Tips For Using American Community Survey (ACS) Data and the American FactFinder (AFF) Tool - PUMS

1. Estimates available for:

- 1-year estimates – released every year for geographies that meet the population threshold of 65,000 or more
- 3-year estimates – released every year for geographies that meet the population threshold of 20,000 or more (proposed to be discontinued upon approval from OMB starting with 2012-2014)
- 5-year estimates – released every year for geographies with population under 20,000

2. ACS is a survey therefore just a sample:

- About 325,000 households sampled each month; for about 3.5 million households in a year

3. How are the ACS data used?

- Creating business plans
- Completing grants
- Strategic planning
- Economic development
- Reviewing trends over time
- Emergency management preparedness

4. What topics are available in the American FactFinder (AFF) tool?

Demographic	Social	Economic	Housing
Age and sex	Ancestry	Industry and Occupation	Computer ownership & internet access
Group quarters population	Citizenship status	Commuting to work	House heating fuel
Hispanic or Latino origin	Disability status	Employment status	Kitchen facilities
Race	Educational attainment	Food stamps/SNAP	Occupancy/vacancy status
Relationship	Fertility	Health insurance coverage	Owner monthly costs
Total population	Language	Income and earnings	Plumbing facilities
	Place of birth	Poverty	Value of home

United States Census Bureau
U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

These are just some of the most common. For a complete list visit: http://www.census.gov/acs/www/guidance_for_data_users/subjects/

5. What geographic levels can I obtain ACS data for in the American FactFinder?

- Data are available for the entire U.S., regions, divisions, states, counties, places (cities/towns), to census blocks and tracts.
- Note that depending on your search criteria in the American FactFinder (AFF) it may limit what topics and geographies are available. http://www.census.gov/acs/www/guidance_for_data_users/geography/

6. What tool do I use? I have noticed that there are several tools on your site with ACS data.

- Most of you will need data for communities or lower levels of geography. It is best to use the American FactFinder tool as it has preset tables to assist you. If you do not see what you are looking for in the AFF then another tool that allows you to create your own tables is the DataFerrett (http://dataferrett.census.gov/). This tool makes the microdata available for you to customize tables to fit your needs. Reference the link below to see what other tools are available and how you might be able to use them. http://www.census.gov/acs/www/guidance_for_data_users/which_data_tool/

7. When would I use the 1, 3, and 5-year estimates?

- To obtain demographic, social, housing and economics characteristics on a community.
- When you need population counts on age, sex and race, Hispanic origin, and homeowner status use the 2010 Census.
- For the in-between census years refer to the Population Estimates program.
- ACS estimates are period estimate. Which means they represent the population and housing characteristics over a specific data collection period. These data are combined to produce 12 months, 36 months, 60 months of data. They are referred to as the 1, 3, and 5-year estimates. See upcoming table for details.
- Choosing a dataset involves more than simply considering the population size in your area. You must think about the balance between currency and sample size/reliability/precision needed. http://www.census.gov/acs/www/guidance_for_data_users/estimates/

Distinguishing features of ACS 1-year, 3-year, and 5-year estimates

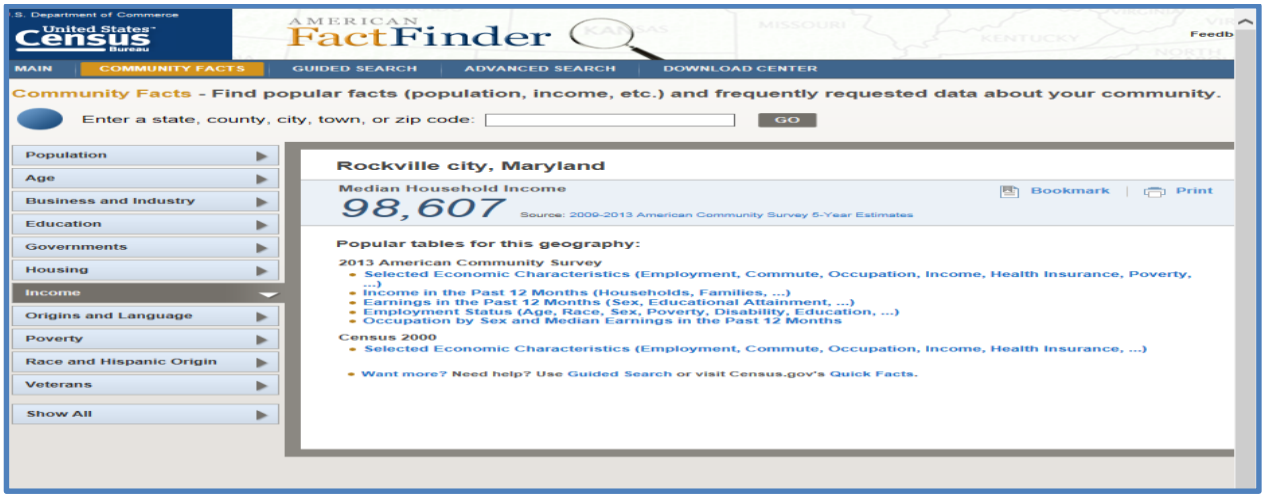
1-year estimates	3-year estimates	5-year estimates
12 months of collected data	36 months of collected data	60 months of collected data
Data for areas with populations of 65,000+	Data for areas with populations of 20,000+	Data for all areas
Smallest sample size	Larger sample size than 1-year	Largest sample size
Less reliable than 3-year or 5-year	More reliable than 1-year; less reliable than 5-year	Most reliable
Most current data	Less current than 1-year estimates; more current than 5-year	Least current
Best used when	**Best used when**	**Best used when**
Currency is more important than precision Analyzing large populations	More precise than 1-year, more current than 5-year Analyzing smaller populations Examining smaller geographies because 1-year estimates are not available	Precision is more important than currency Analyzing very small populations Examining tracts and other smaller geographies because 1-year estimates are not available

8. Can I compare ACS data?

- Yes, however use caution as ACS variables change over time, some areas and subjects **must be compared with caution, or not compared at all.** Even when considering comparisons 1-year estimates can only be compared to 1-year estimates, 3-year to 3-year estimates and 5-year to 5-year estimates. http://www.census.gov/acs/www/guidance_for_data_users/comparing_data/

9. How do I get started locating my ACS data in the AFF?

- Community Facts – Looking for something specific and know your geography, this is a great way to get started, especially useful to those not familiar with Census data, topics, geographies or programs.



- Guided Search – Let us lead you step-by-step to the data you seek. There are six steps with instructions to assist you in your selections, especially if you are not familiar with Census data, geographies or programs.

- Advanced Search – Search all data in AFF with access to all geographic types and datasets. Familiarity with Census data, geographies, and programs is helpful when using this method.

- You can begin your search by selecting from the filters on the left or just type in the boxes in the middle of the page, then click GO.

- Under the Help tab (upper right corner) there are tutorials available to help you use the AFF if you would like to review those before accessing the data using AFF. http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml
- On the AFF main page you can also begin by selecting the American Community Survey under "What We Provide" to see all the tables available.

Public Use Microdata Sample (PUMS) Files

1. What are PUMS?

    - PUMS sample is a subsample of ACS interviews, one percent of all US households
    - PUMS is a "weighted" sample
        - Weighting variables must be used in analysis
    - A set of two files - housing units and persons
    - ACS produces 1-, 3-, and 5-year PUMS files
    - Available as SAS files, CSV files, via DataFerrett and redistributors such as IPUMS

2. What is the difference between the Summary and Microdata files?

Summary Data	Microdata
Premade or published tables	Dataset of individual responses to questionnaire
Easy to get even for small areas	Enables custom tables and analyses
Limitations: Fixed content	Limitations: Edits to protect privacy, can't study small areas

3. What does the Summary Data look like?

Subject	North Carolina											
	Total		Male		Female		Median earnings (dollars)		Median earnings (dollars) for male		Median earnings (dollars) for female	
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Civilian employed population 16 years and over	4,355,481	+/-20,357	51.2%	+/-0.2	48.8%	+/-0.2	30,593	+/-153	35,220	+/-338	26,281	+/-262
Management, business, science, and arts occupations:	1,564,166	+/-18,503	45.2%	+/-0.5	54.8%	+/-0.5	48,594	+/-706	61,370	+/-618	41,102	+/-300
Management, business, and financial occupations:	622,012	+/-12,493	54.4%	+/-1.0	45.6%	+/-1.0	55,594	+/-1,073	67,466	+/-2,727	46,158	+/-1,134
Management occupations	427,500	+/-10,670	59.7%	+/-1.2	40.3%	+/-1.2	60,196	+/-1,420	71,215	+/-1,346	47,260	+/-2,358
Business and financial operations occupations	194,512	+/-6,674	42.9%	+/-1.9	57.1%	+/-1.9	50,759	+/-721	60,606	+/-1,869	45,175	+/-1,635
Computer, engineering, and science occupations:	227,984	+/-8,136	71.0%	+/-1.4	29.0%	+/-1.4	65,691	+/-1,339	70,503	+/-1,242	53,518	+/-3,561
Computer and mathematical occupations	116,135	+/-6,038	70.4%	+/-2.1	29.6%	+/-2.1	71,445	+/-1,313	76,131	+/-3,394	60,981	+/-3,905
Architecture and engineering occupations	71,331	+/-4,048	84.6%	+/-2.2	15.4%	+/-2.2	65,407	+/-3,717	66,967	+/-3,154	52,664	+/-6,094
Life, physical, and social science occupations	40,518	+/-3,370	49.0%	+/-3.9	51.0%	+/-3.9	51,098	+/-1,380	55,279	+/-4,793	47,418	+/-3,287
Education, legal, community service, arts, and media occupations:	458,639	+/-10,158	32.6%	+/-1.1	67.4%	+/-1.1	35,195	+/-552	41,595	+/-902	31,787	+/-500
Community and social services occupations	77,223	+/-4,912	39.3%	+/-2.8	60.7%	+/-2.8	37,132	+/-896	38,500	+/-2,637	36,671	+/-1,002
Legal occupations	34,249	+/-3,105	42.0%	+/-4.3	58.0%	+/-4.3	54,006	+/-7,999	90,865	+/-14,931	42,105	+/-3,459
Education, training, and library occupations	274,113	+/-8,273	25.4%	+/-1.1	74.6%	+/-1.1	32,690	+/-1,035	41,661	+/-1,131	30,870	+/-656
Arts, design, entertainment, sports, and media occupations	73,054	+/-4,527	47.7%	+/-2.8	52.3%	+/-2.8	31,332	+/-1,416	37,052	+/-3,136	26,242	+/-2,631
Healthcare practitioner and technical occupations:	255,531	+/-7,531	22.4%	+/-1.3	77.6%	+/-1.3	50,295	+/-583	69,570	+/-6,125	47,491	+/-1,084
Health diagnosing and treating practitioners and other technical occupations	176,214	+/-5,516	24.0%	+/-1.5	76.0%	+/-1.5	56,769	+/-1,198	101,403	+/-3,693	52,242	+/-800
Health technologists and technicians	79,317	+/-5,262	18.9%	+/-2.7	81.1%	+/-2.7	36,726	+/-1,794	35,795	+/-4,459	37,010	+/-2,024
Service occupations:	799,326	+/-15,780	43.2%	+/-0.9	56.8%	+/-0.9	16,305	+/-354	20,140	+/-622	14,264	+/-477
Healthcare support occupations	123,251	+/-6,291	11.3%	+/-1.5	88.7%	+/-1.5	21,004	+/-566	26,164	+/-1,833	20,479	+/-624
Protective service occupations:	91,585	+/-5,388	75.0%	+/-2.5	25.0%	+/-2.5	35,370	+/-1,167	37,447	+/-1,428	30,173	+/-2,528
Fire fighting and prevention, and other protective service workers including supervisors	45,964	+/-4,107	73.9%	+/-3.5	26.1%	+/-3.5	30,449	+/-3,280	32,483	+/-4,815	16,199	+/-4,329
Law enforcement workers including supervisors	45,621	+/-3,366	76.0%	+/-3.4	24.0%	+/-3.4	37,394	+/-1,316	40,330	+/-1,516	33,109	+/-1,868
Food preparation and serving related occupations	276,605	+/-12,198	44.6%	+/-2.0	55.4%	+/-2.0	11,945	+/-319	13,155	+/-1,023	11,364	+/-335
Building and grounds cleaning and maintenance occupations	167,713	+/-7,474	63.0%	+/-1.9	37.0%	+/-1.9	16,962	+/-674	20,391	+/-809	12,401	+/-836
Personal care and service occupations	140,172	+/-6,405	24.0%	+/-2.4	76.0%	+/-2.4	14,215	+/-813	16,299	+/-2,623	13,631	+/-906
Sales and office occupations:	1,022,683	+/-16,609	37.1%	+/-0.7	62.9%	+/-0.7	26,402	+/-361	32,802	+/-1,760	23,660	+/-578
Sales and related occupations	480,967	+/-13,622	48.3%	+/-1.1	51.7%	+/-1.1	24,637	+/-1,044	37,593	+/-2,987	16,319	+/-584
Office and administrative support occupations	541,716	+/-12,865	27.1%	+/-1.1	72.9%	+/-1.1	27,245	+/-381	30,187	+/-1,145	26,742	+/-414
Natural resources, construction, and maintenance occupations:	398,100	+/-12,490	95.9%	+/-0.5	4.1%	+/-0.5	28,196	+/-1,032	28,829	+/-1,063	21,998	+/-1,111
Farming, fishing, and forestry occupations	26,776	+/-3,092	81.2%	+/-4.5	18.8%	+/-4.5	18,599	+/-1,302	18,928	+/-1,429	17,228	+/-3,748
Construction and extraction occupations	221,353	+/-9,135	97.9%	+/-0.6	2.1%	+/-0.6	25,222	+/-674	25,287	+/-627	20,501	+/-3,589
Installation, maintenance, and repair occupations	149,971	+/-7,142	95.5%	+/-0.7	4.5%	+/-0.7	35,988	+/-723	36,286	+/-734	27,319	+/-4,064
Production, transportation, and material moving occupations:	571,206	+/-11,784	72.7%	+/-1.0	27.3%	+/-1.0	26,085	+/-422	28,615	+/-1,198	20,994	+/-519
Production occupations	309,382	+/-8,449	64.4%	+/-1.4	35.6%	+/-1.4	26,920	+/-508	31,157	+/-615	21,584	+/-579
Transportation occupations	147,318	+/-6,573	84.4%	+/-1.3	15.6%	+/-1.3	29,340	+/-1,688	30,704	+/-690	20,651	+/-1,800
Material moving occupations	114,506	+/-5,662	79.9%	+/-2.0	20.1%	+/-2.0	20,548	+/-868	21,369	+/-856	16,841	+/-965
PERCENT IMPUTED												
Occupation	9.6%	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)

4. What does the Microdata look like?

```
RT,SERIALNO,ST,PUMA,RELP,AGEP,SEX,RAC1P,MAR,PINCP,POBP
P,168,2,300,0,56,2,2,5,81000,1,56,5,0,1,,22,0,1,0,0,81
P,168,2,300,2,30,1,2,5,8000,2,209,5,0,1,,20,0,2,0,0,80
P,168,2,300,2,18,2,2,5,500,2,88,5,0,2,14,14,0,3,0,0,50
P,433,2,200,16,39,1,9,1,800,2,79,5,0,1,,17,800,1,0,0,0
P,1890,2,400,0,31,2,1,1,29700,2,46,5,0,1,,19,0,1,0,0,2
P,1890,2,400,12,23,1,1,5,5000,41,27,5,0,1,,17,0,2,0,0,
P,2029,2,101,0,67,2,4,2,26900,2,268,5,6000,1,,19,0,1,0
P,2029,2,101,2,41,2,9,5,20200,2,556,5,0,1,,16,0,2,0,0,
P,2029,2,101,7,13,1,9,5,,2,342,,,3,10,10,,3,,,,,,,,2,
P,2029,2,101,7,8,2,9,5,,2,220,,,2,5,5,,4,,,,,,,,2,98,
P,2693,2,200,0,66,2,9,2,30400,6,35,5,0,1,,16,0,1,0,158
P,3361,2,200,0,57,1,1,1,180000,38,59,5,178000,1,,21,0,
P,3361,2,200,1,58,2,1,1,110000,38,67,5,30000,1,,22,800
P,4005,2,200,0,27,2,1,5,42300,4,61,5,0,1,,21,0,1,0,0,4
P,4005,2,200,13,29,1,1,5,0,4,55,5,0,1,,19,0,2,0,0,0,,3
P,4076,2,101,0,45,1,1,3,75800,53,457,3,0,1,,19,0,1,0,0
```

5. Why would I use PUMS?

- Data needed for a tabulation or a specific universe not supported by standard ACS tables (e.g., population groups by single year of age)
- Statistical analysis required to understand relationships between economic, demographic or housing variables (e.g., correlation analysis)

Can create new measures using multiple variables or other people in household (spouse's occupation, same-sex couples, number of kids)

6. What is available through PUMS?

    - Produced every year since 2000
    - Person-level files include about 250 variables
    - Housing unit files include about 200 variables
    - Includes people in housing units and group quarters
    - Includes many useful constructed variables (e.g., poverty status, subfamily identification, etc.)
    - Includes collapsed codes for some variables (e.g., race, Hispanic origin, ancestry, place of birth, industry, occupation, etc.)

7. What files are available?

    - We release 3 new PUMS files every year
        - 1 year PUMS (example: 2013 1-year PUMS)
            - October
        - 3-year PUMS (example: 2009-2013 3-year PUMS)
            - December
        - 5-year PUMS (example: 2007-2013 5-year PUMS)
            - January

    - Most documentation is released one week prior to data

8. Why would I use PUMS files?

    - For studying small groups, where more cases are needed
    - When analysis is also making use of multiyear summary data

9. What geographies are available?

    - Geographic identifiers are region, division, state, Public Use Microdata Area (PUMA)
    - PUMAs can be used to identify most cities of 100,000+ and many metropolitan areas, but not all
        - Combinations of adjacent counties and census tracts within states
        - Also, divisions of geo areas (counties/cities)

- PUMS is not designed for statistical analysis of small geographic areas

10. How would I access PUMS files?

- AFF
- FTP Download
- DataFerrett