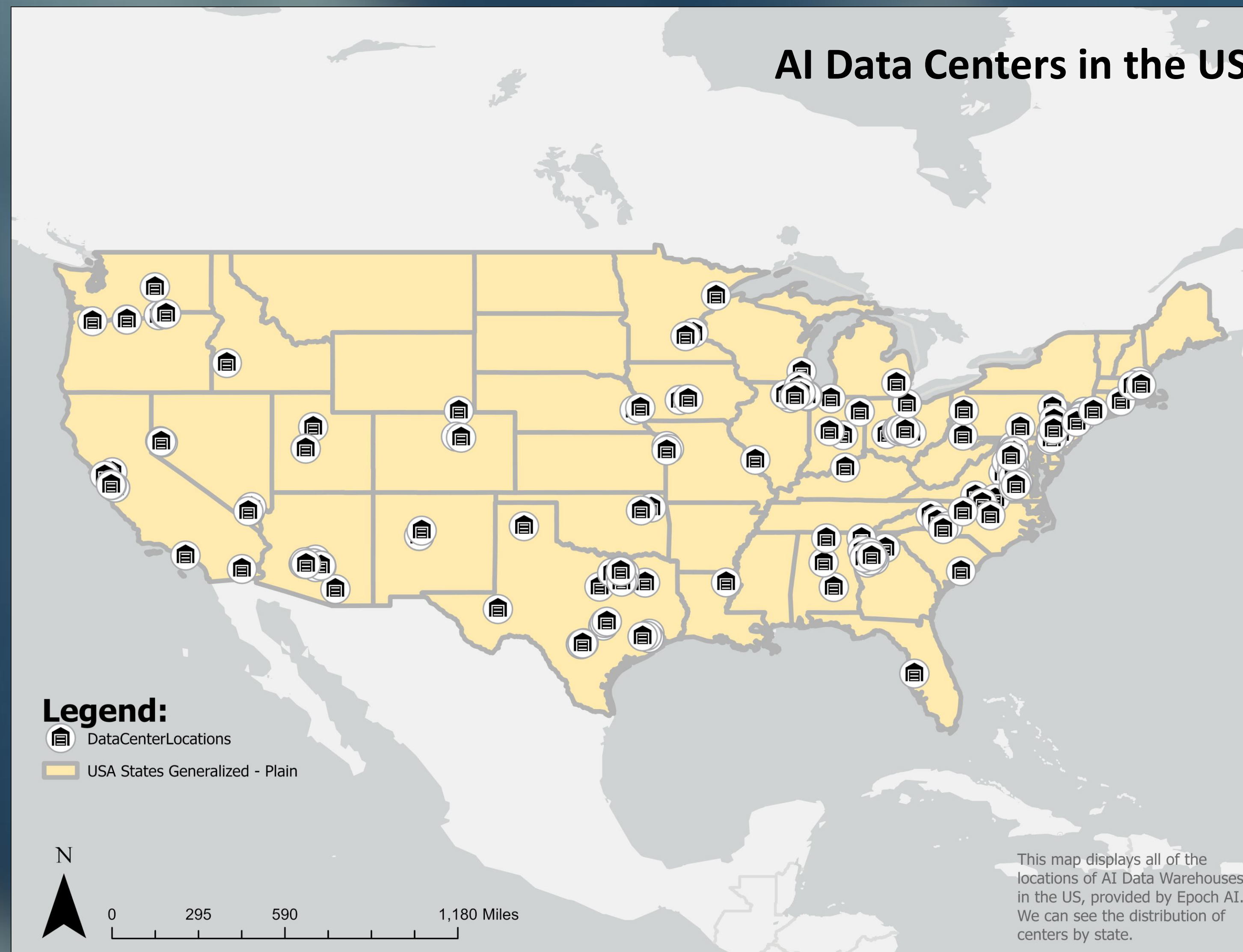


AI Data Centers: What's The Pattern?

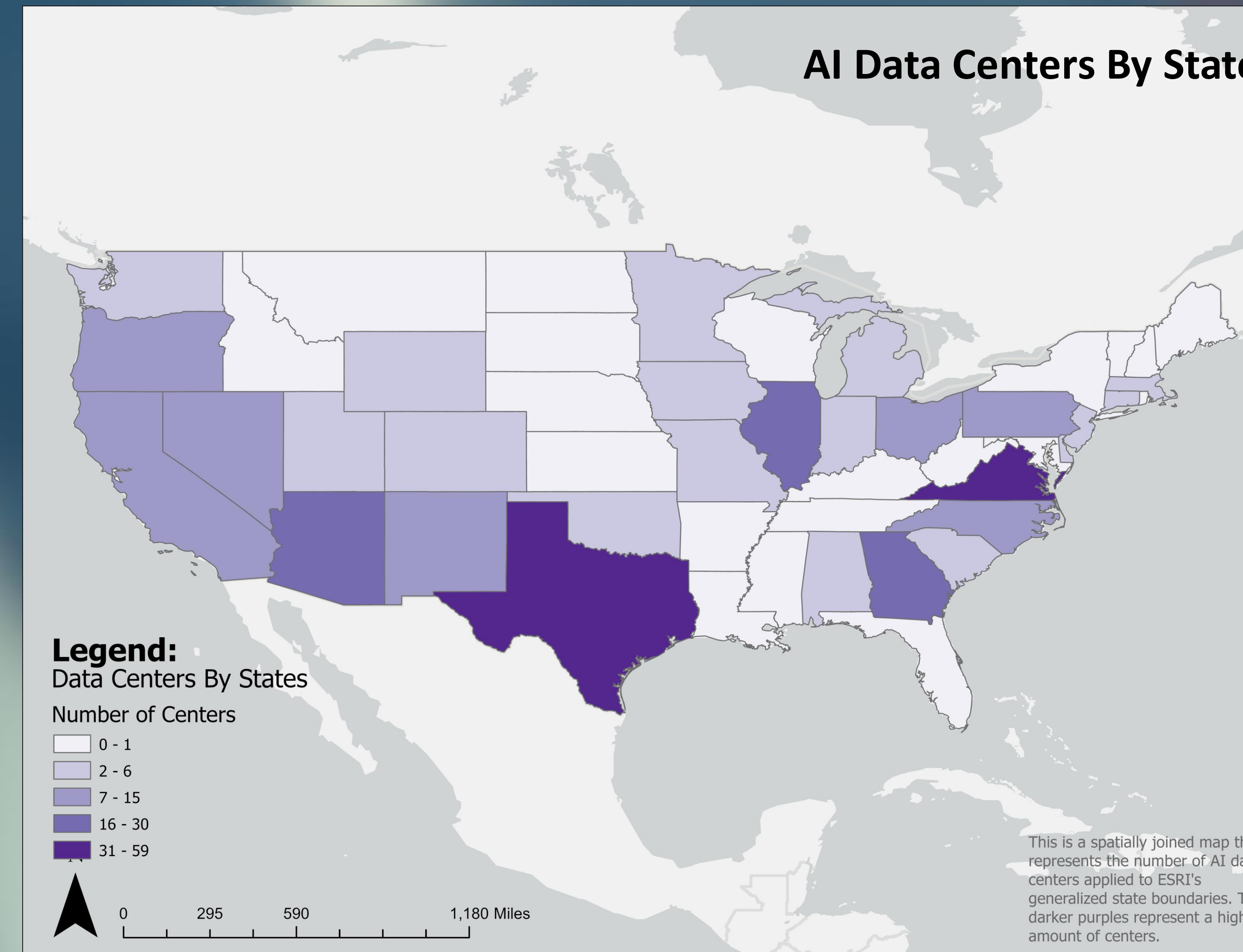
Bailey Baxter, GEOG*204*2

Introduction



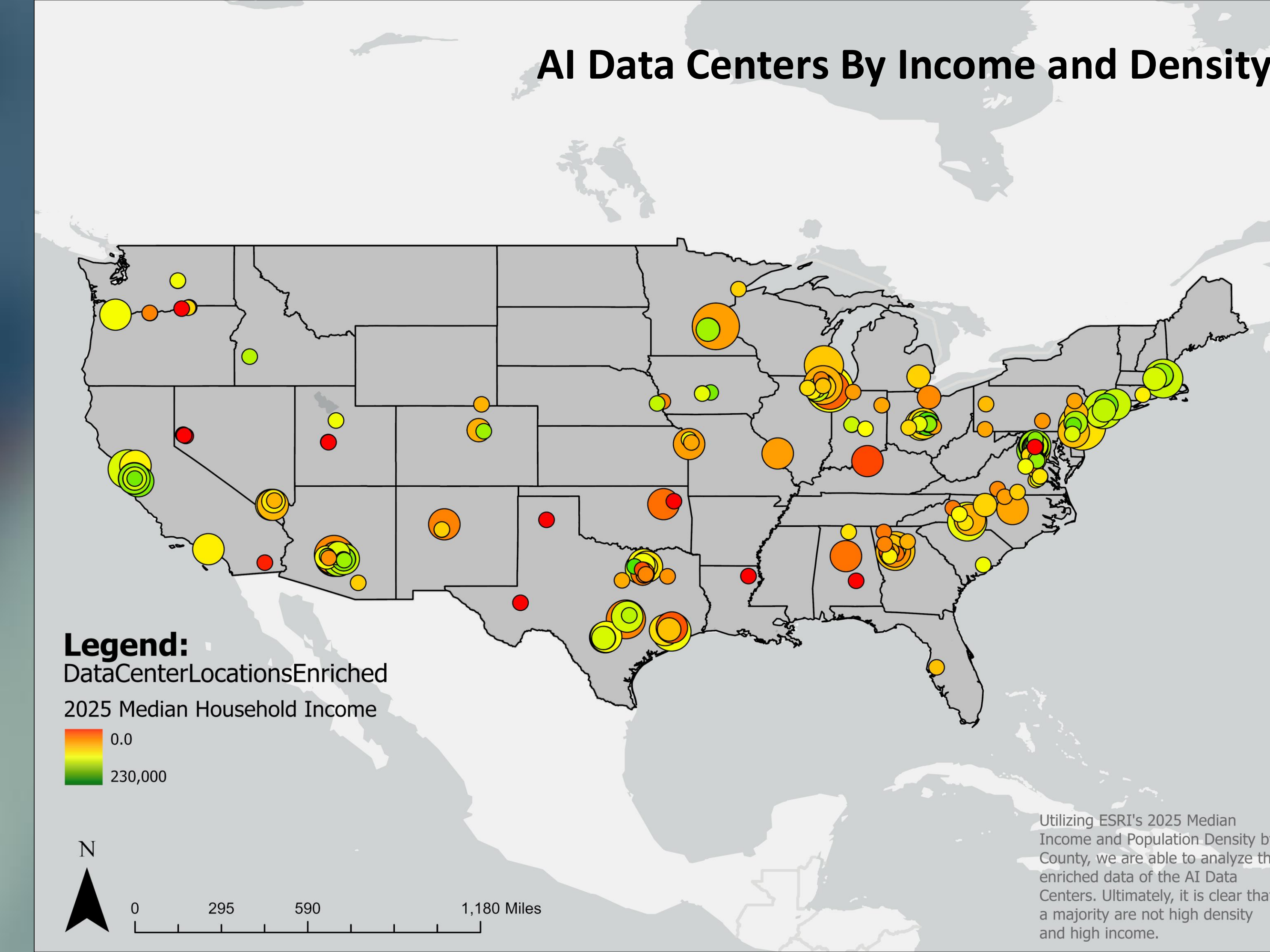
A growing concern in AI Data Centers is spreading across the world. Many people cite the environmental harm caused by AI while others boast the increase in jobs the centers can bring. Ultimately, are AI data centers taking over low-income towns, or embedding themselves into high-income cities? **My hypothesis is that AI companies are seeking to find higher density and income areas due to the prevalence of more specialized workers with higher credentials as opposed to lower-income regions.** The map above shows all AI data centers in the US. There are no data centers in Alaska or Hawaii.

State-By-State



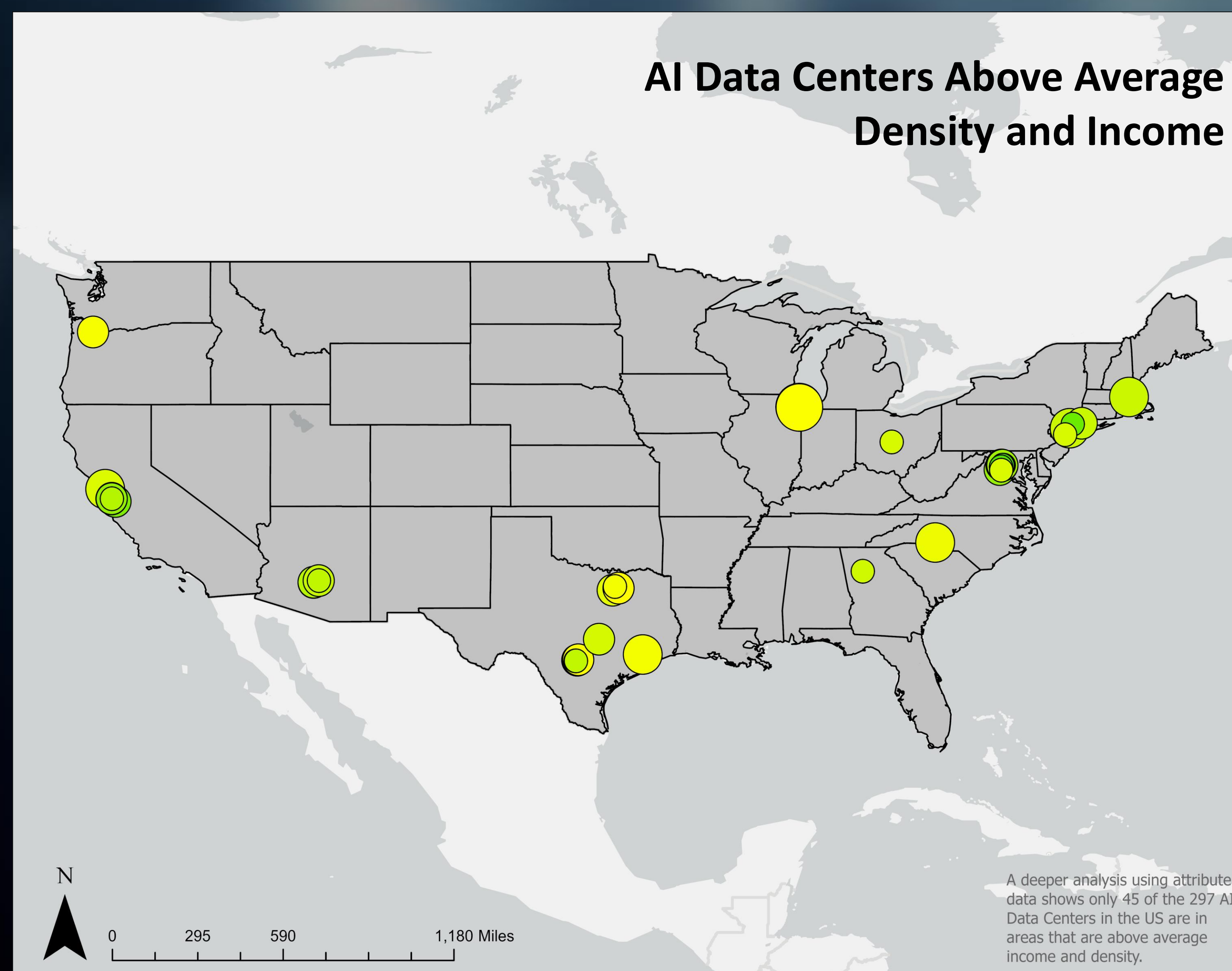
Above, you can see a clear picture of where a majority of the data centers reside. Utilizing spatial joining, we can see that the darker purples represent a higher number of data centers. The top contenders are Texas and Virginia, followed by Georgia and Illinois. The lowest states are found in the Appalachian states and Midwest. Overall, we can see the pattern of distribution in the US, and surprisingly it isn't centered in California with Silicon Valley; rather, it appears there is a shift towards growing technological regions.

Density and Income



This map represents the median income and population density by county in which the center is in. Enriching the data points allowed me to make it so that the larger the circle, the higher the population density. Red represents a median income of less than \$12,400, the lowest earners in the US, while green represents \$201,775, some of the top earners in the US. Overall, you can see a somewhat even spread of population densities, but the map is overwhelmingly skewed to disagreeing with my initial claim.

Results



Ultimately, the final results displayed a similar pattern: A majority of the locations were either below average density and/or below average income. The map to the left displays regions that matched my original statement, with only **45 of the 297 AI data centers** confirming my hypothesis. This shows that the AI companies are not reaching for the most densely populated areas with the highest earners - which are regions often in abundance of skilled workers; rather, they are aiming for regions below average in terms of income or density. The future of AI is a road that many scholars are debating, and seeing the pattern of AI companies can shed some light as to which way the road will curve.



References Cited

Epoch AI, "Frontier Data Centers". Published online at epoch.ai. Retrieved from 'https://epoch.ai/data/data-centers' \[online resource].

USA Esri Demographics (Latest) - 2025 Median Household Income

USA Esri Demographics (Latest) - 2025 Population Density per Square Mile

USA States (Generalized)

Techzine, Berry Zwets