

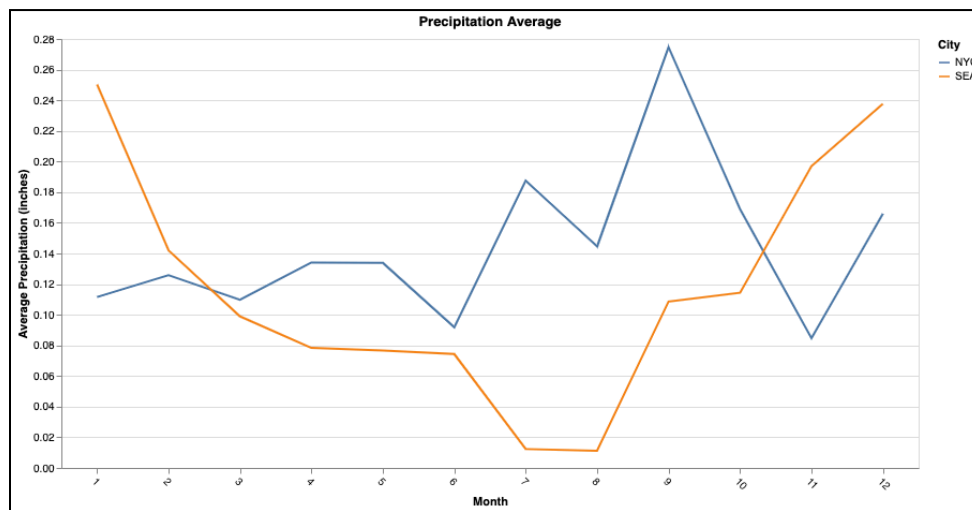
Sienna Martinez
DATA 3320
April 15, 2024
Dr. Galen Egan

Seattle vs New York City Rainfall: Who is the Rainiest?

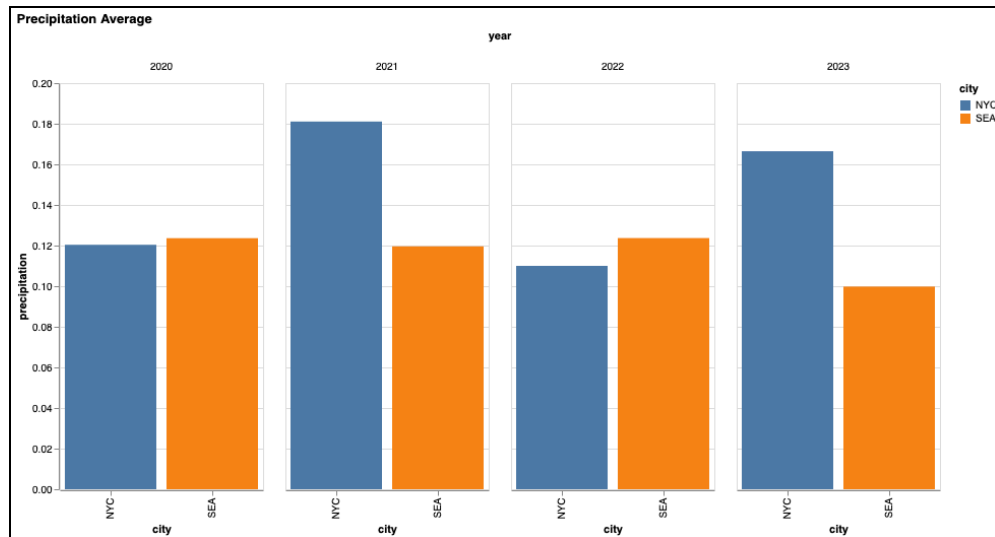
Introduction and Problem:

Professor Egan introduced to us a problem that has formed ever since becoming a Seattle resident. His family members who are currently in New York, claim that Seattle is “too rainy” for them to come visit. As a data science professor, Dr. Egan challenged that by providing our class a dataset to compare rainfall between the two cities and determine which city is the rainiest, and any other patterns we can gather from the data. The data is from the National Oceanic and Atmospheric Administration (NOAA) and is data from numerous stations located in each city. Some specific trends that will be looked into in this report are total average rainfall by month, rainfall by season, and annual average rainfall by year.

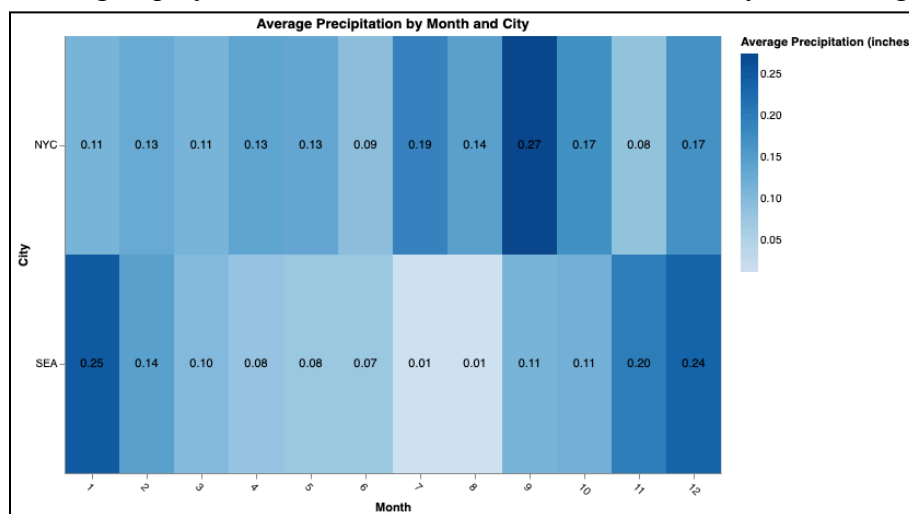
Data Analysis:



This graph shows the average precipitation level for each month from the four years of data gathered. New York City is shown in blue, and Seattle is shown in orange. Some important features that were used to make this graph include a group by function that used the mean precipitation levels of each month and separated by city.



This graph shows the average yearly precipitation of each city through grouped histograms and separates it by year so that we can see the consistency of rainfall each year. This graph also used the group by function and columns to create the side-by-side histogram.



This graph is a heatmap that is similar to the line graph made earlier except it gives us a different type of visualization to understand the increases and decreases of rainfall per month in each city. Along with the group by function, this graph required a text encoding to be used to give the heatmap easier readability.

Conclusion:

Overall Seattle does, in fact, have higher consistent annual rainfall than New York city, except there seem to be some outliers in our data that suggest that natural events like flooding or a hurricane occurred that increased the precipitation levels in New York City, making their annual average rainfall greater if we were comparing it over the span of 4 years. The most amount of rainfall for both cities occurs in fall and winter so if Dr. Egan's family did want to visit, their best times would be in the spring and summer months.