

Tornado Statistics Project

Go to the following website: <http://www.tornadohistoryproject.com/>

In this assignment, you will be discovering how tornadoes have been tracked over time. You will investigate how often large tornadoes occur. Your goal is to take between 8 to 10 years worth of data and discover how many F4 and F5 tornadoes have occurred over time, as well as how much damage and fatalities have happened due to these large tornadoes. The underlying thought, is... Have the number of tornadoes increased or decreased over the time since 1950?

Group assignments:

- Group 1: 1950-1959
- Group 2: 1960-1968
- Group 3: 1969-1977
- Group 4: 1978-1986
- Group 5: 1987-1996
- Group 6: 1997-2007
- Group 7: 2007-2017



Go to the following document, "Historic Tornadoes TpT" that has been shared with you.

- **Select your group's years from the tabs at the bottom**



Your data table has already been set up in Google Sheets, find the information and fill in the table with data from the website. Easy ways:

- Use the search filters (Year: 1960, Month: August, Day: all, State: all, Fujita: F4, County: all) and the **Submit** button to sort by the year and the Fujita (F categories) scale. Click the **Submit** button to find the information.
 - Use the **Map**, **Table**, **Export**, and **Source** buttons. Click the **Table** button to view the information in a table format.
 - Below the table is a summary. You can find a summary of the information.
- | Summary <small>Definitions [?]</small> | | | | | | | | |
|--|-----------|------------|------------------|------------|------------------|--------------|-------------|--|
| Date(s) (yyyy-mm-dd) | Tornadoes | Fatalities | Highest Injuries | Injuries | Highest Injuries | Longest Path | Widest Path | |
| 1960-01-12 - 1960-12-04 | 616 | 36 people | 16 people | 737 people | 106 people | 101.9 miles | 1760 yards | |
- Use the drop-down boxes to limit searches based on the Fujita Scale.

Create at least one type of graph to answer the following questions.

1. Over the years, 1950-2017, is there a visible trend in the number of tornadoes? Does it go up, stay the same, go down?
2. Based on the map show all tornadoes in your years. If you had a tornado phobia, what specific state or states would you want to avoid visiting during tornado season?
3. In your 8-10 years worth of data, how many people total were killed? How many F4s and F5s were there in total? How many tornadoes occurred in those years total?
4. How long was the longest tornado path in your years?
5. How wide was the widest path in your years? How many football fields would fit into the width?
6. Which month or two would be the best opportunity to view and study tornadoes according to your data?

Teacher Instructions and Reflections

In this lab students will get to play with a website that tracks tornadoes. On the website it shows, how many deaths were caused by tornadoes, the distance each tornado travels, where the tornadoes hit, and the size of tornado. It is a great website that has tracked over 60,000 tornadoes.

Students will also get an idea of whether or not the amounts of tornadoes, tornado deaths, and large tornadoes have increased over time due to environmental conditions and climate change. We also discuss how man has spread out over tornado alley a little more than the 1950s and how weather instruments have really become much better able to track tornadoes.

Students will take a time period and analyze a Google map, finding the total amount of tornadoes for each year, the total fatalities, the distance a tornado took the longest path and the widest path of destruction, how many F4s and F5s there were. Students will also discover which months have the most tornadoes.

Your students will need access to Google Docs in order for this lab to be functional. The XXXXXXXXXX is already set up. The link will force you to make your own copy of the spreadsheet. Share this spreadsheet with your students. I would probably create two copies; 1. To share with your students, 2. To keep in case students break the formulas that will automatically calculate the totals for you.

Instructions

1. Divide students into groups. Because there are 7 sets of dates, I divide my class into 7 groups.
2. Pass out the assignment to each student. I do each student so that they don't have to keep looking over each other shoulders to use the information from the paper.
3. Assign each group a set of dates.
4. My students then split the workload amongst themselves, usually by having the different group members assigned to different columns.
5. Have the students play with the program for a few minutes.
6. Students sort information using the dropdown arrows just above the map.

Year: Month: Day: State: Fujita |?: County |?:

- a.
 - b. They select the year, month, Fujita and then hit submit. It will then find the information based on their search query.
7. Many of the answers can be found in the summary located below the map. Any blue wording is a link that can take them to more information.
 - a. For example:

Date(s) (yyyy-mm-dd)	Tornadoes	Fatalities	Highest Fatalities	Injuries	Highest Injuries	Longest Path	Widest Path
1966-01-28 - 1966-12-26	585	98 people	58 people	2030 people	530 people	202.5 miles	1760 yards

- i.
- ii. Clicking on [58 people](#) will take you to the tornado that killed 58 people. This info can be found on the left hand side of the screen.

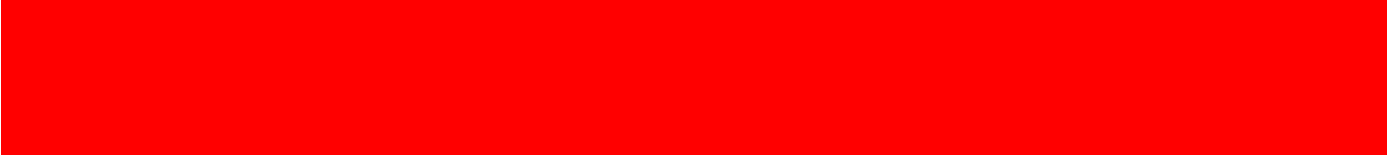



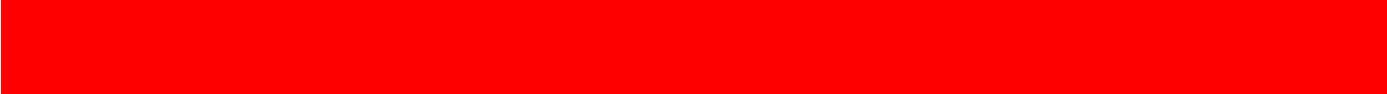

Disclaimer |?

Related Searches

 1. [F5](#)
[March 3, 1966](#)
 2. The deadliest tornado of the year was 58 people, cause by an F5, and happened on March 3, 1966.
- iii. Clicking on the longest path, [202.5 miles](#) yields the same tornado in this case, which makes since that it was the deadliest as it traveled for 202.5 miles. Incredible!
- iv. To find information about the different sizes, students need to select F4 and F5 using the data drop down arrows.

- v. We discuss when tornadoes are most likely to occur, March, April, May, June, July. Students need to select these months for each year to find out in which month had the most tornadoes for that year.
8. Students then put this information into the spreadsheet.
 - a. **NOTE:** Make sure you explain that at the bottom, they will see multiple tabs with their group's set of years. Many students don't click on that first and then start changing the years on some other group's data set. Also tell students to not type anything underneath row 12, except for the longest path, widest path and Month with Most.
 - b. **NOTE:** Some years don't yield results for large tornadoes, this will confuse kids, but creates a good discussion that F5 and even F4 tornadoes are pretty rare.
 - c. **NOTE:** The data for the 1950s to 1970s has a little glitch in the "Widest Path" data. For some reason it is showing all the same data. As students get to the 60's it begins to be correct. This is the only error I can see with the data.
 9. The spreadsheet will automatically calculate the totals for the whole data set of year.
 10. Once all students are done I show them the "Totals" tab and discuss the 3 charts for the total fatalities, total large tornadoes, and total tornadoes.

Answer Key

1. **Over the years, 1950-2017, is there a visible trend in the number of tornadoes? Does it go up, stay the same, go down?**

2. **Based on the map show all tornadoes, if you had a tornado phobia, what specific state or states would want to avoid visiting during tornado season?**

3. **In your 8-10 years worth of data, how many people total were killed? How many F4s and F5s were there in total? How many tornadoes occurred in those years total?**

4. **How long was the longest tornado path in your years?**

5. **How wide was the widest path in your years? How many football fields would fit into the width?**

6. **Which month or two would be the best opportunity to view and study tornadoes according to your data?**


Include with this purchase is a PDF of the instructions and the assignment, a link to the Google doc so that you can change any of the information that you would like to change, and a link to the Spreadsheet.

1. 
2. 