

# 5. ACCESSING ACS DATA

Data.census.gov is the U.S. Census Bureau’s primary tool for accessing population, housing, and economic data from the American Community Survey (ACS), the Puerto Rico Community Survey, the decennial census, and many other Census Bureau data sets.<sup>22</sup> Data.census.gov provides access to ACS data for a wide range of geographic areas, including states, cities, counties, census tracts, and block groups.

Other specialized tools, such as My Congressional District and Census Business Builder, provide users with quick and easy access to statistics for particular geographic areas and topics.<sup>23</sup> More advanced users also have several options to access more detailed ACS data through downloadable Summary Files, the Public

Use Microdata Sample Files, or the Census Bureau’s Application Programming Interface (API).<sup>24</sup>

## Accessing ACS Data in Data.census.gov

With several different options for accessing ACS data, how should you decide which tool to use? For most data users, data.census.gov is the best place to start because it houses almost all of the ACS data tables produced by the Census Bureau. Below, you will find a brief description of the different tools that can be found in data.census.gov, along with some guidance to help you decide which tool is right for you. Click on a tool to navigate to a search results page prefiltered for the ACS program, a product type, and a data set. From the search results page you can further filter your results by keywords and geographic areas.

<sup>22</sup> U.S. Census Bureau, data.census.gov, <<https://data.census.gov/>>.  
<sup>23</sup> U.S. Census Bureau, My Congressional District <[www.census.gov/mycd/](http://www.census.gov/mycd/)>; Census Business Builder (CBB) <[www.census.gov/data-tools/cbb.html](http://www.census.gov/data-tools/cbb.html)>.

<sup>24</sup> U.S. Census Bureau, American Community Survey (ACS), Summary File Data, <[www.census.gov/programs-surveys/acs/data/summary-file.html](http://www.census.gov/programs-surveys/acs/data/summary-file.html)>; American Community Survey (ACS), PUMS Data, <[www.census.gov/programs-surveys/acs/data/pums.html](http://www.census.gov/programs-surveys/acs/data/pums.html)>; Developers, <[www.census.gov/developers/](http://www.census.gov/developers/)>.

**Data Profiles:** The Data Profiles are good places to start for novice data users, as they contain the most frequently requested social, economic, housing, and demographic data.<sup>25</sup> Each of these four subject areas is a separate profile. The Data Profiles summarize the data for a single geographic area, providing both estimates and percentages, to cover the most basic data on all ACS topics.

*Geographic areas covered: All areas down to the neighborhood (census tract) level.*

Why this tool may be right for you	Why you may want to consider another tool
The profiles help novice users get acquainted with ACS data tables.	The tables may not contain enough detail for your topic(s) of interest.
The profiles provide broad social, economic, housing, and demographic statistics for many levels of geography.	Data are not available for block groups.

<sup>25</sup> U.S. Census Bureau, data.census.gov, Data Profiles, <<https://data.census.gov/cedsci/table?q=dp>>.

**Subject Tables:** Data users interested in a particular topic (e.g., employment, education, and income) may wish to start with the Subject Tables, which provide pretabulated estimates and percentages for a wide variety of topics, often available separately by age, sex, or race/ethnicity.<sup>26</sup>

*Geographic areas covered: All areas down to the neighborhood (census tract) level.*

Why this tool may be right for you	Why you may want to consider another tool
Tables are available for most of the subjects in the ACS.	Not all topics have a corresponding Subject Table.
It provides more in-depth statistics on a particular subject than either Data Profiles or Comparison Profiles.	The tables may not contain enough detail for your topic(s) of interest.
It provides estimates and percentages for many levels of geography.	Data are not available for block groups.

**Detailed Tables:** The Detailed Tables are designed for advanced data users or those who want access to the most comprehensive ACS tables.<sup>27</sup> Detailed Tables are also available through the ACS Summary File and Census Bureau Application Programming Interface.<sup>28</sup>

*Geographic areas covered: All areas down to the block group level.*

Why this tool may be right for you	Why you may want to consider another tool
Along with the Summary File, the Detailed Tables are the best sources for the most comprehensive ACS tables.	The tables may contain more detail than needed for your topic.
The Detailed Tables cover all subjects in the ACS.	The Detailed Tables do not provide percentages.
Beginning with the 2009–2013 ACS 5-year release, statistics are available for areas down to the block group level in data.census.gov.	Block group level data prior to the 2009–2013 ACS 5-year release are not available in data.census.gov.

<sup>26</sup> U.S. Census Bureau, data.census.gov, Subject Tables, <<https://data.census.gov/cedsci/table?d=ACS%201-Year%20Estimates%20Subject%20Tables>>.

<sup>27</sup> U.S. Census Bureau, data.census.gov, Detailed Tables, <<https://data.census.gov>>, Detailed Tables, <<https://data.census.gov/cedsci/table?d=ACS%201-Year%20Estimates%20Detailed%20Tables>>.

<sup>28</sup> U.S. Census Bureau, Summary File Data, <[www.census.gov/programs-surveys/acs/data/summary-file.html](http://www.census.gov/programs-surveys/acs/data/summary-file.html)>; Available APIs, <[www.census.gov/data/developers/data-sets.html](http://www.census.gov/data/developers/data-sets.html)>.

**Supplemental Estimates:** The Supplemental Estimates are simplified Detailed Tables that provide access to the most recent ACS data at a lower population threshold than the standard 1-year tables.<sup>29</sup>

*Geographic areas covered: All areas with populations of 20,000 or more.*

Why this tool may be right for you	Why you may want to consider another tool
The tables contain the most recent statistics for more geographic areas than are available from the standard 1-year data tables.	Data are not available for geographic areas with fewer than 20,000 people.
The tables include statistics on popular topics such as education, housing, and jobs.	The tables contain only a subset of all ACS topics.
	Data are not available prior to the 2014 ACS release.

**Selected Population Profiles:** Detailed race/ethnicity data are available through the Selected Population Profiles, which provide summary tables separately for more than 100 detailed racial, ethnic, and tribal groups.<sup>30</sup> Beginning with the 2007 ACS, the Selected Population Profiles also include country of birth. Selected Population Profiles are only available for 1-year estimates.

*Geographic areas covered: All areas with populations of 65,000 or more.*

Why this tool may be right for you	Why you may want to consider another tool
The profiles provide broad social, economic, housing, and demographic statistics for a variety of detailed race, ethnic, and tribal groups.	The profiles may not contain enough detail for your topic(s) of interest.
The profiles provide broad social, economic, housing, and demographic statistics for many levels of geography.	Data are not available for some levels of geography.

<sup>29</sup> U.S. Census Bureau, data.census.gov, Supplemental Estimates, <<https://data.census.gov/cedsci/all?d=ACS%20Supplemental%20Estimates%20Detailed%20Tables>>.

<sup>30</sup> U.S. Census Bureau, data.census.gov, Selected Population Profiles, <<https://data.census.gov/cedsci/all?d=ACS%201-Year%20Estimates%20Selected%20Population%20Profiles>>.

**Comparison Profiles:** The 5-year Comparison Profiles show data side-by-side from two different years, indicating where there is a statistically significant difference between the two sets of estimates. The 5-year Comparison Profiles first became available with the release of the 2011-2015 ACS 5-year data. The 1-year Comparison Profiles show data side-by-side for 5 years, indicating where there is a statistically significant difference between the most current year compared to 4 prior years of data.<sup>31</sup>

*Geographic areas covered: Areas with populations of 5,000 or more. The 1-year Comparison Profiles provide estimates for populations of 65,000 or more for most available geographic areas. The 5-year Comparison Profiles are available for the nation, states, counties, places, congressional districts, and metropolitan/micropolitan statistical areas with populations of 5,000 or more.*

Why this tool may be right for you	Why you may want to consider another tool
The profiles help novice users get acquainted with ACS data tables.	The profiles may not contain enough detail for your topic(s) of interest.
The profiles provide broad social, economic, housing, and demographic statistics for many levels of geography.	Data are not available for some levels of geography.
The profiles show yearly data side-by-side, indicating statistical significance between sets of estimates.	

<sup>31</sup> U.S. Census Bureau, data.census.gov, Comparison Profiles, <<https://data.census.gov/cedsci/all?d=ACS%201-Year%20Estimates%20Comparison%20Profiles>>.

## Other Specialized Tools for Accessing ACS Data

**My Congressional District:** My Congressional District gives users quick and easy access to selected statistics for U.S. congressional districts, based on data from the ACS and County Business Patterns database.<sup>32</sup>

*Geographic areas covered: Current U.S. congressional districts.*

Why this tool may be right for you	Why you may want to consider another tool
It contains statistics for every district.	The geography selection is limited to congressional districts.
It includes statistics on popular topics such as education, housing, and jobs.	It contains only a subset of all ACS topics.
The results page can be embedded on your Web site.	Maps cannot be displayed for some levels of geography.

**My Tribal Area:** My Tribal Area is a specialized tool that allows data users to easily access and view population and housing estimates for American Indian and Alaska Native areas from the ACS.<sup>33</sup> The tool displays tables of the latest ACS 5-year estimates for selected demographic characteristics and measures of employment, income, health insurance, housing, and education.

*Geographic areas covered: American Indian and Alaska Native areas.*

Why this tool may be right for you	Why you may want to consider another tool
Data are displayed for a large number of American Indian and Alaska Native areas.	It contains only a subset of all ACS topics.
The tables contain data on popular social, economic, housing, and demographic topics.	Data are only displayed for the most recent 5-year period.
The data are timely and easy to access.	Data are not available for detailed tribal groups—only tribal areas.

**Census Business Builder:** As its name implies, Census Business Builder is designed for users needing data (e.g., potential customers, similar businesses, and consumer spending) to help start or grow a business, or to better understand an area's business landscape.<sup>34</sup> The data can be used in determining potential locations for new businesses or in creating a business plan for investors.

*Geographic areas covered: Custom regions built by county or groups of counties, cities/towns, ZIP codes, and neighborhoods (census tracts).*

Why this tool may be right for you	Why you may want to consider another tool
You want to open a new business or expand an existing business.	The geographic selection is limited to counties, places, ZIP codes, and census tracts.
It combines ACS statistics with economic data to guide your research.	It contains only a subset of all ACS topics.
The interactive map allows you to select areas and compare their results to those of neighboring areas.	
Reports are downloadable and printable.	

<sup>33</sup> U.S. Census Bureau, My Tribal Area, <[www.census.gov/tribal/index.html](http://www.census.gov/tribal/index.html)>.

<sup>34</sup> U.S. Census Bureau, Census Business Builder (CBB) <[www.census.gov/data/data-tools/cbb.html](http://www.census.gov/data/data-tools/cbb.html)>.

**QuickFacts:** As its name indicates, QuickFacts provides fast, easy access to the most requested social, economic, and housing characteristics of a given state, county, city, or town.<sup>35</sup> QuickFacts uses data from the ACS, Population Estimates, and other databases.

*Geographic areas covered: All states and counties, plus cities and towns with 5,000 or more people.*

Why this tool may be right for you	Why you may want to consider another tool
The tool is easy to use—just choose your state, county, city, or town.	The geography selection is limited to state, county, city, and town.
It combines statistics from the ACS with other surveys to give a broader view of a particular geography in table, map, and chart formats.	It contains only a subset of all ACS topics.
Results can be downloaded or shared.	The ACS data shown in this tool are only for the most recent 5-year estimates.

**Ranking Tables:** As their name implies, Ranking Tables provide state-level rankings on more than 80 key ACS variables.<sup>36</sup>

*Geographic areas covered: Nation, 50 states, District of Columbia, and Puerto Rico.*

Why this tool may be right for you	Why you may want to consider another tool
The tables readily display state rankings on the topic(s) of your choice.	Data are only available at the state level.
The tables include statistics on popular topics, such as finances, jobs, housing, age, and education.	The tables may not contain enough detail for your topic(s) of interest.

**Geographic Comparison Tables:** Those interested in geographic comparisons for areas other than states may be interested in the Geographic Comparison Tables, which allow comparison of ACS data across a variety of geographic area.<sup>37</sup>

*Geographic areas covered: States, metropolitan/micropolitan statistical areas, cities, counties, congressional districts, and several other geographic areas.*

Why this tool may be right for you	Why you may want to consider another tool
The tables readily compare geographic areas on a selected topic.	The tables may not contain enough detail for your topic(s) of interest.
Tables are available for most of the subjects in the ACS.	The tables do not contain data for some levels of geography.
Comparisons can be made for many levels of geography.	

<sup>35</sup> U.S. Census Bureau, QuickFacts, <[www.census.gov/quickfacts](http://www.census.gov/quickfacts)>.

<sup>36</sup> U.S. Census Bureau, American Community Survey, Ranking Tables, <[www.census.gov/acs/www/data/data-tables-and-tools/ranking-tables/index.php](http://www.census.gov/acs/www/data/data-tables-and-tools/ranking-tables/index.php)>.

<sup>37</sup> U.S. Census Bureau, American Community Survey, Geographic Comparison Tables, <[https://www2.census.gov/programs-surveys/acs/summary\\_file/2018/data](https://www2.census.gov/programs-surveys/acs/summary_file/2018/data)>.

**Narrative Profiles:** Narrative Profiles are short, analytic reports derived from the ACS 5-year estimates.<sup>38</sup> Covering 15 different topic areas, each Narrative Profile provides text and bar charts to display highlights of selected social, economic, housing, and demographic estimates for a selected geographic area.

*Geographic areas covered: Nation, states, metropolitan/micropolitan statistical areas, counties, cities, ZIP Code Tabulation Areas, American Indian Areas/Alaska Native Areas/Hawaiian Home Lands, and neighborhoods (census tracts).*

Why this tool may be right for you	Why you may want to consider another tool
The profiles provide a broad social, economic, housing, and demographic overview of a particular geographic area.	You prefer the information in tabular format.
The profiles provide not only summary text, but also colorful tables and charts to illuminate key highlights.	The profiles are only available for 5-year estimates.
The profiles include popular topics, such as finances, jobs, housing, age, and education.	The narrative may not contain enough detail for your topic of interest.
	The profiles are only available for certain levels of geography.

**OnTheMap for Emergency Management:** OnTheMap for Emergency Management is a public data tool that provides an intuitive Web-based interface for accessing U.S. population and workforce statistics, in real time, for areas being affected by natural disasters.<sup>39</sup> The tool allows users to retrieve reports containing detailed workforce, population, and housing characteristics for areas with federally declared disasters such as the ones affected by hurricanes, floods, and wildfires.

*Geographic areas covered: Block groups aggregated to approximate event boundaries.*

Why this tool may be right for you	Why you may want to consider another tool
You need to access statistics for event areas in real time.	The geographic selection is limited to event areas.
It combines ACS statistics with data from other sources to give a broader view of an event area.	It contains only a subset of all ACS topics.
It has linkable maps and reports to share.	

<sup>38</sup> U.S. Census Bureau, American Community Survey, Narrative Profiles, <[www.census.gov/acs/www/data/data-tables-and-tools/narrative-profiles/](http://www.census.gov/acs/www/data/data-tables-and-tools/narrative-profiles/)>.

<sup>39</sup> U.S. Census Bureau, OnTheMap for Emergency Management, <<https://onthemap.ces.census.gov/em/>>.

## Advanced Tools for Accessing ACS Data

In addition to the products described above, the Census Bureau makes ACS data available in a variety of formats for data users interested in using more advanced statistical, geographic, database, or programming applications.

**Summary File:** The ACS Summary File is a comma-delimited text file that contains all of the Detailed Tables for the ACS data releases.<sup>40</sup> The file is stored with only the data from the tables and without such information as the table title, description of the rows, or geographic identifiers. That information is located in other files that the user must merge with the data file to reproduce full tables. (Users can do so through such statistical packages as SAS, SPSS, or STATA.)

*Geographic areas covered: All areas down to the block group level. The Summary File is currently the only source for accessing block group data from the 2005–2009 through 2008–2012 ACS 5-year data, since those estimates are not available through data.census.gov.*

Why this tool may be right for you	Why you may want to consider another tool
Along with the Detailed Tables, the Summary File is the best source for the most comprehensive ACS tables.	You are able to use data.census.gov to access your table(s) of interest (particularly the Detailed Tables).
The Summary File covers all subjects in the ACS.	The Summary File may contain more detail than needed for your topic.
Statistics are available for areas down to the block group level.	The tool does not provide percentages.
You are a skilled programmer with access to statistical software to conduct analysis (e.g., SAS, SPSS, STATA).	

**Public Use Microdata Sample (PUMS):** Data users with expertise in using statistical packages may also be interested in the Public Use Microdata Sample (PUMS) files, which contain a sample of individual records of people and households that responded to the survey (stripped of all identifying information).<sup>41</sup> The PUMS files permit analysis of specific population groups and custom variables that are not available through the pretabulated tables in data.census.gov. For example, PUMS data users can look at the proportion of children aged 5 to 11 living in low-income working families or the number of scientists and engineers earning more than \$75,000. Data users can also combine multiple years of PUMS data to produce estimates for relatively small population subgroups (e.g., American Indian physicians).

*Geographic areas covered: Nation, states, and Public Use Microdata Areas (PUMAs). PUMAs are special nonoverlapping areas that partition each state into contiguous geographic units containing no fewer than 100,000 people each.*

Why this tool may be right for you	Why you may want to consider another tool
You are a skilled programmer with access to statistical software to conduct analysis (e.g., SAS, SPSS, STATA).	Your table of interest is already pretabulated in data.census.gov.
You need to create a custom table that is not available through the pretabulated tables in data.census.gov.	The PUMS geography selection is limited to the nation, states, and PUMAs.
You want to access a sample of actual ACS responses for the nation, a state, or a PUMA.	

<sup>40</sup> U.S. Census Bureau, American Community Survey (ACS), Summary File Data, <[www.census.gov/programs-surveys/acs/data/summary-file.html](http://www.census.gov/programs-surveys/acs/data/summary-file.html)>.

<sup>41</sup> U.S. Census Bureau, American Community Survey (ACS), PUMS Data, <[www.census.gov/programs-surveys/acs/data/pums.html](http://www.census.gov/programs-surveys/acs/data/pums.html)>.



ACS PUMS data are available through microdata access in [data.census.gov](https://data.census.gov), a data analysis and extraction tool that allows users to generate custom ACS estimates online without the use of statistical software. This tool is still under development and in beta form on the Census Bureau's Web site.<sup>42</sup>

Why this tool may be right for you	Why you may want to consider another tool
You do not have access to statistical software.	Your table of interest is already pretabulated in <a href="https://data.census.gov">data.census.gov</a> .
You need to create a custom table that is not available in the pretabulated tables in <a href="https://data.census.gov">data.census.gov</a> .	You are interested in conducting more complex statistical analysis.
You want to download a subset of the variables or geographic areas available in the PUMS files.	The PUMS geography selection is limited to nation, region, division, state, and PUMAs.

**Application Programming Interface (API):** The Census Bureau's API allows developers to design Web and mobile apps to explore or learn more about America's changing population and economy.<sup>43</sup> The API lets developers customize ACS statistics into Web or mobile apps that provide users quick and easy access to an ever-increasing pool of publicly available data sets. More data sets will be added over time. Developers could use the ACS statistics available through this API to create apps that:

- Show commuting patterns for every city in America.
- Display the latest numbers on owners and renters in a particular neighborhood.
- Provide a local government a range of socioeconomic statistics on its population.

Why this tool may be right for you	Why you may want to consider another tool
You are a skilled programmer.	You just want to download data, not create an app.
You wish to create a data retrieval app for use on your own Web site or as a mobile app.	

<sup>42</sup> U.S. Census Bureau, Microdata Access in [data.census.gov](https://data.census.gov), <<https://data.census.gov/mdat/>>.

<sup>43</sup> U.S. Census Bureau, Developers, <[www.census.gov/developers/](https://www.census.gov/developers/)>.

**Restricted-Use Microdata:** The Census Bureau partners with various universities, research institutions, and agencies to form a nationwide network of secure Federal Statistical Research Data Centers (FSRDC).<sup>44</sup> At these secure centers, qualified researchers with approved projects (i.e., projects that benefit Census Bureau programs and demonstrate scientific merit) can perform statistical analysis on selected internal ACS microdata from the Census Bureau and other statistical agencies.

Why this tool may be right for you	Why you may want to consider another tool
You have data needs that cannot be met with publicly available data.	You need to submit a formal project proposal to the Census Bureau.
You are affiliated with a FSRDC.	All work must be conducted inside the secure FSRDC location. Research output is reviewed before release to ensure individual persons or businesses cannot be identified.
	You must be specially sworn to protect the confidentiality of the data you access.

**Custom Tables:** The Census Bureau allows users to purchase custom tabulations of ACS data.<sup>45</sup> However, the Census Bureau encourages all users to look at the other ACS data products available before considering such a request.

Why this tool may be right for you	Why you may want to consider another tool
You have data needs that cannot be met through publicly available data.	After initial discussions with Census Bureau staff, users must allow at least 8 weeks (and often longer) for the request to be completed.
You are not an experienced data user with programming experience.	The minimum cost for a custom tabulation is \$3,000.
You are not affiliated with a Census Bureau Research Data Center.	The Census Bureau's Disclosure Review Board must review and approve all requests before work can begin.

<sup>44</sup> U.S. Census Bureau, Restricted-Use Microdata, <[www.census.gov/topics/research/guidance/restricted-use-microdata.html](http://www.census.gov/topics/research/guidance/restricted-use-microdata.html)>.

<sup>45</sup> U.S. Census Bureau, American Community Survey (ACS), Custom Tables, <[www.census.gov/programs-surveys/acs/data/custom-tables.html](http://www.census.gov/programs-surveys/acs/data/custom-tables.html)>.

**GIS Shapefiles and Geodatabase Files:** For GIS (Geographic Information Systems) software users, the Census Bureau produces TIGER/Line shapefiles and geodatabases.<sup>46</sup> These products are spatial extracts from the Census Bureau's Master Address File (MAF)/TIGER database, and they contain such features as legal and statistical geographic boundary areas, roads, railroads, and rivers. The geodatabases bring together geography from the TIGER/Line shapefiles and the ACS 5-year estimates. Users can incorporate shapefiles and geodatabases into a variety of GIS software applications, where they can map ACS data.

Why this tool may be right for you	Why you may want to consider another tool
You wish to display ACS data visually.	You prefer the information in tabular format.
You are a skilled user of GIS software.	You do not have access to GIS software.
You need to create a custom map that is not available through the Census Mapping Tools (as described above in "Thematic Maps").	Your desired map can already be created through the Census Mapping Tools (as described above in "Thematic Maps").
Maps can be created for a variety of geographic areas.	

**Census Flows Mapper:** The Census Flows Mapper is a Web mapping application intended to provide users with a simple interface to view, save, and print county-to-county migration flows maps of the United States.<sup>47</sup> Data users can choose inbound, outbound, or net migration flows within the United States for counties. Data are currently available from the ACS 5-year releases.

Why this tool may be right for you	Why you may want to consider another tool
You wish to display ACS data visually.	You prefer information in tabular format.
You need to create a custom map that is not available through the Census mapping tools (as described above in "Thematic Maps").	Geography selection is limited to counties.
	It contains only a subset of all ACS topics.

## Additional Background Information and Tools

### **Data Tables and Tools**

<[www.census.gov/acs/www/data/data-tables-and-tools/](http://www.census.gov/acs/www/data/data-tables-and-tools/)>

This Web page provides links to all of the major tools that the Census Bureau offers for accessing ACS data.

### **Table and Geography Changes**

<[www.census.gov/programs-surveys/acs/technical-documentation/table-and-geography-changes.html](http://www.census.gov/programs-surveys/acs/technical-documentation/table-and-geography-changes.html)>

This Web page provides information about changes to tables and geography for each ACS data release.

### **ACS Handbooks for Data Users**

<[www.census.gov/programs-surveys/acs/guidance/handbooks.html](http://www.census.gov/programs-surveys/acs/guidance/handbooks.html)>

This Web page provides downloadable PDF handbooks to help particular groups with specific how-to instructions and/or case studies.

### **Data.census.gov Resources**

<[www.census.gov/data/what-is-data-census-gov.html](http://www.census.gov/data/what-is-data-census-gov.html)>

This Web page provides information about using data.census.gov, including how-to materials, FAQs, and video tutorials.

<sup>46</sup> U.S. Census Bureau, TIGER Data Products Guide, <[www.census.gov/programs-surveys/geography/guidance/tiger-data-products-guide.html](http://www.census.gov/programs-surveys/geography/guidance/tiger-data-products-guide.html)>.

<sup>47</sup> U.S. Census Bureau, Census Flows Mapper, <<https://flowsmapper.geo.census.gov/>>.