

Final Project - Where should I move?

Finding a best place to live in the US - by examining physical data, but mostly demographic and socio-economic profiles of the US population in a Spatial Context.

In the final project we will take a look at physical data, but mostly demographic and socio-economic population profiles in the US (by zip code, census blockgroups, or counties). In specific, our goal is to use GIS to help us determine a best place to live in the US.

In order to answer this question, we will use public data from various sources, and from the **US Census Bureau** (census.gov). Each group can pick the whole United States or better, any two states as its study area. States do not need to be adjacent. Each group will examine at least 6-8 variables (indicators) for this project.

What will we learn through this project?

- Work with socio-demographic and secondary data that are not inherently geospatial and that do not explicitly represent the physical environment.
- Create a Geospatial Data Library of 10-12 variables, by collecting, evaluating, and standardizing publicly available data that were not originally in a geospatial format.
- Use spatial analysis methods to be able to summarize Geospatial Data into meaningful information expressed analytically and cartographically in a manner that is easily understood by broad audiences.

How will we reach these learning goals?

This project is wide open. There are no constraints on what and how to use the data, as long as the final goal is to shed light into patterns that are not easily seen in the noise of too much (and not geographic) data.

At the start of your project, you should come up with three to four measures that define your understanding of a "best place to live." Afterwards, you should define what indicators to consider for that measure. Once you have decided the indicators that you want to examine, your first step is to find the corresponding data, and then to create the Geospatial Data Library for the project. Only after you have the data library, should you set out to find answers via spatial analysis.

Preparing the Geospatial Data Library

In this project we will use Measures and Indicators. Out of many available indicators, you will pick the ones that relate to your research questions. You will download the data, from **census.gov** (or other sources if you want) in an Excel format, and convert it to GIS. If needed, you will clean and standardize the data per the needs of your project. See the step-by-step guide for going from an Excel to a Shapefile with a world countries example.

Example of your Geospatial Data Library

Measure – Quality of Life (2 indicators)

- Life expectancy
- Infant mortality

Measure – Education Attainment (2 indicators)

- Percent of people with graduate degrees
- Percent of people with high school diploma

Measure – Access to Nature (2 indicators)

- Parks
- Trails

Measure – Freedoms (3 indicators)

- Percent of incarcerated people
- Percent with internet access/use
- Percent using public transportation

Measure – Economic Conditions (4 indicators)

- Poverty
- Wealth
- Income
- Networth

When your Geospatial Data Library is ready, and you have taken care to document the definitions for each of your variables, you can then start the analysis process and develop your method. You can consolidate your method with one state first, and then apply it to the other state. As part of your method, at the end you can also create state profiles of composite indexes (weighted if you want) from these measures and indicators (for example you can make up a composite index of progress by combining education, economic conditions, etc.).