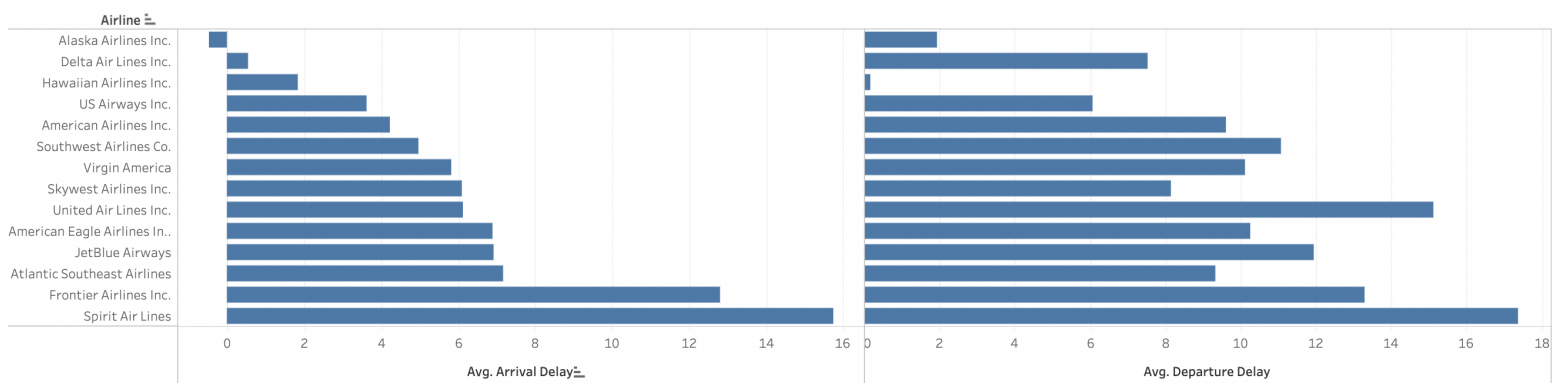


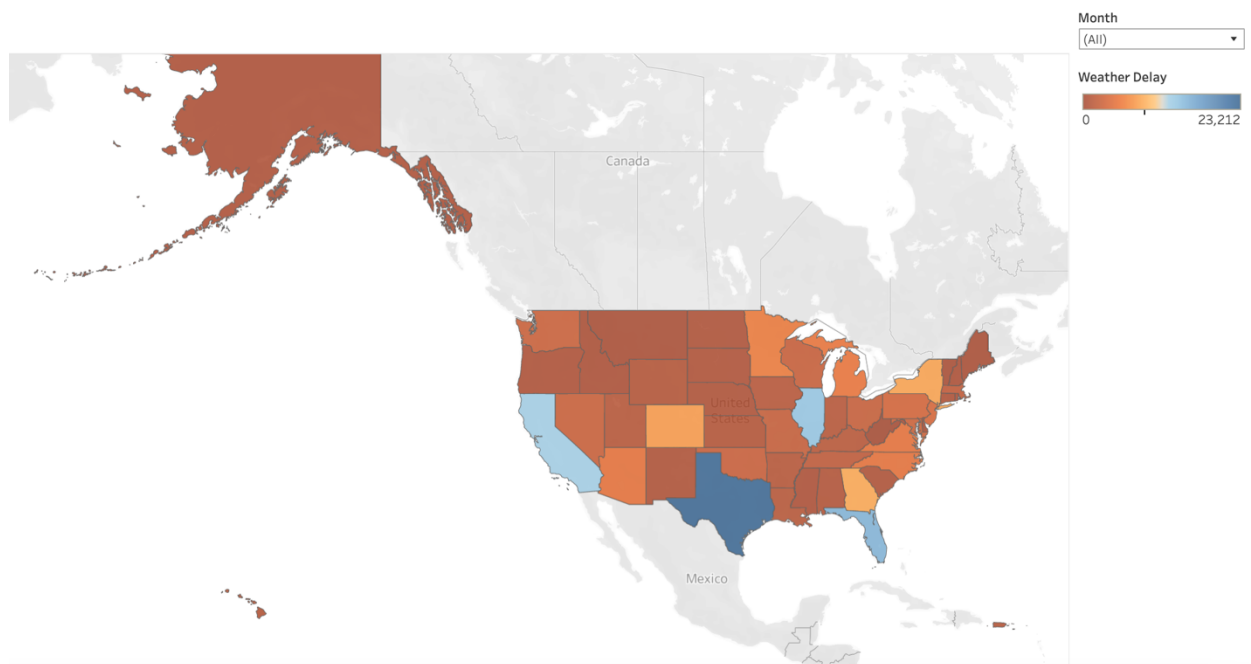
## Insight 1: What is the average arrival and departure delay time for each airline?

- **Link:**  
[https://public.tableau.com/views/Project4\\_16421005311490/Insight1?:language=en-US&publish=yes&:display\\_count=n&:origin=viz\\_share\\_link](https://public.tableau.com/views/Project4_16421005311490/Insight1?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link)
- **Summary:** This bar chart shows the average arrival and departure delay for each airline. Spirit Airlines had the highest average for both arrival and departure delay in the year 2015 with 15.73 and 17.37 for arrival and departure delay respectively. Frontier Airlines comes next for arrival delay with an average of 12.79, and United Airlines for departure delay with an average of 15.12. We can tell that the best airline which arrived in time is Delta Airlines, and the one which departed in time is Hawaiian Airlines.
- **Design:** I chose a bar chart since only one value is required to display the results and it can easily be sorted to see which airline has the highest or lowest average. Blue is the chosen color since it's a uniform color and having too many colors would be a distraction to the viewer. In addition, a tool tip is added with additional information of the average scheduled arrival and departure .
- **Resources:** N/A

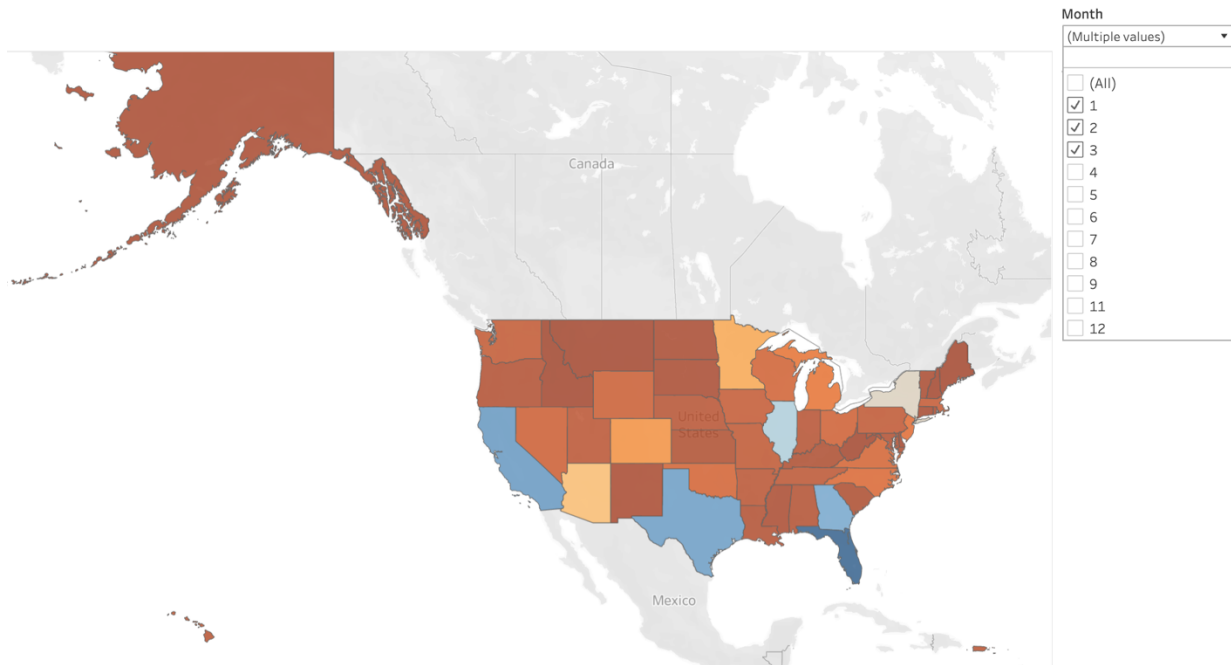


## Insight 2: Which state and month had the worst weather delays?

- **Link:**  
[https://public.tableau.com/views/Project4\\_16421005311490/Insight2?:language=en-US&publish=yes&:display\\_count=n&:origin=viz\\_share\\_link](https://public.tableau.com/views/Project4_16421005311490/Insight2?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link)
- **Summary:** This map visualization shows which state had the most weather delays in 2015. From the map we can see that Texas had the most weather delays with a total of 23,212 weather delays, followed by Florida -in the southeast of the map- with a total of 15,384 weather delays. The least state with weather delays is West Virginia with a total of only 24 weather delays.
- **Design:** I chose a shaded map to visualize my insight as it is the most suitable design in my opinion to easily show the density of the amount of weather delays of each state in a color-blind friendly way. Also, I added a month filter to investigate which months of the year had the worst weather conditions for flights.
- **Resources:** N/A



Here is the map after applying the month filter, and we can see that for the months January, February, and March the state Florida had the worst weather delays. Next comes California and then Texas.

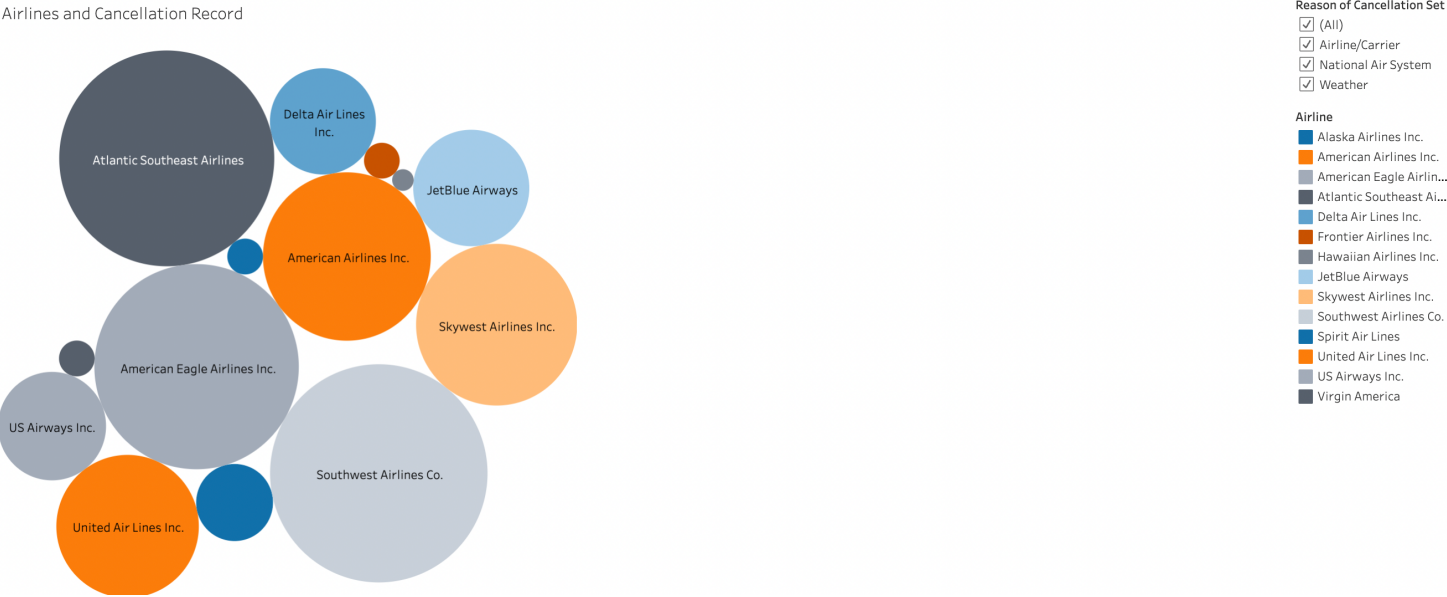


**Insight 3:** Which airline had the worst cancellation record?

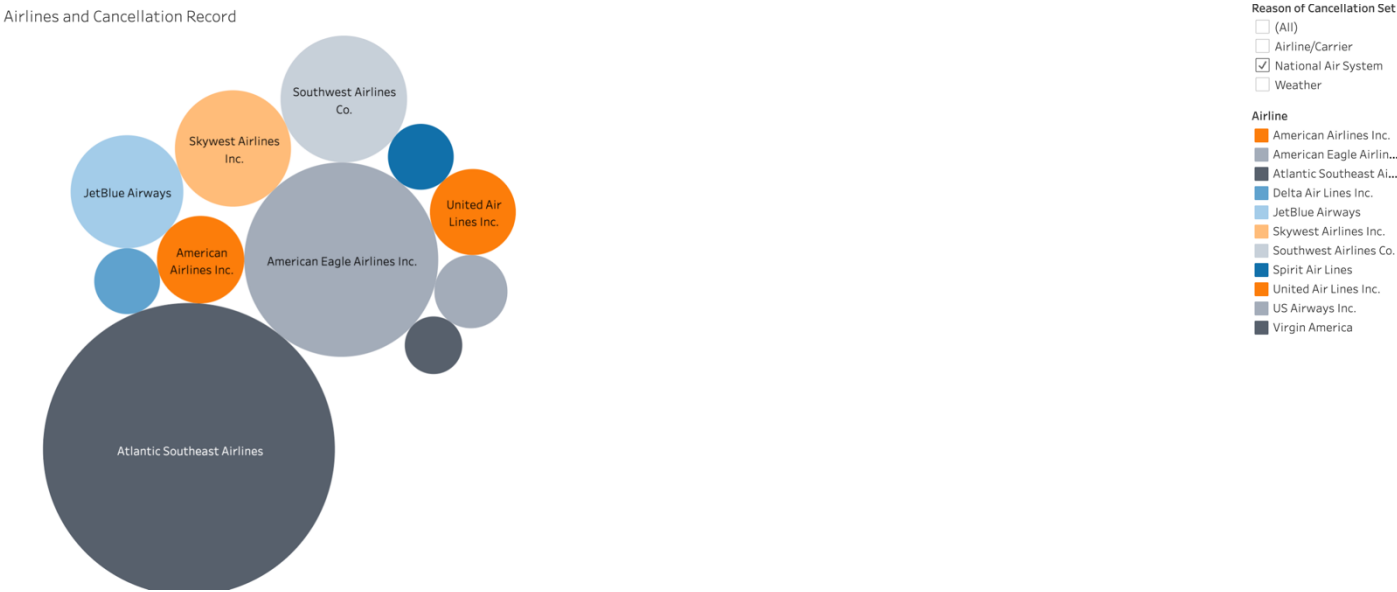
- **Link:**  
[https://public.tableau.com/views/Project4\\_16421005311490/Insight3?:language=en-US&publish=yes&:display\\_count=n&:origin=viz\\_share\\_link](https://public.tableau.com/views/Project4_16421005311490/Insight3?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link)
- **Summary:** The packed bubble visualization displays the airlines that had the most cancelled flights and the reason of cancellation as a filter. The airline that had the most cancelled flights is Southwest Airlines with a total of 818 number of cancellations followed by Atlantic Southeast Airlines with a difference of 18 cancelled flights. Hawaiian Airlines had the least cancelled flights with 8 total cancellations.
- **Design:** I chose a bubble chart for its simplicity and how it delivers the analysis in a creative form with the number of cancelled flights as the size mark and each airline has its own color mark with the color-

blind taken into consideration. I added the reason of cancellation set filter which is a null-free set that was extracted from a calculated field that translated each letter to its original reason using a nested (IFF) statement.

- Resources: N/A

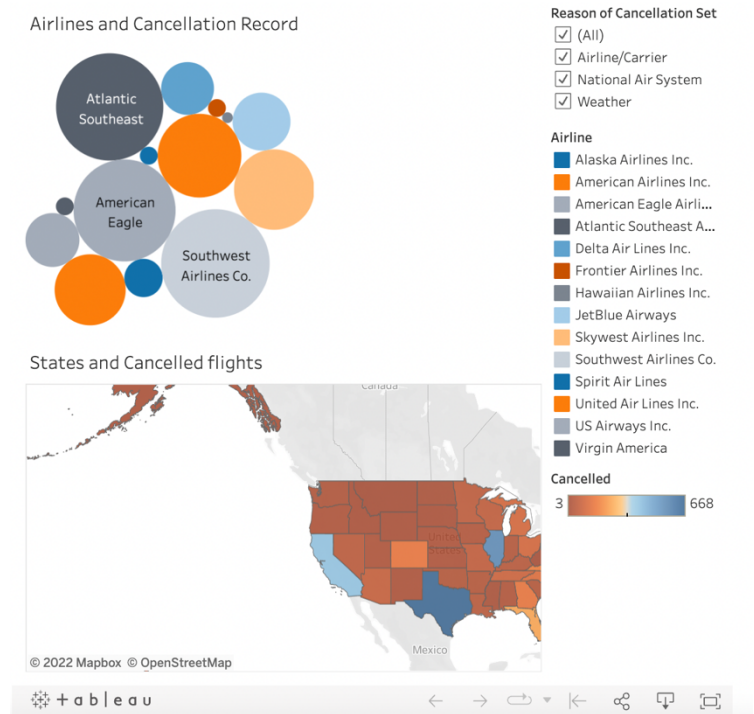


Here is the bubble chart with the National Air System filter applied which shows that the Atlantic Southeast Airlines had the highest number of cancellations due to that reason.



#### **Insight 4:** Which airline and state had the worst cancellation record?

- **Link:**  
[https://public.tableau.com/shared/N28F5NNBR?:display\\_count=n&origin=viz\\_share\\_link](https://public.tableau.com/shared/N28F5NNBR?:display_count=n&origin=viz_share_link)
- **Summary:** For my fourth insight I decided to combine by third insight in addition to an extra worksheet that has a shaded map visualization with each state and its cancellation record in one dashboard. As we can see from the dashboard, the highest cancellation record goes to Southeast Airlines and Texas with a total of 668 cancelled flights. Next comes Atlantic Southeast Airlines and Illinois with 563 cancelled flights. The least state of cancelled flights is New York which has 386 cancelled flights.
- **Design:** I chose the shaded map in addition to the packed bubble visualization for its clear and straightforward message since the data of interest is states and the best way to visualize it is through a map. I took into consideration a color-blind friendly color for both charts. The reason of cancellation set filter is applied to both charts from the dashboard.
- **Resources:** N/A



Here is the dashboard after choosing Airline/Carrier reason from the filter. We can see that Southeast Airline had 309 cancelled flights due to that reason, and Texas had 202 cancelled flights. Next comes Atlantic Southeast Airlines and California with a total of 188 and 199 cancelled flights respectively.

