

# RISK FACTORS FOR OCEAN ACTIVITIES

**COMPANY: APM INSURANCE**

**DEPARTMENT: DATA ANALYTICS**

**TEAM: ANNA, PAULINA, MARISA**

# APM INSURANCE

## worldwide insurance provider for EU citizens

### Services provided

- full coverage tourist insurance
- watersports insurance
- ocean activity insurance
- risk assessment



# Risk Assessment for Ocean Activities

## Business problem

Adjust policy pricing & coverage based on the risk associated with specific ocean activities

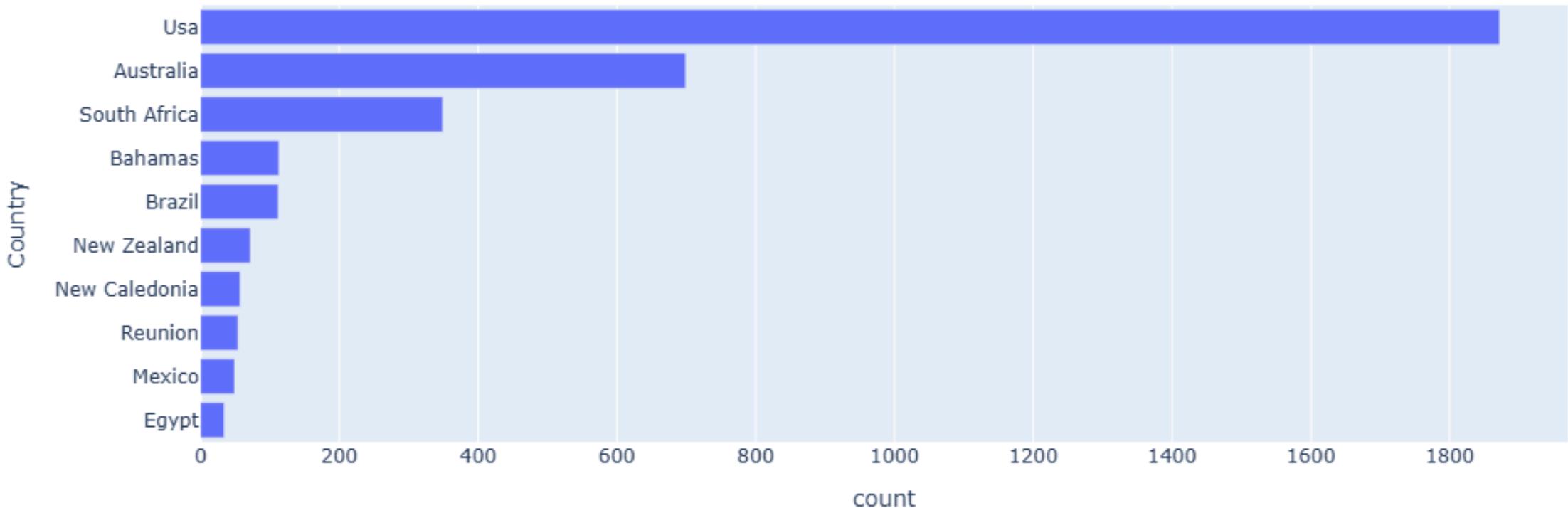


# Data source & Analysis overview

- Source: Global Shark Attack file from Shark Reaseach Institutes
- Filteres for the last 50 years, as climate change impacts sharks activity
- Data used for policy optimization: demographics, water activities, regions, and seasons



Top 10 Countries by Incident Count

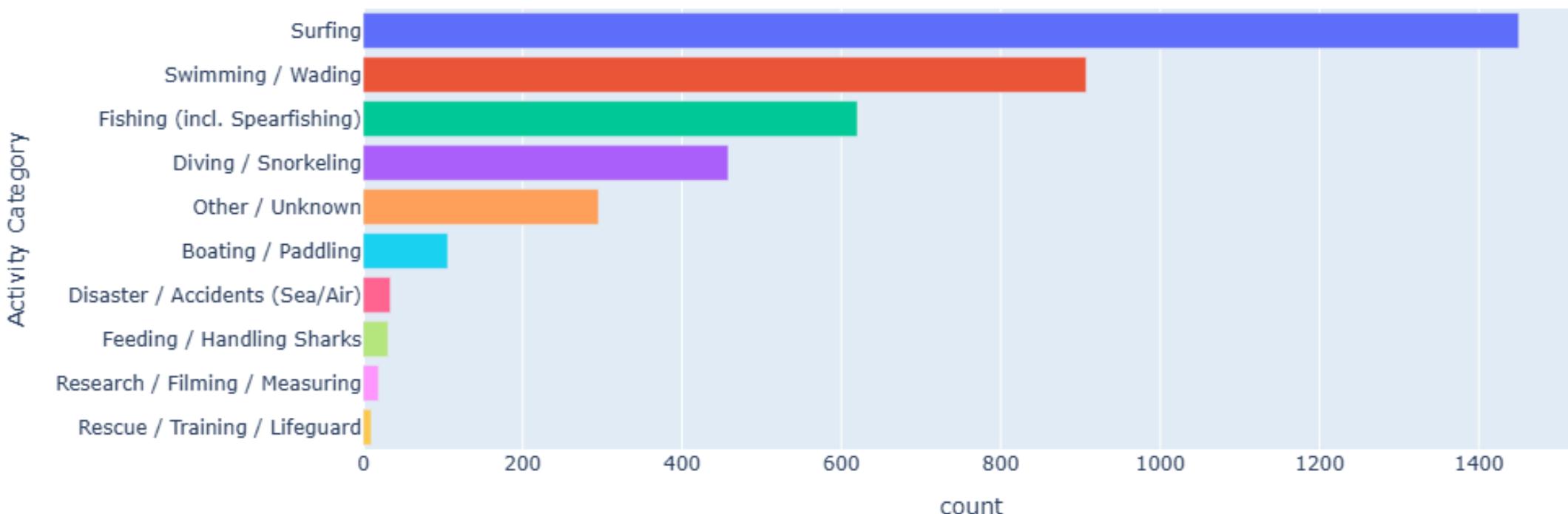


## COUNTRIES

Defined 10 countries with the highest frequency of shark attack to refine the higher insurance premium

- USA
- Australia
- South Africa
- Bahamas
- Brazil
- New Zealand
- New Caledonia
- Reunion
- Mexico
- Egypt

Top 10 Activity Categories by Incident Count

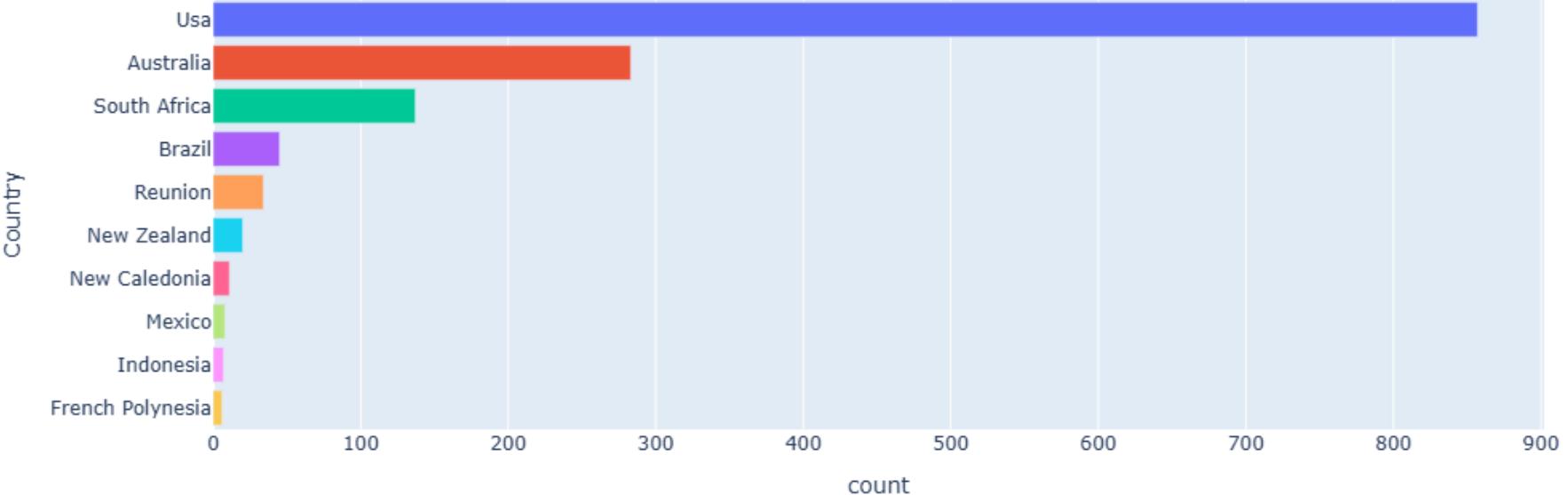


## ACTIVITY CATEGORIES

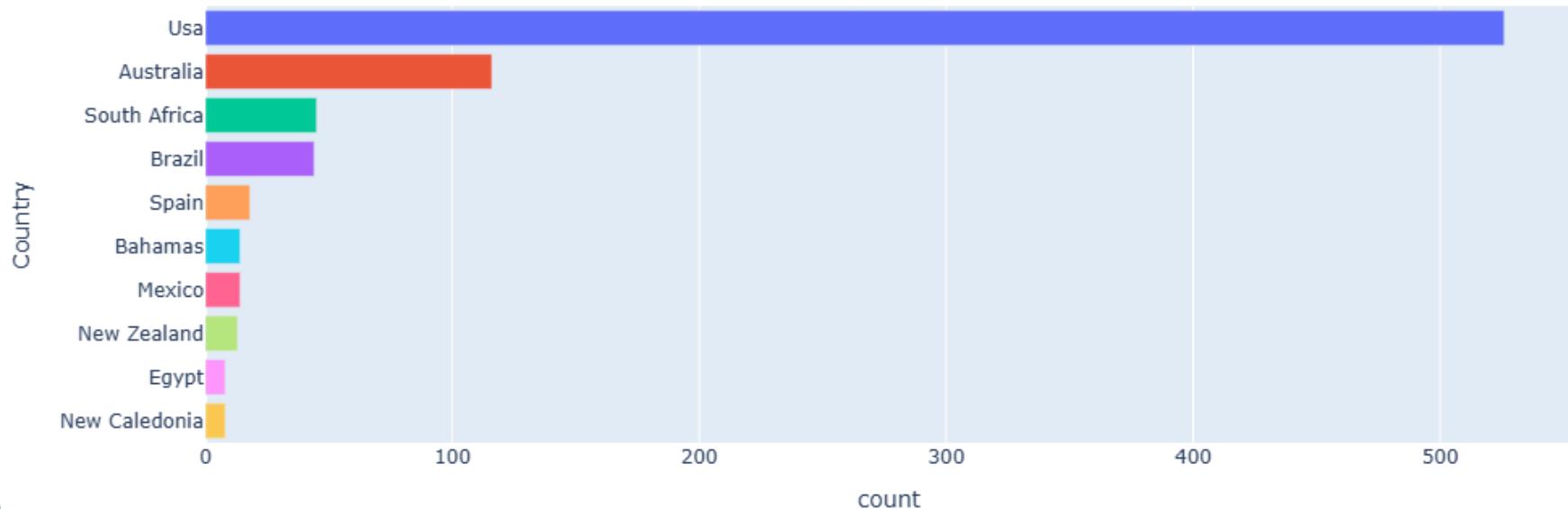
Same as the data above, we analysed the 5 top risky activities to define the premium insurance increase:

- Surfing
- Swimming
- Fishing
- Diving
- Boating

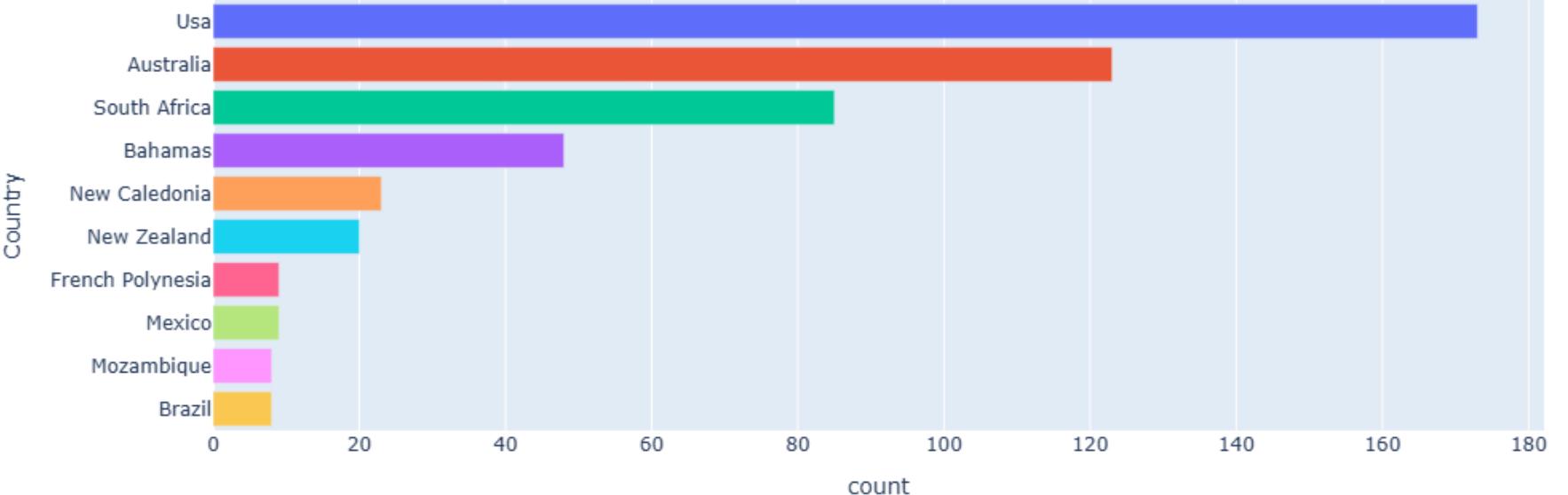
Top 10 Countries with Incidents while Surfing



Top 10 Countries with Incidents while Swimming



Top 10 Countries with Incidents while Fishing

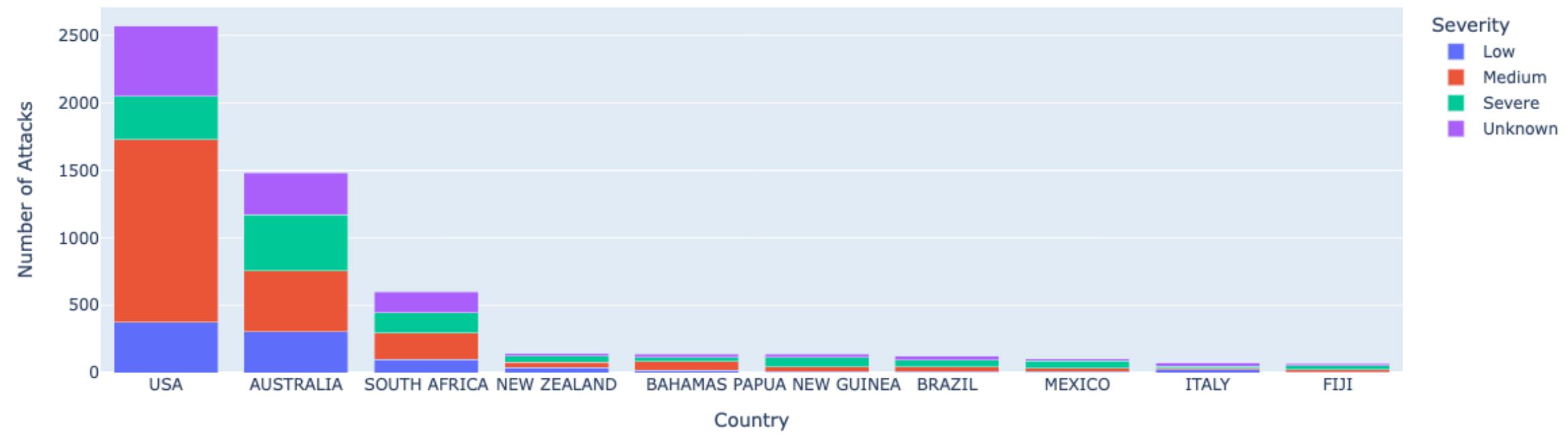


## ACTIVITY PER COUNTRY

5 countries with the highest number of attacks

- USA
- Australia
- South Africa
- Bahamas
- Brazil

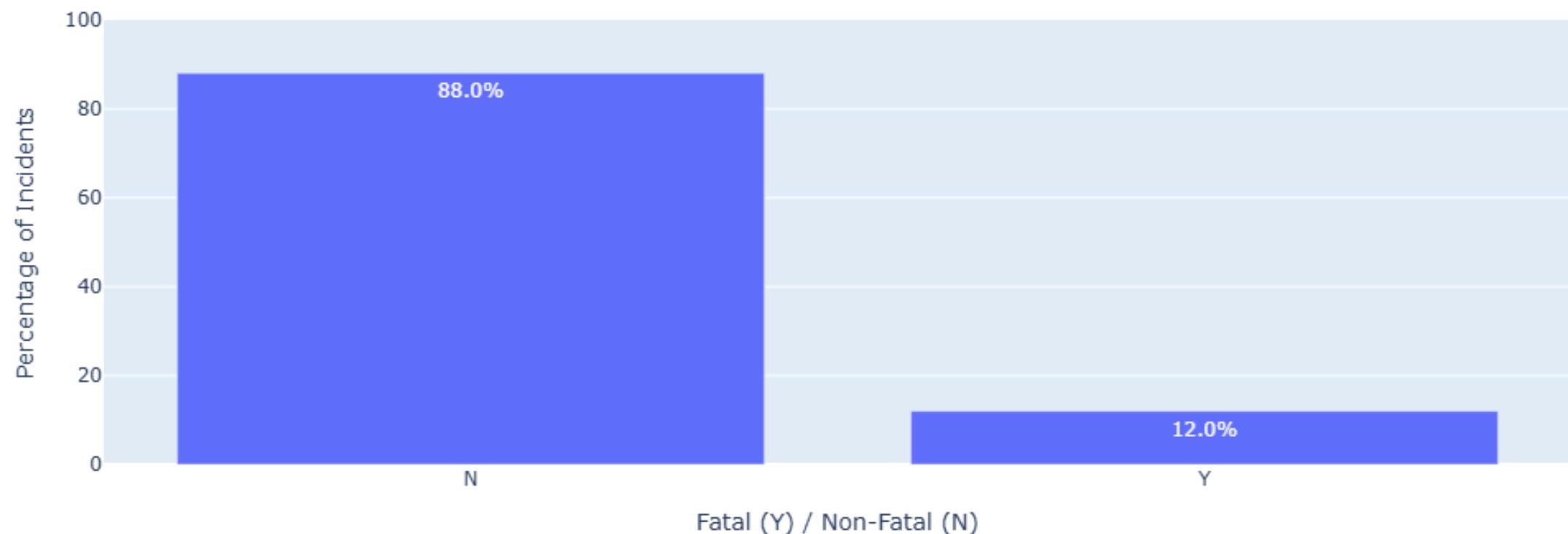
Shark Attack Severity by Country (Last 50 Years)



## SEVERITY

The medium severity prevails in the analysis which can refine the insurance premium

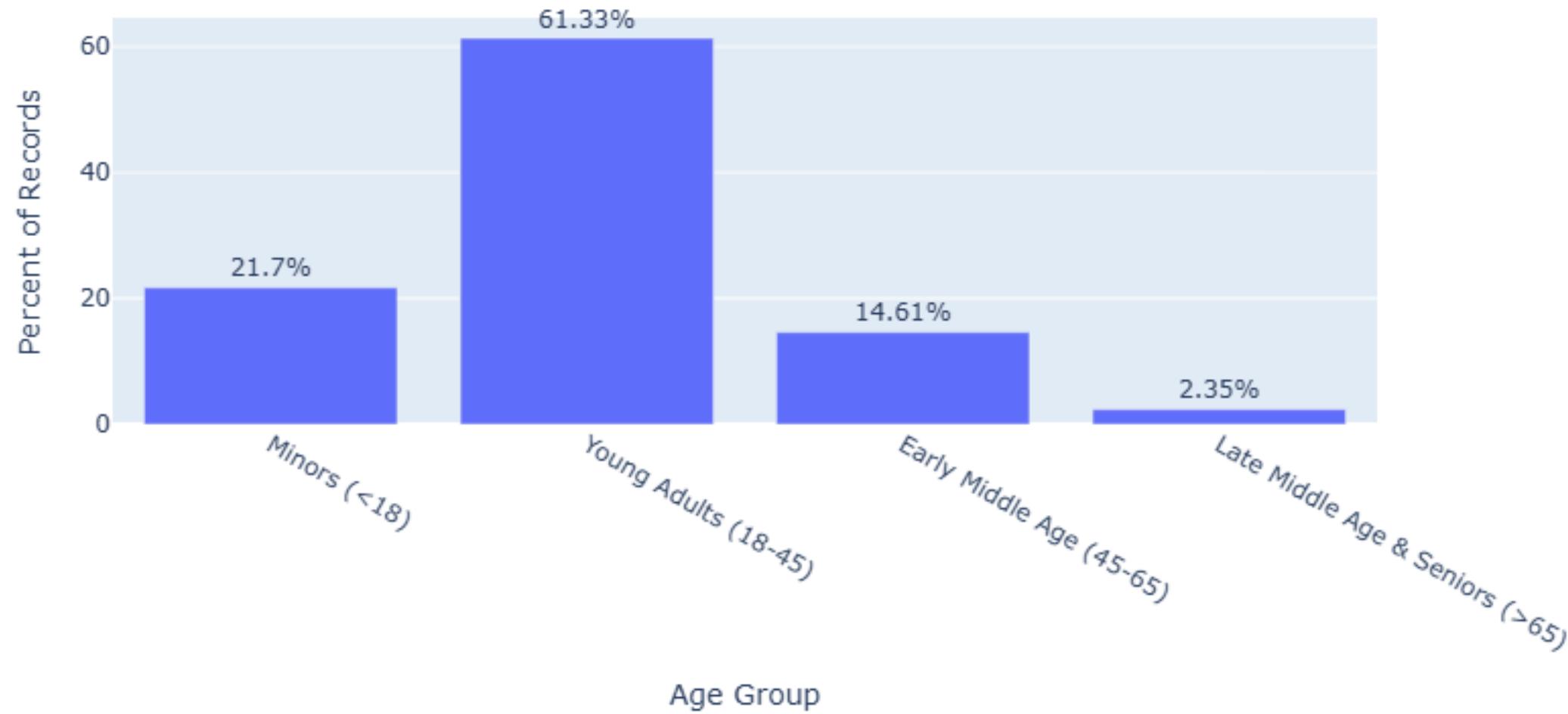
Percentage of Fatal vs Non-Fatal Incidents



## FATALITY

The non fatal incidents prevail which makes it irrelevant factor for the risk assessment

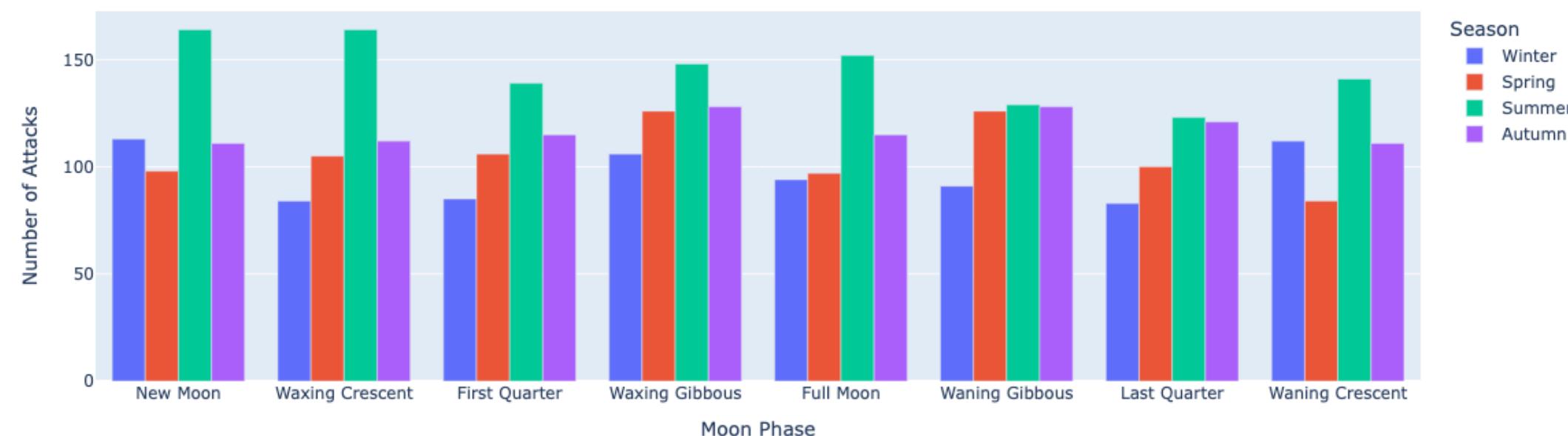
Age Group Distribution (After Imputing Missing Age)



## AGE

Young adults group shows the highest risk category with 61%

Shark Attacks by Moon Phase and Season (Last 50 Years)



## MOON FASE / SEASONS

Summer season imposes the most risk and moon fases don't show much influence in the shark behaviours

## ANALYSIS CONCLUSIONS

The analysis revealed the key factors that most strongly increase shark-attack risk, and therefore have a direct impact on insurance premium pricing:

- 10 high-risk countries
- 5 high-risk activity categories
- Summer season
- Ages 18-45

## BASED ON THE ANALYSIS

Since these factors directly influence the probability of an incident, the insurance premium should adjust accordingly:

- Country: higher premiums in high-risk regions
- Activity: surfing, diving, or other high-risk activities increase premiums
- Season: travel insurance during summer is priced higher
- Age: customers aged 18-45 face higher premiums

# CONCLUSIONS

# RECOMMENDATIONS

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# THANK YOU

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