Whether El Nino was a contributing factor to the weather in 1998 or not, preliminary data indicates there were 1,254 tornado occurrences in the 48 contiguous United States. This is the highest number of tornado reports since 1992 (1,297). Normally, tornadoes occur in an area from Texas northward through Oklahoma, Kansas, and Nebraska into western areas of Iowa, Missouri, and Arkansas, better known as "tornado alley." But, in 1998 the maximum frequency of tornadoes occurred across parts of the Missouri and Mississippi Valleys as well as Florida (Fig. 1).
Tornado fatalities dramatically increased in 1998. There were 129 tornado-related deaths (Fig. 2), which is the most since 1974 when there were more than 350 fatalities. In only one year since 1974 were there more than 100 deaths and that was in 1984 (122).

Figure 1: Number of tornadoes by year since 1950. 1998 total is based on preliminary statistics tabulated by The Storm Prediction Center.
Many of the tornado related deaths occurred in mobile homes (67) or vehicles (14). Public response to warnings became a significant issue for the first time in more than 20 years as many tornado-related deaths occurred in the evening and early morning hours when most people watch television.

A majority of the U.S. tornadoes occurred in the months between April and June (70%). But the majority of tornado-related deaths occurred between February and April (95%).

The United States was not the only location in the world to experience significant tornado activity during 1998. In mid-December, guards rescued President Nelson Mandela as a tornado hit the town of Umtata on the southeast coast of South Africa. President Mandela was shopping at a pharmacy when shelf items started rattling and the ceiling began vibrating. Eleven people were killed and 150 others were injured as a result of this tornado.

![Tornado Deaths By Year](http://www.spc.noaa.gov/publications/mccarthy/torn1998.htm)

**Figure 2:** Tornado related fatalities by year since 1950. Totals for 1998 are based on preliminary data stored at the Storm Prediction Center in Norman, OK.

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**JANUARY**
The first tornado of the year in the United States was a brief touchdown near Chilton, TX on the 4th of the month. The next day a few tornadoes occurred around the Goldthwaite area of TX severely damaging a mobile home and causing $40,000 damage. A tornado was also reported in Seaside, OR resulting in minor damage to the Kinni-Kinnic Lodge and to an adjacent home.

The first tornado-related injury of the year occurred on the 7th when a waterspout moved onshore at Okaloosa Island, FL damaging a home under construction. A worker at that house was injured and briefly hospitalized.

The day with the most tornadoes occurred on the 21st of the month. A half-dozen tornadoes were reported across parts of Texas and Louisiana causing only minor damage.

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**FEBRUARY**

"You could feel the whole apartment just shift. It just jumped to the right. Suddenly, water start coming from out of the walls, out of the light fixtures, and there were screams coming from every direction."

This was the response of a resident of the Country Gardens apartment complex just west of Orlando, FL after a series of tornadoes caused extensive damage the night and early morning hours of the 22nd and 23rd. This night was called "The Night of the Tornadoes" as a line of severe storms moved across central Florida.

This outbreak ranks as the most devastating in Florida history with seven tornadoes raking across the area around Orlando killing 42 persons and injuring 260 others. Previously, the worst Florida outbreak was on March 31, 1962 when 17 persons were killed.

The tornadoes threw trailers skyward and flattened others. But, amazingly, the three popular vacation resorts near Orlando, including Walt Disney World, was spared and opened for business the next day.

The first tornado of the evening was reported near Daytona Beach about 11:00 p.m. EST. Tractor-trailer trucks were overturned and scattered on Interstate 95 that runs along the eastern edge of the Florida peninsula. This storm alone damaged or destroyed some 600 structures.

The outbreak's second tornado occurred near Clermont, FL blowing down trees as it moved into Orange County. It intensified and caused F3 damage. There were three fatalities and 70 injuries and another 500 structures were damaged or destroyed, including about 100 mobile homes across parts of Orange County.

The same storm system then produced another tornado after midnight across parts of Seminole County. This tornado passed through several neighborhoods causing F3 damage killing 12 persons in mobile homes and injuring 70 others. Nearly 625 structures suffered damage or were destroyed.

The deadliest tornado of the outbreak occurred near Intercession City, FL. This tornado tracked through
the town of Kissimmee killing 24 persons. The hardest hit areas were the Morningside Acres Mobile Home Park and the Ponderosa Recreational Vehicle Park. Of the 24 people killed, eight people were in recreational vehicles, fifteen people were in mobile homes, and one person was in an automobile. There were 150 injuries and more than 1000 structures were damaged or destroyed.

"We're lucky. We're really lucky," said an Osceola County resident after his home was damaged by a tornado.

MARCH

The month got underway with severe thunderstorm activity occurring mostly across the southeastern section of the United States. Nearly two dozen tornadoes occurred during the very early morning hours of the 9th. The most damaging tornado occurred around 1:30 a.m. near Lake Wales in Polk County of west-central Florida. Two mobile homes took a direct hit from a tornado causing F2 damage. The mobile homes were completely disintegrated with only frame rails and tie downs intact, while a nearby home with reinforced cinder block walls suffered only minor damage. One person was severely injured when tossed 50 feet onto the street as his mobile home was destroyed by the tornado. The tornado destroyed or severely damaged a dozen homes, damaged fourteen others, and severely damaged four commercial buildings and two recreational vehicles.

Another tornado occurred around 3:00 a.m. damaging trees around the Naples, FL area. Six mobile homes were destroyed and another 30 damaged as a tornado moved through the Land-Yacht Harbor. Nine other mobile homes were damaged when the tornado moved across the Palm Lake park.

Ten people were injured as a tornado caused F1 damage around 3:00 a.m. as it passed by Okeechobee, FL damaging six businesses and nine homes. As many as 13 mobile homes and recreational vehicles were destroyed and about 100 others were damaged.

A tornado touched down just before 4:00 a.m. near the town of Ft. Pierce, FL. The tornado destroyed 20 amusement park rides, bleachers, and outbuildings. The storm then tracked northeast through the St. Lucie County Airport where it overturned eight planes and destroyed a hanger.

On March 20th, the deadliest tornado to hit Georgia since the 1994 "Palm Sunday" event occurred, killing 18 people. A squall line of severe storms marched across parts of Alabama during the early morning weakening as it entered western Georgia. The tornado developed from an isolated storm over northwest Hall County and moved into southern White County about 50 miles northeast of Atlanta. The tornado tracked 13 miles significantly damaging Lanier Elementary School and North Hall High School. Houses, trailers, businesses, and several poultry farm buildings were demolished or damaged. A tractor-trailer truck was thrown 100 feet from the road into a school, killing the driver. Eleven others were killed in mobile homes. Yet, many were thankful that the tornado did not occur a half-hour or so later when students would have been arriving at school. A woman who lives near the elementary school noted that the tornado, "...definitely sounded like a freight train," as it lifted up the roof and tore up trees and her son's swing set.
This same weather system produced storms across parts of north-central North Carolina and south-central Virginia. Two people were killed as a tornado moved through Stoneville, NC, a town of about 3,000 people. This tornado was described as a large tornado that damaged or destroyed up to 600 residences and nearly all the businesses in Stoneville and some in Mayodan, NC. The tornado tossed a truck 60 feet, carried cinder blocks and an empty boat trailer about a quarter of a mile, and pushed a 25,000 pound fire truck about 60 feet. The width of the tornado's damage path generally ranged from 100 to 400 yards wide, but at one time reached 800 yards.

Fatalities from this tornado included an 80-year-old man who was pulled from his house southwest of town and tossed 500 feet into the air, and a woman died when the tornado tossed her car into a building causing a wall of the building to collapse. Twenty-seven persons were reported injured but there were likely 10 to 20 more injuries that were unreported as people drove themselves or were taken by friends to the hospital. Canceled checks and papers from the Stoneville area were found in Huddleson, VA, about 53 miles to the north-northeast of town.

The same storm system crossed the North Carolina/Virginia border producing a tornado near Sandy Level. This tornado damaged or destroyed more than 60 residences, two churches, several vehicles, barns, and outbuildings.

A tornado touched down in the Mattoon, IL area on the 28th damaging four homes. It then crossed a set of railroad tracks overturning four empty 30-ton coal cars, and destroyed 60% of a storage facility complex. Overall, 120 homes and businesses were damaged as it skipped across the ground for a mile-and-a-half. Three people were injured including a 9-year-old girl who suffered a partially collapsed lung when a picture blew off the wall hitting her in back.

An early season spring storm across the Upper Midwest on the 29th produced nearly two dozen tornadoes. One tornado touched down near Westbrook, MN and moved east northeast through the town of Comfrey and other parts of Cottonwood County. The tornado destroyed numerous farms, farm equipment, buildings, and tossed vehicles in its path. Much of the town of Comfrey was destroyed leaving as many as 100 people homeless. A cafe and church were demolished, and the fire station and city liquor store were heavily damaged. A 6 year-old boy died when the van he was riding in was blown off the road. The tornado sucked him out of the vehicle throwing him 150 feet into a muddy field.

The tornado moved on hitting Gustav Adolphus College in St.Peter, MN which sustained heavy damage including the campus chapel which lost its 137 foot spire. The tornado destroyed 500 homes and damaged 1700 others. A man died the next day after sustaining injuries when his farmstead collapsed near Hanska, MN.

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**APRIL**

The weather didn't fool around on April 1st as two tornadoes touched down in isolated areas of eastern and southeastern Virginia. A tornado produced F2 damage along a nine mile path from near Coatesville Va to around Ruther Glen. One home near Coatesville was completely destroyed while another was...
severely damaged killing two people. Two mobile homes were destroyed and several churches were damaged.

Several tornadoes occurred across parts of central Illinois on the 7th. One touched down just south of Caldwell moving northeast destroying nine homes along with numerous barns, sheds, silos, and outbuildings. Four people were inside a double-wide mobile home blown off its foundation. Four others were injured in Douglas County as the tornado damaged or destroyed 20 homes.

"It was the most ungodly sound you ever heard. It was hissing and roaring and rumbling, like you were inside a vacuum."

That was the description of the tornadoes as they caused havoc across parts of the southeastern states on the afternoon and evening of April 8th. The storms cut a path of devastation from northern parts of Mississippi through northern Alabama and southwest Tennessee into northern Georgia. Tornadoes caused significant damage across Jefferson and St. Clair Counties in the Birmingham, AL area. As many as 36 people were killed, 272 people were injured and property damage was estimated over $300 million.

"It was like the sky swooped down. The lightning was awesome. It was unreal."

The destruction began around 6:30 p.m. CDT. The first fatality was a person in Pontotoc County, MS. The last death occurred around midnight in DeKalb County, GA. Some of the tornado tracks were greater than 30 miles long, and the most intense produced F5 damage across Jefferson County, AL destroying more than 1,100 permanent homes and damaging almost 1,000 more. If the storm had tracked just 10 miles further south, it would have hit downtown Birmingham head on.

"It's supposed to be the safest place! The whole wall collapsed on them," was the response of a relative as a mother and her two sons were killed while they hid in the basement of their home.

Fairly new housing divisions were wiped off the face of the earth. Wooden homes were left in splinters, and brick homes were reduced to foundation rubble. Overturned cars and household furniture littered streets and yards throughout the area. One car rested upright on top what was left of a gas station, while an old bus that was converted into a camper was lying upside down.

The tornadoes hit in the evening while people were attending Holy Week services at local churches, while children were getting ready for bed, and while folks were just starting to relax for the evening. It ended up being a night of massive destruction with flattened or shredded houses, clothes and mattresses hanging from tree limbs, and trees and power lines splintered and scattered across the countryside. Cries filled the air.

"It was like a bomb going off. We walked out of there and everything was gone."

This was the description of a 13 year-old who hid in his bathroom with his two brothers, two sisters, and a baby.

The same storm complex that produced the devastating tornado near Birmingham also skirted just north of the Atlanta GA metropolitan area around midnight on the 9th. Several tornadoes touched down first
beginning in Haralson County, then moved east-northeast through southern Paulding County before hitting Smyrna in Cobb County north of the Atlanta area. A commercial building sustained heavy damage as well as a filling station and car dealership. As much as $750,000 damage was sustained by new cars. Four people received minor injuries as the tornado damaged buildings around Sandy Springs, GA.

Tornadoes were a daily occurrence during the week of April 13-17 across parts of the lower Mississippi and Tennessee Valleys. Most notable were the tornadoes that occurred late in the evening on April 15 and lasted through the day on the 16th. A tornado moved through Ro Ellen, TN around 3:00 a.m. on the 16th. Two people were killed as their mobile home was destroyed. A brick home was destroyed as well when a truck was thrown on top of it. Two other people were killed as the tornado made its way through Manila, TN.

Storms intensified during the afternoon of the 16th producing tornadoes across parts of Tennessee, Mississippi, and Arkansas killing 10 people. The most affected area was Nashville which was stunned by the damage a tornado caused as it moved through the area just before rush hour. The tornado ripped roofs off buildings, broke windows, tossed cars, and toppled brick walls in the downtown area.

"I saw this black object with stuff swirling around in it. I looked out my windows, and I can't tell you what I said."

That was the response of the manager of the Nashville arena as he witnessed the tornado. At least 300 buildings were damaged including the State Capitol, and more than 100 people were injured. The damage path from the tornado lasted six miles.

"Parts of the stadium were being tossed around like Popsicle sticks."

That was the description one man had at a nearby restaurant as a tornado caused damage to the construction of the Tennessee Titans' new stadium in downtown Nashville, TN area the afternoon of April 16th.

A tornado tore through parts of Wayne, and Giles counties in the south central parts of Tennessee. Three people were killed in Waynesboro as a tornado destroyed or damaged 70 homes. The tornado strengthened as it moved through the towns of Deerfield and Summertown, TN. Many well-constructed homes were leveled and clumps of dirt were observed to be pulled from the ground. While 21 people were injured, no fatalities were reported. Many people who were in their homes went to the basement, or a closet, or a bathroom. This was the second tornado that resulted in an F5 rating in 8 days across parts of the Tennessee Valley.

The tornado weakened as it made its way north of Yokely, TN. Five homes and eight mobile homes were destroyed as part of this F4 damage.

Preliminary data for April indicates that 196 tornadoes occurred killing 55 people. This is the highest number of tornadoes for the month since 1994. The 55 deaths was the highest number of tornado-related fatalities for April since 1979.
Tornadoes were reported on 27 of the 31 days in the month of May. Over 300 tornadoes occurred across the contiguous U.S. up to the 1st of May.

"Look! I found my wedding rings!"

This was the declaration of one lady as she dug through the rubble of her home after a tornado struck Edgefield, SC the night of the 7th. Her neighbor was crushed to death as her double-wide mobile home was shattered while it was carried by the tornado across the road. Ten other people sustained injuries from a series of tornadoes that moved across parts of northern Georgia into South Carolina.

"It was right behind us. You could see the debris spinning, trash cans in the air. I was yelling, run, run, run...and praying, ‘God help me. God help me.'"

That was a lady's testimony as she packed her family in a pickup truck fleeing a tornado that was bearing down on the coastal town of Summerville, SC on the 10th. A 90-year-old woman died after being extricated from her mobile home after it was picked up by the tornado and dropped 40 feet away.

As many as 10 people were injured when the tornado destroyed 17 homes and damaged over 400 others. Several witnesses reported several small funnel clouds rotating around the main tornado.

Storms and tornadoes started to appear more frequently across the central U.S. in May. Nearly 30 tornadoes were reported from Kansas and Nebraska eastward through Iowa into Wisconsin and Illinois on the 15th.

A tornado moved through Albany, MN affecting an outdoor flea market. Numerous recreational vehicles were blown over. One man died when his recreational vehicle was flipped over on top of him. As many as 30 other people were injured.

Another tornado developed just southwest of Washington, IA producing a 30 mile long path of damage. Extensive damage was done to businesses, a church, numerous homes, and an apartment complex housing the elderly. As many as 61 homes were destroyed or damaged and 28 people were injured. This tornado continued through Johnson and Cedar counties littering debris across roads and destroying a bridge. The tornado destroyed homes and farmsteads in its path injuring 17 people in Johnson county and 2 others in the town of Downey, IA.

"This place looks terrible. It is like a combat zone, like Hiroshima, like Nagasaki."

Governor Bill Janklow of South Dakota made this observation after surveying Spencer, SD, the day after a half-mile wide tornado virtually wiped the town right off the map on the 30th. In the town of 300 people, only a dozen of the homes on the northern most parts survived. The small farming community was wiped out with six people killed and 150 others injured. Debris and belongings were scattered over a large area. A receipt from Spencer was found just west of Chandler, MN over 100 miles away.
"We heard the wind raising, then a loud bang. We didn't know what to expect. We hugged each other and prayed. When we got upstairs, the house was saved..."

A lady recalled her ordeal in Spencer as the neighbor's home was hit by the tornado. Two of the five women who died lived in a complex for the elderly. One person whose body was found underneath a mobile trailer was thrown from her second-floor room.

"Every tree is destroyed. Every telephone pole is destroyed. Every light pole is destroyed. Ninety-two percent of the houses in this town are gone, literally destroyed."

The assessment by the Governor was very detailed as the tornado caused F3 to F4 damage for 21 miles. The post office, fire station, library, bank, all four churches, and a grain elevator were totally destroyed.

The tornado set down on the west side of town grinding down everything in its path. Lightpoles were still standing at the ball field on the east side of town while fence posts were ripped out and wire fencing rolled up in a spiral.

The storm system that produced the tornadoes across South Dakota the previous day, delivered scattered tornadoes across south central and western New York as well as parts of central Pennsylvania on the 31st. One person was killed and nearly 70 people were injured in Stillwater, N.Y. Another 20 people were injured in Mechanicsburg.

A tornado moved across Broome county New York late in the afternoon. Hailstones the size of baseballs and tea cups accompanied the tornado activity. Trees were uprooted as the tornado moved through the hilltop section near Vestal, N.Y. The tornado intensity increased to F3 as it moved east closer to Binghampton. The ABC affiliate was inflicted with major damage as its 1000 foot tower was twisted and toppled to the ground. The tornado lifted a large dumpster off the ground and tossed into the satellite dishes surrounding the station. Two women were seriously injured when the trailer they were in collapsed on them as they stood in the kitchen.

More than a dozen homes were damaged as the tornado moved through the towns of Conklin, Kirkwood, and Windsor. The tornado then hit Sanford, N.Y. totally destroying a house leaving only a small interior closet left standing. In all, damage was estimated near $1.5 million. Dozens of structures were severely damaged or destroyed injuring 12 people.

Tornadoes caused more damage as they tracked through Somerset County in Pennsylvania. The tornado was first spotted near Mt. Davis and moved east-southeast into Salisbury and Pochahontas. A farmhouse was completely destroyed as the tornado laid a path about 50 yards wide. A 13 year old girl lost her life in a van when a tree fell onto the vehicle. Fifteen people were injured and 150 people needed shelter overnight. Ten to fifteen businesses were significantly damaged and numerous homes in Salisbury received damage to some degree. In total, damages was estimated to reach $3 to $4 million.
Half of the year's reported tornadoes had occurred by June 1st, while over 81% of the year's fatalities had occurred by the same time.

On the 2nd, nearly tornadoes were reported across parts of extreme southern New England and the northern areas of the middle Atlantic states. Several tornadoes caused damage ranging from F2 to F4 across parts of Pennsylvania killing two people and injuring at least 50 others.

The activity began near Shippingport in Beaver county Pennsylvania, northwest of the Pittsburgh area. A tornado produced F1 damage by damaging homes mainly to roofs and siding. This tornado became briefly paired with another weak tornado south of the Raccoon area.

Another tornado touched down west of the Pittsburgh area right at dinner time and traveled 32 miles lifting in west central Westmoreland county near Monroeville. This tornado moved through many of the boroughs on the south side of Pittsburgh affecting densely populated areas like Carnegie, Mount Washington, Hazelwood, Irwin, and Manor.

"That was some violent, violent weather. We're sitting in the clubhouse watching on TV and wondering, 'What in the world is happening? Is this really a tornado? Wow!'"

Pittsburgh Pirates outfielder Al Martin made this comment as a funnel cloud passed over Three Rivers Stadium as fans an players rode out a rain delay between the Pirates and the New York Mets.

Hundreds of homes and businesses suffered structural damage including one home that was moved off its foundation and had its third floor removed. The home was demolished a month later.

A tornado touched down near Elliottsville later that evening passing quickly across the northeast part of Preston county West Virginia into Garrett county Maryland. A dairy farm was destroyed as well as two house trailers. The damage from this tornado was more substantial as it moved across Somerset county destroying many farms in rural areas.

A family took shelter behind a television set in the basement of their home. After the tornado passed by, they looked up, and discovered three stories of their house gone along with eight rows of foundation block.

Later that evening, a tornado touched down near Ringgold, PA. Several barns were damaged including on that was totally destroyed. This tornado completely emptied the water out of a pond.

Tornadoes finally made their appearance in "Tornado Alley" on the 13th. A summer long drought was beginning over the southern Plains, but northwest flow aloft enhanced conditions that allowed some tornadoes to occur across Oklahoma. Hardest hit was the Oklahoma City metropolitan area. Television stations interrupted programming carrying minute-by-minute coverage of tornado activity as it was happening.

Several live cameras showed electrical transformers popping with no visible tornado. One view showed the tornado moving across the Lake Hefner area northwest of downtown Oklahoma City, roofs being peeled off and trees falling down. Another view showed a radio tower buckle and collapse as the storm passed by a television station.
The most destructive damage (F2) occurred as the tornado crossed the Frontier City amusement park north of Oklahoma City. Major damage occurred to businesses near Frontier City. Numerous vehicles were damaged in the amusement park parking lot. Nearby along Interstate 35, the tornado tossed and overturned cars and trucks. Trees were damaged near the ride "Terrible Twister."

A tornado formed near the Davis-Besse Nuclear Power Plant on the western Ohio shores of Lake Erie on the evening of the 24th. The plant automatically shut down as the tornado severed power lines. Damage was reported to 200 of the 380 condominiums of the Green Cove Resort where 30 people were injured.

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**JULY**

Tornadic activity dropped off considerably during the month of July as much of the nation from the Plains states into the Tennessee Valley began experiencing very warm temperatures and drought conditions.

While, nearly 60 tornadoes were reported across the contiguous United States in July, none were rated F2 or greater. Isolated tornadoes occurred over parts of northeast Colorado, across the Northern Plains and Upper Mississippi Valley, and over northern Indiana and northwest Ohio. Isolated tornadoes also were reported in Texas, Utah and Nevada.

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**AUGUST**

August was another relatively quite month for tornadic storms. The nation was dominated by the continuing drought. There were thirteen days in the month with no reported tornadoes. Not a single day in August reported more than seven tornadoes.

A tornado touched down briefly in Loranger, LA the afternoon of the 1st. The tornado overturned a mobile home injuring four people.

A half dozen tornadoes were reported along the North Carolina shores on the 26th as Hurricane Bonnie made landfall near Wilmington.

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**SEPTEMBER**

September tornadic activity was mostly associated with tropical storms. Although Hurricane Earl weakened as it made landfall over the Florida panhandle, the remnants of the storm produced eight tornadoes early on the 3rd as it moved across Georgia into South Carolina. One fatality and four injuries
were reported near Beaufort, SC. Another tornado injured five people as it destroyed a home and five mobile homes near Sylvania, GA.

A couple of tornadoes associated with Tropical Storm Frances touched down in south central Louisiana late in the afternoon on the 10th. One person was killed and 6 people were injured as a tornado damaged 56 residences and two businesses in Cut Off, LA.

Hurricane Georges made plenty of headlines between the 25th and the 30th. A half dozen tornadoes were reported across parts of central and southern Florida as Hurricane Georges passed over the Florida Keys. Later, tornadoes were reported across the southeastern United States from Alabama and Georgia as well as the Florida panhandle as Hurricane Georges made landfall near Biloxi, MS. A mobile home was destroyed injuring two people in Colquitt, GA. A tornado associated with Hurricane Georges damaged a dozen homes in Panama City Beach, FL; and two chicken houses were destroyed in New Brockton, AL.

OCTOBER

The largest number of tornado reports in a state for any single day in October was exceeded on the 4th. Twenty-four tornadoes were reported across Central and Northeast portions of Oklahoma that Sunday evening. The October daily record was 18 reports in Florida in 1996.

The first tornado was reported west of the Aline area in northwest Oklahoma during the mid-afternoon. A gas plant near Carmen, OK was damaged and a modular home was destroyed. At least three homes suffered significant damage as a tornado moved southwest and south of Watonga, OK.

A mobile home was heavily damaged near Stillwater as many people witnessed a tornado early that evening. A tornado caused F2 damage as it touched down northwest of Blanchard, OK and traveled to just southwest of Newcastle. Several mobile homes and outbuildings were damaged. One home was destroyed completely.

A tornado touched down in Moore, OK passing by a Wal-Mart Supercenter, damaging homes just north of the store deserving of an F2 rating. No injuries were reported as many of the homes sustained damage to roofs and awnings. Forecasters at the Storm Prediction Center could see this tornado off in the distance as it was highlighted by bright and frequent lightning.

The strongest tornado occurred late in the evening as it touched down west-northwest of Little and moved northeast toward Center View. The tornado struck Center View causing F3 damage to numerous homes.

Several tornadoes were also reported across northeast Oklahoma. The strongest tornado touched down near Boley and tracked to just southwest of Nuyaka. Four people were injured near Haydenville, OK. Two others were injured as two mobile homes were destroyed near Ochelata, OK.
**NOVEMBER**

Nearly a dozen tornadoes occurred on the 9th and 10th of the month. A strong cold front moved across Iowa and Missouri setting off a line of thunderstorms. Tornadoes began across parts of southeast Kansas and northeast Oklahoma late in the afternoon on the 9th with only minor damage reported. However, a tornado moved onto the Southridge subdivision in Columbia, MO during the early morning hours on the 10th. Many homes sustained damage as roofs were ripped off. But other homes were leveled as the tornado moved through the subdivision producing F3 damage. Nearly 20 people were injured when another storm hit during the nighttime and early morning hours.

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**DECEMBER**

Preliminary data for the month indicated that only one tornado was reported during the month. That tornado occurred north of San Francisco on the 5th as a strong upper level trough moved southward along the California coast. At least 20 homes were damaged in Richmond, CA.

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In 1998, tornadoes killed 129 people in which 67 of these people died in mobile homes. Of the 33 killer tornadoes in 1998, 14 tornadoes occurred in the early evening or nighttime hours after 9:00 p.m. local time. These accounted for 65 (50%) of the 129 tornado-related deaths.

The year of 1998 for tornadoes will go into the books as a deadly year, the most fatal since 1992. Fifteen of the 50 states experienced a tornado that resulted in a fatality. All but four states reported tornadoes in 1998. This suggests the need for people to review safety rules during the year, especially between the months of February through September.