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CAPP 30239

NOTE: I have changed my project from the data in my week 3 folder. Please see updated information on my main readme: https://github.com/spavlekovsky/CAPP30239_FA22.

3 Minute Overview

Water is essential to life. It is for that reason that it is often one of the first things to suffer during conflict, either political strife or full-on war. Whether water is a casualty or itself weaponized, lack of access to this resource places immense stress on victims of conflict. Thus, it is a major factor among the causes of displacement and refugees.

Civil wars and unrest throughout the Arab World since 2011 have created a huge refugee crisis, especially in Syria and Yemen, in addition to continuing conflict in Palestine. I intend to visualize the refugee situation over the years, in particular how many and where they go. My main goal is to link this with water conflicts, filling a gap in currently existing visualizations.

At this stage in the project, I am excited about my topic (which was inspired by a course I took last spring), but I am also worried about it. Namely, I do not want to give the impression of finding a false correlation between these two things – clearly, both refugees and water conflicts are the result of underlying larger conflicts and wars. So, I am trying to be very careful and deliberate about the way I frame my visualizations in order to highlight the links but not suggest causation.

Visualization Ideas

I think there are 4 categories of visualizations I will need to make.

First, there are the refugee stocks (absolute number or change from year to year). A multiline chart with each country on the same graph makes the most sense. One potential issue is how much the numbers vary year to year.

Second, there are the refugee flows. I like the idea/aesthetic of a chord chart. Hopefully it would not be too busy with so many countries – it would be nice to do some tooltip functionality so that you hover over a country's name on the border and it highlights all flows in and out with numbers. This data has the time aspect too though. The first idea I had was a dropdown menu where you select the chart for each year; however, it would be hard to compare just visually without them side by side. Another potential visualization would be a sort of shaded grid with countries on both axes where color or intensity represents the flow of immigrants. It would be easier to see everything at once here, but potentially more difficult to interpret color. It has the same issue with regards to time.

Third, there are the water conflicts. I need to look at how many countries are represented per year, but my first instinct was a stacked bar graph with each country as a segment of the year bars. Alternatively, it could be a multiline graph with each country having a line (highlighted on

mouseover) and a total line on top. I think this will be easier to compare year to year. Then again, I'm not sure if total really matters.

Lastly, there is the matter of putting these two data categories together. The first idea I had was a line chart with one line for refugees and one for water conflicts; you would change the country via a dropdown menu or similar. This would be pretty focused. It would require two y axes, which might be a negative. Another idea was a scatter plot of the number of refugees and the number of conflicts. Each country and each year would have its own point, maybe? On mouseover, the country and/or year would be highlighted. It might still be too many points, though. Additionally, I am hesitant about any sort of chart that explicitly plots refugees on one axis against water conflicts on the other, because of the false correlation concern I mentioned above. Clearly, I need to do some more work and keep thinking about what my final goal would be.

Some (extremely simplistic) sketches are below: