

## GIS II: Data Management: Creation, edition and maintenance of geographic data

### Module 5: Mapping Point Data

\*\*\* Files needed for exercise: *NY\_stroke\_certification.dbf*, *2009\_census\_cty\_NY.shp*

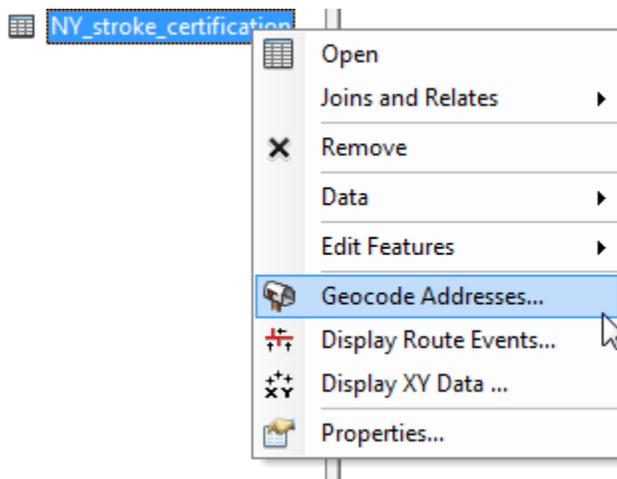
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**Goals:** After completing this exercise, you will understand the basics of the geocoding process, as well as interactive hand geocoding.

**Skills:** After completing this exercise, you will be able to geocode in ArcGIS.

#### Geocoding in ArcGIS

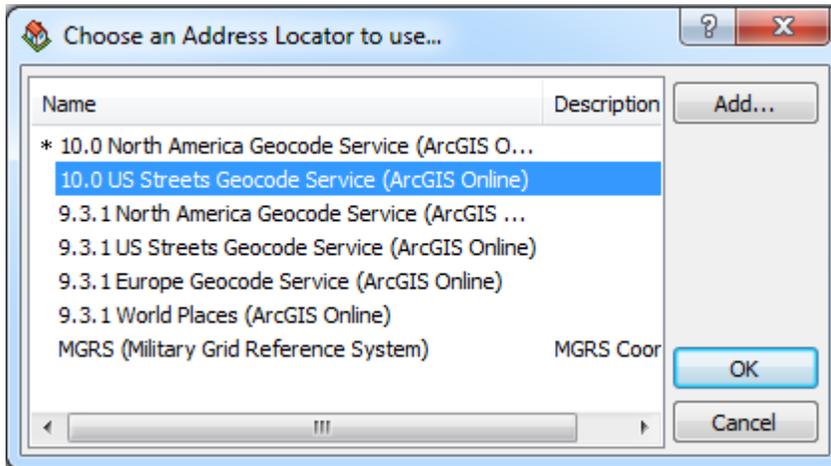
1. Open ArcMap.
2. Click the Add Data button  and choose to add the *NY\_stroke\_certification.dbf* file. This is a list of facilities in New York that have been certified as an Advanced Primary Stroke Center. We can see that we have address information on these 12 sites.
3. Right click on the table and choose Geocode Addresses....



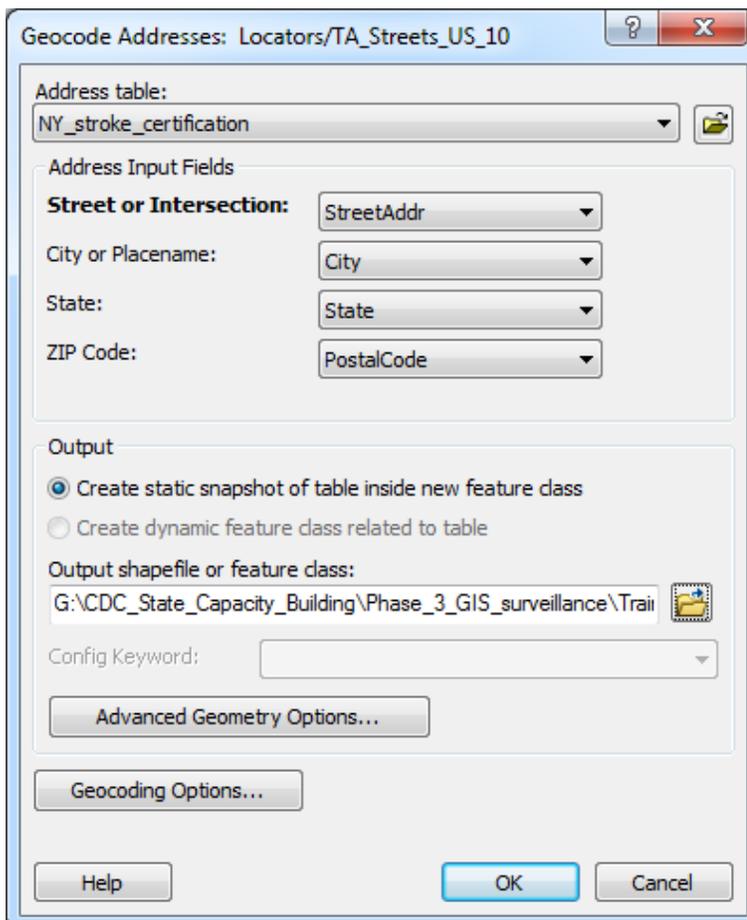
4. You will now need to choose an address locator. In this case, we are going to use a premade, ArcGIS online address locator. If you have your own customized address locator, or have issues of confidentiality, you can browse for another address locator on this screen. For this exercise we are going to use the 10.0 US Streets Geocode Service from ArcGIS Online.

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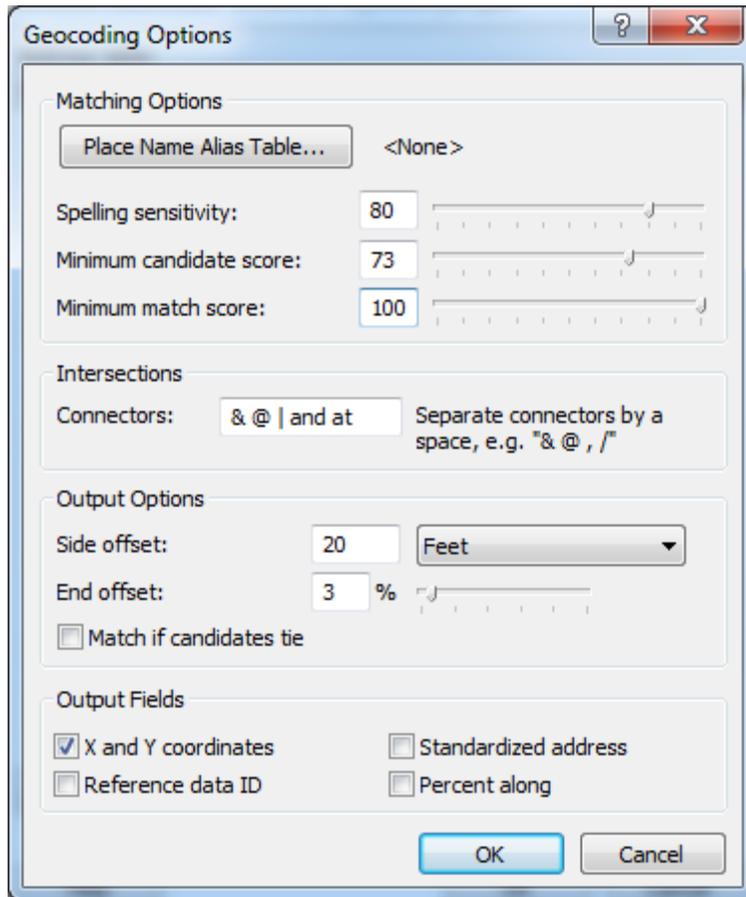
5. Click OK. You will now need to specify the fields used for geocoding, as well as the path of the output shapefile. The correct fields should be filled in for you because they are named appropriately. Make sure your output file is named something logical and placed in your folder.



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- Click Geocoding Options. Here we want to raise our minimum match score to 100. We also want to uncheck Match if candidates tie and Reference data ID, and we want to check the X and Y coordinates box.



**Geocoding Options**

Matching Options

Place Name Alias Table... <None>

Spelling sensitivity: 80

Minimum candidate score: 73

Minimum match score: 100

Intersections

Connectors: & @ | and at Separate connectors by a space, e.g. "& @ , /"

Output Options

Side offset: 20 Feet

End offset: 3 %

Match if candidates tie

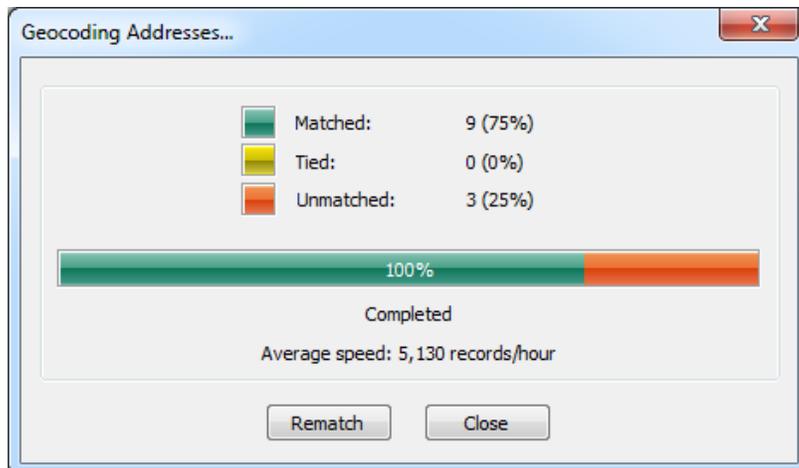
Output Fields

X and Y coordinates  Standardized address

Reference data ID  Percent along

OK Cancel

- Click OK twice to run the geocode.



**Geocoding Addresses...**

Matched:	9 (75%)
Tied:	0 (0%)
Unmatched:	3 (25%)

100%

Completed

Average speed: 5,130 records/hour

Rematch Close

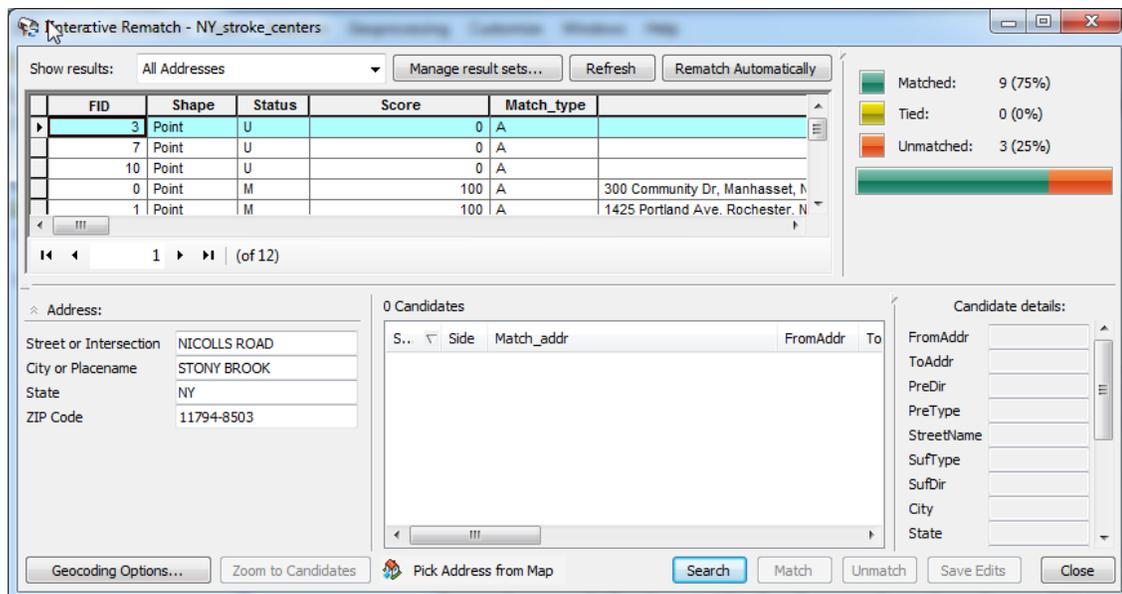
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8. Click Close and your geocoding result is added to the map. If you open up the attribute table, you can see the results. In the Status field, M is a match, T is a tie, and U is record that the software could not successfully match to the reference dataset. Since we were very strict with our match score, we have some unmatched records. Let's go through and match them manually.
9. Turn on the Geocoding toolbar in Customize > Toolbars > Geocoding.



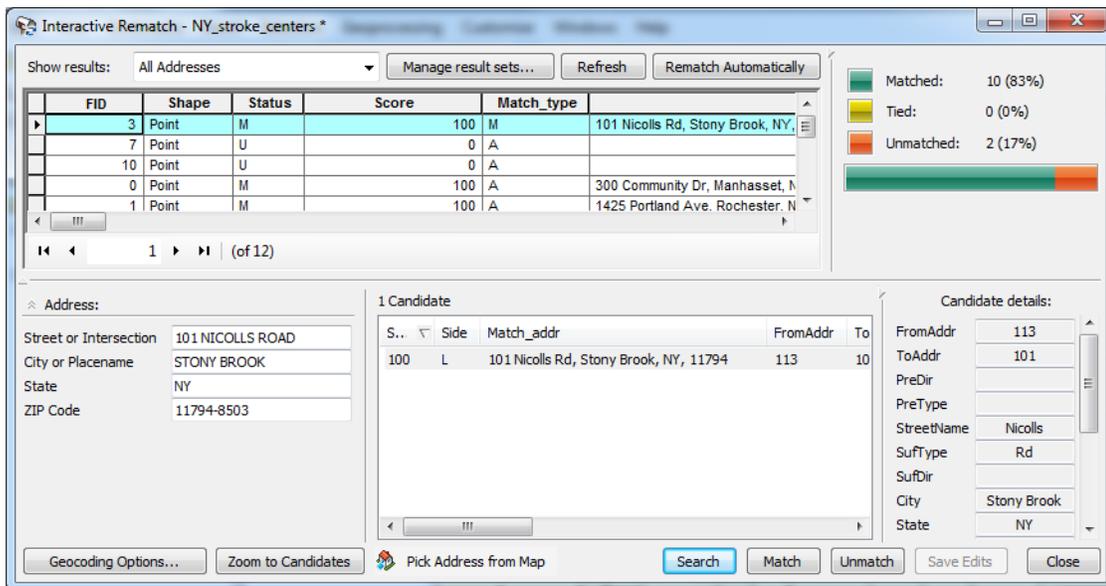
10. Make sure you have your geocoding result highlighted in your table of contents, and click on the last button on the Geocoding toolbar, Review/Rematch Addresses.
11. On the Interactive Rematch screen, sort the Status field in descending order to see the three unmatched addresses. We will match these addresses by hand.



12. The problem with the first address is that there is no street number. Using Google Maps, figure out what the street address of this facility is. Type this in to Street or Intersection, and match the new candidate that appears.

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Interactive Rematch - NY\_stroke\_centers \*

Show results: All Addresses    Manage result sets...    Refresh    Rematch Automatically

FID	Shape	Status	Score	Match_type	Address
3	Point	M	100	M	101 Nicolls Rd, Stony Brook, NY
7	Point	U	0	A	
10	Point	U	0	A	
0	Point	M	100	A	300 Community Dr, Manhasset, N
1	Point	M	100	A	1425 Portland Ave. Rochester. N

Matched: 10 (83%)  
Tied: 0 (0%)  
Unmatched: 2 (17%)

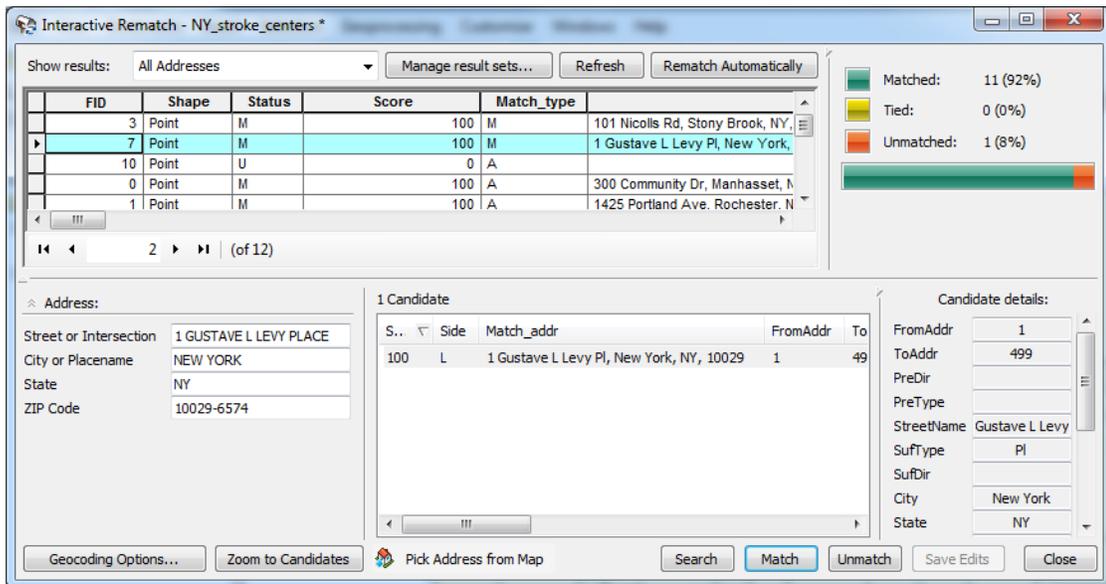
Address: Street or Intersection: 101 NICOLLS ROAD, City or Placename: STONY BROOK, State: NY, ZIP Code: 11794-8503

1 Candidate: S... Side Match\_addr FromAddr To: 100 L 101 Nicolls Rd, Stony Brook, NY, 11794 113 10

Candidate details: FromAddr: 113, ToAddr: 101, PreDir: , PreType: , StreetName: Nicolls, Suftype: Rd, SufDir: , City: Stony Brook, State: NY

Buttons: Geocoding Options..., Zoom to Candidates, Pick Address from Map, Search, Match, Unmatch, Save Edits, Close

13. Use Google Maps again to figure out the correct address for the second record and match it correctly. The address provided in the data is invalid.



Interactive Rematch - NY\_stroke\_centers \*

Show results: All Addresses    Manage result sets...    Refresh    Rematch Automatically

FID	Shape	Status	Score	Match_type	Address
3	Point	M	100	M	101 Nicolls Rd, Stony Brook, NY
7	Point	M	100	M	1 Gustave L Levy Pl, New York
10	Point	U	0	A	
0	Point	M	100	A	300 Community Dr, Manhasset, N
1	Point	M	100	A	1425 Portland Ave. Rochester. N

Matched: 11 (92%)  
Tied: 0 (0%)  
Unmatched: 1 (8%)

Address: Street or Intersection: 1 GUSTAVE L LEVY PLACE, City or Placename: NEW YORK, State: NY, ZIP Code: 10029-6574

1 Candidate: S... Side Match\_addr FromAddr To: 100 L 1 Gustave L Levy Pl, New York, NY, 10029 1 49

Candidate details: FromAddr: 1, ToAddr: 499, PreDir: , PreType: , StreetName: Gustave L Levy, Suftype: Pl, SufDir: , City: New York, State: NY

Buttons: Geocoding Options..., Zoom to Candidates, Pick Address from Map, Search, Match, Unmatch, Save Edits, Close

14. The third address did not match because the candidate score was not 100, even though the candidate is the correct address. Can you see why this is? Match this address correctly.

15. Add the NY Counties shapefile and make sure all projections match. Make a layout of NY stroke centers.