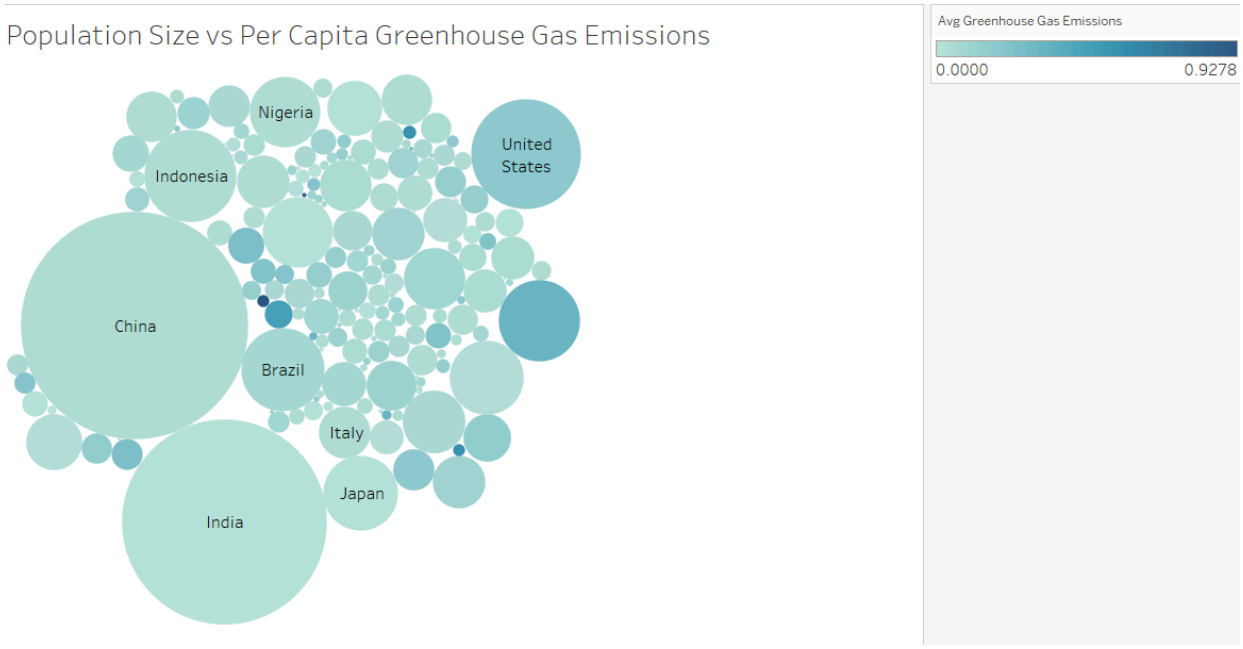
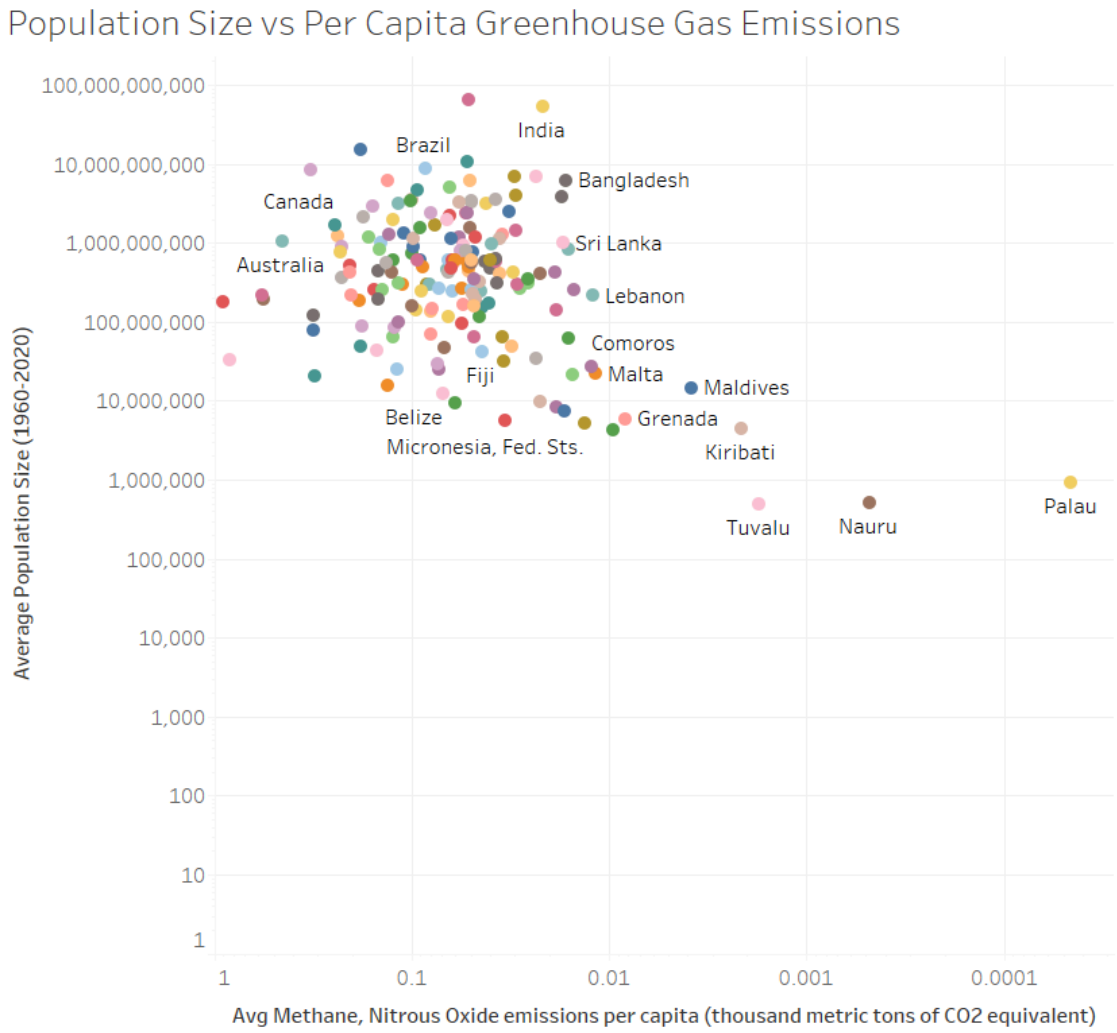
Is there a correlation between a country's population size and its greenhouse gas emissions?



- Selective labeling of countries
- Countries sized by population
- Emissions are scaled on a cool-color gradient

Earnestness: 1

In this visualization, I was trying to show that there was no correlation between the size of a country and its per capita greenhouse gas emissions. The main attribute that I used to portray this was indicating the amount of emissions on a gradient scale. Specifically, I decided to use a gradient that went from light green to blue, both cool colors, and fairly similar hues. I tried out a few different color schemes, and found that it was harder to distinguish values in a gradient with colors of the same temperature. I also elected to display the country's circle by size, as I felt that being readily able to see the country's relative size and emissions amount would help the viewer quickly grasp the chart's argument.



- Reversed axis for greenhouse gas emissions
- Logarithmic scale on X and Y axis
- Selective labeling of countries
- Lots of colors

Earnestness: -1.5

I think that the most important decisions made in this chart were to put the X and Y axes on a logarithmic scale, and to reverse the X-axis. I wanted to indicate some correlation between country size and per capita emissions, and by putting the axes on a logarithmic scale, it forces the countries to cluster, which visually seems to be indicative of a trend. I also chose to reverse the X-axis so that the cluster was positioned in a location that a viewer would be more likely to focus on first. Additionally, I felt that having the cluster closer to the axis labels would give the viewer less time to consider what the trend might actually mean. I think that the decision to independently color

every country also helps make the cluster feel like it is denser, which makes it feel more significant.

Final Reflection

I thought this exercise was rather challenging, and it definitely forced me to reflect on how I crafted my visualizations. One of my biggest insights from this assignment was that in some cases, choosing to use more persuasive or deceptive design elements meant sacrificing visual clarity. This happened in both examples - in chart 1, where I decided to use a gradient of cool colors, which causes readers to have a harder time picking out different emissions values, and in chart 2, where I chose to have different colors for each country, which made the whole chart more visually confusing and busier. I found that making these choices was difficult - I wanted to create clear and effective visualizations, but had trouble finding ways to do that that would also accomplish my goals for this assignment. In the process of creating these visualizations, I think I got a better understanding of how some elements can be more effective in certain types of graphs, rather than in others. For example, I think that sizing countries by their population size in chart 1 was really effective, while doing that to the countries in chart two would not have been beneficial.

Like I said, during this exercise, I struggled to make visualizations that were both good and persuasive, and I recognized that I was intentionally trying to undermine the viewer with certain design choices. For example, in chart 2 I decided to play on how perception works by putting both axes into a logarithmic scale. I also decided to reverse the X-axis so that viewers would see the cluster first. This example brings to mind the question of the boundary between acceptable and misleading persuasive choices, and where it lies. I don't think that this is an easy line to draw. I think something like reversing the X-axis or choosing a weak color/temperature gradient (chart 1) are fair play and design choices, because those decisions just make use of patterns in perception. On the other hand, I had some qualms with the logarithmic scale — in chart 2, the new scaling causes a cluster of countries to form, which may cause the reader to quickly draw a conclusion without really considering the scaling of the axes. This was deliberately and disingenuously, which feels bad, but at the same time it's just a matter of scaling the axis, so it shouldn't be unacceptable. In conclusion, I don't think that there's an easy way to distinguish between acceptable and misleading persuasive choices, unless the choice in question is egregious or deliberately and significantly misleading.