PS4 Geospacial: Write-up

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The visualization aims at providing readers a choice of a state in Mexico to learn its average BMI. The data used in the visualization is the Health Survey data collected by The National Institute of Statistics and Geography during 2012 in Mexico. First, the data was aggregated and cleaned so that the mean Body Mass Index (BMI) within each state by different gender groups are calculated. Because the original data set only has numeric information of states (1,2,3,. . . ,32) and I couldn't find any data of longitude and latitude at state-level, I manually entered name and location information for each state.

I created the map widget using leaflet package. The reason I chose leaflet instead of tmap or ggmap is that since for each state both average BMI for male and female want to be displayed, and the main goal of this map is not made BMI at state level comparable, but let the reader to learn the BMI in a specific state, leaflet would be a better choice here. Meanwhile, the BMI difference among states are very small (at one to two decimal places), mapping state average BMI to color aesthetics would not make much sense. With the clusterOptions = markerClusterOptions(), markers on the map are clustered and this is specifically useful when there are quite a few markers on the map. One thing I could have done is to set freezeAtZoom so that the clustering to freez can to set as a specific zoom level.

The challenge I encountered during the visualization creation is that since the difference between the average state BMIs is very small, even though I want to add a bit aesthetics to enable identification of states with higher BMI is a bit hard. At the beginning I was thinking about changing the mark to red question mark to those states whose average BMI is identified as overweight, I found out that most of them are above the threshold of overweight; as a result, change the mark does not help identification. One possible way to achieve the better identification is to use other function forms to rescale all average BMI to have them more disperse.