

# Project 2

## Natural Disaster Analysis

### Group 4

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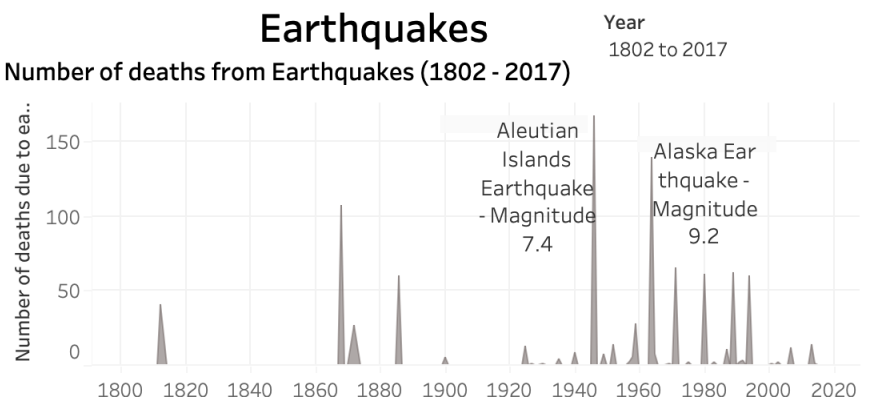
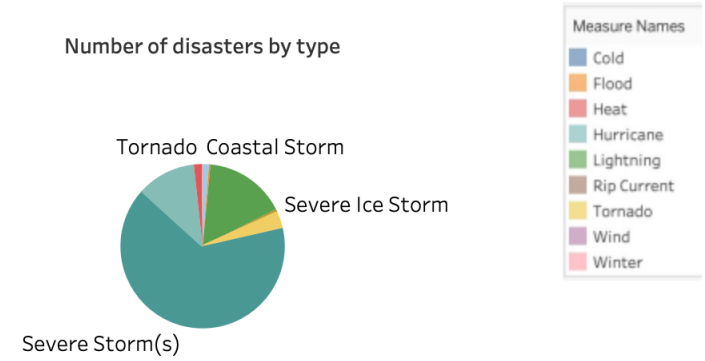
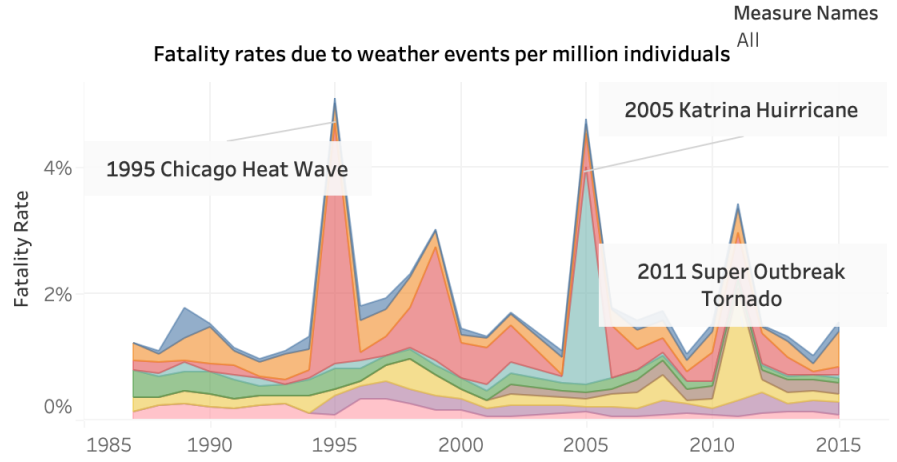
Jignasu Vekariya



# INTRODUCTION

- **Natural Disaster:** The negative impact following an actual occurrence of natural hazards in the event that it significantly harms the community.
- Includes **floods, tornados, hurricanes, wildfires, earthquakes**, or any combination
- Our goal is to examine how disasters affect people year after year, if any of those effects are region-specific, and how much money is spent on disaster relief.

# Fatality rate of natural disasters by type



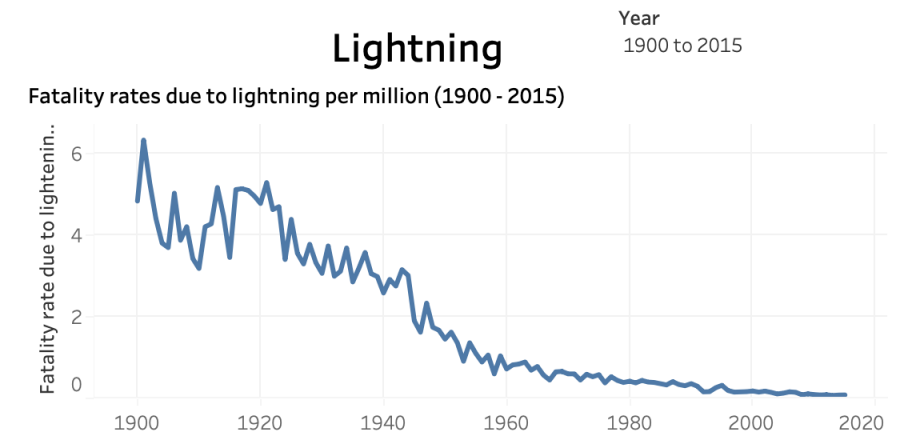
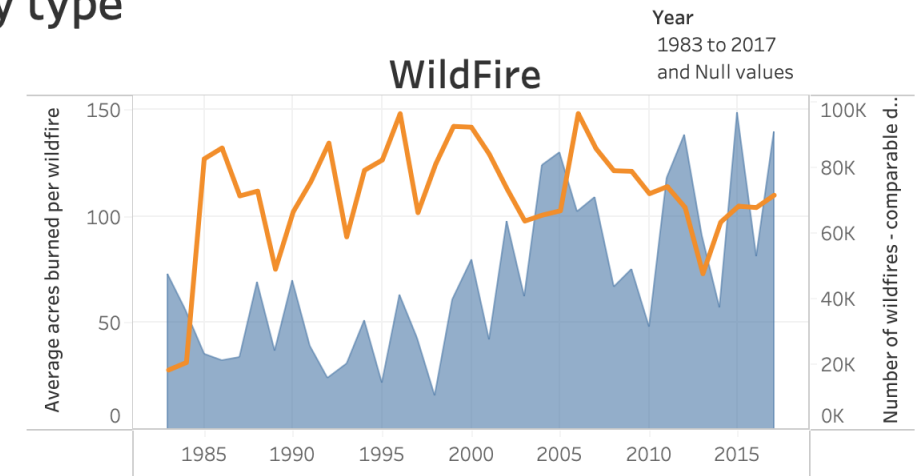
We can observe that fatality rates were on their peak due to Certain calamities such as Chicago heatwave, Katrina Hurricane and Outbrak tornado.

From the time series graph on right, it is observed that the average acres burn, occurred between the years 2005-2015, and most of the wildfires caused during these years, though a high number of wildfires is registered during 90s, it is observed that comparatively less area was burned.

From the Pie chart, Severe Storms (Hail storms, wildfires, thunderstorms, hail, blizzards, high winds) is having majority of occurence.

From the time series graph on left the number of deaths due to earthquakes was higher in 1940 - 2000, since then the number of deaths has decreased steeply it is because of the improved infrastructure and improved construction techniques.

From the time series graph on right, it can be seen that the fatality rate due to lightning is high during the 1900s, there is a decline since then.

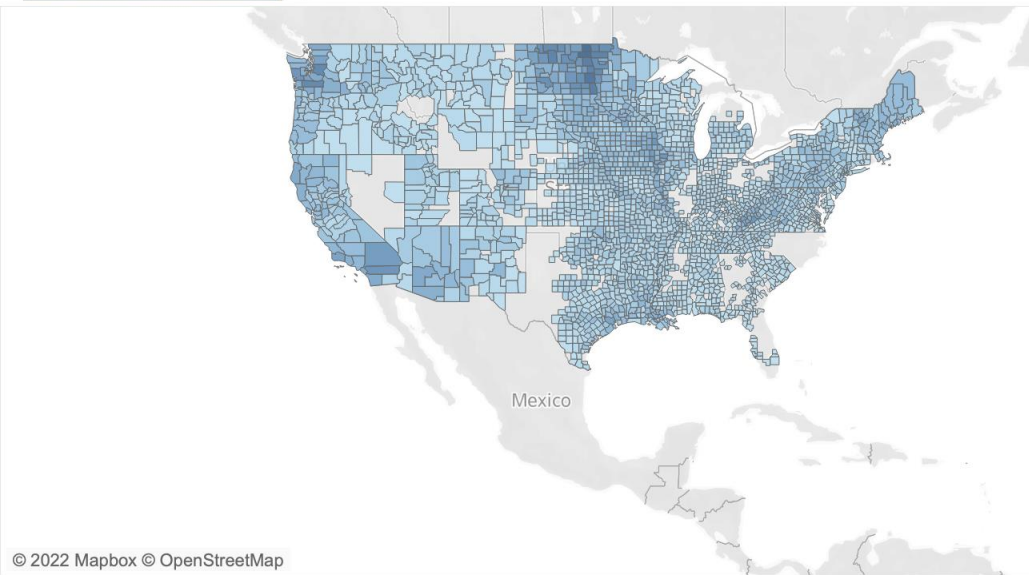


# Commonly occurring Natural Disasters

Distinct Flood Count

1 18

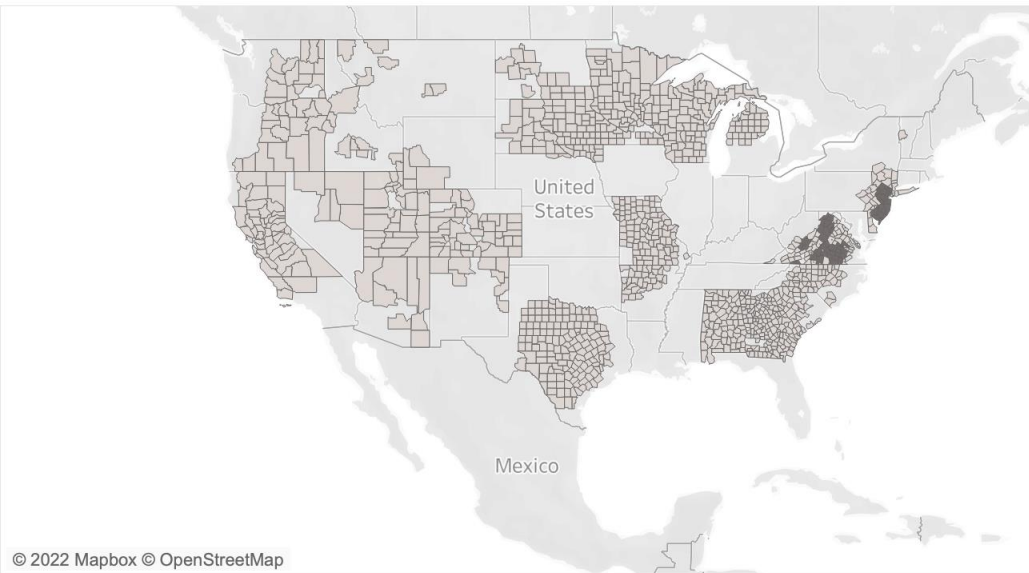
## Flooding



Distinct Disaster Numbers

1 2

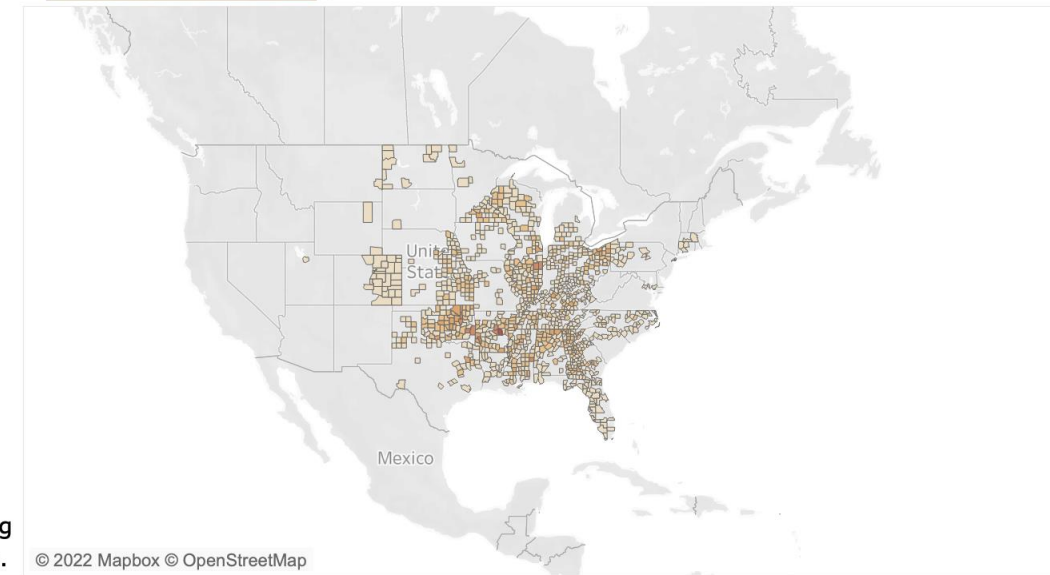
## Droughts



Distinct Disaster Numbers

1 6

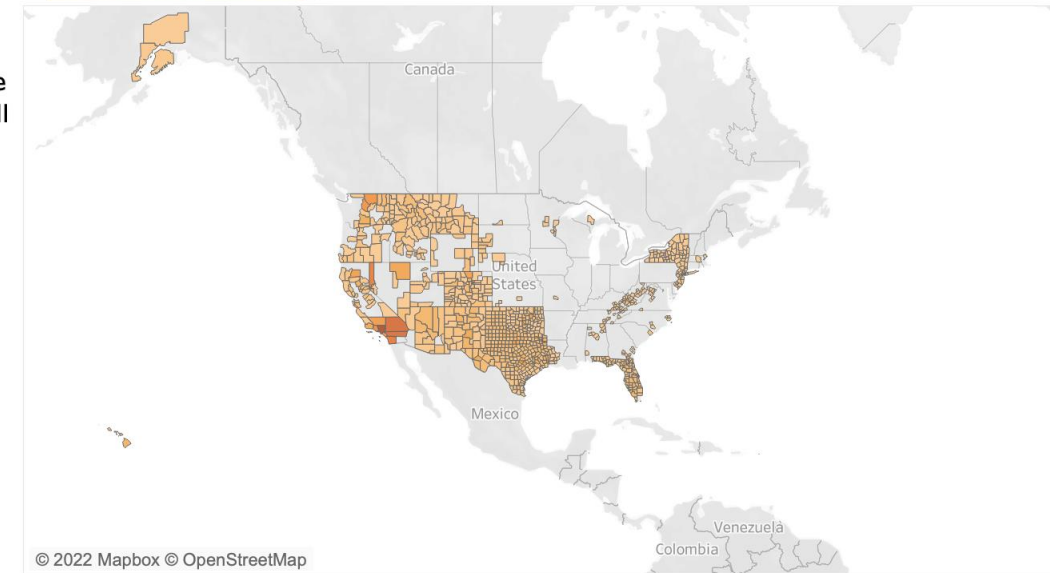
## Tornados



Distinct Disaster Numbers

1 34

## Wildfires

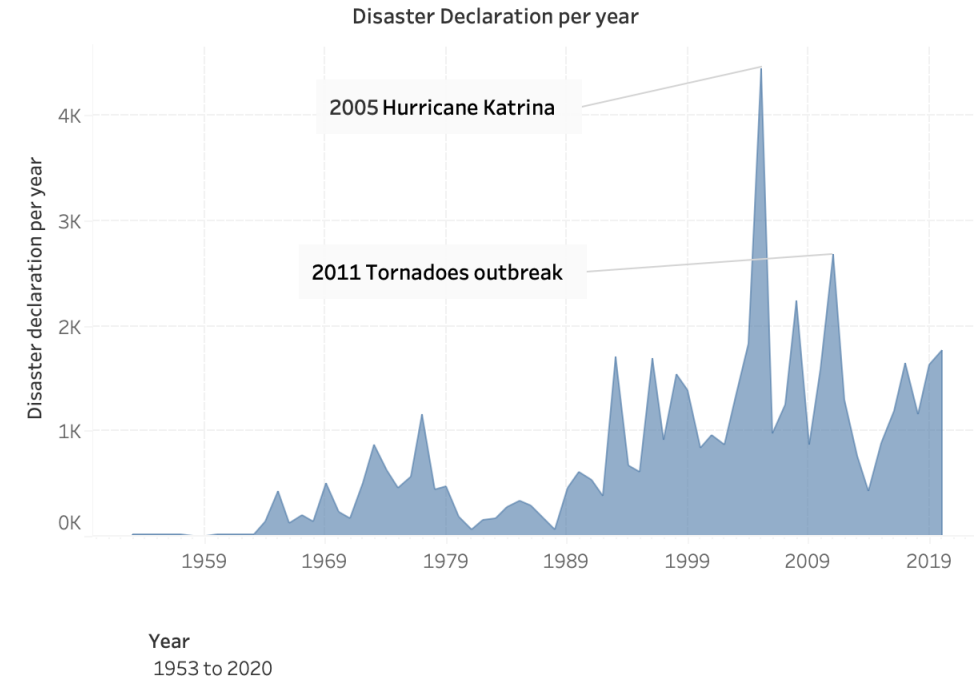
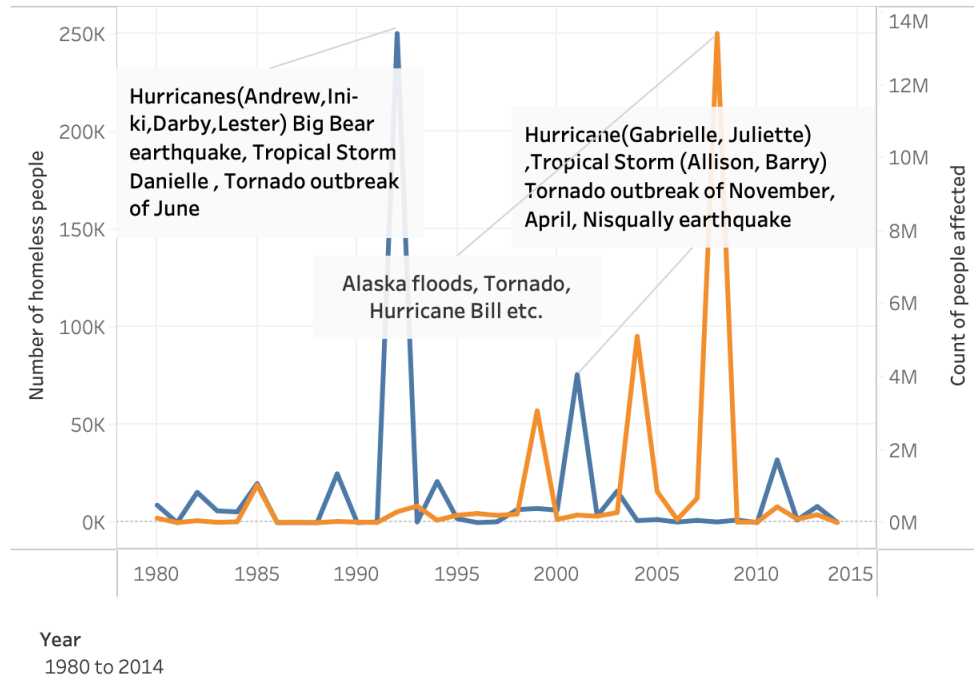


State  
All



The maps show the commonly occurring natural disasters in the US by Counties. We noticed that flooding in the US is observed throughout the country, whereas tornados are commonly seen in the eastern region. Wildfires are commonly seen in the west and the southwest part of the US. Droughts are observed in the region with less rainfall and higher avg temperatures.

# Natural Disasters in US



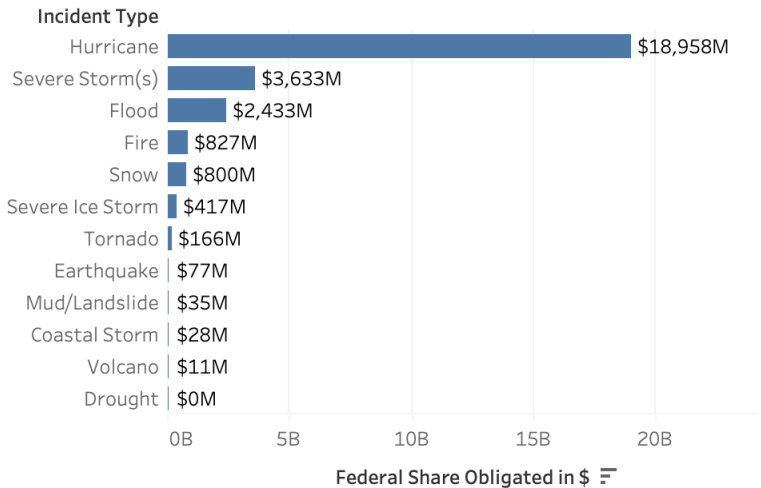
The left chart shows the number of people left homeless due to natural disasters. It's seen that the highest number of people who were left homeless was in 1992 due Hurricanes (Andrew, Iniki, Darby, Lester) Big Bear earthquake, Tropical Storm Danielle , Tornado outbreak of June

The right chart shows the number of people affected by natural disasters. It's seen that highest number is during 2008 due to Hurricane(Gabrielle, Juliette) ,Tropical Storm (Allison, Barry) Tornado outbreak of November, April, Nisqually earthquake.



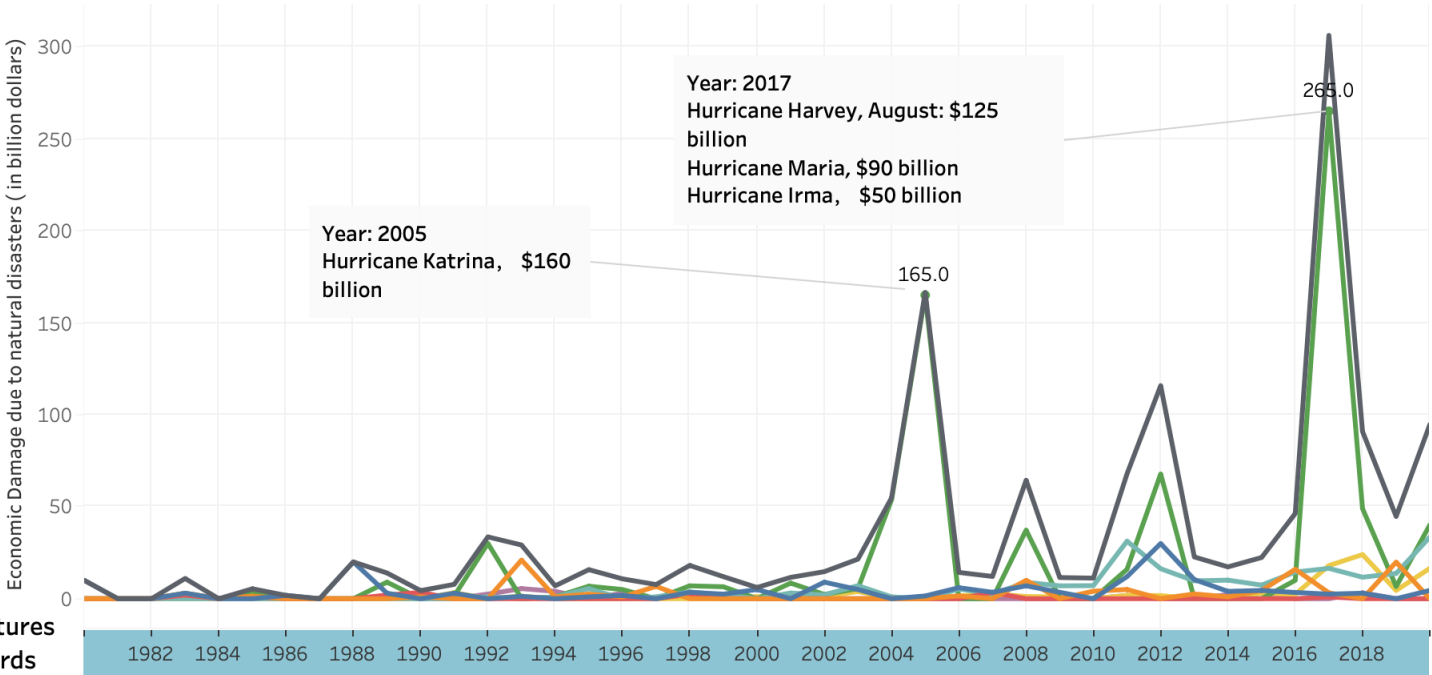
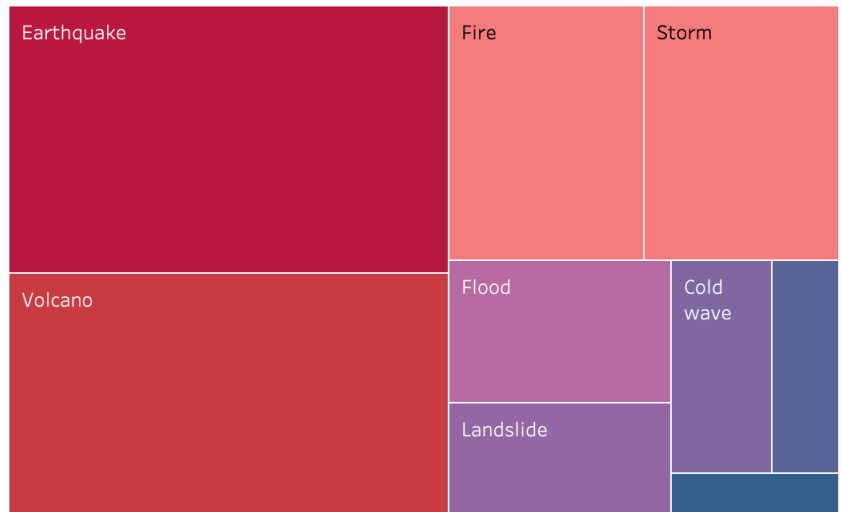
# Economy and news coverage

US Disasters Funding



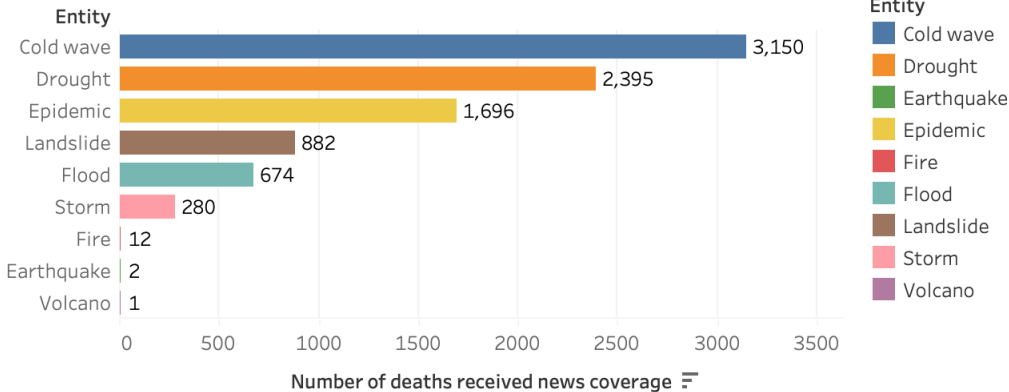
Major disasters such as hurricanes, Storms damage a lot of infrastructures and due to which the Government provides the majority of funds towards their damage control whereas droughts landslide, etc don't do a lot of damage as compared to other major disasters and therefore receive lesser funds.

News coverage of disasters



From the graph, we can see that storms such as Katrina, Maria, Harvey, and Irma did a lot of damage and results in huge economic losses compared to other disasters which did comparatively less damage

Number of death required to receive news coverage



From the charts, it is clear that the disasters which do a lot of damage are covered the most in the news, and disasters that are not that disruptive are not covered much in news.

We can observe that disasters such as Food shortage, cold wave, drought which are not that disruptive and does not damage infrastructure and property do not get covered in the news until it becomes very severe.

# CONCLUSION

- Natural disasters severely challenges the health, welfare of people, animals and the ecosystem.
- During the disasters the focus should be on managing the risks instead of response to disaster.
- Schools, Corporate offices, government buildings should provide trainings on how to react in case of disaster.
- FEMA needs to set up emergency release networks with One Health clearly included.

# References

- <https://www.kaggle.com/datasets/brsdincer/all-natural-disasters-19002021-eosdis?select=DISASTERS>
- [https://fve.org/cms/wp-content/uploads/Conclusions\\_FINAL.pdf](https://fve.org/cms/wp-content/uploads/Conclusions_FINAL.pdf)
- <https://www.aarp.org/politics-society/history/info-2021/costliest-natural-disasters.html>

