U.S. Decennial Census

Finding and Accessing Data

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Overview

There are many different tools for accessing census data. Some are freely available while others are commercial products.

In this workshop, we'll explore four of these products—**Social Explorer**, **NHGIS**, **GeoLytics Neighborhood Change Database**, and **IPUMS-USA**.

Each tool has unique features and functionality that make it useful for particular types of projects.

NHGIS

AMERICAN FactFinder

ICPSR

IPUMS USA

DataFerrett

GeoLytics

ESRI

Social Explorer®

Part One

Overview of the U.S. Decennial Census

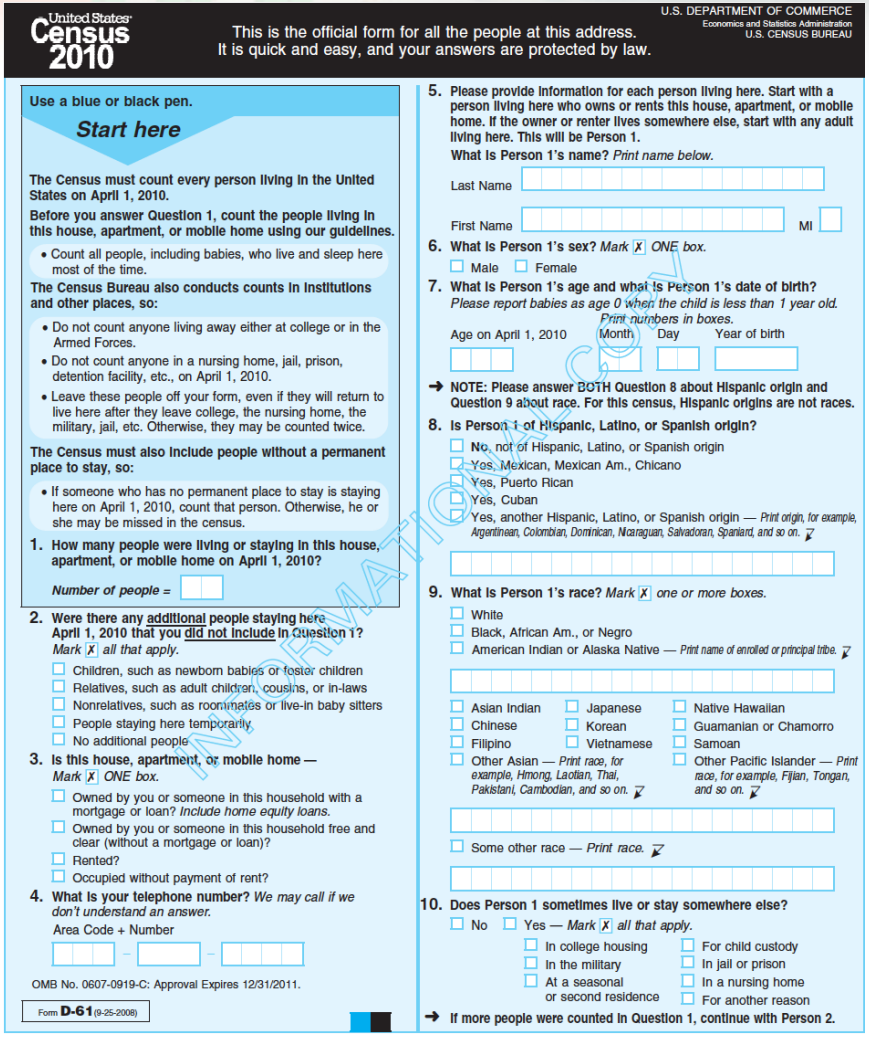
What is the Census?

The U.S. Constitution mandates that the **Census of Population and Housing** be undertaken every ten years to apportion seats in the House of Representatives.

The census has been taken decennially since 1790. Census 2010 is the twenty-third and most recent decennial census.

Census data are used to help determine how more than $400 billion dollars in federal funds are allocated to states and local areas. They are also used to evaluate many federal, state, and local programs.

Census Questionnaire



United States Census 2010

This is the official form for all the people at this address.
It is quick and easy, and your answers are protected by law.

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

Use a blue or black pen.

Start here

The Census must count every person living in the United States on April 1, 2010.

Before you answer Question 1, count the people living in this house, apartment, or mobile home using our guidelines.

- Count all people, including babies, who live and sleep here most of the time.

The Census Bureau also conducts counts in institutions and other places, so:

- Do not count anyone living away either at college or in the Armed Forces.
- Do not count anyone in a nursing home, jail, prison, detention facility, etc., on April 1, 2010.
- Leave these people off your form, even if they will return to live here after they leave college, the nursing home, the military, jail, etc. Otherwise, they may be counted twice.

The Census must also include people without a permanent place to stay, so:

- If someone who has no permanent place to stay is staying here on April 1, 2010, count that person. Otherwise, he or she may be missed in the census.

1. How many people were living or staying in this house, apartment, or mobile home on April 1, 2010?

Number of people =

2. Were there any additional people staying here April 1, 2010 that you did not include in Question 1? *Mark [X] all that apply.*

- ☐ Children, such as newborn babies or foster children
- ☐ Relatives, such as adult children, cousins, or in-laws
- ☐ Nonrelatives, such as roommates or live-in baby sitters
- ☐ People staying here temporarily
- ☐ No additional people

3. Is this house, apartment, or mobile home — *Mark [X] ONE box.*

- ☐ Owned by you or someone in this household with a mortgage or loan? *Include home equity loans.*
- ☐ Owned by you or someone in this household free and clear (without a mortgage or loan)?
- ☐ Rented?
- ☐ Occupied without payment of rent?

4. What is your telephone number? *We may call if we don't understand an answer.*

Area Code + Number

OMB No. 0607-0919-C: Approval Expires 12/31/2011.

Form D-61 (9-25-2008)

5. Please provide information for each person living here. Start with a person living here who owns or rents this house, apartment, or mobile home. If the owner or renter lives somewhere else, start with any adult living here. This will be Person 1.

What is Person 1's name? *Print name below.*

Last Name

First Name MI

6. What is Person 1's sex? *Mark [X] ONE box.*

☐ Male ☐ Female

7. What is Person 1's age and what is Person 1's date of birth?
Please report babies as age 0 when the child is less than 1 year old.
Print numbers in boxes.

Age on April 1, 2010 | Month | Day | Year of birth

→ **NOTE: Please answer BOTH Question 8 about Hispanic origin and Question 9 about race. For this census, Hispanic origins are not races.**

8. Is Person 1 of Hispanic, Latino, or Spanish origin?

- ☐ No, not of Hispanic, Latino, or Spanish origin
- ☐ Yes, Mexican, Mexican Am., Chicano
- ☐ Yes, Puerto Rican
- ☐ Yes, Cuban
- ☐ Yes, another Hispanic, Latino, or Spanish origin — *Print origin, for example, Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.*

9. What is Person 1's race? *Mark [X] one or more boxes.*

- ☐ White
- ☐ Black, African Am., or Negro
- ☐ American Indian or Alaska Native — *Print name of enrolled or principal tribe.*
- ☐ Asian Indian
- ☐ Chinese
- ☐ Filipino
- ☐ Japanese
- ☐ Korean
- ☐ Vietnamese
- ☐ Other Asian — *Print race, for example, Hmong, Laotian, Thai, Pakistani, Cambodian, and so on.*
- ☐ Native Hawaiian
- ☐ Guamanian or Chamorro
- ☐ Samoan
- ☐ Other Pacific Islander — *Print race, for example, Fijian, Tongan, and so on.*
- ☐ Some other race — *Print race.*

10. Does Person 1 sometimes live or stay somewhere else?

☐ No ☐ Yes — *Mark [X] all that apply.*

- ☐ In college housing
- ☐ In the military
- ☐ At a seasonal or second residence
- ☐ For child custody
- ☐ In jail or prison
- ☐ In a nursing home
- ☐ For another reason

→ **If more people were counted in Question 1, continue with Person 2.**

INFORMATION COPY

The questionnaire has changed over time!

The first census in 1790 did little more than count the population. Over time the census included more social and economic questions, such as place of birth and occupation.

In 1940, the Long Form was introduced to gather more detailed information from a sample of the population. It was sent to 1 in 6 households. The 2000 Census was the last time it was used.

The American Community Survey (ACS) has replaced the long form. The ACS is an ongoing survey that provides more detailed and current information.

Subjects

Demographic Characteristics

Age
Sex
Color or Race
Hispanic Origin
Marital Status

Economic Characteristics

Industry
Occupation
Class of Worker
Employment Status
Duration of Unemployment
Year Last Worked
Income
Means of Transportation to Work
Transportation Time to Work

Social Characteristics

Free or Slave
Ancestry
Place of Birth
Place of Birth of Parents
Language
Language of Parents
Citizenship
Year of Immigration
Year of Naturalization
Veteran Status
Educational Attainment
School Attendance
Literacy
Migration

Housing Characteristics

Occupied or Vacant
Tenure (Owned or Rented)
Vacancy Status
Type of Structure
Number of Rooms
Number of Bedrooms
Condition
Water Supply
Number of Bathrooms
Value
Gross Rent
Mortgage

Census Geography

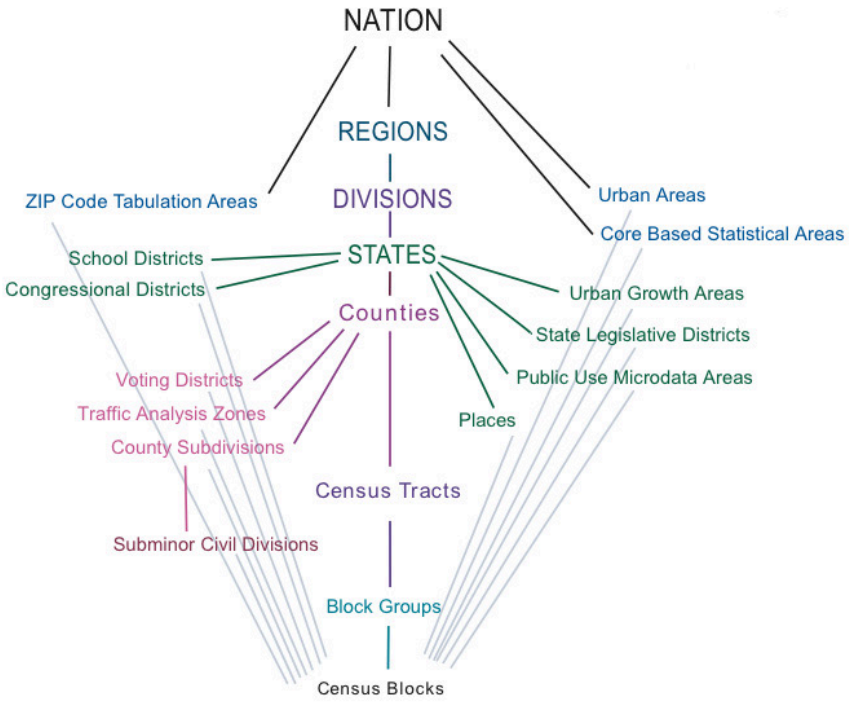
There are two main types of geographic areas:

Administrative/Legal areas are defined by law, and include states, counties, and congressional districts

Statistical areas are defined to tabulate and present data, and include metropolitan areas, census tracts, and block groups

Note that boundaries can change over time, especially census tracts, block groups, and census blocks

Standard Hierarchy of Census Geographic Entities



Source: U.S. Census Bureau (http://www.census.gov/geo/reference)
Geographic Areas Reference Manual | Hierarchy Diagrams | Terms & Concepts

Geographic Identifiers

GEOIDs are numeric codes that uniquely identify all administrative/legal and statistical geographic areas for which the Census Bureau tabulates data

FIPS codes are one type of GEOID. They are used to merge datasets (e.g. crime data with demographic data) and join attribute data with GIS boundary files.

How to Understand FIPS Codes

AABBBCCCCCCDEEE

A = State (2 digit FIPS code)
B = County (3 digit FIPS code)
C = Tract (6 digit FIPS code)
D = Block Group (1 digit FIPS code)
E = Block (3 digit FIPS code)

Charlottesville, VA
2010 Census Tracts

Section Two

Finding decennial census data

Social Explorer

Data Resources:

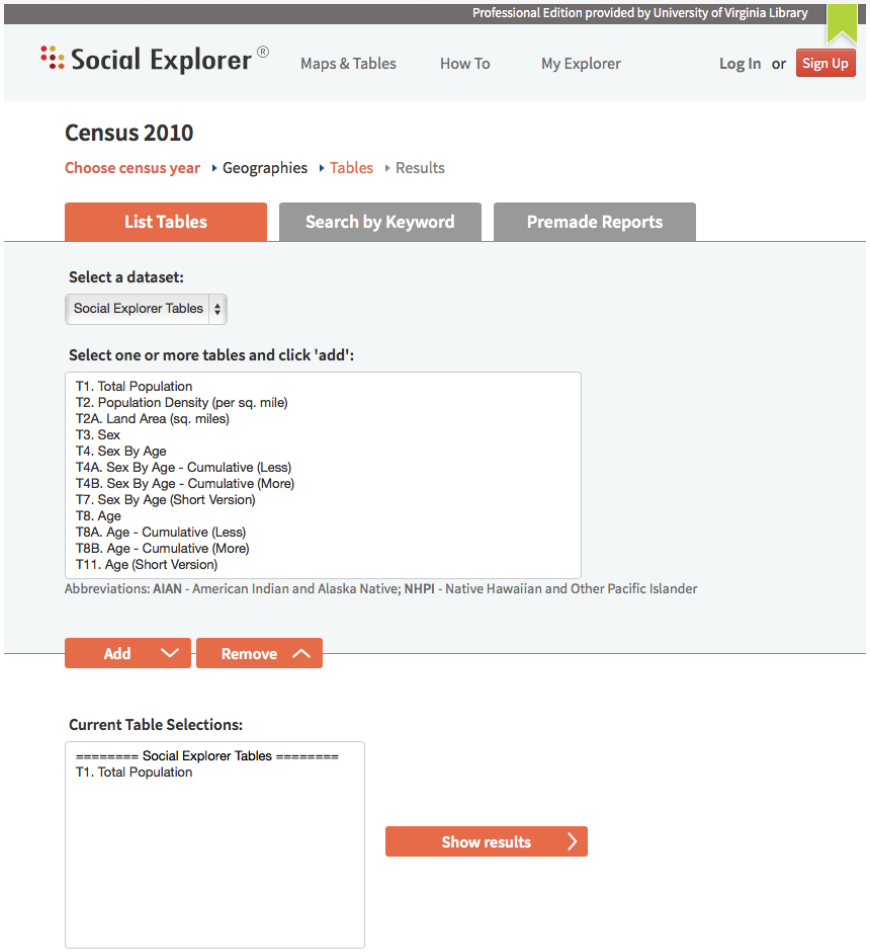
- Aggregate (summary-level) data
- Decennial Census (1790 to 2010)
- American Community Survey (2005 to 2012)

Features/Functionality:

- Intuitive interface for selecting census variables and geographical areas
- Setup files to export data to statistical software (SPSS, SAS, Stata)
- Ability to search by FIPS code
- Simple web mapping tools—choropleth, proportional symbol, and dot density maps

Limitations:

- Does not have block-level data
- Difficult to select data for more than one decennial census



http://www.socialexplorer.com

NHGIS

http://www.nhgis.org

Data Resources:

- Aggregate (summary-level) data
- Decennial Census (1790 to 2010)
- American Community Survey (2005 to 2012)
- GIS Boundary Files (1790 to 2012)

Features/Functionality:

- Select time series tables for variables that can be compared over time
- Setup files to export data to statistical software (SPSS, SAS, Stata)
- Download boundary files that can be joined with attribute data

Limitations:

- Can only select data for the entire country, or state for block group and block data
- Must wait for data extract to complete

GeoLytics NCDB

Data Resources:

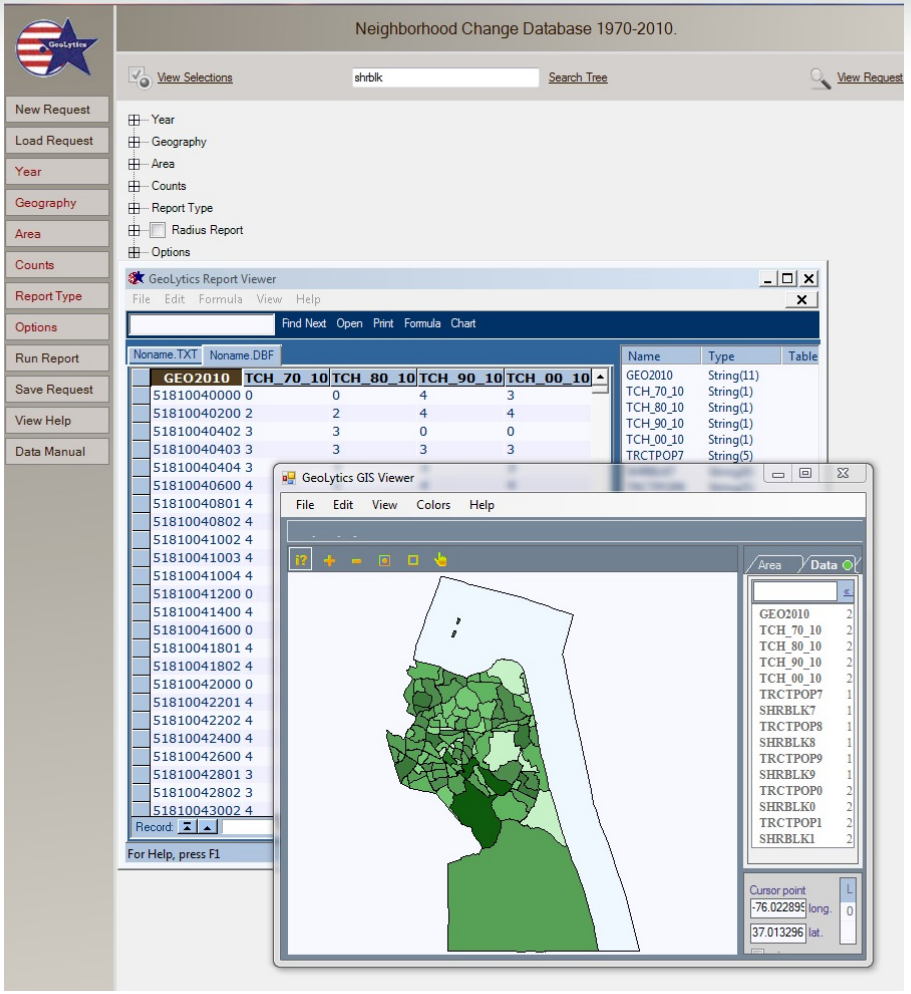
- Aggregate (summary-level) data
- Decennial Census (1970 to 2010)

Features/Functionality:

- Data normalized (cross walked) to 2010 decennial census tract boundaries
- Built-in map viewer to visualize data and export GIS boundaries files

Limitations:

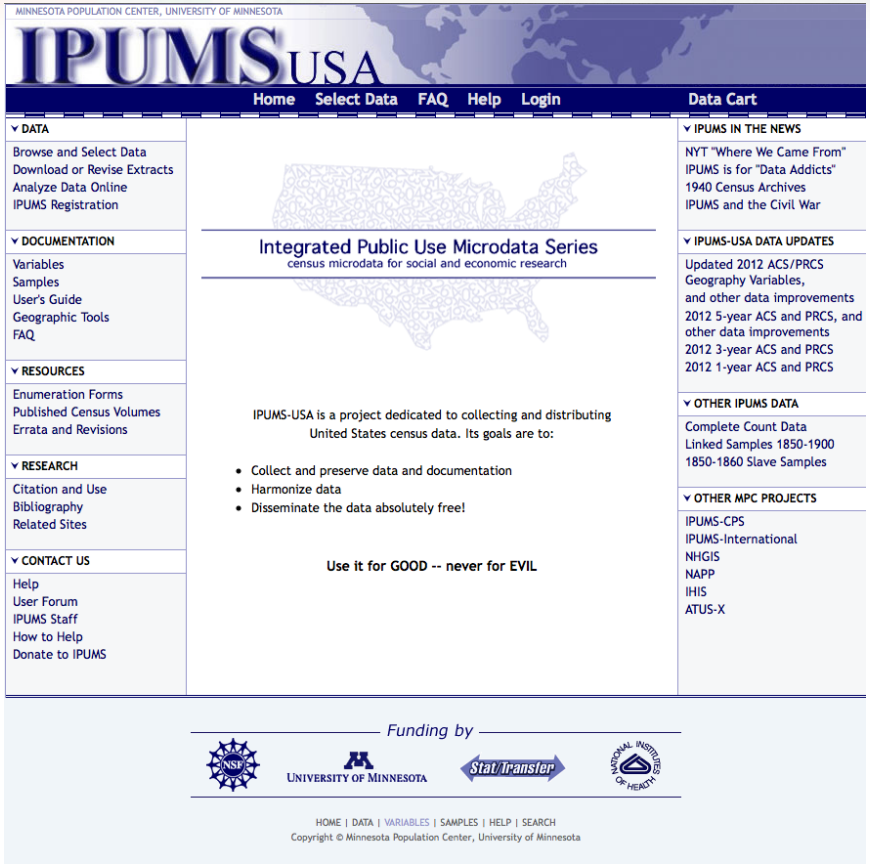
- Only contains a subset of 1000+ variables that can be compared over time
- Limited to census tracts only for the geography and therefore, smaller geographies (block group) or larger geographies (zip code, county, or state) are not available



Must be used on LDC@C computer

http://data.library.virginia.edu/datasources/licensed/geolytics/

IPUMS USA



http://usa.ipums.org/usa

Data Resources:

- Public-Use Microdata Samples (PUMS)
- Decennial Census (1850 to 2000)
- American Community Survey (2000 to 2012)

Features/Functionality:

- Analyze data online
- Setup files to export data to statistical software packages (SPSS, SAS. Stata)
- Recode variables and create custom tabulations and crosstabs
- Documentation on comparability of variables

Limitations:

- Must wait for data extract to complete
- Limited to larger geographical areas (e.g. PUMA – public use microdata area have 100,000+ residents)

Questions?