Spatial Analysis of Buried Treasure Distribution in America

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Introduction

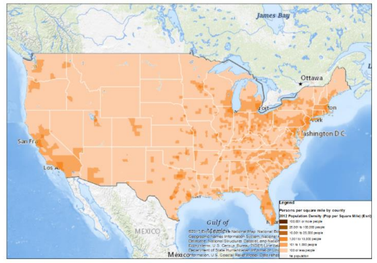
Everyone wants to find buried treasure, yet apart from legends and luck, there has never been a surefire way to maximize one's chances of encountering some. This project seeks to maximize the possibility of encountering treasure in a given area by looking at demographic data like distance from highways, population density, and median income. My hypothesis is that treasure is more likely to be located in sparsely populated areas that are lower-income and are far from highways.

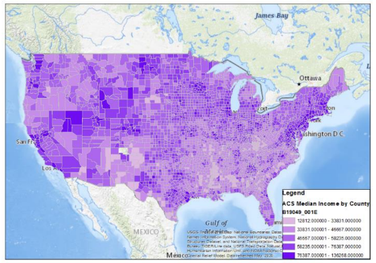
Research Questions

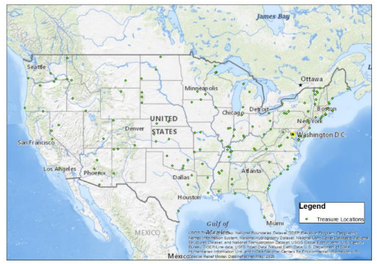
Is there a relationship between the location of buried treasure and income of the area it is located in? What about proximity to roads or population density?
What could this tell us about the increasing accessibility of previously secluded areas and the possible disparity between the hidden riches and the income of the people who live near it?

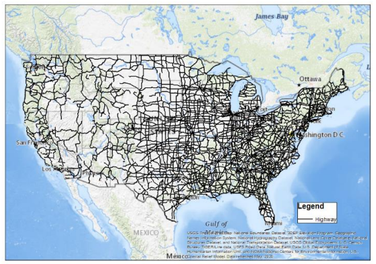
Methodology

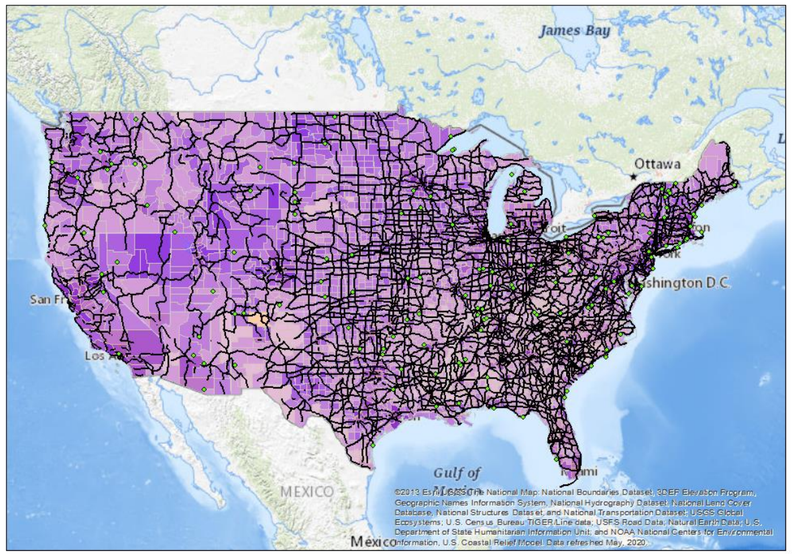
I used a layer with latitude and longitude points of 150 locations of treasure sourced from both news articles and websites about local legends in combination with a map of the highway system and demographic data from the ACS to produce these maps. Results were taken from measuring the distance between the points and the nearest highway and cross-referencing the data of income and population density by county.











Results

The relationship between the variables of treasure locations and proximity to highways is positive. This could mean that the locations that were previously secluded and well-hidden have been developed and made accessible with the advent of the highway system. The same rule applies to the locations that were more accessible in the past, the highway system allowing greater connectivity between places.
The relationship between treasure locations and population density seems to disprove this, indicating that most locations of treasure are in sparsely populated areas. There are outliers, such as the Cahuenga Pass in California and the Dayton Flood in Ohio. While the highway system may have connected most places in America to each other, many of those places are sparsely populated.
The relationship between treasure locations and median income by county followed the same pattern. Treasure was much more likely to be located in an area with income below $47,000 than in any higher income bracket.
The conclusion I draw from this is that most locations are in sparsely populated and lower income areas that are close to roads. The highway system is surprising considering the relatively low-income and low population areas it passes through, though that could be a testament to their efficacy at helping Americans travel.

References

ESRI USA Population Density, ACS Median Income by County, ESRI USA Highways