Google Earth

Google Earth for Desktop is a free mapping tool that provides an easy way to see how census tract boundaries relate to other geographic features in a familiar context. The Census Bureau has recently made this possible by publishing generalized and detailed 2010 tract and county boundaries in a format (kml) compatible with Google Earth.

Installing Google Earth isn't complicated. To get started, go here, decide whether or not you want Chrome by checking the boxes at the top of the screen, and click Agree & Download. The installation is a bit different depending on whether you have a Mac or PC. Detailed installation information can be found at https://support.google.com/earth/answer/21955?hl=en.

Census Tract Boundaries in kml

Once you have successfully installed Google Earth, you'll need to retrieve the tract boundaries from the Census Bureau. To download the kml boundaries, open the browser of your choice and navigate to http://www2.census.gov/geo/tiger/KML/2010_Proto/. The directory "2010tract_dt" contains the detailed 2010 tract boundaries while "2010tract_gz" contains the generalized boundaries (see Figure 1).

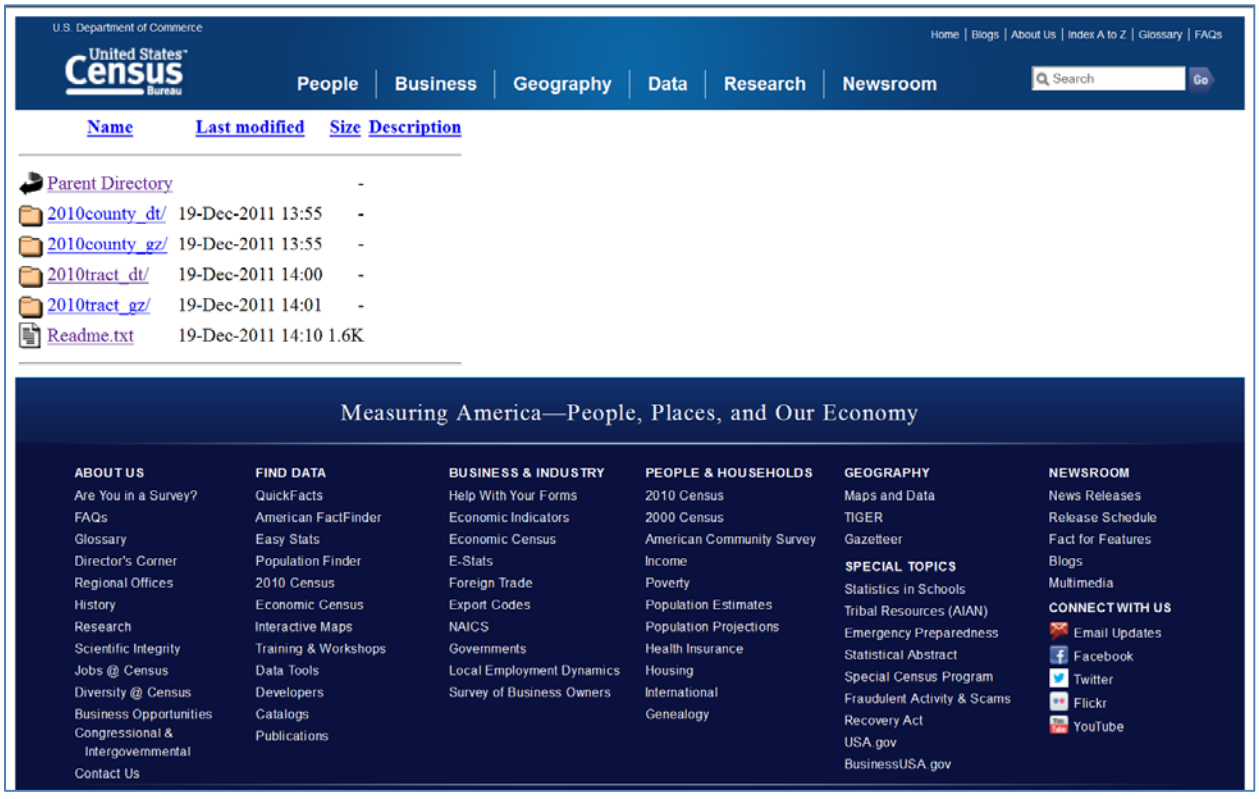

Figure 1: Prototype kml Boundary Files

If you click on "2010tract_dt," for example, you'll see a list of files that differ only in the two-digit number in the file name (see Figure 2 below). Census has organized the boundaries into separate kml files by state, where the two-digit number in the file name is the state FIPS code. Unless you happen to know the FIPS codes for the states you want, you'll need to go here to figure it out. For example, if you were interested in tract boundaries for Virginia, you'd need to download the file "2010dttract_51.kml"

since Virginia's FIPS code is 51. Just right click the file, select Save Link As... and save the file locally.

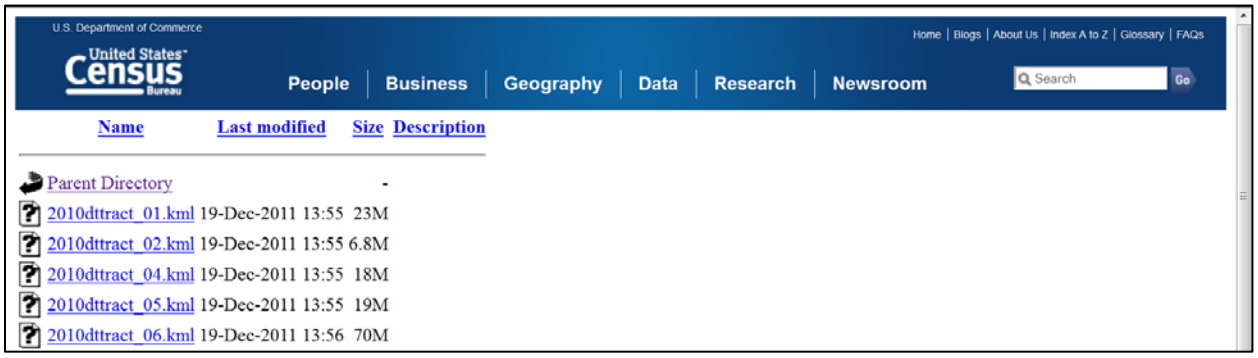

Figure 2: Census Tract Boundaries in kml Format by State

Viewing Census Tract Boundaries in Google Earth

At this point, launch Google Earth, click File..., Open..., navigate to the location of the kml file or files you downloaded from the Census Bureau, select the file, and click Open. You should see something like Figure 3 below.

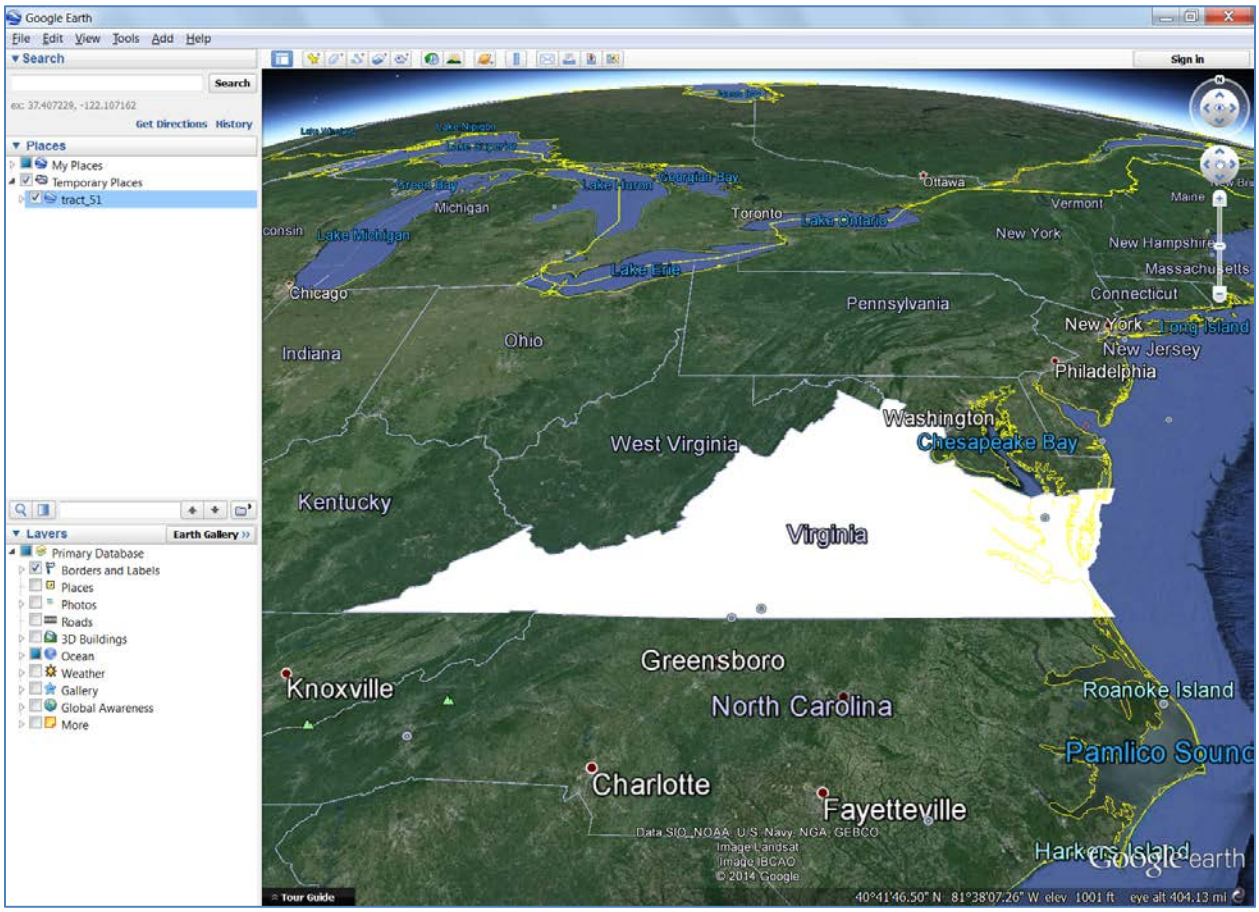

Figure 3: 2010 Virginia Census Tracts, First Look

While it's pretty clear that the file you downloaded is indeed for Virginia, the tract boundaries are impossible to see. This is because the default settings are white tract polygons with white boundaries. Fortunately it's easy to change the look of these polygons. Right-click the tract boundary file (the file name appears as "tract_51" under Temporary Places in the screen shot above), select Properties, select Style, Color, then Share Style. Change the Lines (try red and a width of 2.0) and the Area (try "Outlined").

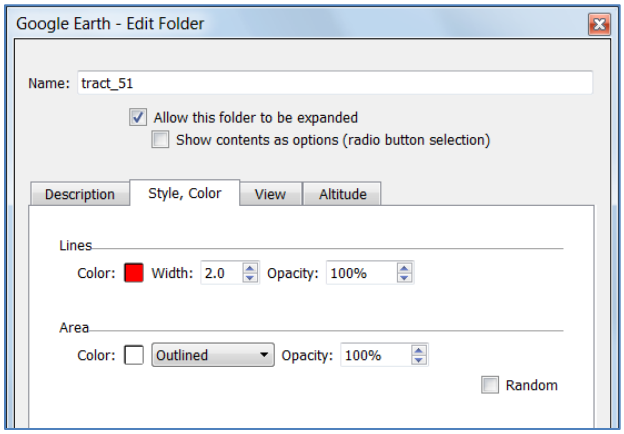

Figure 4: Changing the Look

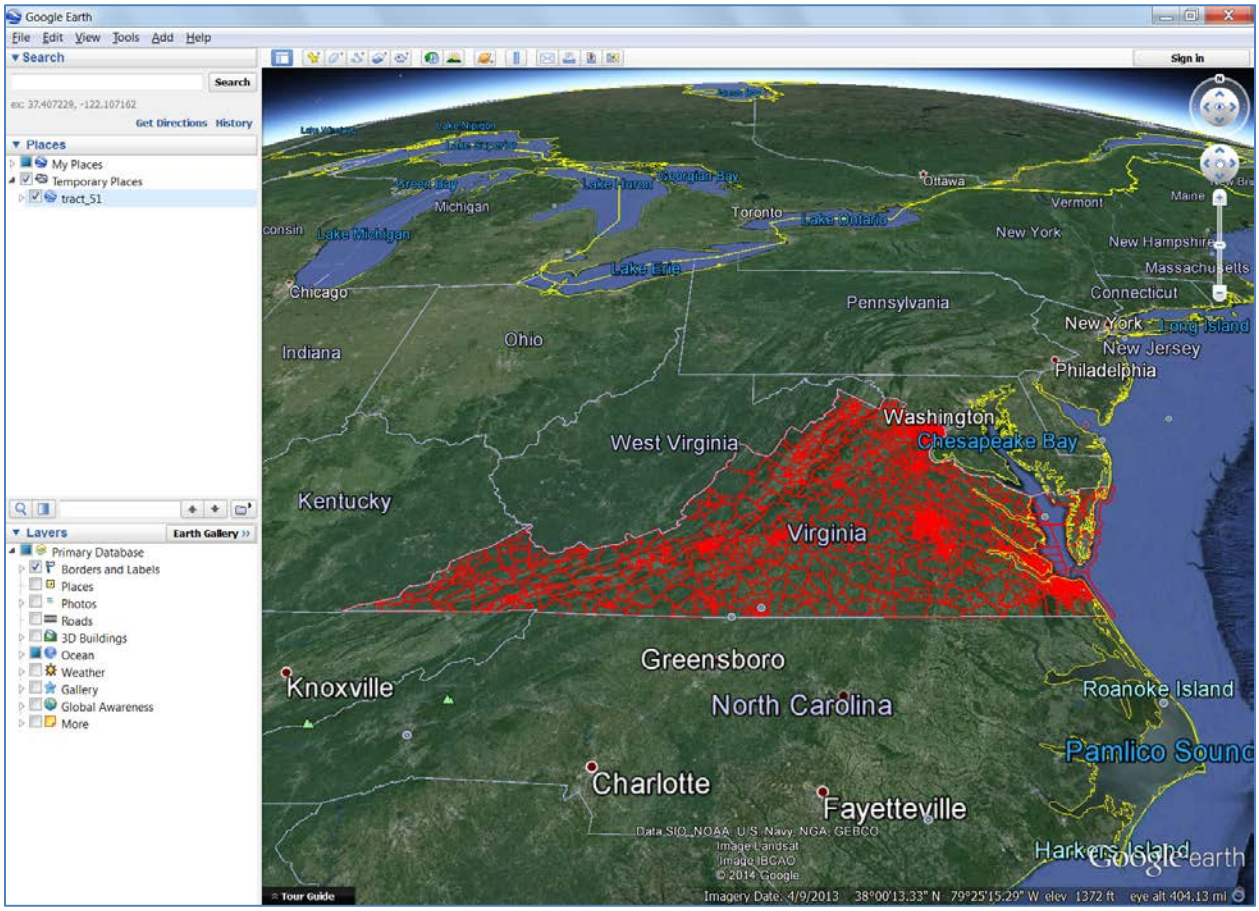

Figure 5: Virginia Census Tracts, Improved

You can save the changes in the appearance of the tract boundaries by right-clicking "tract_51" under Temporary Places, Save Place As..., then save the file locally as either kml or kmz (kmz is a compressed version of kml, so it requires less storage).

Useful Features

Zooming in more closely will allow you to see how tract boundaries relate to the area your company serves. Figure 6 below shows how you can zoom in on a particular area and identify a particular tract. Clicking on the tract polygon will bring up a small window that contains

1. The not-so-useful name of the polygon (in this case, "kml_65789")
2. The GEOID, which is the complete 11-digit census tract code (here, 51087201101 = Virginia FIPS code = 51 + Henrico County = 087 + Tract 2011.01). For more information about tract codes, see More About Census Tracts.
3. The NAME, which is the census tract name (in this case, 2011.01)

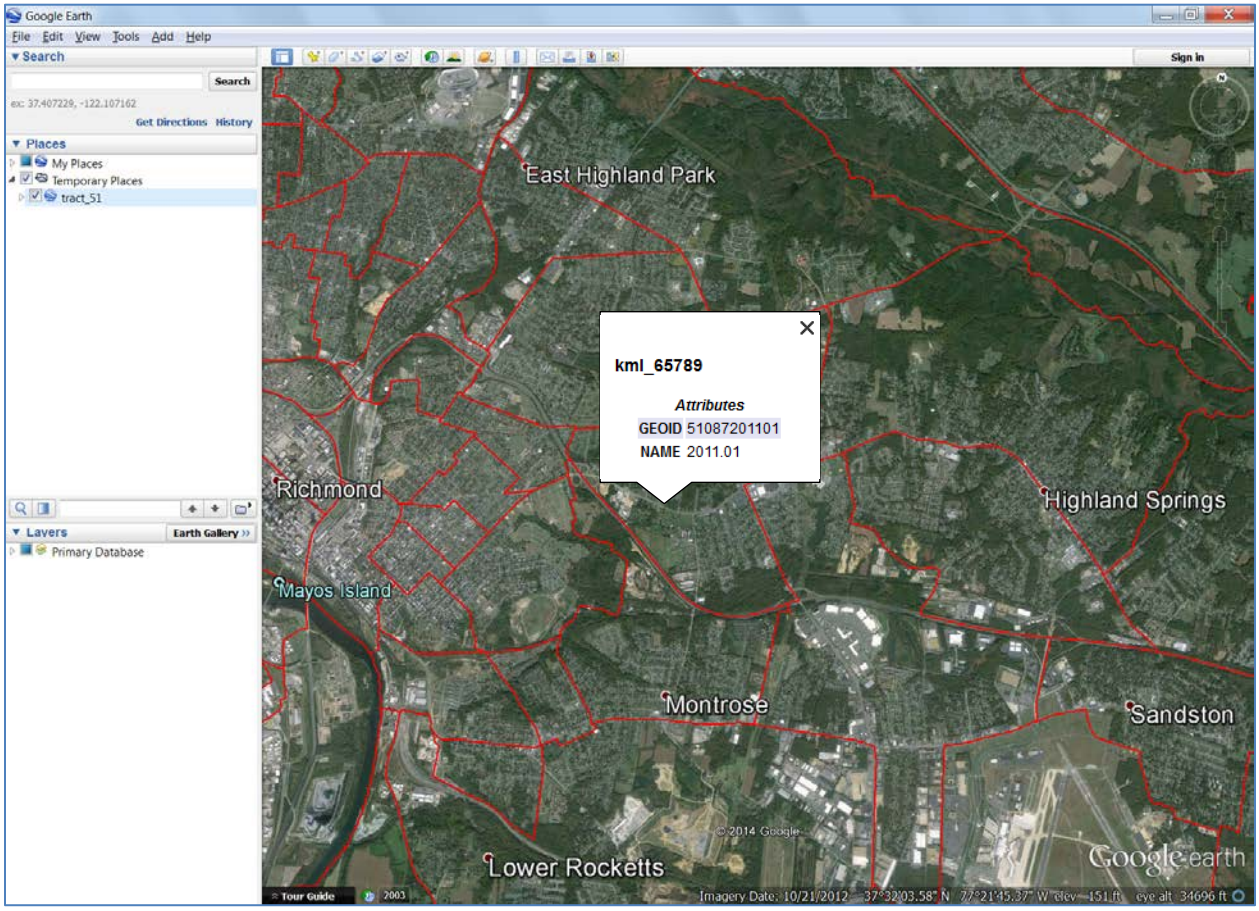

Figure 6: Census Tract Boundaries in the Richmond, VA Area

While not the most efficient tool for geocoding, you can nonetheless use Google Earth to determine the census tract for an address. Using this approach allows you to see the point on the Earth that Google's geocoding engine associates with an address.

Enter an address into the Search field at the upper left of the screen then click Search. After you're zoomed to the location, you can click the polygon that contains the address to show the census tract. Figure 7 shows a search I did for 1300 E. Main St., Richmond, Virginia 23219 (the address of the Virginia State Corporation Commission). Clicking on the tract polygon revealed that it's located in tract 51760030500.