AVIATION ACCIDENT ANALYSIS IN THE US

" HOW CAN WE REDUCE AVIATION ACCIDENTS BY IDENTIFYING AND MITIGATING KEY RISK FACTORS? "

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SAVING LIVES THROUGH DATA

Aviation accidents are preventable. This project uses historical data to find where and why they happen, helping the FAA, manufacturers, and consultants make flying safer.

By identifying states with the highest accident rates, weather conditions linked to facilities and risky flight phases, the FAA can prioritize resources (e.g., inspections, training programs) to prevent future incidents, ultimately enhancing aviation safety nationwide

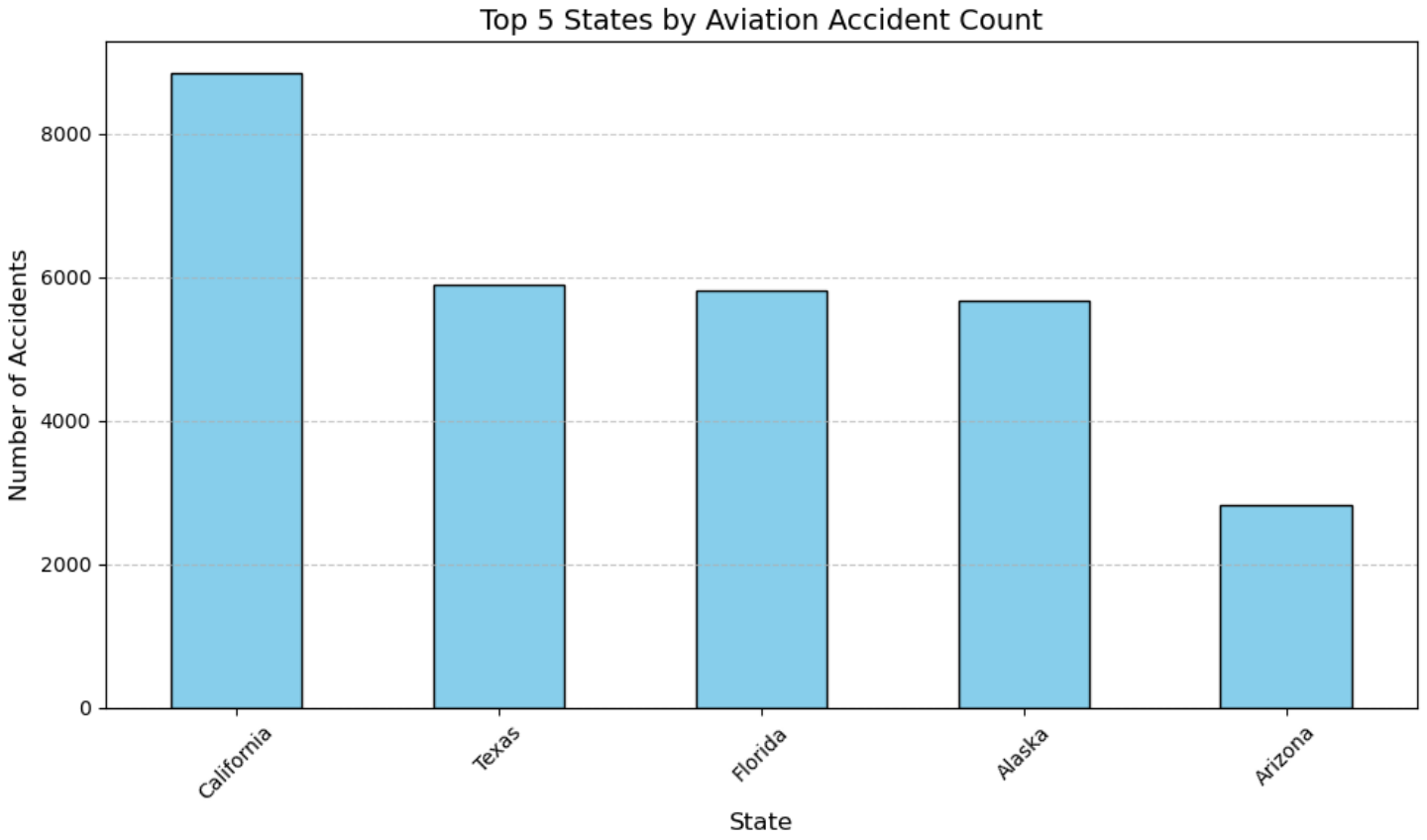
WHAT WAS DISCOVERED?

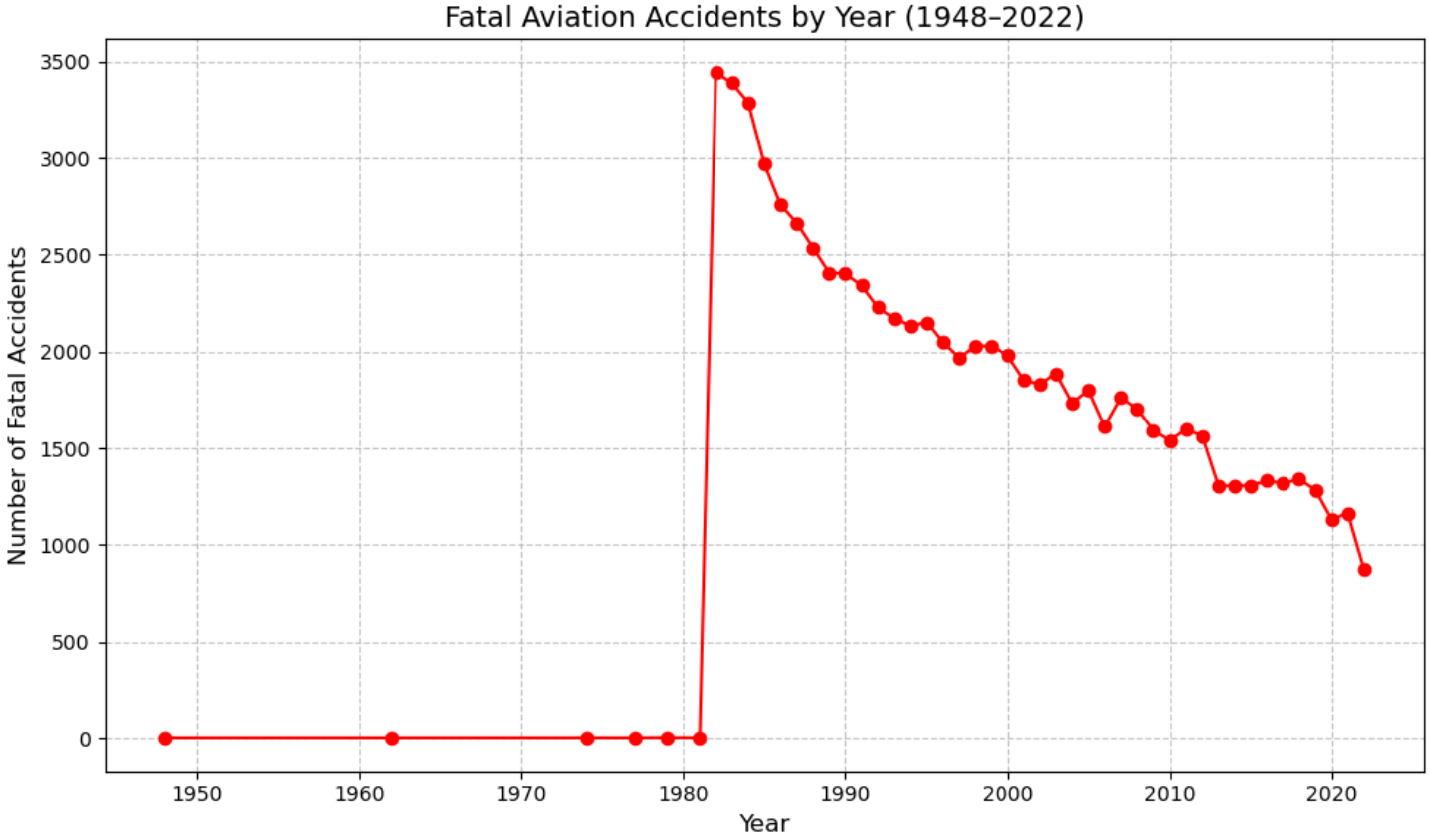
US States; California, Texas, Florida, Alaska, and Arizona are the top 5 states that have the most accidents.

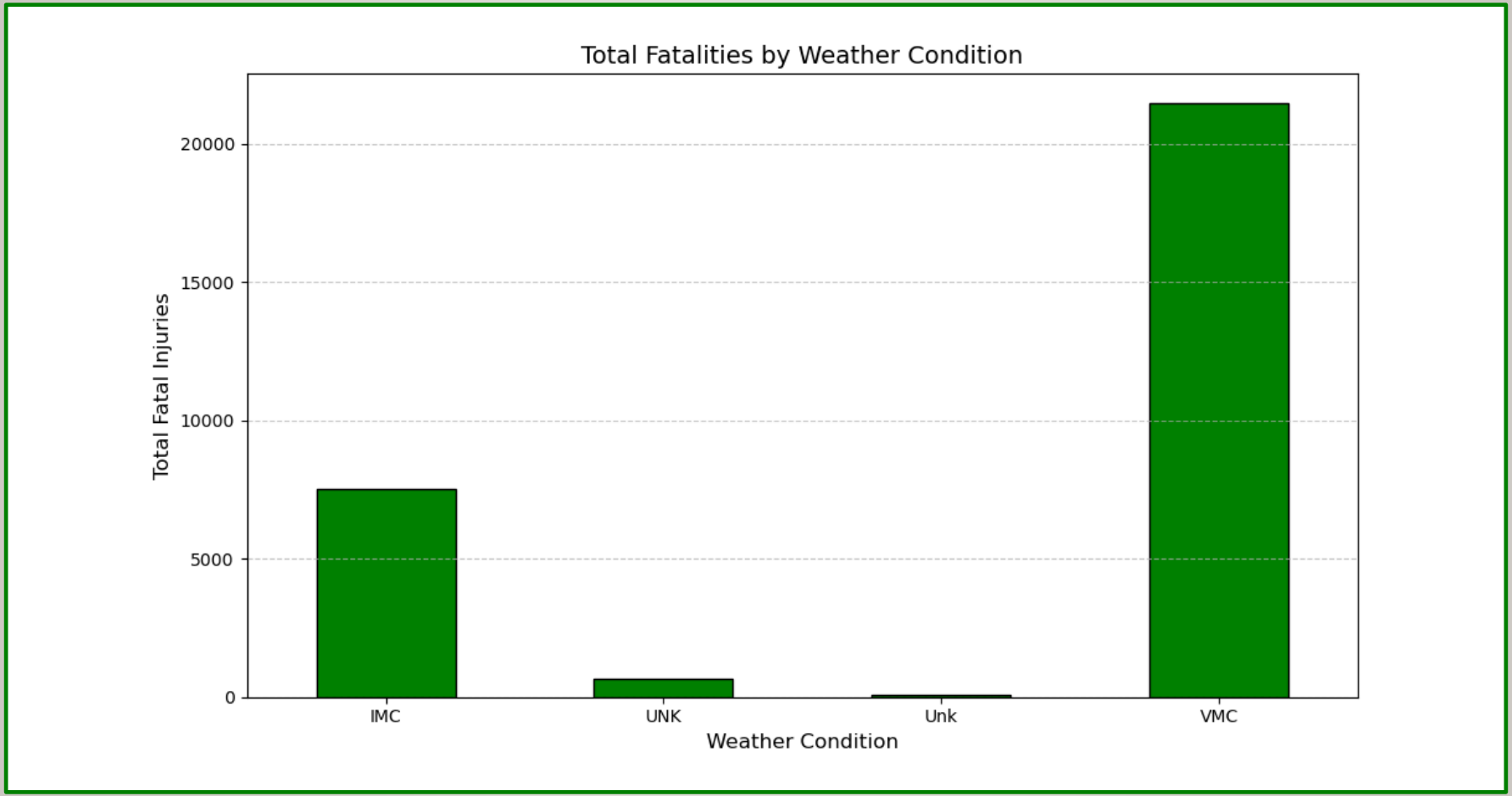
In terms of fatal accidents, they peaked in 1982 with 15 incidents recorded.

Total fatalities by weather conditions showed VMC weather had up to 3 times the number of fatalities IMC weather recorded.

Below are the images to visualize what was discovered.


Top 5 States by Aviation Accident Count
Number of Accidents
0
2000
4000
6000
8000
California
Texas
Florida
Alaska
Arizona
State


Fatal Aviation Accidents by Year (1948–2022)
Number of Fatal Accidents
Year
0
500
1000
1500
2000
2500
3000
3500
1950
1960
1970
1980
1990
2000
2010
2020


Total Fatalities by Weather Condition
Total Fatal Injuries
20000
15000
10000
5000
0
IMC
UNK
Unk
VMC
Weather Condition

HOW TO ACT

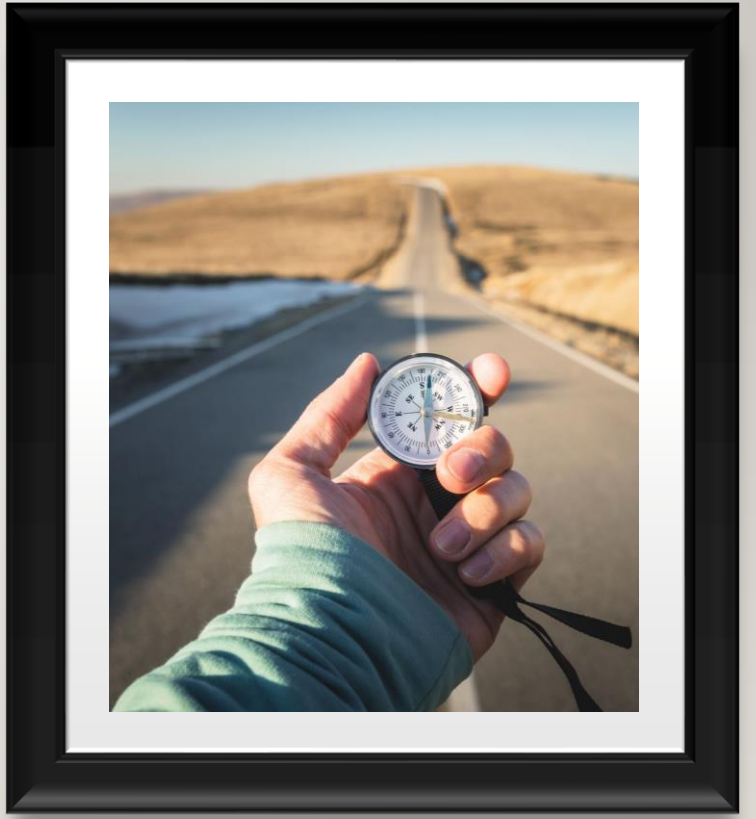
For the FAA: They need to boost inspections and training in the states of California, Texas, Florida, Alaska, Arizona.

The Consultants: They ought to study 1982 accidents for lessons on weather or pilot error.

The Manufacturers: They need to improve navigation tools to help cope with the IMC conditions.

A SAFER FUTURE

- By targeting high-risk states, learning from history, and tackling weather challenges, we can cut accidents and save lives.
- In this way, we can reduce aviation accidents by identifying and mitigating key risk factors.



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