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The Enhanced Fujita (EF) Scale

Joe Goudsward

The Dumas Tornado was one of the first opportunities the National Weather Service had to use the new Enhanced Fujita Scale to rate tornadoes. The EF scale has been fully implemented since February of this year and has replaced the original Fujita (F) Scale. The EF Scale continues to rate tornadoes on a scale from zero to five like the old F scale but ranges in wind speed will be more accurate with the improved rating scale.



The EF Scale takes into account additional variables which will provide a more accurate indication of tornado strength and will provide more detailed guidelines that will allow

the National Weather Service to more accurately rate tornadoes that strike in the United States.

The original F Scale came to be in 1971 by Dr. T. Theodore Fujita of the University of Chicago. Dr. Fujita developed the F scale after the super tornado outbreak of that year in order to rate tornadoes and estimate associated wind speed based on the damage they cause. The EF Scale refines and improves the original scale. It was developed by the Texas Tech University Wind Science and Engineering Research Center, along with a forum of

wind engineers, universities, private companies, government organizations, private sector meteorologists and National Weather Service meteorologists from across the country.

Limitations of the original F Scale may have led to inconsistent ratings, including possible overestimates of associated wind speeds. The EF Scale incorporates more damage indicators and degrees of damage than the original F Scale, allowing more detailed analysis and better correlation between damage and wind speed. Twenty eight Damage Indicators (DI) are used in the new system with Degrees of Damage (DOD) to determine wind estimates. Different types of buildings, depending on building materials, will have their own DI's and DOD's.

The original F Scale historical data base will not change. An F5 tornado rated years ago is still an F5, but the wind speed associated with the tornado may have been somewhat less than previously estimated. A correlation between the original F Scale and the EF Scale has been developed. This makes it possible to express ratings in terms of one scale to the other, preserving the historical database.

Since the new system still uses actual tornado damage to estimate the storm's wind speed, the National Weather Service states that the new scale will likely not lead to an increase in the number of tornadoes classified as EF5 (the lower wind speed ranges have been adjusted as better estimates of what is needed to incur the damage). The upper bound of the wind speed range for EF5 is open — in other words, there is no maximum wind speed designated.