GeoVisualization GEOG:5540 - Assignment 6: FlowMapper
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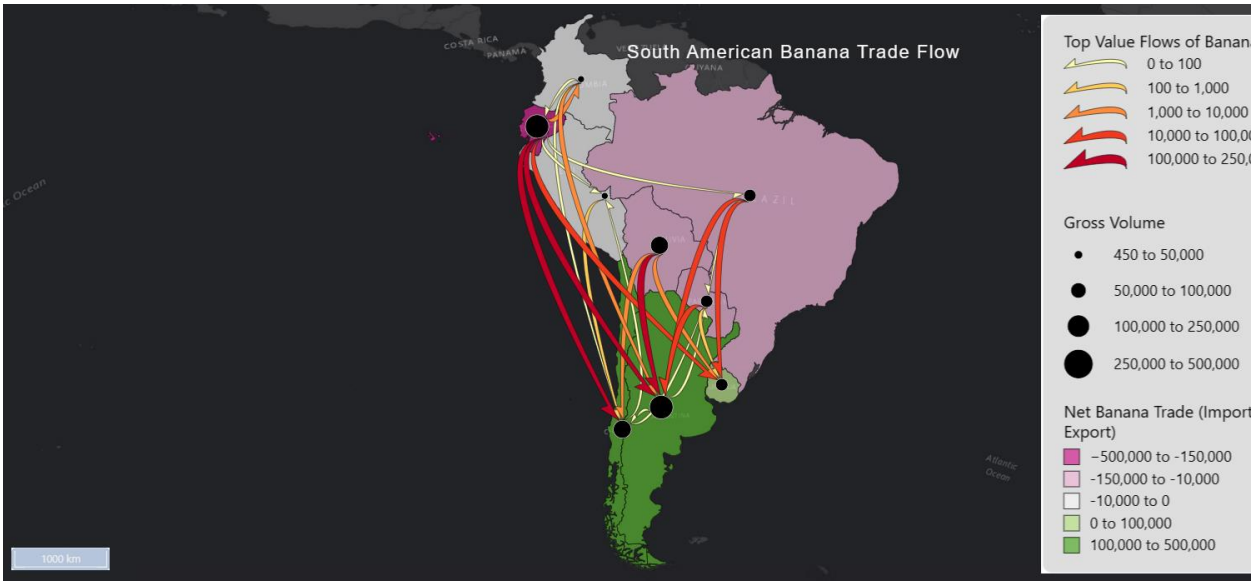
South American Banana Trade Flow



1. **Justification of flow map:** symbology (point symbols, flow symbols, and the background choropleth map).
    - **Justification:** The purpose of the map symbology, flow, and colors is to make the map readable to map viewers and easy to understand. I added a manual break setting to each symbol based on the data to minimize outliers in the data. I chose a dark gray canvas to allow the vibrant colors of the choropleth map to stand out.
    - **Flow Symbol:** I am using Curved with half-arrow. This is the best symbol for providing direction of the flow and is easily readable. Both the color and thickness are proportional to the level of flow so that if it is not clear in the thickness the color will allude to the amount of flow based on the legend, the lighter the color, the lighter the flow, and the darker the color the heavier the flow. The black stroke color allows the arrow/flow lines to pop-out from the background and provide clarity. The FlowMapper application allows me to adjust the thickness of the line based on a min/max setting, making this an unclassed map. The ability to adjust the line thickness will make it easier to adjust accordingly where there may be overlapping flows. The map shows the top 18 flows. The color of the flows does not make it difficult to see each distinctive flow.
    - **Node Symbol:** Is placed at the centroid of the regions being analyzed. I chose the node symbol color to be black to stand out and show as a strong indicator for the center of each country. It stands beautifully against the choropleth colors. If there are competing lines, the centroid stands out and can direct the viewer to the start or end point of a flow location. The nodes also have varying sizes based on the min/max of the data. This setting can be adjusted using the Flower Mapper application based on a min/max setting. The varying sizes are proportional to the Total Flow of the country.
    - **Choropleth map**: The choropleth map colors that I chose pink/yellow/green. These colors represent a diverging color scheme. The dark and light pink colors represent a negative net flow, where there are higher exports and lower imports of bananas for a country in tons. The

light and dark green colors represent higher imports and lower exports of bananas for a country in tons. The dividing line is 0 with a neutral color. The stroke line is black and the width is .5 so that it is easy to see each country's boundary.

2. **Interpretation of flow patterns. Discuss:**
    a. Places that attract (receive) the most flows, and the places that send the most flows
        - The places that have the most flows – Argentina, Chile and Uruguay. The map shows these 3 countries have the largest nodes with green colors, indicating the highest amount of imports and the flow symbol to these countries has red and orange flow patterns indicating heavy flows.
        - The places that send the most flows – Ecuador, Bolivia, and Brazil. These 3 countries have the largest nodes with pink colors, indicating the countries with the largest exports. Also, the red and orange flows are coming from these countries.
    b. General direction of flows (e.g., north-south, east-west, etc.) with context to the geography of the flow data set.
        - North to South. Based on the readings, the northern part of the continent is more conducive to growing bananas, unlike the southern part.
    c. Flow patterns in relation to location characteristics displayed by node symbol and choropleth base map.
        - Based on the choropleth map colors and direction of flow, the countries in the north are pink and show the largest flow amount. They have a negative net flow which indicates that they export more to the lower southern regions who import more and have a green country color.