

Introduction to American Community Survey (ACS)

Hsueh-Sheng Wu
CFDR Workshop Series
January 29, 2025

BGSU



Center for
**Family and
Demographic** Research

Overview

- What is American Community Survey (ACS)?
- Differences between Census and ACS
- Different Estimates of ACS
- Content of ACS
- Geographic hierarchy in ACS
- Weighting ACS data
- Impacts of the pandemic (2020-2023) on ACS data
- Navigate ACS website
- Data analysis using Application Programming Interface (API)
- Data analysis using Public Use Microdata Sample (PUMS)
- Conclusions

What Is ACS?

- ACS is a large annual survey of people in the United States and Puerto Rico. ACS is designed to replace the long form of decennial Census survey.
- ACS collects data from about 3.5 million respondents from sampled households and group quarters between January 1 and December 31 of the survey year. Therefore, each ACS survey provides the average characteristics of the population in a geographic area over one year. ACS can also be pooled together and used to describe the average population characteristics over a longer period of time.
- Five stages of ACS:
 - Demonstration Period: Census Bureau conducted ACS survey in 4, 8, and 9 sites in 1996, 1997, and 1998, respectively, to evaluate costs, procedures, and data usages.
 - Comparison Period: Census Bureau compared differences in data collected by ACS and the long-form of Census 2000 in 36 cites in each year from 1999 to 2002.
 - Supplementary Period: 700,000 residential addresses from 1,204 sites were added each year from 2002 to 2004 and used to compare the estimates from ACS and Census 2000 for states or geographic areas with more than 250,000 persons.
 - Full Implementation: Since 2005, ACS has been conducted in every county of United States.
 - Continuous Improvement Stage (ongoing): The Census Bureau continually reviews and updates the ACS design and methodology based on research and feedback to ensure data accuracy and relevance.

Differences between Census and ACS

Table 1. Differences between Decennial Census and ACS

	Decennial Census	American Community Survey
Purpose	provide an official count of the entire U.S. population to Congress.	provide up-to-date sample estimates of the social, economic, housing, and demographic characteristics
Inception Year	1790	2005
Frequency	Every 10 years	Every year
Residence definition	Resident living at the sampled address on April 1 of the survey year	Residents living at the sampled address for more than 2 month
Reference time period	March through June time period	Full calendar year
Sample size	all the U.S. citizens (e.g., 300.7 million in 2010)	a probability sample of the U.S. citizens (e.g., 3.06 millions in 2010)
Applications	Congressional apportionment and state redistricting	measuring social, economic, housing needs of individuals at the national, regional, state, or county level.

Different Estimates of ACS

Table 2. Different Estimates in ACS

Characteristics	1-year estimates	1-year supplemental estimates	3-year estimates*	5-year estimates
Time Period	12 months of collected data <i>Example:</i> 2018 ACS 1-year estimates <i>Date collected between:</i> January 1, 2018 and December 31, 2018	12 months of collected data <i>Example:</i> 2018 ACS 1-year supplemental estimates <i>Date collected between:</i> January 1, 2018 and December 31, 2018	36 months of collected data <i>Example:</i> 2011-2013 ACS 3-year estimates <i>Date collected between:</i> January 1, 2011 and December 31, 2013	60 months of collected data <i>Example:</i> 2014-2018 ACS 5-year estimates <i>Date collected between:</i> January 1, 2014 and December 31, 2018
Availability	Data for areas with populations of 65,000+	Data for areas with populations of 20,000+	Data for areas with populations of 20,000+	Data for all areas
Data Release	Annually released: 2005-present	Annually released: 2014-present	Annually released: 2007-2013	Annually released: 2009-present
Reliability	Less reliable than 3-year or 5-year	Less reliable than 5-year	More reliable than 1-year; less reliable than 5-year	Most reliable
Currency	Most current data	Most current data	Less current than 1-year estimates; more current than 5-year	Least current
When to use	Currency is more important than precision Analyzing large populations	Currency is more important than precision Analyzing smaller populations Examining smaller geographies because the standard 1-year estimates are not available	More precise than 1-year, spans fewer years than 5-year Analyzing smaller populations Examining smaller geographies because the standard 1-year estimates are not available	Precision is more important than currency Analyzing very small populations Examining tracts and other smaller geographies because 1-year estimates are not available

* The 3-year estimates discontinued after 2013

** <https://www.census.gov/programs-surveys/acs/guidance/estimates.html>

Content of ACS

Table 3. The Subjects included in ACS

Population		Housing
Social	Demographic	
Ancestry	Age; Sex	Bedrooms
Citizen Voting-Age	Group Quarters	Computer and Internet Use
Citizenship Status	Hispanic or Latino Origin	House Heating Fuel
Disability Status	Race	Kitchen Facilities
Educational Attainment	Relationship to Householder	Occupancy/Vacancy Status
Fertility	Total Population	Occupants per Room
Grandparents as Caregivers		Plumbing Facilities
Language Spoken at Home	Economic	Rent
Marital History	Class of Worker	Rooms
Marital Status	Commuting (Journey to Work) and Place of Work	Selected Monthly Owner Costs
Migration/Residence 1	Employment Status	Telephone Service Available
Place of Birth	Food	Tenure (Owner/Renter)
School Enrollment	Health Insurance	Units in Structure
Undergraduate Field of Degree	Income and Earnings	Value of Home
Veteran Status; Period of Military Service	Industry	Vehicles Available
Year of Entry	Occupation	Year Householder Moved Into Unit
	Poverty Status	Year Structure Built
	Work Status Last Year	

Source: Subjects Included in the Survey

<https://www.census.gov/programs-surveys/acs/guidance/subjects.html>

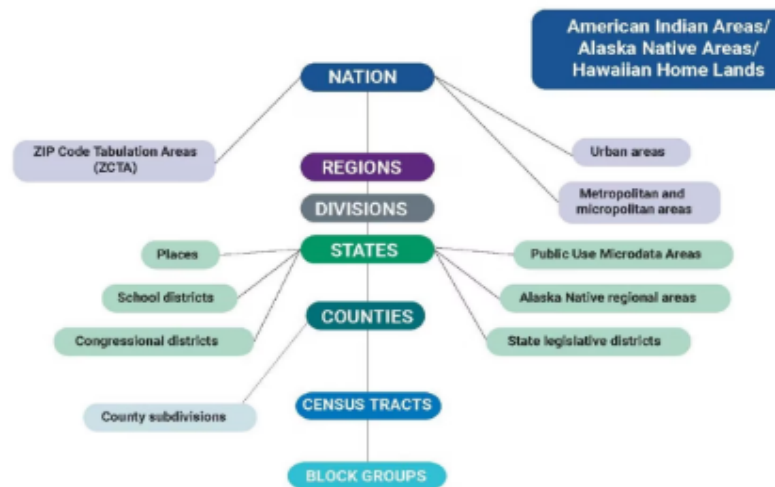
Geographic Hierarchy in ACS

<https://www.census.gov/programs-surveys/acs/geography-acs/concepts-definitions.html>

Geographic Hierarchy

Geographic areas are organized in a **geographic hierarchy**. Larger units, like states, include smaller units, like counties and census tracts. This structure is derived from the legal, administrative, or areal relationships of the entities.

Hierarchy of Select Geographic Entities in the American Community Survey



Notes:

This graphic does not represent the full set of entities for which the ACS publishes data.

This geographic hierarchy influences how the Census Bureau identifies geographic areas. A system of **geocodes** - numeric codes - are used to represent specific geographic areas.

BGSU



Center for Family and Demographic Research

Weighting ACS Data

- ACS collects data from a sample of people living in the United States and Puerto Rico. Therefore, ACS data need to be weighted to get the accurate housing units and population estimates and their standard errors.
- PUMS household weights (WGTP) are used for producing housing unit estimates, while household replicate weights (WGTP1-WGTP80) are used for calculating standard errors at the household level.
- PUMS person weights (PWGTP) are used for producing population estimates, while population replicate weights (PWGTP1-PWGTP80) are used for standard errors at the population level.
- Because the impact of pandemic on the data quality of 2020 ACS, experimental weights (EXPWTH and EXPWTP) should be used to create the one-year estimate of 2020 ACS.
- The 5-year ACS data (2016-2020, 2017-2021, 2018-2022, and 2019-2023)) are analyzed, using the regular ACS weight variables.

Impacts of the Pandemic (2020-2023) on ACS data

- The pandemic started in 2020 and significantly affected data collection and quality in the 2020 ACS, influencing sample sizes, response rates, and coverage rates across different respondent groups (see <https://www.census.gov/acs/www/methodology/sample-size-and-data-quality/>). While some impacts were negative, others varied by group. For example, the coverage rate was lower for non-Hispanic Blacks but higher for American Indians, non-Hispanic Alaska Natives, and non-Hispanic Asians.
- The 2020 ACS 1-year experimental data must be weighted using experimental weights (<https://www.census.gov/programs-surveys/acs/data/experimental-data.html>). The Census Bureau advises against comparing the 2020 ACS PUMS 1-year file to other ACS PUMS sample years.
- Starting in 2021, ACS data weights have been adjusted to address potential pandemic-related data quality issues, and no experimental weights are provided.

Navigate ACS webiste

- <https://www.census.gov/programs-surveys/acs>

The screenshot shows the official website of the American Community Survey (ACS) by the United States Census Bureau. The top navigation bar includes links for Partners, Researchers, Educators, Survey Respondents, News, NAICS Codes, Jobs, About Us, Contact Us, and Help. The main menu features Topics, Data & Maps, Surveys & Programs (which is highlighted), and Resource Library. A search bar is located on the right side of the header.

On the left side, there is a sidebar titled "Within Our Survey & Programs" with a list of links: About the ACS, Respond to the ACS, News & Updates, Data, Microdata, Guidance for Data Users, Geography & ACS, Technical Documentation, Research & Methodology, Information For..., Library, and Contact Us. Below this sidebar is a call to action for the "ACS DATA USERS GROUP" with a logo consisting of a semi-circle of blue and orange dots.


The main content area is titled "American Community Survey (ACS)" and includes a brief description: "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." To the right of this text is a video thumbnail showing a group of people in a classroom setting.

Below the main title, there are several sections with expandable arrows:

- 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.
- American Community Survey Data**: The American Community Survey releases new data every year in the form of estimates, in a variety of tables, tools, and analytical reports.
- Subscribe**: Subscribe to GovDelivery email updates to stay up-to-date on the latest news and events about the American Community Survey.
- Data**: View More
- 2023 Data Release**: Learn more about 2023 ACS data releases, including the latest release of new 2019-2023 ACS 5-year PUMS files and Variance Replicate Estimate Tables.

Navigate ACS website (continued)

<https://www.census.gov/programs-surveys/acs/data.html>



[Partners](#) [Researchers](#) [Educators](#) [Survey Respondents](#) [News](#) [NAICS Codes](#) [Jobs](#) [About Us](#) [Contact Us](#)

[Topics](#) [Data & Maps](#) [Surveys & Programs](#) [Resource Library](#)

Within American Community Survey (ACS)

Custom Tabulations

Data Tables

Data Tools

Data via API

Data via FTP

Equal Employment Opportunity (EEO)

Experimental Data

Race, Ethnicity, Ancestry and American Indian & Alaska Native Tables

Summary File

Variance Replicate Estimate Tables

// Census.gov / Our Surveys & Programs / American Community Survey (ACS) / ACS Data

American Community Survey Data

The American Community Survey (ACS) releases new data every year through a variety of data tables that you can access with different data tools. Learn more about the different types of tables and profiles powered by ACS data. We also have information about other special datasets, such as the ACS Experimental Data, ACS Summary File, and ACS Public Use Microdata Sample (PUMS) files.

Get Started Accessing ACS Data

Check out data.census.gov, the Census Bureau's main data dissemination tool. Here, you can access tables and maps with ACS data. You can also view [data.census.gov Resources](#) for step-by-step guidance, video tutorials, FAQs, and more.

GO TO DATA.CENSUS.GOV

[data.census.gov Resources](#)


Share

[Facebook](#) [X\(Twitter\)](#) [LinkedIn](#)

Related Information


[DATA](#)
[Data](#)
[data.census.gov Resources](#)

[DATA TOOL](#)
[Census Survey Explorer](#)

Demographic Research

Navigate ACS website (continued)

<https://www.census.gov/programs-surveys/acs/data/data-via-api.html>



Partners Researchers Educators Survey Respondents

Topics Data & Maps Surveys & Programs Resource Library

News NAICS Codes Jobs About Us Contact Us Help

Search data, events, resources, and more

Within Data

Custom Tabulations

Data Tables

Data Tools

Data via API

Data via FTP

Equal Employment Opportunity (EEO)

Experimental Data

Race, Ethnicity, Ancestry and American Indian & Alaska Native Tables

Summary File

Variance Replicate Estimate Tables

American Community Survey Data via API

The Census Bureau's Application Programming Interface (API) is a tool that you can use to access American Community Survey (ACS) data more efficiently. It reduces the need for data storage and provides users with a set of standard commands to easily access statistics that can be incorporated into their programs and applications. You can also use it to create simple queries to access ACS data through an internet browser. Learn more about how to access ACS datasets via the API, as well as resources to learn more about using the API.

1 Identify the dataset you want to use

2 Identify items needed

3 Request the variables and geographies

4 Put it all together

Final Query

Download Building an API Query for ACS [PDF - <1.0 MB]

Share

Facebook X(Twitter) LinkedIn

Related Information

Developers

data.census.gov Resources

Census Data API User Guide

On this page

Find ACS Data Available in the API

Take the Intro to the API Course

Video Tutorials on Using the API with the ACS

More ACS Resources for API

JOIN THE ACS DATA USERS GROUP

BGSU



Center for
Demographic Research

Navigate ACS website (continued)

<https://www.census.gov/data/developers.html>

United States[®]
Census
Bureau

About Available APIs Guidance Latest Releases

Search data, events, resources, and more 🔍

// Census.gov / Data / Developers

Share Facebook X(Twitter) LinkedIn

Developers

[REQUEST A KEY](#)

The Census Bureau has begun rolling out our datasets via APIs. Check out our [Discovery Tool](#). Sign up for our [newsletter](#) to get the latest updates and newest dataset addition. We also invite you to make requests for features / data via our [forum](#).

[Read More](#)

Developers' Forum

Need help? Check out our Developer Forum to submit questions, share

Courses

Module 1: Introduction to API's and Census Bureau Data

Introduction to the Census Bureau Data API

July 2024

Guidance for Developers

This page provides developers and researchers on how to use the Census

Request A Key

Submit Key Request

Navigate ACS website (continued)

<https://www.census.gov/data/developers/data-sets/acs-1year.html>

American Community Survey Supplemental Data

The American Community Survey (ACS) is an ongoing survey that provides data every year—giving communities the current information they need to make important decisions. The ACS covers a broad range of topics about social, economic, housing, and demographic characteristics of the U.S. population.

Supplemental Estimates are a subset of simplified Detailed Tables providing access to the most recent ACS data at a lower population threshold than the standard 1-year tables. Supplemental Estimates are available for geographic areas with populations of **20,000 or more**.

To create an API call, you must enter a specific URL into the address bar of a web browser. The call will vary depending on the following factors:

- Year of data release
- Dataset (ACS 1-year or 5-year)
- Table ID
- Geography level

Please review the example API calls for each of the table types listed below and use those examples to build your API calls. API calls are also available [for tables found in data.census.gov](#) by selecting the API function in the tool bar. Visit the [API Resources page](#) for tutorial videos, workshops and other tools.

The API is one of several ways to access ACS data. Visit the [ACS Data page](#) to find all the ways to access ACS data.

[2023](#) [2022](#) [2021](#) [2020](#) [2019](#) [More](#) ▾

2023

2023 1-Year Supplemental Estimates

- API Example Call: api.census.gov/data/2023/acs/acsse?get=NAME,K200101_001E&for=state:*&key=YOUR_KEY_GOES_HERE
- 2023 1-Year Supplemental Estimates Variables [[html](#) | [xml](#) | [json](#)]
- [ACS Technical Documentation](#)
- [Examples and Supported Geography](#)

Data Analysis Using API

Data obtained from Application Programming Interface (API)

- Users do not really access nor analyze ACS data. Instead, users submit their queries via the internet browser, and the Census website conducts the analysis
- Users need to know exactly how to specify their queries to get the tables they want.
- With API, users can customize the ACS tables published on the Census website.
- The API may not be able to generate the table for complex multivariable models.

Data Analysis Using API (Cont.)

- Generating a data profile with the one-year estimate of ACS 2023
- <https://api.census.gov/data/2023/acs/acs1/profile.html>

Title	Description	Vintage	Dataset Name	Dataset Type	Geography List	Variable List	Group List	SortList	Examples	Developer Documentation	API Base URL
ACS 1-Year Data Profiles	The American Community Survey (ACS) is a US-wide survey designed to provide communities a fresh look at how they are changing. The ACS replaced the decennial census long form in 2010 and thereafter by collecting long form type information throughout the decade rather than only once every 10 years. Questionnaires are mailed to a sample of addresses to obtain information about households -- that is, about each person and the housing unit itself. The American Community Survey produces demographic, social, housing and economic estimates in the form of 1 and 5-year estimates based on population thresholds. The strength of the ACS is in estimating population and housing characteristics. The data profiles provide key estimates for each of the topic areas covered by the ACS for the us, all 50 states, the District of Columbia, Puerto Rico, every congressional district, every metropolitan area, and all counties and places with populations of 65,000 or more. Although the ACS produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the US, states, counties, cities and towns, and estimates of housing units for states and counties. For 2010 and other decennial census years, the Decennial Census provides the official counts of population and housing units.	2023	acs1 profile	Aggregate	geographies	variables	groups	sorts	examples	documentation	http://api.census.gov/data/2023/acs/acs1/profile
1 dataset											

Data Analysis Using API (Cont.)

- Household type for all congressional districts in the U.S.

https://api.census.gov/data/2023/acs/acs1/profile?get=NAME,DP02_0001E&for=congressional%20district:*&in=state:*

- Household type for all congressional districts in the state of Texas

https://api.census.gov/data/2023/acs/acs1/profile?get=NAME,DP02_0001E&for=congressional%20district:*&in=state:48


- Percent of vehicle availability in congressional districts of Texas

https://api.census.gov/data/2023/acs/acs1/profile?get=NAME,DP04_0058PE&for=congressional%20district:*&in=state:48

- Household type and percent of vehicle availability in congressional districts of Texas

https://api.census.gov/data/2023/acs/acs1/profile?get=NAME,DP04_0058PE,DP02_0001E&for=congressional%20district:*&in=state:48

Navigate ACS website (continued)



Partners Researchers Educators Survey Respondents

News NAICS Codes Jobs About Us Contact Us Help

Topics Data & Maps Surveys & Programs Resource Library

Search data, events, resources, and more

Within Data

Custom Tabulations

Data Tables

Data Tools

Data via API

Data via FTP

Equal Employment Opportunity (EEO)

Experimental Data

Race, Ethnicity, Ancestry and American Indian & Alaska Native Tables

Summary File

Variance Replicate Estimate Tables

// Census.gov / Our Surveys & Programs / American Community Survey (ACS) / ACS Data / ACS Data via FTP




American Community Survey Data via FTP

The Census Bureau produces downloadable American Community Survey (ACS) data files, as well as other materials, on the Census Bureau's [file transfer protocol \(FTP\)](#) server.

Files on the FTP server are **intended for advanced users**. You can learn about other ways to access ACS data on the [Data Tables & Tools](#) page.

American Community Survey directories are located on the FTP server at www2.census.gov/programs-surveys/acs/. If you are using a **FTP client**, the server address is [ftp2.census.gov](ftp://ftp2.census.gov). You do NOT need a user name and password. If prompted for one, use "anonymous" as the user name, and no password. The ACS directories contain:

Share


  

Related Information

[Share Your ACS Data Story](#)

[Contact Us](#)

Item	Year(s)	Link
Experimental Data	2020	programs-surveys/acs/experimental/
Summary Files	2005-present	programs-surveys/acs/summary_file/
Public Use Microdata Sample (PUMS) Files	1996-present	programs-surveys/acs/data/pums/
Variance Replicate Estimate Tables	2014-present	programs-surveys/acs/replicate_estimates/
Table Shells	2004-present	programs-surveys/acs/tech_docs/table_shells
Data Tables	1996-	program-surveys/acs/data/archive



JOIN THE
**ACS DATA
USERS GROUP**

Data Analysis Using PUMS

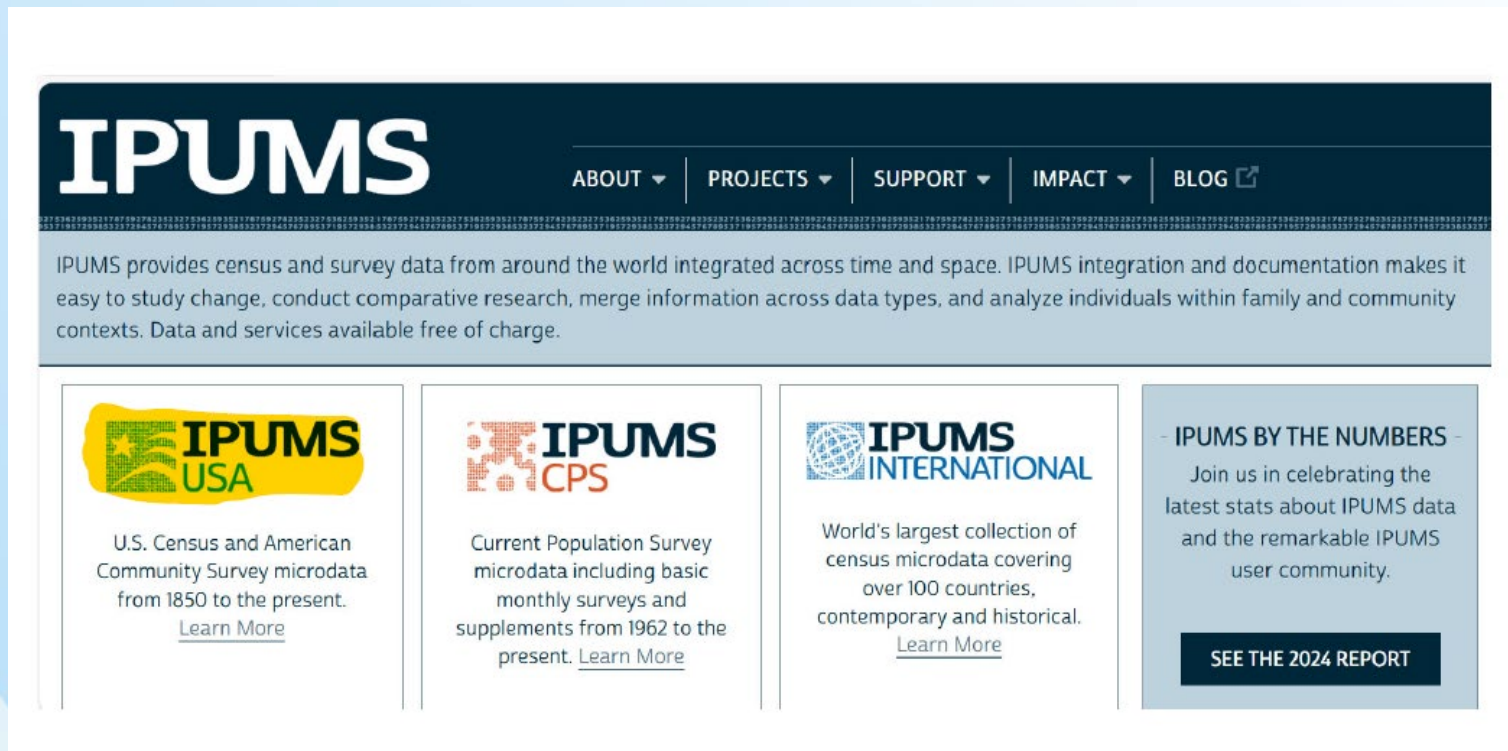
- Researchers may be interested in certain research questions that data tools on the Census Bureau webpage cannot answer. Thus, researchers need to analyze ACS data themselves.
- Census Bureau releases data from about two-thirds of the ACS respondents (i.e., PUMS) for public use. Therefore, the results of using ACS PUMS files may be different from those found from API.
- Values of some variables in PUMS files are masked or edited to prevent respondents from being identified, for example, income, mortgage, rent, utilities, property taxes, home values, property insurance costs, number of rooms and bedrooms, age, travel time to work, and hours worked.
- The one-year 2023 ACS data and 5-year ACS data (2019-2023) are the latest ACS data and have been released in January, 2025.

Obtaining ACS PUMS Data

- PUMS data can be downloaded from two websites:
 - Census Bureau FTP server
<https://www2.census.gov/programs-surveys/acs/data/pums/>
 - <https://www2.census.gov/programs-surveys/acs/experimental/>
 - Minnesota Population Center
(<https://usa.ipums.org/usa/index.shtml>)
 - SAS data file are available at the Census Bureau FTP server, and the command files for creating SPSS, SAS, Stata, and R data files are available at the IPUMS website.

Obtaining ACS PUMS Data (Cont.)

Using the IPUMS website (<https://www.ipums.org/>)



The screenshot shows the IPUMS website homepage. At the top is a dark blue header with the IPUMS logo in white. To the right of the logo are navigation links: ABOUT, PROJECTS, SUPPORT, IMPACT, and BLOG. Below the header is a light blue banner with the text: "IPUMS provides census and survey data from around the world integrated across time and space. IPUMS integration and documentation makes it easy to study change, conduct comparative research, merge information across data types, and analyze individuals within family and community contexts. Data and services available free of charge." Below the banner are four white boxes with rounded corners. The first box is for IPUMS USA, featuring a yellow and green logo and text about U.S. Census and American Community Survey microdata from 1850 to the present, with a "Learn More" link. The second box is for IPUMS CPS, featuring a red and white logo and text about Current Population Survey microdata including basic monthly surveys and supplements from 1962 to the present, with a "Learn More" link. The third box is for IPUMS INTERNATIONAL, featuring a blue and white logo and text about the world's largest collection of census microdata covering over 100 countries, contemporary and historical, with a "Learn More" link. The fourth box is titled "IPUMS BY THE NUMBERS" and contains text about celebrating the latest stats about IPUMS data and the remarkable IPUMS user community, with a "SEE THE 2024 REPORT" button.

IPUMS

ABOUT | PROJECTS | SUPPORT | IMPACT | BLOG

IPUMS provides census and survey data from around the world integrated across time and space. IPUMS integration and documentation makes it easy to study change, conduct comparative research, merge information across data types, and analyze individuals within family and community contexts. Data and services available free of charge.

IPUMS USA

U.S. Census and American Community Survey microdata from 1850 to the present. [Learn More](#)

IPUMS CPS

Current Population Survey microdata including basic monthly surveys and supplements from 1962 to the present. [Learn More](#)

IPUMS INTERNATIONAL

World's largest collection of census microdata covering over 100 countries, contemporary and historical. [Learn More](#)

IPUMS BY THE NUMBERS

Join us in celebrating the latest stats about IPUMS data and the remarkable IPUMS user community.

[SEE THE 2024 REPORT](#)

Obtaining ACS PUMS Data (Cont.)

WELCOME, HSUEH-SHENG | [ACCOUNT](#) | [LOG OUT](#) | [IPUMS.ORG](#)

IPUMS USA

[HOME](#) | [SELECT DATA](#) | [MY DATA](#) | [SUPPORT](#)



IPUMS USA
[ABOUT](#)
[REGISTER](#)
[DONATE TO IPUMS](#)

DATA
[BROWSE AND SELECT DATA](#)
[ANALYZE DATA ONLINE](#)
[IPUMS ABACUS](#)
[DOWNLOAD OR REVISE MY DATA](#)

SUPPLEMENTAL DATA
[GEOGRAPHY & GIS](#)
[LINKED CENSUS DATA: 1850-1950](#)
[ENSLAVED PERSONS: 1850-1860](#)
[MORTALITY CENSUSES: 1850-1880](#)
[FULL COUNT DATA: 1790-1840](#)
[FEDERAL STATISTICAL RDC](#)

DOCUMENTATION
[USER GUIDE](#)
[SAMPLE DESCRIPTIONS](#)
[QUESTIONNAIRES](#)
[PUBLISHED CENSUS VOLUMES](#)
[FULL COUNT DATA](#)
[REVISION HISTORY](#)

U.S. CENSUS DATA FOR SOCIAL, ECONOMIC, AND HEALTH RESEARCH

IPUMS USA collects, preserves and harmonizes U.S. census microdata and provides easy access to this data with enhanced documentation. Data includes decennial censuses from 1790 to 2010 and American Community Surveys (ACS) from 2000 to the present.

USE IT FOR GOOD -- NEVER FOR EVIL

— **CREATE YOUR CUSTOM DATA SET** —

Get Data

— **ONLINE TOOL FOR ANALYSIS** —

Analyze Data Online

WHAT IS IPUMS?

IPUMS provides census and survey data from around the world integrated across time and space. IPUMS integration and documentation makes it easy to study change, conduct comparative research, merge information across data types, and analyze individuals within family and community context. Data and services available free of charge.

Obtaining ACS PUMS Data (Cont.)

SELECT SAMPLES

Variable documentation on the web site can be filtered to display only material corresponding to chosen datasets ([more information](#) on this feature).

SUBMIT SAMPLE SELECTIONS

USA SAMPLES

USA FULL COUNT

PUERTO RICO

☒ Default sample from each year

2023	<input checked="" type="checkbox"/> ACS		
2022	<input checked="" type="checkbox"/> ACS	<input type="checkbox"/> ACS 5yr	
2021	<input checked="" type="checkbox"/> ACS	<input type="checkbox"/> ACS 5yr	
2020	<input type="checkbox"/> ACS ⁱ	<input type="checkbox"/> ACS 5yr ⁱ	
2019	<input type="checkbox"/> ACS	<input type="checkbox"/> ACS 5yr	
2018	<input type="checkbox"/> ACS	<input type="checkbox"/> ACS 5yr	
2017	<input type="checkbox"/> ACS	<input type="checkbox"/> ACS 5yr	
2016	<input checked="" type="checkbox"/> ACS	<input type="checkbox"/> ACS 5yr	
2015	<input type="checkbox"/> ACS	<input type="checkbox"/> ACS 5yr	
2014	<input type="checkbox"/> ACS	<input type="checkbox"/> ACS 5yr	
2013	<input type="checkbox"/> ACS	<input type="checkbox"/> ACS 3yr	<input type="checkbox"/> ACS 5yr
2012	<input type="checkbox"/> ACS	<input type="checkbox"/> ACS 3yr	<input type="checkbox"/> ACS 5yr
2011	<input checked="" type="checkbox"/> ACS	<input type="checkbox"/> ACS 3yr	<input type="checkbox"/> ACS 5yr

Obtaining ACS PUMS Data (Cont.)

WELCOME, HSUEH-SHENG | ACCOUNT | LOG OUT | IPUMS.ORG

IPUMS USA

HOME | SELECT DATA | MY DATA | SUPPORT

DATA CART
YOUR DATA EXTRACT
0 VARIABLES
21 SAMPLES
[VIEW CART](#)

[CHANGE SAMPLES](#)

SELECT HARMONIZED VARIABLES

HOUSEHOLD PERSON A-Z SEARCH

☒ HARMONIZED VARIABLES [?](#)
☐ SOURCE VARIABLES

[DISPLAY OPTIONS](#) [HELP](#)


AN "X" INDICATES THE VARIABLE IS AVAILABLE IN THAT DATASET.

DEMOGRAPHIC VARIABLES -- PERSON [TOP](#)

Add to cart	Variable	Variable Label	Type	Codes	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	2000	
					acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	5pct	
+	RELATE	Relationship to household head	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
+	IMPREL	Imputed relationship to household head	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
+	SEX	Sex	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
+	AGE	Age	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
+	AGEORIG	Age (original version)	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	?	X	X	X	X	-	-	-	X	
+	AGEMONTH	Age in months	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
+	BIRTHMO	Month of birth	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
+	BIRTHQTR	Quarter of birth	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-
+	MARST	Marital status	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
+	BIRTHYR	Year of birth	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
+	MARRNO	Times married	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-
+	MARRINYR	Married within the past year	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-
+	YRMARR	Year married	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-
+	MARMONTH	Month married	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
+	MARQTR	Quarter of first marriage	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
+	AGEMARR	Age at first marriage	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
+	DURMARR	Duration of current marital status	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
+	DIVINYR	Divorced in the past year	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-
+	WIDINYR	Widowed in the past year	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-
+	WIDOW	Marriage ended by death	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
+	CONMARST	Consensual marriage, Puerto Rico	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
+	FERTYR	Children born within the last year	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
+	CHBORN	Children ever born	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
+	CHSURV	Children surviving	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Obtaining ACS PUMS Data (Cont.)

WELCOME, HSUEH-SHENG | [ACCOUNT](#) | [LOG OUT](#) | [IPUMS.ORG](#)



DATA CART
YOUR DATA EXTRACT
8 VARIABLES
21 SAMPLES

[HOME](#) | [SELECT DATA](#) | [MY DATA](#) | [SUPPORT](#)

DATA CART

[ADD MORE VARIABLES](#)
[CREATE DATA EXTRACT](#)
[ADD MORE SAMPLES](#)

[Clear Data Cart](#)

In cart	Variable	Variable Label	Type	Codes	2019 acs	2018 acs	2017 acs	2016 acs	2015 acs	2014 acs	2013 acs	2012 acs	2011 acs	2010 acs	2009 acs	2008 acs	2007 acs	2006 acs	2005 acs	2004 acs	2003 acs	2002 acs	2001 acs	2000 acs	2000 5pct
<input checked="" type="checkbox"/>	YEAR	Census year [preselected]	H	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<input checked="" type="checkbox"/>	SAMPLE	IPUMS sample identifier [preselected]	H	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<input checked="" type="checkbox"/>	SERIAL	Household serial number [preselected]	H	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<input checked="" type="checkbox"/>	CBSERIAL	Original Census Bureau household serial number [preselected]	H	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	.	.	.	.	.
<input checked="" type="checkbox"/>	HHWT	Household weight [preselected]	H	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<input checked="" type="checkbox"/>	CLUSTER	Household cluster for variance estimation [preselected]	H	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<input checked="" type="checkbox"/>	STRATA	Household strata for variance estimation [preselected]	H	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<input checked="" type="checkbox"/>	GQ	Group quarters status [preselected]	H	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<input checked="" type="checkbox"/>	PERNUM	Person number in sample unit [preselected]	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<input checked="" type="checkbox"/>	PERWT	Person weight [preselected]	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<input checked="" type="checkbox"/>	RELATE	Relationship to household head	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<input checked="" type="checkbox"/>	SEX	Sex	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<input checked="" type="checkbox"/>	AGE	Age	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<input checked="" type="checkbox"/>	AGEORIG	Age (original version)	P	codes	.	.	.	.	.	.	.	.	.	.	.	.	.	X	X	X	.	.	.	X
<input checked="" type="checkbox"/>	BIRTHQTR	Quarter of birth	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	.	.	.	.	.
<input checked="" type="checkbox"/>	MARST	Marital status	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<input checked="" type="checkbox"/>	BIRTHYR	Year of birth	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Analyzing ACS PUMS Data (Cont.)

See the attached Stata command files

- Merge household data with personal data
- Combine data files across multiple years
- Obtain the marital statuses of different age groups using personal weights
- The distribution of internet access by type of unit using household weights
- Multinomial logistic regression of marital status on age, using replicate weights

Conclusions

- ACS data allow researchers to gain an understanding of the demographic, social, and economic characteristics of the populations in the United States and Puerto Rico.
- ACS also allows for examining how these contextual characteristics change over time. However, before conducting such studies, researchers should ascertain that the definitions of the characteristics and geographic areas remain consistent across different time points..
- ACS is not a panel study and cannot examine intra-individual changes over time.
- The sizes of ACS data files are large. When using ACS data, you may want to select only the variables you need.
- The pandemic significantly influenced the data quality of the 2020 ACS. Thus, it is critical to use experimental weights to analyze 2020 ACS data, and the results should not be compared to one-year estimates from ACS collected in other years.
- For additional helps about ACS, you can contact Census Bureau at 1-844-275-3282 and census.askdata@census.gov, ask question at the data user group (<https://acsdatacommunity.prb.org/>), or come see me at room 5D, Williams Hall.