Capstone Project
Global Terrorism Analysis

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Content

- ❖ About Global Terrorism
- ❖ Data Description
- ❖ Data Wrangling
- ❖ Terrorist Activities each year
- ❖ Number of Total Attack in each Region
- ❖ Most Targeted city
- ❖ Attacking Method by Terrorist
- ❖ Top 10 Affected countries
- ❖ Terrorist group with highest terror attack
- ❖ Terrorist Targeted Places

- ❖ Terrorism activity trend on India
- ❖ Number of attacks and Causalities by city since 1970
- ❖ Exploring the most attacked City in India
- ❖ Top10 terrorist group and attack tactic in India
- ❖ Terrorist Activities in India Map
- ❖ Conclusion

About Global Terrorism

Terrorism is a global threat that can take many forms, from lone-wolf attacks to large-scale coordinated campaigns. It is a complex issue that requires a multi-faceted approach to address and prevent it.

Terrorism is a type of violence used to achieve political, religious, or ideological goals, often with the aim of influencing a larger audience. It can take the form of bombings, assassinations, kidnappings, cyberattacks, and other acts of violence. The perpetrators of terrorism often aim to spread fear and instability in societies, and they often target civilians, government buildings, and other symbols of power. The impact of terrorism can be widespread and long-lasting, causing physical and psychological harm to victims, damaging economies, and threatening national security.

Data Description

The Global Terrorism Database (GTD) is an open-source database including information on terrorist attacks around the world from 1970 through 2017. The GTD includes systematic data on domestic as well as international terrorist incidents that have occurred during this time period and now includes more than 180,000 attacks.

- ❖ Total Rows present in Dataset is 181691
- ❖ Total Columns present in Dataset is 18

About Columns

- ➢ Eventid = A 12-digit Event ID system. First 8 numbers – date recorded "yyyymmdd". Last 4 numbers – sequential
- ➢ Iyear = This field contains the year in which the incident occurred.
- ➢ Imonth = This field contains the number of the month in which the incident occurred
- ➢ Iday = This field contains the numeric day of the month on which the incident occurred.

- Country = This field identifies the country or location where the incident occurred.

- Region = This field identifies the region code based on 12 regions

- City = Name of the city, village, or town in which the incident occurred

- Latitude= The latitude of the city in which the event occurred

- Longitude = The longitude of the city in which the event occurred.

- Attacktype1 = The general method of attack.

- Nkill = The number of total confirmed fatalities for the incident

- Nwound = The number of total Wounded fatalities in the incident

- Targtype1 = All Targeted place name

- Summary =

- Gname = The name of the group that carried out the attack

- weaptype1_txt = General type of weapon used in the incident

- Motive = [null]72% Unknown8% Other (35672)20%

Data Wrangling

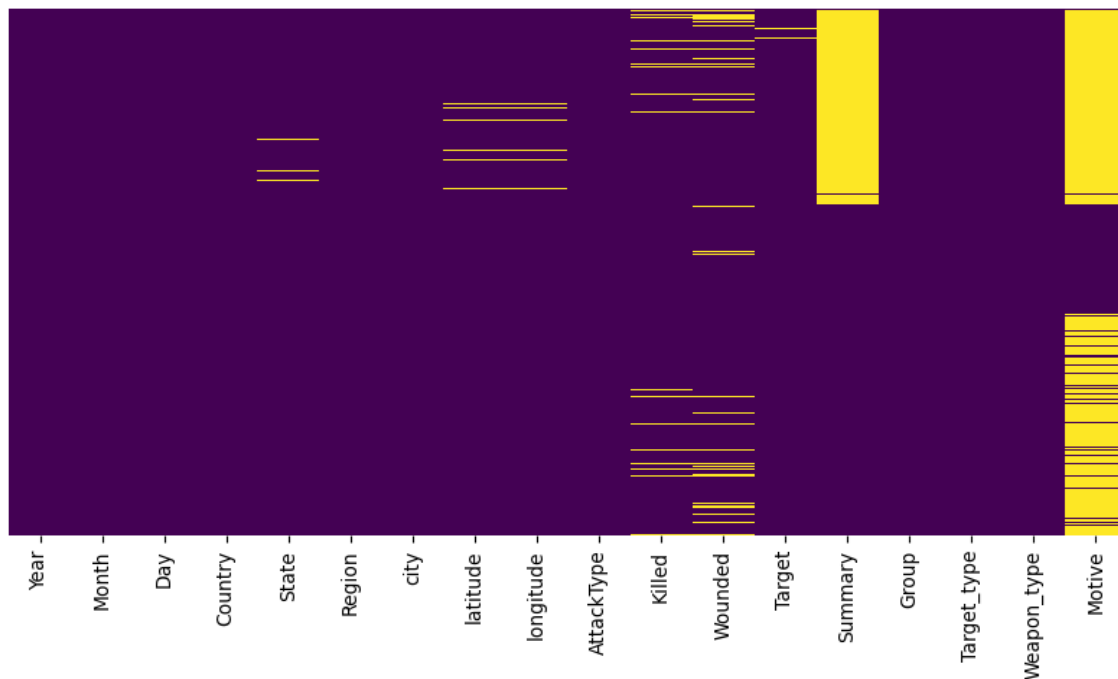## Null Values

```
Year              0
Month             0
Day               0
Country           0
State           421
Region            0
city            434
latitude       4556
longitude      4557
AttackType        0
Killed        10313
Wounded       16311
Target          636
Summary       66129
Group             0
Target_type       0
Weapon_type       0
Motive       131130
dtype: int64
```

Heat map of Null Values

Filling out the missing values

Above we can see that most of the important column contains a lot of NaN or missing values Thus to make a sense out of all that we will start re-placing those values with 'UNKNOWN' value to make it is when we visualize the data via Plots and Graphs. Also You can't ignore missing data because many algorithms will not accept missing values.

```python
# City Columns
df['city'].fillna('Unknown',inplace=True)

# Target Columns
df['Target'].fillna('Unknown',inplace=True)

# Total killed Columns
df['Killed'] = df['Killed'].fillna(df['Killed'].mode()[0])

# Total_Wounded Column
df['Wounded'] = df['Wounded'].fillna(df['Wounded'].mode()[0])

# Summery column
df['Summary'].fillna('Undocumented', inplace = True)

# Motive column
df['Motive'].fillna('Unknown',inplace=True)

# Creating a new Column to show total_Casualities which is just a total number of people who got wounded and
# killed in that incident including all Attackers, Defenders and Civilians

df['Total_Casualities'] = df['Killed'] + df['Wounded']
```
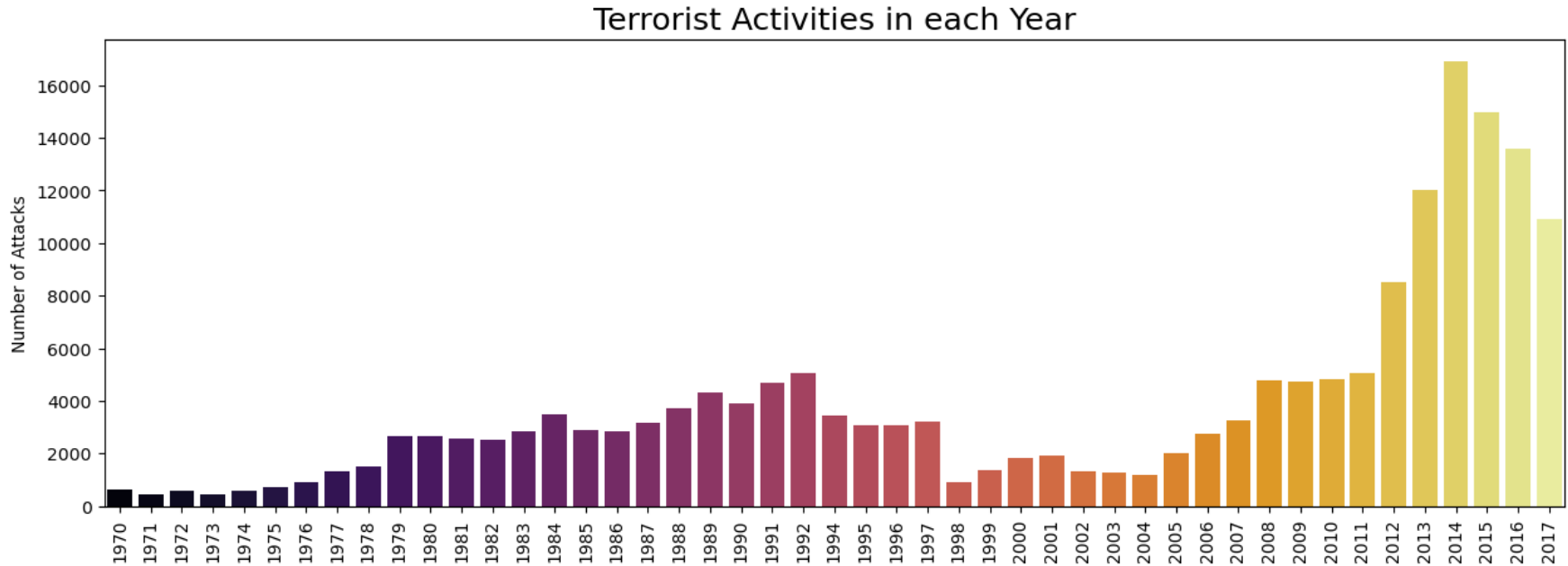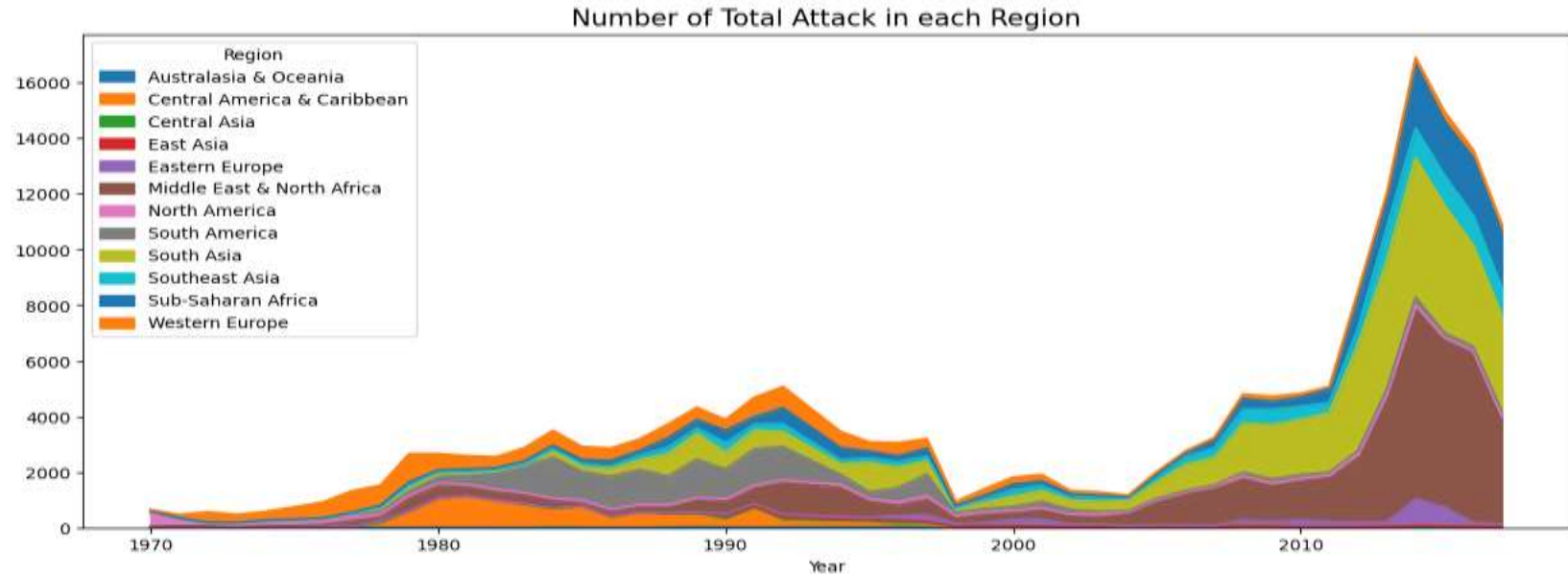
Terrorist Activities each year
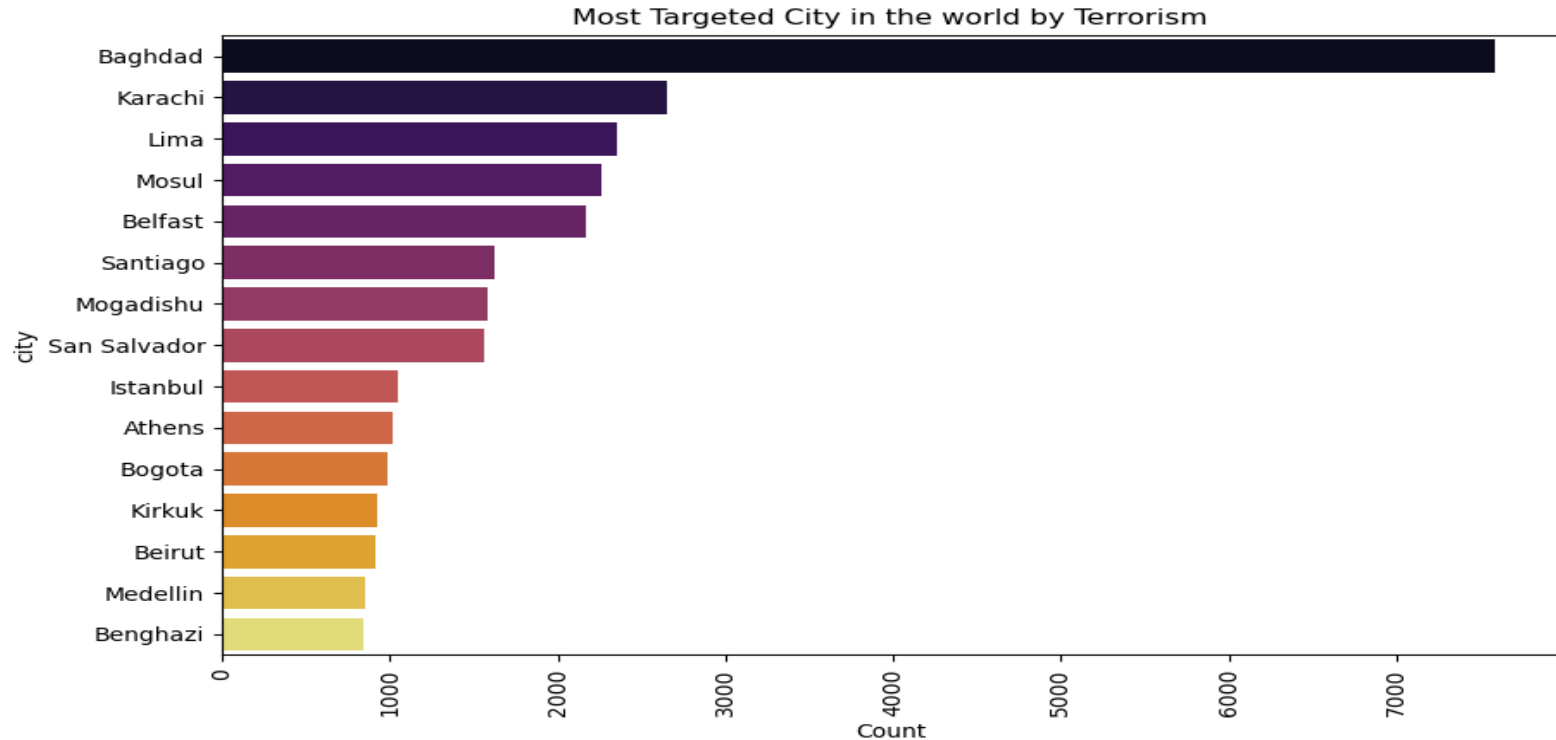

Terrorist Activities in each Year

Attacks were more during 2014 and then in 2015. When compared to attacks from 1970 onwards, the last 6 years scored a maximum. But from 2014 onwards count started decreasing.
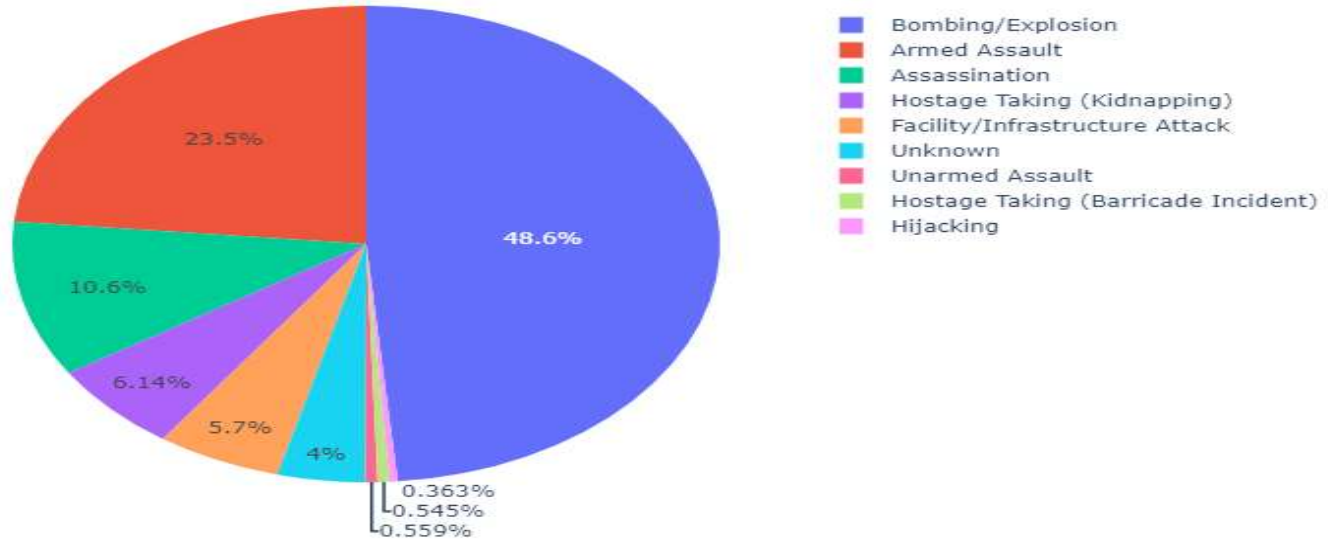
Number of Total Attack in each Region

Number of Total Attack in each Region

The Middle East& North Africa leads 1st among all the regions and then South Asia takes 2nd place.
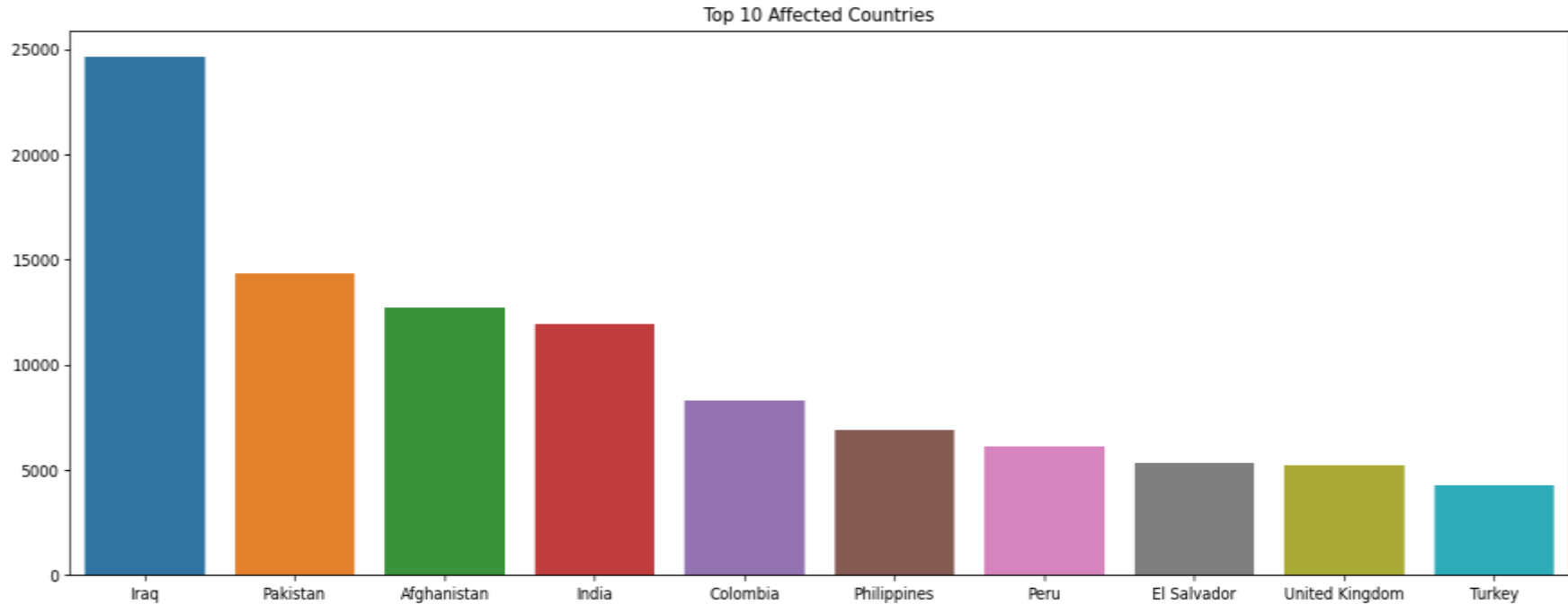
Most Targeted Cities

Most Targeted City in the world by Terrorism

Attacking Method by Terrorist

Attacking Methods By Terrorists

■	Bombing/Explosion
■	Armed Assault
■	Assassination
■	Hostage Taking (Kidnapping)
■	Facility/Infrastructure Attack
■	Unknown
■	Unarmed Assault
■	Hostage Taking (Barricade Incident)
■	Hijacking

48.6%
23.5%
10.6%
6.14%
5.7%
4%
0.363%
0.545%
0.559%

Most of the attacks were through either Bombing or Explosion.

Top 10 Affected countries


Top 10 Affected Countries

Iraq dominates all the countries and it has the highest number of attacks and then Pakistan, Afghanistan, and India follow it. Government should increase safety measures in these countries.

Terrorist Group with Highest Terror Attack

Terrotist Group with Highest Terror Attack
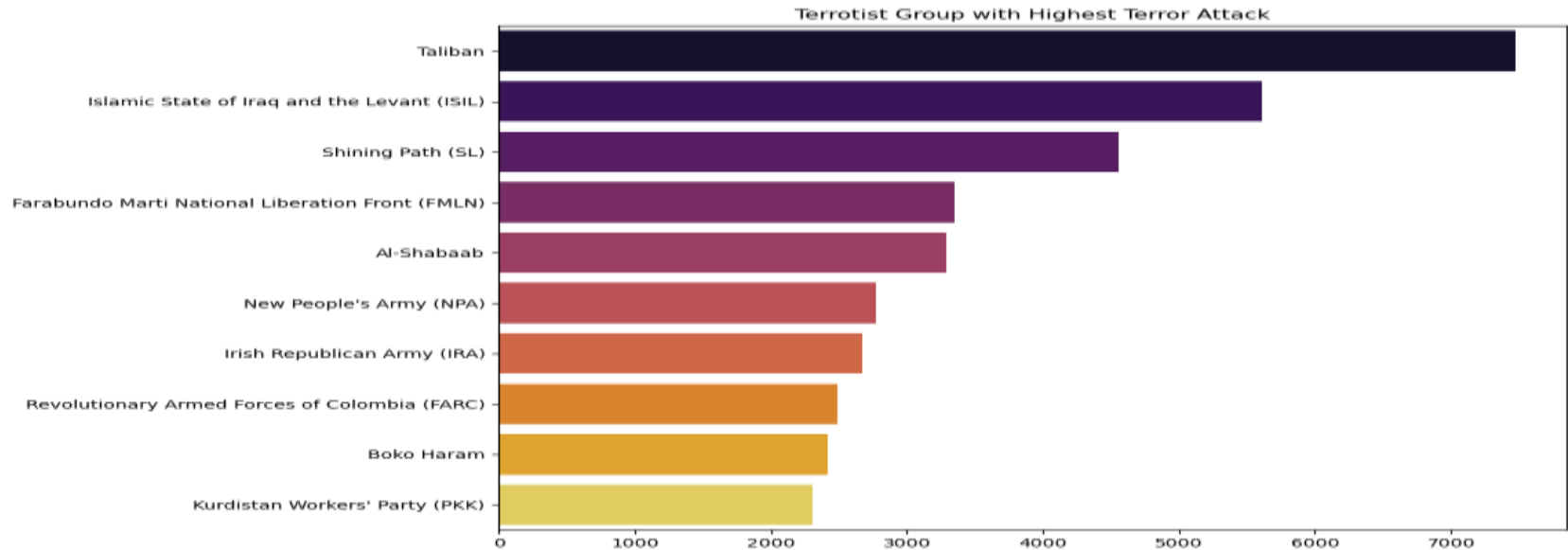
On the above chart number of terror attacks done by a group since 1970, 'Taliban' tops the chart with more attacks. while 'Islamic State of Iraq & the Levant (ISIL)' hold the second place
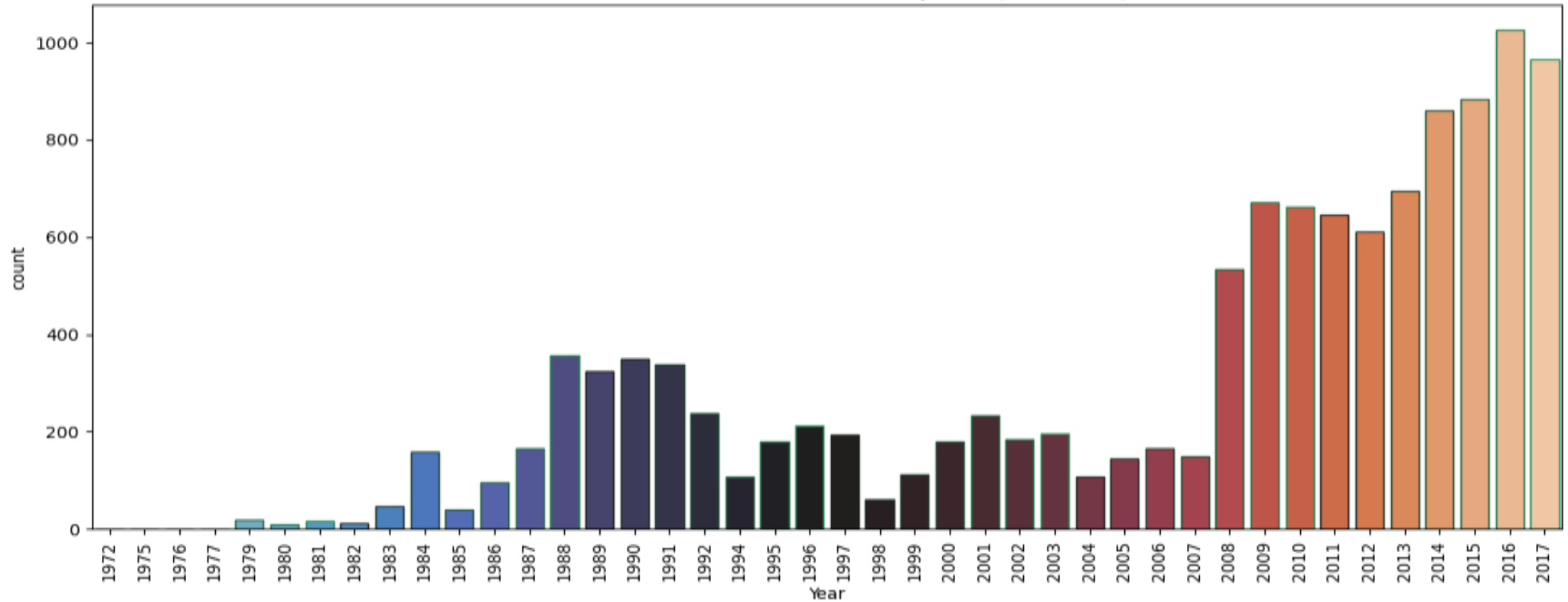
Terrorist Targeted Places

Based on Target type
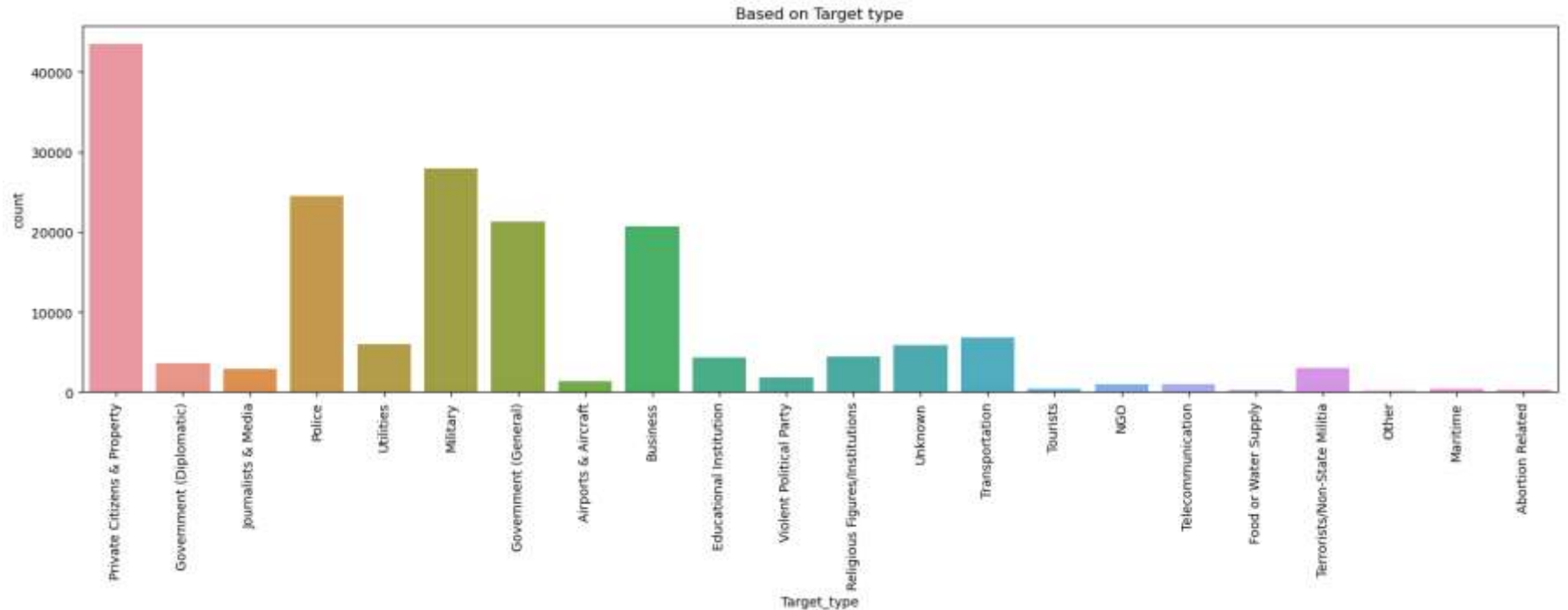
For most of the attacks, the target is Private Citizens& property and the next Military leads.

Terrorism activity trend on India

Number of terror incidents suffered by India (1970-2017)

Number of attacks and Causalities by city since 1970

	city	No_of_Attacks	Total_Casualities
0	Srinagar	658	3134.0
1	Unknown	624	2527.0
2	Imphal	426	603.0
3	New Delhi	157	2095.0
4	Amritsar	138	768.0
5	Sopore	102	389.0
6	Ludhiana	77	386.0
7	Guwahati	77	822.0
8	Anantnag	76	506.0
9	Jammu	57	1119.0

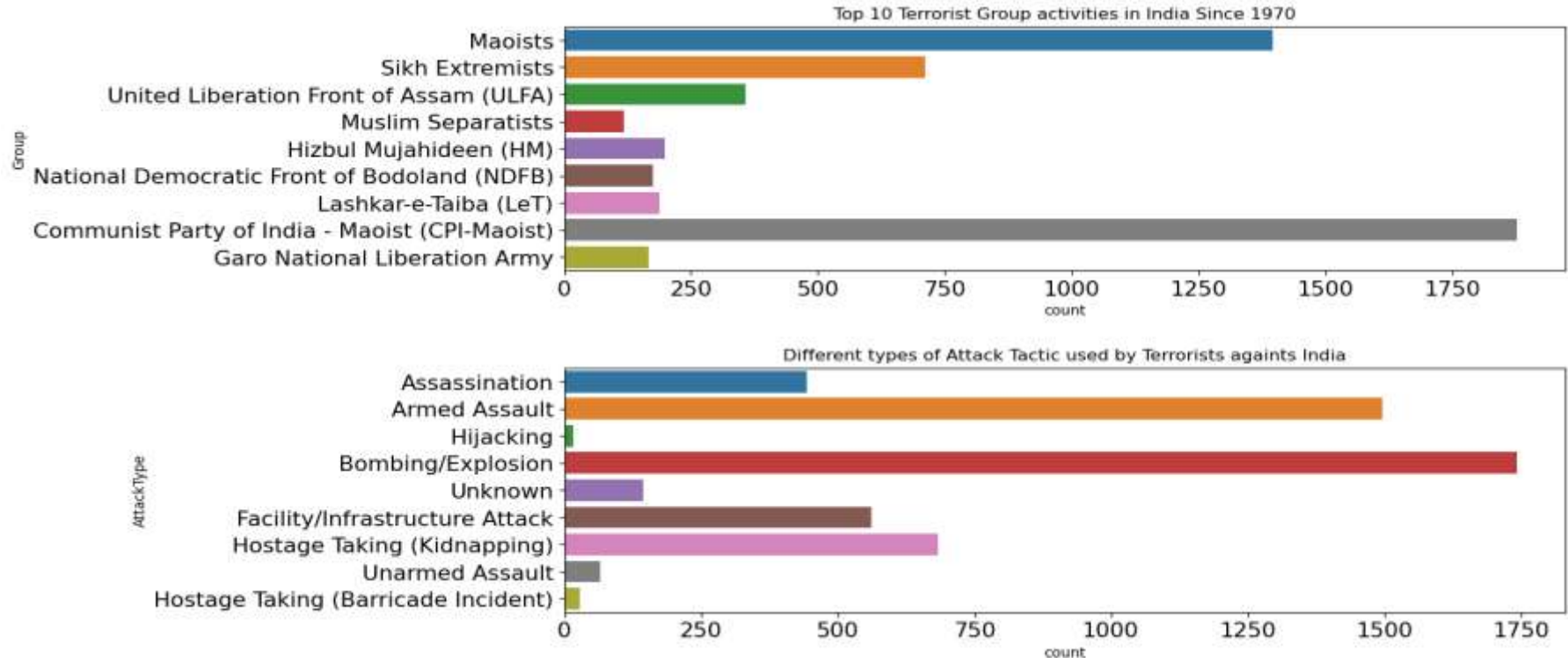# Exploring the most attacked City in India

```
Unknown                              306
Muslim Separatists                    55
Jammu and Kashmir Liberation Front    45
Kashmiri extremists                   37
Muslim Militants                      35
Hizbul Mujahideen (HM)                31
Lashkar-e-Taiba (LeT)                 21
Separatists                           21
Jaish-e-Mohammad (JeM)                12
Al-Mansoorian                         12
Name: Group, dtype: int64
```

Since 1972, Srinagar which is in Jammu and Kashmir has been the center of the dispute and terror attacks in India. Srinagar has been under attacks record 658 times on which 3134 people have lost there lives. Almost half of those number of attacks has been done by Unknown groups. On the second place, Srinagar has been terrorized 55 times by 'Muslim Separatists' and 45 times by 'Jammu and Kashmir Liberation Front'.

Top10 terrorist group and attack tactic in India

Top 10 Terrorist Group activities in India Since 1970

Different types of Attack Tactic used by Terrorists againts India

Terrorist Attack on Five Main Continent on Map Visualization
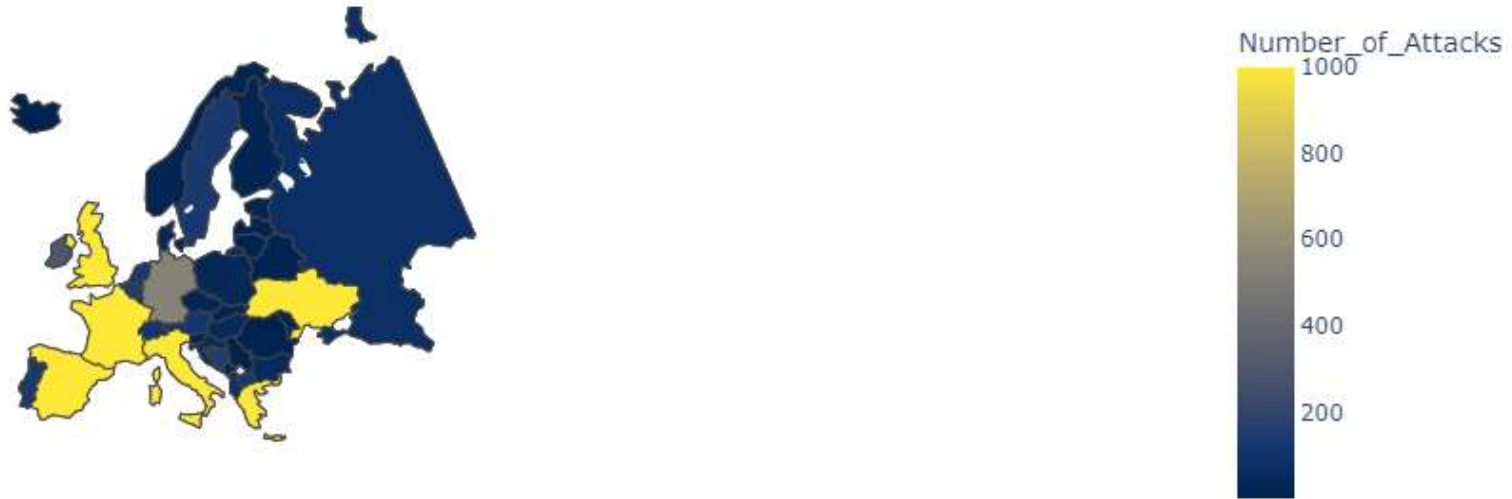
Terrorist Attack on Asia

The Most of Causality happened in western part of Asia like Turkey, Syria, Iraq, Yemen in these Countries most Terrorist Attacked country is Iraq After that Southest part of Asia Terrorist Attack suffered Country like Afghanistan , Pakistan , India ,Bangladesh, Thailand, Philippines in these Countries most Terrorist attacked country is Pakistan and the other side Iran, Saudi-Arabia, Myanmar, Indonesia these countries got less number of Terrorist Attacked .
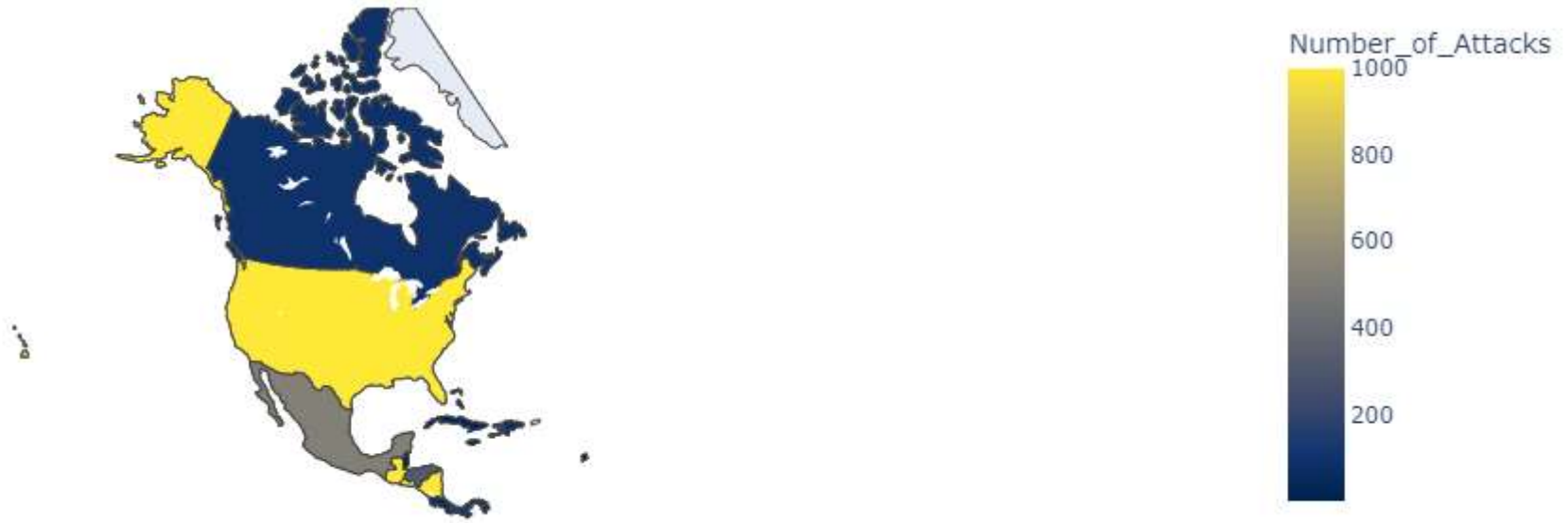
Terrorist Attack on Africa

Northern boarder countries like Algeria, Libya ,Egypt, Sudan of Africa got more casualty. In the Eastern Countries Somalia is most Terrorist attacked countries in Africa and the western country Nigeria and Southern Country South Africa Also Heavily attacked by terrorist.

Terrorist Attacks in Europe

Western Europe Countries like United Kingdom, France, Spain, Italy, Greece got more Terrorist Casualties northern part of Europe Ukraine is also Terrorist attacked Country in Europe continent. For business point of view Eastern and northern part of Europe Continent are good for Business .

Terrorist Attacks in North America

In Northern America United State and Guatemala , Nicaragua got More Terrorist Causality. After this Mexico got less number of Terrorist attacked in Country and the safest country in North America is Canada and The highest one is United State.

Terrorist Attacks in South America
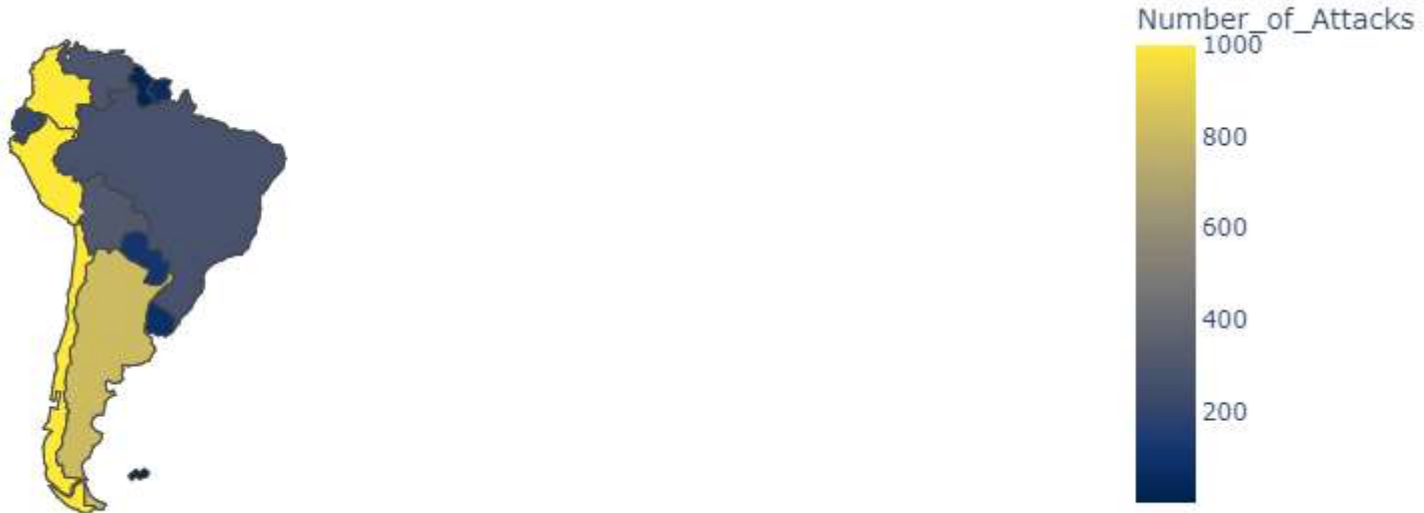
In the South America Western boarder is most Terrorist Attacked Country like Colombia, Peru, Chile and Argentina got less attacked by Terrorist and The Most Terrorist Attacked Country is Colombia.

Conclusion

- ❖ Iraq – the country has faced staggering 24636 number of such attacks between 1970 to 2017 which accounted for 13.61% of terrorism attacks in the world.
- ❖ Attacks were more during 2014 and then in 2015. When compared to attacks from 1970 onwards, the last 6 years scored a maximum. But from 2014 onwards count started decreasing.
- ❖ Iraq dominates all the countries and it has the highest number of attacks and then Pakistan, Afghanistan, and India follow it.
- ❖ Middle East and North Africa and South Asia are the two regions who got more terror attacks since 1970
- ❖ For most of the attacks, The target is Private Citizens & property and the next is on Military leads.
- ❖ Most of the attacks were through either Bombing or Explosion.
- ❖ 'Islamic State of Iraq and the Levant (ISIL)' were on a killing spread where they murdered 31,058 personal since 1970, Most on compared to other groups. Taliban is again on second place with 29,269 kills.
- ❖ 'Islamic State of Iraq & the Levant (ISIL)' and 'Taliban' are two most active Terrorist groups in the last 5 years.
- ❖ Srinagar which is in Jammu and Kashmir has been the center of the dispute and terror attacks in India.
- ❖ Seems like Terrorist do like 'Explosives' very much like this is the most used Weapon category across the world terror groups.