

# Mapping Point Level Data

GIS II: Data Management



- **Transforming address or X/Y data into a spatial dataset**
- **Displaying latitude and longitude data**
- **ArcGIS geocoding**

# Display X/Y Data

X	Y
-93.592104	33.656846
-93.592104	33.656846
-93.592104	33.656846
-93.592104	33.656846
-93.592104	33.656846
-93.592104	33.656846
-93.592104	33.656846
-93.587029	33.653888
-93.586984	33.649148
-93.586984	33.649148

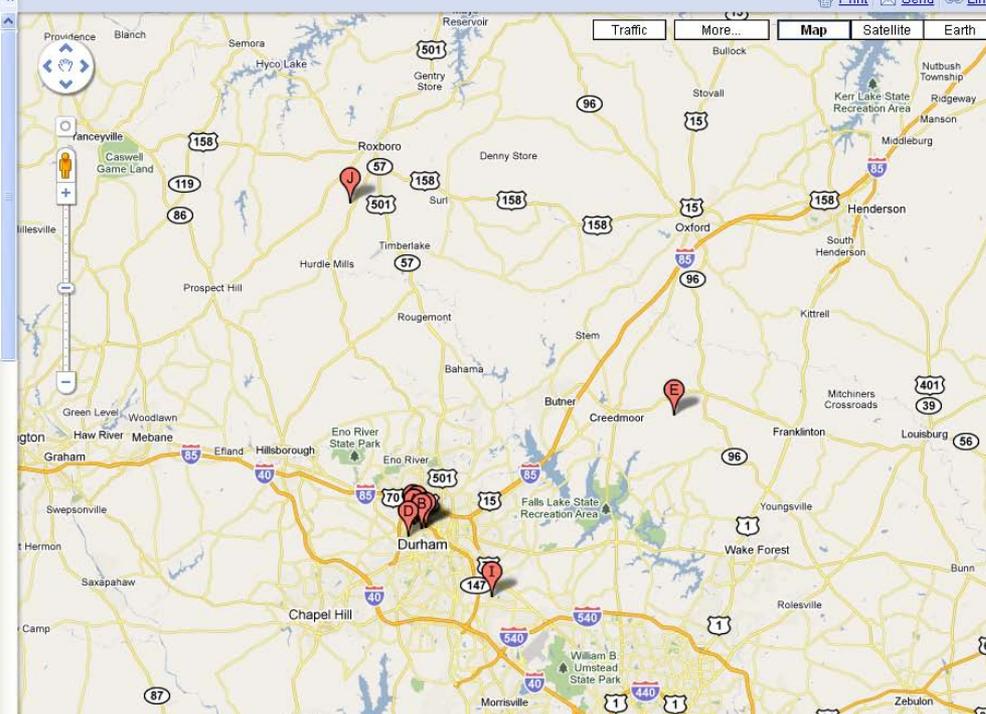


Google maps  Search Maps [Show search options](#)

[Get Directions](#) [My Maps](#)

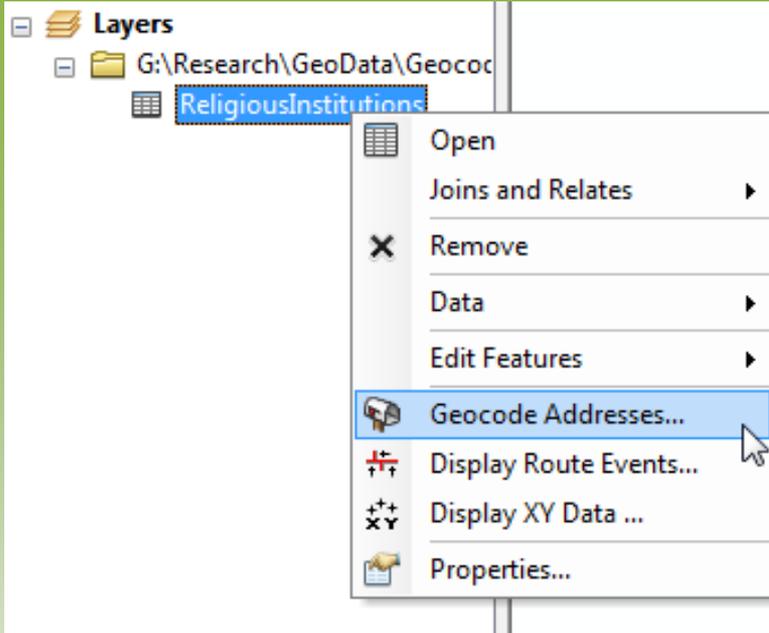
### lsrc near Durham, NC

- A** [Nicholas School](#) [- more info >](#)  
 450 Research Drive, Durham, NC - (919) 613-8004  
 "Chameides William Nicholas School of the Environment Duke University Post Office Box: 90329, LSRC Durham, NC 27708-0312, U.S.A Tel: 1-919-613-8004 ..." [docstoc.com](#)
- B** [Sarah P Duke Gardens](#) [- more info >](#)  
 426 Anderson Street, Durham, NC - (919) 684-3698  
 ★★★★★ [69 reviews](#)  
 "From the Upper LaSalle Parking Lot, exit down the large set of stairs towards the LSRC (the long, cream-colored building). Depending on the staircase ..." [duke.edu](#)
- C** [Brain Imaging & Analysis Center](#) [- more info >](#)  
 2424 Erwin Road, Durham, NC - (919) 681-9337  
 "B355 LSRC; 919-668-3635; View Full Profile. Dennis, Nancy A, Research Associate. B243P LSRC; 919-668-4767; View Full Profile. Hayes, Scott M. Research ..." [duke.edu](#)
- D** [Duke University](#) [- more info >](#)  
 Durham, North Carolina - (919) 684-8111  
 ★★★★★ [114 reviews](#)  
 "Touted as a "building without walls" that would foster collaboration across disciplines when it opened in 1994, the Levine Science Research Center (LSRC ..." [duke.edu](#)
- E** [Landmark Baptist Church](#) [- more info >](#)  
 3149 Walters Road, Creedmoor, NC - (919) 528-2947  
 "The LSRC has resumed normal hours of operation as of 8 a.m. Saturday. Your Duke ID badge should work



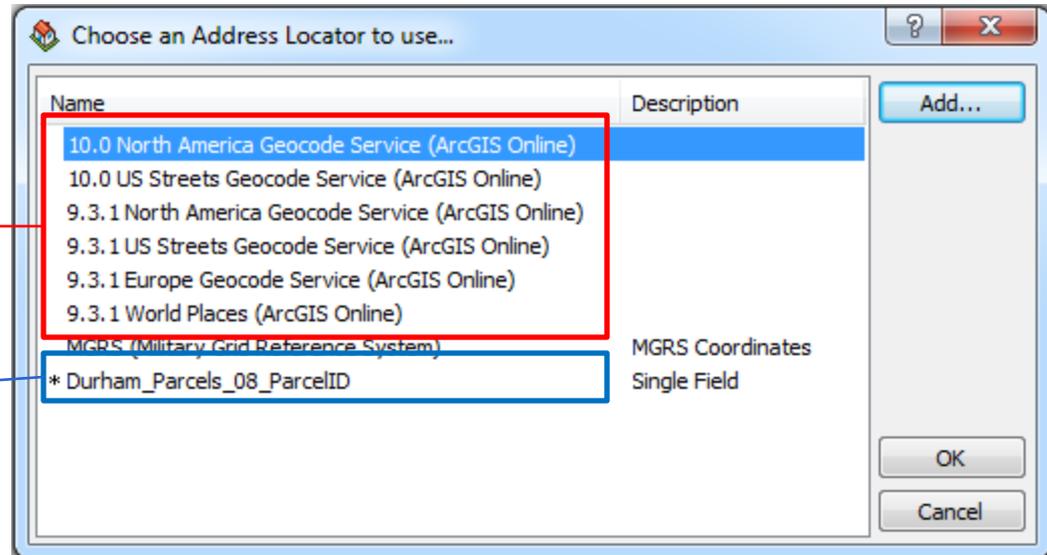
- **Geocoding is often the first step in a GIS project**
- **Turns text information into spatial data for further analysis**

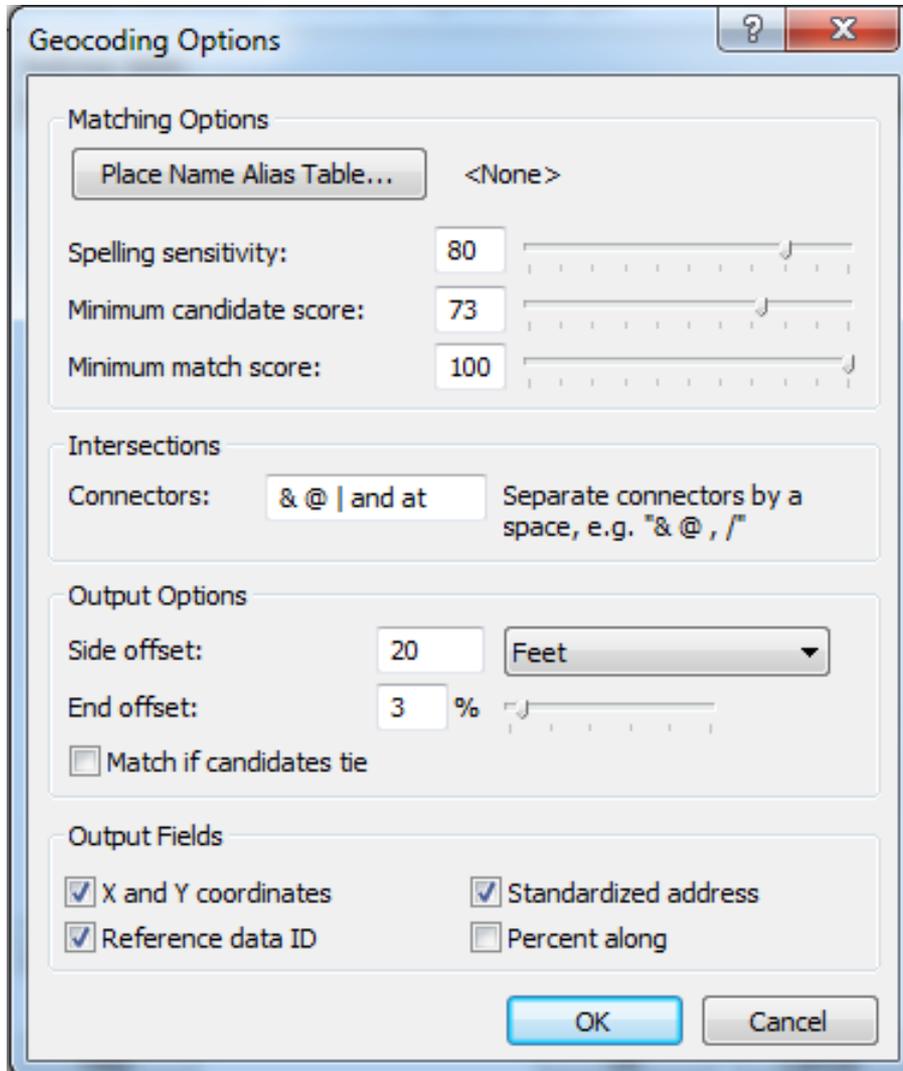
# Geocoding in ArcGIS



**ArcGIS Online  
Address Locators**

**Custom Address  
Locator**





**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

**Spelling sensitivity** – How accurate spelling of place names need to be.

**Minimum candidate score** – The minimum score required for an address to show up as a candidate for matching.

**Minimum match score** – The minimum score required for an address to be geocoded successfully. This should always be 100 the first time you geocode a dataset.

**Side and End offsets** – Options to avoid placing a point directly on a street segment. Will place the point a specified distance from the street segment.

**Match if candidates tie** – If two potential addresses have the same score, will choose one to match. This is usually undesirable.

# Rematching addresses

Geocoding Addresses...

■ Matched: 263 (65%)  
■ Tied: 0 (0%)  
■ Unmatched: 142 (35%)

100% Completed

Average s...

Rema...

Interactive Rematch - Geocoding\_Result

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

FID	Shape	Status	Score	Match_type
316	Point	U	0	A
317	Point	U	0	A
331	Point	U	0	A
332	Point	U	0	A
335	Point	U	0	A

380 (of 405)

■ Matched: 263 (65%)  
■ Tied: 0 (0%)  
■ Unmatched: 142 (35%)

Address: Street or Intersection: 1912 PAGE RD  
City or Placename:   
State:   
ZIP Code: 27703

3 Candidates

S...	Side	Match_addr	FromAddr	ToAddr
100	L	1912 Page Rd, Durham, NC, 27703	1918	1900
100	L	1912 Page Rd, Durham, NC, 27703	1950	1900
79	R	1913 Page Rd, Durham, NC, 27703	1919	1901

Candidate details:

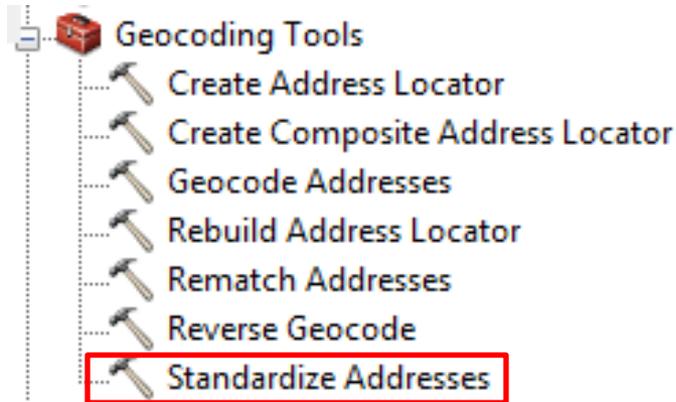
FromAddr: 1918  
ToAddr: 1900  
PreDir:   
PreType:   
StreetName: Page  
SufType: Rd  
SufDir:   
City: Durham  
State: NC

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

- **Build or obtain reference dataset**
- **Build or obtain address locator, or use an ArcGIS Online address locator**
- **Match addresses automatically with match score of 100**
- **Rematch unmatched addresses by hand**

- **Quality of reference dataset determines quality of data**
- **Bad addresses: PO Boxes, street directions, etc.**
- **Match scores less than 100 mean less accuracy**
- **Interpolation of street addresses**
- **Street vs. parcel/rooftop datasets**
- **Confidentiality issues**

In ArcMap...



## United States Thoroughfare, Landmark and Postal Address Data Standard

- Best practices for address data management
- Not yet incorporated in ArcMap
- <http://www.fgdc.gov/standards/projects/FGDC-standards-projects/street-address>