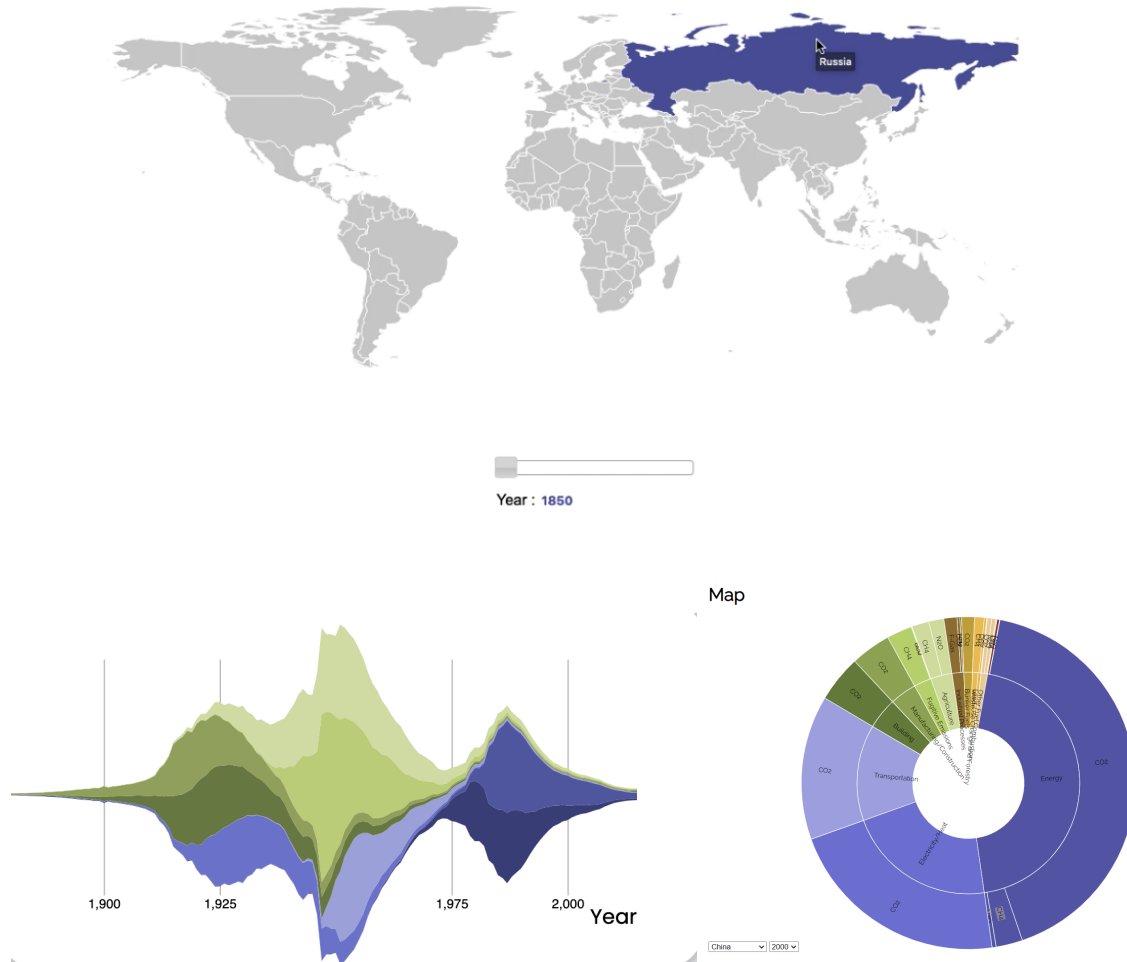**Milestone 4: Status Update**

Screenshots of the current interface status:

Description of changes to the previous proposed approach and of implementation (libraries, etc):

One change is the third visual that we are presenting. Instead of doing a density graph that displays the emissions and frequency of certain greenhouse gas in a specified country, we are going to do a stream graph for each country that displays the amount of total contribution of each greenhouse gas over the years so users can see the relative shifts in the type of greenhouse gases that the country produces. The previous visualization after further consideration, while it did focus on the individual greenhouse gases, did not produce as much insight and didn't allow as much exploration as the new idea. This will allow users to see aggregate contributions as well as witness trends in the emissions data.

We have mainly used D3 to construct our visualizations and have built out a static HTML page to contain our code. Additionally we are using python to further manipulate data and packages to help support the CSS and HTML development.

Description of current schedule and current challenges:

We are tracking well with the milestones we gave ourselves. We have finalized the interface once changing the density plot, and have begun the rough frameworks for all three of the major components of the visualization. We are a bit behind on reworking the data to be better manipulated for the different aspects of the visualization.

One of the blockades is how to connect all three of our different visualizations into one. As mentioned in our design doc, we want to be able to have users click a country on the map and have the bottom two visualizations change their data based on that country in order to give users a more in-depth view of the data, but we are struggling to connect the different svgs for the aspects to react after interaction. Additionally contributing to this issue, we all approached creating the visualizations differently so our code looks different between each aspect of the visualization. One way we know we will try to fix it is by going through together and standardizing the code so it has a similar format. This will allow interconnecting the aspects of the visualization more straightforward. Another challenge and roadblock in general is collaborating on one code base. To start the framework and the separate aspects of the interface, we coded on our separate devices, but it was difficult to compile our code into one file and site as mentioned with the different coding styles. Another major challenge is modifying the data to be correctly formatted for the streamline graph. The ideal format of the data specifically for the stream graph visualization is having columns for each greenhouse gas and columns for country and year. Currently the data is formatted to have columns for each year, type of greenhouse gas, country, and other data. We are using python to manipulate current dataframe in order to get it formatted properly to feed into the streamline visualization, so currently the streamline visualization is displaying random data, so that the framework is setup so when the data is done being manipulated and formatted, we can easily feed it into the framework.

Current code:

https://emory-infovis-f21.github.io/m4-status-update-save-the-earth/