SPC Tornado, Hail, and Wind Database Format Specification (for .csv output)

Comma separated value (.csv) files available at http://www.spc.noaa.gov/wcm/#data

Please note! These files are an attempt to represent the data that is submitted to the *Storm Data* publication by National Weather Service field offices. Careful review of the data is conducted at the National Climate Data Center and the Storm Prediction Center. Nonetheless, some errors/discrepancies may exist. Please contact Gregory.Carbin@noaa.gov for additional information/clarification. **(This document was last updated on April 7, 2010.)**

Field No. - (MySQL torn field id), **(hail field id)**, **(wind field id)**
Description

1-(om)
Tornado number - A count of tornadoes during the year: Prior to 2007, these numbers were assigned to the tornado as the information arrived in the NWS database. Since 2007, the numbers may have been assigned in sequential (temporal) order after event date/times are converted to CST. **However, do not use "om" to count the sequence of tornadoes through the year as sometimes new entries have come in late, or corrections are made, and the data are not re-sequenced.**

NOTE: Tornado segments that cross state borders and/or more than 4 counties will have same OM number. See information about fields 22-24, below.

2-(yr)
Year, 1950-2009

3-(mo)
Month, 1-12

4-(dy)
Day, 1-31

5-(date)
Date in yyyy-mm-dd format

6-(time)
Time in HH:MM:SS

7-(tz)
Time zone - All times, except for ?=uknown and 9=GMT, were converted to 3=CST. This should be accounted for when building queries for GMT summaries such as 12z-12z.

8-(st)
State - Two-letter postal abbreviation (PR=Puerto Rico, VI=Virgin Islands)

9-(stf)
State FIPS number (Note some Puerto Rico codes are incorrect.)

10-(stn)
State number - number of this tornado, in this state, in this year: May not be sequential in some years. **Note: discontinued in 2008. This number can be calculated in a spreadsheet by sorting and after accounting for border crossing tornadoes and 4+ county segments.**

11-(f), or **(sz)**, or **(mag)**
F-scale (EF-scale after Jan. 2007): values -9, 0, 1, 2, 3, 4, 5 (-9=unknown). Or, hail size in inches. Or, wind speed in knots (1 knot=1.15 mph).

12-(inj)
Injuries - when summing for state totals use sn=1, not sg=1 (see below)

13-(fat)
Fatalities - when summing for state total use sn=1, not sg=1 (see below)

14-(loss)

Estimated property loss information - Prior to 1996 this is a categorization of tornado damage by dollar amount (0 or blank-unknown; 1<$50, 2=$50-$500, 3=$500-$5,000, 4=$5,000-$50,000; 5=$50,000-$500,000, 6=$500,000-$5,000,000, 7=$5,000,000-$50,000,000, 8=$50,000,000-$500,000,000, 9=$5000,000,000.) When summing for state total use sn=1, not sg=1 (see below). **From 1996, this is tornado property damage in millions of dollars. Note: this may change to whole dollar amounts in the future. Entry of 0 does not mean $0.**

15-(closs)

Estimated crop loss in millions of dollars (started in 2007). **Entry of 0 does not mean $0.**

16-(slat)

Starting latitude in decimal degrees

17-(slon)

Staring longitude in decimal degrees

18-(elat)

Ending latitude in decimal degrees

19-(elon)

Ending longitude in decimal degrees

20-(len)

Length in miles

21-(wid)

Width in yards

22-(ns), 23-(sn), 24-(sg)

Understanding these fields is critical to counting state tornadoes, totaling state fatalities/losses. The tornado segment information can be thought of as follows:

22- ns=Number of **S**tates affected by this tornado: 1, 2, or 3.
23- sn=State **N**umber: 1 or 0 (1=entire track info in this state).
24- sg=Tornado **S**e**G**ment number: 1, 2, or -9 (1=entire track info).

1,1,1 = Entire record for the track of the tornado (unless all 4 fips codes are non-zero).
1,0,-9 = Continuing county fips code information only from 1,1,1 record, above (same om).
2,0,1 = A two-state tornado (st=state of touchdown, other fields summarize entire track).
2,1,2 = First state segment for a two-state (2,0,1) tornado (state same as above, same om).
2,1,2 = Second state segment for two-state (2,0,1) tornado (state tracked into, same om).
2,0,-9 = Continuing county fips for a 2,1,2 record that exceeds 4 counties (same om).
3,0,1 = A three-state tornado (st=state of touchdown, other fields summarize entire track).
3,1,2 = First state segment for a three-state (3,0,1) tornado (state same as 3,0,1, same om).
3,1,2 = Second state segment for three-state (3,0,1) tornado (2nd state tracked into, same om as 3,0,1 record).
3,1,2 = Third state segment for a three-state (3,0,1) tornado (3rd state tracked into, same om as the initial 3,0,1 record).

25-(f1) **1**st County FIPS code
26-(f2) **2**nd County FIPS code
27-(f3) **3**rd County FIPS code
28-(f4) **4**th County FIPS code - Additional counties will be included in sg=-9 records with same om number (see description above).

29-(mt) WIND ONLY

Magnitude-type is only used for wind data. EG=estimated gust, MG=measured gust, MS=measured sustained, ES=estimated sustained (started in 2006).