

Create Your Own Tropical Cyclone Track History

Have you ever wondered how many hurricanes or tropical storms made landfall in or near the Rio Grande Valley? Or just about any location along the Gulf Coast, Caribbean, U.S. East Coast - even Hawaii? NOAA has an “app” for that! During the past few years, the [Coastal Services Center](#) has developed and refined a user friendly tool, [Historical Hurricane Tracks](#), that provides most of the answers you seek, including:

- Number of storms in a defined search area specified by a location and radius that you select
- Color-coded Strength/Category of the tropical cyclones inside, and outside, the area you choose
- Names, years, and peak intensity of cyclones
- Number of strikes per coastal county
- County based charts showing when hurricane strikes occurred, and the census estimated population at the time
- Ability to download raw data for additional processing

All you need is a computer or device (tablet, smart phone, etc.) that can run [Adobe Flash](#), and you’ll be ready to go. The Historical Hurricane Tracks page uses [ArcGIS](#) mapping to make viewing and zooming a snap. The following guide will get you on your way. For brief worded summaries of significant tropical cyclones that affected the Rio Grande Valley and Texas, surf to our [Hurricane History Page](#).

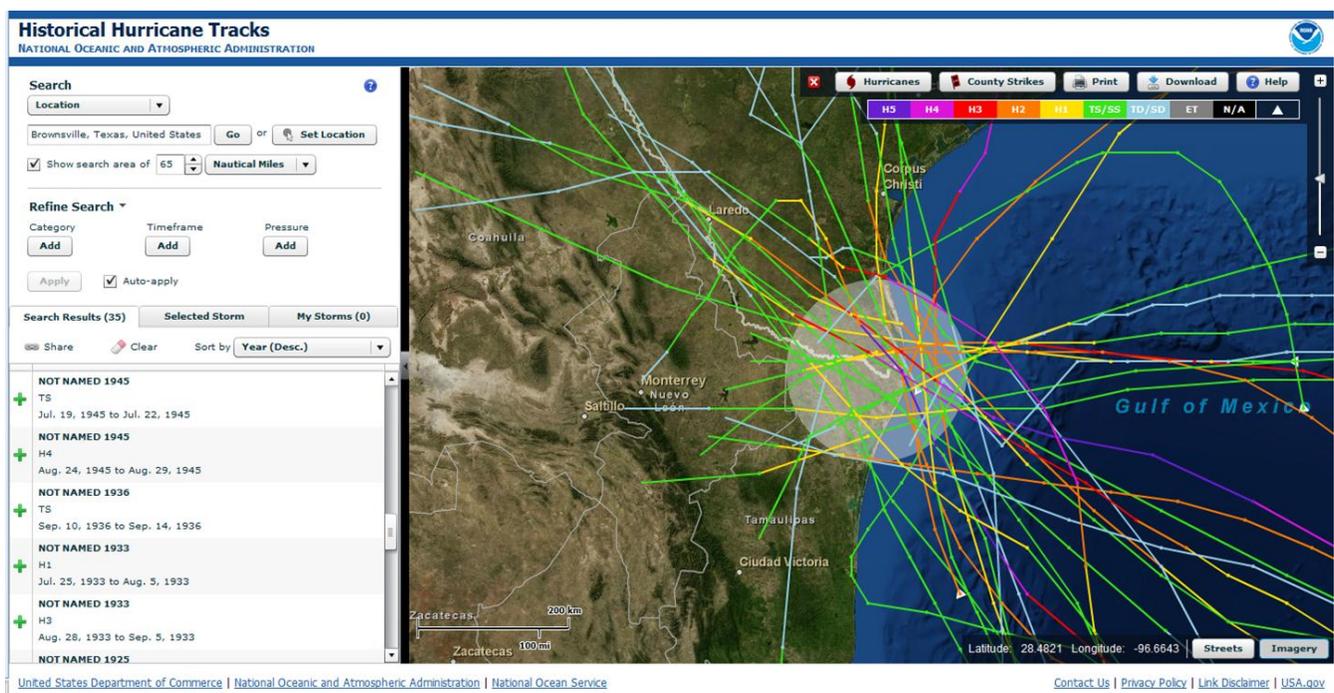
The screenshot displays the NOAA Historical Hurricane Tracks web application. The interface includes a search panel on the left with a red border, a main map area, and a top navigation bar. The search panel contains a 'Search' section with a 'Location' dropdown, an 'Enter location' text box, and 'Go' and 'Set Location' buttons. Below this is a checkbox for 'Show search area of 65 Nautical Miles'. The 'Refine Search' section shows 'Search Results (0)', 'Selected Storm', and 'My Storms (0)'. The main map area shows the United States and surrounding regions, with a legend at the top right indicating storm categories (H5, H4, H3, H2, H1, TS/SS, TD/SD, ET, N/A). The bottom of the map shows coordinates (Latitude: 45.4707, Longitude: -75.1124) and options for 'Streets' and 'Imagery'. The footer contains links for 'United States Department of Commerce | National Oceanic and Atmospheric Administration | National Ocean Service' and 'Contact Us | Privacy Policy | Link Disclaimer | USA.gov'.

Step 1: Navigating the Tracking Page

The map above greets you when entering the [Historical Hurricane Track Page](#). Before continuing, ensure that no pop-up blockers are active. Using the GUI in the red outline above, the first choice under **Search (Location)** can be changed to **Storm Name/Year**, where you can enter a specific storm and year of interest, or to **Ocean Basin**, which will open a global map showing all tropical basins.

For our purposes, we'll stick with Location. In the "Enter Location" box, type in your location. Be sure to spell out in as much detail (i.e. Brownsville, Texas is better than Brownsville). Before pressing the "Go" button, determine your search area. This is a radius that will be used to determine how many storms tracked in the vicinity of Brownsville. The larger the radius, the more cyclones you'll see. For example, if you use the default of 65 nautical miles (nm), the gray circle (below) highlights an area extending 65 nm around Brownsville. If a storm did not move through that circle, it will not be shown. At 65 nm, Hurricanes Dolly, Allen, and Bret will appear, but Hurricane Alex and Hurricane Emily will not. To ensure that most, if not all, storms that impacted the Rio Grande Valley are shown, increase your search area. Scale options include nautical miles, statute miles, or kilometers.

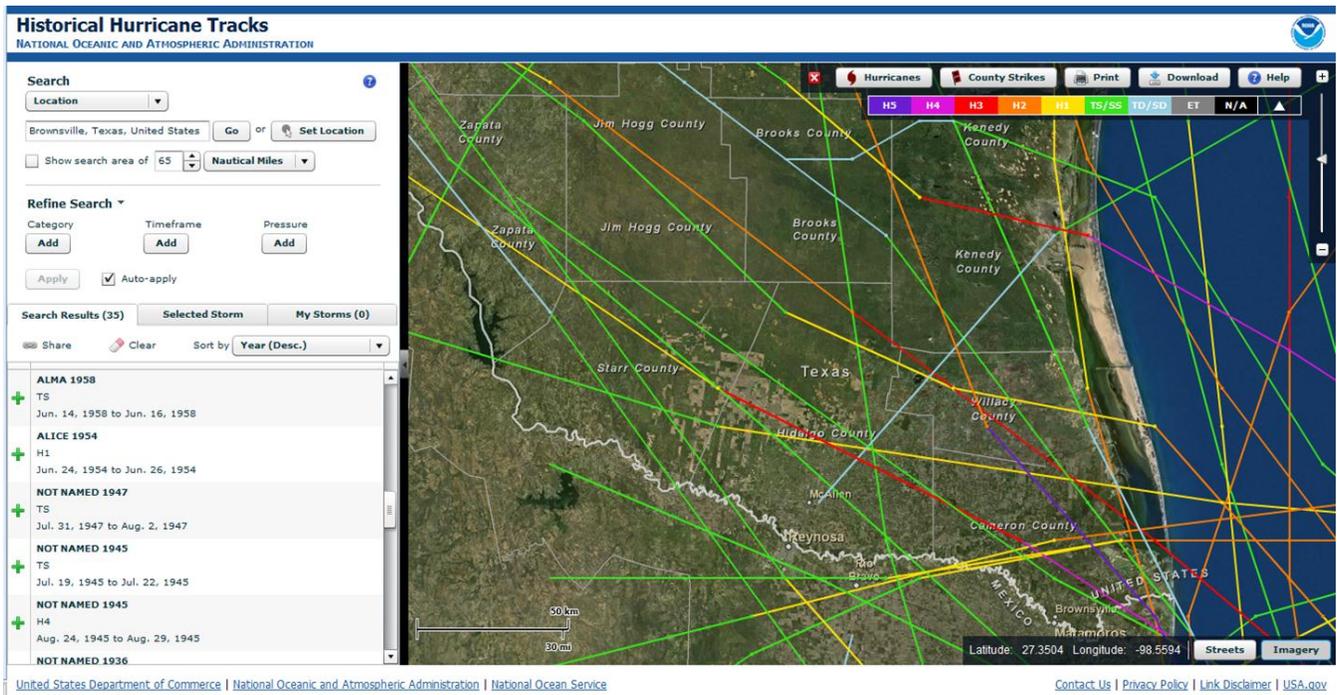
Once you've completed your location and search area selections, press the "Go" button. A pop-up window will show alternate locations for Brownsville. The first option will be Brownsville, Texas, United States. Click it. A map similar to the one below will appear (the example is set for a 65 nm search area). Now you're ready to interrogate the data.



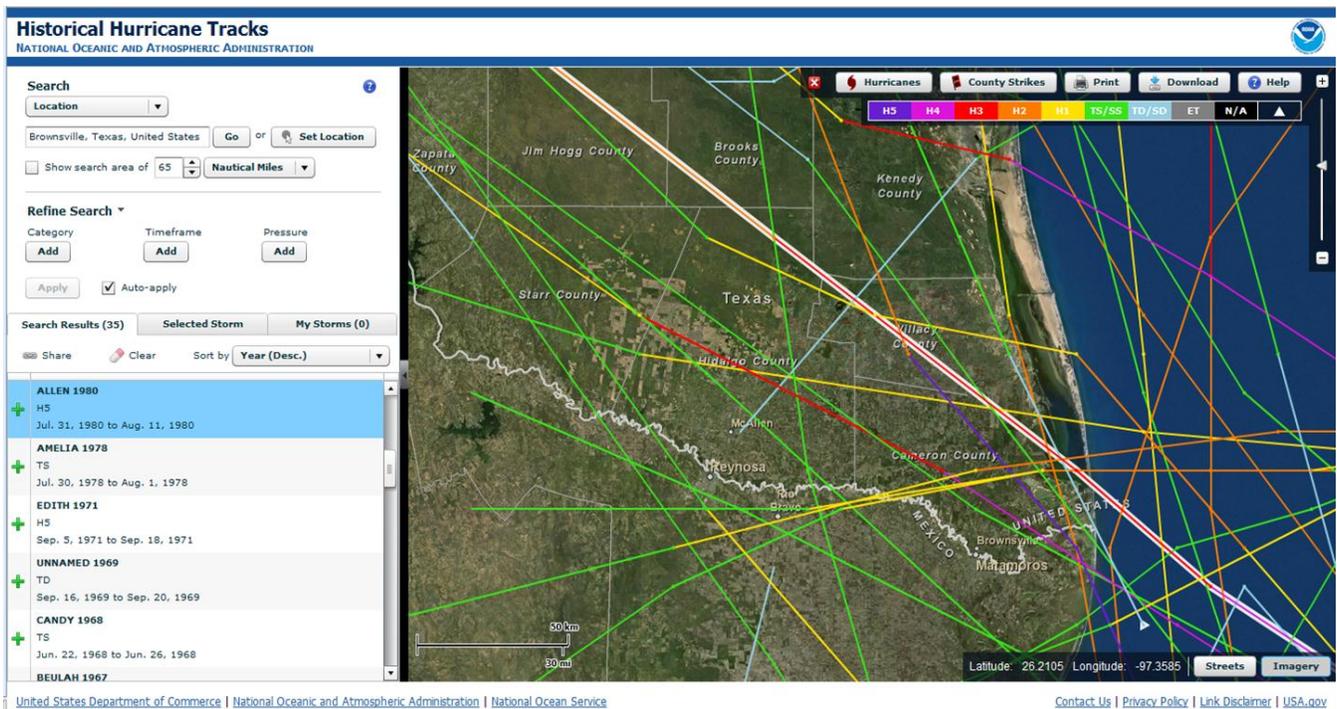
Step 2: Interrogating the Data

The map and information are fairly intuitive to use. The default zoom is rather "spaghetti" like, so the first thing to do is move your mouse onto the map (or finger click the map on a Flash-enabled tablet or smart phone) and click on an area away from any track lines. Use the mouse scroll wheel (computer) or two-finger zoom (Flash-enabled tablet/smart phone) to zoom, or you may use the slider bar (upper right corner of the page) to zoom. Panning left, right, up, and down is done by holding the left mouse button down and moving in the direction you desire. Similar to GIS-based

programs (Google Earth®), the closer you zoom, the more information is revealed on the map, such as counties and cities (below). At this point, you may uncheck the “Show search area” to remove the gray circle, which may be distracting.



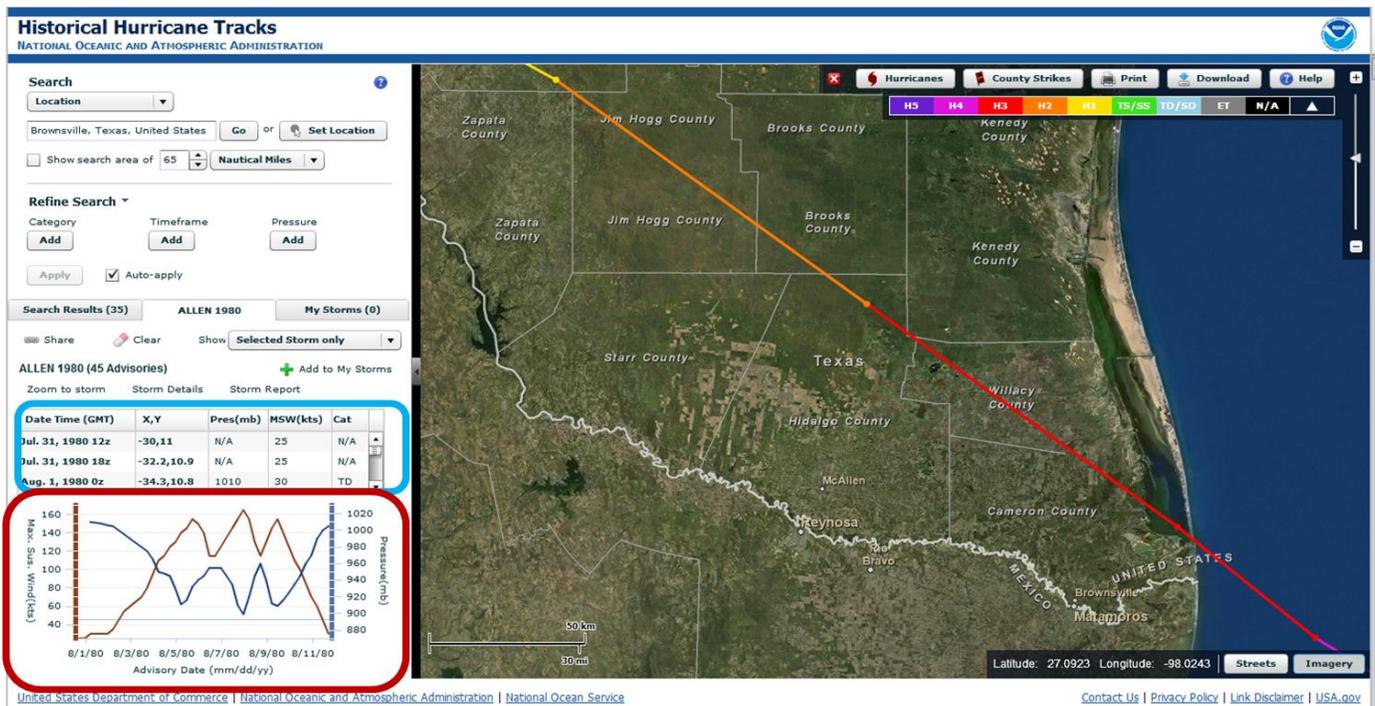
Now, the “cool” part. The window left of the map now shows search results of all named (since 1950) and unnamed (1851 to 1949) cyclones, (tropical storm to hurricane), that tracked through your specified search area. The default list is sorted by Year (latest to earliest), but may be sorted by ascending year, name (A to Z and Z to A) Storm Intensity, and revised Storm Intensity. On the map, as you mouse over each track line, it will be highlighted, as will the storm information in the text window.



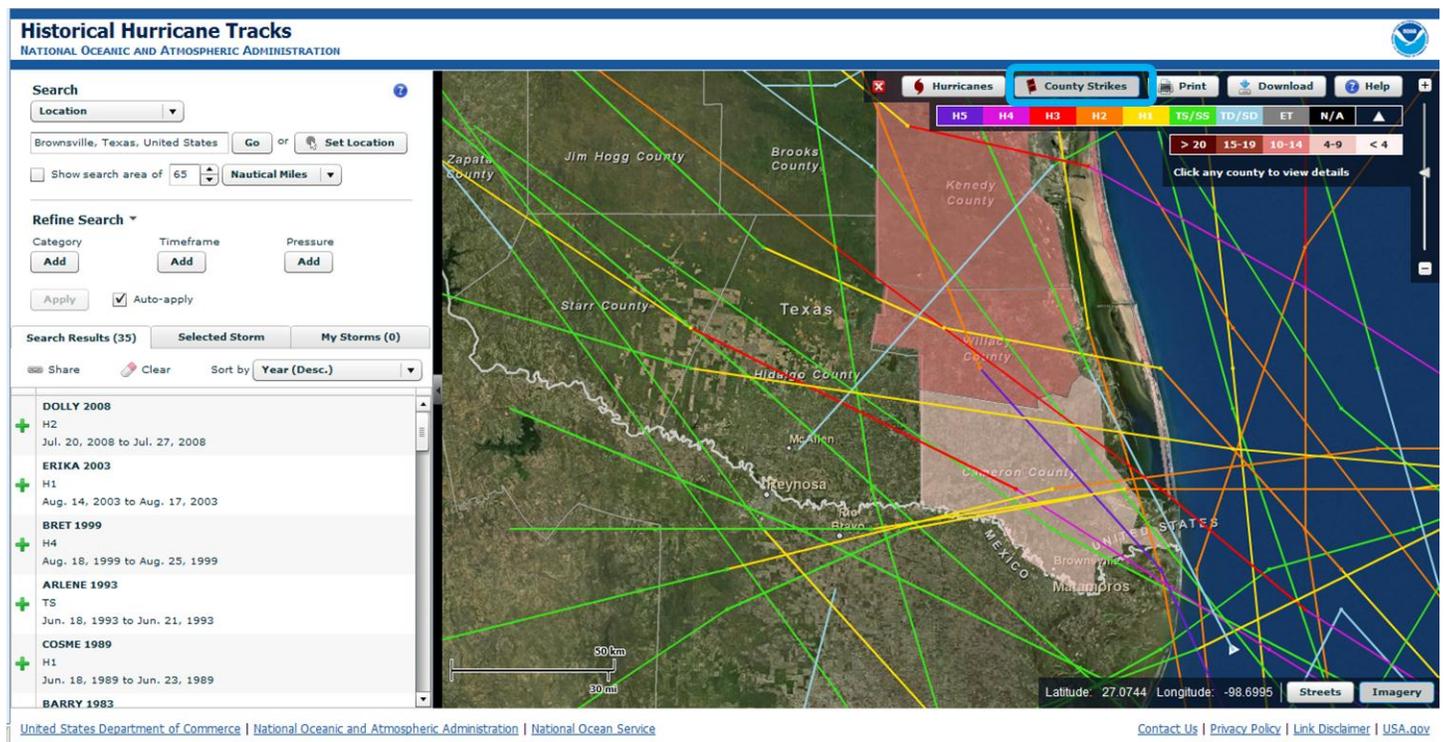
Highlighted Storm (Hurricane Allen), 1980.

Hurricane Allen was highlighted above, on the map and text window (blue). *Please note the differences in the listed intensity on the table with the track intensities on the map.* On the map, the “best track” intensity is provided, shown by changing colors (legend in upper right) as a storm strengthens or weakens. On the table, the **peak intensity** is shown. Peak intensity may or may not have occurred in your zoomed map area. Further interrogation provides the details.

Clicking on the highlighted track will focus on the particular storm, and open a window of storm details in text and chart form. Full track information at each iteration for the storm’s life cycle is shown in a table (blue outline) and a pressure and wind speed chart (maroon outline) below. Further details on the storm can be accessed by clicking on “Storm Details” and “Storm Report” (above the life cycle table). “Storm Details” shows more [track information](#) and “Storm Report” links to the National Hurricane Center [storm wallet](#) specific to your selection, in this case, Hurricane Allen.



For some decision makers, a history of county-by-county landfalls is important for infrastructure and evacuation planning, among other reasons. By selecting “County Strikes” (highlighted in blue), the map of coastal counties will change colors, with a scale indicating the number of strikes since 1851, per county (below).

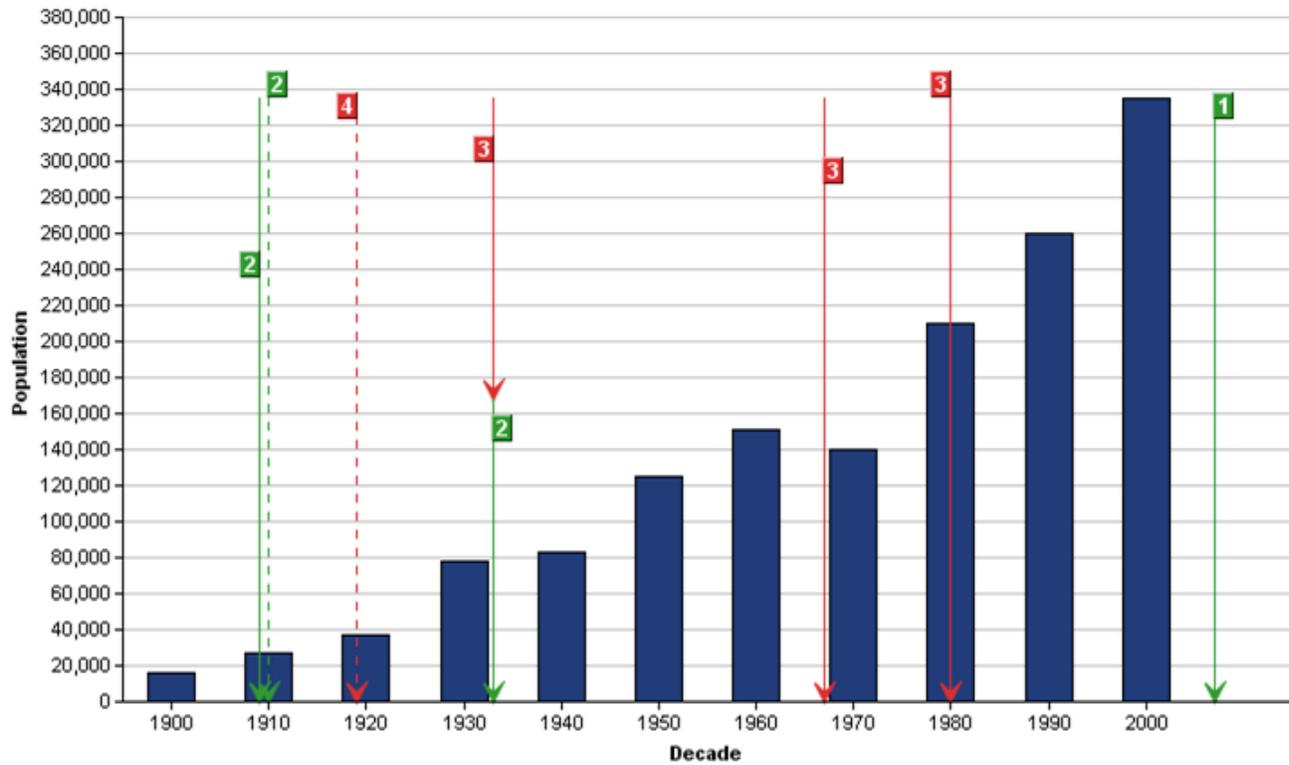


Click on a county with a color scale to show strike details. The chart on the following page shows hurricane strikes vs. population for Cameron County, listed by peak category at landfall. The chart should be used with care, since it does not match track with population centers. For example, Hurricane Allen, a rapidly weakening Category 3 storm at landfall, largely affected rural Cameron and Willacy County with strongest winds and coastal surge.

And More...

This guide is just an overview of some of the available information you need to answer the question: “How many hurricanes have passed within xx miles of Brownsville in history?” For additional help, just click on the “Help” button on the upper right of the map. Consider the interrogation process a fun expedition to find out more about past cyclones, from the Laguna Madre Bay to the Bay of Bengal (India/Bangladesh). Discovery is a great learning tool. If you have further questions, be sure to [contact us](#).

Hurricane Strikes vs Population for Cameron, Texas



Legend

 Hurricane Category 1-2	 Direct Strike
 Hurricane Category 3-5	 Indirect Strike
 Storm moving faster than 30 m.p.h.	 Conventional Landfall Storm (Moving from water to land)
	 Exiting or Inland Storm (Moving from land to water)



Hurricane Strike Data: National Hurricane Center

Population Data: U.S. Census Bureau

NOTE: Population values may be missing in some counties, particularly for earlier periods. This is most often attributable to the fact that the county had not yet been established.

NOTE: There may be discrepancies between the strike data shown in this chart and the HURDAT data used in the Historical Hurricanes Tracks Tool.

The National Hurricane Center is currently updating the strike data used for these charts.

For more information visit http://www.aoml.noaa.gov/hrd/data_sub/re_anal.html

NOTE: Population data is current as of 2000 U.S. Census. X-axis on graphs depict years through 2010 to illustrate storms that have occurred from 2000-2007.