Introduction to the American Community Survey (ACS)

November 21, 2019
SANDAG

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United States Census Bureau
U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

The American Community Survey

About the U.S. Census Bureau

- The U.S. Census Bureau is the federal government's largest statistical agency.
- We conduct more than 100 censuses and surveys 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
- Our mission is to serve as the nation's leading provider of quality data about its people and economy.

The American Community Survey
Outline

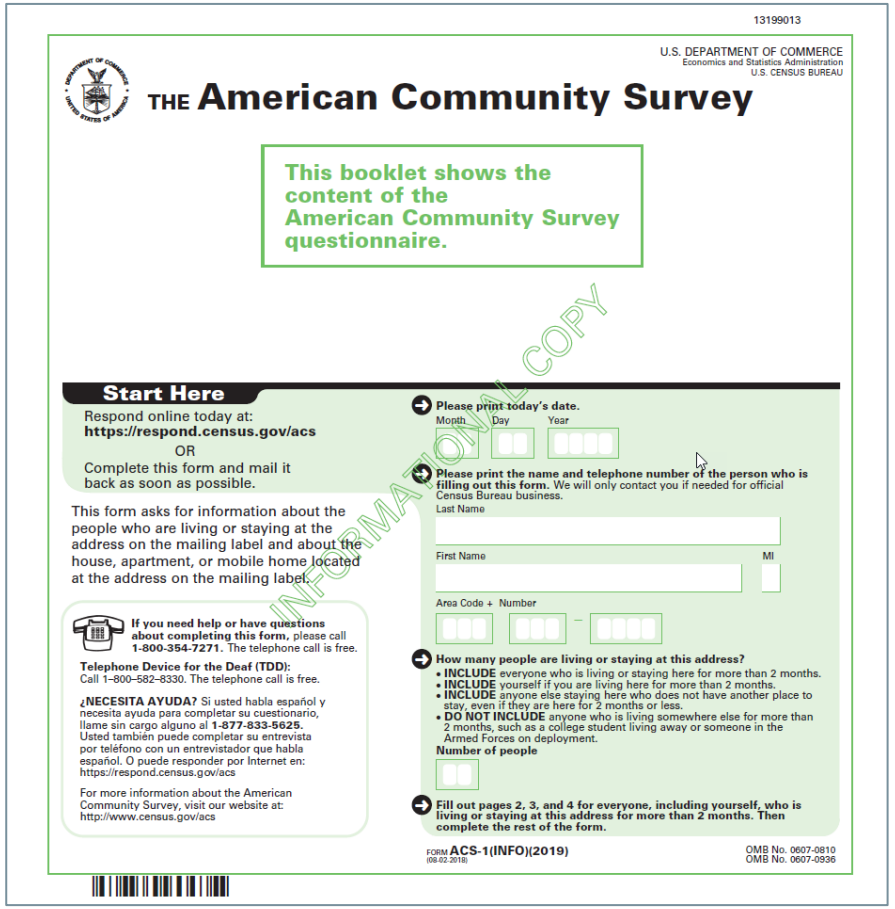
- **American Community Survey (ACS) basics**
- Accessing ACS data products
- Demonstration of ACS data tools
- Resources for learning more
- Questions

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 informs over **$675 billion** of Federal government spending each year
- Covers **40+ topics**, supports over **300** evidence-based Federal government uses, and produces **11 billion** estimates each year
- Three key annual data releases:
  - 1-year Estimates (for large populations)
  - 1-year Supplemental Estimates (for small populations)
  - 5-year Estimates (for very small populations)



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U.S. DEPARTMENT OF COMMERCE
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THE American Community Survey

This booklet shows the content of the American Community Survey questionnaire.

INFORMATIONAL COPY

Start Here

Respond online today at:
https://respond.census.gov/acs
OR
Complete this form and mail it back as soon as possible.

This form asks for information about the people who are living or staying at the address on the mailing label and about the house, apartment, or mobile home located at the address on the mailing label.

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

Telephone Device for the Deaf (TDD):
Call 1–800–582–8330. The telephone call is free.

¿NECESITA AYUDA? Si usted habla español y necesita ayuda para completar su cuestionario, llame sin cargo alguno al **1-877-833-5625.** Usted también puede completar su entrevista por teléfono con un entrevistador que habla español. O puede responder por Internet en: https://respond.census.gov/acs

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

Please print today's date.
Month Day Year

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, 3, and 4 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(INFO)(2019)** (08.02.2018)
OMB No. 0607-0810
OMB No. 0607-0936

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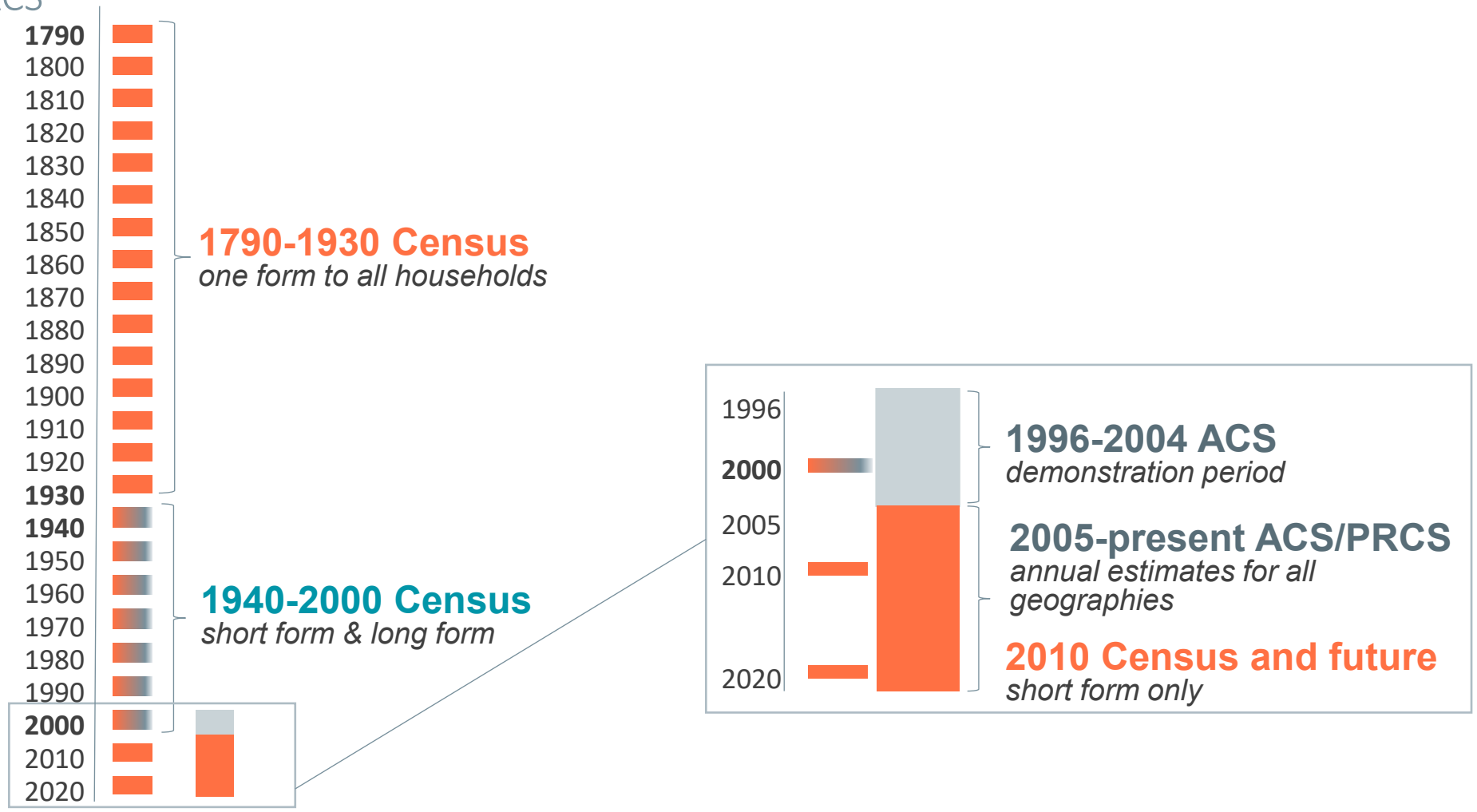
Census & ACS



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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
New Data Every	Year	10 years
Data Reflect	Period of time	Point in time

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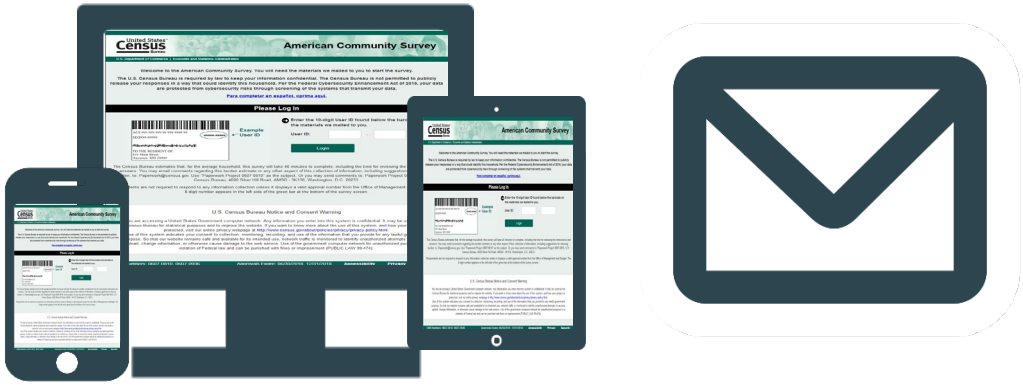
Data Collection Process

SELF-RESPONSE



NONRESPONSE FOLLOWUP

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Content Overview

POPULATION		HOUSING
SOCIAL Ancestry Citizenship 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 Hours/Week, Weeks/Year Income Industry & Occupation	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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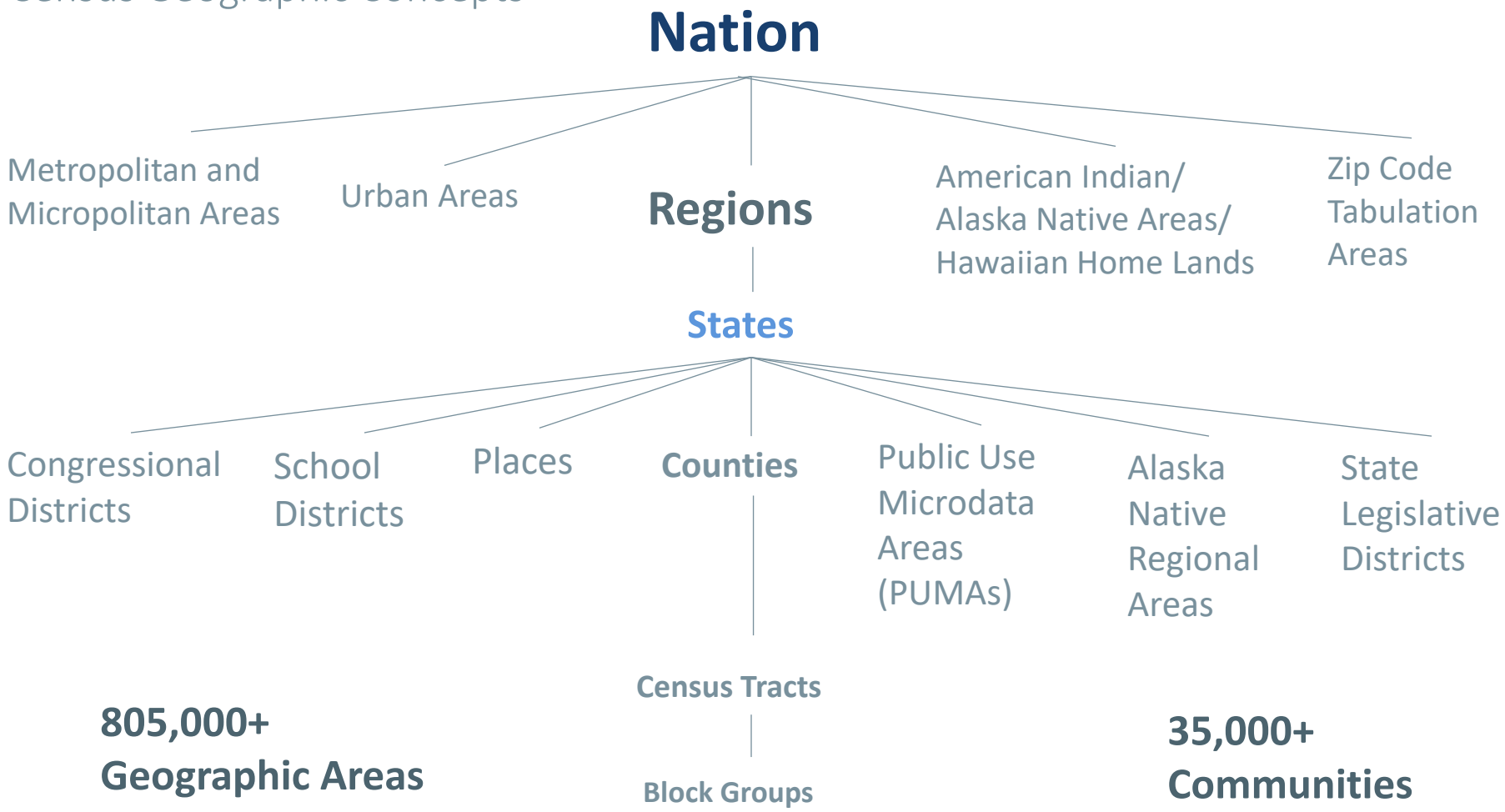
Selected Census Geographic Concepts



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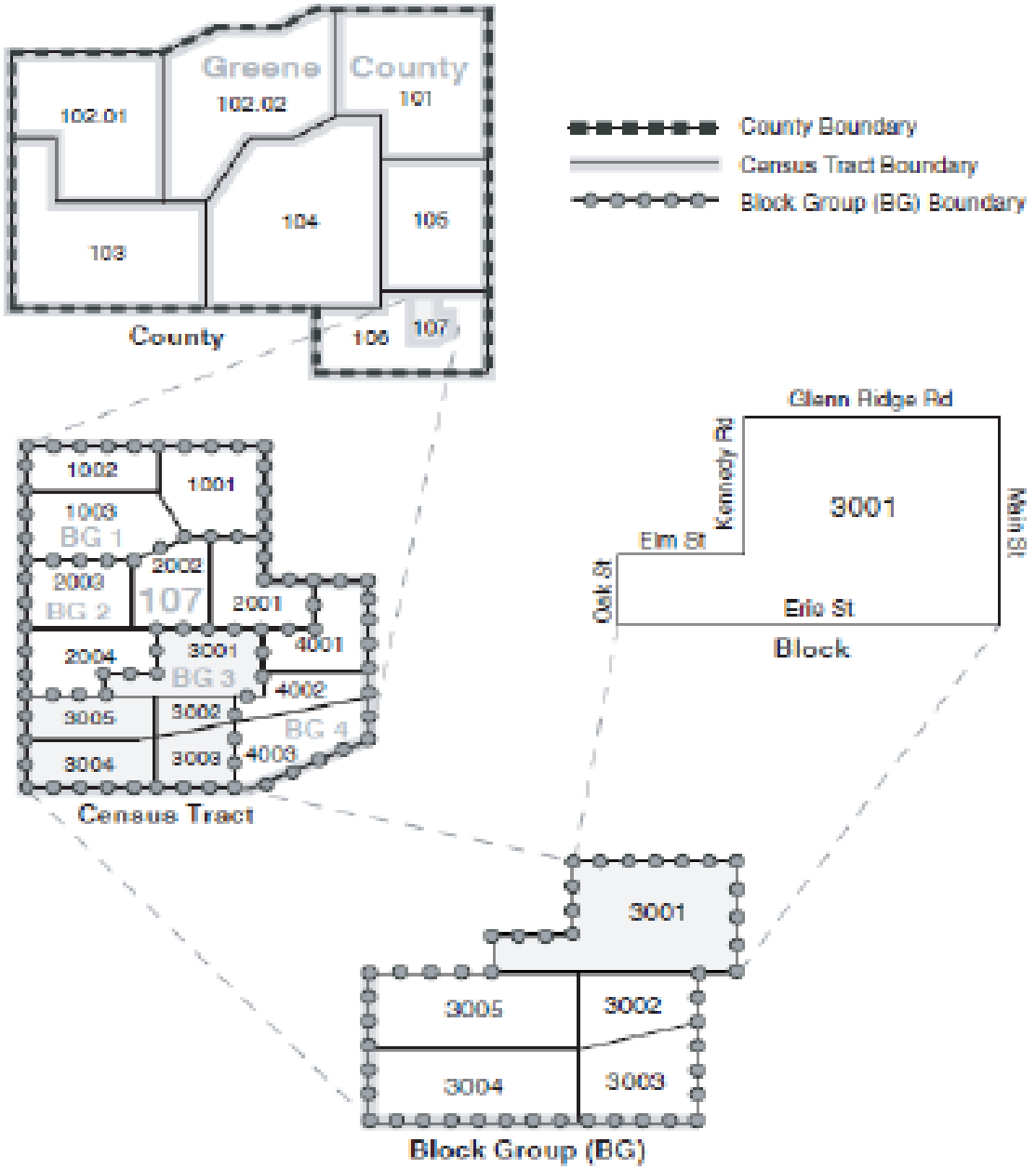
Selected Census Geographic Concepts

Geographic Area Relationships—Small Statistical Areas



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Availability of 2018 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
Release Date	September 26, 2019	February 6, 2020	December 19, 2019

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

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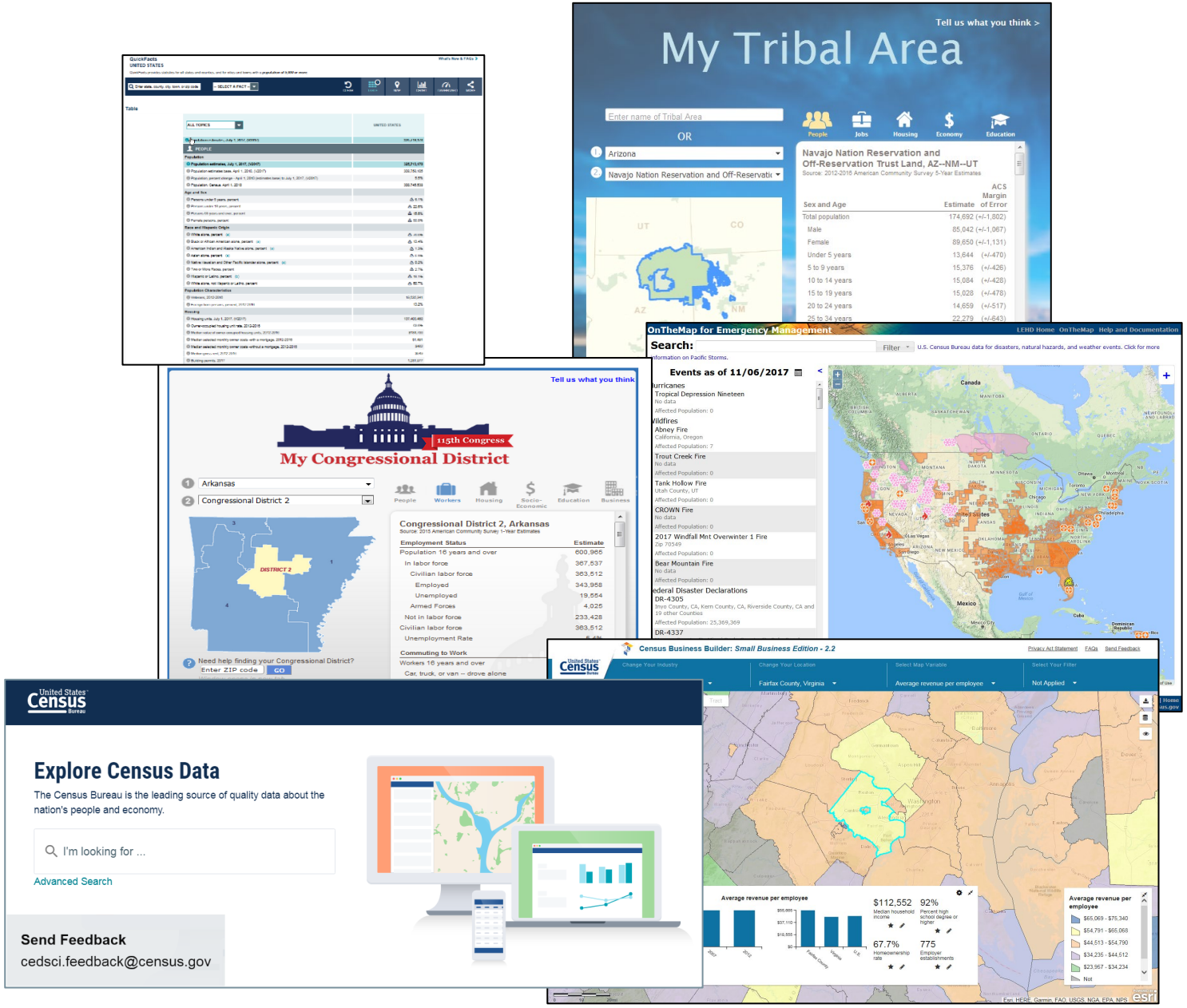
Selected Ways to Access Data

- QuickFacts
- My Congressional District
- My Tribal Area
- OnTheMap for Emergency Management
- Census Business Builder
- data.census.gov
- TIGER/Line Shapefiles w/ Selected Demographic Data
- Application Programming Interface (API)



census.gov/data/data-tools.html

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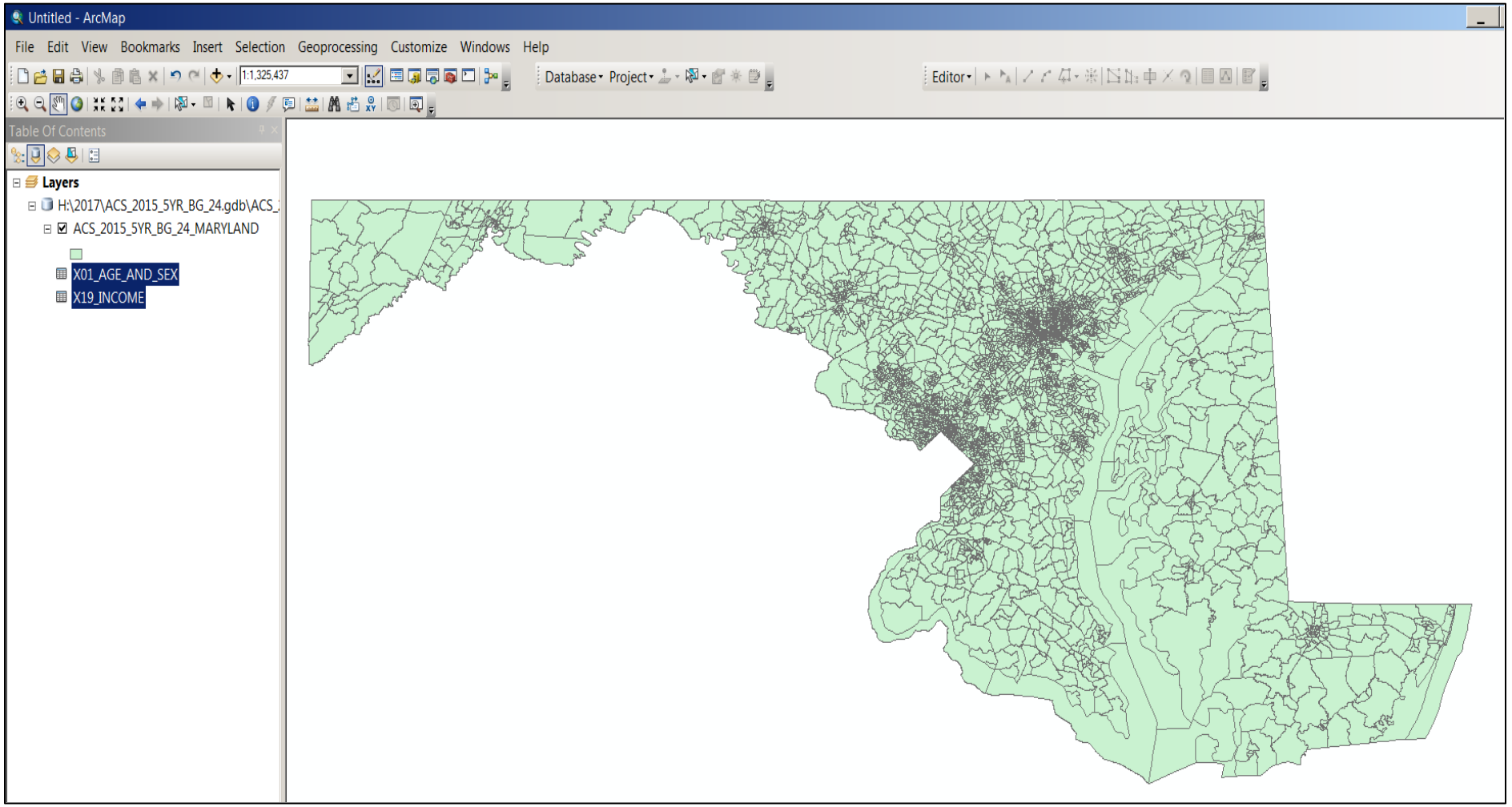
TIGER/Line Shapefiles w/ Selected Demographic Data



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census.gov/geo/maps-data/data/tiger-data.html

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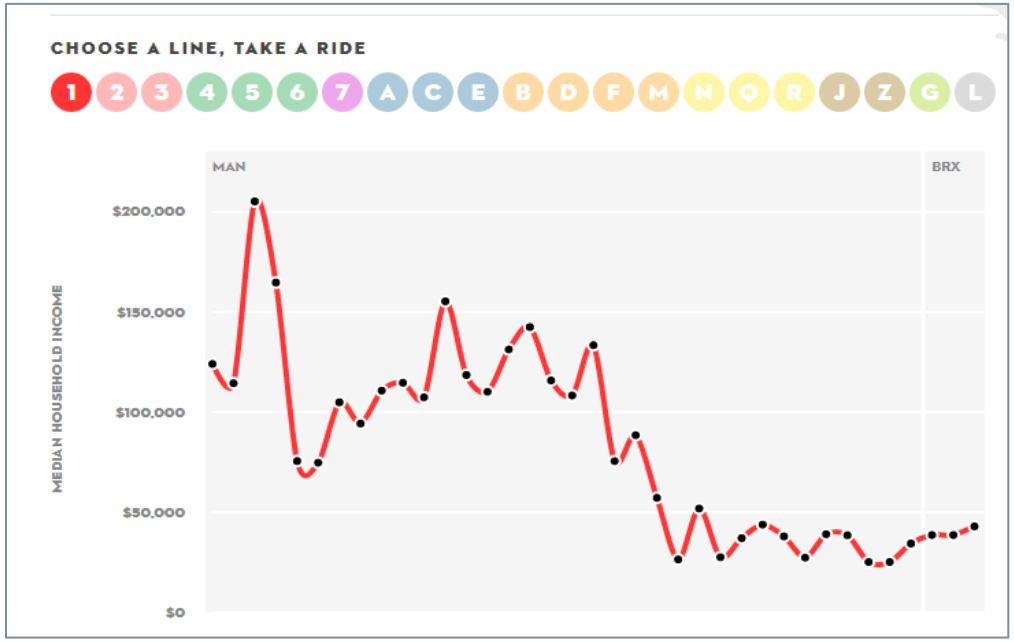
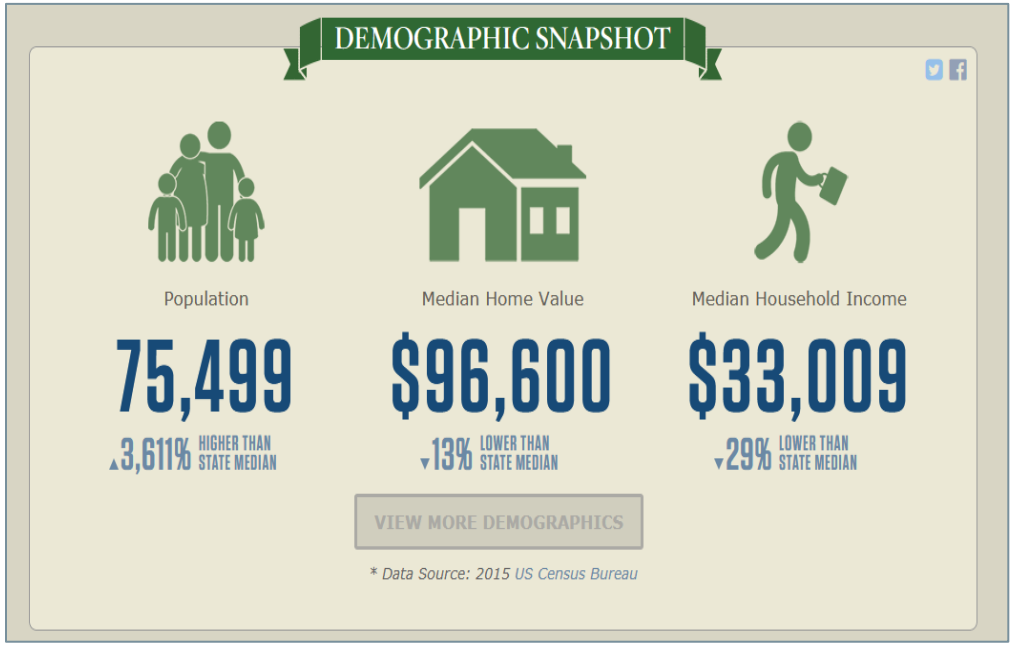
Application Programming Interface (API)





census.gov/developers

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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 (NP)
- Comparison Profiles (CP)
- Selected Population Profiles (S0201)

census.gov/programs-surveys/acs/guidance/which-data-tool/table-ids-explained.html

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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)

census.gov/programs-surveys/acs/guidance/which-data-tool/table-ids-explained.html

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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

census.gov/programs-surveys/acs/guidance/which-data-tool/table-ids-explained.html

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Finding Data Examples

- % of Persons under 5 yrs by county/place using QF
- HH Median Income data for a Congressional district
- Characteristics of Children: County level – San Diego Co, CA using data.census.gov

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Example 1: % Persons under 5 yrs. by County and place

QuickFacts

San Diego city, California; San Diego County, California

What's New & FAQs

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

Geography

Variable

Table

ALL TOPICS	San Diego city, California	San Diego County, California
Persons under 5 years, percent	**6.3%**	**6.2%**
PEOPLE		
Population		
Population estimates, July 1, 2018, (V2018)	1,425,976	3,343,364
Population estimates base, April 1, 2010, (V2018)	1,301,949	3,095,349
Population, percent change - April 1, 2010 (estimates base) to July 1, 2018, (V2018)	9.5%	8.0%
Population, Census, April 1, 2010	1,307,402	3,095,313
Age and Sex		
Persons under 5 years, percent	**6.3%**	**6.2%**
Persons under 18 years, percent	20.5%	21.6%
Persons 65 years and over, percent	12.0%	14.0%

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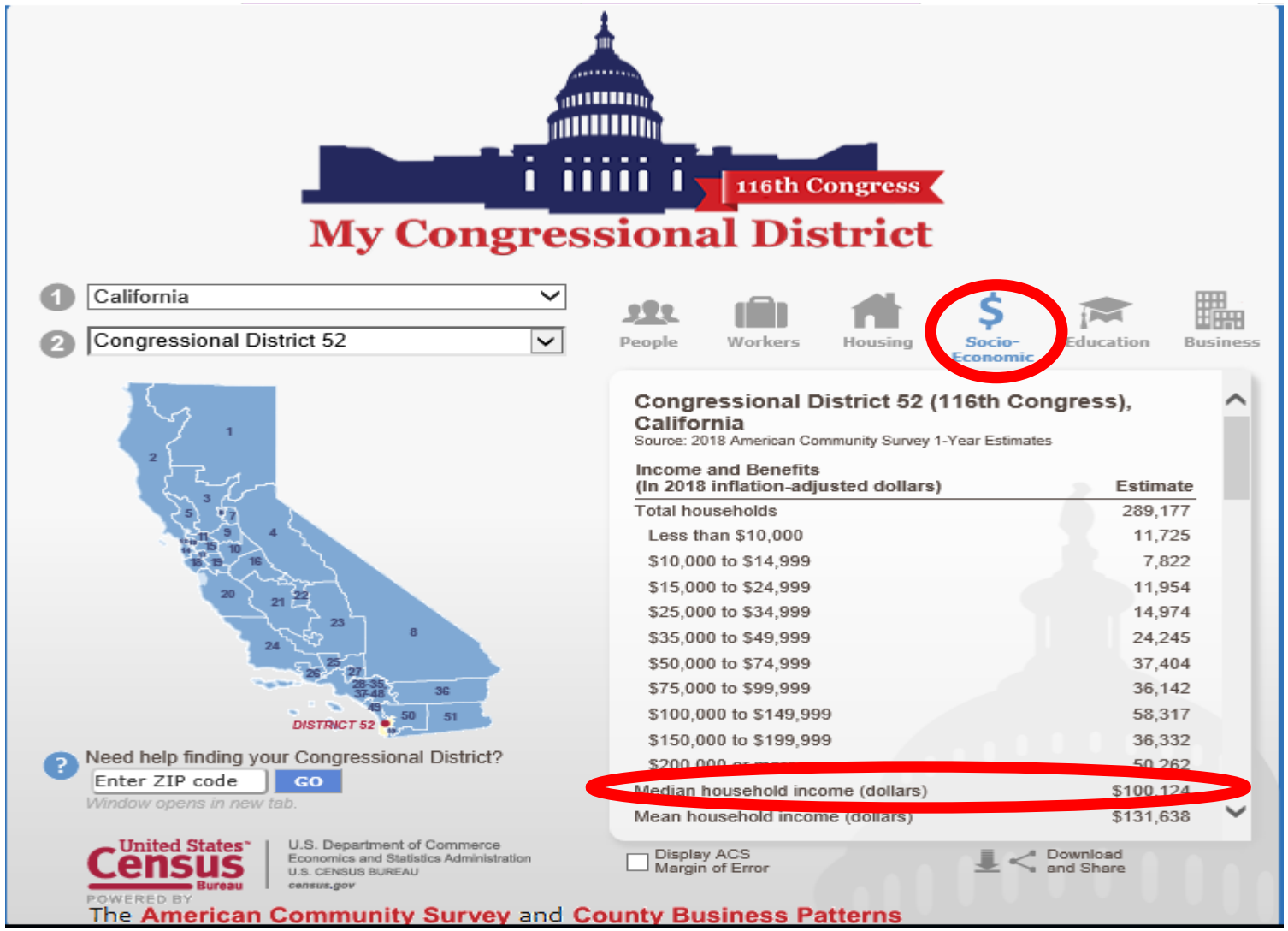
Example 2: Finding Income Data for a Congressional District



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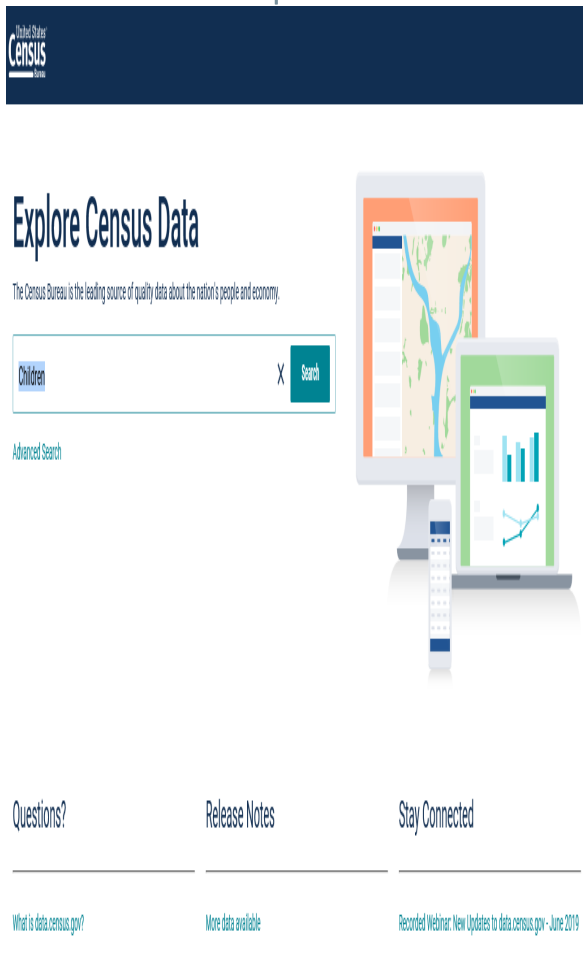
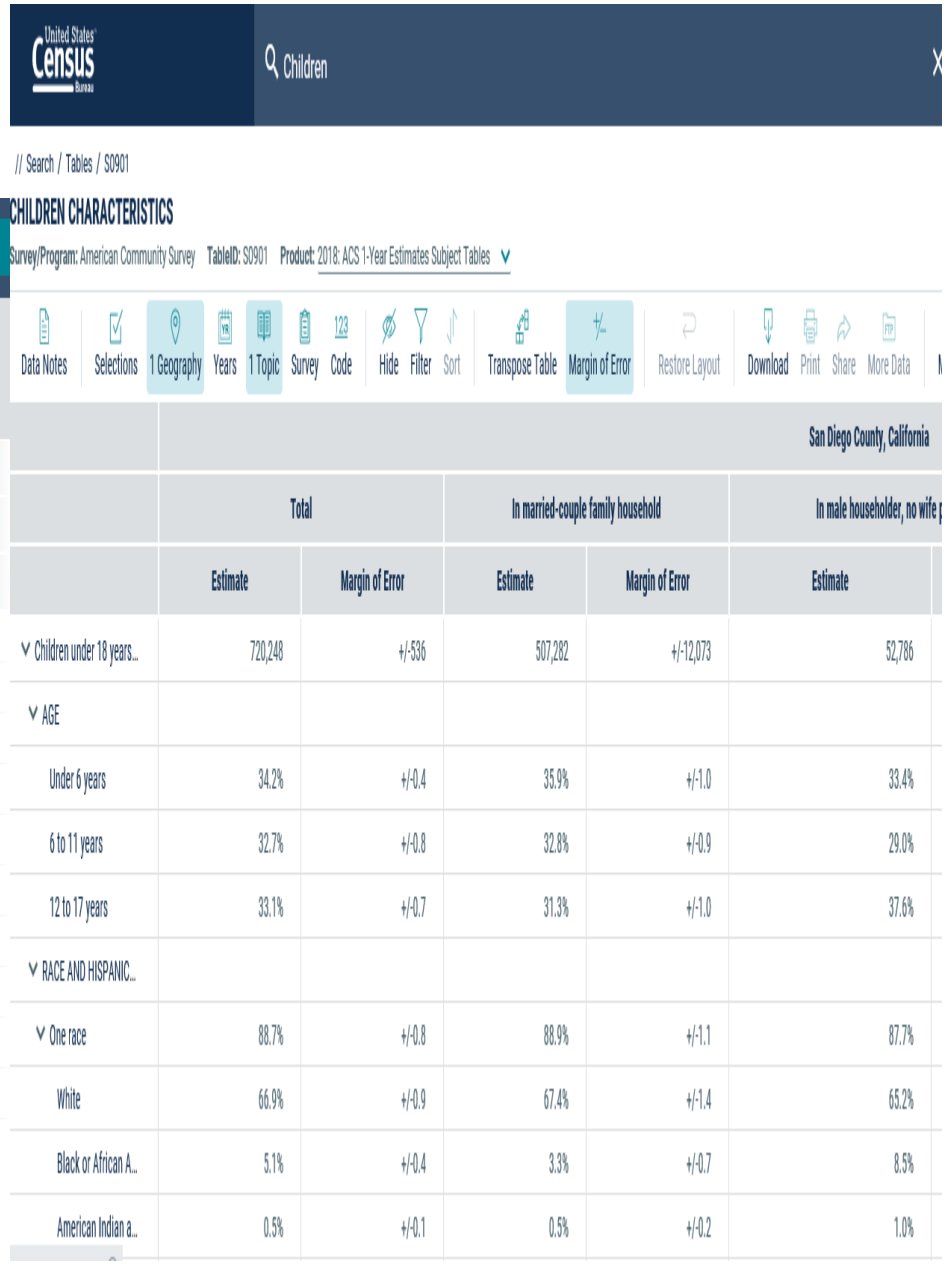
Example 3: Children Characteristics by County





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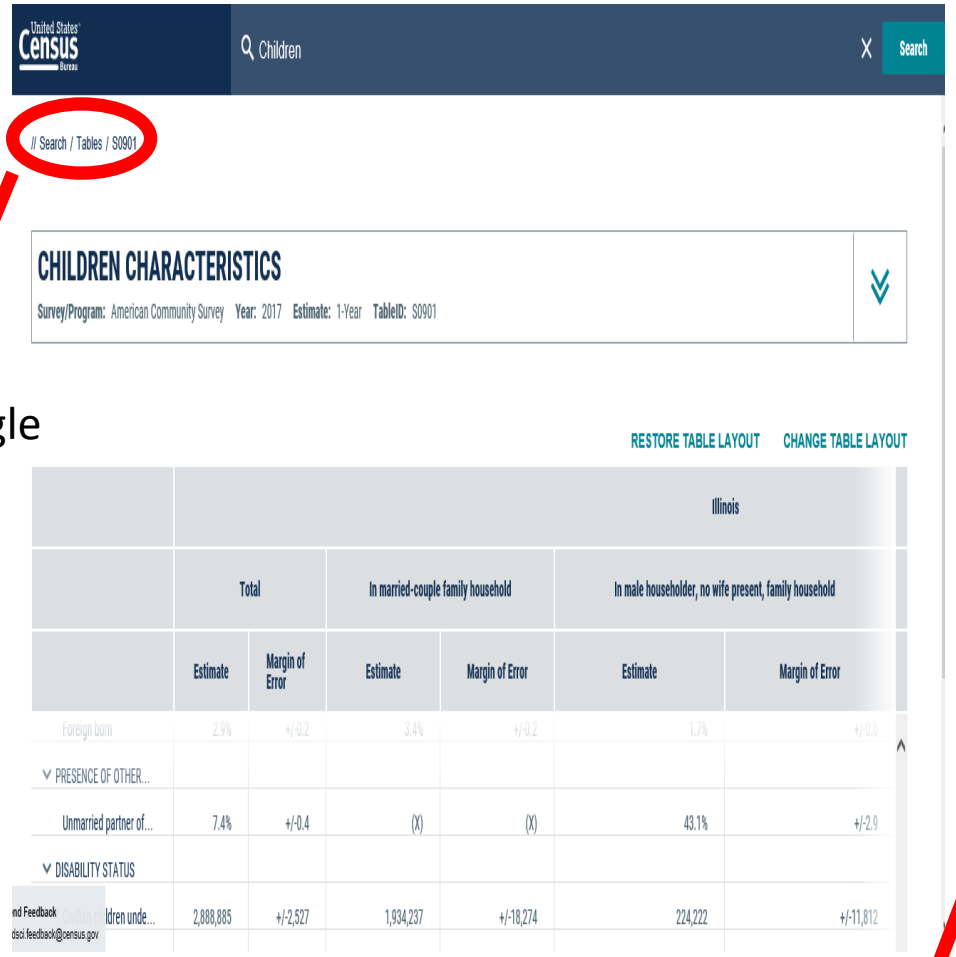
Example 3: Children Characteristics by County



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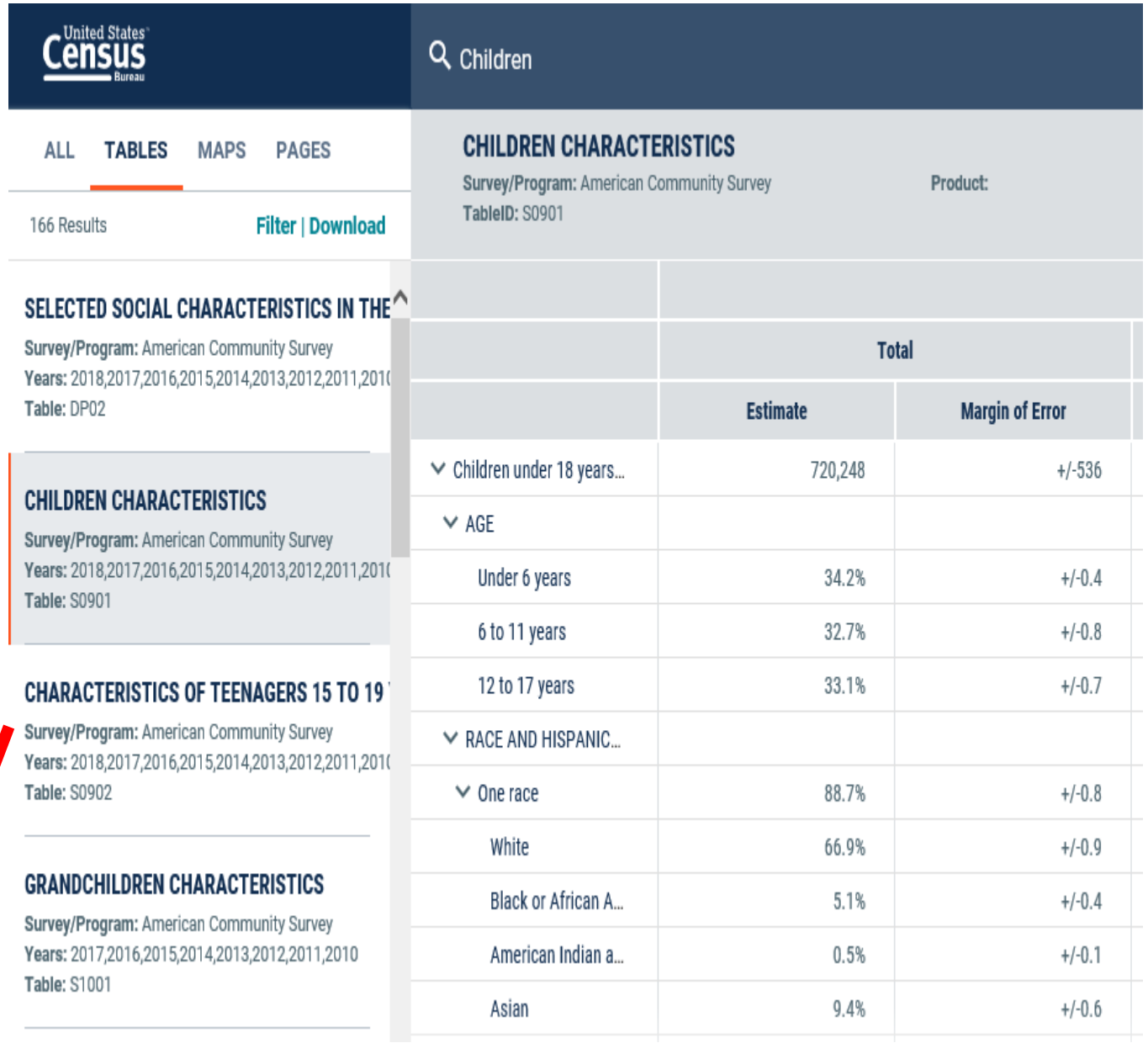

Select table

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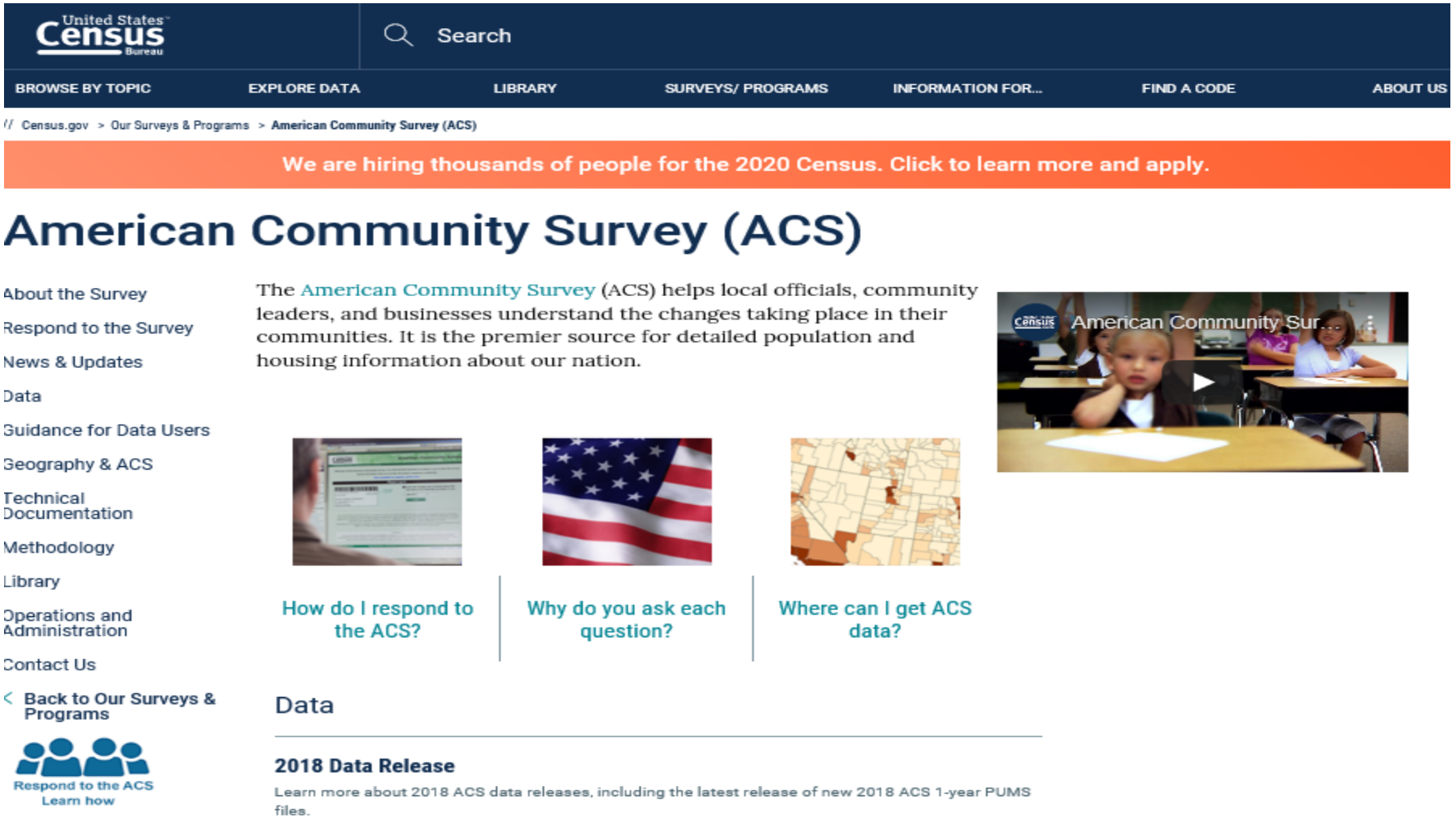
Main Page



census.gov/acs

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Why We Ask

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

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Data Tables and Tools

census.gov/acs/www/data/data-tables-and-tools/

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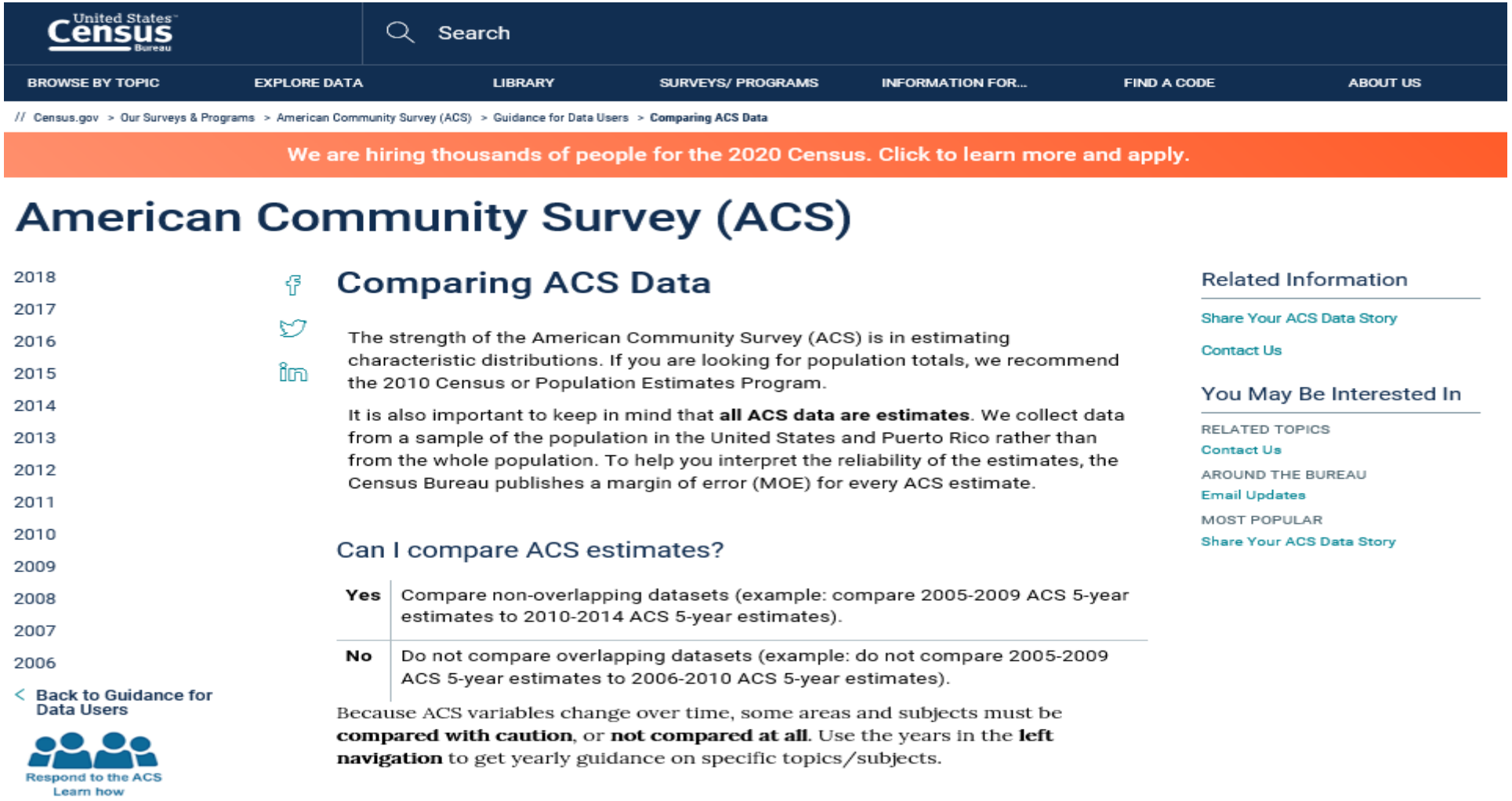
Comparison Guidance



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// Census.gov > Our Surveys & Programs > American Community Survey (ACS) > Guidance for Data Users > Comparing ACS Data

We are hiring thousands of people for the 2020 Census. Click to learn more and apply.

American Community Survey (ACS)

2018
2017
2016
2015
2014
2013
2012
2011
2010
2009
2008
2007
2006

< Back to Guidance for Data Users

Respond to the ACS
Learn how

Comparing ACS Data

The strength of the American Community Survey (ACS) is in estimating characteristic distributions. If you are looking for population totals, we recommend the 2010 Census or Population Estimates Program.

It is also important to keep in mind that **all ACS data are estimates**. We collect data from a sample of the population in the United States and Puerto Rico rather than from the whole population. To help you interpret the reliability of the estimates, the Census Bureau publishes a margin of error (MOE) for every ACS estimate.

Can I compare ACS estimates?

Yes	Compare non-overlapping datasets (example: compare 2005-2009 ACS 5-year estimates to 2010-2014 ACS 5-year estimates).
No	Do not compare overlapping datasets (example: do not compare 2005-2009 ACS 5-year estimates to 2006-2010 ACS 5-year estimates).

Because ACS variables change over time, some areas and subjects must be **compared with caution**, or **not compared at all**. Use the years in the **left navigation** to get yearly guidance on specific topics/subjects.

Related Information

Share Your ACS Data Story

Contact Us

You May Be Interested In

RELATED TOPICS
Contact Us

AROUND THE BUREAU
Email Updates

MOST POPULAR
Share Your ACS Data Story

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

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Comparison Guidance

Do	Do Not
Use ACS for population characteristics (i.e., percent's, means, medians, rates)	Use ACS for population totals (instead use decennial census or the Population Estimates Program)
Compare non-overlapping datasets (i.e., 2008-2012 to 2013-2017)	Compare overlapping datasets (i.e., 2012-2016 to 2013-2017)
Compare similar period lengths (i.e., 1-year to 1-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 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 WY?

Lower bound = 19,649 - 310 = 19,339

Upper bound = 19,649 + 310 = 19,959

We are 90% confident the true number of males under age 5 in Wyoming falls **between 19,339 and 19,959**

	Wyoming	
	Estimate	**Margin of Error**
Total:	579,679	*****
Male:	295,561	+/-598
Under 5 years	19,649	+/-310
5 to 9 years	19,198	+/-638
10 to 14 years	20,703	+/-632
15 to 17 years	11,500	+/-304
18 and 19 years	8,105	+/-322

- **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

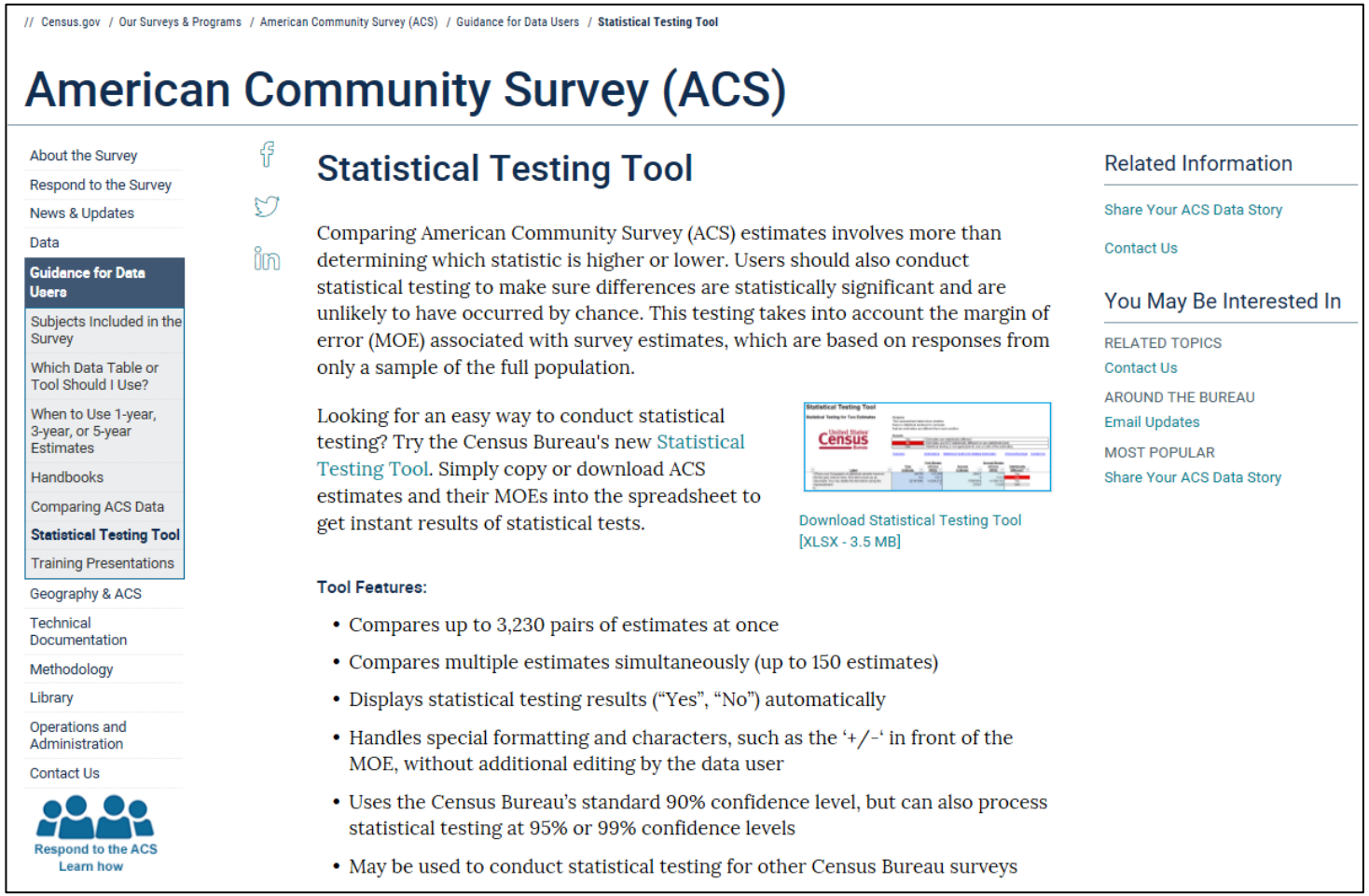
Algebraically, the significance test can be expressed as follows:

If $\left| \frac{\hat{X}_1 - \hat{X}_2}{\sqrt{SE_1^2 + SE_2^2}} \right| > Z_{CL}$, 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 (=1,2)

SE_i is the SE for the estimate 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).



census.gov/programs-surveys/acs/guidance/statistical-testing-tool.html

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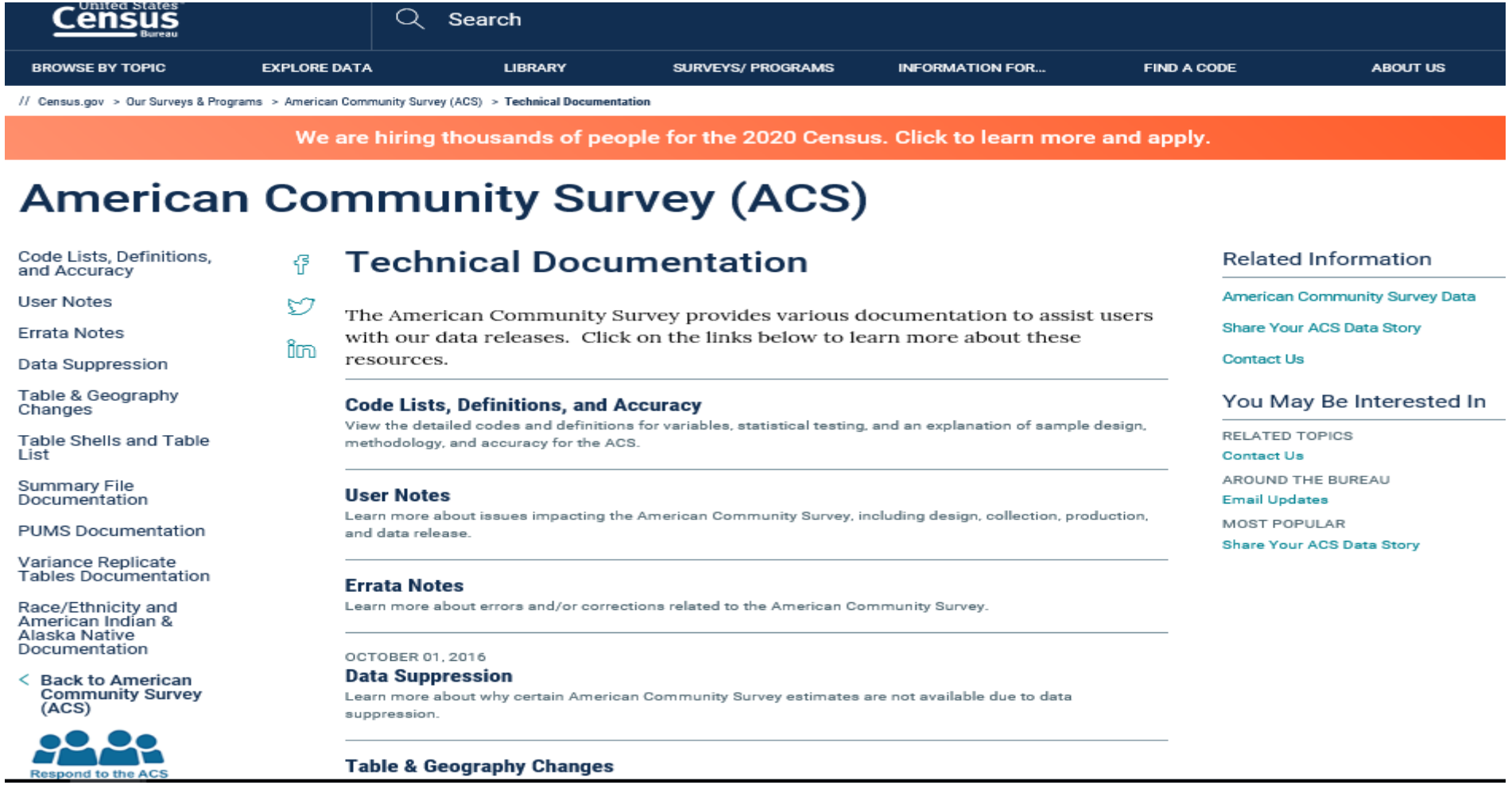
Technical Documentation Page



census.gov/programs-surveys/acs/technical-documentation.html

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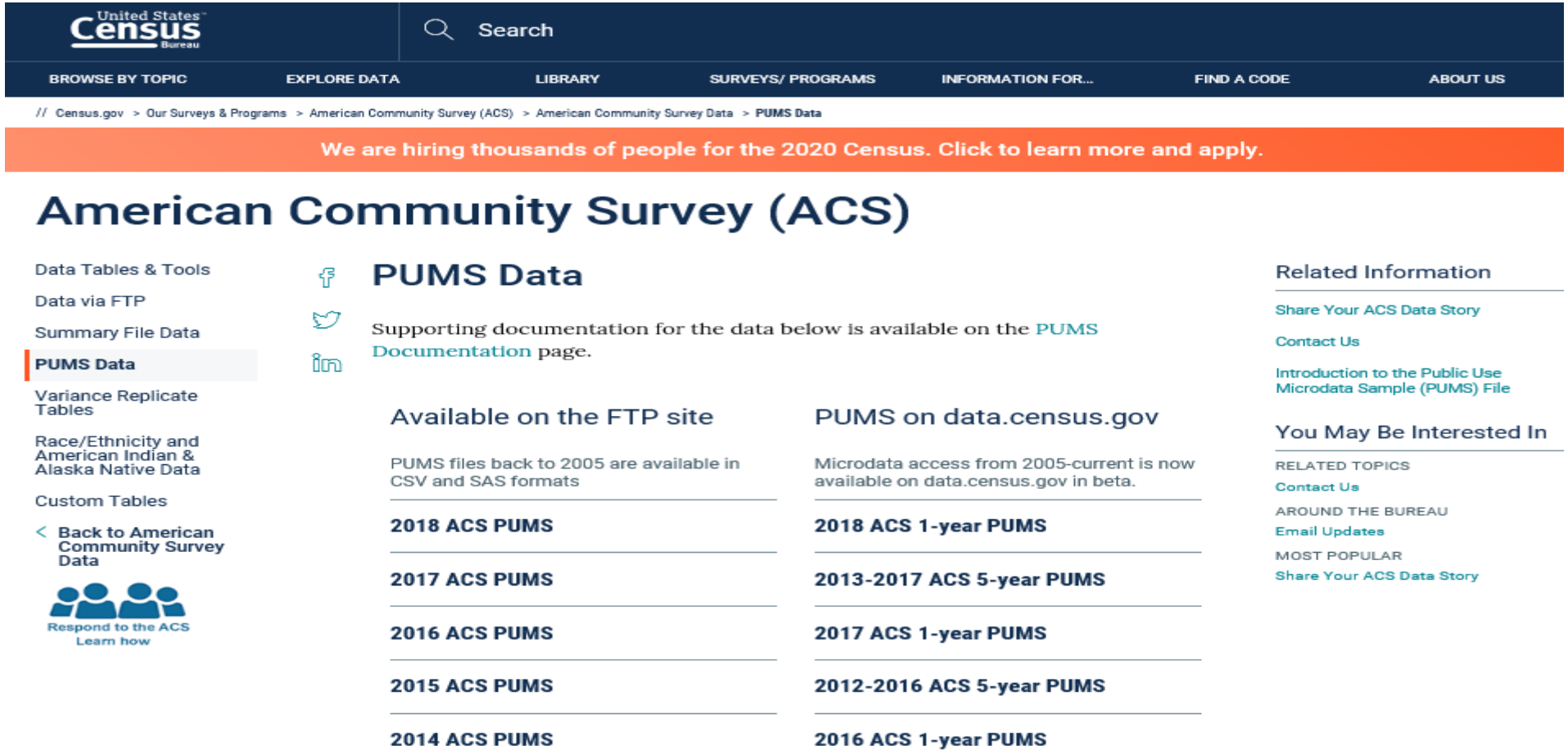
PUMS Data on the ACS site



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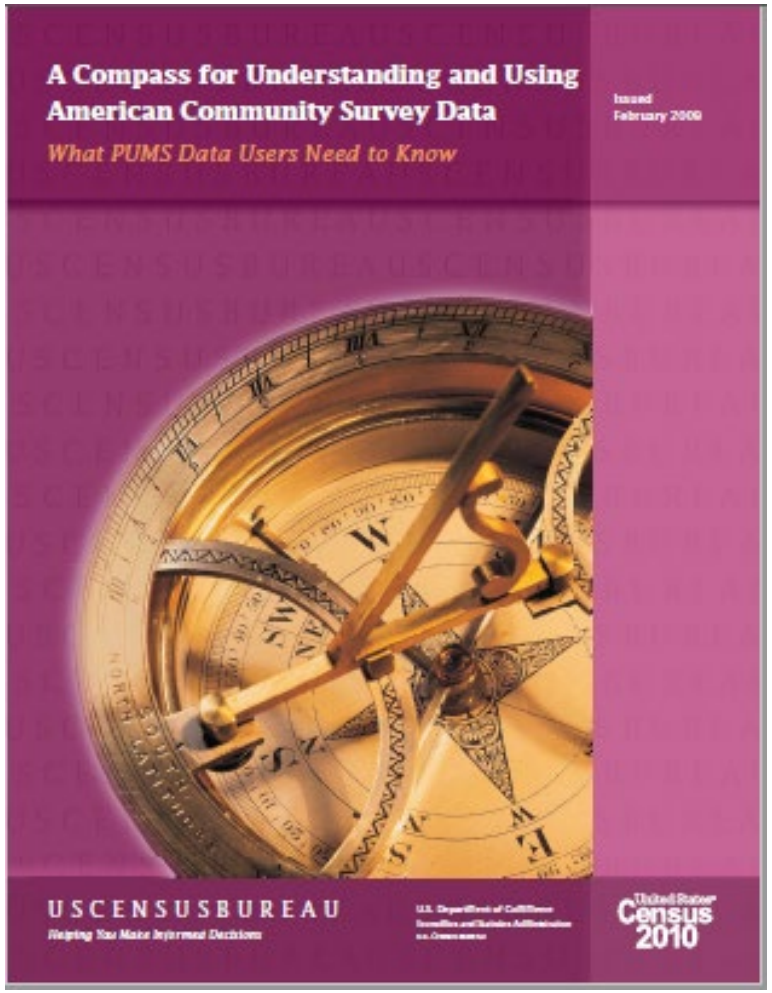
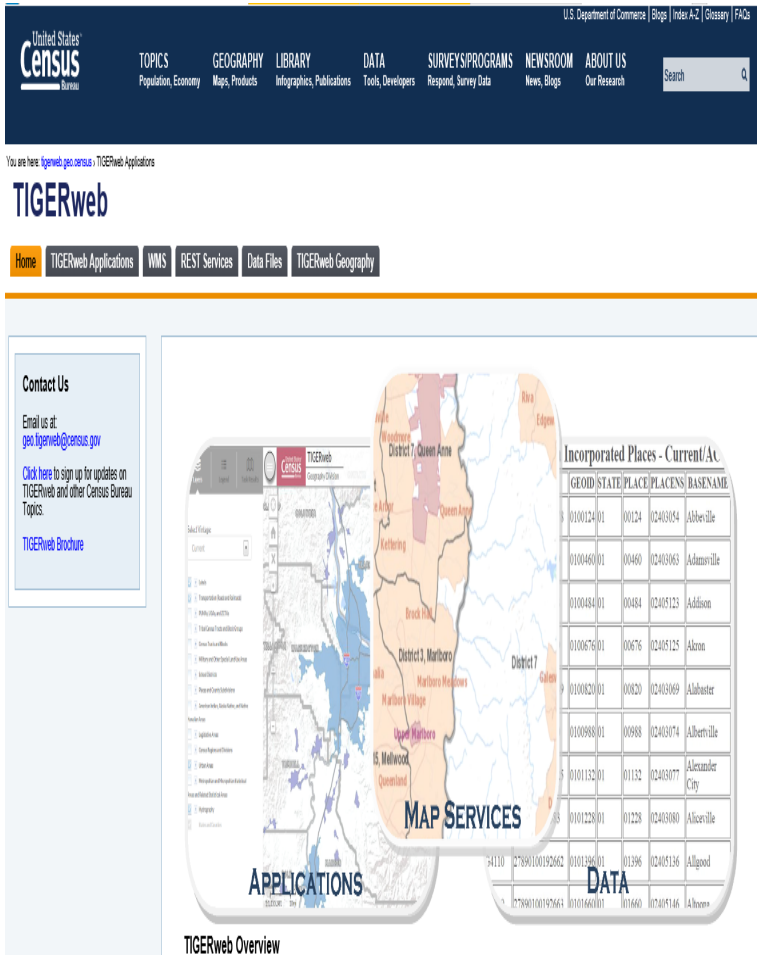
PUMS and ACS

Summary products, such as the tables and profiles accessible via American FactFinder (AFF), show data that have already been tabulated for specific geographic areas.

Component ID: #ti1920935079

PUMS files, in contrast, include population and housing unit records with individual response information such as relationship, sex, educational attainment, and employment status





https://www.census.gov/content/dam/Census/library/publications/2009/acs/ACSPUMS.pdf

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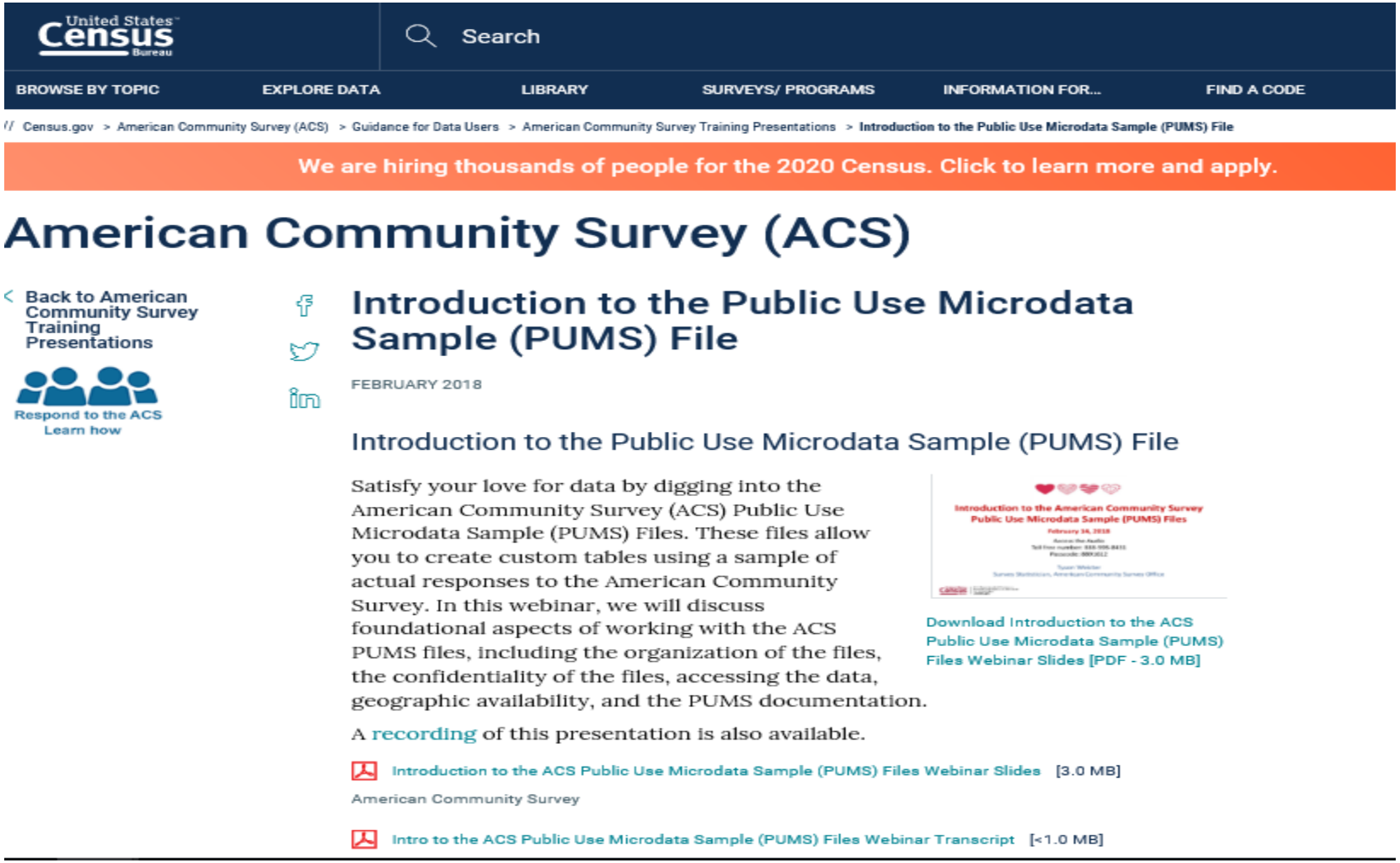
PUMS and ACS



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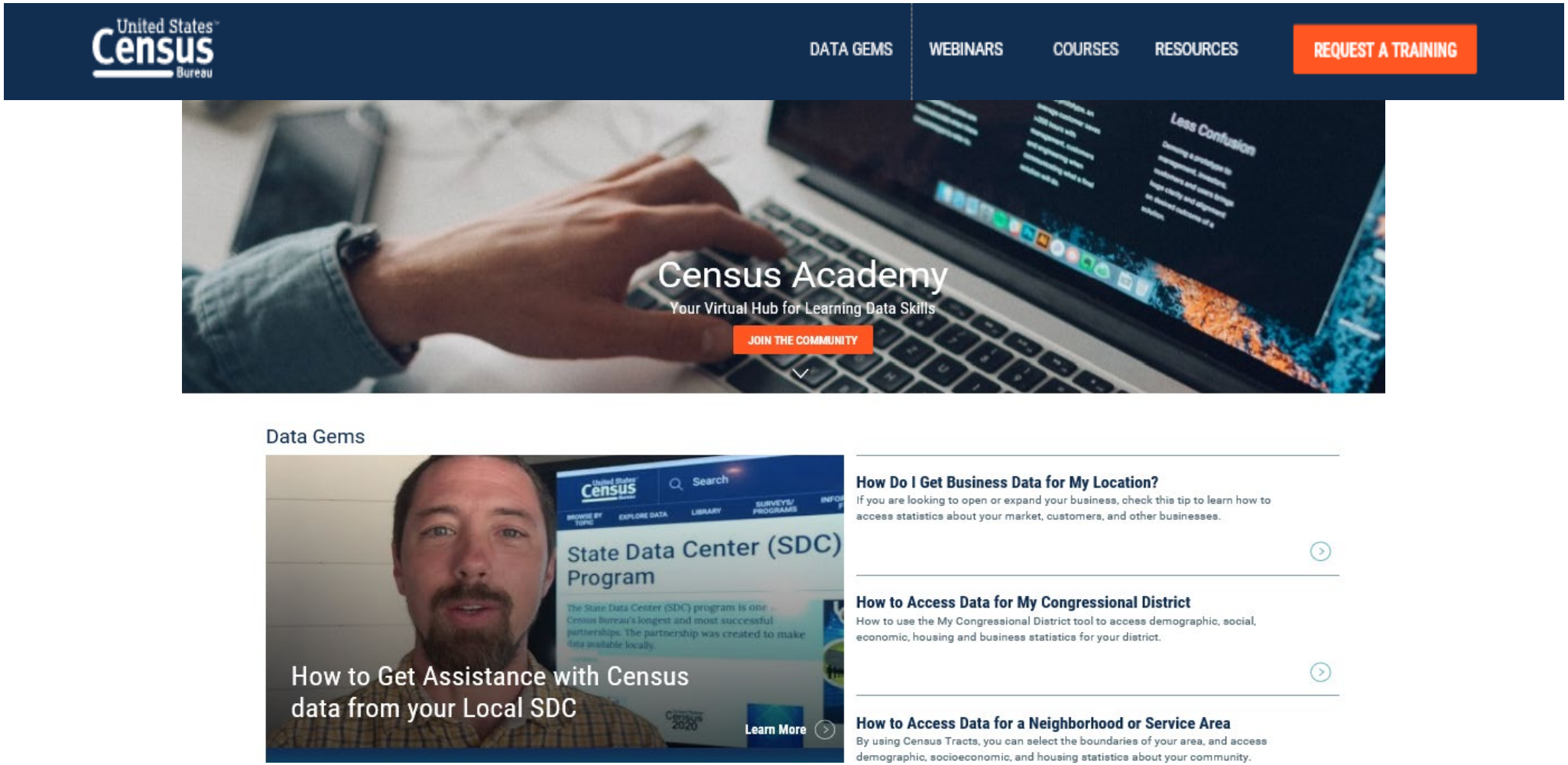
Census Academy for Continued Learning



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More information online:
census.gov/acs

Census Customer Service Center
800-923-8282

Social media: @uscensusbureau
#ACSdata

acso.users.support@census.gov

Source Us:

U.S. Census Bureau's [YYYY – YYYY] American Community Survey
[1/3/5]-year [estimates/statistics/data release]

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Data Tell Stories. Tell us Yours!

Your story

Your data details

Your outcome

census.gov/acs/www/share-your-story

AMERICAN COMMUNITY SURVEY DATA USERS GROUP

- Purpose:
  - Improve understanding of the value and utility of ACS data.
  - Promote information sharing among data users about key ACS data issues and applications.
- Membership is free and open to all interested ACS data users
- Users group website and online community
- ACS Data Users Conferences

acsdatacommunity.prb.org

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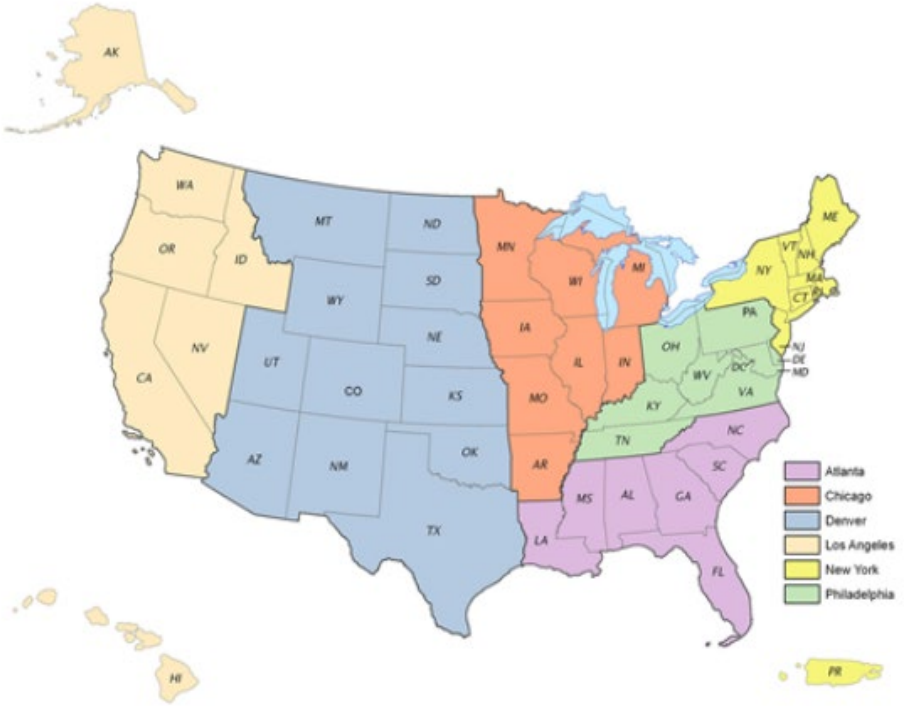
Need Local Stats?

- FREE Assistance Near You!
  Our regional data staff can help you access local statistics from the ACS or offer training to help build your skills.
- Contact us at:

  1-844-ASK-DATA

  (1-844-275-2382)

  census.askdata@census.gov



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Questions?