



# Austin/San Antonio Weather Forecast Office WEATHER EVENT SUMMARY

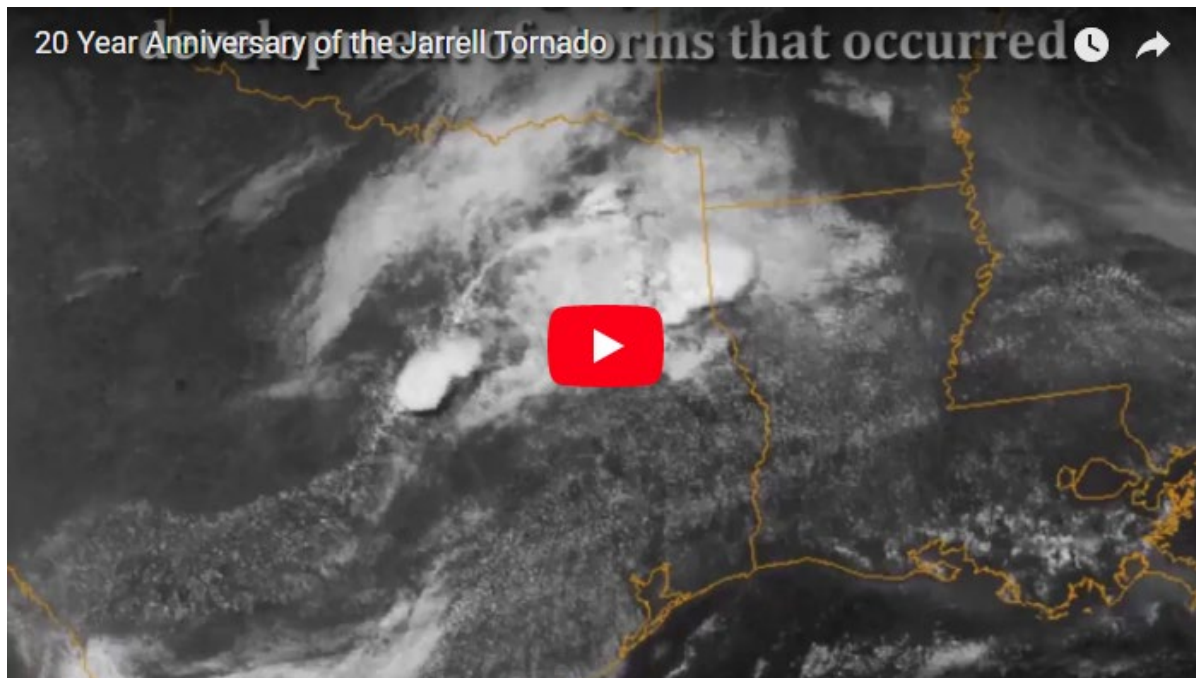
## May 1997 Tornado Outbreak

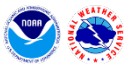
27 May 1997

### The May 27<sup>th</sup>, 1997 Tornado Outbreak: The 20<sup>th</sup> Anniversary



20 Year Anniversary of the Jarrell Tornado





# May 1997 Tornado Outbreak

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## Event Summary

For a detailed summary of the atmospheric conditions and meteorology, [click here!](#) (courtesy of NWS Ft. Worth, TX)

### *Original Summary*

In the afternoon of Tuesday, May 27, 1997, very violent thunderstorms erupted over Central and South Central Texas. Extremely unstable conditions were in place aloft as a weather system moved over Texas from the west. At the surface, a cool front moving south was intersected by an outflow boundary, moving southwest and also by warm and humid southerly winds from the south and southeast. Dew points in the warm and humid air were in the mid to upper 70s.

A tragic tornado of unimaginable proportions hit Jarrell, in northern Williamson county, with over 261 mph winds around 342 pm, causing extensive damage and 27 deaths. A Tornado Warning had been issued at 330 pm warning the residents in Jarrell of the impending danger. More than 300 head of cattle were also killed as the twister moved through. The tornado passed just to the west of downtown Jarrell striking the Double Creek subdivision where most of the lives were lost. The twister debarked trees, pulled the grass from the ground and carried dozens of vehicles more than one half mile away. There was nothing left in the tornadoes wake as it moved south-southeast.

Tornado reports also came from Leander in Williamson County around 4 pm. In Cedar Park, just south of Leander, an Albertson's grocery store was destroyed. A heroic store manager saved countless lives by telling people to get into a steel meat locker. Other residents in the nearby Buttercup subdivision sought shelter indoors from the F3 tornado. Numerous homes in the area were either destroyed or severely damaged. No lives in this community were lost due a tornado warning issued by the National Weather Service 30 minutes in advance and the Media's as well as public's quick reactions. In addition, tornadoes affected parts of northwest Austin, Texas between 410 and 515 pm, causing damage and numerous injuries.

An F4 tornado, with winds over 207 mph, claimed yet another life in western Travis County near the community of Lakeway. This tornado tracked towards the southwest for about 8 miles crossing Highway 71 south of Briarcliff. A tornado warning for Travis county had been issued at 409 pm. The Tornado first touched down near Siesta Shores Marina on Lake Travis at 445pm. This tornado destroyed some 15 homes and damaged 14 others. Throughout the early evening, tornadoes affected southwest Blanco county at 545 pm, near Utopia in Uvalde county at 7 pm, near Mountain Home in Kerr county at 703 pm, near Sisterdale in Kendall county at 730 pm, and funnel clouds were seen near Gonzales in Gonzales county at 810 pm. The last tornado of the evening occurred just northwest of the Pearsall airport in Frio County.

Damaging hail was reported as early as 355 pm at Georgetown. Scattered reports of hail continued



to be observed in the late afternoon and into the evening hours over the Hill Country and South Central Texas. The largest hail, at nearly 4 inch in diameter (softball size), was reported with the tornado in Cedar Park. A 2.00 inch hail report was observed 8 miles east of Carta Valley in Val Verde County around 4pm. Hail 1.75 inches in diameter fell in several places: at 26 miles south southwest of Rocksprings around 450 pm; at Driftwood (north of San Marcos) around 550 pm; and in Del Rio around 855 pm.

In addition to the damaging winds in tornadic thunderstorms, other severe thunderstorms produced some impressive straight line winds over the Hill Country, Central and South Central Texas. Winds gusts of 58 to 71 mph were reported in Austin, 71 mph at Austin Mueller Airport at 420 pm. In the San Antonio area winds gusted to 55 mph at International Airport at 815 pm, while at Kelly AFB, winds gusted to an incredible 122 mph, at 803 pm. At Randolph AFB, winds gusted to 36 mph at 820 pm. Strong wind was also observed throughout the Hill Country and other parts of central and south central Texas. Del Rio had a wind gust of 61 mph at 836 pm from the thunderstorms. At 640 pm, strong winds flipped a plane over at the Seguin Airport. The strongest wind at the New Braunfels Muni Airport was 51 mph at 627 pm.

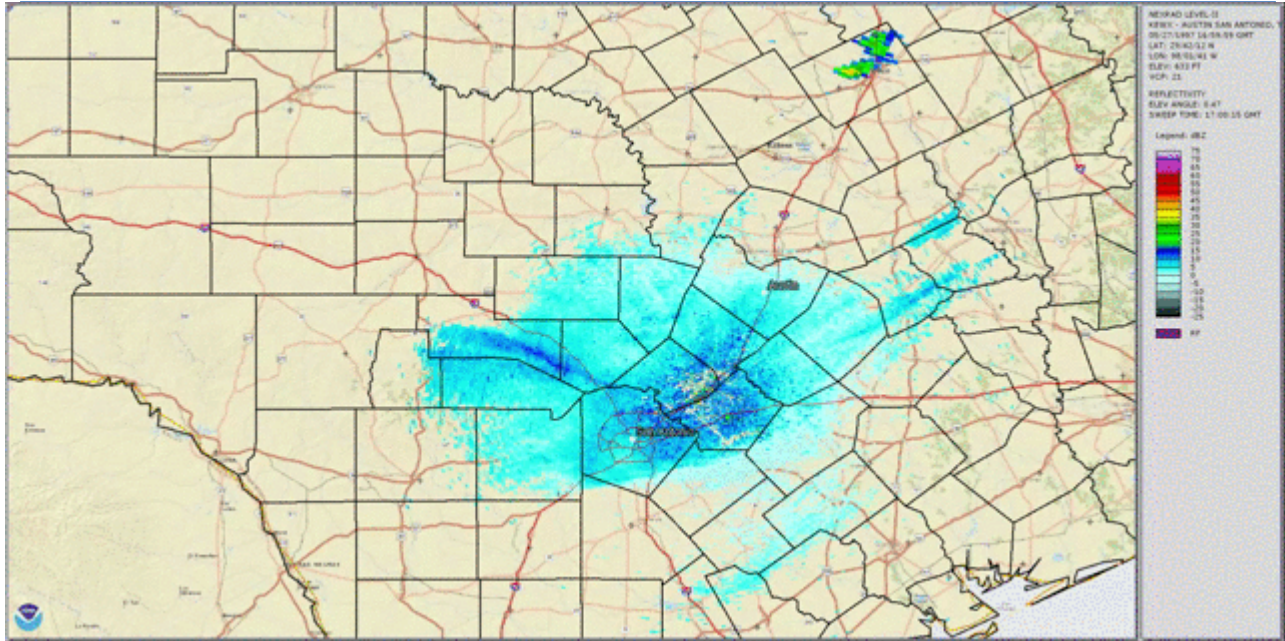
Brief heavy rain that accompanied some of the thunderstorms caused flooding in Travis county, Blanco county, Gonzales county and a farm market road in Karnes county. One person was drowned by flood waters in Shoal Creek in Austin.

After the severe weather moved south and southeast of south central Texas, strong south and southeast winds followed from the outflow of the thunderstorms. Winds gusted to 30 to 40 mph from the south and southeast between 11 pm and 1 am.

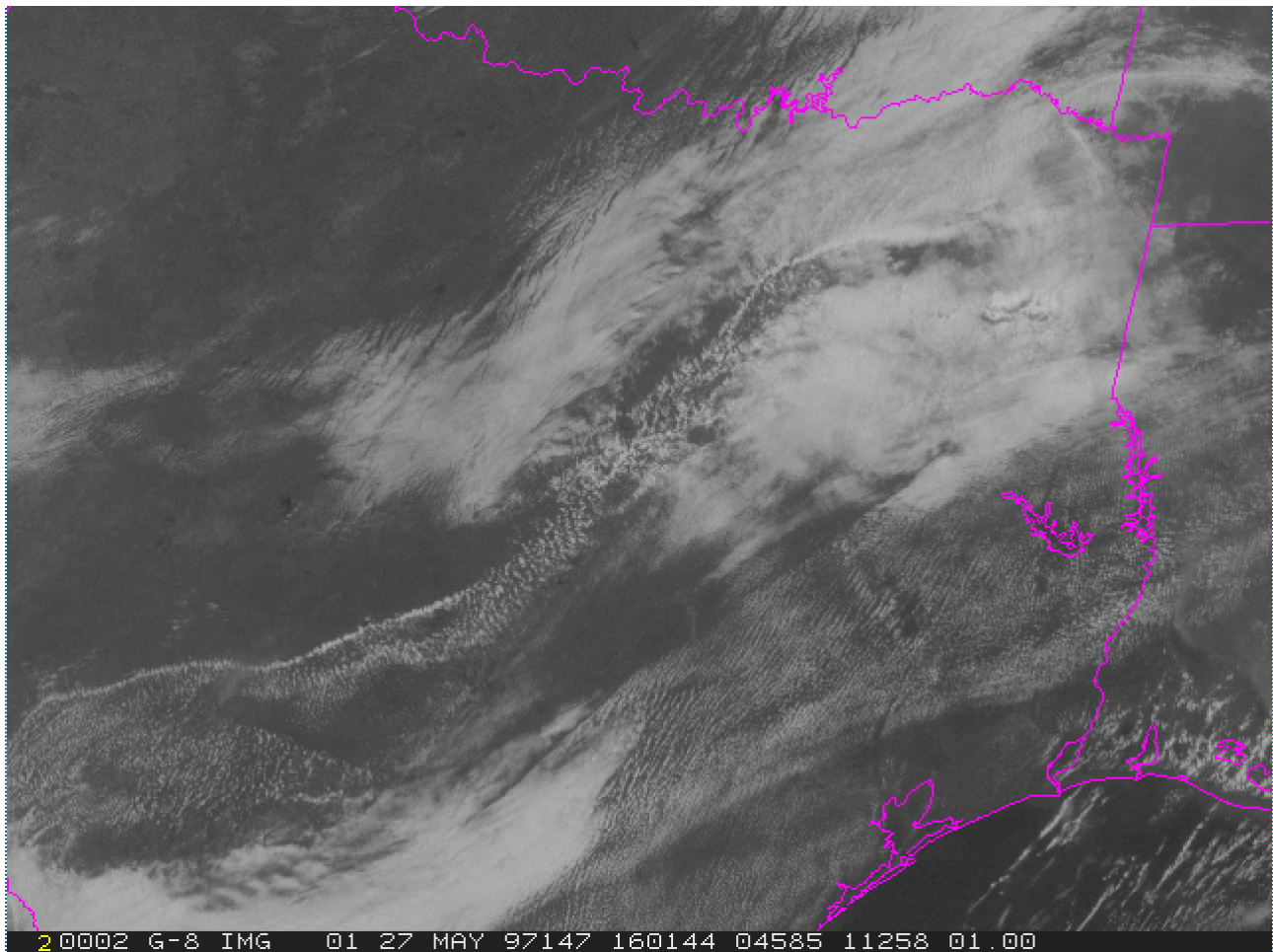
The frequent vivid lightning with the storms was also seen in the wake of the storms, as they moved to the south and southeast. More information on the Jarrell, TX F5 Tornado is available here: <http://www.spc.noaa.gov/coolimg/jarrell>

## **20<sup>th</sup> Anniversary Report**

A deadly severe weather episode unfolded across portions of Central Texas during the afternoon and evening hours on Tuesday, May 27th, 1997. This event was made infamous by one of the most powerful tornadoes on record: an F5 which tore through a subdivision of Jarrell called Double Creek Estates in extreme northern Williamson County during the mid-afternoon. Some of the most extreme damage on record occurred with this tornado, and one account states that “the earth was scoured bare, pavement was ripped from roadways, [and] homes and other buildings were completely pulverized” (Lon Curtis, Weather Bulletin). Two tornadoes also touched down in the Austin Metro area: an F3-rated tornado in Cedar Park and an F4-rated tornado near Lakeway.



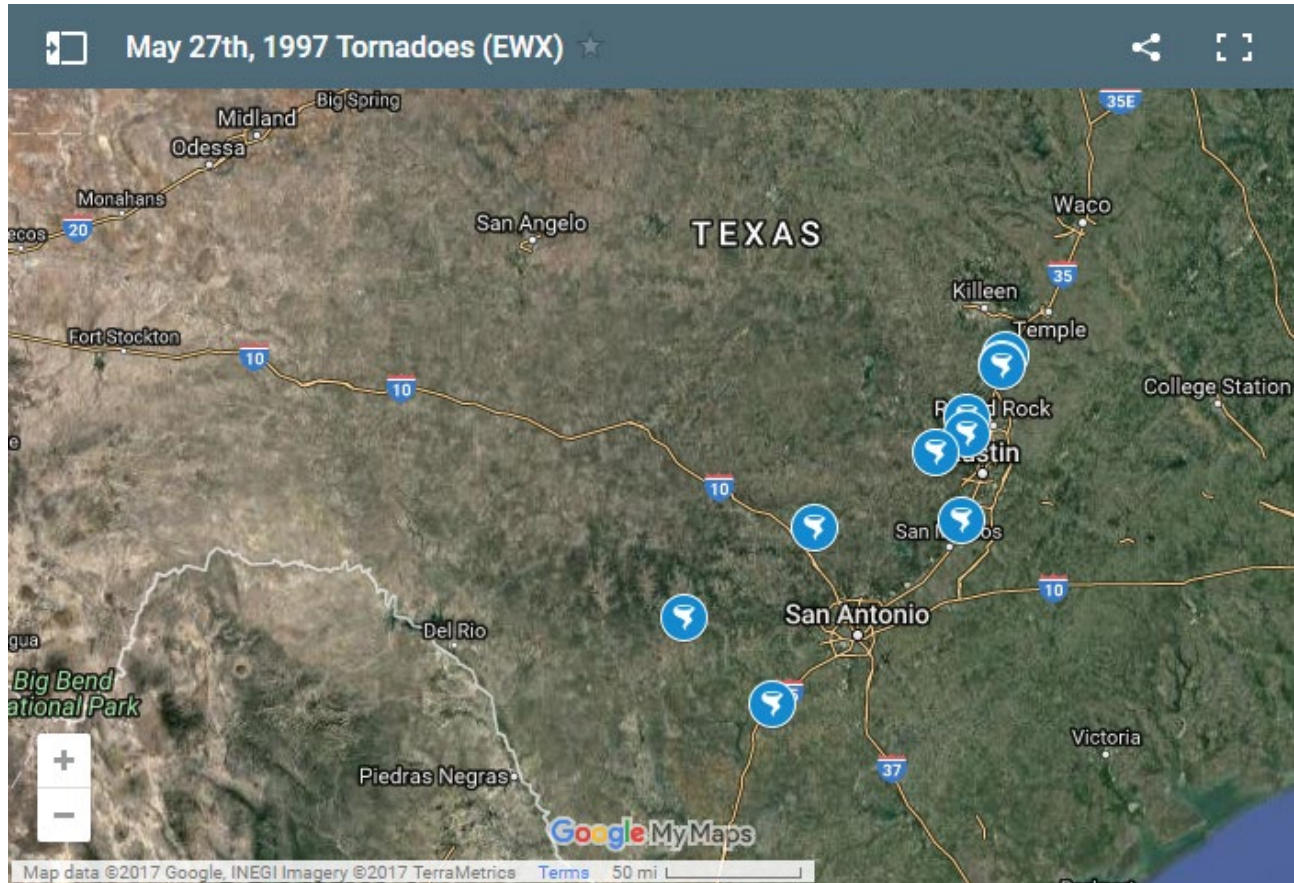
Radar loop from 12 PM to 10 PM CDT May 27th, 1997. The supercell that spawned the Jarrell tornado can be seen forming south of Waco, near the small town of Prairie Dell, and moving southwest. (click for loop)



Visible satellite animation valid from 11 AM to 6:45 PM CDT. (Click for loop)

This event was additionally unusual because of the notable lack of upper-level forcing for ascent (lift), and generally light winds through the troposphere--where our weather occurs. In a sense,

this day was distinctly lacking two of the four crucial ingredients we typically look for on big severe weather events (strong lift and wind shear, especially near the surface). Yet, over the course of roughly six hours, 20 tornadoes touched down across the Dallas/Fort Worth and Austin/San Antonio forecast areas of responsibility.

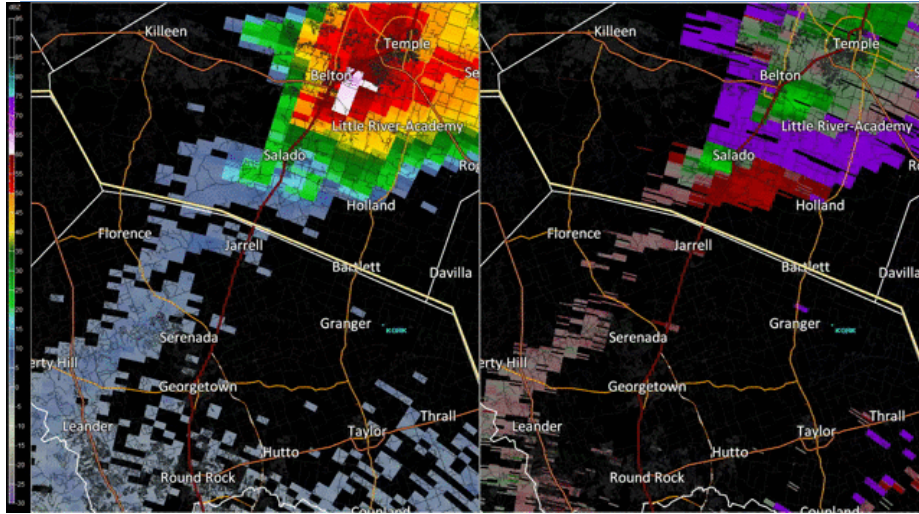


Details of tornadoes that occurred in the NWS Austin/San Antonio Forecast Area on May 27, 1997 (click for more info)

## Jarrell Tornado

Several eyewitnesses reported that the Jarrell tornado was preceded for a period of 8 to 10 minutes by a series of short-lived very small tornadoes that formed from the same supercell thunderstorm. These touched down, then dissipated in order.

The first tornado in Williamson County formed near 3:25 pm CDT and built rapidly to F2 strength. It survived for approximately 8 minutes, often returning briefly to a roped and tilted feature before it died. This tornado was followed by a second that formed near 3:35 pm CDT. It built quickly into a multi-vortex tornado that appeared to be near F2 strength as well. This dissipated after only 4 minutes.



The final tornado from this same supercell, the Jarrell Tornado, developed as a small, rope-shaped tornado, touching down around 3:40 pm CDT inside the Williamson County line northwest of Jarrell. From film and eyewitness accounts, it expanded quickly into a very large

vortex nearly 1/2 mile in width. Observations recounted by eyewitnesses indicated that the damage path may not have been made strictly by one tornado. A number of eyewitnesses reported seeing several small, rope-like funnels before the character of the tornado changed drastically into the killer tornado. Ground damage patterns in the Double Creek Subdivision also suggested this possibility.

The tornado crossed CR 308, CR 305, and then CR 307. Where the tornado crossed each of these county roads, approximately 525 feet of asphalt was ripped off each of the roadways. This

particular destruction was believed to be very close to the centerline of the tornado circulation. As the tornado crossed the intersection of CR 305 and 307, a business on the corner was destroyed. The tornado moved into the Double Creek area at this point with total destruction. F5 destruction continued from shortly after its formation until very close to the end of the damage path.



The tornado began a brief turn toward the southeast as it entered the Double Creek subdivision and the surrounding area, moving very slowly. It reached the subdivision at 3:48 pm CDT. This time is based on a clock found at a destroyed residence in the extreme northwest corner of the subdivision and the home believed to be the first struck by the tornado. Here, it widened to it

maximum width of three-quarters of a mile. From the air, the ground appearance changed abruptly in the vicinity of CR 308 and continued until very near the end of the path. No definitive circulation patterns or suction spots were evident, but there was the noted obvious change in the appearance of the ground.

In the Double Creek area, approximately 40 structures were totally destroyed. One of the most striking signs in approaching this area was the distinct lack of debris of any size. Closer inspection showed lots of little debris but no sign of large items. It was estimated that several dozen vehicles had been in the subdivision and removed by the tornado. Nearly 300 cattle grazing in a pasture near the subdivision were also killed, with many of them tossed and blown for over 1/4 mile. At least half a dozen cars were identified from the air lying in the open areas, most of them flattened and encrusted with mud and grass. Trees in the subdivision were completely stripped of bark. Later ground survey revealed that most of the debris that was left in the area was extremely small indicating the power of the tornadic wind. All 27 deaths associated with the Jarrell tornado



occurred in the Double Creek area. Eyewitnesses reported that it appeared to have slowed down as it entered the subdivision, and that may account for the nearly total destruction that took place.

After passing through the Double Creek area, the tornado shifted its track again slightly, moving toward the south-southwest across CR 309 and into a heavily wooded area of cedar trees. The total destruction of

the tornado ends abruptly shortly after entering the wooded area. However, a small swath of tree damage on the north side of the main damage path suggested the possibility of a multiple vortex pattern. No other evidence of multiple vortices was observed.

The sequence of weather phenomenon reported with this tornado was exactly opposite of that often reported- the tornado first appeared, followed by nearly calm conditions, then hail, followed by rain and finally brief, gusty winds. This is attributed to the fact that the parent supercell was moving toward the southwest for most of its life. The storm essentially "backed into" the area as it moved.



## Tornado Warning issued by National Weather Service Austin / San Antonio for Jarrell:

BULLETIN - EAS ACTIVATION REQUESTED  
TORNADO WARNING  
NATIONAL WEATHER SERVICE AUSTIN/SAN ANTONIO TX  
330 PM CDT TUE MAY 27 1997

THE NATIONAL WEATHER SERVICE IN AUSTIN/SAN ANTONIO HAS ISSUED A TORNADO WARNING EFFECTIVE UNTIL 430 PM CDT FOR PEOPLE IN THE FOLLOWING LOCATION...

IN SOUTH CENTRAL TEXAS

...WILLIAMSON COUNTY

AT 325 PM A TORNADIC THUNDERSTORM WAS LOCATED ABOUT 5 MILES WEST OF JARRAL MOVING SOUTHEAST AT 10 MPH. THIS STORM HAS HAD A HISTORY OF PRODUCING TORNADOES AND LARGE HAIL. THE CITY OF JARREL IS IN THE PATH OF THIS STORM.

IF YOU ARE CAUGHT OUTSIDE...SEEK SHELTER IN A NEARBY REINFORCED BUILDING. AS A LAST RESORT...SEEK SHELTER IN A DITCH OR LOW SPOT AND COVER YOUR HEAD.

PEOPLE IN OR NEAR THE PATH OF THIS STORM SHOULD TAKE IMMEDIATE ACTION TO PROTECT THEIR LIVES. GO TO THE CENTER ON THE LOWEST FLOOR OF YOUR BUILDING...COVER YOUR HEAD. STAY AWAY FROM DOORS AND WINDOWS. DO NOT STAY IN MOBILE HOMES OR VEHICLES...GET INTO A STURDY BUILDING.

## Cedar Park Tornado

The Cedar Park tornado formed around 4:05 pm CDT from a different supercell thunderstorm. It first touched down about 3.5 miles north of Cedar Park at a location 0.6 miles south of CR 178 and 1.4 miles east of the intersection of US 183 and CR 178. The initial damage was to trees, however, the ground survey revealed damage nearby to a church and a trucking company. The aerial survey did not reflect this damage as being in line with the damage path. It is quite possible this damage was caused by strong wind near the tornado. The beginning point was in a relatively open area with damage primarily to a few trees and minor shingle damage to one house.



The tornado moved south-southwestward skirting a residential area before it crossed CR 180 immediately east of US 183. A historic train located on the north side of CR 180 just to the east of US 183 was in the direct path of the tornado. While the engine remained on the track, a coal tender converted to hold diesel fuel and weighing approximately 65,000 pounds including the 1,000 gallons of diesel fuel was flipped over and thrown a short distance.





Continuing across CR180, it entered a shopping center where it weakened and pushed inward slightly the north wall of a grocery store. It also pushed large metal doors inward that were built to open toward the outside. Damage at this point had been generally F2 with brief F3 as the tornado



knocked the train tender off the track and damaged the wall and doors of the food store. It tore off much of a weakly supported roof of a grocery store. The manager of the store, who had been a victim of the Wichita Falls Tornado of 1979, saw the approaching tornado, and made an announcement to all in the store to meet him in the middle of the store. He then led everyone he could gather into the meat locker. This very quick and decisive action probably saved several lives.

The tornado crossed US 183 causing additional damage to a number of businesses. One business on the west side of US 183 lost nearly the entire roof. Most damage to other businesses was believed to be minor. After crossing US 183 the tornado moved across Marquis Lane and North Park Circle moving through an area with widely scattered housing and a relative abundance of trees. Again, most damage to structures in this area was minor.

From North Park Circle the tornado moved into the northwestern portion of Buttercup Creek, a subdivision of well-constructed homes. Damage to homes was irregular with one house losing a roof but the house next door losing only shingles. Two homes in the area were nearly destroyed and one damaged when a pickup truck was lifted and tossed against its front wall. Eleven homes were destroyed, with damage reported to over 100 homes. The damage level ranged from F0 to F2. At this point, the tornado track was taking a gentle right turn as the tornado track became more southwesterly. The tornado moved into a wooded area crossing into Travis County before ending 1.1 miles from Lake Travis. Damage in the wooded area was irregular ranging from near total destruction of all trees to sections with about 10 percent of the trees down.



## Lakeway/Pedernales Valley Tornado

The Pedernales Valley tornado began on the shore of Lake Travis destroying trees and a floating marina where nearly all of the watercraft were destroyed. While numerous trees were twisted and uprooted in this area, several structures sustained only what appeared to be minor damage that would be no more than F0. The tornado was initially moving westward as it moved into rough terrain. A number of structures sustained varying damage until the tornado reached Bee Creek Road. At that location, a Southwest Bell building housing telephone switching equipment was destroyed. The building was well constructed and was one of several buildings which indicated an F4 rating for this tornado. Bee Creek Road takes a bend close to the telephone building and across the street a house was destroyed with walls knocked down.

Approximately 2.2 miles from the lake, the tornado path takes a distinct dog leg turn toward the southwest. The point at which this dog-leg turn occurred also corresponds with a knoll. Trees and buildings at the top of the knoll were destroyed. After the dog-leg turn, the tornado assumed a heading of 250 degrees and crossed a major power



distribution line. One steel tower was destroyed bringing all lines to the ground. The tornado remained on the 250 degree heading moving through the area described as the Hazy Hills subdivision. Numerous houses and several mobile homes were totally destroyed. Several houses survived but sustained major damage making them totally uninhabitable.

The only death associated with this tornado occurred here when one man was killed. He lived in a mobile home that was demolished and his vehicle was tossed several hundred feet. Other survey team members were unable to learn whether he was in the mobile home or had left it to drive away.

The tornado continued west-southwest moving across State Road (SR) 71. A number of well-built homes in the Hazy Hills subdivision were heavily damaged or destroyed. Crossing SR 71, the tornado moved into another subdivision with widely separated houses in the Lick Creek valley, a steep walled creek that feeds into the Pedernales River. One stone-walled house located just north of Pedernales Drive and west of SR 71 was completely de-roofed. Other structures in this subdivision sustained roof damage in the F2 range. After following the terrain into the creek it climbed another rise in the land before ending shortly after passing the crest of the small hill. As the tornado ended, damage was minimal to trees.



## Special Thanks

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NWS Ft. Worth, TX