

# EXPLORING LOW-RISK AIRCRAFT OPERATIONS

## INSIGHTS FROM AVIATION ACCIDENT ANALYSIS

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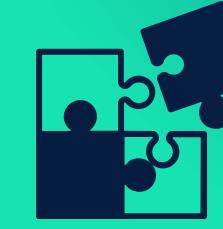


# OVERVIEW



- 01 Introduction
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- 03 Business Understanding
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# 01 INTRODUCTION



- The goal of this analysis is to identify low risk aircraft for our new aviation division.
- The data is from the National Transportation Safety Board. Its an aviation accident dataset from 1962 to 2023 about civil aviation accidents and selected incidents in the United States and international waters.
- Its important to analyse data so that we can make informed decisions about low-risk aircraft and not base our analysis on intuition and assumptions.
- Our analysis will ensure that recommendations are grounded in measurable evidence.

## 02 OBJECTIVES

01

Identify low-risk aircraft for the new aviation division.

02

Yield three business recommendations from the findings.



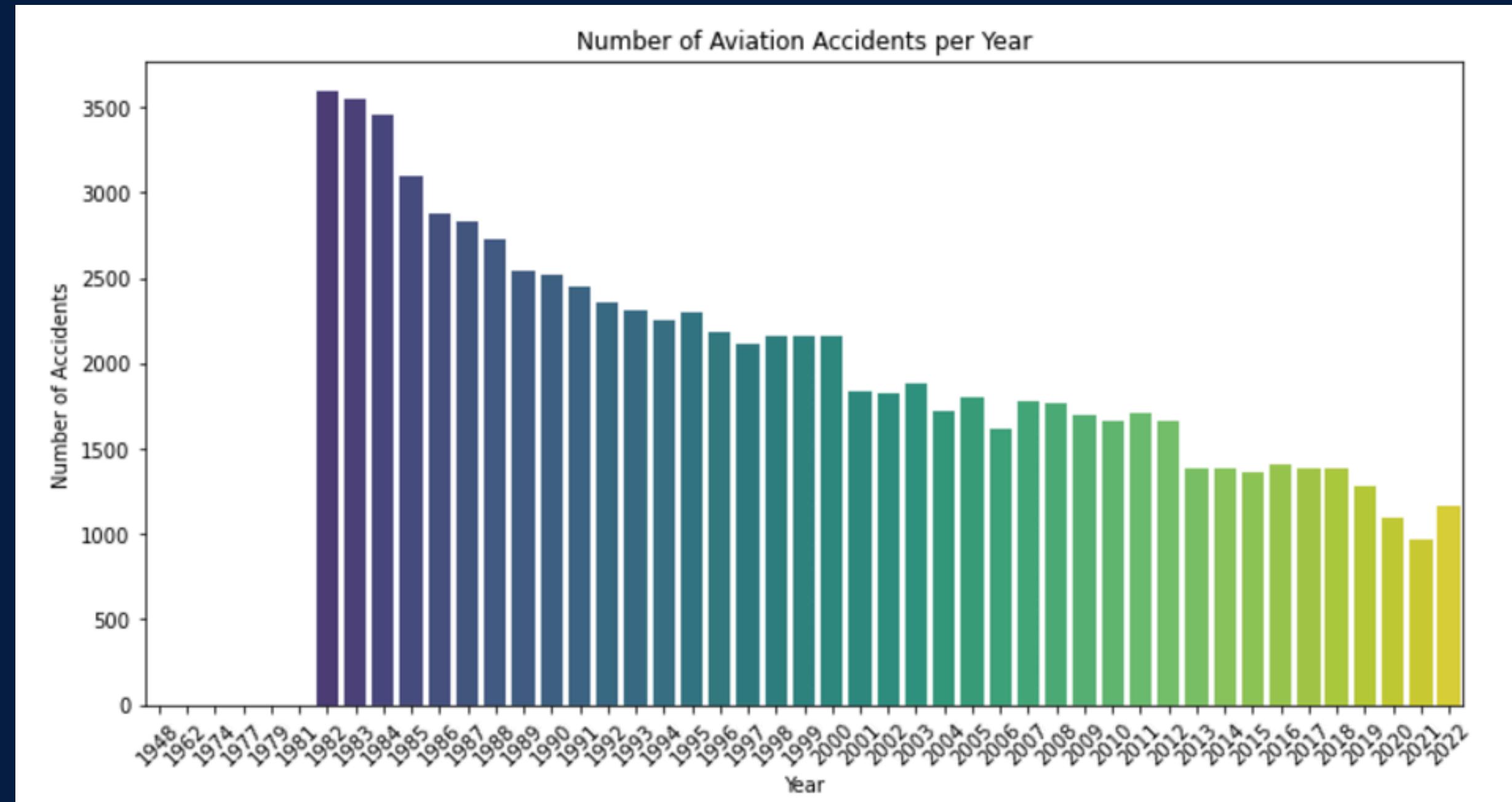
## 03 BUSINESS UNDERSTANDING

### Which questions should we answer?

1. What trends and patterns are there in aircraft accidents to date?
2. Which aircraft makes(models) are most commonly involved in the accidents?
3. Does the weather condition play a significant role in causing aircraft accidents?
4. Which countries are associated with the highest count of aircraft accidents?

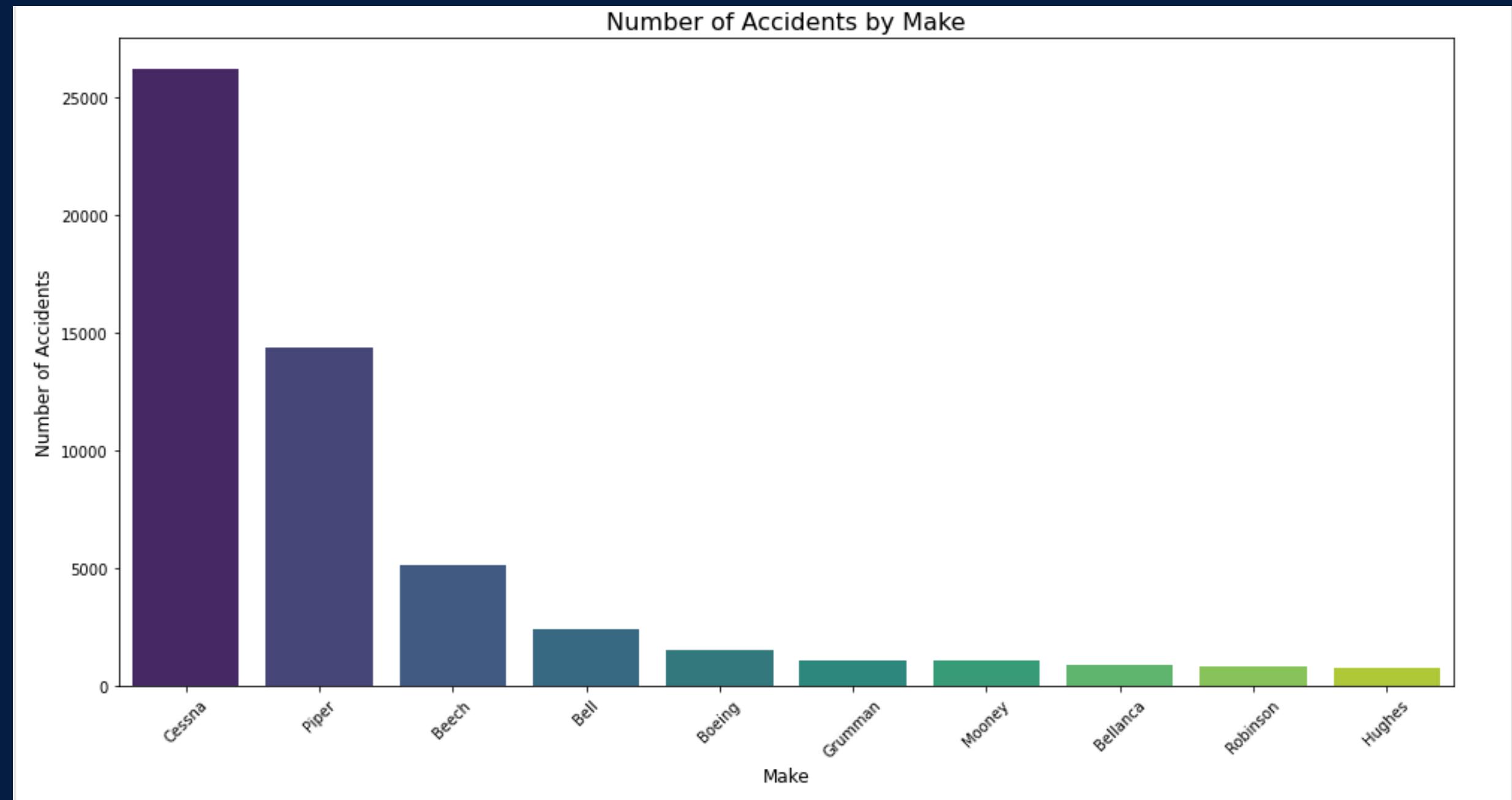


# 1. What trends and patterns are there in aircraft accidents to date?



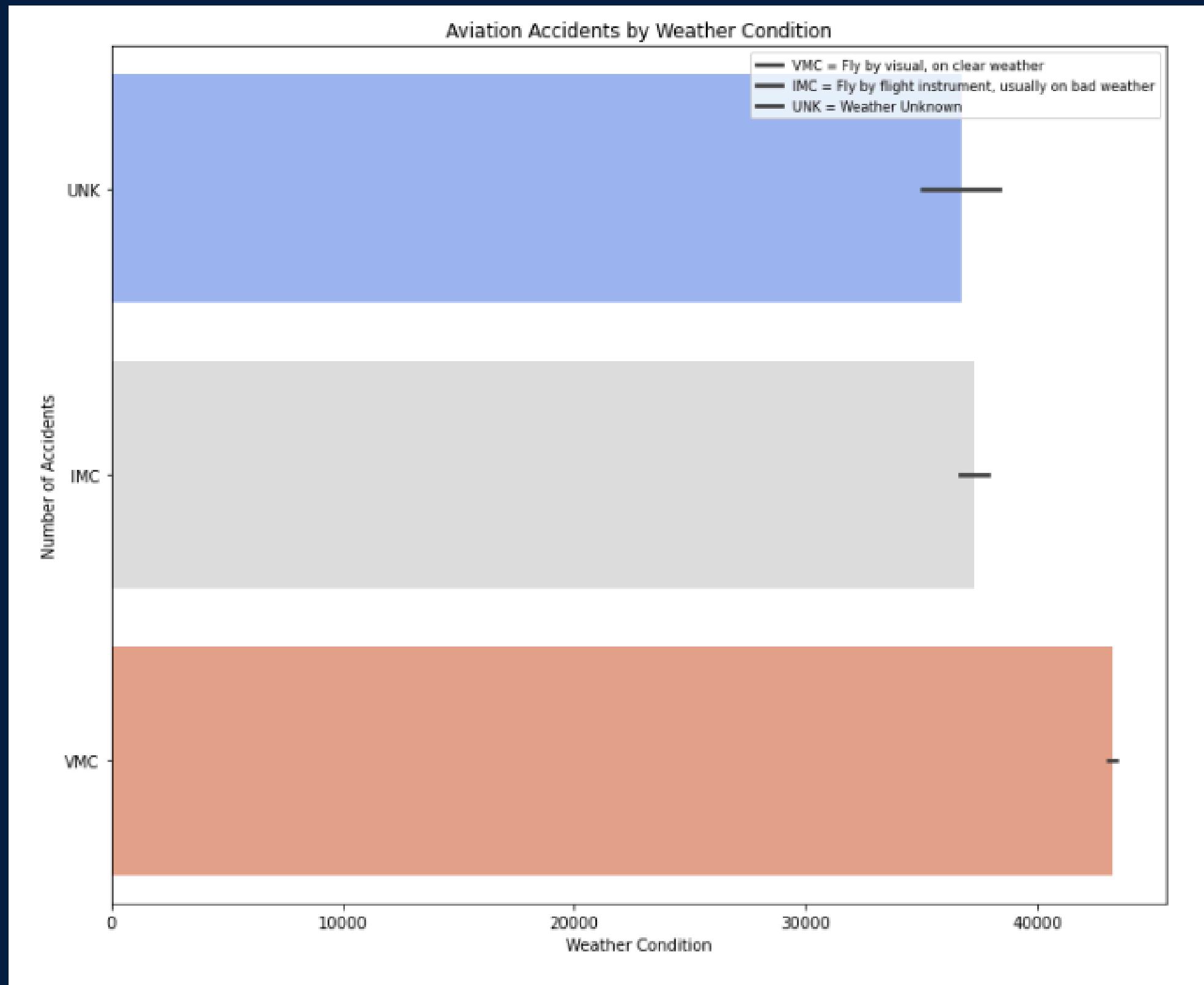
The number of accidents is generally decreasing as the years go by.

## 2. Which aircraft makes(models) are most commonly involved in the accidents?



- The aircraft company involved with most accidents is Cessna. It has a significantly higher number of accidents compared to the other aircraft companies.
- These are the top 10 Aircraft Makes(models) associated with the highest number of accidents.

### 3. Does the weather condition play a significant role in causing aircraft accidents?



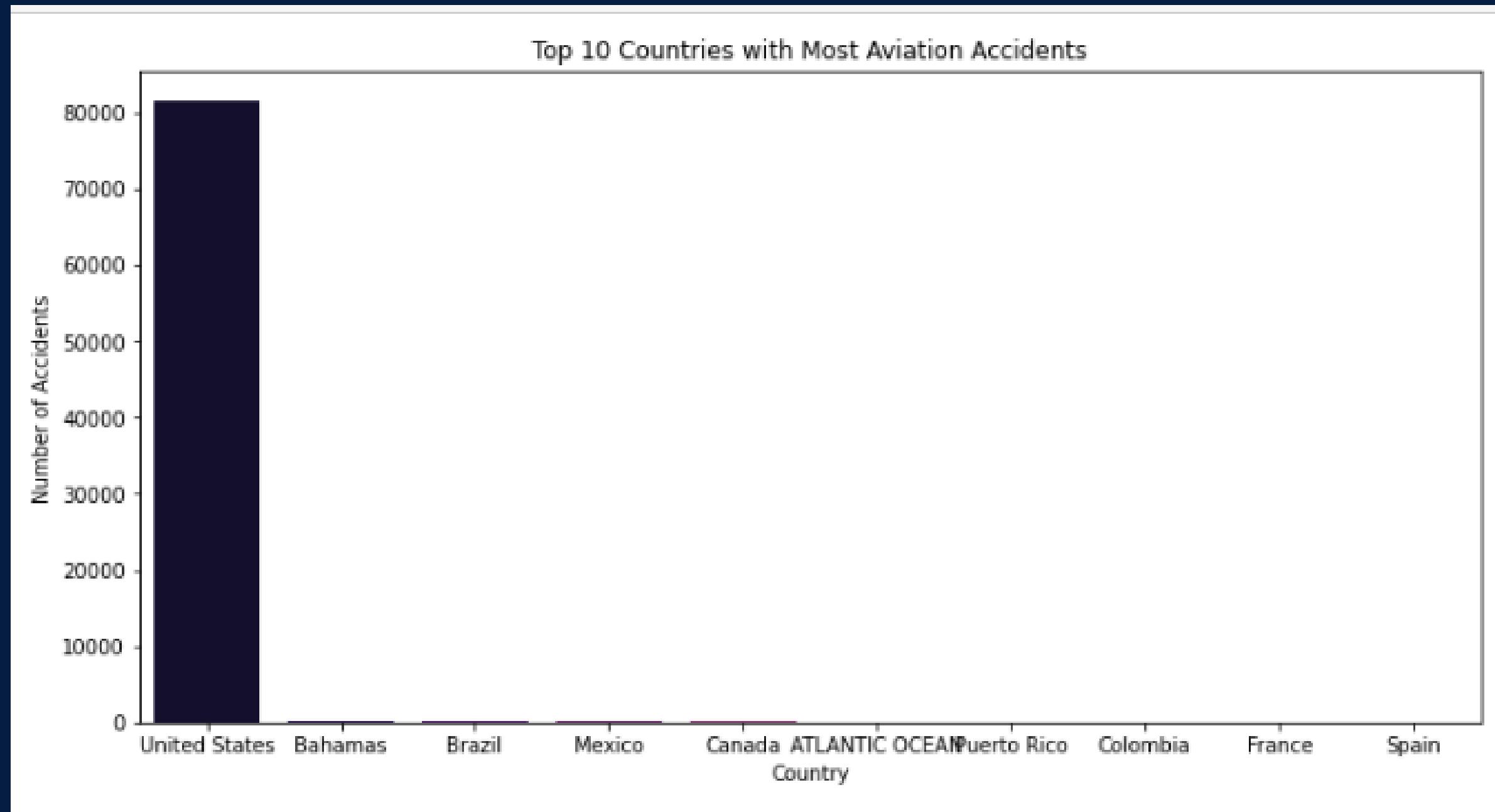
'VMC = Fly by visual, on clear weather',

'IMC = Fly by flight instrument, usually on bad weather'

'UNK = Weather Unknown '

Weather is not a significant factor causing accident. As we can see most accidents occur during clear weather.

#### 4. Which countries are associated with the highest count of aircraft accidents?



The United States has a significantly high number of accidents compared to the rest of the countries.

# FINDINGS

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1. The number of accidents is generally decreasing as the years go by.
  2. The dataset seems to be missing information for the years 1962 to sometime in 1981.
  3. The Aircraft company involved with most accidents is Cessna. It has a significantly higher number of accidents compared to the other aircraft Companies.
  4. The Aircraft company involved with most accidents is Cessna. It has a significantly higher number of accidents compared to the other aircraft Companies.
  5. The United States has significantly high number of accidents compared to the rest of the countries



# RECOMMENDATIONS

What does this mean for the company?

- We should consider purchasing aircrafts of Makes that are associated with a low accident count. The Cessna make should be avoided, together with the other makes that have high counts.
- The high accident rates in the years in the 90's could be associated with old aircraft models. We should consider purchasing newer models and equipping them with enhanced autopilot systems that can assist pilots during high-risk situations.
- The finding that most accidents occur during clear weather suggests that accidents could be caused by human error. Thorough training and awareness campaigns should be conducted for pilots to promote responsible flying and discourage risky behaviors. This will reinforce the importance of flying within established safety parameters which are crucial in preventing accidents.
- We should consider beginning operations in countries associated with low accident counts. Areas like the US which has the highest accident counts should be ventured into at a later time when the department is well established.

# THANK YOU!

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