CIVIL AVIATION DATA

- The company would like to purchasing and operating airplanes for commercial and private enterprises. The data will show us which airplane is better and why.
- This will be a guideline for the Head of Aviation to see historical data in the aviation industry

Business Understanding

We are developing critical insights from the aviation accidents and incidents to help the company. This data includes airlines & aircraft manufacturers, aviation safety organizations use this data to assess risk, improve safety protocols, and develop preventative measures.

Problem Understanding

There has been increased accidents in the aviation world. This may have been to human error, mechanical failure, and weather conditions.

Objectives

1. To understand the broader patterns in accident frequency to help focus safety efforts on critical periods or years of higher risk.
2. To identify countries with the highest number of accident.
3. To identify contributing factors to the accidents.
4. To understand the aircraft categories and the number of accidents

Research Questions

1. What are the long-term trends in the number and severity of aviation accidents over time?

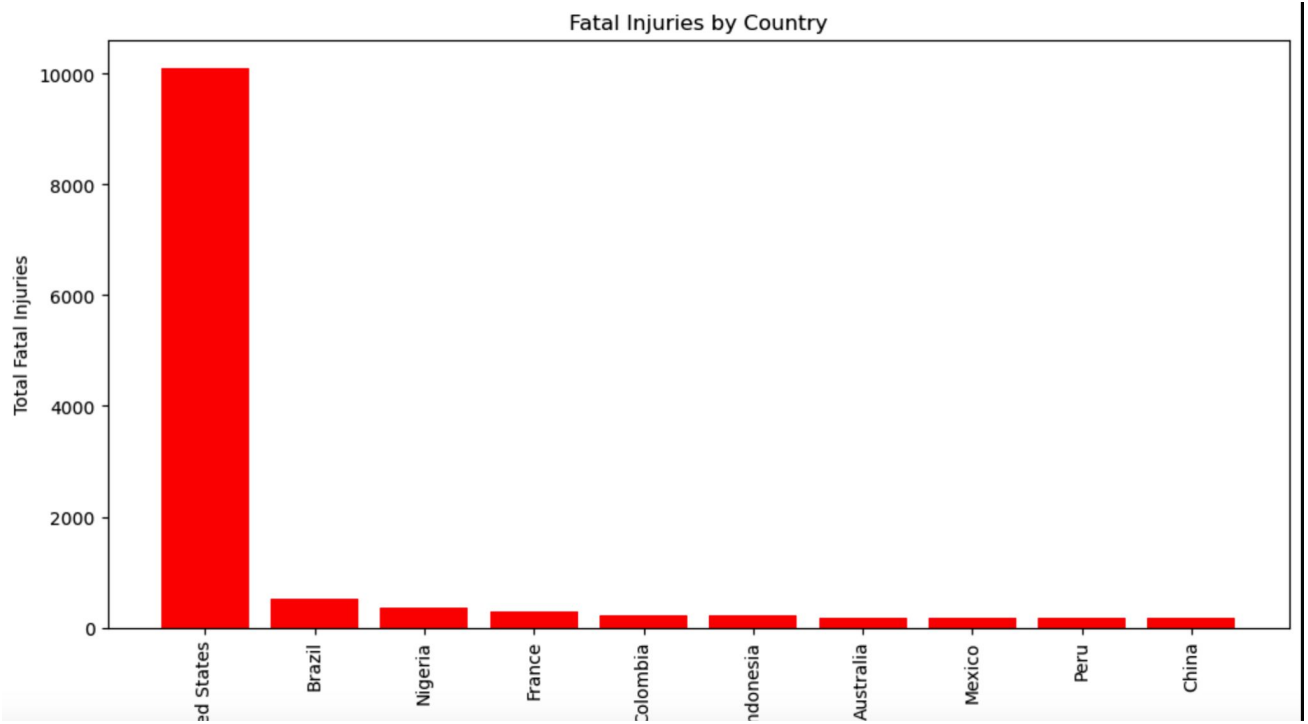
2. How do accident rates vary by aircraft type, region, or specific airports?

3. What are the seasonal patterns in aviation accidents (e.g., more accidents in certain months, specific countries or during specific weather conditions)?

4. What are the most common contributing factors (e.g., human error, mechanical failure, weather-related issues)?

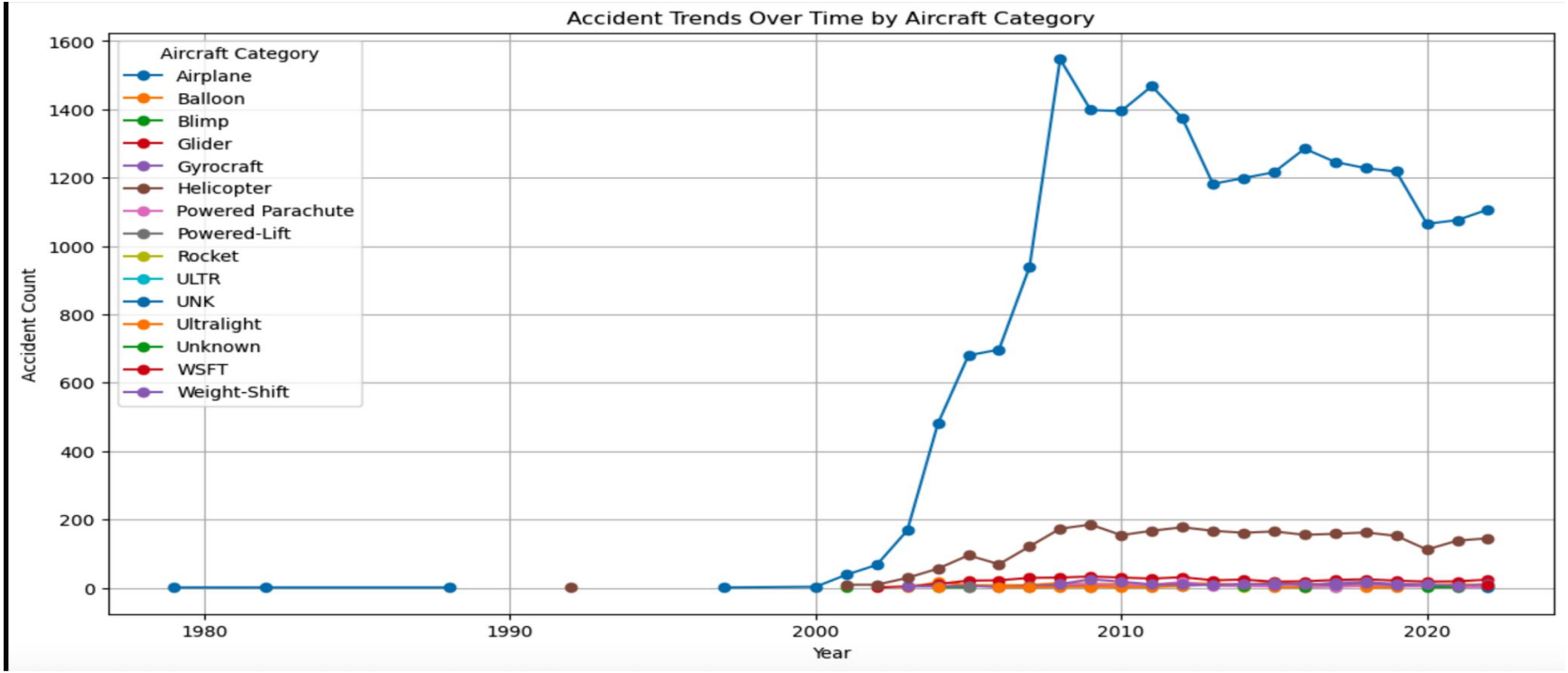
Report on Fatal Accidents

United States has the highest fatal rates from the analysis

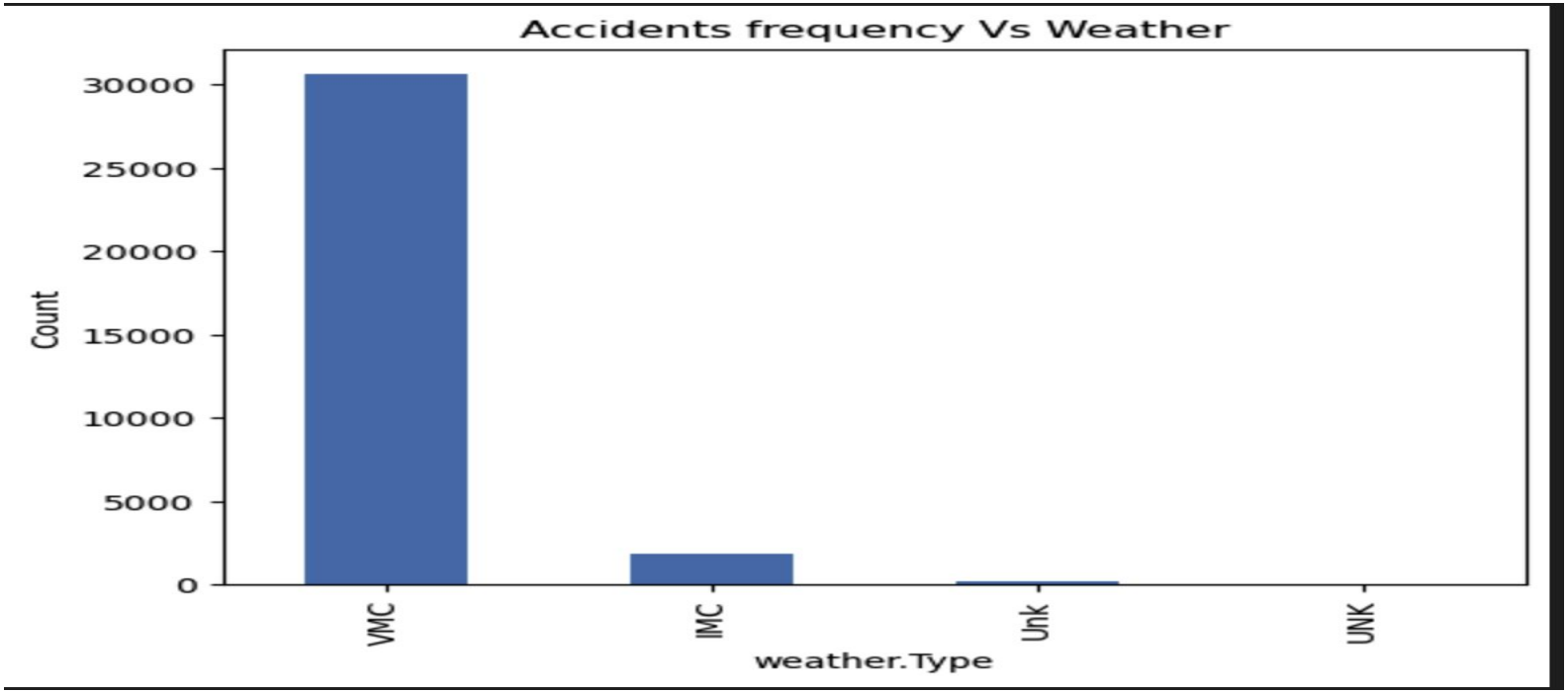


Accident Trends

Over the years we have seen an increase in accidents by aircraft categories. graph below show



Impact of weather conditions on aircrafts



Finding

1. Over the years we were able to see the different aircraft categories and the accidents.
2. The year 2000 recorded the highest count of accidents
3. The weather conditions had an impact on the accidents. The weather VMC had the highest accidents experienced

Recommendations

1. **Ensure all critical fields are filled, and efforts should be made to gather missing data during the investigation phase.**
2. **Establish clear data standards for how fields like aircraft types, accident causes, and severity classifications should be recorded**
3. **Improve the accuracy and precision of geographical data (e.g., latitude and longitude) to facilitate more effective spatial analysis of accident hotspots.**