

TheDataWeb

The Census Data API

September 6, 2016

Tammy Anderson

The Census Data API

- Application Programming Interface
- Data Service
- Enables data providers to expose data in a standardized way
- Enables software developers to use Census Bureau data within their applications

Advantages

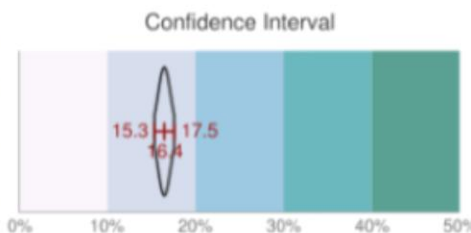
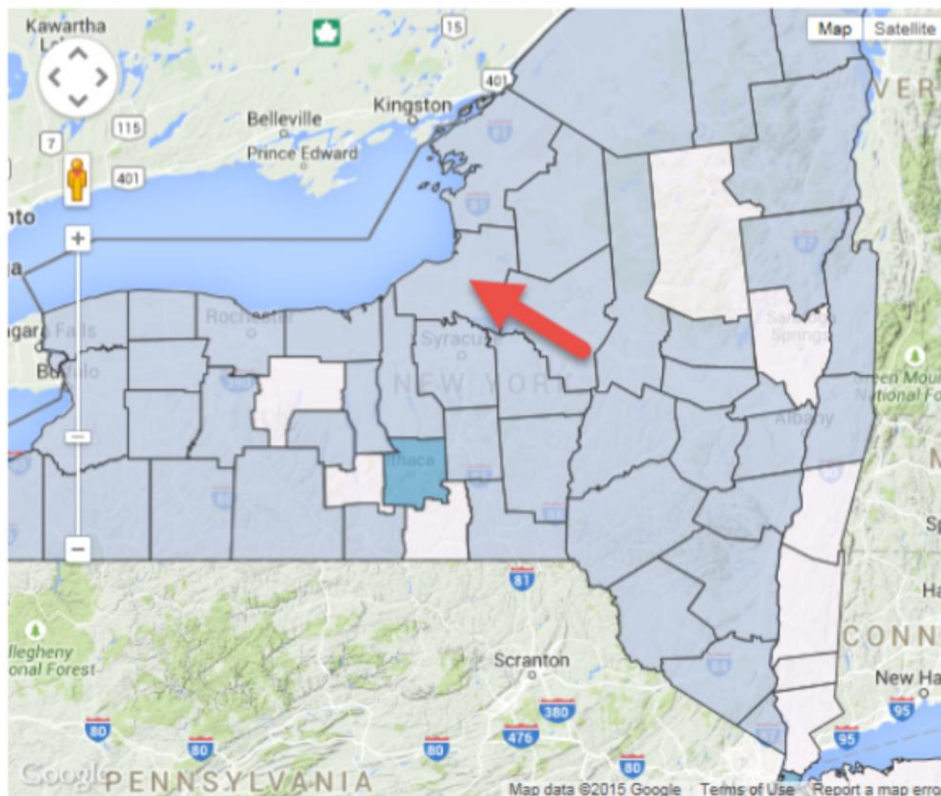
- Reduces the learning curve by standardizing across multiple datasets
- Access only the variables and geographies needed
- No need to host data on another server
- Gives immediate access to most current data
- No complex interface

Uses

- Supports mobile and web applications
- Drives interactive data visualizations
- Connects to statistical analysis software like R

Select subgroup: All

Poverty Status in the past 12 Months by Sex by Age



Oswego County, New York

Estimated counts (MOE) from table B17001:

Below poverty level*: 19,116 (+/-1,341)
 Above poverty level*: 97,183 (+/-1,423)
 Calculated total: 116,299 (+/-1,955)

Poverty rate:



Estimate: 16.4%
 Margin of Error (MOE): 1.1
 90% Confidence Interval (CI): <15.3%, 17.5%>
 Standard Error (SE): 0.67
 Coefficient of variation (CV): 4.1%

* Source: Table B17001: American Community Survey, 2008-2012
 This product uses the Census Bureau Data API but is not endorsed or certified by the Census Bureau.

U.S. and World Population Clock


The United States


The World
New!

Mar 16, 2016 20:14 UTC (+4)
Learn More  | Download and Share 


U.S. Population

3
2
3
,
1
7
8
,
8
5
9


World Population

7
,
3
1
2
,
0
6
6
,
4
4
6

COMPONENTS OF POPULATION CHANGE

20:14:52 UTC

- One birth every 8 seconds 
- One death every 11 seconds 
- One international migrant (net) every 29 seconds 
- Net gain of one person every 15 seconds 

TOP 10 MOST POPULOUS COUNTRIES


1. China	1,367,485,388	6. Pakistan	199,085,847
2. India	1,251,695,584	7. Nigeria	181,562,056
3. United States	321,368,864	8. Bangladesh	168,957,745
4. Indonesia	255,993,674	9. Russia	142,423,773
5. Brazil	204,259,812	10. Japan	126,919,659



Select a Date

The United States population on March 15, 2016 was: 323,169,015

Select a Date 

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Features

- Uses your preferences to create a list of top 25 places and gives you information about each one.
- Uses the GPS feature in your phone to provide you with statistics for your current location.
- Uses statistics that are powered by the American Community Survey, which provides information on more than 40 topics for every neighborhood in the nation, ranging from education to commuting.
- Share the app with your friends so that they can find their 25 ideal places.

The *dwellr* app is just one example of how the Census Bureau is following the Digital Government Strategy by making its statistics more available anywhere, anytime and in any place. The Census Bureau does not collect or retain any information using this application. All information is stored only on your phone.

Source data tables

Full tables are available in the American FactFinder online tool and can also be accessed through the Census API.

The *dwellr* app uses the following tables from the American Community Survey 5 Year Estimates:

Total Population
B01001. Sex by Age



Using the API

Example: American Community Survey

http://api.census.gov/data/2013/acs1?get=NAME,B17001_002E&for=state:*

B17001 POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE
 Universe: Population for whom poverty status is determined
 2013 American Community Survey 1-Year Estimates

<< 1 - 18 of 104 >>

	Alabama		Alaska		Arizona		Arkansas		California		
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate
Total:	4,716,105	+/-2,548	718,359	+/-1,166	6,477,191	+/-3,417	2,873,340	+/-3,117	37,593,091	+/-8,648	5.15
Income in the past 12 months below poverty level:	883,371	+/-20,758	67,016	+/-4,778	1,206,460	+/-32,132	565,469	+/-16,418	6,328,824	+/-64,631	66
Male:	383,672	+/-11,572	32,287	+/-2,822	556,176	+/-18,990	260,201	+/-9,760	2,917,397	+/-33,730	30
Under 5 years	45,749	+/-2,944	4,025	+/-801	61,209	+/-3,901	32,490	+/-2,948	308,243	+/-10,058	3
5 years	10,690	+/-1,798	672	+/-255	12,323	+/-1,987	9,802	+/-2,163	62,003	+/-3,959	
6 to 11 years	52,133	+/-4,133	3,526	+/-686	70,368	+/-5,632	35,777	+/-3,287	364,451	+/-11,046	3
12 to 14 years	21,974	+/-2,440	1,705	+/-536	32,995	+/-3,128	14,661	+/-2,257	169,237	+/-6,393	1
15 years	6,620	+/-1,085	553	+/-336	11,129	+/-1,584	4,440	+/-1,009	59,866	+/-3,289	
16 and 17 years	14,701	+/-2,022	830	+/-342	21,825	+/-2,536	11,257	+/-1,892	116,937	+/-5,239	
18 to 24 years	58,848	+/-4,367	4,547	+/-1,279	78,678	+/-4,883	34,889	+/-3,859	423,124	+/-13,916	5
25 to 34 years	40,975	+/-2,688	3,826	+/-991	72,967	+/-4,885	29,329	+/-3,122	379,324	+/-10,411	4
35 to 44 years	35,409	+/-2,876	3,237	+/-586	54,724	+/-3,647	24,394	+/-2,140	332,954	+/-8,710	2
45 to 54 years	35,528	+/-3,074	3,806	+/-904	55,426	+/-3,679	25,090	+/-2,411	287,088	+/-8,329	2
55 to 64 years	35,728	+/-2,649	3,914	+/-717	50,895	+/-3,478	23,043	+/-2,367	237,319	+/-7,637	2
65 to 74 years	16,165	+/-1,925	780	+/-353	19,536	+/-1,968	8,257	+/-1,311	101,912	+/-4,664	1
75 years and over	9,152	+/-1,297	866	+/-534	14,101	+/-1,602	6,772	+/-1,100	74,939	+/-4,350	
Female:	499,699	+/-12,872	34,729	+/-2,693	650,284	+/-18,162	305,268	+/-10,313	3,411,427	+/-37,995	36
Under 5 years	45,745	+/-4,079	3,490	+/-657	60,582	+/-4,562	28,218	+/-2,970	300,488	+/-9,113	2

Output

http://api.census.gov/data/2013/acs1?get=NAME,B17001_002E&for=state:*

Returns data in json format that looks like this:

```
[["NAME","B17001_002E","state"],  
["Alabama","883371","01"],  
["Alaska","67016","02"],  
["Arizona","1206460","04"],  
["Arkansas","565469","05"],  
["California","6328824","06"],
```

Continued...

Four Easy Steps

1

Identify the dataset you want to use

<http://api.census.gov/data.html>

<http://www.census.gov/developers/>

2

Identify items needed

Variable names
/variables.html
Geography codes
(usually FIPS)

Four Easy Steps

3

Build the request

```
?get=variable,names,separated,by  
,commas  
&for=geography level:code
```

4

Put it all together

```
http://api.census.gov/data/2013/a  
cs1?get=NAME,B17001_002E&for=  
state:*
```

Example: American Community Survey

http://api.census.gov/data/2013/acs1?get=NAME,B17001_002E&for=state:*

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API Discovery Tool

Census API: Datasets in /data and its descendants

Title	Description	Vintage	Dataset Name	Geography List	Variable List	Tag List	Examples	Developer Documentation	API Base URL
1990 Decennial: Summary File 1	Data files available from Census 2000 and the 2010 Census. This file presents 100-percent population and housing figures for the total population, for 63 race categories, and for many other race and Hispanic or Latino categories. This includes age, sex, households, household relationship, housing units, occupancy status, and tenure (whether the residence is owned or rented). Also included are selected characteristics for a limited number of race and Hispanic or Latino categories. The data are available for the U.S., regions, divisions, states, counties, county subdivisions, places, census tracts, block groups, blocks, metropolitan areas (2000), core based statistical areas (2010), American Indian and Alaska Native areas, tribal subdivisions, Hawaiian home lands, congressional districts, and ZIP Code Tabulation Areas. Data are available down to the block level for many tabulations, but only to the census-tract level for others. The 2010 Census SF 1 has some tables on the population in group quarters that are available only to the county level. Available on DVD and American FactFinder. The Census 2000 Summary File 1 data were released in three stages. Individual state files and two national files were released. The state-level data were released first, followed by the Advance National File, which covered the same data subjects, but includes national level summary data for areas that cross state boundaries such as whole metropolitan areas, whole American Indian areas, etc. The Final National File contains the same data subjects and geographic areas as the Advance National File, but adds the first available urban/rural and urbanized area data. For the most current release dates for these files, see the "Census 2000 Release Schedule" link on the AFFAmerican FactFinder Main Page. The 2010 Census Summary File 1 data were released in stages. Individual state files and a national update were released in 2011. The SF 1 urban/rural update is planned for release in Fall 2012. This file contains the same data subjects as the previously released files, but for additional geography, including the urban and rural parts of the United States, regions, divisions, states, counties, and places; and urbanized areas and urban clusters. See the 2010 Census Data Products At A Glance	1990	sf1	geographies	variables	tags	N/A	documentation	http://api.census.gov/data/1990/sf1
1990 Decennial: Summary File 3	This Census 2000 file presents data on the population and housing long form subjects such as income and education. It includes population totals for ancestry groups. It also includes selected characteristics for a limited number of race and Hispanic or Latino categories. The data are available for the U.S., regions, divisions, states, counties, county subdivisions, places, census tracts, block groups, metropolitan areas, American Indian and Alaska Native areas, tribal subdivisions, Hawaiian home lands, congressional districts, and Zip Code Tabulation Areas. Available on CD-ROM, DVD, and American FactFinder. After Census 2000, data on these subjects were produced from the American Community Survey or the Puerto Rico Community Survey.	1990	sf3	geographies	variables	N/A	N/A	documentation	http://api.census.gov/data/1990/sf3

How to Build a Request

http://api.census.gov/data/2013/acs1?get=
NAME,B17001_002E&for=state:*

1

Start your request
with:
api.census.gov/data

How to Build a Request

http://api.census.gov/data/2013/acs1?get=NAME,B17001_002E&for=state:*

1

Add the data year to the URL. This is usually the year the data were collected.

How to Build a Request

`http://api.census.gov/data/2013/acs1?get=NAME,B17001_002E&for=state:*`



1



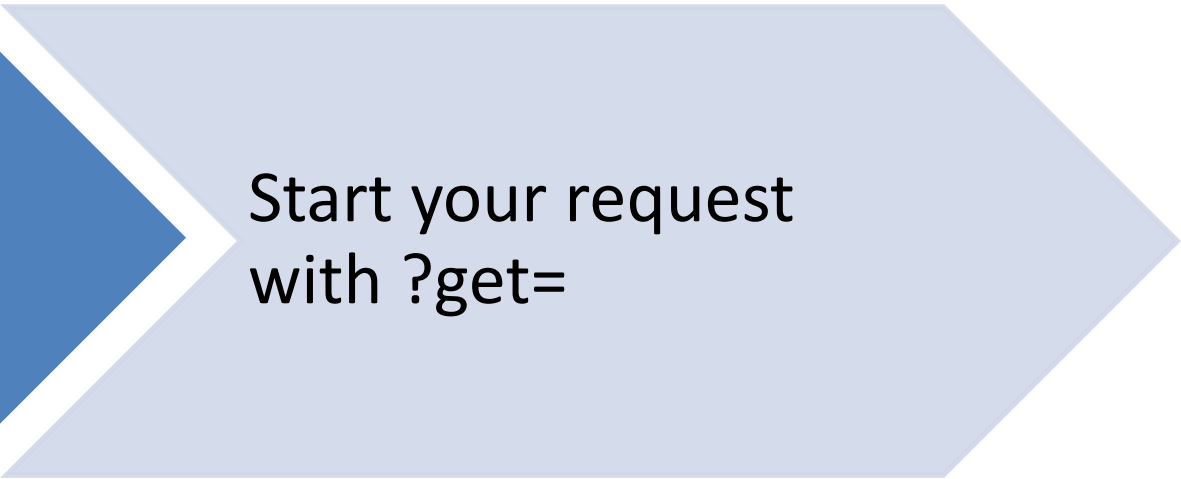
Add the dataset name.
`api.census.gov/data.html`

How to Build a Request

`http://api.census.gov/data/2013/acs1?get=NAME,B17001_002E&for=state:*`



2



Start your request
with ?get=

How to Build a Request

http://api.census.gov/data/2013/acs1?get=NAME,B17001_002E&for=state:*

3

Add variables.

api.census.gov/data/2013/acs1/variables.html

How to Build a Request

`http://api.census.gov/data/2013/acs1?get=NAME,B17001_002E&for=state:*`

4

Add geography.

`api.census.gov/data/2013/acs1/geography.html`

Output Format

```
[["NAME","B17001_002E","state"],  
["Alabama","883371","01"],  
["Alaska","67016","02"],  
["Arizona","1206460","04"],  
["Arkansas","565469","05"],  
["California","6328824","06"],
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Continued...

Resources

- Census Developers Page
- API Discovery Tool

Developers Page



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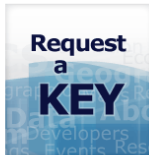
News

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Updates

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

[Read More](#)



Latest

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American Community Survey 5-Year Data (2005-2009 to 2010-2014)

February 24, 2016

Data available down to the block-group level. Covers a range of topics about social, economic, demographic, and housing characteristics of the U.S. population.

Survey of Business Owners

February 03, 2016

(Non)employer firms, sales/receipts, payroll, employment, by gender, ethnicity, race, veteran status for states, metro/micropolitan areas, counties and places

County Business Patterns and Nonemployer Statistics (2008-2013)

January 27, 2016

Annual statistics on U.S. businesses with and without paid employees or payroll at detailed levels of geography and industry. Both surveys use NAICS codes.

[View All Available APIs](#)

Register for a Key

The screenshot shows the U.S. Census Bureau website's 'Developers' section. A browser window titled 'Key Signup - Internet Explorer' is open, displaying the 'Request A Key' form. The form includes the following fields and elements:

- Organization Name:** A text input field.
- Email Address:** A text input field.
- I agree to the [terms of service](#)
- Submit Key Request** button

On the website page, a button labeled 'Request a KEY' is highlighted with four red arrows. The background page shows navigation links for Topics, Geography, Library, Data, About the Bureau, and Newsroom. Below the browser window, there are links for 'Available APIs' and 'Latest' updates, including 'Population Estimation' and 'Economic Indicators Time Series (various years - present)'.

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Resource Links

Census Developer Page:

- <http://www.census.gov/developers/>

API Discovery Tool:

- <http://api.census.gov/data.html>
- <http://api.census.gov/data.xml>
- <http://api.census.gov/data.json>

Convert JSON to CSV data:

- <http://www.convertcsv.com/json-to-csv.htm>

Questions?

Contact:

Tammy Anderson

Tammy.S.Anderson@census.gov

301-763-5247