

# Using ESRI's Online Address Locator

## Overview

Geocoding allows users to generate a point file with U.S. Postal Service (USPS) standardized addresses. Any data in the original input table is retained. The output file can either be a shape file or a geodatabase file format. You can geocode in either ArcMap or ArcCatalog.

Geocoding is generally done using an input file as a batch process. Any file type that is supported by ArcGIS (Access, DBF, Excel, and Text) can be used as an input file for geocoding. The overall number of good matches is determined by the quality and completeness of the input addresses provided to the geocoder.

## Before You Begin – Start with a clean input address file

Before beginning any geocoding process, you must have an electronic file containing complete address information.

- The most common file formats are Excel, Access, or Dbase (DBF version 4). Excel files derives its field names from the 1<sup>st</sup> row in each column of the worksheet, so make sure you have added these fields to your file.
- The input file should contain at a minimum: **Primary Address, City, State, Zip** (Example: 123 Main St, Anywhere, MO, 64000).
- Any other fields, such as patientID, county, type, comments etc can remain in the input table. This information will be included into the output table.
- The document [Geocode PreparingInputAddressData BestPractices.doc](#) provides more complete guidelines for address cleanup. Reviewing your input file for common errors before you start geocoding will increase the number of good matches.

## Specify an Address Locator

The parameters in the Locator specify the file name and location of the street network. (The network contains millions of street segments with address ranges and street names for each.) An Address Locator already exists for the TeleAtlas road network; you just need to establish a connection to it. This only needs to be done one time.

In ArcCatalog, scroll to the bottom part of the list of folders until you see Add GIS Server.



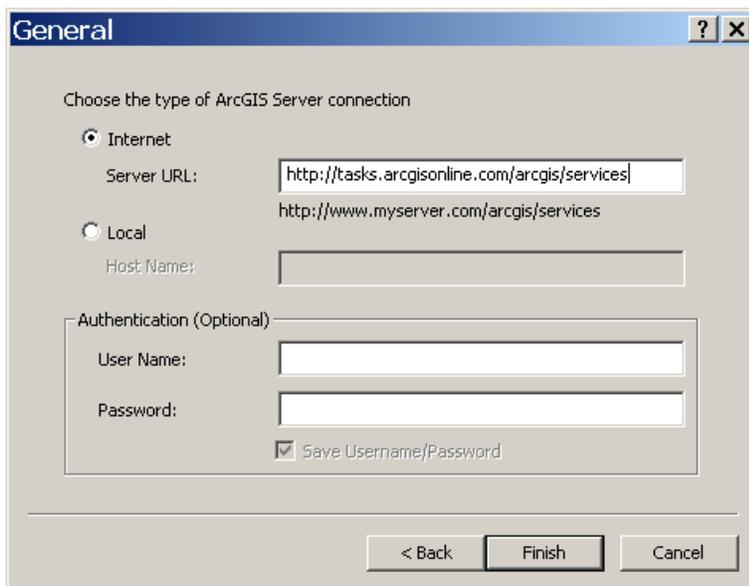
Expand the folder to see 3 options.

Select **Add ArcGIS Server**.

The Add ArcGIS Server Wizard prompts to either Use GIS Services or Manage GIS Services. Leave the selection at **Use GIS Services**. Click **Next >**.



Enter this URL to the location of the geocoding web service running at ESRI:  
**<http://tasks.arcgisonline.com/arcgis/services>**



Click **Finish**.

You'll see a new entry in ArcCatalog.

- Add ArcGIS Server
- Add ArcIMS Server
- Add WCS Server
- Add WMS Server
- arcgis on tasks.arcgisonline.com

### Start Geocoding – ArcCatalog or ArcMap

You can geocode from either ArcCatalog or ArcMap. In ArcCatalog, just browse to the file you want to geocode, right click the file name, and select Geocode Addresses. Geocoding within ArcMap is recommended because it offers tools for processing any unmatched records (not available in ArcCatalog). Once you launch the dialog, they are the same in either environment.

This example is shown using ArcMap.

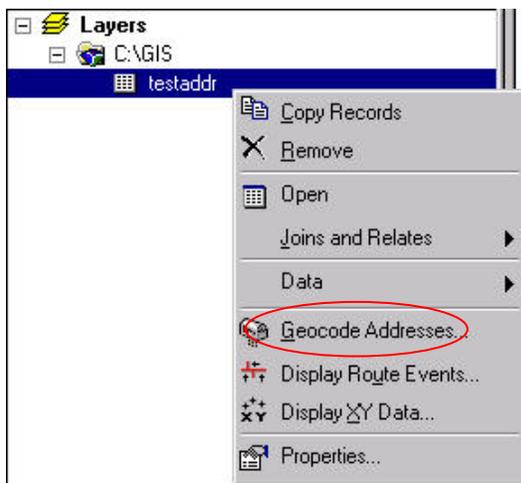


**Open ArcMap.** You can access ArcMap through the icon on the desktop or through the start menu: Start > Programs > ArcGIS > ArcMap.

### Load input table

Add your table to your map, using the Add Data button  in ArcMap. Alternately, you can drag the table from ArcCatalog onto ArcMap.

### Select table to be geocoded

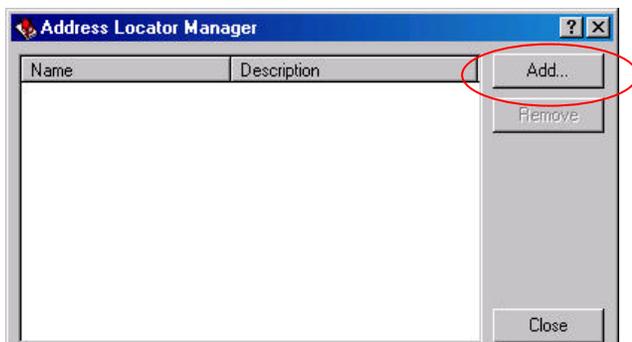


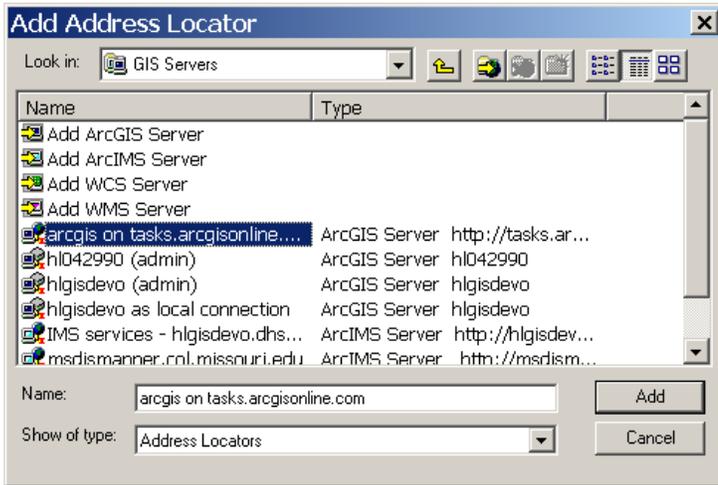
Select the input table in ArcMap. Right click on the table and select **Geocode Addresses**.

If you don't see your file, remember to select the Source tab, located at the bottom of your layer listing (Table of Contents).

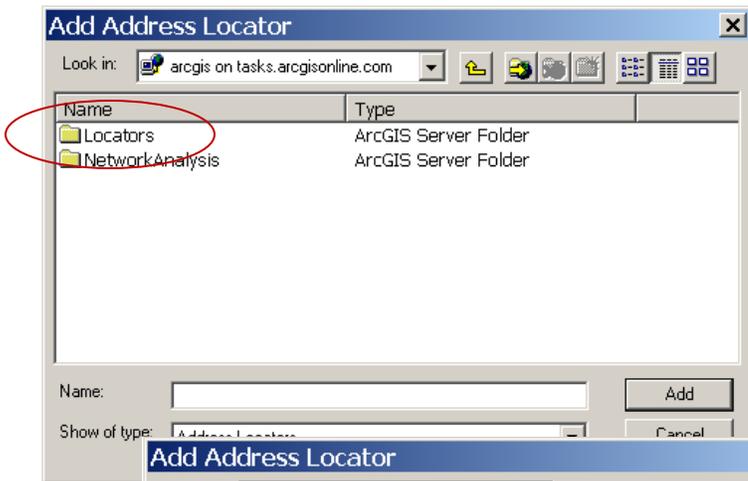


Click **Add ...**

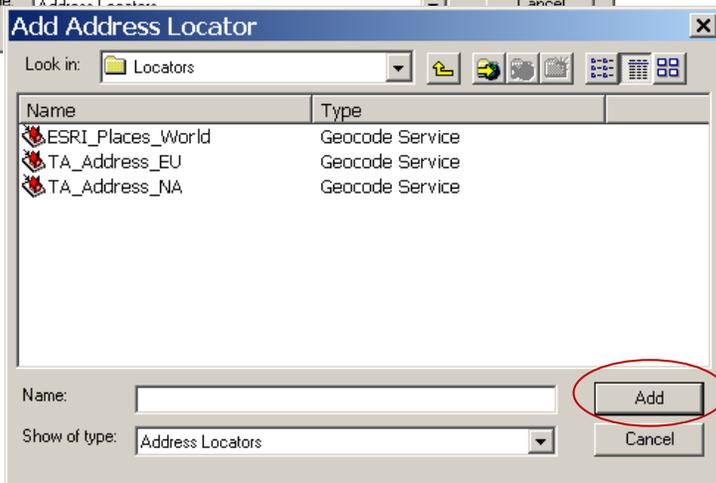




Browse to the link you created to the Address Locator. Select **ArcGIS Server > arcgis on tasks.arcgisonline.com**.



Open the Locators folder.

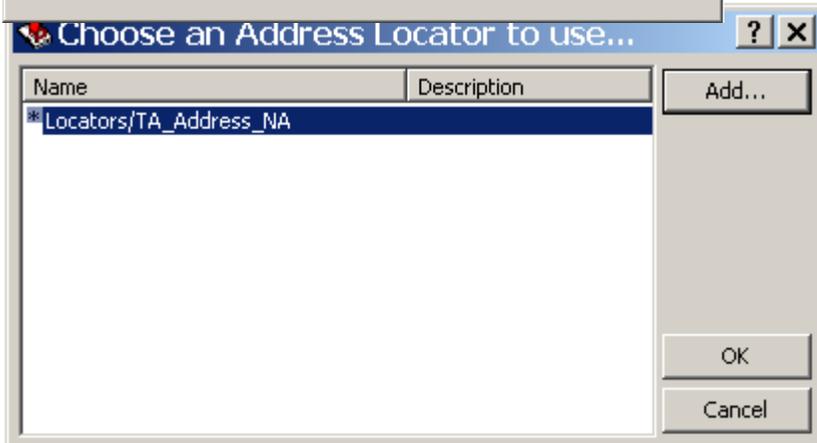


Select **TA\_Address\_NA**

Click **Add**.

The locator will be added to the list.

Click **OK**.



## Verify Input Fields and Output Settings

Geocode Addresses: Locators/TA\_Addr... ? X

Address table:  
GIS\_VendorLocations103009

Address Input Fields

Address: Address

City: City

State: State

Zip: ZIP

7in4: 7in4

Output

Create static snapshot of table inside new feature class  
 Create dynamic feature class related to table

Output shapefile or feature class:  
M:\WIC\KC\_JacksonMedicaid2008\KCMedicaidData2008.mdb\G

Config Keyword:

Advanced Geometry Options...

Geocoding Options...

Help OK Cancel

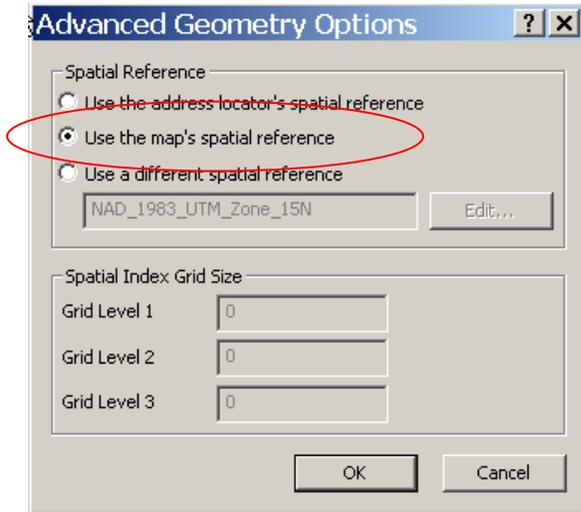
Depending on the fields have in your input table, the dialog may or may not find and populate the fields for Address, City, State or ZIP. If one of these fields is still blank, use the black down arrow to select the appropriate field.

! Verify output location and file name. Don't assume the file name and location is the right one for your project.

Use Advanced Geometry to specify the output coordinates. This is recommended.

Use Geocoding Options to alter spelling sensitivities and other output options. This is optional.

## Changing the Advanced Geometry Options

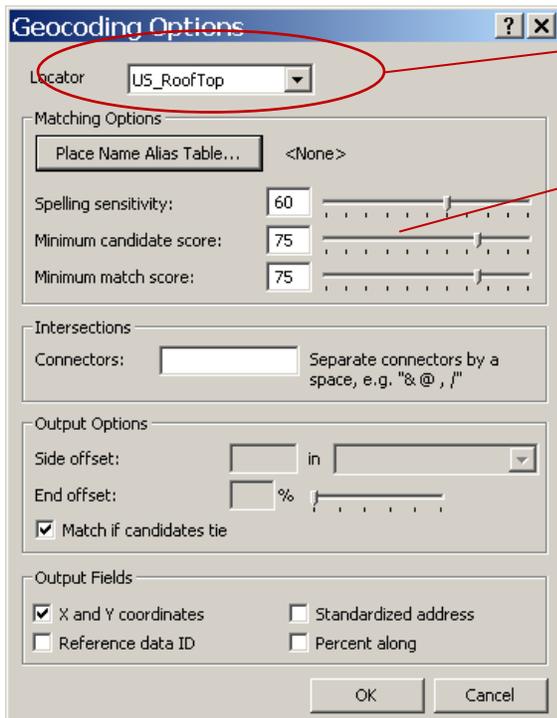


It is recommended that you change the Spatial Reference to **Use the map's spatial reference**.

Click **OK**.

## Changing the Geocoding Options

You may also wish to alter the spelling sensitivities. You can do this by clicking **Geocoding Options**.



The TeleAtlas is a composite locator, which means you can individually set the sensitivity for the locators within it.

You can either key in a value or use the slider bar to lower the score. Lower spelling sensitivity should give you more matches. The more you drop the sensitivity, minimum candidates and match score number, the more candidates or matches you will make. (Candidates are the top choices from the street network for placement of an address.)

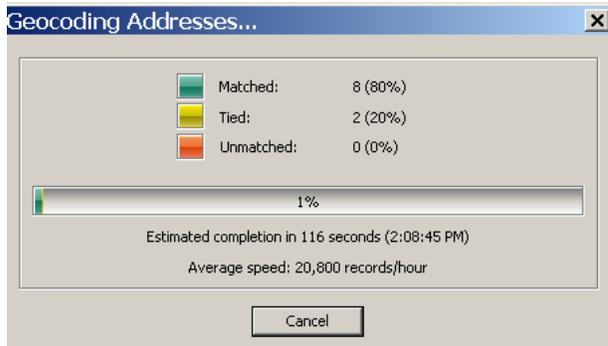
Dropping these numbers too low will likely introduce matches that might not be good choices. (For example, you may have 123 Main St in Kennett MO, but you might drop your score low enough to match to 123 Main St in New Madrid.) Spelling sensitivity below 65 is not recommended.

You can also drop the minimum match. Don't drop this score below 55.

The TeleAtlas Address Locator does not let you alter the side or end offsets (these allow you to specify a offset distance from the center of the road and are grayed out).

Once you have done adjusting these settings, click **OK** to exit the Geocoding Options dialog.

When all your parameters are set, click **OK** in the Geocode Addresses dialog.



Depending on the number of records you are processing, the process will take anywhere from 1 minute (less than 100 records) to over an hour (thousands of records).

There are several levels of positional accuracy returned from the TeleAtlas geocoding. The geocoding process may not find exact matches for all the addresses. Here's what will be returned from more to less accurate.

US Rooftop – this option will be available in limited urban areas. The point is placed on the roof of the building.

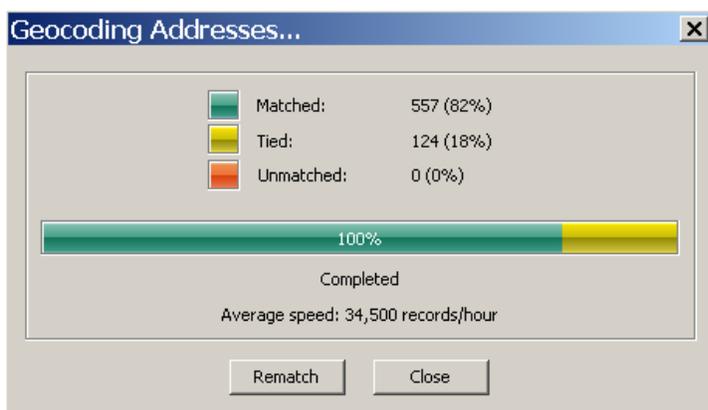
US Streets – the most likely “best address” options for a complete address. Position is placed along a street segment. The placement is an approximation. For example, if road segment has an address range of 800 to 898, the number 850 will be placed ½ along the segment.

US ZIP 4 – if a valid ZIP- plus-4 address is provided, the point will be placed in the center of the ZIP 4 area.

US ZIP code – if a street match isn't found, and a valid 5-digit ZIP code is provided, a match will be made to a point at the center of the ZIP code.

US\_CityState - if the ZIP code is not valid, but the combination of city name and state is, the match will be made to a point in the center of the city. Depending on the size of the city, this might actually be more accurate than the ZIP center.

If you have spent time reviewing and cleaning your data and have at least a complete valid 5-digit ZIP code, you should get one of these types of matches for all your records.



Once you have processed the records, you will see statistics of how many matches, tied records and unmatched you received out of the total records. Anything above 90% is considered a good match rate. You have the option to rematch any unmatched addresses automatically or interactively. Click close to see the addresses loaded as a point layer.

If you want to try to Match Interactively, click the Rematch button. Interactive matching is done record by record and can be extremely time consuming.

The best way to learn how to be successful using interactive rematching is to read the online help section on this topic. (For anyone who has tried this in previous software versions, the tools for interactive rematching were enhanced extensively between ArcView versions 9.2 and 9.3.)

Open Help in ArcMap and browse to the chapter **Geocoding and address management > Locating addresses > rematching a geocoded feature class**. Expand and read the sections on The **Interactive Rematch** dialog box and **Rematching with the Interactive Rematch** dialog box.

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