

# Storm Data Export Format

## Event Details File (named *event\_details\_YYYYMM.csv*):

**last\_date\_modified** Ex: 4/4/2012 11:05:44 PM, 5/3/2012 5:10:49 AM  
MM/DD/YYYY 12 hour time AM/PM

The last date of modification by NWS. Any corrections to the storm event/episode in question are made solely by NWS and the person that actually entered the event/episode.

**last\_date\_certified** Ex: 5/10/2012 9:10:51 AM, 5/18/2012 12:21:15 AM  
MM/DD/YYYY 12 hour time AM/PM

The last date of certification by NWS. Any corrections to the storm event/episode in question are made solely by NWS and the person that actually entered the event/episode.

**episode\_id** Ex: 61280, 62777, 63250  
(ID assigned by NWS to denote the storm episode; links the event details file with the location & fatality files)

The occurrence of storms and other significant weather phenomena having sufficient intensity to cause loss of life, injuries, significant property damage, and/or disruption to commerce. Rare, unusual, weather phenomena that generate media attention, such as snow flurries in South Florida or the San Diego coastal area; and Other significant meteorological events, such as record maximum or minimum temperatures or precipitation that occur in connection with another event.

**event\_id** Ex: 383097, 374427, 364175

(Primary database key field)  
(ID assigned by NWS to note a single, small part that goes into a specific storm episode; links the storm episode between the three files downloaded from SPC's website)

**state** Ex: GEORGIA, WYOMING, COLORADO  
The state name where the event occurred (no State ID's are included here; State Name is spelled out in ALL CAPS)

**state\_fips** Ex: 45, 30, 12  
A unique number (State Federal Information Processing Standard) is assigned to the county by the National Institute for Standards and Technology (NIST).

**year** Ex: 2000, 2006, 2012  
Four digit year for the event in this record

**month\_name** Ex: January, February, March

Name of the month for the event in this record (spelled out; not abbreviated)

**event\_type** Ex: Hail, Thunderstorm Wind, Snow, Ice (spelled out; not abbreviated)

The only events permitted in Storm Data are listed in Table 1 of Section 2.1.1 of NWS Directive 10-1605 at <http://www.nws.noaa.gov/directives/sym/pd01016005curr.pdf>. The chosen event name should be the one that most accurately describes the meteorological event leading to fatalities, injuries, damage, etc. However, significant events, such as tornadoes, having no impact or causing no damage, should also be included in Storm Data.

From Section 2.1.1 of NWS Directive 10-1605:

<u>Event Name</u>	<u>Designator (County or Zone)</u>	<u>Event Name</u>	<u>Designator (County or Zone)</u>
Astronomical Low Tide	Z	Marine Hail	M
Avalanche	Z	Marine High Wind	M
Blizzard	Z	Marine Strong Wind	M
Coastal Flood	Z	Marine Thunderstorm Wind	M
Cold/Wind Chill	Z	Rip Current	Z
Debris Flow	C	Seiche	Z
Dense Fog	Z	Sleet	Z
Dense Smoke	Z	Storm Surge/Tide	Z
Drought	Z	Strong Wind	Z
Dust Devil	C	Thunderstorm Wind	C
Dust Storm	Z	Tornado	C
Excessive Heat	Z	Tropical Depression	Z
Extreme Cold/Wind Chill	Z	Tropical Storm	Z
Flash Flood	C	Tsunami	Z
Flood	C	Volcanic Ash	Z
Frost/Freeze	Z	Waterspout	M
Funnel Cloud	C	Wildfire	Z
Freezing Fog	Z	Winter Storm	Z
Hail	C	Winter Weather	Z
Heat	Z		
Heavy Rain	C		
Heavy Snow	Z		
High Surf	Z		
High Wind	Z		
Hurricane (Typhoon)	Z		
Ice Storm	Z		
Lake-Effect Snow	Z		
Lakeshore Flood	Z		
Lightning	C		

**cz\_type** Ex: C, Z, M

Indicates whether the event happened in a (C) county/parish, (Z) zone or (M) marine

**cz\_fips** Ex: 245, 003, 155

The county FIPS number is a unique number assigned to the county by the National Institute for Standards and Technology (NIST) or NWS Forecast Zone Number (See addendum)

**cz\_name** Ex: AIKEN, RICHMOND, BAXTER (County/Parish, Zone or Marine Name assigned to the county FIPS number or NWS Forecast Zone)

**wfo** Ex: CAE, BYZ, GJT (National Weather Service Forecast Office's area of responsibility (County Warning Area) in which the event occurred)

**begin\_date\_time** Ex: 4/1/2012 20:48

MM/DD/YYYY 24 hour time AM/PM

**cz\_timezone** Ex: EST-5, MST-7, CST-6

(Time Zone for the County/Parish, Zone or Marine Name)

Eastern Standard Time (EST), Central Standard Time (CST), Mountain Standard Time (MST), etc.

**end\_date\_time** Ex: 4/1/2012 21:03

MM/DD/YYYY 24 hour time AM/PM

**injuries\_direct** Ex: 1, 0, 56

The number of injuries directly related to the weather event

**injuries\_indirect** Ex: 0, 15, 87

The number of injuries indirectly related to the weather event

**deaths\_direct** Ex: 0, 45, 23

The number of deaths directly related to the weather event.

**deaths\_indirect** Ex: 0, 4, 6

The number of deaths indirectly related to the weather event

**damage\_property** Ex: 10.00K, 0.00K, 10.00M

The estimated amount of damage to property incurred by the weather event. (e.g. 10.00K = \$10,000; 10.00M = \$10,000,000)

**damage\_crops** Ex: 0.00K, 500.00K, 15.00M

The estimated amount of damage to crops incurred by the weather event (e.g. 10.00K = \$10,000; 10.00M = \$10,000,000)

**source** Ex: Public, Newspaper, Law Enforcement, Broadcast Media, ASOS, Park and Forest Service, Trained Spotter, CoCoRaHS, etc. (can be any entry; isn't restricted in what's allowed)

Source reporting the weather event

**magnitude** Ex: 0.75, 60, 0.88, 2.75

measured extent of the magnitude type ~ only used for wind speeds and hail size (e.g. 0.75" of hail; 60 mph winds)

**magnitude\_type** Ex: EG, MS, MG, ES

EG = Wind Estimated Gust; ES = Estimated Sustained Wind; MS = Measured Sustained Wind; MG = Measured Wind Gust (no magnitude is included for instances of hail)

**flood\_cause** Ex: Ice Jam, Heavy Rain, Heavy Rain/Snow Melt

Reported or estimated cause of the flood

**category** Ex:

Unknown (During the time of downloading this particular file, NCDC has never seen anything provided within this field.)

**tor\_f\_scale** Ex: EF0, EF1, EF2, EF3, EF4, EF5

Enhanced Fujita Scale describes the strength of the tornado based on the amount and type of damage caused by the tornado. The F-scale of damage will vary in the destruction area; therefore, the highest value of the F-scale is recorded for each event.

EF0 – Light Damage (40 – 72 mph)

EF1 – Moderate Damage (73 – 112 mph)

EF2 – Significant damage (113 – 157 mph)

EF3 – Severe Damage (158 – 206 mph)

EF4 – Devastating Damage (207 – 260 mph)

EF5 – Incredible Damage (261 – 318 mph)

**tor\_length** Ex: 0.66, 1.05, 0.48

Length of the tornado or tornado segment while on the ground (minimal of tenths of miles)

**tor\_width** Ex: 25, 50, 1760, 10

Width of the tornado or tornado segment while on the ground (in whole yards)

**tor\_other\_wfo** Ex: DDC, ICT, TOP,OAX

Indicates the continuation of a tornado segment as it crossed from one National Weather Service Forecast Office to another. The subsequent WFO identifier is provided within this field.

**tor\_other\_cz\_state** Ex: KS, NE, OK

The two character representation for the state name of the continuing tornado segment as it crossed from one county or zone to another. The subsequent 2-Letter State ID is provided within this field.

**tor\_other\_cz\_fips** Ex: 41, 127, 153

The FIPS number of the county entered by the continuing tornado segment as it crossed from one county to another. The subsequent FIPS number is provided within this field.

**tor\_other\_cz\_name** Ex: DICKINSON, NEMAHA, SARPY

The FIPS name of the county entered by the continuing tornado segment as it crossed from one county to another. The subsequent county or zone name is provided within this field in ALL CAPS.

**episode\_narrative** (The episode narrative depicting the general nature and overall activity of the episode. The narrative is created by NWS.) Ex: A strong upper level system over the southern Rockies lifted northeast across the plains causing an intense surface low pressure system and attendant warm front to lift into Nebraska.

**event\_narrative** (The event narrative provides more specific details of the individual event . The event narrative is provided by NWS.) Ex: Heavy rain caused flash flooding across parts of Wilber. Rainfall of 2 to 3 inches fell across the area.

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**Storm Data Location File (named *event\_locations\_YYYYMM.csv*):**

**episode\_id** Ex: 60904 (ID assigned by NWS to denote the storm episode; links the storm episode with the information within the event details file) An Episode may contain several different events.

**event\_id** Ex: 364000, 364001, 364002, 364003 (ID assigned by NWS to note a single, small part that goes into a specific storm episode; links the storm episode between the three files downloaded from SPC's website)

**location\_index** Ex: 1-x (Number assigned by NWS to specific locations within the same Storm event. Each event's sequentially increasing location index number will have a corresponding lat/lon point)

**range** Ex: 0.59, 0.69, 4.84, 1.17 (A hydro-meteorological event will be referenced, minimally, to the nearest tenth of a mile, to the geographical center (not from the village/city boundaries or limits) of a particular village/city, airport, or inland lake, providing that the reference point is documented in the Storm Data software location database.)

**azimuth** Ex: ENE, NW, WSW, S (16-point compass direction from a particular village/city, airport, or inland lake, providing that the reference point is documented in the Storm Data software location database of > 130,000 locations.)

**location** Ex: PINELAND, CENTER, ORRS, RUSK (center from which the range and the azimuth is calculated)

**lat** Ex: 31.25, 31.79, 32.76, 31.80

The latitude where the event occurred (rounded to the hundredths in decimal degrees; includes an '-' if it's S of the Equator)

**lon** Ex: -93.97, -94.18, -94.52, -95.13

The longitude where the event occurred (rounded to the hundredths in decimal degrees; includes an '-' if it's W of the Prime Meridian)

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**Storm Data Fatality File (named *event\_fatalities\_YYYYMM.csv*):**

**fatality\_id** Ex: 17582, 17590, 17597, 18222 (ID assigned by NWS to denote the individual fatality that occurred within a storm event)

**event\_id** Ex: 364302, 365560, 365945, 367330 (ID assigned by NWS to note a single, small part that goes into a specific storm episode; links the storm episode between the three files downloaded from SPC's website)

**fatality\_type** Ex: D , I (D = Direct Fatality; I = Indirect Fatality; assignment of this is determined by NWS software; details below are from NWS Directive 10-1605 at <http://www.nws.noaa.gov/directives/sym/pd01016005curr.pdf>, Section 2.6)

- Direct Fatality: “A direct fatality or injury is defined as a fatality or injury directly attributable to the hydro-meteorological event itself, or impact by airborne/falling/moving debris, i.e., missiles generated by wind, water, ice, lightning, tornado, etc. “
- Indirect Fatality: “Fatalities and injuries, occurring in the vicinity of a hydrometeorological event, or after it has ended, but not directly caused by impact or debris from the event (weather event was a passive entity), are classified as indirect.”

**fatality\_date** Ex: 4/3/2012 12:00:00 AM, 4/11/2012 12:00:00 AM  
MM/DD/YYYY 12 hour time AM/PM

**fatality\_age** Ex: 38, 25, 69, 54  
The age of the fatalities

**fatality\_sex** Ex: M, F  
The gender of the fatalities

**fatality\_location** Ex: (UT) Under Tree, (BO) Boating, (VE) Vehicle/Towed Trailer

**Direct Fatality Location Table**

BF Ball Field	MH Mobile/Trailer Home
BO Boating	OT Other/Unknown
BU Business	OU Outside/Open Areas
CA Camping	PH Permanent Home
CH Church	PS Permanent Structure
EQ Heavy Equip/Construction	SC School
GF Golfing	TE Telephone
IW In Water	UT Under Tree
LS Long Span Roof	VE Vehicle and/or Towed Trailer

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