

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

Module 5: Mapping Point Data

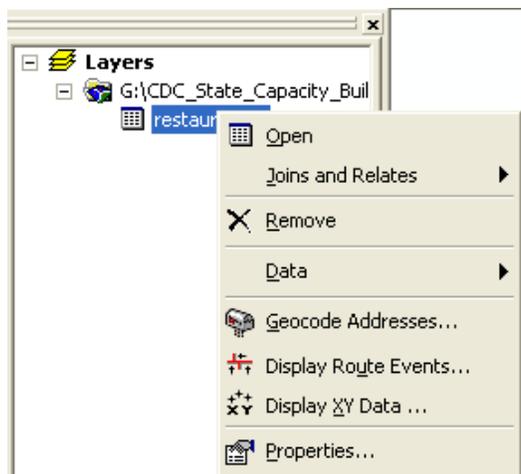
*** Files needed for exercise: *Durham_restaurants.xls*, *DurParcels_SingleField locator*

Goals: After completing this exercise, you will understand the basics of the geocoding process, as well as various ways to geocode.

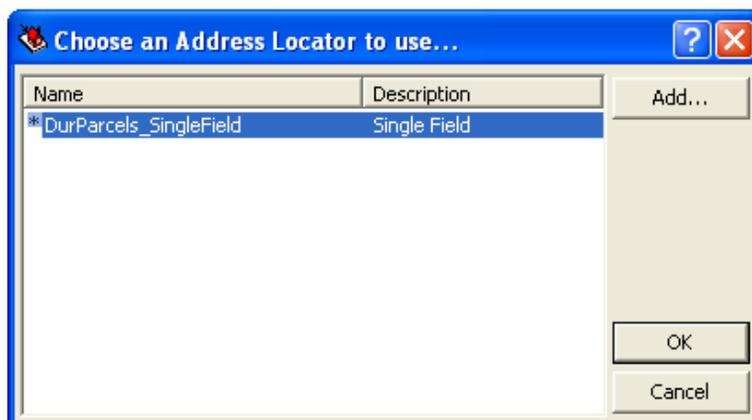
Skills: After completing this exercise, you will be able to geocode in ArcGIS, as well as with a web-based geocoding platform.

Geocoding in ArcGIS

1. Open ArcMap.
2. Click the Add Data button  and choose to add the *Durham_restaurants.xls* file. Choose the *restaurants\$* spreadsheet.
3. Right click on the table and choose Geocode Addresses.



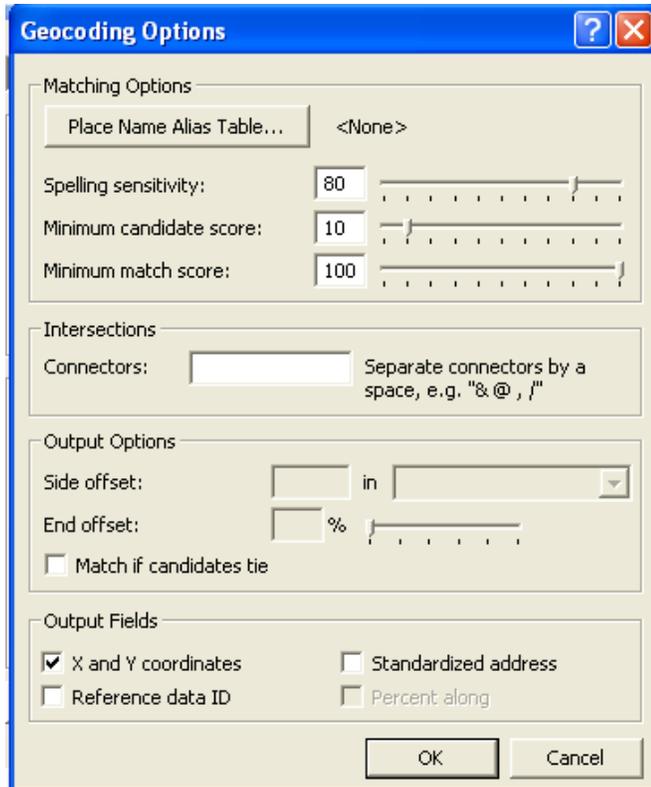
4. You will now need to choose an address locator. Click the Add button and browse to the Exercise_05_data folder. Choose the *DurParcels_SingleField* address locator.



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- Click OK. You will now need to specify the field used for geocoding, as well as the path of the output shapefile. Choose GEO_EDIT for the Keyfield. Specify an output path to the exercise folder.
- Click Geocoding Options. Here we want to raise our minimum match score to 100. We also want to uncheck Match if candidates tie, 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: 10

Minimum match score: 100

Intersections

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

Output Options

Side offset: in

End offset: %

Match if candidates tie

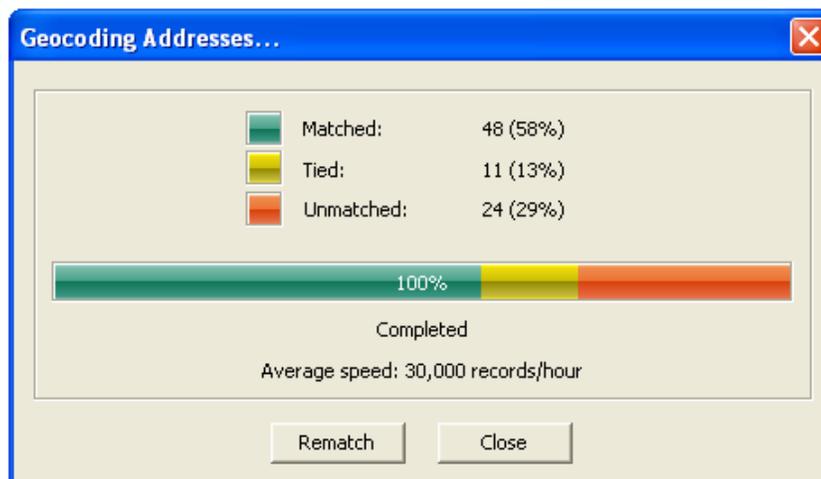
Output Fields

X and Y coordinates Standardized address

Reference data ID Percent along

OK Cancel

- Click OK twice to run the geocode.



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- 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 or tied records. Somebody will have to go through and match them manually.

Geocoding on the web

- Now let's try a different method. Open a web browser like Firefox or Internet Explorer and go to www.batchgeo.com. We can see that this website wants us to copy and paste data from a spreadsheet directly into it.
- Remove the Excel spreadsheet from your ArcMap document. Open it in Excel. Copy all the data from this spreadsheet and paste it directly into the Step 1 window on batchgeo. Click Validate & Set Options. The site should find 5 columns and 83 rows.

Step 1: Copy Your Data & Paste Below

FIRM_NAME	GEO_EDIT	CITY	STATE	ZIP_CODE
Arby's	2010 N ROXBORO ST	Durham	NC	27704
Arby's	3311 Hillsborough Rd	Durham	NC	27705
Arby's	2115 NC 54 HWY	Durham	NC	27713
Biscuitville Inc	1424 WATTS ST	Durham	NC	27701
Biscuitville Inc	1810 HOLLOWAY ST	Durham	NC	27703

You can also start by using our [Spreadsheet Template](#) or hit "Map Now" and try it out with our example data.

or

Done: 5 columns, 83 rows - scroll down to Step 2

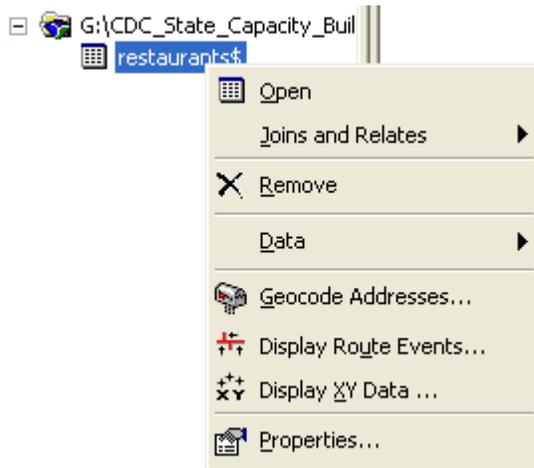
- In Step 2, set the Address or Intersection field to GEO_EDIT. The other fields should fill in automatically.
- Scroll down to step 3 and click Run Geocoder. It will take a few moments to process all the records.
- The site will produce a Google Map showing the locations of your geocoded points. Underneath the map you will see a Geocoding Results box. Click on Show Geocode Data. All of your data is here, with a lat/long coordinate appended to it. Copy all of this data back to the original spreadsheet and save it. You should now have an Excel spreadsheet with all of the original data, plus a few extra fields, two of which contain coordinate information.

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Displaying latitude/longitude data

1. Back in your ArcMap document, add the Excel spreadsheet one more time.
2. Right click on the spreadsheet you just added and choose Display XY data.



3. Select bg_long for the X Field and bg_lat for the Y Field (think about what lines of latitude and longitude really mean if this seems backwards). Choose the geographic coordinate system North American Datum 1983 by clicking Geographic Coordinate Systems > North America > North American Datum 1983. Click OK.
4. Compare this geocode to the ArcGIS geocode by clicking the layers on and off. What do you see? Which geocode found more points successfully? Which one do you think is more accurate? What are some of the reasons for this?