SAFE AIRCRAFTS FOR EXPANSION INTO AVIATION BUSINESS

OVERVIEW

- The presentation summarizes the findings from an analysis done of aviation accidents. The analysis aims to provide insights on which aircrafts are high risk and therefore a bad investment.
- The insights can inform the organization on certain variables that make aircrafts safe and thus good investments.

BUSINESS QUESTIONS

The analysis was based on the following questions:

1. Which aircraft is associated with the most accidents
2. During which phase of flight do most accidents occur?
3. Does the number of engines correlate with accident and severity of accidents?
4. What weather conditions are associated with most accidents?

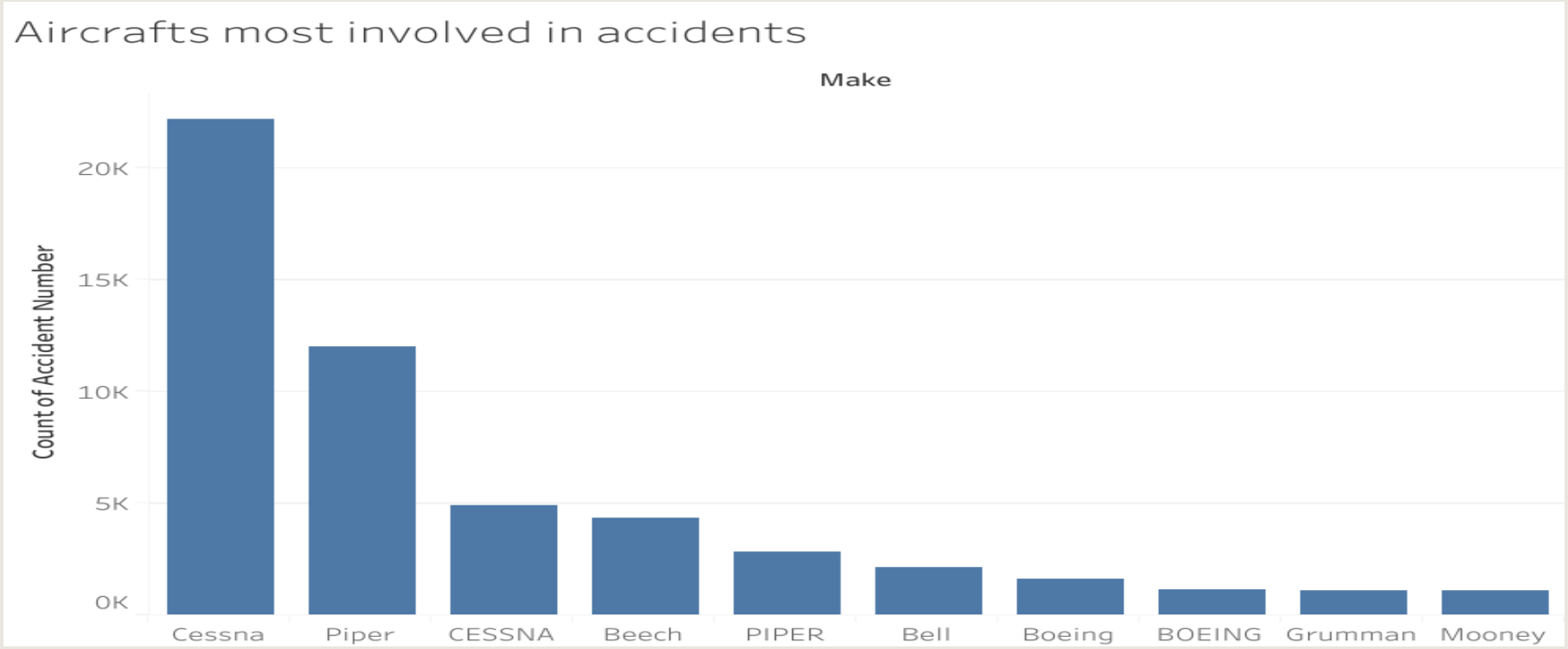
DATA UNDERSTANDING

- **Data source: National Transport Safety Board Dataset from 1962-2023**
- **Data size: The data contained 88,889 records of aviation incidents**
- **Key Variables included**
    - Broad phase of accident
    - Weather conditions
    - Make and model of aircrafts
    - Number of engines

DATA ANALYSIS

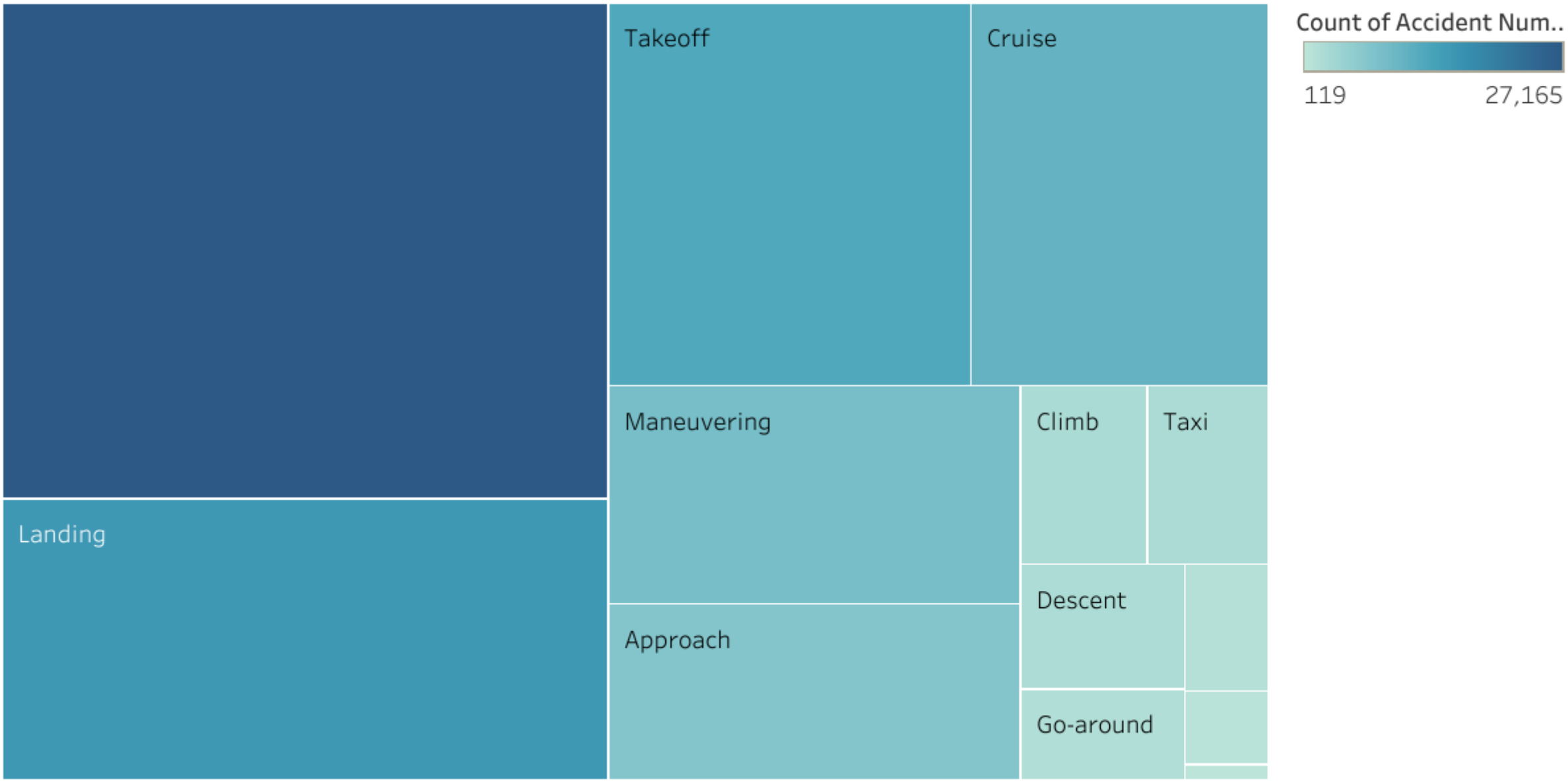
- **The data was loaded onto Jupyter Notebook for data cleaning and analysis**
- **Data cleaning done by:**
  - Removing columns with >50% missing data
  - Dropping columns not needed for analysis
  - Dropping duplicates

AIRCRAFTS MOST INVOLVED IN ACCIDENTS

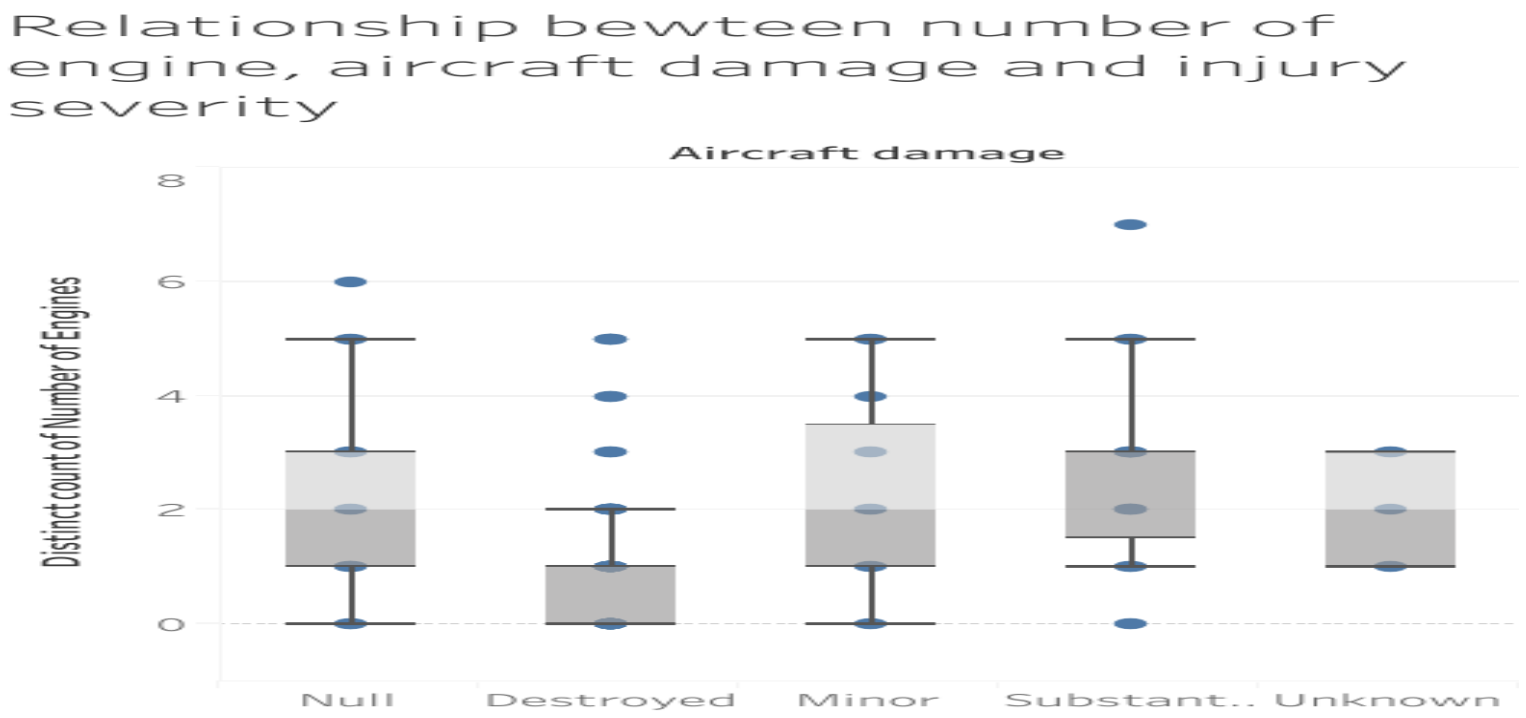


Cessna Aircrafts were the most accident prone when compared to other makes

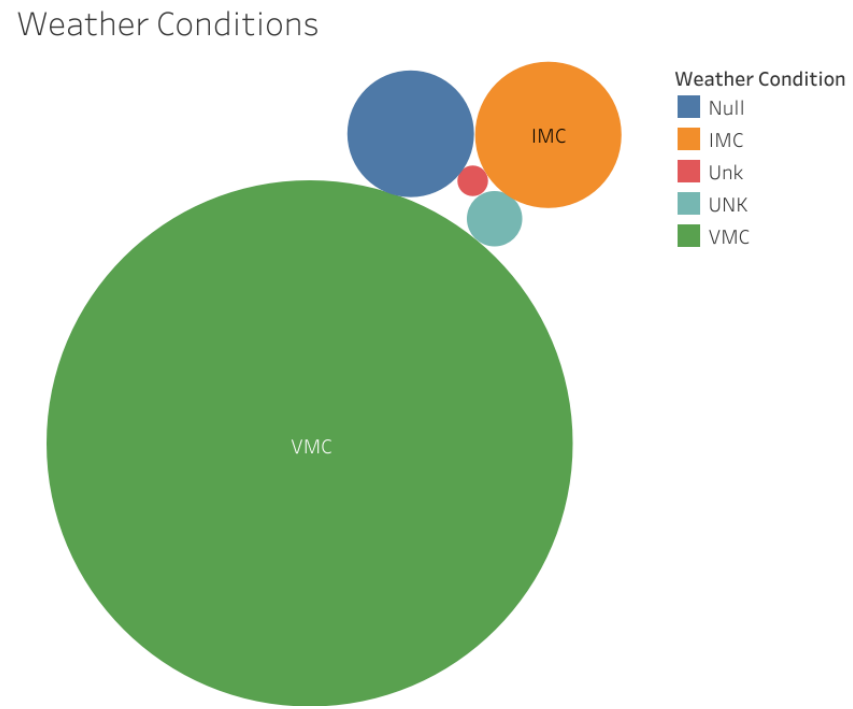
Phase of flight



IS THERE A RELATIONSHIP BETWEEN ENGINE NUMBER, AIRCRAFT DAMAGE AND INJURY SEVERITY



WEATHER CONDITIONS ASSOCIATED WITH ACCIDENTS



RECOMMENDATIONS

The following are recommendations based on the data analysis done

1. **Invest in reinforcing pilot training especially drills for take off, maneuvering and landing, where accidents tend to occur.**
2. **Purchase larger aircrafts with more engines as they are safer compared to single engines**
3. **Invest in installing the most UpToDate meteorological instruments to reinforces the use of IMC for navigation**

NEXT STEPS

- **Next steps could include**
  - Conducting a feasibility study of best airports to set up the business

THANK YOU

Any Questions?

Find me at:

Email: sila.j.monthe@gmail.com

LinkedIn: Sila Monthe