How to Use the Maryland Composite Locator in ArcGIS Desktop

This instructive document assumes that you have some familiarity with geocoding. For an overview of the geocoding process and general instructions, please see [Esri's documentation](#).

You can use the Maryland Composite Locator Service for batch geocoding within ArcGIS Desktop similarly to a locally created address locator. The type of features being geocoded (e.g. - street address, mile marker, place name) determines the inputs that are needed by Esri's geocoding graphic user interface (GUI). The following describes how to connect to the geocoding service via MD iMAP service in ArcGIS Desktop, illustrates the proper table syntax for each feature type and how to interface the table with Esri's geocoding GUI.

Please note the following:

a. No information related to the geocoded data is stored in MD iMAP's servers

b. Results are returned only to the user's local machine

c. This document focuses on the Maryland Composite Locator (both with and without ZIP codes). The geocoding results for these two services are limited to locations within Maryland. There are other locator services offered by MD iMAP that supplement the Maryland Composite Locator with services that will locate features outside of Maryland. These include a service that supplements Maryland's service with Esri's World geocoding service.

Connecting to the Geocoding Service in ArcGIS Desktop

1. Follow the instructions for "[How to Add Web Services in ArcGIS Desktop (MD iMAP 2.0)](#)" to establish a connection to the geocoding service.

2. Once connected, you can access MD iMAP's service under "GIS Servers" You may then browse to the "GeocodeServices" folder in MD iMAP.

    Note: There are a number of individual locators available that make up Maryland's Composite Locator. Two composite locator services available for user provide the option to include or exclude the ZIP code locator. By excluding the ZIP code locator, addresses that cannot be located in the MD Property View Points, address points or street centerlines locators will not be matched to the ZIP code centroid. Additional information for using the ZIP code locator is discussed in the Table Syntax section.

Table Syntax

The ArcGIS Desktop geocoding graphical user interface (GUI) (Figure 1) does not currently have the flexibility to specify separate input fields for geocoding place names, mile markers, intersections, points of interest, municipalities, etc.

The current configuration of the geocoding GUI assumes that the inputs are standard addresses. Therefore, an alternative solution must be administered by those attempting to geocode other feature types, a combination of feature types or a location other than a standard address. The section below describes how to setup the input table to work with the ArcGIS Desktop geocoding GUI.
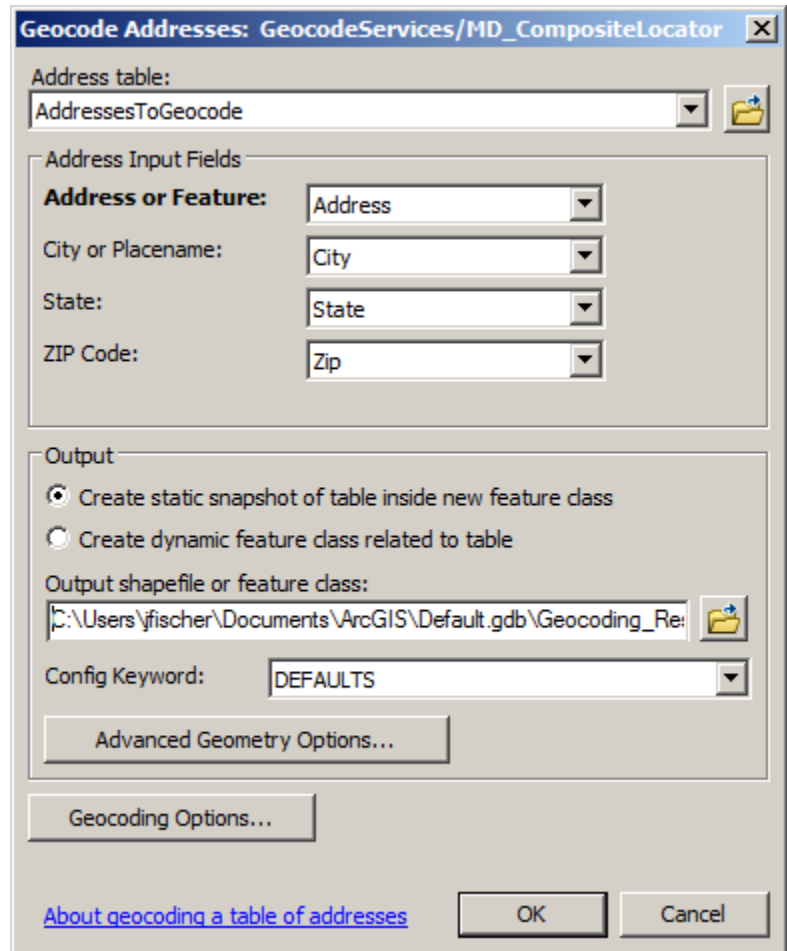

Figure 1: ArcGIS Desktop Geocoding GUI

It is recommended that you select the geocoding service without the ZIP code locator, unless you intend to locate ZIP code centroids. This geocoding service is found at http://geodata.md.gov/imap/rest/services/GeocodeServices/MD_CompositeLocator/GeocodeServer.

Street Address

The input table must contain a complete address field and preferably a ZIP code or city field for geocoding for standard addresses. The specific title of the fields is not important, as long as the field containing the address is selected in the "Address" input box located in the geocoding GUI. Similarly, the field containing the ZIP code information should be selected in the "ZIP

Code" input box. The "City or Placename" input box can be optionally populated or left as the default setting.

Note: If an address cannot be matched to the MD Property View Points, address points or the street centerlines and the composite locator with ZIP code centroids is selected, the record will be matched to the ZIP code centroid (with a value ZIP code attribute). If the composite locator service without ZIP codes is selected, the record will not be matched, even if a place name or city was provided.

Intersection

If you intend to geocode intersection, two inputs are necessary. As specified on the [Maryland Composite Locator Address Look-Up webpage](#), intersections format should resemble "York Rd @ Burke Ave" or "York Rd & Burke Ave" or "York Rd / Burke Ave".

The name of the feature must be in a single field with no other ancillary information, when geocoding intersections. The field containing the intersection must be selected in the "Address" input box located in the geocoding GUI. Intersections are located based on the centerline locator and location identification will not improve with ZIP code information.

Note: The field containing the ZIP code information must be a separate field and should be selected in the "ZIP Code" input box.

Place Name

The name of the feature must be in a single field with no other ancillary information, when geocoding place names, which includes points of interest or municipalities. For example, "Camden Yards" should be entered without a ZIP code, city or address. The field containing the feature name must be selected in the "Address" input box located in the geocoding GUI.

Note: If additional information is supplied, such as a ZIP code field and the geocoding service with ZIP codes is used, the feature will be matched to the ZIP code centroid, because the ZIP code locator is searched before the place name, municipality or points of interest locators.

Highway Exit/Mile Marker

The name of the feature must be in a single field with no other ancillary information, when geocoding highway exits and mile markers. As specified in the [Maryland Composite Locator Address Look-Up webpage](#), mile markers format should resemble "I 70 Mile Marker 68" or "I-70 Mile Marker 68". Highway exits format should resemble "I 83 Exit 27" or "I-83 Exit 27". The

field containing the highway exit or mile marker name must be selected in the "Address" input box located in the geocoding GUI.

Note: If additional information is supplied, such as a ZIP code field and the geocoding service with ZIP codes is used, the feature will be matched to the ZIP code centroid, because the ZIP code locator is searched before the highway exit or mile marker locators.

Combination of Features

You can supply an input table that contains a combination of any of the features previously discussed. The entries must conform to the syntax explained for each feature. For example, if the table contains points of interest and street addresses, the information for these features must be contained in the same field. This field must be selected in the "Address" input box located in the geocoding GUI.

*Note: Street addresses require a ZIP code field, but points of interest do not. To work around this problem, you may use the composite locator service **without** the ZIP code option (http://geodata.md.gov/imap/rest/services/GeocodeServices/MD_CompositeLocator/GeocodeServer). Using this service, you will be able to geocode a variety of features without having them matched to a ZIP code centroid.*

Additional Information

In addition to the standard geocoding output fields that are appended to the user's input table, an additional field called "Loc_name" is added. This field indicates which locator was used to match the record, providing a quick method of querying input features that did not match against the preferred locator. As with a standard locator, the spelling sensitivity, minimum candidate score and minimum match score parameters can be adjusted for each locator.

To adjust these settings:

1. Click the Geocoding Option… button on the ArcGIS Desktop Geocoding GUI (Figure 1)
2. Select from the Locator dropdown
3. Specify settings for each unique geocoder
4. Click OK

For more information on cascade order, spatial accuracy and data sources, visit the Data Sources webpage. You can also watch video demonstrations on MD iMAP's Training Videos webpage.