The mystery of the Saragosa, Texas tornadoes: Was Saragosa hit by tornadoes multiple times prior to the 1987 tornado

On the evening of 22 May 1987, an F4 tornado struck the town of Saragosa in southwest Texas, killing 30 people. This tornado was notable due in part to the post-assessment that systemic failures in the warning dissemination system contributed to the casualties and also due to the lack of major (F3 or greater) tornadoes in the historical record of the region. However, in the course of investigation of the 1987 tornado, it was discovered that several sources remarked that two significant tornadoes had previously hit the town. One source indicated that the town of Saragosa was "destroyed" by a tornado in June of 1938. According to this source, the town was dissolved in the 1940s and later re-established in a slightly different location. Another tornado reportedly hit the town on 23 July, 1964. As a result of heavy damage from this tornado, the town was moved again, although the source goes on to mention that the Saragosa post office was in the path of all three tornadoes. Neither the National Climate Data Center's Storm Data nor Tom Grazulis' book, Significant Tornadoes, contain any information on the 1938 or 1964 tornadoes.

The topography surrounding Saragosa varies from mountainous terrain to the west and south, to the lower elevation and smoother terrain of the Pecos River valley to the north and east. There is ample anecdotal evidence among operational meteorologists that a local maximum in thunderstorm activity occurs in this region. This maximum is commonly attributed to the influence of the local terrain. Although not confirmed, the hypothesis is that the terrain orientation results in: 1) upslope flow which in turn produces upward vertical motion; and 2) the formation of a convergence vorticity zone. In this case, these same factors may also produce a more favorable environment for tornadogenesis.

This study will present a detailed meteorological analysis of the 1987 tornado. High resolution simulations using the Weather Research and Forecasting (WRF) model were performed to evaluate whether the environment was supportive of tornadic thunderstorms for the 1987 and 1964 cases with an emphasis the possible enhancement of tornadic potential due to the local topography.

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1991. Saragosa, Texas, Tornado May 22, 1987: An Evaluation of the Warning System. Washington, DC: The National Academies Press. doi: 10.17226/1766. The precise population of Saragosa at the time of the tornado is unknown. Newspaper accounts of the disaster by Reeves County officials give different estimates. The best available estimate, based on the number and average size of households in the town, is close to 400 people. Here are some of the worst tornadoes to hit Texas, ranked by death toll: 1. May 11, 1953: A tornado hits Waco, killing 114 people and injuring 597. An estimated 150 homes and 185 other buildings are destroyed. 2. May 18, 1902: A tornado cuts a wide swath through the town of Goliad; 114 are reported killed, 230 injured; 150 buildings are destroyed. 8. May 22, 1987: A tornado hits the small West Texas town of Saragosa during a kindergarten graduation ceremony, flattening the community center and church, killing 30 people and injuring more than 100. 9. May 27, 1997: A twister hits Jarrell in Central Texas, killing 30. Two other deaths from other storms are confirmed in nearby Travis County. 1991. Saragosa, Texas, Tornado May 22, 1987: An Evaluation of the Warning System. Washington, DC: The National Academies Press. doi: 10.17226/1766. The precise population of Saragosa at the time of the tornado is unknown. Newspaper accounts of the disaster by Reeves County officials give different estimates. The best available estimate, based on the number and average size of households in the town, is close to 400 people. Here are some of the worst tornadoes to hit Texas, ranked by death toll: 1. May 11, 1953: A tornado hits Waco, killing 114 people and injuring 597. An estimated 150 homes and 185 other buildings are destroyed. 2. May 18, 1902: A tornado cuts a wide swath through the town of Goliad; 114 are reported killed, 230 injured; 150 buildings are destroyed. 8. May 22, 1987: A tornado hits the small West Texas town of Saragosa during a kindergarten graduation ceremony, flattening the community center and church, killing 30 people and injuring more than 100. 9. May 27, 1997: A twister hits Jarrell in Central Texas, killing 30. Two other deaths from other storms are confirmed in nearby Travis County.