

March 13, 2020 Severe Weather Across West Texas

Overview/Synopsis

In the days leading up to the severe weather event of Friday, March 13, an upper trough had been anchored over the western US, resulting in a persistent fetch of moist southwesterly flow aloft across Southeast New Mexico and West Texas. At the surface, a cold front that moved into the region during the early morning hours of March 13th, stalled near the Pecos River, and would later act as a focusing mechanism for the afternoon and evening's severe weather. North of this boundary, unseasonably cool temperatures and widespread fog (dense in some areas) were observed across much of the Permian Basin and into portions of Southeast New Mexico. These cooler temperatures and fog likely mitigated a much larger-scale severe weather outbreak. To the south of this boundary, southerly to southeasterly surface flow yielded significant low-level moisture and the environment was becoming increasingly favorable for significant severe weather, including tornadoes, during the afternoon and evening hours of the 13th.

Model guidance was consistent in indicating development of severe storms across portions of Southeast New Mexico and West Texas (west of the Pecos River) by late afternoon. Coordination between the Midland Weather Forecast Office and the Storm Prediction Center, including a special early-afternoon weather balloon launch at Midland, yielded an upgrade to an Enhanced Risk of Severe Weather during the afternoon and evening hours of March 13th for an area spanning from the Upper Trans Pecos across portions of the central and southern Permian Basin. A Tornado Watch was issued just after 3:15 PM CDT, around 1.5 hours prior to the first storms developing across Eddy and Culberson counties.



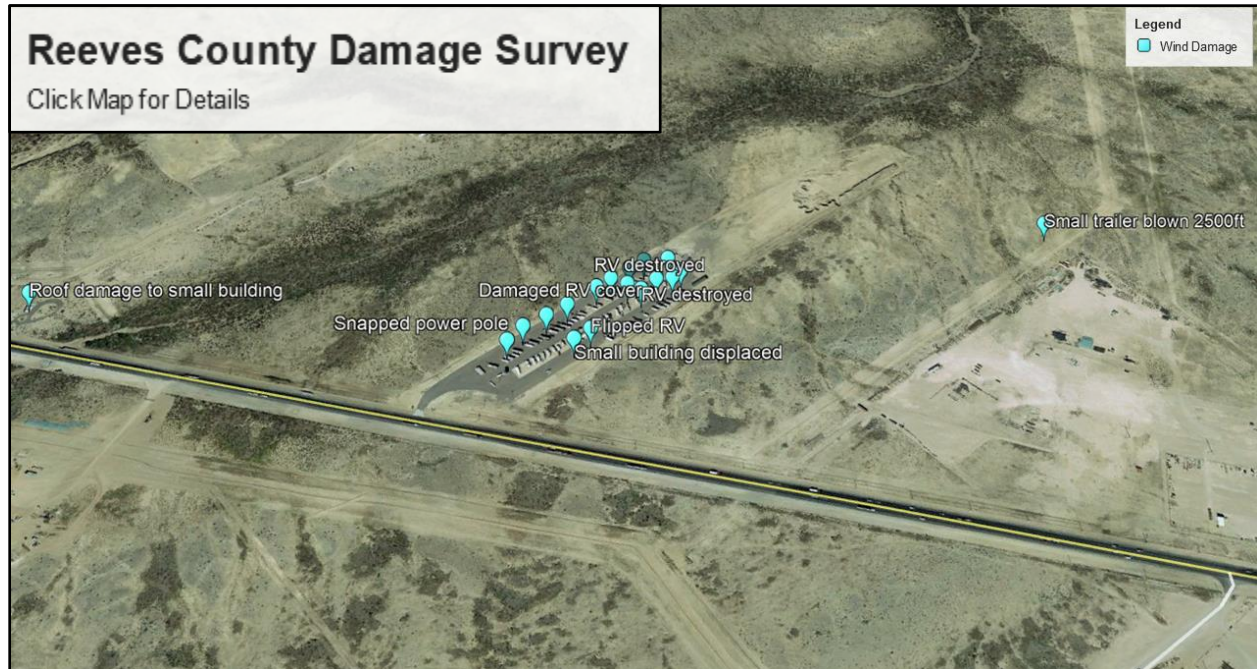
Severe Thunderstorm #1

There were 2 main thunderstorms that stole the show Friday evening, producing strong winds and tornadoes. The first of which was a supercell thunderstorm that developed over eastern Culberson County and moved ENE, rapidly strengthening over northern Reeves County (see image below). Severe hazards expected with this storm included large hail, damaging winds, and a possible tornado. Around 7:50pm CDT, this storm passed east of HWY 285 roughly 15 miles west of Mentone, TX. A possible tornado was then reported with this storm along with significant damage to the HWY 285 RV Park (located around 15 miles southeast of Orla). The tornado was reported to have moved east into Loving County, lifting before reaching HWY 302 (moving just north of Mentone). The storm continued to weaken as it progressed eastward and eventually fizzled out as it reached Winkler County.



Severe Thunderstorm #1: Damage Survey Results

On Saturday, March 14, the National Weather Service in Midland conducted a damage survey of the HWY 285 RV Park and surrounding areas that were impacted by severe weather on Friday evening. The following is the determinations of that survey:



The main area of significant damage that occurred was at the HWY 285 RV Park, located in northeast Reeves County about 15 miles southeast of Orla. While spotters and the public provided visual evidence that a tornado did occur in the area, it was determined by the NWS survey team that damage at the RV park was the result of rear-flank downdraft winds - a straight-line wind event. Due to the significant damage at the RV park, the survey team established wind speeds of 100-130 miles per hour. This was based on damage to trailers, outbuildings, vehicles, and other structures. These types of wind speeds, especially the stronger wind speeds, would be on par with damage produced by a strong EF2 tornado. In the end, it was determined that the swath of damaging winds was around 300 yards wide and 0.75 miles in length. There was one major injury related to this event.



Due to poor road networks, the damage survey team was unable to locate damage directly caused by the tornado. Photos provided by the public and emergency management suggest that the tornado was significant, however due to a lack of damage indicators, the team was unable to determine a path and intensity. Thus, the tornado will be rated a EF unknown. By utilizing storm spotter reports and radar signatures, it was estimated that this tornado traveled roughly 12 miles before lifting.

We would like to thank Jerry Bullard, Reeves County Emergency Management Coordinator, and Harlan Hopper, Ward County Emergency Management Coordinator, for their assistance in completing this damage survey.

Severe Thunderstorm #2

This thunderstorm developed over western Reeves County, just north of Interstate 20 around 7:05pm CDT. This cell strengthened as it progressed northeast toward Pecos, TX and paralleled Interstate 20 for nearly 2.5 hours. When the storm finally passed into Ward County, approaching Barstow, TX, decent rotation was noted on radar and a few minutes later around 8:20pm CDT, a bowl-shaped tornado and power flashes was reported just north of Barstow. Damage to northern portions of Barstow was eventually reported to the NWS. The tornado appeared to be brief with only a few other reports of funnel clouds as this storm moved just north of Pyote and eventually Monahans. The storm maintained decent supercell structure as it entered Ector County around 9:20pm, after which it quickly weakened.



Severe Thunderstorm #2: Damage Survey Results

On Saturday, March 14, the National Weather Service in Midland conducted a damage survey of areas that were impacted by severe weather on Friday evening. The following is the determinations of that survey:



It was found that minimal damage due to a tornado occurred approximately 1.5 miles northwest of Barstow. A tornado briefly touched down at the intersection of county road 140 and 145, snapping a utility pole before moving east-northeast and hitting an RV park.



Damage at the park included flipping a trailer on its side, damaging a pickup truck, and causing light damage to three other trailers. Wind speeds were estimated at 100 mph from the damage observed by the NWS survey team which helped classify the tornado as an EF-1. In addition to the damaged observed by the survey team, spotters and the public provided visual evidence that a tornado occurred. In addition to determining the intensity of the tornado, it was found that the tornado had traveled roughly 0.5 miles before lifting and was around 20 yards in width. No injuries occurred with this tornado.



We would like to thank Ward County Deputy Sheriff, Jerry Millan, for his assistance in completing this damage survey.

Thank you to everyone who sent in reports and pictures during this severe weather event. Remember, severe weather can occur anywhere and anytime across our area. Always have multiple ways to receive weather information, especially if you are outdoors.