50,000 to \$500,000	#	Freezing drizzle and freezing rain, commonly known as glaze.
6	\$500,000 to \$5 Million	=	Report incomplete.
7	\$5 Million to \$50 Million	= =	Report not received.
8	\$50 Million to \$500 Million		
9	\$500 Million to \$5 Billion	o/c	Indicates Crop Damage amount is included in the value give 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; signs and billboards damaged.

(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 from frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light-object missiles generated.

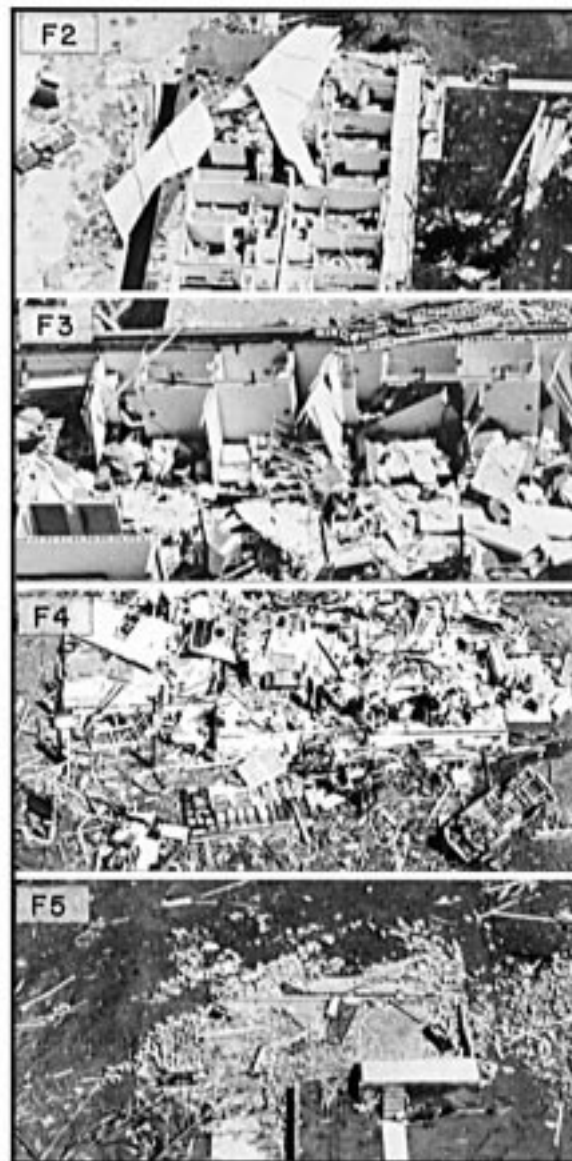
(F3) Severe tornado (158-206 mph): Severe damage; Roofs and some walls torn from well-constructed houses; trains overturned; most trees in forest uprooted; heavy cars lifted off ground and thrown.

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

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

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

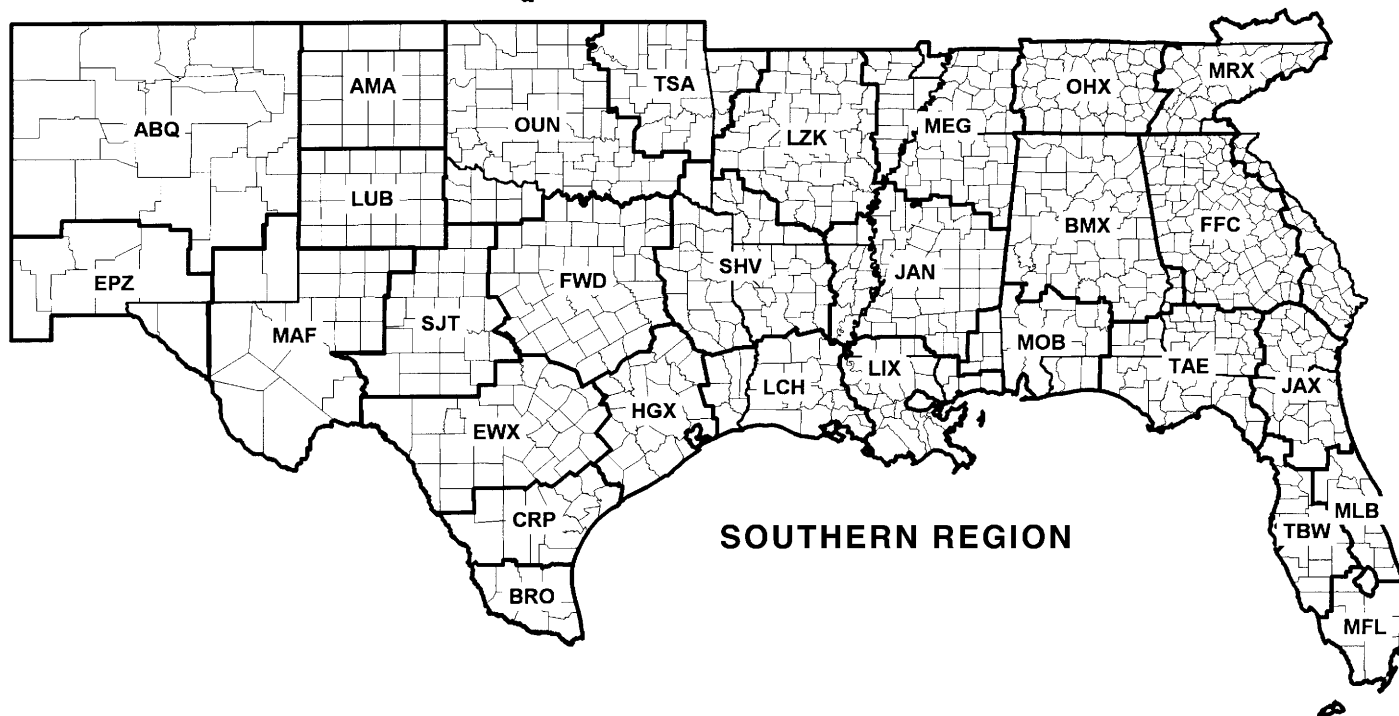
(F0+F1) Weak Tornado
(F2+F3) Strong Tornado
(F4+F5) Violent Tornado



COUNTY WARNING & FORECAST AREAS - MODERNIZED NWS

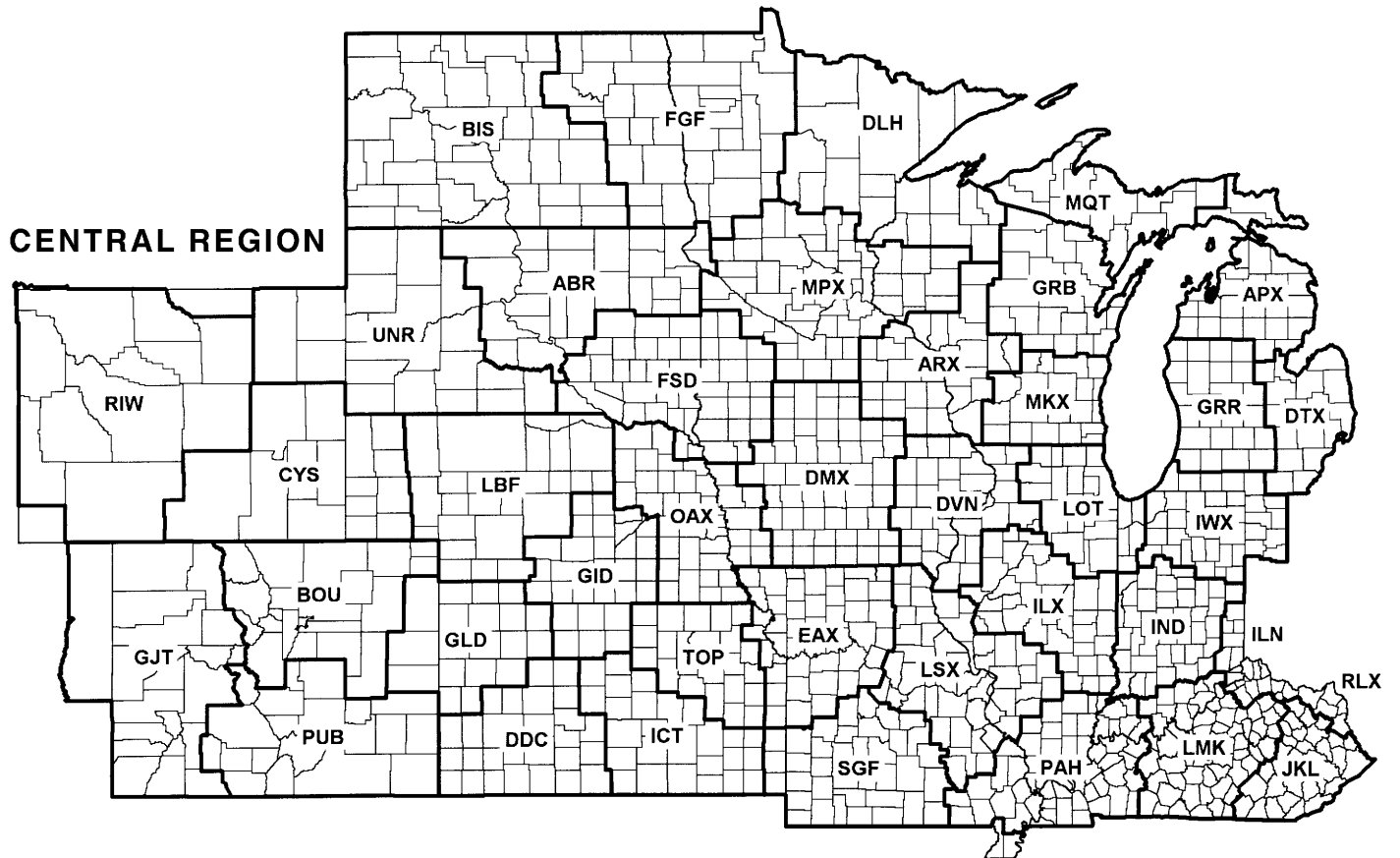
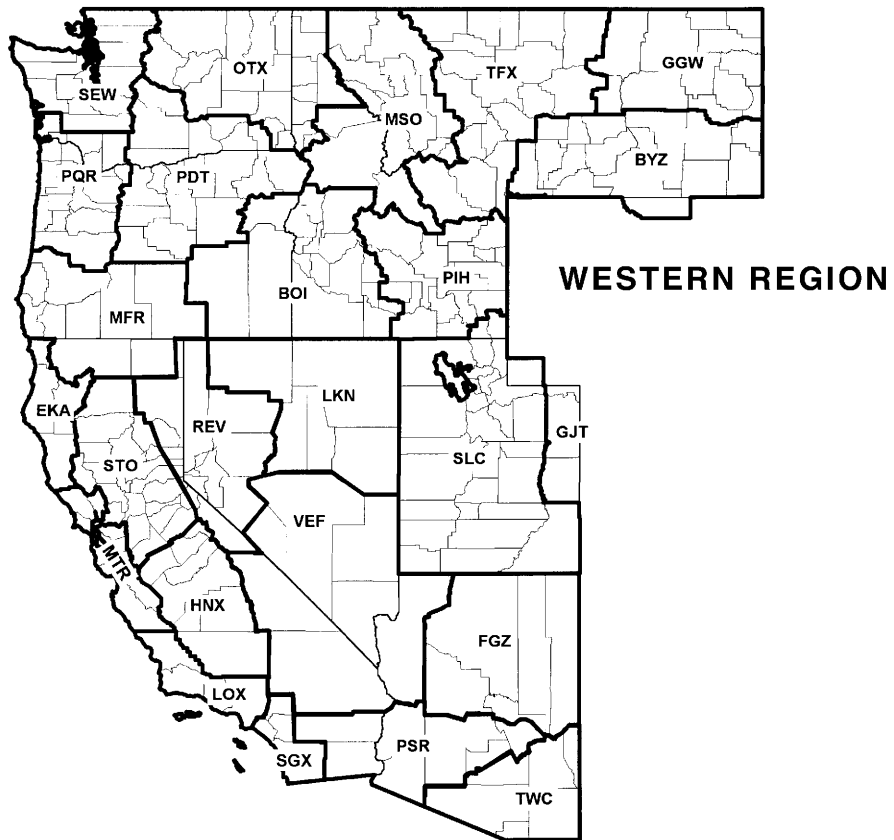


EASTERN REGION

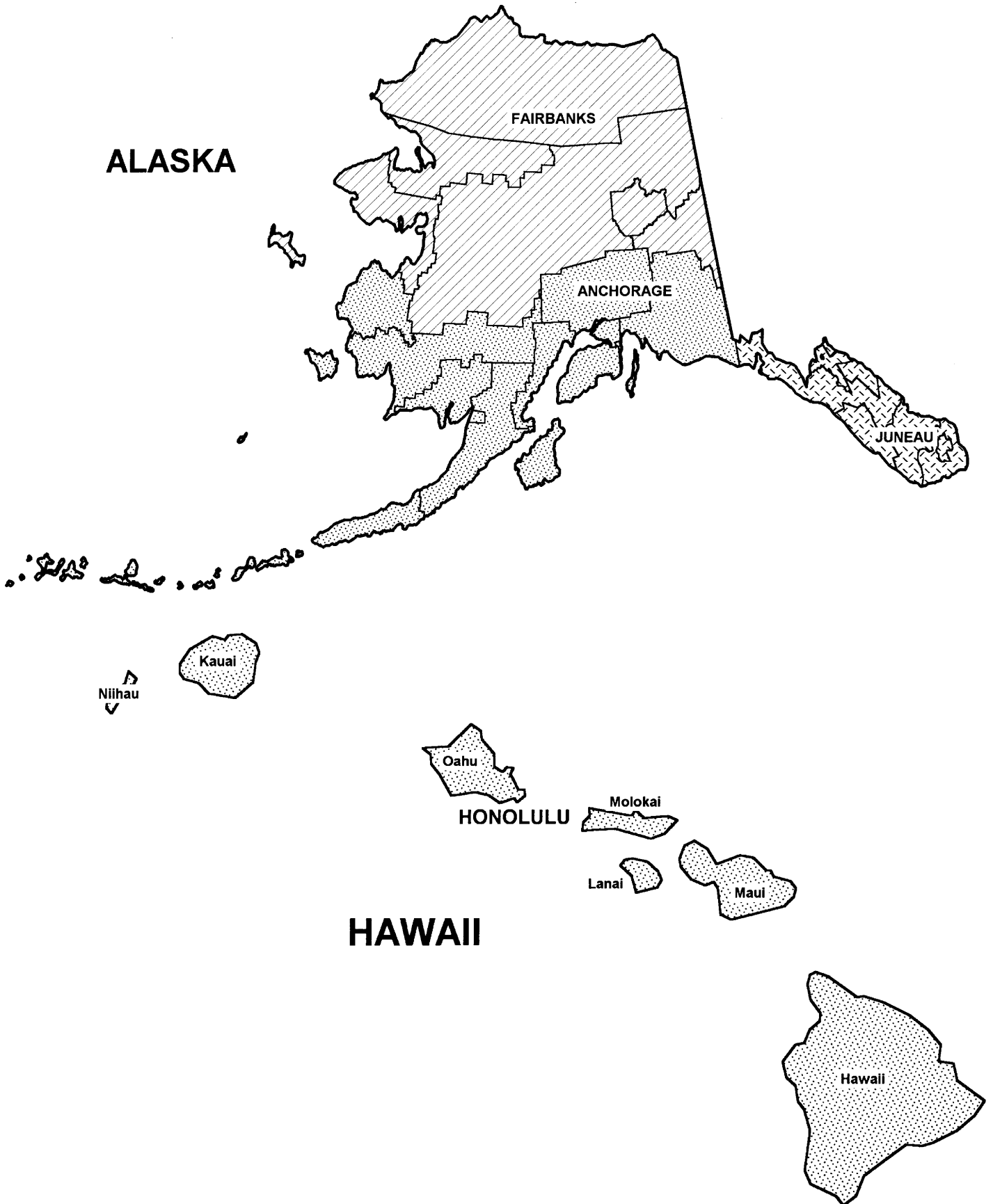


SOUTHERN REGION

COUNTY WARNING & FORECAST AREAS - MODERNIZED NWS



MODERNIZED COUNTY WARNING AREAS



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