Exploring Global Terrorism Trends: A Geospatial Analysis

Introduction:

According to a recent survey, the world faces a dual challenge - natural and man-made calamities. Each year, an astonishing 218 million people are affected by these calamities, resulting in the tragic loss of approximately 68,000 lives. While the frequency of natural disasters such as earthquakes and volcanoes has remained relatively constant, a concerning trend emerges on the global stage - the steady growth in the number of terrorist activities over the years.

Project Goals:

The primary aim of this notebook is to delve into the intricate world of global terrorism. Through the use of interactive plots and animations, we aim to make the exploration of this complex issue both accessible and informative. This project serves as a platform to analyze and understand the evolving landscape of terrorism worldwide.

The aim of this analysis is to provide answers to the following questions:

- `How has the number of terrorist activities changed over the years? Are there certain regions where this trend is different from the global averages?`
- `How often the attack becomes a success?`

- `What are the most common methods of attacks? Does it differ in various regions or in time?`

Key Objectives:

1. **Terrorism Trends Over Time**: One of the core objectives is to visualize and analyze trends in terrorism over the years. This includes understanding how the frequency, intensity, and types of terrorist activities have evolved.
2. **Mapping Terrorism Prone Areas**: Utilizing the power of geospatial data, this project seeks to identify regions that are particularly susceptible to terrorist incidents. Geographic maps, created using Folium, will provide insights into the distribution of these events.
3. **Interactive Data Exploration**: Interactivity is at the heart of this notebook. Users will be able to interact with maps, zoom in on specific regions, and obtain detailed information about individual incidents.
4. **Limited Data Usage for Improved Performance**: Recognizing the computational challenges associated with handling extensive datasets, the project responsibly opts to work with a subset of the data, focusing on the first 5000 rows. This ensures a smoother user experience and prevents kernel crashes.

Motivation:

The quest to understand and address the growing threat of terrorism is the driving force behind this project. Your engagement and support, through upvotes, provide the motivation needed to continually enhance this analysis.

Conclusion:

Through this notebook, we embark on a journey to explore the ever-evolving landscape of global terrorism. By examining trends, identifying vulnerable regions, and offering interactive tools for exploration, we hope to contribute to a deeper understanding of this critical issue. Together, we can shed light on the challenges posed by terrorism and work towards a safer world.

About the dataset

The Dataset was extracted from the Global Terrorism Database (GTD) - 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.

Explanation of selected columns:

- success - Success of a terrorist strike
- suicide - 1 = "Yes" The incident was a suicide attack. 0 = "No" There is no indication that the incident - was a suicide
- attacktype1 - The general method of attack
- attacktype1_txt - The general method of attack and broad class of tactics used.
- targtype1_txt - The general type of target/victim
- targsubtype1_txt - The more specific target category
- target1 - The specific person, building, installation that was targeted and/or victimized
- natlty1_txt - The nationality of the target that was attacked
- gname - The name of the group that carried out the attack
- gsubname - Additional details about group that carried out the attack like fractions
- nperps - The total number of terrorists participating in the incident
- weaptype1_txt - General type of weapon used in the incident
- weapsubtype1_txt - More specific value for most of the Weapon Types
- nkill - The number of total confirmed fatalities for the incident
- nkillus - The number of U.S. citizens who died as a result of the incident

In [1]:
```
# Importing libraries

import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
import warnings
warnings.filterwarnings('ignore')
```

In [49]:
```
import pandas as pd
import matplotlib.pyplot as plt
import matplotlib.patches as mpatches
import seaborn as sns
import numpy as np
import plotly.offline as py
py.init_notebook_mode(connected=True)
import plotly.graph_objs as go
import plotly.tools as tls
# !pip install basemap
from mpl_toolkits.basemap import Basemap
from matplotlib import animation,rc
import base64
import warnings
warnings.filterwarnings('ignore')
```

1.1 Gathering Data

In [3]:
```
df = pd.read_csv('globalterrorismdb_0718dist.csv', encoding = 'ISO-8859-1')
```

In [4]:
```
df.head()
```

Out[4]:

	eventid	iyear	imonth	iday	approxdate	extended	resolution	country	country_txt	reg
0	197000000001	1970	7	2	NaN	0	NaN	58	Dominican Republic	
1	197000000002	1970	0	0	NaN	0	NaN	130	Mexico	
2	197001000001	1970	1	0	NaN	0	NaN	160	Philippines	
3	197001000002	1970	1	0	NaN	0	NaN	78	Greece	
4	197001000003	1970	1	0	NaN	0	NaN	101	Japan	

5 rows × 135 columns

In [5]:
```
df.columns
```

Out[5]:
```
Index(['eventid', 'iyear', 'imonth', 'iday', 'approxdate', 'extended',
       'resolution', 'country', 'country_txt', 'region',
       ...
       'addnotes', 'scite1', 'scite2', 'scite3', 'dbsource', 'INT_LOG',
       'INT_IDEO', 'INT_MISC', 'INT_ANY', 'related'],
      dtype='object', length=135)
```

In [6]:
```
df.shape
```

Out[6]:
```
(181691, 135)
```

In [7]:
```
df.describe()
```

Out[7]:

	eventid	iyear	imonth	iday	extended	country
count	1.816910e+05	181691.000000	181691.000000	181691.000000	181691.000000	181691.000000
mean	2.002705e+11	2002.638997	6.467277	15.505644	0.045346	131.968501
std	1.325957e+09	13.259430	3.388303	8.814045	0.208063	112.414535
min	1.970000e+11	1970.000000	0.000000	0.000000	0.000000	4.000000
25%	1.991021e+11	1991.000000	4.000000	8.000000	0.000000	78.000000
50%	2.009022e+11	2009.000000	6.000000	15.000000	0.000000	98.000000
75%	2.014081e+11	2014.000000	9.000000	23.000000	0.000000	160.000000
max	2.017123e+11	2017.000000	12.000000	31.000000	1.000000	1004.000000

8 rows × 77 columns

1.2 Data Preprocessing

In [8]:
```
# Renaming Columns

df.rename(columns={'iyear':'Year','imonth':'Month','iday':'Day','country_txt':'
                   'region_txt':'Region','attacktype1_txt':'AttackType','targ
                   'nwound': 'Wounded','summary':'Summary','gname':'Group','t
                   'weaptype1_txt':'Weapon_type','motive':'Motive'
                  },inplace=True)
```

In [9]:
```
# As we have many columns, we take the columns that are necessary for analysis
df = df[['eventid','Year','Month','Day','Country','Region','state','city','lati
           'Target','Summary','Group','Target_type','Weapon_type','Motive','su
```

In [10]:
```
df['Killed'].sample(10)
```

Out[10]:
```
117440    1.0
104385    2.0
15961     0.0
9314      4.0
59667     0.0
85501     6.0
173914    0.0
80349     3.0
75203     NaN
113796    0.0
Name: Killed, dtype: float64
```

Create a new column 'casualties' by adding 'killed' and 'wounded'

In [11]:
```
df['casualities']=df['Killed']+df['Wounded']
df.head(3)
```

Out[11]:

	eventid	Year	Month	Day	Country	Region	state	city	latitude	longitu
0	197000000001	1970	7	2	Dominican Republic	Central America & Caribbean	NaN	Santo Domingo	18.456792	-69.951
1	197000000002	1970	0	0	Mexico	North America	Federal	Mexico city	19.371887	-99.086
2	197001000001	1970	1	0	Philippines	Southeast Asia	Tarlac	Unknown	15.478598	120.599

3 rows × 21 columns

In [12]:
```
df.shape
```

Out[12]:
```
(181691, 21)
```

In [13]:
```
df.isna().sum()
```

Out[13]:
```
eventid            0
Year               0
Month              0
Day                0
Country            0
Region             0
state            421
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
success            0
casualities    16874
dtype: int64
```

In [14]:
```
df.describe()
```

Out[14]:

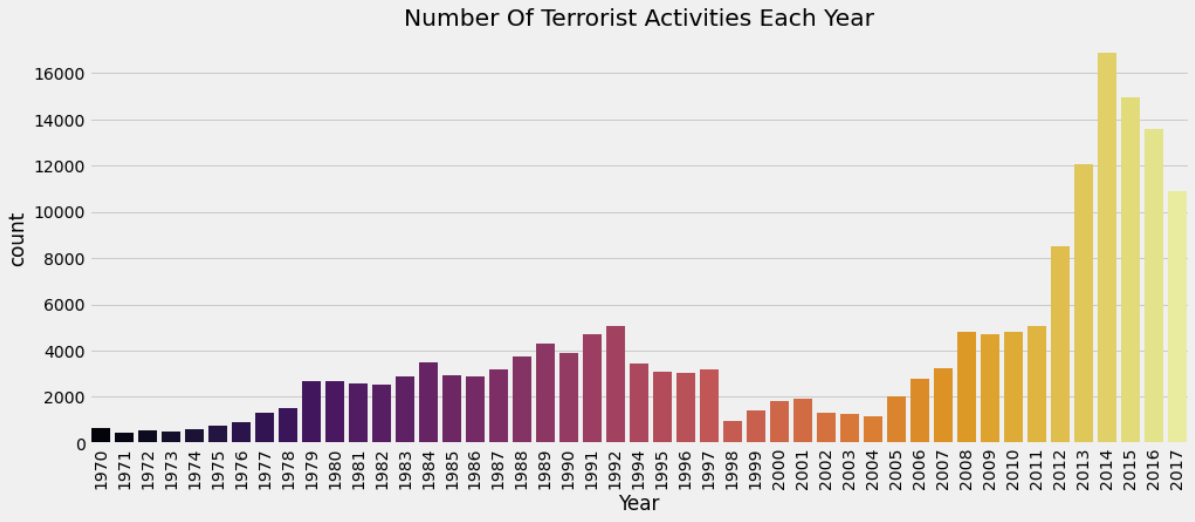
	eventid	Year	Month	Day	latitude	longitude
count	1.816910e+05	181691.000000	181691.000000	181691.000000	177135.000000	1.771340e+05
mean	2.002705e+11	2002.638997	6.467277	15.505644	23.498343	-4.586957e+02
std	1.325957e+09	13.259430	3.388303	8.814045	18.569242	2.047790e+05
min	1.970000e+11	1970.000000	0.000000	0.000000	-53.154613	-8.618590e+07
25%	1.991021e+11	1991.000000	4.000000	8.000000	11.510046	4.545640e+00
50%	2.009022e+11	2009.000000	6.000000	15.000000	31.467463	4.324651e+01
75%	2.014081e+11	2014.000000	9.000000	23.000000	34.685087	6.871033e+01
max	2.017123e+11	2017.000000	12.000000	31.000000	74.633553	1.793667e+02

2.0 Exploratory Data Analysis

Number Of Terrorist Acticity Each Years

In [15]:
```
year_attacks = df.groupby('Year').size().reset_index(name='count')
sns.lineplot(x='Year', y='count', data=year_attacks, color='red')
plt.xlabel('Year')
plt.ylabel('Number of Attacks')
plt.title("Number of Terrorist Acticity")
plt.show()
```

In [16]:
```
plt.subplots(figsize=(15,6))
sns.countplot(data=df, x='Year', palette='inferno')
plt.xticks(rotation=90)
plt.title('Number Of Terrorist Activities Each Year')
plt.show()
```



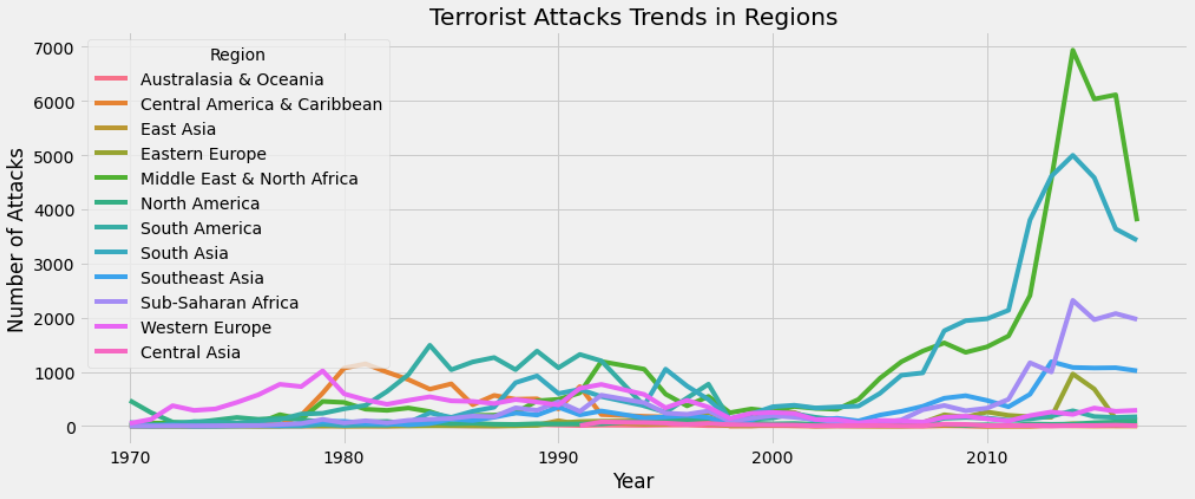
There has been a steady increase in global terrorist activities year by year. However, the year 2014 stands out as the peak with the highest recorded incidents. Encouragingly, there has been a subsequent decline in terrorist activity post-2014, offering hope for

improved global security efforts

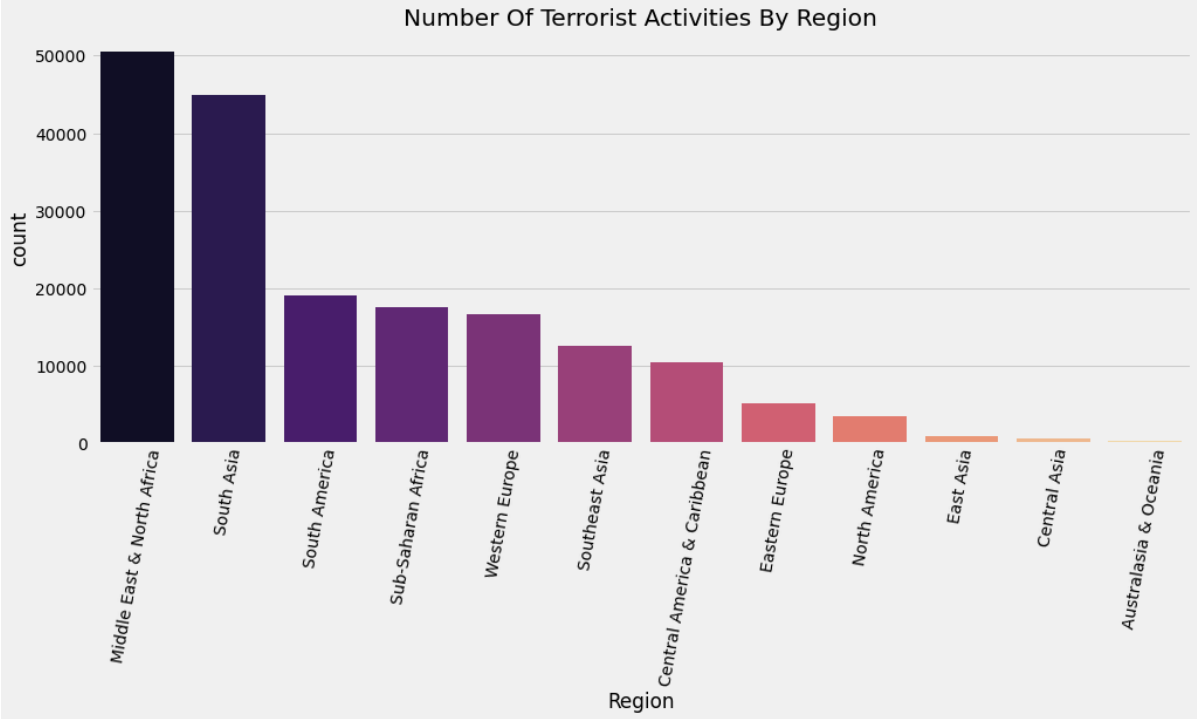
Terrorist Attacks Trends in Regions

In [17]:
```
year_attacks_region = df.groupby(['Year','Region']).size().reset_index(name='co
```

In [18]:
```
plt.subplots(figsize=(15,6))
sns.lineplot(x='Year',y='count',hue='Region',data=year_attacks_region)
plt.title('Terrorist Attacks Trends in Regions')
plt.xlabel('Year')
plt.ylabel('Number of Attacks')
plt.show()
```



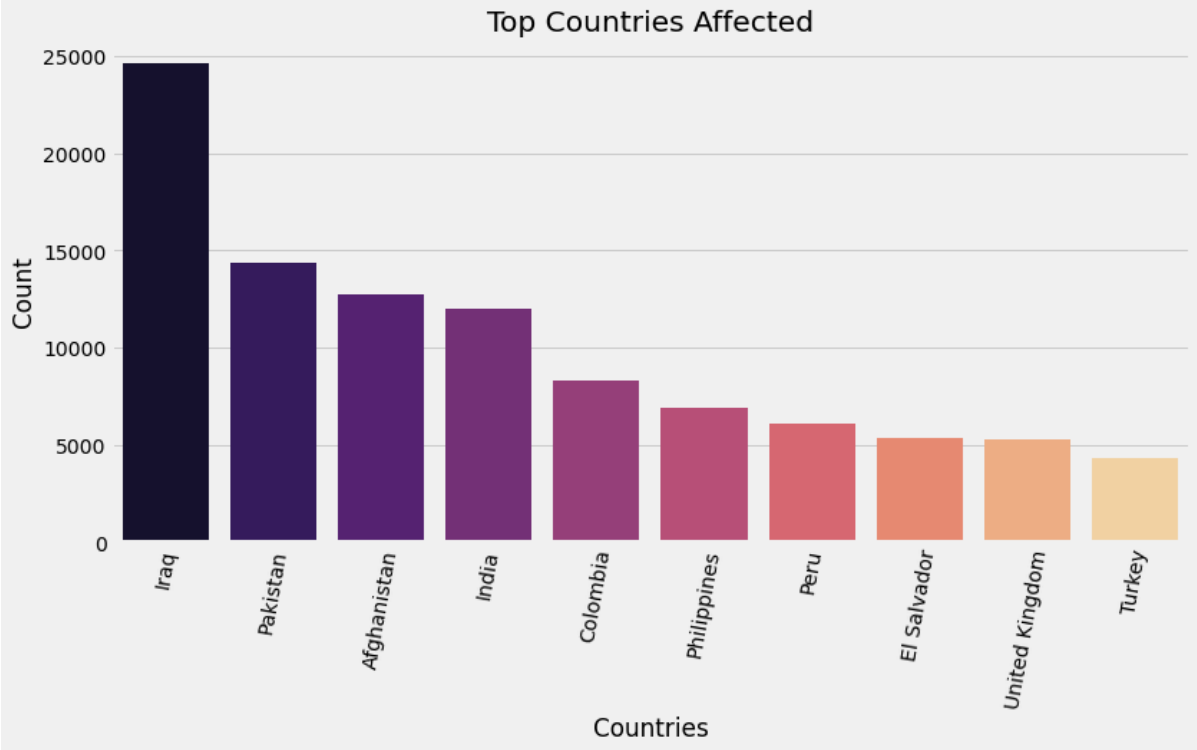
In [19]:
```
plt.subplots(figsize=(15,6))
sns.countplot(x='Region',data=df,palette='magma',order=df['Region'].value_count
plt.xticks(rotation=80)
plt.title('Number Of Terrorist Activities By Region')
plt.show()
```



Terrorism in the Middle East has experienced repeated increases year after year, largely due to ongoing geopolitical conflicts and the presence of extremist groups. South Asia has also witnessed a rise in terrorism, often linked to criminal organizations and drug trafficking. In contrast, Central Asia has comparatively lower terrorism rates

Top 10 Affected Countries

In [20]:
```
plt.subplots(figsize=(12,6))
top=df['Country'].value_counts()[:10].to_frame().reset_index()
top.columns= ['Country','Attacks_Counts']
sns.barplot(x='Country',y='Attacks_Counts', data= top, palette='magma')
plt.title('Top Countries Affected')
plt.xlabel('Countries')
plt.ylabel('Count')
plt.xticks(rotation=80)
plt.show()
```



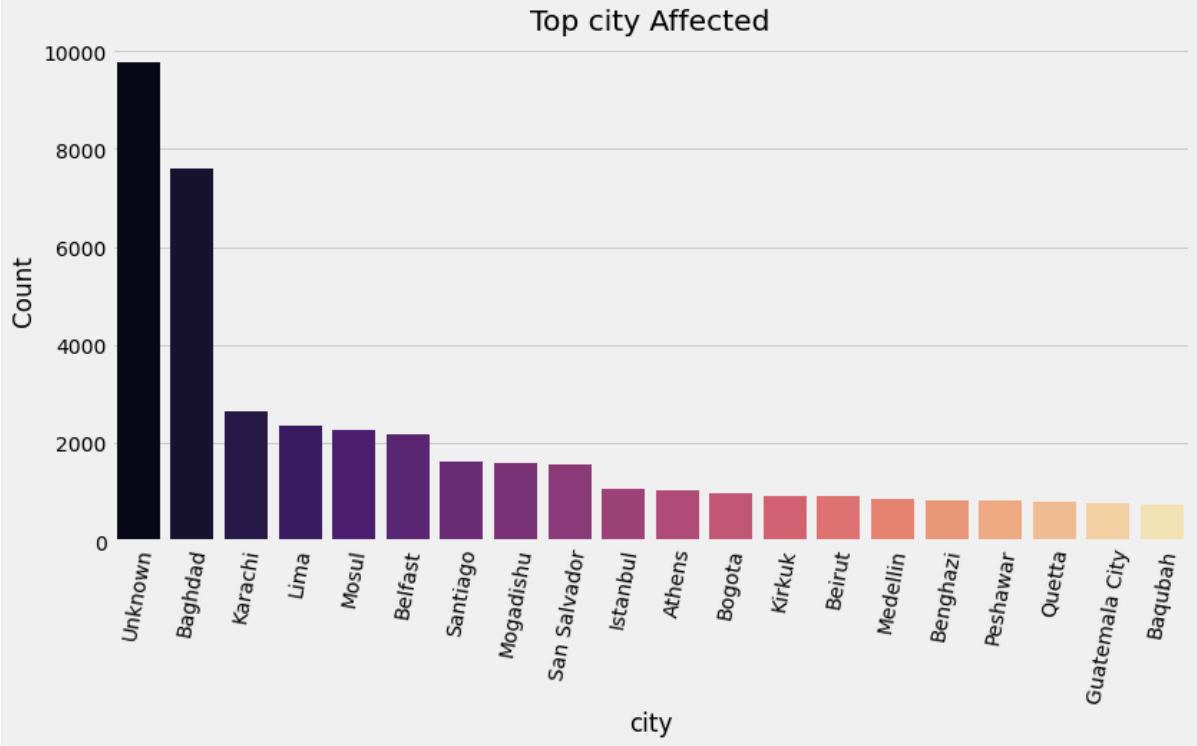
The graph highlights five countries most affected by terrorism:

1. Iraq
2. Pakistan
3. Afghanistan
4. India
5. Colombia

These nations face significant challenges related to terrorism, requiring ongoing efforts to ensure the safety and security of their populations and regional stability.

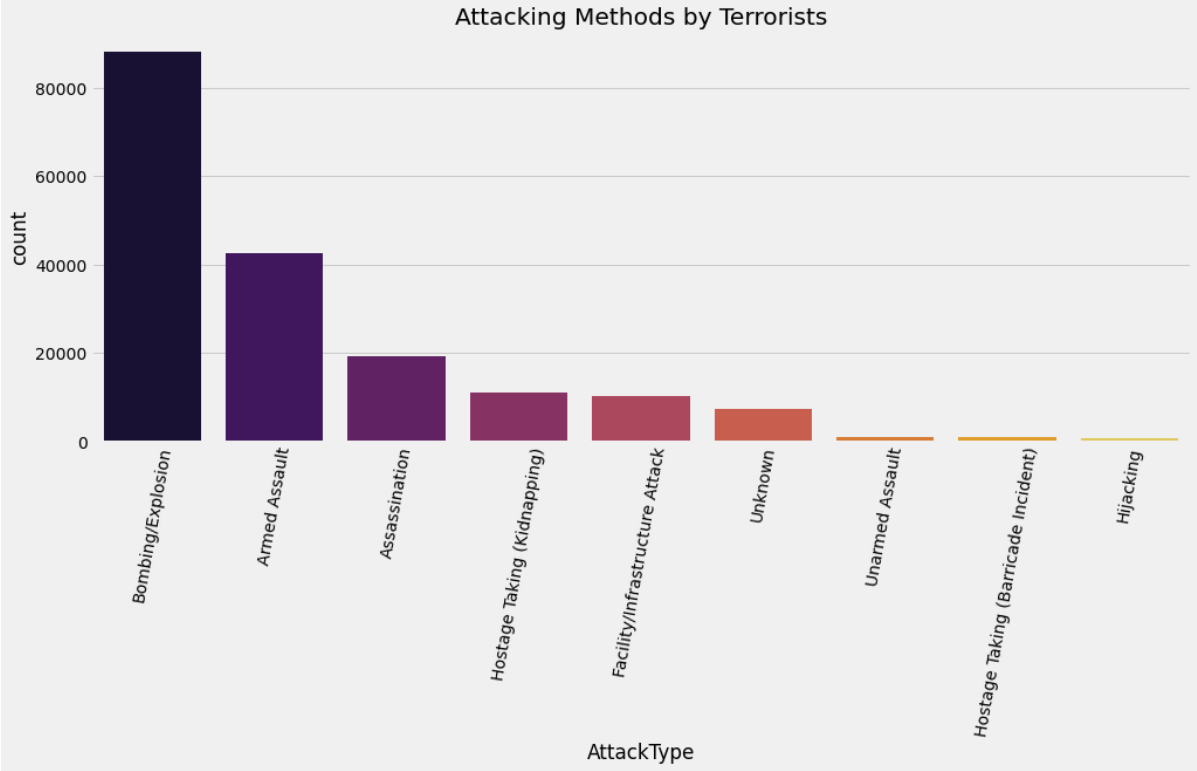
In [21]:
```
plt.subplots(figsize=(12,6))
top=df['city'].value_counts()[:20].to_frame().reset_index()
top.columns= ['city','Attacks_Counts']
sns.barplot(x='city',y='Attacks_Counts', data= top, palette='magma')
plt.title('Top city Affected')
plt.xlabel('city')
plt.ylabel('Count')
plt.xticks(rotation=80)
```

Out[21]:
```
(array([ 0,  1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16,
        17, 18, 19]),
 [Text(0, 0, 'Unknown'),
  Text(1, 0, 'Baghdad'),
  Text(2, 0, 'Karachi'),
  Text(3, 0, 'Lima'),
  Text(4, 0, 'Mosul'),
  Text(5, 0, 'Belfast'),
  Text(6, 0, 'Santiago'),
  Text(7, 0, 'Mogadishu'),
  Text(8, 0, 'San Salvador'),
  Text(9, 0, 'Istanbul'),
  Text(10, 0, 'Athens'),
  Text(11, 0, 'Bogota'),
  Text(12, 0, 'Kirkuk'),
  Text(13, 0, 'Beirut'),
  Text(14, 0, 'Medellin'),
  Text(15, 0, 'Benghazi'),
  Text(16, 0, 'Peshawar'),
  Text(17, 0, 'Quetta'),
  Text(18, 0, 'Guatemala City'),
  Text(19, 0, 'Baqubah')])
```



Attacking Methods by Terrorists

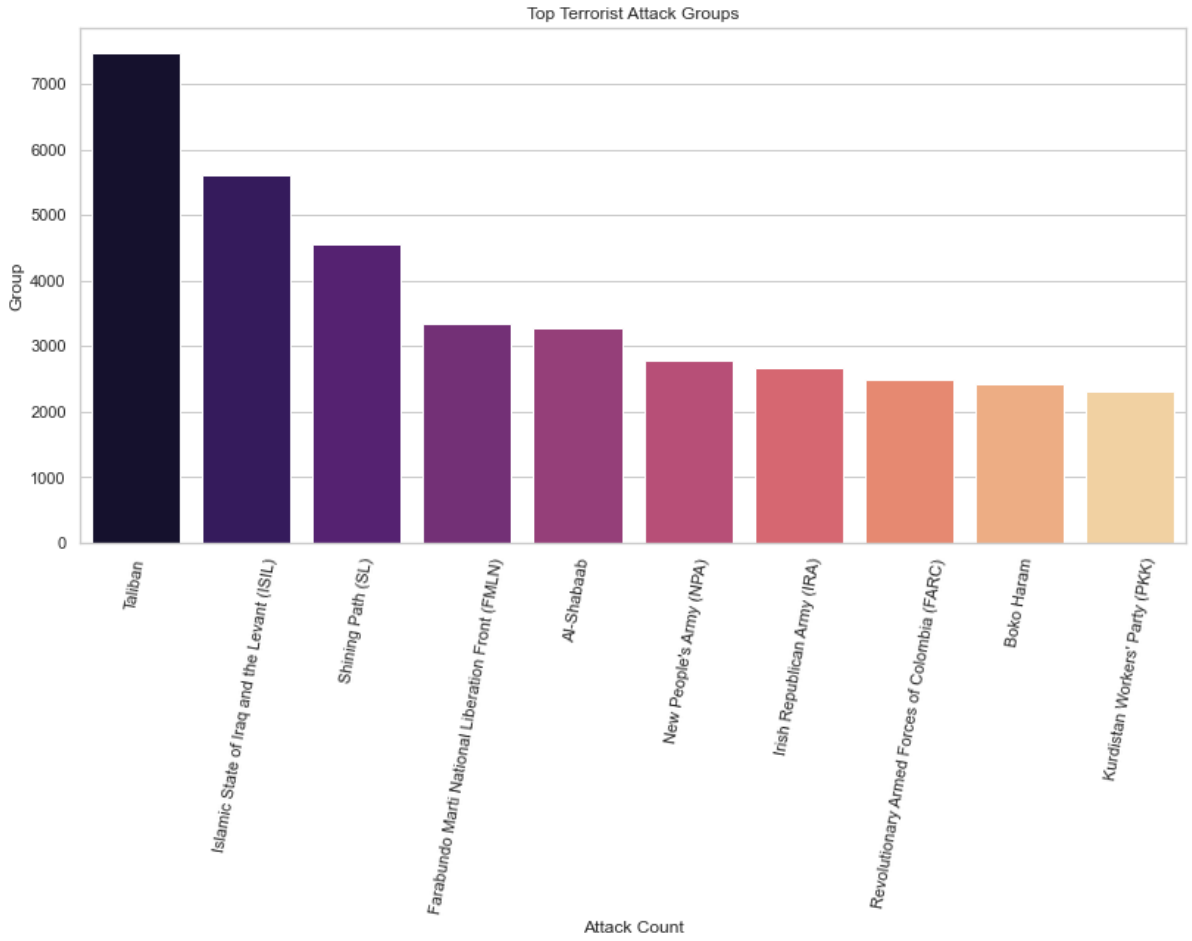
In [22]:
```
plt.subplots(figsize=(15,6))
sns.countplot(x='AttackType',data=df,palette='inferno',order=df['AttackType'].v
plt.xticks(rotation=80)
plt.title('Attacking Methods by Terrorists')
plt.show()
```



Top Terrorists Group

In [23]:
```
group_counts = df['Group'].value_counts()
sort = group_counts.sort_values(ascending=False)

# Select the top 5 most frequent groups
sort = sort.iloc[1:]
top_5 = sort.head(10)
```

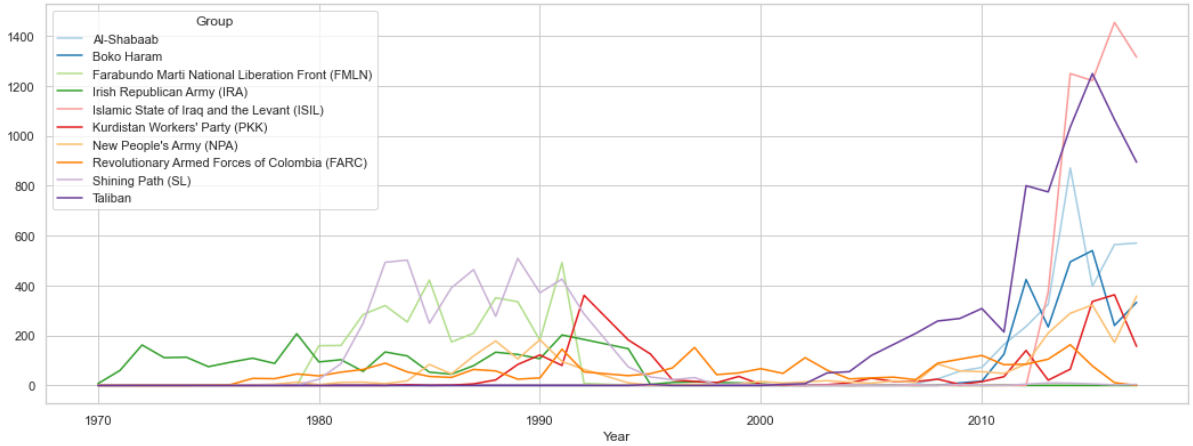
In [24]:
```
# Plotting top 5 terrorists groups

sns.set(style="whitegrid")

plt.figure(figsize=(12, 6))
sns.barplot(x=top_5.index, y=top_5.values, palette="magma")
plt.title('Top Terrorist Attack Groups')
plt.xlabel('Attack Count')
plt.ylabel('Group')
plt.xticks(rotation = 80)
plt.show()
```



The Taliban is a prominent terrorist group, but it's important to note that the global terrorism landscape is complex. Other significant terrorist groups, like ISIS, Al-Qaeda, Boko Haram, and Al-Shabaab, also operate in various regions, making it challenging to definitively label one as the "most active" worldwide. The prominence of these groups can change over time.

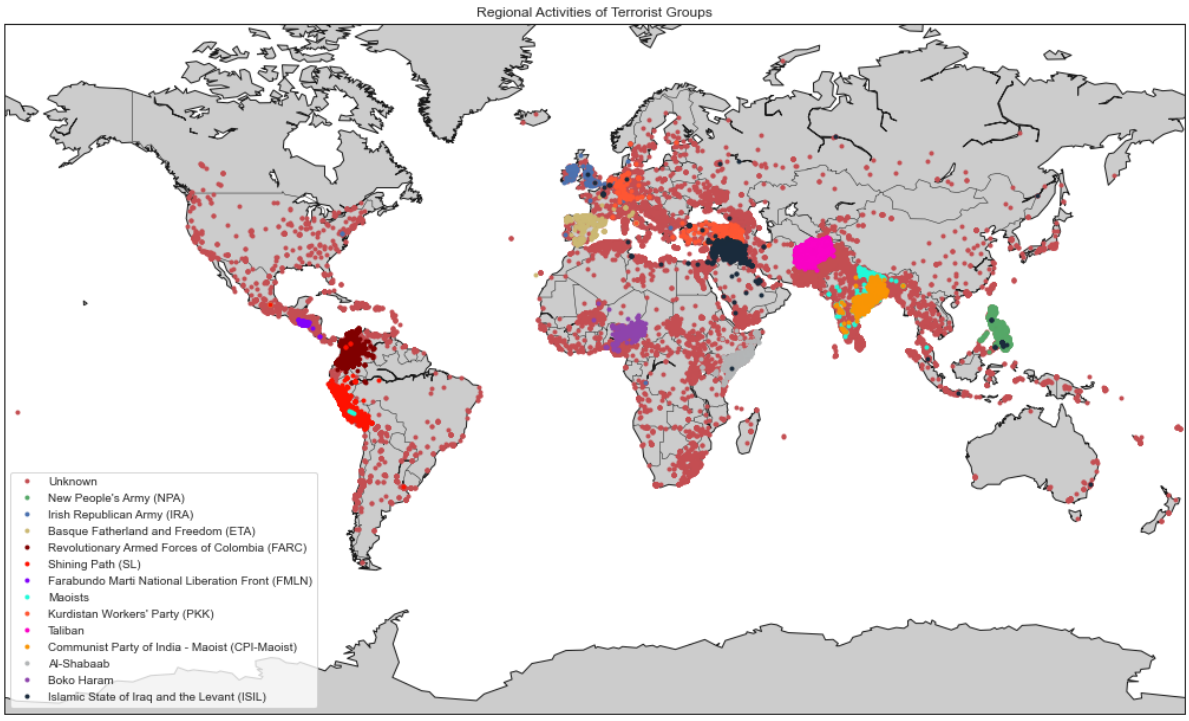
Activity of Top Terrorist Groups

In [25]:
```
top_groups10=df[df['Group'].isin(df['Group'].value_counts()[1:11].index)]
pd.crosstab(top_groups10.Year,top_groups10.Group).plot(color=sns.color_palette(
fig=plt.gcf()
fig.set_size_inches(16,6)
plt.show()
```



Regions Attacked By Terrorist Groups

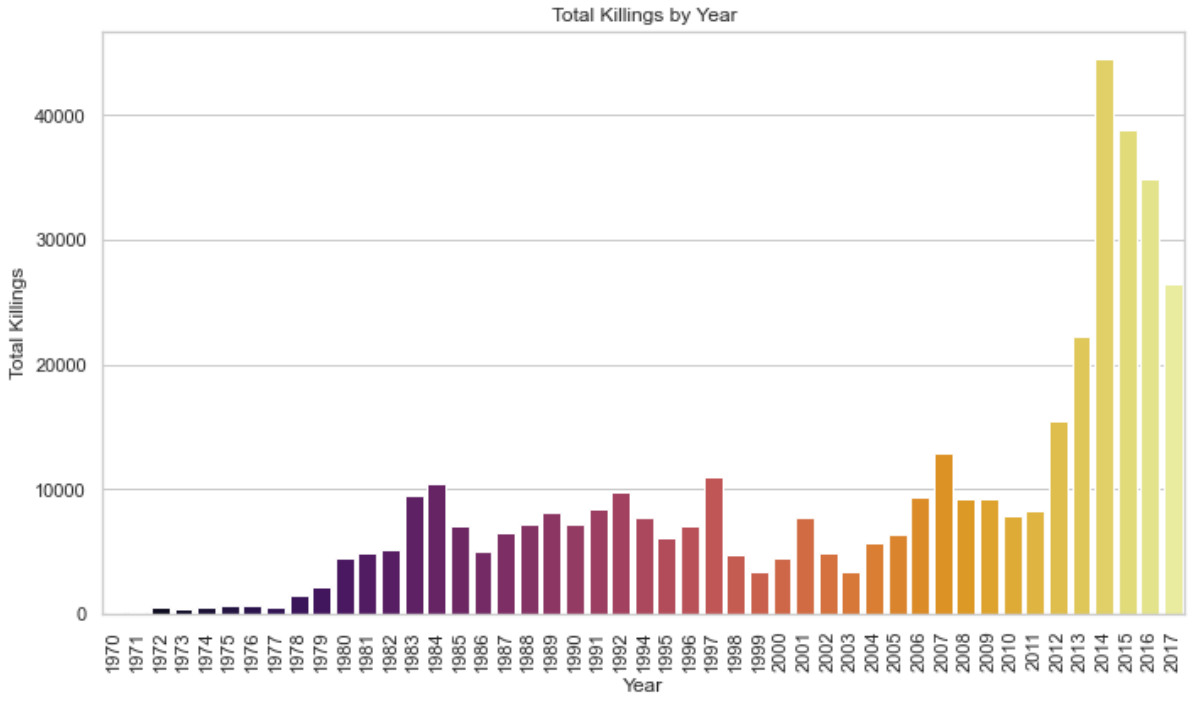
In [26]:
```
top_groups=df[df['Group'].isin(df['Group'].value_counts()[:14].index)]
m4 = Basemap(projection='mill',llcrnrlat=-80,urcrnrlat=80, llcrnrlon=-180,urcrn
m4.drawcoastlines()
m4.drawcountries()
m4.fillcontinents(lake_color='#fff')
m4.drawmapboundary(fill_color='#fff')
fig=plt.gcf()
fig.set_size_inches(22,10)
colors=['r','g','b','y','#800000','#ff1100','#8202fa','#20fad9','#ff5733','#fa0
group=list(top_groups['Group'].unique())
def group_point(group,color,label):
    lat_group=list(top_groups[top_groups['Group']==group].latitude)
    long_group=list(top_groups[top_groups['Group']==group].longitude)
    x_group,y_group=m4(long_group,lat_group)
    m4.plot(x_group,y_group,'go',markersize=3,color=j,label=i)
for i,j in zip(group,colors):
    group_point(i,j,i)
legend=plt.legend(loc='lower left',frameon=True,prop={'size':10})
frame=legend.get_frame()
frame.set_facecolor('white')
plt.title('Regional Activities of Terrorist Groups')
plt.show()
```



People Killed and Wounded In Each Year

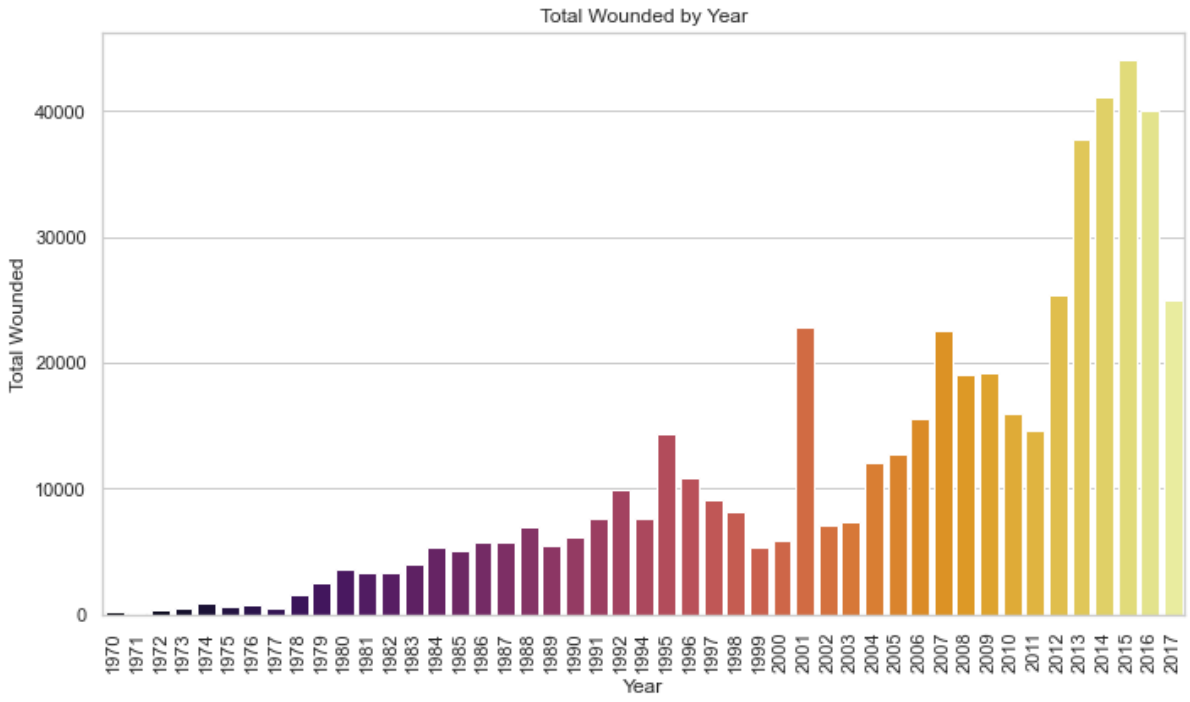
In [27]:
```
k=df[["Year","Killed"]].groupby("Year").sum()
```

In [28]:
```
plt.figure(figsize=(10, 6))
sns.barplot(x=k.index, y="Killed", palette="inferno",data=k)

plt.title("Total Killings by Year")
plt.xlabel("Year")
plt.ylabel("Total Killings")

plt.xticks(rotation=90)

plt.tight_layout()
plt.show()
```



In [29]:
```
k=df[["Year","Wounded"]].groupby("Year").sum()
```

In [30]:
```
plt.figure(figsize=(10, 6))
sns.barplot(x=k.index, y="Wounded", palette="inferno",data=k)

plt.title("Total Wounded by Year")
plt.xlabel("Year")
plt.ylabel("Total Wounded")

plt.xticks(rotation=90)

plt.tight_layout()
plt.show()
```



People Killed and Wounded In Each Region

In [31]:
```
k=df[["Region","Killed"]].groupby("Region").sum().sort_values(by="Killed",ascer
k
```

Out[31]:

Region	Killed
Middle East & North Africa	137642.0
South Asia	101319.0
Sub-Saharan Africa	78386.0
South America	28849.0
Central America & Caribbean	28708.0
Southeast Asia	15637.0
Eastern Europe	7415.0
Western Europe	6694.0
North America	4916.0
East Asia	1152.0
Central Asia	1000.0
Australasia & Oceania	150.0

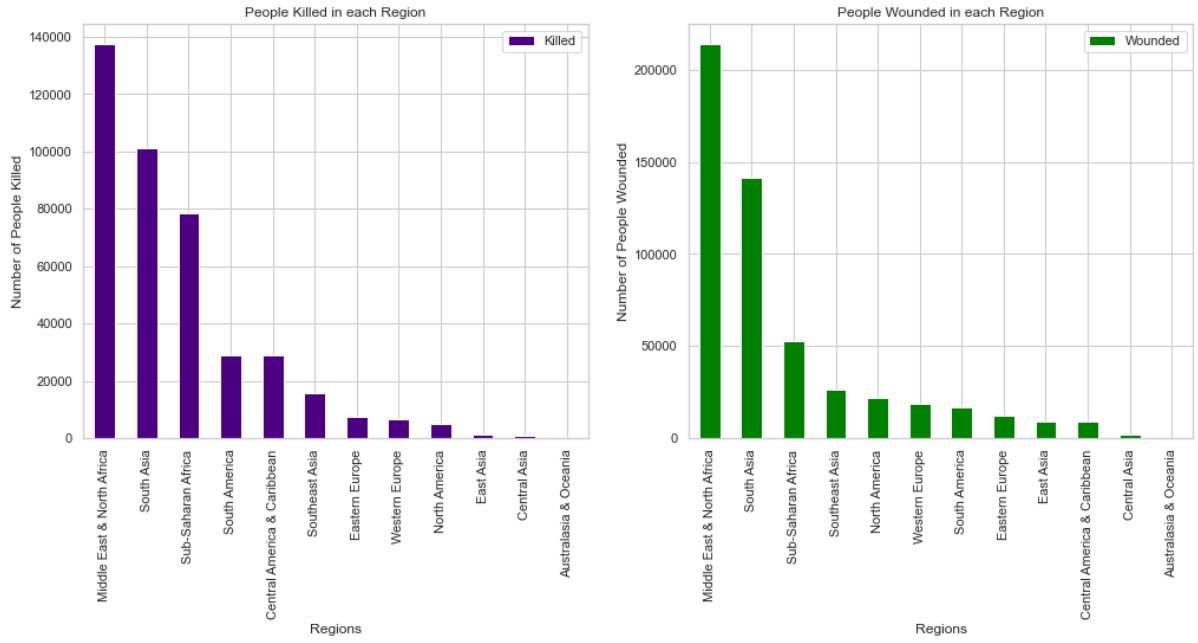
In [32]:
```
w=df[["Region","Wounded"]].groupby("Region").sum().sort_values(by="Wounded",asc
w
```

Out[32]:

Region	Wounded
Middle East & North Africa	214308.0
South Asia	141360.0
Sub-Saharan Africa	52857.0
Southeast Asia	26259.0
North America	21531.0
Western Europe	18332.0
South America	16704.0
Eastern Europe	12045.0
East Asia	9213.0
Central America & Caribbean	8991.0
Central Asia	2009.0
Australasia & Oceania	260.0

In [33]:
```
fig=plt.figure()
ax0=fig.add_subplot(1,2,1)
ax1=fig.add_subplot(1,2,2)

#People Killed
k.plot(kind="bar",color="indigo",figsize=(15,6),ax=ax0)
ax0.set_title("People Killed in each Region")
ax0.set_xlabel("Regions")
ax0.set_ylabel("Number of People Killed")

#People Wounded
w.plot(kind="bar",color="green",figsize=(15,6),ax=ax1)
ax1.set_title("People Wounded in each Region")
ax1.set_xlabel("Regions")
ax1.set_ylabel("Number of People Wounded")

plt.show
```

Out[33]:
```
<function matplotlib.pyplot.show(close=None, block=None)>
```



Types of terrorist attacks that cause deaths

In [34]:
```
killData = df.loc[:,'Killed']
print('Number of people killed by terror attack:', int(sum(killData.dropna())))
```

```
Number of people killed by terror attack: 411868
```

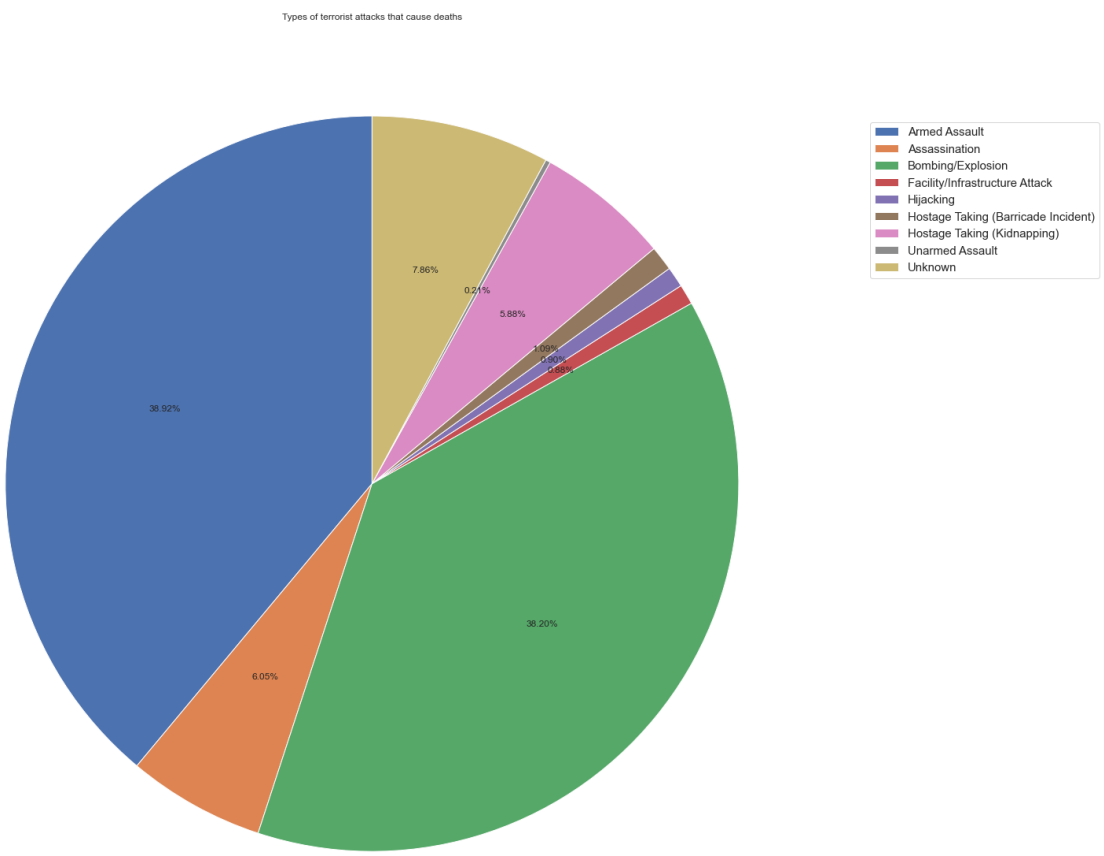
In [35]:
```
attackData = df.loc[:,'AttackType']
typeKillData = pd.concat([attackData, killData], axis=1)
```

In [36]:
```
typeKillFormatData = typeKillData.pivot_table(columns='AttackType', values='Kil
typeKillFormatData
```

Out[36]:

AttackType	Armed Assault	Assassination	Bombing/Explosion	Facility/Infrastructure Attack	Hijacking	Hosta Taki (Barrica Incide
Killed	160297.0	24920.0	157321.0	3642.0	3718.0	447

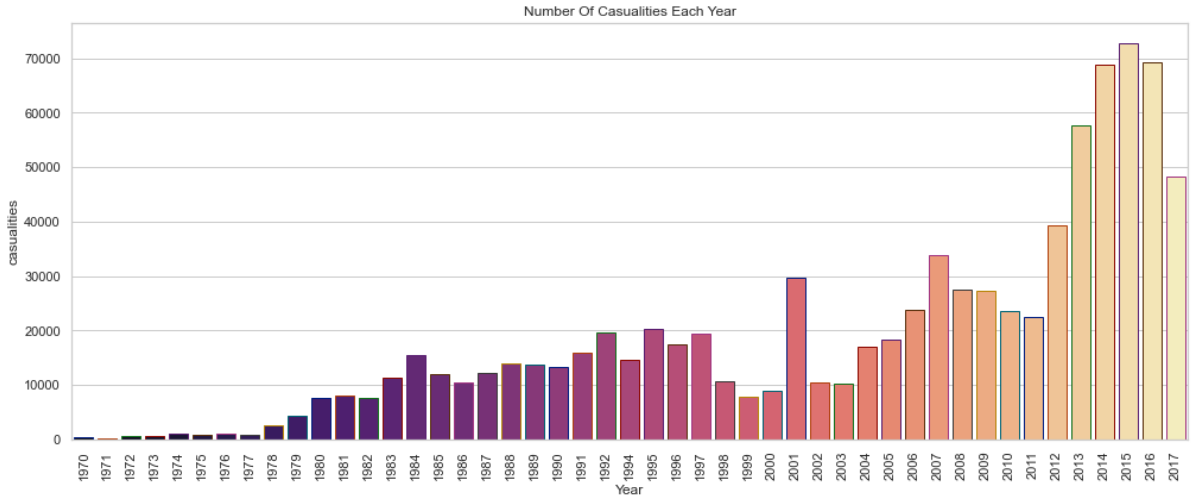
In [37]:
```
labels = typeKillFormatData.columns.tolist() # convert line to list
transpoze = typeKillFormatData.T # transpoze

# Assuming values is a 2D array
values = transpoze.values.tolist()
values = np.array(values).flatten()  # Flatten the 2D array to make it 1D

fig, ax = plt.subplots(figsize=(20, 20), subplot_kw=dict(aspect="equal"))
plt.pie(values, startangle=90, autopct='%.2f%%')
plt.title('Types of terrorist attacks that cause deaths')
plt.legend(labels, loc='upper right', bbox_to_anchor=(1.3, 0.9), fontsize=15)
plt.show()
```



The combination of armed assaults and bombings/explosions is responsible for a significant 77% of fatalities in terrorist attacks. This highlights the persistent use of these tactics and underscores the global threat posed by weapons and explosives.

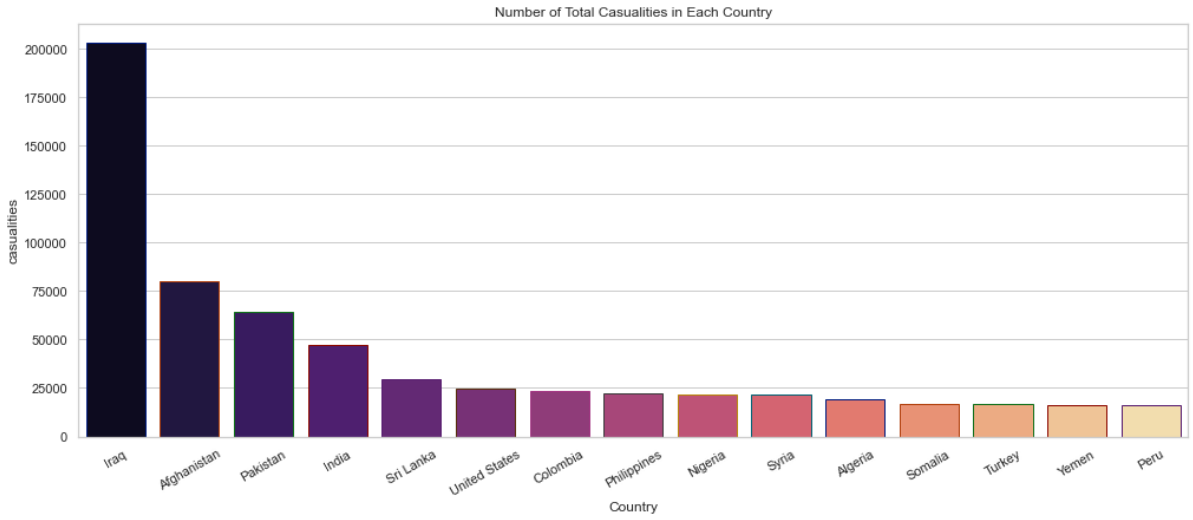
Yearly Casualities

In [38]:
```
plt.subplots(figsize=(15,6))
year_cas = df.groupby('Year').casualities.sum().to_frame().reset_index()
year_cas.columns = ['Year','casualities']
sns.barplot(x=year_cas.Year, y=year_cas.casualities, palette='magma',edgecolor=
plt.xticks(rotation=90)
plt.title('Number Of Casualities Each Year')
plt.show()
```



Number of Total Casualities in Each Country

In [39]:
```
plt.subplots(figsize=(15,6))
count_cas = df.groupby('Country').casualities.sum().to_frame().reset_index().so
sns.barplot(x=count_cas.Country, y=count_cas.casualities, palette= 'magma',edge
plt.xticks(rotation=30)
plt.title('Number of Total Casualities in Each Country')
plt.show()
```

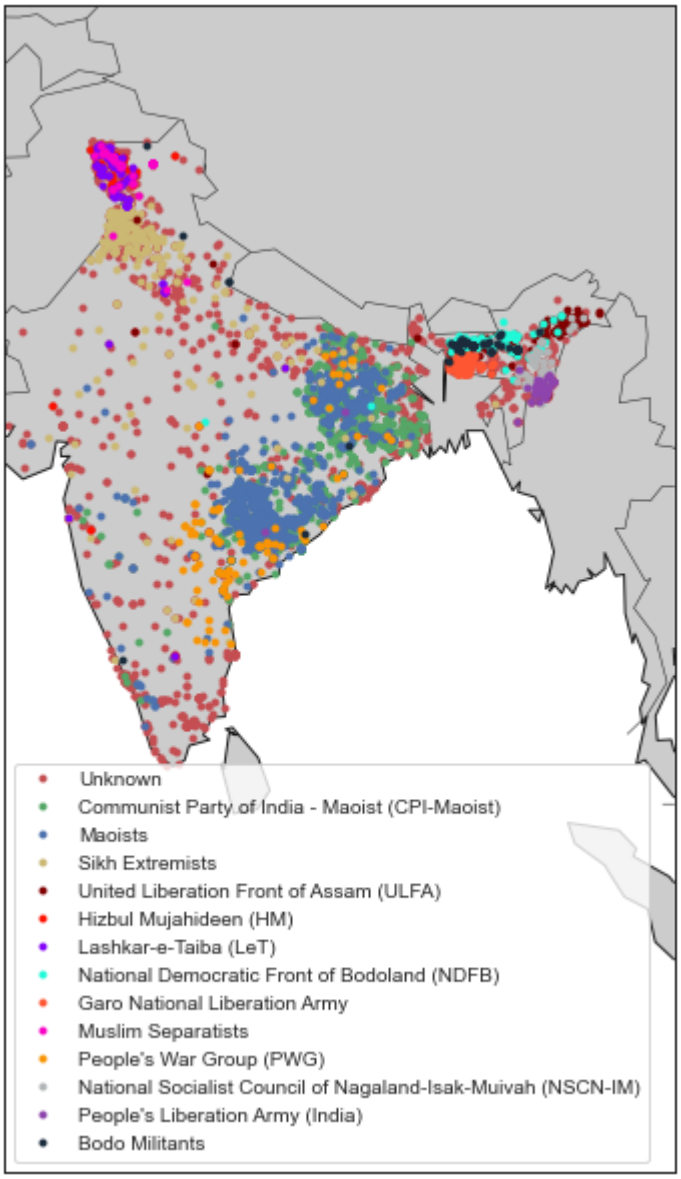


Terrorist Attacks in India

In [40]:

```
india_data = df[df['Country'] == 'India']

# Get the top 14 terrorist groups in India
top_groups = india_data['Group'].value_counts().head(14).index

# Create a Basemap instance
m4 = Basemap(
    projection='mill',
    llcrnrlat=-10,
    urcrnrlat=40,
    llcrnrlon=70,
    urcrnrlon=100,
    resolution='c',
    lat_0=True,
    lat_1=True
)

# Customize the map
m4.drawcoastlines()
m4.drawcountries()
m4.fillcontinents(lake_color='#fff')
m4.drawmapboundary(fill_color='#fff')

# Set the figure size
fig = plt.gcf()
fig.set_size_inches(22, 10)

# Define colors for plotting
colors = ['r', 'g', 'b', 'y', '#800000', '#ff1100', '#8202fa', '#20fad9', '#ff5

# Iterate through the top groups and plot their activities
for group, color in zip(top_groups, colors):
    group_data = india_data[india_data['Group'] == group]
    x_group, y_group = m4(group_data['longitude'].values, group_data['latitude'
    m4.plot(x_group, y_group, 'go', markersize=3, color=color, label=group)

# Add legend
plt.legend(loc='lower left', frameon=True, prop={'size': 10})

# Set the plot title
plt.title('Regional Activities of Top Terrorist Groups in India')

# Show the plot
plt.show()
```

Regional Activities of Top Terrorist Groups in India



In [41]:
```
India = df[(df['Country'] == 'India')]
India.head(5)
```

Out[41]:

	eventid	Year	Month	Day	Country	Region	state	city	latitude	lo
1186	197202220004	1972	2	22	India	South Asia	Delhi	New Delhi	28.585836	77.
2764	197501190004	1975	1	2	India	South Asia	Bihar	Samastipur	25.863042	85.
3857	197605260001	1976	5	26	India	South Asia	Delhi	New Delhi	28.585836	77.
5327	197709280004	1977	9	28	India	South Asia	Maharashtra	Bombay	19.075984	72.
7337	197901130004	1979	1	13	India	South Asia	Assam	Unknown	26.200605	92.

5 rows × 21 columns

In [42]:
```
India_attacks = India['eventid'].count()
print('There were',India_attacks ,'attacks in India.')
```

```
There were 11960 attacks in India.
```

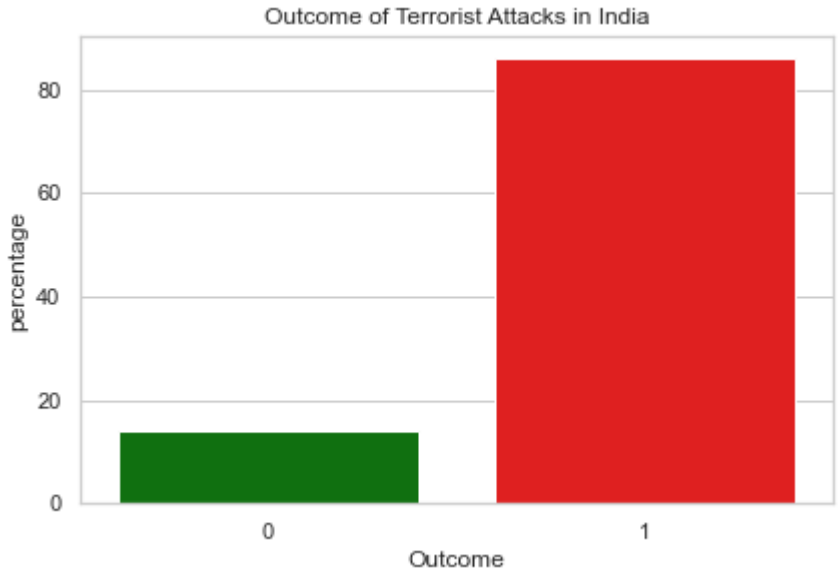
In [43]:
```
India_success = India.groupby('success').size().reset_index(name='count')
India_success['percentage'] = India_success['count'] / India_attacks * 100
India_success
```

Out[43]:

	success	count	percentage
0	0	1680	14.046823
1	1	10280	85.953177

In [44]:
```
sns.barplot(x='success', y='percentage', data = India_success,palette=['green',
plt.title("Outcome of Terrorist Attacks in India")
plt.xlabel("Outcome")
```

Out[44]: Text(0.5, 0, 'Outcome')



Attack types in India and their success rates.

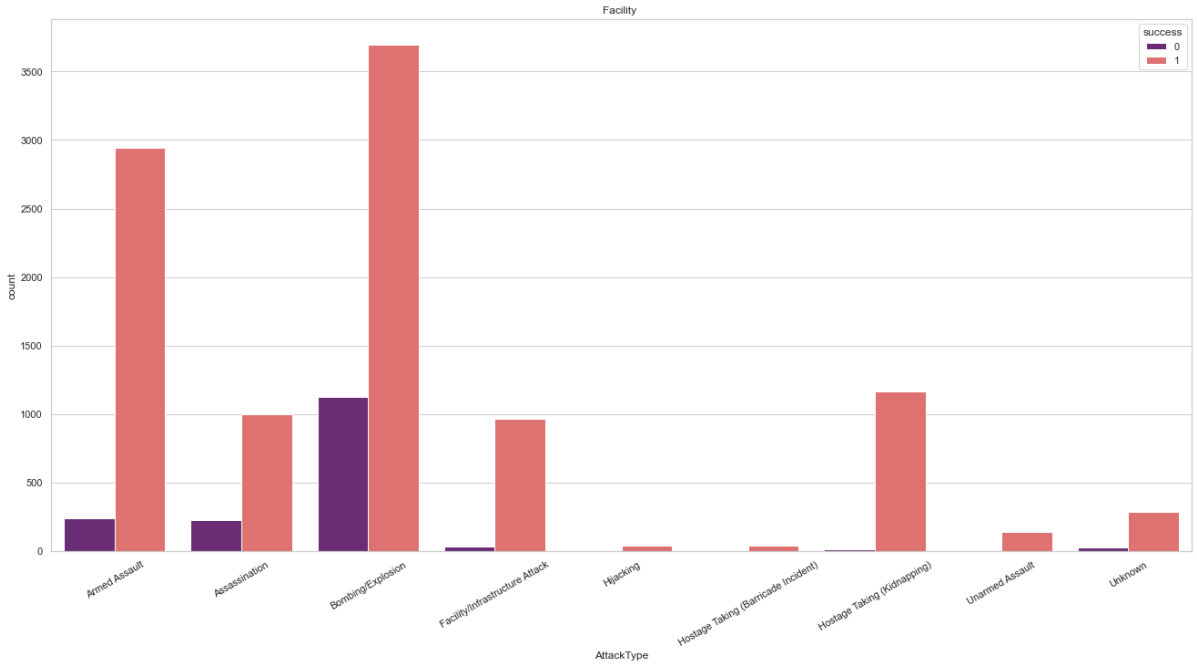
In [45]:
```
attack_types_India = India.groupby(['AttackType','success']).size().reset_index
attack_types_India
```

Out[45]:

	AttackType	success	count
0	Armed Assault	0	244
1	Armed Assault	1	2940
2	Assassination	0	228
3	Assassination	1	1001
4	Bombing/Explosion	0	1128
5	Bombing/Explosion	1	3697
6	Facility/Infrastructure Attack	0	33
7	Facility/Infrastructure Attack	1	963
8	Hijacking	0	4
9	Hijacking	1	39
10	Hostage Taking (Barricade Incident)	0	1
11	Hostage Taking (Barricade Incident)	1	43
12	Hostage Taking (Kidnapping)	0	16
13	Hostage Taking (Kidnapping)	1	1168
14	Unarmed Assault	0	1
15	Unarmed Assault	1	142
16	Unknown	0	25
17	Unknown	1	287

In [46]:
```
plt.figure(figsize=(20,10))
sns.barplot(x='AttackType', y='count', hue='success', data=attack_types_India,
plt.xticks(rotation=30)
plt.title("Facility ")
```

Out[46]: Text(0.5, 1.0, 'Facility ')



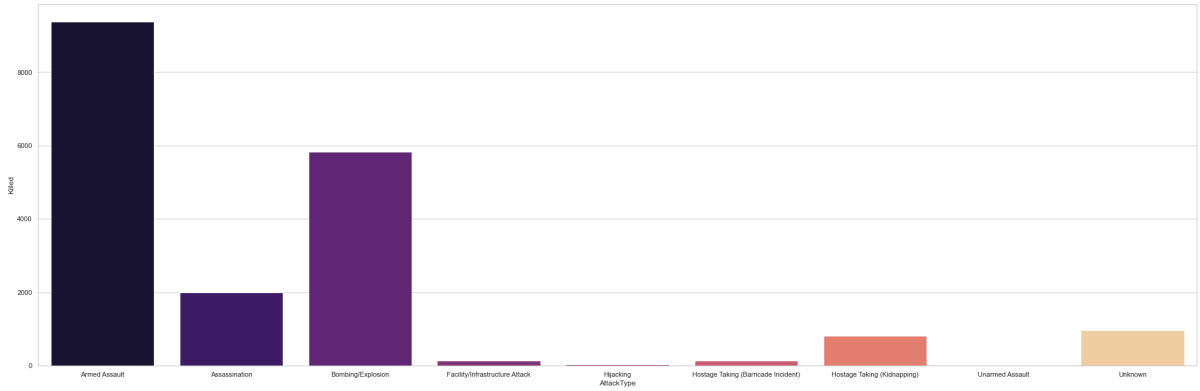
In [47]:
```
nkills_India = India.groupby('AttackType')[['Killed']].sum().reset_index()
nkills_India
```

Out[47]:

	AttackType	Killed
0	Armed Assault	9378.0
1	Assassination	2001.0
2	Bombing/Explosion	5830.0
3	Facility/Infrastructure Attack	135.0
4	Hijacking	42.0
5	Hostage Taking (Barricade Incident)	136.0
6	Hostage Taking (Kidnapping)	819.0
7	Unarmed Assault	28.0
8	Unknown	972.0

In [48]:
```
plt.figure(figsize=(30,10))
sns.barplot(x='AttackType', y='Killed', data=nkills_India,palette= 'magma')
```

Out[48]:
```
<AxesSubplot:xlabel='AttackType', ylabel='Killed'>
```



Conclusion

The global landscape is witnessing a concerning rise in the incidence of terrorism attacks, posing a growing threat to peace and security. This unsettling trend is particularly pronounced in two regions: the Middle East and North Africa, as well as South America, where the number of terrorist attacks has surged significantly.

One of the striking aspects of this worrisome phenomenon is the high rate of success achieved by terrorist groups and individuals. Alarmingly, a staggering 89% of these attacks have been successful, resulting in a range of devastating consequences for the affected populations. This success rate underscores the effectiveness and persistence of these malicious actors in carrying out their destructive agendas.

Furthermore, the data reveals that the use of bombings and explosions as tactics in these attacks has inflicted the most casualties. These incidents not only lead to loss of life but also cause severe injuries and widespread damage to property and infrastructure. The prevalence of such tactics highlights the devastating impact of explosive devices and the need for comprehensive efforts to counteract the proliferation and use of explosives on a global scale.

As terrorism continues to pose a significant global challenge, addressing the root causes, enhancing intelligence and security measures, and promoting international cooperation remain crucial in mitigating the impact and working toward a more secure and peaceful world.

THANK YOU!