

June 26, 2024

American Community Survey Resources, Shortcuts, and Tools Workshop

Mary Ana McKay, PhD

Survey Statistician, Outreach and Education Branch

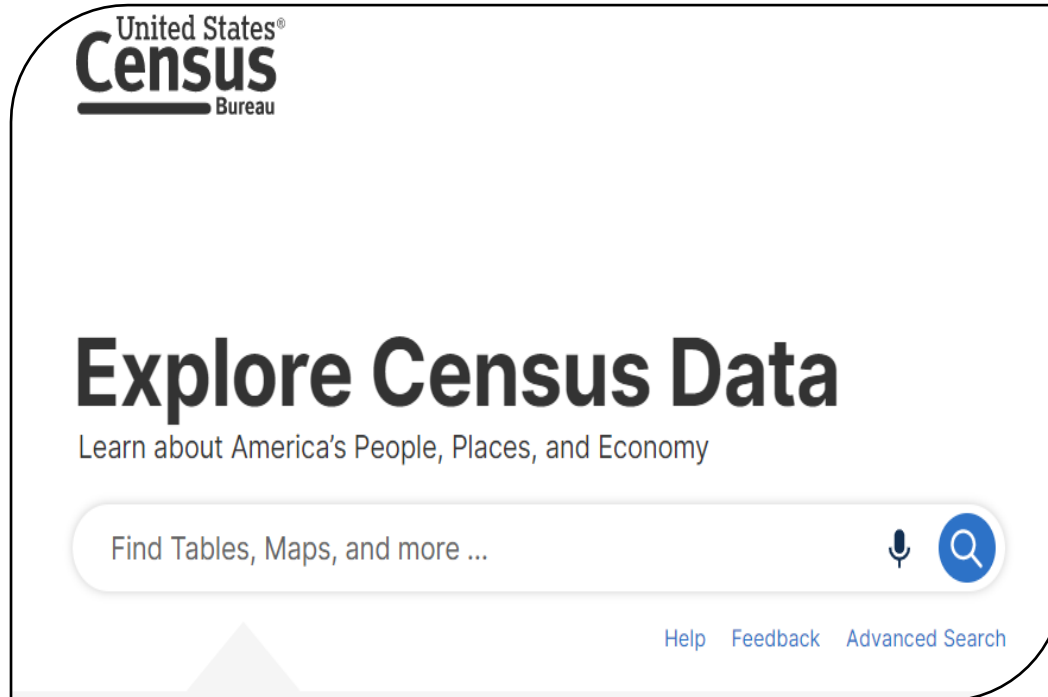
American Community Survey Office

- **Public Use Microdata Sample (PUMS)**
 - ACS PUMS basics
 - Run through of Microdata Access Tool
 - ACS PUMS resources

- **Application Programming Interface (API)**
 - ACS API basics
 - Run through of an API call
 - ACS API resources

American Community Survey Resources, Shortcuts, and Tools Workshop

Introducing data.census.gov



Features:

- Census Bureau's main data dissemination platform
- Filter by geography, surveys, topics, and years
- Download data files and/or create customized maps
- Includes ACS data from 2010 to present

data.census.gov

census.gov/data/what-is-data-census-gov.html

Introduction to the American Community Survey Public Use Microdata Sample (PUMS)

ACS Public Use Microdata Sample (PUMS)

Think about...

What are your main goals when accessing ACS data?

How do you access ACS data?

What limitations do you face accessing ACS data?

ACS Public Use Microdata Sample (PUMS)

Outline

- **ACS PUMS basics**
- Run through of Microdata Access Tool
- PUMS Resources

ACS Public Use Microdata Sample (PUMS)

Overview of PUMS

- PUMS stands for the Public Use Microdata Sample
 - Microdata file is a subsample of the full ACS records
 - 1-year (approximately 1% of U.S. households)
 - 5-year (approximately 5% of U.S. households)
 - Additional data disclosure measures are applied to PUMS to protect confidentiality
- PUMS allows data users to create their own estimates which may not be published in data.census.gov
- Statistical programs, such as SAS, R, Python, or STATA are recommended to calculate PUMS estimates and MOEs

ACS Public Use Microdata Sample (PUMS)

Using the PUMS

- Why use the PUMS?
 - *Data needs not supported by standard tables*
 - Example: poverty by educational attainment by children under 18 years (“Households with less than a college degree with young children living under the poverty level”)
 - *Can create new measures with unique combinations of person and/or household variables*
 - Example: spouse’s occupation
 - *Users want to conduct sophisticated statistical analysis to understand relationship between variables*
 - Example: correlation analysis
- **Before using PUMS, consider data.census.gov**

ACS Public Use Microdata Sample (PUMS)

PUMS weights

- Data users must aggregate PUMS records to create weighted estimates
- PUMS weights and replicate weights are provided
 - WGTP: PUMS household weights
 - used to produce housing unit estimates
 - PWGTP: PUMS person weights
 - used to produce population estimates
 - WGTP1 – WGTP80, PWGTP1 – PWGTP80: PUMS Replicate Weights
 - used to calculate standard errors
- Use the variance formula to calculate the MOE

ACS Public Use Microdata Sample (PUMS)

5-year PUMS Files

- 5-year PUMS files contain the same cases as their component 1-year files

2018 ACS 1-year PUMS
2019 ACS 1-year PUMS
2020 ACS 1-year PUMS = **2018-2022 ACS 5-year PUMS**
2021 ACS 1-year PUMS
2022 ACS 1-year PUMS

- Why do we release multiyear PUMS?
 - New weights are produced using latest population estimate “vintages”
 - Coding schemes and dollar amounts are standardized to latest year in the multi-year file

ACS Public Use Microdata Sample (PUMS)

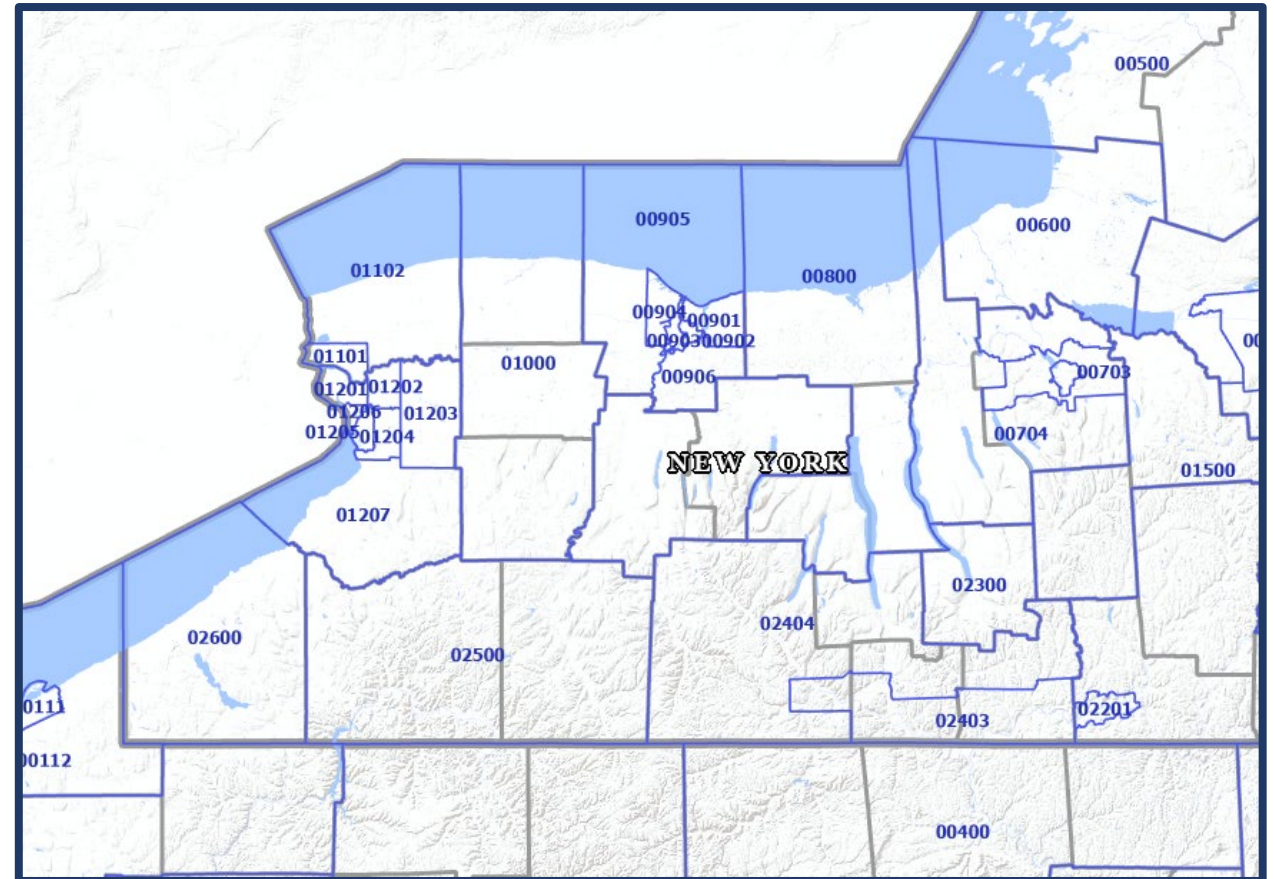
Levels of Geography

- Region, Division, State, and Public Use Microdata Area (PUMA)
- PUMAs can identify most cities of 100,000+ and many metropolitan areas, but not all
- **PUMS is not designed for statistical analysis of small geographic areas**

ACS Public Use Microdata Sample (PUMS)

Public Use Microdata Area (PUMA)

- An area with 100,000+ population
- Identified by five-digit code (unique within each state)
- Nest within states or equivalent entities
- Geographically contiguous
- Defined after each census
 - 2020 Census PUMAs was first used in 2022 ACS
 - Census tracts and counties are the building blocks



census.gov/programs-surveys/geography/guidance/geo-areas/pumas.html

ACS Public Use Microdata Sample (PUMS)

Approximate PUMAs using MCDC's GEOCORR

MCDC Data Applications Missouri Census Data Center

Home Data Population Geography Help News About MCDC Search this site Go

Geocorr 2022: Geographic Correspondence Engine

Version 1.8: revised October 2022

This application generates custom correlation lists as reports and/or files. Click on the help icons (?) for detailed info on any section of this form. See the [geographic glossary](#) for descriptions of the source and target geocodes used here.

[Help](#) | [Examples](#) | [Other Geocorr versions](#)

INPUT OPTIONS

Select the state(s) (including DC and/or PR) to process: ?

- Missouri
- Alabama
- Alaska
- Arizona
- Arkansas
- California
- Colorado
- Connecticut

(ctrl-click to select multiple)

Select one or more source geographies: ?

- Entire universe (no code)
- State
- 2020 Geographies:
 - County
 - County subdivision (township, MCD)
 - Place (city, town, village, CDP, etc.)
 - Census tract
 - Census block group
 - Census block
 - ZIP/ZCTA
 - Public-use microdata area (PUMA)
 - Core-based statistical area (CBSA)
 - CBSA type (metro or micro)
 - Metropolitan division
 - Combined statistical area
 - NECTA (New England only)
 - NECTA division (New England only)
 - Combined NECTA (New England only)
 - American Indian / Alaska Native / Native Hawaiian areas
 - State legislative district — upper chamber

Select one or more target geographies: ?

- Entire universe (no code)
- State
- 2020 Geographies:
 - County
 - County subdivision (township, MCD)
 - Place (city, town, village, CDP, etc.)
 - Census tract
 - Census block group
 - Census block
 - ZIP/ZCTA
 - Public-use microdata area (PUMA)
 - Core-based statistical area (CBSA)
 - CBSA type (metro or micro)
 - Metropolitan division
 - Combined statistical area
 - NECTA (New England only)
 - NECTA division (New England only)
 - Combined NECTA (New England only)
 - American Indian / Alaska Native / Native Hawaiian areas
 - State legislative district — upper chamber

Weighting variable: ?

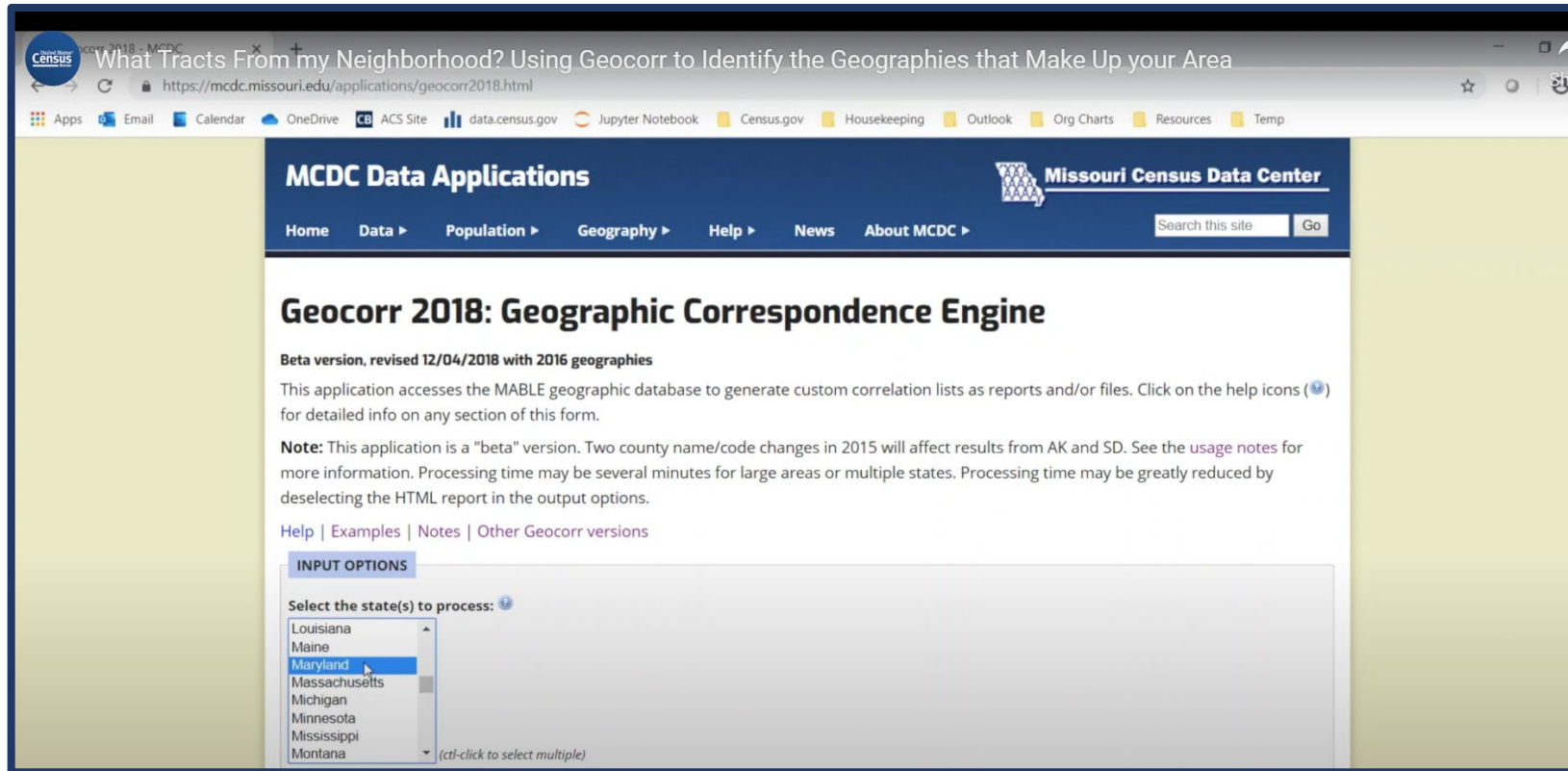
- Population (2020 census)
- Land area (square miles)
- Housing units (2020 census)

Ignore census blocks with a value of 0 for the weighting variable ?

<https://mcdc.missouri.edu/applications/geocorr2022.html>

ACS Public Use Microdata Sample (PUMS)

Approximate PUMAs using MCDC's GEOCORR



census.gov/data/academy/data-gems/2021/how-to-use-the-geocorr-to-identify-the-geographies-that-make-up-your-area.html

ACS Public Use Microdata Sample (PUMS)

Visualize PUMA Boundaries for Your Area Using data.census.gov



data.census.gov/map

ACS Public Use Microdata Sample (PUMS)

Outline

- ACS PUMS basics
- **Run through of Microdata Access Tool**
- PUMS Resources

ACS Public Use Microdata Sample (PUMS)

Beginning your PUMS journey

The screenshot shows the 'Select a Dataset & Vintage' page on the Census Bureau's data portal. The page has a dark blue header with the 'United States Census Bureau' logo and 'BETA' text. Below the header is a grey bar with the text 'Explore Data'. The main content area is white and features the title 'Select a Dataset & Vintage' in a large, bold, dark blue font. There are two dropdown menus: 'Select Dataset' with the selected option 'ACS 1-Year Estimates Public Use Microdata Sample' and the code 'ACSPUMS1Y' below it; and 'Select Vintage' with the selected option '2022' and the code '2022' below it. A teal 'NEXT' button is positioned to the right of the second dropdown. At the bottom left, there is a 'Send Feedback' link with the email address 'census.data@census.gov'.

data.census.gov/mdat/#/

ACS Public Use Microdata Sample (PUMS)

Beginning your PUMS journey

United States **BETA**
Census
Bureau

Explore Data / Microdata / Custom Table

SELECT VARIABLES SELECT GEOGRAPHIES **DATA CART (3)** TABLE LAYOUT DOWNLOAD

Selected Variables (3)

- POVPIP**
3 of 3 responses
- AGEP**
2 of 2 responses
- MIL**
5 of 5 responses

Military service (MIL) DETAILS ^

+ CREATE CUSTOM GROUP

<input checked="" type="checkbox"/> Include in Universe	Response Label	Value
<input checked="" type="checkbox"/>	N/A (less than 17 years old)	0
<input checked="" type="checkbox"/>	Now on active duty	1
<input checked="" type="checkbox"/>	On active duty in the past, but not now	2
<input checked="" type="checkbox"/>	Only on active duty for training in Reserves/Nationa...	3

Dataset: ACS 1-Year Estimates Public Use Microdata Sample (2022) [CHANGE](#)

[VIEW TABLE](#)

ACS Public Use Microdata Sample (PUMS)

Beginning your PUMS journey

United States **BETA**
Census Bureau

Explore Data / Microdata / Custom Table

Custom Table CUSTOMIZE VARIABLES DOWNLOAD / SHARE DETAILS

Dataset: ACS 1-Year Estimates Public Use Microdata Sample [CHANGE DATASET](#)

Geography: 0 geographies selected [CHANGE GEOGRAPHY](#)

Vintage: 2022

Weighting: PUMS person weight

On Columns: MIL

On Rows:

Not on Table:

"Values in table cells" Options: POVPIP AGEP

Values in table cells: Average of Age (AGEP)

Universe: default universe (usually US)

Military service (MIL)				
N/A (less than 17 years old)	Now on active duty	On active duty in the past, but not now	Only on active duty for training in Reserves/National Guard	Never served in the military
8	30	62	58	47

Send Feedback
census.data@census.gov

ACS Public Use Microdata Sample (PUMS)

Beginning your PUMS journey

United States **Census** BETA Bureau

Explore Data / Microdata / Custom Table

SELECT VARIABLES SELECT GEOGRAPHIES **DATA CART (3)** TABLE LAYOUT DOWNLOAD

Selected Variables (3)

- POVPIP**
3 of 3 responses
- AGEP**
2 of 2 responses
- MIL**
1 of 5 responses

Military service (MIL) DETAILS ^

+ CREATE CUSTOM GROUP

<input type="checkbox"/> Include in Universe	Response Label	Value
<input type="checkbox"/>	N/A (less than 17 years old)	0
<input type="checkbox"/>	Now on active duty	1
<input checked="" type="checkbox"/>	On active duty in the past, but not now	2
<input type="checkbox"/>	Only on active duty for training in Reserves/Nationa...	3

Dataset: ACS 1-Year Estimates Public Use Microdata Sample (2022) [CHANGE](#)

[VIEW TABLE](#)

ACS Public Use Microdata Sample (PUMS)

Beginning your PUMS journey

The screenshot displays the United States Census Bureau's data tool interface. The top navigation bar includes "United States BETA Census Bureau" and "Explore Data / Microdata / Custom Table". Below this, a menu bar contains "SELECT VARIABLES", "SELECT GEOGRAPHIES", "DATA CART (4)", "TABLE LAYOUT", and "DOWNLOAD". The "DATA CART (4)" tab is active, showing a list of selected variables: POVPIP (3 of 3 responses), AGEP (2 of 2 responses), MIL (1 of 5 responses), and AGEP_RC1 (1 of 1 responses). A modal dialog box titled "Auto Group Variable" is open, allowing the user to define a range for grouping. The dialog has three input fields: "Start" with the value 17, "End" with the value 99, and "Groups of:" with the value 10. There are "CANCEL" and "AUTO GROUP" buttons at the bottom of the dialog. In the background, a slider for "Value" is visible, ranging from 00 to 99, with a "Show on table" toggle and "CANCEL" and "SAVE GROUP" buttons. At the bottom of the interface, the dataset is identified as "ACS 1-Year Estimates Public Use Microdata Sample (2022)" with a "CHANGE" link, and a "VIEW TABLE" button is present.

ACS Public Use Microdata Sample (PUMS)

Beginning your PUMS journey

The screenshot displays the United States Census Bureau's data exploration interface. At the top left, the logo for the United States Census Bureau is shown with 'BETA' in red. Below the logo, the breadcrumb navigation reads 'Explore Data / Microdata / Custom Table'. A horizontal menu contains 'SELECT VARIABLES', 'SELECT GEOGRAPHIES', 'DATA CART (5)', 'TABLE LAYOUT', and 'DOWNLOAD', with 'DATA CART (5)' highlighted by a red underline. On the right side of the menu, there is a blue double-down arrow icon.

The main content area is divided into two columns. The left column, titled 'Selected Variables (5)', lists five variables with their respective response counts and a trash icon for each:

- POVPIP**: 3 of 3 responses
- AGEP**: 2 of 2 responses
- MIL**: 1 of 5 responses
- POVPIP_RC1**: 3 of 4 responses
- AGEP_RC1**: 10 of 10 responses

The right column displays a detailed view of the variable 'Income-to-poverty ratio recode recode'. It features a teal pencil icon and the variable name. Below the name, there are four categories, each with a corresponding 'EDIT GROUP' button:

- Not Elsewhere Classified**: VALUES: -1
- Below Poverty**: VALUES: 0:99
- At Poverty**: VALUES: 100:100
- Above Poverty**: VALUES: 101:500, 501

At the top right of this detailed view is a teal 'AUTO GROUP' button. At the bottom left of the interface, the dataset is identified as 'ACS 1-Year Estimates Public Use Microdata Sample (2022)' with a 'CHANGE' link. At the bottom right, there is a 'VIEW TABLE' button.

ACS Public Use Microdata Sample (PUMS)

Beginning your PUMS journey

United States ^{BETA}
Census Bureau

Explore Data / Microdata / Custom Table

Poverty by Age for Veterans

CUSTOMIZE VARIABLES DOWNLOAD / SHARE DETAILS ▾

Dataset: ACS 1-Year Estimates Public Use Microdata Sample [CHANGE DATASET](#) Geography: 0 geographies selected [CHANGE GEOGRAPHY](#)

Vintage: Weighting:

On Columns	On Rows
<input type="button" value="POVPIP_RC1"/>	<input type="button" value="AGEP_RC1"/>
Not on Table	"Values in table cells" Options
<input type="button" value="MIL"/>	<input type="button" value="AGEP"/> <input type="button" value="POVPIP"/>

Values in table cells: Universe: **Military service (MIL)**: On active duty in the past, but not now

Show Total

Age recode	Income-to-poverty ratio recode recode (POVPIP_RC1)				
	Total	Below Poverty	At Poverty	Above Poverty	
▼ Total (9)	15,939,156	1,188,057	17,739	14,733,360	
Between 17 and 26	365,523	38,444	664	326,415	
Between 27 and 36	1,291,933	94,368	1,159	1,196,406	
Send Feedback	46	1,728,872	102,191	1,249	1,625,432
census.data@census.gov	56	2,308,303	143,638	2,267	2,162,398

ACS Public Use Microdata Sample (PUMS)

Outline

- ACS PUMS basics
- Run through of Microdata Access Tool
- **PUMS Resources**

ACS Public Use Microdata Sample (PUMS)

Additional resources

Recorded videos/webinars:

- [Webinar: Introduction to ACS PUMS](#)
- [Data Gem: Building Custom Table using MDAT](#)
- [Data Gem: Learn First Steps to Create your Own Tabulation using Microdata](#)
- [Webinar: Using MDAT to Create Custom Tables](#)

PUMS Documentation

- [ACS PUMS Documentation webpage](#)
- [PUMS Data User Handbook](#)

Additional ways to access PUMS

- [PUMS on API](#)



Introduction to the Census Bureau's Application Programming Interface (API)

Application Programming Interface (API)

Think about...

What are your main goals when accessing ACS data?

How do you access ACS data?

What limitations do you face accessing ACS data?

Application Programming Interface (API)

Outline

- **Application Programming Interface (API) basics**
- Run through of an API call
- API Resources

Application Programming Interface (API)

The Census API

- The Census Bureau Application Programming Interface (API)
 - Data Service which enables **Census Bureau programs** to provide data in a standardized way and hosted from a Central location
 - Gives **software and web developers** the ability to create and easily update custom applications
 - Allows **data scientists** to have more direct access to data in order to conduct analyses

Application Programming Interface (API)

Advantages

- Uses of the Census Bureau API include
 - Supporting mobile and web applications
 - Drives interactive data visualizations
 - Connects to statistical analysis software like R

Application Programming Interface (API)

Using the API

- Why use the API?
 - Need specific variables within a table in data.census.gov
 - Uniform geographies within a larger geography?
 - Need data for many geographies
 - Need easy way to update data year after year
 - “Live” connection to data (think: dashboard, online tool)
- **Before using API, consider data.census.gov**

Application Programming Interface (API)

Outline

- Application Programming Interface (API) basics
- **Run through of an API call**
- API Resources

Application Programming Interface (API)

Beginning your API journey

API Dataset	Table ID begins with	API call begins with
Detailed Tables	B or C	api.census.gov/data/2022/acs/acs1
Data Profiles	DP	api.census.gov/data/2022/acs/acs1/profile
Comparison Profiles	CP	api.census.gov/data/2022/acs/acs1/cprofile
Selected Population Profiles	S0201	api.census.gov/data/2022/acs/acs1/spp
Subject Tables	S	api.census.gov/data/2022/acs/acs1/subject

API Dataset	Table ID begins with	API call begins with
Detailed Tables	B or C	api.census.gov/data/2022/acs/acs5
Data Profiles	DP	api.census.gov/data/2022/acs/acs5/profile
Comparison Profiles	CP	api.census.gov/data/2022/acs/acs5/cprofile
Subject Tables	S	api.census.gov/data/2022/acs/acs5/subject

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

Application Programming Interface (API)

Beginning your API journey

An official website of the United States government [Here's how you know](#)

United States Census Bureau

Search Advanced Search

All **Tables** Maps Profiles Pages

Apps Help FAQ Feedback

2 Filters

- Wyoming County, New York
- Poverty

Clear all filters

Search for a filter

Geographies

- Nation
- State

181 Results

View: 10 | 25 | 50 [Download Table Data](#)

American Community Survey
S1701 | Poverty Status in the Past 12 Months
[View All 11 Products](#)

American Community Survey
S1702 | Poverty Status in the Past 12 Months
[View All 13 Products](#)

American Community Survey

S1701 | Poverty Status in the Past 12 Months

Notes Geos Topics 123 Codes Dataset Year Columns Transpose Margin of Error Restore Excel CSV More Tools

Label	Wyoming County, New York				Columns	
	Total		Below poverty level			Percent below povert
	Estimate	Margin of Error	Estimate	Margin of Error		
Population for whom poverty status is determined	37,732	±177	4,037	±616	Cell/Column Notes	
AGE						
Under 18 years	7,770	±200	1,082	±315		
Under 5 years	1,806	±132	253	±101		
5 to 17 years	5,964	±161	829	±254		

Application Programming Interface (API)

Beginning your API journey

The screenshot shows the United States Census Bureau website interface. The main content area displays table S1701, "Poverty Status in the Past 12 Months", for Wyoming County, New York. The table includes columns for "Total", "Estimate", and "Margin of Error", and rows for "Population for whom poverty status is determined", "AGE", and "Under 18 years". A dropdown menu is open over the table, with the "API" option highlighted in red. The menu also includes options for ZIP, Cite, Share, Print, and Map.

United States Census Bureau

Search

Advanced Search

All Tables Maps Profiles Pages

Apps Help FAQ Feedback

2 Filters

Wyoming County, New York

Poverty

Clear all filters

Search for a filter

Geographies

Nation

State

County

County Subdivision

181 Results

View: 10 | 25 | 50

Download Table Data

American Community Survey

S1701 | Poverty Status in the Past 12 Months

View All 11 Products

American Community Survey

S1702 | Poverty Status in the Past 12 Mont...

View All 13 Products

American Community Survey

S2201 | Food Stamps/Supplemental Nutriti...

View All 13 Products

S1701 | Poverty Status in the Past 12 Months

American Community Survey

2022: ACS 5-Year Estimates Subject Tables

Notes

Geos

Topics

123

Codes

Dataset

Year

Columns

Transpose

Margin of Error

Restore

Excel

CSV

More Tools

ZIP

Cite

Share

Print

API

Map

Label	Total		Below poverty level	
	Estimate	Margin of Error	Estimate	Margin of Error
Population for whom poverty status is determined	37,732	±177	4,037	
AGE				
Under 18 years	7,770	±200	1,082	
Under 5 years	1,806	±132	253	±101
5 to 17 years	5,964	±161	829	±254
Related children of householder under 18 years	7,748	±198	1,060	±317

Application Programming Interface (API)

Anatomy of an API Query

https://api.census.gov/data/2022/acs/acs5/subject?get=NAME,S1701_C02_001E,S1701_C02_001M&for=county:121&in=state:36

We want to get the estimate and corresponding margin of error for the number of people living under the poverty level in Wyoming County, NY

Application Programming Interface (API)

Anatomy of an API Query

**Base for all Census
API queries**

[https://api.census.gov/data/2022/acs/acs5/subject?get=NAME,
S1701_C02_001E,S1701_C02_001M&for=county:121&in=state:
36](https://api.census.gov/data/2022/acs/acs5/subject?get=NAME,S1701_C02_001E,S1701_C02_001M&for=county:121&in=state:36)

Application Programming Interface (API)

Anatomy of an API Query

**Year and dataset
(Subject Table)**

`https://api.census.gov/data/2022/acs/acs5/subject?get=NAME,
S1701_C02_001E,S1701_C02_001M&for=county:121&in=state:
36`

We are using the 2018-2022 ACS 5-year Subject Tables

Application Programming Interface (API)

Anatomy of an API Query

The **?get=** portion is where you can specify the individual variables or the table that you want.

Using the **NAME** variable means that you will receive the name of the geography written out (e.g., “United States” or “New York city, New York”).

Adding the **B27001_001E** variable means that we will get data for the first estimate in table B27001, which is the Total number of people in the civilian noninstitutionalized population.

[https://api.census.gov/data/2022/acs/acs5/subject?get=NAME,
S1701_C02_001E,S1701_C02_001M&for=county:121&in=state:
36](https://api.census.gov/data/2022/acs/acs5/subject?get=NAME,S1701_C02_001E,S1701_C02_001M&for=county:121&in=state:36)

**Variable names
(Subject Table)**

What if you want all variables in the table? Use “group()”

[https://api.census.gov/data/2022/acs/acs5/subject?get=group\(S1701\)&for=county:121&in=s
tate:36](https://api.census.gov/data/2022/acs/acs5/subject?get=group(S1701)&for=county:121&in=state:36)

Application Programming Interface (API)

Anatomy of an API Query

The **&for=** portion indicates the geography being used.

`https://api.census.gov/data/2022/acs/acs5/subject?get=NAME,S1701_C02_001E,S1701_C02_001M&for=county:121&in=state:36`

Geography

What if you want all of one certain geography (ex. All counties in NY?) Use “*”

`https://api.census.gov/data/2022/acs/acs5/subject?get=NAME,S1701_C02_001E,S1701_C02_001M&for=county:*&in=state:36`

Application Programming Interface (API)

What does it look like?

https://api.census.gov/data/2022/acs/acs5/subject?get=NAME,S1701_C02_001E,S1701_C02_001M&for=county:121&in=state:36

```
1  [
2    [
3      "NAME",
4      "S1701_C02_001E",
5      "S1701_C02_001M",
6      "state",
7      "county"
8    ],
9    [
10     "Wyoming County, New York",
11     "4037",
12     "616",
13     "36",
14     "121"
15   ]
16 ]
```

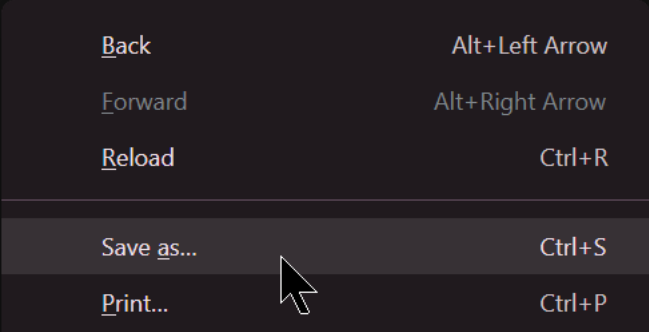
```
[["NAME", "S1701_C02_001E", "S1701_C02_001M", "state", "county"],
 ["Wyoming County, New York", "4037", "616", "36", "121"]]
```

Application Programming Interface (API)

What to do next?

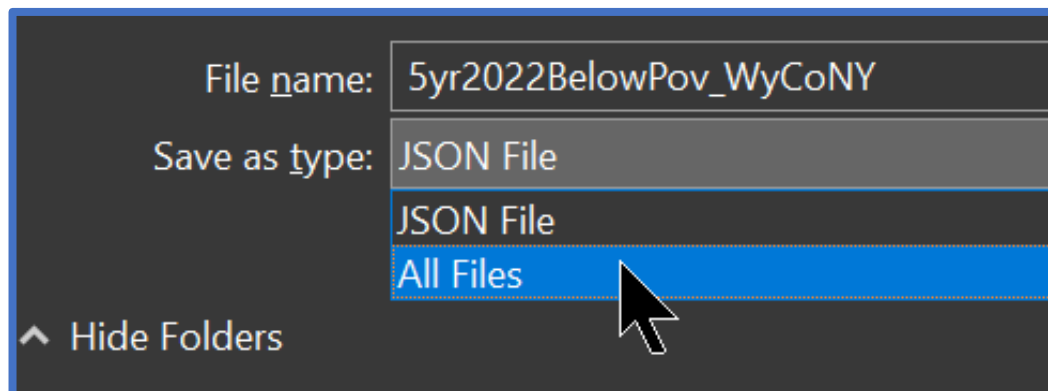
https://api.census.gov/data/2021/acs/acs5/subject?get=NAME,S1701_C02_001E,S1701_C02_001M&for=county:121&in=state:36

```
[["NAME", "S1701_C02_001E", "S1701_C02_001M", "state", "county"],  
["Wyoming County, New York", "4037", "616", "36", "121"]]
```



Back Alt+Left Arrow
Forward Alt+Right Arrow
Reload Ctrl+R
Save as... Ctrl+S
Print... Ctrl+P

1. Right click-"Save as"
2. Name file, add ".csv" to end
3. Save as type "All files"



Application Programming Interface (API)

Outline

- Application Programming Interface (API) basics
- Run through of an API call
- **API Resources**

Application Programming Interface (API)

How can you make your own?

<https://www.census.gov/data/developers/data-sets/acs-5year.html>

Detailed Tables

- **Example Call:** `api.census.gov/data/2022/acs/acs5?get=NAME,group(B01001)&for=us:1&key=YOUR_KEY_GOES_HERE`
- 2022 ACS Detailed Tables Variables [[html](#) | [xml](#) | [json](#)]
- [ACS Technical Documentation](#)
- [Examples](#)
- [Supported Geography](#)

Subject Tables

- **Example Call:** `api.census.gov/data/2022/acs/acs5/subject?get=NAME,group(S0101)&for=us:1&key=YOUR_KEY_GOES_HERE`
- 2022 ACS Subject Tables Variables [[html](#) | [xml](#) | [json](#)]
- [ACS Technical Documentation](#)

<https://api.census.gov/data/2022/acs/acs5/variables.html>

Census Data API: Variables in /data/2022/acs/acs5/variables

Name	Label	Concept	Required	Attributes	Limit	Predicate Type	Group
A1ANHH	Geography		not required		0	(not a predicate)	N/A
A1HH1L	Geography		not required		0	(not a predicate)	N/A
A1RES	Geography		not required		0	(not a predicate)	N/A
ANRC	Geography		not required		0	(not a predicate)	N/A
B01001_001E	Estimate!!Total:	Sex by Age	not required	B01001_001EA , B01001_001M , B01001_001MA	0	int	B01001
B01001_002E	Estimate!!Total!!!Male:	Sex by Age	not required	B01001_002EA , B01001_002M , B01001_002MA	0	int	B01001
B01001_003E	Estimate!!Total!!!Male!!!Under 5 years	Sex by Age	not required	B01001_003EA , B01001_003M , B01001_003MA	0	int	B01001

Application Programming Interface (API)

What if you need help?

https://api.census.gov/data/key_signup.html

Request A Key

Organization Name:

Email Address:

I agree to the [terms of service](#)

Application Programming Interface (API)

Additional resources

Recorded videos/webinars:

- [Webinar: Demystifying the Census API](#)
- [Webinar: Using the Census API with the ACS](#)
- [Webinar: Getting Started with ACS Data in R and Python](#)
- [Webinar: Using API to Get All Results for an ACS Table](#)
- [Webinar: Using API to Get Results for Multiple Estimates](#)

API webpages and documentation

- [Webpage: ACS Data via API](#)
- [Webpage: Using ACS Data with Open-Source Software](#)
- [Webpage: How-to Materials for Using the Census API](#)
- [Document: ACS API Data Users Handbook](#)
- [Document: Census Data API User Guide](#)
- [Document: Removing ACS Annotation Columns from API Group Call in Excel](#)

Using the Census Data API With the American Community Survey

What Data Users Need to Know

Issued February 2020

// Census.gov / Library / Census Videos / Using the API to Get Results for Multiple Estimates

Using the API to Get Results for Multiple Estimates

May 20, 2021

Share [f](#) [t](#) [in](#)

In this tutorial, we'll show you how to get data for only the variables you need from the 2019 ACS 1-Year Data Profiles, using DP03 as an example. Specifically we'll find data on vehicles, people in poverty, and people w

Using the API to Get All Results for an ACS Table

May 20, 2021

Share [f](#) [t](#) [in](#)

In this tutorial, we'll show you how to get data for an entire table from the American Community Survey. We will walk you through the steps using DP03 from the 2019 ACS 1-year estimates for all metro areas.

Related Information

Available APIs
[data.census.gov Resources](#)
TRAINING
Census Academy

USING THE API TO GET ALL RESULTS FOR AN ACS TABLE

United States
Census
Bureau

Application Programming Interface (API)

Additional support

U.S. Census Bureau Slack Channel

- Developer's forum to help improve access to public datasets from the U.S. Census Bureau
- [Join U.S. Census Bureau Slack Channel](#)

TidyCensus

- U.S. Census Bureau does not maintain or provide support
- Documentation and support: <https://walker-data.com/tidycensus/>

American Community Survey Resources, Shortcuts, and Tools Workshop

Additional support

Live Workshops

- [Basics of Using MDAT](#)
- [Basics of Using the Census API](#)

ACS Data Users Group

- Membership is free and open to all interested ACS data users.
- Discussion forum where you can explore PUMS and API topics or post your own questions and receive response from other data users!
- acsdatacommunity.prb.org

ACS User Support

- acso.users.support@census.gov