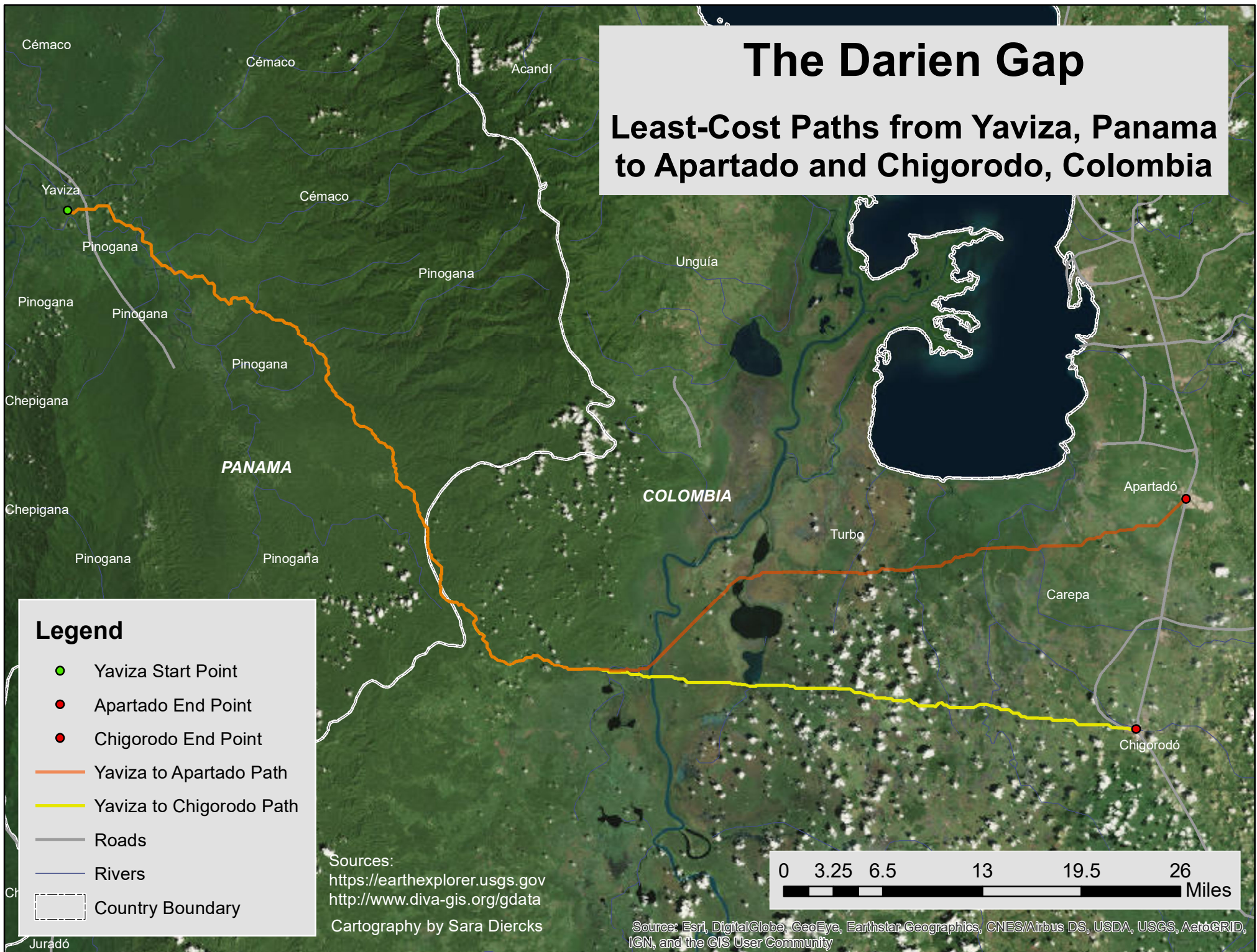
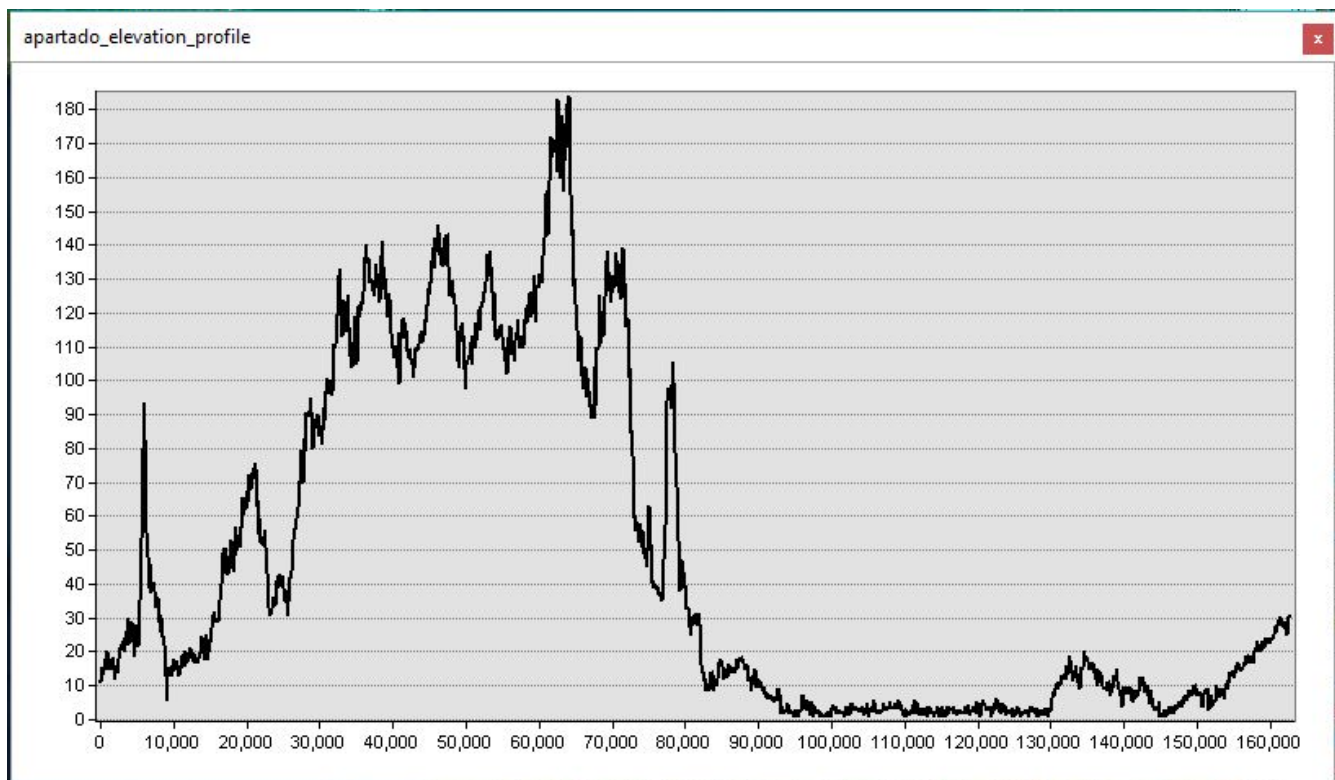


# The Darien Gap

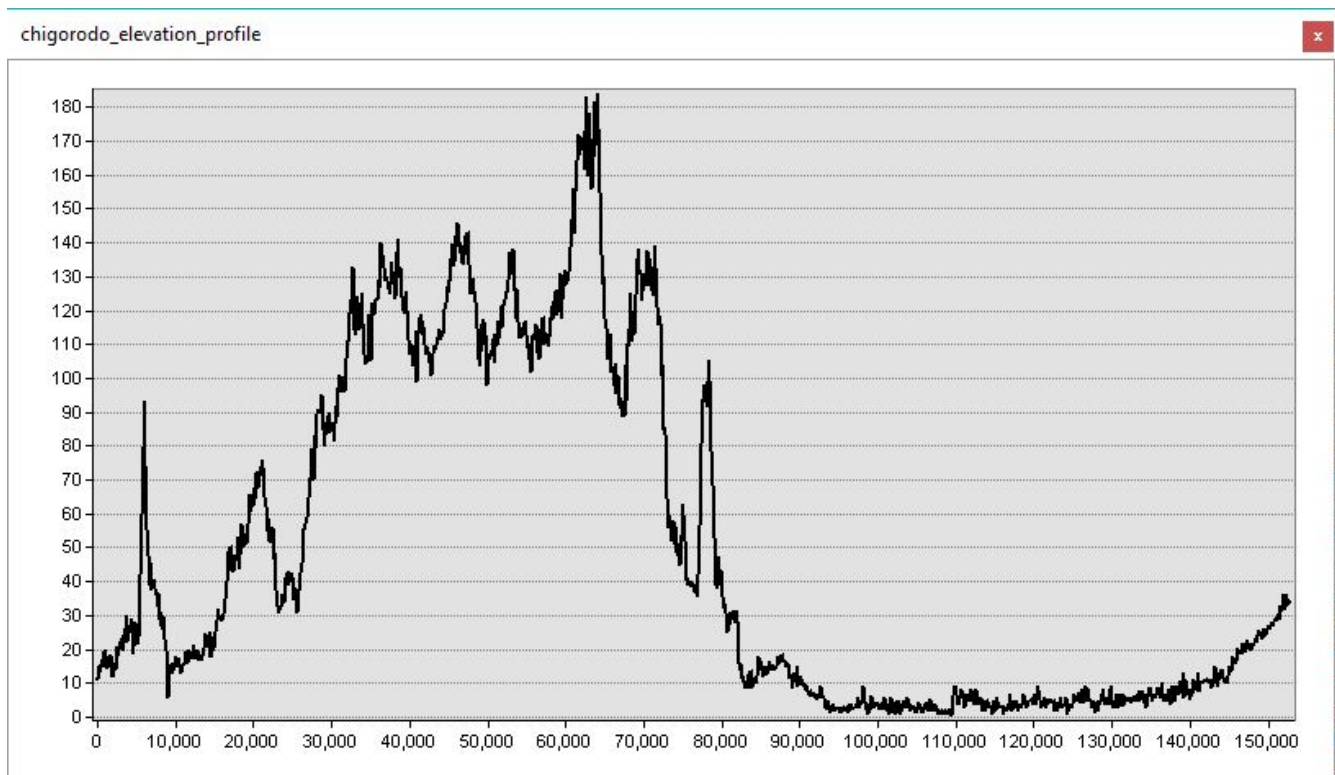
## Least-Cost Paths from Yaviza, Panama to Apartado and Chigorodo, Colombia



## Yaviza to Apartado Elevation Profile Map



## Yaviza to Chigorodo Elevation Profile Map



## The Darien Gap: A Cost-Distance Analysis

To complete the Pan-American Highway at the Darien Gap, I performed a cost-distance analysis for 2 potential routes. Both paths begin at Yaviza, Panama (the start of the gap) and ends at either Apartado, Colombia or Chigorodo, Colombia (where it connects back to the Pan-American Highway). The cost-distance analysis took into account terrain slope and large bodies of water. Based on the classification of these criteria (steeper slope and below sea-level = higher cost), I was able to find the least-cost path for each of those routes. The routes stay on the same path for about the first 90 km, before veering north or south to their end points. Looking at the Elevation Path Maps, we can see that the path to Chigorodo has less elevation to account for towards the end point, and could therefore be the least costly route.

There are many other factors to account for when performing a cost-distance analysis that were not included in this study. We can see on the Darien Gap Least-Cost Paths map that many rivers flow in this area, but were not included in the calculation. It would be helpful to include these rivers because crossing them adds an additional cost. It would also be beneficial to assign costs based on land cover. For example, crossing an area of dense forest would be a more costly path than an open field. The cost-distance analysis could go even further to include political and socio-economic factors, since these conditions also affect if/how we travel between points.