

Socioeconomic Indicator Mapping

Data Collection and Definitions for Socioeconomic Indicator Mapping

Version 2.0
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Eastern Rivers and Mountains Network, National Park Service

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Data Representation

Scale and Aggregation

In order to show data at a fine aggregation unit, census tracts were used when possible. Census tracts are defined by the US Census Bureau as “small, relatively permanent statistical subdivisions of a county... Census tracts usually have between 2,500 and 8,000 persons and, when first delineated, are designed to be homogeneous with respect to population characteristics, economic status, and living conditions. Census tracts do not cross county boundaries. The spatial size of census tracts varies widely depending on the density of settlement. Census tract boundaries are delineated with the intention of being maintained over a long time so that statistical comparisons can be made from census to census. However, physical changes in street patterns caused by highway construction, new development, etc., may require occasional revisions; census tracts occasionally are split due to large population growth, or combined as a result of substantial population decline.” (http://www.census.gov/geo/www/cen_tract.html)

When data were not available by census tract for the atlas, county data were collected.

Classification Methods

For most of the maps, the quantile classification method is used. In this classification scheme, equal numbers of counties or census tracts are placed in each class. The quantile classification method is used to show the ranking of data while producing distinct mapping patterns. When appropriate, the class breaks are rounded to make the legend more readable, while keeping the number of enumeration units in each class as equal as possible. When values fall above and below zero, nested quantiles are used; all classes above zero have an equal number of counties/tracts, and classes below zero have a different number.

When the quantile scheme is not appropriate, other methods are used. For example, Urbanization by county is grouped placing counties with similar urbanization “codes” together.

In an effort to better understand human activities outside national park boundaries, Jean McKendry, of the University of Idaho, in cooperation with Gary E. Machlis, Visiting Senior Scientist with the National Park Service, and Cindy Brewer of the Pennsylvania State University, produced socioeconomic atlases for 15 national parks around the country. These atlases were distributed to the participating parks and their staffs in 2004, and can be viewed by NPS staff through the NatureBib webserver. For more information, send an email to jeanm@uidaho.edu.

The Standard Mapping Procedure instructs the user to download GIS data from the internet and create maps of socioeconomic indicators chosen from a list of 67 used in the atlases produced through 2004. The indicators in the Standard Mapping Procedure were determined to be most relevant to Eastern Rivers and Mountains Network natural resource management. McKendry's data descriptions in this Data Collections and Methods document are summaries derived from the federal sources.

Data Collection and Definitions for Socioeconomic Indicator Mapping: *Counties*

Total Population

Collected from <http://factfinder.census.gov>

Population Estimates Program

2006 Population Estimates: T1 (Population Estimates)

T001001 (Total Population: July 1, 2006)

These data reflect the total estimated population for each county. "Persons enumerated in the census were counted as inhabitants of their usual place of residence, which generally means the place where a person lives and sleeps most of the time. This place is not necessarily the same as the legal residence, voting residence, or domicile. In the vast majority of cases, however, the use of these different bases of classification would produce substantially the same statistics, although appreciable differences may exist for a few areas." (McKendry)

Recent Population Change

Collected from <http://factfinder.census.gov>

Population Estimates Program

2006 Population Estimates: T1 (Population Estimates)

T001001 (Total Population: July 1, 2006)

T001007 (Total Population: July 1, 2000)

$$= (T001001 - T001007) * 100 / T001007$$

This value is the percent change in the population from July 1, 2000 to July 1, 2006.

Projected Population Change

Collected from <http://factfinder.census.gov>

Population Estimates Program

2006 Population Estimates: T1 (Population Estimates)

and

Purchased from Woods & Poole (<http://woodsandpoole.com/>)

Estimated 2006 population by the U.S. Census Bureau (T001001 (Total Population: July 1, 2006))
standardized by

2030 Projected Total Population by Woods and Poole

For an explanation of Woods & Poole's projection methods see page 11 in the Woods and Poole Technical Documentation manual. See also page 3 of

<http://www.woodsandpoole.com/pdfs/TECH06.pdf>.

Urbanization

Collected from <http://www.ers.usda.gov/Data/UrbanInfluenceCodes/>

The Economic Research Service classifies counties according to their level of urbanization. The classification consists of twelve mutually-exclusive codes:

METROPOLITAN COUNTIES

- 1) In large metro area of greater than 1 million residents

- 2) In small metro area of less than 1 million residents
- NONMETROPOLITAN COUNTIES
- 3) Micropolitan adjacent to large metro
- 4) Noncore adjacent to large metro
- 5) Micropolitan adjacent to small metro
- 6) Noncore adjacent to small metro with own town
- 7) Noncore adjacent to small metro, with no own town
- 8) Micropolitan not adjacent to a metro area
- 9) Noncore adjacent to micro with own town
- 10) Noncore adjacent to micro with no own town
- 11) Noncore not adjacent to metro or micro with own town
- 12) Noncore not adjacent to metro or micro with no own town

“The 2003 urban influence codes form a classification scheme that distinguishes metropolitan counties by size and nonmetropolitan counties by size of the largest city or town and proximity to metro and micro areas. The standard Office of Management and Budget (OMB) metro and nonmetro categories have been subdivided into two metro and 10 nonmetro categories, resulting in a 12-part county codification. This scheme was originally developed in 1993. This scheme allows researchers to break county data into finer residential groups, beyond metro and nonmetro, particularly for the analysis of trends in nonmetro areas that are related to population density and metro influence.” ([http://www.ers.usda.gov/Data/UrbanInfluenceCodes/.](http://www.ers.usda.gov/Data/UrbanInfluenceCodes/))

Change in Building Permits

Data purchased from U.S. Census Bureau: Manufacturing, Mining, and Construction Statistics (<http://www.census.gov/const/www/permitsindex.html>)

The file shows the number of permits acquired per county for 1993-1995 and 2003-2005, the difference between the two sets of years, and the percent change.

“The issuing of building permits for privately-owned housing units does not necessarily imply that a community is growing, since any community will experience an ongoing replacement of aging houses and buildings. Also, a catastrophic event such as a major storm or fire can generate a short-term surge in the number of building permits issued.” Thus a better indicator of growth is the percent change between the average number of permits issued for two sets of years.

“Changes in local codes or enforcement can also affect the number of building permits issued. This measure includes data about new housing units intended for occupancy and maintained by the occupants. It excludes hotels, motels, and group residential structures such as nursing homes and college dormitories. All public housing and nonresidential buildings are also excluded.” (McKendry)

Change in Farmland

Collected from http://www.nass.usda.gov/Census/Create_Census_US_CNTY.jsp

Land in Farms (acres, 2002)

Land in Farms (acres, 1997)

$$= (2002\text{acres}-1997\text{acres}) * 100 / 1997\text{acres}$$

This value is the percent change in acres of farmland from 1997 to 2002. “Farmland consists primarily of agricultural land used for crops, pasture, or grazing. Also included is woodland and wasteland not actually under cultivation or used for pasture or grazing, provided it was part of the farm operator’s total operation. Farmland includes acres in the Conservation Reserve, Wetlands Reserve Programs, or other governmental programs. Farmland includes land owned and operated as well as land rented from others. Land used rent-free is included as land rented from others. All grazing land, except land used under government permits on a per-head basis, is included as farmland provided it is part of a farm or ranch. Land under the exclusive use of a

grazing association is reported by the grazing association and included as farmland. All land in American Indian reservations used for growing crops or grazing livestock is included as farmland. Land in reservations not reported by individual American Indians or non-Native Americans is reported in the name of the cooperative group that used the land.” (McKendry)

Tourism Revenue

Collected from <http://www.census.gov/econ/census02/>
2002 data by NAICS

“Recreation and Tourism is composed of the arts, entertainment, and recreation sector and the accommodation subsector, both a part of the North American Industry Classification System (NAICS). The arts, entertainment, and recreation sector includes museums, historical sites, gambling and recreation industries, golf courses and country clubs, fitness and recreational sports centers, and all other amusement industries. The accommodation subsector is comprised of establishments including hotels, motels, bed and breakfasts, RV parks, recreational camps, and vacation camps.” (McKendry)

Employment (Sales and Service; Construction and Manufacturing; Government; Agriculture and Natural Resources)

Purchased from Woods & Poole (<http://woodsandpoole.com/>)

The file shows the total number of employees for 2003 and the number of employees from several sectors (farming, mining...). The last eight columns show the totals and the percent of the total for the following categories:

- Agricultural and Natural Resources
- Construction and Manufacturing
- Sales and Service
- Government

“Economic activity is categorized as belonging to one of four industry categories: agriculture/natural resources, construction/manufacturing, sales/services, and government. Individual workers, regardless of their specific job responsibilities, are classified according to the category their overall company or organization belongs to. Thus, while accounting is considered a “service” activity, an accountant for a mining company would be counted as working in “agriculture/natural resources.” “Government” includes all federal government workers and all state/local employees, such as teachers, police, firefighters, etc. Even though government jobs may involve construction, natural resource management, or provision of services, they are still counted as belonging to the “government” category.” (McKendry)

Data Collection and Definitions for Socioeconomic Indicator Mapping: *Census Tracts*

Population Density

Collected from <http://factfinder.census.gov>

Decennial Census

Census 2000 Summary File 1 (SF 1) 100-Percent Data: P1 (Total Population)

P001001 (Total Population: Total)
standardized by
AREALAND (Area (Land) (square meters))

“Population density is measured as the average number of people per square mile. This number is calculated by dividing the total number of people by the total area per [census tract]. In [census tracts] with federal lands, excluding these areas from the calculation of population density would result in a higher population density.” (McKendry)

Median Age

Collected from <http://factfinder.census.gov>

Decennial Census

Census 2000 Summary File 1 (SF 1) 100-Percent Data: P13 (Median Age by Sex)

P013001 (Total population: Median age; Both sexes)

These data reflect the median age of the total population.

Educational Attainment

Collected from <http://factfinder.census.gov>

Decennial Census

Census 2000 Summary File 3 (SF 3) - Sample Data: P37 (Sex by Educational Attainment)

Sum of the following

P037012 (Population 25 years and over: Male; Some college; less than 1 year)
P037013 (Population 25 years and over: Male; Some college; 1 or more years; no degree)
P037014 (Population 25 years and over: Male; Associate degree)
P037015 (Population 25 years and over: Male; Bachelor's degree)
P037016 (Population 25 years and over: Male; Master's degree)
P037017 (Population 25 years and over: Male; Professional school degree)
P037018 (Population 25 years and over: Male; Doctorate degree)
P037029 (Population 25 years and over: Female; Some college; less than 1 year)
P037030 (Population 25 years and over: Female; Some college; 1 or more years; no degree)
P037031 (Population 25 years and over: Female; Associate degree)
P037032 (Population 25 years and over: Female; Bachelor's degree)
P037033 (Population 25 years and over: Female; Master's degree)
P037034 (Population 25 years and over: Female; Professional school degree)
P037035 (Population 25 years and over: Female; Doctorate degree)

standardized by

P037001 (Population 25 years and over: Total)

The resulting data reflect the percent of the total population 25 years and over with some college or college degree. “For Census 2000, persons are classified according to the highest level of school completed or the highest degree received.” (McKendry)

Median Household Income

Collected from <http://factfinder.census.gov>

Decennial Census

Census 2000 Summary File 3 (SF 3) - Sample Data: P53 (Median Household Income)

P053001 (Households: Median household income in 1999)

These data reflect the median household income of all households. "A household includes all the persons who occupy a housing unit. A housing unit is a house, an apartment, a mobile home, a group of rooms, or a single room that is occupied (or if vacant, is intended for occupancy) as separate living quarters." (http://quickfacts.census.gov/qfd/meta/long_HSD310200.htm)

Seasonal Housing

Collected from <http://factfinder.census.gov>

Decennial Census

Census 2000 Summary File 1 (SF 1) 100-Percent Data: H3 (Occupancy Status), H5 (Vacancy Status)

H005005 (Vacant housing units: For seasonal; recreational; or occasional use)

standardized by

H003001 (Housing units: Total)

The resulting data reflect the percent of total housing units that are used for seasonal, recreational, or occasional use. "A housing unit is a house, apartment, mobile home or trailer, group of rooms, or single room occupied or, if vacant, intended for occupancy as separate living quarters. Seasonal, recreational, or occasional use refers to vacant units used, or intended for use, only in certain seasons or for weekend or other occasional use throughout the year. A housing unit is vacant if no one is living in it at the time of enumeration, unless its occupants are only temporarily absent. Units temporarily occupied at the time of enumeration entirely by persons who have a usual residence elsewhere are also classified as vacant." (McKendry)