Using the Census Data API to Access Census Data

2026 Federal Computer Assisted Survey Information Collection Workshops

April 21, 2026

Tyson Weister
Center for Enterprise Dissemination
Dissemination Outreach Branch
U.S. Census Bureau

United States® Census Bureau

Outline

- API Basics
- Building an API Request
- API Use Cases
- New Functionality

United States® Census Bureau

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

Application Programming Interfaces

Free, publicly accessible, open source services

United States® Census Bureau

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

Census Programs in the API

Demographic Programs

- American Community Survey
- Decennial Census
- Decennial Census Self Response Rates
- Health Insurance stats (from Current Population Survey, Survey of Income Program Participation, ACS, Small Area Health Insurance Estimates)
- International Database
- Population Estimates and Projections
- Poverty stats (from CPS, Small Area Income & Poverty Estimates)

Economic (Business) Programs

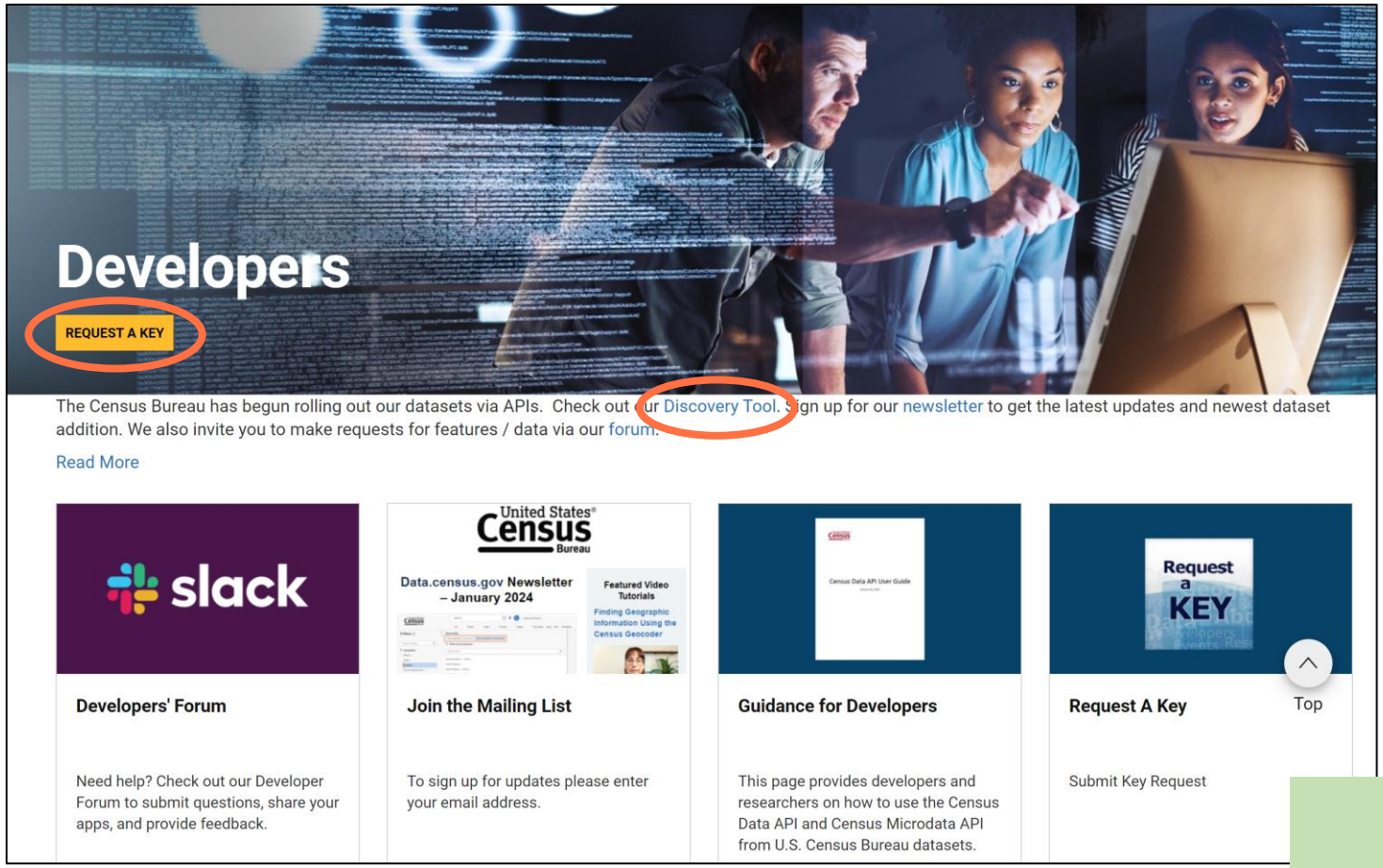
- Annual Survey of Entrepreneurs and Annual Survey of Manufacturers
- Annual Business Survey and Survey of Business Owners
- Business Dynamics Statistics
- County/ZIP Business Patterns and Nonemployer Stats
- Commodity Flow Survey
- Economic Census and Economic Indicators
- International Trade
- Longitudinal Employer-Household Dynamics (LEHD)
- Quarterly Workforce Indicators

Other Programs

- The Planning Database

United States® Census Bureau

Developers Page



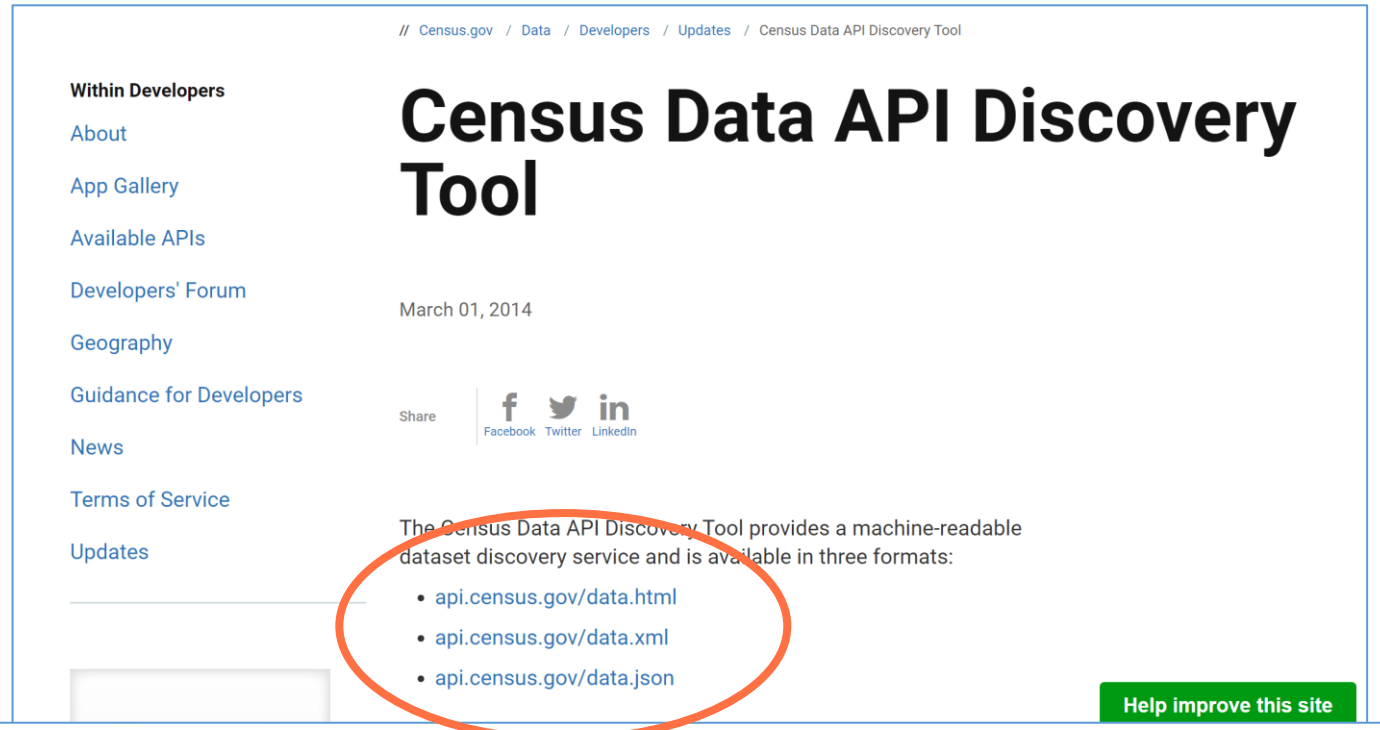
Accessing our API

- Request a Key
  - No charge
  - No throttling/limitations
- Browse the Discovery Tool
  - List of available datasets/endpoints (1,760 as of 3/17/2026)
  - 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/

United States® Census Bureau

Discovery Tool



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

Within Developers

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

Census Data API Discovery Tool

March 01, 2014

Share Facebook Twitter LinkedIn

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

Help improve this site

Census API: Datasets in /data/2017/acs/acs5/profile and its descendants

Title	Description	Vintage	Dataset Name	Geography List	Variable List	Group List	Tag List	Examples	Developer Documentation	API Base URL
ACS 5-Year Data Profiles	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. The 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. 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.	2017	acs› acs5› profile	geographies	variables	groups	*N/A*	examples	documentation	https://api.census.gov/data/2017/acs/acs5/profile

Information Provided

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

Links to FTP Servers

Outline

- API Basics
- **Building an API Request**
- API Use Cases
- New Functionality

United States® Census Bureau

How to Start Your Data Request

api.census.gov/data/2024/acs/acs5/subject?get=NAME,S0101_C01_032E
&for=county:*&in=state:51

United States® Census Bureau

Add Year or Timeseries

api.census.gov/data**/2024**/acs/acs5/subject?get=NAME,S0101_C01_032E
&for=county:*&in=state:51

2

While most API queries have a year in this position (like **2024**) some datasets will say **timeseries** instead.

United States® Census Bureau

Add the Dataset Name

api.census.gov/data/2024**/acs/acs5/subject**?get=NAME,S0101_C01_032E
&for=county:*&in=state:51

3

Find the dataset name at:
https://api.census.gov/data/2024.html

Here we are using the 2024 ACS 5-Year Subject Tables.

United States® Census Bureau

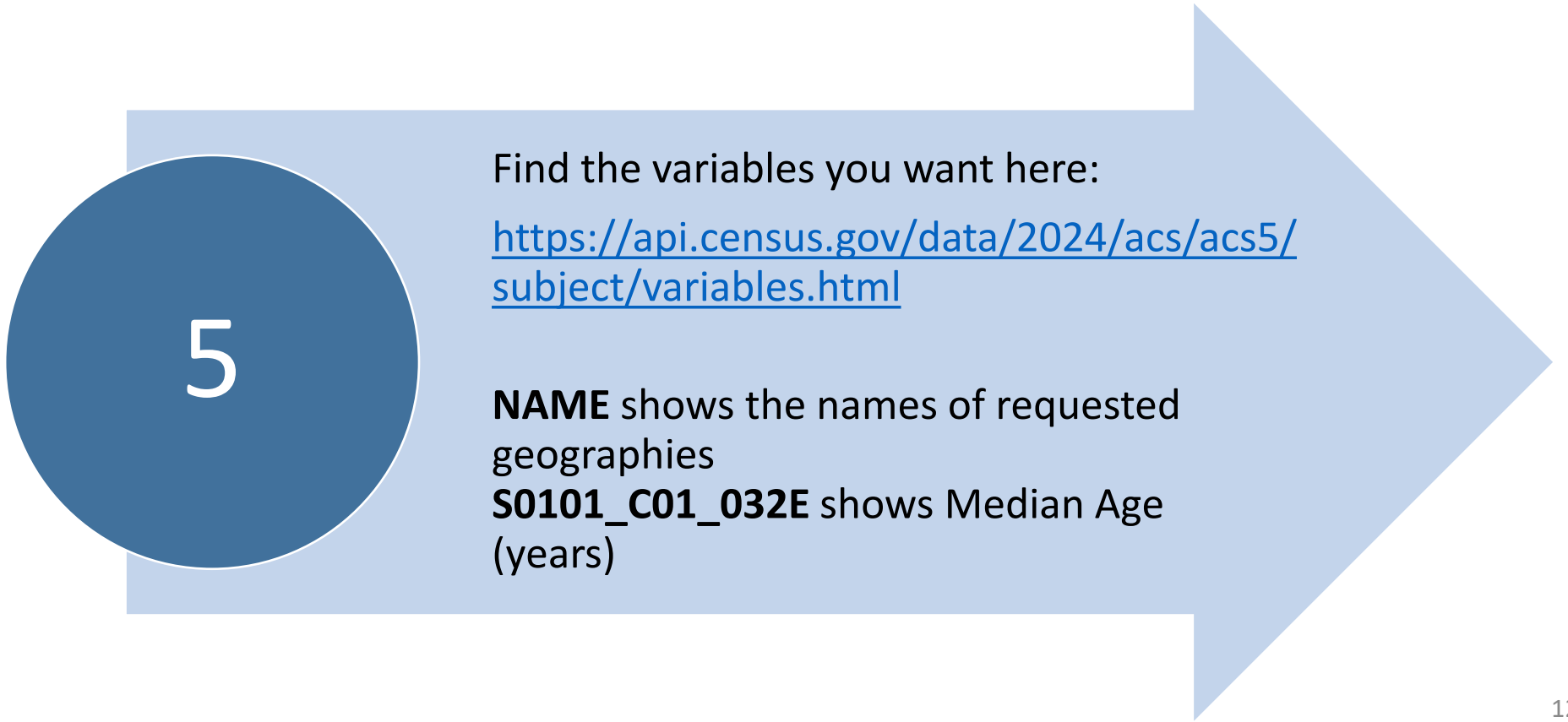
Start Your Variable Request

api.census.gov/data/2024/acs/acs5/subject**?get=**NAME,S0101_C01_032E
&for=county:*&in=state:51

United States® Census Bureau

Add Your Variables

api.census.gov/data/2024/acs/acs5/subject?get=**NAME,S0101_C01_032E**
&for=county:*&in=state:51



United States® Census Bureau

Add Your Geography

api.census.gov/data/2024/acs/acs5/subject?get=NAME,S0101_C01_032E

&for=county:*&in=state:51

A **wildcard (:*)** can be included to search for all the values of a variable. Wildcards work for geographies and string variables only.

6

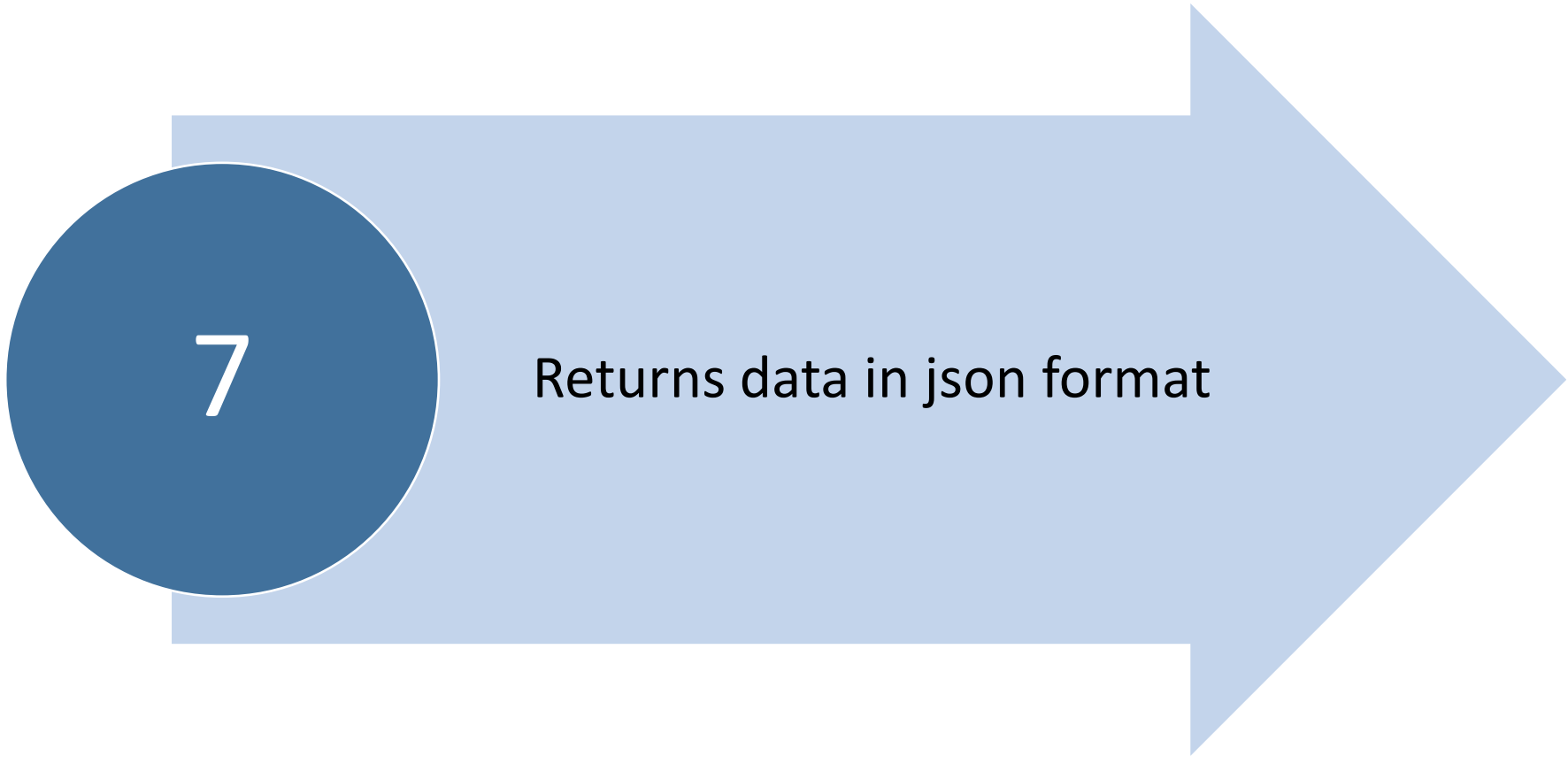
Find available geographies and syntax here:

https://api.census.gov/data/2024/acs/acs5/subject/examples.html

United States® Census Bureau

Put it all Together

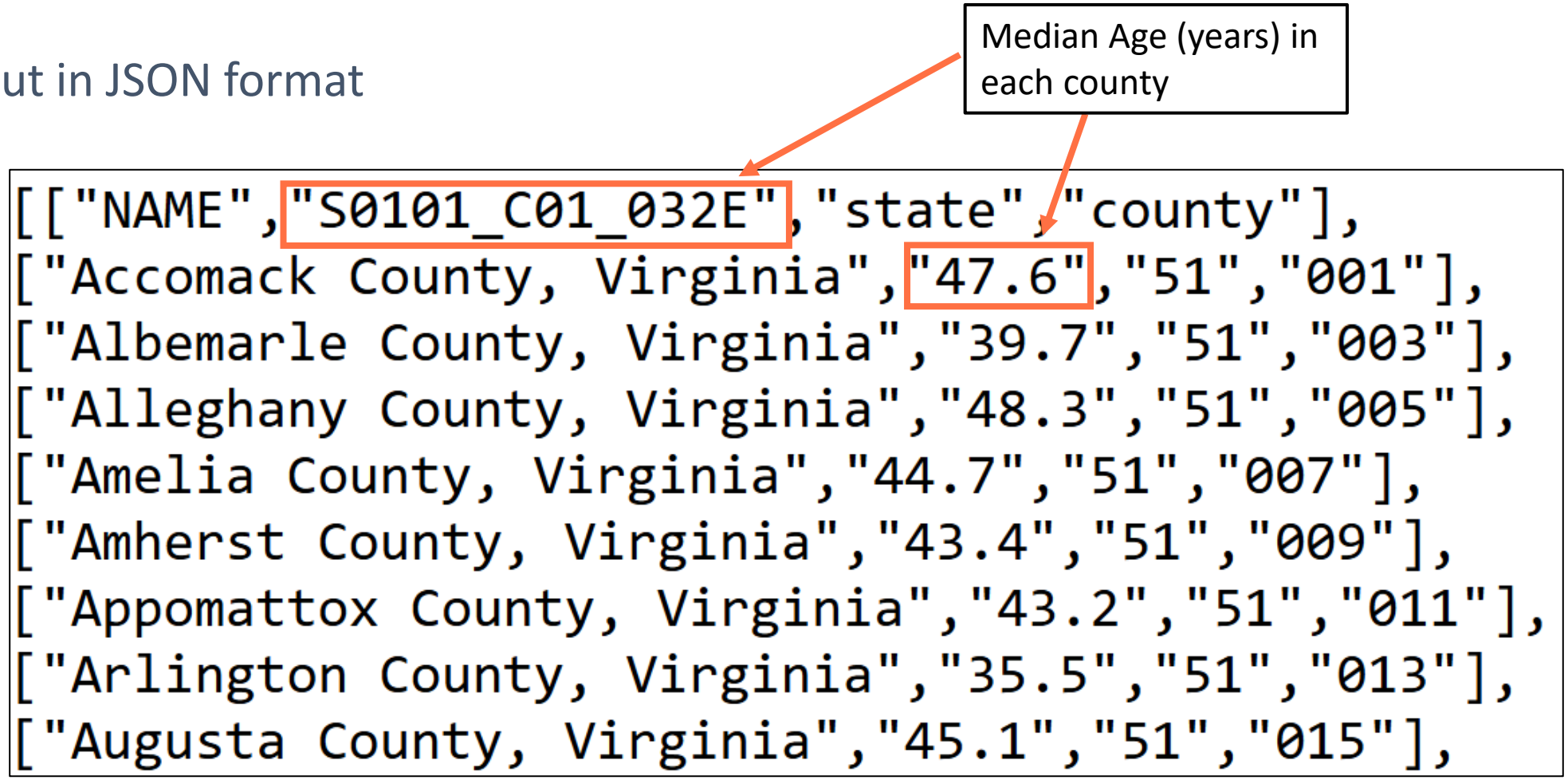
api.census.gov/data/2024/acs/acs5/subject?get=NAME,S0101_C01_032E&for=county:*&in=state:51



United States® Census Bureau

Output From the API

API output in JSON format



https://api.census.gov/data/2024/acs/acs5/subject?get=NAME,S0101_C01_032E&for=county:*&in=state:51

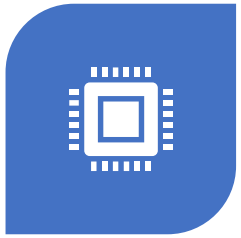
United States® Census Bureau

Outline

- API Basics
- Building an API Request
- **API Use Cases**
- New Functionality

United States® Census Bureau

WHO uses the API?



DEVELOPERS

STUDENTS AND TEACHERS

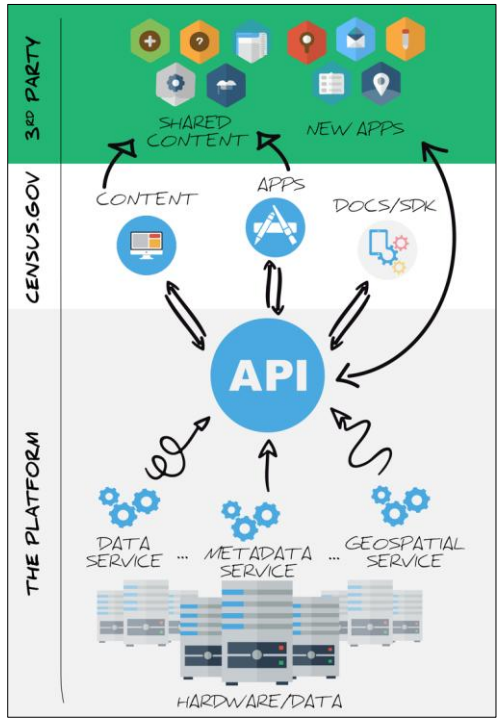
RESEARCHERS

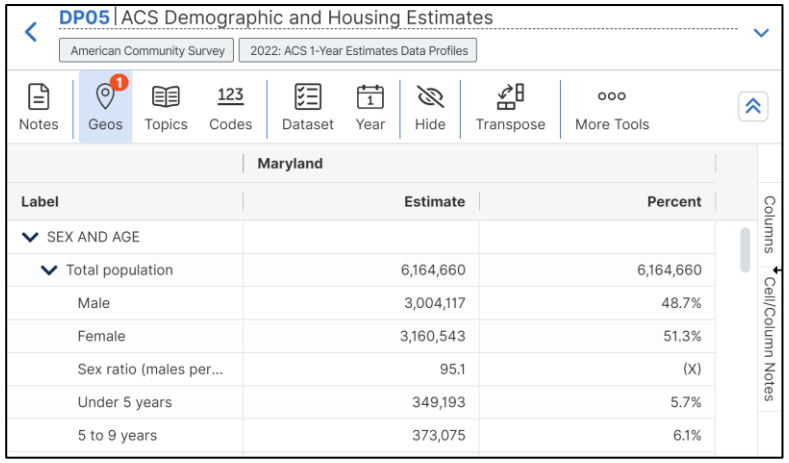
GOVERNMENT AGENCIES

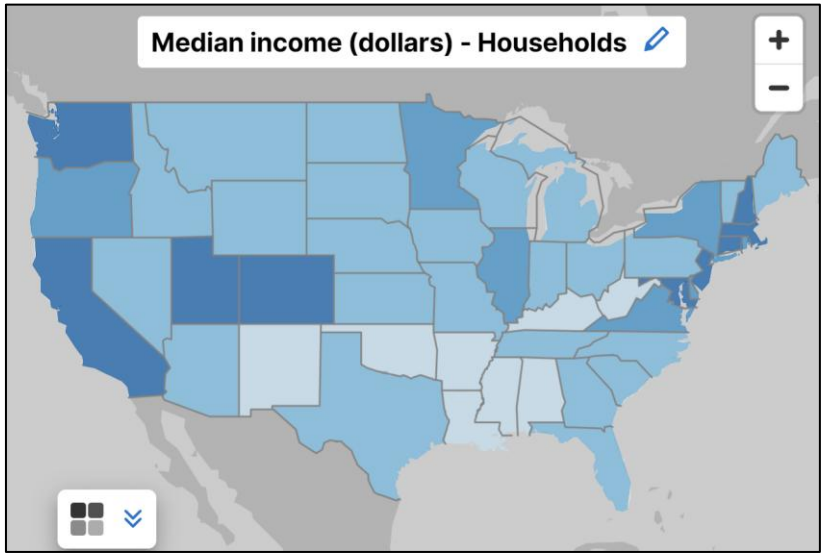
FINANCIAL INSTITUTIONS

United States® Census Bureau

API Powers data.census.gov, MDAT, and My Congressional District

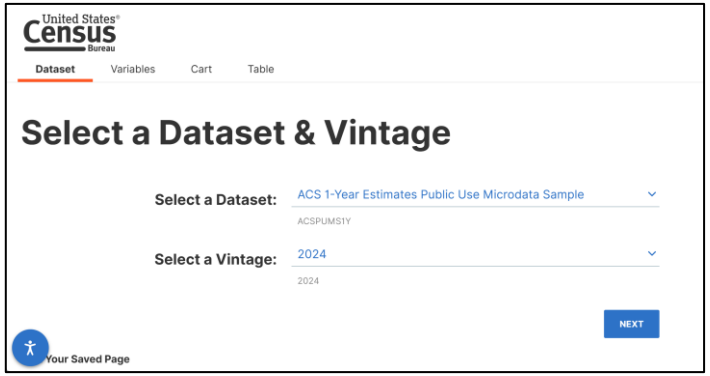






data.census.gov

census.gov/mycd



data.census.gov/mdat

United States® Census Bureau

Why would data users use the API?

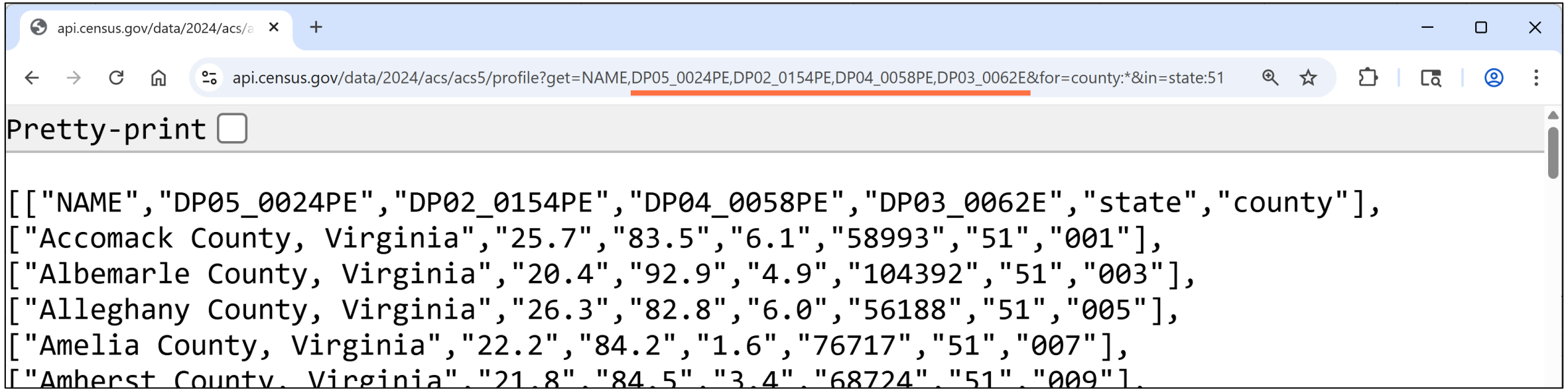
* Pull data for multiple tables at once, rather than viewing individual tables on data.census.gov
* Easily access data over time for timeseries datasets
* Need older data not available on data.census.gov, such as pre-2010 ACS data
* Need datasets not available in data.census.gov or the Microdata Access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

United States® Census Bureau

Getting Data Across Multiple Tables

The API allows users to request data across multiple tables

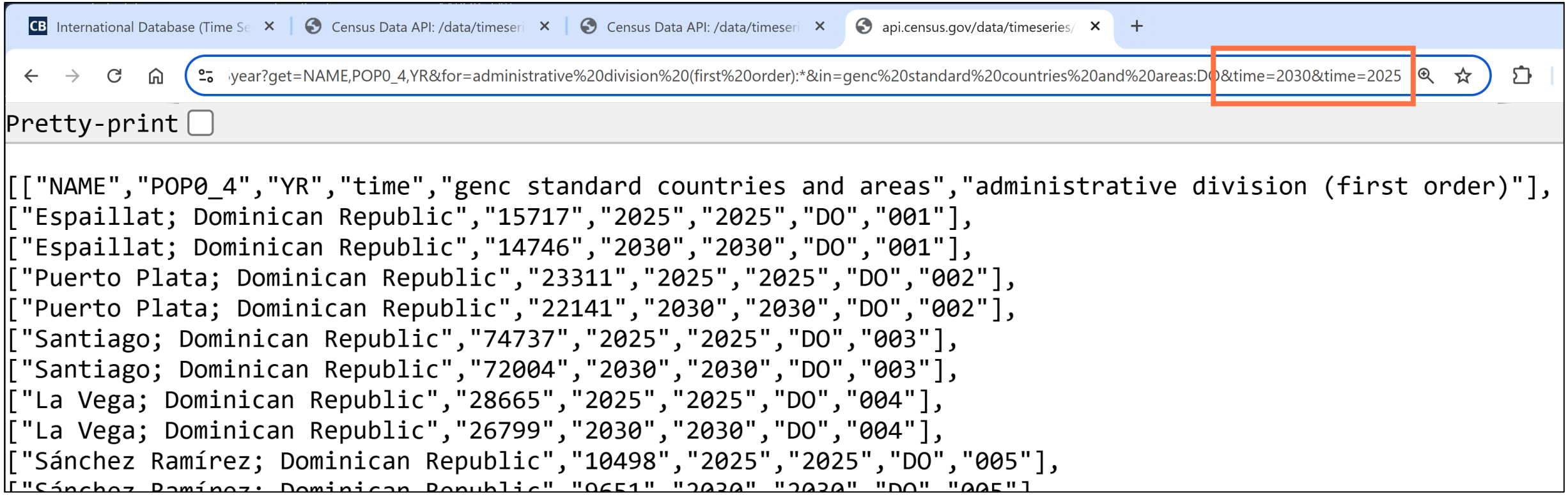
- **DP05_0024PE:** Percent 65 years and over
- **DP02_0154PE**: Percent with a broadband internet subscription
- **DP04_0058PE**: Percent with no vehicles available
- **DP03_0062E**: Median Household Income



https://api.census.gov/data/2024/acs/acs5/profile?get=NAME,DP05_0024PE,DP02_0154PE,DP04_0058PE,DP03_0062E&for=county:*&in=state:51

Getting Data Over Time

Add or update the year(s) in the URL to retrieve data easily over time



https://api.census.gov/data/timeseries/idb/5year?get=NAME,POP0_4,YR&for=administrative%20division%20(first%20order):*&in=genc%20standard%20countries%20and%20areas:DO&time=2030&time=2025

United States® Census Bureau

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 the R package tidycensus
- **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

United States® Census Bureau

Resources for R and Python Users

- **tidycensus Resources via Kyle Walker** (author of tidycensus R package):

  Note: tidycensus only offers access to ACS and Decennial Census data, as well as mapping capabilities.

  - University of Michigan tidycensus workshops (comprehensive 3-part workshop): https://ssdan.net/events/the-2025-ssdan-webinar-series-2023-acs-data-with-r-mapping-tools-and-the-2020-census/
  - *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

- **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*
  - ACS Multiyear Analysis Module: https://github.com/censusdis/censusdis/blob/main/notebooks/ACS%20Multiyear%20Analyses.ipynb

United States® Census Bureau

Have a Census API package you'd like to share? Email us at census.data@census.gov

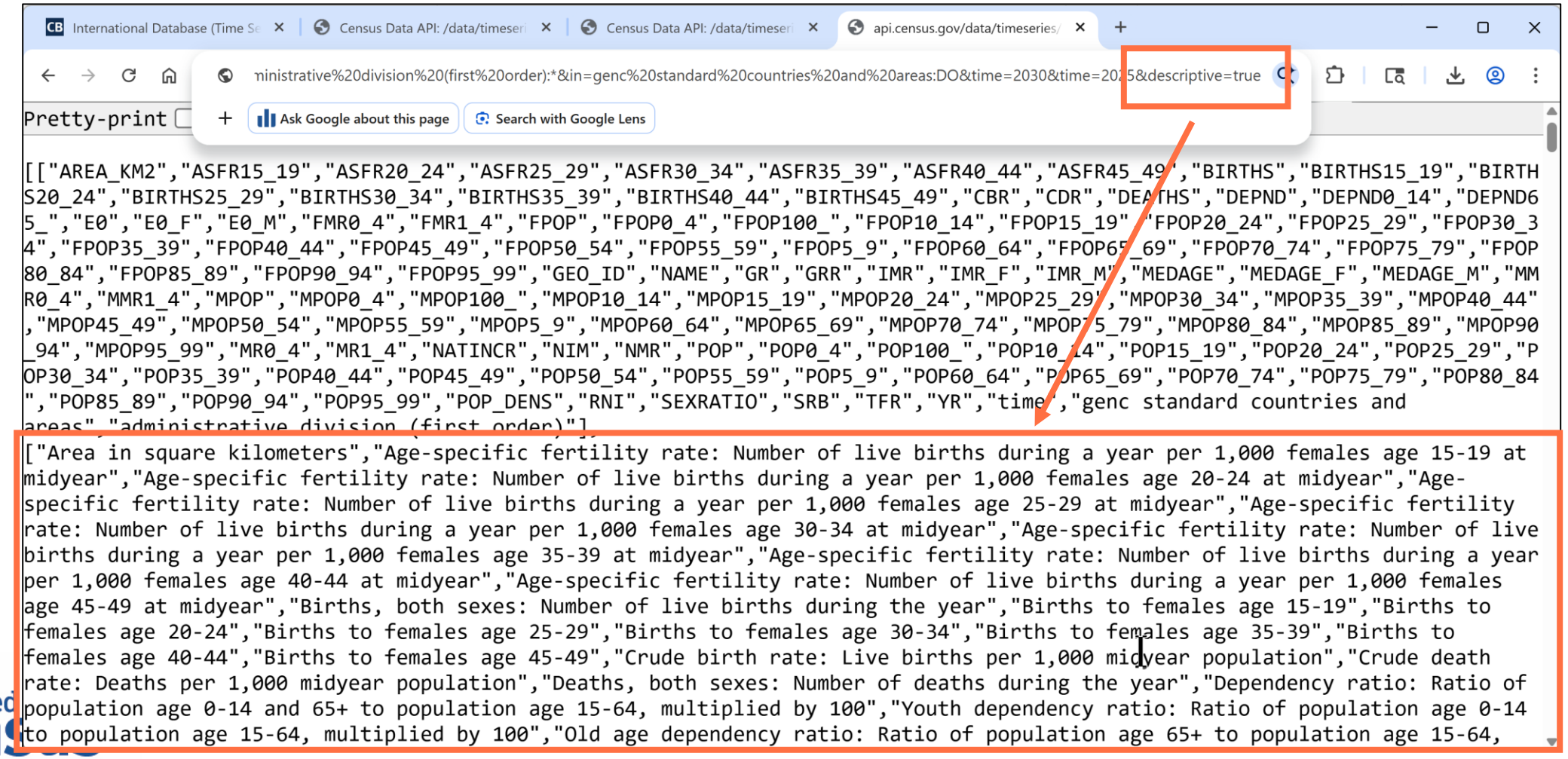
Outline

- API Basics
- Building an API Request
- API Use Cases
- **New Functionality**

United States® Census Bureau

API Labels: &descriptive=true

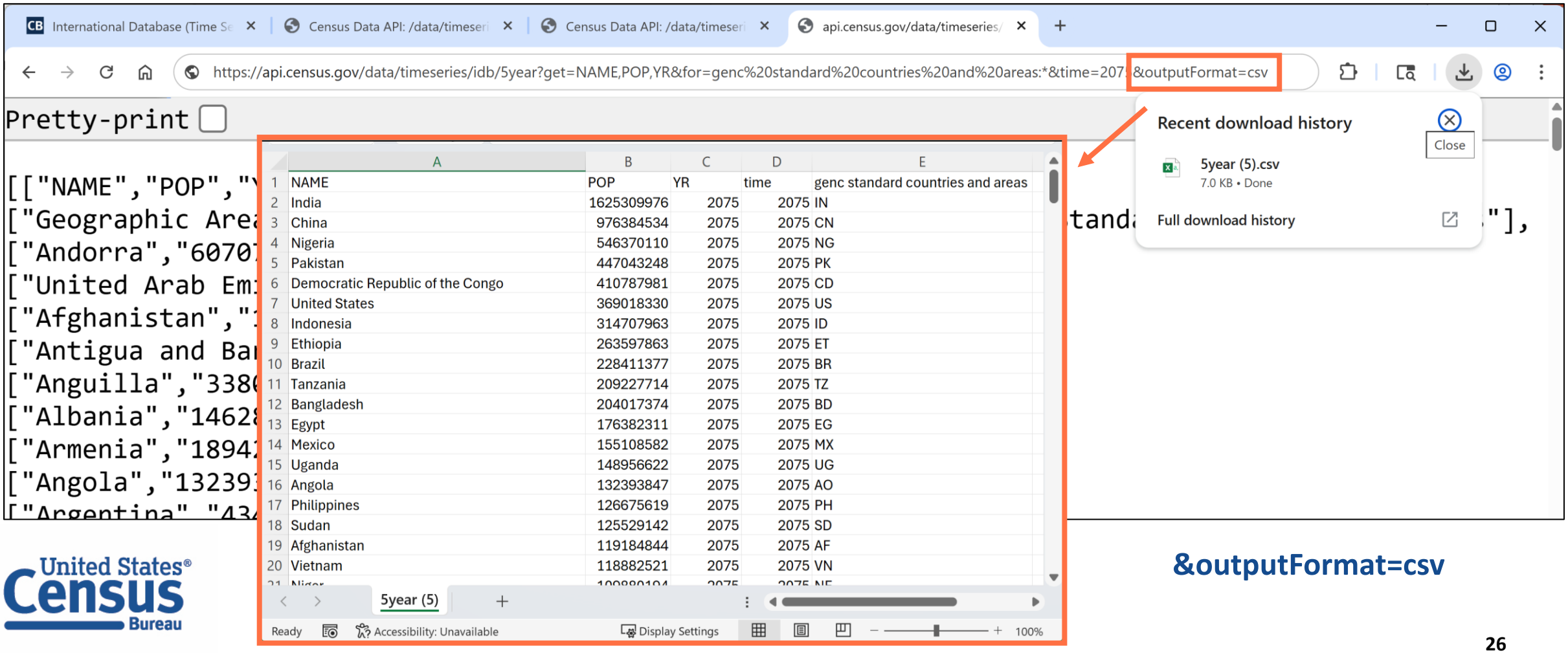
- Add API Labels: *&descriptive=true*



&descriptive=true

CSV Downloads: &outputFormat=csv

- Get API results in a CSV download: *&outputFormat=csv*
- Be mindful of capitalization. API calls are case-sensitive.



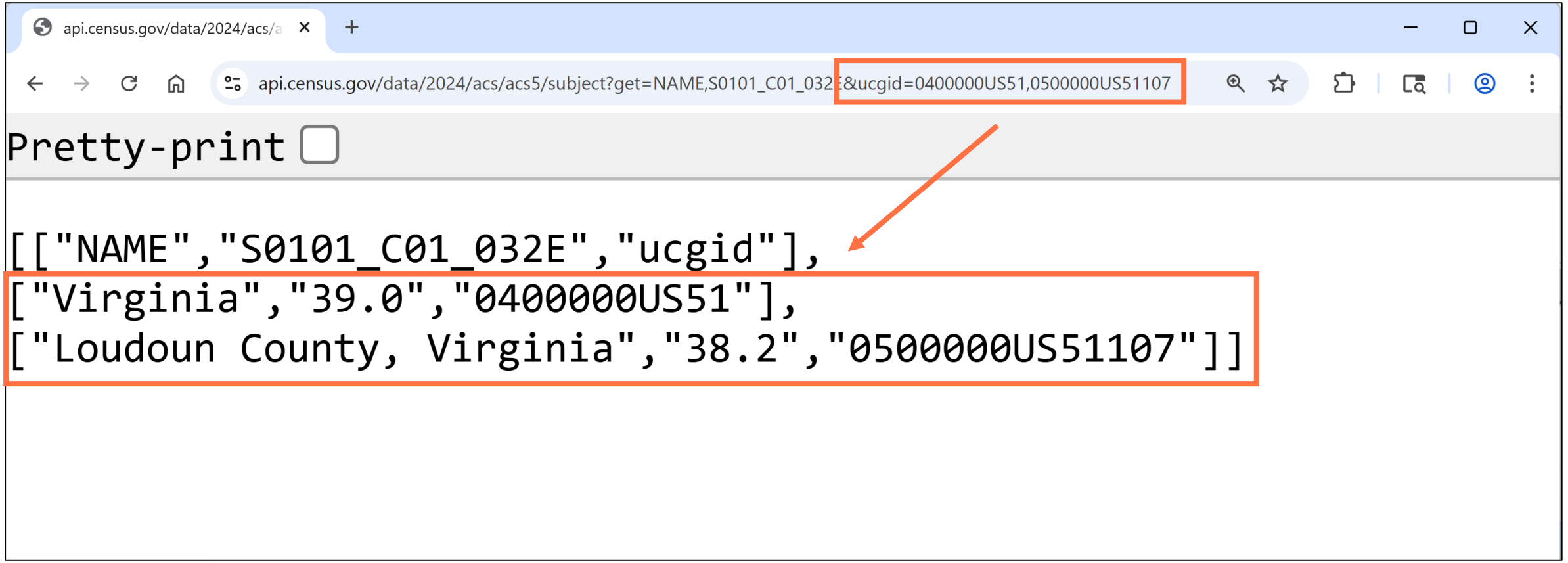
	A	B	C	D	E
1	NAME	POP	YR	time	genc standard countries and areas
2	India	1625309976	2075	2075	IN
3	China	976384534	2075	2075	CN
4	Nigeria	546370110	2075	2075	NG
5	Pakistan	447043248	2075	2075	PK
6	Democratic Republic of the Congo	410787981	2075	2075	CD
7	United States	369018330	2075	2075	US
8	Indonesia	314707963	2075	2075	ID
9	Ethiopia	263597863	2075	2075	ET
10	Brazil	228411377	2075	2075	BR
11	Tanzania	209227714	2075	2075	TZ
12	Bangladesh	204017374	2075	2075	BD
13	Egypt	176382311	2075	2075	EG
14	Mexico	155108582	2075	2075	MX
15	Uganda	148956622	2075	2075	UG
16	Angola	132393847	2075	2075	AO
17	Philippines	126675619	2075	2075	PH
18	Sudan	125529142	2075	2075	SD
19	Afghanistan	119184844	2075	2075	AF
20	Vietnam	118882521	2075	2075	VN

United States® Census Bureau

&outputFormat=csv

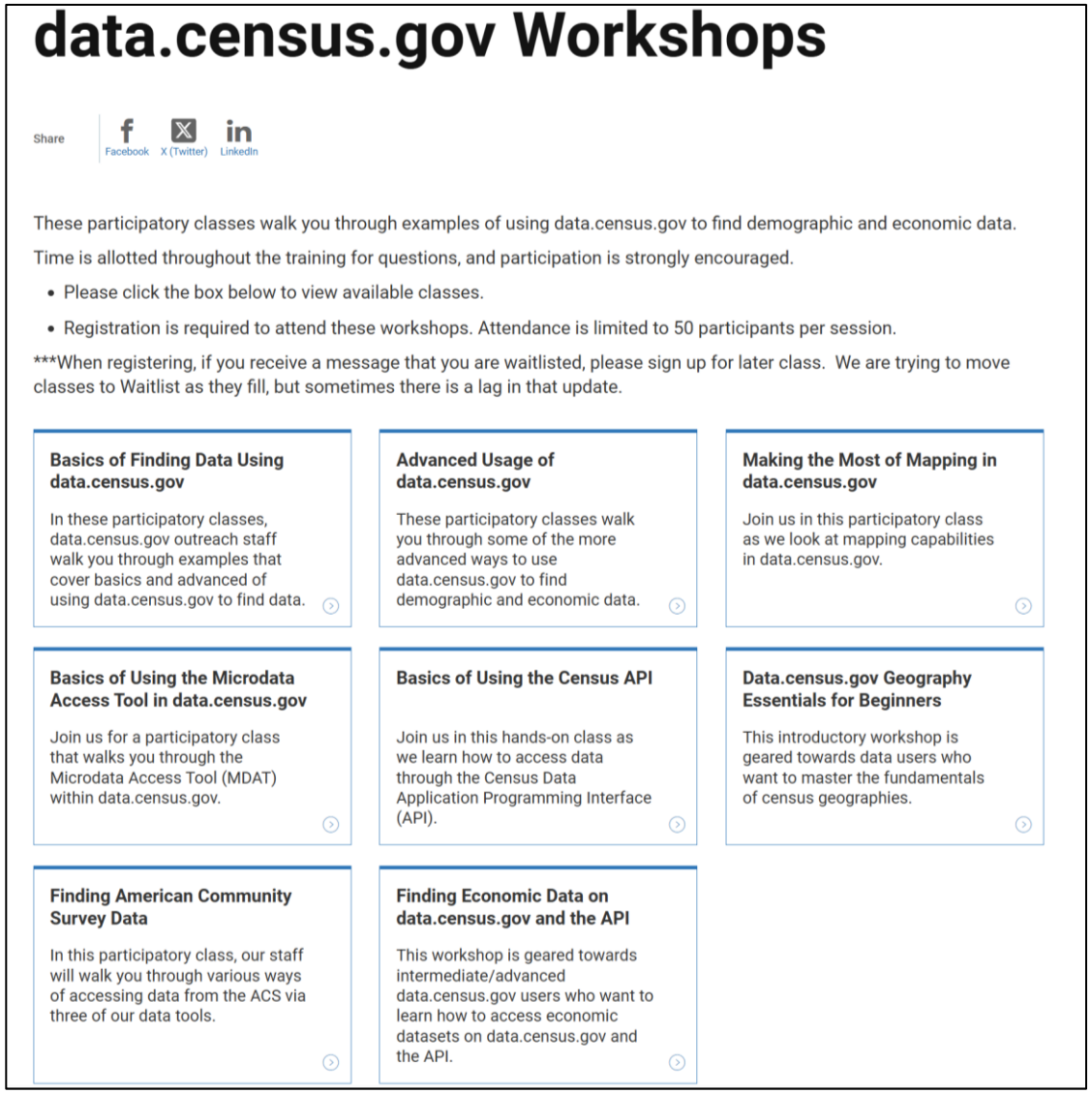
Multiple Geography Levels: &ucgid=

- Get results for multiple geographic levels (e.g. county and state): *&ucgid=*



&ucgid=

Hands-On Practice!



data.census.gov Workshops

Share Facebook X (Twitter) LinkedIn

These participatory classes walk you through examples of using data.census.gov to find demographic and economic data.

Time is allotted throughout the training for questions, and participation is strongly encouraged.

- Please click the box below to view available classes.
- Registration is required to attend these workshops. Attendance is limited to 50 participants per session.

***When registering, if you receive a message that you are waitlisted, please sign up for later class. We are trying to move classes to Waitlist as they fill, but sometimes there is a lag in that update.

Basics of Finding Data Using data.census.gov

In these participatory classes, data.census.gov outreach staff walk you through examples that cover basics and advanced of using data.census.gov to find data.

Advanced Usage of data.census.gov

These participatory classes walk you through some of the more advanced ways to use data.census.gov to find demographic and economic data.

Making the Most of Mapping in data.census.gov

Join us in this participatory class as we look at mapping capabilities in data.census.gov.

Basics of Using the Microdata Access Tool in data.census.gov

Join us for a participatory class that walks you through the Microdata Access Tool (MDAT) within data.census.gov.

Basics of Using the Census API

Join us in this hands-on class as we learn how to access data through the Census Data Application Programming Interface (API).

Data.census.gov Geography Essentials for Beginners

This introductory workshop is geared towards data users who want to master the fundamentals of census geographies.

Finding American Community Survey Data

In this participatory class, our staff will walk you through various ways of accessing data from the ACS via three of our data tools.

Finding Economic Data on data.census.gov and the API

This workshop is geared towards intermediate/advanced data.census.gov users who want to learn how to access economic datasets on data.census.gov and the API.

United States® Census Bureau

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

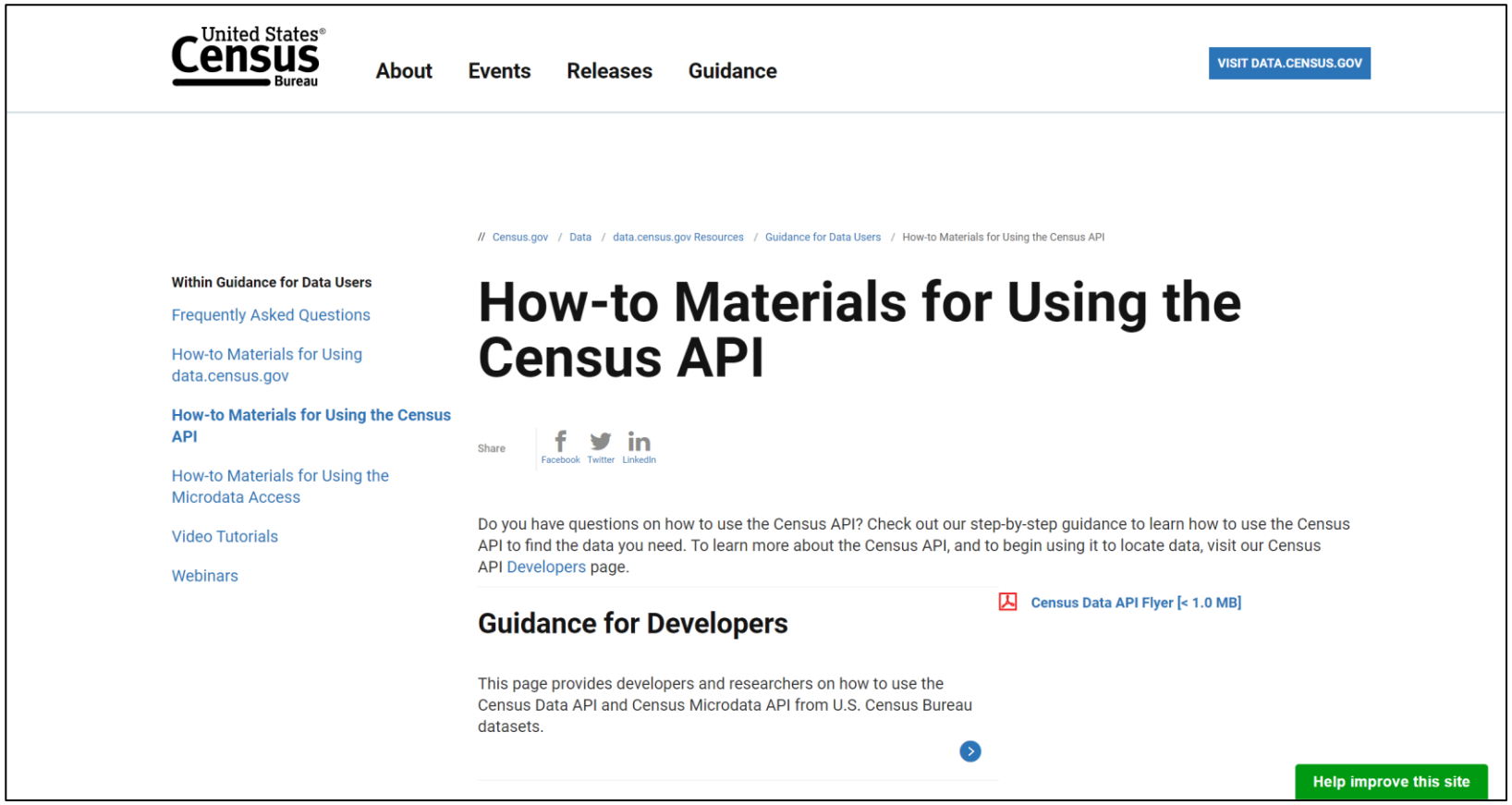
Learn More

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

Feedback/Data Questions:
census.data@census.gov

API Training Requests:
ced.cedsci.outreach@census.gov

Developers Forum on Slack:
census.gov/data/developers/api-forum.html



United States® Census Bureau