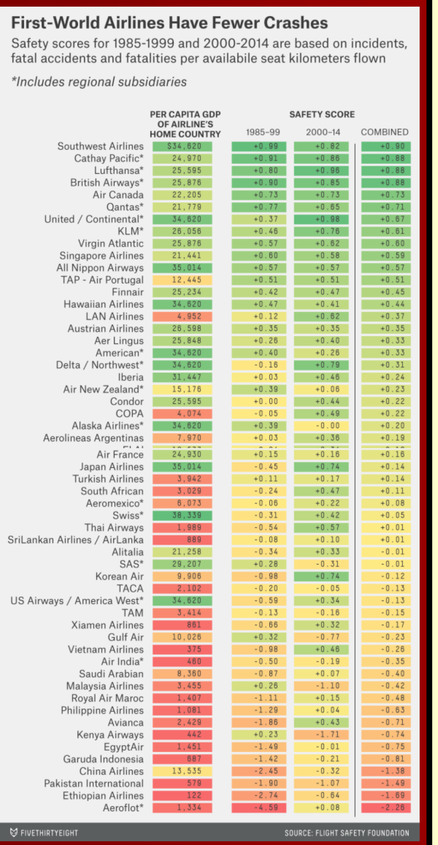
Implications from Plane Crash Data Analysis 2007 - 2017



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INTRODUCTION

Several incidents involving planes that have occurred over the last couple of years has led to an increase in traveler anxiety when it comes to flying. Thankfully, airplane incidents have been well documented dating as far back as 1908. The data being analysed is a subset of all of the data on airplane incidents that have occurred since 1908. This data consists only of incidents that have happened within the last decade.

Problem Statment and Solutions

The main problem that needs to be solved can be expressed in the form of several questions.

What are the riskiest airline operators to fly with? What locations pose the greatest risk for travelers? What trends can be noticed in regards to airplane incidents? Is the occurrence of an airline incident largely random?

A good way to analyze the data after it has been properly cleaned would be several line plots that document the general trends in airplane incidents over a period of time. The data can further be visualized using a bar plot and a word cloud to point out significant point of failure as well as locations of concern.

RESULTS

Figure 1: Word cloud illustrating most prominent words used in plane incident summaries.
Figure 2: Trends in plane crashes by year and month illustrated by a line graph and bar plot.
Figure 3: Plane operators broken out by rate of incidents over the last decade.
Figure 4: Locations ranked according to total plane crash fatlities

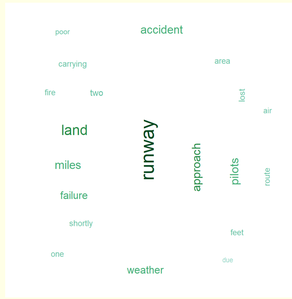

Figure 1. Incident Summary

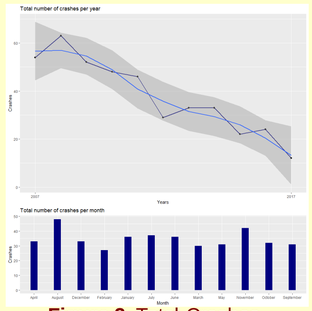

Figure 2. Total Crashes .

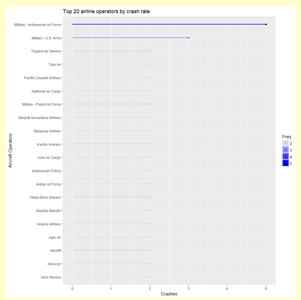

Figure 3. Airline operators

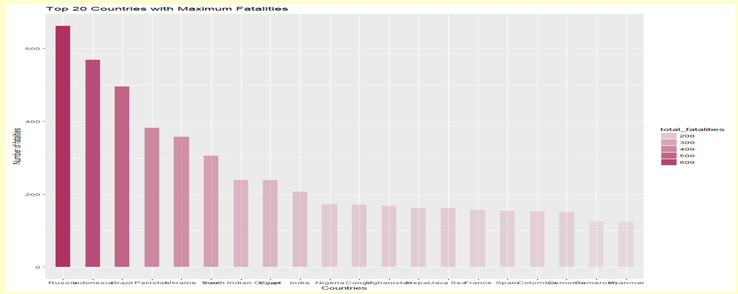

Figure 4. Fatalities by Country

DISCUSSION

Analysis based on the plots created shows an overall decrease in incidents over the last decade. This shows that there has been a concerted effort by airline operators to increase safety measures to prevent future incidents.

The plots also reveal more at-risk locations to consider when traveling. These locations include, inorder, Russia, Brazil, Colombia, USSR, France, India, China, Indonesia, Japan, Canada.

Another point of relief for potential travelers is the fact that most incidents seem to originate on military aircraft or lesser known airlines.

Lastly is the word cloud that helps to give an idea of what is the most probable location and occurrence of an incident. Analysis of the word cloud shows that many of the aircraft incident summaries point to incidents occurring during landing and enroute due to things such as weather and engine failures.

CONCLUSIONS

Upon analysis of airline incident data over the last decade it can be concluded that a potential traveler should be able to feel confident in the safety of their trip if they are flying with most major airlines. The trends in the data suggest that safety is a top priority among airline operators and potential flyers will be safe as long as they are cautious when choosing airline operators and what locations they will be flying to and from.

REFERENCES

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