

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

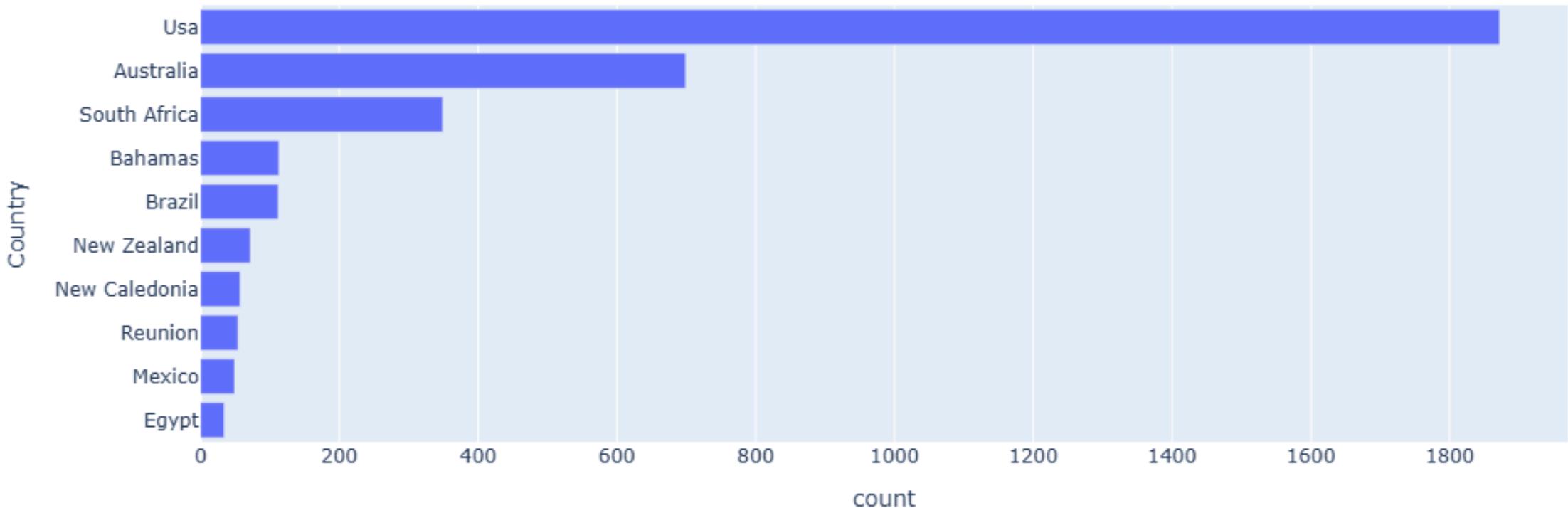


Data source & Analysis overview

- Source: Global Shark Attack file from Shark Research Institutes
- Filtered 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

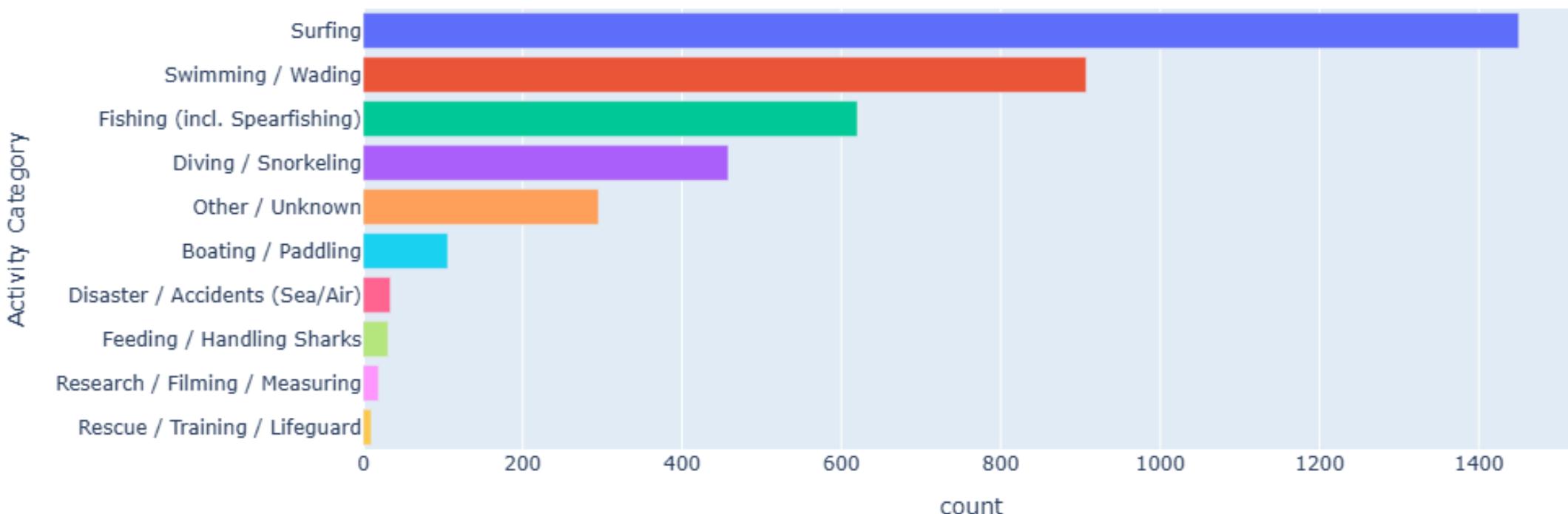


COUNTRIES

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

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

Top 10 Activity Categories by Incident Count

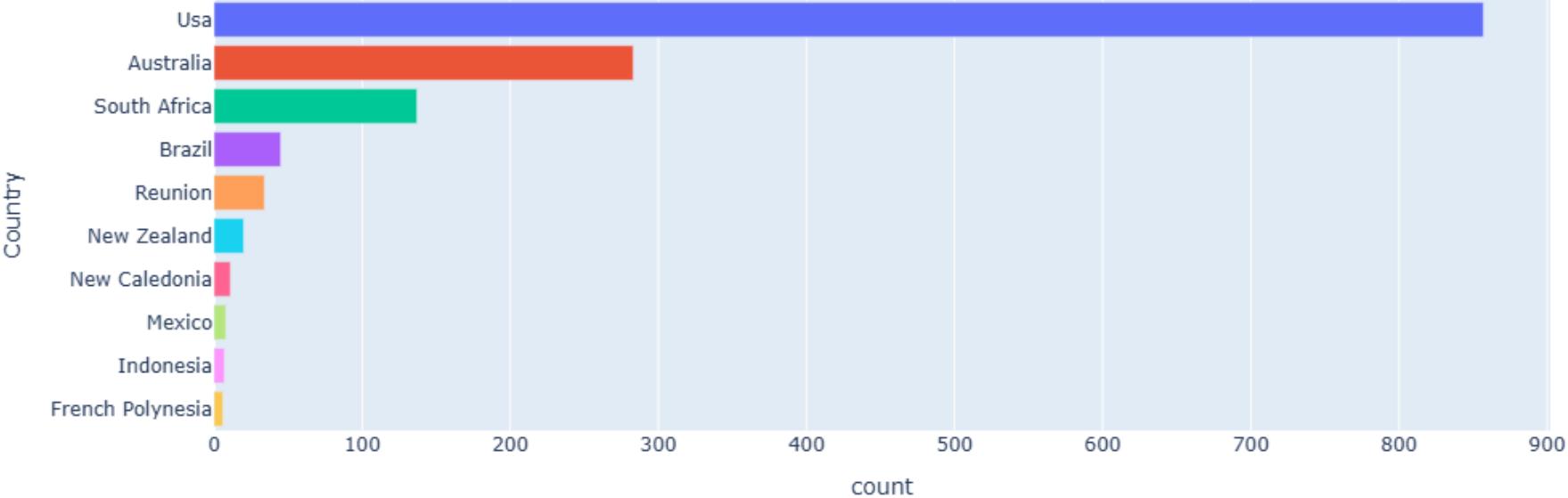


ACTIVITY CATEGORIES

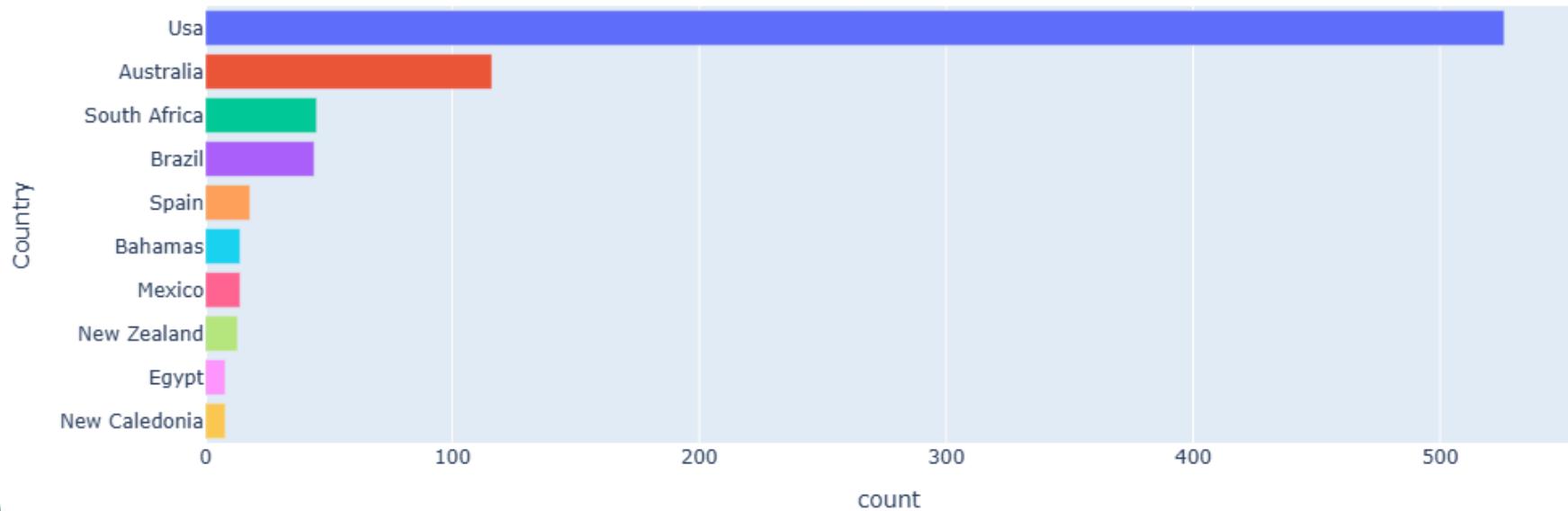
Same as the data above, we analysed the 5 top risky activities to define the premium insurance increase:

- Surfing
- Swimming
- Fishing
- Diving
- Boating

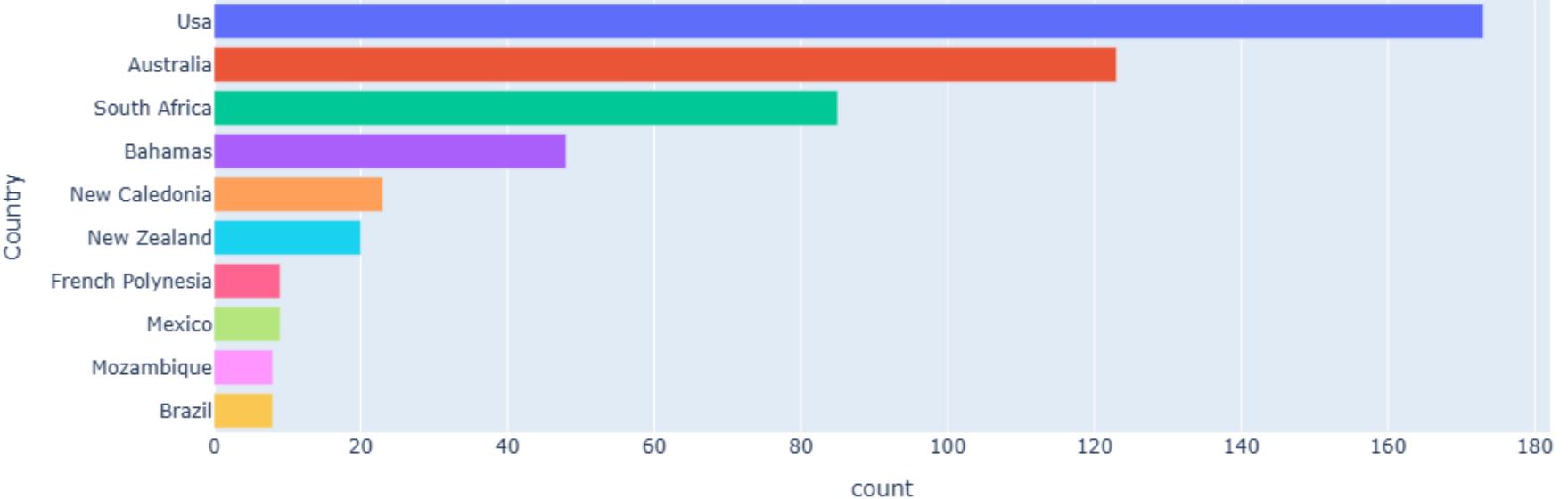
Top 10 Countries with Incidents while Surfing



Top 10 Countries with Incidents while Swimming



Top 10 Countries with Incidents while Fishing

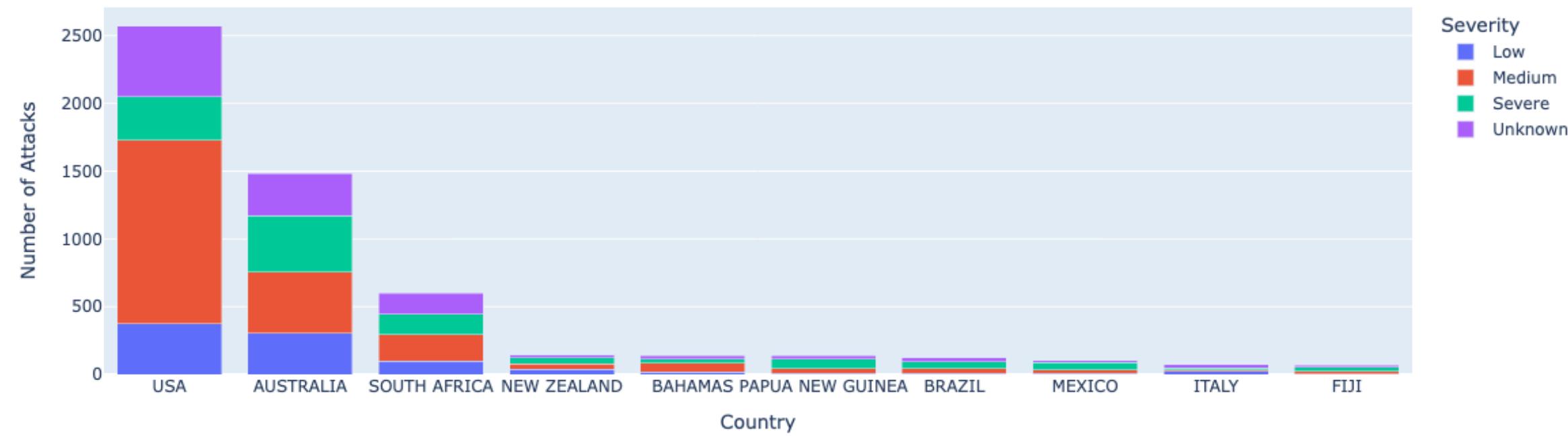


ACTIVITY PER COUNTRY

5 countries with the highest number of attacks

- USA
- Australia
- South Africa
- Bahamas
- Brazil

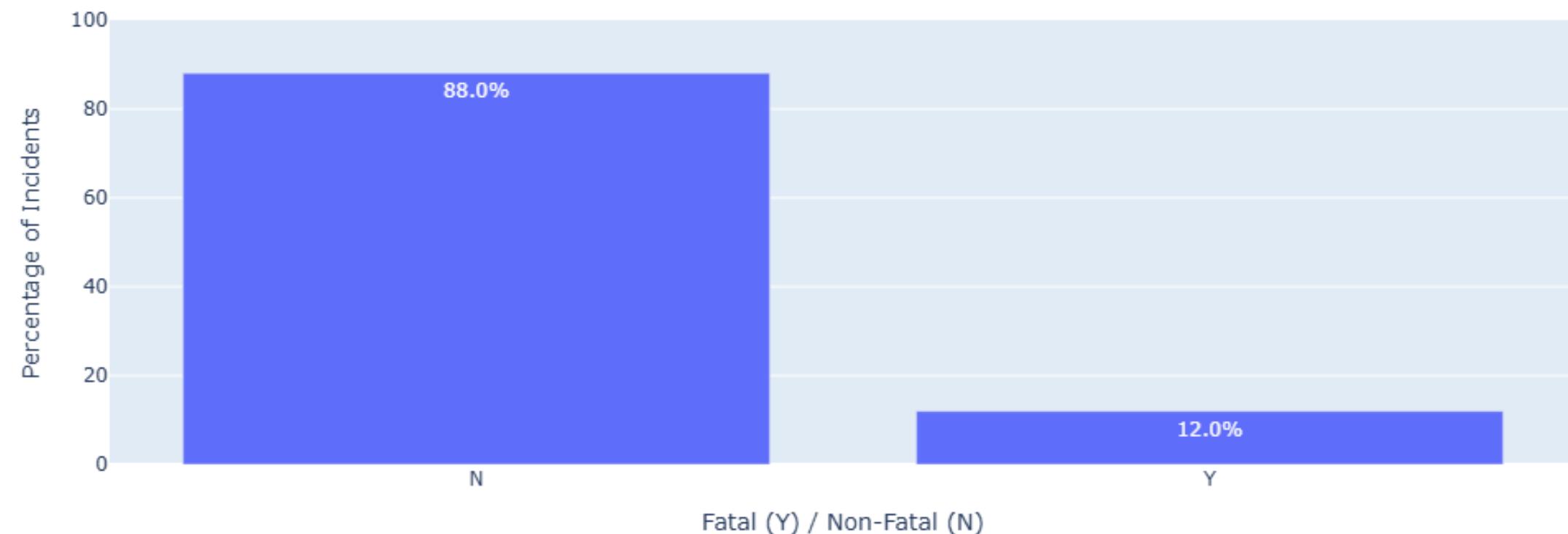
Shark Attack Severity by Country (Last 50 Years)



SEVERITY

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

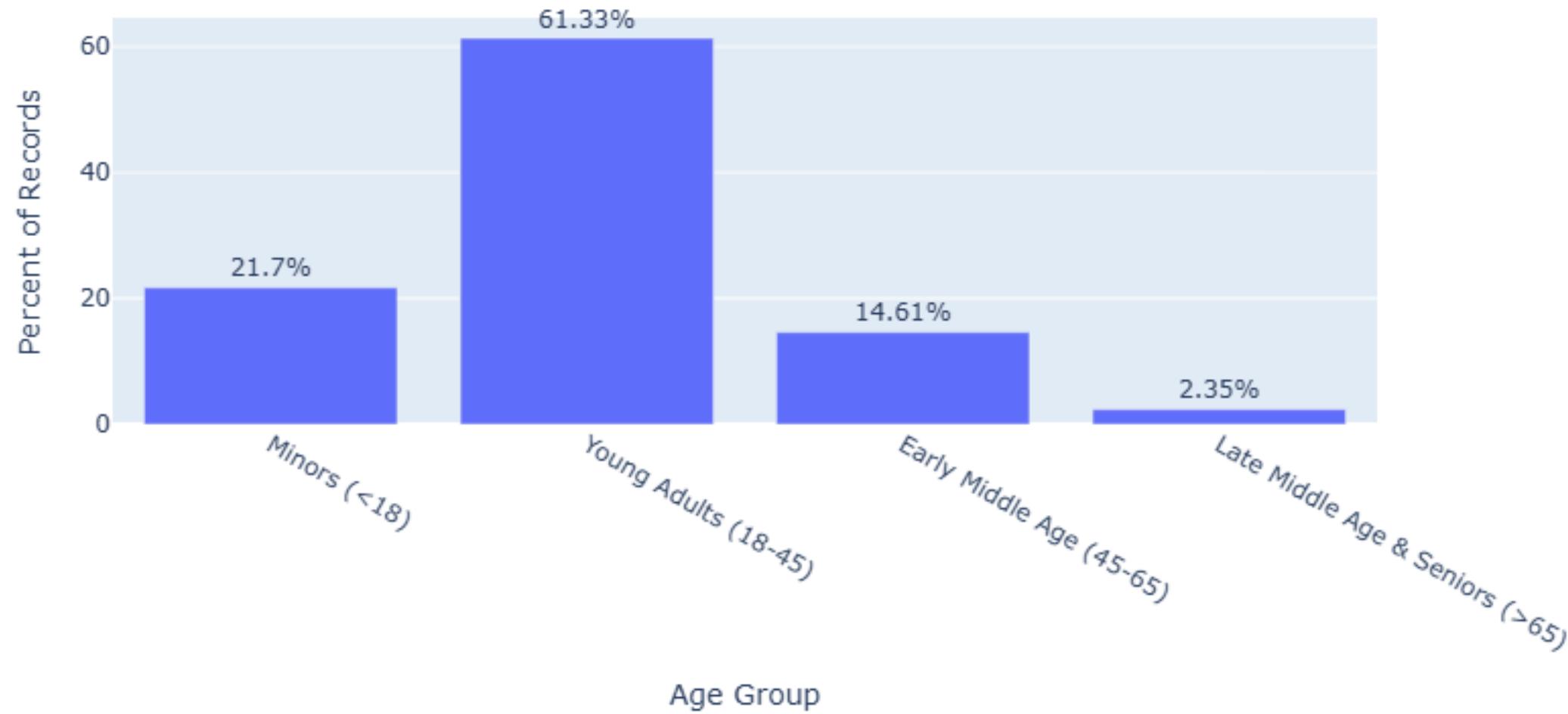
Percentage of Fatal vs Non-Fatal Incidents



FATALITY

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

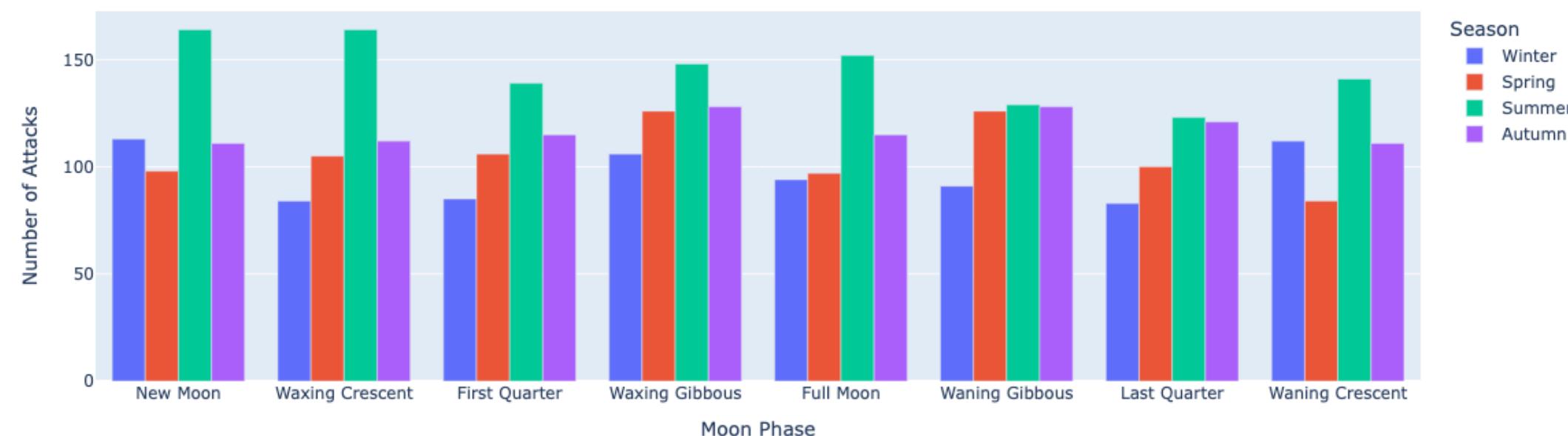
Age Group Distribution (After Imputing Missing Age)



AGE

Young adults group shows the highest risk category with 61%

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



MOON PHASES AND 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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