

Introduction to the American Community Survey (ACS)

August 23, 2023

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American Community Survey Office

Slides are available at <https://www.census.gov/programs-surveys/acs/news/events.html>

This webinar is being recorded. The recording will be available after the webinar.

About the U.S. Census Bureau

- The U.S. Census Bureau is the federal government's largest statistical agency.
- The U.S. Census Bureau conducts more than 130 surveys and programs each year, including
 - **The Decennial Census** – the once-a-decade population and housing count of all 50 states and U.S. territories
 - **The American Community Survey** – the ongoing, annual survey of the social, economic, housing, and demographic characteristics of the nation's population
 - **The Economic Census** – the official five-year measure of American businesses
 - **The Census of Governments** – identifies the scope and nature of the nation's state and local government sector
- Our mission is to serve as the nation's leading provider of quality data about its people and economy.



The American Community Survey

Outline

- **American Community Survey (ACS) basics**
- ACS data products
- ACS data tools and demonstrations
- Resources for learning more
- Questions


The American Community Survey

The Foundation

The American Community Survey is on the leading edge of survey design, continuous improvement, and data quality


- The nation's most current, reliable, and accessible data source for local statistics on critical planning topics such as age, children, veterans, commuting, education, income, and employment
- Surveys **3.5 million** addresses and helps inform how trillions of dollars in federal funds are distributed each year
- Covers **40+ topics**, supports over **300** evidence-based federal government uses
- Three key annual data releases:
 - 1-year Estimates (for large populations, geographies of 65,000+ population)
 - 1-year Supplemental Estimates (for small populations, geographies of 20,000+ population)
 - 5-year Estimates (for very small populations, geographies down to Census Tracts and Block Groups)
- Officially started in 2005 (1-year estimates= 2005; 5-year 2005-2009).

13193016


 **United States Census Bureau** **The American Community Survey**

Start Here


You have two ways to respond:

 Respond online today at:
<https://respond.census.gov/acs>

OR

 Complete this form and mail it back as soon as possible.

Your response is required by law.
The American Community Survey is conducted by the U.S. Census Bureau. This survey is one of only a few surveys for which all recipients are required by law to respond. The U.S. Census Bureau is required by law to protect your information.

 **If you need help or have questions about completing this form, please call 1-800-354-7271.**

Text Telephone (TTY):
Call 1-800-582-8330.

¿NECESITA AYUDA? Llame sin cargo alguno al **1-877-833-5625**.

For more information about the American Community Survey, visit our website at: <https://www.census.gov/acs>

Please print the name and telephone number of the person who is filling out this form. We will only contact you if needed for official Census Bureau business.

Last Name

First Name MI

Area Code + Number -

How many people are living or staying at this address?


- **INCLUDE** everyone who is living or staying here for more than 2 months.
- **INCLUDE** yourself if you are living here for more than 2 months.
- **INCLUDE** anyone else staying here who does not have another place to stay, even if they are here for 2 months or less.
- **DO NOT INCLUDE** anyone who is living somewhere else for more than 2 months, such as a college student living away or someone in the Armed Forces on deployment.

Number of people

Fill out pages 2 – 7 for everyone, including yourself, who is living or staying at this address for more than 2 months. Then complete the rest of the form.

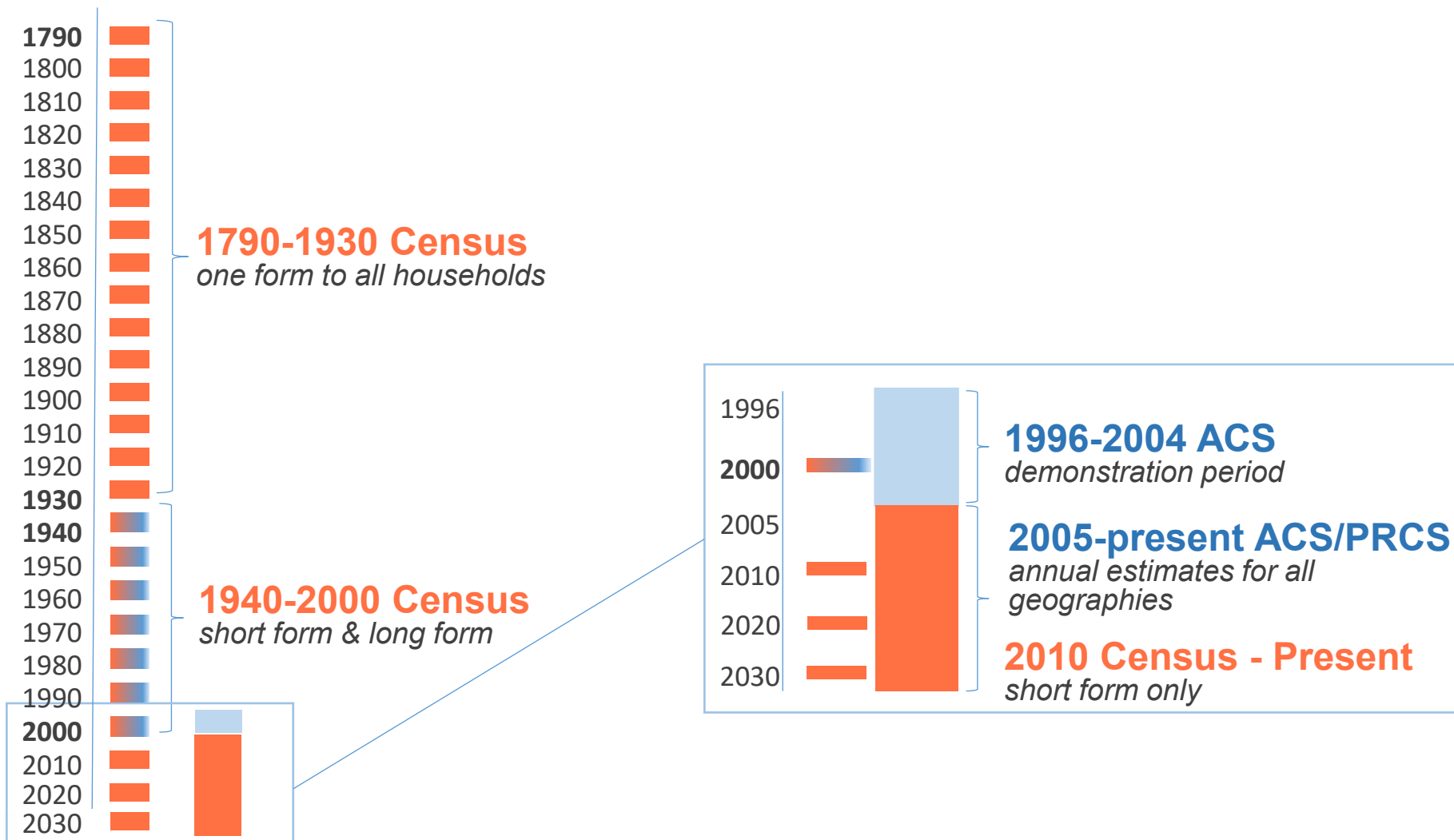
FORM **ACS-1(2023)**
09-16-2023

OMB No. 0607-0810
OMB No. 0607-0836



The American Community Survey

Census & ACS



The American Community Survey

How is the American Community Survey Different From a Census?

ACS

Census

Purpose

Sample estimates

Official counts

Collects

Detailed social, economic, housing, and demographic characteristics

Basic demographics

Produces

Population and housing characteristics

Population and housing totals and select characteristics

New Data Every

Year

10 years

Data Reflect

Period of time

Point in time

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What is the Margin of Error (MOE)?

Definition: An MOE is a measure of the possible variation of the estimate around the population value

- At a given confidence level, the estimate and actual population value will differ by no more than the MOE
- 90% confidence level is the Census standard and ACS MOEs are provided in the same unit as the estimate

Example: How many males under age 5 live in NM?

Lower bound = $58,869 - 3,000 = 55,869$

Upper bound = $58,869 + 3,000 = 61,869$

We are 90% confident the true number of males under age 5 in New Mexico falls **between 55,869 and 61,869**

	New Mexico	
Label	Estimate	Margin of Error
▼ Total:	2,115,877	*****
▼ Male:	1,052,355	±4,637
Under 5 years	58,869	±3,000
5 to 9 years	66,059	±4,169
10 to 14 years	73,574	±4,367
15 to 17 years	41,890	±2,267
18 and 19 years	31,200	±2,378
20 years	11,883	±2,126

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ACS Data Collection Process

ACS data are collected continuously throughout the year via:

1 Internet



2 Mail



3 In-Person Visits



Self-Response

*Nonresponse
Follow-up*

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Benefits of Participating

- Guides decisions that affect nearly every aspect of our lives.
- Responding provides complete and accurate statistical portraits of our communities.
- ACS data are critical to federal, tribal, state, and local agencies.
- Your information and privacy are protected. (Title 13, U.S. Code)

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ACS Data Users



Data from the ACS help:

- ✓ Local planners
- ✓ Businesses
- ✓ Policy makers
- ✓ Nonprofits
- ✓ Researchers
- ✓ Others

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Data Equity at Census

- The Census Bureau has an ongoing commitment to producing data that depict an accurate portrait of America, including its underserved communities.
- Some of our data equity services include:
 - Demographic Data
 - Data Tools
 - Public Assistance Program Metrics
 - Diversity Measurement
 - Data Education

Executive Order 13985 defines equity as “the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality.”

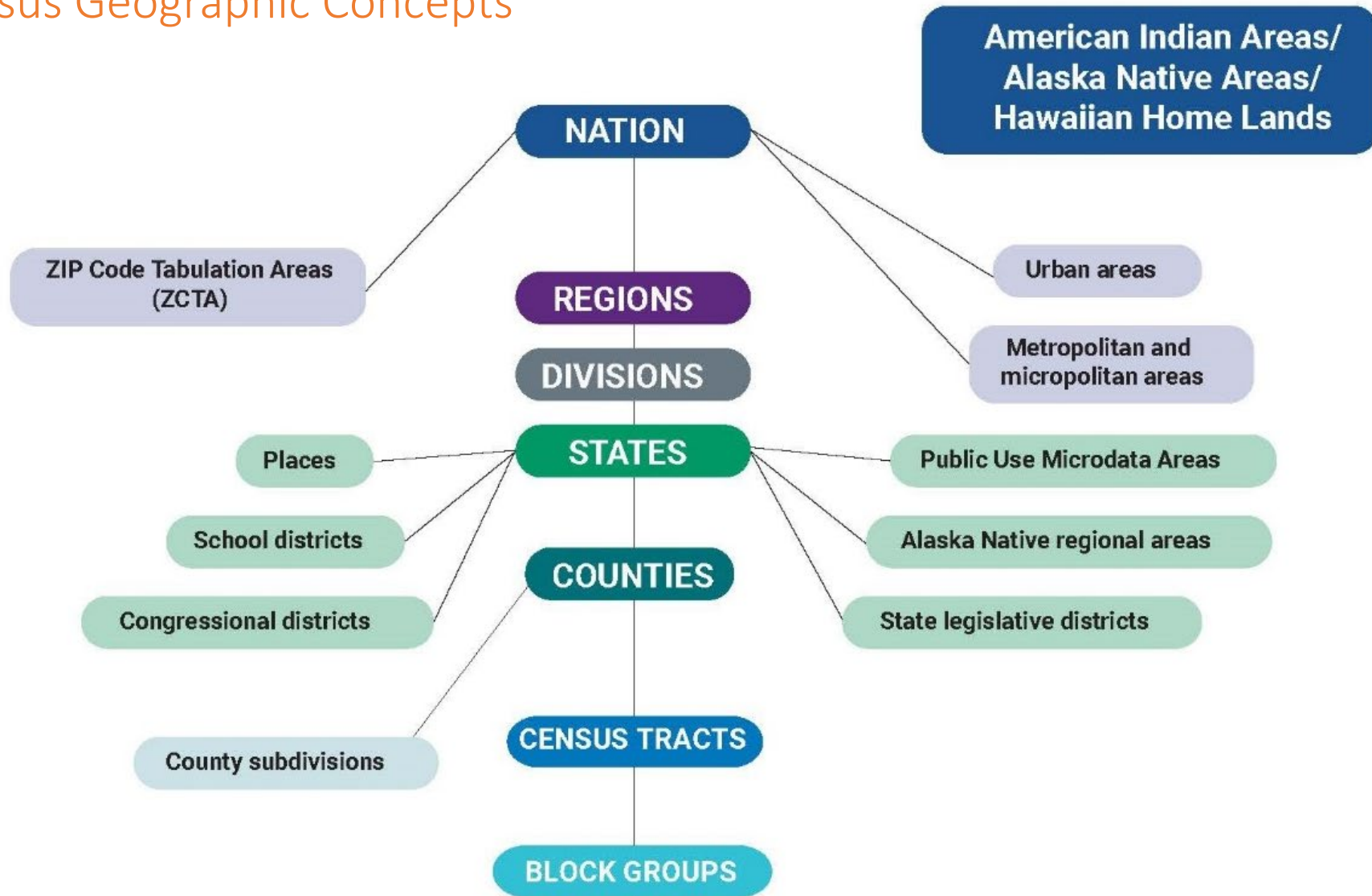
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Content Overview

POPULATION		HOUSING
SOCIAL Ancestry Citizenship Citizen Voting Age Population Disability Educational Attainment Fertility Grandparents Language Marital Status Migration School Enrollment Veterans	DEMOGRAPHIC Age Hispanic Origin Race Relationship Sex ECONOMIC Class of Worker Commuting Employment Status Food Stamps (SNAP) Health Insurance Income Industry & Occupation Weeks Worked	Computer & Internet Use Costs (Mortgage, Rent, Taxes, Insurance) Heating Fuel Home Value Occupancy Plumbing/Kitchen Facilities Structure Tenure (Own/Rent) Utilities Vehicles Year Built Year Moved In

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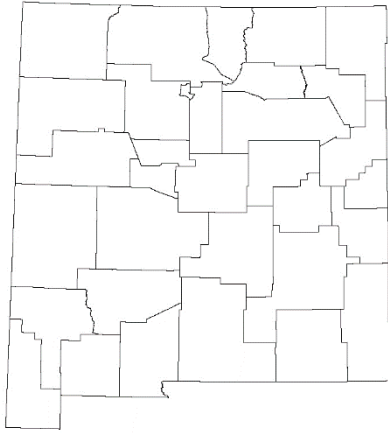
Selected Census Geographic Concepts



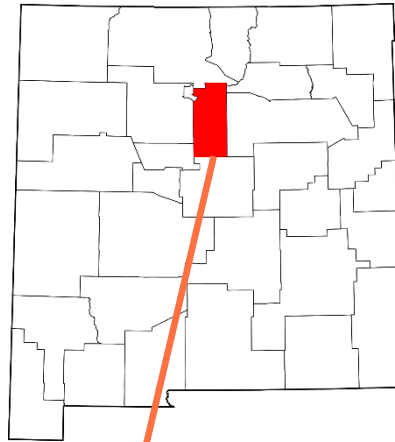
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Selected Census Geographic Concepts

STATE

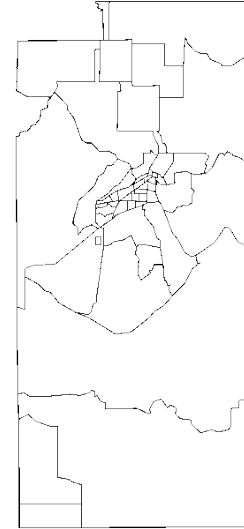


COUNTY

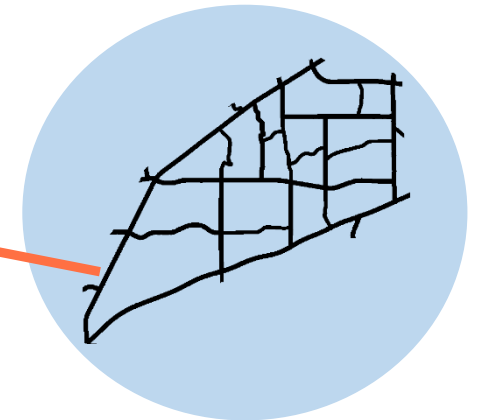
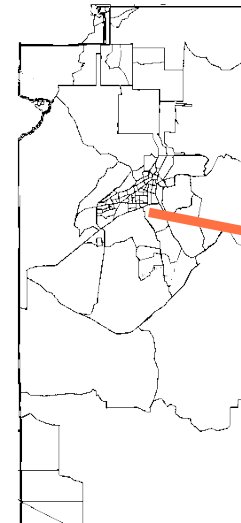


County of Santa Fe

CENSUS TRACT



BLOCK GROUP



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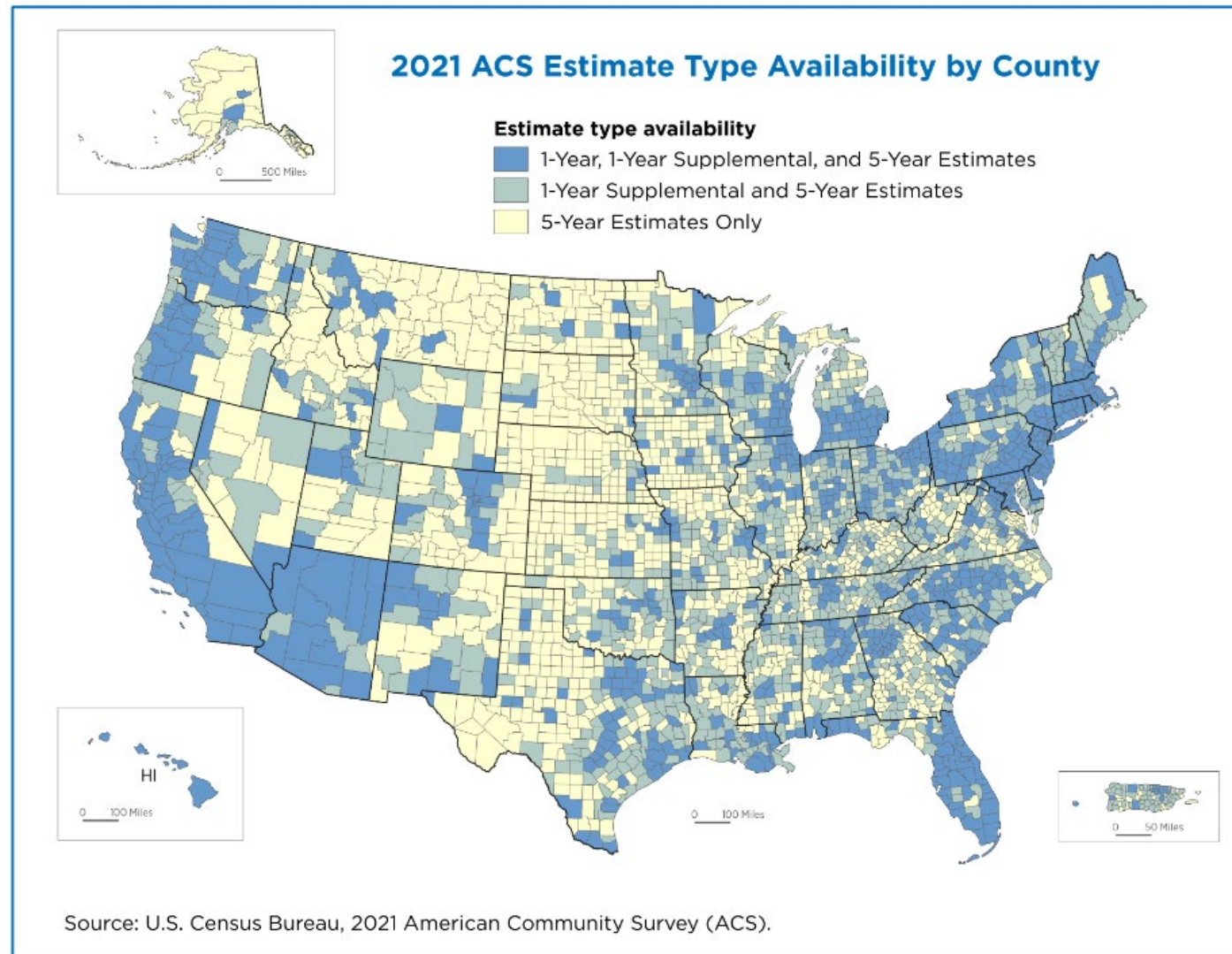
Availability of Data Products



Estimated Population of Geographic Area	1-Year Estimates	1-Year Supplemental Estimates	5-Year Estimates
65,000 or more	X	X	X
20,000 to 64,999		X	X
Less than 20,000			X
Typical Release Month (Occurs in the calendar year after data collection)	September	October	December
2022 Data Release	September 14, 2023	October 19, 2023	December 7, 2023

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Estimate Type Availability by County



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Outline

- American Community Survey (ACS) basics
- **ACS data products**
- ACS data tools and demonstrations
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Data Product Type: Profiles



Description

- Offer a broad look at a community's social, economic, housing, and demographic characteristics
- Generally include many different variables
- Geography or population group is at the center

Types

- Data Profiles (DP)
- Narrative Profiles
- Comparison Profiles (CP)
- Selected Population Profiles (S0201)

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Data Product Types: Tables



Description

- A precise or detailed view of a subject
- Subject matter is at the center of the table

Types

- Detailed Tables (B or C)
- Supplemental Table (K20)
- Subject Tables (S)
- Ranking Tables (R)
- Geographic Comparison Tables (GCT)

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Table/Profile Numbering



B06004APR

- B=Data Product Type (Base Table)
- 06=Subject (Place of Birth)
- 004=Sequential Number (2 or 3 digits)
- A=Race/Hispanic Origin (White Alone)
- PR=For Puerto Rico Geographies Only

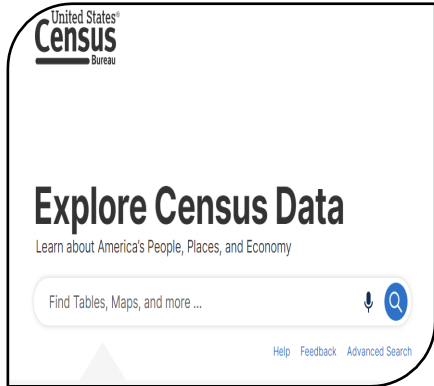
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Outline

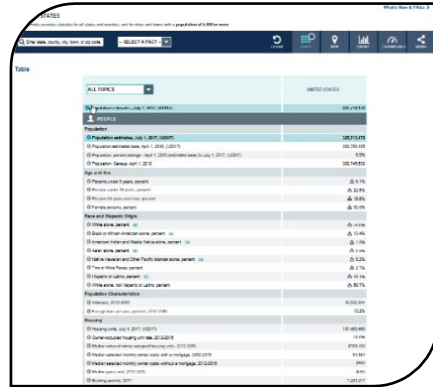
- American Community Survey (ACS) basics
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Selected Ways to Access Data



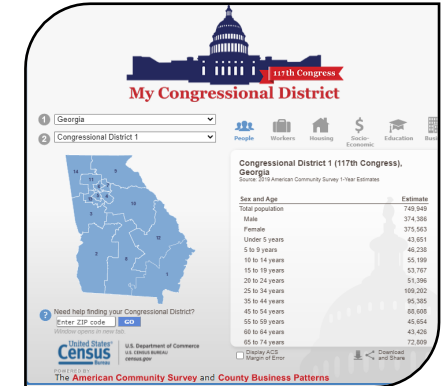
data.census.gov



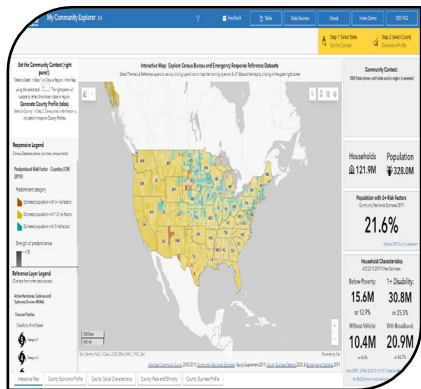
QuickFacts



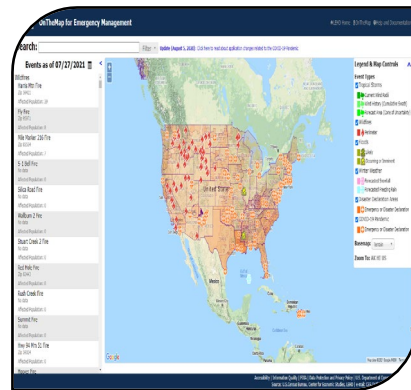
My Tribal Area



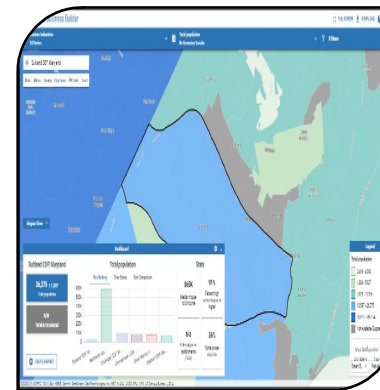
My Congressional District



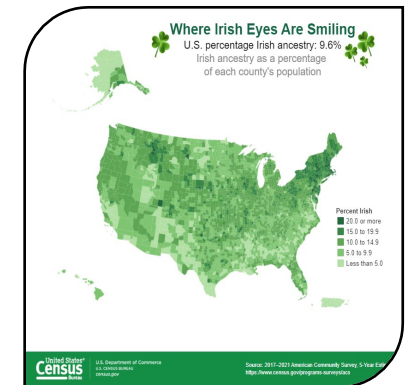
My Community Explorer



OnTheMap for Emergency Management



Census Business Builder



Application Programming Interface



census.gov/data/data-tools.html

The American Community Survey

Quick Demo

United States[®]
Census
Bureau

Explore Census Data

Learn about America's People, Places, and Economy

Find Tables, Maps, and more ...

Help Feedback Advanced Search

data.census.gov

QuickFacts
United States

QuickFacts provides statistics for all states and counties, and for cities and towns with a population of 5,000 or more

Enter state, county, city, town, or zip code -- Select a fact --

CLEAR TABLE MAP CHART DASHBOARD MORE

Table

All Topics	United States
Population Estimates, July 1, 2022, (V2022)	333,287,557
PEOPLE	
Population	
Population Estimates, July 1, 2022, (V2022)	333,287,557
Population Estimates, July 1, 2021, (V2021)	332,031,554
Population estimates base, April 1, 2020, (V2022)	331,449,520
Population estimates base, April 1, 2020, (V2021)	331,449,520
Population, percent change - April 1, 2020 (estimates base) to July 1, 2022, (V2022)	0.6%
Population, percent change - April 1, 2020 (estimates base) to July 1, 2021, (V2021)	0.2%
Population, Census, April 1, 2020	331,449,281
Population, Census, April 1, 2010	308,745,538
Age and Sex	
Persons under 5 years, percent	5.7%
Persons under 18 years, percent	22.2%
Persons 65 years and over, percent	16.8%
Female persons, percent	50.5%
Race and Hispanic Origin	
White alone, percent	75.8%
Black or African American alone, percent (a)	13.6%
American Indian and Alaska Native alone, percent (a)	1.3%
Asian alone, percent (a)	6.1%

census.gov/quickfacts

My Tribal Area

Enter name of Tribal Area

OR

1 Select a State

2

People Jobs Housing Economy Education

The Census Bureau collects data for the American Indian and Alaska Native (AIAN) population and publishes specific counts, estimates, and statistics. My Tribal Area gives you quick and easy access to selected statistics from the American Community Survey (ACS). The ACS provides detailed demographic, social, economic, and housing statistics every year for the nation's communities. My Tribal Area is powered by the Census Application Programming Interface (API).

Users should exercise caution when comparing 2017-2021 ACS 5-year estimates to other ACS estimates. For more information, please visit the [2021 ACS 5-year Comparison Guidance page](#).

Source: 2017-2021 American Community Survey 5-Year Estimates

Census U.S. Department of Commerce U.S. Census Bureau census.gov

POWERED BY The American Community Survey

Glossary

census.gov/tribal

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- Questions

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ACS Main Page





Partners Researchers Educators Survey Respondents


News NAICS Codes Jobs About Us Contact Us Help

Topics **Data & Maps** **Surveys & Programs** **Resource Library**

// [Census.gov](#) / [Our Surveys & Programs](#) / [American Community Survey \(ACS\)](#)

American Community Survey (ACS)

The [American Community Survey \(ACS\)](#) helps local officials, community leaders, and businesses understand the changes taking place in their communities. It is the premier source for detailed population and housing information about our nation.



Featured

Respond to the ACS

Learn the different ways to respond to the American Community Survey -- online, by phone, by email. Read our FAQs or call us for more help with the survey.

- Within Our Surveys & Programs
- [About the ACS](#)
- [Respond to the ACS](#)
- [News & Updates](#)
- [Data](#)
- [Microdata](#)
- [Guidance for Data Users](#)
- [Geography & ACS](#)
- [Technical Documentation](#)

The American Community Survey

Why We Ask



[← BACK TO TOPICS PAGE](#)

Why We Ask Questions About... Home Heating Fuel

We ask questions about home heating fuel to create statistics about home energy use.

These data are used in government programs that analyze community air quality and energy needs. Federal agencies use these statistics to forecast future energy demand, analyze the fuels available to community residents, and plan and fund programs that help low-income residents afford to heat their homes.



Your privacy concerns

We use your confidential survey answers to create statistics like those in the results below and in the full tables that contain all the data—no one is able to figure out your survey answers from the statistics we produce. The Census Bureau is legally bound to strict confidentiality requirements. Individual records are not shared with anyone, including federal agencies and law enforcement entities. By law, the Census Bureau cannot share respondents' answers with anyone—not the IRS, not the FBI, not the CIA, and not with any other government agency.

Question as it appears on the form

We ask one question about fuel used to better understand how people heat their homes.

[VIEW QUESTION](#)

census.gov/acs/www/about/why-we-ask-each-question

The American Community Survey Data Tables and Tools

census.gov/programs-surveys/acs/data.html



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Comparison Guidance



Do	Do Not
Use ACS for population characteristics (i.e., percents, means, medians, rates)	Use ACS for population totals (instead use decennial census or the Population Estimates Program)
Compare non-overlapping datasets (i.e., 2012-2016 to 2017-2021)	Compare overlapping datasets (i.e., 2015-2019 to 2017-2021)
Compare similar period lengths (i.e., 1-year to 1-year and 5-year to 5-year)	Compare estimates from different period lengths (i.e., 1-year to 5-year)
Conduct statistical testing when making comparisons between estimates	Look at estimates alone to decide if they are higher or lower than one another

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What is Statistical Testing?

- **Definition:** A test to determine if a difference is unlikely to occur by chance
- To be “statistically different”, there must be statistical evidence that there is a difference between two estimates
- Testing should be conducted for all comparisons

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Statistical Testing Tool

Algebraically, the significance test can be expressed as follows:

$$\text{If } \left| \frac{\hat{X}_1 - \hat{X}_2}{\sqrt{SE_1^2 + SE_2^2}} \right| > Z_{CL}, \text{ then the difference}$$

between estimates \hat{X}_1 and \hat{X}_2 is statistically significant at the specified confidence level, CL

where \hat{X}_i is estimate i ($i=1,2$)

SE_i is the SE for the estimate i ($i=1,2$)

Z_{CL} is the critical value for the desired confidence level (=1.645 for 90 percent, 1.960 for 95 percent, 2.576 for 99 percent).



Within Guidance for Data Users

[Comparing ACS Data](#)

[Handbooks](#)

[Recorded Webinars](#)

[Subjects Included in the Survey](#)

Statistical Testing Tool

[Using ACS Data with Open-Source Software](#)

[When to Use 1-year or 5-year Estimates](#)

[Which Data Table or Tool Should I Use?](#)



Statistical Testing Tool

Share



Comparing American Community Survey (ACS) estimates involves more than determining which statistic is higher or lower. Users should also conduct statistical testing to make sure differences are statistically significant and are unlikely to have occurred by chance. This testing takes into account the margin of error (MOE) associated with survey estimates, which are based on responses from a sample of the full population.

Looking for an easy way to conduct statistical testing? Try the Census Bureau's [Statistical Testing Tool](#). Simply copy or download ACS estimates and their MOEs into the spreadsheet to get instant results of statistical tests.



[Download Statistical Testing Tool \[2.4 MB\]](#)

Tool Features:

- Compares up to 3,230 pairs of estimates at once
- Compares multiple estimates simultaneously (up to 150 estimates)
- Displays statistical testing results ("Yes", "No") automatically
- Handles special formatting and characters, such as the '+' in front of the MOE, without additional editing by the data user
- Uses the Census Bureau's standard 90% confidence level, but can also process statistical testing at 95% or 99% confidence levels
- May be used to conduct statistical testing for other Census Bureau surveys

Related Information

VIDEO

[Population Reference Bureau: Assessing ACS Reliability](#)

RANDOM SAMPLINGS BLOG

[Using Census Bureau Data Made Easier: New Statistical Testing Tool](#)

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Technical Documentation



The screenshot shows the United States Census Bureau website. The top navigation bar includes links for Partners, Researchers, Educators, Survey Respondents, News, NAICS Codes, Jobs, About Us, Contact Us, and Help. Below this is a search bar with the text "Search data, events, resources, and more". The main content area features a breadcrumb trail: // Census.gov / Our Surveys & Programs / American Community Survey (ACS) / Technical Documentation. The page title is "Technical Documentation". A sidebar on the left lists various topics: Within American Community Survey (ACS), Code Lists, Definitions, and Accuracy, Data Suppression, Errata Notes, Table & Geography Changes, Table Shells and Table List, and User Notes. The main content area contains a "Share" section with Facebook, Twitter, and LinkedIn icons. Below this is a paragraph: "The American Community Survey provides various documentation to assist users with our data releases. Click on the links below to learn more about these resources." This is followed by a section titled "Code Lists, Definitions, and Accuracy" with a sub-description: "View the detailed codes and definitions for variables, statistical testing, and an explanation of sample design, methodology, and accuracy for the ACS." and a right-pointing arrow. Below that is a section titled "User Notes" with a sub-description: "Learn more about issues impacting the American Community Survey, including design, collection, production, and data release." and another right-pointing arrow. On the right side, there is a "Related Information" section with links for "American Community Survey Data", "Share Your ACS Data Story", and "Contact Us". At the bottom left of the page, there is a logo for "Join the ACS Data Users Group" featuring a stylized arch of colored dots.

The American Community Survey Information for...



// [Census.gov](#) / [Our Surveys & Programs](#) / [American Community Survey \(ACS\)](#) / [Information by ACS User Type](#)

Within American Community Survey (ACS)

- [American Indian and Alaska Native Populations](#)
- [Businesses](#)
- [Congress](#)
- [Equity](#)
- [General Users](#)
- [Hispanohablantes](#)
- [Law Enforcement Organizations](#)
- [Media](#)
- [Nonprofits](#)
- [Puerto Rico](#)
- [Researchers](#)
- [State and Local Governments](#)

Information by ACS User Type

Share [f](#) [t](#) [in](#)
Facebook Twitter LinkedIn

The U.S. Census Bureau's American Community Survey (ACS) provides a detailed portrait of the social, economic, housing, and demographic characteristics of America's communities. Explore the links below to quickly find resources and information by ACS user type.

American Community Survey Resources for AIAN

Explore resources for Tribal officials, government agencies, and organizations using ACS data about American Indian and Alaska Native populations & geographies.


American Community Survey Resources for Businesses

Explore resources for business users of ACS data.

American Community Survey Resources for Congress

Related Information

- [American Community Survey Data](#)
- [Respond to the ACS](#)
- [ACS Data Stories—Stats in Action!](#)



Join the ACS
Data Users Group

census.gov/programs-surveys/acs/information-for.html

The American Community Survey

Stay Connected



Share Your ACS
Data Story



Join the ACS
Data Users Group



Sign Up for
Email Updates



The American Community Survey

Find Answers, Get Support

Website

census.gov/acs

ACS Data User Support

acso.users.support@census.gov

Census Customer Service Center

800-923-8282

Census Academy

census.gov/academy

Social Media

@uscensusbureau

#ACSdata

Source Us

U.S. Census Bureau, [YYYY – YYYY] American
Community Survey
[1/5]-year [estimates/statistics/data release]