

# **TORNADOS.SHP**

## **Tornado Touchdowns, 1950-1990**

### **Conterminous United States**

**ESRI Schools and Libraries Program**  
**Redlands, CA**  
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#### **Overview:**

This geographic data file presents locational and characteristic data for nearly 32,000 tornado and related touchdowns in the 48 conterminous states for the period 1950 through 1990. Besides displaying the location of these phenomena, the file contains characteristics such as Fujita scale, fatalities, injuries, and damage in dollars.

These data are best typified as tornado touchdowns. There may be multiple records (multiple touchdowns) for a single weather event.

**Number of records:** 31,997 points

**Projection:** Decimal degree

#### **Source:**

Unpublished data from FTP location at  
National Climatic Data Center (NCDC),  
National Oceanic and Atmospheric Administration (NOAA), Asheville, NC

#### **To map the tornado touchdowns with ArcView:**

1. At the PROJECT window, open a NEW VIEW or use an existing VIEW in your project.
2. In the VIEW, click the ADD THEME button.
3. In the subsequent window, navigate to where the TORNADOS.SHP file is located; click OK.
4. Click the checkbox next to the theme name TORNADOS.SHP in your view.
5. If you began with a NEW VIEW, you will need to add themes to provide a U.S. context to your display. For instance, using the ArcVoyager data, click the ADD THEME button, navigate to VOYAGER\DATA\GEO\US directory, and select states (US\_STATE.SHP) and other U.S. themes useful to you. For instance, consider adding a landform image such as USA.TIF from the ArcVoyager image directory. Remember to set the DATA TYPE to IMAGE in the ADD THEME dialog window.

6. Use the LEGEND EDITOR to select a field to classify and thematically map, such as FUJITA SCALE for a specific state.

NOTE: Since there are so many touchdowns, you first may want to query the data by time or geography to limit the display. Use the QUERY BUILDER found in THEME PROPERTIES.

### Fields, names, notes:

The documentation presented is the extent of the descriptions available from NOAA. No other detailed explanations of specific data fields were available from the NOAA FTP site. Also, a number of data fields from the original data files were not included here. These were fields that contained well over 50 percent blank cells. While useful in some locations, limiting overall file size was seen as more critical. Lastly, since the NOAA data came from many sources, there are state-to-state variations in the overall data, such as in the Fujita scale where the data for many western states are missing.

SHAPE	Feature shape; point.
STYRNUM	A unique code for each tornado touchdown. The code is comprised of two two-character components (state FIPS code and year) and one three-character component for tornado touchdowns in a given year in a given state.
YEAR	Two-character value for year of event.
SEQNUM	A unique three-character value for events in a given year.
MONTH	Month.
DAY	Day.
TIME_U	Military time, (0000 to 2400).
TIMEZONE	Time zone of record (see TIME_U value) regardless of time zone of occurrence (1=EST, 2=EDT, 3=CST, 4=CDT, 5=MST, 6=MDT, 7=PST, 8=PDT, 9=GMT)
STATE	Two-character FIPS code.
CO_FIPS1	Three-character FIPS code.
STCO_FIPS	Five-character FIPS code comprised of the state and county FIPS codes.
LAT	Latitude. Presented here as a decimal degree. NOTE: The precision of the original data was degrees and minutes only.
LON	Longitude. Presented here as a decimal degree. A minus sign indicates a longitude west of the Prime Meridian. NOTE: The precision of the original data was degrees and minutes only.
W_EVENT	Weather Event 1=Tornado, 2=Funnel Cloud, 3=Waterspout, 4=Waterspout moving onshore, 5=Tornado moving over a large body of water
TRK_LEN	Length of track, expressed in 10ths of statute miles
PATH_WDTH	Mean path width of tornado, expressed in tenths of feet
FATALITIES	Number of fatalities

INJURIES	Number of injuries
DOLLARS	Damage in dollars 1=<\$50, 2=\$50 to 500, 3=\$500 to 5,000, 4=\$5,000 to 50,000, 5=\$50,000 to 500,000, 6=\$500,000 to 5 million, 7=\$5 million to 50 million, 8=\$50 million to 500 million, 9=\$500 million to 5 billion
FUJITA	Scale of intensity, known as the Fujita Scale 0=Gale tornado (40-72 mph), light damage; 1=Moderate tornado (73- 112 mph); moderate damage; 2=Significant tornado (113-157mph), considerable damage; 3=Severe tornado (158-206mph), severe damage; 4=Devastating tornado (207-260mph), devastating damage; 5=Incredible tornado (261-318 mph), incredible damage; 6=(319 to Mach 1, the speed of sound). The maximum wind speeds of tornadoes are not expected to reach F6.
DATA_SRC	Data source code Clippings=Source from newspaper clippings Fujita=Reviewed by Fujita NRC=Reviewed in Nuclear Regulatory Commission study NSSFC=National Severe Storms Forecast Center NSSFC ed=Edited by NSSFC NSSFC ok=Confirmed by NSSFC from storm data (began in 1986) Survey=Source from survey Other=Other Unknown=Unknown
YRMO	Four character value representing year and month of the touchdown

**Missing values:** A value of -99 indicates no data in a cell.

**Access to other NCDC data:**

The data presented here were drawn from an FTP location at NOAA's National Climatic Data Center. To find a wide range of weather information, go to <http://www.ncdc.noaa.gov>.