

Written Summary

Major findings

Introduction

During this project, we study a database of natural disasters that occurred between 1900 and 2021. This database contained detailed information about various types of natural disasters, including earthquakes, droughts, floods, and more. We choose 4 different questions to study and to answer using pandas and matplotlib.

1. *Are the number of natural disasters increasing, decreasing or staying relatively the same as time goes on? And, which Subgroup is most common?*

According to our analysis, as time goes on, the number of natural disasters very clearly is increasing. Is it really that natural disasters are increasing or that as time goes on we have more access to quality information and data via advances in technology? Or could it be linked to other natural factors like, for example, global warming? Meaning, as conditions on Earth worsen, so do natural disasters and how many.

From the data analyzed, the Natural Disasters are categorized into 5 categories, excluding Extra-terrestrial (there was only one instance of an Extraterrestrial case), so we decided to clean the data to exclude it since it would not really contribute anything to our analysis. According to the data, the top three most common natural disasters are Hydrological (Flood or Landslide), Meteorological (Extreme temperatures, Fog, Storms) and Geophysical (Earthquakes / Volcanic activity).

Hydrological & Meteorological is the most common. Out of 16125 data points, Hydrological accounts for 40% of all natural disasters, while Meteorological accounts for 31%, respectively. These two makeup over 70% of all natural disasters.

2. *How do different disasters occur in different world regions recently?*

For this analysis, it clearly demonstrated that floods are the most prevalent hydrological natural disaster. The data collected and examined during the analysis consistently indicate a higher frequency and occurrence of floods across the time period (2000 to present) when compared to landslides. This finding highlights the significant impact and widespread nature of flooding events.

According to the second analysis, "Droughts from 2000 to present" & "Floods from 2000 to present" we can conclude that Europe has experienced a notable increase in the frequency of flood climate in the region. While Europe has had droughts as well, the occurrences of floods have surpassed them in recent years.

3. *Question: Is there a correlation between the Data in the DataBase?*

After analyzing the available data, we have determined that there is no correlation with the information we have. This means that the variables we examined do not exhibit any statistically significant relationship or association. It is important to note that the absence of correlation does not necessarily indicate the absence of a relationship between the variables, as there may be other factors or variables that were not included in the analysis. Further investigation or the inclusion of additional data may be necessary to gain a more comprehensive understanding of the situation.

4. *What happened to the number of deaths and number of disasters over the years? How can we explain it?*

On one hand, the data we used showed that the number of deaths by Natural Disasters has dramatically decreased over the years. We think that this decrease in deaths was caused by the technological advances that allow us to detect a disaster on an early stage. At the same time, these technological advances together with the media have allowed communities to be better prepared overall. This is where our CPI (Community Prepared Index) comes in handy. Thanks to this we can conclude that the decrease in Total Deaths can be explained by the CPI. When one decreases, the other one increases.

On the other hand, we have noticed that the number of disasters has increased over the years. We have plotted this distribution with the overall earth temperature over the years and realized also that this can explain the increase in disasters. As the temperature rises, the earth's elements become more unstable, creating more natural catastrophes.

Conclusion

At the end of this project, we gained really interesting insights into the frequency, magnitude, geographical distribution and impact of the natural disasters over the past century. Climate change being a really hot topic, this project was really helpful to put our recent pandas learning into practice.

Bibliography

Kaggle. (n.d.). All Natural Disasters 1900-2021 (EOSDIS) [Dataset]. Retrieved from <https://www.kaggle.com/datasets/brsdincer/all-natural-disasters-19002021-eosdis>