Seattle vs Portland Precipitation - Report

The question this project seeks to address is whether the city of Seattle, WA, or the city of Portland, OR, gets more rainfall on average. To answer this question, this project utilizes NOAA Weather Observation data, which tracks daily precipitation values for both cities. This data takes measurements from different stations placed in and around the two cities. For this comparison, one station was chosen for each city to represent the respective city’s daily precipitation values. This data was taken over the time period of January 1st, 2018, to December 31st, 2023.

To compare the two cities using this data, this project used three different comparison:

1. The first of these comparisons was simply plotting the mean daily precipitation data as recorded by NOAA.

A graph of blue and orange lines

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As can be seen in the chart above, the difference in rainfall between the two cities is fairly consistent for both across the entire timeframe. There are spikes for both Seattle and Portland, but no consistent difference between the two.

1. The second of these comparisons is mean monthly precipitation, which averaged the months across the five years of data.

A graph showing the number of months and months

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As can be seen in the chart above, Portland has a higher mean monthly precipitation in the first half of the year, while Seattle has a higher mean monthly precipitation in the latter half of the year. None of the differences between the months are statistically significant, with the difference between cities in most months being very slight.

1. The final comparison is mean monthly proportion of days with precipitation.

A graph of a number of columns

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In this comparison, there were four months where the difference in mean monthly proportion of days with precipitation was statistically significant. As we can see, in three of the four months which are statistically significant, Seattle had a higher proportion of days with precipitation. However, even in this comparison, the difference in cities in most months is not significant.

After considering these three different comparisons, and finding that, while in the third comparison there were some months with statistically significant data, there was not a large enough difference between the two cities to definitively say Portland or Seattle gets more rainfall on average. The data shown seems to indicate that there is a lot of overlap, and the differences between the cities is not so large as to be significant in any definitive way.