

WEBINAR TRANSCRIPT:

Using the Census API with the American Community Survey Webinar (June 26, 2019)

Coordinator: Welcome and thank you all for standing by. At this time I would like to inform all participants you will be on a listen only mode until the question and answer session of the conference call. If you would like to ask a question please press star 1 on your touchtone phone. Today's conference is being recorded. If you have any objections you may disconnect at this time. Now I will turn the meeting over to Amanda Klimek. Thank you. You may begin.

Amanda Klimek: All right. Thank you and good afternoon to everyone joining us this afternoon for our webinar on how to use the Census Bureau's application program interface or API with the American Community Service or ACS. My name is Amanda Klimek and I work with the American Community Survey's Outreach and Education branch.

Before I delve into the webinar today I'd like to start with an overview of the US Census Bureau including some things that even Census enthusiasts might not know. The Census Bureau is the largest of 17 primary federal government statistical agencies. During the decennial census it is the second largest employer in the US. And while most people are familiar with the decennial census that happens every ten years, we also conduct more than 100 censuses and surveys of households and businesses across the nation each year. This includes the American Community Survey or ACS and more than 30 other household surveys and over 60 economic programs of which the economic census is the biggest and most comprehensive.

So based on previous feedback about the API webinars we've had in the past we've heard that users constantly want new and different ways to use the API.

So with that in mind every time we run this webinar we try to build upon what we've done previously, to give you more detail about the possibilities of how you can use the API. Previously we talked a bit about the basics of using an API and loading the API data into Excel. So today we're going to go a little bit further. So we're going to introduce ways to pull this data using statistical software.

But we are going to start by going over the basics to get you familiar with the ACS. And we will go over some of the basics of the Census Bureau API and topics relevant to being able to use it such as the anatomy of how to build an API query. Then we'll go over some demos on basic API calls and go into a little bit about how to load ACS data into statistical software using the API through a tool in our statistical software package called tidycensus. Then we'll go over some resources for finding out more. And finally we'll leave you with some ways you can reach out for help with the survey and how to get involved with the ACS community. And we will take questions at the end.

So we're going to start with some basics about the ACS. The ACS is the nation's most current reliable and accessible data source for local statistics on critical planning topics such as age, children, veterans, commuting, education, income and employment. A sample of approximately 300 million addresses which are collected continuously throughout the year to produce annual social, economic, housing and demographic estimates. It helps to distribute more than \$675 billion of federal government spending each year; covers more than 40 topics; supports more than 300 known federal uses and countless nonfederal uses. And businesses in communities use these 11 billion estimates each year to make vital decisions including where to locate hospitals and schools, what transportation needs exist and what goods and services businesses should provide customers.

We might be releasing three different estimates - three different sets of estimates each year depending on the year. For the past several years, ever since 2013 we've released these three consistently and will continue to do this in the future. So we've released the one year estimates which are collected over one calendar year and involve geographies with populations 65,000 and above. And then a couple of years ago we started releasing the one year supplemental estimates which replaced what you might remember as three year estimates.

And these provide versions of select one year tables which are more high level and with less details but allow us to provide you these one year tables for geographies with populations above 20,000 and above and that's what we've been doing for the past few years. So we've always released the five year estimates which are collected over a period of 60 months or five years that gets down to the more granular levels of geographies such as census tracts and block groups. And you can see how the estimates are broken down here.

Quickly I just want to go over the release dates for these data sets because we get a lot of questions about these dates and they will be a little different this year. These releases will be on a modified staggered schedule due to delays in processing the data that resulted from the lapse in federal funding in January. The ACS data collected in 2018 is planned to be released on September 26th as one year estimates with some remaining tables and products coming out on October 17, 2019. We plan to release the one year supplemental estimates I just told you about, on February 6th of next year.

The 2014 to 2018 ACS five years estimates are planned to be released on December 19, 2019 of this year with some remaining tables and products coming out on January 16, 2020. The full and detailed schedule is available on the link you see on the screen but you can also navigate there pretty easily

through [Census.gov/ACS](https://www.census.gov/acs). So here you can see the different levels of geographies that we offer. The ACS provides data for more geographies on an annual basis than any other household survey.

And the great thing about this slide is we can see how the different levels of geography interact with one another. Lower geographic areas that you see on the bottom that - within the larger areas that are directly connected with lines. So for example you can see that Congressional districts, school districts and places which you know as cities, towns and other municipalities fit neatly within states and don't cross state boundaries. But they may cross boundaries of counties or metropolitan areas since they're not directly connected. And the ACS has a unique ability to report on such a wide range of geographies is what gives it such a broad appeal.

So when we're talking about ways to access the data it's helpful to know the different types of products available in the ACS. And broadly speaking they're either profiles or tables. This slide specifically is going to focus on the tables and profiles included in the API. The letters in parentheses next to the profiles of tables correspond to the beginning of the table ID which will be important later when we're building our API calls.

On the right data profiles provide broad social, economic, housing and demographic profiles and comparison profiles offer comparisons of these profiles across the ACS years. So while you can get the variables from these profiles on the API today we'll largely be focusing on tables in our examples and I want to show you a couple of samples of these tables. So the detailed tables provide the most detailed ACS data and many of our data products are sourced from these tables. They can be topic specific as we see here with this table for median home value.

Or they can be cross tabulated with other ACS variables like in the example here with the Year Structure Built and Home Value. So you can see the value of the home according to when it was built. Similar to a full profile using ACS data but these are subject specific, we have the subject tables. Within this particular subject you can find multiple topics and can also find the percent of each estimate included here on the right. So these are some of the tables we'll be looking at today.

It's also helpful to take a look at this profile numbering that helps you identify what the table is about. So we have five elements here and the first element you'll see this B which is for the data product type which this is for a detailed table. It's a B because they can also be called base tables. That's mainly what our examples will be focusing on today. You can see the second element is these next two numbers. We have here 06 for the subject which is place of birth and the next two or three digits will tell you the number ID of the table within that subject.

We have a letter after the third element and so we have A here which stands for (white alone). These are for race iterated tables. Not all of the detailed tables are race iterated but they're A through I and they include the various race iterations that Census provides. And we also might have a PR at the end. And these are only for tables that are available in the Puerto Rico community survey.

So you might notice throughout the demo today I will always include the margins of error or MOEs because we love it when you use these MOEs. MOEs allow data users to be certain that at the given level of confidence the estimate and the actual population value differ by no more than the value of the MOE. Put simply the margin of error or MOE is a measure of the possible

variation of an estimate around the population value. And the Census Bureau uses a 90% confidence level as its standard.

You might have heard at this point that American FactFinder will be going away actually at the end of this month and we'll be moving to disseminate all of our newest data releases through Data.Census.gov. And you might have had the chance to explore these through some of our other webinars. If you haven't yet we offer some great webinars on Data.Census.gov that offer live demos of these tools. So it will be the new dissemination platform and it will include big releases such as all of our 2018 releases for ACS that I talked about; the 2017 economic census and the 2020 census.

New improvements are released every few months based on data user feedback and improvements will continue on the same schedule over the next few years, to roll out the best possible platform to meet data user standards. You can start familiarizing yourself with this platform now and leave feedback by emailing cedsci.feedback@census.gov. And that really helps us get you the tool that you want to use. So now that we've gotten started with the logistics of the survey let's take a look at the Census Bureau API and what it's all about; how we can get started performing queries.

So in keeping with our modern area of information on the go the Census Bureau has created an application programming interface or API, for developers and analysts to utilize publicly available ACS data in the development of Web or mobile apps. This contains the one year, three year and five year data sets as well as the supplemental estimates I told you about earlier and other data sets from our censuses and programs.

Other sources on the API include the 1990, 2000 and 2010 census; 2007 and 2012 economic census; non-employer specifics; county business patterns and

many other programs you might be familiar with. So looking at this slide we can kind of see some of the ways in which different parties use this data service. So Census Bureau uses it to provide data from all of our programs that contribute to it in a standardized way and host it from a central location. So we host the data; our various programs deliver the data to us and then we're able to get you that with the latest ways of getting you the data when we can give you the - we can give software and Web developers the ability to create and easily update custom applications and we can allow data scientists to have more direct access to the data in order to conduct analyses.

So we use the Census Bureau API in a number of different ways internally and also our data users use it in a variety of different ways and we try to give you all of the information you need to be able to do this. So the Census Bureau API supports mobile and Web applications, drives some of our data visualizations and easily connects to statistical software like R like we're going to show you today.

So one example I'd like to start with is an external use of the data for a Web application which is the Pennsylvania State Data Center. They used this - they used the API to be able to provide this dashboard on income and poverty. And if you go to the Web site the link is provided. It's interactive and you can see that the data is loaded live. We also use it for the Census Business Builder or CBB which is a Census Bureau application that allows business owners and regional analysts a way to easily use demographic and economic data in their research for opening new businesses.

CBB pulls all of their data for the API and this allows users the freedom to quickly select all of the data that they want. It allows our developers a way to create more customizable features. For example the regional analyst addition allows users to select Census geographies to define their own regions and the

API helps to bring in the data to quickly create reports for these custom regions. We also use our API to power our own data visualizations that we create and release to the public such as these two data visualizations we released for the one year 2017 release last year which is a digital version of our very popular data wheel and an interactive visualization that allows you to explore the various topics on the ACS to learn more about what we release.

So we're going to start going into the examples a little bit and this actually is a screen shot from Data.Census.gov. It is the table B25077 which we know is a housing table. And it is - it shows the median value in dollars for all states in the United States. And this is actually a final example of how the API is used as Data.Census.gov uses our API to power and populate their tables. So we see here we have the table ID. We've gone over that a little bit. That will be important in helping to start build our API query.

We have the various geographies; we have - you can see the first three states that show up. And we have the estimate and the margins of error and we will want to include both of those in our query. So we can see here - we can see visually here in a table format that you're used to, what we might want to build in the API. And when we build the API this is what the query will look like. It is the link in red. And on the right is the output that we will have at the end of our query. So this is in a JSON format. It is a machine readable language. I'll show you how it looks ion a browser in a second. But it allows Web applications to easily be able to input this data.

So we're going to go over a little bit about the anatomy of the API. So we're going to use a query we just looked at and we're going to look at the different parts of it so it's a little more easy to digest. We're going to start with the base for all census API queries. So this is the link you will have and this will serve as the base for all your queries. We're going to have the year and the

data set. This is from a detailed table for 2017 and you can see in the tool I'm going to show you in a minute how to kind of navigate these. The year will always be the same but the data set might change based on what data set you want to use and also what type of table you want from that data set. So this is using ACS five year data from a detailed table.

An example of this is if you want to use the subject table. You'll just add the extension subject to the end of the ACS 5 query and we'll go ahead and look in the API Discovery tool to see how you can see what you need to use. You'll need the variable names and we'll kind of go into how those work. You can see this B25077 is from the median value table that we just saw. I'll bring that up again. And luckily we picked a table that is easy and only has one line. So we want the estimate from that first line. So we're going to do the B25077 and then we're going to do the extension 001 and we want the estimate so we want the E and then we want the margin of error so we will also want the same estimate but with an M. And that will give us both the margin of error and the estimate for that exact table for that exact line.

And that's the beauty of the API really is that you can pull these individual lines. You don't need to bring in a whole table if you just need a certain line. And I just want to give you an example of a subject table that uses the same kind of syntax. So again you can find more examples of these so you can find exactly what you're looking for in the API discovery tool and we'll do a demo of that in just a couple of minutes here.

So for the state we're going to get pretty in-depth with the geography here but we want to do - we want to get it for all of the states like we had in our table. So we're going to use this asterisk at the end of states. And the asterisk is just something that is called a wild card and that is just going to say - all that asterisk says is that I want to get all of the results for this particular level of

geography so I want all of the states within the geography level state. So now that we've kind of seen how to build our query we're going to actually go into building a query and navigating through the different tools.

So we're going to go to our API developer Web site and this will give us pretty much all of the information we need to build our queries. We're going to go to [Census.gov/Developers](https://www.census.gov/developers/). Before we really get into the demo I want to go into requesting an API key. And an API key just allows you to access - if you're pulling more than - you don't necessarily need one unless you're pulling more than 500 queries a day. You can pull a query without a key but it is helpful to have one because it allows us to share updates and more other news about the API, with you.

So you can request a key. You'll put in your organization name and email address. We'll email you a key; you'll just confirm and it's pretty easy. So we're going to go look at what different types of APIs that we can use. We kind of already know which one we want to use but we're going to go to available APIs on the right here. And we want - we know that we want to look at the five year data set. And as I went over earlier the reason we want to look over the five year data set is because that allows us to get at the most granular levels of geography. And in a moment here we're going go down to Census tract data. So to get the most results we'll definitely want to look at the five year data.

So we're going to go to the five year data and we're going to see what's available. And again this kind of goes over the same type of info that went over earlier. So if you need to reference this it has some good descriptions. We're going to stick with 2017. You can, you know you can go back different ACS years by just altering the year. We're going to look at the detailed tables so we're going to take a look at these examples in supported

geography here. This will take us to the API discovery tool. And this gives us all of the different data sets that we need.

You can see that for the five year data set page we have all of the tables I showed - the tables and profiles I showed you earlier. So we have the detailed tables; we have the subject tables; but then in the middle here we have both of the different types of profiles. So you can look at the documentation. That will just take you back to the developer page but you can look at the different - the various different geographies that are available for this data set.

You can look for the variables available and you can just hit Control F to search for a variable that you want and it will bring up all of the different results for that. So it takes a moment to load and I'm also going to show you a way to do this in the R statistical software too. So yes it takes a moment to load when you hit Control F because there is just such a huge breadth of topics available. So we kind of already know which one we want but you can search that way.

We'll go over the groups function a little later but for now we're going to look at examples. And this is a great resource because, you know, if you forget the syntax or you want to know how to look up something by a particular geography, you can always come here. And we're going to start with - we want to look at that - we have here and it's Control Copy Paste. We're just going to turn this into the exact same query that we were looking at earlier. Again you don't really need your key right now.

So we want that B27 - or B25077 and then we want the first line and we want it to be an estimate and then we also want the margins there. So we want that B25077; we want the first line and we want the margin of error for that. And we want to make sure it's 2017; it's the ACS five year; and we want it for all

states so we're going to use that wild card to tell - we want it for all states. I'm missing a zero here. Okay. So that brings it up in the browser.

And I showed you earlier what it looked like as a screen shot in the PowerPoint but yes this is - this will bring it in for all states. But say we wanted to go to a particular state. One of the things about the API is you do need to know the (FIPS) code for the geography that you need and the (FIPS) code is just - it's a code that the federal government uses to define these geographies. You know, there can be different variations in spelling so it's just how these geographies are recognized in a numerical system.

So I find that the easiest way to find these very granular levels of geography is to start at the top and drill down. So we're at the state level right now. We see all the states. So we also see that we have the state codes at the end. So I'm just going to - I'm going to be a little biased here because the Census Bureau headquarters is based in Maryland so that's where we are right now. I'm going to grab the code for Maryland which we can see is 24. So if I just want the median value for Maryland I'm just going to put in 24.

For some reason that's not working right now but yes we're going to go - well let's look at county. We're going to look at how to do this for county. So if you go back to the example we're going to see that we can find all of the counties within a state. And we just separate these with an ampersand. So we want to do four equals county and I happen to - unfortunately we couldn't see - here we - we're going to put in all the counties so we want an ampersand. And unfortunately we couldn't see the estimate for state but we want to see and, and equals state. And this will give us all of the counties. And let's see. Hopefully this will work for Maryland this time. Okay.

So we have all the counties within Maryland so we have - we know that our code for Maryland is 24 so we're putting that in and we can see all of the counties. Say we want to drill down and at the top here it'll tell you the county - it'll tell you the name of the estimate. We can see that there is the estimate here; we have the margins of error; and then we have the state code and the county code. So now we know we have the county code and we can drill down even further.

Again the Census Bureau is based in Prince George's County Maryland, our headquarters. So we have the estimate here and we have the margin of error. But we want to get a little more granular because we can. We're using the five year data and so we want to get all of the tracts within this county. So again if you want to, at any time, you can go back and reference how to do this but I happen to know that we are looking for all the tracts and we want to put and in which separates our geography identifier. And we want Prince George's County so we want county code 33 in Maryland.

And this will bring up all of the census tracts within Price George's County in Maryland. So we can also take a look at the groups function here. And the groups function - we just focused on pulling up one line out of a table but say we want the whole table. The groups function helps us get a full table rather than just one estimate at a time. And this I something that's been an improvement within the past year. We used to be able to pull several - multiple variables at once, up to 50, using the group's function. But we now have it so you can get entire tables no matter what.

So we have some links here for the documentation and - which is what I just kind of showed through the API discovery tool. And we also have an example query. And we're going to look at this because the output can look a little weird sometimes. So we're just going to look at the US right now. But

for this - after that get function where you put in where you want your variable names you're going to put in get group and within the parentheses you're going to put in what table you want.

And I'm using this table because we're still going to look at home value but this time we're going to use this whole table and we're going to look at the distribution of home values so you know how many homes are within the less than 10,000 range or the whole - the table goes up to more than \$200,000 so we're going to go in here and we're going to grab this table. And this is what it shows for us which again this is great for a machine readable format but, you know, it can be a little difficult to parse if you're not very comfortable with using statistical software to clean your data.

So at this point we're going to go ahead and look at this tidycensus package in R and I'm going to pull this up. So this is R Studio. It's just a software you can get for free online and you can use it to - you can basically use it to run any R codes. And we really want this to be a successful webinar so we really want to show that you don't have to have statistical programming skills that are very sophisticated to look through this data. So up here I have just written out the basic scripts that I want to run and we're going to make sure that this is posted on our Web site later.

But we're looking at the tidycensus software here. So to install a package in R you just use this `Install.Packages` function. And then in the parentheses you put in the package you want to install. We want to put in both of these because the tidycensus package is a subset of the tidyverse package and that's just a basic collection of packages that were developed originally by the creator of R just to make data analysis a little bit easier. So we're going to go ahead and install these.

So it's installing and once you've installed it you don't have to install it again. It'll already be installed on your machine. All right. So the packages have loaded and again you don't have to worry about those anymore. Those are already installed so you don't have to worry about those two lines anymore. But once you've installed them and these packages are just a set of tools so we want to use those tools. So we're just going to put in these two lines right here and the library function just says to us okay we've installed these tools and now we want to use them. So that just tells R I want to - I'm going to be doing something using these tools and I want to use them. And every time you get into R Studio you will need to tell it which packages you want to use.

The Census API key function we're not going to put that in but I've included it just in case. I've installed my API key already. So once you put in - you can put your API key that Census sends you into the section that says API key. And that will install it into R Studio. But once you do that you don't have to do it again. But again we don't have to have an API key to do what we're doing today. So we want to take a look at these variables sort of the same way we did in the discovery tool. We want to see what variables are available to us. So we're going to put in this line of code and I just want to explain a little bit what each part says.

It's basically sort of the same anatomy that I showed you with the API query earlier. We have our year; we have our data set and this (cache) equals true is just going to make it quicker to load later. You don't necessarily have to include it. But we're going to use this load variable function to tell us we want to bring in all of these variables so we can look at them. And we're going to save it as this object, ACS 17 and that's just saving it so we can view it later. So we're saving this query and you're saving it much like you would save a file. So we're saying we want to run this query and we want to call it ACS 17. You can name it whatever you want.

All right. So I just ran that but now we want to view it. so we just tell it view and whatever object we want to view. So we're telling it okay we want to view this query that we just ran and it's going to bring it up in this table. And I think this is just a really great table because it has a search function. So we can look at our value estimate again. And the cool thing about this package is you don't have to tell it - you see here you don't have to tell it whether you want the estimate or the margin of error because it will include both automatically.

So let's try to run something. So we have here just basically look at the same thing we looked at earlier using this get ACS function to bring in the median home value for the state of Maryland and you can see that here. We have - we're going to bring in the county so we want to bring in all the counties for the state of Maryland. We are bringing in the estimate which we already know what it is but if you need to look it up you know you can look it up using that view ACS 17 function.

We're going to put in the state of Maryland and we're going to use ACS 5. We're going to call it (Med Bell) MD. And we're going to view it. And this gives us the same exact table that we saw earlier with all of the counties in Maryland and the median value and the margin of error. And it just gives it to us in a little bit of clearer format and it also saves it as an object. So if you want to manipulate that later using any other R packages or you want to visualize it it's ready for you to do that.

And over here you can see that these are - these objects are saved if you need to reference them later. We're going to go back to our script here. Again this will be available online with all of our other materials from this webinar. So we want to look at all of the Census tracts. And all I did here was I added that

we wanted the geography to be tracked. And we have our variables and we wanted the tracts within the state of Maryland and we wanted it within Prince George's County which you can - again you can find out the county code by looking at all of the different - so let's see. So Prince George's County here is that (24) which we already know is Maryland and 033. So you can reference that based on the query you just ran which I think is why it's great to start at the top and drill down.

So we're going to view what we just ran again just by bringing in the variable. And I just want to show this as an example of how user friendly R is. So if we just type in view it's going to bring in suggestions for objects we've saved. So we want PGMD for Prince George's Maryland. So we're going to bring that in. And here we have all of the Census tracts within Prince George's County. Again that saved as an object so if you want to manipulate that data later you're all ready for your data analysis.

But say we want to look at a table like we did with the group function earlier. This - the great thing about this is you already probably can realize it's going to bring it to us in a much more easy to read format than the JSON format that we saw earlier, running the API directly in the browser. So we have this - we're going to name this PGMD and we're just going to name it val, not median value because we're looking at what I showed you earlier which is that full distribution of the home values like under \$10,000, over \$200,000, that whole table. So we're going to go ahead and put this in. We have all of our things that we've been using throughout the whole process. But the only thing that would change it is that we put in table equals B27075 because that table was B27075 instead of the 77 for the median value.

And then as you can probably guess we're going to view it. And I'm going to do it in the long - in the wide format because that might actually help it work

better. Okay. So it's going to run the data and then we're going to view it. It looks like there might be a couple of problems running the API right now as we kind of saw earlier. But basically it would bring this up in a sort of format that - like you saw earlier with the kind of the more easily readable format; the way we're more used to looking at data rather than listing out all of the different variable names at the - all of the different headings at the top and then just including the raw data like the JSON format does.

So this is - tidycensus is just a really great tool to be able to get in and interact with this data. And I really like it. It's - the Census Bureau doesn't, you know, particularly endorse or maintain or support any particular package. And there are a lot of great packages out there made by users like you who just are really interested in providing people cool new tools. So again we don't provide support for this particular tool but if you want to learn more about it you can visit the Web site for the documentation.

And I'm going to include this in the script later when it's posted online so you will have access to this link. And this just gives you a little bit about the documentation and allows you to report issues to the maintainer if you find any. So now that we've finished up with that I want to leave you with some resources of - about learning more and how you can stay in touch. You can start at [Census.gov/ACS](https://www.census.gov/acs) which gives you a lot of great information about things such as our data release schedule, future webinars and events and a lot of just information about the survey, data products, tools for data users and a lot of other helpful information.

You can go to our data tables and tools page and we'll show you a little bit more detail about the different types of tables we learned about today. And for users that have accessed the data but need more information to understand the tables and complete their analysis, we offer code lists, subject definitions,

(CC) definitions, statistical testing information, comparison guidance, all kinds of great stuff. And the link is provided on the bottom.

I showed you earlier our developer's page which provides high level information about the API data sets geography but you can also visit the page too, sign up for updates; get help through the various support channels; browse technical documentation; and as I showed you earlier, you can request a key. Our developers at Census also run a very active GitHub chat room or Gitter where you can ask and receive responses from our very knowledgeable API developer staff. And you can talk to other active API users. And you can find this by going to Gitter.IM/USCensusBureau and going to the general page. And again the link is provided at the bottom. And this is just a very great and very active community.

You can sign up for and manage alerts on ACS News and Events such as conferences and webinars by govdelivery. You can visit our Web site or you can connect on social media using the hashtag #ACSDData. For support you can reach out to us at acso.users.support@Census.gov and if you end up using ACS data for any cool uses please make sure to source us. It just allows other people to see where they can find this great data.

And on that note if you do end up using ACS Data to help create real outcomes or do any cool projects we want to hear about it through our Share Your Story feature. And that way we can share it with others like, you know we talked about all the cool things are doing with the API. And we can show how important the data is and everything you can do with it.

So thank you for joining and at this point I would like to ask the operator to open the line up for questions.

Coordinator: Thank you. If you would like to ask a question please press star 1 on your touchtone phone. You will be prompted to record your name prior to asking your question. Please unmute your phone prior to recording your name. Again if you have a question please press star 1. I do have one person in queue. The name was not recorded.

(Lauren Hammond): (Lauren Hammond).

Coordinator: (Lauren) you may ask your question.

(Lauren Hammond): Thank you. When ACS goes away how will we access this information?

Amanda Klimek: I'm sorry. So the - I'm sorry. What do you mean by the - the ACS is being released every year for the foreseeable future. So the ACS isn't going away.

(Lauren Hammond): Oh I'm sorry. In a previous webinar I thought that the American Community Survey was going away...

Amanda Klimek: No. You know what you might be...

(Lauren Hammond): ...like a few months before the 2020 census.

Amanda Klimek: No. American FactFinder - that might be what you're thinking. American FactFinder will be going away next year. It won't have any new releases.

(Lauren Hammond): Oh okay.

Amanda Klimek: Yes. So American FactFinder as I showed you earlier, will be replaced by Data.Census.gov and you can take a look at that. No. All of your American Community Survey data you're used to will be released. It'll just be released

on Data.Census.gov. And like I said, you can go on Data.Census.gov and take a look at it and provide feedback because we're in the feedback phase right now, so it'd be a great chance to see, you know, what you want - what you like, what you don't like, what you want to see improved, features that you'd like, all that great stuff.

(Lauren Hammond): Okay. Then I have one other question. I've done three other webinars this year but I still haven't received any information afterwards when they tell us these kinds of things are available. I don't care if it's in your presentation mode, I just want to have it.

Amanda Klimek: Right. So if it's one of our webinars it will be - it's posted on our Web site. It's Census.gov/ACS. It's - if I remember correctly it's the left hand navigation; it's under guidance for data users and then it's under training presentations. And you can view all of our previous recordings and see PowerPoints.

(Lauren Hammond): Okay.

Amanda Klimek: And for - if it's been another area that's provided a presentation like we've done some with the economic program areas. They've been posting a lot of them on Census Academy and you can just look that up through Census.gov.

(Lauren Hammond): Okay. Okay well thank you very much.

Amanda Klimek: Yes. Thank you.

Coordinator: The next question comes from (Steve Miller). Your line is open.

(Keith Miller): Hi. This is (Keith Miller). Hello?

Amanda Klimek: Hi (Keith).

(Keith Miller): Hi. So I just had a question about when you were in R and doing the queries from tidycensus. Where were you specifying the year that you were pulling from?

Amanda Klimek: Here. I can go into that real quick. So that get ACS here let's see. Get ACS; here let me look at the script real quick. So you can - the ACS that's probably going to be in - that's actually going to probably be something that's in the documentation. You can see - let's see. It - so it's in the documentation but it defaults. I didn't specify the year. It defaults to 2017 if you don't specify the year but you can add a...

(Keith Miller): Okay.

Amanda Klimek: You can add a section to specify the year and you can find - like I showed you examples from the API discovery tool; you can find examples of those codes and for the functions in the tidycensus documentation. So yes I just wanted to bring this - here I'll leave this up for a minute so that people can get the link if they want.

(Keith Miller): Great. Thank you.

Coordinator: The next question comes from (Janta Chinka).

(Janta Chinka): Oh hi. I have my question. Instead of using R can we use a (unintelligible) such as (unintelligible)?

Amanda Klimek: Yes. You absolutely can. And again we just kind of picked this because we wanted to, you know, we just wanted to show a use case for like how you can load it into statistical software. But I know that other statistical software is - like I know that you can load API data into SaaS, into (Stata). And I know that a lot of open source developers create a lot of great packages in other languages such as Python. I know there's one called (Cen Pi) and Python that are specific to census data.

Again you don't really have to use a package that's specific to census data. You can, you know, use any package and just load it using API language that's already involved with R. But this is just one that packages it nicely for us. And you can sign up for - if you go into Census.gov subscriptions you can sign up for our developers' emails. Every now and then we send out - like I know recently we sent out an email that showed some featured packages. But you can also take a look at - let me pull this slide up real quick.

You can also go to our data users' group and membership is free and it's just - it's a user - it's a free online users' group full of ACS data users and you can, you know, find out sort of how people are using different API packages and stuff on there. So...

(Janta Chinka): Thank you.

Coordinator: The next question comes from (Shun) from AMPAT.

(Shun): Hi. Hello? Can you hear me?

Amanda Klimek: Hello.

(Shun): Yes. Can we use the R package to download the (shape) file?

Amanda Klimek: So you would have to - yes well so you would have to load the (shape) file into R. You can't download (shape) files through the API. So that would be something you would have to download and, you know, merge the data yourself.

(Shun): Oh. So basically from your API I cannot directly download the (shape) file?

Amanda Klimek: No. We don't have the spatial data available on the API right now. And if we have a moment we have some questions that have come in through the chat. So one of the questions is, is the (PUMS) data set available by the API?

(Bill Hazard): Hi. This is (Bill Hazard). I work on the Data.Census.gov program. And we are in the process of making the (PUMS) data available in the API. Our goal is to have a beta version out in - hopefully by the end of July. So if you - it will be available - you'd be able to see it right there in that discovery tool. All of the data sets will have all of the one year and five year ACS (PUMS) files will be in there.

Amanda Klimek: All right. And there is - we received a couple of similar questions which - one we kind of already answered. Is there a way to obtain the slides? We kind of already answered that but one is can you send me the R code you're using today in R Studio? And we are going to have - we are going to review the code and then post it so you will have access to that later. These should be posted you know, within the next few weeks to a month. And we can take a couple more questions over the phone.

Coordinator: The next question comes from (Virginia Espinosa). Your line is open.

(Virginia Espinosa): No. I was just looking for some information on that - the email or the app where I can go to get information in case I need to get back to it, but I think you answered me with the census - no there's a word in front of it. Is it Data.Census.gov?

Amanda Klimek: Yes. Data.Census.gov. Yes. We'd really love if you wanted to go take a look at that and provide feedback.

(Virginia Espinosa): Yes. I was just trying to get that and make sure that I was right so I can get more information on (unintelligible). That was it. Thank you so much.

Amanda Klimek: Thank you.

(Virginia Espinosa): Bye-bye.

Coordinator: The next question comes from (Paul Murray). Your line is open.

(Paul McMurray): This is (Paul McMurray).

Amanda Klimek: Hi (Paul).

(Paul McMurray): I just wanted to be sure -I think you already answered this question but I would just like to be able to access your presentation somewhere and I - every time I come to one of these seminars they claim they're going to put it somewhere but I can never find it.

Amanda Klimek: Okay so...

(Paul McMurray): And I would prefer an email with, you know, this information on it because you go through it real fast and you say it's going to be over here and I never get what you're saying.

Amanda Klimek: Okay (Paul). I'm going to go ahead and I'm going to go to the Web site on the screen. Can you see the screen right now?

(Paul McMurray): Let me get back to it.

Amanda Klimek: Okay. I'm going to navigate because we've had a couple of questions about that so I'm going to go ahead and navigate to it on the screen. Email - that's good feedback. Emailing it out to attendees is something we could consider if it's possible. But that's good feedback so I appreciate that. But yes so once you're back on the screen I'm just going to go to [Census.gov/ACS](https://www.census.gov/ACS) and that will take you to the ACS Web site. Like I showed you earlier, you know, from the main page you can navigate several different places to get different types of information. So on the left hand navigation you're going to go to guidance for data users.

(Paul McMurray): Right.

Amanda Klimek: It's going to take a second to load. And once it loads you're going to go to training presentations and that's where we have all of our previous webinars for the ACS. We also have a couple that we've done with other programs like we have this - we just did this exploring Census data webinar series on emergency management. If you click on that that will take you to Census Academy. And on Census Academy they're starting to post many of the webinars throughout Census so that's a good resource too.

(Paul McMurray): I have another question.

Amanda Klimek: Okay.

(Paul McMurray): This is really just on what's in the ACS. When you're studying let's say the median income of a certain geography is there any way of saying let's say what subsidies people are already getting? Because for instance if we're looking at the need for affordable housing the income level will be influenced by how much affordable or let's say subsidized housing is already in the area. Correct? Because to some extent people have to have the - a certain level income to qualify.

Amanda Klimek: Right. So we actually have an income statistics branch so that would be a question that we could have subject matter experts get back to you on. If you want to - I have the slide up right now. If you want to email us that question at ACSO.Users.Support@Census.gov we can put you in touch with subject matter experts who can give you a more detailed answer to that question.

(Paul McMurray): All right. Okay.

Amanda Klimek: Thank you.

Coordinator: The next question comes from (Maria Wilson). Your line is open.

(Maria Roca): Hello.

Amanda Klimek: Hi.

(Maria Roca): Okay. Did you say (Maria Wilson)?

Coordinator: Yes. Your line is open.

(Maria Roca): Well it's (Maria) - no. It's (Maria Roca). I'm sorry. Something in the translation there. But regardless I'm calling from Sunset Park, Brooklyn in New York. And for a variety of reasons our - the information about the neighborhood income changes block to block, sometimes within the same block, one building next to another, one house next to another. That level of granularity is very difficult to get our hands on. We do a lot - the work we do is volunteer work helping other small organizations in the neighborhood to get hands on data and whatnot. And it's become ever more challenging to be able to assess a true picture of what's going on down on the ground.

The information we often see is information at the community board level and our community board covers three very different areas according to income and ethnicity and race and every other category you can think - demographic you can think of. So, you know, how far into the weeds can Census help us with?

Amanda Klimek: So that's a great question. One of the great things about the ACS is that it does go down to the Census tract and block group level. One of the limitations of that though is sometimes at that level of granularity, you know, the margins of error might be high or the data might be available due to, you know, avoiding disclosing people's private information, stuff like that. And part of the value of Census tracts and block groups is in (unintelligible) like you can combine them to build, you know, you can combine them to build custom geographies, build neighborhoods, stuff like that.

(Maria Roca): Neighborhood within a neighborhood so to speak.

Amanda Klimek: Right. Right. Yes. Yes. So yes it is true that sometimes the data aren't available at that level of granularity or that they might not necessarily be

meaningful at that level of granularity. But, you know, we try to provide the best data quality we can and so that's why sometimes they're not available. We don't, you know, if the - if it's not up to our standards we don't release it. So, you know, we don't want - we want you to have the information that you need for your community but we also want it to be, you know, quality information.

(Maria Roca): Authentic.

Amanda Klimek: Yes.

(Maria Roca): Authentic information. Yes. Because one of the things we're doing with, you know, gathering that data is showing people how important it is for them to participate in Census 2020. By showing them how the information that exists and how it doesn't include them for the things that we need, you know, data to back up requests or whatever. So just to see that's why you have to answer. Because...

Amanda Klimek: Right. Right. And yes and again the greater response we get the greater sample we have.

(Maria Roca): Exactly.

Amanda Klimek: And the greater the data quality will be. We also - on [Census.gov/ACS](https://www.census.gov/acs) that's why we're - that's really kind of why we're doing that Share Your Story feature I talked about earlier. We're really trying to, you know, show people the value of this data. You can also use some of the talking points that I said earlier, you know, it helps distribute more than \$675 billion of federal funding. That's the ACS not the Census. The Census, you know, has its own sort of statistics for that.

But yes you can also, you know, you can feel free to reach out to us to, you know, ask for different use cases, ask for like, you know, (unintelligible) and information to promote that. Also for Census you can reach out to - if you have a local - you can find out if you have a local complete count committee or you can reach out to your regional office to see if they can put you in touch with our national partnerships team. And...

(Maria Roca): Okay. So the national partnership team? Okay.

Amanda Klimek: Yes. Just try to reach out to your regional office and they can give you, you know, promotional materials and use cases and stuff like that and kind of help you with that. And so...

(Maria Roca): Right. Because we're one of those small - we're an all-volunteer organization that people trust. We've been around since 1994 and there's a great level of trust in whatever we do because we are here; we live here; we shop at the same supermarket.

Amanda Klimek: Right.

(Maria Roca): You know, you run into us on the, you know, in the neighborhood wherever you're going. So we want to take advantage of that trust and put it to good work.

Amanda Klimek: Great. Well we really appreciate you calling in. So thank you for calling in.

(Maria Roca): And thank you for today's presentation.

Amanda Klimek: Yes.

Coordinator: The next question comes from (Ruth Sandmark). Your line is open. Ms. (Sandmark) your line is open. The next question comes from (Thomas Kaserwatz). You may ask your question.

(Thomas Kasmerzak): Hello?

Amanda Klimek: Hi (Thomas).

(Thomas Kasmerzak): Hi. It's (Kasmerzak) but that's fine. So another person earlier asked whether geographic - about (shape) files and you seemed to indicate that geographic data was not available through the API. And my original question was going to be whether it was possible to get the data in (geo) JSON instead of JSON. Since that appears to be not the case do you have plans to include geographic identifiers in your API calls?

Amanda Klimek: So I - if we do it probably would be done further down the pipeline and I haven't heard anything about that. That would probably be a question for either our geography division or our API team. But if you here I'll go back to the slide. If you want to - that's a good question to send to us. And if you want to email ACSO.Users.Support@Census.gov we can reach out to the divisions and find out if that's something that's been brought up.

(Thomas Kasmerzak): Thank you.

Amanda Klimek: Thank you.

Coordinator: I have one additional question. The name was not recorded.

Amanda Klimek: Okay.

Coordinator: Your line is open.

(Alec Macanella): I'm sorry. This is (Alex Macanella) from the (unintelligible). I have a specific question on the number of queries. You said you need a key to do more than 500 queries. Do you mean 500 separate queries or the query (rote) total is 500 if that makes sense?

Amanda Klimek: Yes. No that does - that's 500 separate queries.

(Alec Macanella): Thank you. That was it.

Amanda Klimek: All right.

(Alec Macanella): And this has been great.

Amanda Klimek: Well thank you. I appreciate you calling.

Coordinator: At this time I show no further questions.

Amanda Klimek: All right. Well I brought up just a second ago this list of our upcoming webinars and our recent webinars. Again this webinar will be posted within the next few weeks in recorded format and the slides and as well as the R script. And I just wanted to thank you all for calling in today and I hope you have a great day. Thanks.

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