

High Wind Event March 12-13th, 2019

National Weather Service Midland/Odessa

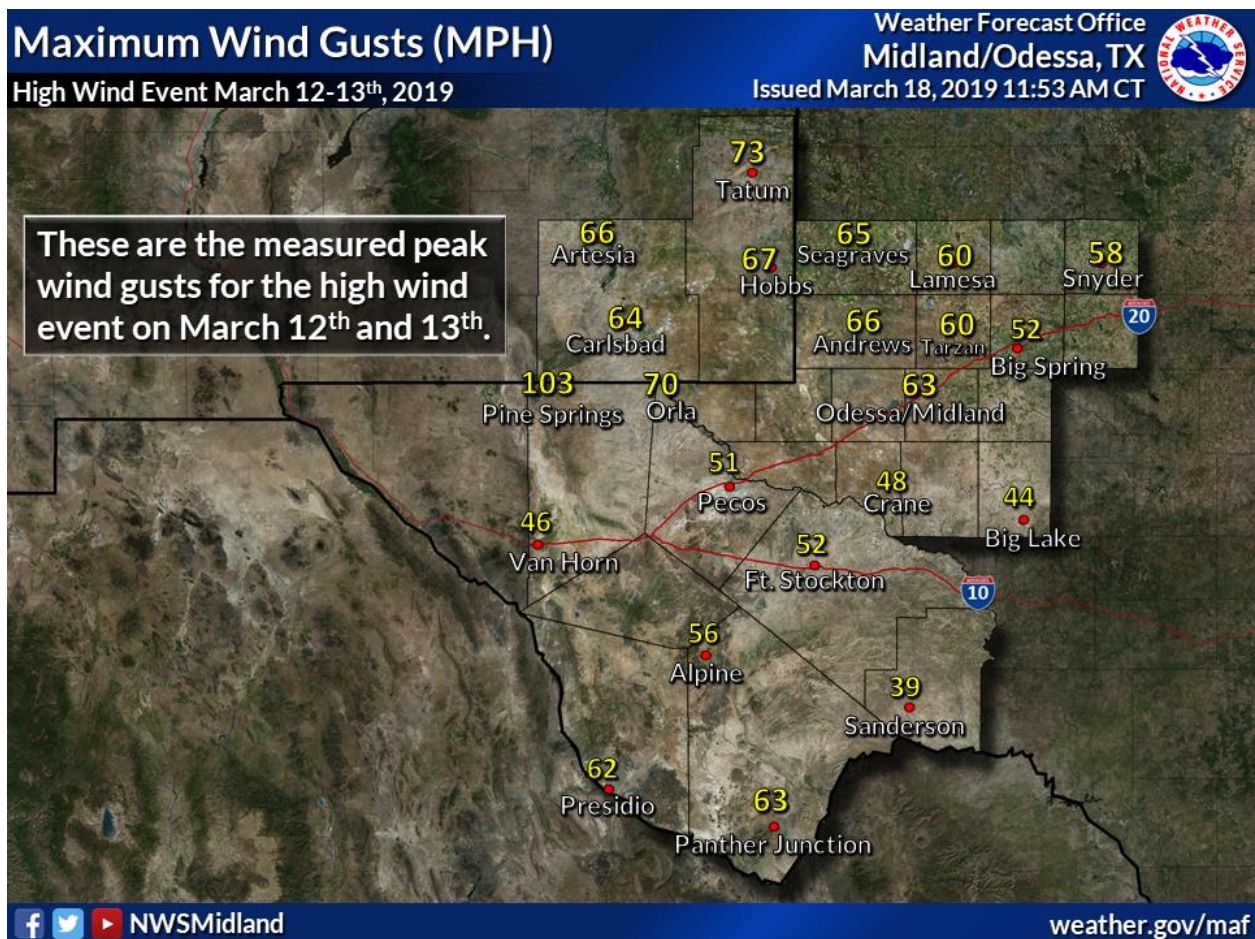
Despite West Texas and Southeast New Mexico being known for their breezy conditions in late-winter/early-spring, an anomalous wind event transpired across the Southern High Plains during the evening March 12th, and through the morning and afternoon of March 13th, 2019. The setup was historical in many facets with areas over the Central High Plains experiencing wide spread blizzard conditions, severe weather, high wind damage, and multiple site surface low pressure records broken over the storm's life cycle.

What Happened? A strong storm system over the Western US strengthened over the course of a few days, leading to one of the highest impact weather events across the Central and Southern Plains in recorded history. High winds were common for a large chunk of the Rockies and the Southern Plains with severe blizzard conditions over Eastern Colorado, Wyoming, and the Dakotas. In West Texas and Southeast New Mexico, winds were the story, with persistent wind gusts in excess of 60 mph in many locations the night of March 12th, and throughout the day of March 13th. High Wind Warnings were issued in anticipation of this significant high wind event. Winds easily reached these significant thresholds across the region.

For more on the meteorological evolution of the historical storm system, please refer to the Meteorological Synopsis below.

Meteorological Synopsis: On the morning of March 13th, a potent, negatively tilted upper-trough was traversing the Central Rockies with a rapidly developing surface cyclone over the lee side of the Continental Divide in Southeastern Colorado. At the base of the trough, a very strong 300mb jet streak extended back across the Four Corners region and into the West Texas, Southeast NM High Plains. Through the course of the day, the surface low over Southeastern Colorado exhibited rapid surface cyclogenesis with intense pressure falls of more than 2mb/hr for several hours between 12z March 13th and 0z March 14th. The combination of the intense pressure falls and a coupled jet streak over the

Southern Plains culminated in a very tight pressure gradient with deep mixing potential for strong winds to the surface. Strong wind gusts began from west to east with Southeast NM and the adjacent Guadalupe Mountains across Texas experiencing a sharp increase in surface wind gusts just after 14z March 13th. As the day unfolded, deep mixing with ample sunshine led to winds mixing efficiently to 700mb where 60 to 70 knot winds were positioned through the course of the afternoon. Damaging wind gusts of 60-80 mph were observed across the Southeast NM Plains and the Permian Basin with gusts of 90+ mph across the Guadalupe Mountains. The strongest recorded wind gust of 103 mph was measured at Pine Springs, TX from the local Guadalupe National Park Mesonet at 1:09 pm CDT. Winds slowly decayed around sunset, but windy conditions prevailed for several hours after as the local pressure gradient was slow to lift while the storm progressed to the northeast across Kansas and Nebraska.



Maximum observed wind gusts during the event across the National Weather Service Midland Forecast area.

Wind Reports: Below is a bulleted list of local wind reports/observations taken during the course of the event on March 12th- 13th.*

- 62 mph – Presidio, TX Presidio County; Presidio ASOS (8:35 pm CDT 3/12)
- 63 mph – Panther Junction, TX Brewster County; Panther Junction RAWS (12:38 am CDT)
- 64 mph – Carlsbad, NM Eddy County ; Carlsbad ASOS (10:56 am CDT)
- 70 mph – 17 W Orla, TX Culberson County; Trained Spotter (11:51 am CDT)
- 77 mph – Pine Springs, TX Culberson County; Guadalupe Pass ASOS (11:51 am CDT)
- 63 mph – Midland, TX Midland County; Midland ASOS (12:18 pm CDT)
- 60 mph – Tarzan, TX Martin County; 2 WNW Tarzan Mesonet (12:56 pm CDT)
- **103 mph – Pine Springs, TX Culberson County; Pine Springs Mesonet (1:09 pm CDT)**
- 66 mph – Artesia, NM Eddy County; Artesia AWOS (1:55 pm CDT)
- 60 mph – Lamesa, TX Dawson County; Lamesa AWOS (2:15 pm CDT)
- 65 mph – Seagraves, TX Gaines County; 1 SW Seagraves Mesonet (2:35 pm CDT)
- 58 mph – Snyder, TX Scurry County; Snyder AWOS (2:55 pm CDT)
- 66 mph – Welch, TX Dawson County; Welch Mesonet (3:21 pm CDT)
- 74 mph – 7 NW Maljamar, NM Eddy County; Caprock RAWS (3:40 pm CDT)
- 73 mph – Tatum, NM Lea County; 2 SW Tatum Mesonet (3:40 pm CDT)
- 66 mph – Andrews, TX Andrews County; 2 E Andrews Mesonet (4:20 pm CDT)
- 98 mph – 3 NNW Pine Springs, TX Culberson County; Guadalupe Bowl RAWS (5:38 pm CDT)
- 67 mph – Hobbs, NM Lea County; Hobbs AWOS (6:50 pm CDT)

* Wind events listed in chronological order of occurrence

Summary: Strong winds were experienced over a large portion of the NWS Midland forecast areas with winds over 60 mph observed for several locales. The storm itself was a true testament to the power of rapidly developing surface cyclones with impacts from this system stretching across the Rockies and the entire Central US. The 103 mph observed wind at Pine Springs Mesonet is in the top reported wind gust from anywhere in the United States during the storm's life cycle. This event will go down as one of the top non-thunderstorm wind events in the West Texas, Southeast New Mexico corridor.