Geocoding Address Data in ArcGIS 10.2

Geocoding is the process of assigning locations to addresses to that they can be placed as points on a map. As a result, you can create a shape (point) file out of a address table (spread sheet) information. If you have a data cotaining XY coordinates, you don't need geocoding. ArcGIS 10.2 is a bit tricky to make this geocoding process work. To do this, you need the following elements:

<u>A Reference file</u> (GIS data layer) containging descriptive address and corresponding spatial information for the geographic area referenced in your address data so that address data can be matched with reference data and spatial coordinates (ex, a city's street centerlines or a parcel address point layer). Sources fro street centerlines GIS data layers for any areas in the US: ftp://ftp2.census.gov/geo/tiger/TIGER2013 (download county by county and if you need more than one county, create a layer for more than one county using <u>MERGE</u> tool in ArcGIS (under data management tool).

<u>An Address data</u> table containing your formatted address information (addresses are in a single column, city, state, or zipcode as a sperate column)— See the *Tufts Tutorial* for a detailed contruction.

<u>An Address locator</u>—create this to use explicit methods for matching address data to specified reference data based on a selected locator style.
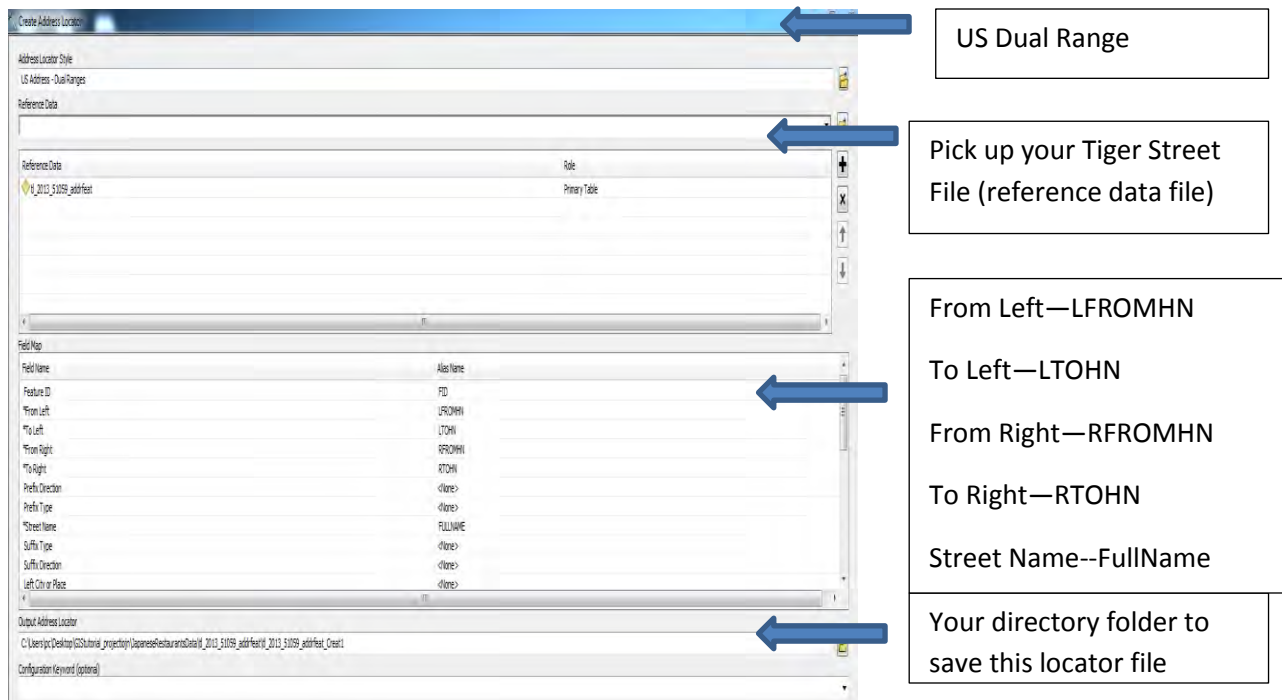
Exercise: Geocoding Japanese Restaurants in Fairfax County

1) Download Japanese Reaturnants (.csv) from the library geodata server.
2) Need a street file (Address Range Feature file, <u>ADDRFEAT</u>) that can be used as a reference data file to check your chosen addresses to locate.   (Download a Tiger File, ADDRFEA for example, Fairfax County Tiger Street File(source: ftp://ftp2.census.gov/geo/tiger/TIGER2013>choose,
   - <u>Tl_2013_51059_addrfeat.zip</u> in your folder (Fairfax County Street Address Range File)—see https://www.census.gov/geo/reference/codes/cou.html (to find your county FIPS Code).

   - Unzip this file
3) Create an *Address Locator*
   - Go to <u>ArcCatalog</u>> locate your file folder (right click a file folder that you download the address range file), then click <u>New>Address Locator</u> (see figure 1)
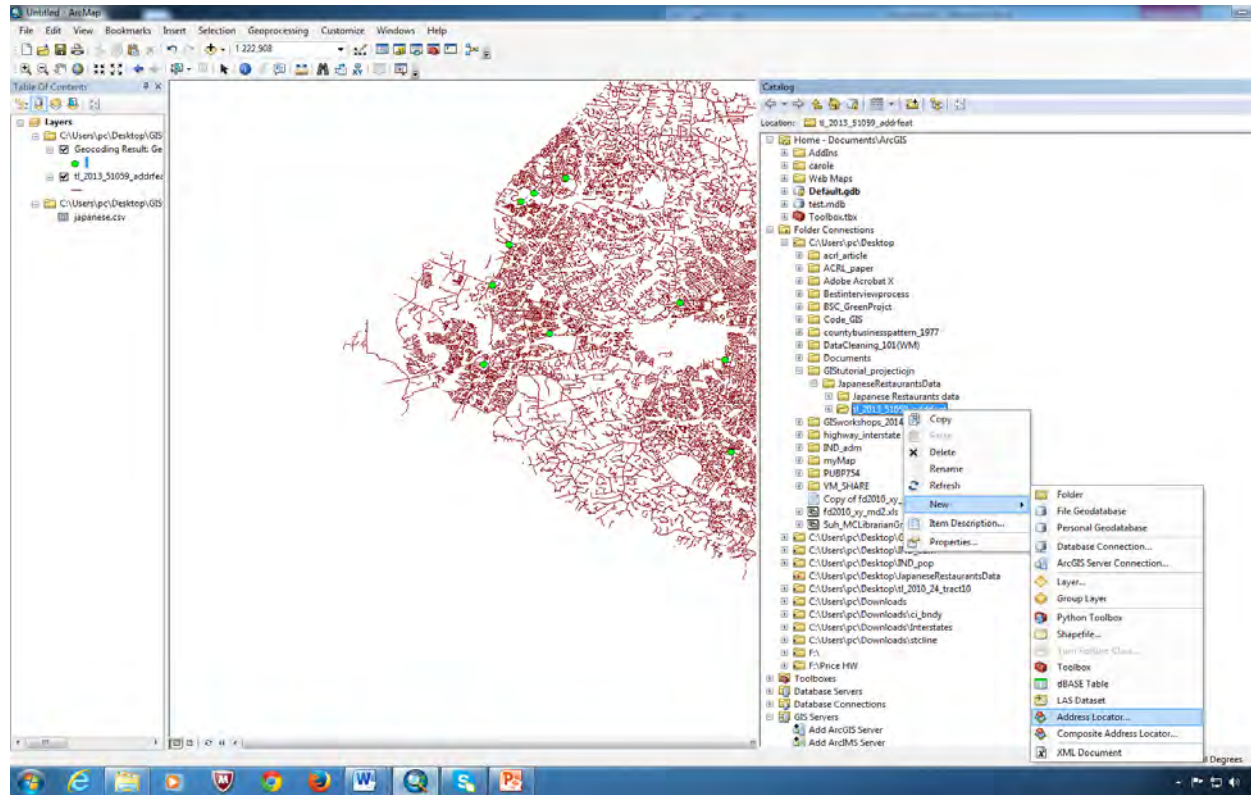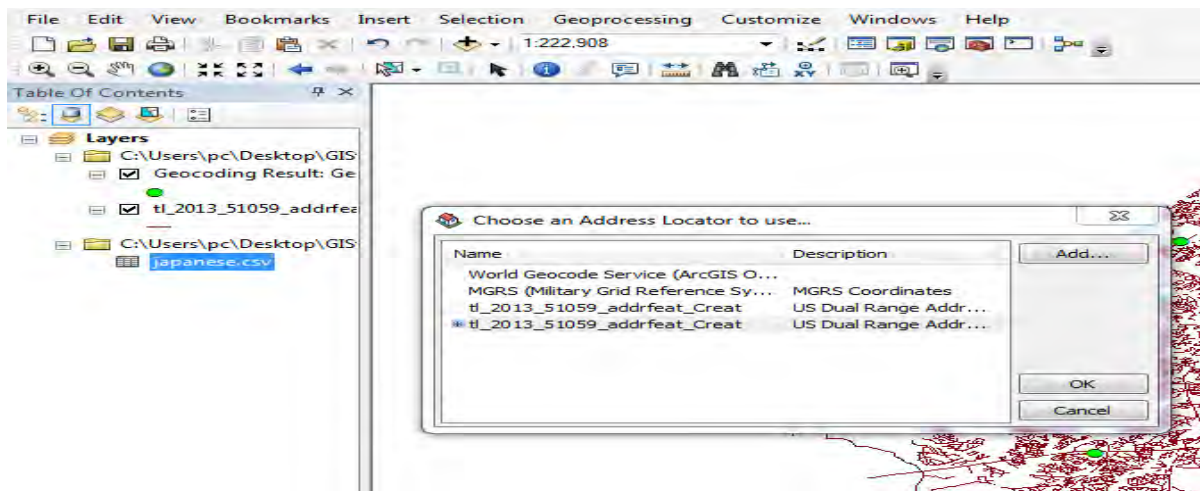
(Figure 1)

4) From the " Create Address Locator" box open, fill out the following information (see figure 2)--- Specify where to store the address locator, **name** it, then click **Save.**
5) When the process finishes, the address locator is saved in the workspace you specified previously. Also, it is added to the map if you started the process from ArcMap.
6) 🔑License:
7) An address locator can be published as a geocode service using ArcGIS for Server. This requires an ArcGIS for Server license.

Annotations beside Figure 2:
- US Dual Range
- Pick up your Tiger Street File (reference data file)
- From Left—LFROMHN
  To Left—LTOHN
  From Right—RFROMHN
  To Right—RTOHN
  Street Name--FullName
- Your directory folder to save this locator file

(Figure 2)

8) Add your address file (Japanese_Restaurant.csv) in ArcMap:
   - Right Click on your address file (csv or excel) that you want to generate the locations on a map, then you will see the box, "Choose an Address Locator to Use.." and pick up the locator you just created and "**ADD**" (see figure 3).
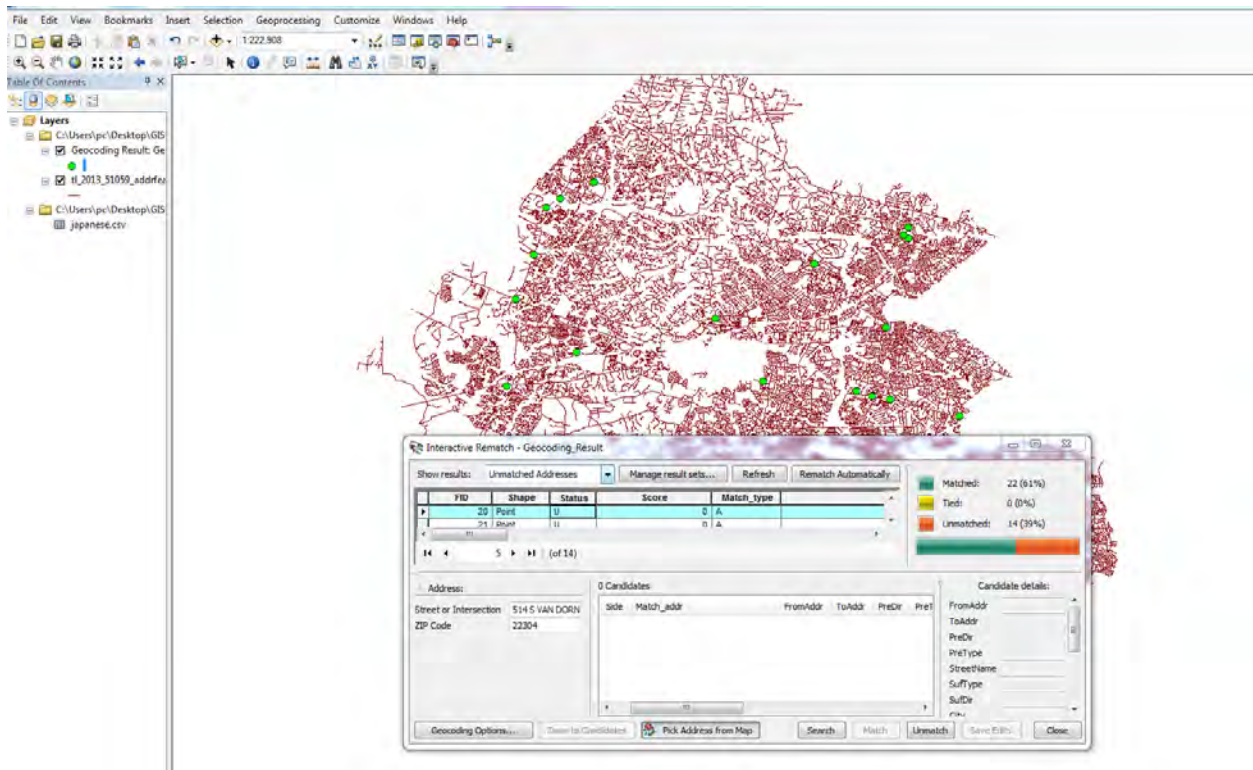

(Figure 3).

5) From the box in the figure 4, provide the directory of the output file, click "OK" (see figure 4)
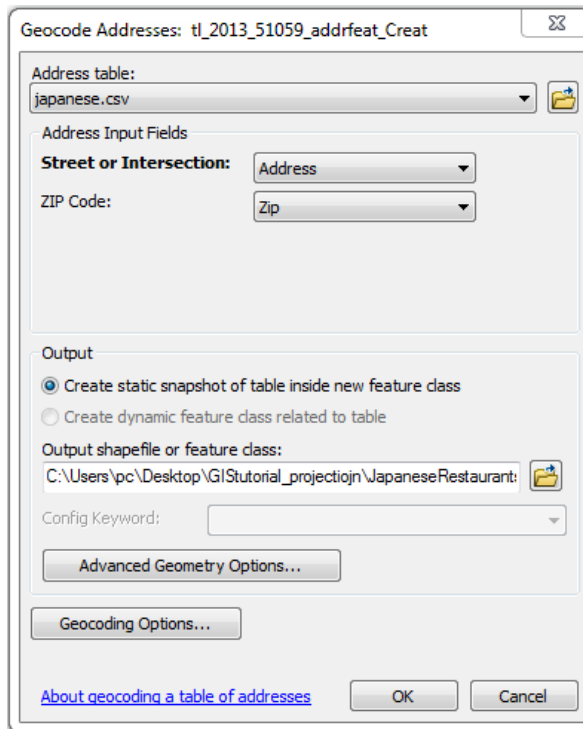
(Figure 4)

6) You will see new output, geocoding_result appeared in your table of content, which is a point layer (change the dot size to see better) and save this layer (using Data>Export Data) to your folder for further exercise

7) Not all address will be matched due to typing error or the source data that you used to collect this address data file. Fixed the unmatched address by finding the correct addresses using the Google Map or other address directory source (See ArcGIS Desktop Help>Geocoding and Address Management-**Re-matching a Geocoded Feature** Class).

See other guides for more:

- https://mannlib.cornell.edu/files/documents/ArcGIS_Geocoding_Addresses_v10.0_3.pdf
- http://ocw.tufts.edu/data/54/626652.pdf

If you have questions or troubles working with this tutorial, please contact Joy Suh, Geospatial Resources Librarian (hsuh1@gmu.edu) for help.

Created by Data Service Group, the University Libraries at GMU. Updated: December 2014.