Dapash7397-star / **Dapash-phase-1-project-v3**

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Dapash-phase-1-project

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🌐 Public repository · Forked from learn-co-curriculum/dsc-phase-1-project-v3

⑂   ⑂ **1 Branch**   🏷 **0 Tags**   ⑂   🏷   🔍 Go to file   t | Go to file | Add file + | Code | ⋯

This branch is **15 commits ahead of**, **1 commit behind** learn-co-curriculum/dsc-phase-1-project-v3:master .

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🟢 **Dapash7397-star** Update README.md   1c5a685 · 1 hour ago   🕑

📁 data	update data and add example	2 years ago
📄 .gitignore	add .gitignore and init repo	2 years ago
📄 CONTRIBUTING.md	add contributing and license	2 years ago
📄 Cleaned_AviationData.csv	data cleaning	19 hours ago
📄 LICENSE.md	add contributing and license	2 years ago
📄 README.md	Update README.md	1 hour ago
📄 example_dashboard.png	update data and add example	2 years ago
📄 index.ipynb	Created index file for the readme	2 years ago
📄 student.ipynb	data cleaning	19 hours ago

📖 README   👥 Contributing   ⚖ License   ✏   ☰

Aviation Risk Analysis Project

Overview

This project analyzes aviation accident data to provide insights into aircraft safety and risk levels.
The analysis was conducted using Python, Pandas, and Tableau to clean, analyze, and visualize aviation accident data.
The ultimate goal is to identify patterns that can help business stakeholders make informed decisions about entering the aviation industry.

Business Understanding

The primary objective of this analysis is to determine the **lowest-risk aircraft** for a company planning to enter the aviation industry.

Stakeholders

- **Business executives**: Need to understand risk levels before investing in aircraft.
- **Safety officers/regulators**: Want evidence-based insights on aircraft risks.
- **Investors**: Require data-driven justifications for strategic decisions.

Key Business Questions

1. Which types of aircraft are most associated with fatal accidents?
2. How have aviation accidents trended over time?
3. Which regions or countries report the highest number of accidents?

Data Understanding and Analysis

Source of Data

- **Dataset**: National Transportation Safety Board (NTSB) aviation accident data (1962–2023).
- **Link**: [NTSB Accident Data](#)

Description of Data

- **Columns**: Year, Country, Aircraft Damage, Fatalities, Injuries, Aircraft Type, etc.
- **Size**: Civil aviation accidents and selected incidents across the United States and international waters.
- **Cleaning & Preparation**: Missing values handled by imputation/removal, categorical variables standardized.
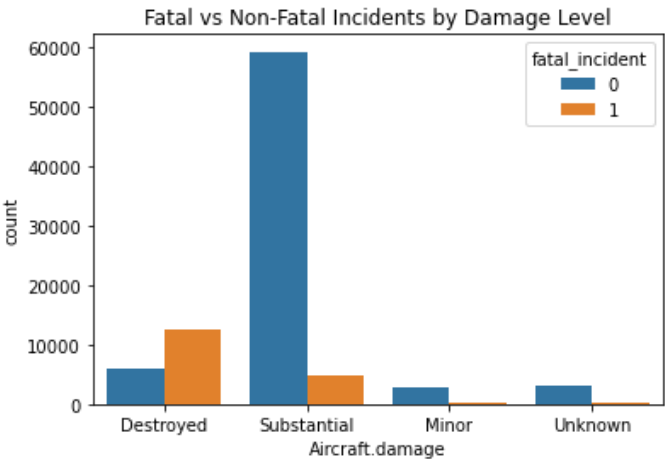
Visualizations

1. Yearly Accident Trends
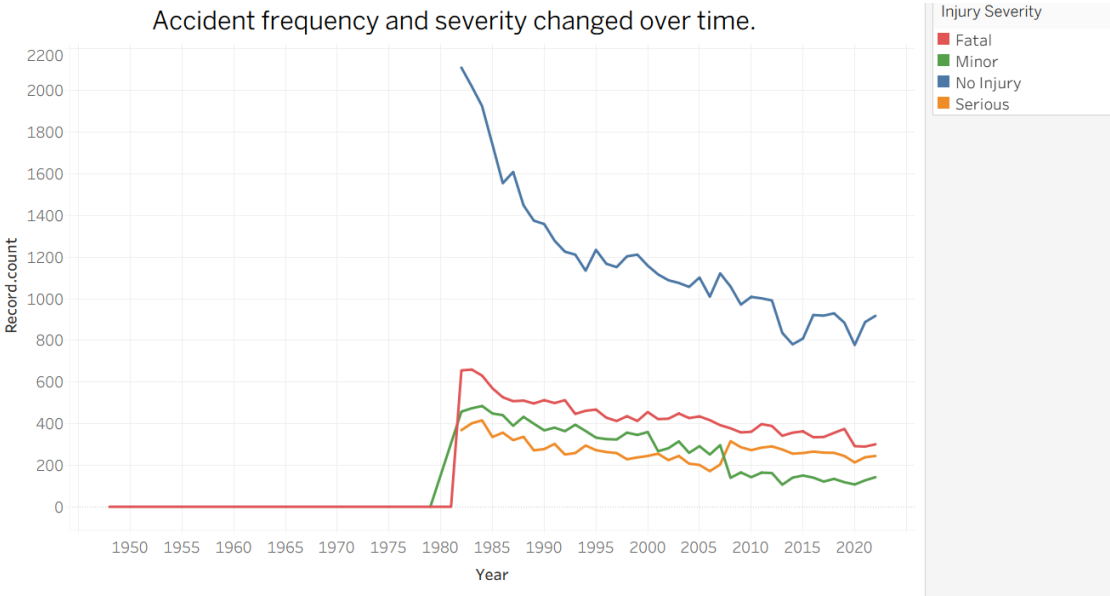
A line chart showing the number of accidents per year, categorized by injury severity.
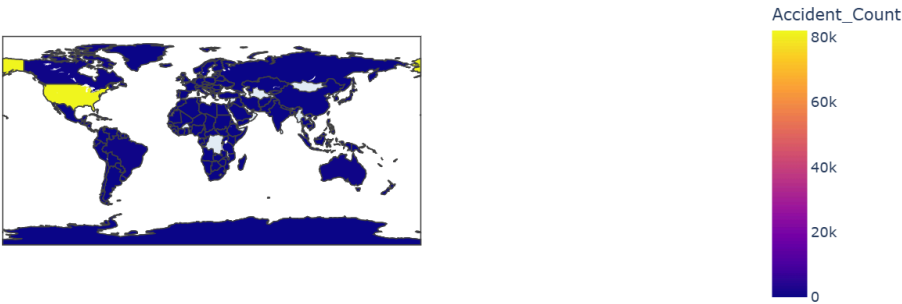
2. Aircraft Damage vs. Fatal Incidents

A stacked bar chart comparing aircraft damage categories against fatal incidents.
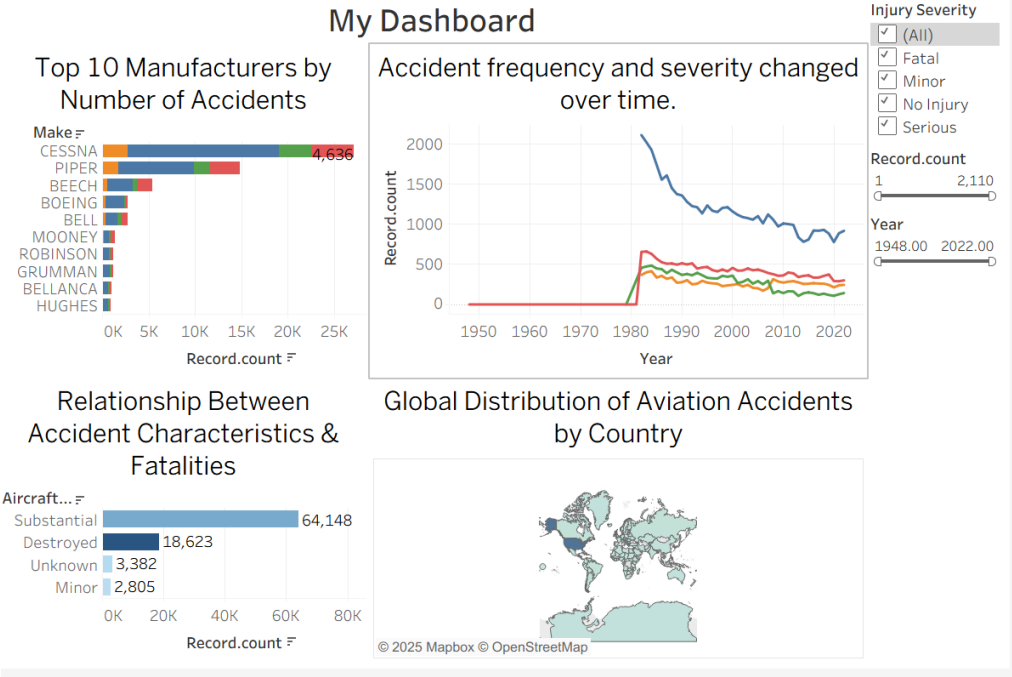
3. Geographic Distribution of Accidents

Aviation Accident Frequency by Country

A map visualization showing accident counts by country.

My Tableau Dashboard

Conclusion

Summary of Findings

1. **Accident trends have decreased over time**, especially in the past two decades, reflecting improved aviation safety standards.

2. **Certain aircraft types are more prone to fatal accidents**, highlighting the importance of careful fleet selection.

3. **Accidents are concentrated in specific regions**, suggesting that geographic factors influence aviation risk.

Recommendations

Based on the findings, three clear business recommendations emerge:

1. **Invest in Low-Risk Aircraft Models** -Acquire aircraft with consistently lower accident severity rates, as these models provide safer and more reliable operations while strengthening customer and investor trust.

Releases

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Languages

- **Jupyter Notebook** 100.0%