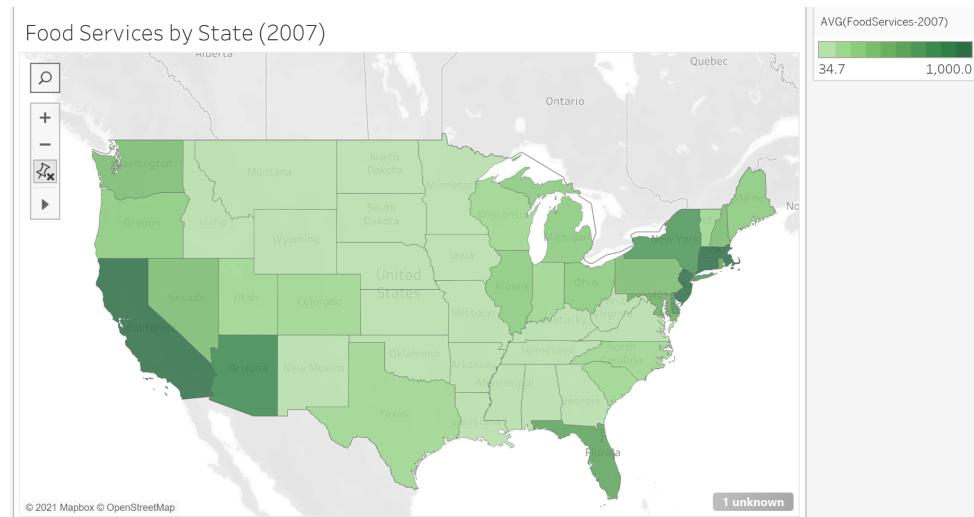


Elijah Caluya
5/1/21
DSC 465

Homework 2

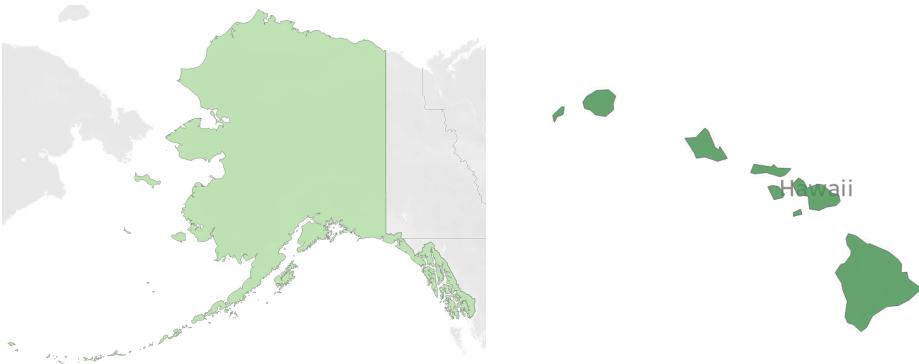
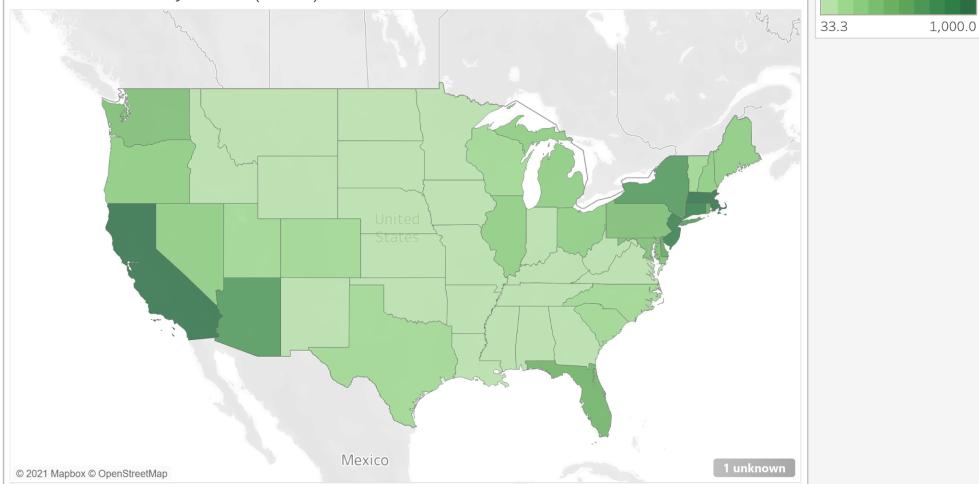
1) Questions using FoodSrvcByCounty.txt dataset

a) Geographic visualization of Food Services by State (2007):



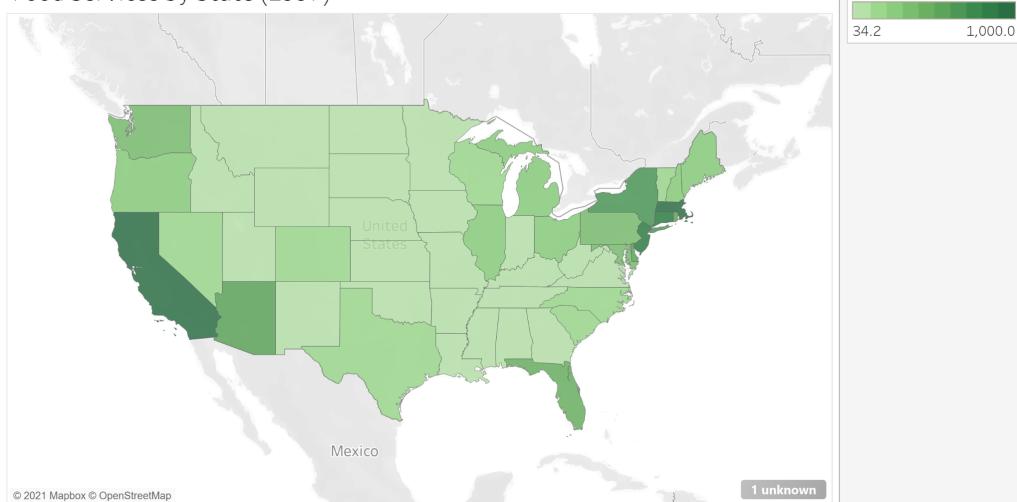
Geographic Visualization of Food Services by State (2002):

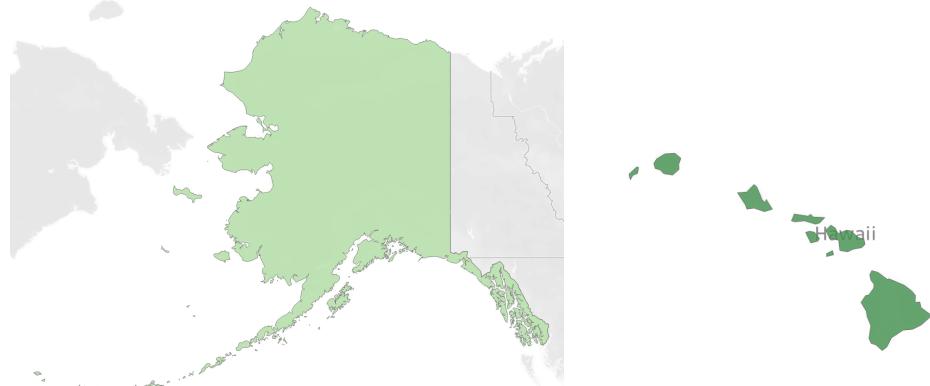
Food Services by State (2002)



Geographic Visualization of Food Services by State (1997):

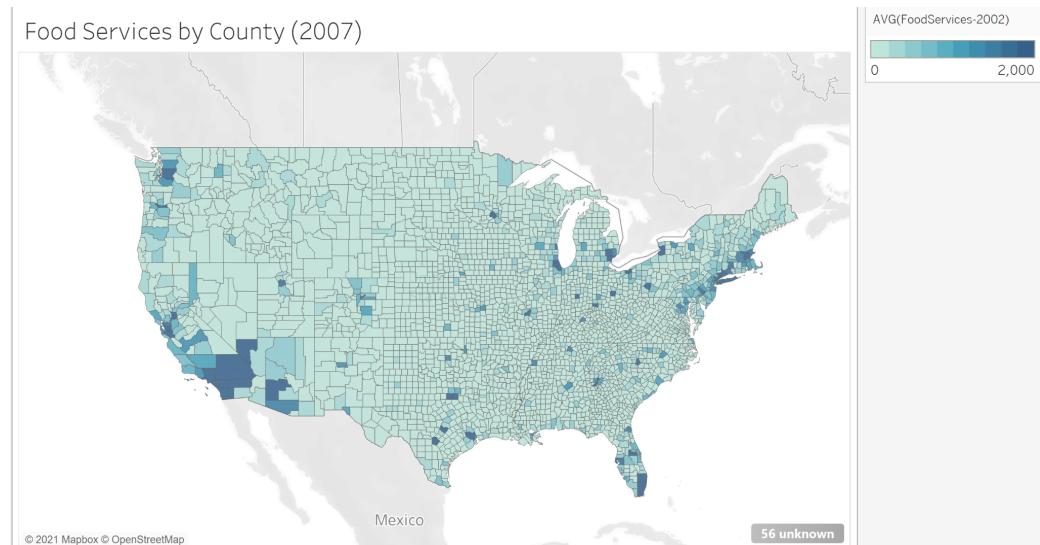
Food Services by State (1997)

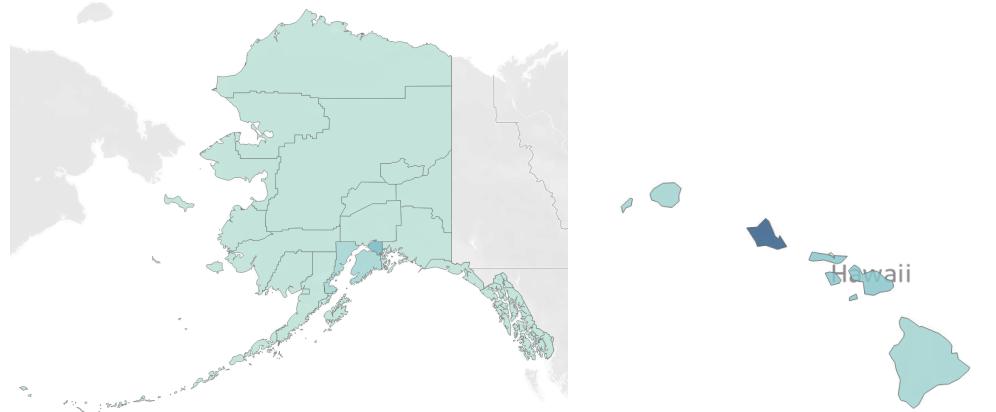




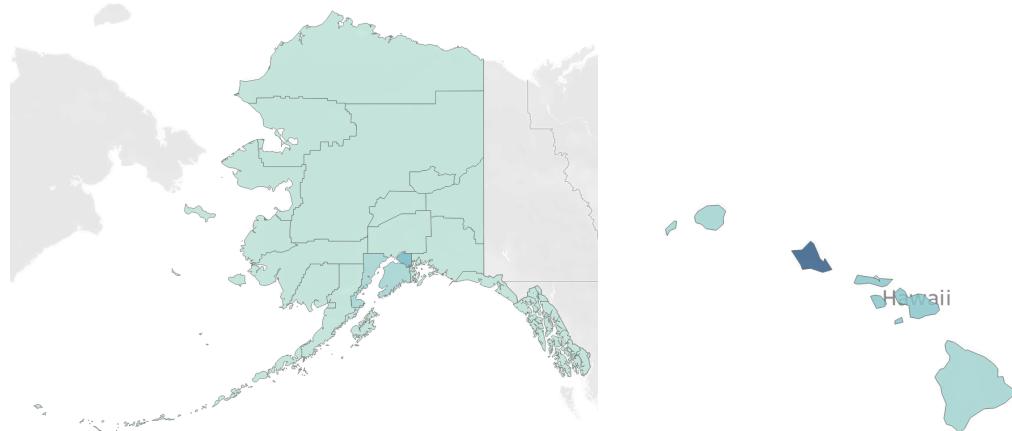
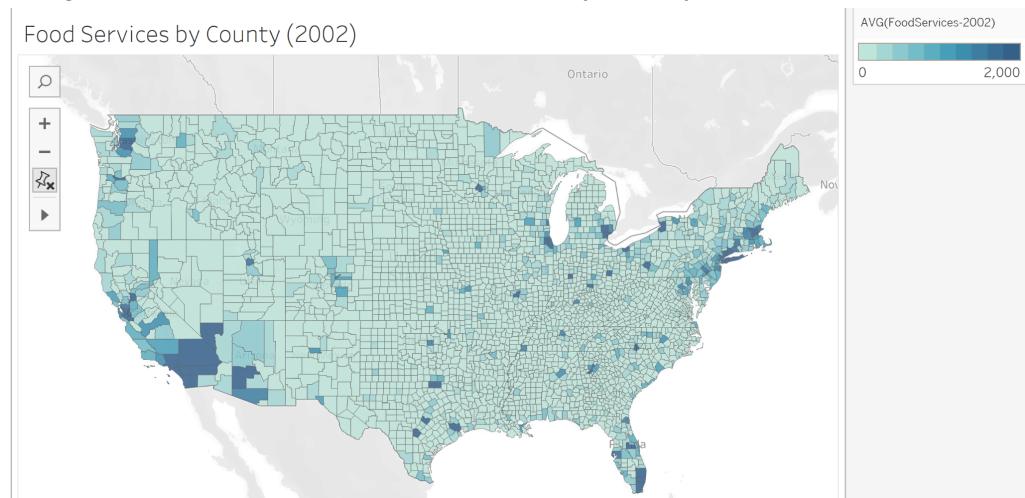
One thing to note is that across the years, California and Massachusetts have always had food services that are past the tail limit of 1000. I can also see that Arizona has their food services increase when going from 1997 to 2007. I believe that overall, all of the states increase their food services across the 10 years but some increase at a higher rate than others.

b) Geographic Visualization of Food Services by County (2007):

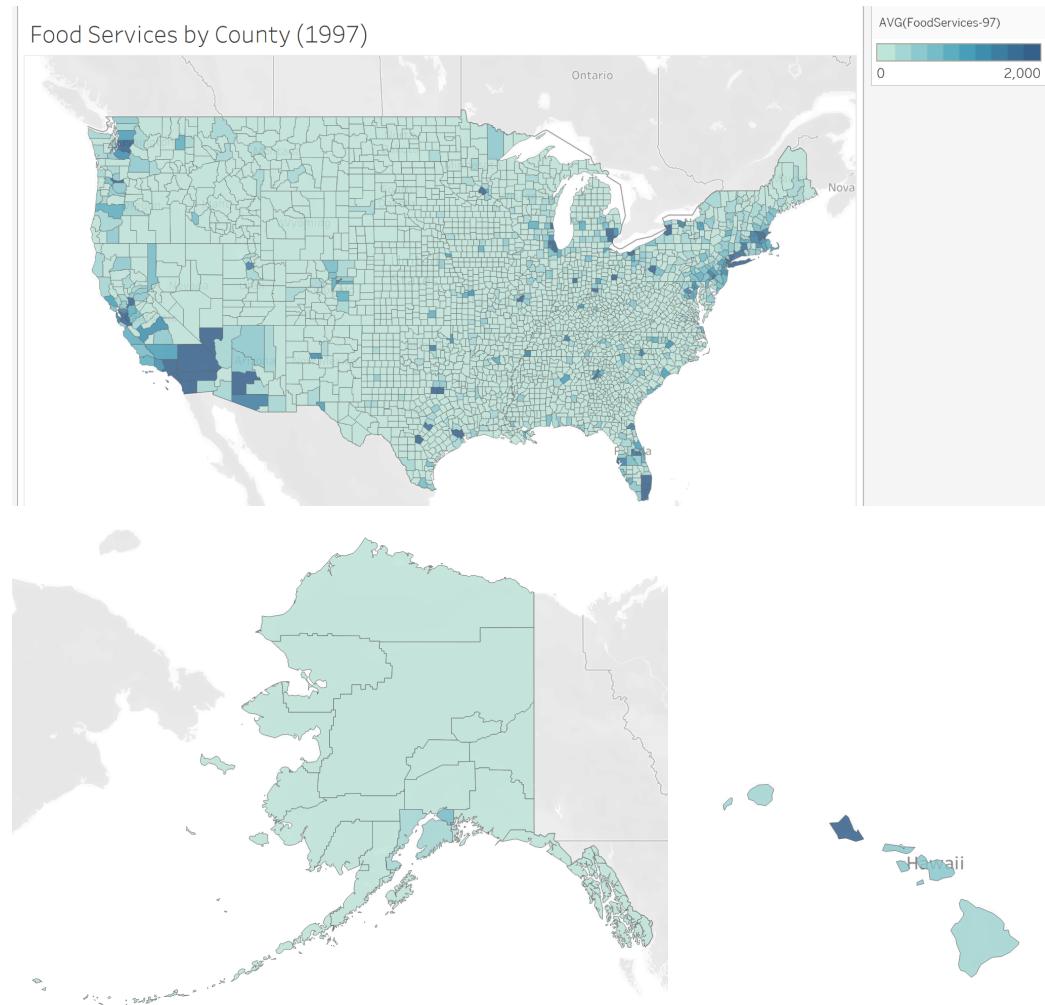




Geographic Visualization of Food Services by County (2002):



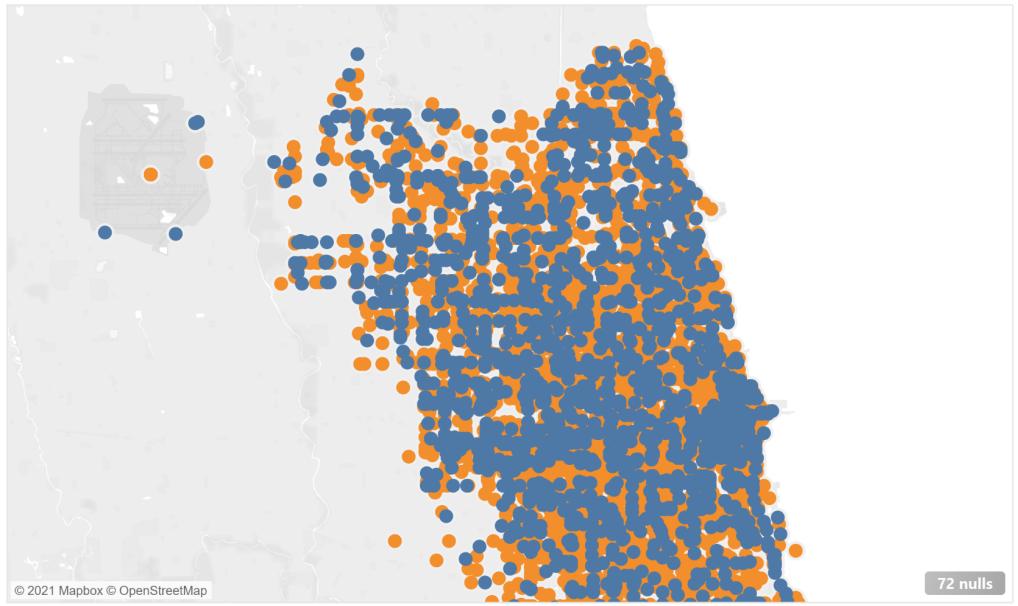
Geographic Visualization of Food Services by County (1997):



When I look at the distribution of Food Services over the years, I see more of the same from when I visualized the data by State where California and Massachusetts area have a larger amount of food services. What is interesting is that there seems to be a small county in Oregon that has a large amount of food services but it doesn't show up that prominently when looking at the visualization by State. What is also interesting is to see that Honolulu in Hawaii has consistently had a much larger amount of food services than the other counties in Hawaii.

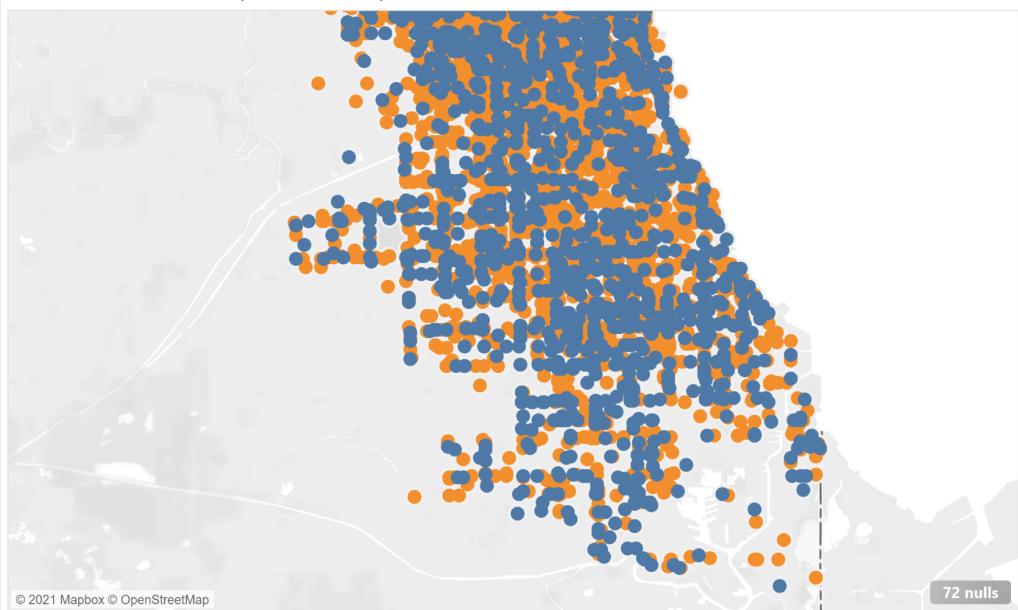
- 2) Questions that use Chicago_crashes.csv
 - a) Geographic plot to show where all of the accidents occur:
Northern:

Chicago Crashes (June 2019)

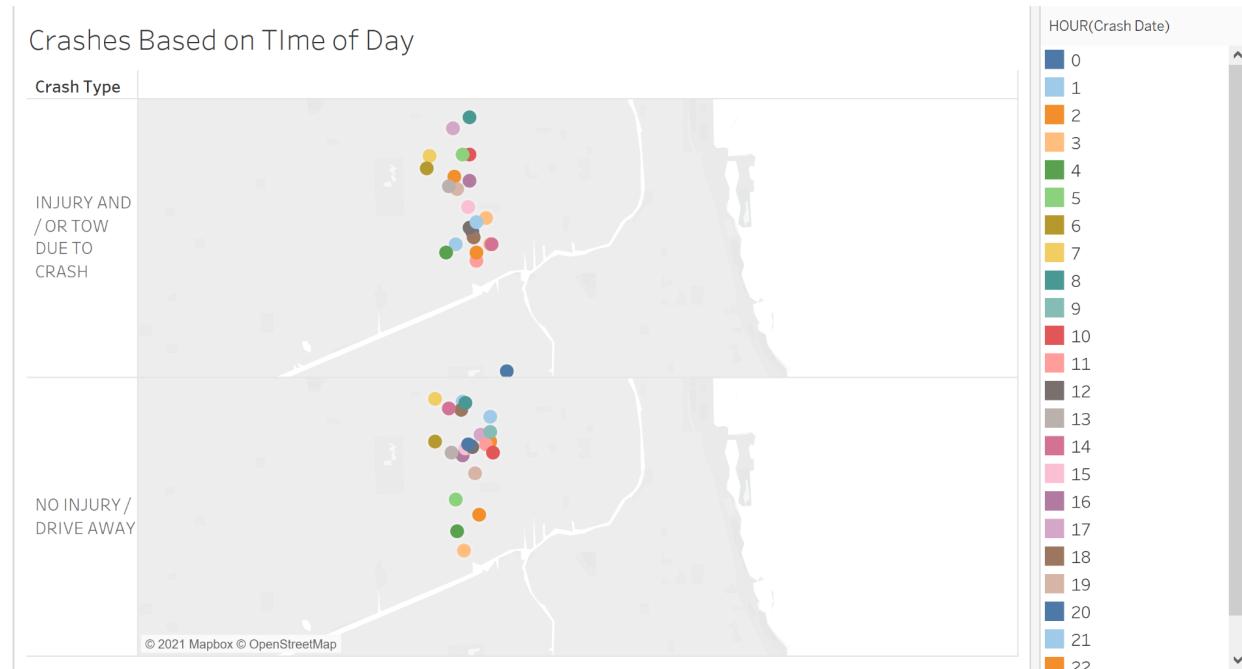


Southern:

Chicago Crashes (June 2019)



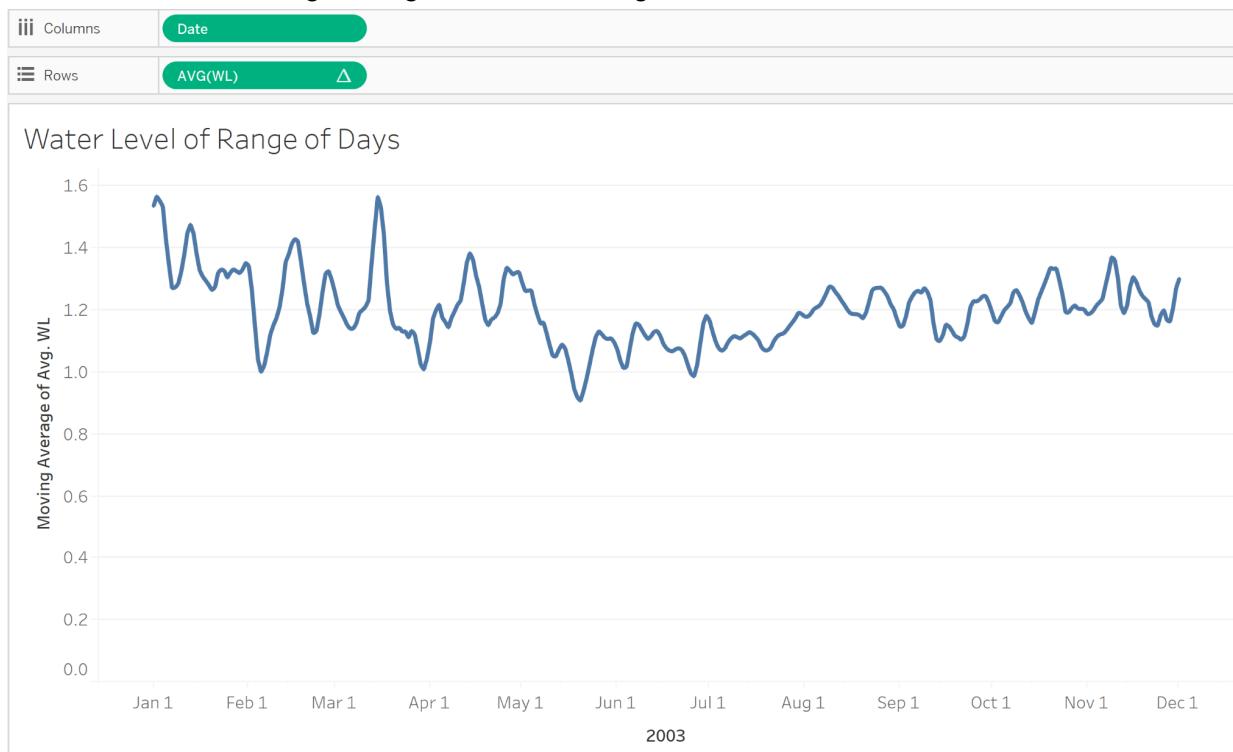
- b) Crashes in different parts of the city based on time of day:



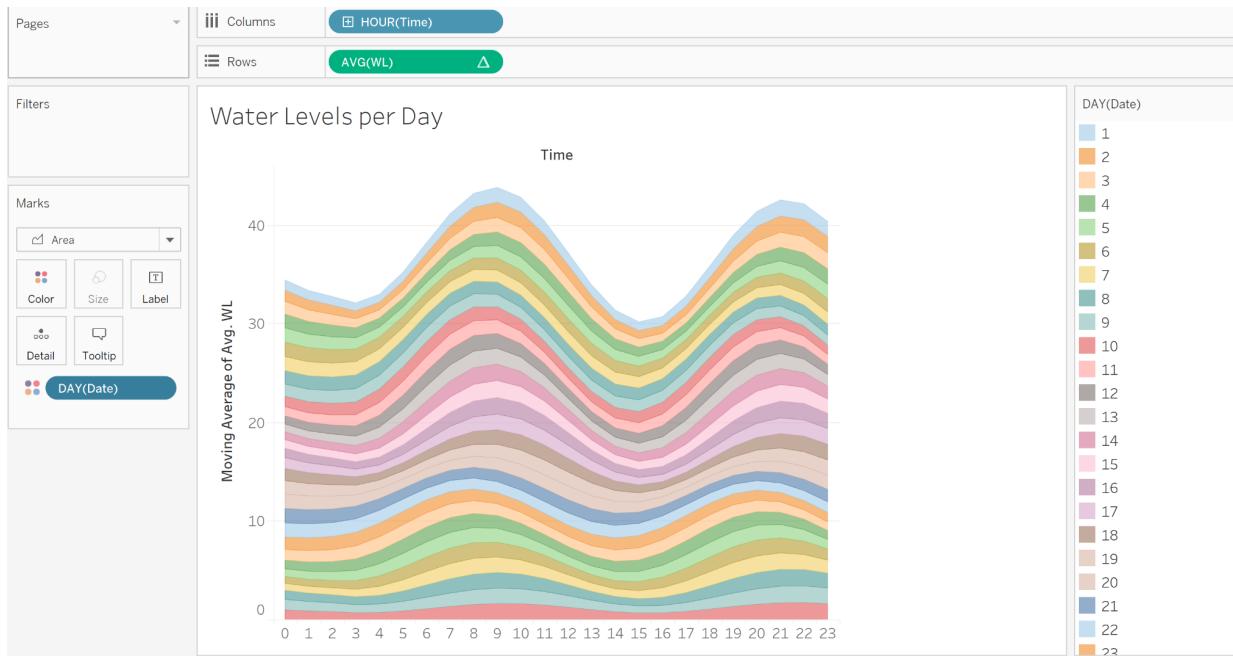
I found this question difficult and couldn't come up with a better solution than the one presented above. My thought process was to divide the graph based on the type of crash and then use colors to determine the time of day the crash occurred. Based on the graph, you can see that there are some common areas during a certain time of the day because the same colors appear in the same location.

- 3) Questions based on Portland Water Level Dataset

a) Water Level with Moving Average over Date Range:



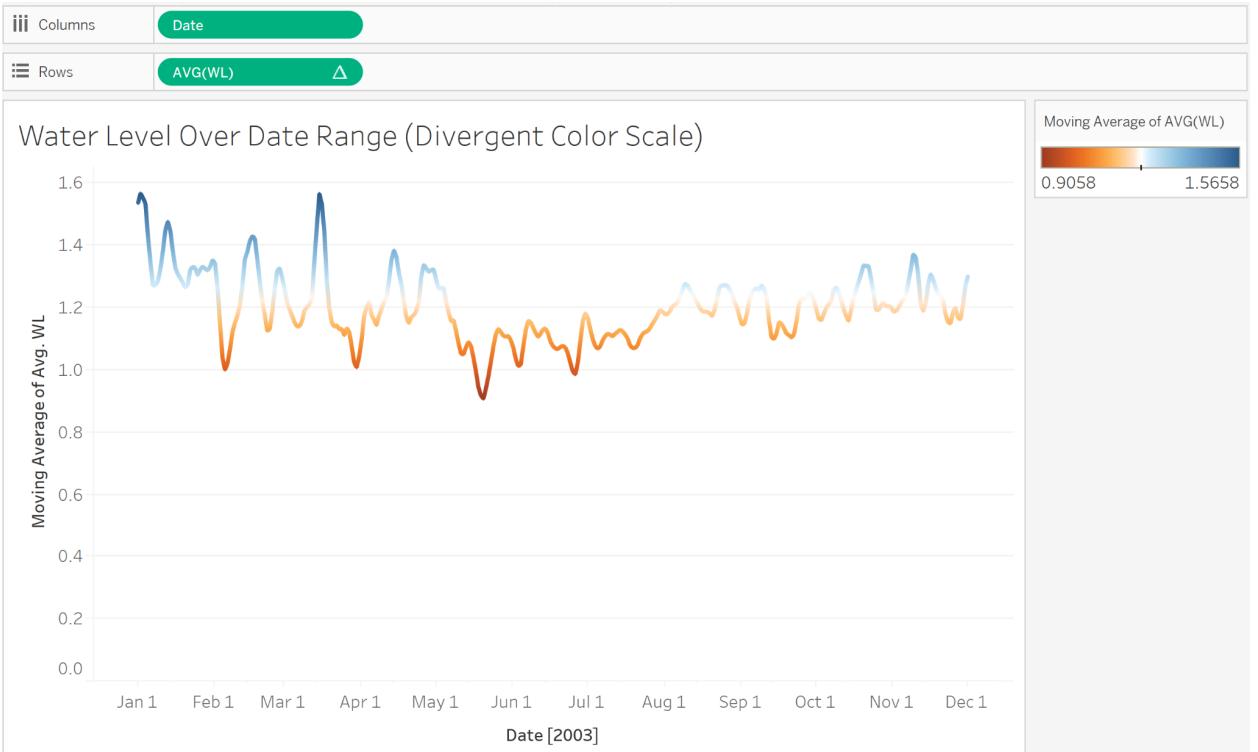
b) Water Levels per day:



- c) The main difference between the two graphs that I found is that the second graph utilizes color in order to differentiate between days while the first graph does not. The reason is that the second graph needs to show that there is a pattern of water levels for each hour of the day. On the other hand, the first graph would need to show the pattern across all of the days in the year. Since there were no

other attributes involved, I thought that no color differentiation was involved. It is also interesting to see the moving average in the first graph where the line will begin to smooth out when it is approaching the end of the graph. I found creating the second graph more difficult than the first because I could not find an easy or clear way to differentiate the different days as well as show the pattern throughout the day.

4) Water Level Over Date Range with Divergent Color Scale:



I chose red and blue because I felt it would be easy to determine colors above and below the midpoint where Blue is above and Red is below. When you look at the graph you can see that there is a white space through the middle of the line and that it is clear that there is separation between the values that are above and below it due to the shade of colors.