American Community Survey (ACS)

How to Use ACS Geodatabase Files and ArcMap Webinar

Transcript

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The transcript of the webinar follows. Slide references and links have been added to the spoken text as appropriate.

Coordinator: Welcome and thank you for standing by. All participants will be in listen-only mode until the question and answer session of today's conference. At that time if you wish to ask a question, you may do so by pressing star followed by the number 1. This conference is also being recorded. If you have any objections, you may disconnect at this time. I will now turn the conference over to (Tyson Weister). Thank you and please begin.

Slide 1 – Title Slide

(Tyson Weister): Hi, everyone. Thank you for joining this webinar this afternoon. Like she said, my name's (Tyson Weister). I work in the American Community Survey Office at the U.S. Census Bureau. I'm also joined today by my colleague (Mike Arthur) who is a geographer here and he's going to show you all about using the Geodatabase files and ArcMap.

Slide 2 – Outline

So here's an outline of what we're going to talk about today. We wanted to go – since we're focusing on the American Community Survey Geodatabase files, we'll go ahead and I'll start with an introduction about basics of the ACS just to make sure everyone's on the same page and has a basic understanding of what kind of data you're going to get out of those Geodatabase files once (Mike) shows you.

So after that, we'll turn it over to (Mike) and he'll talk about how to locate the Census Geodatabases and download them. He'll show you how to join the feature class to the tables and use metadata tables to identify full descriptions. After that, we'll wrap up with ways you can stay in touch with us both on the ACS side of things as well as geography and then we'll open it up for questions at the end.

Slide 3 – ACS Basics

So starting with the basics, what is the American Community Survey? We are an ongoing survey that is sent to 3.5 million addresses every year and we also include with that 20,000 group quarters facilities that we go out to and collect an additional 194,000 interviews through that. So with that we're the largest survey that the Census Bureau has and we're able to produce detailed population and housing estimates from that data that was previously collected through the long form of the decennial census.

Because we're such a large scale, we're able to produce critical information for small populations and small geographic areas such as your census tracts and your block groups which we'll talk more about on a future slide. And with that for many of the topics that we cover – we do over 35 topics – for most of that you can only get that information on those small geographies through the American Community Survey.

Currently the survey supports over 300 known federal government uses as well as countless uses in the private sector, nonprofit, academic and so on. And we're releasing our data twice annually. We have the 1-year estimates that covers 12 months' worth of data collection as well as our 5-year estimates which cover 60 months' worth of data collection. We'll talk more about that towards the end.

Slide 4 – Census/ACS History

All right so we get a lot of questions about the decennial census versus the American Community Survey. Most people know the Census Bureau for the census that we do every ten years of course but we do a lot more than that and the ACS has its history that is rooted in the decennial census.

So ever since the very first census in 1790 at the Census Bureau we've always collected additional information beyond a simple population count as mandated by congress. But the way we collect that information has changed over time and it has led to the ACS today. So this slide gives you just a brief background as far as how that's changed. Between 1790 and 1930 we sent the same census forms to all households. So if you wanted to know additional information, we collected that from everybody.

Then between 1940 and 2000 we did the short form census which was to count the population and collect very basic information. That went out to everyone and then a long form census – we selected about one out of six households for this extra information about their characteristics so things such as income, education and so on. And that worked out really well while it was going on but as we start getting to the new millennium, people really need more timely information to make decisions in a rapidly changing world. So that's where the ACS comes in.

In 1996, we tested this all the way through 2004 and we were able to implement the first American Community Survey in 2005 and have done it every year since.

So the ACS covers all 50 states and the District of Columbia. We also have the Puerto Rico Community Survey or PRCS that gives data for Puerto Rico. So going forward you have the ACS collecting characteristics of the population and the 2010 Census and future censuses are counting the population and it's just the short form. So in 2010 we promoted that as ten questions you could answer in ten minutes or less. That's kind of the same format that you'll see going forward.

Slide 5 – How is the ACS Different from a Census

So this slide is just kind of the recap of what we talked about previously. Again the ACS is a survey so we are making sample estimates that produce population characteristics whereas the census is providing those essential counts that make population totals. The ACS is of course every single year whereas the census is ten years and there's also differences in terms of the time period that the data reflects.

So the ACS – we're an ongoing survey. We collect data throughout the entire year on a monthly basis and the estimates that we generate from that data reflects characteristics over that entire period of time. If you're comparing that to previous long form census data, that would have used a point in time. So we think of census day as being April 1st and most of the time that's when people are reporting their answers as of that date.

Slide 6 – ACS Content

So now that we talked about just a little bit of history of the ACS, let's get into the really good stuff that you need to know if you're working with Geodatabase files. You probably have wondered "What kind of data do I get

out of this when I'm working with the Geodatabase?" and that's the scope of the ACS. So in terms of its content we collect social, economic, housing and demographic characteristics so you see we cover broad level areas but within each of those areas we also have some detail.

So your social characteristics include things such as ancestry, citizenship, disability and education. Demographic characteristics include age, sex, race, Hispanic origin and relationship status. And those are the same questions that are also on the short form of the census. The economic characteristics include income, health insurance, class of worker. And your housing characteristics include home ownership cost, ownership status, the year the home was built and so on.

So between all of this there's over 35 topics that we collect data for. We produce over 1,000 tables every single year and that's what allows us to provide to the public 11 billion estimates of data free of charge for you to work with for whatever you might find it useful for.

Slide 7 – Selected Census Geographic Concepts

All right so now let's talk about the scope of the ACS in terms of geography. You probably wanted to know "Okay, we have all of those topics but what areas can I get that data for?" And this slide here shows you a selection of some of our more popular geographic areas starting with the nation being the largest and going all the way down to the census tracts and block groups. This chart shows the relationship between the different geographic areas.

So any lower level geography that has a direct line to a higher level geography tells you that the lower geography is nested within that higher level one. So if we're looking at school districts for an example, we see that it is connected directly to states so we know that school districts are nested in states. They

don’t ever cross state line boundaries but it doesn’t have any connection to metropolitan, micropolitan areas or counties so it doesn’t necessarily bear any relationship to those other geographic areas.

Another thing we like to kind of point out and emphasize again, being the American Community Survey we put the community in the ACS and you see census tracts towards the bottom here – these are statistical areas. Just to give you an idea of how small and detailed data you can get, census tracts have between 1,200 and 8,000 people and they are nested within counties and even lower than that you have your block groups. So your block groups have between 600 and 3,000 people and are divisions of census tracts.

In total, we have over 930,000 geographic areas that we provide data for which includes over 35,000 communities.

Slide 8 – Availability of ACS Data Products

And to tie it all back in where we started on the first slide, the availability of our data products depends on the population size that lives in the geographic area. So you see currently we have the 1-year and 5-year estimates that we release. Our 1-year estimates are provided for geographies that have people of 65,000 or more living in it and in September we’re going to be releasing the 2015 ACS 1-year estimates.

Those estimates would have included our sample from January of 2015 all the way through December of 2015. And then we have our 5-year estimates as well. So in December we’re going to be releasing the 2011 to 2015 ACS 5-year estimates and those estimates have been based off of the data from that entire five year period of time, so January 2011 through December of 2015. And because we’re using five years’ worth of responses, we’re able to produce that data regardless of the population size and the geography so that

would include your census tracts and block groups and places that have less people in them.

Slide 9 – Outline

So with that I'm going to go ahead and turn it over to my colleague (Mike Arthur) and he's going to demonstrate how to use the census Geodatabase and ArcMap.

(Mike Arthur): Hey, thanks (Tyson). Thanks everyone for joining us today. I know you're taking time out of your busy day.

Slide 10 – Background Information

With the Geodatabases that the Geography Division here at the Census Bureau has produced, we're extremely excited about them. It's made it so much easier for our customers to download census geography and join American Community Survey data from that allows them to make a thematic map real quickly. They can pull it down from our website very easily.

One thing today I want you to notice is that we're using ArcMap – ArcGIS 10.3 – and this is a commercial software so there is a cost with it and the Census Bureau does not provide the software. I just wanted to give you a heads up on that. A workaround if you don't have the software is to contact a local college or university to see if they have a GIS department where you could get access to that software. So I just wanted to tell you that before we got too far into it.

And so I'm going to switch over here to a live demo.

Slide 11 – Cenus.gov

One of the reasons that we created the Geodatabases is that a lot of our customers were getting tired of downloading from American FactFinder table

after table and downloading the Shapefile and taking time to join them together. So this is the reason that we've created these Geodatabases to speed it up.

And so to get to this product here you're going to start at the census.gov homepage. Across the top you'll click on the word geography and then on the dropdown menu you'll click on the button that says maps and data.

Slide 12 – TIGER Products

And then on this far right hand column under geographic products you see geographic data. Click that top link that says TIGER products.

Slide 13 – TIGER/Line with Selected Demographic and Economic Data

And this is where all our census TIGER geography is located. We have our Shapefiles there on that top bullet point. I want you to notice that we do have another TIGER/Line Geodatabase and this would be for the polygons only. It wouldn't include any ACS data. So I know we have multiple options there and to help make it more easy and decide what product you need, I want you to take a look at this little table here. We have some description here to describe what item we're looking at here.

So this third one down – this TIGER/Line with selected demographic and economic data. This is what we're looking for. We want to click on this link here.

Slide 14 – 2010-2014 Detailed Tables

And then on this next page here on this top section we have the American Community Survey 5-year estimates. And then we first released it here going back – the 2012 5-year estimates – but the most current one we released this past February was the 2010-2014 detailed tables.

Slide 16 – Choose Census Geography of Your Choice

So you'll simply click on this green bar to expand it then you can see all of our geography here. So you can see that starts out at a national level, Native American, congressional and today we're going to focus on the block group. The reason we're focusing on the block group is that's the lowest level geography that the American Community Survey produces data at the 5-year estimates and a lot of customers – they want data for their neighborhood.

Well the Census Bureau doesn't have a specific geography that's going to meet every neighborhood in the United States. So the block group is the best thing the Census geography that we can provide so we're going to choose the block group today and the state we're going to choose is Maryland.

There's two reasons we're choosing Maryland today. The headquarters for the Census Bureau is located in Maryland and also it's a smaller state so it can download more easily. So from our dropdown menu we'll just simply click on Maryland and that pops up to unzip the file.

Slide 17 – Zipped Files Once Download is Complete

Now for purposes here I'm not going to download this. I pre-downloaded it to a file to make it more easy for presentation purposes but you see it's a zip file. What I do, I create a file on my desktop to unzip the file so it's nice and easy. I can find it every time. So whatever works best for your process, definitely download it and save it so you know how to get back to it.

Slide 19 – Add Data Button to Upload GDB

So the next step – I've already opened our ArcMap session here and I'm going to scroll over to click on the add data button. I'm going to back up one level here. So this is the folder that I've saved the Geodatabase in. We see the

cylinder icon to represent the Geodatabase and I'm going to double click here on this line.

Slide 20 – Choose Feature Class and Tables

And we can see here – this is our feature class or polygon that which so all the block group boundries for Maryland and we can take a look here of all our Geodatabases that come with this file.

Slide 21 – Feature Class, Age and Sex, & Income

So for today I want you to know that there is a count here for this and a lot of people want to look for the total population for a block group and this counts – it's the actual population that responded to the American Community Survey so it would simply be lower than the actual count that you would see on American FactFinder table that you would download. So our recommendation is to choose the age and sex or race to download it.

So for today we're going to choose age and sex and we're also going to – I'm holding down my shift key – excuse me. I'm holding down my control key to click on income to select these two along with the polygon and clicking that to load it up.

Slide 22 – View in ArcMap

I'm going to jump back here to the Census website. This is where we downloaded the Geodatabase. We clicked on this green bar. And one of the most common questions we have is about the metadata and I just want to let you know that we do have text file down here under documentation for the metadata. We'll come back to that. I just want you to know that the metadata is down below the Geodatabase.

Okay so I'm going to zoom into the Suitland are of Maryland where the Census Bureau headquarters is and in the ArcMap session I'm clicking on the

info button and this is the block group where the Census Bureau is located at. So I'm taking a look at our attribute table here. We see that it's a polygon and it identifies that it's block group one.

Here is the official geo ID. So it's Maryland, Prince George's County, the census tract and then the block group ID. It also gives you the central latitude and longitude for this block group and that's it for now. So we haven't joined any of the tables. There's no American Community Survey data in there.

So the purpose of this is to know when you open up the feature class that there's no data. You have to do a different step to have that data join to it.

Slide 23 – Joining the Table to the Feature Class

I'm going to close this out and I'm going to click on my feature class here and go to join and choose join here. So we've got the join data box open and this first draft on that box – this is where very common mistakes happen so pay attention.

Previously if you had downloaded TIGER/Line Shapefiles and join it to data tables from American FactFinder, you are always used to joining it to the geo ID but this is different for the Geodatabases. You want to go to the very bottom. The geo ID all capital underscore data – this is what you're going to choose. And then for the second dropdown box we have our table here – age and sex. This is what we want to see so we can see the total population for this block group and then geo ID is the correct dropdown for this number three option. We're going to run the validate join here and make sure everything runs okay.

Slide 24 – Validation Check

All green checkmarks. Everything looks good. So when I close out and hit the okay button.

Slide 26 – Attribute Table When Join Successfully Occurs

This time I'm going to open up the attribute table. I need to scroll all the way over to my right here. What I'm looking for – I don't want to see a lot of nulls in here.

So starting – this is the join that we just did and we see that it's populated here so everything's looking – looks like it joined well. Now when you scroll through, you might see some nulls here at the end and so this could potentially be for American Community Survey data that was suppressed – that wasn't available at the block group.

So it's okay if you see some nulls. Here we're seeing some nulls at the end but if everything was null then you know that the join didn't happen correctly but for this we know that the join worked because we can see that it populated.

So in this attribute table the next question is "Well what are we looking at?" It's a unique header there. That B01001E1. Well that doesn't mean anything to me. Well we need the metadata to find out what we're looking at.

So M is a margin of error. So when you're doing a quick look at it, know that for the estimate you want to have that E in there and then for the margin of error would be that M.

Slide 28 – Metadata – Example 2

So there's two ways for the metadata that you can take a look at. We're going back to our census.gov website where we've downloaded the Geodatabase and I'm scrolling down and clicking on block group metadata and it's in a text format here.

So I'm going back here and I'm going to write down what this field name is. Then I'm going to go back to the census.gov and I'm going to do control F on my screen. The bottom left hand corner is where that find box opened up. Type in B01001E1 for the estimate and here's our answer. So we're looking at the total population for that block group. So it's very important to make sure you look at that metadata to make sure you know what field you're looking at otherwise it's easy to get mixed up or grab the wrong number from, you know, grab the margin of error opposed to the estimate. So please double check your metadata when you're looking at the table.

Slide 27 – Metadata – Example 1

If you don't like that option – if you don't like going back between the census website and your ArcMap – you can also add the metadata into your session. We have it right here – block group metadata 2014. I'm going to hit add. It pops up in our table of contents and I'm going to open it up.

So over here in our attribute table if you notice at the bottom there's two tabs. We've had what we joined to our feature class then we have this metadata. So again I can do the find and then it's found it here.

So there's two ways. Whatever works best for you – I just want to make sure you have that metadata so you know what you're looking at when you join the data to the table.

Another option is you can add a table from American FactFinder. If we don't have the table that you're looking for in American Community Survey, you can join it. You would use the traditional geo ID – I'm going back here to our main attribute – to join it. But for the purpose of today we're sticking specifically with the tables that are in the Geodatabase.

Again I'm going to do – click on my identify button, pull up this block group here. You can see that it's populated. This may be a more easy view – whatever you prefer. You can see that table has populated here.

Slide 29 – Common Mistakes

Again the two most common mistakes that occur when people are downloading and joining our Geodatabases is this join. Make sure you choose the geo ID – excuse me – geo ID underscore data opposed to the geo ID. The Geodatabase was specifically designed this way to join the table and now there's the metadata. So again you can add the table to your Arc session or you can go to the Census Bureau website and take a look at that. With that, I'm going to turn it back over to (Tyson) here to close it out.

Slide 30 – Outline

(Tyson Weister): Thank you for the demo (Mike). All right, we'll talk just about a few ways that you can stay in touch with us and then if you want to stay on the line, we'll be happy to answer your questions that you have today.

Slide 31 – Source Us!

If you are working with American Community Survey data especially if you're making maps, we'd love to hear how you're using it and the best way to hear about that is to give us a citation. It's very easy to do.

Just specify U.S. Census Bureau, the year or year range you're working with, American Community Survey. Tell us if you're working with the one, three or five year estimates, statistics or data release and here on the screen are some examples of colleagues correctly doing those citations and we're able to find them.

Slide 32 – Continue the Conversation #CensusGeo #ACSdata

We also encourage you to connect with us through social media using hash tag census geo and hash tag ACS data. We're on social media, on Facebook, Twitter, YouTube, Instagram and Pinterest and in the upper left hand corner is a link if you want to sign up for alerts. You can stay up to date on upcoming webinars, data releases or important news for both ACS and geography.

You can visit our websites online at census.gov/geography.html as well as census.gov/acs. We also have dedicated phone support to answer your questions whether they're general Census Bureau related questions or specific to geography or the American Community Survey. And corresponding with that we have email addresses there listed for geography and for ACS data user support.

Slide 33 – American Community Survey Data Users Group

A couple of other resources that you may want to take advantage of. The first one is the American Community Survey Data Users Group. So this is an online community that's fully free and it's open to all interested ACS data users so it's a good place to connect with other people just like yourselves and share your experience working with the data or any challenges that you've had. Maybe similar people have had those same challenges and have some good insight of how to overcome that in their analysis.

And if you want to sign up, it's acsdatausers.org. We currently have over 1,500 members and they are subgroups within the general data users group that you may be interested in. One is mapping ACS data and GIS applications which is really relevant to the audience here on this webinar. We also have a subgroup for ACS data for small geographic areas and population subgroups. So we encourage you to take advantage of that.

Slide 34 – Need Local Stats?

Another resource that we have available is our data dissemination specialists. So if you're interested in a local workshop maybe at your organization or somewhere, we have data dissemination specialists throughout the country who are able to do that. If you want to request something like that, just email clmso.ddb.questions@census.gov and like I said, they're everywhere – Atlanta, Chicago, Albuquerque, New York, Los Angeles. You name it, they're probably nearby so don't hesitate to reach out with that request.

Slide 35 – Questions

So at this time we're going to go ahead and I'm going to turn it back over to the moderator who's going to open it up for questions. We also will have an evaluation displayed on screen here for you in just a second. We encourage you to take advantage of the opportunity to fill out that evaluation. We look for ways to better improve webinars going forward so we'd really appreciate that.

Coordinator: And at this time if you wish to ask a question, please insure your phone is unmuted, press star followed by the number 1 and record your name clearly when prompted. A name recording is required so your question may be introduced. Once again to ask a question, please press star followed by the number 1 at this time. One moment please for questions to queue up.

We have a number of questions coming into queue. Please standby for our first question. Our first question from the phone lines will come from (Dan Hunting). (Dan) your line is open.

(Dan Hunting): Hi. I have a question about doing the join between the actual Shapefile and the Geodatabase data file. I'm not seeing a matching geo ID number between the two files. That geo ID underscore data is not showing up. What's going on there?

(Mike Arthur): Okay and did you download the Maryland file as well?

(Dan Hunting): Yes, I tried that and then I tried the Arizona file where I'm located and the Shapefile's got, you know, the regular 12 digit or whatever it is block group identifier and then the data file has got a much longer string attached to it.

(Mike Arthur): Okay.

(Dan Hunting): And neither of those has a geo ID underscore data.

(Mike Arthur): All right, bear with us one moment here. I'm using the Maryland example here.

(Dan Hunting): Okay, yes I'm watching you.

(Mike Arthur): Okay so joins early – doing joins. In the first draft down you weren't seeing this geo ID underscore data.

(Dan Hunting): No, that's not there.

(Mike Arthur): Okay and from the Census website you did it from that dropdown – you did Arizona.

(Dan Hunting): Yes.

(Mike Arthur): Let's see if I can download it here real quick. So I'm removing Maryland and I'm going back up here to pull in Arizona. And you added the feature class there to your session? Okay.

Okay and the geo underscore data…

(Dan Hunting): Oh, okay. I think I see what I might have done here. Hold on because I didn't get that – I didn't grab that first – that first thing under in the Geodatabase – the 2014 – that one.

(Mike Arthur): Oh, okay.

(Dan Hunting): Is that a critical part of this? Is that what I'm missing?

(Mike Arthur): Right, yes. So this is the polygon or the boundaries of the block group so it's important to pull that one to the table that you want to go from there so yes, that is an important one.

(Dan Hunting): Okay, I got my mistake then. I think I can probably figure it out then.

(Mike Arthur): Okay, perfect.

Coordinator: Our next question will come from (Ryan). (Ryan) your line is open.

(Ryan): Thank you. I have a question about the metadata. Is there a way to join to all of the field names a label or a tag that contains a more detailed description of what each field is instead of just an E for estimates and an M for margin of error – perhaps something that says the gender and the age range of the estimate as well? Is there a way to join that to the feature class from the tables? And I'll hang up and listen.

(Mike Arthur): Sure. Thanks (Ryan) for the question. Not that I'm aware of. That would be an easy fix. So what I'm doing here – going to that total population here in

Arizona and I'm doing properties and – let's see – nope. I'll add that session here. Here we are. Okay.

So under the field properties – the alias here – I think you can type in total pop for this field. Hit okay and it'll change the field name. So that would be extremely tedious if you had to do all of them. I acknowledge that. Or if you didn't want the margin of error, you can remove this as well. I'm not seeing that but there should be a way that you could delete that column as well.

So other than doing the – (Ryan) doing the manual way there to rename it – I don't have a better suggestion for you at this time.

Coordinator: Our next question will be coming from (Linda). (Linda) your line is now open.

(Linda): My comment – my question is similar to (Ryan)'s. I'm wondering if there is a way to edit field names in a Geodatabase once you have the Geodatabase data in your, you know, downloaded. Is there a way to edit – go in and edit the field names so that you've got a permanent record of what each field is?

And the other thing I wanted to point out is that many university libraries also have GIS data or GIS software in the library and sometimes they even have a librarian like me who is somewhat familiar with GIS that can even help people. So that's my only two comments and I'll put it on hands free again.

(Mike Arthur): Hey, thanks (Linda) for promoting that. We really appreciate that. All of our customers are always looking for a place to go and we really appreciate you to give that information to give people an idea of where to go on that.

For the – to permanently change the field name – if there is a way – unfortunately I'm not familiar with it other than going into the attribute table and then just physically changing the field name. Thanks (Linda) for the question.

Coordinator: Our next question will be coming from (Rachel). (Rachel) your line is now open.

(Rachel): Hi, this is (Rachel). That was a great presentation. My question was about the block group centroid. Is that a population centroid or a geographic centroid?

(Mike Arthur): It is a geographic centroid and we do have a population. I'm drawing a blank. I'll see if I can find it here real quick what we go down to the – maybe the – we do have population centroids on here. But yes, specifically with the Geodatabase it is – geographic centroid is not population based. Somewhere on our website we do have centroids and I believe it goes down to the block level on those population centroids.

(Rachel): It would be nice to know where to find a population centroid.

(Mike Arthur): Okay.

(Rachel): So maybe you can send that link or maybe I can find it myself.

(Mike Arthur): Yes. One moment. Yes, thank you for the question. Unfortunately I don't know exactly where those are. We will follow up with a link to everyone that participated today with that link so you can use it. So I apologize. I don't have that for you right now.

(Rachel): No problem. Thanks.

Coordinator: Our next question will be coming from (Greg). (Greg) your line is now open.

(Greg): Hi, this is (Greg). I was just wondering if you're going to email us the PowerPoint presentation.

(Tyson Weister): So the PowerPoint presentation – This is Tyson- will get on the American Community Survey website within the next week or so. So if you go to census.gov/acs and then under our guidance for data users we have a section for training presentations and you can see some of our recent webinars that we did on margins of error, public use micro data samples. On the top here in the next week or so you will see the PowerPoint presentation, this recording as well as the transcript.

(Greg): Thank you.

(Tyson Weister): You're welcome.

Coordinator: The next question that we have online will come from (John Nicholson). (John) your line is open.

(John Nicholson): Hi. Just a quick question in terms of whether or not you have any idea if the 10.3 derived Geodatabases can be read by 10.2 in a backward compatible way.

(Mike Arthur): I don't know the technical aspect on that. I believe that you should be able to view them without any issues on that but unfortunately I don't know all the nuts and bolts behind that.

(John Nicholson): Okay, thanks.

Coordinator: Our next question will come from (Razi). (Razi) your line is open.

(Razi): Thank you. My question – you didn't mention this. I'm hoping if you can cover it or not. Symbology – when you're trying to symbolize visually the estimates and the margin of error – I was just wondering if you had any particular techniques that you utilize to display both visually on a map and/or legend. If not, I understand the – because you didn't really get into that in the presentation but I was just hoping if you had any suggestions or recommendations.

(Mike Arthur): Yes, unfortunately I don't have any good suggestions for that. The cartographic products branch here at the – in the Geography Division here at the Census Bureau – they do a great job of doing that and unfortunately I don't have the background on that to give you a good answer regarding that.

(Tyson Weister): And this is (Tyson). That also may be a good question for you to pose to the online community – acsdatausers.org – because I'm sure other people have had that same question before and you can bounce your idea with them and see how others are handling that.

(Razi): Thank you.

Coordinator: And just as a brief reminder, to ask a question please press star followed by 1. Our next question will come from (Jason). Your line is open.

(Jason): Hi, I was just curious. How is the total population calculated with ACS versus with the hard points I guess that you have with the ten year census? Is it extrapolated out from the sampling using some kind of algorithm or how accurate is it because some of these margins of error seem pretty high?

(Tyson Weister): So for the American Community Survey the Population Estimates Program is the source that most of the population data comes from and there is more information on their website.

Go to population estimates here on census.gov and Pop estimates. They provide the official counts of the population between the decennial census years. So if you have more time to kind of look through the specifics, this is where you can dig deeper into that.

(Jason): Okay thanks. And do you guys have REST services available yet?

(Tyson Weister): What kind of services?

(Jason): REST – R-E-S-T – so that if you wanted to pull in census data using like a web map, you could just – you could link to kind of a live feed so to speak instead of downloading the full data set.

(Mike Arthur): I know we do have some on the Census Bureau website. Unfortunately I'm not overly knowledgeable on that. Just doing a simple search there on our census website should take you to that page.

(Jason): Okay, thank you.

Coordinator: And I'm showing that at this time there are no further questions.

(Tyson Weister): All right well thank you all very much. One other thing we wanted to point out is we do have an upcoming webinar on Population Estimates so stay tuned for that and thank you all for joining today.

Coordinator: And with that we'll conclude today's conference. Again thank you for participating and you may disconnect your lines at this time.

END