Accessing data on the Census Data API

November 6, 2023

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U.S. Census Bureau

United States® Census Bureau

Today's Agenda

API Background and Basics

API Examples

- Population for all Counties in California
- Getting data from multiple tables
- Accessing 2005 ACS data
- Dual vintage PUMAs and the Microdata API

Resources

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Application Programming Interfaces

Free, publicly accessible, open source services

Census Data API

- Raw statistical data from programs and surveys across the Bureau

Geocoder

- Translates addresses and other location formats into latitude/longitude parameters

TIGERweb Services

- Census area boundaries and shapes for mapping referenced by FIPS codes

Census Data API questions: census.data@census.gov
Geocoder questions: geo.geocoding.services@census.gov
TIGERweb questions: geo.tigerweb@census.gov

Census Data API

Census Data API

- Data service that allows software developers and other users to access public data in a standardized way

Uses:

- Supports mobile and web applications (internal and external)
- Drives interactive data visualizations
- Connects to statistical analysis software like SAS and R

Advantages:

- Access only the variables and geographies needed
- Immediate access to updates
- No need to host data on another server
- More data than what is available on data.census.gov

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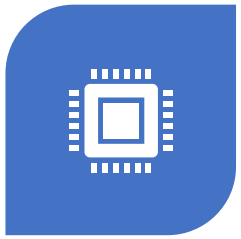
WHO uses the API?



DEVELOPERS*

STUDENTS AND TEACHERS

RESEARCHERS

GOVERNMENT AGENCIES

FINANCIAL INSTITUTIONS

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*Resources for R and Python users at the end of presentation.

WHY use the API?

* Want older data not available on data.census.gov, such as pre-2010 ACS
* Pull data for multiple tables at once, rather than viewing individual tables on data.census.gov
* Want to gather a lot of data at once (usually involves use of third-party software)
* Want additional datasets not available in data.census.gov or the Microdata Access Tool (MDAT)
* Problems pulling data from data.census.gov
* Using Census data to create your own application or visualization

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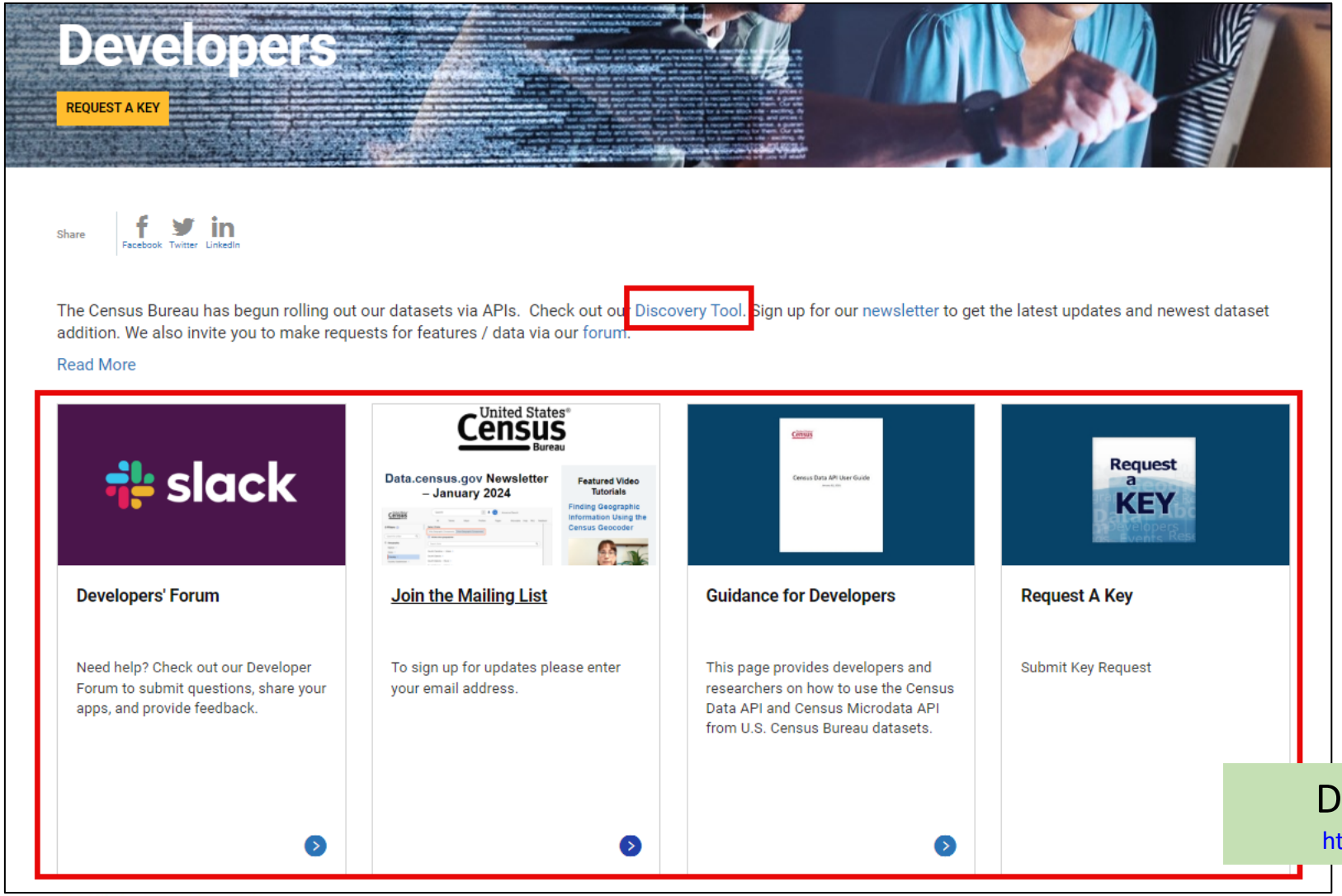
Developers Page



Accessing our API

- Request a Key
  - No charge
  - No throttling/limitations
- Browse the Discovery Tool
  - List of available datasets/endpoints
  - Descriptions, etc.
- Review the Updates Periodically
  - Join the Mailing List
  - Check your Spam folder for alerts
- Share your Experiences
  - Developers Forum

Developers Home Page
https://www.census.gov/developers/

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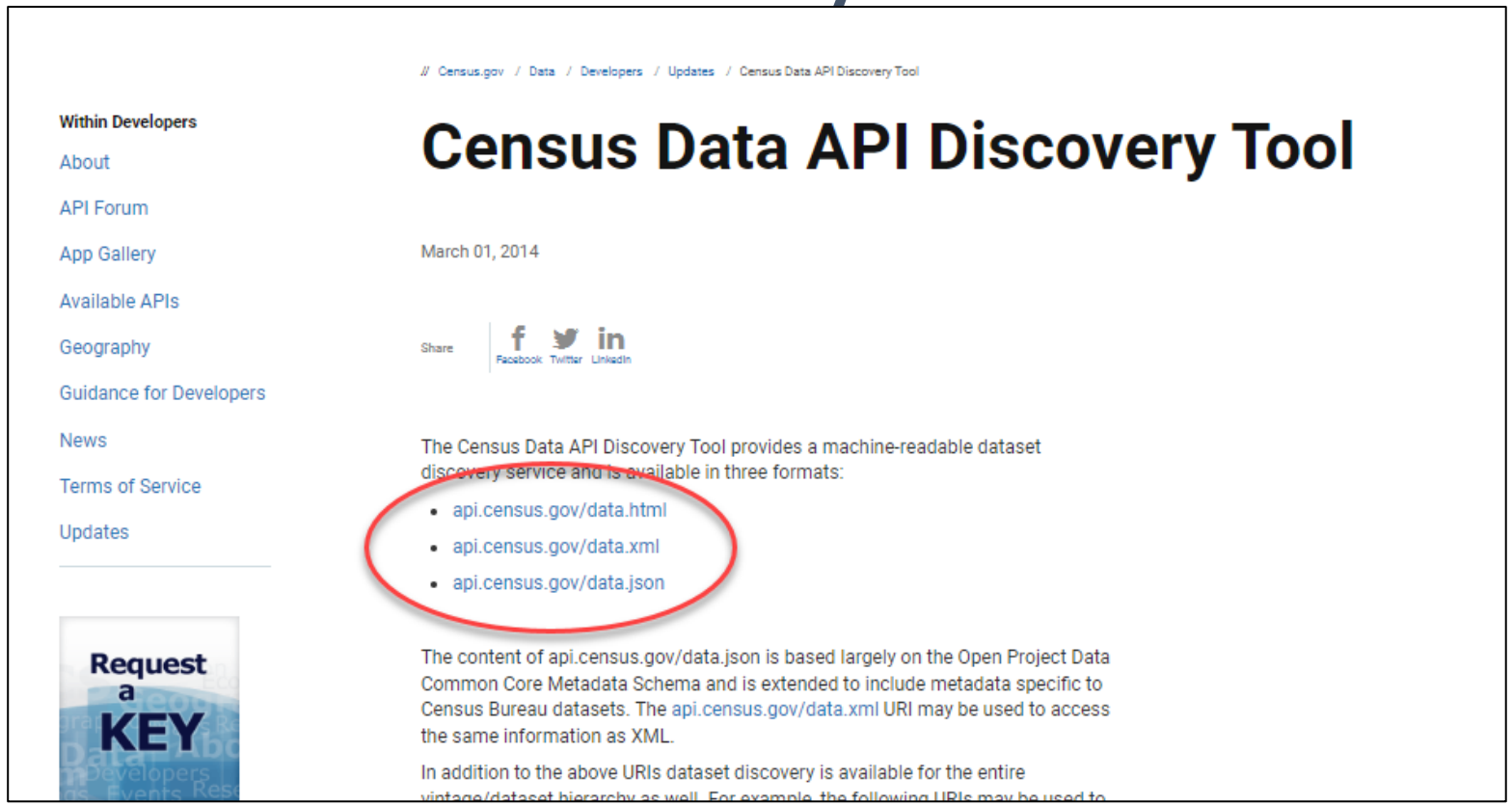
Discovery Tool



Census.gov / Data / Developers / Updates / Census Data API Discovery Tool

Within Developers

About
API Forum
App Gallery
Available APIs
Geography
Guidance for Developers
News
Terms of Service
Updates

Request a KEY

Census Data API Discovery Tool

March 01, 2014

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The Census Data API Discovery Tool provides a machine-readable dataset discovery service and is available in three formats:

- api.census.gov/data.html
- api.census.gov/data.xml
- api.census.gov/data.json

The content of api.census.gov/data.json is based largely on the Open Project Data Common Core Metadata Schema and is extended to include metadata specific to Census Bureau datasets. The api.census.gov/data.xml URI may be used to access the same information as XML.

In addition to the above URIs dataset discovery is available for the entire vintage/dataset hierarchy as well. For example, the following URIs may be used to

Census API: Datasets in /data/2021/acs/acs5/profile and its descendants

Title	Description	Vintage	Dataset Name	Dataset Type	Geography List	Variable List	Group List	SortList	Examples	Developer Documentation	API Base URL
American Community Survey: 5-Year Estimates: Data Profiles 5-Year	The American Community Survey (ACS) is an ongoing survey that provides data every year -- giving communities the current information they need to plan investments and services. The ACS covers a broad range of topics about social, economic, housing, and demographic characteristics of the U.S. population. The ACS 5-year data profiles include the following geographies: nation, all states (including DC and Puerto Rico), all metropolitan areas, all congressional districts, all counties, all places and all tracts. The Data profiles contain broad social, economic, housing, and demographic information. The data are presented as both counts and percentages. There are over 2,400 variables in this dataset.	2021	acs› acs5› profile	Aggregate	geographies	variables	groups	sorts	examples	documentation	http://api.census.gov/data/2021/acs/acs5/profile
1 dataset											

Information Provided

- Dataset Description
- Variables Included, Changes, Variable Formats, and Notes
- Annotation Variables and Values
- Cross-Tab Variables
- Supported Geographies
- Example Calls
- Links to Program Technical Documentation
- Links to FTP Servers

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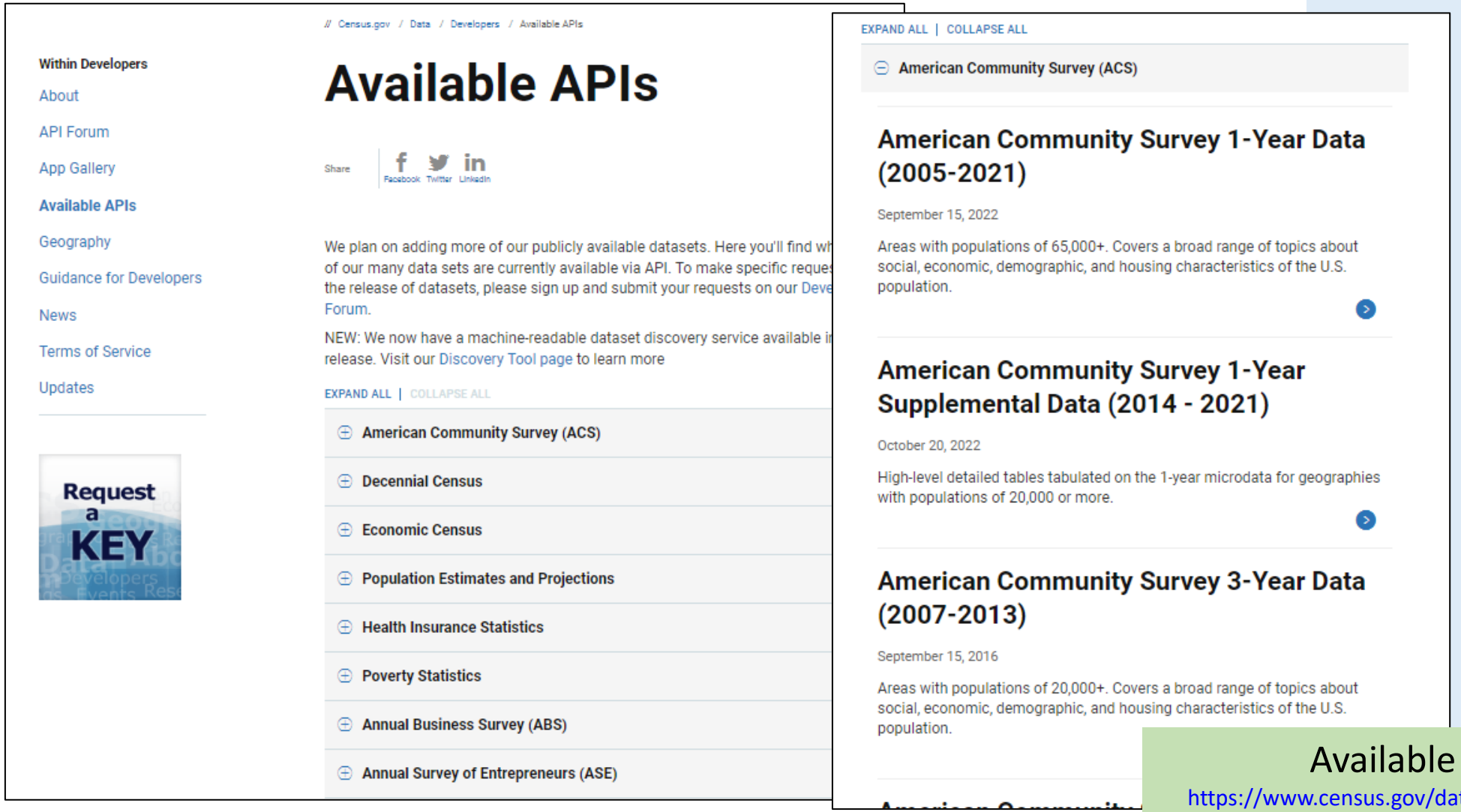
Available APIs Page



Provides the same information found in the Discovery Tool, but in an easier to read format

Available APIs Page
https://www.census.gov/data/developers/data-sets.html

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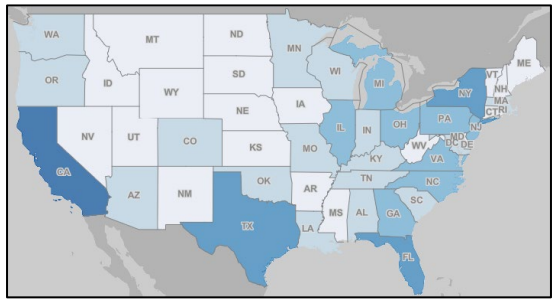
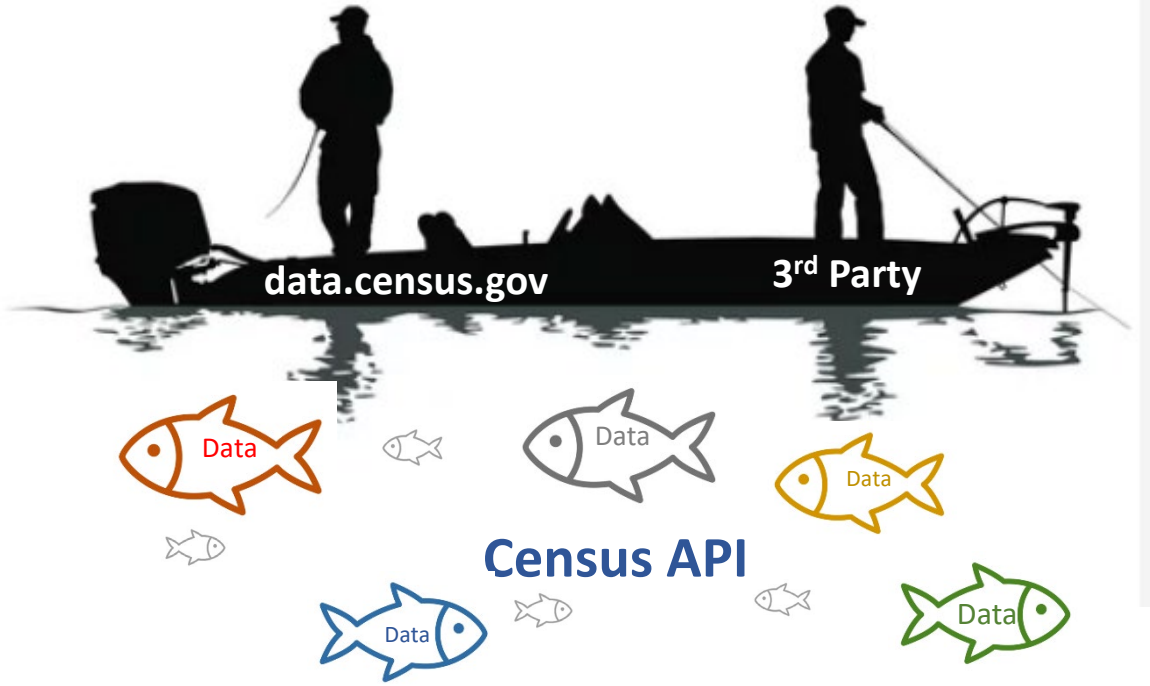
data.census.gov and the Census Data API

Query through data.census.gov

- Queries are made for you
- No need to learn how to use the API
- Returns formatted data
- Provides tables, maps, and visualizations



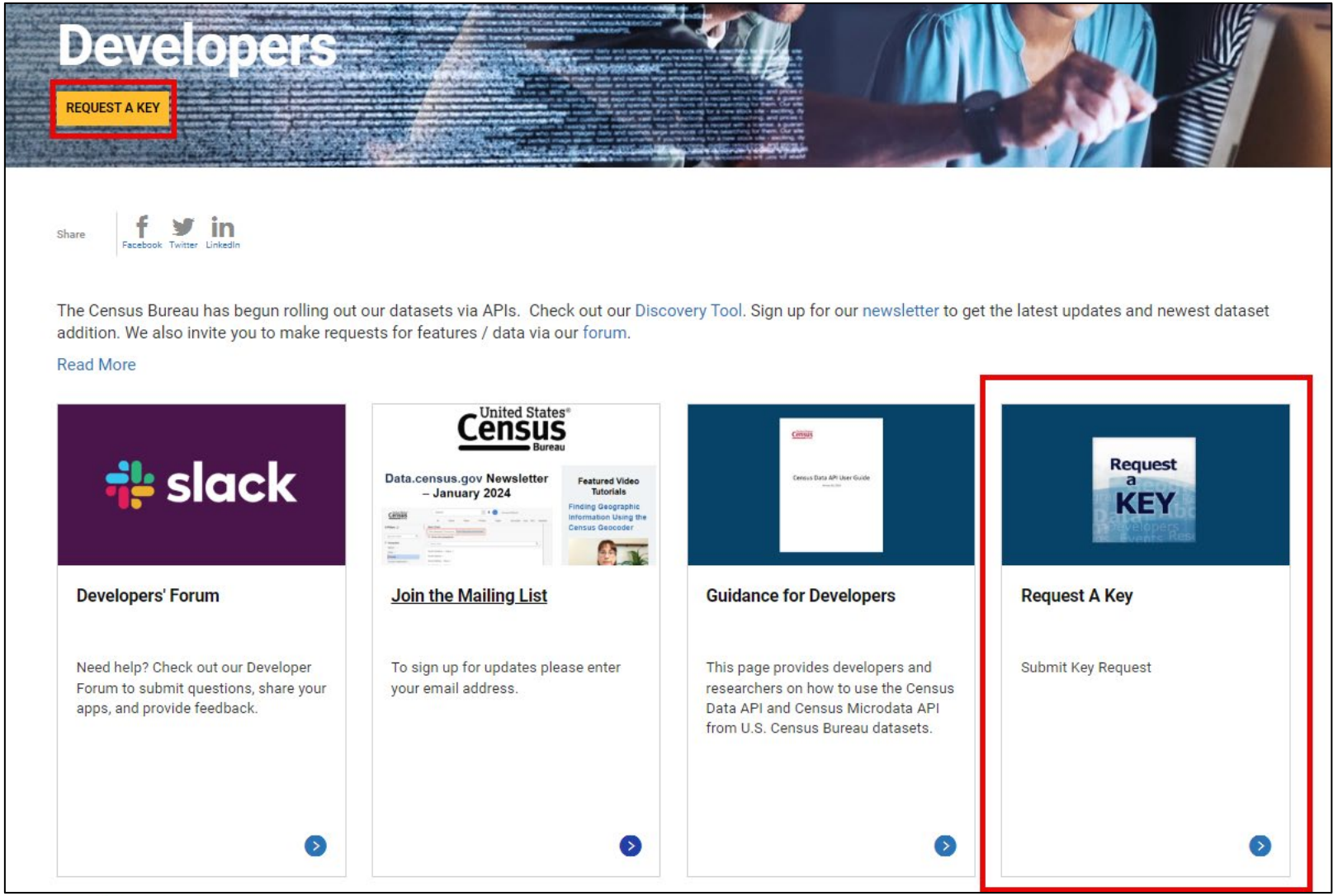
Two ways to get the same data



Directly query the API

- Machine-readable data perfect for use in dashboards or apps
- Provides single or multiple pieces of data
- Quickly and easily make bulk queries
- Includes more datasets

API Key



API Key

- Request a Key
  - No charge
  - No throttling/limitations
- Necessary if you plan to run more than 500 queries per IP address per day
- Request a key at https://www.census.gov/data/developers.html or https://www.census.gov/data/developers/data-sets.html

Request a Key
https://api.census.gov/data/key_signup.html

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Understanding the API Query Examples

An asterisk (*) indicates that all of that particular type of geography will be included (e.g.: **&for=state:*** indicates that data will be pulled for **all states**).

Numbers found in the geography portion indicate the specific FIPS code or the unique identifier for a given geography (e.g., **&for=state:06** indicates that the data will be pulled for **California (06)**.

Geography Hierarchy	Geography Level	Example URL
us	010	https://api.census.gov/data/2021/acs/acs5/profile?get=NAME&for=us:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2021/acs/acs5/profile?get=NAME&for=us:1&key=YOUR_KEY_GOES_HERE
region	020	https://api.census.gov/data/2021/acs/acs5/profile?get=NAME&for=region:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2021/acs/acs5/profile?get=NAME&for=region:3&key=YOUR_KEY_GOES_HERE
division	030	https://api.census.gov/data/2021/acs/acs5/profile?get=NAME&for=division:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2021/acs/acs5/profile?get=NAME&for=division:5&key=YOUR_KEY_GOES_HERE
state	040	https://api.census.gov/data/2021/acs/acs5/profile?get=NAME&for=state:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2021/acs/acs5/profile?get=NAME&for=state:06&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2021/acs/acs5/profile?get=NAME&for=county:*&key=YOUR_KEY_GOES_HERE
[illegible]	050	[illegible]

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Understanding the API Query Examples

The **&key=** portion is where you will add your key to the query if you have one.

A key is needed if you plan to run more than 500 API queries per IP address per day.

Geography Hierarchy	Geography Level	Example URL
us	010	https://api.census.gov/data/2021/acs/acs5/profile?get=NAME&for=us:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2021/acs/acs5/profile?get=NAME&for=us:1&key=YOUR_KEY_GOES_HERE
region	020	https://api.census.gov/data/2021/acs/acs5/profile?get=NAME&for=region:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2021/acs/acs5/profile?get=NAME&for=region:3&key=YOUR_KEY_GOES_HERE
division	030	https://api.census.gov/data/2021/acs/acs5/profile?get=NAME&for=division:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2021/acs/acs5/profile?get=NAME&for=division:5&key=YOUR_KEY_GOES_HERE
state	040	https://api.census.gov/data/2021/acs/acs5/profile?get=NAME&for=state:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2021/acs/acs5/profile?get=NAME&for=state:06&key=YOUR_KEY_GOES_HERE
state> county	050	https://api.census.gov/data/2021/acs/acs5/profile?get=NAME&for=county:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2021/acs/acs5/profile?get=NAME&for=county:*&in=state:*&key=YOUR_KEY_GOES_HERE

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Resources

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Census API

Starting off Simple - Single Variables for Geographies

- Find the Total Population of all Counties in California as of the 2020 Census

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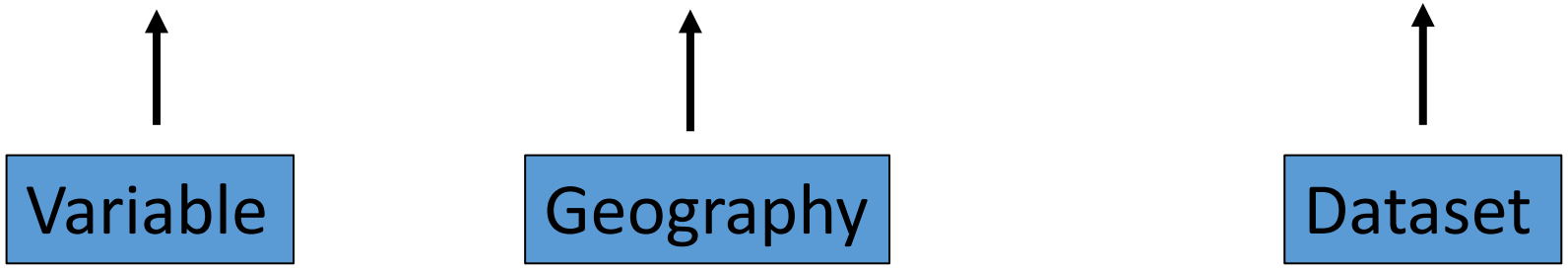
Census API

Starting off Simple - Single Variables for Geographies

- Find the **Total Population** of **all Counties in California** as of the **2020 Census**



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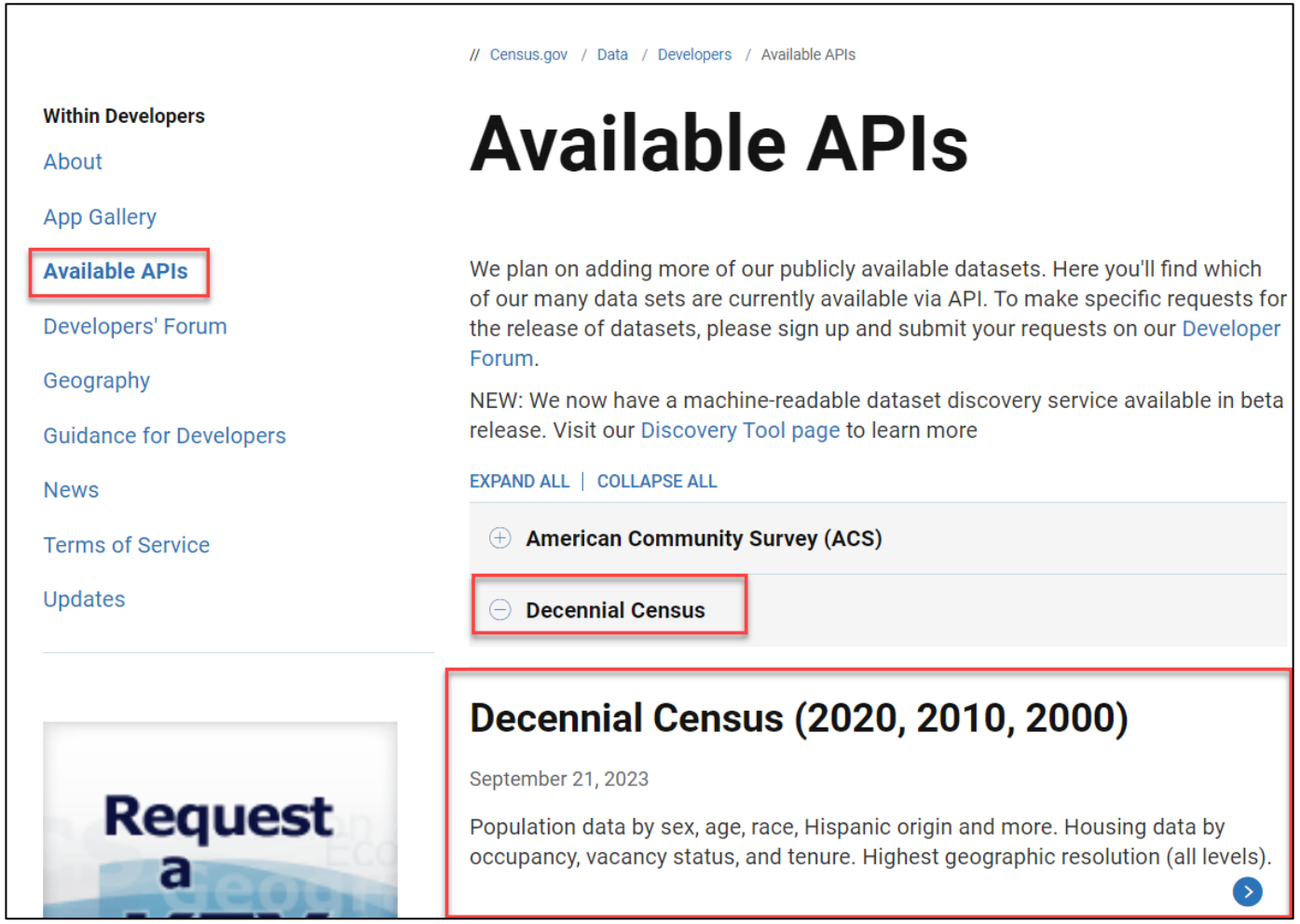
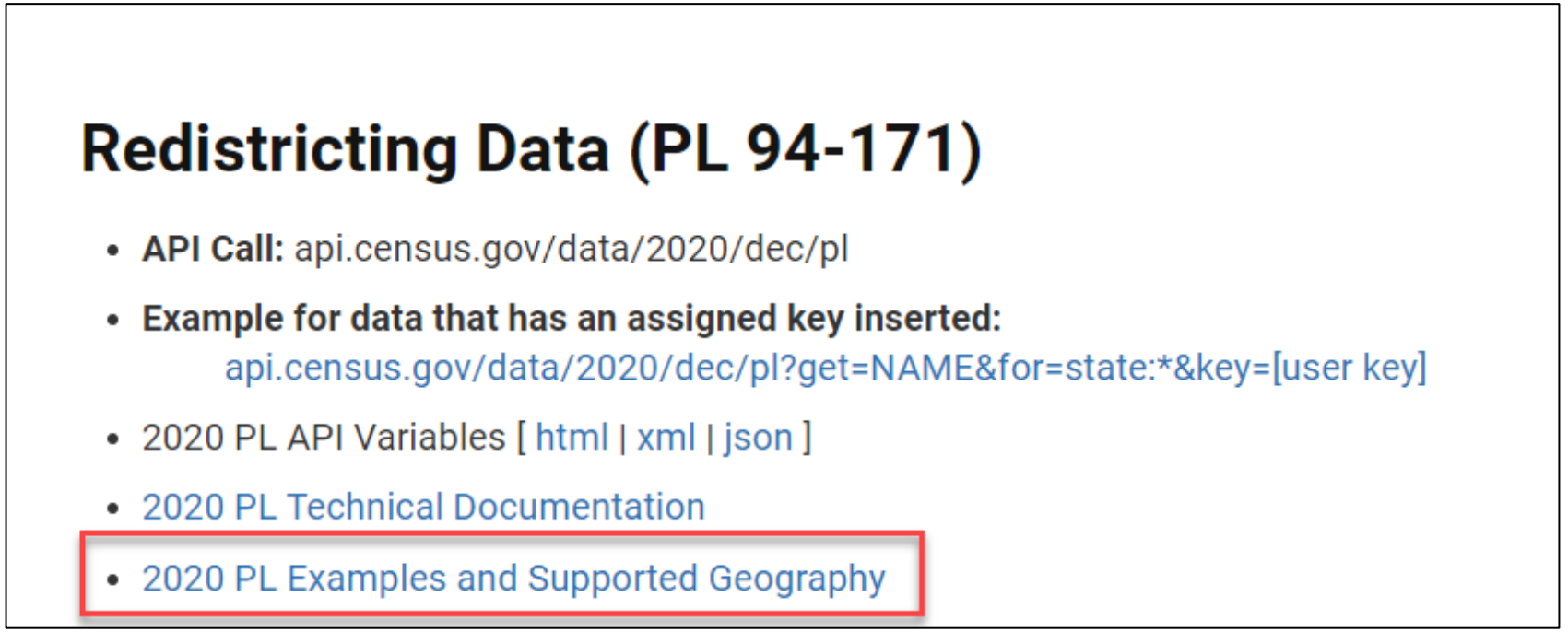
Total Population of all Counties in California as of the 2020 Census

- Select Your Dataset On The Available APIs Page



census.gov/data/developers/data-sets.html

- Under Redistricting Data, select **2020 PL Examples and Support Geography**



https://www.census.gov/data/developers/data-sets/decennial-census.html

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- Open the **Variables** and **Examples** links in new tabs in your browser

Census API: Datasets in /data/2020/dec/pl and its descendants

Title	Description	Vintage	Dataset Name	Dataset Type	Geography List	Variable List	Group List	SortList	Examples	Developer Documentation	API Base URL
Decennial Census: Redistricting Data (PL 94-171)	Public Law 94-171, enacted in 1975, directs the Census Bureau to make special preparations to provide redistricting data needed by the 50 states. It specifies that within a year following Census Day, the Census Bureau must send the governor and legislative leadership in each state the data they need to redraw districts for the United States Congress and state legislature. To meet this legal requirement, the Census Bureau set up a program that affords state officials an opportunity before each decennial census to define the small areas for which they wish to receive census population totals for redistricting purposes. Officials may receive data for voting districts (e.g., election precincts, wards) and state house and senate districts, in addition to standard census geographic areas such as counties, cities, census tracts, and tabulation blocks. State participation in defining areas is voluntary and nonpartisan.	2020	dec› pl	Aggregate	geographies	variables	groups	sorts	examples	documentation	http://api.census.gov/data/2020/dec/pl
1 dataset											

https://api.census.gov/data/2020/dec/pl.html

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- On the Examples page, right click on the second County link and choose Open link in new tab

Geography Hierarchy	Geography Level	Example URL
us	010	https://api.census.gov/data/2020/dec/pl?get=NAME&for=us:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2020/dec/pl?get=NAME&for=us:1&key=YOUR_KEY_GOES_HERE
region	020	https://api.census.gov/data/2020/dec/pl?get=NAME&for=region:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2020/dec/pl?get=NAME&for=region:3&key=YOUR_KEY_GOES_HERE
division	030	https://api.census.gov/data/2020/dec/pl?get=NAME&for=division:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2020/dec/pl?get=NAME&for=division:5&key=YOUR_KEY_GOES_HERE
state	040	https://api.census.gov/data/2020/dec/pl?get=NAME&for=state:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2020/dec/pl?get=NAME&for=state:06&key=YOUR_KEY_GOES_HERE
state› county	050	https://api.census.gov/data/2020/dec/pl?get=NAME&for=county:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2020/dec/pl?get=NAME&for=county:*&in=state:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2020/dec/pl?get=NAME&for=county:037&in=state:06&key=YOUR_KEY_GOES_H
state› county› county subdivision	060	https://api.census.gov/data/2020/dec/pl?get=NAME&for=county%20subdivision:*&in=state:48&key=YOUR_K
		https://api.census.gov/data/2020/dec/pl?get=NAME&for=county%20subdivision:*&in=state:48&in=county:*&k RE
		https://api.census.gov/data/2020/dec/pl?get=NAME&for=county%20subdivision:91835&in=state:48%20county: S_HERE
state› county› county subdivision› subminor civil division	067	https://api.census.gov/data/2020/dec/pl?get=NAME&for=subminor%20civil%20division:*&in=state:72%20coun sion:572
		https://api.census.gov/data/2020/dec/pl?get=NAME&for=subminor%20civil%20division:76644&in=state:72%20 subdivision

https://api.census.gov/data/2020/dec/pl/examples.html

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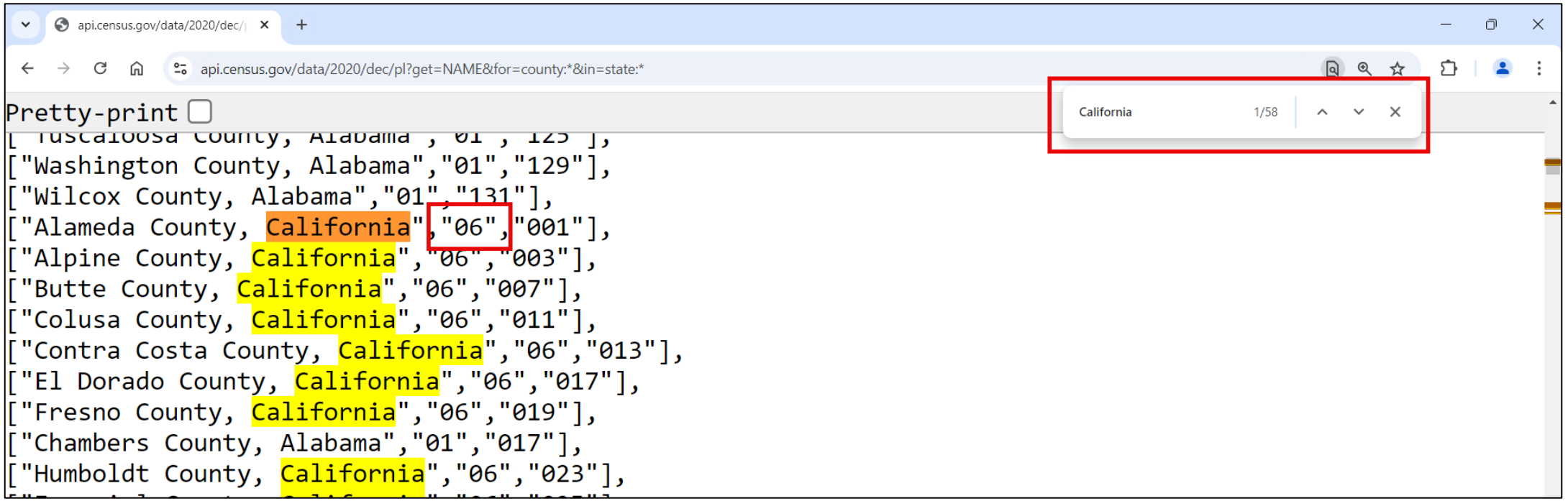
- First, we need to locate California's state FIPS code
- Press **Ctrl+F** to open a search box in your browser and type "California"
- California's state FIPS code is **06**



https://api.census.gov/data/2020/dec/pl?get=NAME&for=county:*&in=state:*

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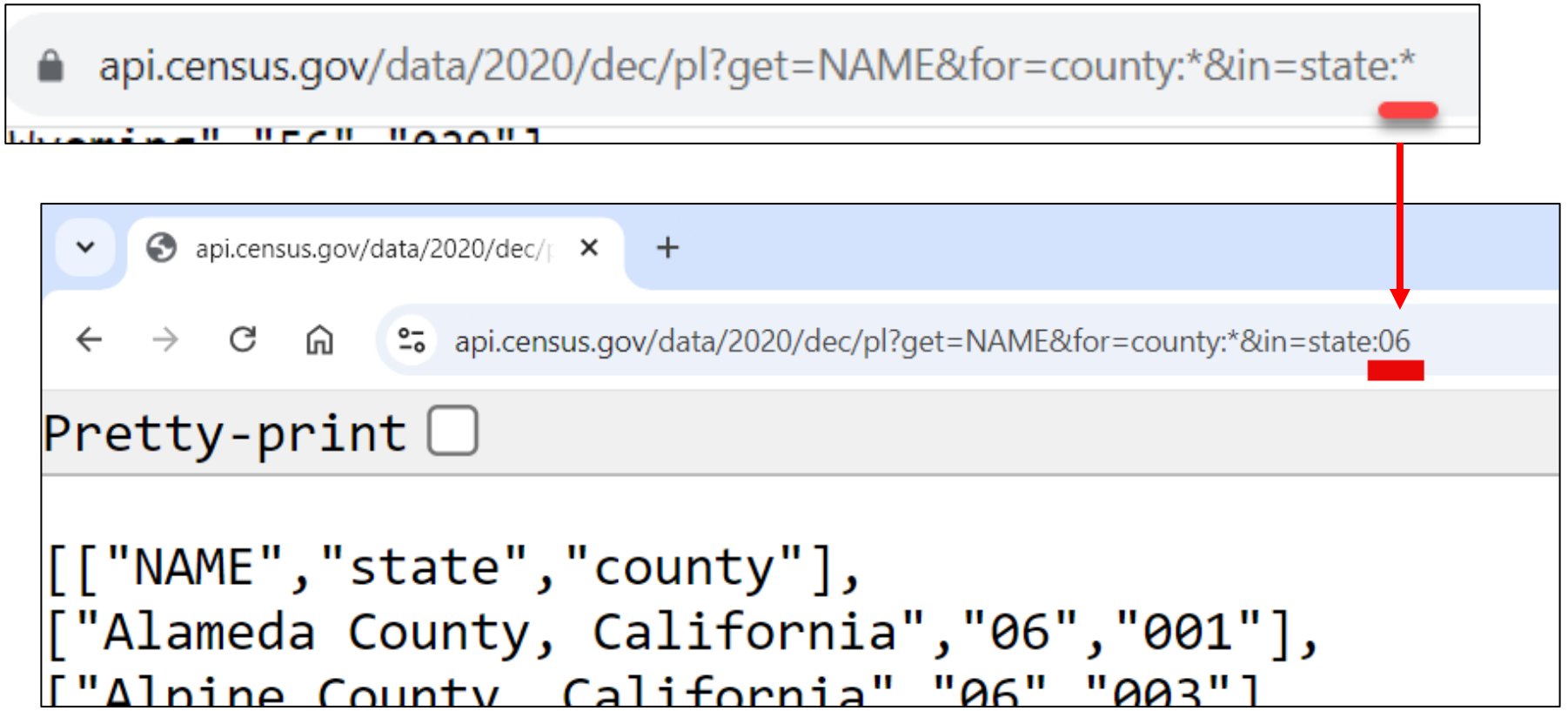
- Update the URL to change the asterisk (also known as a wildcard in the API) following “state:” to California’s state FIPS code of **06**



https://api.census.gov/data/2020/dec/pl?get=NAME&for=county:*&in=state:06

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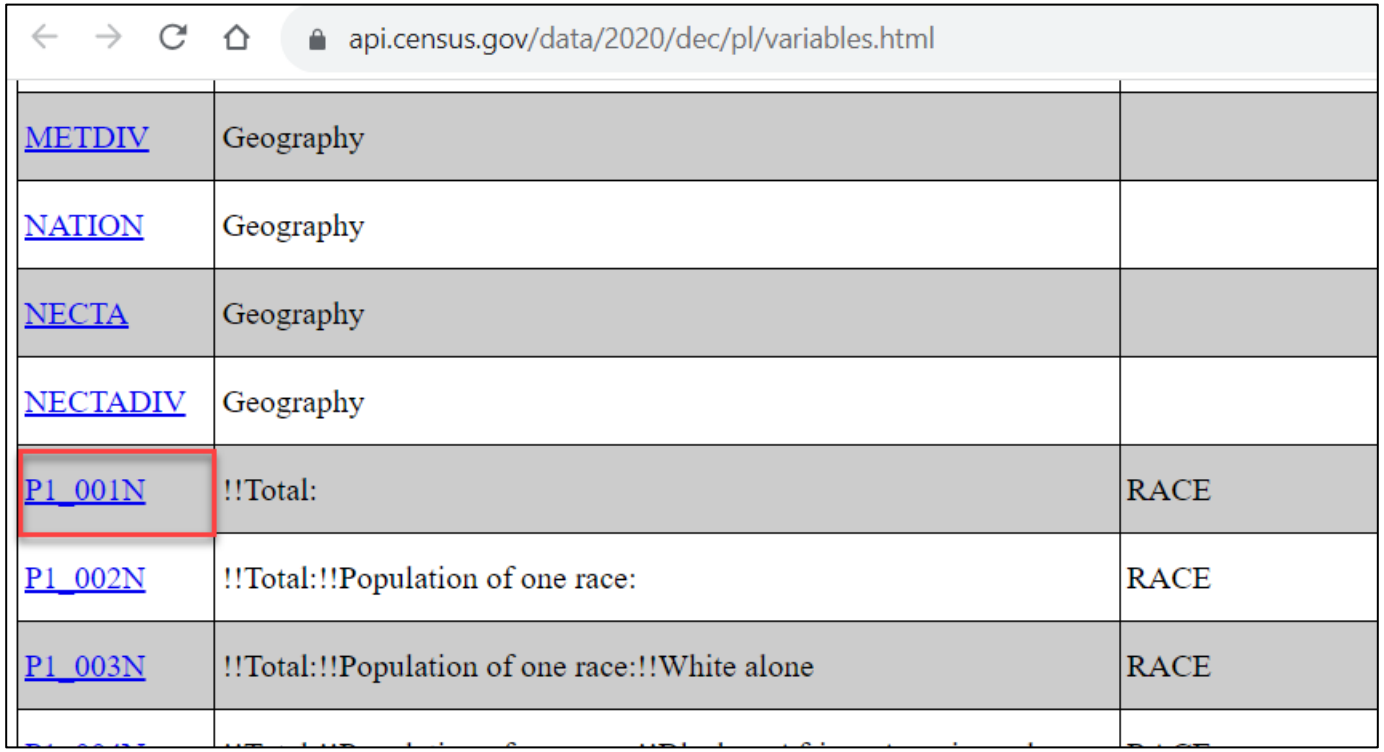
- On the Variables page in your other tab
- Scroll down to find variable **P1_001N**, the Total Population variable from table P1.



https://api.census.gov/data/2020/dec/pl/variables.html

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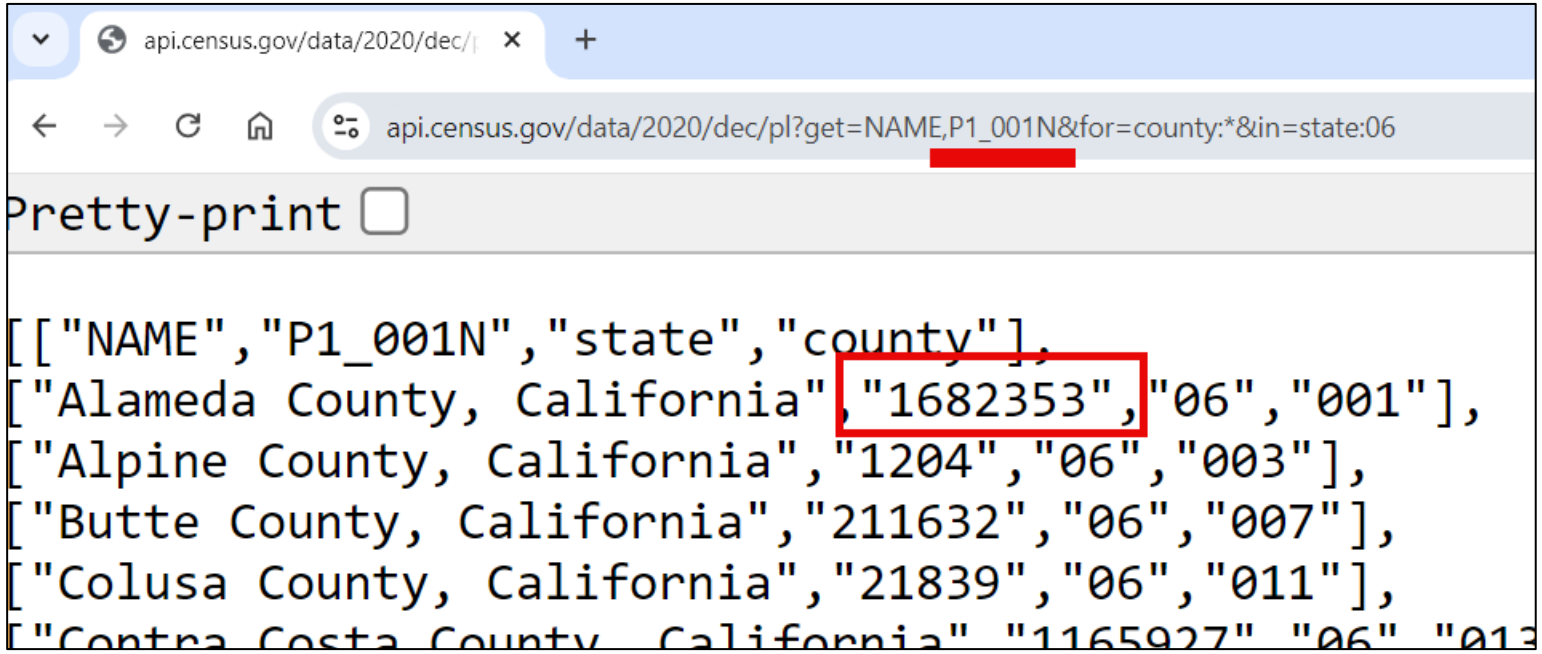
- Go back to the other tab to update the URL with the population variable
- After NAME in the URL, add "**,P1_001N**" and hit enter to reload the page
- You can now see the population for each county in California as of the 2020 Census
  - For example, Alameda County has a population of 1,682,353.



https://api.census.gov/data/2020/dec/pl?get=NAME,P1_001N&for=county:*&in=state:72

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Census API

Multiple Variables from Multiple Tables

- Find the Male and Female under 5 population by Race/Ethnicity in California using the 2023 ACS 1-Year Estimates

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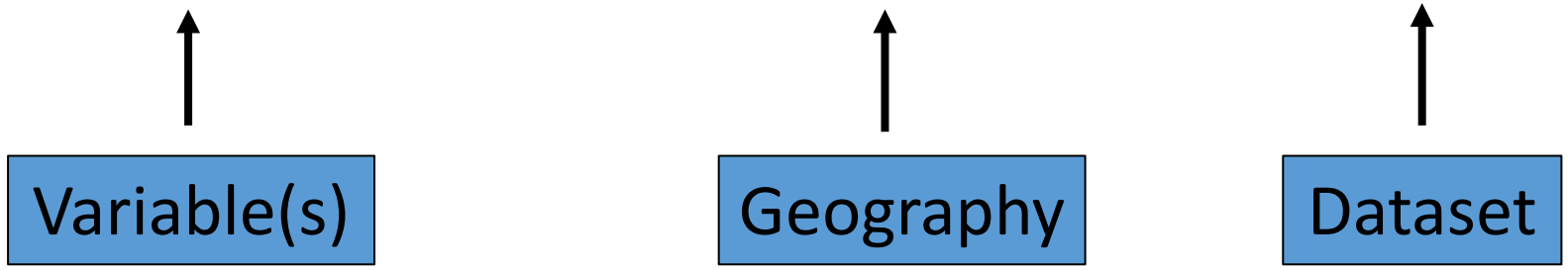
Census API

Multiple Variables from Multiple Tables

- Find the **Male and Female under 5 population by Race/Ethnicity** in **California** using the **2023 ACS 1-Year Estimates**



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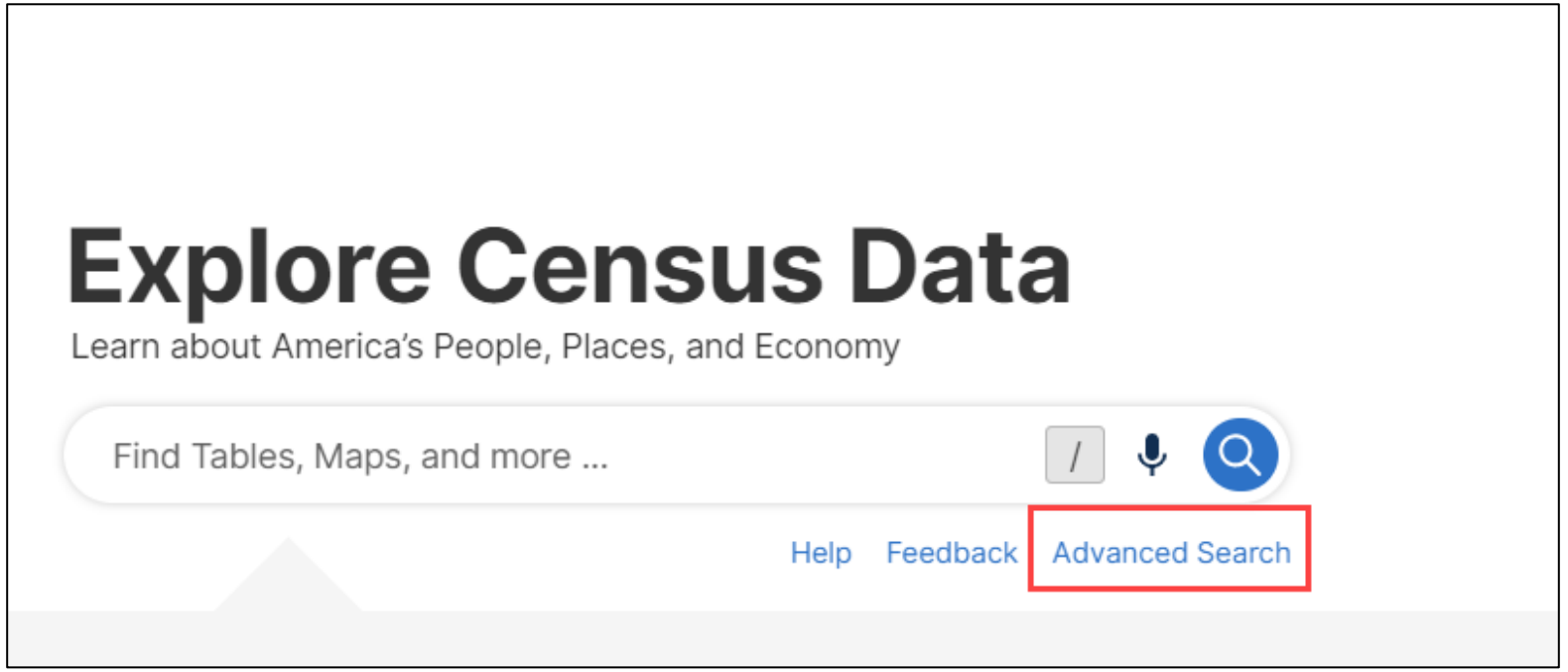
Male and Female under 5 Population for multiple races/ethnicities in California

- As an optional first step, go to data.census.gov click on **Advanced Search** to locate tables you'd like to use
- Skip to slide 34 for API only instructions



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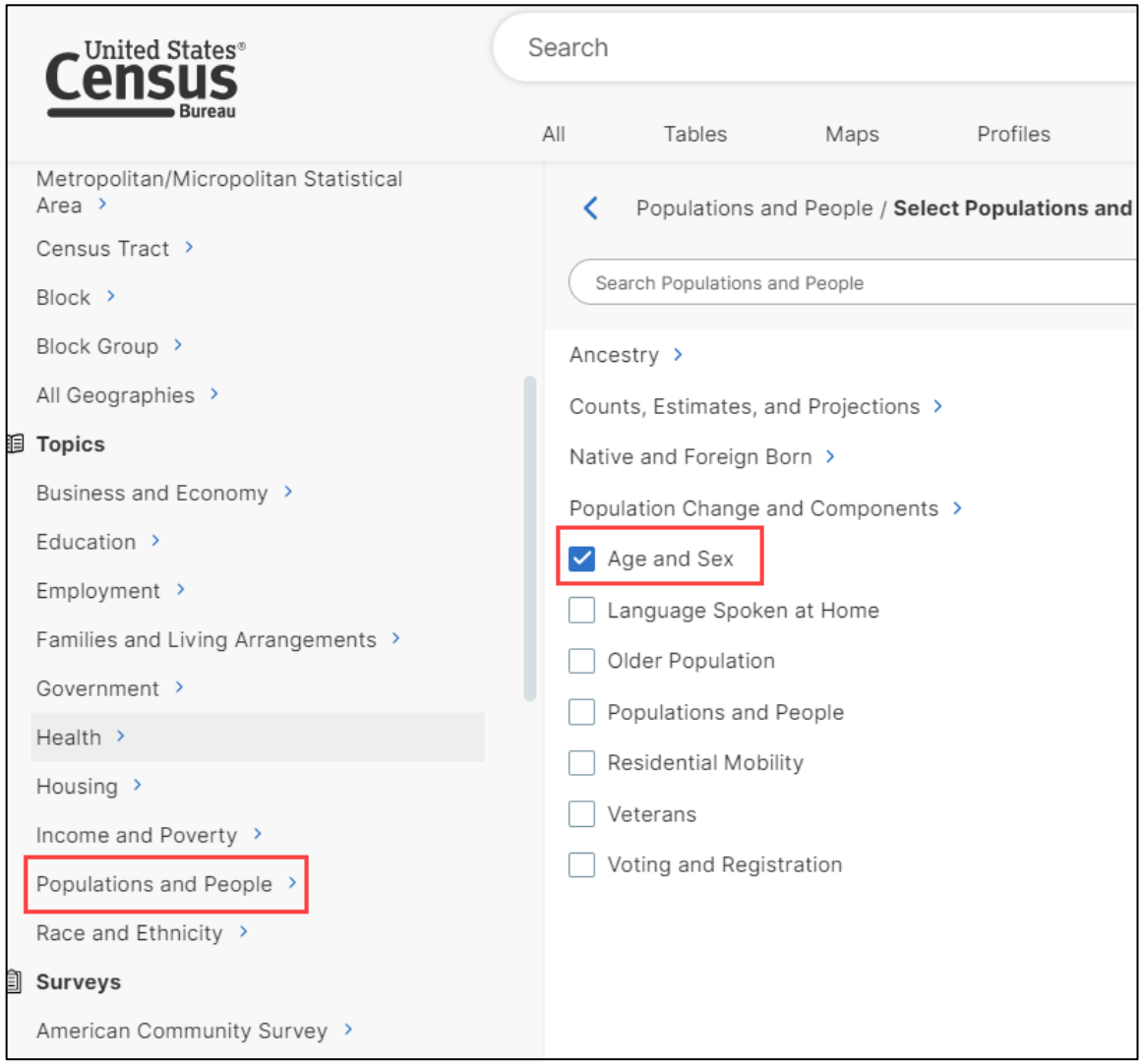
https://data.census.gov/

- Under Topics, select Populations and People and choose **Age and Sex**



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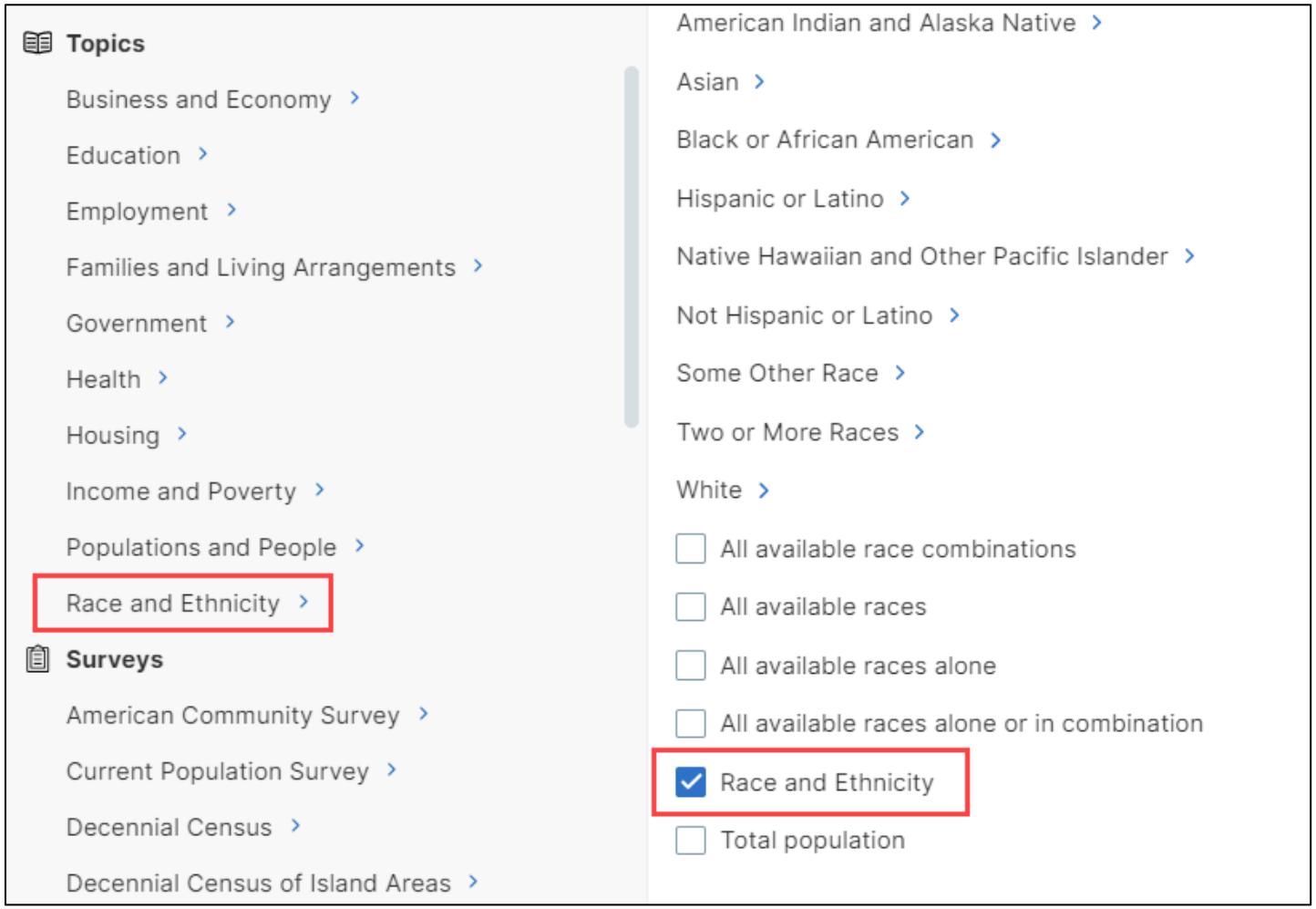
- Under Topics, select Race and Ethnicity and choose **Race and Ethnicity**



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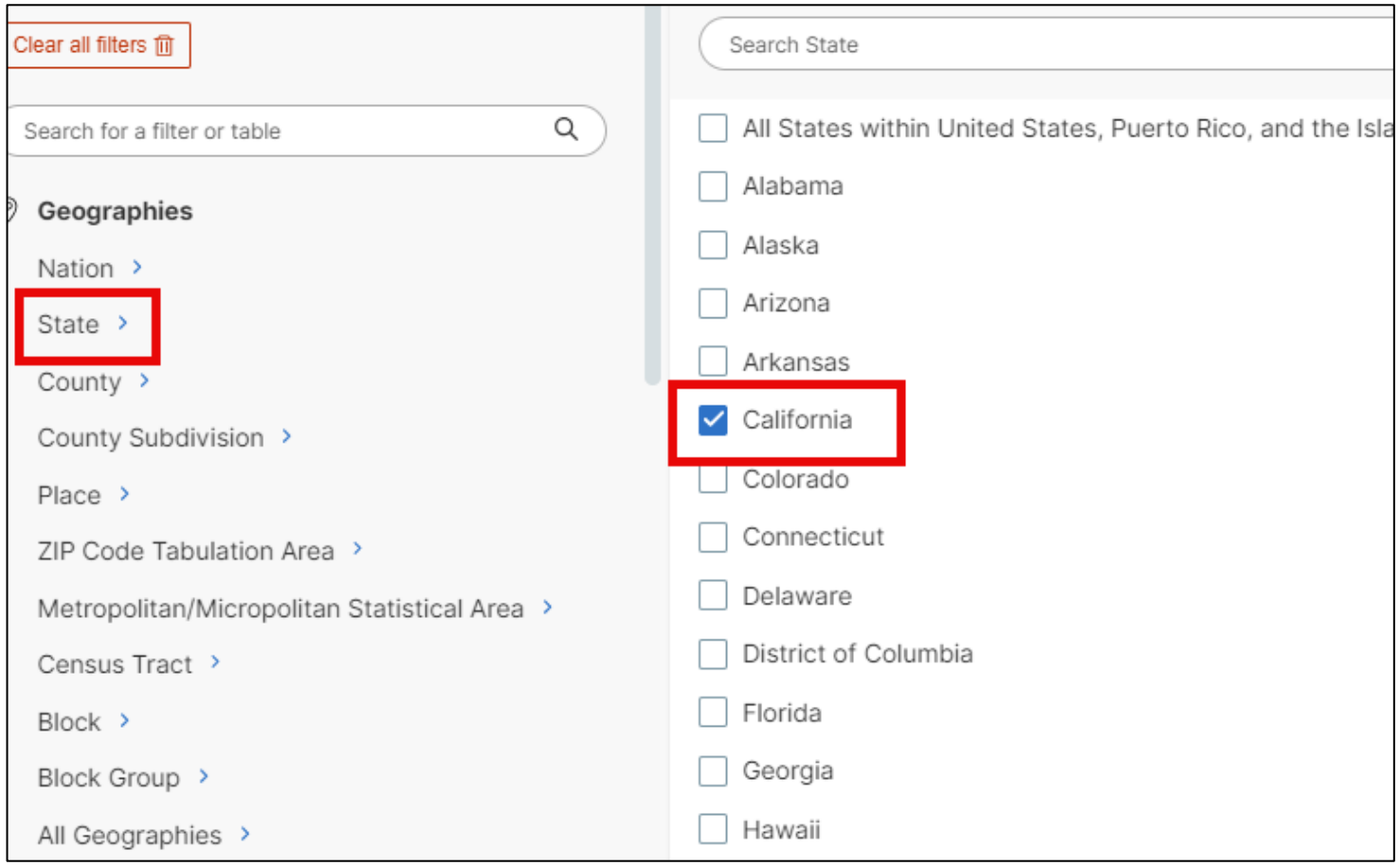
- Under geography, choose State > **California**.



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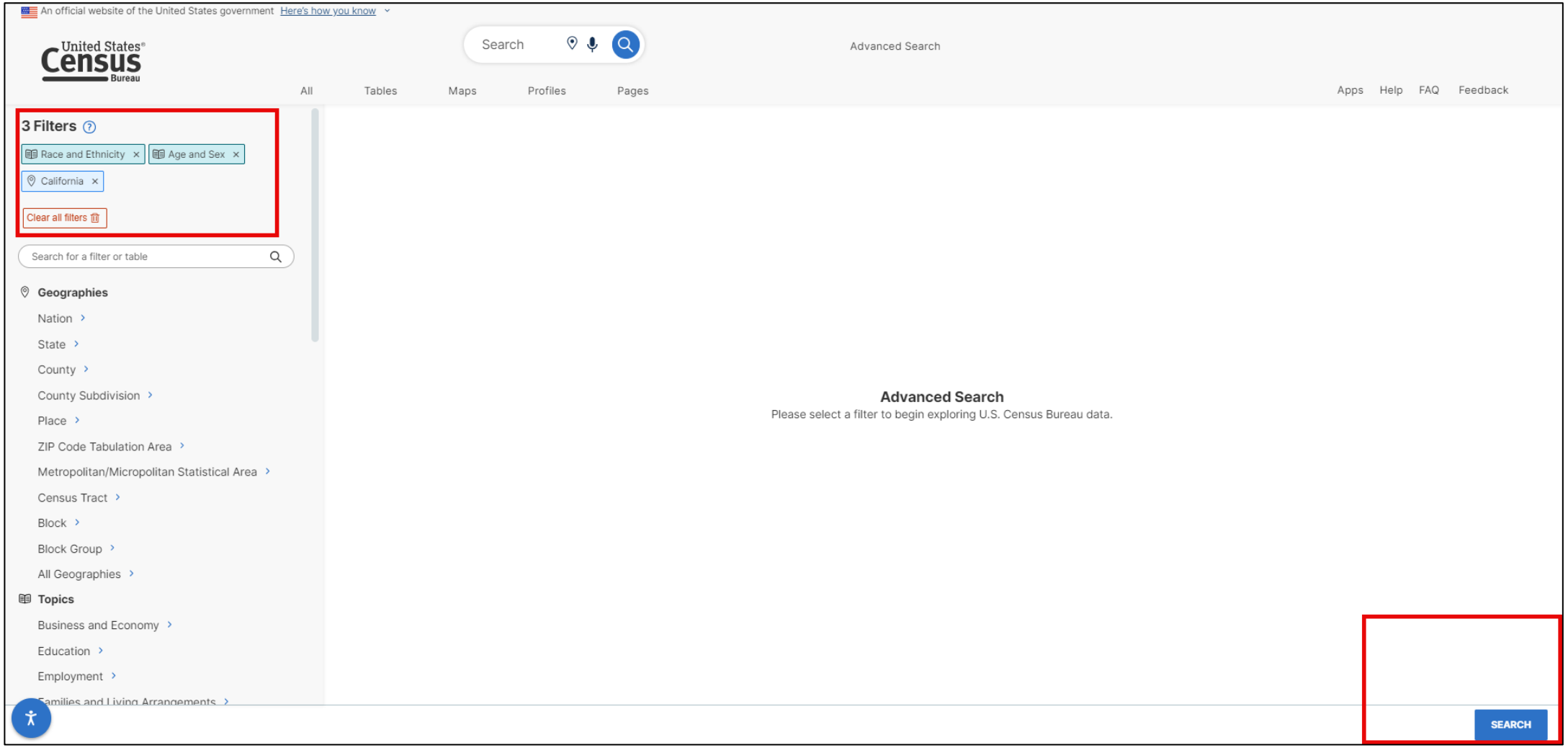
- Once all Filters are selected, click **Search** in the bottom right corner



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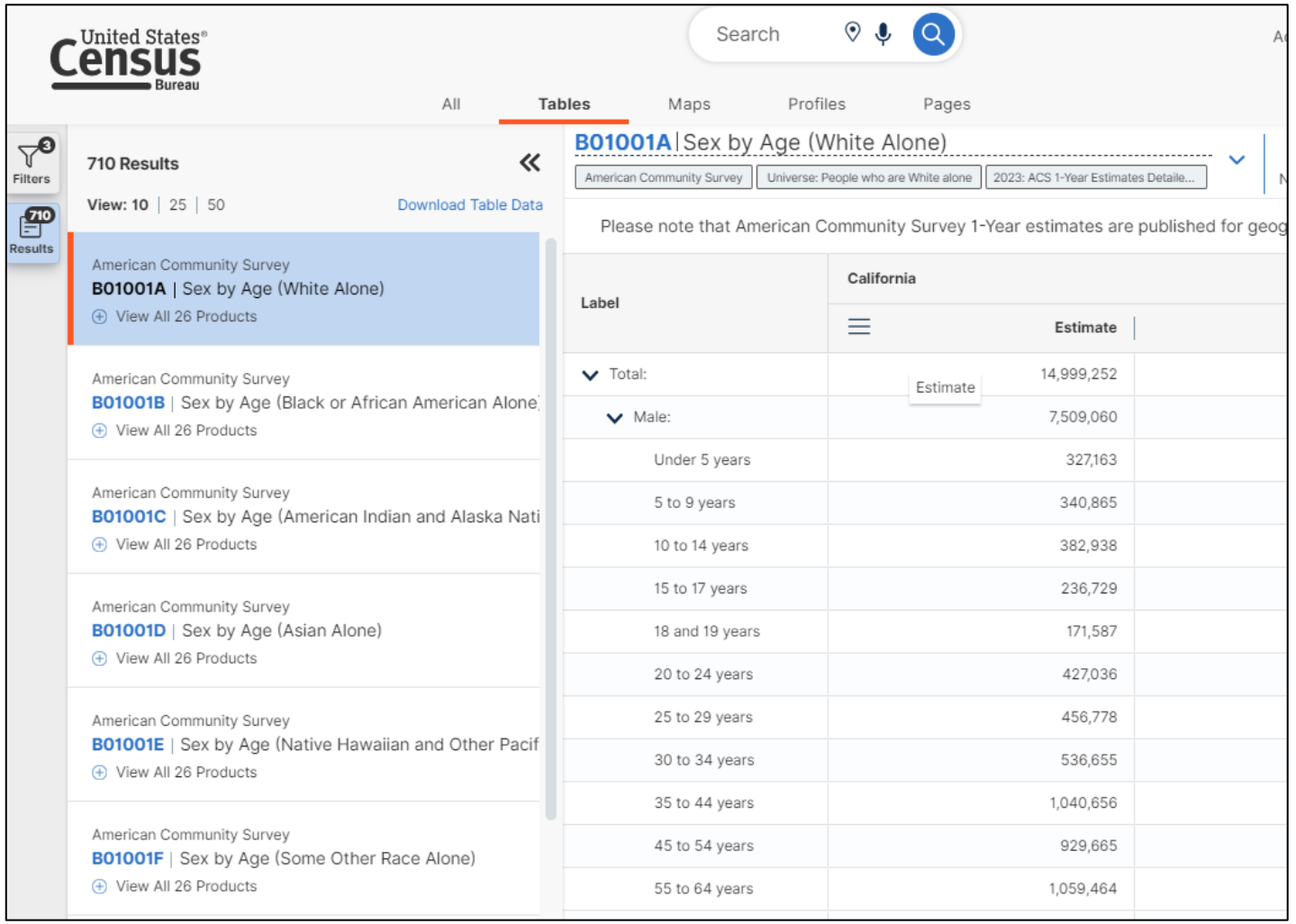
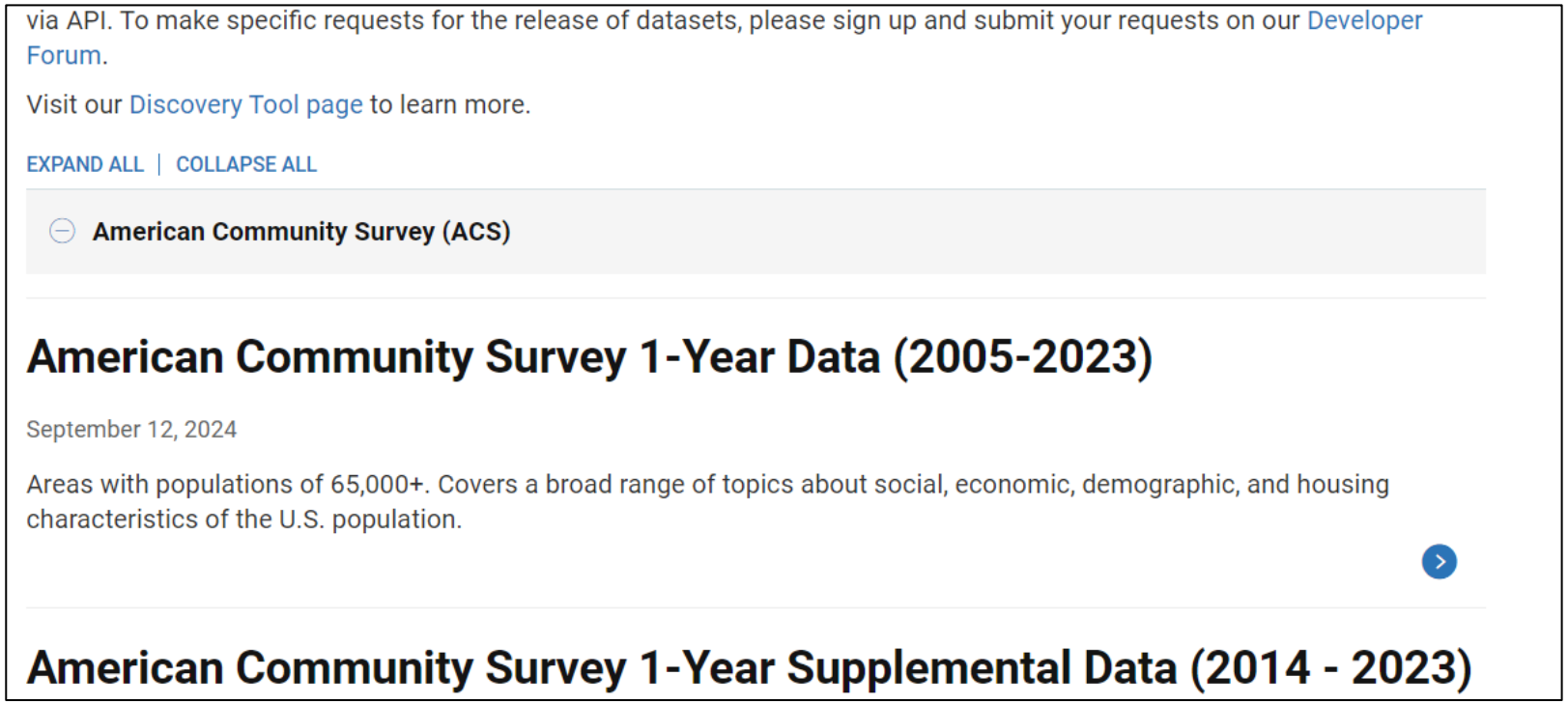
- Locate the B01001A-I series of tables from the ACS 1-Year Estimates.
- Data from all nine tables can be pulled from a single call using the API

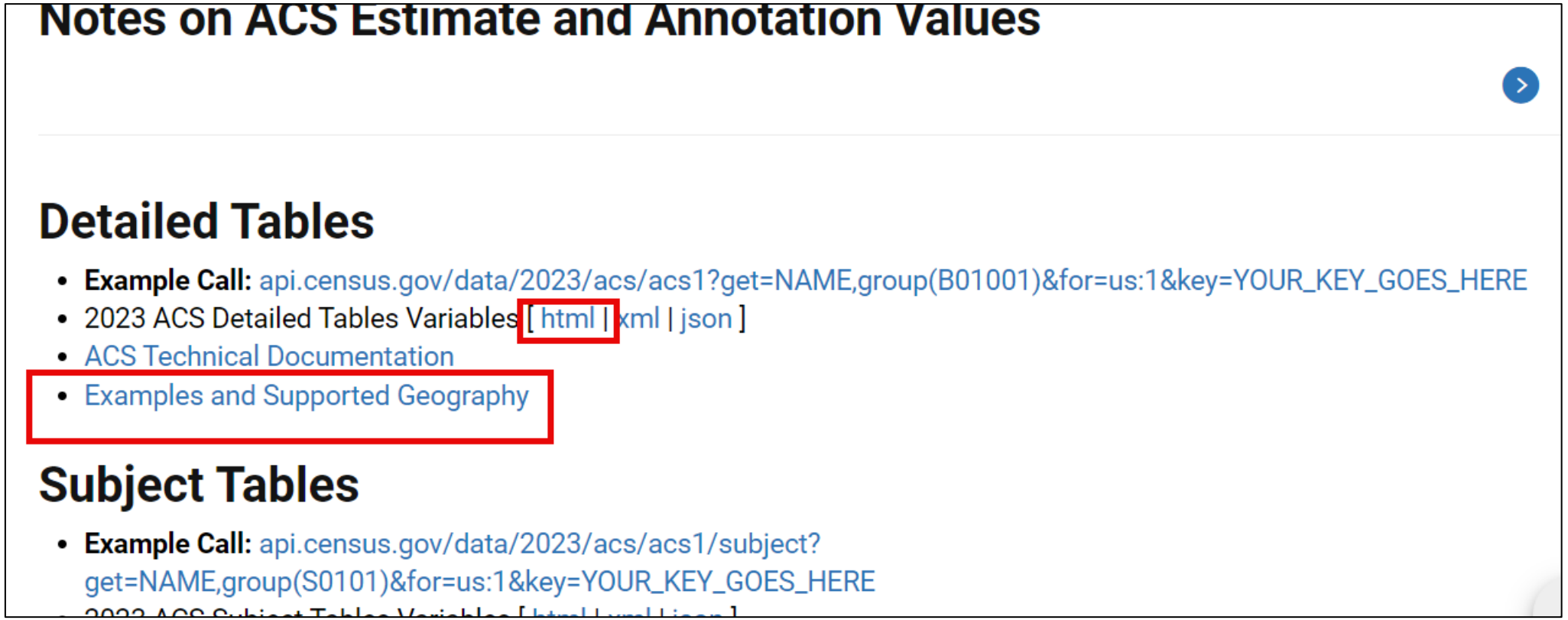


Male under 5 Population for multiple races/ethnicities in California

- Select the American Community Survey 1-Year Data on the Available APIs page



- Under Detailed Tables, open the **Variables html link** and **Examples link** in new tabs



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

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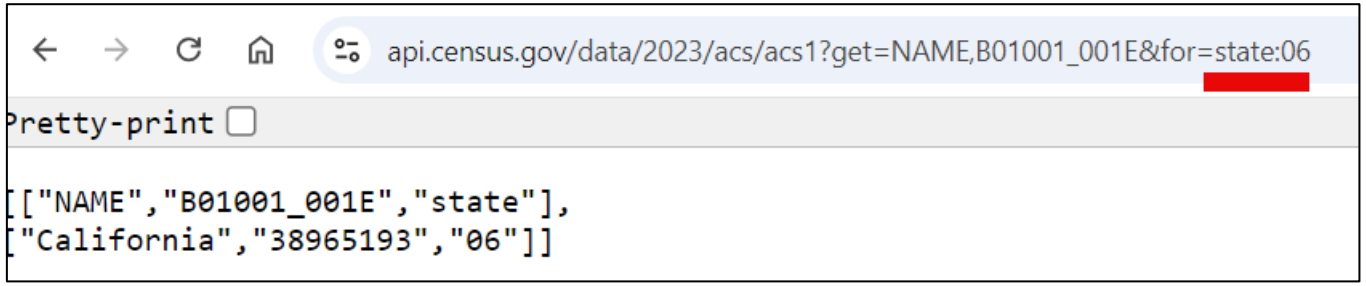
- Open either link for the State geography
- Update the URL to the California's state FIPs code (06)

Census API: Examples for /data/2023/acs/acs1

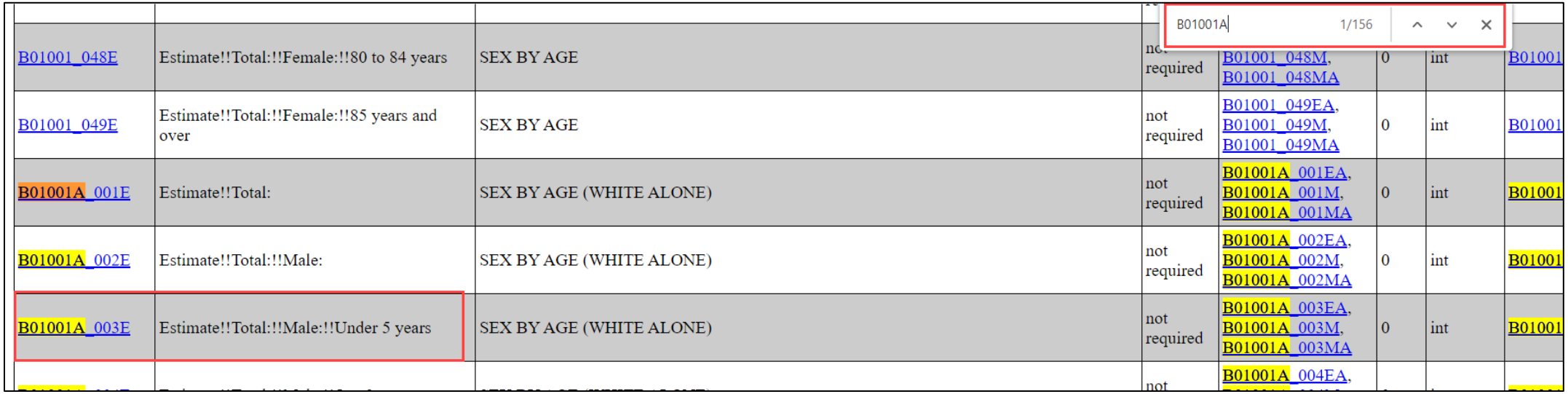
Geography Hierarchy	Geography Level	Example URL
us	010	https://api.census.gov/data/2023/acs/acs1?get=NAME,B01001_001E&for=us:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2023/acs/acs1?get=NAME,B01001_001E&for=us:1&key=YOUR_KEY_GOES_HERE
region	020	https://api.census.gov/data/2023/acs/acs1?get=NAME,B01001_001E&for=region:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2023/acs/acs1?get=NAME,B01001_001E&for=region:3&key=YOUR_KEY_GOES_HERE
division	030	https://api.census.gov/data/2023/acs/acs1?get=NAME,B01001_001E&for=division:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2023/acs/acs1?get=NAME,B01001_001E&for=division:5&key=YOUR_KEY_GOES_HERE
state	040	https://api.census.gov/data/2023/acs/acs1?get=NAME,B01001_001E&for=state:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2023/acs/acs1?get=NAME,B01001_001E&for=state:06&key=YOUR_KEY_GOES_HERE
state› county	050	https://api.census.gov/data/2023/acs/acs1?get=NAME,B01001_001E&for=county:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2023/acs/acs1?get=NAME,B01001_001E&for=county:*&in=state:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2023/acs/acs1?get=NAME,B01001_001E&for=county:037&in=state:06&key=YOUR_KEY_GOES_HERE



https://api.census.gov/data/2023/acs/acs1?get=NAME,B01001_001E&for=state:06

United States® Census Bureau

- Open the Variables link in your other tab
- Press **Ctrl+F** to open your browser's search feature, and search "B01001A"
- The variable for the Total Male Under 5 Population for the White alone race category is **B01001A_003E**
- The variable for the Total Female Under 5 Population for the White alone race category is **B01001A_018E**



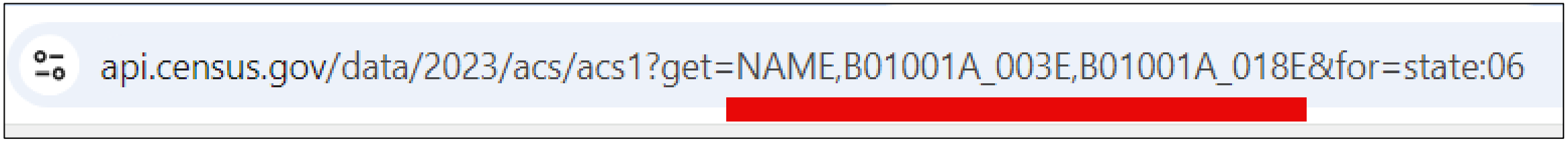
B01001_048E	Estimate!!Total:!!Female:!!80 to 84 years	SEX BY AGE	not required	B01001_048M, B01001_048MA	0	int
B01001_049E	Estimate!!Total:!!Female:!!85 years and over	SEX BY AGE	not required	B01001_049EA, B01001_049M, B01001_049MA	0	int
B01001A_001E	Estimate!!Total:	SEX BY AGE (WHITE ALONE)	not required	B01001A_001EA, B01001A_001M, B01001A_001MA	0	int
B01001A_002E	Estimate!!Total:!!Male:	SEX BY AGE (WHITE ALONE)	not required	B01001A_002EA, B01001A_002M, B01001A_002MA	0	int
B01001A_003E	Estimate!!Total:!!Male:!!Under 5 years	SEX BY AGE (WHITE ALONE)	not required	B01001A_003EA, B01001A_003M, B01001A_003MA	0	int
			not	B01001A_004EA,		

B01001A 1/156

https://api.census.gov/data/2023/acs/acs1/variables.html

United States® Census Bureau

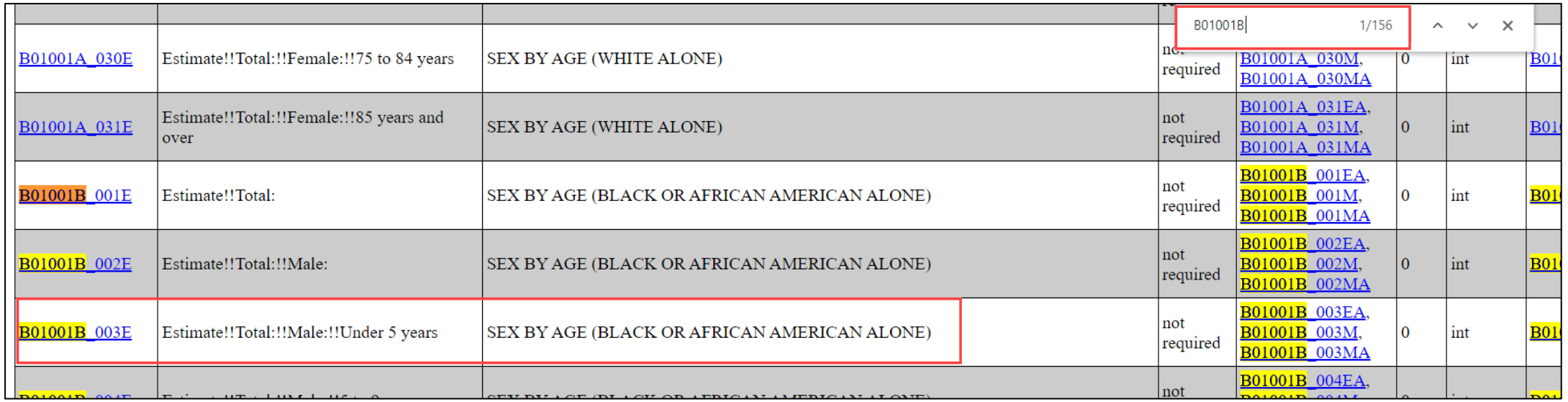
- Go back to your other tab where you are building out your API query
- Replace the default variable in the URL with **B01001A_003E,B01001A_018E** following NAME



https://api.census.gov/data/2023/acs/acs1?get=NAME,B01001A_003E,B01001A_018E&for=state:06

United States® Census Bureau

- Navigate back to the Variables link in the other tab
- Press Ctrl+F to open your browser's search feature, and search "B01001B"
- The variable for the Total Male Under 5 Population for Black or African American Alone race is **B01001B_003E**
- The variable for the Total Female Under 5 Population for Black or African American Alone race is **B01001B_018E**

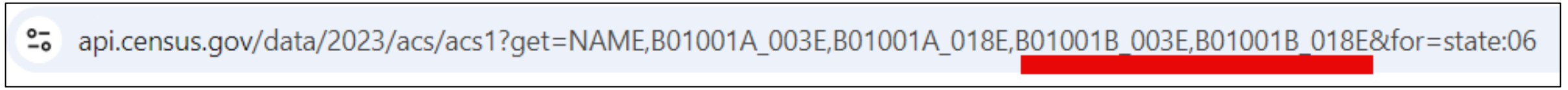


B01001A_030E	Estimate!!Total:!!Female:!!75 to 84 years	SEX BY AGE (WHITE ALONE)	not required	B01001A_030M, B01001A_030MA	0	int	B01
B01001A_031E	Estimate!!Total:!!Female:!!85 years and over	SEX BY AGE (WHITE ALONE)	not required	B01001A_031EA, B01001A_031M, B01001A_031MA	0	int	B01
B01001B_001E	Estimate!!Total:	SEX BY AGE (BLACK OR AFRICAN AMERICAN ALONE)	not required	B01001B_001EA, B01001B_001M, B01001B_001MA	0	int	B01
B01001B_002E	Estimate!!Total:!!Male:	SEX BY AGE (BLACK OR AFRICAN AMERICAN ALONE)	not required	B01001B_002EA, B01001B_002M, B01001B_002MA	0	int	B01
B01001B_003E	Estimate!!Total:!!Male:!!Under 5 years	SEX BY AGE (BLACK OR AFRICAN AMERICAN ALONE)	not required	B01001B_003EA, B01001B_003M, B01001B_003MA	0	int	B01
			not	B01001B_004EA,			

https://api.census.gov/data/2023/acs/acs1/variables.html

United States® Census Bureau

- Go back to your other tab where you are building out your API query
- Add in variables B01001B_003E,B01001B_018E after the previous variable
  - Variables need to be separated by commas

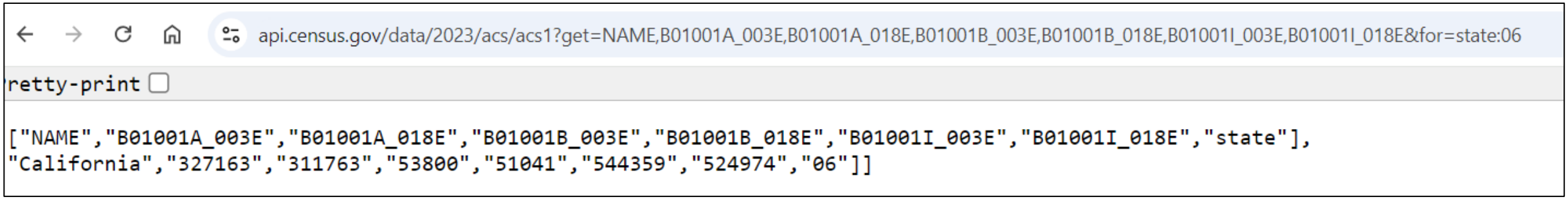


https://api.census.gov/data/2023/acs/acs1?get=NAME,B01001A_003E,B01001A_018E,B01001B_003E,B01001B_018E&for=state:06

United States® Census Bureau

- Repeat the steps of searching and adding in variables for the desired racial and ethnic groups
  - You can add up to 50 variables in a single API query

- In the example below, we are looking at the Male/Female under 5 population for the White alone, Black alone, and Hispanic or Latino alone population in California from the 2023 ACS 1-Year Estimates



https://api.census.gov/data/2023/acs/acs1?get=NAME,B01001A_003E,B01001A_018E,B01001B_003E,B01001B_018E,B01001I_003E,B01001I_018E&for=state:06

United States® Census Bureau

Groups Functionality – Get All Results for a Table

- Add **group([insert table id])** as a variable in the query
  - Example: **group(B01001A)**
- Pull results for more than 50 variables in a single call
- Pull data from tables not available on data.census.gov
  - Example: 2005 ACS 1-Year Estimates

United States® Census Bureau

Census API

Accessing and downloading an entire table

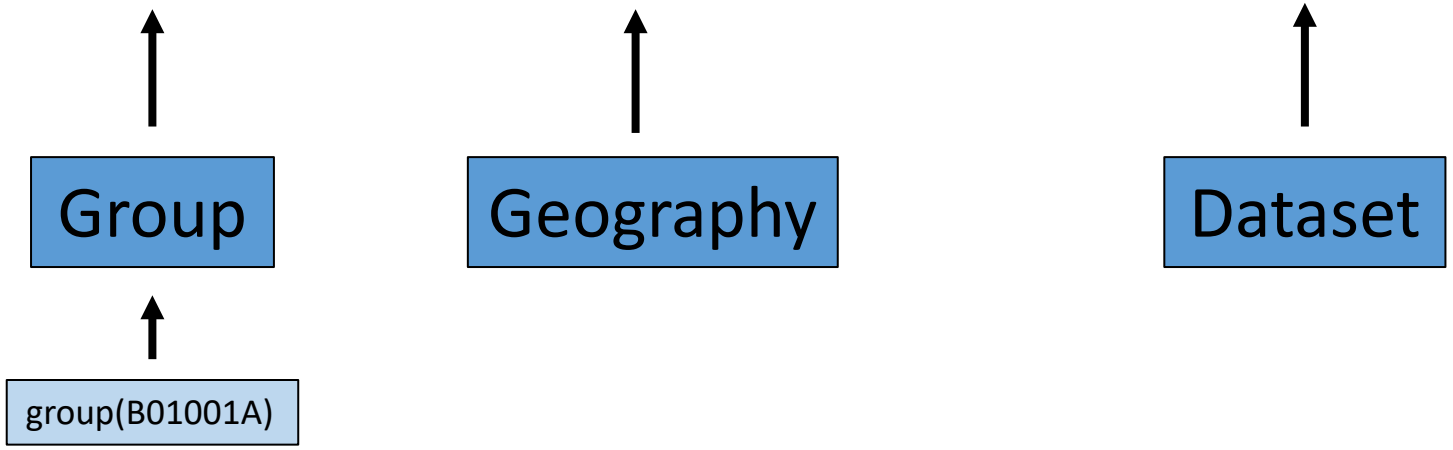
- Download a Sex by Age table (B01001A) for all Places in California using the 2005 ACS 1-Year Estimates

United States® Census Bureau

Census API

Accessing and downloading an entire table

- Download a Sex by Age table (**B01001A**) for **all Places in California** using the **2005 ACS 1-Year Estimates**



United States® Census Bureau

Tutorial on adding in variable names to downloaded tables

- https://www.youtube.com/watch?v=Gv95TSk5nNI
  - If you already have your table downloaded as a CSV, skip to 6:48 in the video for instructions on cleaning up the file and adding in variable labels

	A	B	C	D
1	[["DP03_0001E"	DP03_0001EA	DP03_0001M	DP03_0001MA
2	["61725"	null	462	null
3	["134883"	null	2275	null
4	["80215"	null	490	null
5	["246271"	null	2774	null
6	["579116"	null	1572	null
7	["53816"	null	769	null
8	["116771"	null	2057	null
9	["105687"	null	779	null
10	["731319"	null	1457	null
11	["75435"	null	670	null
12	["739261"	null	2580	null
13	["120165"	null	766	null
14	["689845"	null	1552	null

Initial download of DP03 from the API

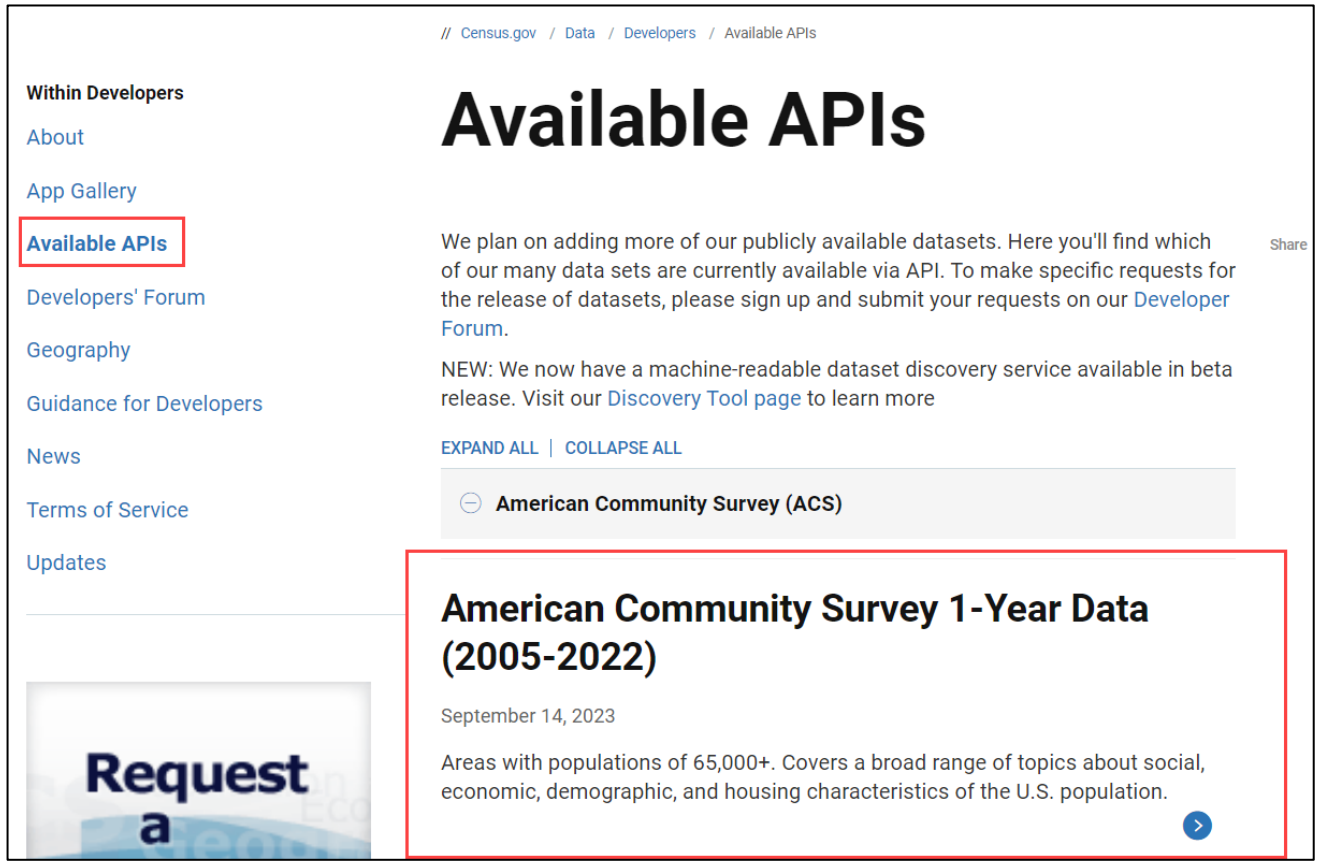
	A	B	C
1	NAME	DP03_0001E	DP03_0001EA
2		Estimate!!EMPLOYMENT STATUS!!Population 16 years and over	#N/A
3	Aberdeen, WA Micro Area	61725	null
4	Abilene, TX Metro Area	134883	null
5	Adrian, MI Micro Area	80215	null
6	Aguadilla-Isabela, PR Metro Area	246271	null
7	Akron, OH Metro Area	579116	null
8	Alamogordo, NM Micro Area	53816	null
9	Albany, GA Metro Area	116771	null
10	Albany-Lebanon, OR Metro Area	105687	null

Edited download with data cleaned up and variable labels added in

United States® Census Bureau

Download table B01001A for all Places in California for the year 2005

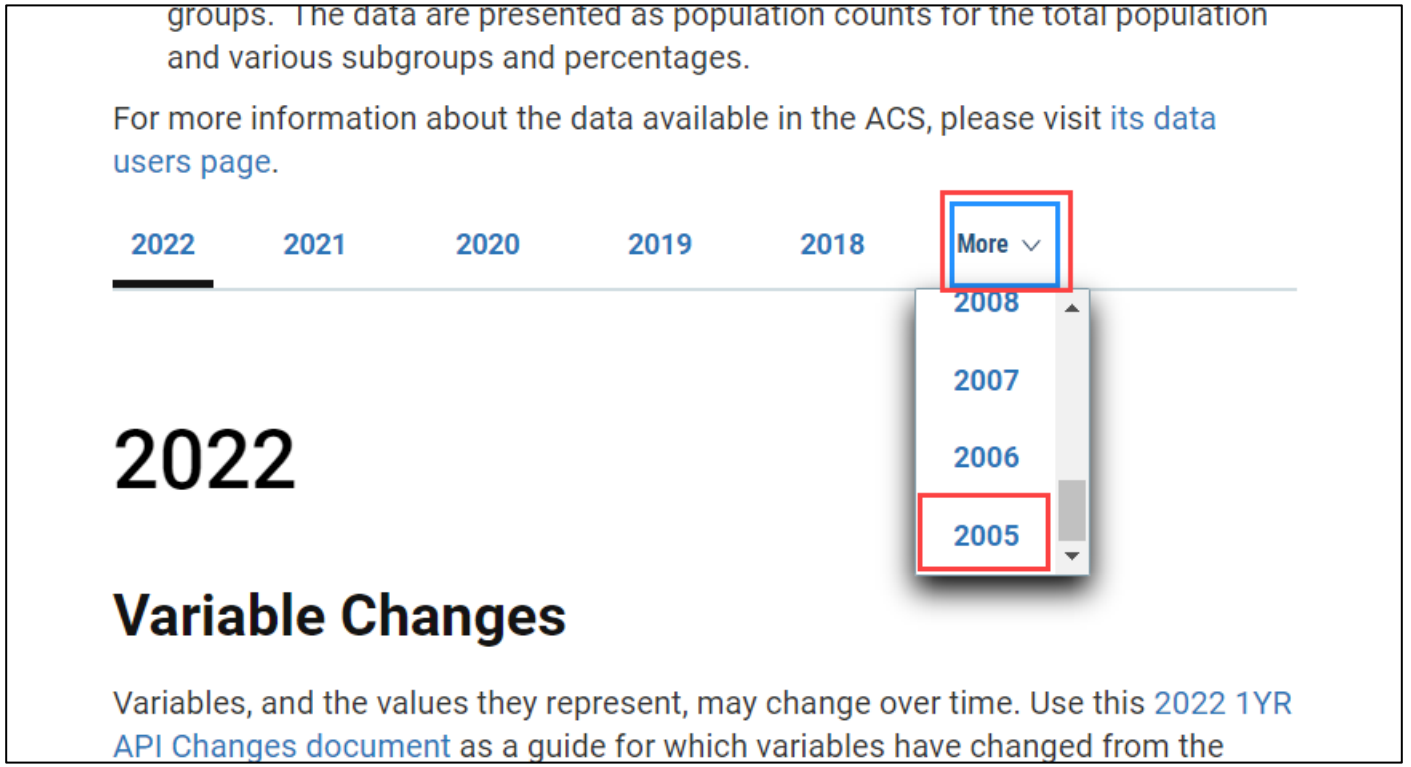
- Select the American Community Survey 1-Year Data on the Available APIs page



United States® Census Bureau

census.gov/data/developers/data-sets.html

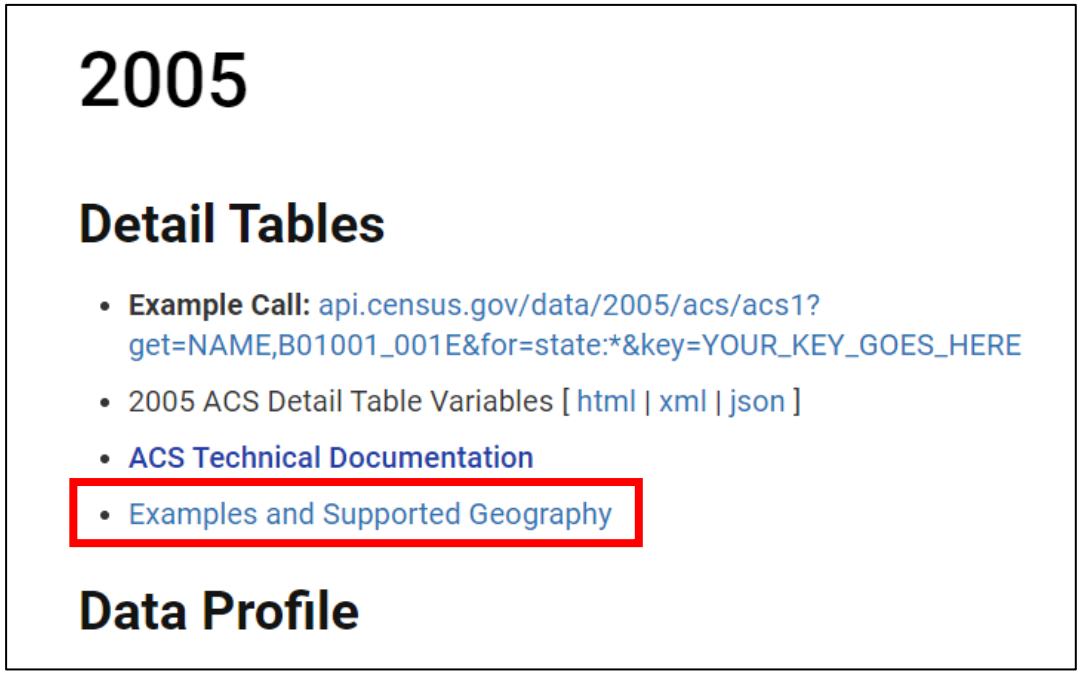
- Using the More dropdown menu, change the year from 2023 to **2005**



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

United States® Census Bureau

- Under Detailed Tables, open **Examples and Supported Geography**



https://www.census.gov/data/developers/data-sets/acs-1year.2005.html

United States® Census Bureau

- Open the **Variables** and **Examples** links in new tabs

Census API: Datasets in /data/2005/acs/acs1 and its descendants

Title	Description	Vintage	Dataset Name	Dataset Type	Geography List	Variable List	Group List	SortList	Examples	Developer Documentation	API Base URL
American Community Survey: 1-Year Estimates: Detailed Tables 1-Year	The American Community Survey (ACS) is an ongoing survey that provides data every year -- giving communities the current information they need to plan investments and services. The ACS covers a broad range of topics about social, economic, demographic, and housing characteristics of the U.S. population. Much of the ACS data provided on the Census Bureau's Web site are available separately by age group, race, Hispanic origin, and sex. Summary files, Subject tables, Data profiles, and Comparison profiles are available for the nation, 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. Detail Tables contain the most detailed cross-tabulations published for areas 65k and more. The data are population counts. There are over 31,000 variables in this dataset.	2005	acs› acs1	Aggregate	geographies	variables	groups	sorts	examples	documentation	http://api.census.gov/data/2005/acs/acs1

https://api.census.gov/data/2005/acs/acs1.html

United States® Census Bureau

- Go to the Examples page
- Under the state > place geography, open the 2nd link which has **&for=place:*&in=state:*** in the URL

subdivision		https://api.census.gov/data/2005/acs/acs1?get=NAME,B01001_001E&for=county%20subdivision:08070&in=state:09%20county:001&key=
state› place	160	https://api.census.gov/data/2005/acs/acs1?get=NAME,B01001_001E&for=place:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2005/acs/acs1?get=NAME,B01001_001E&for=place:*&in=state:*&key=YOUR_KEY_GOES_HERE
		https://api.census.gov/data/2005/acs/acs1?get=NAME,B01001_001E&for=place:07000&in=state:01&key=YOUR_KEY_GOES_HERE
american indian		

https://api.census.gov/data/2005/acs/acs1/examples.html

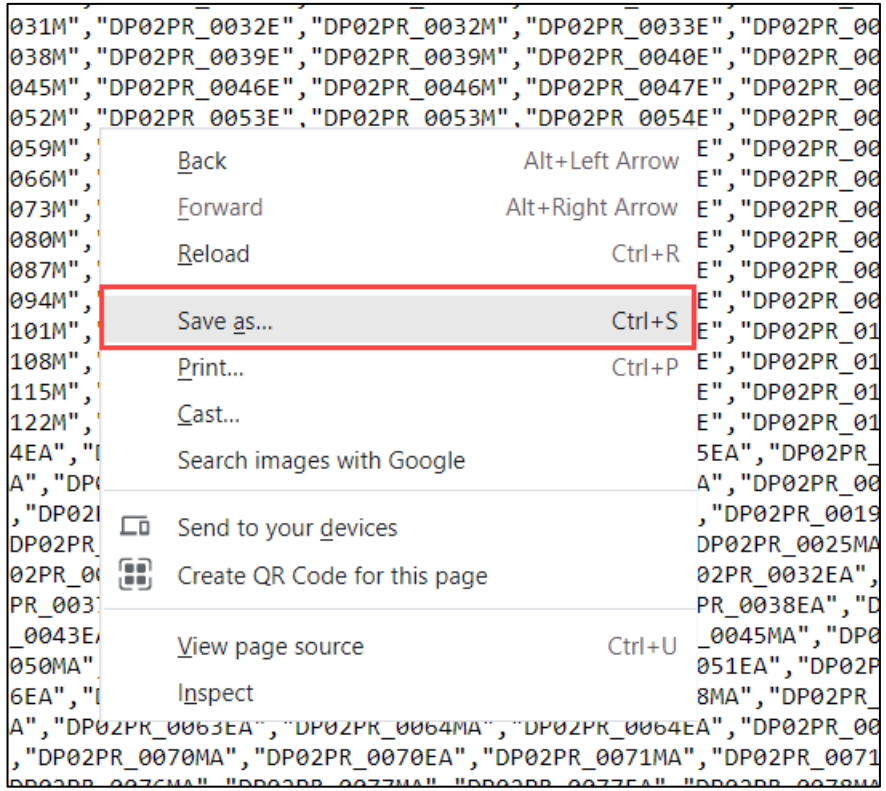
United States® Census Bureau

- Update the URL by replacing NAME,B01001_001E with **group(B01001A)**
- Update the geography with the state FIPs code for California, **06**
- Press Enter to reload the page

https://api.census.gov/data/2005/acs/acs1?get=group(B01001A)&for=place:*&in=state:06

United States® Census Bureau

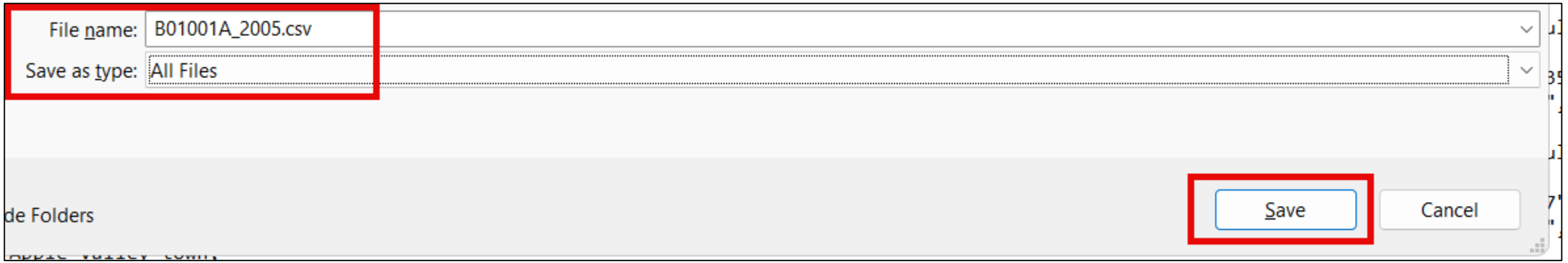
- Right click anywhere on the page and choose **Save As**



https://api.census.gov/data/2005/acs/acs1?get=group(B01001A)&for=place:*&in=state:06

United States® Census Bureau

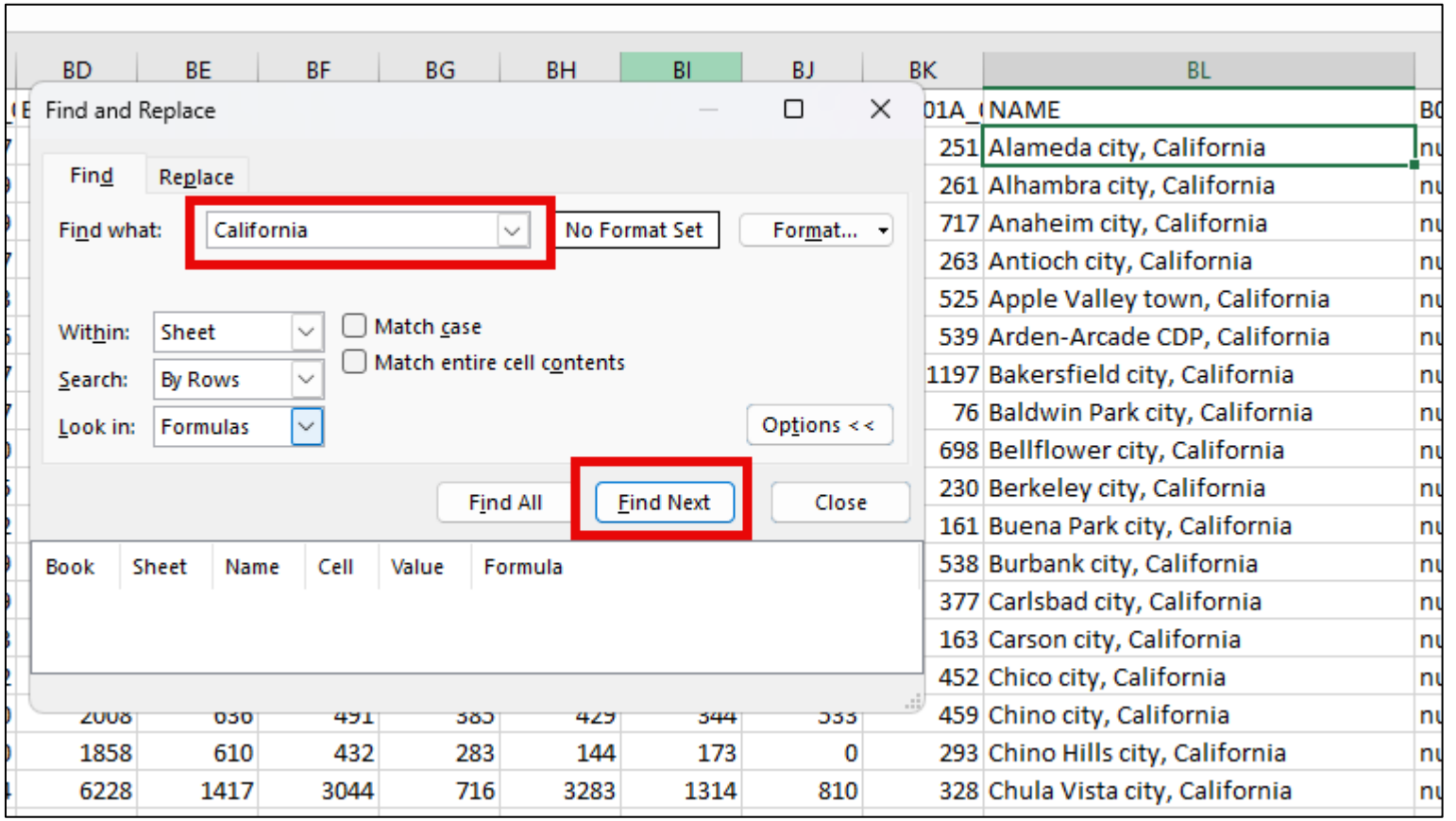
- Name your file – The file name can be anything, however there must be a **.csv** at the end of the file name
- Change the Save as type to **All files**
- Click **Save**



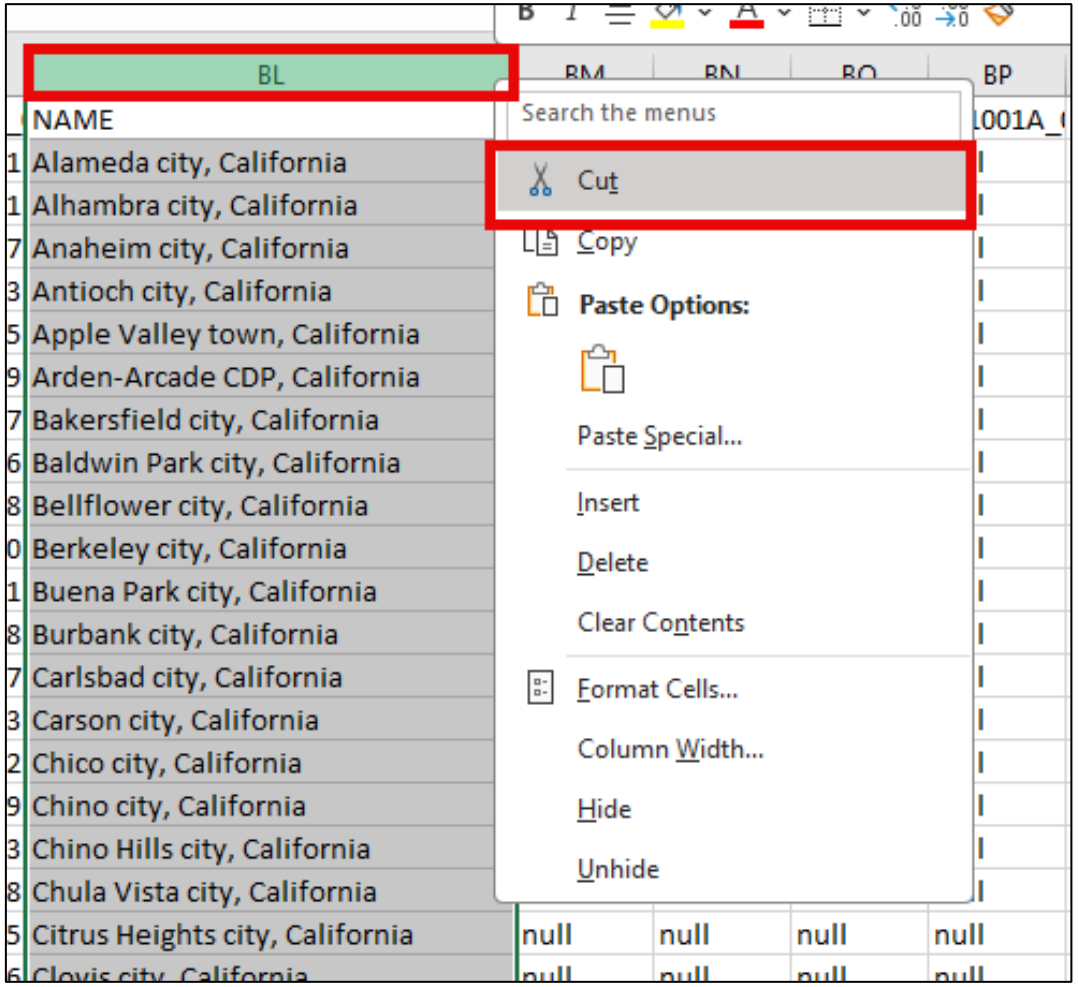
https://api.census.gov/data/2005/acs/acs1?get=group(B01001A)&for=place:*&in=state:06

United States® Census Bureau

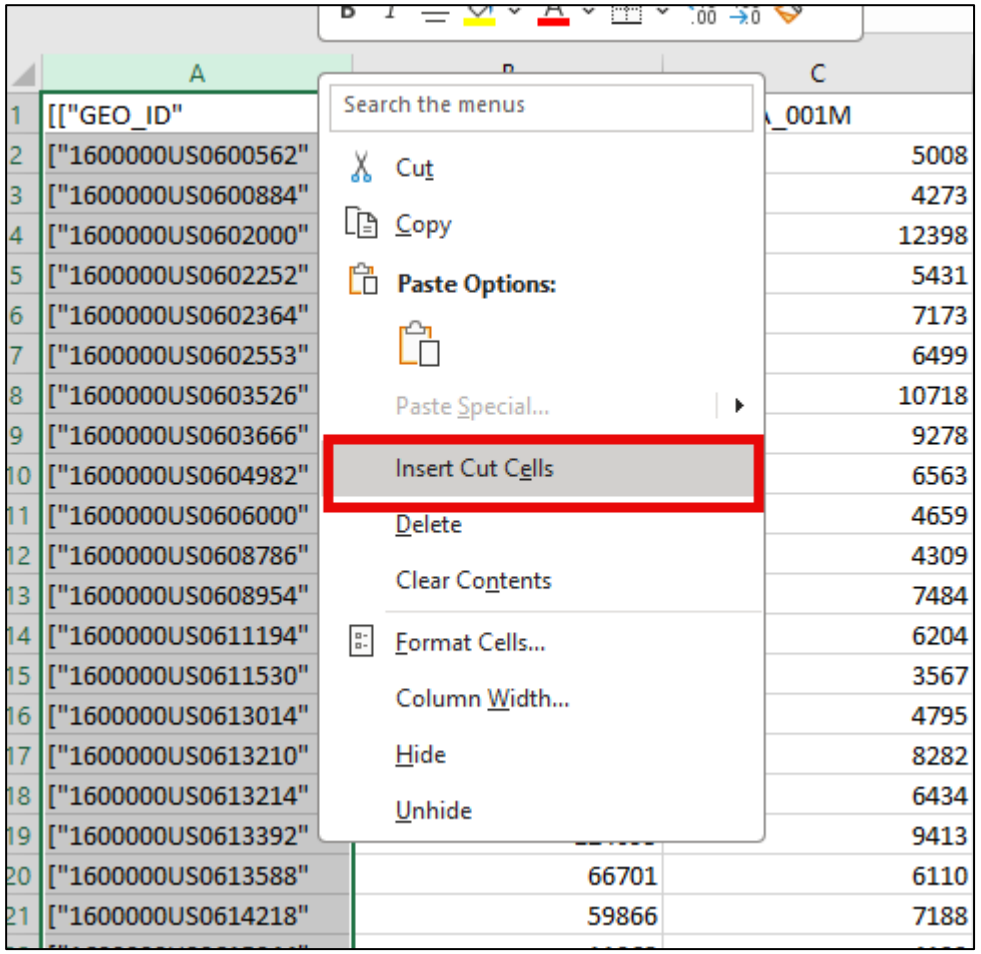
- Open the saved file
- First, to locate the geography NAME column - Press **Ctrl+F** in Excel and search for **California**



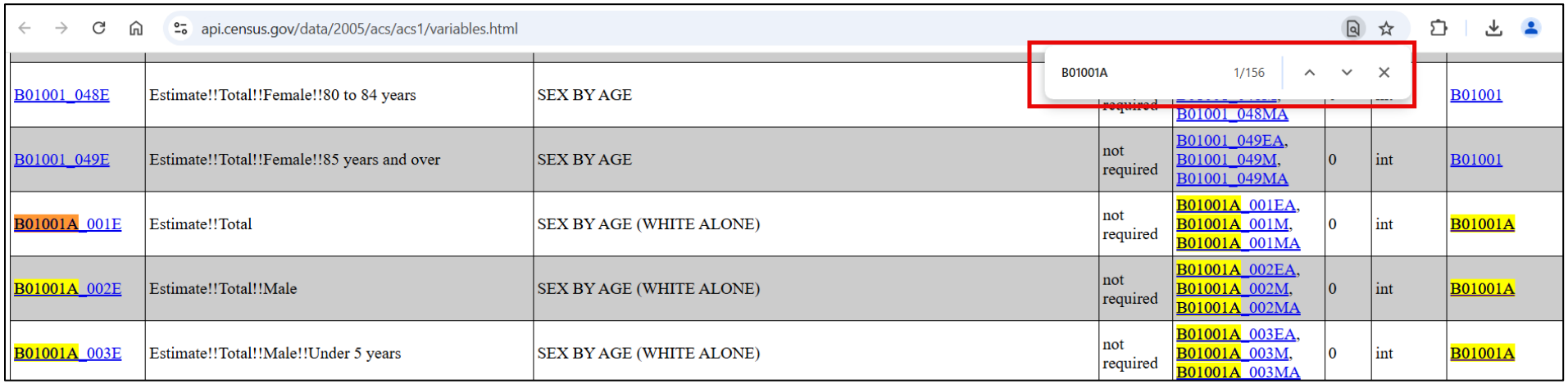
- **Right click** on the NAME column and choose **Cut**



- **Right click** on the Column A and choose **Insert Cut Cells**
  - This will place the geography names in Column A to make the file easier to read



- Back on the Variables page in your browser, search using **Ctrl+F** for **B01001A**
- These are the variables that will match up with the Excel file



B01001_048E	Estimate!!Total!!Female!!80 to 84 years	SEX BY AGE		B01001_048MA			B01001
B01001_049E	Estimate!!Total!!Female!!85 years and over	SEX BY AGE	not required	B01001_049EA, B01001_049M, B01001_049MA	0	int	B01001
B01001A_001E	Estimate!!Total	SEX BY AGE (WHITE ALONE)	not required	B01001A_001EA, B01001A_001M, B01001A_001MA	0	int	B01001A
B01001A_002E	Estimate!!Total!!Male	SEX BY AGE (WHITE ALONE)	not required	B01001A_002EA, B01001A_002M, B01001A_002MA	0	int	B01001A
B01001A_003E	Estimate!!Total!!Male!!Under 5 years	SEX BY AGE (WHITE ALONE)	not required	B01001A_003EA, B01001A_003M, B01001A_003MA	0	int	B01001A

	A	B	C	D	E	
	NAME	[["GEO_ID"	B01001A_001E	B01001A_001M	B01001A_002E	B01001
2	Alameda city, California	["1600000US0600562"	42022	5008	20960	
3	Alhambra city, California	["1600000US0600884"	21150	4273	10032	
4	Anaheim city, California	["1600000US0602000"	199851	12398	99974	
5	Antioch city, California	["1600000US0602252"	49114	5431	25623	
6	Apple Valley town, Califor	["1600000US0602364"	47553	7173	23860	
7	Arden-Arcade CDP, Califor	["1600000US0602553"	71721	6499	34852	
8	Bakersfield city, California	["1600000US0603526"	168271	10718	81313	

https://api.census.gov/data/2005/acs/acs1/variables.html

- For instructions on pulling the variable labels directly into Excel, see this video:
  - https://www.census.gov/library/video/2020/using-api-all-results-for-acs-table.html

	A	B	C	D	E	F	G
1	NAME	[["GEO_ID"	B01001A_001E	B01001A_001M	B01001A_002E	B01001A_002M	B01001A_003E
2			Estimate!!Total	#N/A	Estimate!!Total!!Male	#N/A	Estimate!!Total!!Male!!Under 5 years
3	Alameda city, California	["1600000US0600562"	42022	5008	20960	2992	1613
4	Alhambra city, California	["1600000US0600884"	21150	4273	10032	2100	755
5	Anaheim city, California	["1600000US0602000"	199851	12398	99974	6946	8718
6	Antioch city, California	["1600000US0602252"	49114	5431	25623	3147	2484
7	Apple Valley town, Califor	["1600000US0602364"	47553	7173	23860	3858	2245
8	Arden-Arcade CDP, Califor	["1600000US0602553"	71721	6499	34852	4172	1927
9	Bakersfield city, California	["1600000US0603526"	168271	10718	81313	5940	6352
10	Baldwin Park city, Californ	["1600000US0603666"	32968	9278	14950	3776	1206

Census API

Accessing Microdata via MDAT and the API

- Find single year of age data using the 2022 ACS 5-Year Public Use Microdata Sample (PUMS) Estimates for the Sacramento County (Northeast) PUMA

United States® Census Bureau

Dual Vintages

- 2022 5-year estimates are the first to use both 2010 and 2020 PUMA boundaries
  - 2022 5-year estimates comprised of 2018, 2019, 2020, 2021, and 2022
    - 2018 – uses 2010 PUMA boundaries
    - 2019 – uses 2010 PUMA boundaries
    - 2020 – uses 2010 PUMA boundaries
    - 2021 – uses 2010 PUMA boundaries
    - 2022 – uses 2020 PUMA boundaries
  - 2023 5-year estimates comprised of 2019, 2020, 2021, 2022, and 2023
    - 2019 – uses 2010 PUMA boundaries
    - 2020 – uses 2010 PUMA boundaries
    - 2021 – uses 2010 PUMA boundaries
    - 2022 – uses 2020 PUMA boundaries
    - 2023 – uses 2020 PUMA boundaries

Dual Vintages Continue Until Release of 2026 5-Year PUMS

- **2022 5-year estimates** comprised of 2018, 2019, 2020, 2021, and 2022
  - 2018 – uses 2010 PUMA boundaries
  - 2019 – uses 2010 PUMA boundaries
  - 2020 – uses 2010 PUMA boundaries
  - 2021 – uses 2010 PUMA boundaries
  - 2022 – uses 2020 PUMA boundaries
- **2023 5-year estimates** comprised of 2019, 2020, 2021, 2022, and 2023
  - 2019 – uses 2010 PUMA boundaries
  - 2020 – uses 2010 PUMA boundaries
  - 2021 – uses 2010 PUMA boundaries
  - 2022 – uses 2020 PUMA boundaries
  - 2023 – uses 2020 PUMA boundaries
- **2024 5-year estimates** comprised of 2020, 2021, 2022, 2023, and 2024
  - 2020 – uses 2010 PUMA boundaries
  - 2021 – uses 2010 PUMA boundaries
  - 2022 – uses 2020 PUMA boundaries
  - 2023 – uses 2020 PUMA boundaries
  - 2024 – uses 2020 PUMA boundaries
- **2025 5-year estimates** comprised of 2021, 2022, 2023, 2024, and 2025
  - 2021 – uses 2010 PUMA boundaries
  - 2022 – uses 2020 PUMA boundaries
  - 2023 – uses 2020 PUMA boundaries
  - 2024 – uses 2020 PUMA boundaries
  - 2025 – uses 2020 PUMA boundaries

No more dual vintages until 2030 Census

- **2026 5-year estimates** comprised of 2022, 2023, 2024, 2025, and 2026
  - 2022 – uses 2020 PUMA boundaries
  - 2023 – uses 2020 PUMA boundaries
  - 2024 – uses 2020 PUMA boundaries
  - 2025 – uses 2020 PUMA boundaries
  - 2024 – uses 2020 PUMA boundaries

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Due to disclosure concerns, it is not possible for the Census Bureau to update the PUMA codes for the records from 2021 and earlier to 2020-based PUMAs by using their detailed geographic locations.

Alternatives to using dual vintage PUMAs

- Please be aware that the process to create custom tables on MDAT for ACS 5-year PUMS with dual vintage PUMAs data is difficult.

- If you need data for multiple PUMAs, you may want to consider other alternatives such as:

1. Using ACS 1-year PUMS instead of ACS 5-year PUMS.
2. Using vintages of the ACS 5-year PUMS that do not contain dual-vintage PUMAs, such as the 2021 ACS 5-year PUMS.
3. Downloading microdata from the ACS FTP site to create custom tables using your own statistical software instead of using MDAT.

United States® Census Bureau

Getting data on dual vintages

- The process to get a create a custom table for ACS 5-year PUMS with dual vintage PUMAs on the Microdata Access Tool includes a minimum of 3 steps:

1. Create one MDAT table using the PUMA10 variable
2. Create a separate MDAT table using the PUMA20 variable
3. Add data together to get the overall estimate, taking into account geography changes between the vintage.
4. (Optional) – Get the API queries for your created tables

United States® Census Bureau

Census API

Accessing Microdata via MDAT and the API

- Find single year of age data using the 2022 ACS 5-Year Public Use Microdata Sample (PUMS) Estimates for the Sacramento County (Northeast) PUMA

United States® Census Bureau

Census API

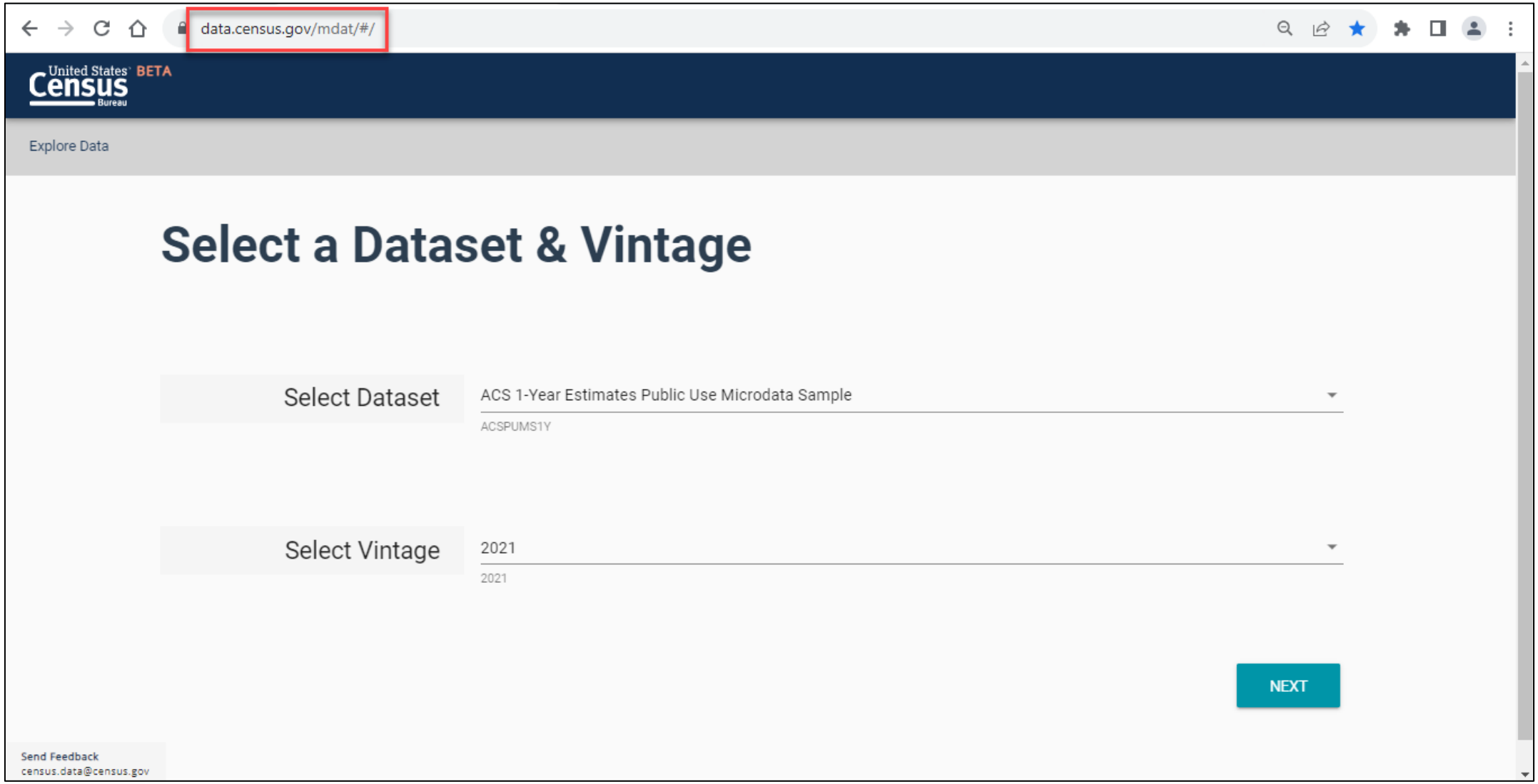
Accessing Microdata via MDAT and the API

- Find single year of age data using the 2022 ACS 5-Year Public Use Microdata Sample (PUMS) Estimates for the Sacramento County (Northeast) PUMA

Dataset	→	2022 ACS 5-Year PUMS
Geography	→	Sacramento County NE PUMA (PUMA10/PUMA20 code: 06712)
Variable	→	Single year of age (AGEP)

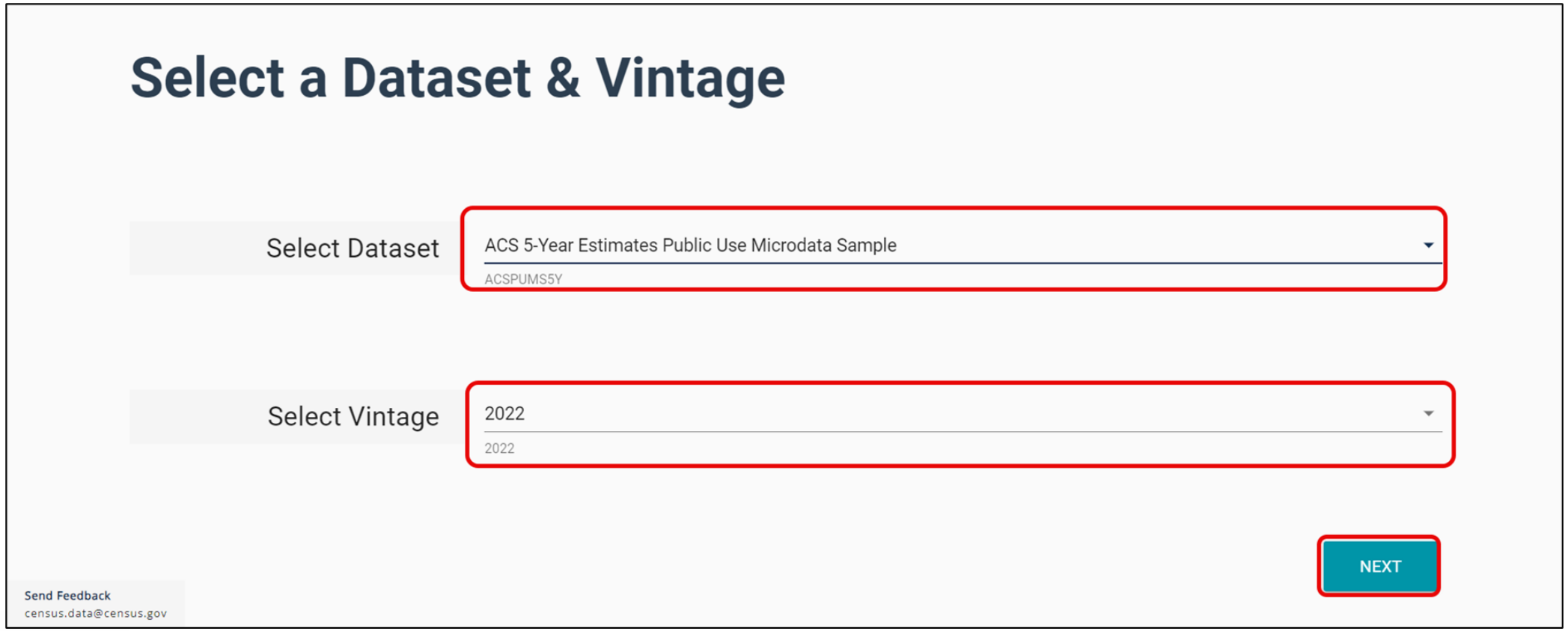
United States® Census Bureau

- Visit Microdata Access at data.census.gov/mdat

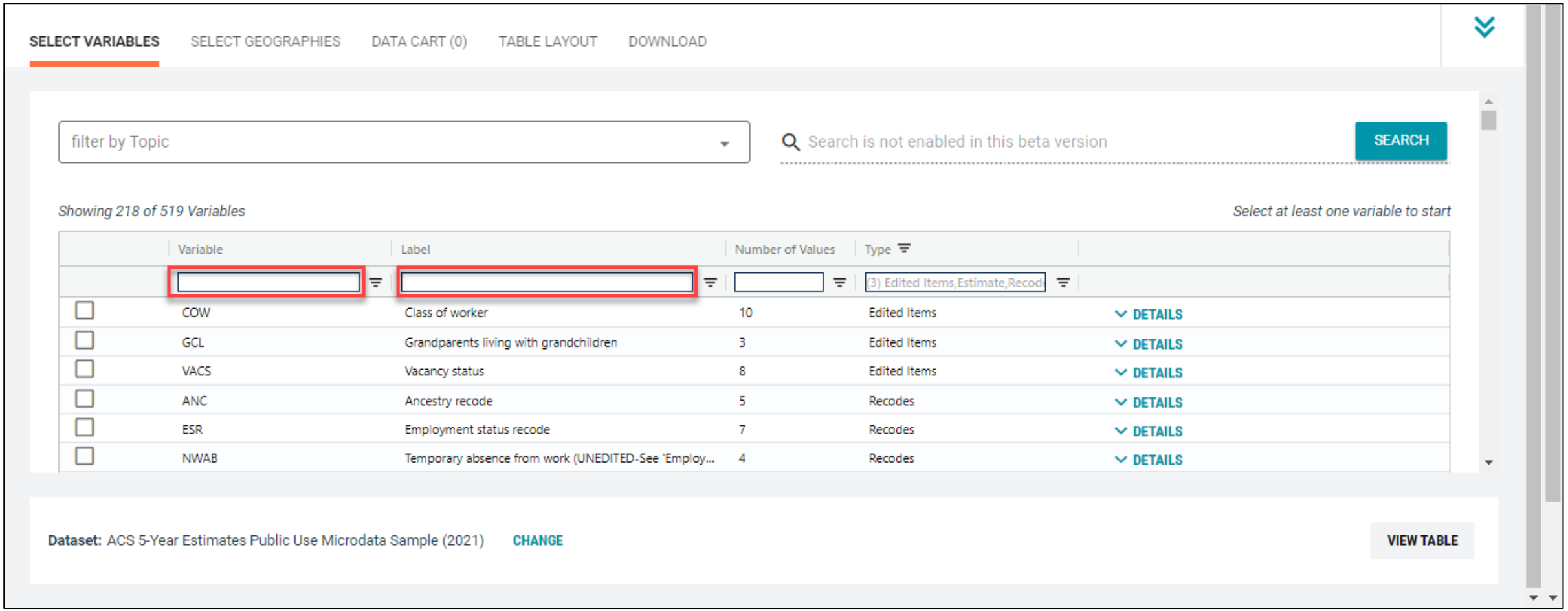


data.census.gov/mdat

- Choose Dataset and Vintage:
  - Dataset – **ACS 5-Year Estimates – Public Use Microdata Sample**
  - Vintage – **2022**
  - Click **Next** in the lower right

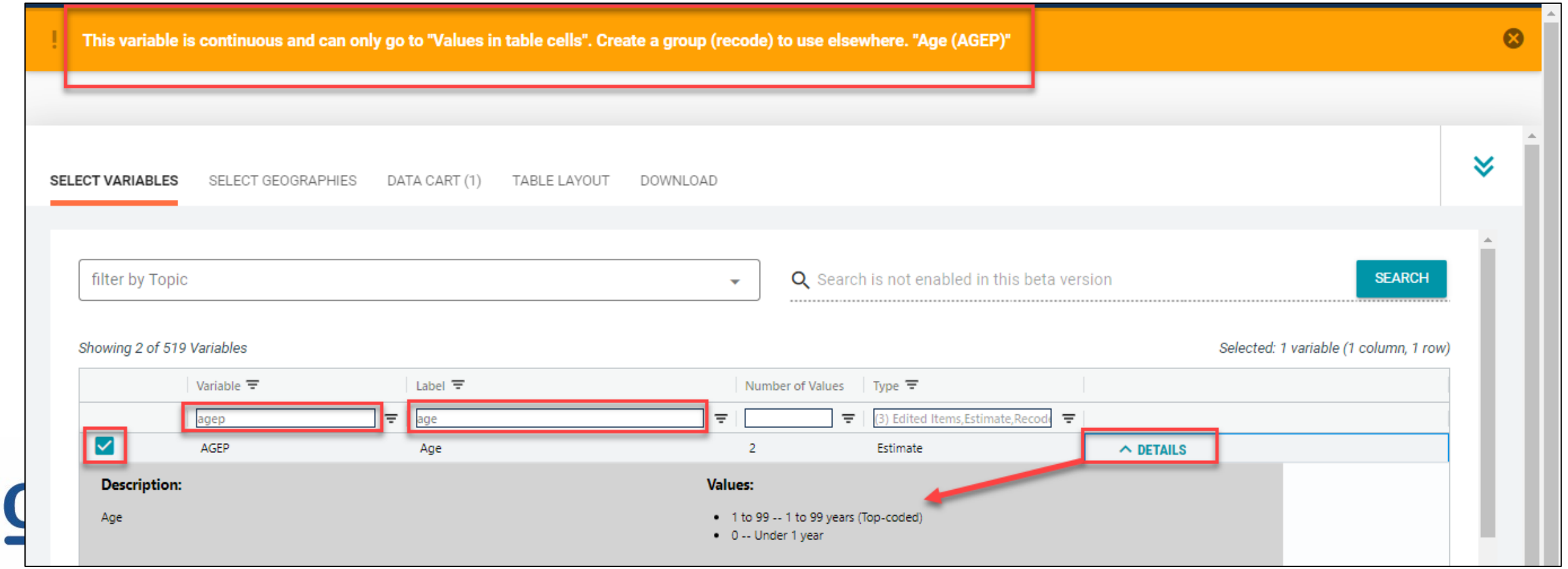


- **Search for Variables**: Use the search box below “Variable” or “Label” to find your variables of interest

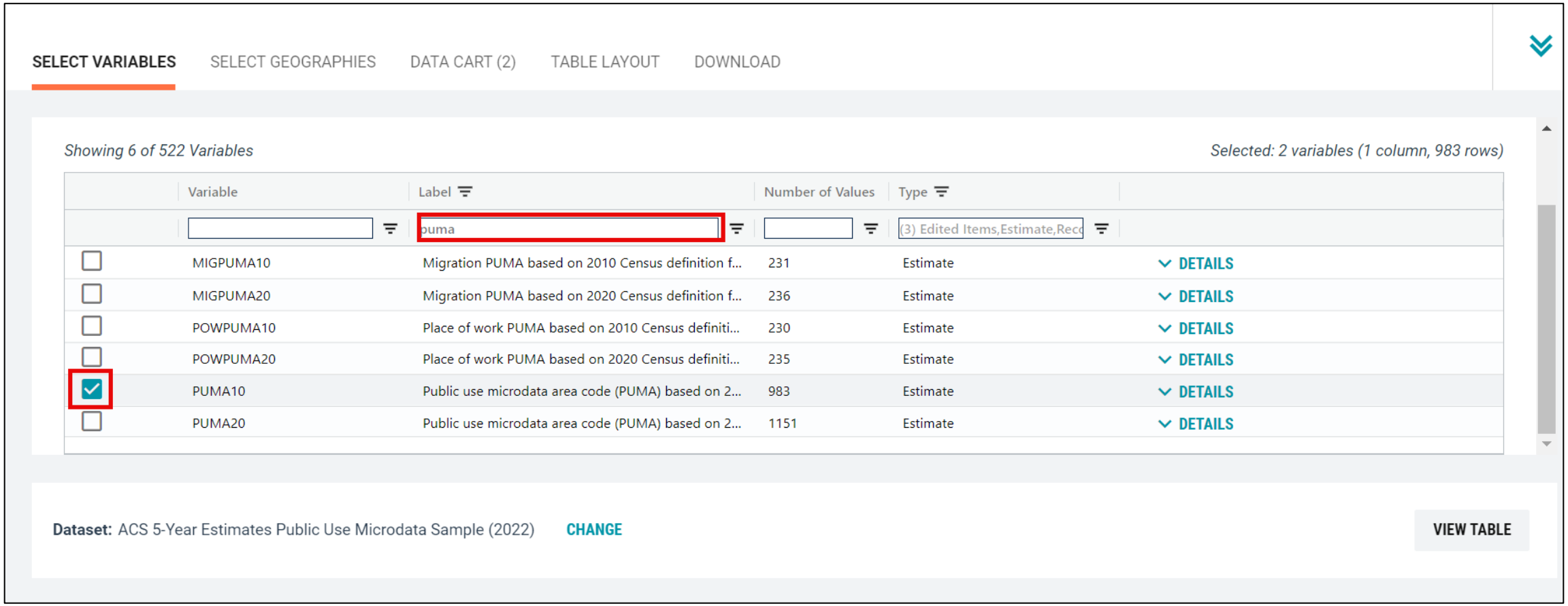


United States® Census Bureau

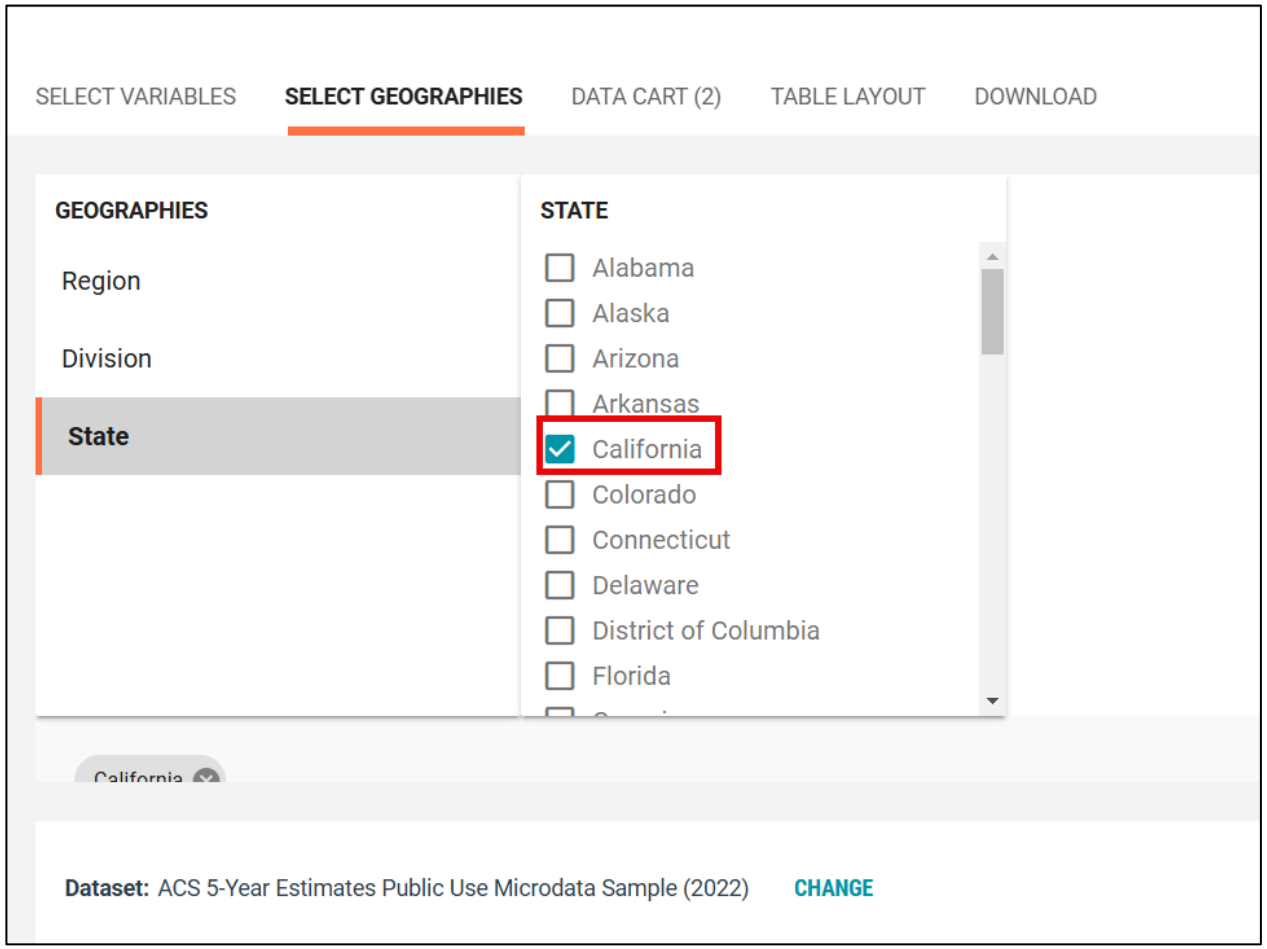
- Select variable for Age:
  - Type “AGEP” in the Variable search box or type “Age” in the label search box
  - Check the box to the left of AGEP to add the variable to your data cart
  - Notice the message at the top of the screen saying you will need to create your own categories (or recodes) for this variable if you want it shown in the table. (You will do this action in the Data Cart)



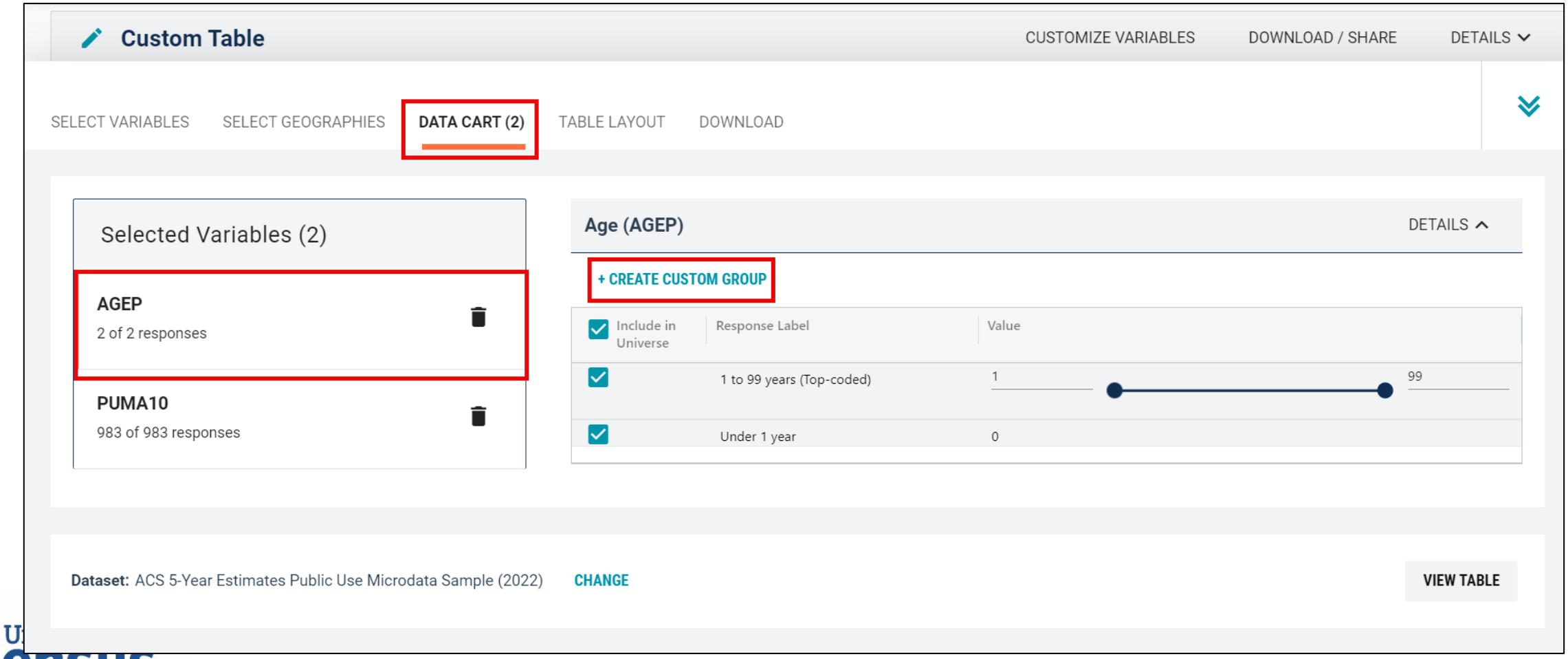
- Select variable for 2010 PUMAs:
  - Type ‘PUMA’ in the label search box
  - Check the box to the left of ‘PUMA10’ to add the variable to data cart



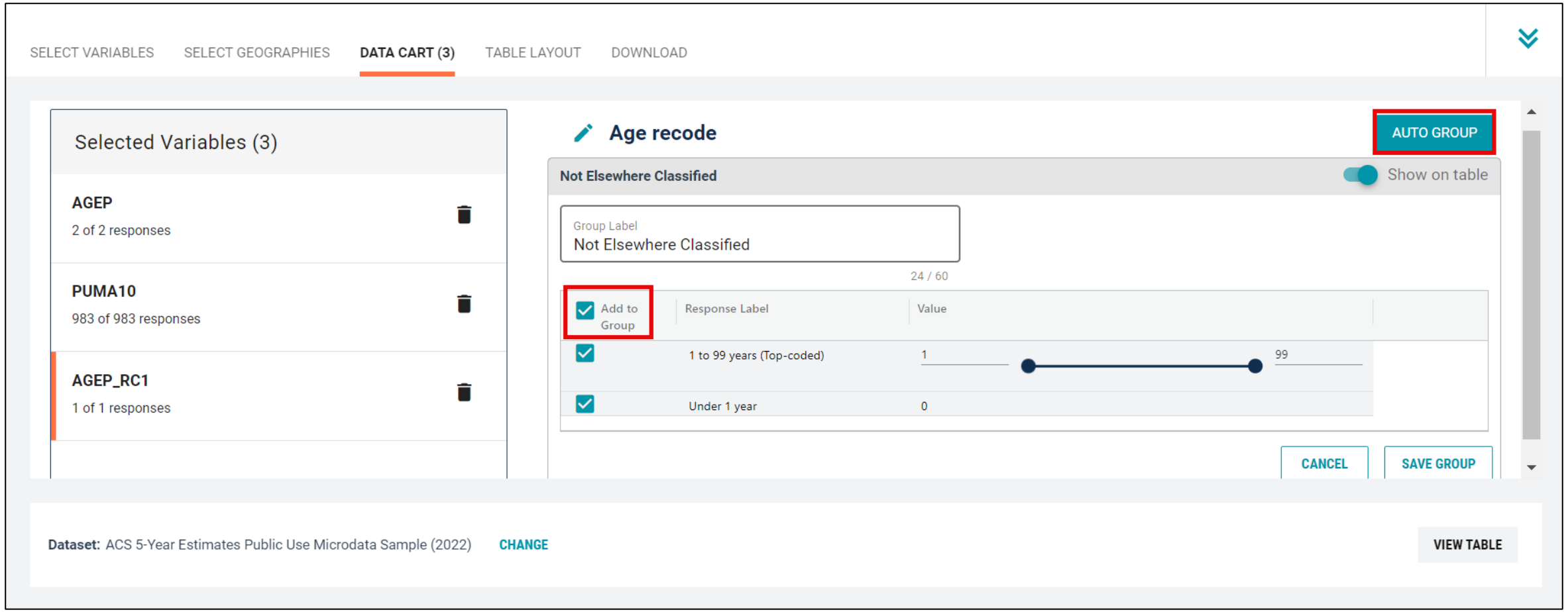
- **Select California state geography.**
  - Click on the Select Geographies tab
  - Check the box to the left ‘California’ to only pull up data for PUMAs from California



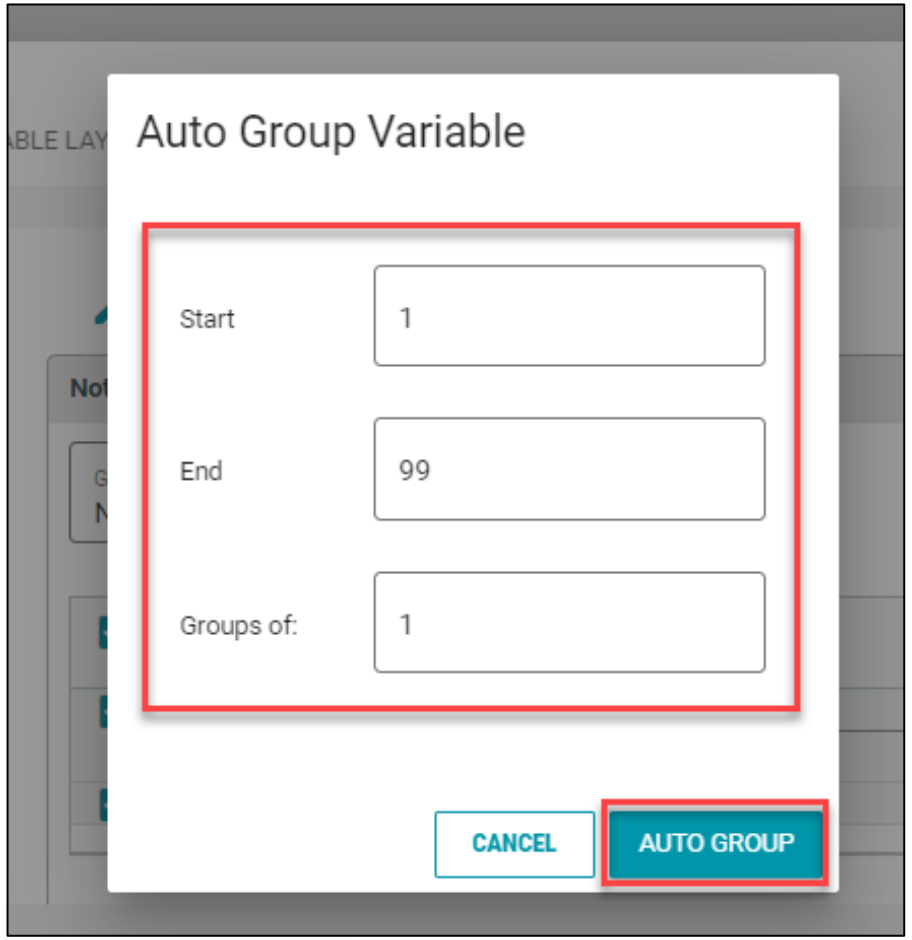
- Categorize (recode) your variable:
  - Move to the **Data Cart** tab
  - Click the **AGEP** variable on the left
  - Click **Create Custom Group** to begin specifying your age groups (e.g. single years of age)

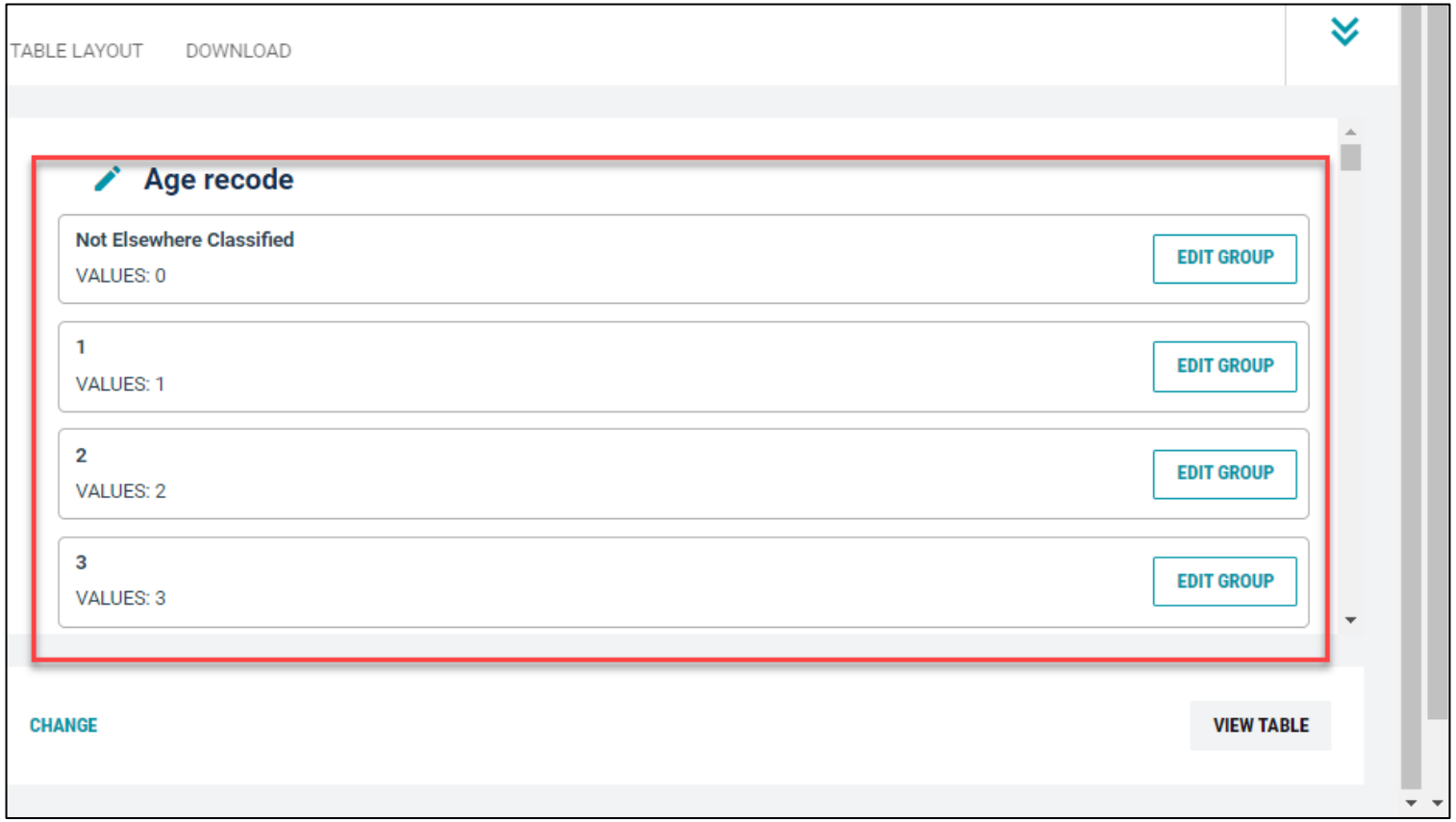


- Categorize (recode) your variable:
  - Check the box next to Add to Group to add both categories to the recode
  - Click on **Auto Group**

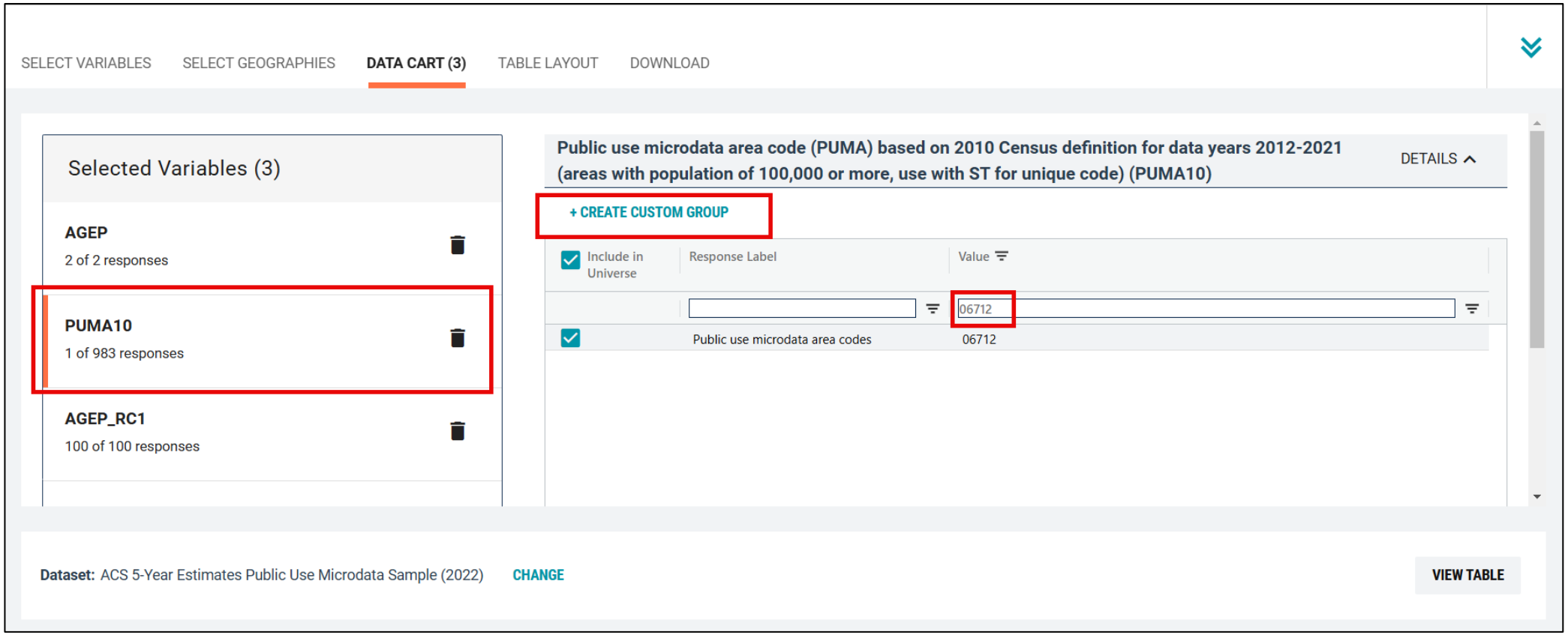


- **Categorize (recode) your variable**:
  - Confirm that the Start value is ‘1’, the End value is ‘99’, and the Groups of value is ‘1’
  - Click **Auto Group**. This will automatically create each year of age as its own group.

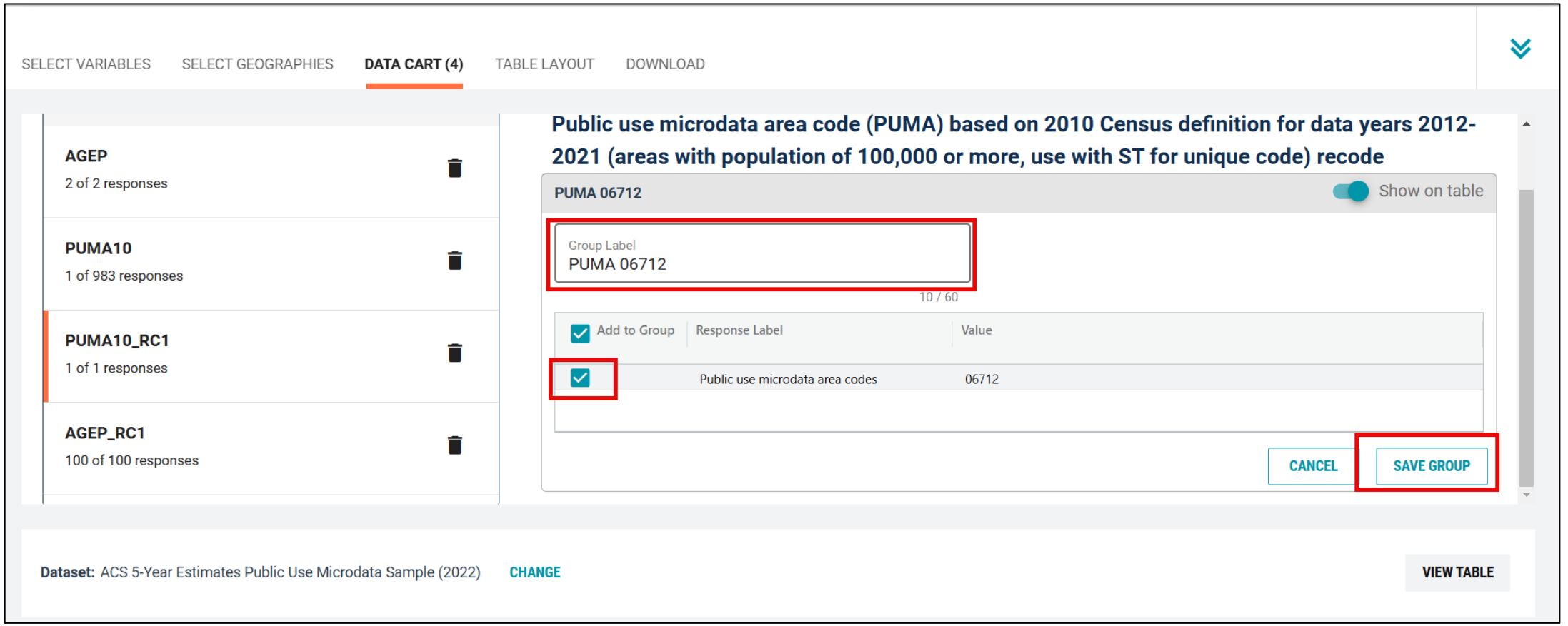




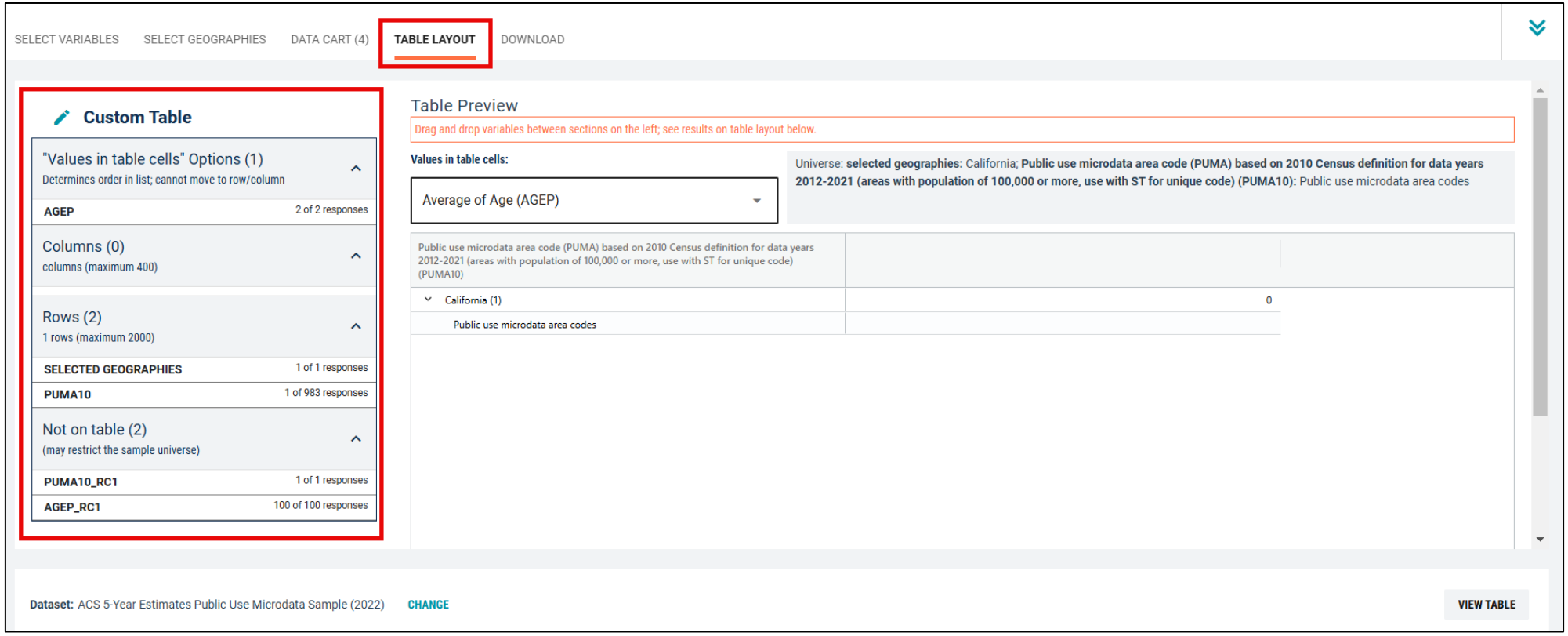
- Create recode to name PUMA10 variable:
  - **Select PUMA10** and click on the '**Include in Universe**' checkbox to uncheck all selected PUMAs
  - Reselect **06712** or use the Value search box to search for your desired PUMAs
  - Click on the **Create Custom Group** button to name your PUMA



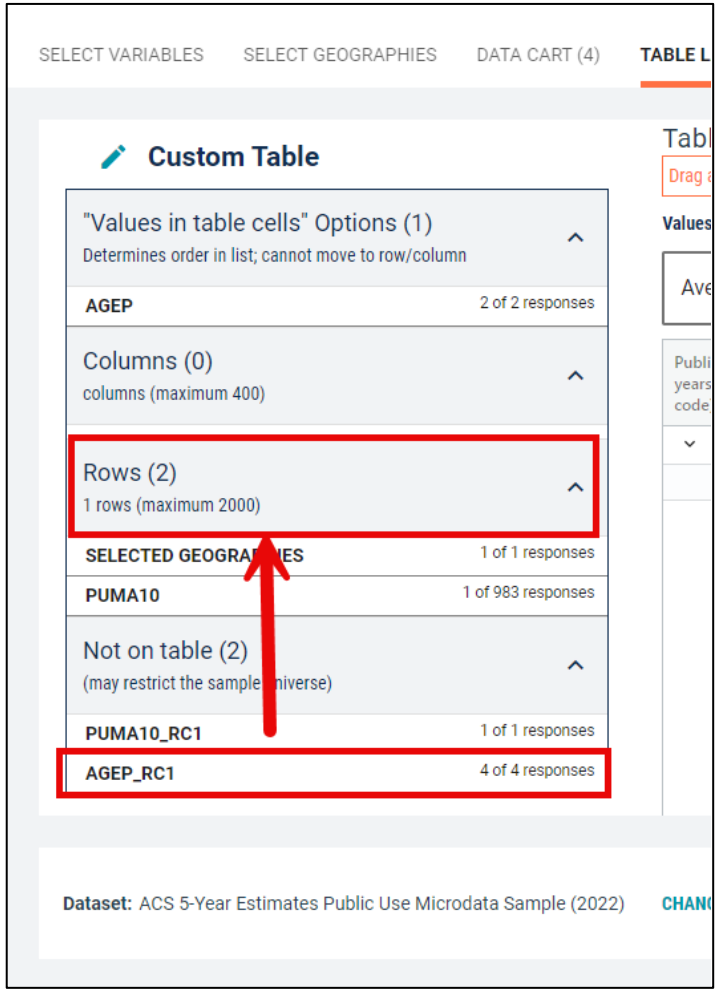
- Create recode to name PUMA10 variable:
  - Use the **Group Label box to type in 'PUMA 06712'** and **select your PUMA** by clicking on the checkbox
  - Click the **Save Group** button



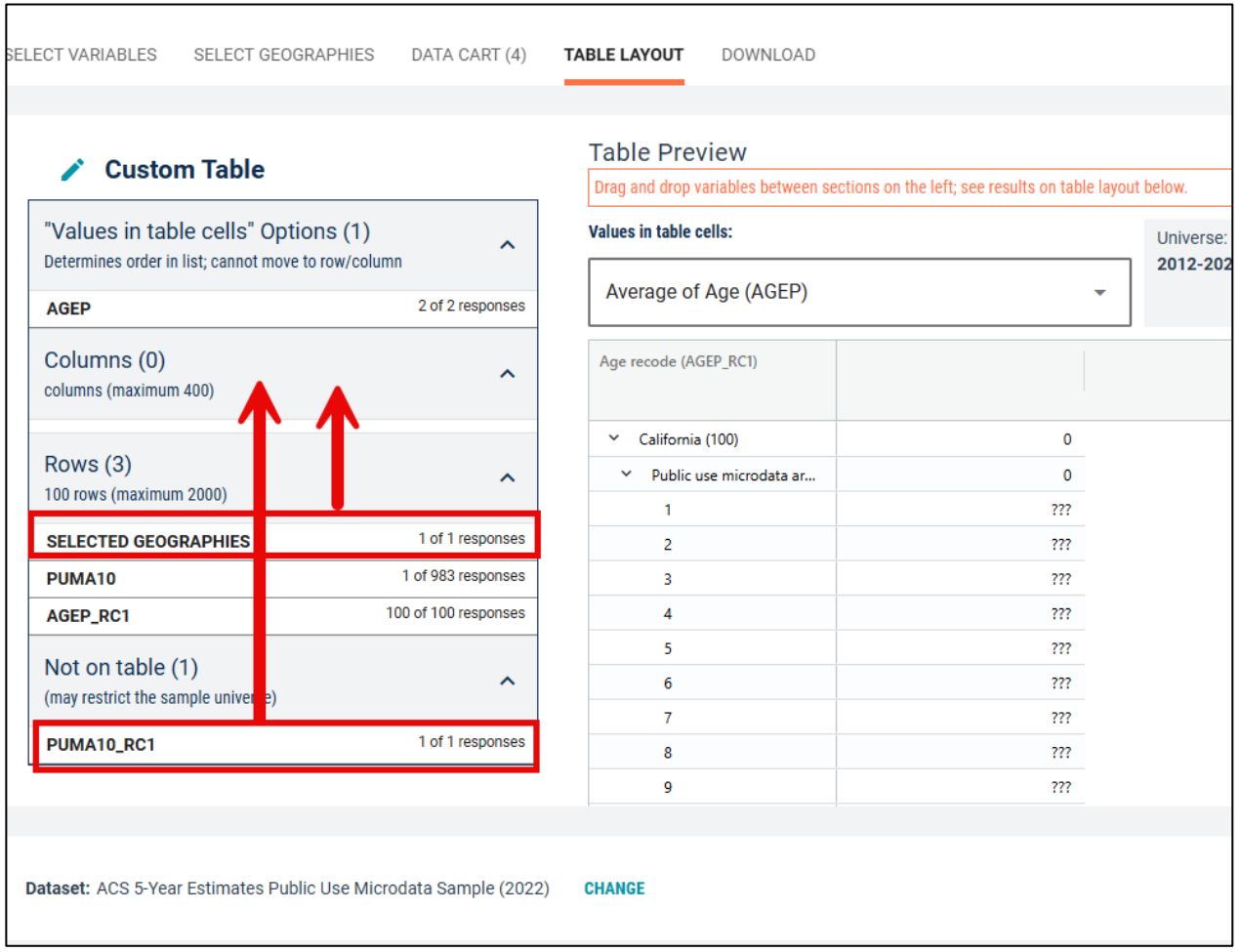
- View variable placement in the default table layout:
  - Move to the **Table Layout** tab
  - **Columns/Rows – Variables will be shown in the table.** By default, the table is providing the average age with the original PUMA variable and Selected Geographies in the Rows.



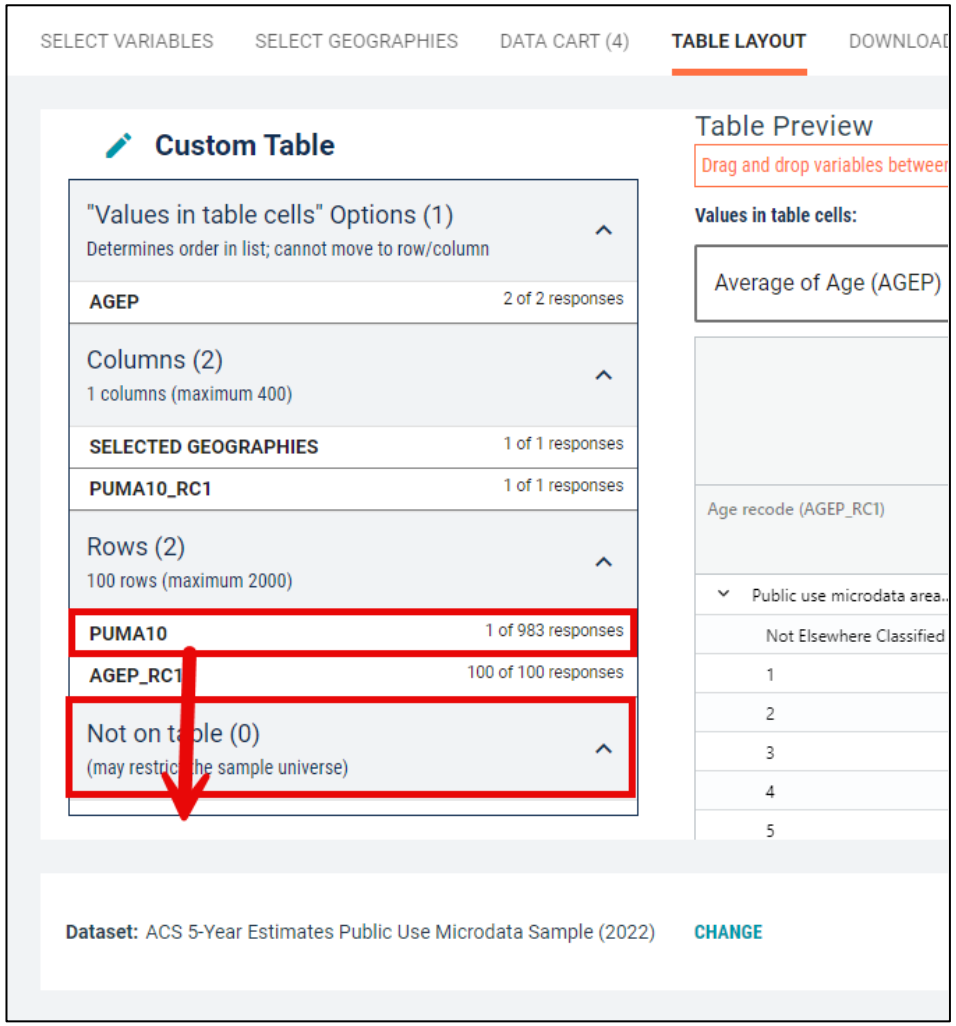
- Edit Table Layout:
  - Move Age Recode to Rows:
    - **Click, hold and drag AGEP_RC1 on the left side of the page up to the rows heading.** This will give you a table layout that includes the age categories that were created as the rows.



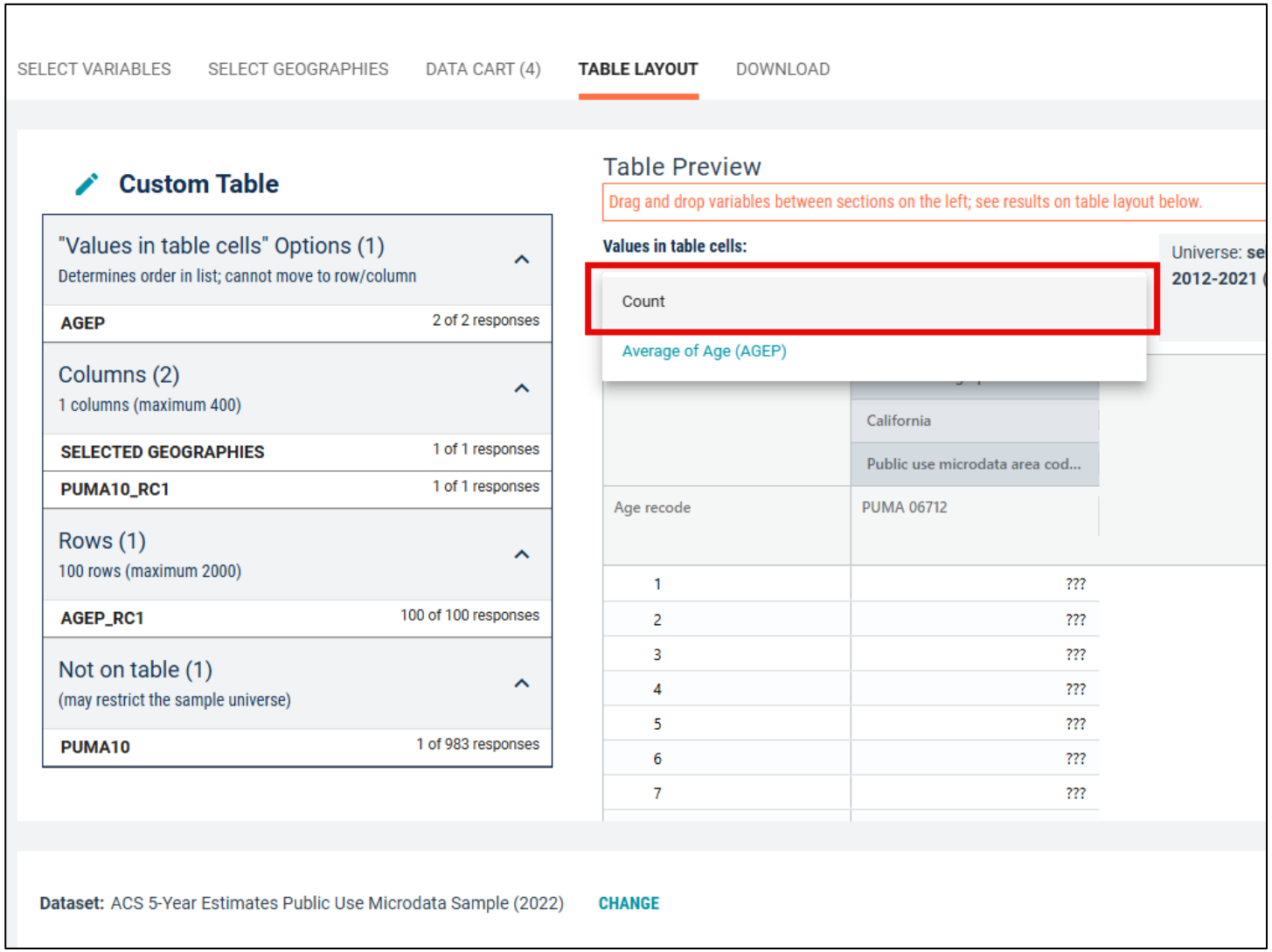
- Edit Table Layout:
  - Move Selected Geographies and PUMA recode to Columns:
    - Click, hold and drag Selected Geographies and PUMA10_RC1 on the left side of the page up to the columns heading. This will give you a table layout that includes the selected PUMA 06712 from California as the columns.



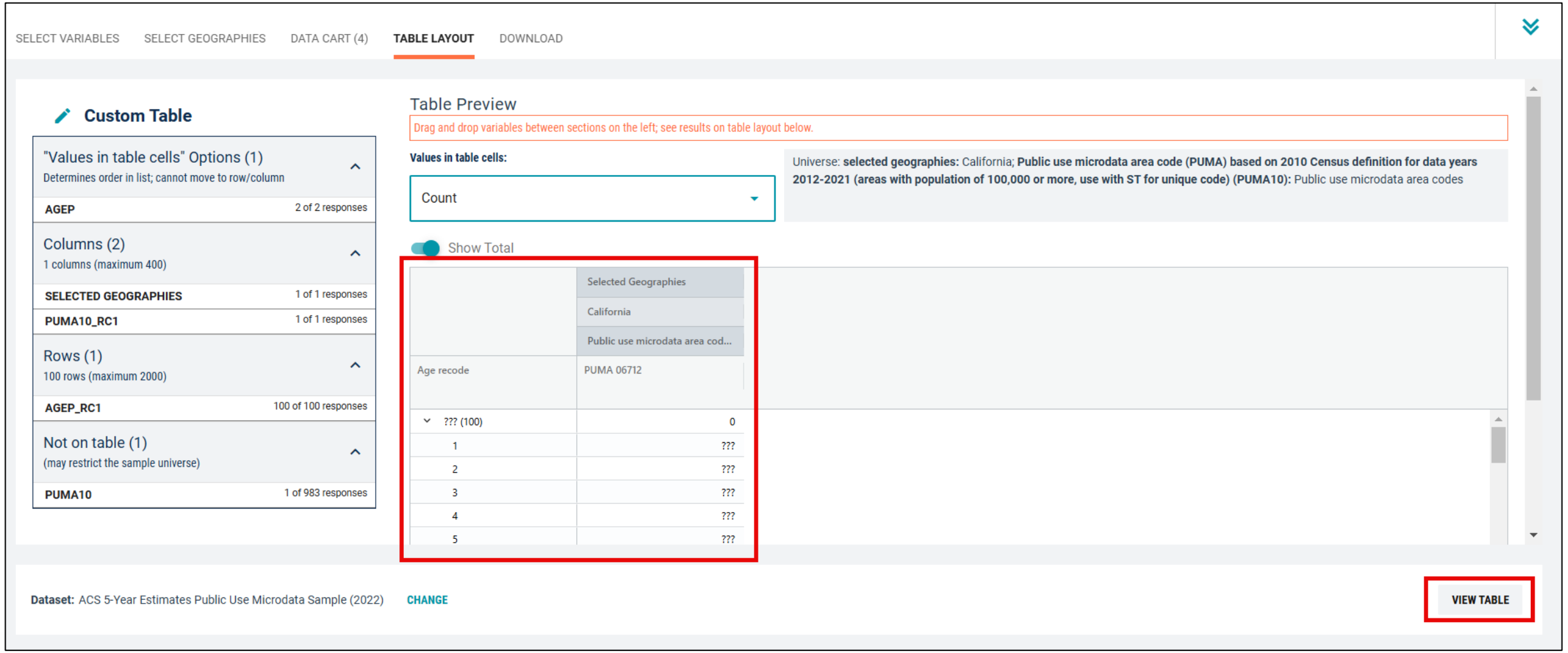
- Edit Table Layout:
  - Move original PUMA10 variable to Not on table section:
    - Click, hold and drag PUMA10 to the Not on table section. This will give you a table layout that includes the selected PUMA from California as the columns.



- Choose type of values in table cells
  - Change the “Value in table cells” option from “Average of Age” to **Count.** This will give you data for the total number of people within the requested categories.

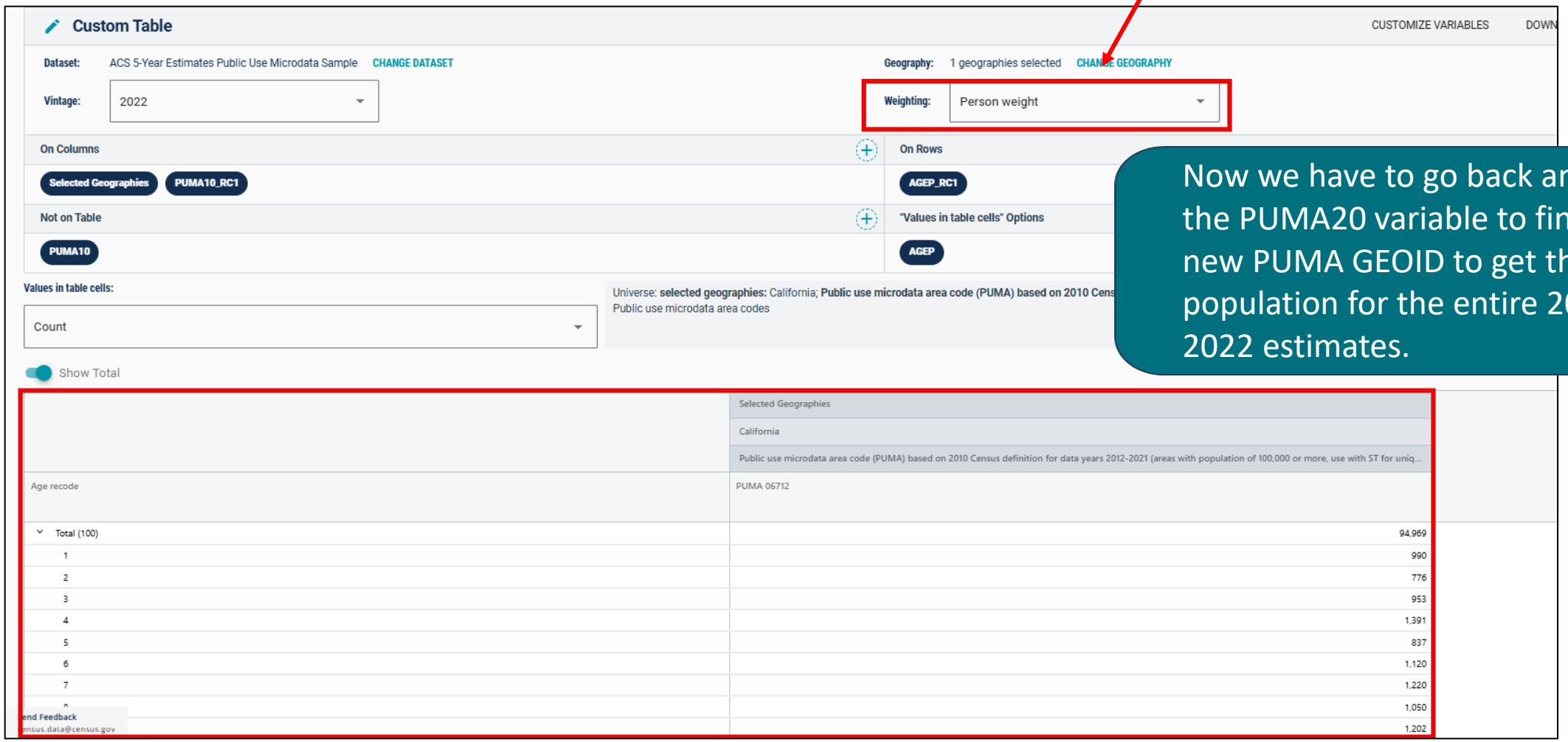


- Confirm Table Layout:
  - Confirm table layout and click **View Table** in the lower right



View Table

Note that the site automatically chooses a weight for you. You do have the option to change the weight if you want.



Now we have to go back and use the PUMA20 variable to find the new PUMA GEOID to get the total population for the entire 2018 – 2022 estimates.

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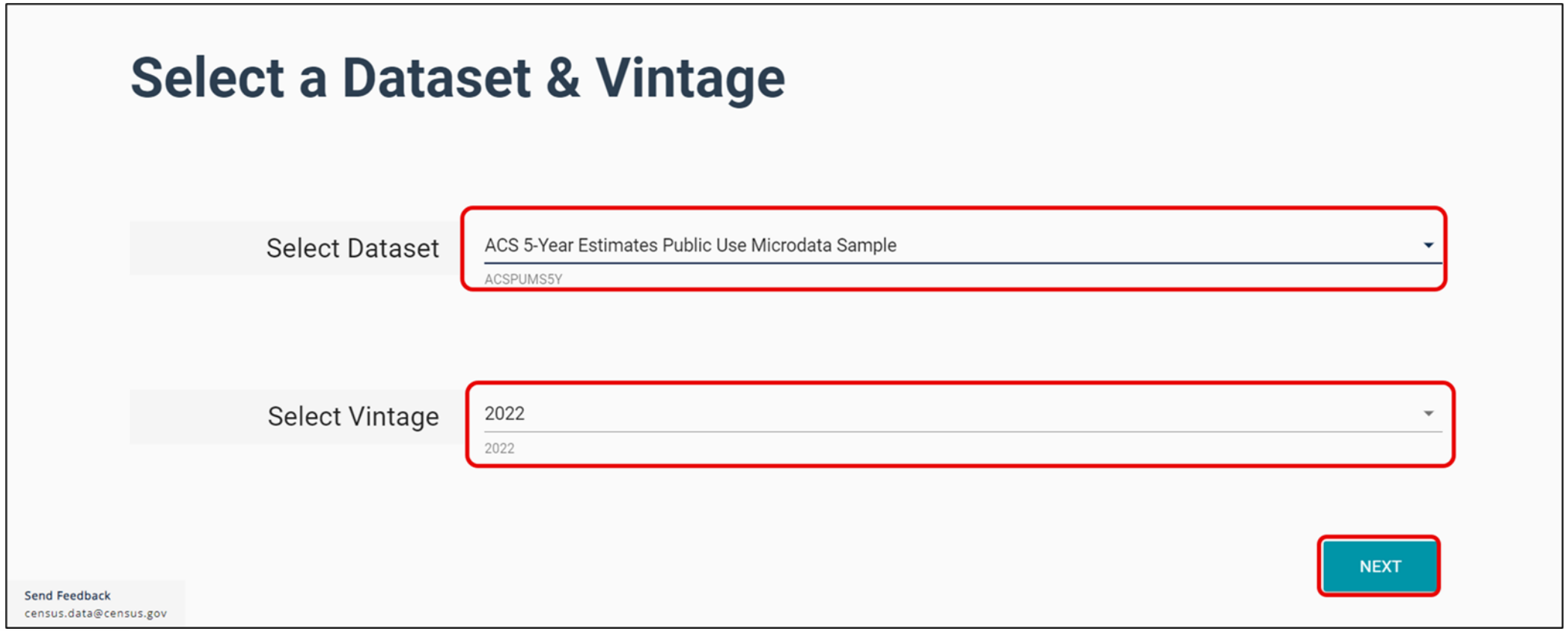
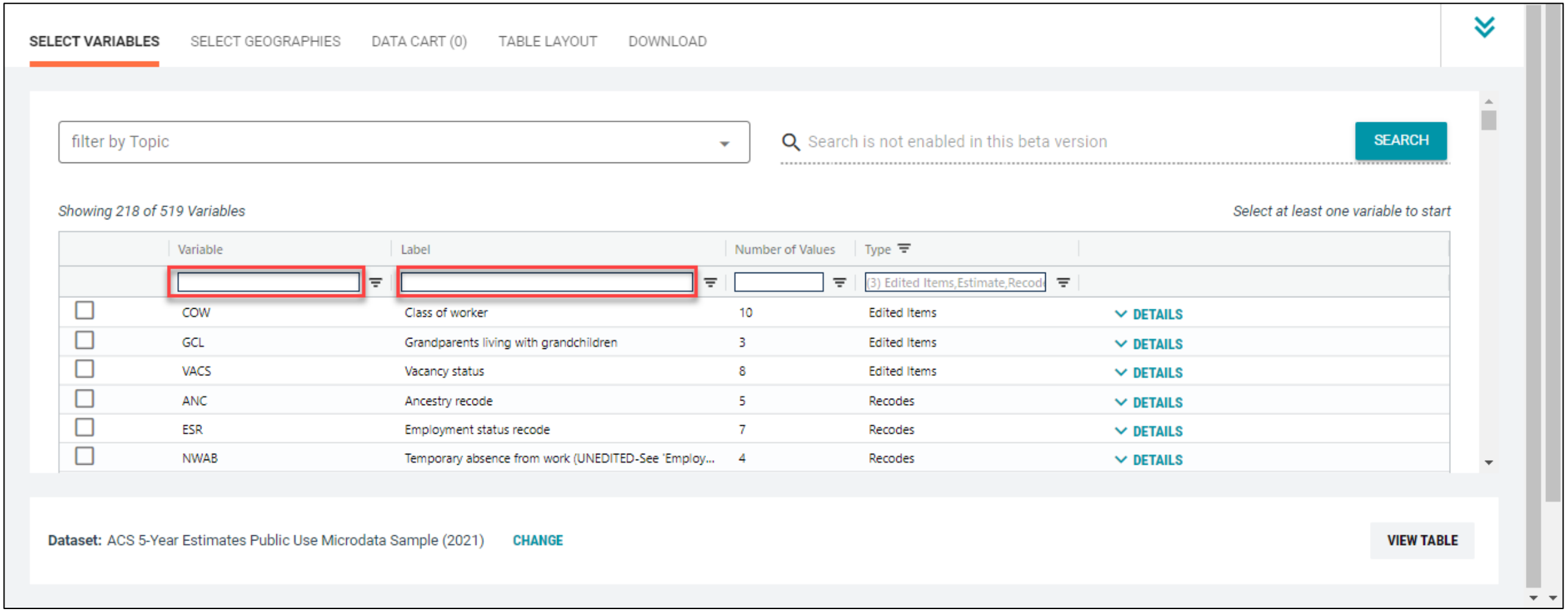
- Choose Dataset and Vintage:
  - Dataset – **ACS 5-Year Estimates – Public Use Microdata Sample**
  - Vintage – **2022**
  - Click **Next** in the lower right

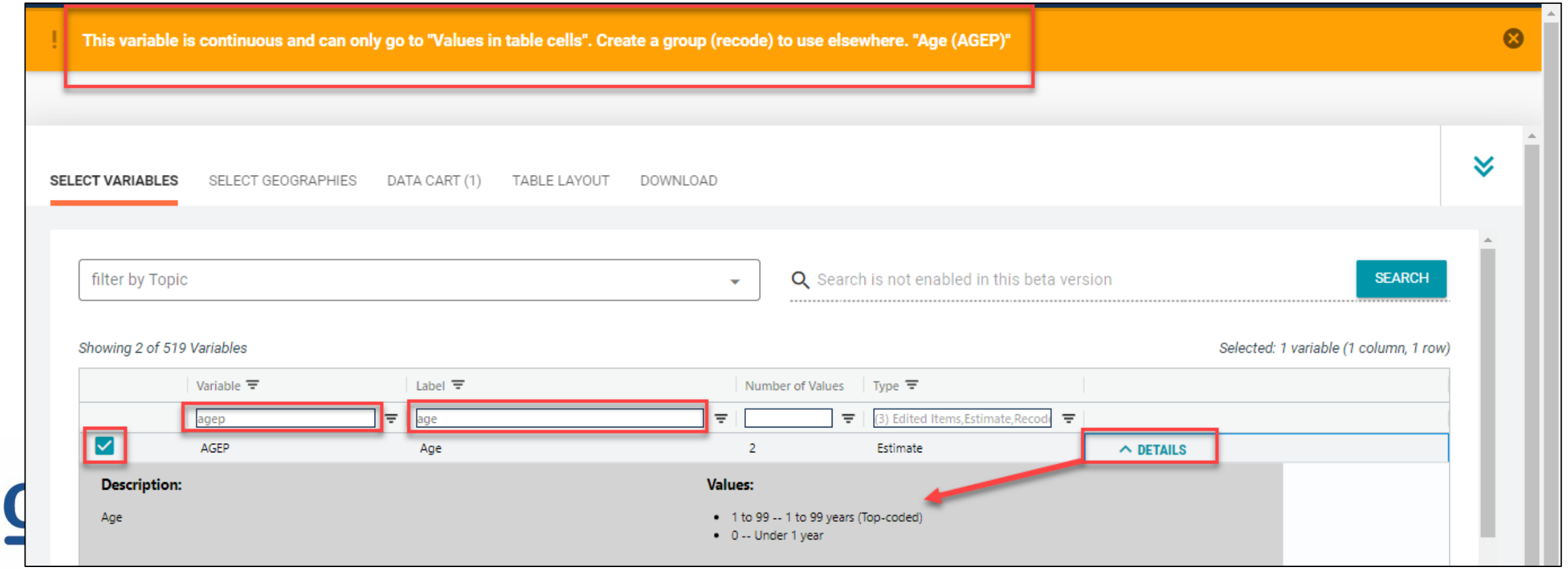


- **Search for Variables**: Use the search box below “Variable” or “Label” to find your variables of interest

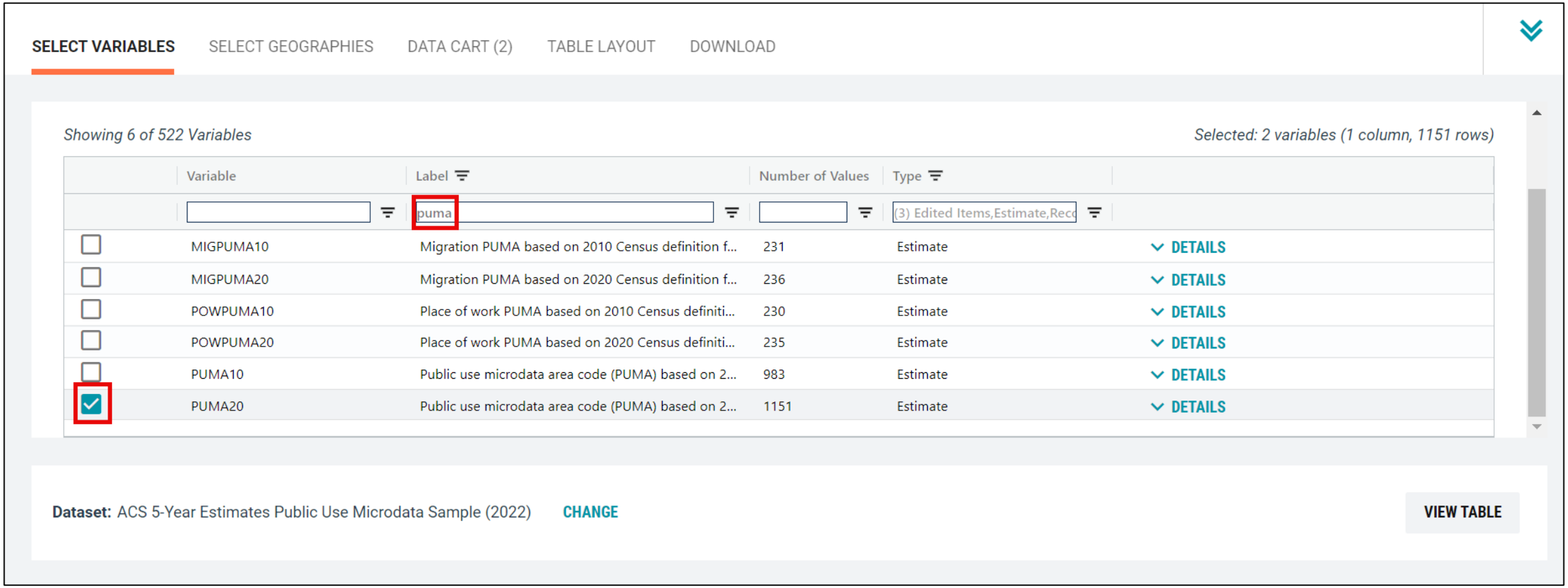


United States® Census Bureau

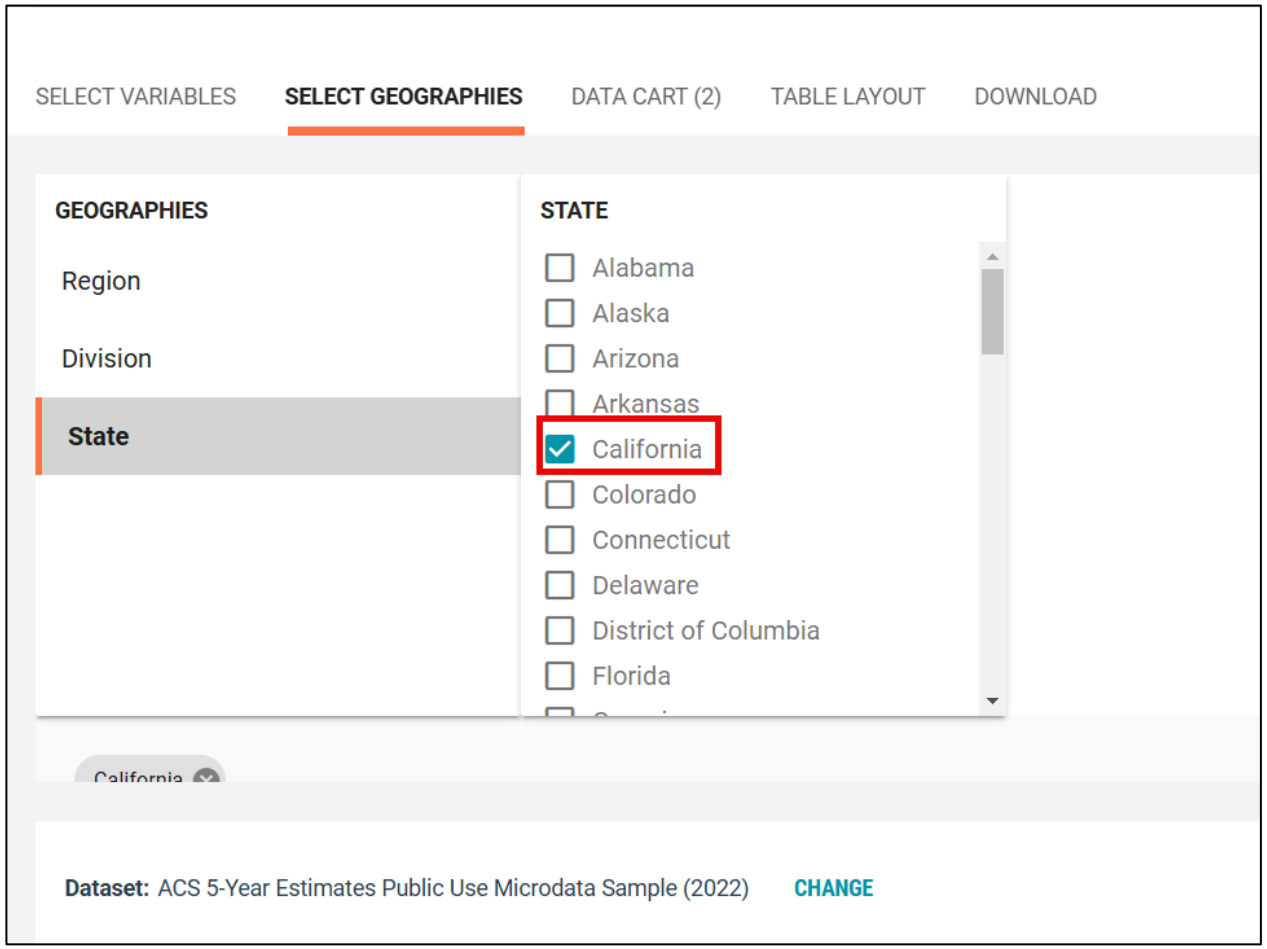
- Select variable for Age:
  - Type “AGEP” in the Variable search box or type “Age” in the label search box
  - Check the box to the left of AGEP to add the variable to your data cart
  - Notice the message at the top of the screen saying you will need to create your own categories (or recodes) for this variable if you want it shown in the table. (You will do this action in the Data Cart)



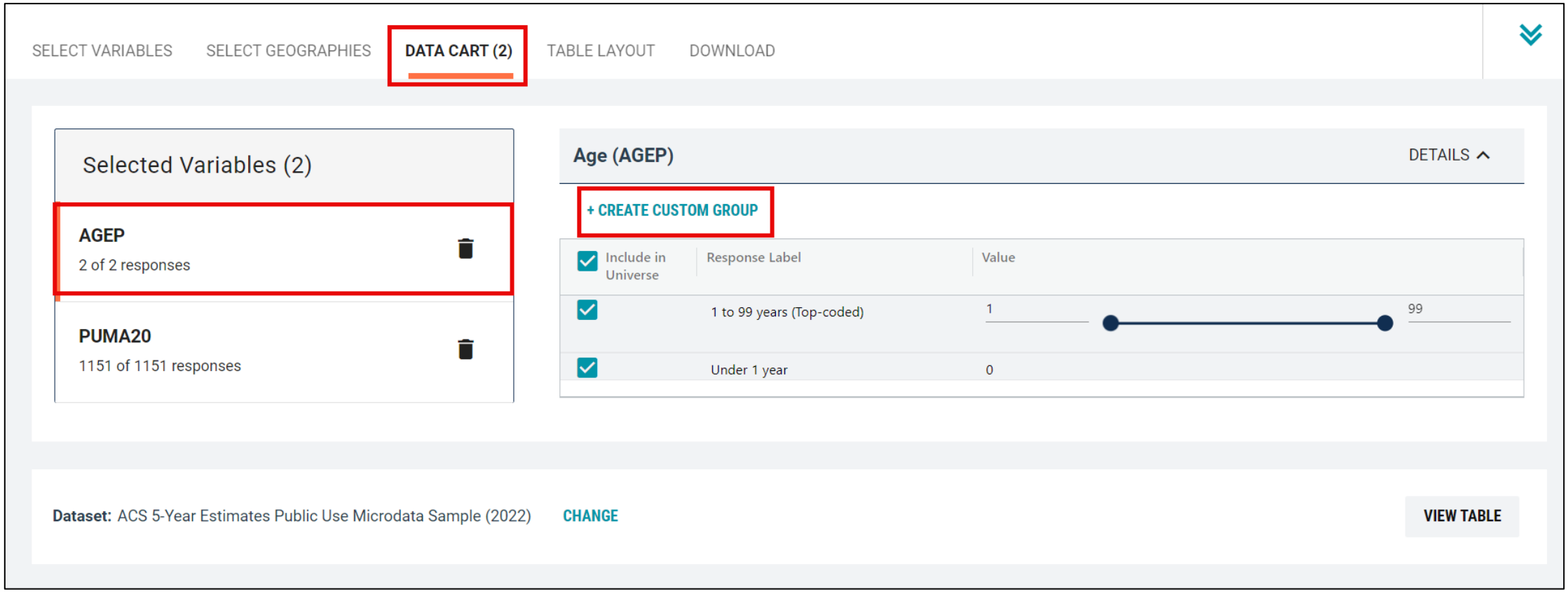
- Select variable for 2020 PUMAs:
  - Type ‘PUMA’ in the label search box
  - Check the box to the left of ‘PUMA20’ to add the variable to data cart



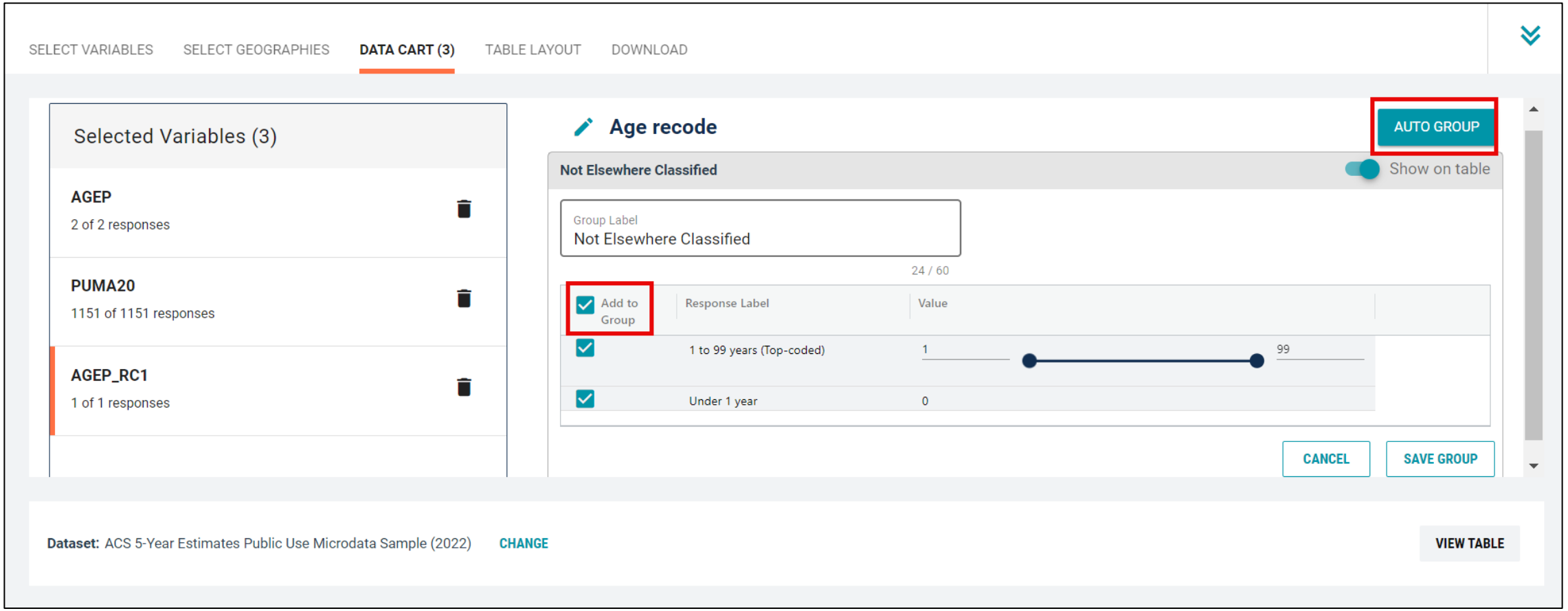
- **Select California state geography.**
  - Click on the Select Geographies tab
  - Check the box to the left ‘California’ to only pull up data for PUMAs from California



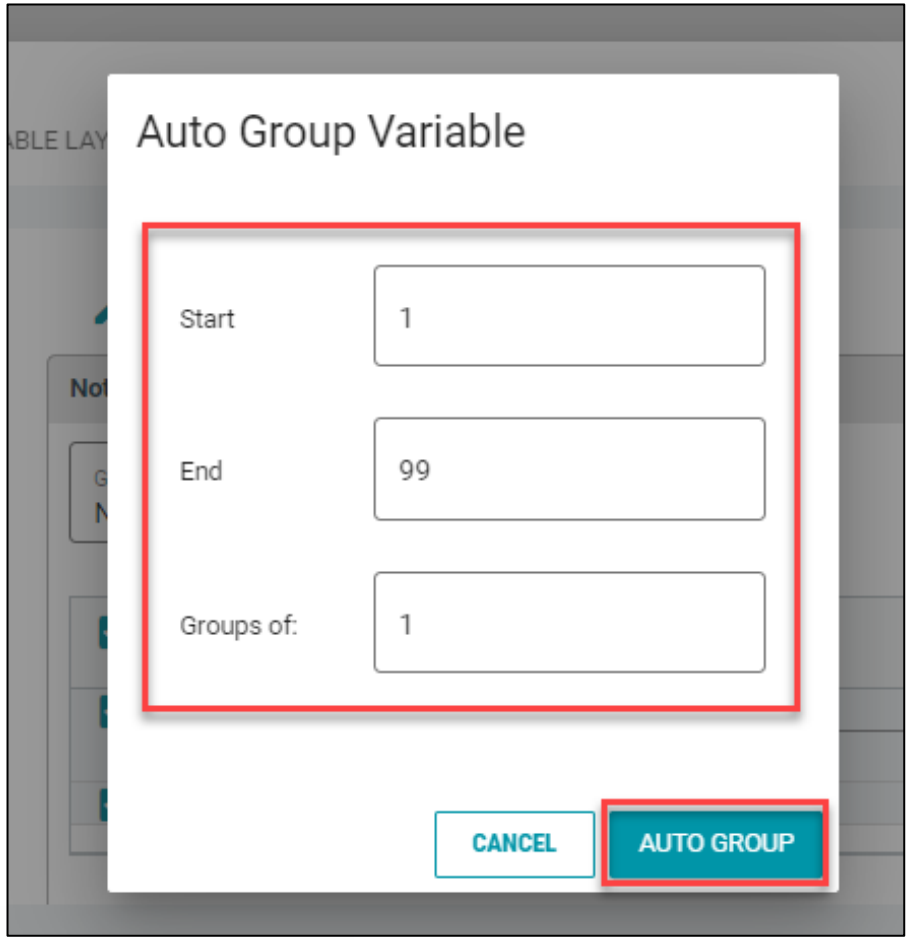
- Categorize (recode) your variable:
  - Move to the **Data Cart** tab
  - Click the **AGEP** variable on the left
  - Click **Create Custom Group** to begin specifying your age groups (e.g. single years of age)

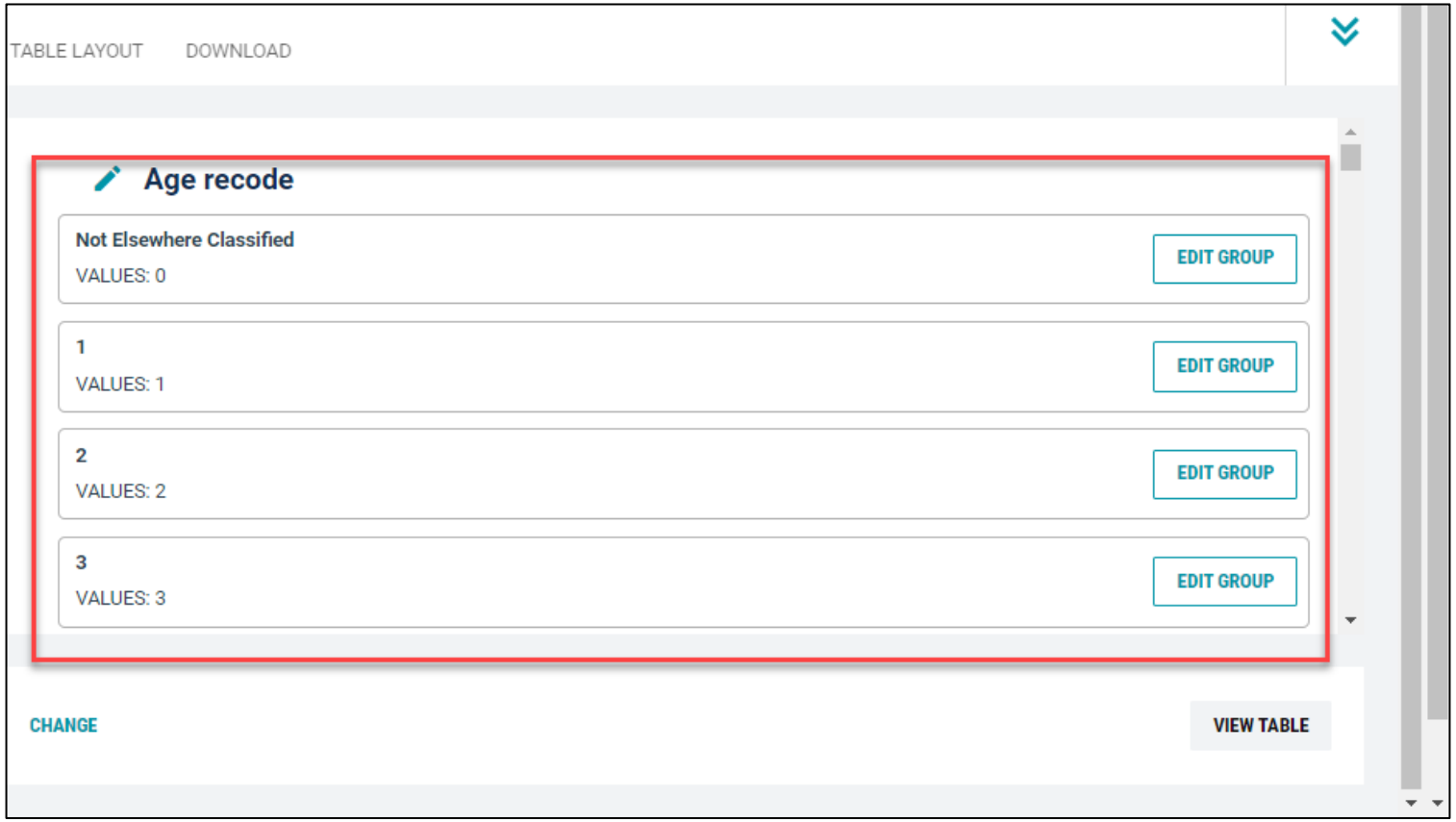


- Categorize (recode) your variable:
  - Check the box next to Add to Group to add both categories to the recode
  - Click on **Auto Group**

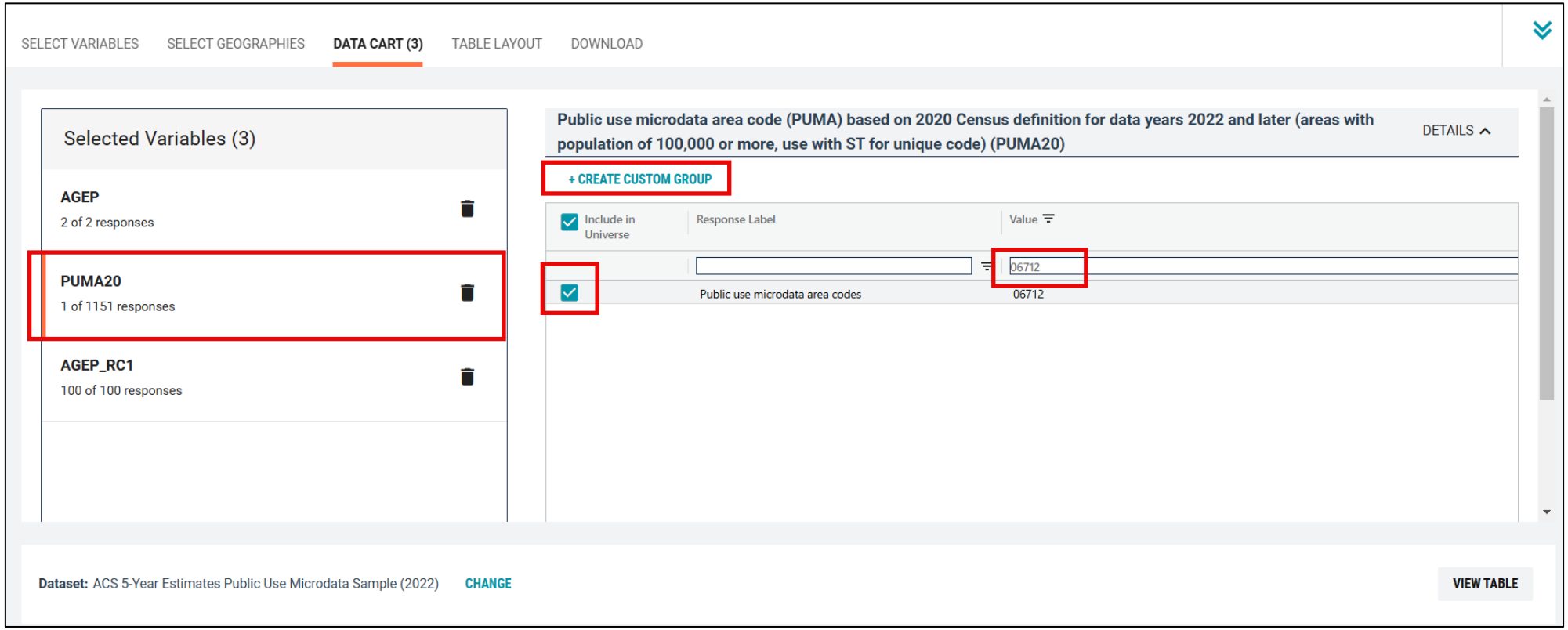


- **Categorize (recode) your variable**:
  - Confirm that the Start value is ‘1’, the End value is ‘99’, and the Groups of value is ‘1’
  - Click **Auto Group**. This will automatically create each year of age as its own group.

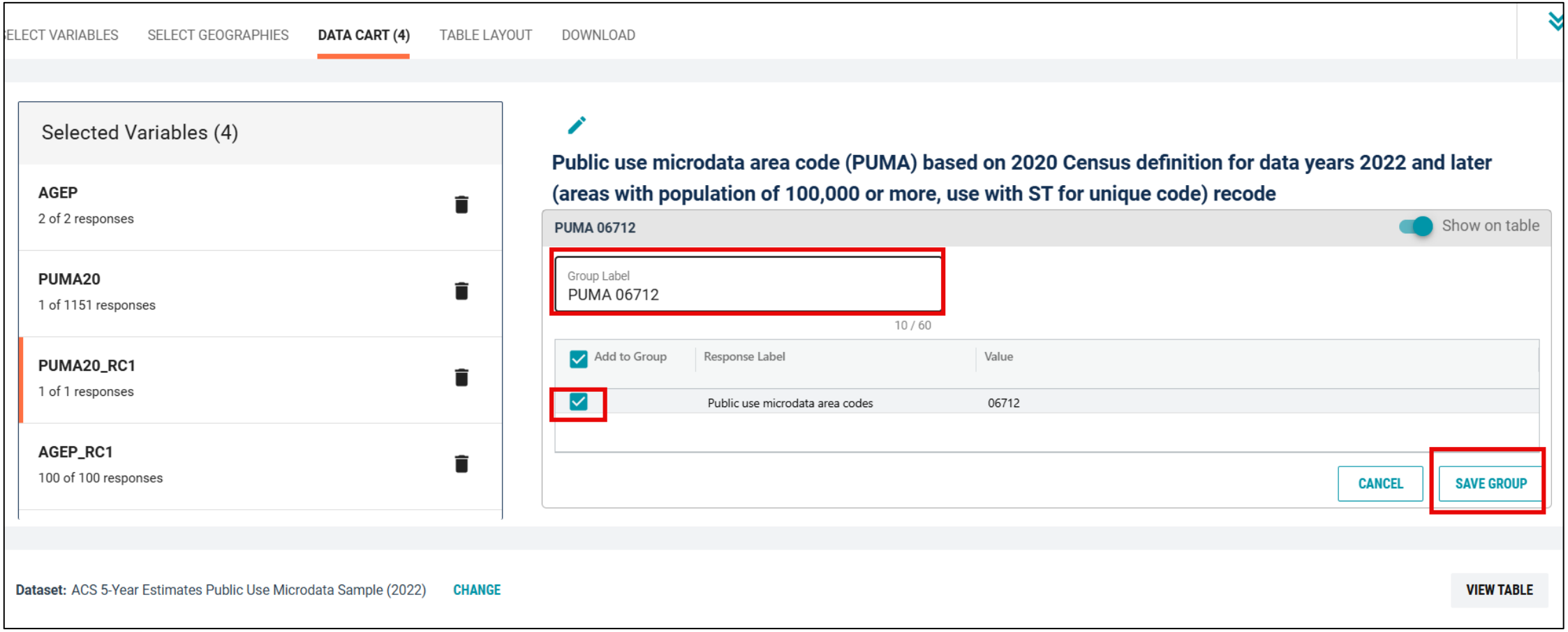




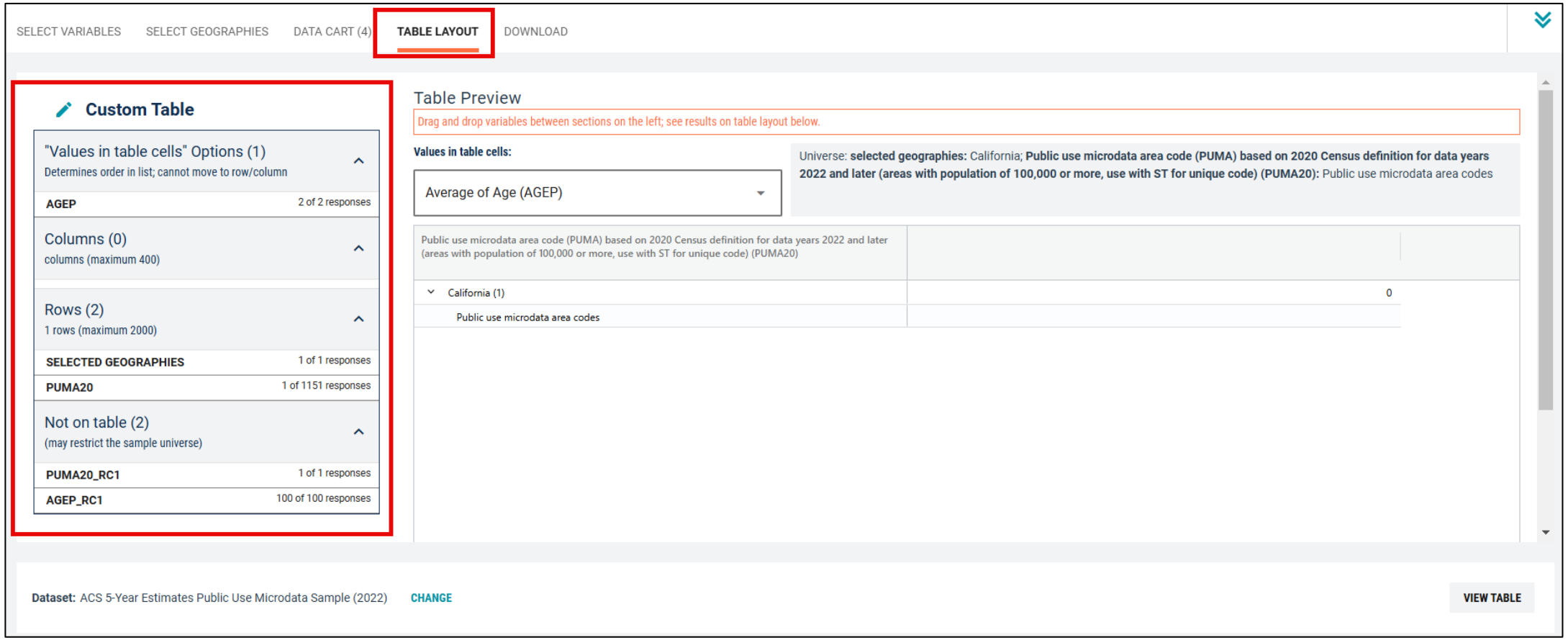
- Create recode to name PUMA20 variable:
  - **Select PUMA20** and click on the '**Include in Universe**' checkbox to uncheck all selected PUMAs
  - Reselect **06712** or use the Value search box to search for your desired PUMAs
  - Click on the **Create Custom Group** button to name your PUMA



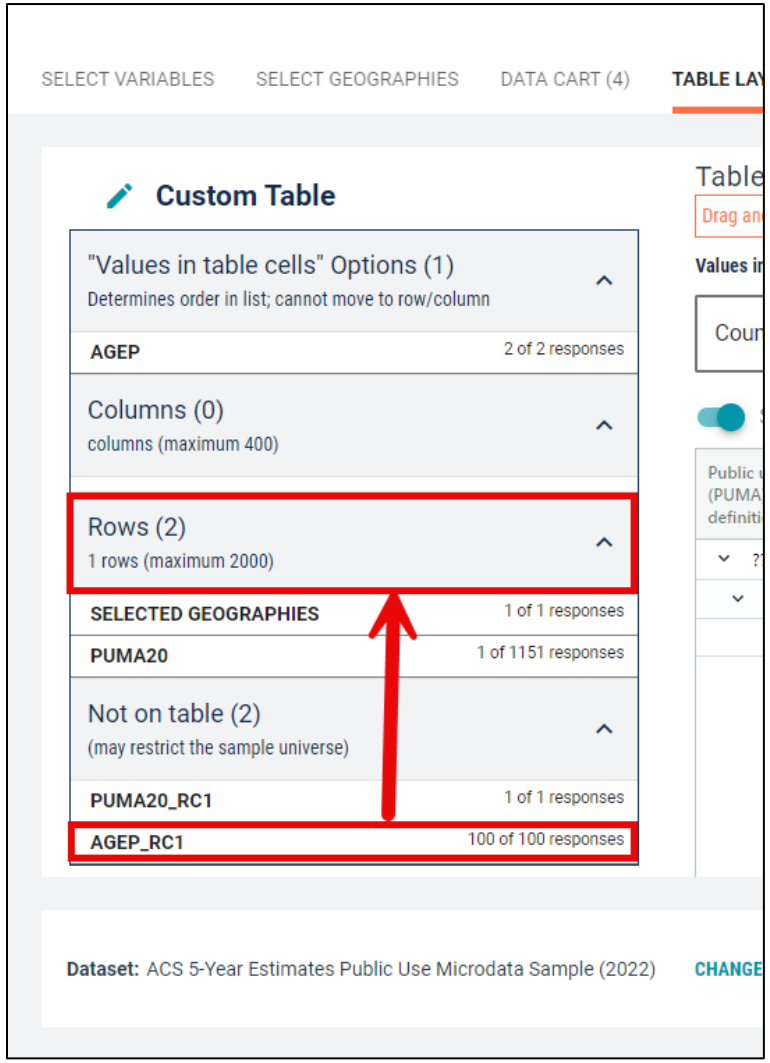
- Create recode to name PUMA20 variable:
  - Use the **Group Label box to type in 'PUMA 06712'** and **select your PUMA** by clicking on the checkbox
  - Click the **Save Group** button



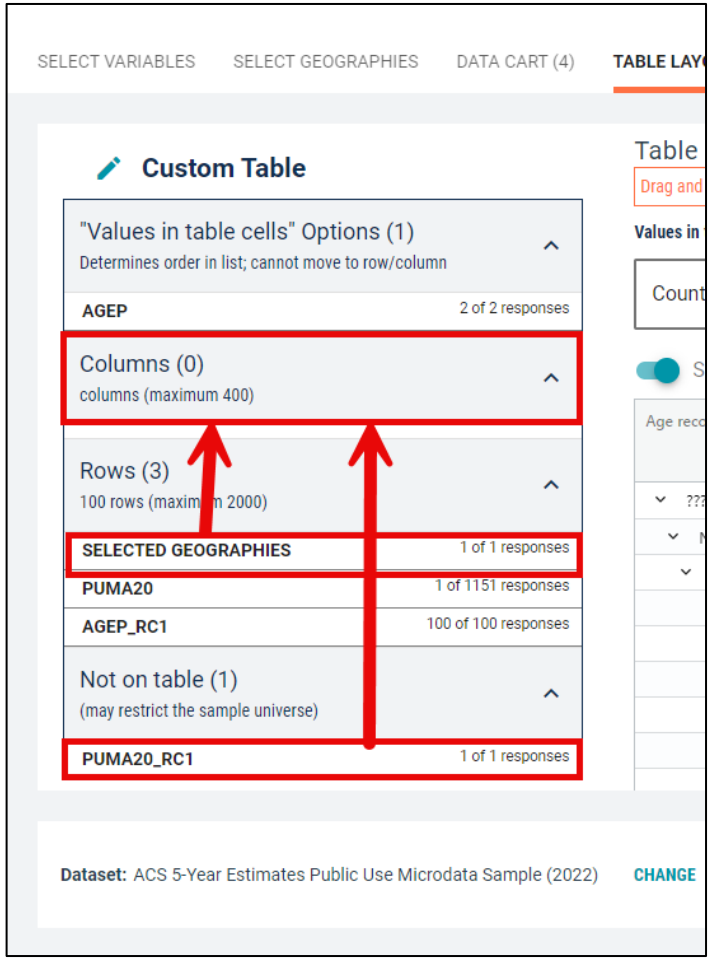
- View variable placement in the default table layout:
  - Move to the **Table Layout** tab
  - **Columns/Rows – Variables will be shown in the table.** By default, the table puts the 2020 PUMAs in the rows



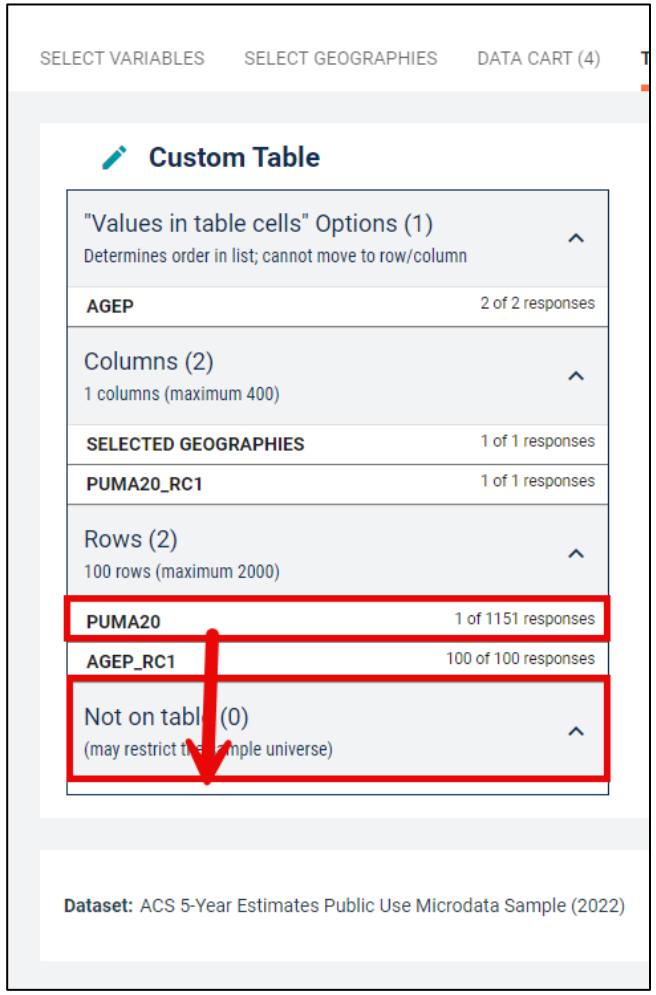
- Edit Table Layout:
  - Move Age Recode to Rows:
    - **Click, hold and drag AGEP_RC1 on the left side of the page up to the rows heading.** This will give you a table layout that includes the age categories that were created as the rows.



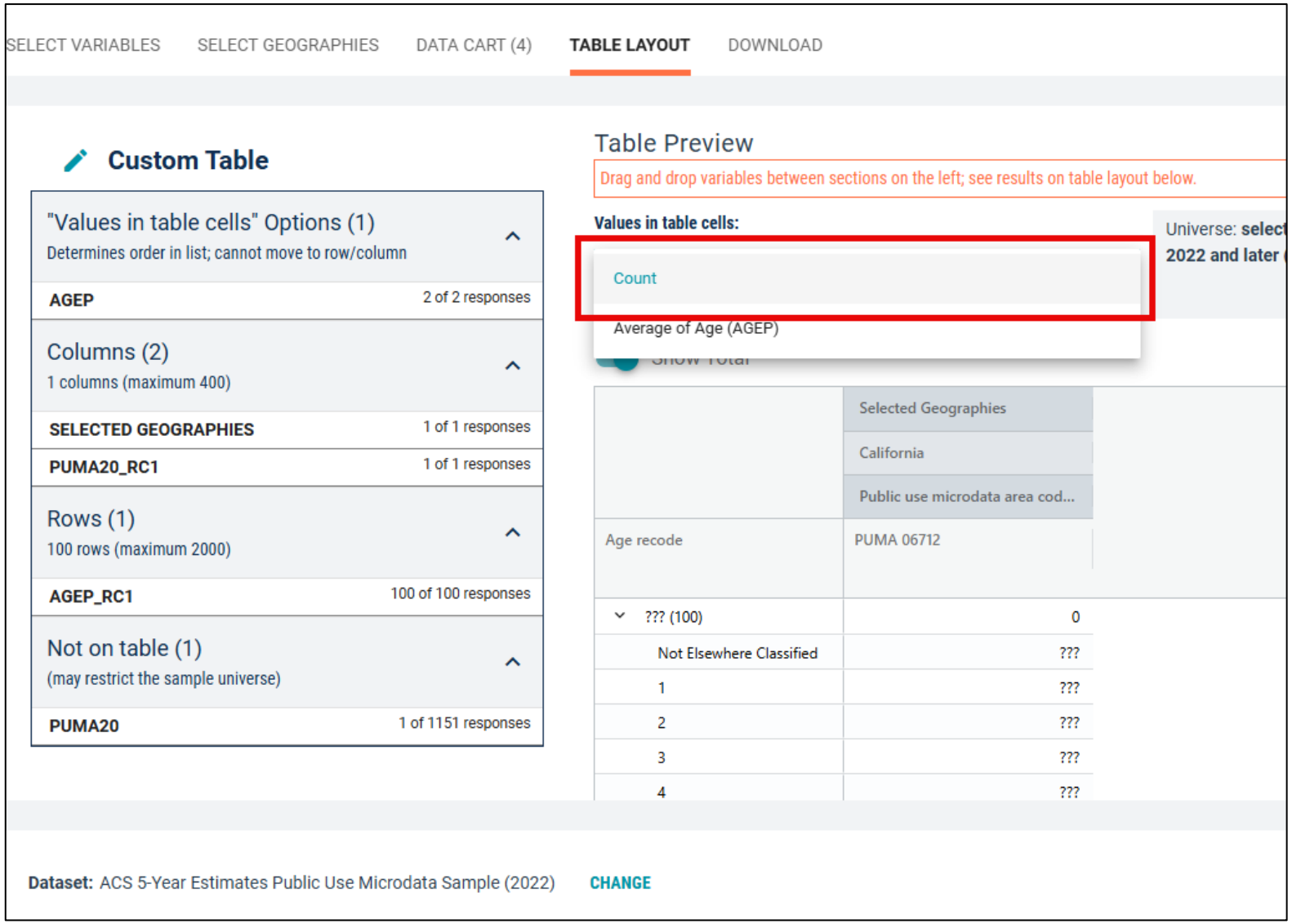
- Edit Table Layout:
  - Move Selected Geographies and PUMA recode to Columns:
    - Click, hold and drag Selected Geographies and PUMA20_RC1 on the left side of the page up to the columns heading. This will give you a table layout that includes the selected PUMA 06712 from California as the columns.



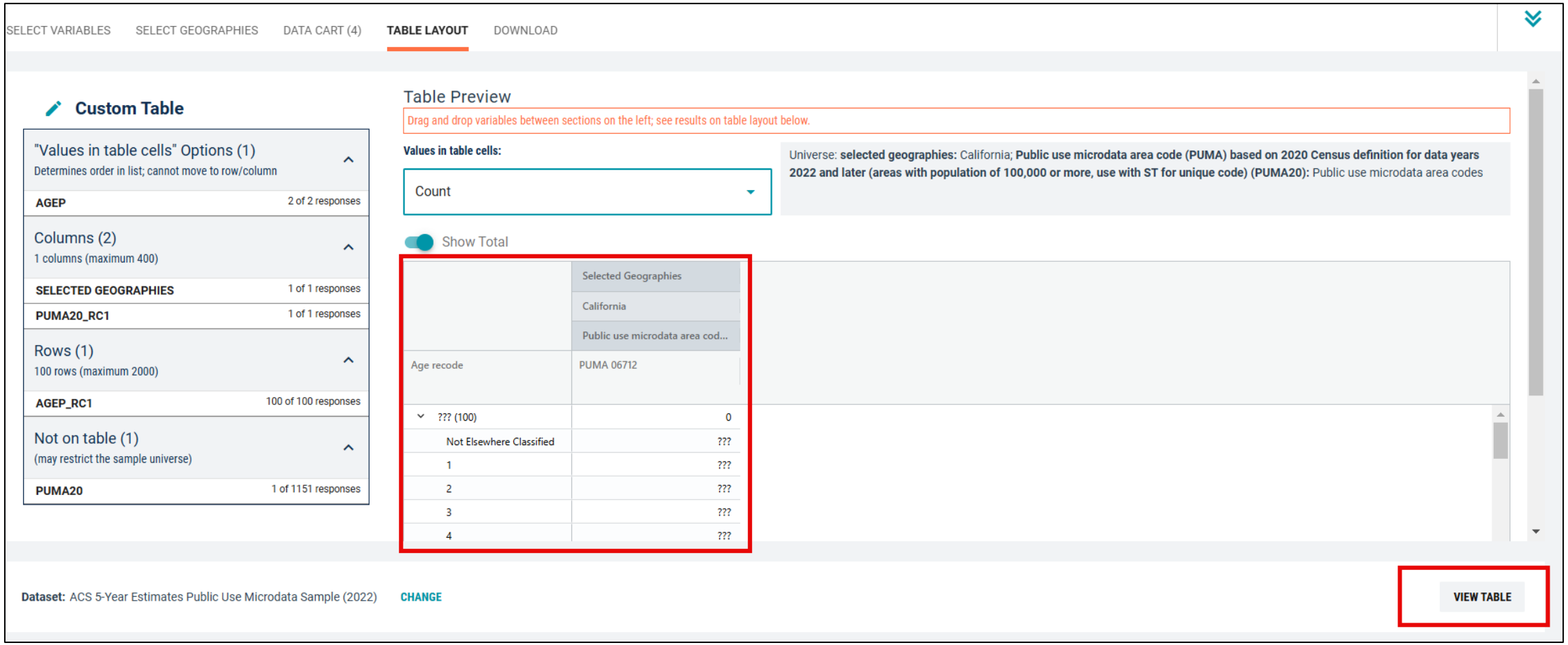
- Edit Table Layout:
  - Move original PUMA20 variable to Not on table section:
    - Click, hold and drag PUMA20 to the Not on table section. This will give you a table layout that includes the selected PUMA from California as the columns.



- Choose type of values in table cells
  - Change the “Value in table cells” option from “Average of Age” to **Count.** This will give you data for the total number of people within the requested categories.

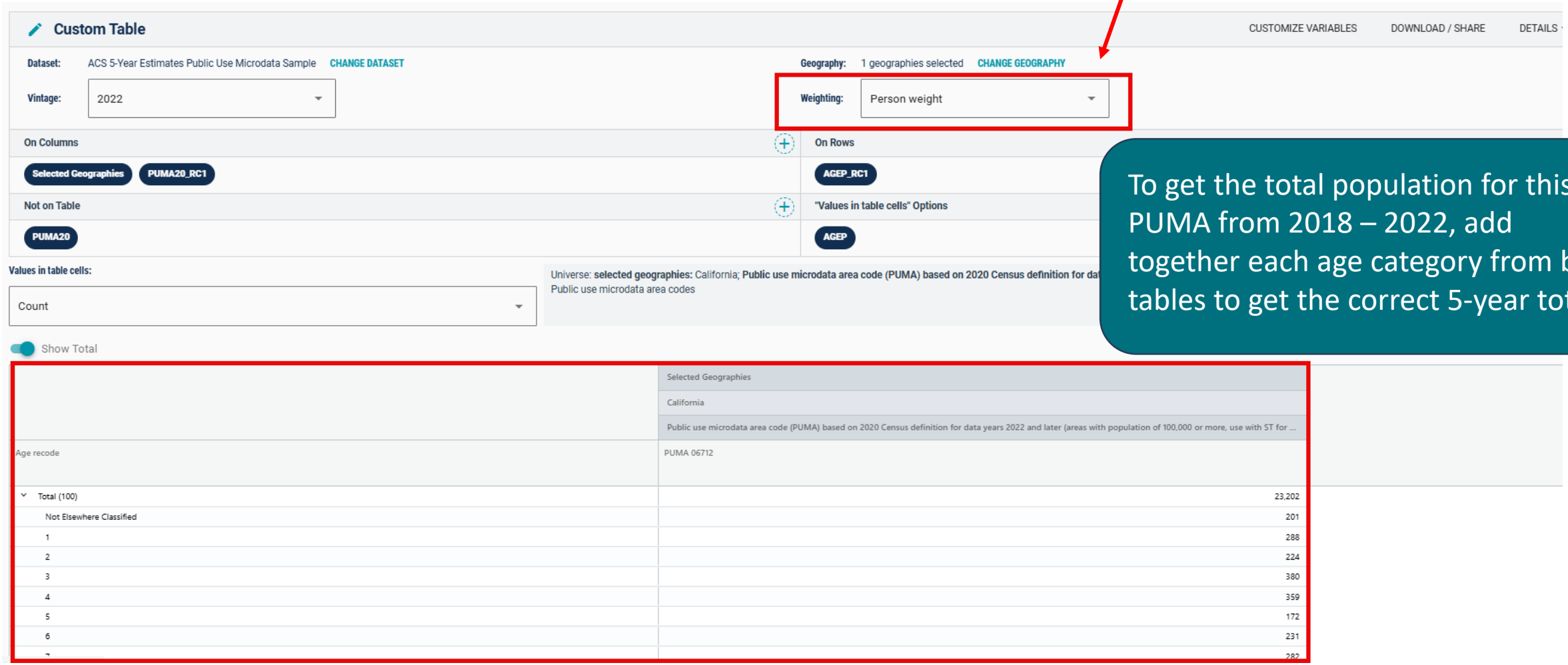


- Confirm Table Layout:
  - Confirm table layout and click **View Table** in the lower right



View Table

Note that the site automatically chooses a weight for you. You do have the option to change the weight if you want.



To get the total population for this PUMA from 2018 – 2022, add together each age category from both tables to get the correct 5-year totals.

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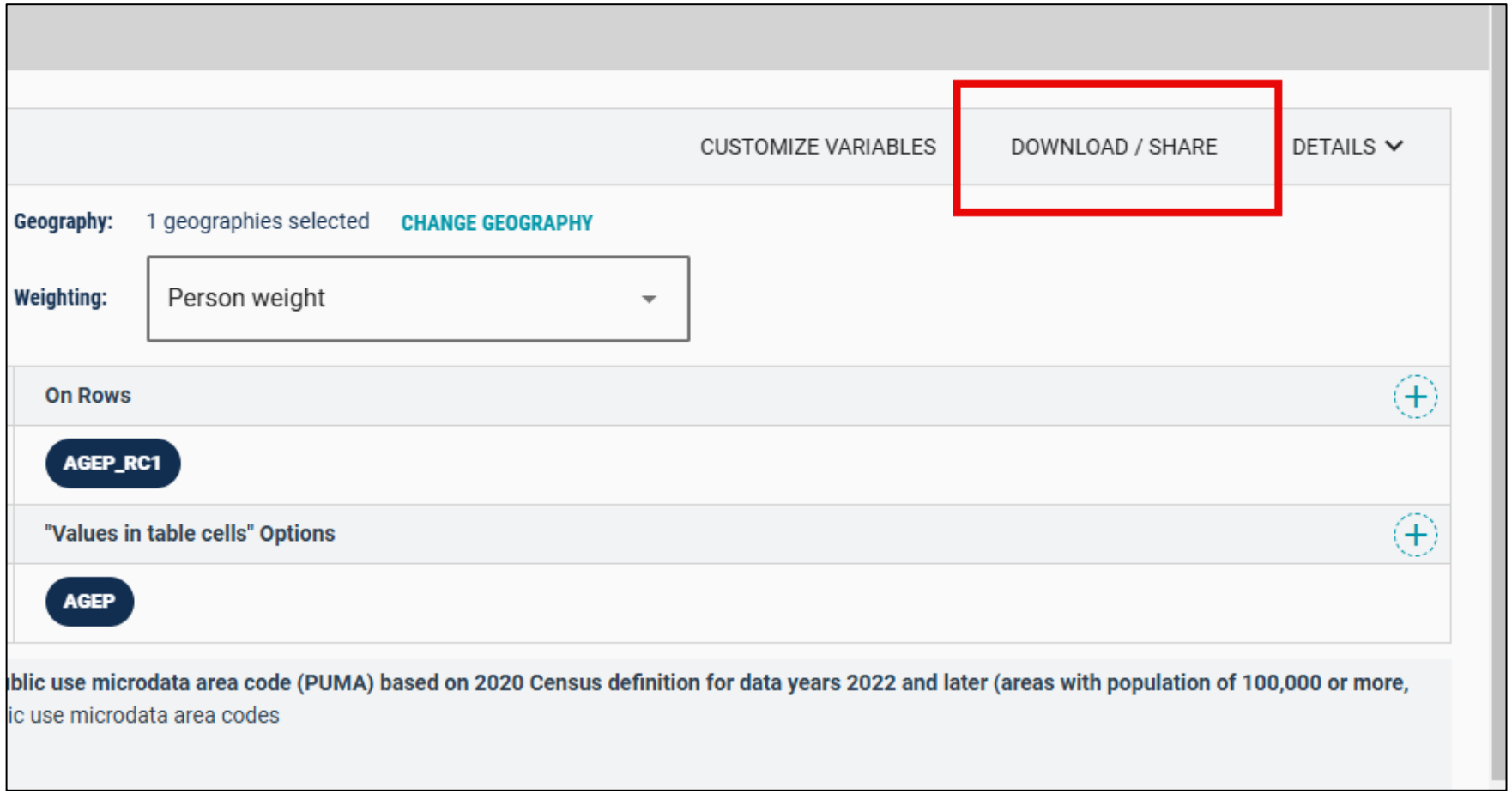
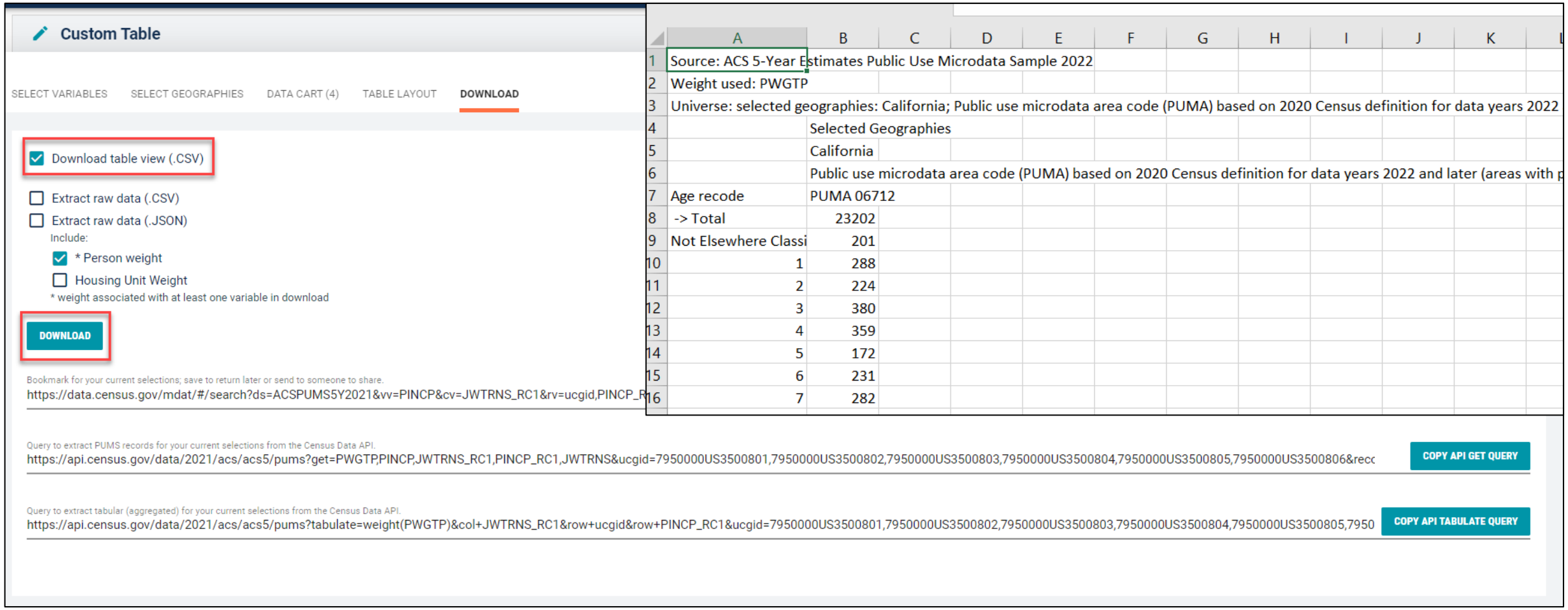
- Download and get API queries:
  - Click **Download/Share** at the top of the table

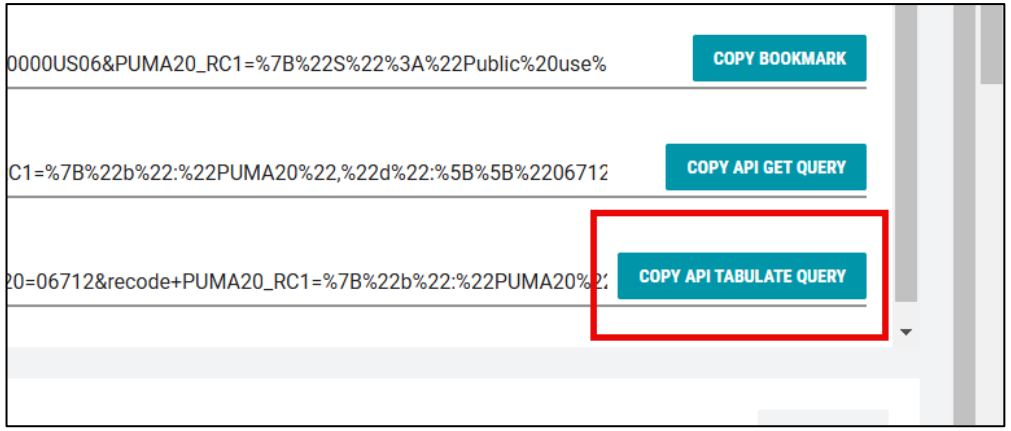


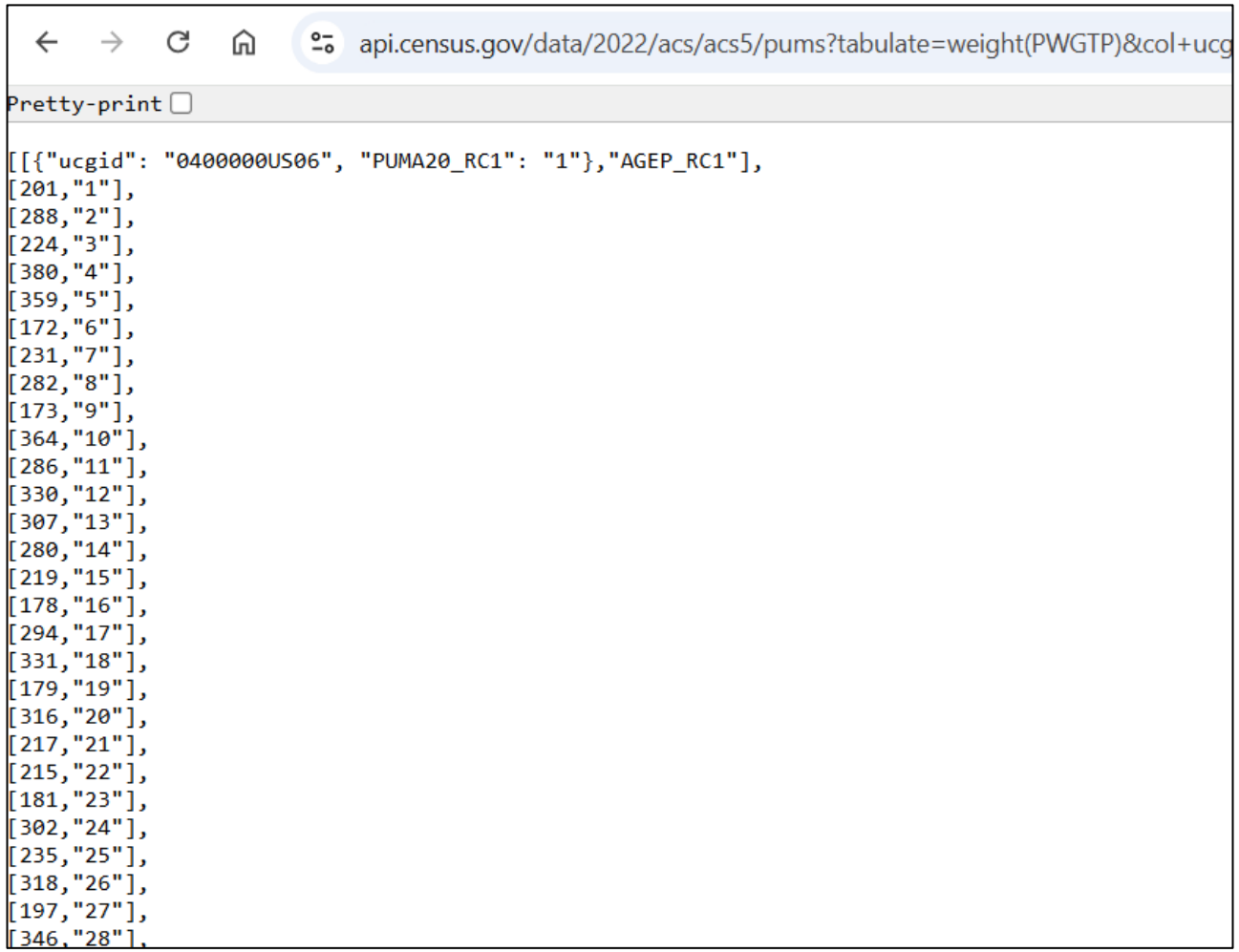
United States® Census Bureau

- Download:
  - Select **Download table view (.CSV),** then click **DOWNLOAD**
  - Click on **export.csv** to view your downloaded table



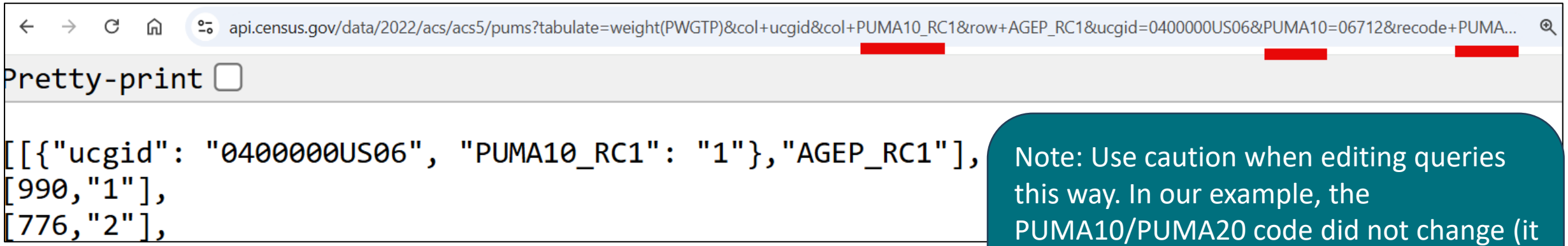
- API Tabulate Query:
  - Select **COPY API TABULATE QUERY**
  - Open a new tab in your browser
  - Paste into the address bar





United States® Census Bureau

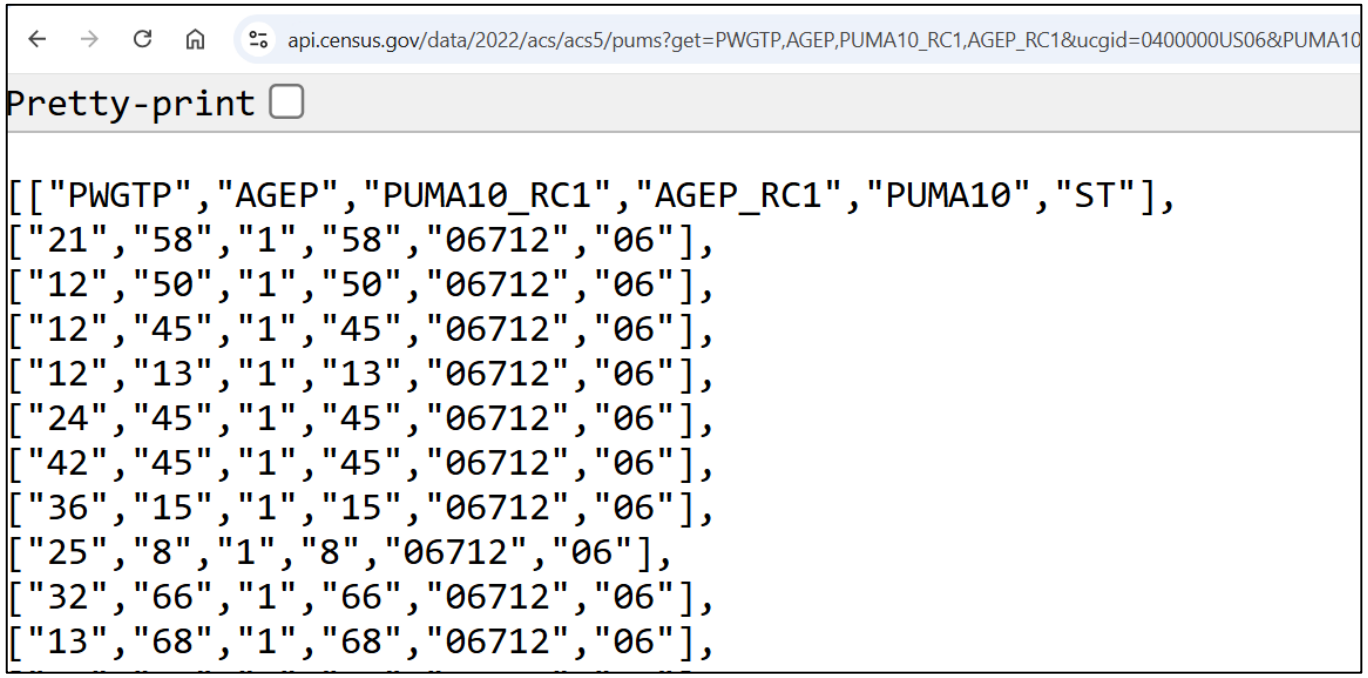
- Quickly Edit PUMA10/PUMA20 tabulations:
  - You can use the API tabulate query URL to quickly switch between PUMA10 and PUMA20 variables without having to go back into MDAT.
  - Replace all instances of “PUMA20” with “PUMA10” in the URL and hit enter
    - Hint: Copy/paste your URL into MS Word, and use the find and replace function to do this easily. If you recoded the PUMA variable, there should be **4** instances of PUMA10 changing to PUMA20.



Note: Use caution when editing queries this way. In our example, the PUMA10/PUMA20 code did not change (it remained 06712), but in many cases the code will change, and you will need to edit that as well.

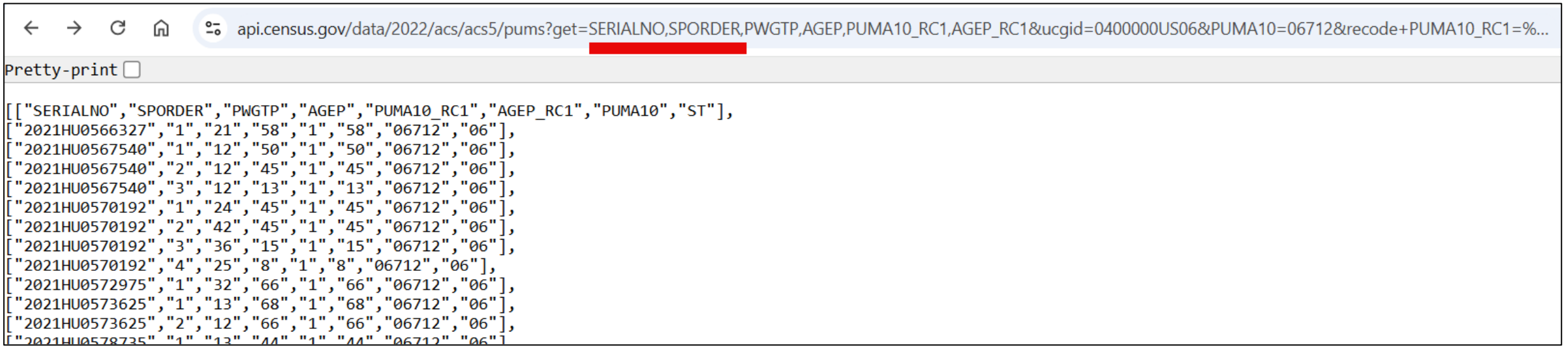
United States® Census Bureau

- API Get Query:
  - Select **COPY API GET QUERY**
  - Open a new tab in your browser
  - Paste into the address bar



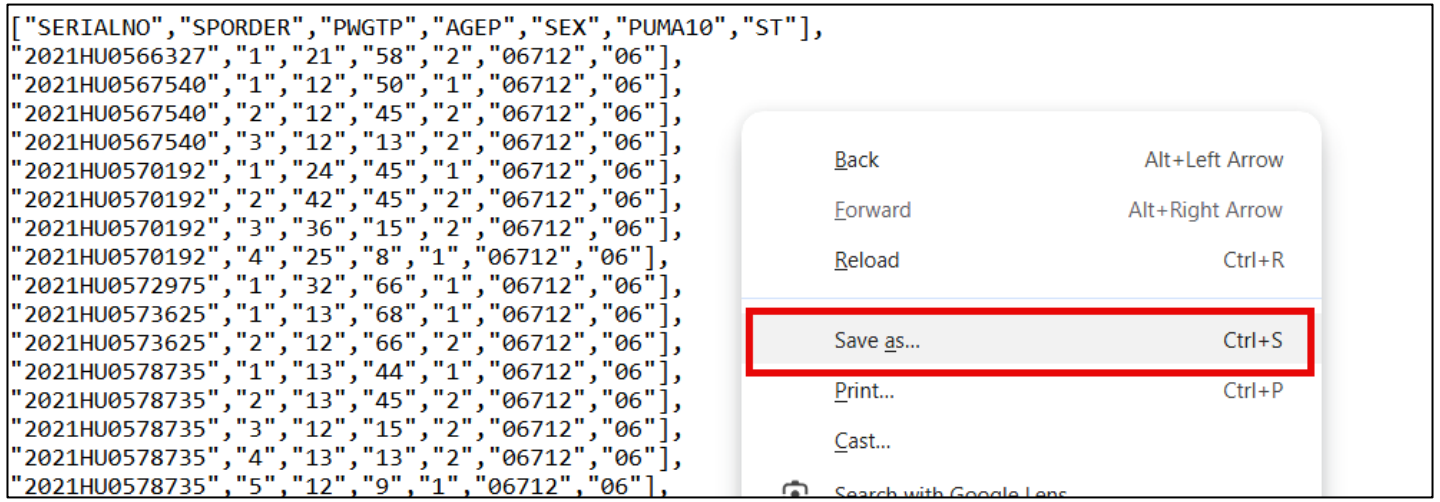
United States® Census Bureau

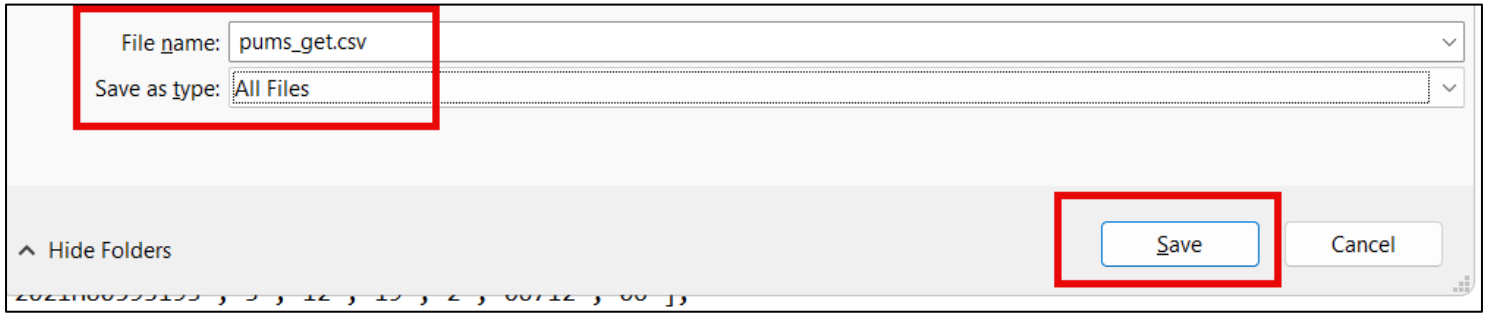
- API Get query:
  - After **get=** in the URL, add in **SERIALNO,SPORDER**
    - SERIALNO – Unique identifier for a Housing Unit(HU)/group quarters(GQ)
    - SPORDER – Unique identifier of persons within a Housing Unit(HU)



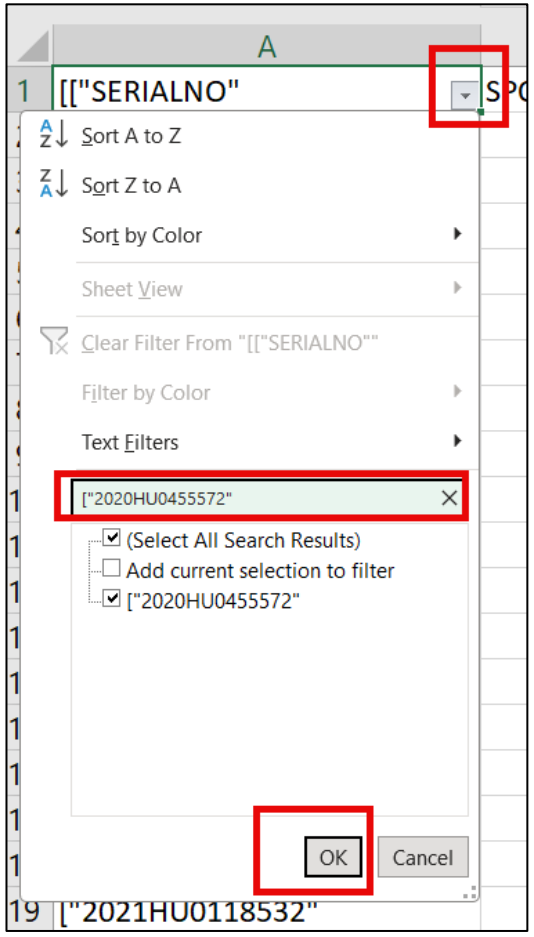
- Add/remove variables:
  - After **AGEP** in the URL, add in **SEX**
    - Males are represented by a 1, Females by a 2
  - (Optional) – Clean up the query by removing AGEP_RC1 and PUMA10_RC1
    - The AGEP_RC1 Recode can be removed in this example as it is showing the exact same thing as AGEP. Other variables/recodes may not the same. Recodes should only be removed on a case-by-case basis.

- Save to Excel:
  - Right click on the page > Choose **Save As**.
  - The file name can be anything, however there must be a **.csv** at the end of the file name
  - Change the Save as type to **All files**
  - Click **Save**





- Filter to a specific housing unit:
  - Add a filter to the **SERIALNO** Column in Excel (Ctrl+Shift+L shortcut in Excel)
  - Filter down to single housing unit, such as **["2020HU0455572“**
    - (Optional) All the brackets [] and quotation marks “” can be removed in Excel to clean up the file. Use the Find and Replace function to remove these.



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- View results:
  - **SPORDER** shows us this housing unit has 4 people living there
  - **AGEP** and **SEX** show us there is a 5 year old female, 9 year old male, 40 year old male, and 40 year old female
  - **PWGTP** shows the PUMS Person Weights

	A	B	C	D	E	F	G
1	[["SERIALNO"	SPORDEF	PWGTP	AGEP	SEX	PUMA1(	ST]
524	["2020HU0455572"	4	13	5	2	6712	06]
1167	["2020HU0455572"	3	16	9	1	6712	06]
2378	["2020HU0455572"	2	13	40	1	6712	06]
4450	["2020HU0455572"	1	12	40	2	6712	06]
5036							

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Additional notes

- PUMA boundaries and/or codes may change substantially between vintages, requiring analysis to determine which PUMA codes to use for. In the example used here, the PUMA code (06712) for Sacramento County (Northeast)--Folsom City, Orangevale & Fair Oaks (East) did not change across years. However, in many cases PUMA10 codes may differ from PUMA20 codes.
- The MABLE/Geocorr tool is helpful to identify changes in PUMAs between vintages. The tool allows you to calculate the proportion of a PUMA code from the 2010 vintage that lies within the new PUMA codes from the 2020 vintage. It also provides you with an allocation factor so that you may crosswalk old PUMA codes to new PUMA codes. Check out this short video to learn more about how to use the MABLE/Geocorr tool to crosswalk geographies.
  - IPUMS also has a helpful page with a 2010-2020 PUMA Crosswalk and a map of 2010 and 2020 PUMAs
- Page 13 of ACS 5-Year PUMS User Guide contains more information about dual vintage PUMAs and resources to make sense of PUMA changes over time.

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Today's Agenda

API Background and Basics

API Examples

- Population of Municipios
- Sex by Age by Race Estimates for California
- Accessing and Downloading an Entire Table

Resources

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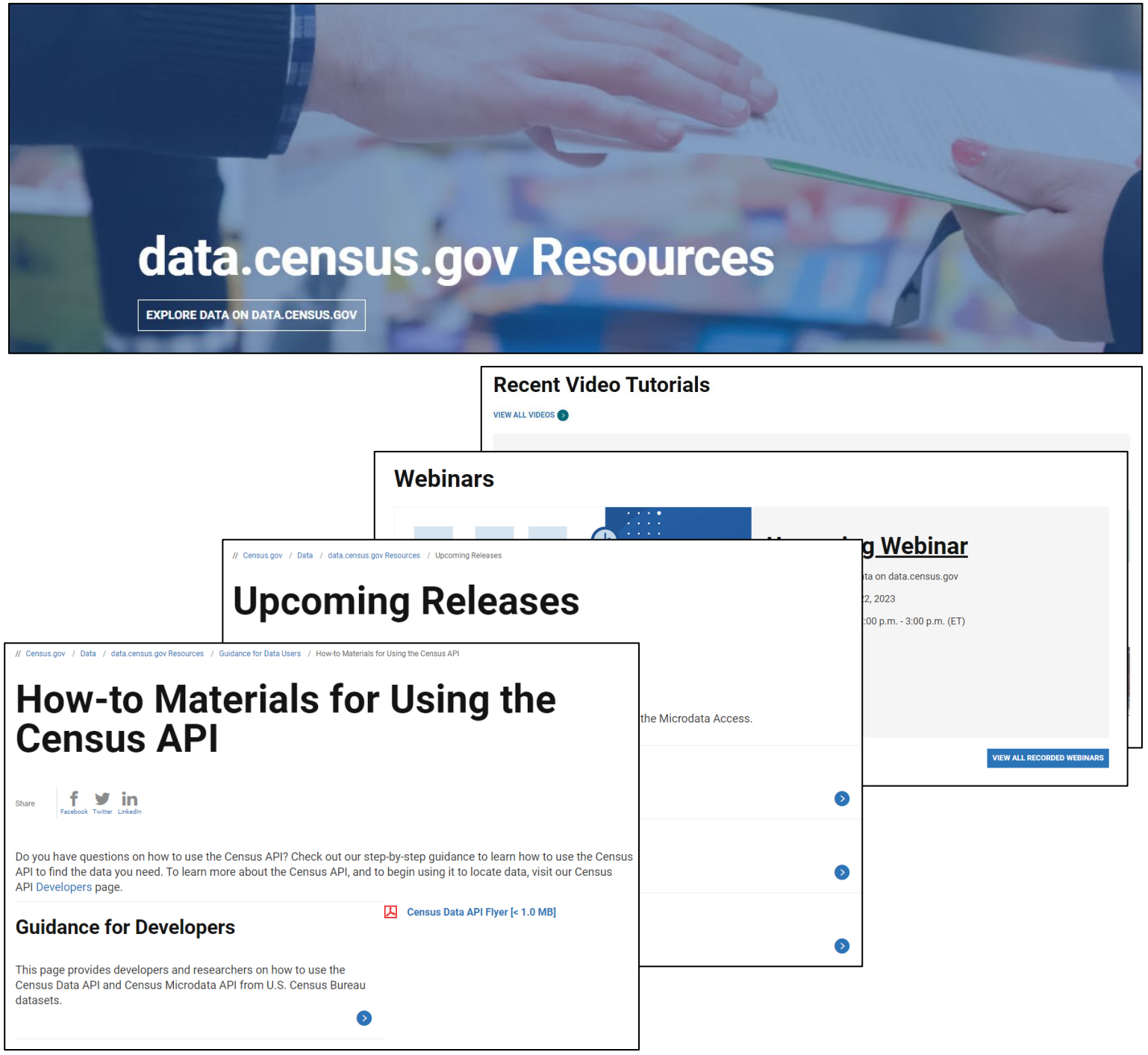
Stay Connected

data.census.gov Resources page: census.gov/data/what-is-data-census-gov.html

API Resources page: census.gov/data/what-is-data-census-gov/guidance-for-data-users/how-to-materials-for-using-the-census-api.html



Email Updates

Get data.census.gov updates delivered to your inbox!

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https://public.govdelivery.com/accounts/USCENSUS/signup/15450

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- [ ] Weekly Pulse Newsletter
- [ ] Experimental Data Products
- [ ] Census Business Builder
- [x] Census Data API
- [ ] Developer Newsletter

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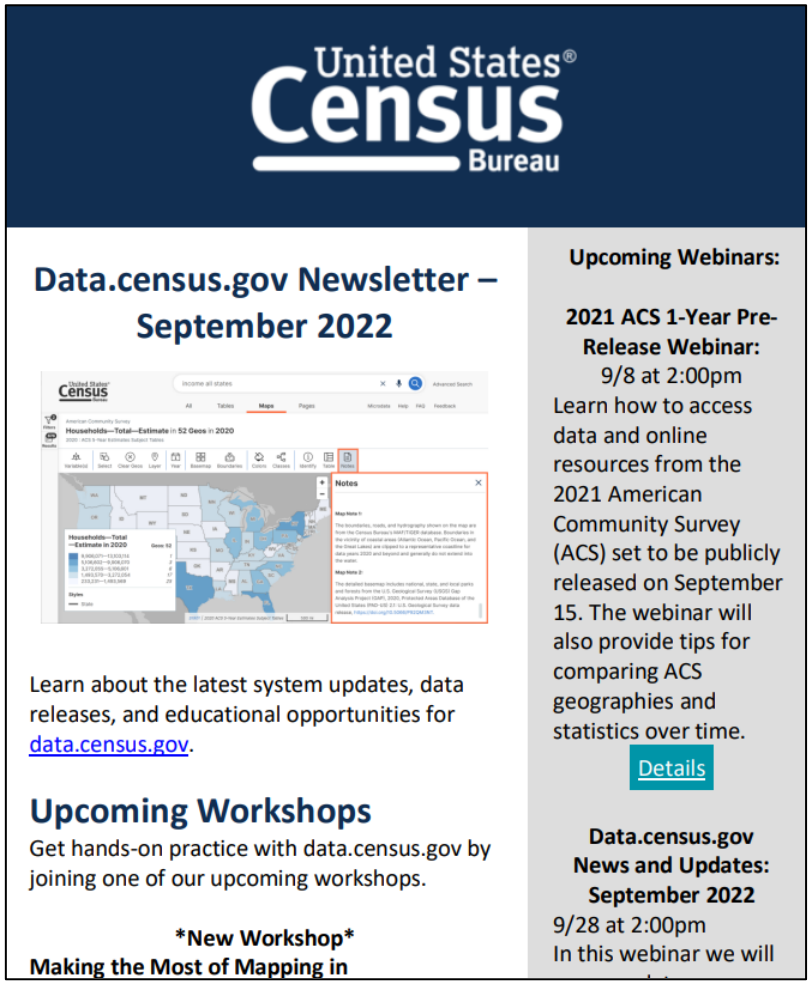

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Data.census.gov Newsletter – September 2022

Learn about the latest system updates, data releases, and educational opportunities for data.census.gov.

Upcoming Workshops

Get hands-on practice with data.census.gov by joining one of our upcoming workshops.

New Workshop
Making the Most of Mapping in

Upcoming Webinars:

2021 ACS 1-Year Pre-Release Webinar:
9/8 at 2:00pm
Learn how to access data and online resources from the 2021 American Community Survey (ACS) set to be publicly released on September 15. The webinar will also provide tips for comparing ACS geographies and statistics over time.

Details

Data.census.gov News and Updates: September 2022
9/28 at 2:00pm
In this webinar we will

Additional resources for R and Python Users

- Introduction to the Census Bureau Data API:
  - https://www.census.gov/data/academy/courses/intro-to-the-census-bureau-data-api.html
  - Skip to Module 3: Part 2 for a video training on accessing the API using tidycensus
- Additional tidycensus Resources via Kyle Walker (author of tidycensus R package):
  - *Analyzing US Census Data: Methods, Maps, and Models in R* by Kyle Walker: https://walker-data.com/census-r/index.html
  - Basic Usage of tidycensus: https://walker-data.com/tidycensus/articles/basic-usage.html
  - Working with Census microdata: https://walker-data.com/tidycensus/articles/pums-data.html
- Additional censusdis Resources via Darren Vengroff (author of censusdis Python package):
  - *Introduction to Working with U.S. Census Data in Python: https://www.youtube.com/watch?v=3vyC7ON0Tvg*
  - Installation and First Example: https://github.com/censusdis/censusdis?tab=readme-ov-file#installation-and-first-example
  - Full tutorial (with many examples and exercises): *https://github.com/censusdis/censusdis-tutorial-2024*
- Using American Community Survey Data with Open-Source Software:
  - https://www.census.gov/programs-surveys/acs/guidance/statistical-software.html
- Census Bureau Slack Channel:
  - https://www.census.gov/data/developers/api-forum.html

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Questions?

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