



Airplane Crash Analysis

Internship By : Mentorness



Done by: Digma Patel



Agenda

- Problem statement about the project
- Dataset Description
- Tool & Data import : Power BI
- Clean Data
- Visualize data
- Final Dashboard
- Conclusion

Problem statement

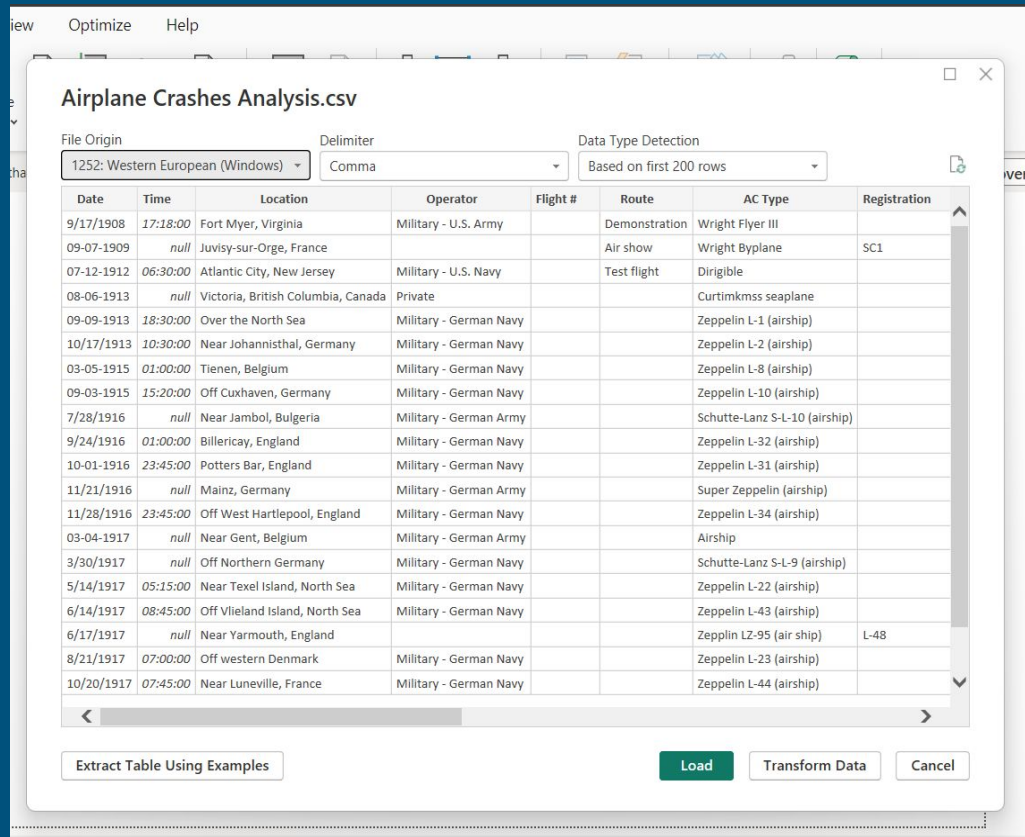
- This project analyzes airplane crashes in time duration of 1980-2023 using Power BI analysis tool for interactive visualizations.
- Dataset includes crash details, fatalities.
- Objectives to perform: Temporal analysis, Geospatial analysis, Operator analysis, Aircraft performance, Fatality trends, Route analysis.
- Deliverables: Power BI dashboards, reports, summary. Aims to enhance aviation safety.

Dataset Description

- **Date:** Date of the airplane crash.
- **Time:** Time of the airplane crash.
- **Location:** Location where the airplane crash occurred.
- **Operator:** Operator or airline involved in the incident.
- Flight number associated with the incident.
- **Route:** Planned route of the flight.
- **AC Type:** Aircraft type involved in the crash.
- **Registration:** Registration details of the aircraft.
- **cn/ln:** Construction or serial number of the aircraft.
- **Aboard:** Total number of individuals aboard the aircraft.
- **Aboard Passengers:** Number of passengers aboard the aircraft.
- **Aboard Crew:** Number of crew members aboard the aircraft.
- **Fatalities:** Total fatalities in the incident.
- **Fatalities Passengers:** Number of passenger fatalities.
- **Fatalities Crew:** Number of crew member fatalities.
- **Ground:** Casualties on the ground, if any.
- **Summary:** Summary or description of the incident.

Tool & Data import

- Power BI
- Airplane Crash Analysis.csv



Clean Data

- Remove Empty Value as well as Duplicate.
- Change Data Type.
- Replace Inconsistent Value.
- Rename Some Column.

Table: RenameColumns("#Removed Columns1",{"Date.3", "Year"})

	Year	Time	Address	Country	Operator	Flight #
1	1908	17:18:00	Fort Myer	Virginia	Military - U.S. Army	0
2	1928	00:00:00	Solis	Uruguay	Aeropostale	F-AIKG
3	1930	18:23:00	Oceanside	California	Maddux Airlines	7
4	1931	10:45:00	Bazaar	Kansas	Trans Continental and Western Air	599
5	1934	22:45:00	Amazonia	Missouri	Rapid Air Transport	6
6	1935	23:45:00	Near Gilmer	Texas	Delta Air Lines	4
7	1936	10:20:00	Uniontown	Pennsylvania	Trans Continental and Western Air	1
8	1936	20:47:00	Near Milford	Pennsylvania	Eastern Air Lines	14
9	1936	19:38:00	Newhall	California	United Air Lines	34
10	1937	20:50:00	Off San Francisco	California	United Air Lines	23
11	1937	18:40:00	Clifton	Pennsylvania	Trans Continental and Western Air	15A
12	1937	19:25:00	Lakehurst	New Jersey	Deutsche Zeppelin Reederei	LZ 129
13	1938	15:07:00	Bozeman	Montana	Northwest Orient Airlines	2
14	1938	21:30:00	Near Wawona	California	Trans Continental and Western Air	8
15	1938	22:17:00	Cleveland	Ohio	United Air Lines	9
16	1938	04:11:00	Pacific Ocean between Manila and Guam	None	Pan American World Airways	229
17	1940	14:41:00	Near Lovettsville	Virginia	Pennsylvania Central Airlines	19
18	1940	17:48:00	Chicago	Illinois	United Air Lines	21
19	1941	02:00:00	Armstrong, ON	Canada	Trans Canada Air Lines	3
20	1941	17:48:00	San Juan	Puerto Rico	Pan American World Airways	203
21	1941	02:04:00	Near Moorhead	Minnesota	Northwest Orient Airlines	5
22	1942	19:05:00	Botwood	Newfoundland	American Export Airlines	71
23	1942	17:15:00	Palm Springs	California	American Airlines / Military - USAF	28
24	1943	07:30:00	Ukiah	California	Pan American World Airways	V-1104
25	1943	06:47:00	Lisbon	Portugal	Pan American World Airways	9035
26	1943	11:00:00	Off the coast of France	None	British Overseas Airways	777
27	1943	23:17:00	Near Centerville	Tennessee	American Airlines	63

Query Settings

PROPERTIES

Name

Airplane Crashes Analysis

All Properties

APPLIED STEPS

Split Column by Delimiter

Changed Type

Renamed Columns

Replaced Value1

Replaced Value2

Replaced Value3

Changed Type1

Replaced Value4

Changed Type2

Replaced Value5

Changed Type3

Replaced Value6

Replaced Value7

Changed Type4

Removed Columns

Changed Type5

Removed Duplicates

Removed Duplicates1

Replaced Value8

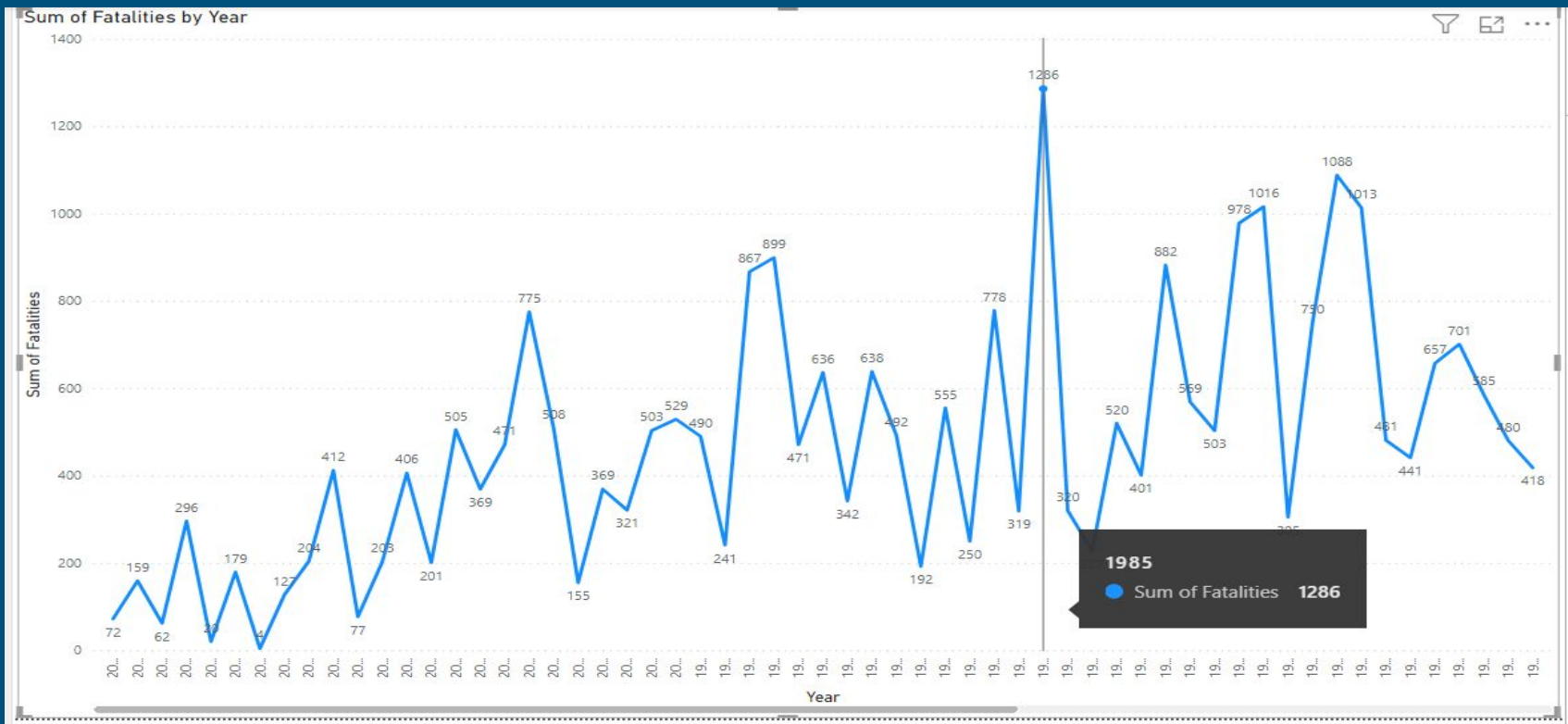
Replaced Value9

Split Column by Character ...

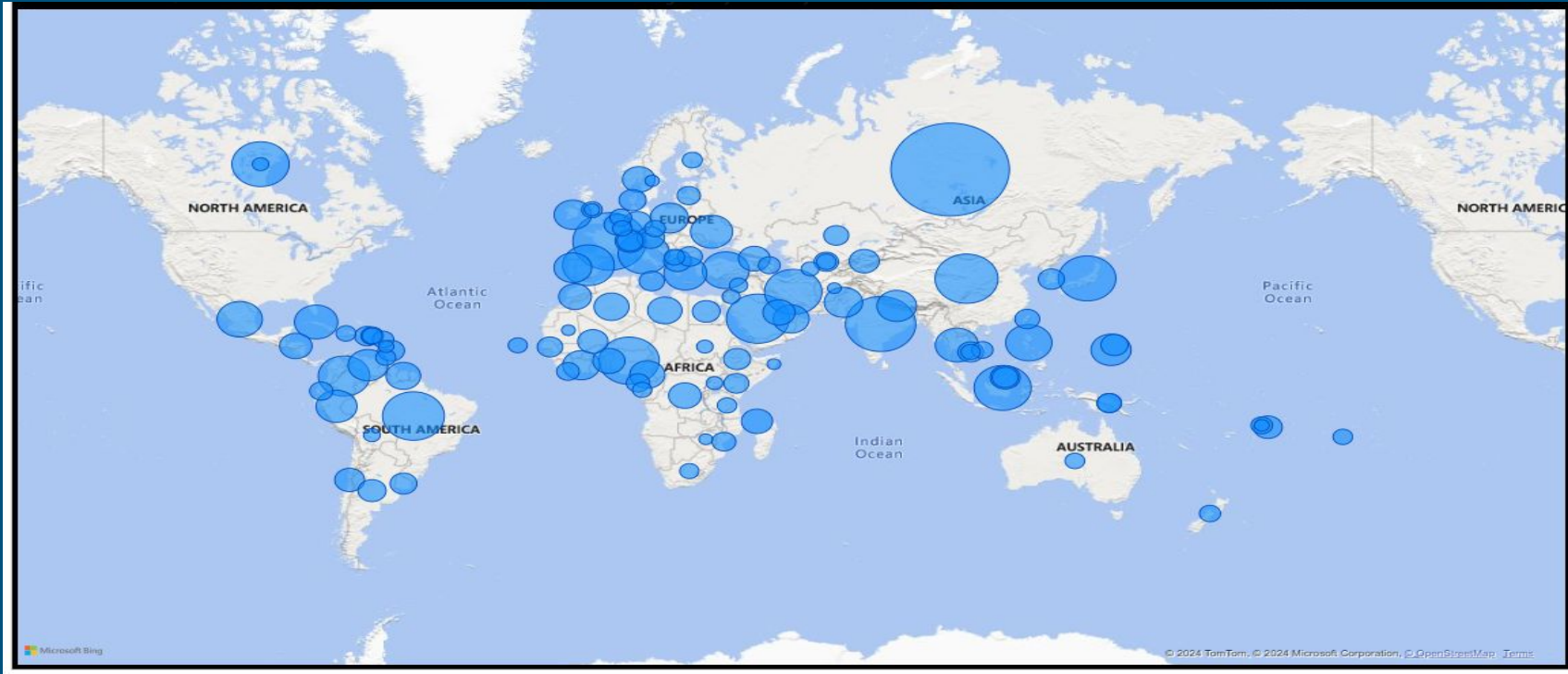
Removed Columns1

Renamed Columns1

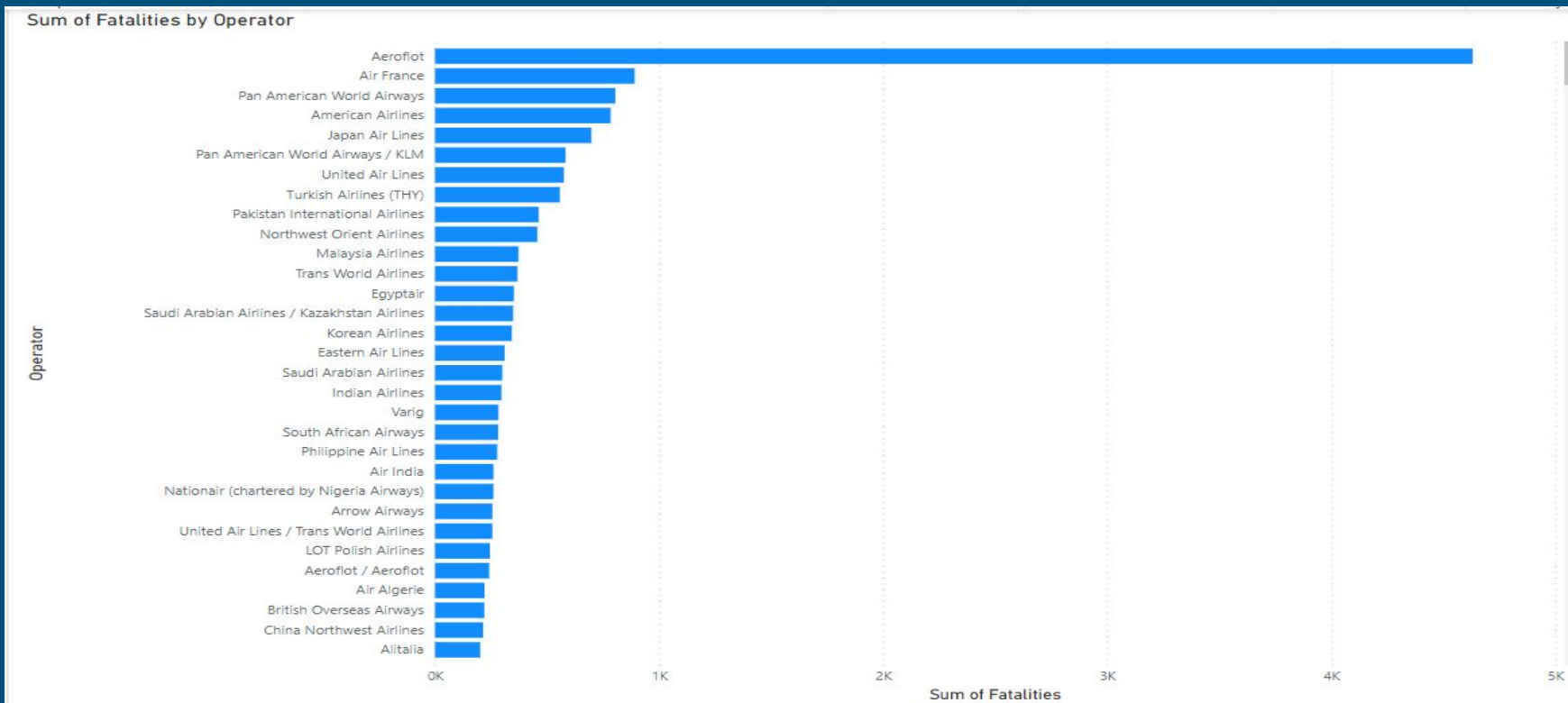
Visualize Data : Temporal Analysis



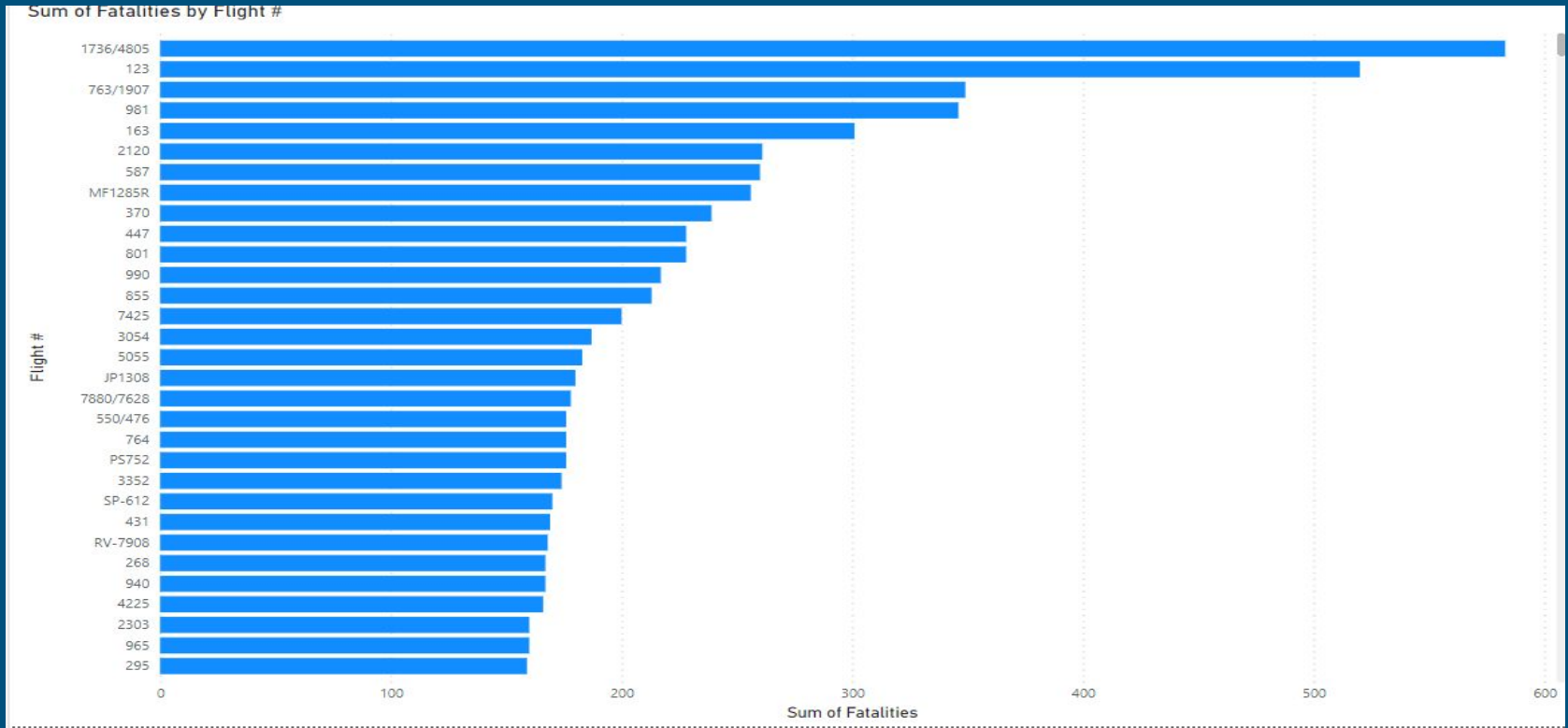
Visualize Data: Geospatial Analysis



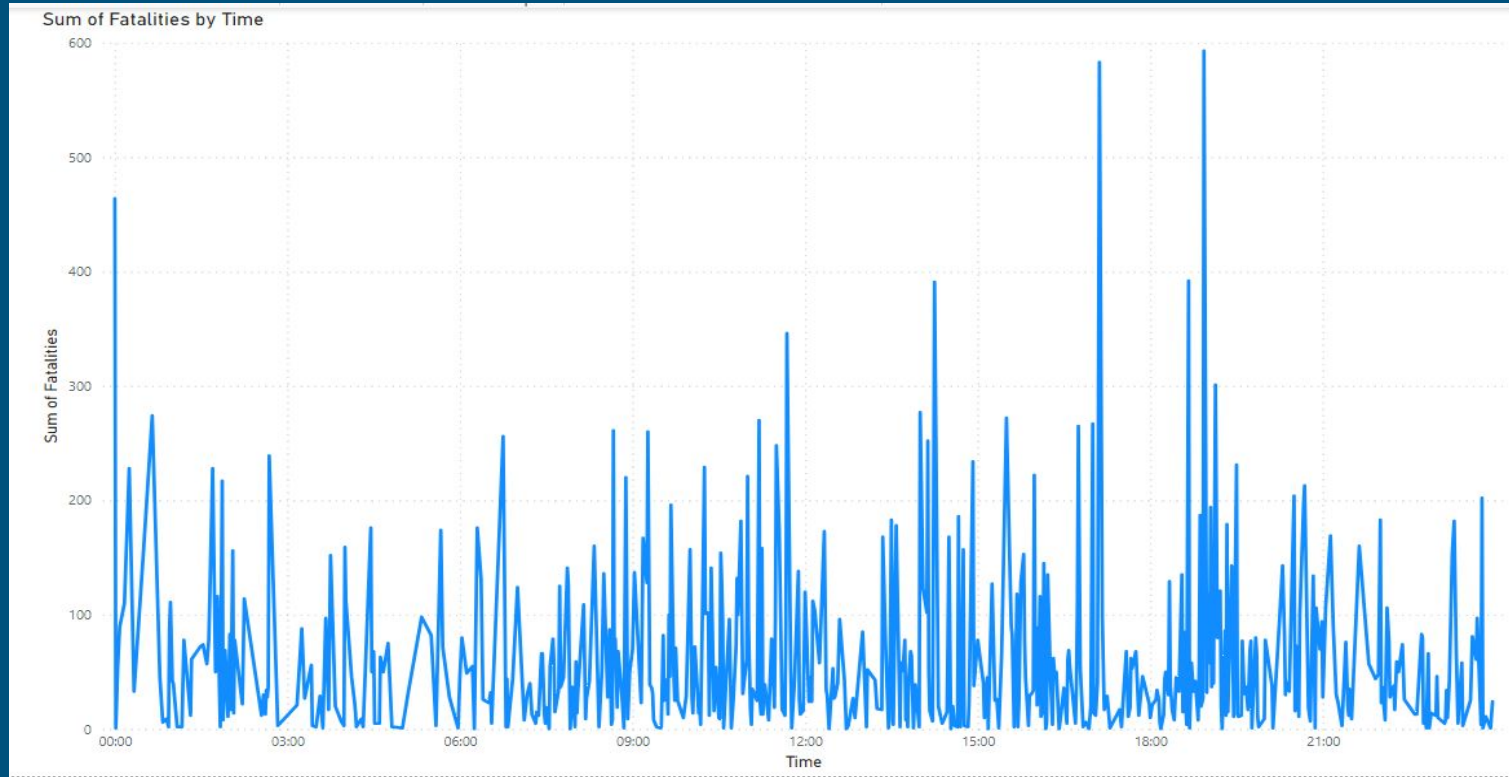
Visualize Data: Operator Analysis



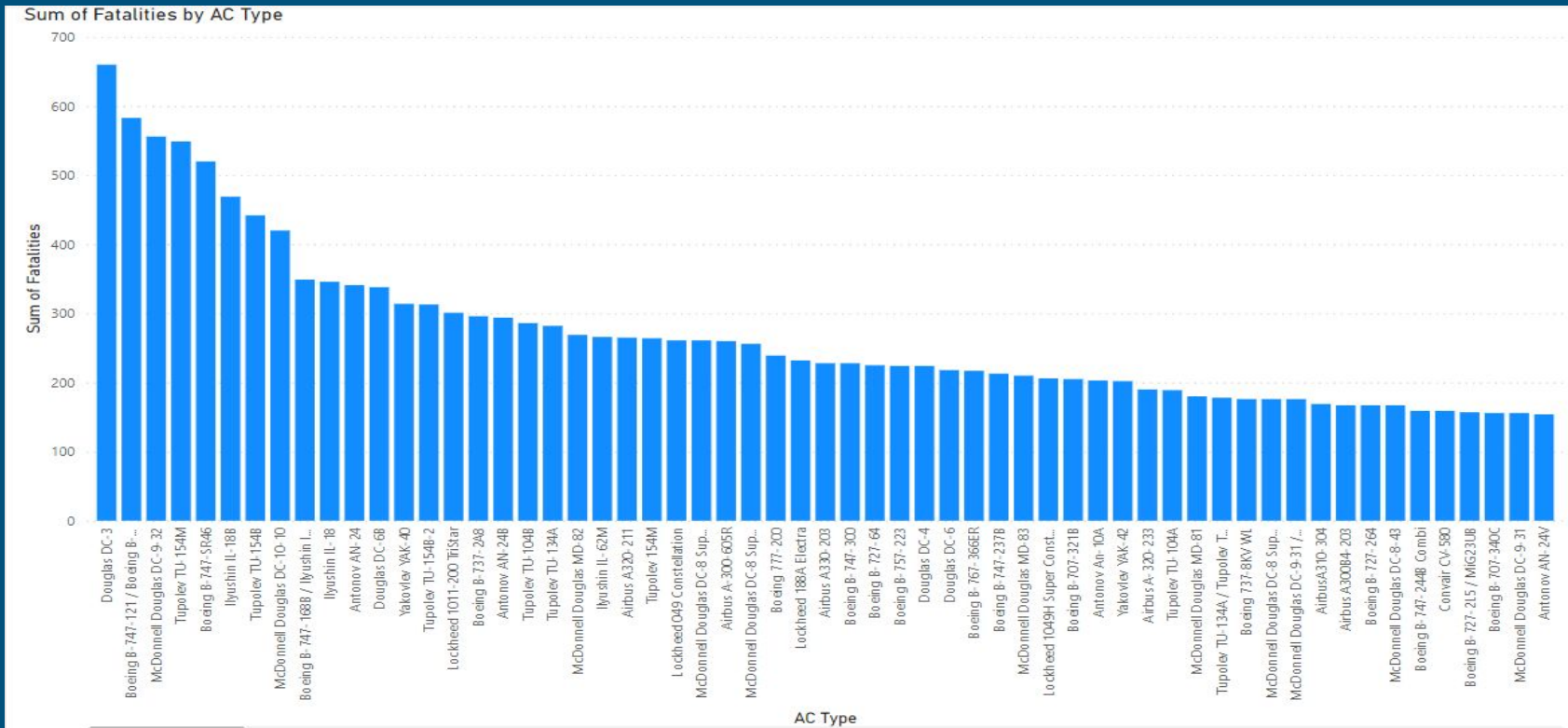
Visualize Data: Aircraft Analysis(1)



Visualize Data: Fatalities Trend Analysis(1)

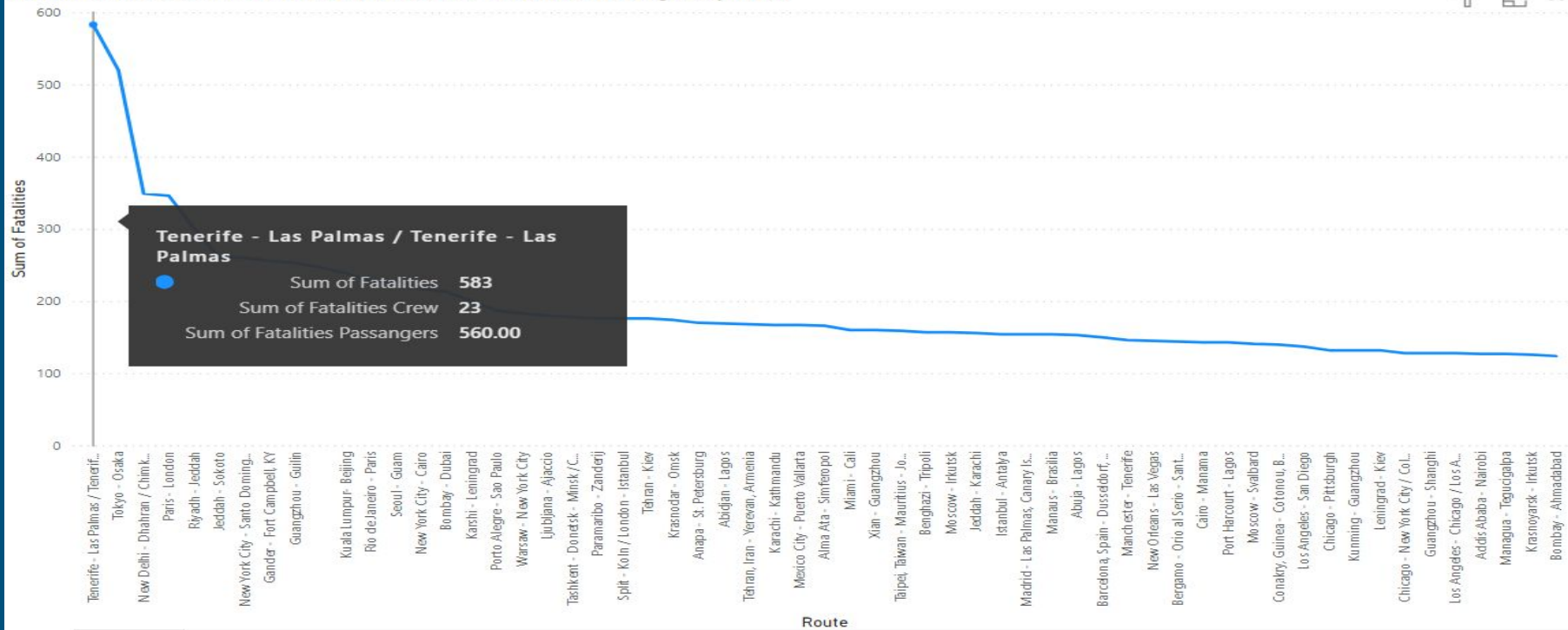


Visualize Data: Fatalities Trend Analysis(2)

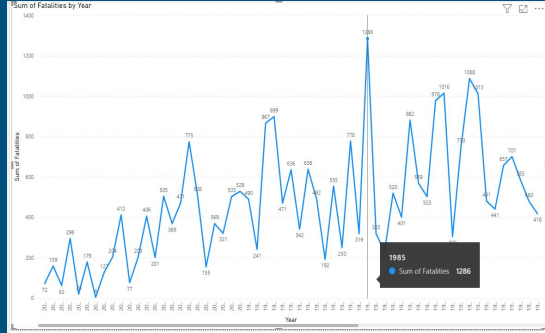


Visualize Data: Route Analysis

Sum of Fatalities, Sum of Fatalities Crew and Sum of Fatalities Passangers by Route



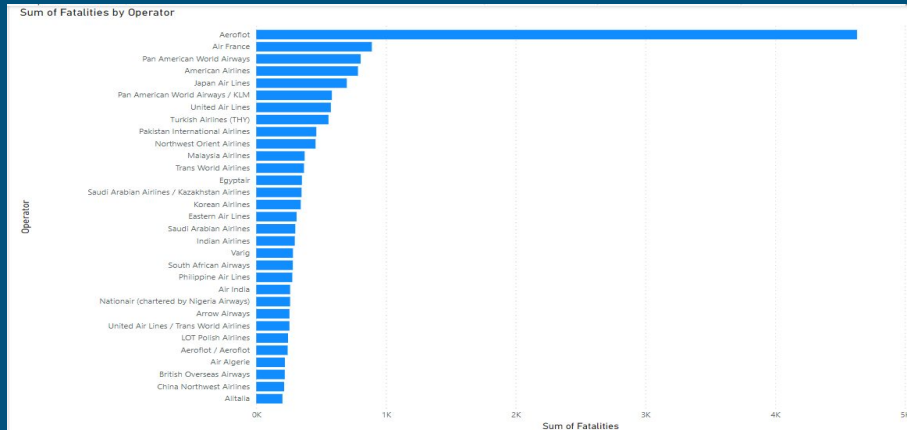
Temporal Analysis



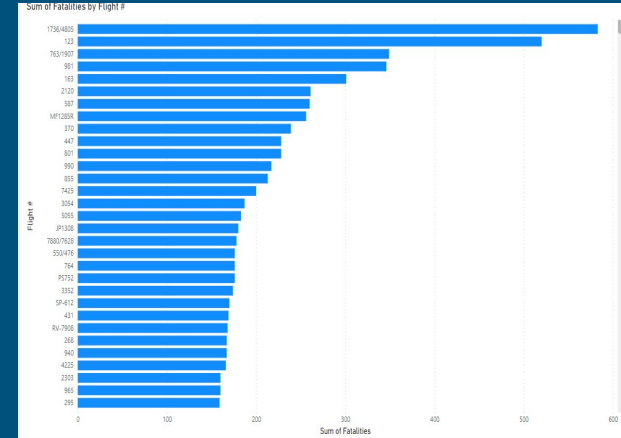
Geospatial Analysis



Operator Analysis



Aircraft Analysis



Conclusions

- The year 1985 was the highest airplane fatalities rate in the world.
- There is a relationship between the Registration details of the aircraft (N110AA), AC Type : McDonnell Douglas DC-10-10 and the number of fatalities.
- There is a relationship between operator : Aeroflot with serial number(1736/4805) and the number of fatalities.
- As per geospatial analysis the maximum fatalities has occurred around european routes.
- As per Fatalities trend analysis, more of the fatalities has occurred between 3:00 PM to 9:00 PM.



Thank You !!