

UFO Reportings in the United States

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Introduction

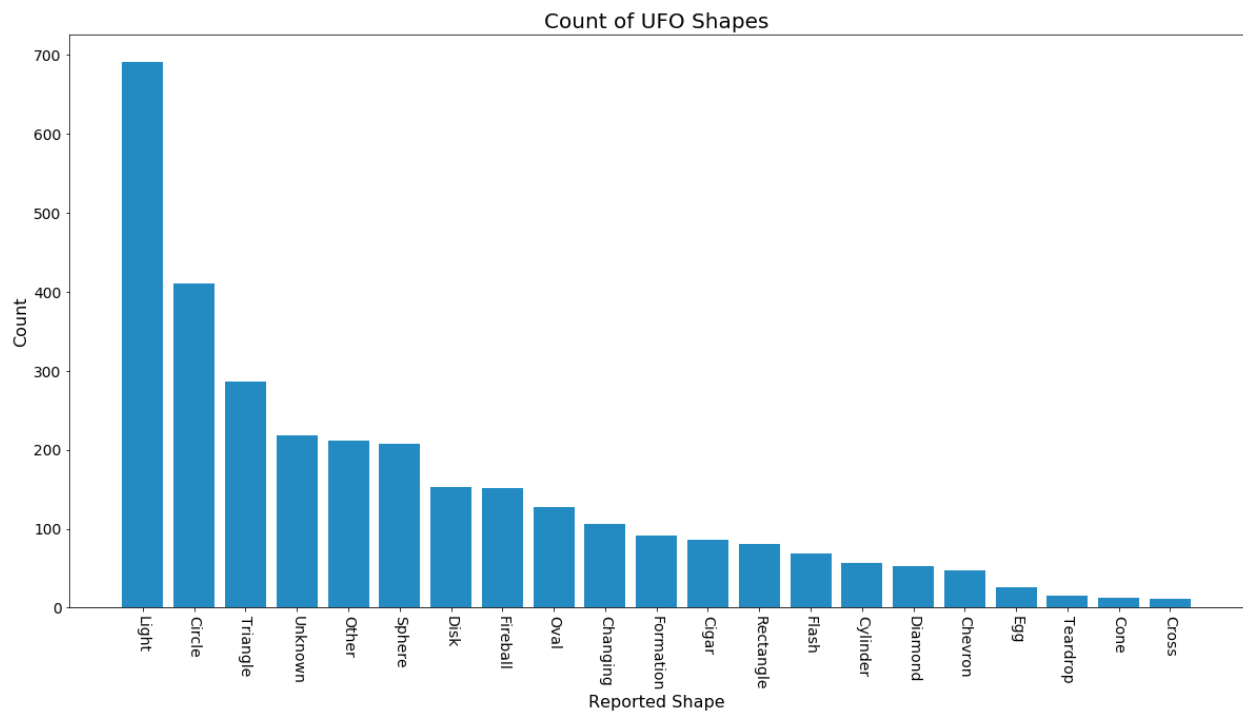
The following report is made from data collected by the National UFO Reporting Center (NUFORC). The NUFORC is a government organization that catalogues UFO reports from their hotline. They make this data public in a web format, with the following attributes:

- Date and time of incident
- City
- State
- Reported shape of UFO
- Duration of sighting
- Summary of incident
- Date the record was posted

I chose this dataset because it may have interesting or hidden insights about these reports. Many are skeptical about the existence of aliens or validity of these claims. My hope is that a dive into the data will help determine whether these claims have validity or not.

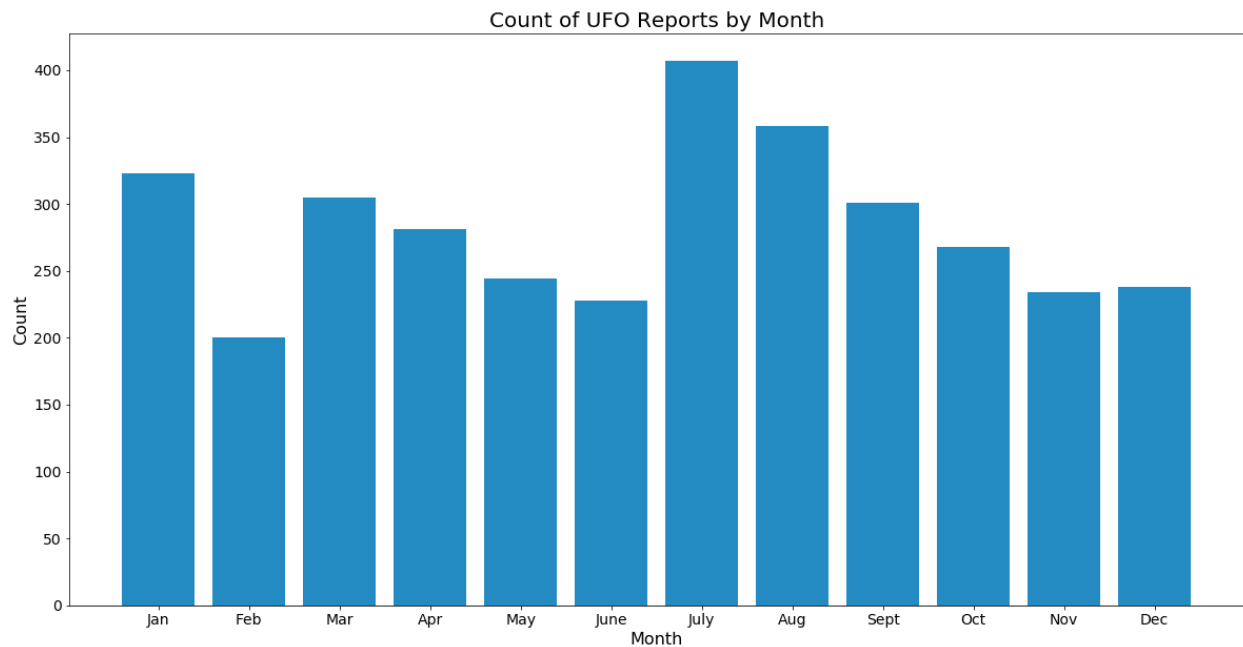
Summary of Data

Histogram



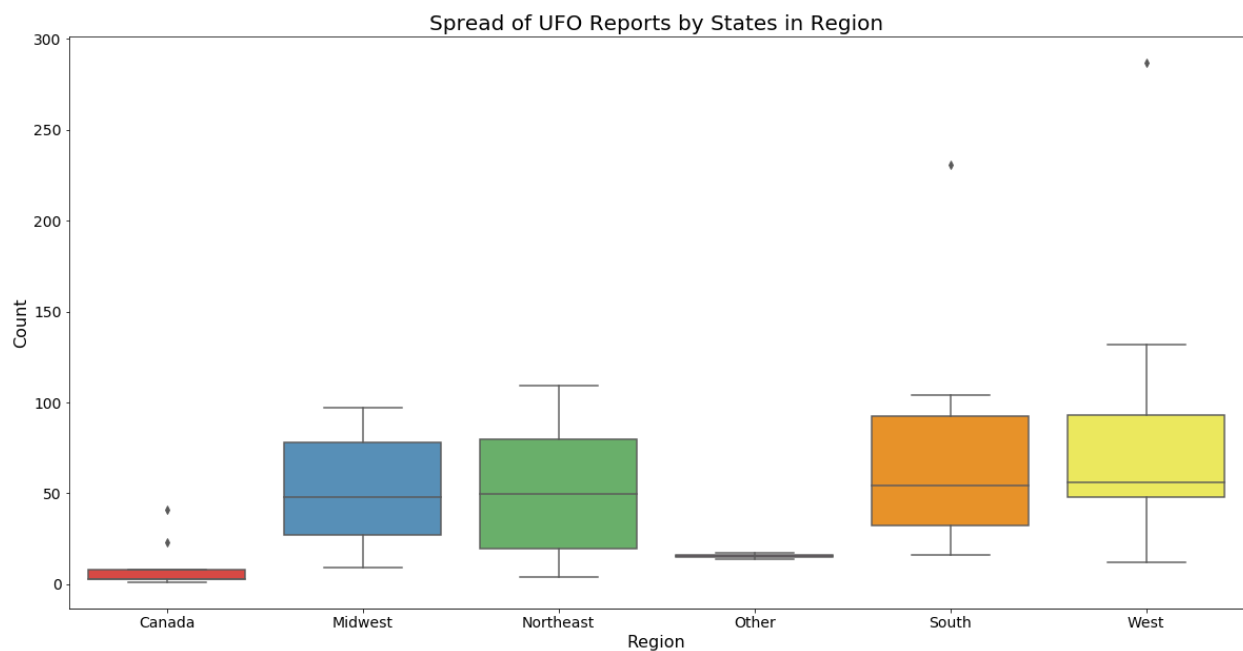
This is a histogram of reported shapes found in the dataset

Barplot



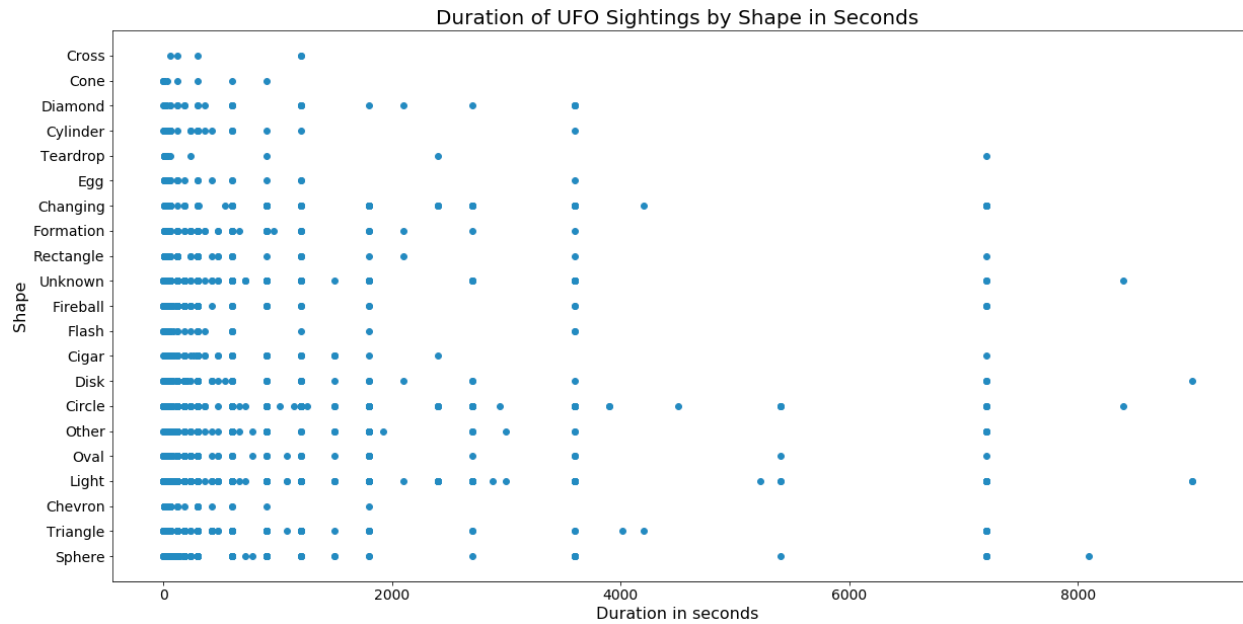
This barplot shows how many UFOs were reported in each month of 2018

Boxplot



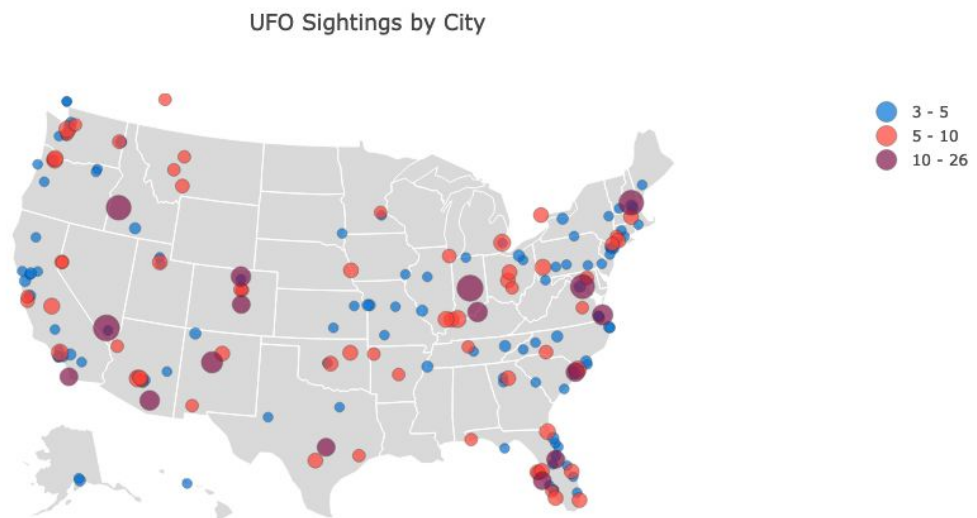
The boxplots represent the spread of UFO sightings per State in each region. The "Other" region contains Hawaii and Alaska

Scatterplot



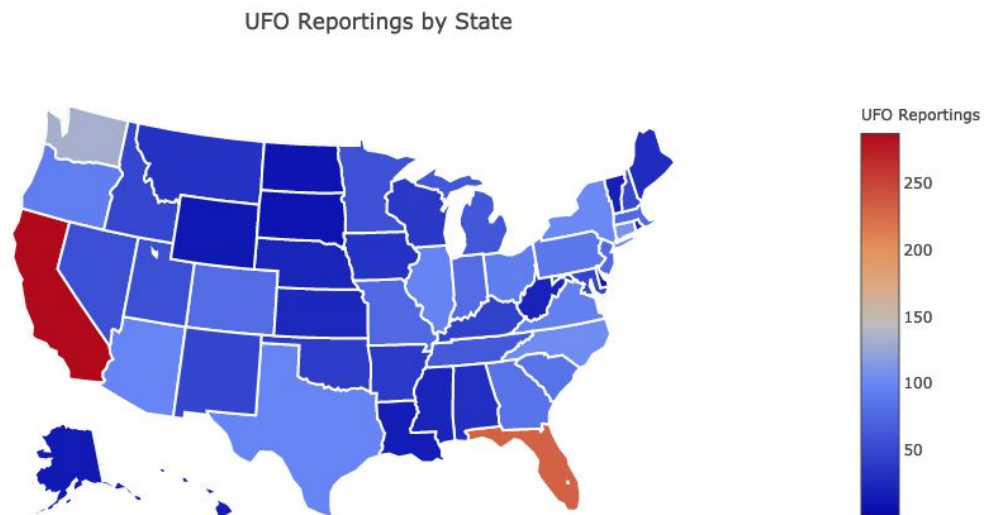
This scatterplot plots each sighting by its shape and reported duration.

Bubble Map



This bubble map sizes each city by the number of UFO sightings. An interactive version can be found here: <https://plot.ly/~bpchiv/6>

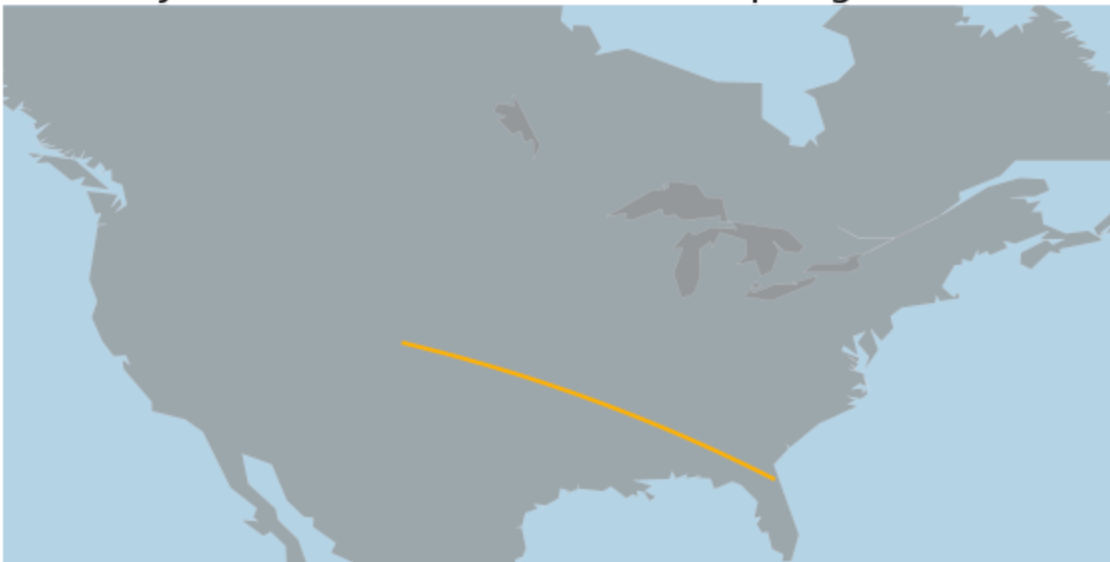
Choropleth Map



This choropleth shows similar data to the bubble map, but by State instead of city

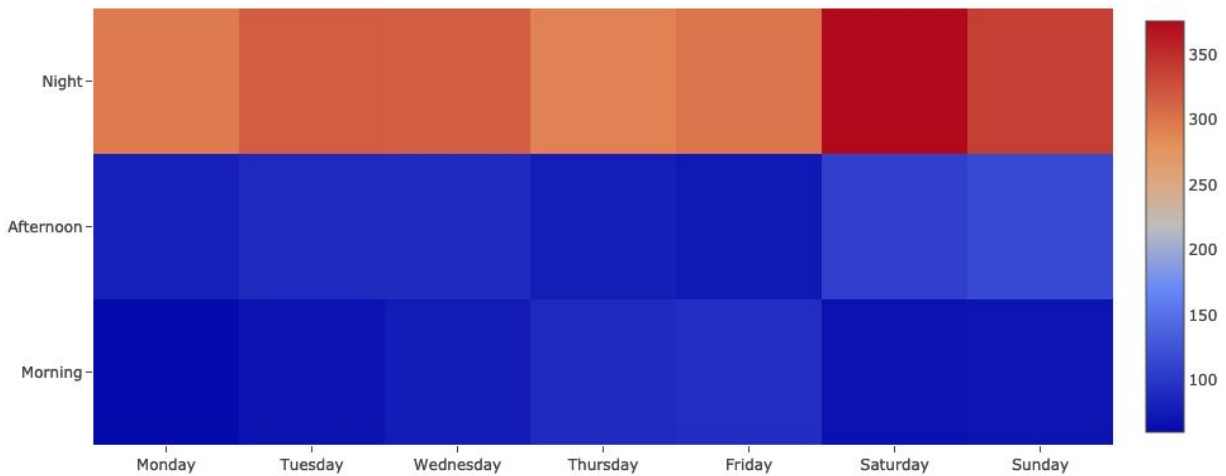
Connection Map

The only duplicated sequential UFO sightings:
Jacksonville, FL to Colorado Springs, CO



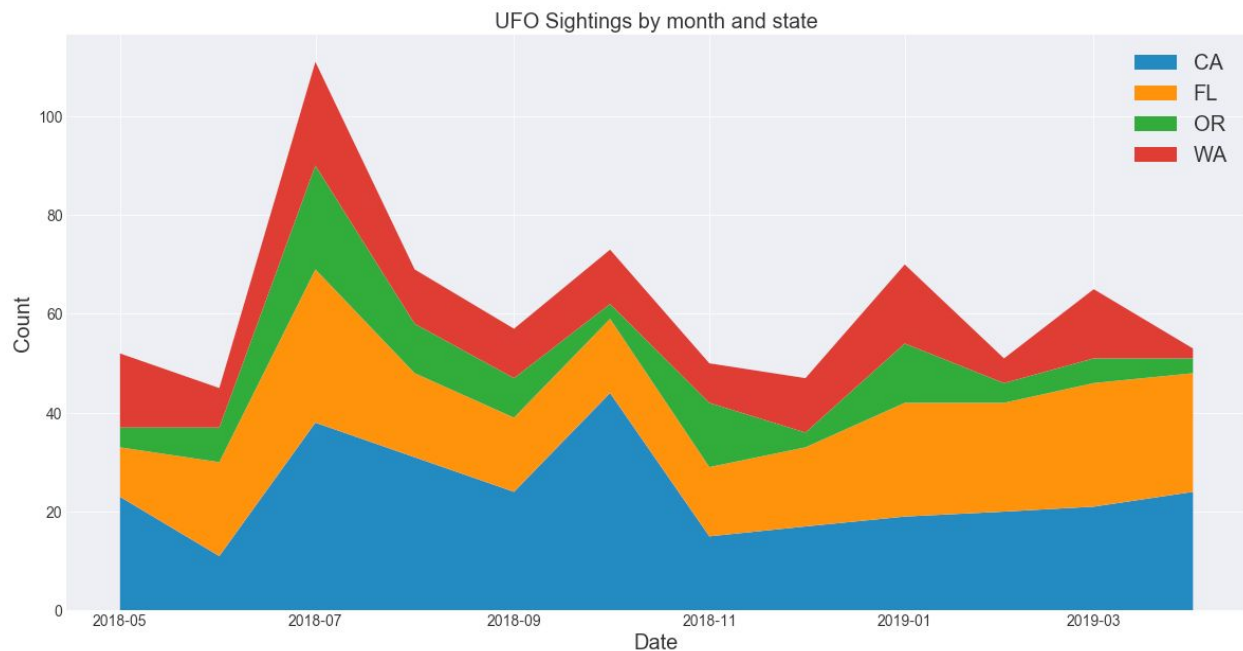
I checked all sequences of sightings to see if patterns could be found across the country. This is the only pattern that showed up more than once

Heat Map



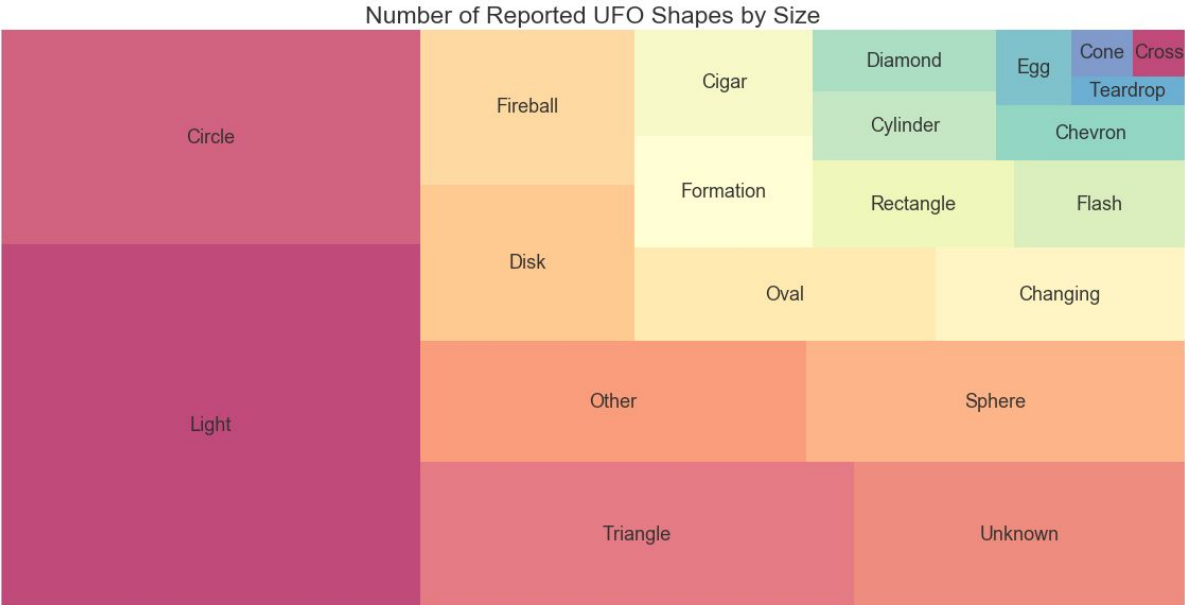
This heatmap shows when the sightings are reported, mostly on weekends at night

Stacked Area Graph



Across the 4 largest States for sightings, CA and FL provide the majority of sightings per month

Tree Mapping



This tree mapping shows what the most common reported shapes are.

Storyline

I am trying to use this dataset to see if these UFO sightings have any validity to them. First of all, based on the tree mapping above, we can see that the shape of UFO's vary widely. The largest category is "light", which isn't descriptive at all.

Second, if these sightings were justified, I might expect to see these crafts move across the country, with multiple sightings occurring in sequence. However, based on the connection map, we can see that sequential sightings don't occur in this data. Only one sequential sighting was reported twice, with the rest being one-off encounters.

Finally, by the choropleth map, we can see that the sightings are concentrated within California and Florida. Washington comes in a close third for count of sightings, but why these states? There appears to be no pattern in the movement of these UFOs.

While the existence of extraterrestrial objects can't be confirmed or denied by a table of user-generated sightings, I would argue that this dataset is sporadic and lacking patterns. I don't see how anyone could make a case from the sightings in the past year.

Appendix

All code can be found here:

https://github.com/bpchivers/data_viz/blob/master/Final/Final%20Plots.ipynb

Analysis can be found here: