

Conflict Events Analysis in Africa

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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.

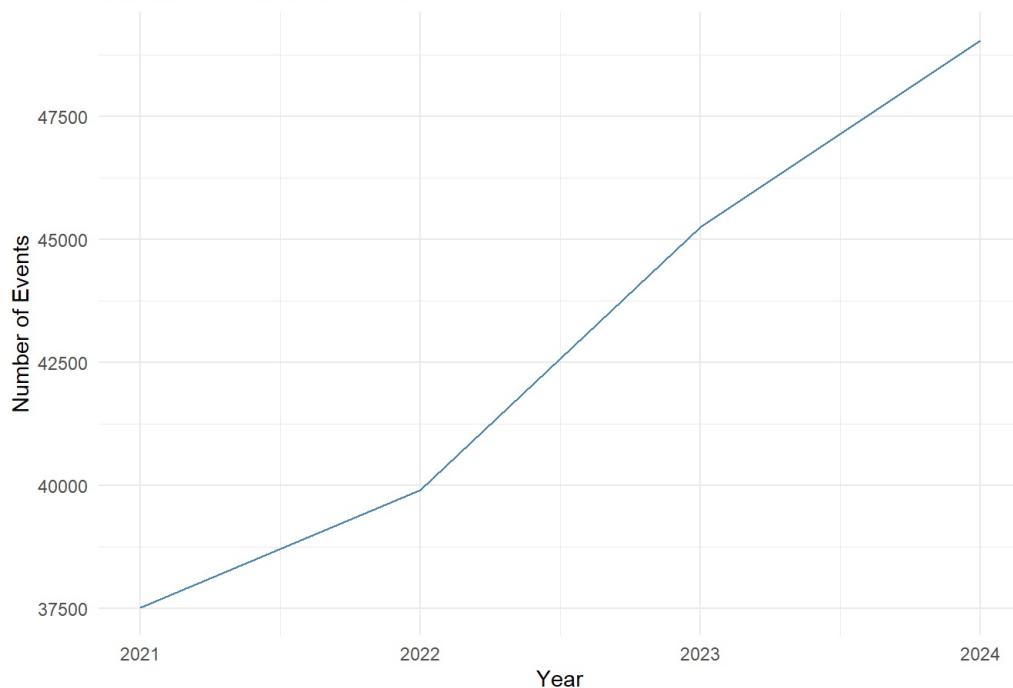
Show

```
## # 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

Conflict Events Over Time

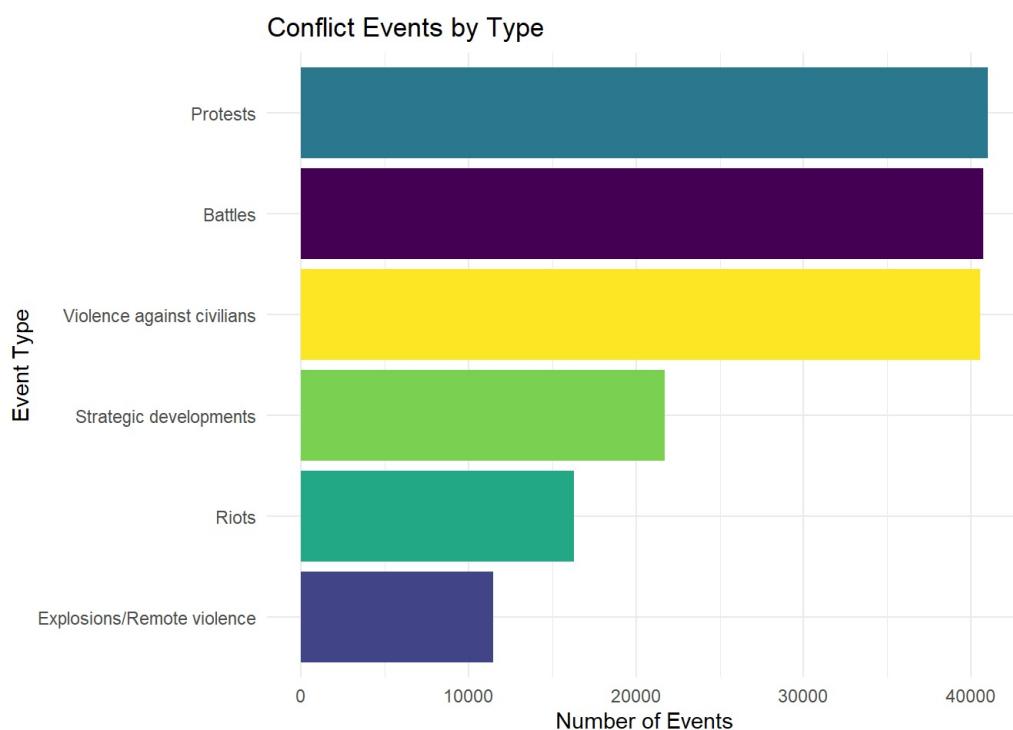


Analyzing types of conflicts and the severity of them.

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

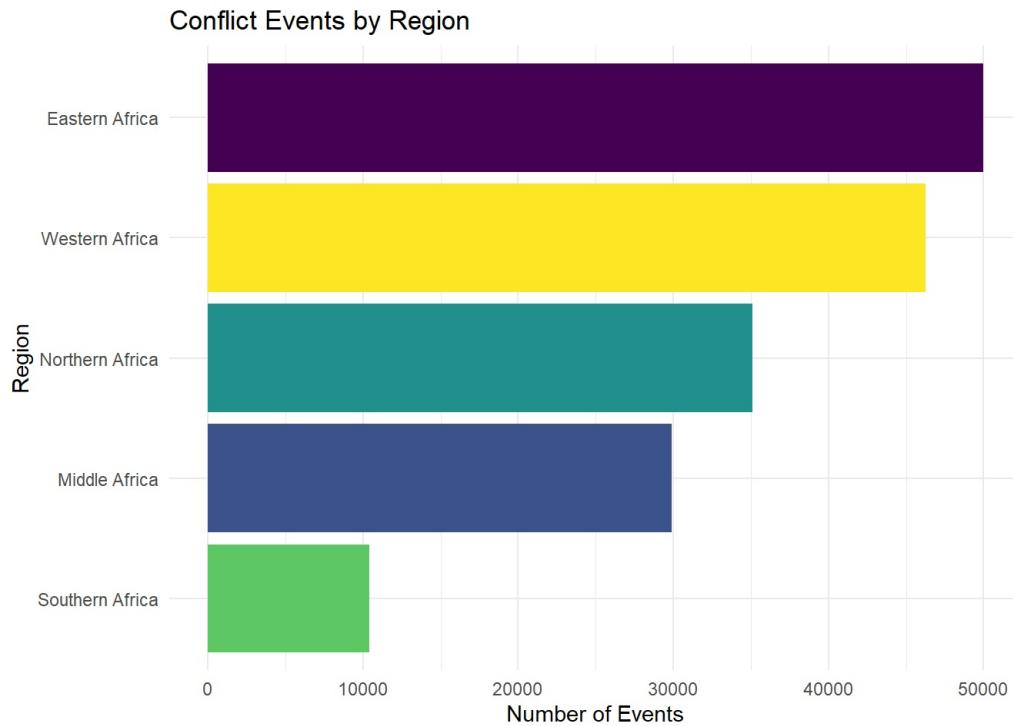
```

## # 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

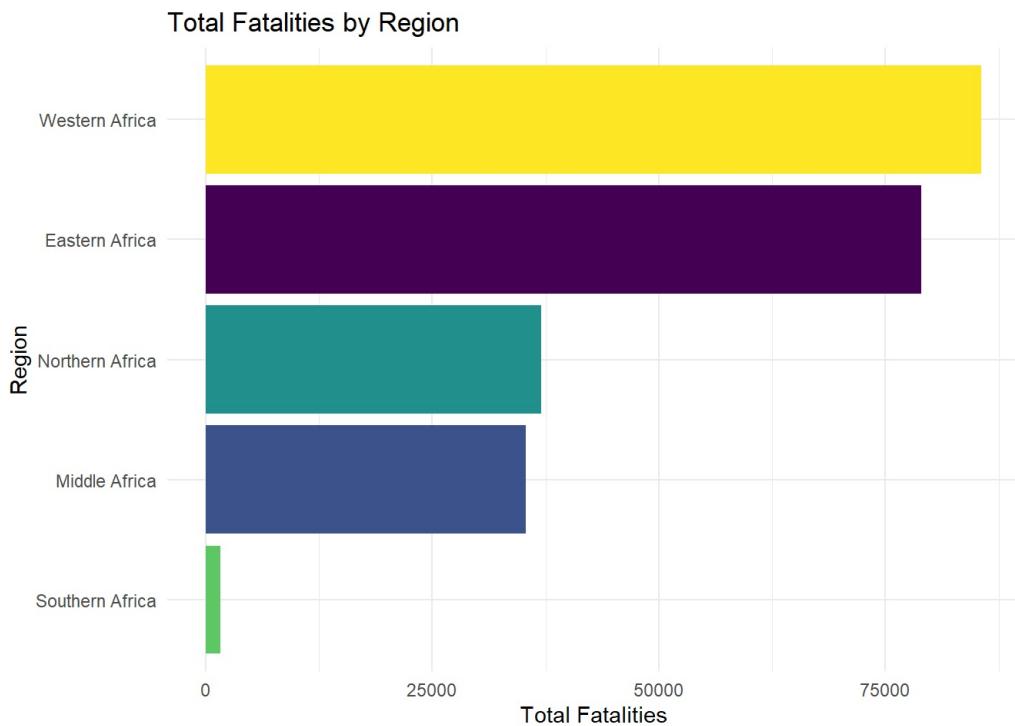
```

## # 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



Count events by year and region

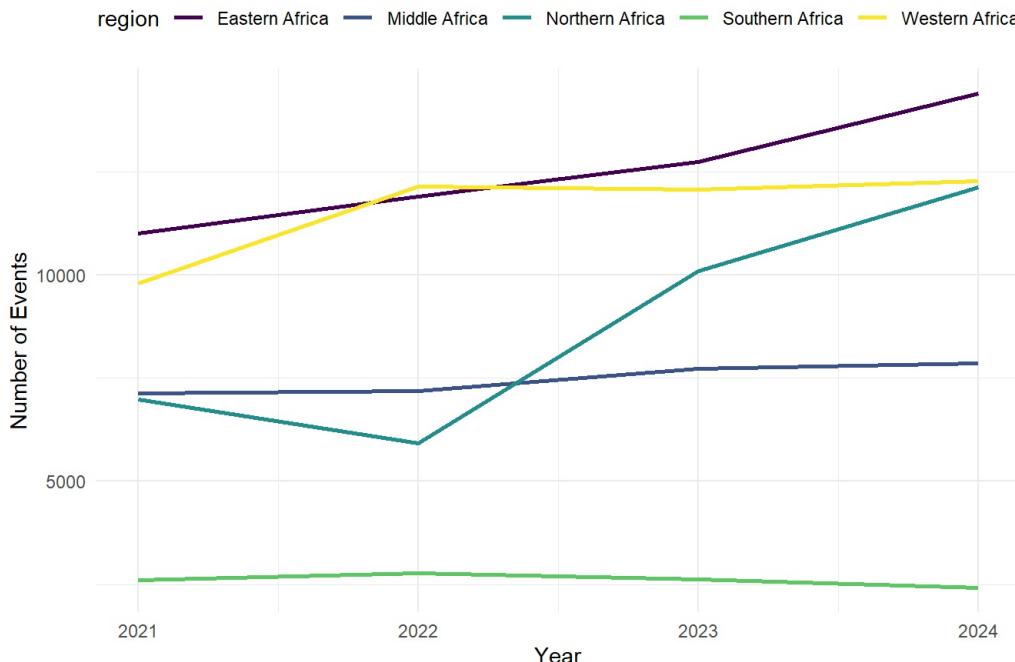
```
## `summarise()` has grouped output by 'region'. You can override using the
## `groups` argument.
```

```
## # 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
```

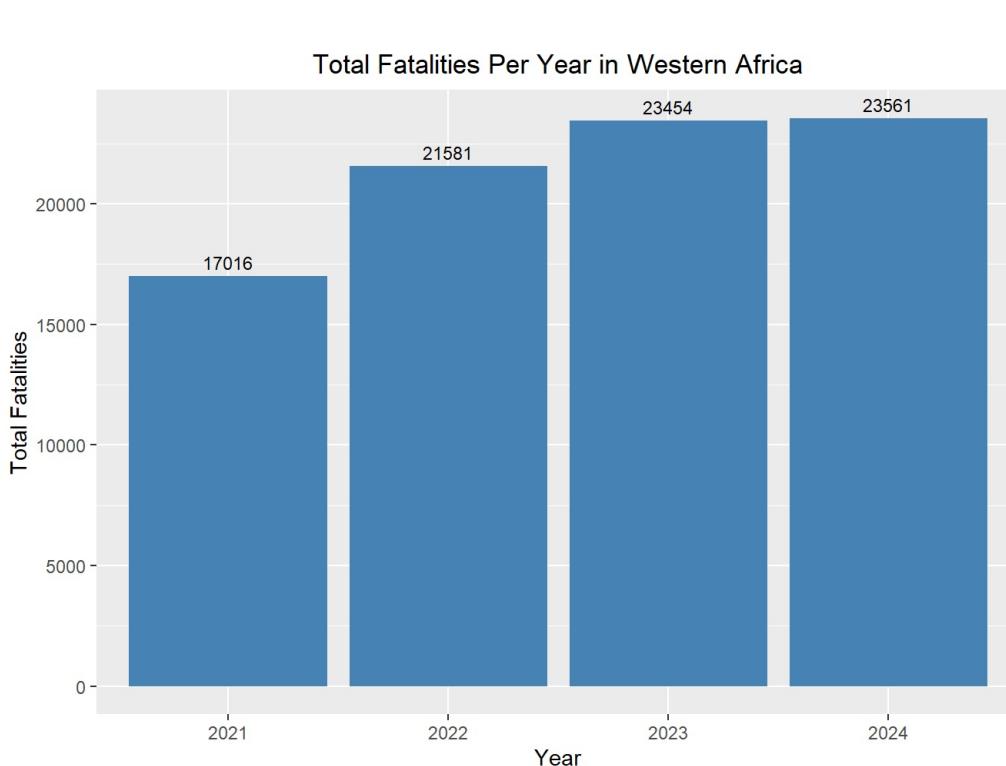
Plot events by region over time - this line plot shows the conflict events over time by each region. So sometime between 2022 and 2023, Eastern Africa overtook Western Africa in terms of the amount of conflict arising in the region. Northern Africa also overtook Middle Africa during this time as well.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

```
## 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.



Total fatalities by year

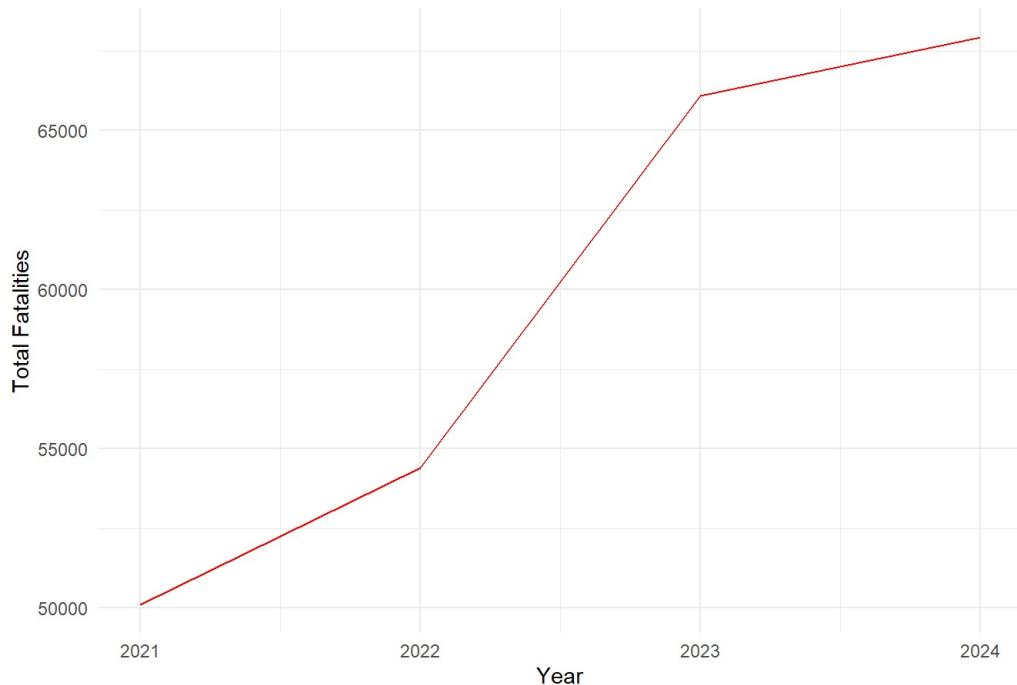
Show

```
## # 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

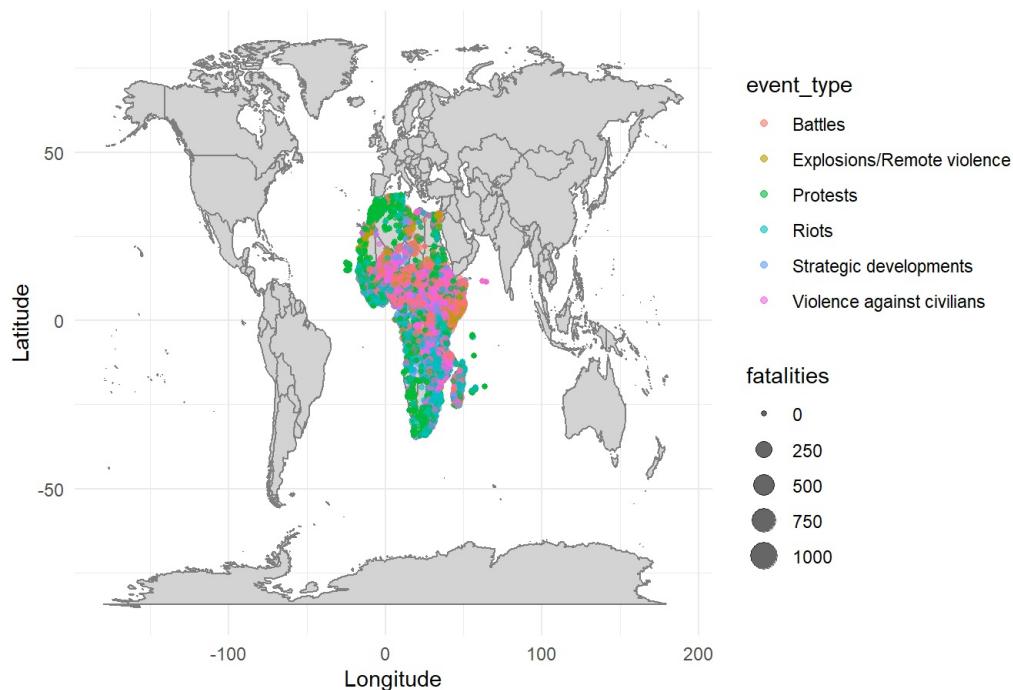
Fatalities Over Time



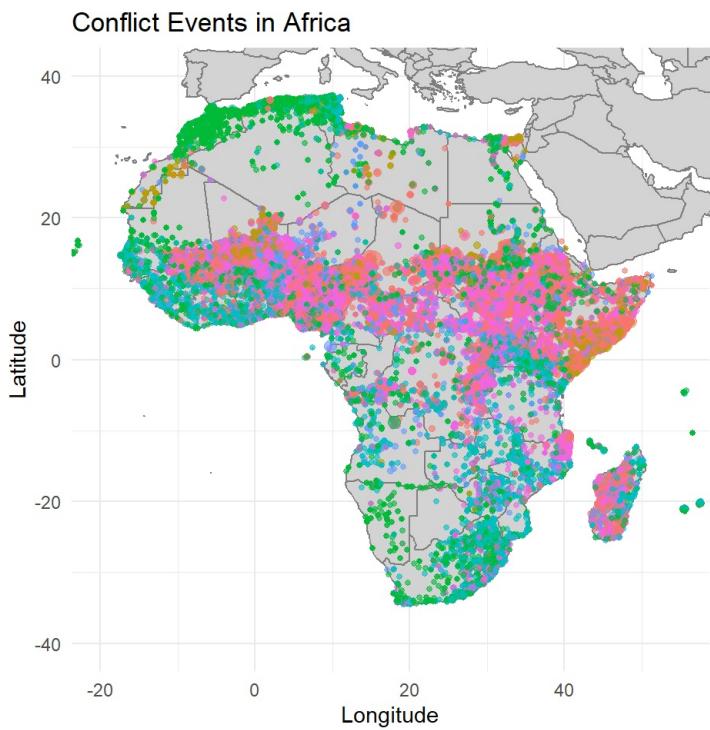
Map conflict events (requires latitude and longitude) - The following datamap visualizations highlight which regions have what type of conflict events afflicting them as well as how many fatalities are occurring.

Show

Conflict Events in Africa



Show

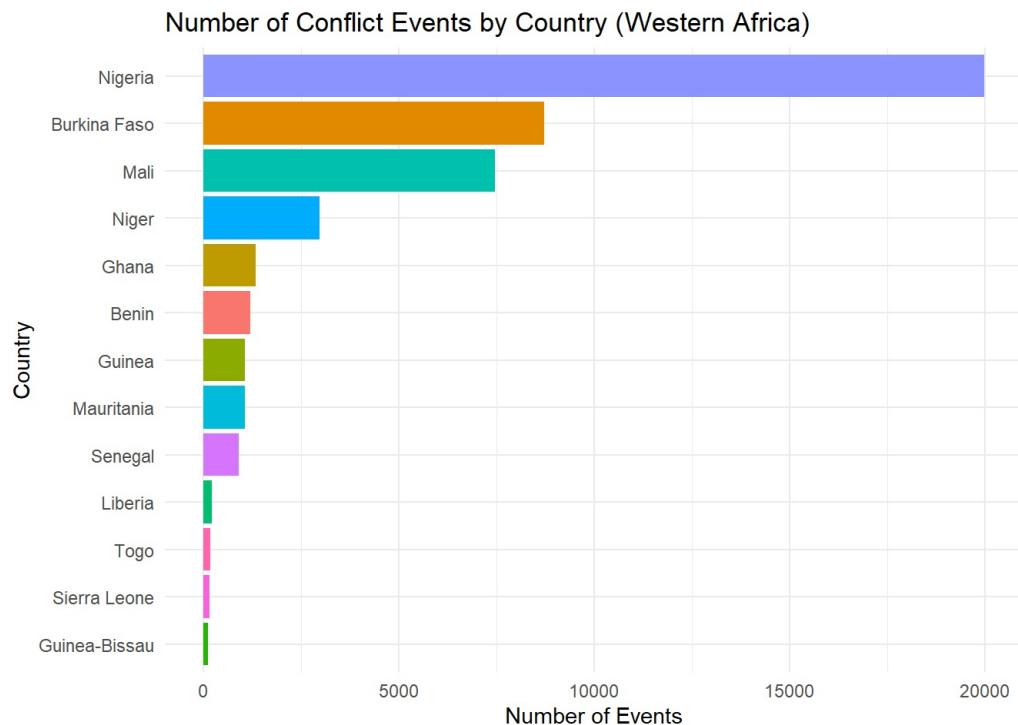


Count the number of events by country

Show

Plot the number of events by country

Show



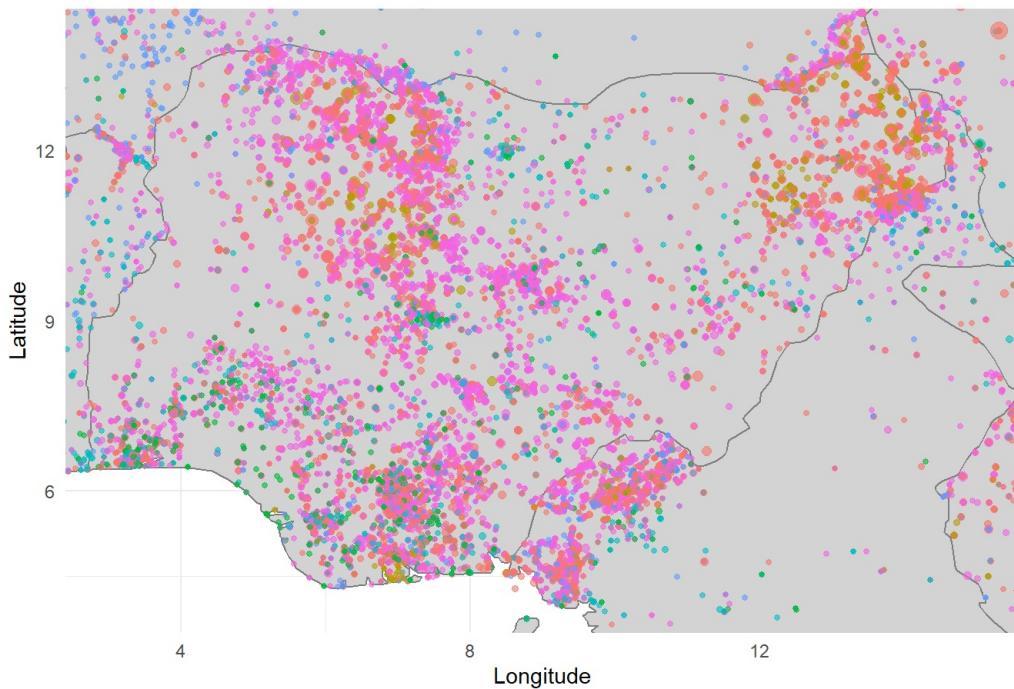
West African countries

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

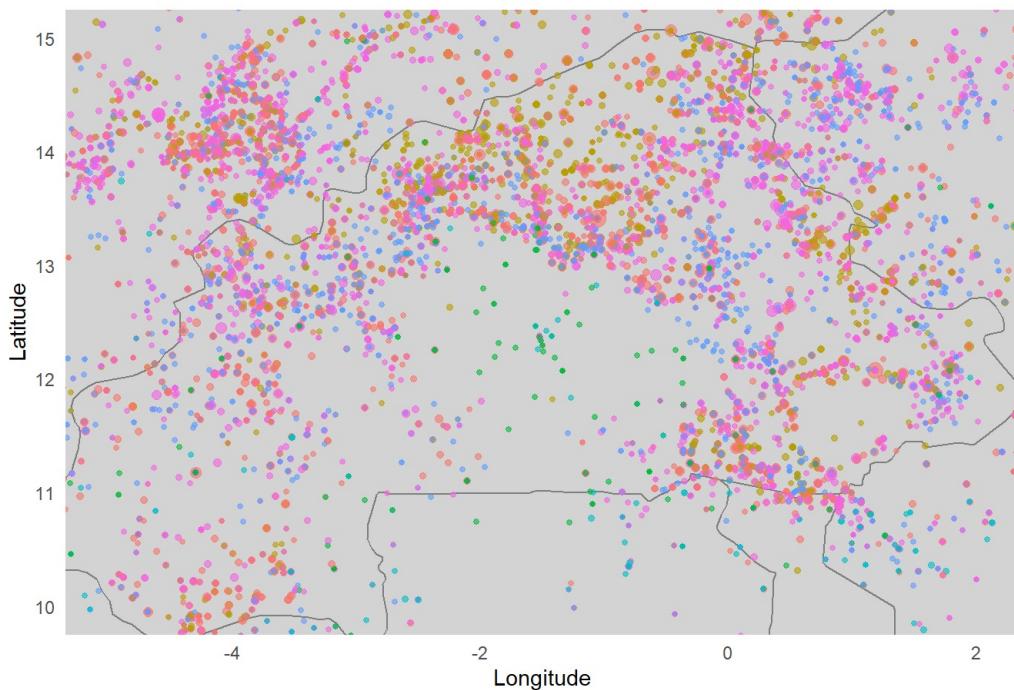
Conflict Events in Nigeria



Burkina Faso

Show

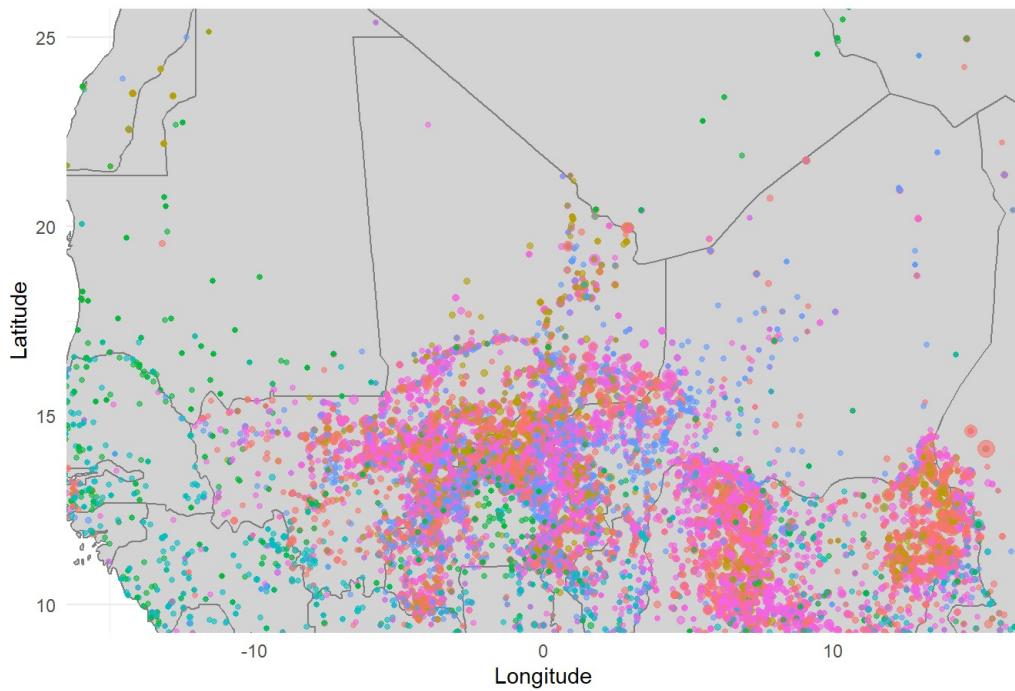
Conflict Events in Burkina Faso



Mali

Show

Conflict Events in Mali



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.