



Weather incident case study

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Index

- Objective
- Tasks to perform
- Missing values
- Findings: Top Cities
- Findings: Event Distribution
- Findings: Clustering
- Findings: Years
- Findings: Event types
- Findings: High severity zones



Objective

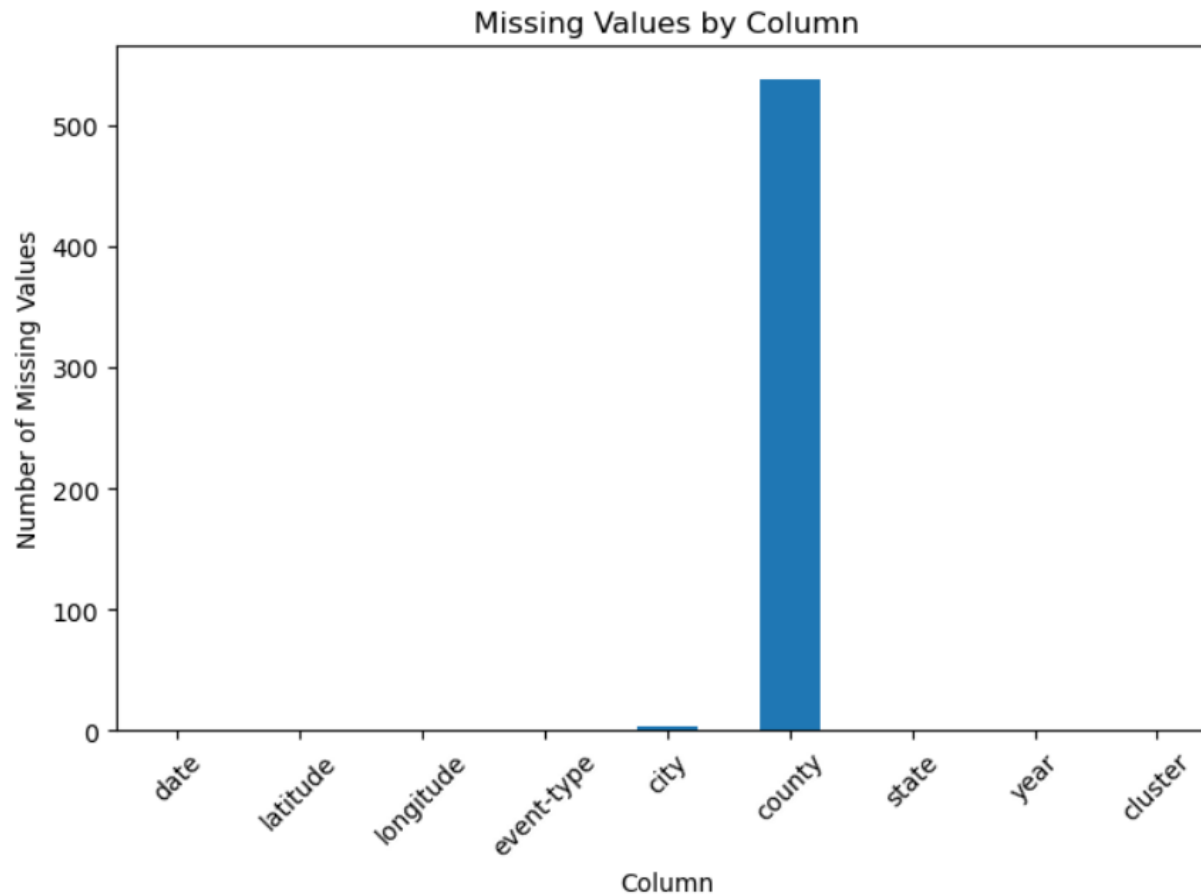
- The objective of this case study is to perform EDA on the given weather incident data and share insights.
- The Data covers a defined period and specific geographical areas, including precise time, location, type of event and other details



Tasks to perform

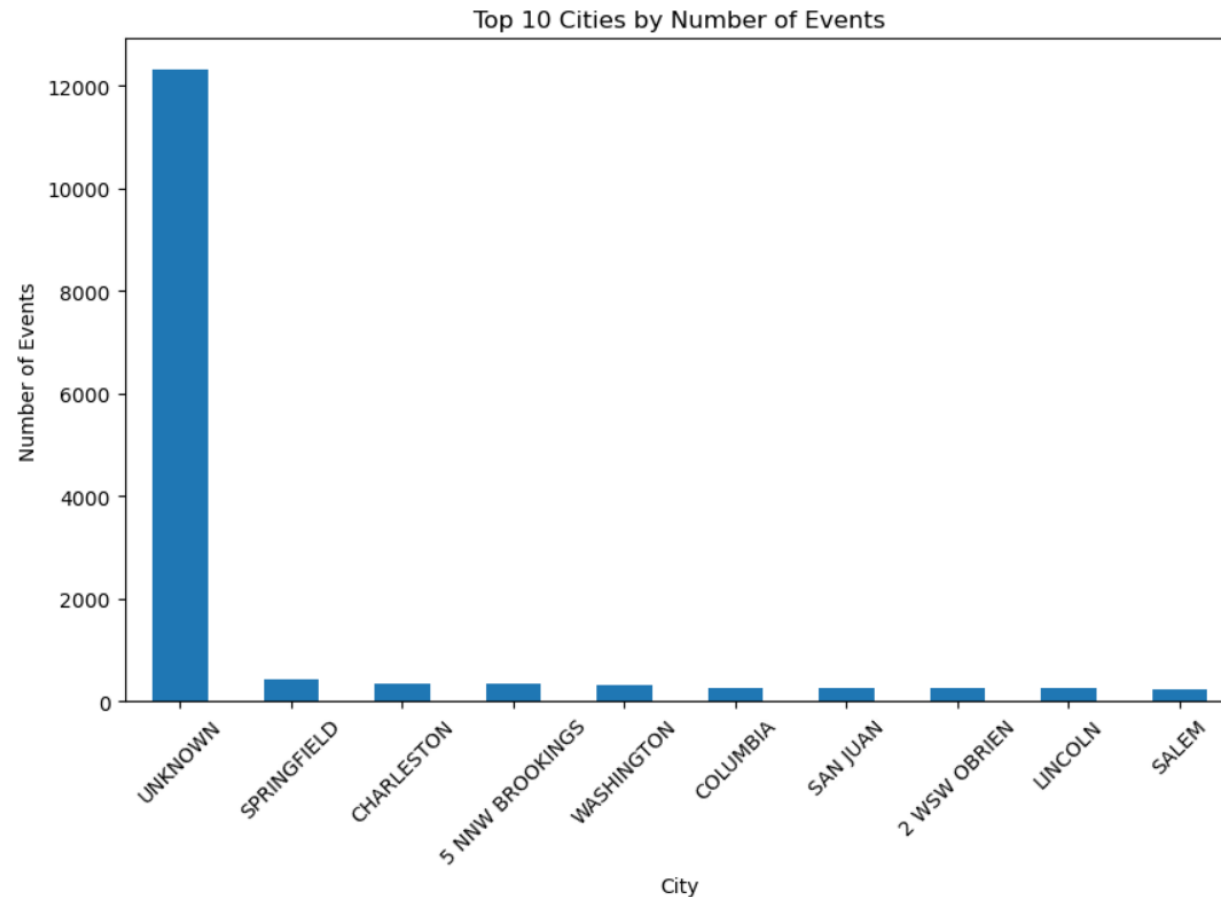
- Perform data preprocessing and exploratory data analysis (EDA) on the data and share the insight
- Conduct spatial clustering to identify High Risk Zones and label them based on their severity.
- Classify the data based on the Year and conclude which year is most affected.
- Prepare a script to calculate the count of total events occurring within 50 KM of a point.

Missing values



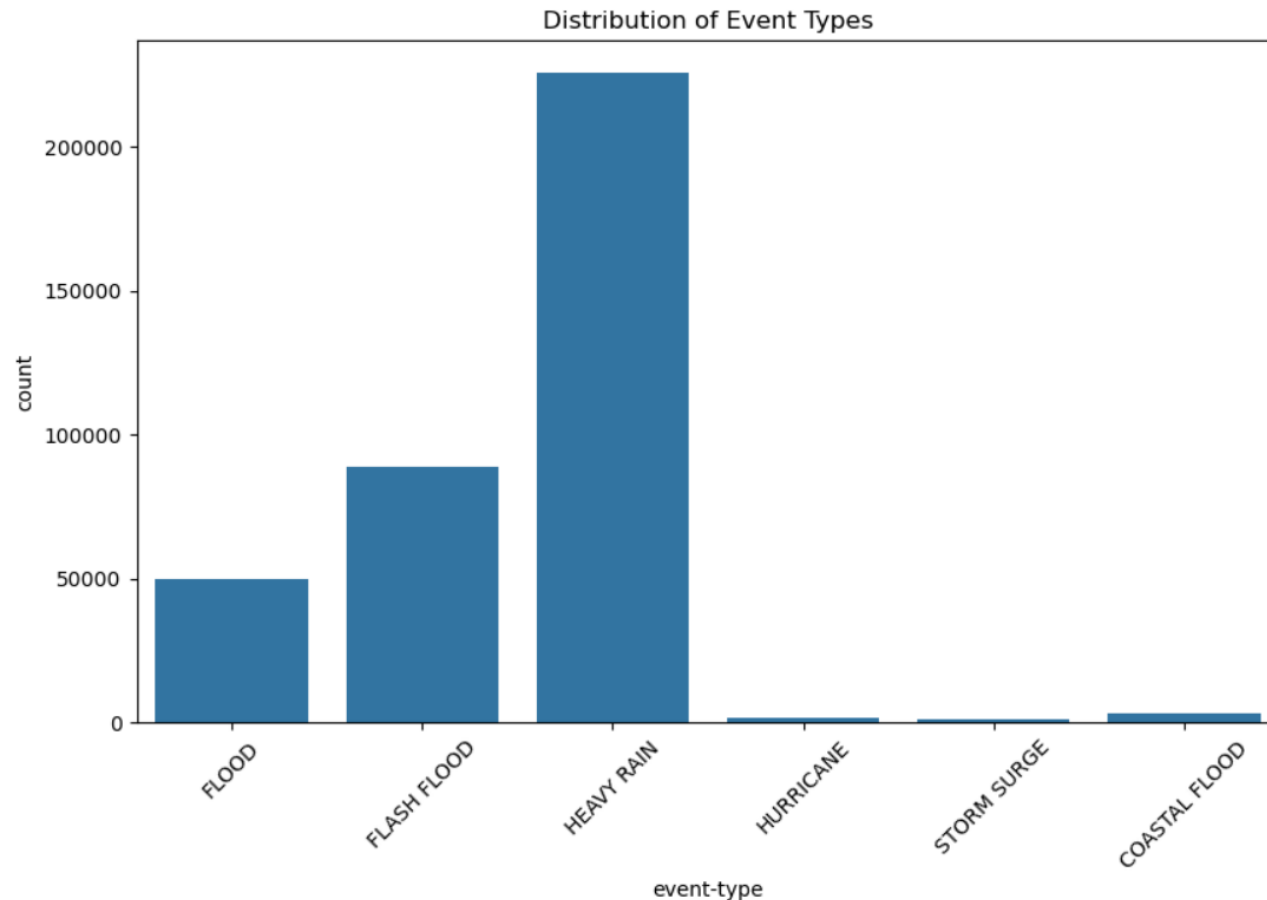
- County has the highest value missing followed by city.
- There are no missing values in latitude, longitude, event-type or year, so we don't need to handle any missing values.

Finding: Top cities



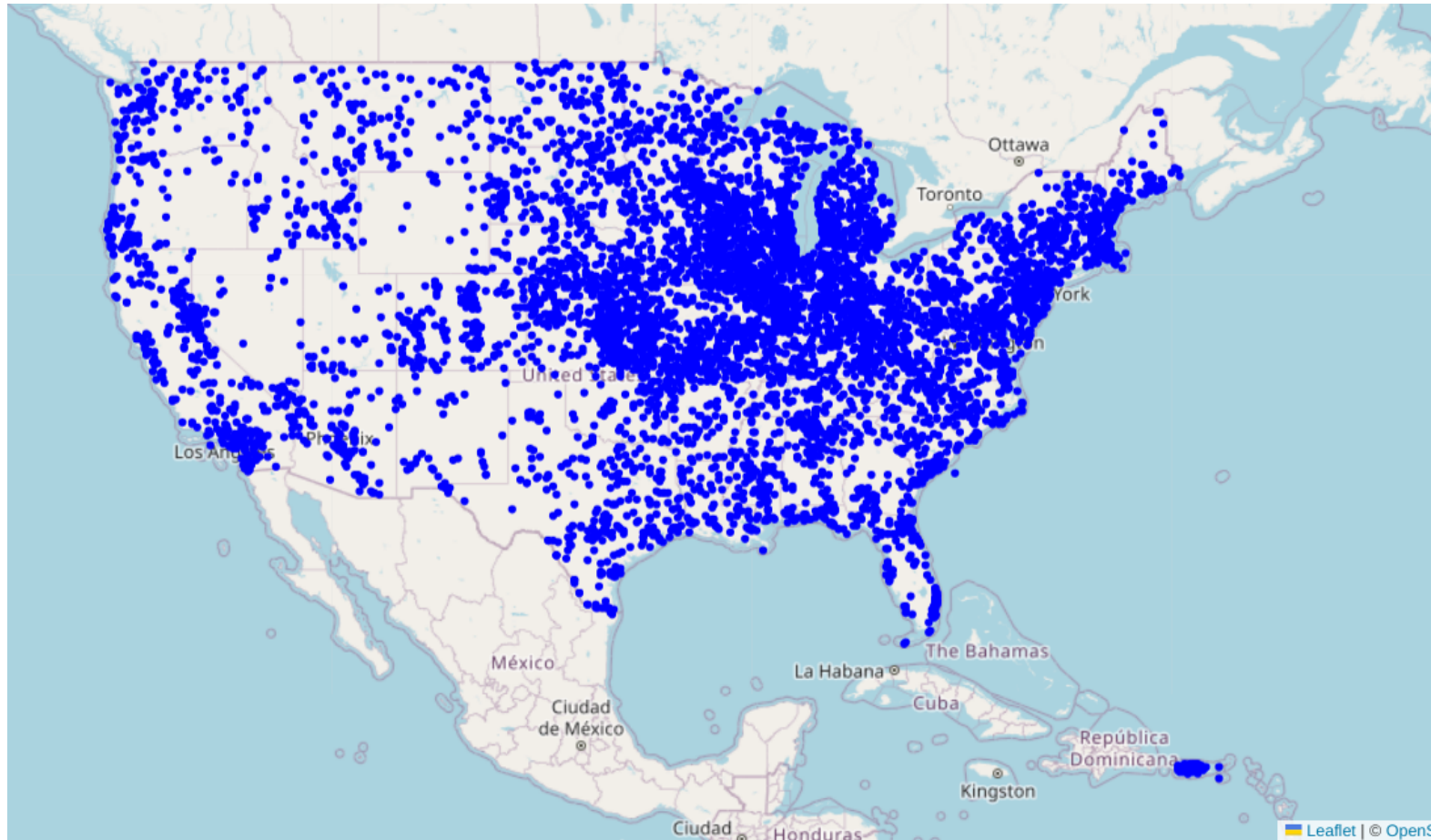
- More than 12000 cities are not labeled correctly.
- Cities like Springfield and Charleston experience the highest events.

Findings : Events Distribution



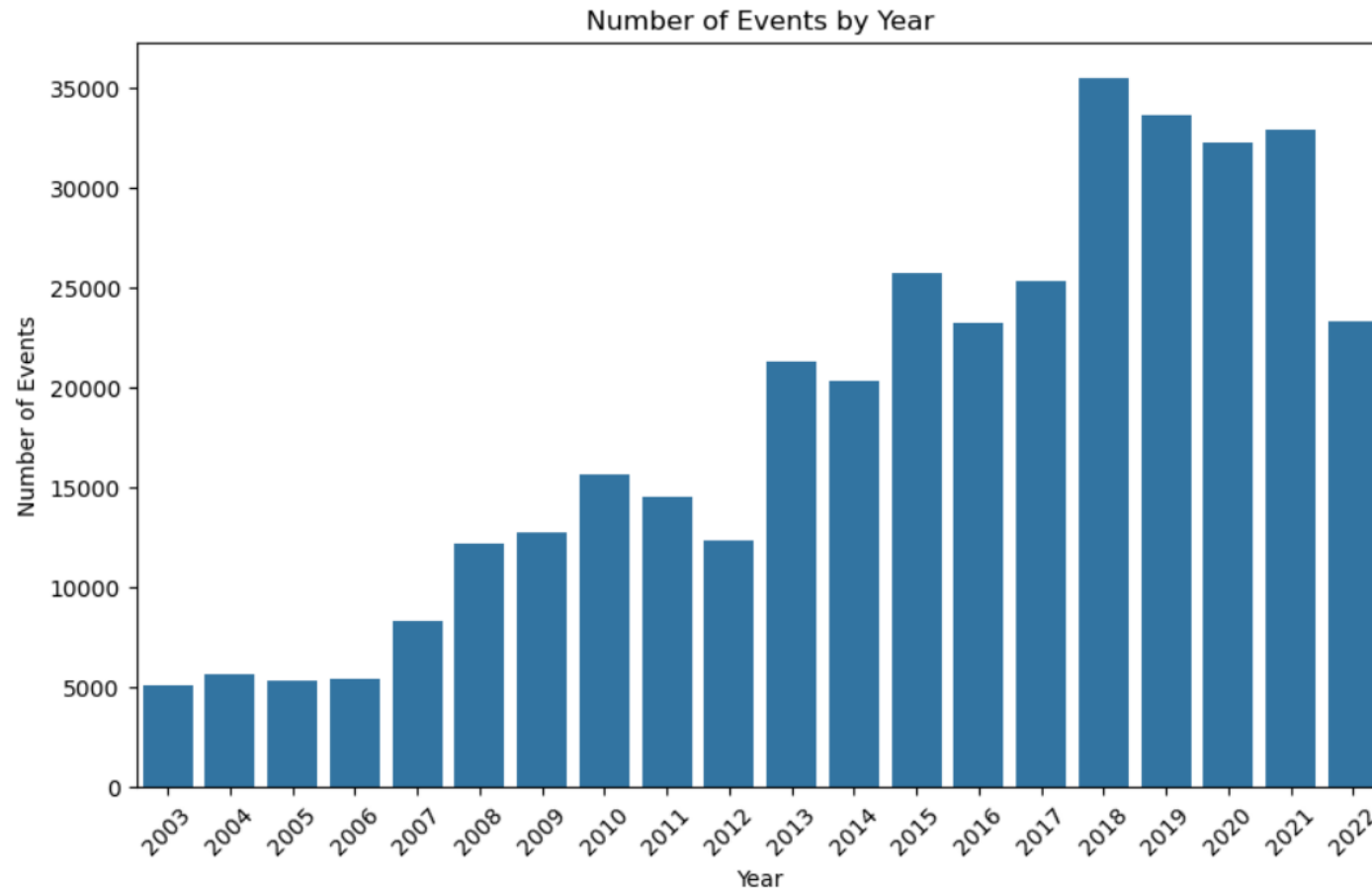
- Heavy Rain is the most recurring event with more than 2 times the frequency of the next most frequent.
- Storm surge is the least recurring event, followed by Hurricane and coastal floods.

Findings: Clustering



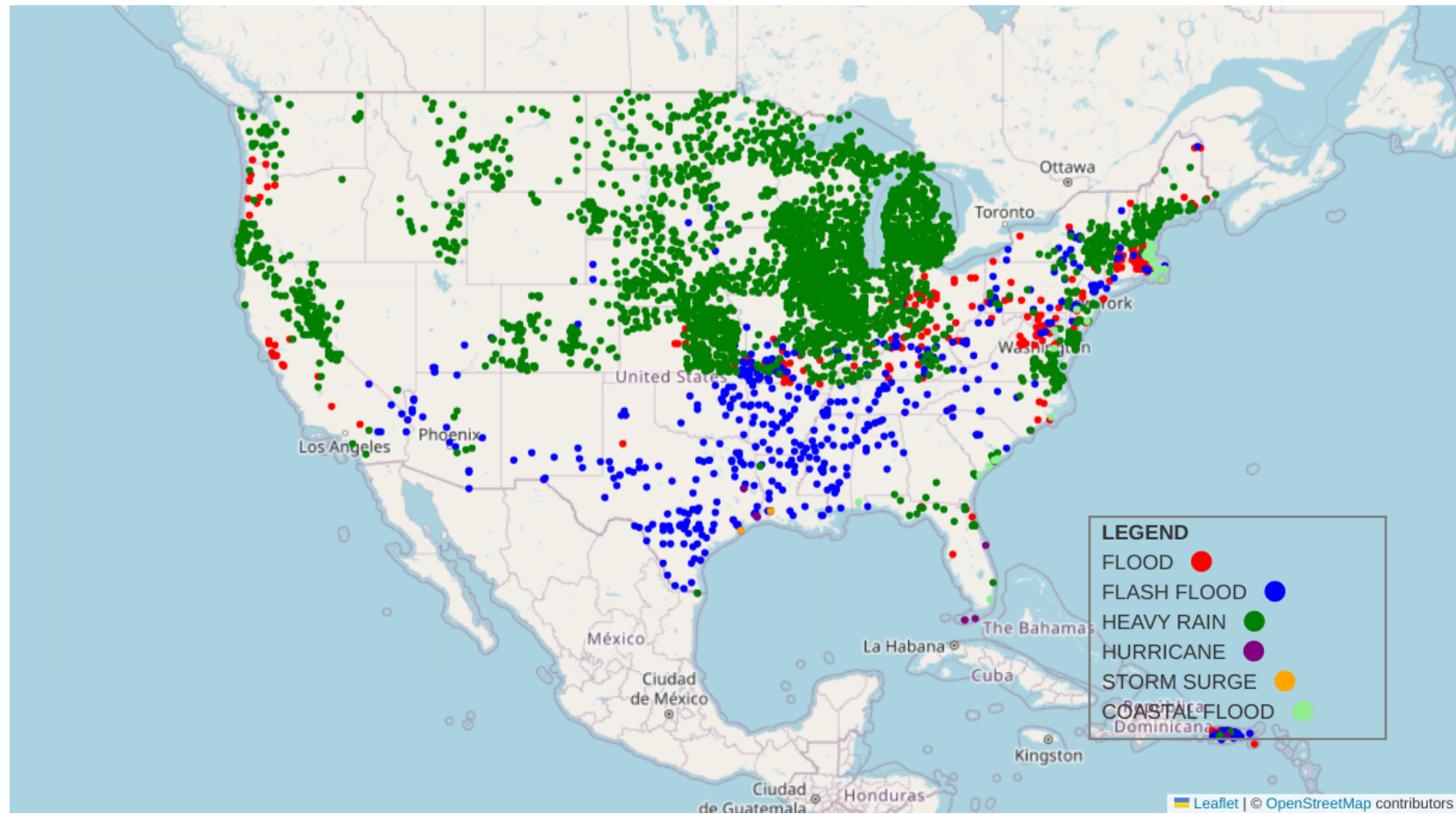
Most events are concentrated near the water bodies specifically to the east and northeast part of the country. While the center part is least affected.

Finding: Years

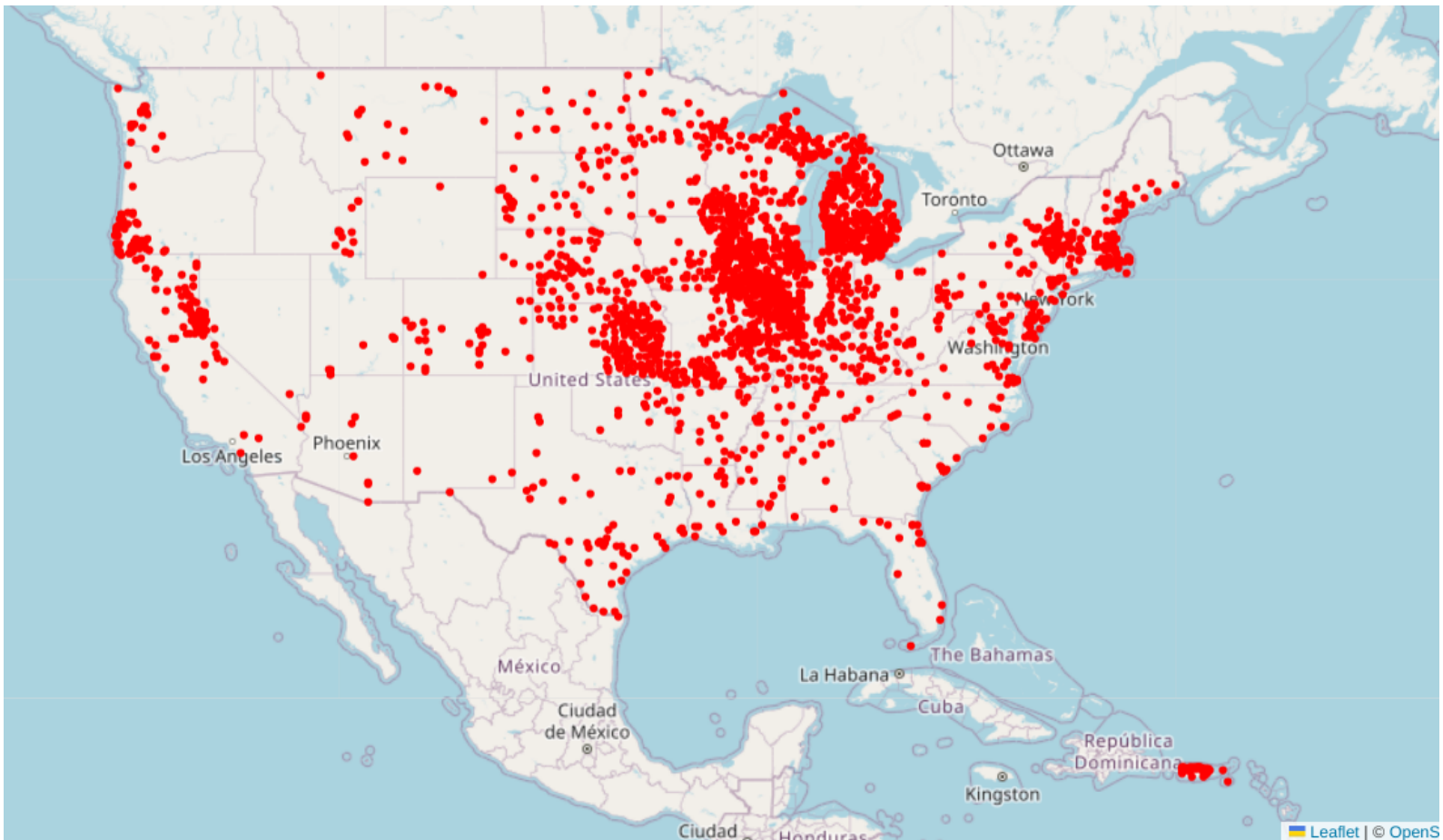


- We see a sudden increase in events 2013 and then again in 2018.
- 2018 saw the highest number of events followed by 2010, 2021 and 2020.
- There is a sharp decline in the number of events in 2020 compared to the previous years.

Findings: Event type



Findings: High severity zones





Thank
you!