



National Centers for
Environmental Information (NCEI)

Storm Events Database

User Guide



Learn more at: www.ncei.noaa.gov/about/our-impact/

USER GUIDE

Version 1.0

Storm Events Database

Issued: 9/12/2025

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Introduction

Welcome to the NOAA/NCEI Storm Events Database (SED), the only publicly accessible source of NOAA National Weather Service (NWS) Storm Data. Storm Data is a collection of significant weather phenomena that have sufficient intensity to cause loss of life, injuries, significant property damage, and/or disruption to commerce in the United States and adjacent water bodies. **This user guide is intended to provide users with a broad introduction to the SED web application. It will offer recommendations and direction to help users better filter and access Storm Data.** Key features the user guide will cover include: filtering storm data with the map interface, filtering storm data with the keyword search, navigating search results, and accessing data.

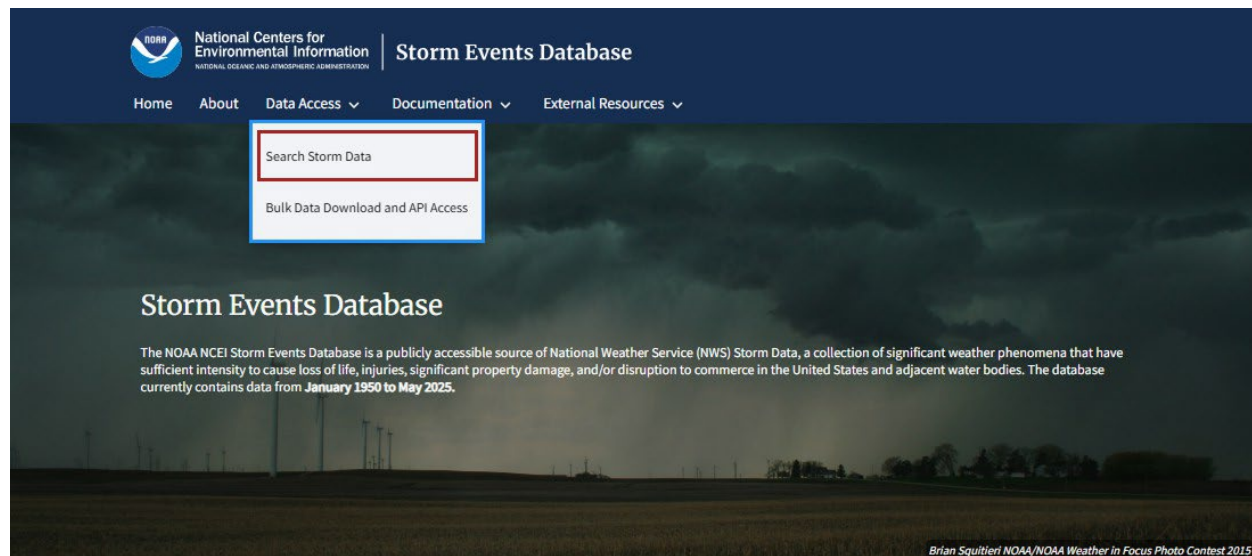
Please refer to the [Database Details](#) page for more information on the event types included in Storm Data. See the [supporting documentation](#) for detailed descriptions of the available data fields/columns contained in Storm Data. See the [FAQ](#) for more information on Storm Data. If you have additional questions please contact ncei.orders@noaa.gov.

1. Using the Search Interface

Learn how to execute a simple query of Storm Data using Storm Events Database search functions.

Accessing the Search Storm Data Page

Users can access the search page of the Storm Events Database by selecting the “Start Search” button on the landing page or by selecting “Data Access” -> “Search Storm Data” in the dropdown header.



Search

The Storm Events Database allows users to search by map or by a state/area drop-down. Functionality for the state/area drop-down remains the same as the original.

[Start Search](#) →

Bulk Data Access

For large queries, we recommend accessing Storm Data by querying the public Google Cloud Storage bucket or downloading bulk data as comma-separated values (CSV) files.

[Learn More](#) →

There are two search functions: *Search by Map* and *Search by State/County*. Both provide users with access to Storm Data via county-level queries. The search page will automatically default to the *Search by Map* option.

Search

Storm Data are geographically categorized by county or NWS Forecast Zone. Smaller (aerial coverage) events are collected by county (tornado, thunderstorm winds, flash floods, and hail), while larger-scale events are collected by forecast zone (heat, cold, drought, flood, tropical, and winter weather). The database currently contains data from **January 1950 to June 2025**.

Search by Map	Search by State/County
---------------	------------------------

Using the Search by State/County Search

The *Search by State/County* search function is designed for state-level or county-level Storm Data queries. Navigate to the page by clicking “Search by State/County” near the top of the Search page.

Let’s execute a search for storm events occurring between 1995 and 2000 in Collier County, Florida.

We will start by selecting Florida from the state selection list. If you want to search for events across the entire country and US territories, ensure that no states/areas are selected. Similarly, if you want to search for events across an entire state or US territories, select the state/area, then ensure that no counties are selected.

States/Areas Select a single state/area to select specific counties.	Counties Multi-state/area searches will automatically include all contained counties.
Florida	All Alachua Baker Bay Bradford Brevard Broward Calhoun Charlotte Citrus Clay
Event Types Event types are limited before 1993. For more details, visit Database Details . To activate respective events. To keep the dropdown menu open to select multiple event types, hold down the control key while clicking to keep the dropdown menu open.	
All	
Hail Filter All	Tornado Filter All
Start Date MM/DD/YYYY	End Date Events take 3 months to appear in Storm Events Database
Start Date	End Date

If only one state is selected, the option to filter by county is available. Multi-state searches do not allow for county filtering. To access data for all events across the entire country, see the section on Bulk Data Access.

To keep the dropdown menu open to select multiple counties at once, hold the control button while clicking.

Select Collier County from the available selections and start/end dates of interest to capture those events occurring between 1995 and 2000. To select all events, simply leave the Event Types selection pane empty. Execute the search by selecting “Search.”

States/Areas

Select a single state/area to select specific counties.

Counties

Multi-state/area searches will automatically include all contained counties.

Event Types

Event types are limited before 1993. For more details, visit [Database Details](#). To activate hail, tornado, and wind filters, enter an event type that involves those respective events. To keep the dropdown menu open to select multiple event types at once, hold control while clicking. To select multiple event types simultaneously, hold down the control key while clicking to keep the dropdown menu open.

Hail Filter

Tornado Filter

Wind Filter

Start Date

MM/DD/YYYY

End Date

Events take 3 months to appear in Storm Events Database

☐ Search All Years

130 distinct events match our search criteria. Summary statistics for storm events occurring in Collier County, Florida between 1995 and 2000 are shown under the Results Summary.

Results

Results Summary

Number Of Events Reported	130	Number of Fatalities	6
Number Of Distinct Event Types	16	Number of Injuries	23
Counties/Zones Affected	3	Estimated Property Damage *	3.1M
Days With Event	132	Estimated Crop Damage *	247.6M

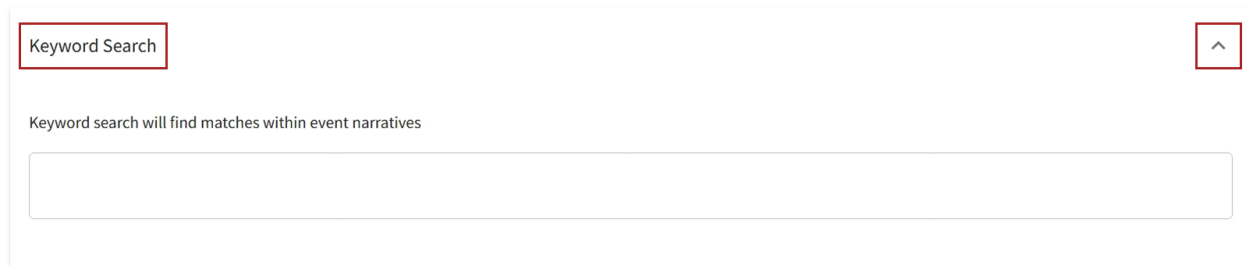
* Property and Crop Damage amounts are considered broad estimates. Please see the [Storm Data FAQ](#) for more information.

For more information on how to navigate the results, see the section *How to Navigate the Results, Download Data, and Generate PDF Reports*

Using the Keyword Search

The *Keyword* filtering function is designed for keyword searches (e.g., Hurricane Katrina). The function will look for matches to your query across all Storm Data episode and event narratives, returning all events with narratives containing the selected keywords.

The keyword search is available at the bottom of the search page for both “Search by Map” and “Search by State/County.”

A screenshot of a web interface for keyword search. At the top left, there is a label "Keyword Search" enclosed in a red rectangular box. At the top right, there is a small square button with a red border containing an upward-pointing arrow. Below these elements, the text "Keyword search will find matches within event narratives" is displayed. Underneath this text is a large, empty rectangular input field for entering search keywords.

Let’s start with a keyword search for events related to “Hurricane Katrina.” To ensure records for Hurricane Katrina are found, ensure the period of record is large enough. Here, we expanded the time period from January 1, 1996 to December 31, 2024. Press the expand button, then type “Hurricane Katrina” into the search box then press Enter.

Event Types

Event types are limited before 1993. For more details, visit [Database Details](#). To activate hail, tornado, and wind filters, enter an event type that involves those respective events. To keep the dropdown menu open to select multiple event types at once, hold control while clicking. To select multiple event types simultaneously, hold down the control key while clicking to keep the dropdown menu open.

All

Hail Filter

All

Tornado Filter

All

Wind Filter

All

Start Date

MM/DD/YYYY

Start Date

01/01/1996

End Date

Events take 3 months to appear in Storm Events Database

End Date

12/31/2024

☐ Search All Years

Keyword Search

Keyword search will find matches within event narratives

Hurricane Katrina

Reset

Search

The database returns over 700 records related to the hurricane. All of these events contain the words “Hurricane Katrina” in their descriptions. Some events use Hurricane Katrina as a comparison, while other events were part of Hurricane Katrina. Notice that the top results are for a flash flood in Alabama in 2020. At first glance, these events have no connection to Hurricane Katrina; however, in their event descriptions, they are compared to Hurricane Katrina, which is why they appear in the search results.

Results Summary

 Number Of Events Reported	739	 Number of Fatalities	1019
 Number Of Distinct Event Types 	16	 Number of Injuries	1186
 Counties/Zones Affected	394	 Estimated Property Damage *	32.0B
 Days With Event	66	 Estimated Crop Damage *	1.6B

*Property and Crop Damage amounts are considered broad estimates. Please see the [Storm Data FAQ](#) for more information.

Results Table

Export Data

For explanation of the table download, reference the [Table Key](#)

Download Table 

Create Custom PDF Report 

25 out of 739 results

Location	County/ Zone	State	Start Date/ Time	↑	Type	Magnitude	Fatalities	Injuries	Property Damage	Crop Damage
MONROE/ LOWER KEYS	MONROE/ LOWER KEYS (ZONE)	FLORIDA	08/26/2005 08:00 EST		Hurricane (Typhoon)	N/A	0	0	1M	N/A
MONROE/ MIDDLE KEYS	MONROE/ MIDDLE KEYS (ZONE)	FLORIDA	08/26/2005 08:00 EST		Hurricane (Typhoon)	N/A	0	0	5.5M	N/A

Let's refine our query further to better identify events occurring in Florida. Two-letter abbreviations for states (e.g., NC) will be recognized by their full names (e.g., North Carolina) and used to filter Storm Data by state. With the additional filter of Florida, now 35 events are returned.

Keyword Search

Keyword search will find matches within event narratives

Hurricane Katrina

FL

Reset

Search

Results

Results Summary

 Number Of Events Reported	35	 Number of Fatalities	5
 Number Of Distinct Event Types 	4	 Number of Injuries	5
 Counties/Zones Affected	27	 Estimated Property Damage *	444.0M
 Days With Event	8	 Estimated Crop Damage *	91.6M

* Property and Crop Damage amounts are considered broad estimates. Please see the [Storm Data FAQ](#) for more information.

We generally encourage users to begin with simple keyword phrases and progressively add complexity to better refine their search. For guidance on navigating the displayed results, see guidance in the **How to Navigate the Results, Download Data, and Generate PDF Reports** section.

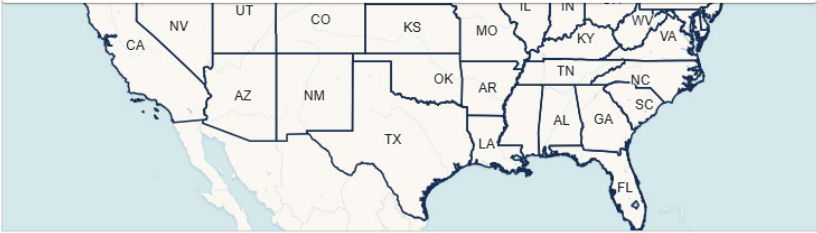
Using the Map/Address search

On the *Search by Map* page, the user selects their desired location(s) by typing the city/town name, zip code, or address into the search bar or by using the map tool.

Let’s look for the tornadoes in central Oklahoma in 2013. To use the search bar, enter a zip code, city, or address into the search bar, then click on the correct selection from the drop-down menu. For this example, type in the town name “Moore,” which is a city in central Oklahoma. A drop-down menu will appear, from which we select the option “Moore, OK, USA.”

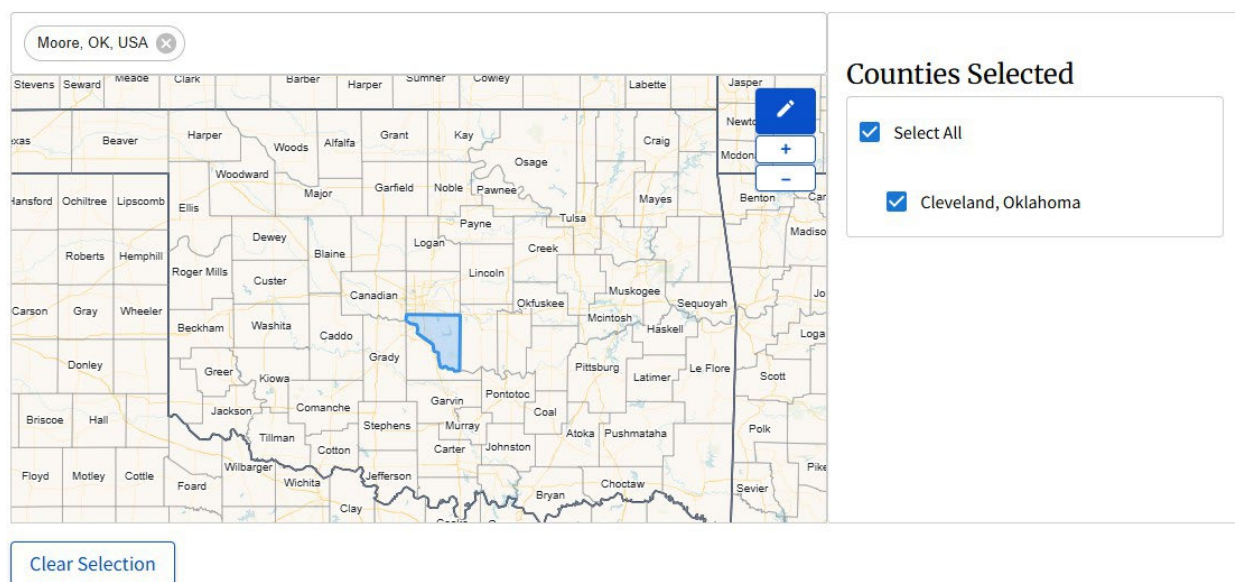
Search

Storm Data are geographically categorized by county or NWS Forecast Zone. Smaller (aerial coverage) events are collected by county (tornado, thunderstorm winds, flash floods, and hail), while larger-scale events are collected by forecast zone (heat, cold, drought, flood, tropical, and winter weather). The database currently contains data from **January 1950 to May 2025**.

Search by Map	Search by State/County
Select and deselect counties by clicking on the map or by drawing a polygon around the region of interest using the selection tool. For users navigating with a keyboard or screen reader, counties can also be selected using the dropdown filters located below the map.	
Moore - Moore, OK, USA - Mooreville, NC, USA - Moore County, NC, USA - Moore County, TN, USA - Moore County, TX, USA  Clear Selection	Counties Selected No counties selected.

Once Moore, OK, USA is selected, the county will appear in the “Counties Selected” pane on the right side of the map search, and the county will be highlighted in blue on the map. You can add as many counties as you like to “Counties Selected.”

Select and deselect counties by clicking on the map or by drawing a polygon around the region of interest using the selection tool. For users navigating with a keyboard or screen reader, counties can also be selected using the dropdown filters located below the map.



The screenshot shows a map of Oklahoma with a search bar at the top left containing "Moore, OK, USA". A blue polygon is drawn around Cleveland County. On the right, the "Counties Selected" pane is open, showing a list of selected counties. Below the map is a "Clear Selection" button.

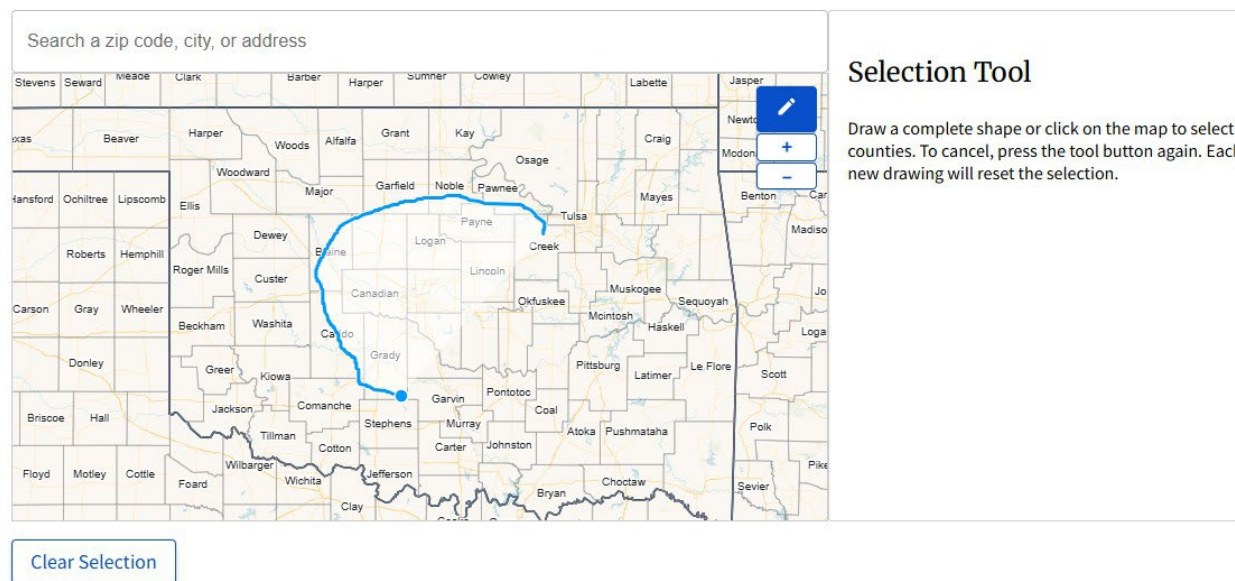
Counties Selected

- ☒ Select All
- ☒ Cleveland, Oklahoma

[Clear Selection](#)

Alternatively, use the map tool. Click the pencil tool to activate the selection tool. On the map, click and hold the mouse to draw an area around the region of interest. Instead of drawing a polygon, you may also select and deselect counties by clicking on the counties on the map after the pencil tool has been activated.

Select and deselect counties by clicking on the map or by drawing a polygon around the region of interest using the selection tool. For users navigating with a keyboard or screen reader, counties can also be selected using the dropdown filters located below the map.



The screenshot shows the same map of Oklahoma with a search bar at the top left. A blue polygon is drawn around a region of interest. On the right, the "Selection Tool" pane is open, providing instructions on how to use the tool. Below the map is a "Clear Selection" button.

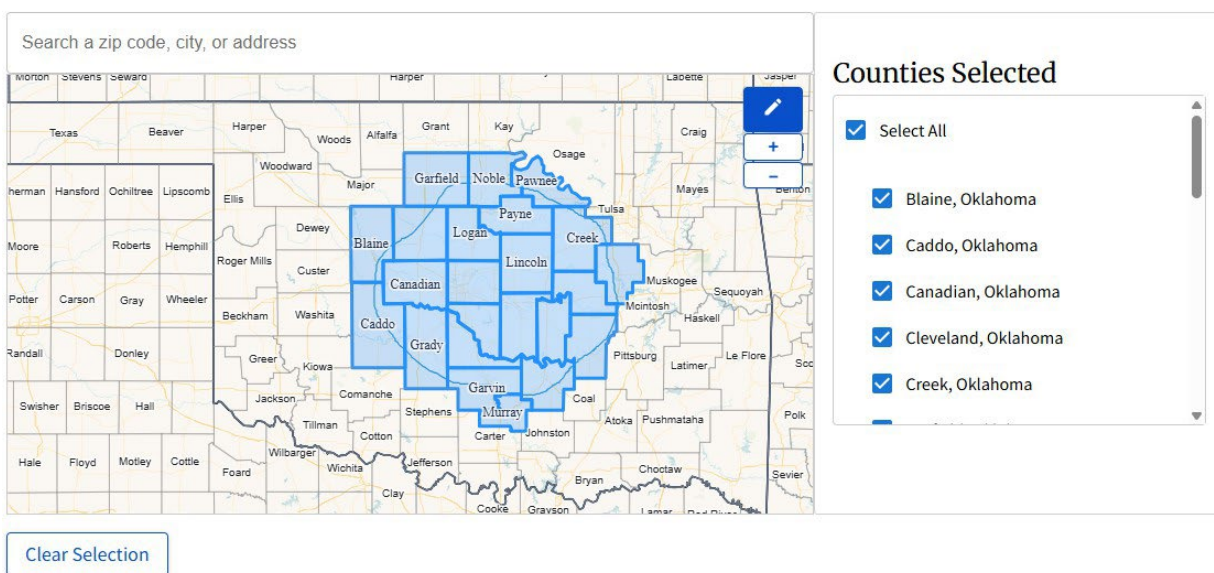
Selection Tool

Draw a complete shape or click on the map to select counties. To cancel, press the tool button again. Each new drawing will reset the selection.

[Clear Selection](#)

Selected counties will appear in the "Counties Selected" pane at the right of the map search. Under the "Counties Selected" list, counties are grouped by state. Deselect counties to remove them from your search. Select "Clear Selection" or draw a new polygon to reset your search.

Select and deselect counties by clicking on the map or by drawing a polygon around the region of interest using the selection tool. For users navigating with a keyboard or screen reader, counties can also be selected using the dropdown filters located below the map.



Let's further filter our query by selecting the event type. You can add as many event types as you like. To select all event types, simply leave the Event Types entry empty. Some event types have the additional option to filter by hail, tornado, or wind magnitude. In this example, we will select tornado from the drop-down selections. Tornado events can also be filtered by tornado magnitude and wind speed, so here we will filter for tornadoes that are F2/EF2 and stronger.

Now let's filter by selecting the date range. In MM/DD/YYYY format, enter the start date and end date of your desired time range. In this example, we want to look at the entire year of 2013, so we input 01/01/2013 as the start date and 12/31/2013 as the end date.

To conduct the search, press "Search."

Event Types

Event types are limited before 1993. For more details, visit [Database Details](#). To activate hail, tornado, and wind filters, enter an event type that involves those respective events. To keep the dropdown menu open to select multiple event types at once, hold control while clicking. To select multiple event types simultaneously, hold down the control key while clicking to keep the dropdown menu open.

Tornado

Hail Filter

All

Tornado Filter

Tornado F2/EF2 and stronger

Wind Filter

All

Start Date

MM/DD/YYYY

Start Date

01/01/2013

End Date

Events take 3 months to appear in Storm Events Database

End Date

12/31/2013

Search All Years

Keyword Search

Reset

Search

The search returned 10 events that match our criteria. Summary statistics for tornado events in central Oklahoma are displayed in a Results Summary. Results will differ depending on your search parameters.

Results Summary

 Number Of Events Reported	10	 Number of Fatalities	34
 Number Of Distinct Event Types 	1	 Number of Injuries	287
 Counties/Zones Affected	7	 Estimated Property Damage *	2.0B
 Days With Event	3	 Estimated Crop Damage *	0

* Property and Crop Damage amounts are considered broad estimates. Please see the [Storm Data FAQ](#) for more information.

Using the “Search All Years” Search

The Storm Events Database also allows users to search for the same date(s) across all years. To access this functionality, toggle “Search All Years” on. In the example above, the user entered 07/01 into the start date and 07/31 into the end date. This search will provide all events that occurred in July for every year, starting from the first year of the database (1950) to the present year. A user can also conduct this search for a single day. For instance, a user can search for winter storms that occurred on every Christmas throughout the entire period of record.

Start Date
MM/DD
Start Date
07/01

End Date
Events take 3 months to appear in Storm Events Database
End Date
07/31

☒ Search All Years

Keyword Search

Reset

Search

2. How to Navigate the Results, Download Data, and Generate PDF Reports

Below the summary statistics, a complete results table of each event—as well as key parameters of each event—are displayed. By default, the results table will be sorted by Start Date/Time; however, you can optionally sort by any of the columns by clicking on the column headings. An up or down arrow will indicate the column by which the table is sorted.

Results Table

Export Data

For explanation of the table download, reference the [Table Key](#)

Download Table

Create Custom PDF Report

Location	County/ Zone	State	Start Date/ Time	Type	Magnitude	Fatalities	Injuries	Property Damage	Crop Damage
LUTHER	OKLAHOM A CO.	OKLAHOM A	05/19/2013 15:41 CST	Tornado	EF2	0	0	N/A	N/A
MERIDIAN	LOGAN CO.	OKLAHOM A	05/19/2013 15:54 CST	Tornado	EF2	0	0	N/A	N/A

Download Table and Create Custom PDF Report

On the results page for the Search by Map and the Search by State/County functions, users can download the results table and generate a PDF report of the results. To download the results table in its entirety as a CSV file, select the “Download Table” button on the left side of your screen.

Results Table

Export Data

For explanation of the table download, reference the [Table Key](#)

Download Table 

Create Custom PDF Report 

Click on “Table Key” to be directed to a PDF that describes the storm data export format.

To generate a PDF of the table, select “Create Custom PDF Report.” Checkboxes will appear next to each event in the results table. Check the box next to each event you wish to include in the report, or click the checkbox at the very top of the table to select all events. Then click “Generate PDF Report.” A disclaimer message will appear. Click “Continue to PDF” to automatically download the PDF.

You will have the option to either continue to the PDF, or to order a NCEI certified PDF. If you have any questions or issues ordering a certified PDF, email your questions to ncei.orders@noaa.gov.

Results Table

Export Data

For explanation of the table download, reference the [Table Key](#)

Download Table 

Create Custom PDF Report 

3 Event Selected											Cancel	Generate PDF Report
☐	Location	County/ Zone	State	Start Date/ Time	Type	Magnitude	Fatalities	Injuries	Property Damage	Crop Damage		
☒	YUKON	CANADIA N CO.	OKLAHO MA	05/31/2013 17:29 CST	Tornado	EF2	0	1	20.00K	0.00K		
☒	CALUMET	CANADIA N CO.	OKLAHO MA	05/31/2013 17:03 CST	Tornado	EF3	8	26	300.00K	0.00K		
☐	MOORE	CLEVELA ND CO.	OKLAHO MA	05/20/2013 14:04 CST	Tornado	EF5	24	207	2.00B	0.00K		
☒	NEWCAST LE	MCCLAIN CO.	OKLAHO MA	05/20/2013 13:56 CST	Tornado	EF4	0	5	N/A	N/A		
☐	PRAGUE	LINCOLN CO.	OKLAHO MA	05/19/2013 18:00 CST	Tornado	EF2	0	0	N/A	N/A		

Event and Episode Webpages

Let’s navigate to a specific event for additional information. In the Results Table, click on the tornado event occurring in Moore on May 20th, 2013, to navigate to the corresponding event page.

Location	County/ Zone	State	Start Date/ Time ↓	Type	Magnitude	Fatalities	Injuries	Property Damage	Crop Damage
YUKON	CANADIAN CO.	OKLAHOM A	05/31/2013 17:29 CST	Tornado	EF2	0	1	20.00K	0.00K
CALUMET	CANADIAN CO.	OKLAHOM A	05/31/2013 17:03 CST	Tornado	EF3	8	26	300.00K	0.00K
MOORE	CLEVELAN D CO.	OKLAHOM A	05/20/2013 14:04 CST	Tornado	EF5	24	207	2.00B	0.00K

The Event Details page begins with the option to select “Dashboard Display” or “Table Display.” Users can view the statistics in two different formats by toggling between these two options.

Table Display

Dashboard Display

Event Map

Note: The tornado track is approximate based on the beginning (B) and ending (E) locations. The actual tornado path may differ from a straight line.

In the "Dashboard Display," the event page begins with a map of the event, which is followed by the statistics of the storm. For events without a map, the storm statistics appear first. The statistics for Property Damage, Crop Damage, Number of Fatalities, and Number of Injuries have an alert icon, which you can hover over to see a disclaimer message regarding the data’s accuracy.

Location 			
County/Zone CLEVELAND CO.	State/Area OKLAHOMA	Start Location 7WSW MOORE 35.303/-97.605	End Location 3WNW STANLEY DRAPER LAKE DAM 35.341/-97.3999
Date 		Event Type  Tornado	Scale  EF5
Start Time (MM/DD/YYYY) 05/20/2013 14:04 CST	End Time (MM/DD/YYYY) 05/20/2013 14:35 CST	Length 12 mi	Width 1900 yds
Property Damage  2.00B		Crop Damage  0.00K	
Number of Fatalities  24		Number of Injuries  207	
Direct 24	Indirect 0	Direct 207	Indirect 0
Sources 			
Weather Forecasting Office OUN	Report Source NWS Storm Survey	NCEI File Type CSV	

Indirect fatalities and injuries are based on available reporting and may be inaccurate.

The Table Display page offers the user a more compact view of the event statistics. On this page, the statistics are displayed first, followed by the event map (when applicable).

If the event incurred any fatalities, there will be a table with information on the fatalities below the event statistics and map. Below this information is the Event Narrative, which provides a written summary of the event. Below the Event Narrative is the Episode Narrative, which details the larger storm system that results in the tornado event. In this example, the episode is a tornado outbreak. We will navigate to the episode page later.

Event Narrative

The violent Newcastle-Moore tornado moved into Cleveland County from McClain County as it moved northeast across the Canadian River near Interstate 44. The tornado then turned more east and then east-northeast after crossing Interstate 44. Violent EF4 damage was again observed as it began to move into progressively higher density residential areas approaching May Avenue. The center of the large tornado path passed near SW 149th Street and Western Avenue. After crossing Western Avenue, numerous buildings were destroyed and horses killed at Orr Family Farm. Two storage tanks estimated to weigh approximately 10 tons were lifted from Orr Family Farm and landed about one-half mile east. Moving east, the tornado destroyed much of Briarwood Elementary School, where the NWS storm survey team initially rated the damage as EF5. However, further evaluation indicated that an EF4 rating was more appropriate at the school. Despite the destruction of this elementary school during school hours, no fatalities occurred at the school. As the tornado continued to move east and east-northeast, it moved through much more densely populated suburban neighborhoods of southwest Oklahoma City and Moore where violent destruction was widespread and a few houses were rated EF5. The width of EF4 and greater damage was up to 250 yards wide as the tornado moved through neighborhoods east of Western Avenue. The first two fatalities occurred in a house in the neighborhood just east of Briarwood Elementary, with another fatality in a house as the tornado approached Santa Fe Avenue. After crossing Santa Fe Avenue, the tornado moved through more suburban neighborhoods and toward Plaza Towers Elementary School. Damage to the school was extensive and seven children were killed when a wall collapsed at the school. Nine other people were killed in eight different neighborhood homes within one-quarter mile of Plaza Towers Elementary, most occurring just south of the school. The tornado turned northeast as it approached Telephone Road, made a loop near the intersection of Telephone Road and 4th Street, then moved southeast crossing the interstate. Three people were killed when a convenience store along Telephone Road was destroyed. Crossing Telephone Road, the tornado inflicted significant damage to the Moore Medical Center, a post office and numerous businesses along Telephone Road and Interstate 35. Although the tornado was more narrow after crossing Interstate 35, it continued to produce EF4 damage in neighborhoods east of the interstate as it curved east and then again east-northeast. One fatality occurred at a business just east of the interstate, and one final fatality occurred in a home between Eastern Avenue and Bryant Avenue. Consistent EF4 damage continued until the tornado passed SE 4th Street just east of Bryant Avenue. Moving east from Bryant, the tornado continued to produce EF2 damage with isolated EF4 damage noted. The density of housing also decreased east of Bryant as the tornado moved east and east-northeast before dissipating east of Air Depot Blvd. between SE 119th Street and SE 134th Street in southeast Oklahoma City. Overall, over 300 homes experienced EF4/EF5 damage along the tornado path. Of the 212 direct injuries documented from this tornado, 207 are estimated to have occurred in Cleveland County.

Episode Narrative

A tornado outbreak occurred during the afternoon and evening hours of the 20th. Several tornadoes occurred from central Oklahoma down through south central Oklahoma near the Red River. The strongest tornado touched down near Newcastle and traveled through Moore and south Oklahoma City. This tornado caused catastrophic damage in these areas, with a maximum rating of EF-5. The tornado claimed 24 lives and caused billions of dollars in damage. In addition to the tornadoes, large hail and damaging winds cause damage in many areas.

At the top of the page, we have the option to generate a PDF for the event. The PDF will contain summary statistics information, the event and episode narrative (as available), and an option to certify the event with NCEI.

Event Details

Events are limited to one county or zone. They represent components of a larger storm system called an Episode.

[Generate PDF Report for Event](#)

Table Display

[Dashboard Display](#)

At the bottom of the page, a table of related events displays all events that occurred within the shared episode. To view any of the Event Details webpages for these events, click on the desired event within the table. You can optionally sort by any of the columns by clicking on the column headings.

All Events For This Episode

"Episode" describes an entire storm system and may contain many different types of events.

[Go to Episode Details](#)

Export Data

For explanation of the table download, reference the [Table Key](#)

[Download Table](#)

25 out of 44 results

Location	County/ Zone	State	Start Date/ Time	Type	Magnitude	Fatalities	Injuries	Property Damage	Crop Damage
LONE WOLF	KIOWA CO.	OKLAHOM A	05/21/2013 09:16 CST	Hail	1.75 in.	0	0	N/A	N/A
BRINKMAN	GREER CO.	OKLAHOM A	05/21/2013 09:00 CST	Hail	1.75 in.	0	0	N/A	N/A
REED	GREER CO.	OKLAHOM A	05/21/2013 08:53 CST	Hail	1.00 in.	0	0	N/A	N/A

Similar to the results page, the table can be downloaded in its entirety as a CSV file by selecting the "Download Table" button. The "Table Key" button directs the user to a PDF that describes the storm data export format. A PDF of all events that occurred within the episode (all events in the table) can be downloaded from the Episode Details webpage.

All Events For This Episode

"Episode" describes an entire storm system and may contain many different types of events.

[Go to Episode Details](#)

Export Data

For explanation of the table download, reference the [Table Key](#)

[Download Table](#)

25 out of 44 results

Location	County/ Zone	State	Start Date/ Time	Type	Magnitude	Fatalities	Injuries	Property Damage	Crop Damage
LONE WOLF	KIOWA CO.	OKLAHOM A	05/21/2013 09:16 CST	Hail	1.75 in.	0	0	N/A	N/A

Click “Go to Episode Details” to open up the Episode Details webpage in a new tab.

All Events For This Episode

"Episode" describes an entire storm system and may contain many different types of events.

[Go to Episode Details](#)

Export Data

For explanation of the table download, reference the [Table Key](#)

[Download Table](#)

25 out of 44 results

Location	County/ Zone	State	Start Date/ Time	Type	Magnitude	Fatalities	Injuries	Property Damage	Crop Damage
LONE WOLF	KIOWA CO.	OKLAHOM A	05/21/2013 09:16 CST	Hail	1.75 in.	0	0	N/A	N/A

The Episode Details page closely resembles the Event Details page. The summary statistics on the Episode Details page covers data from all the events in the episode.

A map showing available geospatial information for all events is also displayed. The map displays an icon for each event that includes location data. Hover your mouse over an event icon to see a pop-up with information on the event ID, event type, event location, and the time of the event.

Episode Details

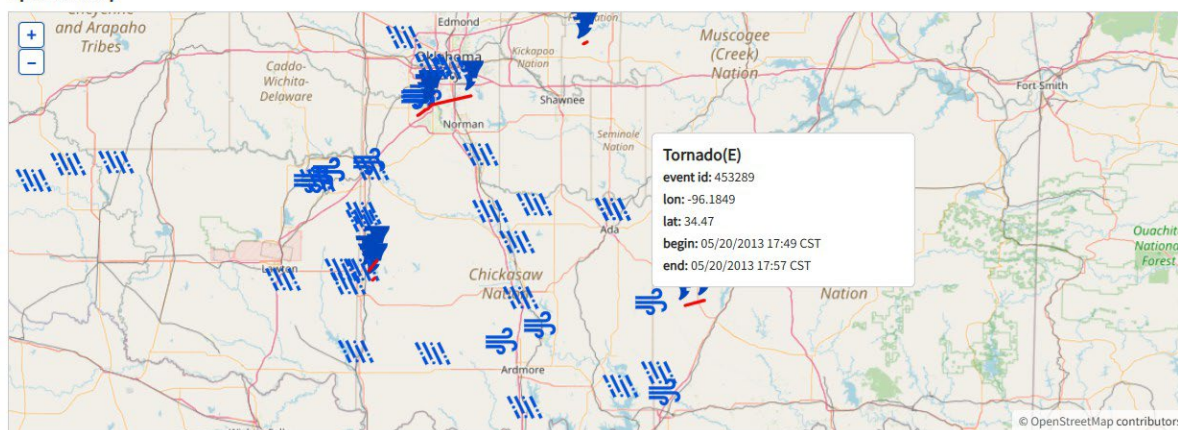
Episodes describe storm systems that may include multiple events and span more than one county or zone.

[Generate PDF Report for Episode](#)

Table Display

Dashboard Display

Episode Map



Note: The tornado track is approximate based on the beginning (B) and ending (E) locations. The actual tornado path may differ from a straight line.

At the top of the page, we have the option to generate a PDF for the episode. Click the button “Generate PDF Report for Episode.” The PDF will contain the summary information, the episode narrative (as available), and all events within that episode. You may optionally certify the episode with NCEI by contacting ncei.orders@noaa.gov.

At the bottom of the page is the table titled “All Events For This Episode.” For our example, there are 44 events that occurred during this tornado outbreak. To download a CSV file of the table of all the events within the episode, select “Download Table.”

All Events For This Episode

"Episode" describes an entire storm system and may contain many different types of events.

[Go to Episode Details](#)

Export Data

For explanation of the table download, reference the [Table Key](#)

[Download Table](#)

25 out of 44 results

Location	County/ Zone	State	Start Date/ Time	Type	Magnitude	Fatalities	Injuries	Property Damage	Crop Damage
LONE WOLF	KIOWA CO.	OKLAHOM A	05/21/2013 09:16 CST	Hail	1.75 in.	0	0	N/A	N/A

3. Learn more about Bulk Data Access

Navigate to the bulk data access pages and learn about the information displayed therein.

Accessing the Bulk Data Access page

Users can access the Bulk Data Access page of the Storm Events Database by selecting the “Learn More” button on the homepage or by selecting “Data Access” -> “Bulk Data Access and API Access” in the dropdown header.

Search Storm Data

Bulk Data Download and API Access

Storm Events Database

The NOAA NCEI Storm Events Database is a publicly accessible source of National Weather Service (NWS) Storm Data, a collection of significant weather phenomena that have sufficient intensity to cause loss of life, injuries, significant property damage, and/or disruption to commerce in the United States and adjacent water bodies. The database currently contains data from **January 1950 to May 2025**.

[Learn More](#)

Search

The Storm Events Database allows users to search by map or by a state/area drop-down. Functionality for the state/area drop-down remains the same as the original.

[Start Search](#)

Bulk Data Access

For large queries, we recommend accessing Storm Data by querying the public Google Cloud Storage bucket or downloading bulk data as comma-separated values (CSV) files.

[Learn More](#)



The Bulk Data Access page provides direct downloads of Storm Data as CSV files and links to a tutorial to search Storm Data held in a public Google Cloud Storage bucket.

To access bulk CSV data, click on “View Storm Data CSVs.” Storm Data CSVs are held in the NCEI archive. Storm Data CSVs are divided between the details, fatalities, and locations tables. See the [supporting documentation](#) for more information about the contents of each CSV file.

The button under the “Google Cloud Storage Bucket” header will take you to a Google Collaboratory tutorial with guidance on how to develop custom filters for Storm Data.

Should you have further questions, please consult the [FAQ Page](#) and/or email ncei.orders@noaa.gov.



Working Together to Improve Resilience

NOAA collaborates with industry leaders to update and develop new data and observation products, including maps, interactive tools, and other datasets.

By improving access to environmental data, NOAA connects decision makers with accurate, timely, and future-facing data products and services to support improved risk assessment and economic resilience opportunities.

Together, we can empower safe, resilient, and cost-efficient decisions for short and long-term planning, which safeguards communities and the U.S. economy.

Learn more at: www.ncei.noaa.gov/about/our-impact/

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Professional, Scientific, and Technical Services Program (ProTech)

Satellite Domain – Small Business

Task #1332KP24F0021

