



# GeoLytics®

## American Community Survey (ACS)® User Guide

|  |           |
|--|-----------|
| <b>Installation</b>                                    | <b>2</b>  |
| <b>Introduction: What is American Community Survey</b> | <b>3</b>  |
| <b>Using the Interface</b>                             | <b>5</b>  |
| <b>1. Summary Data</b>                                 | <b>6</b>  |
| <b>2. Geographies</b>                                  | <b>6</b>  |
| <b>3. Areas</b>  | <b>7</b>  |
| <b>3A. Selecting Zip Codes</b>                         | <b>7</b>  |
| <b>4. Counts</b>                                       | <b>8</b>  |
| <b>4A. Figuring Out Which Variables You Selected</b>   | <b>9</b>  |
| <b>4B. Finding a Specific Variable – using Search</b>  | <b>9</b>  |
| <b>5. Report Type</b>                                  | <b>10</b> |
| <b>6. Saving and Naming Your File</b>                  | <b>10</b> |
| <b>Margin of Error</b>                                 | <b>11</b> |
| <b>Using the Map Viewer</b>                            | <b>13</b> |
| <b>Frequently Asked Questions</b>                      | <b>14</b> |
| <b>Help</b>  | <b>15</b> |
| <b>Contacting GeoLytics, Inc.</b>                      | <b>15</b> |

Your serial number is printed on your invoice. It is **very important** that your serial number be **entered exactly** as shown. Please note: **it is case sensitive**.

# Installation

USB needs to be in the port to install.

1. Insert the **USB Drive** into your USB port.
2. Click the **Start** button on the taskbar and choose **Run** from the Start menu.
3. Type **D:/setup.exe** (assuming D is the letter of your CD-ROM drive).

**OR**

2. Click on the “My Computer” Icon, choose the USB port
3. Click on the “Set Up” Icon
4. Click **OK**.
5. Follow the instructions on the screen. When prompted, enter you Name, your Organization, and your Serial Number. *Type the serial number without spaces. The serial number is case sensitive so please pay special attention to this.*
6. After the installation is complete, you can start ACS at any time by double clicking the ACS icon or by choosing Programs on the Start menu and selecting your ACS.

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You must agree to the End User License Agreement (EULA) for GeoLytics, Inc. American Community Survey during Setup or the product will not be installed and you will have no right to use the product or resulting data. A copy of this EULA can be found under the Help menu item. You can view a copy of the EULA in advance, before purchasing or opening any GeoLytics product by downloading a standard version from the GeoLytics website at: [www.geolytics.com/downloads/pdf/eula\\_geolytics\\_single\\_user.pdf](http://www.geolytics.com/downloads/pdf/eula_geolytics_single_user.pdf)

## **Introduction: What is the American Community Survey?**

The American Community Survey (ACS) replaces the Long Form (SF3) – in that it gives us a glimpse into the lives of Americans: their income, educational attainment, employment, housing value, etc. These variables are not available on the Summary File 1 (SF1) or Redistricting data sets. The US Census Bureau decided that it will no longer conduct the Long Form questionnaire as part of the census done every 10 years. But officially the ACS is not part of the official Census 2010, it is its own survey.

The ACS is comprised of 2 different data files:

- ACS 1-Year Estimates
- ACS 5-Year Estimates

The 1-year estimates have data just from the surveys that were taken in the final year and are available for geographic areas with populations of 65,000 or more.

Using the ACS 5-year estimates you can analyze small areas (with a population that is less than 65,000) such as Block Groups, Tracts and Zip Codes. The problem is that it took 5 years of surveying 2 million people a year to accumulate a large enough sample to provide estimates with accuracy similar to the decennial census. This data file includes data collected starting in January, four years before completion and running for 5 years through December of the final year (ie. 2011-2015 for the 2015 ACS 5-year estimate). The data does not show information for individual years but rather only a single number for the average of the area for the 5 years.

In previous years the ACS has also included a 3-year estimate for geographic areas with populations of 20,000 or more. But the US Census Bureau decided to drop that dataset after 2013, thus it is no longer included.

## **Why are there different variables in the 1-year and 5-year estimates?**

Every year the US Census Bureau has looked at the questions that it is asking as part of the ACS survey and added some new ones – thus the 1 year data set will have data that was added in this last year. It will also include any new question that was added in the past 4 years that is not yet 5 years old so is not yet included in the 5-year estimates. The questions have to have been on the survey for the entire 5 year period to be included in this data set.

## When to use 1-year or 5-year estimates

Choosing which 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.

For details, research implications, and examples, see "Understanding and Using ACS Single-Year and Multiyear Estimates," page 9 in General Data Users Handbook (on the disk under **Documentation**)

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

| 1-year estimates   | 5-year estimates  |
|--|---|
| 12 months of collected data  | 60 months of collected data   |
| Data for areas with populations of 65,000+                                 | Data for all areas  |
| Smallest sample size   | Largest sample size   |
| Less reliable  | More reliable   |
| Most current data  | Least current   |
| Best used when   | Best used when  |
| Currency is more important than precision                                  | Precision is more important than currency   |
| Analyzing large populations  | Analyzing very small populations  |
| Analyzing State or National numbers, looking for how the state is trending | Examining Block Groups, Tracts, Zips and other smaller geographies because 1-year estimates are not available |

## General Guidance for comparing ACS multi-year estimates

- If you want to compare estimates for different areas, use the same ACS data file – you should not compare a 1-year estimate for one area to a 5-year estimate for another area.
- The Census Bureau discourages direct comparisons between estimates for overlapping periods. Instead, compare non-overlapping estimates. Thus you should not compare the 2008-2012 ACS estimates to the 2009-2013 ACS estimates. It is better to compare 2008-2010 ACS to the 2011-2013 ACS estimate.
- The power of the ACS is in estimating demographic distributions. So users are encouraged to analyze derived measures such as **percents, means, medians, and rates** rather than estimates of population totals.

For more information in comparing ACS estimates to Census 2000 data the US Census Bureau suggests that you read through the Handbooks that the Census Bureau publishes – they are found on the Census website at:

Series of Handbooks put out by USCB

[http://www.census.gov/acs/www/guidance\\_for\\_data\\_users/handbooks/](http://www.census.gov/acs/www/guidance_for_data_users/handbooks/)

Handbook for General Data Users

<http://www.census.gov/acs/www/Downloads/handbooks/ACSGeneralHandbook.pdf>

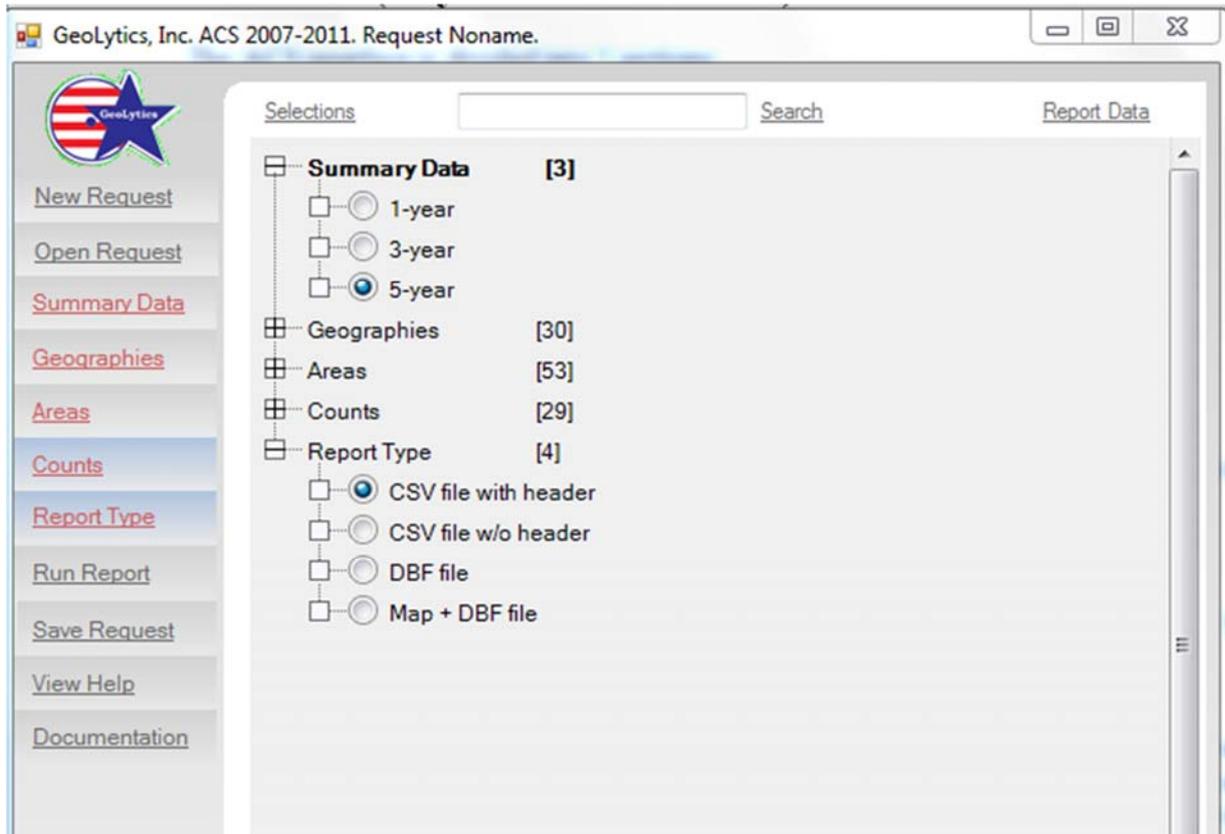
Here is an easy example – the counties in Connecticut are all over 65,000 so they are enumerated for each of the 3 data sets. You can see that there are some serious differences in the county level numbers – so you CAN NOT mix these data sets.

| <b>Counties in CT</b> | <b>1 year ACS<br/>2009</b> | <b>3 year ACS<br/>2007-2009</b> | <b>5 year ACS<br/>2005-2009</b> |
|-----------------------|----------------------------|---------------------------------|---------------------------------|
| Fairfield             | 901,208                    | 894,892                         | 892,843                         |
| Hartford              | 879,835                    | 876,754                         | 874,409                         |
| Litchfield            | 188,728                    | 188,613                         | 188,411                         |
| Middlesex             | 165,702                    | 164,889                         | 164,004                         |
| New Haven             | 848,006                    | 845,733                         | 843,532                         |
| New London            | 266,830                    | 265,714                         | 266,183                         |
| Tolland               | 150,461                    | 149,527                         | 148,526                         |
| Windham               | 117,518                    | 117,163                         | 116,579                         |

## Interface (Layout of the Screen)

The ACS interface is divided into 5 sections (highlighted in Red):

1. Summary Data
2. Geographies
3. Areas
4. Counts
5. Report Type  
There is a 6<sup>th</sup> component found on the sidebar
6. Saving, Naming and Reopening Your Request



You can select or change any of these either from the underlined words on the sidebar or by using the tree in the center of the page

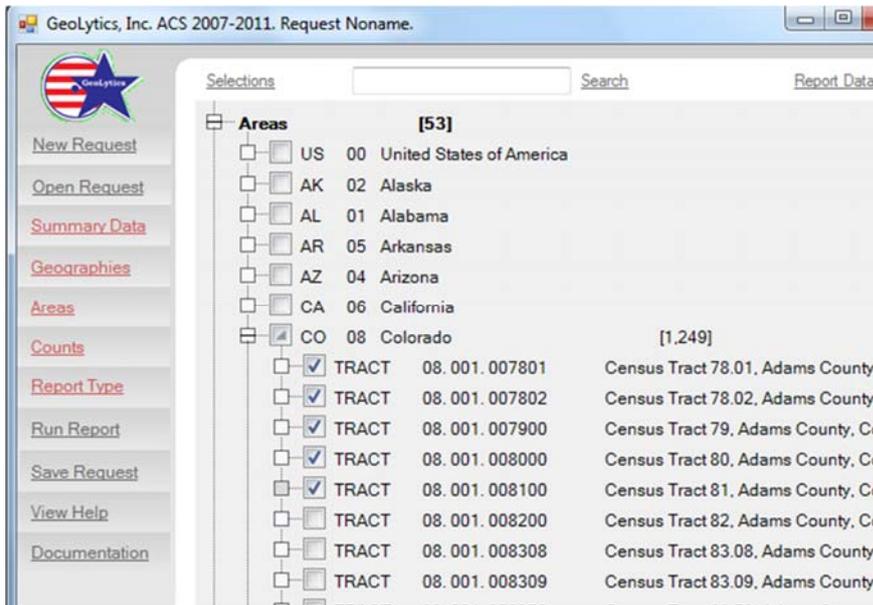
## 1. Summary Data

Here you will select which of the datasets you want to use (1-year or 5-year or 3-year if you are using an older ACS).

## 2. Geographies

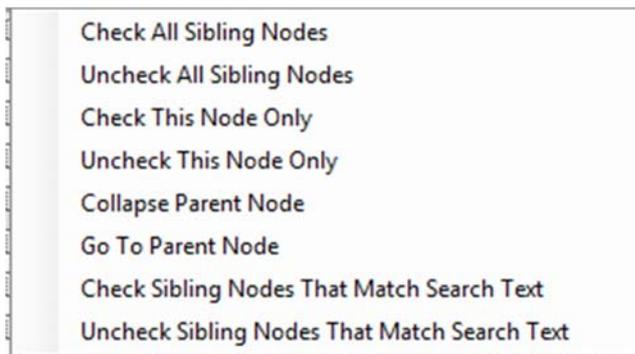
The Geography is what used to be known as the “Subarea” in our previous products. This is the Geography at which you would like to see the data expressed. For example if you want the Block Groups in California then Block Groups is your Geography. (incidentally the Area would then be State and you would select just CA).

### 3. Areas



The Area is the entire area you want covered – it could be the US, 5 states, 12 counties across 2 states, etc. To make a selection click on the node for Area and that part of the tree will open. So for example here we have the Geography as Tract and then the Area we have selected CO and then by clicking on the node we can open up

CO and make selections or just click on CO and get all of the tracts in Colorado.



If you right-click on one of the tracks a box will pop up

This will allow you to easily select or un-select all of the subnodes (tracts) in this case.

#### 3A. Selecting Zip Codes

The US Census Bureau did not initially include Zip Code Tabulation Areas for the ACS data file. When in 2011 they did include them they did not associate them with a state. So you need to run all zip codes in the US or you can select individual zip codes.

If you want ALL US zip codes:

Then for Area the default setting is “US”. Which means you will get all of the zip codes in the entire country. If that’s what you want, then you are done.

If you want individual zip codes:

Under Area, select the square to the LEFT of the US, wait a second and all of the zip codes will appear listed below it in STATE ABBREVIATION alphabetical order and then in numeric order within the state. So for first listings are AL (Alabama) then AK (Alaska) all the way through WI (Wisconsin) and WY (Wyoming). Unclick the US (otherwise all zip codes will be selected). Find the ones you want, click on them and proceed. If you want to select all of a state click on the first zip code in the state listing then scroll to the bottom of the state listing and click SHIFT and the last zip code and all of the ones between will be selected as well.

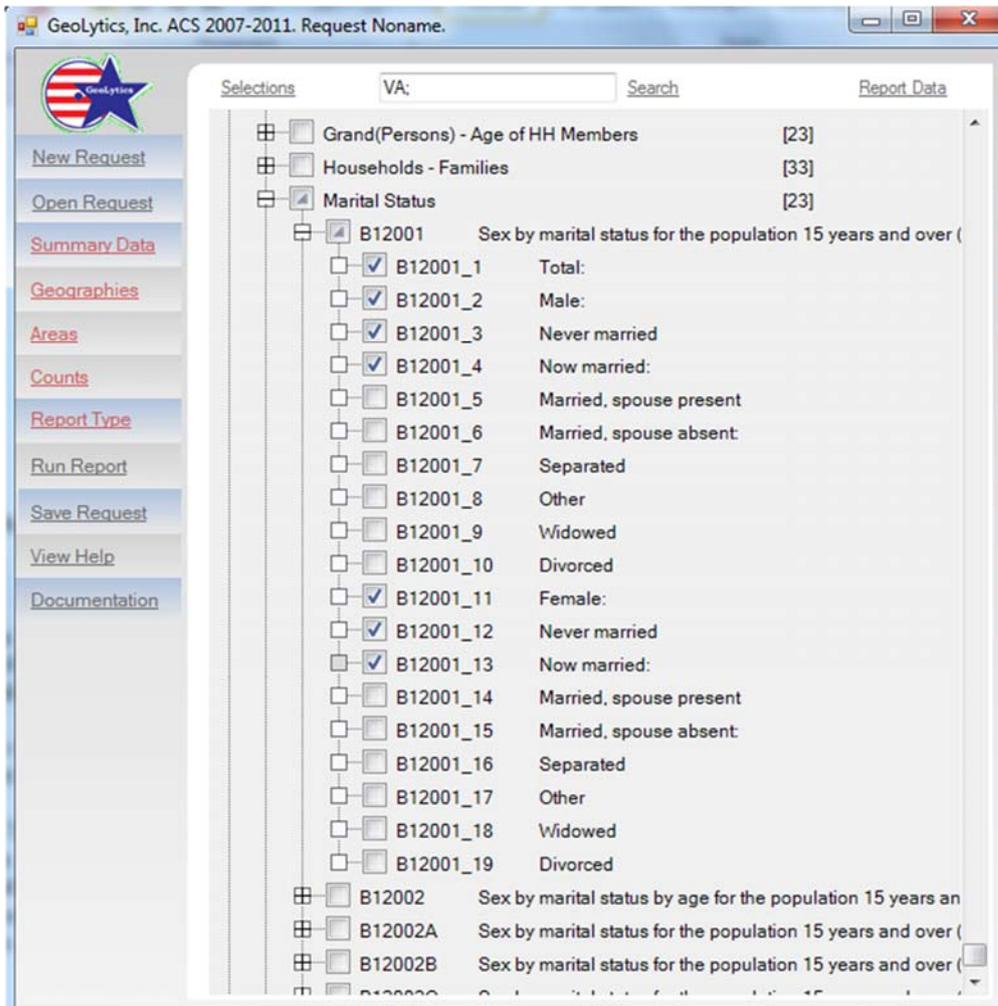
## 4. Counts

There are 31 Groups of counts:

|                                 |   |
|---------------------------------|---|
| Geography Fields                | Unweighted Count  |
| Age-Sex                         | Race  |
| Hispanic Origin                 | Ancestry  |
| Foreign Birth                   | Place of Birth – Native                                       |
| Residence Last Year – Migration | Journey to Work   |
| Children – Relationship         | Grand(Persons) – Age of HH Members                            |
| Households – Families           | Marital Status  |
| Fertility                       | School Enrollment   |
| Educational Attainment          | Language  |
| Poverty                         | Disability  |
| Income                          | Earnings  |
| Veteran Status                  | Transfer Programs   |
| Employment Status               | Industry-Occupation-Class of Worker                           |
| Housing                         | Group Quarters  |
| Health Insurance                | Quality Measures  |
| Imputations                     | 1-year Estimate also includes:<br>Computer and Internet Usage |

Then for each of these groups you can click on the “+” in the node and it will open and show you the tables that are in each of the groups, by clicking on their node you can see all of the variables within the tables.

You can select an entire Group, or open it and select whole Tables, or click on them and select only given variables within the tables.



The Tables all have a Census Code attached to them. For example the Group is Marital Status. Then the Table is B12001 Sex by Marital status for the population 15 years and over. Then there are 19 variables B12001\_1 through B12001\_19 which are Total through Females: Divorced. So you can see that you could easily pick some variables from this Group or Table and then some from other Groups or Tables.

#### 4A. Figuring Out Which Variables You Selected

When you run a report you will automatically generate a .doc file with the same name, written to the same directory on your computer. In the .doc file there will be a list of each variable you selected, its code and then its name in English. The easiest way to label your report is to open this .doc file in Excel and then transpose it and use it for the header in your database file.

#### 4B. Finding A Particular Variable – Using “Search”

The Search function is at the top of the screen – you enter the item you want to look for into the box and then hit “search”. You can search either for a subject or for a Census variable code. For example you can search for B08524\_48 and it will bring you to the right variable

in the Counts tree. Or you can search for “armed forces” and it will bring you to the first variable with that name. If you hit “search” again it will take you to the second listing, then the third and so on.

## 5. Report Type

From “Run Type ”, you can select

- **CSV file with header or w/o header** – this is an ASCII files (.csv are comma separated files) and are available with or without headers. Files with a .csv extension can be imported into statistical or spreadsheet packages, including Excel.
- **DBF** – a dBase-compatible data file with a .dbf extension that easily imports into statistical and spreadsheet packages, including Excel.
- **Map + DBF file** – this produces a map that you can see and manipulate with our map viewer. Additionally, the polygons can be exported as a shape file and will have an accompanying .dbf file with the data. You can import these files into ArcView, MapInfo, and other mapping software. When the map has run you will have an image like the one below.

## 6. Saving and Naming Your File

The interface creates request files to describe to the report engine what kind of a report should be generated. A request file stores all the information about the report format, geography to be used, areas to be covered, and counts to be included. If you do not change it, the default name is Noname.req. Before the report is generated, the current request is automatically saved to a hard disk directory reserved for this purpose. If you use the default request Noname.req, its previous content is overwritten.

### New Request

This will automatically clear any selections that you have made so that you can start a fresh, new request.

### Open Request

This will open a content box with a list of all of your existing requests so that you can open an existing request to run again or change.

Your request so far: ✕

ASC Summary file:

Geography type:

Report type:

Report name:

Areas (1491):  Include Error Data

| Id    | Description         |
|-------|---------------------|
| ZCTA5 | 07001NJ; AVENEL     |
| ZCTA5 | 07002NJ; BAYONNE    |
| ZCTA5 | 07003NJ; BLOOMFIELD |
| ZCTA5 | 07004NJ; FAIRFIELD  |
| ZCTA5 | 07005NJ; BOONTON    |
| ZCTA5 | 07006NJ; CALDWELL   |

Counts (7):

| Name      | Description   |
|-----------|---------------|
| B12001_1  | Total:        |
| B12001_2  | Male:         |
| B12001_3  | Never married |
| B12001_4  | Now married:  |
| B12001_11 | Female:       |
| B12001_12 | Never married |
| B12001_13 | Now married:  |

### What is in my Request (my selections)

At the top of the screen it says Selections, Search and Report Data. If you click on Report Data you will see a window with a synopsis of your request. If you move the box it will stay open otherwise it will close when you hover away, or when you click the “X” in the corner.

For example this report to the left is for 5-year data set at the County level I want it for the state of CA. It should be run as a CSV with header and it is still names Noname. I have selected variables from Table B03001 that have to do with Hispanic Origin.

### Save Request

This opens a content box that will allow you to type in the name of the new request at the bottom in the box that says “File Name”

When you run a report it automatically saves the report to your hard drive under the name that the Request was given **you do NOT need to save the report that is generated on your screen – it is already saved.**

### Margin of Error

The Census Bureau has included a margin of error for each variable at each geography as a +/- and then the count. If you want to include these you simply check off the “Include Error Data” box in the “Report Data” box (directly above).

### Include Area Name

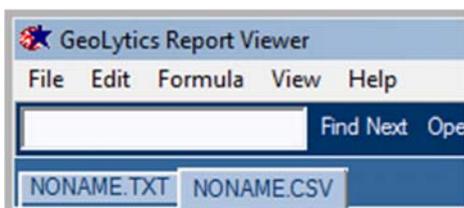
If you want to include the Area Name under the first Table in the Counts select Geography Fields and from there select “Name”. Otherwise you will just get the Census FIPS code.

## Example of a Report Viewer

| ZCTAS | B12001_1 | B12001_2 | B12001_3 | B12001_4 | B12001_11 | B12001_12 | B12001_13 |
|-------|----------|----------|----------|----------|-----------|-----------|-----------|
| 07001 | 14077    | 7919     | 3750     | 3361     | 6158      | 1787      | 3107      |
| 07002 | 51655    | 24395    | 9871     | 11589    | 27260     | 9217      | 11580     |
| 07003 | 39159    | 18287    | 7480     | 9059     | 20872     | 7519      | 9449      |
| 07004 | 5979     | 2828     | 723      | 1797     | 3151      | 607       | 1826      |
| 07005 | 12755    | 6082     | 1927     | 3655     | 6673      | 1806      | 3636      |
| 07006 | 20155    | 9007     | 2581     | 5702     | 11148     | 2924      | 5637      |
| 07008 | 17944    | 8432     | 2703     | 4671     | 9512      | 2927      | 4644      |
| 07009 | 10352    | 4691     | 1404     | 2894     | 5661      | 1229      | 2999      |
| 07010 | 20289    | 9920     | 3546     | 5298     | 10369     | 2865      | 5115      |
| 07011 | 31359    | 15761    | 6486     | 7678     | 15598     | 5286      | 7447      |
| 07012 | 10755    | 5208     | 1796     | 3033     | 5547      | 1564      | 2909      |
| 07013 | 21438    | 10373    | 3474     | 5677     | 11065     | 2740      | 5854      |
| 07014 | 3722     | 1558     | 405      | 1014     | 2164      | 816       | 977       |
| 07016 | 17944    | 8251     | 2260     | 5251     | 9693      | 2495      | 5271      |
| 07017 | 28279    | 12285    | 6262     | 4351     | 15994     | 7616      | 4706      |
| 07018 | 23448    | 9765     | 4749     | 3504     | 13683     | 7114      | 3699      |
| 07020 | 9359     | 4338     | 1427     | 2513     | 5021      | 1377      | 2651      |
| 07021 | 1515     | 772      | 190      | 512      | 743       | 121       | 509       |
| 07022 | 11589    | 5905     | 2752     | 2712     | 5684      | 2003      | 2519      |
| 07023 | 5410     | 2627     | 619      | 1739     | 2783      | 621       | 1684      |
| 07024 | 30561    | 14308    | 4685     | 8099     | 16253     | 3965      | 8312      |
| 07026 | 25076    | 11816    | 4658     | 6042     | 13260     | 4369      | 5932      |
| 07027 | 3544     | 1691     | 622      | 948      | 1853      | 617       | 915       |
| 07028 | 5682     | 2651     | 725      | 1731     | 3031      | 726       | 1808      |
| 07029 | 13249    | 6768     | 2965     | 3287     | 6481      | 2370      | 3287      |
| 07030 | 42921    | 20950    | 12106    | 7723     | 21971     | 11850     | 7724      |
| 07031 | 13199    | 6416     | 2278     | 3617     | 6783      | 1711      | 3594      |
| 07032 | 33024    | 16629    | 6531     | 8521     | 16395     | 5028      | 8626      |
| 07033 | 6540     | 3251     | 1111     | 1636     | 3289      | 905       | 1748      |

**\*\*The Report Viewer shows you the Data that you have selected – it is already written to your hard drive so to manipulate the data go to your hard drive and use the saved file there – this is just a viewer.**

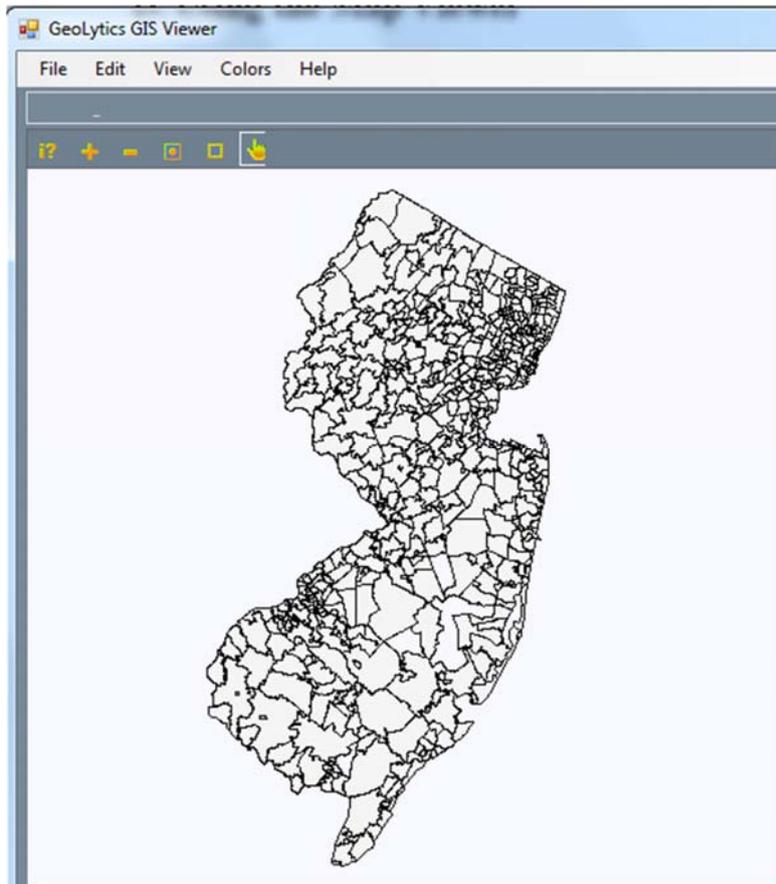
If you want to know what variables were selected while looking at the Report Viewer – use the toggle at the top of the page to select the .txt file instead of the .csv or .dbf



## D. Using the Map Viewer

When you create a map, you can use the map viewer to view and change data themes, ranges, and color schemes. The map viewer allows you to print your map as well as export boundaries and data in desktop mapping formats (ArcGIS or MapInfo).

Use the selections at the top of the page, above the map: File, Edit, View, Colors, Help



**To print**, under File select Print

**To save as Bitmap**, under File select save as Bitmap

**To export** ArcGIS / ArcView shape files go to “File” at the top left-hand of the menu and select “Save As”, it will automatically give the new file the extension \*.geo (which is a shapefile). Simply name the file, it will run and the shape file will be located in the subdirectory where you installed the ACS product, along with the associated dbf file.

**To change the colors**, under Colors select Green, Blue, Grey or Spectrum

**To change the number of Ranges**, under Color select Algorithm then either Equal Ranges or Equal Area Counts

**To learn the name of a given location**, put your cursor over it and in the bottom box it will tell you the name.

**To find out the data for a given area**, on the map click on the area and on the side bar switch from the tab AREA to the tab DATA, then the demographics for the variables you selected will appear for that location in the side box.

**Stats Tab** – will show you a bar chart as well as the Minimum, Maximum, Mean and Standard Deviation, for whichever variable you have highlighted.

Creating a map automatically generates a dBase file, which can be exported to use with other software including statistical (SAS, SPASS), database (Access, Oracle), and spreadsheet (Excel, 1-2-3). A specific help section for the map viewer is available from the main help contents and in the map viewer itself.

**Change the scale of the map**, use the + and - icons at the top to make the map zoom in or out.

## Frequently Asked Questions

### **How do I save a report that I just ran?**

When you run a report it is automatically saved to your computer. When you save your request you name the file and set the path. If you don't save your request, it is given the default name of "Noname" and it's path defaults to the directory and subdirectory where you installed your product.

### **How do I find a report that I just ran?**

When you save your request you name the file and set the path. If you don't save your request, it is given the default name of "noname" and it's path defaults to the path that you installed the program under. The list of default path names is at the end of this section. Additionally, the path name is recorded in the blue bar along the top of your screen.

### **How do I select a gray scale for my map?**

When you are looking at a map on the screen and you want to change it to a gray scale, simply go to "Colors" (one of the choices along the top bar) and using the drop down menu select gray scale. To have the image revert back to multi-color, go to View and un-select gray scale.

**How come all of the variables are blank for this table?**

Some tables are not enumerated at smaller geographies – so if something is all blank then try shifting up a level and see if it is then enumerated (this is particularly true at the Block Group level and you may need to switch to the Tract level instead).

## Help

The Help section will have the same information that is listed in this Users Guide as well as the License Agreement and a few other features. It will also give you a link to our website ([www.geolytics.com](http://www.geolytics.com)) if your computer is hooked up to the Internet.

Also we have included a pdf of the complete Guide from the US Census Bureau to understanding the ACS – if you need to know more specifics, consult this document. It is found under **DOCUMENTATION**.

## Contacting GeoLytics, Inc.

|                      |  |
|----------------------|--|
| <b>Tech Support:</b> | <b><a href="mailto:support@GeoLytics.com">support@GeoLytics.com</a></b>      |
| <b>Phone:</b>        | <b>908-707-1505</b>  |
| <b>Fax:</b>          | <b>908-707-1595</b>  |
| <b>Web Site:</b>     | <b><a href="http://www.Geolytics.com">http://www.Geolytics.com</a></b>       |
| <b>Mail:</b>         | <b>GeoLytics, Inc.<br/>3322 Route 22, Suite 806<br/>Branchburg, NJ 08876</b> |