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Introduction

For this project, I decided to analyze the continent of Africa. The Armed Conflict Location & Event Data (ACLED) dataset provides a comprehensive record of conflict events across the continent, including information on event types, actors, fatalities, and locations. This report focuses on analyzing conflict patterns in Africa to uncover trends, identify hotspots, and understand the key drivers of violence. By visualizing and interpreting these data, the analysis aims to provide deeper insight into the dynamics of conflict in the region and its implications for stability and development.

Setup

Load the ACLED dataset

Show

Inspect the dataset

Show

Check for missing values

Show

Regions

Show

Regions

Western Africa
Northern Africa
Eastern Africa
Middle Africa
Southern Africa

Summary statistics for numeric variables

Show

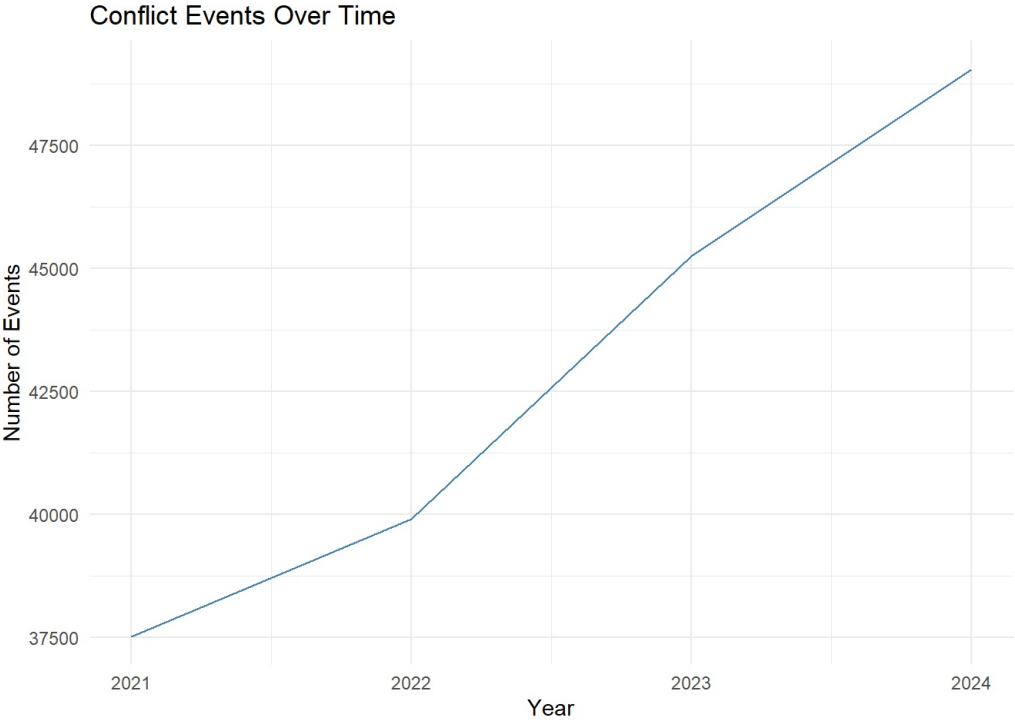
Analysis of conflict events over time.

Show

```
## # A tibble: 4 × 2
##   year count
##   <int> <int>
## 1  2021 37521
## 2  2022 39903
## 3  2023 45239
## 4  2024 49047
```

Plot events over time - This is a line plot illustrating conflict events over time through all five regions in a four year span (2021 - 2024). The number has steadily risen over this time period.

Show

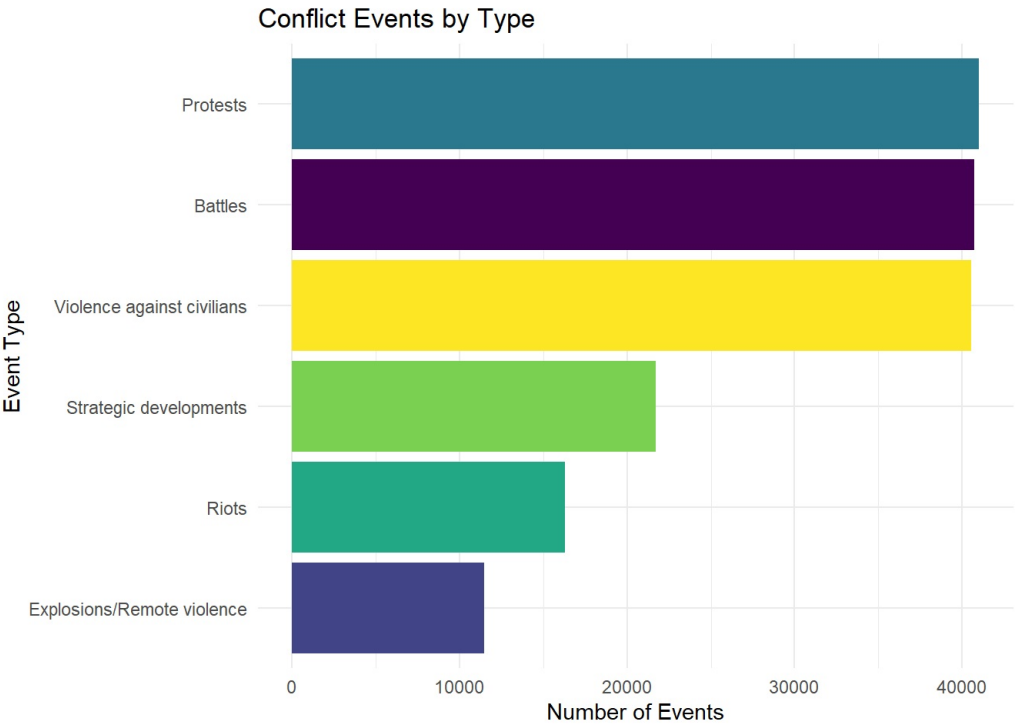


Analyzing types of conflicts and the severity of them.

Show

Distribution of the conflict events - when we divided the conflicts by the types, our dataset shows that protests are the most recorded type of conflict. Battles, violence against civilians, strategic developments, riots, and explosions/remote violence are among the other types of conflict impacting the regions. There is a possibility that event types could overlap (a battle could be sparked by a protest or violence against civilians could occur during a battle). This may have some influence on the data as well.

Show



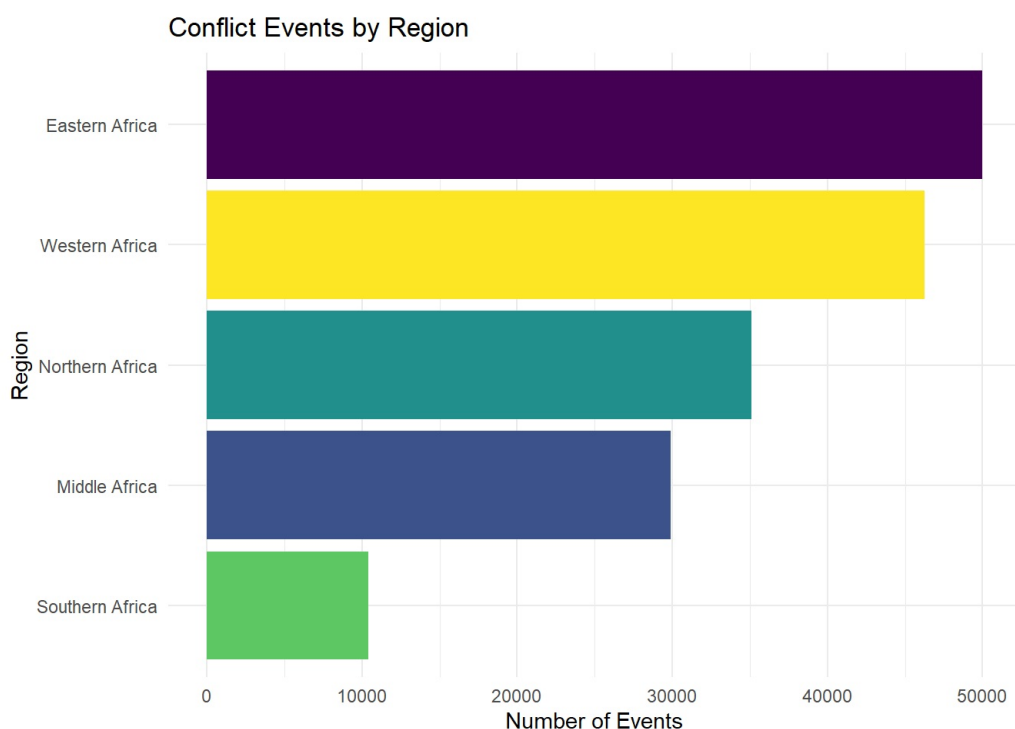
Count of events by region

Show

```
## # A tibble: 5 × 2
##   region      event_count
##   <chr>         <int>
## 1 Eastern Africa    50003
## 2 Middle Africa    29901
## 3 Northern Africa   35120
## 4 Southern Africa   10415
## 5 Western Africa   46271
```

Plot number of events by region - plotting the events by region they occur in shows that Eastern Africa leads all regions in amount of conflict with Western Africa slightly beneath it. However, as an upcoming visualization will show, Western Africa leads in the number of fatalities. This indicates that the types of conflicts in Western Africa are more violent.

Show



Total fatalities by region

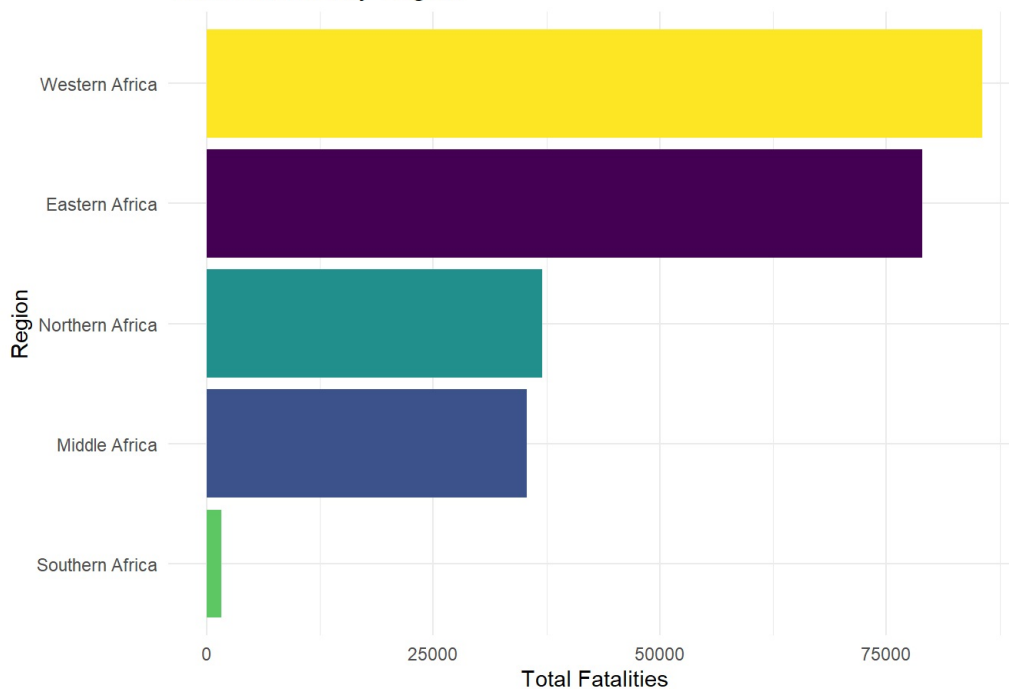
Show

```
## # A tibble: 5 × 2
##   region      total_fatalities
##   <chr>         <int>
## 1 Eastern Africa    78985
## 2 Middle Africa    35341
## 3 Northern Africa   37052
## 4 Southern Africa    1573
## 5 Western Africa   85612
```

Plot fatalities by region - as mentioned previously, in this visualization we divide the regions by the total fatalities in them. Western Africa exceeds all other regions values.

Show

Total Fatalities by Region



Count events by year and region

Show

```
## `summarise()` has grouped output by 'region'. You can override using the
## `.groups` argument.
```

Show

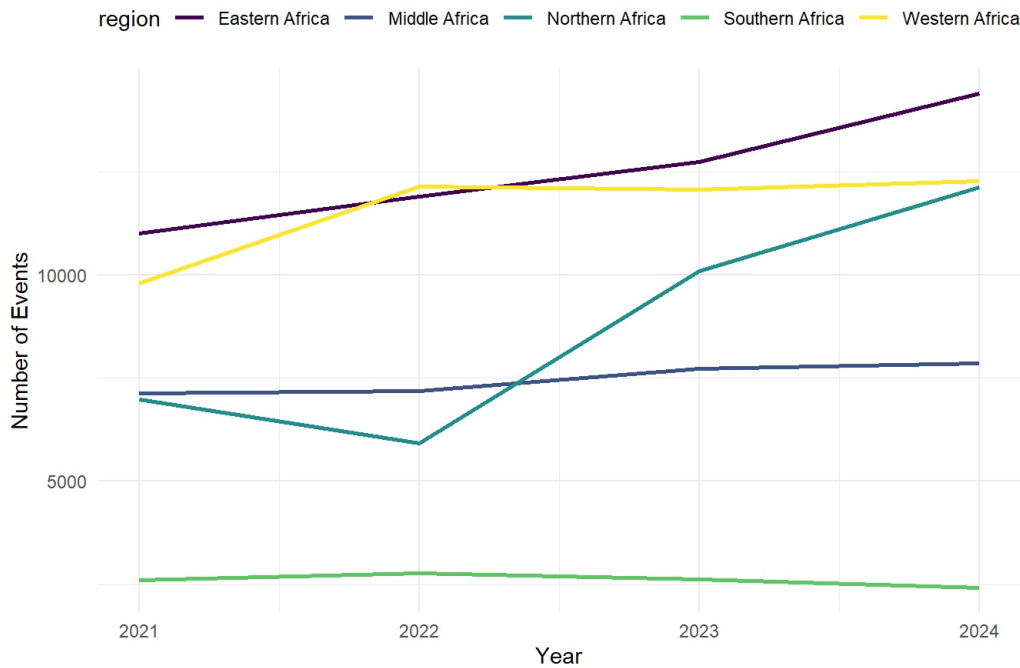
```
## # A tibble: 20 × 3
## # Groups:   region [5]
##   region      year event_count
##   <chr>      <int>      <int>
## 1 Eastern Africa 2021      10999
## 2 Eastern Africa 2022      11893
## 3 Eastern Africa 2023      12729
## 4 Eastern Africa 2024      14382
## 5 Middle Africa 2021       7137
## 6 Middle Africa 2022       7180
## 7 Middle Africa 2023       7728
## 8 Middle Africa 2024       7856
## 9 Northern Africa 2021       6983
## 10 Northern Africa 2022       5914
## 11 Northern Africa 2023      10098
## 12 Northern Africa 2024      12125
## 13 Southern Africa 2021       2607
## 14 Southern Africa 2022       2776
## 15 Southern Africa 2023       2617
## 16 Southern Africa 2024       2415
## 17 Western Africa 2021       9795
## 18 Western Africa 2022      12140
## 19 Western Africa 2023      12067
## 20 Western Africa 2024      12269
```

Plot events by region over time - this line plot shows the conflict events over time by each region. So sometime between 2022 and 2023, Eastern Africa overtook Western Africa in terms of the amount of conflict arising in the region. Northern Africa also overtook Middle Africa during this time as well. Southern Africa has remained relatively low with the amount of conflict.

Show

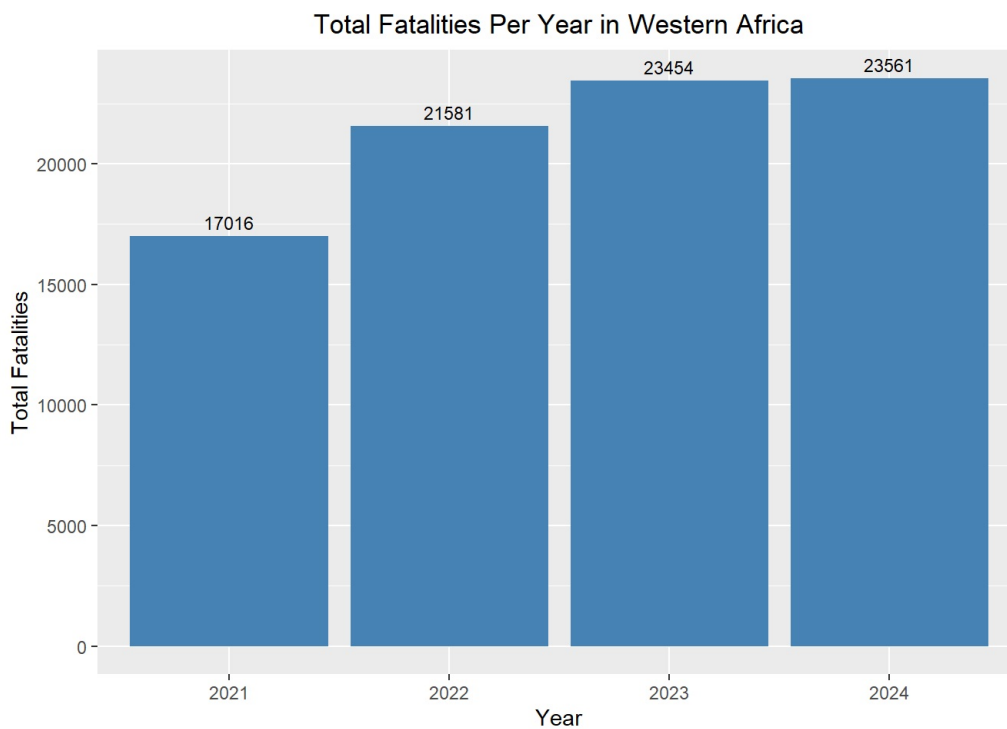
```
## Warning: Using `size` aesthetic for lines was deprecated in ggplot2 3.4.0.
## i Please use `linewidth` instead.
## This warning is displayed once every 8 hours.
## Call `lifecycle::last_lifecycle_warnings()` to see where this warning was
## generated.
```

Conflict Events Over Time by Region



Total fatalities by year and region - this is another series of bar plots showing the amount of fatalities for each region individually.

Show



Total fatalities by year

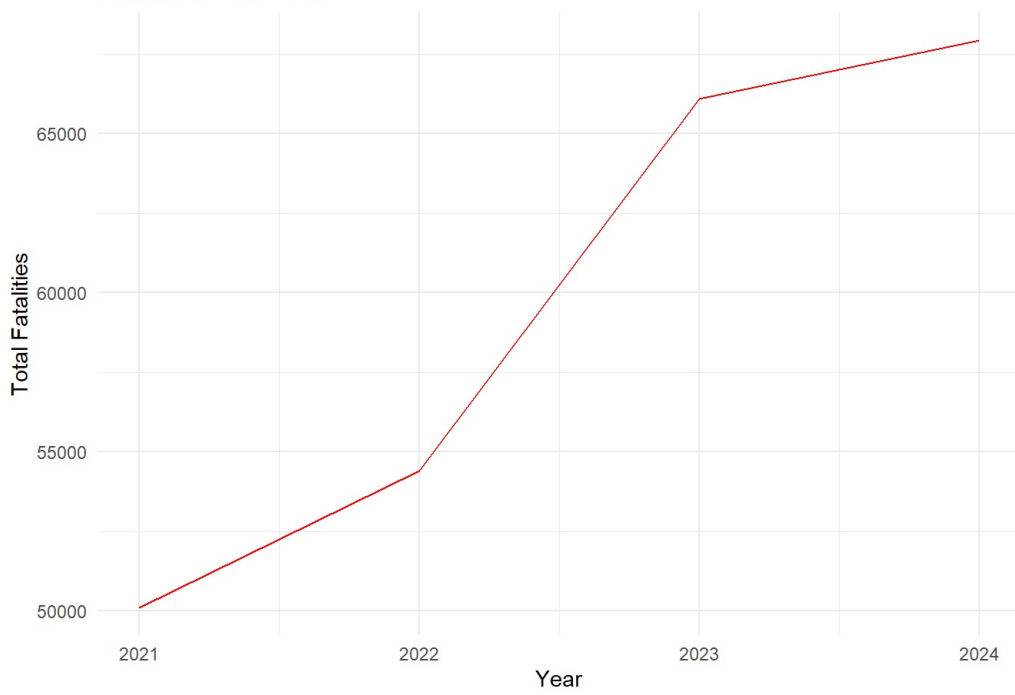
Show

```
## # A tibble: 4 × 2
##   year total_fatalities
##   <int>         <int>
## 1  2021             50113
## 2  2022             54402
## 3  2023             66106
## 4  2024             67942
```

Plot fatalities over time - this line plot shows the total amount of fatalities plotted over this four year time period for all of Africa. It has risen overall with varying degrees throughout this time. The sharpest being during 2022 and 2023.

Show

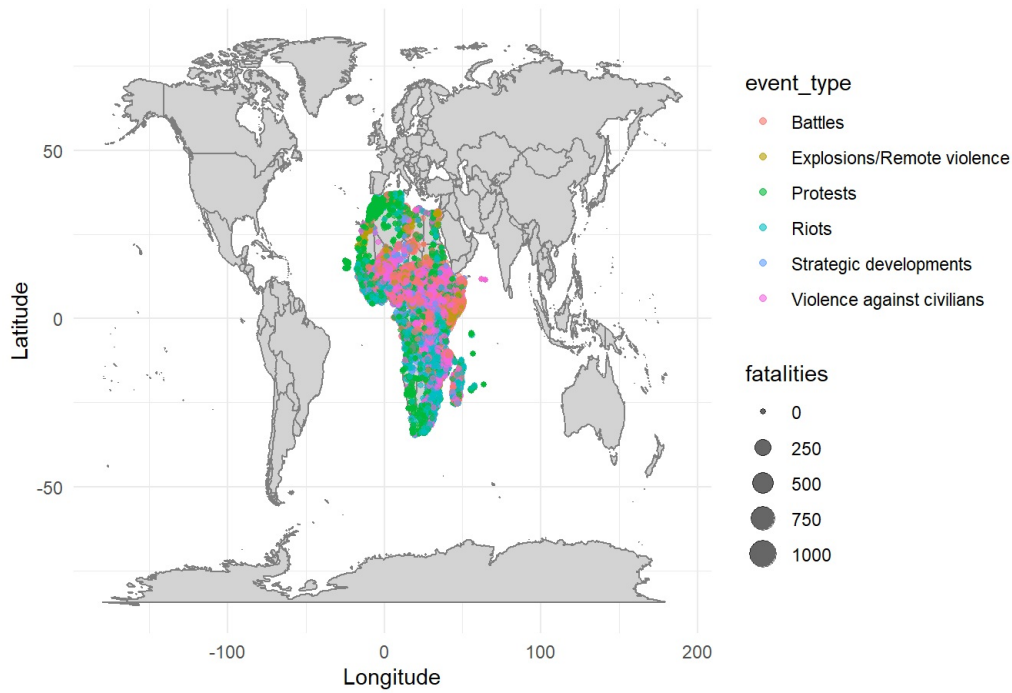
Fatalities Over Time



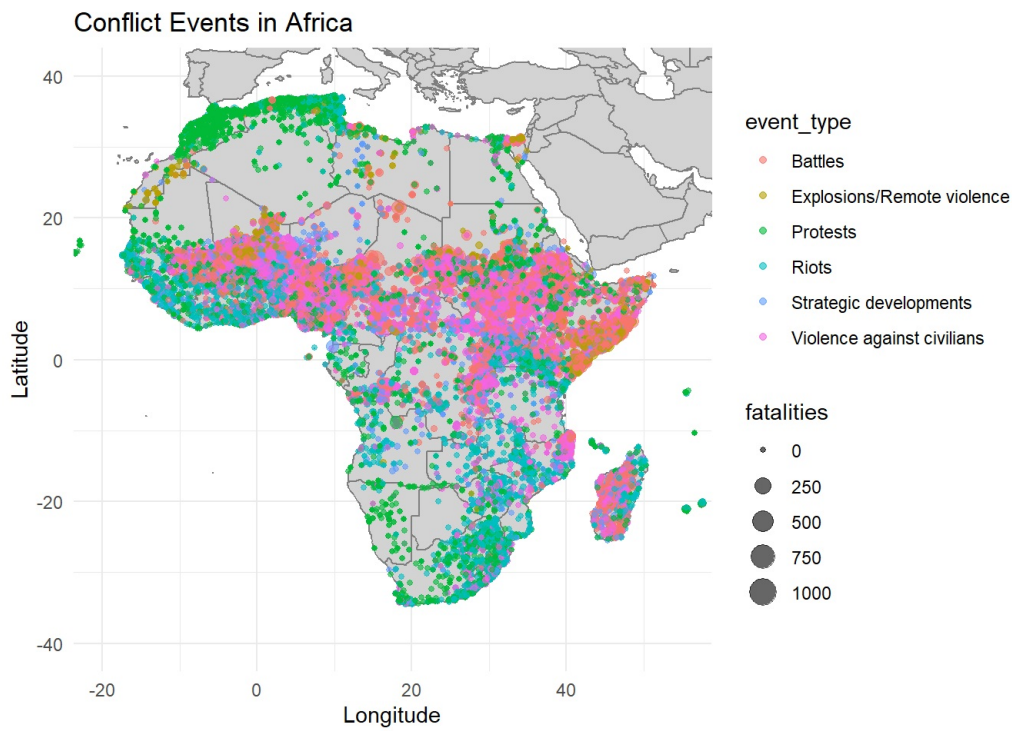
Map conflict events (requires latitude and longitude) - The following datamap visualizations highlight which regions have what type of conflict events afflicting them as well as how many fatalities are occurring.

Show

Conflict Events in Africa



Show

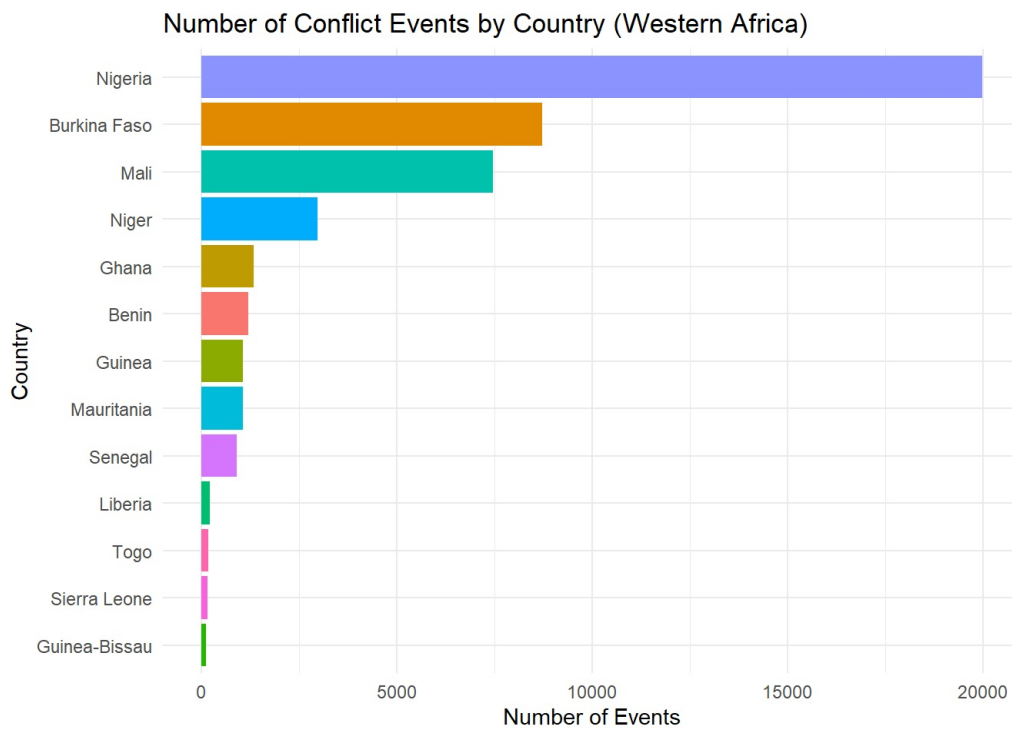


Count the number of events by country

Show

Plot the number of events by country

Show



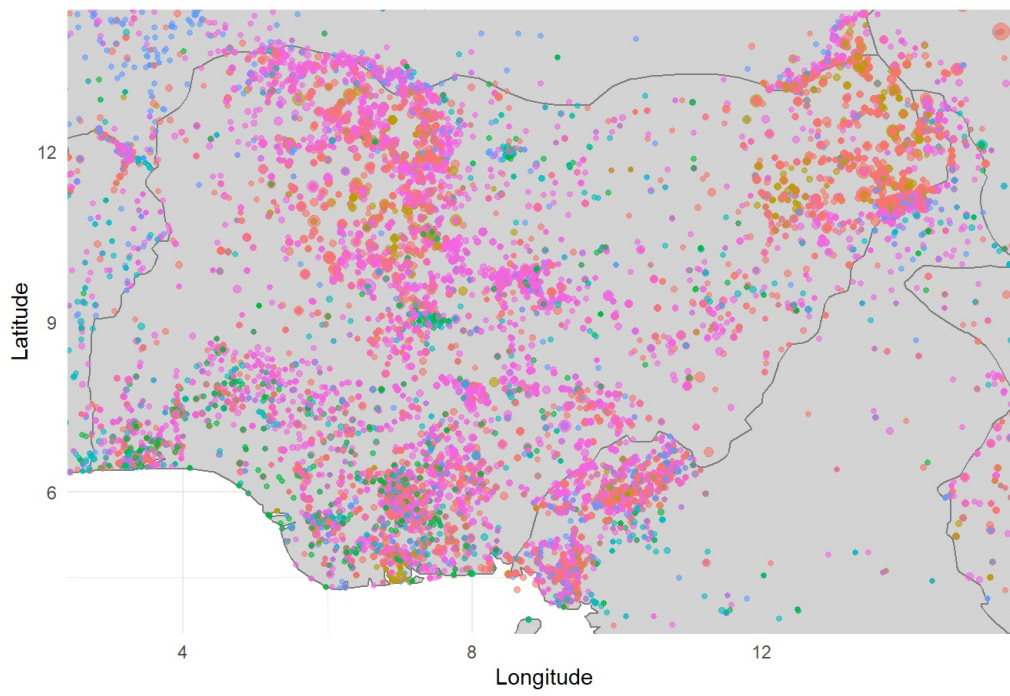
West African countries

Show

The following maps show the physical distribution of events in the top 3 most violent countries in West Africa, it should be noted that these 3 countries are also some of the largest in this region. ## Nigeria

Show

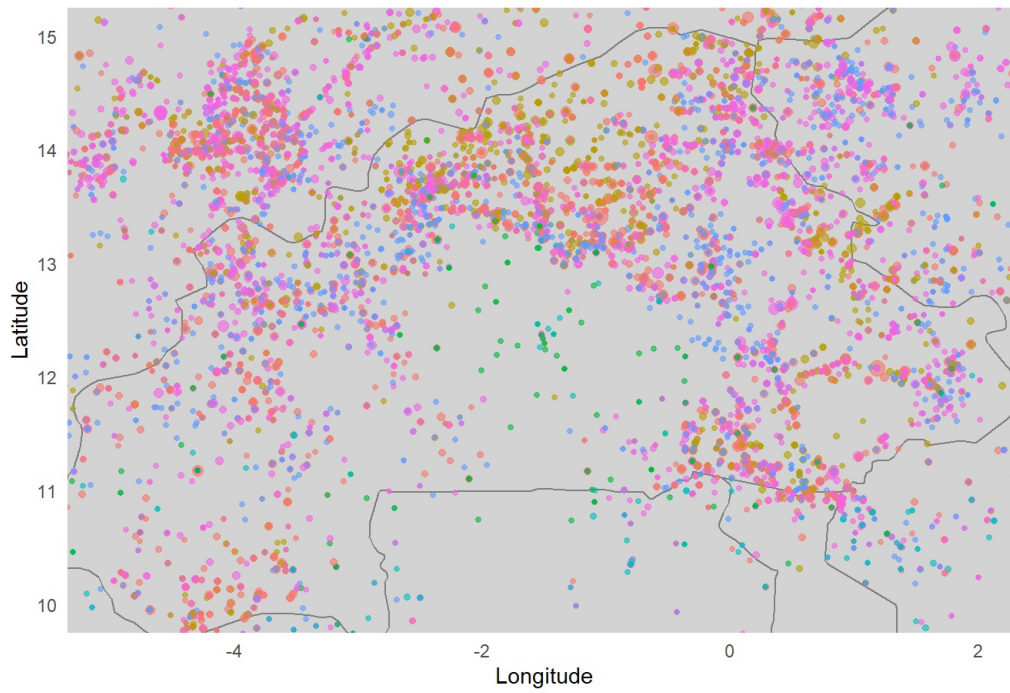
Conflict Events in Nigeria



Burkina Faso

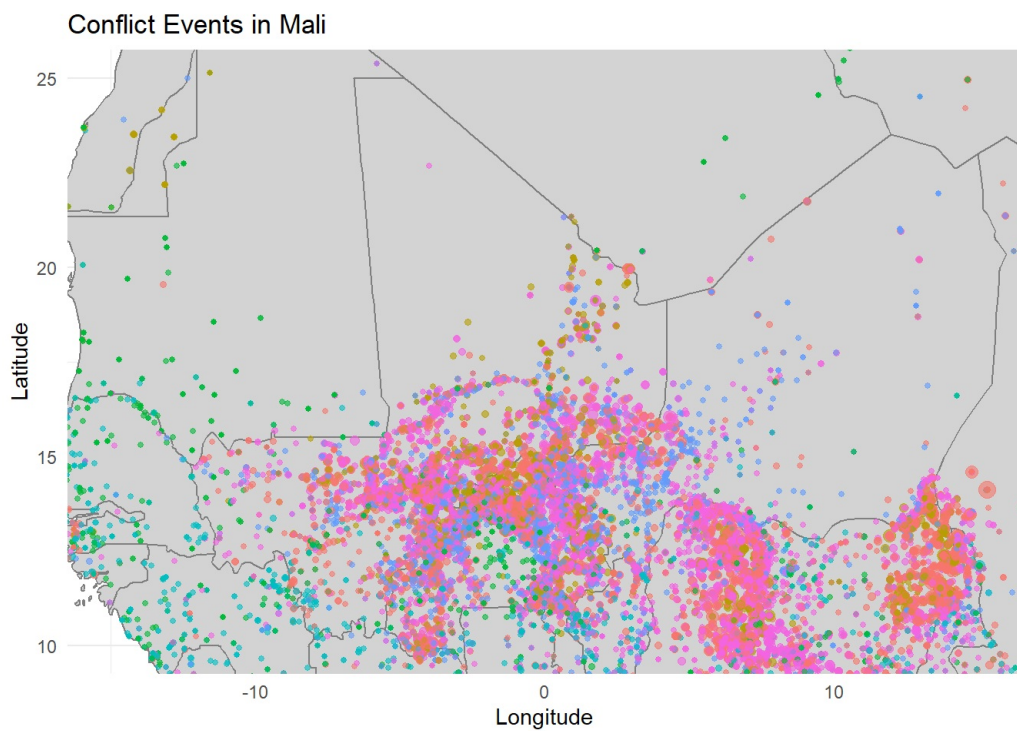
Show

Conflict Events in Burkina Faso



Mali

Show



Conclusion

When we analyze conflict events across Africa from 2021 to 2024, the data reveals a steady increase in the frequency of conflict. Eastern Africa leads in the number of events, while Western Africa leads in fatalities, suggesting that conflicts in the latter region are more deadly. Protest is the most common type of conflict, followed by battle and violence against civilians. Western African countries such as Nigeria, Mali, and Burkina Faso emerge as key contributors to conflict activity. This finding highlights the need for deeper investigation into the regional driver of conflict and suggests that a correlation study could help uncover the underlying factor, such as governance and socio-economic condition, influencing the intensity and spread of violence.