

HAZARDS AND THREATS

TORNADOES AND TWISTERS

TERMINOLOGY AND DEFINITIONS

THUNDERSTORM(S)

- Affect relatively small areas when compared with hurricanes and winter storms. The typical thunderstorm is 15 miles in diameter and last an average of 30 minutes. Despite their small size, all thunderstorms are dangerous.

TORNADO(ES)

- A Tornado is defined as a violently rotating column of air extending from a thunderstorm to the ground. The most violent tornadoes are capable of tremendous destruction with wind speeds of 250 miles per hour (mph) or more. Damage paths can be in excess of one mile wide and 50 miles long.

TORNADO SCALE (Fujita-Pearson – F scale)

Tornadoes are measured by using the Fujita-Pearson scale or more popularly known as the F scale. The F scale is used to measure the intensity of a tornado based on the amount of damage done by a passing tornado over an area. The scale was introduced in 1971 and is named for Ted Fujita who was a professor at the University of Chicago.

The F scale rates a tornado from F0 all the way to F5 with the F5 tornado having the fastest wind speeds and causing the most damage.

- F0 – 40-72 miles per hour (mph)
- F1 – 73-112 mph
- F2 – 113-157 mph
- F3 – 158-205 mph
- F4 – 207-260 mph
- F5 – 216-318 mph

F0 Tornado

- Have wind speeds between 40-72 mph.
- Causes light damage.
- Branches break off of trees and pushes over smaller trees.

F1 Tornado

- Have wind speeds between 73-112 mph.
- Causes moderate damage.
- Tiles break off of roofs. Cars and trailers get pushed.

F2 Tornado

- Have wind speeds between 113-157 mph.
- Causes considerable damage.
- Roofs get torn off. Big trees get toppled. Mobile homes are destroyed. Heavy cars are lifted and thrown.

F3 Tornado

- Have wind speeds between 158-206 mph.
- Causes severe damage.
- Roofs torn off event on the most well constructed structures. Trains are overturned.

F4 Tornado

- Have wind speeds between 207-260 mph.
- Causes catastrophic damage.
- Well constructed structures are leveled. Structures with weak foundations are blown away.

F5 Tornado

- Have wind speeds between 261-318 mph.
- Causes total damage.
- Few if any structures are left standing. Cars become dangerous flying debris in the air.

ENHANCED FUJITA SCALE (EF)

The Enhanced Fujita Scale (EF Scale) was an upgrade to the Fujita Scale (F Scale) rates the strength of tornadoes that occur in the United States. The revised scale is based on total amount damage caused by the tornadoes. The EF Scale was developed by Dr. Tetsuya "Ted" Fujita and a number of meteorologists and engineers, who created the first scale in 1971, at Wind Science and Engineering Research Center at Texas Tech University. The scale was introduced to the world by the National Weather Service at the American Meteorological Society conference held in Atlanta, Georgia on February 2, 2006. The EF scale became operational on February 1, 2007 when several

tornadoes touched down in central Florida (rated as EF 3). The largest tornado measured, EF 5, during the Greensburg, Kansas Tornado, May 4, 2007.

- **EF 0-EF 1 Tornadoes (Weak)**
- **EF 2-EF 3 Tornadoes (Strong)**
- **EF 4- EF 5 Tornadoes (Violent)**

EF 2-EF 5 (Type of Damage: Significant)

EF 3-EF 5 (Type of Damage: Intense)

The Fujita Scale and Enhanced Fujita Scale rates are based on the amount of damage caused by the tornadoes which included wind estimates that provides better damage descriptions.

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