



GeoLytics®

in association with the Urban Institute

CensusCD® Neighborhood Change

Database (NCDB) 1970-2000

US Census Tract Data

User Guide

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GeoLytics® and The Urban Institute gratefully acknowledge the support of The Rockefeller Foundation, in the development and financing of CensusCD Neighborhood Change Database (NCDB) 1970-2000 Tract Data. The source of the 1970-1990 data was from the Urban Institute's Under Class Data Base. The data were weighted and converted to 2000 tracts by GeoLytics, who also created the 1970-2000 tract boundaries.

A. Overview

Neighborhood Change Database (NCDB)

The enclosed CD contains the *CensusCD Neighborhood Change Database (NCDB) – 1970-2000 Tract Data*, developed by GeoLytics and The Urban Institute. Partially funded by The Rockefeller Foundation, the Neighborhood Change Database contains nationwide tract-level data from the 1970, 1980, 1990 and 2000 decennial censuses, combined into one easy-to-use product. It is the best source of census data with variables and tract boundaries that are consistently defined across census years. It should prove an invaluable resource for policy makers, community organizations, and researchers who want to analyze changes that have occurred in U.S. neighborhoods over the past three decades.

Understanding how neighborhoods change over time is fundamental to addressing the problems and opportunities of America's communities. Many people are not aware, however, that data obtainable from the U.S. Bureau of the Census cannot be used directly for these purposes, because of many changes in census tract boundaries and variable definitions between census years. In the early 1990s, with funding from the Rockefeller Foundation, the Urban Institute made adjustments as necessary to create the first national data file with consistently defined tract level census data for 1970, 1980 and 1990. That file has since been used as the basis for important research on how the nation's communities changed over those decades.

Rockefeller has again provided funding to allow the Urban Institute to add 2000 census data to the file. To do so, the Institute has collaborated with GeoLytics, to not only add 2000 data but also to transform the product to make it much more user friendly and technically superior to the earlier version in a number of respects. GeoLytics applied their proprietary weighting tables for 1970, 1980, and 1990 to carefully convert past census data to new 2000 tract boundaries. This procedure allows NCDB data to be accurately compared over time for the exact same geographical boundaries.

NCDB data products are being released on CD-ROM using GeoLytics' proprietary data compression and mapping technology. The data can be accessed using the menu-driven, mapping and analysis software included on the same CD-ROM, or the data can be extracted for use in external database, mapping, and analysis packages.

For complete documentation on the NCDB, see the *NCDB Data Users' Guide*. It is an extensive (700+ pages) guide that is included on the CD as a .pdf, with detailed explanations on the history of the project, source of the data, methodology, and terminology. This guide includes a description of the re-mapping methodology used to normalize the 1970, 1980, and 1990 data to 2000 census tract boundaries, as well as a complete data dictionary listing all NCDB variables, their definitions, and sources.

B. Installation

When installing the NCDB no part of the path name can exceed 8 characters. We recommend that you use the default path when installing the CD. However, if you choose to reassign the path, no part of that path can exceed 8 characters. To use the program, the original CD must be in the same CD-ROM drive in which it was installed at all times. Otherwise the program starts, but you will not be able to run reports.

1. Insert the disk into your CD-ROM drive
2. You can install the disk through the Windows Program Manager or “My Computer” icon
 - a. In the Windows Program Manager, choose “Run” from the “Start” menu
 - b. Type in D:\setup.exe (assuming D is the letter of your CD-ROM drive), click OK

OR

- a. Click on the “My Computer” icon and choose the CD drive (often D:\)
 - b. Click on the “Set Up” icon (it looks like a small blue computer)
3. Follow the instructions on the screen.

Note: If you have previously installed **CensusCD 40 Years** or the **Short Form version of the NCDB** you will be prompted to uninstall it before continuing. Choose **OK**.

4. When prompted, enter your **Name**, the name of your **Organization**, and your **Serial Number** (found on the cover sheet of this manual as well as on your invoice). Type the serial number **without spaces or dashes**. It is very important that the number is entered exactly.
5. After the installation is complete, you can start CensusCD Neighborhood Change Database at any time by choosing **Programs** on the Start menu and selecting **CensusCD NCDB**.

Note: To operate the program, **the original CD must be in** the same CD-ROM drive from which the program was installed. Otherwise, the program will function, but you will receive errors when running reports.

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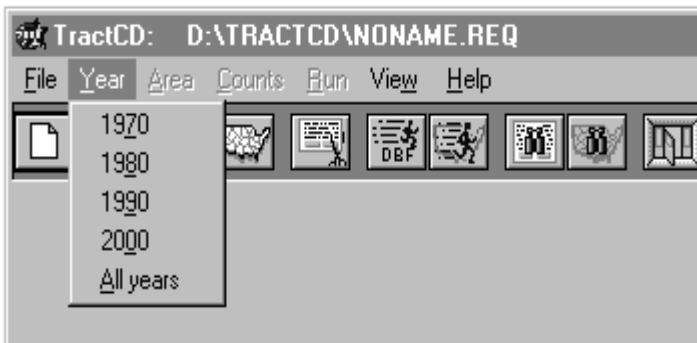
You must agree to the **End User License Agreement (EULA)** for **CensusCD Neighborhood Change Database** during Setup or the product will not be installed and you will have no right to use the product or resulting data. A copy of this EULA can be found under the Help menu item. You can view a copy of the EULA in advance, **before purchasing** or opening any GeoLytics product by **downloading** it from the **GeoLytics website** at: www.geolytics.com/downloads/pdf/eula_geolytics_single_user.pdf

C. Five Steps to Producing Files and Maps

The CensusCD Neighborhood Change Database includes powerful and easy-to-use software that allows you to specify the data and geographic areas you want to work with, and then create data files, charts, and maps from your specification. This can all be done by following five simple steps:

1. Select the **Census Year** – data can be either in year-specific or normalized to 2000 boundary definitions
2. Select the **Area** from the pull-down menu (If you think of a map this will be the entire area covered)
3. Select the **Counts** (variables) that you want to see for these areas
4. Name your **File** – this tells the computer where to store the report you are about to generate
5. **Run** the Report that you are interested in. Report formats are Summary, ASCII, dbf, or Maps

1. Select the Year



You can either access data for a specific Census year in the tract boundary definitions for that year, or you can access data for all four years normalized to 2000 tract boundaries.

You can make one of five selections: **1970, 1980, 1990, 2000, and All years normalized to 2000.**

The **1970, 1980, 1990, and 2000** selections will generate reports using data from the selected year

represented in tract boundaries for that Census year.

The **All years normalized to 2000** selection allows you to compare data for various years. The data for years 1970-1990 are recalculated and normalized and the report uses the 2000 tract ID. For a fuller discussion of this methodology please refer to chapter 4 of the NCDB Data Users' Guide (on the disk as a .pdf).

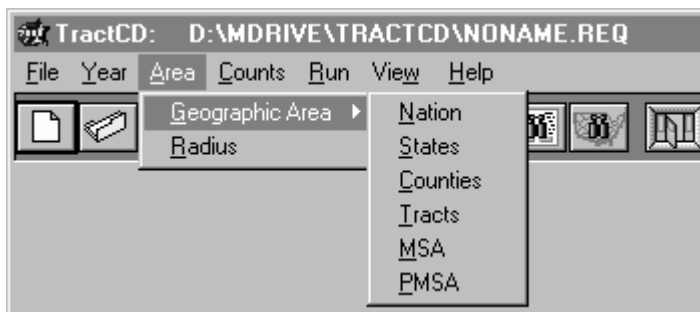
You cannot combine single year data (1970, 1980, 1990, or 2000) for two different Census time periods into one report because the tract boundary definitions change between Censuses. Therefore, comparing tract data across years can only be done using the data that have been normalized to 2000 tract definitions.

2. Select the Area

Select the geographic area that you want. All of the data will be expressed at the tract level, but you select the area you want covered. For a complete discussion of the areas included, please refer to chapter 2 of the NCDB Data Users' Guide (on the disk as a .pdf). A pull-down menu will walk you through the specific selection. You can choose one of two area types: **Geographic Area** and **Radius**.

Geographic Area

In the Geographic Area window you can select the geographical area you want to use: Nation, State, Counties, and Tracts. The geographies of MSA/CMSA and PMSA are only available for 2000 boundaries (including All Years).



When you select a geographical area other than Nation, the Geographic Area window appears so you can select which area you want to use. For example, if you select "County" you will first select which state the county is in and then which county(ies) you want to see.

Searching for a Geographic Area

You can search for any area that contains a specific word or character string by clicking the **Search** button. Type a word to search for and click **Go**. The search engine will tell you how many records were found that match. Click on **DONE** to accept the selections. Then select **ADD** to add them to the request.

Radius

The second type of area is **Radius** (circular ring area). You may decide to use this type of area view to get information around a specific location. Use an exact **Latitude** and **Longitude** to specify the center of the Radius. Then, enter the distance from the center of the radius to specify the area size (for example, 20 miles from a specific location).

The report will cover the selected areas. Depending on the report type, it will render a summary of the data for these areas or it will be broken down by Census Tracts.

Note: The source data for the 1970 and 1980 NCDB variables are the original tract-level data provided by the census, which did not cover the entire United States. Thus, when mapping the 1970 or 1980 data you will see holes in the US coverage. Since the tract-level data did not exist for 1970 and 1980 it therefore will not be available in the normalized boundaries. In some cases, part of the area in the normalized data boundaries have been tracted in 1970 or 1980, but not all of the area. The user can identify these situations when using the normalized data by examining variables PCTCOV70 or PCTCOV80, which indicate the percentage of 2000 census blocks that were covered by 1970 and 1980 tracts, respectively. For more information, please refer to chapter 4 of the NCDB Data Users' Guide on the disk.

3. Selecting Counts (Variables)

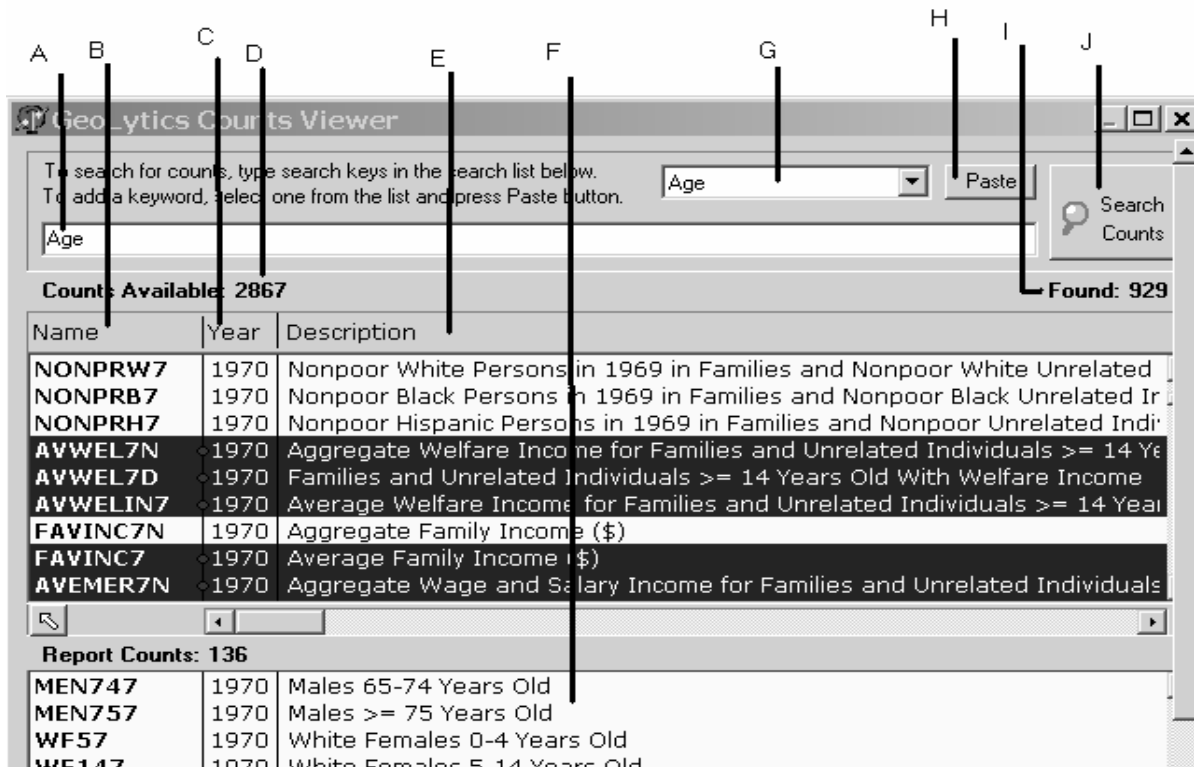
Below is the Counts screen. To make a selection you can either use a **Search** for the count (or category of counts) OR you can scroll through the list of variables and **Select** the individual variables you want.

The Variables are all identified with the following characteristics:

Name (B) - this is a 5-8 character name, the number (7, 8, 9, 0) at the last (or second to last) character relates to the year. It will be used as the heading for output file reports.

Year (C) – this is particularly useful when using the normalized data, it insures that you are selecting the variables from the appropriate census year.

Description (E) – this is a descriptive definition of the variable. This information will also be exported to the “myfile.doc” output file. This is a useful tool for identifying which variable is which.



3a.) Searching for Counts

You can enter your own variable into the Search window (A) and then hit the Search Counts button (J).

Alternatively we have provided a long list of “Key Words” (G) that can be searched. Use the pull-down menu to find the key word(s) you want and then hit the Paste (H) to get the key word to appear in the Search window (A). Then hit Search Counts (J).

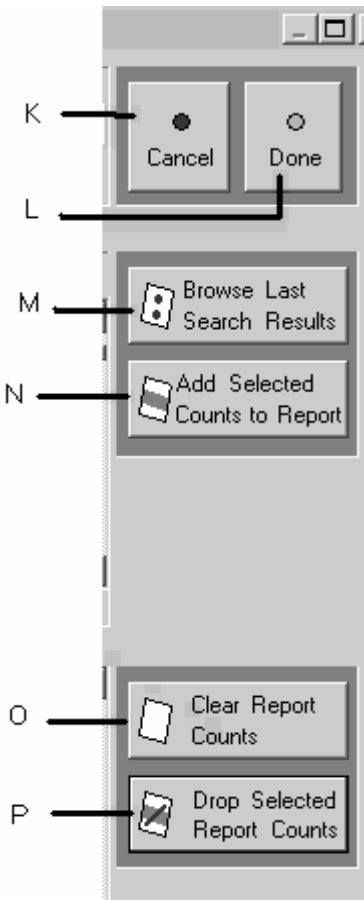
The Counts that are available (D) will be searched and those that meet the criteria will be tagged. The Found (I) indicates how many variables met your criteria.

Once you have done the Search you can Browse the counts that met your criteria by clicking on (M) Browse Last Search Results. This can be helpful when you are trying to figure out which variables were selected. Each time you hit this button it will take you to the next count that met your criteria (if they are all in a row it may not feel like it is moving, but it is). To unselect all of the current selections, click on any other variable. To unselect just one of the variables, hold down the CTRL key and click on the variable to be unselected. When you have the counts that you want, click on the (N) Add Selected Counts to Report. Then all of the counts that you have selected will be transferred to the lower screen and will now show up in your output file.

3b.) Manually Selecting Counts

By scrolling through the variables that are written out in the middle section, you can identify those of interest by their Name (B) or the Description (E). The Year column (C) is important when using the normalized data so that you can distinguish the same variable from multiple years.

To select a variable, click on it (it will be highlighted in blue). To select additional variables use a Ctrl + Click (to select one at a time) or Shift + Click to select all of the variables between as well.



When you have the counts that you want, click on the (N) Add Selected Counts to Report. Then all of the counts that you have selected will be transferred to the lower screen and will now show up in your output file. **The maximum number of counts that can be exported at one time is 240.**

Bottom Screen – (heading Report Counts F)

To Drop Variables from the Report Counts :

You can review the counts selected and highlight some of the variables to delete with the “Drop Selected Report Counts” button (P). If you press (O) you will clear the whole report and can then start over.

To Add Additional Variables:

You can manually select them from the Counts screen (middle screen) and then hit “Add Selected Counts to Report” button (N).

For more information about the counts please refer to chapter 3 of the NCDB Data Users’ Guide on the disk (as a pdf). A complete list of counts with definitions and sources can be found in appendix E.

4. Name your File (8 characters or less)

The Request File controls the directory where the output files (including reports, dBase files, or maps) will be written. Changing the drive or directory of the request file will control where the file is produced. Output files will have the same name as the request file with a different extension. For example, if the request file name is changed to "a:myfile.req", then the file can be written as "a:myfile.rpt" (Summary report), "a:myfile.csv" (ASCII), or "a:myfile.dbf" (Dbase output).



The default name given to the request and file is “Noname”. You can change the directory of the name by selecting **Save Request As** and then changing either the File and/or Subdirectory names

Caution: names of the file and subdirectory must be **8 characters or SHORTER and cannot contain spaces.**

Open Request	Opens existing, saved requests
Save Request	Saves current request parameters giving it the same name and path
Save Request As	Used to start a new series of files and controls the path/name of subsequent files

Note: A request tells **CensusCD Neighborhood Change Database** the information you want and how you want it. **The Request file stores information about the Year(s), Area and Counts**, which is passed to the database to produce a file.

5. Run the Report in the Format You Select

Go to “Run”, select Summary, dbf, ASCII, or Maps.

Summary – a sum for the area (without listing subarea numbers) for the counts selected

Dbf – a dBase-compatible data file with a .dbf extension easily imported into statistical and spreadsheet packages.

ASCII – available in tab or comma delimited format with headers. File will have a .txt or .csv extension and can be easily imported into statistical and spreadsheet packages.

Map – the polygons can be exported as either shape or mid/mif files and will have an accompanying .dbf file with the data. You can import these files into ArcView , MapInfo and other mapping software packages.

Your output file can be found under the subdirectory and file name that you selected when you named the request file. If you didn’t save the request file then your output file will be found under the subdirectory you installed the Neighborhood Change Database on with the name “noname”. In addition to the output file, there will also be a .doc file that will have the full name of the variables and geographies you selected.

The file run is done in a multitasking mode so that you can go on selecting other files or doing other tasks while the system continues to access the database for the information you requested. When the file is completed, a viewer/map window will be created and activated, and the completed file will be displayed or mapped.


D. Saving your Data

SAVING your report is **automatically done**. Your output file can be found under the subdirectory and file name that you selected when you named the request file. If you didn’t save the request file then your output file will be found under the subdirectory where you installed the Neighborhood Change Database with the name “noname”. In addition to the output file you requested, there will also be a .doc file (with the same name as your report) that will have the full names of each of the variables and geographies that you selected for your report. This is very helpful when labeling spreadsheet columns.



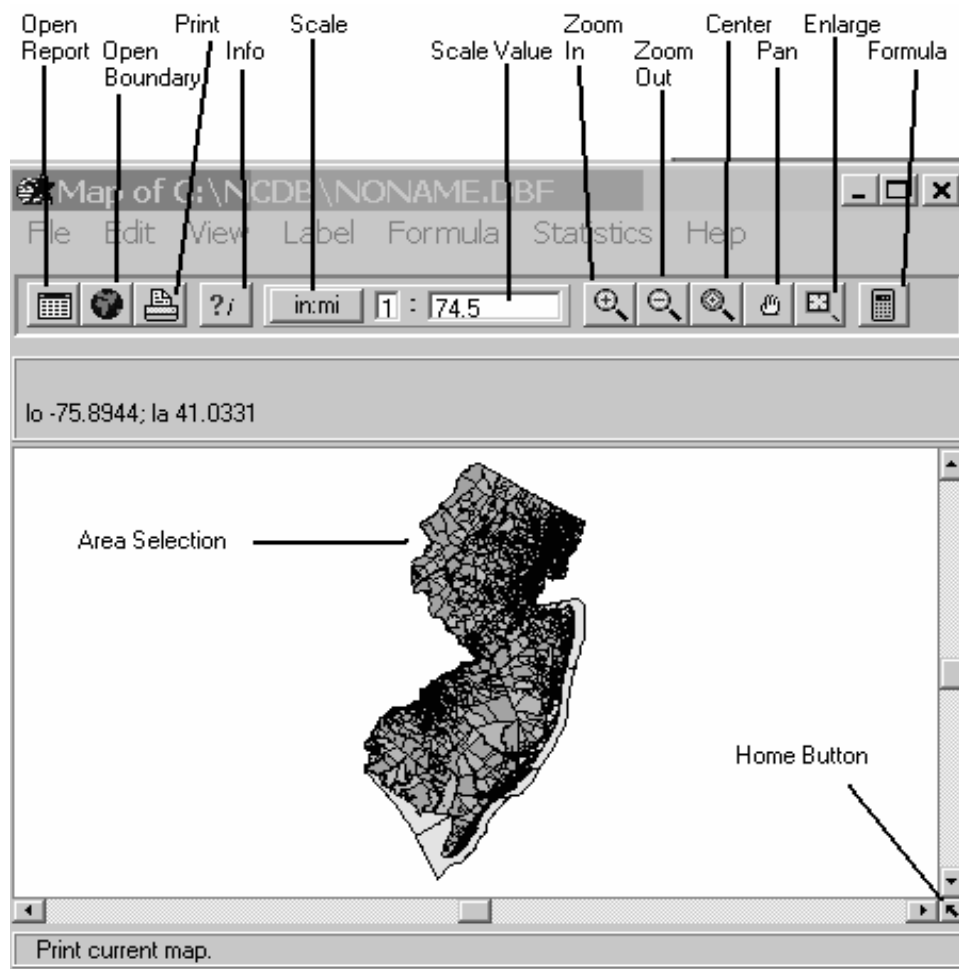
You can view any file using the **CensusCD Neighborhood Change Database Report Viewer**. While browsing the file, you can **search** for information, **copy** to clipboard, or **print** the file.

E. Using the Map Viewer

Within the Map Viewer you can change data themes, ranges, and color schemes. It allows you to print your map with options to save it as a bitmap (.bmp) file, which can be imported or pasted into most word processing, spreadsheet, and graphics packages. **CensusCD Neighborhood Change Database** also lets you export boundaries and data in desktop mapping formats (ArcView or MapInfo). There is even a variable calculator for creating and displaying virtual variables based on data in your file.  So you can do mapping analysis with a CensusCD product if you do not already have a mapping software package. These calculated fields are held in a temp file but cannot be exported. **Recommendation: take a bitmap image of the map so that you can capture the image.**

Generating the map automatically generates a dBase file, which can be used with other software including **statistical** (e.g. SAS, SPSS), **database** (e.g. Access, Oracle) and **spreadsheet** (e.g. Excel, 1-2-3) packages. You can also export the boundary files (under the File menu) for use in **mapping** (e.g. Arc View, MapInfo) software.

A specific help section to explain the map viewer is available from both the main help contents and the Map Viewer itself. Here is the labeling for each of the selections that you can make from the Map Viewer screen.



To change the scale of the map you can either use the icons at the top which are magnifying glasses with the “+” and “-“ to make it bigger or smaller. There is also a scale which shows the ratio of inches:miles. You can change this ratio to enlarge or decrease the size of the map.

There are lots of ways to manipulate the map that you are viewing. On the side of the map is a series of tabs (Area, Record, Legend, Layers, Log).



- 1) Area – lists each area that is mapped. If you click on an area listed here it will hash out the appropriate location on the map.
- 2) Record – lists the counts in a file, change the count being mapped by clicking on a different count. If you left click on a variable in this list you can select it to use as a label.
- 3) Legend – Choose the ranges and colors for your map, also shows mean, median, and standard deviation (shown above). With this tab you can make the following changes:
 - a. Ranges – instead of having your data broken into 5 ranges you can pull down the arrow at 5 Ranges and increase or decrease the number
 - b. Equal Counts – each range will have the same number of occurrences in the range. You can change this to Equal Ranges, the vales of each range will be the same from 0 to the top number. Above this would be 2,465,326 so instead of getting 12 tracts in each range the ranges would be divided into 5 groups 0-493,065, then 493,066-986,130 etc. You can also customize the ranges. So, for example, if you wanted to see 0-15, then 16-22, then 23-54, you could change them. Select Custom from the pull-down arrow. Then click on the number after to lowest “to <” in the example above it is 49708. Instead type in the 15. Then go up to the next number above it and type in 22, etc.
 - c. Change the colors of the ranges. If you click on the colored circle to the left of the bar a window will open with a palette of colors to choose from.
- 4) Layers – Control the border thickness and color, add labels, and add internal or external boundary maps
 - a. Add a layer – click on the blue “+” at the top of the tab. A window will open over the map with the geographies that are available to be layered over your map. Select the appropriate one and click OK. A status bar will spin and then you will have the new layer over your existing map.
 - b. Change the thickness of the new layer – sometimes when you add a layer it is hard to see so you can increase the border thickness. At the bottom of this tab is a section titled “Properties of Layer 1”. There is a box labeled “Thick” with a default 1. Change it to a 2 or 3 for a thicker line. You can also change the color from the default black to another color for the boundary lines of this new layer.
 - c. Add labels to the map – in the “Properties” section. Click on the “open book” icon that is labeled “More”. This will open a window with the options for the labels. You can select the “Style”, “Frequency (always, never, when it fits)” and “Font”
- 5) Log – this function records what has been mapped and how long it took to run.

F. Additional Notes

Additional help can be found on the NCDB disk under a folder called Data Users' Guide. This folder has a copy of the 1200+ page "NCDB Data Users' Guide" from the Urban Institute and additional appendices that define the definitions of specific variables. There is another file in the same folder "Special Issues.doc", which is a MS Word document that discusses the following topics:

- 1.) Race and Racial Categories
- 2.) Normalizing Medians
- 3.) Converting SF1 Variables to SF3 Definitions
- 4.) Undercounting

G. Frequently Asked Questions

Why isn't my CensusCD working?!?!?

First, take a deep breath. Read the bottom left-hand line on the screen in blue, it will often prompt you for the steps that are missing from your report request. If it says you can now run a report then check: did you install the software with the correct serial number? Did you install the software into a directory and/or subdirectory with 8 characters or less (if unsure, try reinstalling and using the default settings)? Is the NCDB disk in the computer when you try to run a report?

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 its path defaults to the directory and subdirectory where you installed your NCDB.

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 its path defaults to the path that you installed the NCDB under (c:\NCDB). Additionally, the path name is recorded in the blue bar along the top of your screen.

What are the real names of the variables (counts) I selected?

When you run a report an additional file is created called "filename.doc" and it has the same path as the file you ran. When you open this (in Word) it tells you the conditions you selected for your report. The area and all of the variable names are listed. The variables list their code as well as the full descriptive name. Another option that works particularly well with the 2000 Long Form is to run a Summary Report, which will give you the full census name for each variable.

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 "View" (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 do I change the colors of the map?

When looking at the map, to the right is a column heading with 5 tabs (area, record, legend, layers, log). Select the Legend tab. You will then see the ranges and the color bars. If you select the colored circle next to each range and click on it a palette with lots of color choices will appear, make your selection and click OK. To save the map with these colors go to Statistics and select Save Colors.

How do I change the number of ranges of my data shown on the map?

When looking at the map, to the right is a column heading with 5 tabs (area, record, legend, layers, log). Select the Legend tab. You will then see 3 fields: 5 ranges, equal ranges, and no rounding. Select 5 ranges. This will have a pull down menu where you can select the number of ranges that you want to see your data broken into. Your map will be updated instantly.

How do I find the mean, median and standard deviation of my data?

When looking at the map, to the right is a column heading with 5 tabs (area, record, legend, layers, log). Select the Legend tab. You will see ranges displayed in colored bars, listed under that are the mean, median, and standard deviation for the variable you are viewing.

How do I label the different areas on my map?

When looking at the map, to the right is a column heading with 5 tabs (area, record, legend, layers, log). Select the Layers tab. The bottom line has 2 colored squares (color and borderclr) between them is an icon that looks like a book and is labeled "More". Select More. A new window will pop up and you can then select the second field. It defaults to Never (show labels). If you select "When Possible" it will label only those areas that are not too close to each other so that you can see the label easily. If you select "Every Object" it will label all areas regardless of whether the labels are superimposed upon each other.

How do I add layers on the map viewer?

When looking at the map, to the right is a column heading with 5 tabs (area, record, legend, layers, log). Select the Layers tab. Click on the "+" sign under the tabs. This will bring up the "Add a new Layer..." box. Here you can click on the layer you wish to add. For example, you have tract level data selected as the subarea and want to overlay the counties as a layer. After you add a layer, you can highlight the layer and change the thickness from "1" to a "2" or "3". This will add more contrast and definition to your new layer, making it easier for viewing.

When looking at the map, how do I tell which variable is which?

There are two ways to do this:

- Either you can open Word and go to the document that is affiliated with the map that you just produced and print it out. This will indicate which variables are included in the correct order.
- Alternatively, the name of the variables is listed to the right of the map (under the 5 tabs) under "Record". If you can't see the whole name you can move the map viewer screen. If you place your cursor on the column between the map and the column with the counts names you will get the parallel lines sign and you can then drag the column bar over. This will give more screen space to the counts names. However, it will also make your map smaller.

H. Help

CensusCD Neighborhood Change Database contains extensive on-line help. Help contents contain thousands of lines of on-line searchable help. The online help can be accessed through the Help menu of the main program, the Report Viewer, or the Map Viewer.

When you click on Help you will have the option of seeing the information listed in this Users Guide, the License Agreement and many other features. If you click on the Index choice along the top bar you can key any word or phrase into the screen (or just scroll through the alphabetical listing) to learn more about hundreds of subjects and variables. There is also an entire section dedicated to the Map Viewer to help you get the most from this very powerful tool.

There is also “automatic advice” located on the bottom of the screen. For “**next step**” prompting it is written in blue along the bottom bar.

Further documentation of the NCDB data, including counts, geographies, changes in definitions over time, and weighting methodology, can be found in the 700+ page NCDB Data Users’ Guide on the CD in pdf format.

I. Contacting GeoLytics, Inc.

We offer superior customer service and are happy to answer your questions. Our support e-mail address caters to those who have technical questions about the product or are seeking information about the data or how to use the product.

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