Discussion:

For my Shiny dashboard project, I chose to utilize tornado data, obtained from the Storm Events Database that is created and maintained by the National Oceanic and Atmospheric Administration (NOAA). The Storm Events Database can be accessed here: [Storm Events Database](https://www.ncdc.noaa.gov/stormevents/ftp.jsp). The Storm Events Database houses information on storm activity throughout the United States, going all the way back to 1950. There is a lot of information available within these files, but I chose to narrow my focus to only analyze tornado activity, in order to avoid having too complicated or messy figures (and because I have always been fascinated by tornadoes).

For my dashboard, I wanted to provide several different visualizations and ways for the user to explore the tornadoes of the past decade within the United States. I chose to include a map because this is an easy and intuitive way for the user to explore geographically where the tornadoes are occurring; on the same tab, I include a table that provides more information on the tornadoes for that year, and the user can take the Tornado ID# of a particular tornado they are interested in from the map and search for it in the table to get more information, such as the Event Narrative. The Event Narrative helps to provide a little more information and the context of each specific tornado, beyond just raw facts and figures. The interactivity of the map allows users to drill down into clusters of activity and zoom back out to see the full country, as well as provides a hover-over tooltip with quick facts about each tornado on the map.

I also chose to include a time series breakdown that has functionality to allow users to filter to a specific state or to view the entire country at once. This way, users can explore possible trends over the 10 year period (such as a specific month being particularly bad for a state) as well as visually identify the worst tornadoes for each state by looking at the heights of the line graphs. I also added a slidebar to allow users to focus in on a specific time period of interest, which is important because the full 10 years is a lot to look at at once. Again, I provide a table that allows the user to drill down to a specific information, and functions off of the same “state” filter as the time series does; this table also provides that Event Narrative field. Last, I chose to include a tab with a dendogram, which provides a quick and intuitive way for the user to identify and explore the “worst” tornadoes of each year, where “worst” can be defined in a few different ways – such as, most fatalities, or most crop damage.