ACS Summary File Technical Documentation

2014 ACS 1-year and 2010-2014 ACS 5-year Data Releases

American Community Survey Office

Issued September 2015

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

United States Census Bureau

Table of Contents

1 INTRODUCTION 1

1.1 The American Community Survey 1
1.2 The American Community Survey Summary File 1
1.3 Topics and Geographies Covered 1
1.4 Tools for Obtaining Data 2
1.5 Notable Changes to the Summary File 3
1.6 Contact Us 5

2 HOW TO USE THE ACS SUMMARY FILE 6

2.1 Locating the Summary File 6
2.2 Summary File Organization 8
2.3 Sequence Numbers 11
2.4 Geography File 12
2.5 Estimate and Margin of Error Files 15

3 USER REFERENCES AND WEBSITE RESOURCES 17

3.1 Detailed Tables for the ACS Estimates 17
3.2 ACS Summary Levels/Components For Detailed Tables 17
3.3 ACS Summary File Page 17
3.4 ACS Summary File User Tools Page 18

4 USER NOTES 19

4.1 Population Thresholds 19
4.2 Jam Values 19
4.3 Rounding Rules and Margins of Error 21
4.4 Explanation of Missing Estimates and Data Release Filtering Rules 22
4.5 Display of Estimates 22
4.6 Multiple Sequences For a Table 22

DOCUMENT HISTORY 24

1 Introduction

1.1 The American Community Survey

The American Community Survey (ACS) is a part of the U.S. Census Bureau's Decennial Census Program and is designed to provide current demographic, social, economic, and housing estimates throughout the decade. The ACS provides information on more than 40 topics, including education, language ability, the foreign-born, marital status, migration, and many more. Each year the survey randomly samples around 3.5 million addresses and produces statistics that cover 1-year and 5-year periods for geographic areas in the United States and Puerto Rico, ranging from neighborhoods to Congressional districts to the entire nation. For more information about the ACS, please visit our main page at: www.census.gov/acs. ACS data are published through a number of channels, including American FactFinder, QuickFacts, Easy Stats as well as the Census Bureau's Application Programming Interface (API). This document will brief data users on the contents of the ACS Summary File and explain how they can use it to obtain statistics.

1.2 The American Community Survey Summary File

The American Community Survey Summary File (ACSSF) is a unique data product that includes all the estimates and margins of error from the Detailed Tables and geographies that are published for the ACS. Other ACS data products, such as Subject Tables and Data Profiles, are created from the Detailed Tables and are therefore not available in the ACS Summary File.

Since the Detailed Tables contain a large number of cells, the tables are stored in a series of files with only the data from the tables, without such information as the title of the tables, the description of the rows, and the names of the geographic areas. That information (or metadata) is in other files, including the Sequence Number and Table Number Lookup file and templates, that the user must merge with the data files to reproduce the tables. Learn more about the Sequence Number and Table Number Lookup file in Chapter 2.3. and the templates in Chapter 2.2.

The ACS Summary File data files are in American Standard Code for Information Interchange (ASCII) format. The files are divided into three types:

- Geographies – (position based and comma delimited)
- Estimates – (comma delimited)
- Margins of Error – (comma delimited)

Chapter 2 discusses each component in detail and explains how to put them all together.

1.3 Topics and Geographies Covered

Data contained in the ACS Summary File cover demographic, social, economic, and housing subject areas. All Detailed Tables for the ACS 1-year and 5-year estimates are in the Summary File and are listed in Appendix A for their respective data release.

The ACS Summary File covers geographic areas based on "summary levels." A summary level specifies the content and the hierarchical relationships of the geographic elements that are required to tabulate and summarize data. For example, summary level code "040" represents the U.S. states, Washington D.C., and Puerto Rico; while summary level code "050" represents counties and county equivalents within states.

The ACS 1-year estimates are published for areas that have populations above 65,000. The ACS 3-year estimates are no longer published, but historically covered areas with populations above 20,000. The ACS 5-year estimates are published for all geographic areas, including census tracts, block groups, American Indian areas, core based statistical areas, combined statistical areas, Congressional districts, and state legislative districts. View the full list of summary levels published for the Detailed Tables in Appendix B. Data for census block groups are published in American FactFinder, the Census Bureau API, as well as the ACS Summary File, for the 2010-2014 ACS 5-year data release. The list of tables in the 5-year Appendix A shows which tables are available at the block group level.

Many resources are available to help users understand the ACS geographic terms and concepts. For additional information, please visit the Geography Reference page at www.census.gov/geo/www/reference.html and the Geography & ACS page at http://www.census.gov/programs-surveys/acs/geography-acs.html.

1.4 Tools for Obtaining Data

Since using the ACS Summary File can be challenging, it is recommended that users first check if their tables of interest are available for download on American FactFinder (AFF). Below are some other options to help users retrieve the tables they want. They are listed in order based on ease of use. You can access these tools, as well as instructions on how to access ACS estimates using the AFF Download Center, on the ACS Summary File Documentation page at http://www.census.gov/programs-surveys/acs/technical-documentation/summary-file-documentation.html.

- Summary File Excel Import Tool

  The Summary File Excel Import Tool is a replicate of the Excel templates that Census 2000 provided for the Summary File 3 release. The Excel Import Tool provides a basic layout of each sequence in Excel in the same format as the estimate and margin of error files are formatted. A detailed description of a sequence is available in Chapter 2.3.For individuals that do not have Excel 2007 or later and are unable to use the Summary File Retrieval Tool, the Excel Import Tool provides an alternative option to read the ACS Summary File into Excel. You can access instructions for using this tool on the ACS Summary File Documentation page.

- SAS Programs

  There are two programming options for SAS users. The first option is a set of individual SAS programs, one for each summary file by geography and sequence. These programs are best for users only interested in looking at a specific sequence for a specific geography. The second option is a single SAS program that is parameterized to allow users to read in any sequence for any geography into SAS. This program can also be used to read the entire summary file into SAS, and is designed for users looking for a large amount of data. You can access these programs on the Summary File Documentation page.

- Summary File DataFerrett Tool (5-year release only)

  DataFerrett is a tool provided by the Census Bureau to help users view, download, and manipulate a wide variety of data sets to suit their needs. Among the features provided by this tool is the ability to construct user-defined variables from the variables on the input data file(s), the ability for users to exclude data that is not of interest, a variety of options for downloading data, and the ability to create complex tabular reports from the data including graphs and thematic maps. This tool is ideal for data users who wish to view, customize, and restrict the data that is available in the ACS 5-year Summary File. A link to this tool is available on the Summary File Documentation page.

1.5 Notable Changes to the Summary File

Here are some notable changes for the 2014 ACS Summary Files:

- Reorganization of ACS Website and FTP Site

  The redesigned American Community Survey website was released in June 2015. You can now access the Summary File Data at http://www.census.gov/programs-surveys/acs/data/summary-file.html and the Summary File Documentation at http://www.census.gov/programs-surveys/acs/technical-documentation/summary-file-documentation.html. The layout of the Census Bureau file transfer protocol (FTP) site also changed, and you can access it at http://www2.census.gov/programs-surveys/acs/summary_file/.

- Discontinuation of the ACS Summary File Retrieval Tool

  The ACS Summary File Retrieval Tool was discontinued starting with the 2014 ACS Data Releases. Due to the addition of block groups in American FactFinder (AFF) starting with the 2009-2013 ACS 5-year data release and similar functionality of the AFF Download Center, it is no longer necessary to maintain the retrieval tool. In addition, the 2013 ACS 1-year, 3-year, and 5-year estimates were removed from the ACS Summary File Retrieval Tool due to technical and software compatibility issues. You can still access older years of data using the older versions of the ACS Summary File Retrieval Tool and view detailed instructions on using the AFF Download Center by visiting the

ACS Summary File Documentation page at http://www.census.gov/programs-surveys/acs/technical-documentation/summary-file-documentation.html.

- 3-Year Estimates Discontinued

  The Census Bureau will not release the 2012-2014 ACS 3-year estimates. The Census Bureau will continue to produce annual estimates for communities of 65,000 or more, and communities of all sizes will continue to receive updated five-year rolling averages for all geographies down block groups each year.

- Block Groups Continue to be Available in American FactFinder

  For the 2009-2013 and 2010-2014 ACS 5-year data releases, data for census block groups are published in American FactFinder, the Census Bureau API, as well as the ACS Summary File. Block group level data for earlier years are only available in the ACS Summary File.

  You can learn more about accessing block group level data using the ACS Summary File Retrieval Tool by viewing a video on the ACS Summary File page at http://www.census.gov/programs-surveys/acs/data/tools/summary-file-retrieval-tool.html.

- Streamlining Summary Level 070 Tables

  Beginning with the 2010–2014 ACS 5-year data release, the Census Bureau plans to streamline the production and release of Summary Level 070 tables (state/county/county subdivision/place remainder (or part)) to the 15 tables necessary for the delineation of metropolitan, micropolitan, and related statistical areas (particularly for identification of New England City and Town Area principal cities) by the Office of Management and Budget(OMB), for commuting analysis, and for basic demographic and housing analysis.

  The 15 tables to remain for Summary Level 070 include:
  1. B01001—Sex by Age
  2. B01003—Total Population
  3. B02001—Race
  4. B08007—Sex of Workers by Place of Work—State and County Level
  5. B08008—Sex of Workers by Place of Work—Place Level
  6. B08009—Sex of Workers by Place of Work—Minor Civil Division Level for 12 Selected States (CT, ME, MA, MI, MN, NH, NJ, NY, PA, RI, VT, WI)
  7. B08301—Means of Transportation to Work
  8. B08302—Time Leaving Home to Go to Work
  9. B08303—Travel Time to Work
  10. B08601—Means of Transportation to Work for Workplace Geography
  11. B08602—Time Arriving at Work from Home for Workplace Geography
  12. B08603—Travel Time to Work for Workplace Geography
  13. B08604—Worker Population for Workplace Geography
  14. B25001—Housing Units

15. B25003—Tenure

- Two Additional Areas Included in the 2010-2014 ACS 5-Year Summary File

  The 2010-2014 ACS 5-year Summary File contains two areas from Summary Level 070: State-County-County Subdivision-Place/Remainder that are not available on American FactFinder. These geographies are "Louisville city (part), Louisville Central CCD, Jefferson County, Kentucky" and "Louisville city (part), Louisville West CCD, Jefferson County, Kentucky." These two additional areas were not published in American FactFinder due to the Census Bureau's Geography Divisions changes to Louisville city. More details concerning this change can be found on the ACS website on http://www.census.gov/programs-surveys/acs/technical-documentation/table-and-geography-changes/2013/geography-changes.html

1.6 Contact Us

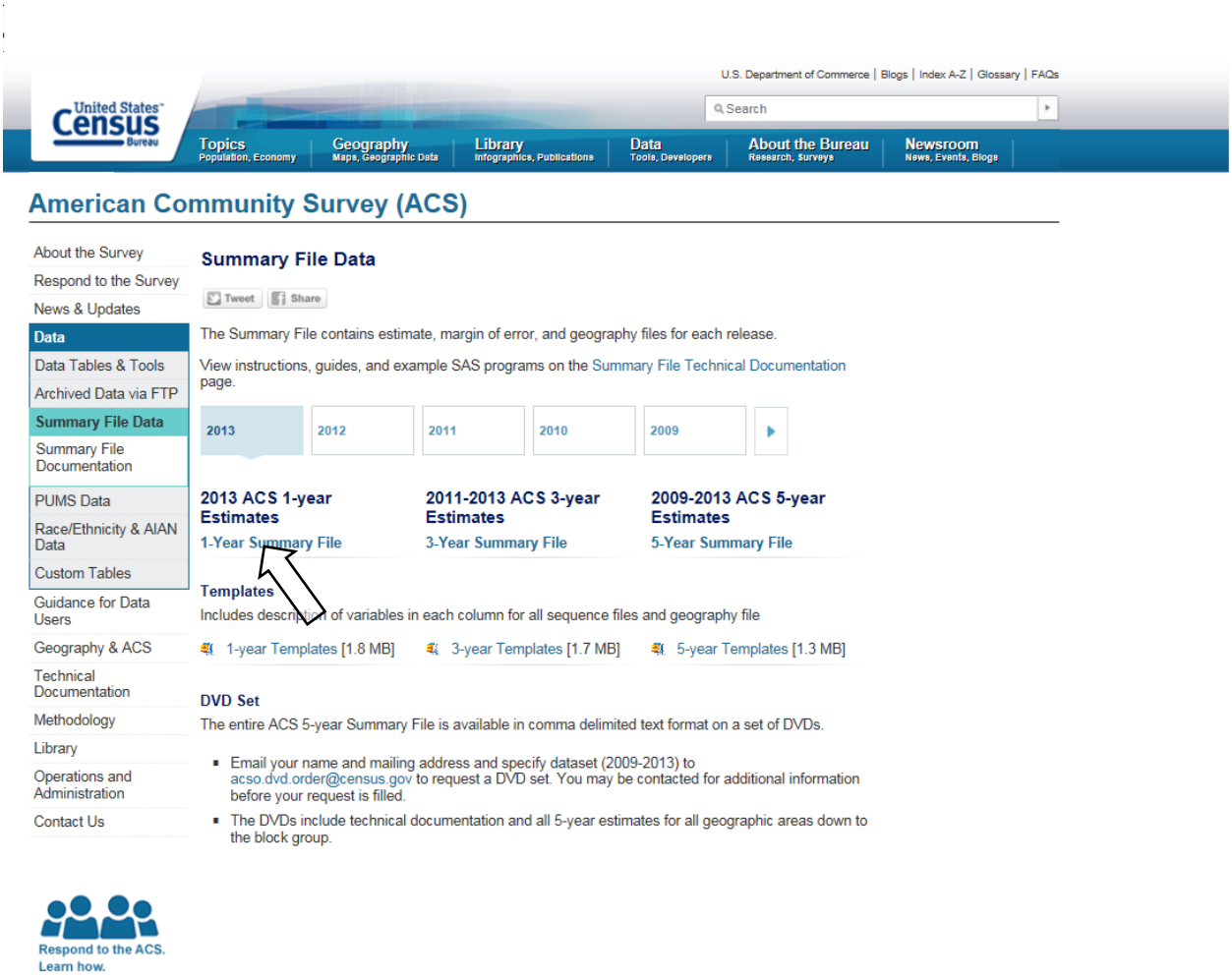
Please send any technical questions or comments on the ACS Summary File you have via email to: acso.users.support@census.gov. If you have questions or comments about the American Community Survey, you can submit a question online at ask.census.gov/.

2 How to Use the ACS Summary File

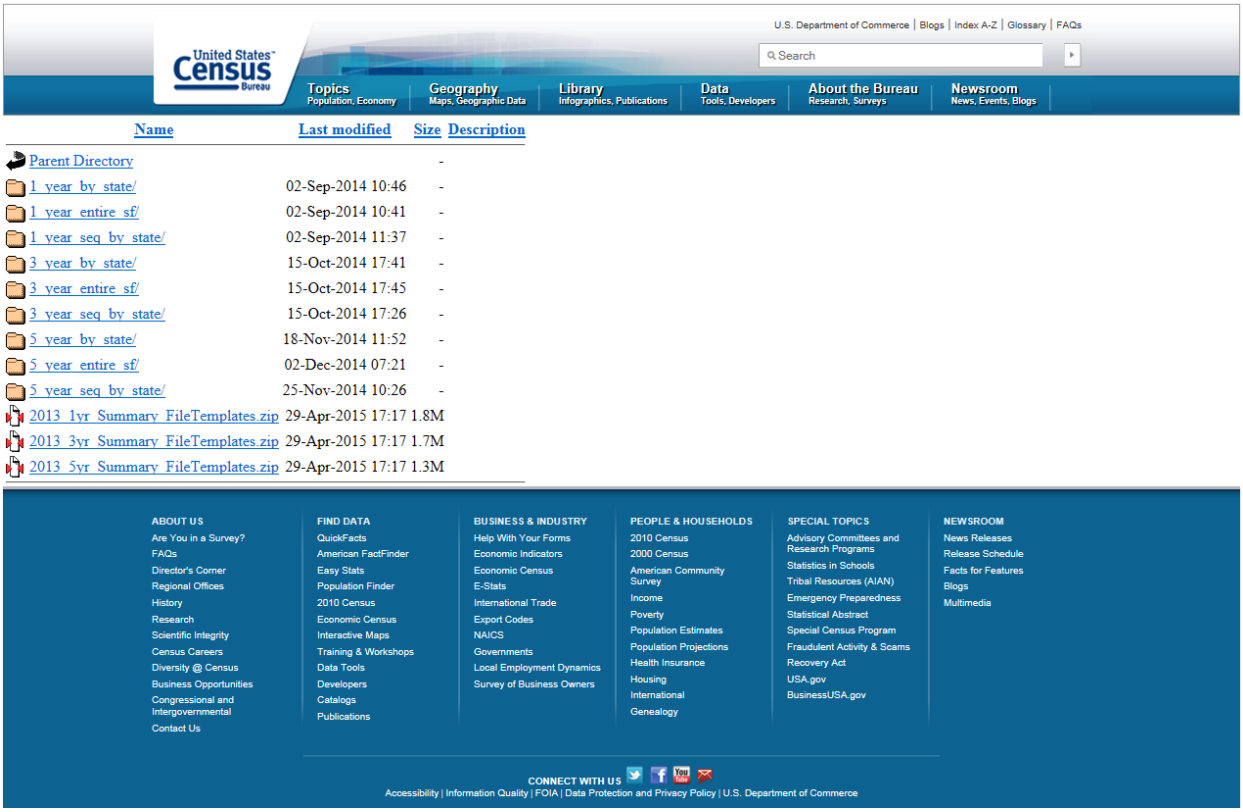
2.1 Locating the Summary File

The ACS Summary File is accessible from the American Community Survey main page. From the ACS main page, www.census.gov/acs, mouse over the **Data** tab, select the option for **Summary File Data**, as shown below:

That will take you to the ACS Summary File page. Click on **1-year Summary File** to go to the ACS Summary File FTP site.



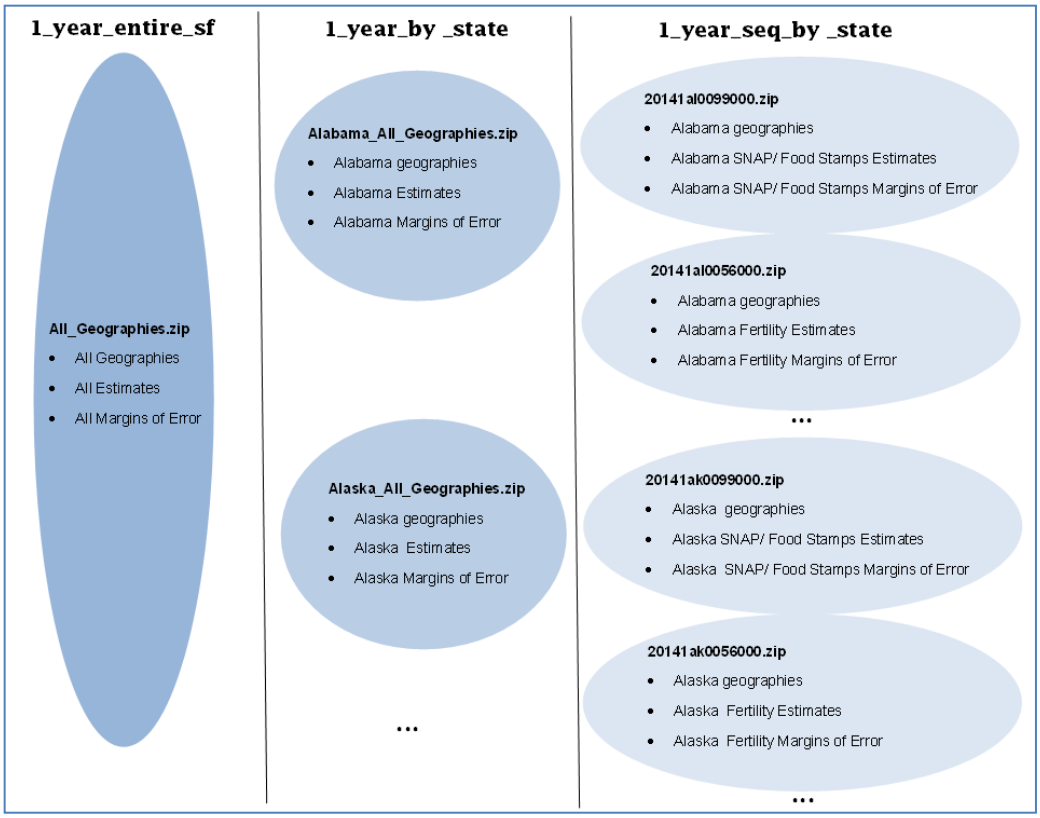
This is the ACS Summary File—it is actually comprised of three folders, as well as templates, for each data release that are explained the next section.



2.2 Summary File Organization

The Summary File is organized in three folders per data release as shown in the above screenshot. Each data release also includes a corresponding zip file for templates. These three directories contain the same combination of files; they are simply arranged differently to accommodate various user needs:

An illustration of how ACS 1-year files are arranged in the three folders is included below.



- **All-in-one (**1_year_entire_sf, 5_year_entire_sf**)**

  This directory contains a zipped file, which includes geography, estimate, and margin of error files. This zipped file is ideal to download if users want estimates and margins of error for all geographies throughout the nation at once. The file is very large and should only be used by those that can easily process a very large file.

- **State tables** (1_year_by_state, 5_year_by_state)

  This directory contains zipped files for each state or state-level equivalent, including each of the 50 states, the District of Columbia, Puerto Rico, as well as cross-state geographies such as metropolitan areas. Each zipped file contains a geography file and multiple estimate and margin of error files. Downloading from these state level folders is ideal if users want all the tables for a state level geography or cross-state geographies.

  In addition to the state-level files mentioned above, there is also a level called "United States," and includes summary levels such as the Nation, Regions, Divisions, Metropolitan Statistical Areas, Zip Code Tabulation Areas (ZCTAs), and Tribal Areas. The United States level does not contain tables for geographies that are always entirely within a state, such as counties and places; for those tables, go to the folder or files for that state.

The following is a table that gives examples of the types of summary levels are in the state and state-level equivalent folders and files and those that are in the United States folders and files.

Each State, DC, and Puerto Rico	United States
State	United States
County	Region
County subdivision	Division
Place	Metropolitan or urban statistical areas
Congressional districts (113th Congress)	New England City and Town Area (NECTA)
Public Use Microdata Area (PUMA)	American Indian/Alaska Native/Hawaiian Home Land areas
School Districts	Urban areas
Alaska Native Regional Corporation	Zip Code Tabulation Areas (ZCTAs)

- **Topic tables** (1_year_seq_by_state, 5_year_seq_by_state)

This directory contains folders for each state or state-level equivalent, including each of the 50 states, the District of Columbia, Puerto Rico, as well as cross-state geographies such as metropolitan areas. Within those folders are a geography file and zipped files containing the estimate and margin of error files, one per "sequence" (sequences are explained in Chapter 2.3). Downloading from these folders is ideal if users only want a few tables for a state level geography or cross-state geographies.

Using the 1-year release as an example, the naming convention used for the zipped files in the 1_year_seq_by_state directory is the following:

2014 1 ak 0001 000.zip		
Example	**Name**	**Range or Type**
2014	Reference Year	ACS data year (last year of the period for multiyear periods)
1	Period Covered	1=1-year, 5=5-year
ak	State Level	US or abbreviations for state, District of Columbia, and Puerto Rico
0001	Sequence Number	0001 to 9999
000	IterationID	Iteration ID for Selected Population Tables and American Indian & Alaska Native Tables. Note: Iteration ID is always "000" for the standard 1-Year and 5-Year products.

- **Templates**
(2014_1yr_Summary_FileTemplates.zip, 2014_5yr_SummaryFileTemplates.zip)

This zip file contains Excel files for each sequence (i.e., Seq1.xls, Seq2.xls), as well as the geography file (i.e., 2014_SFGeoFileTemplate.xls). These files provide users with two rows of metadata containing the variable names and their descriptions for every column. The templates are meant to be used with the comma delimited version of the files.

2.3 Sequence Numbers

Detailed Tables for similar subject areas are grouped together in "sequences." A sequence number is an assigned number to a grouping of ACS tables. Table sequencing now follows these rules:

1) Tables are sorted numerically by the "root" of their Table ID, where the "root" is defined as the numeric section after the first letter and before any additional letters, so for example the root of B06004APR is "06004". For tables with the same root, additionally sort them in the following order:

Non-iterated, non-collapsed, non-PR version (e.g., Table B06003)
Iterated, non-collapsed, non-PR versions (e.g., Tables B06004A, B06004B…B06004I)
Non-iterated, collapsed, non-PR version (e.g., Table C06001)
Iterated, collapsed, non-PR version (e.g., Tables C08505A, C08505B… C08505I)
Non-iterated, non-collapsed, PR version (e.g., Table B06003PR)
Iterated, non-collapsed, PR versions (e.g., Tables B06004APR, B06004BPR…B06004IPR)
Non-iterated, collapsed, PR version (e.g., Table C06001PR)
Iterated, collapsed, PR version (e.g., Table C06001APR)

2) With tables sorted in this order, start with the first table and assign it to the first sequence. For each subsequent table, if the table has either a new "subject," a new "geography type," or would cause the number of cells in the sequence to exceed 245, then start a new sequence. "Subject" is described using the second and third characters in the Table ID, so for example the subject of B06004APR is "06" for place of birth. You can view a complete list of subjects at ask.census.gov/faq.php?id=5000&faqId=1687. "Geography type" can be one of three things: Place of Residence geography type, Place of Work geography type, or Residence 1 Year Ago geography type.

3) If a table does not fit in one sequence, then put the first 245 cells of it in one sequence, and the rest in the next. If a table does not fit in two sequences, then put the first 245 cells of it in one sequence, the next 245 cells of it in the next sequence, and the rest in a third sequence.

The rules governing how many tables can be assigned the same sequence number depend on the following:

- There are no more than 256 cells per sequence, so the data can be read into a spreadsheet. There are 245 data cells and 11 other cells reserved for identifying information.
- There are approximately 170+ sequences for the 2014 ACS 1-year Summary File, and approximately 120+ sequences for the 2010-2014 ACS 5-year Summary File.
- Tables are grouped numerically by the "root" of their Table ID, (i.e., Table B00001 is in sequence file 0001).
- Tables with race iterations are grouped in the same sequence.

It is critical to know the sequence number associated with a Detailed Table (Table ID) for two reasons. First, one needs it in order to access the correct estimates and margins of error files for

the desired table. Second, the field start position for the estimates or margins of error of a certain Detailed Table depends on its sequence number.

The Sequence Number and Table Number Lookup file, available in Excel and as a SAS dataset, lists Table IDs associated with each sequence number. This spreadsheet is available on the ACS Summary File Documentation page at http://www.census.gov/programs-surveys/acs/technical-documentation/summary-file-documentation.html.

For example, to find the sequence number associated with the Table B08406, a user must open and look for that Table ID in the Sequence Number and Table Number Lookup file. Shown below is a screenshot of this file opened to where the "tblid" is B08406. The next column in the file, "seq," shows that this Table ID is associated with the sequence number "0029." In order to access the estimate and margin of error file for Table B08406, a user will need to download the estimate and margin of error files labeled with the sequence number "0029."

	A	B	C	D	E	F	G	H	I
5923	ACSSF	B08406	29		7	51 CELLS		SEX OF WORKERS BY MEANS OF TRANSPORTATION TO WORK FOR WORKPLACE GEOGRAPHY	Journey to Work
5924	ACSSF	B08406	29					Universe: Workers 16 years and over	
5925	ACSSF	B08406	29	1				Total:	
5926	ACSSF	B08406	29	2				Car, truck, or van:	
5927	ACSSF	B08406	29	3				Drove alone	
5928	ACSSF	B08406	29	4				Carpooled:	
5929	ACSSF	B08406	29	5				In 2-person carpool	
5930	ACSSF	B08406	29	6				In 3-person carpool	
5931	ACSSF	B08406	29	7				In 4-or-more-person carpool	
5932	ACSSF	B08406	29	8				Public transportation (excluding taxicab):	
5933	ACSSF	B08406	29	9				Bus or trolley bus	
5934	ACSSF	B08406	29	10				Streetcar or trolley car (carro publico in Puerto Rico)	
5935	ACSSF	B08406	29	11				Subway or elevated	
5936	ACSSF	B08406	29	12				Railroad	
5937	ACSSF	B08406	29	13				Ferryboat	
5938	ACSSF	B08406	29	14				Bicycle	
5939	ACSSF	B08406	29	15				Walked	
5940	ACSSF	B08406	29	16				Taxicab, motorcycle, or other means	
5941	ACSSF	B08406	29	17				Worked at home	
5942	ACSSF	B08406	29	18				Male:	
5943	ACSSF	B08406	29	19				Car, truck, or van:	

2.4 Geography File

There is a geography file that comes with the estimate and margin of error files. This file begins with a "g" and is an ASCII file using either a position based format or comma delimited format. A geography file exists for each state or state level equivalent.

Geography files are named using the following convention (using the 1-year data release as an example):

g 2014 1 ak.txt		
Example	**Name**	**Range or Type**
G	File Type	g=geography

2014	Reference Year	ACS data year (last year of the period for multiyear periods)
1	Period Covered	1=1-year, 5=5-year
Ak	State Level	US or abbreviations for state, District of Columbia, and Puerto Rico

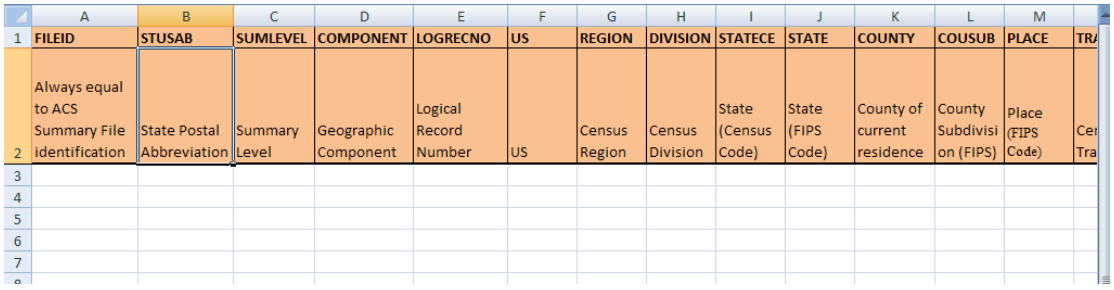
The geography files contain geographic information for an ACS tabulated area, including the name of the area. One variable on the file, called LOGRECNO, is the logical record number and is used to link the level of geography to the estimate and margin of error files. An example of how to use LOGRECNO is discussed in Chapter 2.5. The fields in the layout below are blank if the geography is not available for a release.

The following table provides the generic layout of the geography file (1, 5-Year):

Variable Name	Description	Field Size	Starting Position
RECORD CODES			
FILEID	Always equal to ACS Summary File identification	6	1
STUSAB	State Postal Abbreviation	2	7
SUMLEVEL	Summary Level	3	9
COMPONENT	Geographic Component	2	12
LOGRECNO	Logical Record Number	7	14
GEOGRAPHIC AREA CODES			
US	US	1	21
REGION	Census Region	1	22
DIVISION	Census Division	1	23
STATECE	State (Census Code)	2	24
STATE	State (FIPS Code)	2	26
COUNTY	County of current residence	3	28
COUSUB	County Subdivision (FIPS)	5	31
PLACE	Place (FIPS Code)	5	36
TRACT	Census Tract	6	41
BLKGRP	Block Group	1	47
CONCIT	Consolidated City	5	48
AIANHH	American Indian Area/Alaska Native Area/ Hawaiian Home Land (Census)	4	53
AIANHHFP	American Indian Area/Alaska Native Area/ Hawaiian Home Land (FIPS)	5	57
AIHHTLI	American Indian Trust Land/ Hawaiian Home Land Indicator	1	62
AITSCE	American Indian Tribal Subdivision (Census)	3	63
AITS	American Indian Tribal Subdivision (FIPS)	5	66
ANRC	Alaska Native Regional Corporation (FIPS)	5	71
CBSA	Metropolitan and Micropolitan Statistical Area	5	76
CSA	Combined Statistical Area	3	81

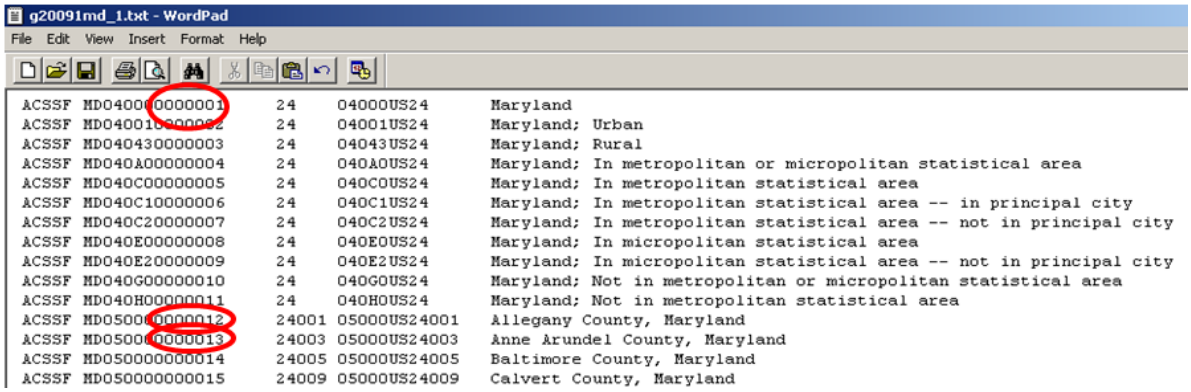
METDIV	Metropolitan Statistical Area-Metropolitan Division	5	84
MACC	Metropolitan Area Central City	1	89
MEMI	Metropolitan/Micropolitan Indicator Flag	1	90
NECTA	New England City and Town Area	5	91
CNECTA	New England City and Town Combined Statistical Area	3	96
NECTADIV	New England City and Town Area Division	5	99
UA	Urban Area	5	104
BLANK		5	109
CDCURR	Current Congressional District ***	2	114
SLDU	State Legislative District Upper	3	116
SLDL	State Legislative District Lower	3	119
BLANK		6	122
BLANK		3	128
ZCTA5	5-digit ZIP Code Tabulation Area	5	131
SUBMCD	Subminor Civil Division (FIPS)	5	136
SDELM	State-School District (Elementary)	5	141
SDSEC	State-School District (Secondary)	5	146
SDUNI	State-School District (Unified)	5	151
UR	Urban/Rural	1	156
PCI	Principal City Indicator	1	157
BLANK		6	158
BLANK		5	164
PUMA5	Public Use Microdata Area – 5% File	5	169
BLANK		5	174
GEOID	Geographic Identifier	40	179
NAME	Area Name	1000	219
BTTR	Tribal Tract	6	1219
BTBG	Tribal Block Group	1	1225
BLANK		44	1226

We also provide an Excel template for the geography file named “SFGeoFile Template.xls.” The template provides users with two rows containing the variable names and their descriptions (as displayed in the above table) for each column in the geography file. It is meant to be used with the comma delimited version of the geography file. The template is available in the Data folder for your dataset (i.e., http://www2.census.gov/programs-surveys/acs/summary_file/2014/data//in the zipped “2014_SummaryFileTemplates” folder). Here is a screenshot of the Excel file:



	A	B	C	D	E	F	G	H	I	J	K	L	M	
1	FILEID	STUSAB	SUMLEVEL	COMPONENT	LOGRECNO	US	REGION	DIVISION	STATECE	STATE	COUNTY	COUSUB	PLACE	TRA
2	Always equal to ACS Summary File identification	State Postal Abbreviation	Summary Level	Geographic Component	Logical Record Number	US	Census Region	Census Division	State (Census Code)	State (FIPS Code)	County of current residence	County Subdivision (FIPS)	Place (FIPS Code)	Cen Tra
3														
4														
5														
6														
7														

Each state, the District of Columbia, Puerto Rico and the set of cross-state geographies, have one geography file associated with them regardless of how the Summary File is accessed. For example, the following screenshot shows the beginning of the state geography file for Maryland. In the screenshot, the logical record numbers corresponding with the state of Maryland, Allegany County, and Anne Arundel County are circled. The logical record number for the state of Maryland is "0000001", for Allegany County it is "0000012", and for Anne Arundel County it is "0000013".



Excess spaces in the pictured geography file have been removed for illustrative purposes.

2.5 Estimate and Margin of Error Files

Each of the three Summary File directories include zipped files containing estimate files (file names beginning with an "e") and margins of error files (file names beginning with an "m"). The estimate files contain published ACS estimates and the margin of error files contain published ACS margins of error for their respective estimates. Here is the naming convention used for those files (using the 1-year data release as an example):

e 2014 1 ak 0001 000.txt		
Example	**Name**	**Range or Type**
E	File Type	e=estimate, m=margin of error
2014	Reference Year	ACS data year (last year of the period for multiyear periods)
1	Period Covered	1=1-year, 5=5-year
ak	State Level	US or abbreviations for state, District of Columbia and Puerto Rico
0001	Sequence Number	0001 to 9999
000	Reserved for future use	Iteration value for future use

The estimates and margins of error for Detailed Tables are grouped together by sequence numbers, as discussed in Chapter 2.3. There is an estimate and margin of error file for each sequence number.

The format of the estimate and margin of error files are identical; they are strings of comma-delimited ASCII text. Each row represents a different geographic area and the first six fields

contain metadata such as the geographic area and the sequence number. Following those fields are the estimates or margins of error for the Detailed Tables. Starting and ending positions of the fields associated with each Detailed Table can be found using the Sequence Number and Table Number Lookup file, which is discussed in Chapter 2.3. The estimates or margins of error for one Detailed Table span several fields within a row.

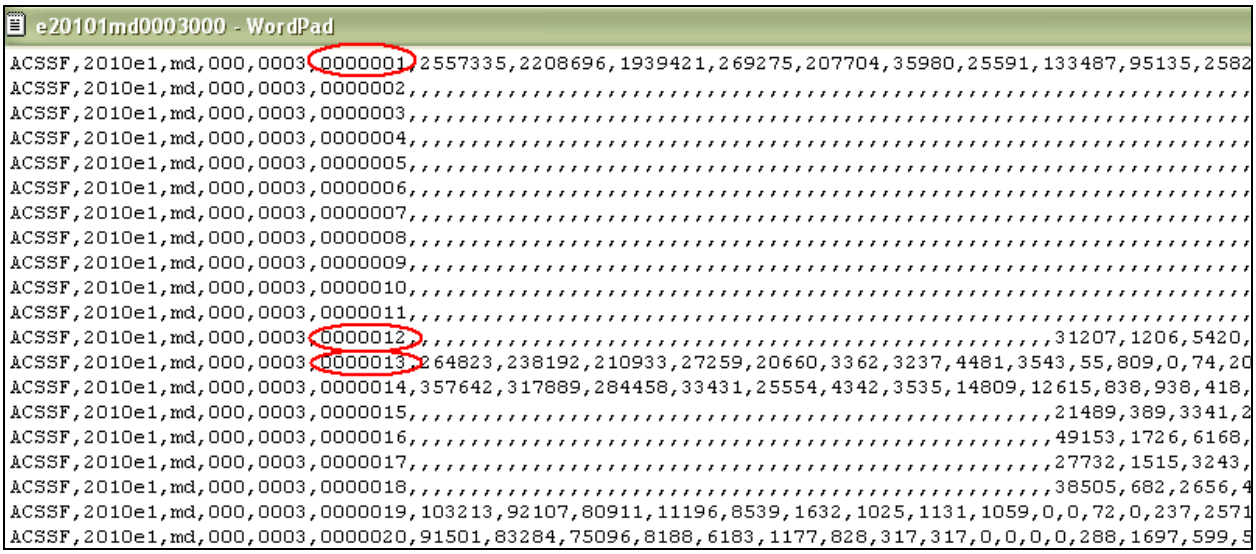
Here is the record layout of the estimates and the margin of error files:

Field Name	Description	Field Size
FILEID	File Identification	6 Characters
FILETYPE	File Type	6 Characters
STUSAB	State/U.S.-Abbreviation (USPS)	2 Characters
CHARITER	Character Iteration	3 Characters
SEQUENCE	Sequence Number	4 Characters
LOGRECNO	Logical Record Number	7 Characters
Field # 7 and up	Estimates (or Margins of Error)	Various

Going back to the example from Chapter 2.3, we know that Table B08406 corresponds to sequence "0029." Additionally, the Sequence Number and Table Number Lookup file (as shown earlier) tells us that Table B08406 begins at position seven and contains 51 cells.

In order to get estimates for Maryland; Allegany County, MD; and Anne Arundel County, MD one must recall the logical record numbers associated with each geography. In Chapter 2.4, we identified these to be "0000001," "0000012," and "0000013," respectively. The logical record number, LOGRECNO, must be used to merge the geography information to the estimate and margin of error files.

The example below shows the estimate file for sequence "0003" and all geographies. except census tracts and block groups for the state of Maryland using the 2010 ACS 1-year Summary File, For the 2008-2012 ACS 5-year Summary File, the dots "." in the below screenshot will be replaced by empty cells as documented in Chapter 4.2. Note that each row has a uniquely assigned logical record number, called LOGRECNO, which links the estimate to a specific geographic area. The pictured example has the logical record numbers corresponding to Maryland, Allegany County, and Anne Arundel County circled. Estimates for Table B08406 at these geographic levels can be found within their respective rows at field seven and continuing for 50 additional fields.


e20101md0003000 - WordPad
ACSSF,2010e1,md,000,0003,0000001,2557335,2208696,1939421,269275,207704,35980,25591,133487,95135,2582
ACSSF,2010e1,md,000,0003,0000002,,,

3.4 ACS Summary File User Tools Page

More information about the user tools described in Chapter 1.4, such as the Excel Import Tool, SAS tools, and DataFerrett, is available on the ACS Summary File Documentation page in the Summary File User Tools section at http://www.census.gov/programs-surveys/acs/technical-documentation/summary-file-documentation.html-.

3.5 Supplemental Documentation

Supplemental documentation concerning the American Community Survey located on the ACS website at http://www.census.gov/programs-surveys/acs/technical-documentation.html. Documents such as the Subject Definitions, Accuracy of the Data, and Code Lists are available at the URL listed above. The documentation can assist users in understanding and using this technical documentation.

4 User Notes

4.1 Population Thresholds

The Census Bureau publishes ACS 1-year, and 5-year estimates, with population thresholds set for the ACS 1-year estimates to produce reliable data. Here is a brief comparison of the two types of estimates:

1-year Estimates	5-Year Estimates
• Published for selected geographic areas with populations of 65,000 or greater • Represent the average characteristics over a calendar year • Have fewer published geographic areas than the 5-year estimates	• Published for all geographic areas • Represent the average characteristics over the 5-year period of time • Have more published areas than the 1-year estimates

For more guidance on using ACS estimates, users are encouraged to visit the ACS website at http://www.census.gov/programs-surveys/acs/guidance/estimates.html.

4.2 Jam Values

Some data values represent unique situations where either the information to be conveyed is an explanation for the absence of data, represented by a symbol in the data display, such as "(X)", or the information to be conveyed is an open-ended distribution, such as 115 or greater, represented by 115+.

The following special data values can appear in the ACS Summary File table as an explanation for the absence of data:

- Missing Value = “”

  A missing string indicates that the estimate is unavailable. (This appears in the estimates and margins or error files as two commas adjacent to each other without anything between them, or if the last cell in a data file is filtered then you get a comma followed immediately by a carriage return or EOF.) A missing value indicates when an estimate is missing because of filtering for geographic restrictions, coefficients of variations (CV), or was removed due to the Disclosure Review Board’s (DRB) requirements. For more detail on filtering, please visit Chapter 4.4.

- Dot = “.”

A dot indicates when the estimate has no sample observations or too few sample observations. In the margin of error files, this value could also indicate that the margin of error is unavailable for a median estimate that has been replaced with a jam value.

- Zero = "0"

  A "0" entry in the margin of error column indicates that the estimate is controlled. This is similar to the "*****" symbol used in American FactFinder.

- Negative 1 = "-1"

  This indicates that an estimate does not contain a Margin of Error. Tables B00001, B00002, and tables starting with B98 and B99 do not have margin of error (MOE) associated with them. The MOE calculations are set to -1 for these tables.

- Jam Values for Medians

  The following is a listing of the jam values for medians. For example, if there is an estimate of "2499" for table B10010, then it does not indicate a dollar amount. It means that the median is somewhere below 2,500 and thus is not calculated.

Jam Value	Actual Meaning	Use for Medians
0	1 or less	Age, Duration of Marriage
9	9.0 or more	Rooms
10	10.0 or less	Gross Rent as Percentage of Income, Owner Costs as Percentage of Income
50	50.0 or more	Gross Rent as Percentage of Income, Owner Costs as Percentage of Income
99	100 or less	Rent, Gross Rent, Selected Monthly Owner Costs, Monthly Housing Costs
101	101 or more	Duration of Marriage
116	115 or more	Age
199	200 or less	Tax
1001	1,000 or more	Selected Monthly Owner Costs
1939	1939 or earlier	Year Built
1969	1969 or earlier	Year Moved In
2001	2,000 or more	Rent, Gross Rent
2010	2010 or later	Year Built, Year Moved In
2499	2,500 or less	Income, Earnings
4001	4,000 or more	Selected Monthly Owner Costs, Monthly Housing Costs
9999	10,000 or less	Value
10001	10,000 or more	Tax
200001	200,000 or more	Income
250001	250,000 or more	Income, Earnings
1000001	1,000,000 or more	Value

4.3 Rounding Rules and Margins of Error

B00001, B00002, B98001, and B98002 are sample counts, not estimates, and do not have margin of error (MOE) associated with them. Tables in series B99* imputation tables and B98* (except B98001 and B98002) quality measure tables do not provide margin of error calculations. The margin of error calculations are set to -1 for these tables.

There are a few special rules on how certain margin of error are determined for ACS estimates. The accuracy of the estimate (decimal place) within the detailed tables determines how many digits the margin of error is rounded.

4.4 Explanation of Missing Estimates and Data Release Filtering Rules

Data users often question why certain ACS estimates are not available. Missing estimates can be caused by data suppression through various methods or restrictions that are applied to ACS data to limit the disclosure of information about individual respondents and to reduce estimates with unacceptable statistical reliability.

Filtering rules, based on statistical reliability of the ACS 1-year estimates, are used to ensure that Detailed Tables are not released where the majority of the estimates in the Detailed Tables have an unacceptable level of reliability.

Learn more about missing estimates and filtering rules in the data suppression document available on the ACS website at http://www.census.gov/programs-surveys/acs/technical-documentation/data-suppression.html.

4.5 Display of Estimates

The estimates in the summary files are stored using standard notation instead of in scientific notation. The estimates are stored as whole numbers. The largest estimate in the ACS Summary File contains 14 digits.

4.6 Multiple Sequences For a Table

There are eight tables with more than the maximum 245 cells that cannot fit into a single sequence, so each of these tables is broken into multiple sequence files. The table below shows the tables that contain multiple sequences:

Tables That Are Contained in More Than One Sequence File

Table ID	Table Title
B24010	Sex By Occupation For The Civilian Employed Population 16 Years And Over
B24020	Sex By Occupation For The Full-Time, Year-Round Civilian Employed Population 16 years And Over
B24121	Detailed Occupation By Median Earnings In The Past 12 Months For The Full-Time, Year-Round Civilian Employed Population 16 Years And Over
B24122	Detailed Occupation By Median Earnings In The Past 12 Months For The Full-Time, Year-Round Civilian Employed Male Population 16 Years And Over
B24123	Detailed Occupation By Median Earnings In The Past 12 Months For The Full-Time, Year-Round Civilian Employed Female Population 16 Years And Over
B24124	Detailed Occupation For The Full-Time, Year Round Civilian Employed Population 16 Years And Over".
B24125	Detailed Occupation For The Full-Time, Year Round Civilian Employed Male Population 16 Years And Over
B24126	Detailed Occupation For The Full-Time, Year Round Civilian Employed Female Population 16 Years And Over

Check Appendix A to verify the sequences for these tables. The last six tables on the list are only produced at the United States national level (summary level 010), and the files for these sequences will be blank for all other summary levels.

Document History

Version #	Date	Summary of Changes
1	06/16/15	Initial Draft
2	07/29/15	Updates based on review and comments
3/4	08/17/15	Updates based on additional comments
5	08/27/15	Final