How to Geocode in ArcMap

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Address Locator Options
In order to geocode, you need a file (address locator) or online service that can translate your list of addresses to coordinates.

If you will be geocoding a small number of addresses (< 2000), you can use the World Geocoding Service through ArcGIS Online. If you do not already have an MIT ArcGIS Online account, email gishelp@mit.edu and we will create one for you.

If you will be geocoding a large number of addresses in the US or Canada, you can use one of the ESRI geocoders. The most recent address locators we have are from 2013. Email gishelp@mit.edu and we will send them to you. See ESRI Address locators at the end of the document for a description.

If you are geocoding a large number of addresses in Europe, we have older locators (~2010) for Europe on CDs in the GIS & Data Lab (http://library.mit.edu/item/002074235). Stop by the lab during help hours or email us (gishelp@mit.edu) if you need help using the European address locators.

If you are geocoding a large number of address in another part of the world, you may need to create a locator from street data, geocode in batches using a tool such as the Google API, or use the OpenStreetMap locator as part of the MMQGIS plugin in QGIS. You can read more about your options here: https://libguides.mit.edu/gis/tutorials

Adding Data and Selecting an Address Locator
1. Make sure your data table is saved as .xlsx, .csv or .dbf.
2. Add your data table to ArcMap using the Add Data button ( ).
3. Right click on the table and select Geocode Addresses. The “Choose an Address Locator to use...” dialog box opens.

4. Select the World Geocoding Service or click the Add button if you are using an ESRI locator. Navigate to the locator you are using.

Note: If you are using an address locator (not the World Geocoding Service) and do not have all the fields (ex. address, city, state, but no zip code) and are not getting any matching results, you may have to change the settings of the locator. See the section below called “Troubleshooting when there are few or no matching addresses”
Geocoding

1. Select your address locator and click Ok.

2. The Geocode Addresses box will open. In the Address Input Fields section, select one of the following options:
   a. **Single Field**—The complete input address, such as 303 Peachtree St NE, Atlanta GA 30308, is stored in one field in the address table.
   b. **Multiple Fields**—Each input address is broken down into multiple fields, such as Address, City, State, and ZIP Code for a general United States address.
3. Click the drop-down arrow to select each column in your data table that corresponds to each field.
4. Click the folder icon and navigate to the location where you want to save the output shape file.

   If you need to modify the geocoding settings, Click Geocoding Options. You can adjust the sensitivity for spelling and matches, how intersections are defined, and the output fields. [Find out more about these options.](#)

5. Click OK to start geocoding. You will see the progress window. A point shapefile will automatically be added to your map when you click Rematch or Close. If all addresses were geocoded, click Close. To see which addresses were not matched, click Rematch.
Rematching Addresses

1. If you closed the progress window, but want to Rematch address, you can access the Interactive Rematch through the Geocoding toolbar.
   a. Right click anywhere in a blank space in the top toolbar of ArcMap. Select the Geocoding toolbar.
   b. Select your geocoding results layer in the table of contents.
   c. Click the Review/Rematch Addresses icon in the geocoding toolbar.

2. Click on the drop down arrow to display different subsets of addresses.
3. For addresses that were not matched, you can select a match from the list (if one is listed), type in a different address, or select a location on the map. Click Close when you are finished.

You have now finished geocoding your addresses. For more information on Geocoding, see ESRI ArcMap help.
ESRI Address Locators

**Composite_CAN:**
- For geocoding in Canada
- The address is first passed through Street_Addresses_CAN.loc and if it does not find a match, it is passed through Postal_CAN.loc.
- Input fields: Address, Municipality, Province, and Postal.

**Composite_NA:**
- For Geocoding in North America.
- The address is first passed through Composite_US.loc. If it does not find match, it is passed through Composite_CAN.loc.
- Input fields: Address, City, State, Postal, and Country. The file must contain a field with country names or abbreviations (US, CAN).

**Composite_US:**
- For geocoding in the United States.
- The address is first passed through Street_Addresses_US.loc and if it does not find a match, it is passed through Postal_US.loc.
- Input fields: Address, City, State, and Zip Code.

**Postal_CAN:**
- For geocoding in Canada if you only have a postal code.
- Input field: Fsa. Addresses will be matched to the 3-digit FSA centroid location. If the input is a 6-digit postal code, only the first 3 digits will be used for geocoding.

**Postal_US:**
- For geocoding in the United States when you only have a Zip Code.
- Input field: Zip Code.

**Street_Addresses_CAN:**
- For geocoding in Canada when you have a street address or intersection address.
- Input fields: street or intersection, municipality, province, and postal.

**Street_Addresses_US:**
- For geocoding in the United States when you have a street address or intersection address.
- Input fields: Street or Intersection, City, State, and Zip Code.

**Troubleshooting when there are few or no matching addresses**

1. Check to make sure your input columns are in the correct format.
   a. Check that all Zip Code numbers are displayed. Sometimes leading zeros are removed automatically by Excel. Save the Zip Code as “text”.
   b. Make sure there are no random characters or spaces in name of each column and within the data in the columns.
   c. Use a 2-character abbreviation for State or the full name.
2. Save the table in .xlsx format.
3. Close the original data table before geocoding.
4. Lower the sensitivity of the Geocoding tool. This can be found under “Geocoding Options” in the “Geocode Addresses” dialog box.
5. If you do not have complete addresses (no state or zip code for example), adjust the address locator settings.
   
a. Open ArcCatalog ( )

b. Navigate to the address locator you want to use.

c. Right click and select Properties.

d. Expand Geocoding Options and change “Match with no zones” to “Yes”

e. Click Ok and try geocoding again.