GEOL 452/552
GIS for Geoscientists I

Lecture 11

- Review (voting)
- Finish Ch 5 - Spatial queries (Select by location)
- Look at some more complex census 2000 maps
- Look at some old mini project 1 maps
- Tut ch 6 18 to 29
- HW 6: ch 5 1,2,3,5, 6,7,9 (due Oct. 7)

Which is SQL statement would select the name Jackson within a Shapefile?

“NAME” = “Jackso_”

“NAME” LIKE ‘%son’

“NAME” LIKE “Jack_”

“NAME” = ‘%son’

In this database Join, which is statement is wrong?

This Join won’t work, we need 2 shape files

This is a Many-to-One Cardinality

This is a Many-to-Many Cardinality

STATE_NAM(E) is the key field for joining here

This is a

Wrong
Which selects “population between 500 and 700”?

- “POP” > 500 AND < 700
- “POP” > 500 OR “POP” < 700

Select counties (polygons) that completely contain state capitals (point)
Select counties that are within 200 miles of Denver (point)

Select counties (polygons) that completely contain state capitals (point)
Select counties that are within 200 miles of Denver (point)

Selecting by location

- Selection Tools Window Help:
  - Select By Attributes...
  - Select By Location...
  - Select By Graphics

- copy data\follow_along \ch5B_class_ex folder to your student folder
- open mxd file

Let’s try: select cities that contain 1 or more cemeteries (1. layer? 2. layer?)
Select counties (polygons) that intersect rivers (lines)

Select rivers (line) that intersect the state (polygon) of Texas (states: polygons with fat outline)

Let’s try: select highways that intersect a city
(1. layer? 2. layer?)

With earlier selection - rivers within one state:

Manual or SQL selection - then spatial sub selection

Select cities (points) that are within 20 miles of an interstate highway

Select cities that are completely within counties named Washington (combination with attribute selection)

Let’s try: select cemeteries that are within 1 mile of a highway
(1. layer? 2. layer?)

Touch boundary of selected polygon

Cities that touch other cities
Spatial query before SQL query

Cities within 50mi of earthquakes

Having > 500,000 people

More 2000 census maps

- What kind of numbers are expressed?
- What visualization technique is used (graduated colors, symbols, etc.)?
- How well does it work?
- What could be an alternative symbology method?
Mini-project 1 Maps

- Let’s analyze the classification scheme and the color strategy
- Note: these not always show population change in absolute numbers (also in %, std. dev., other attributes)
- Is this effective? Do you quickly get the gist? Does it look good?
- Make suggestions - don’t trash the work!
Classification + Color Scheme? Effective? Improvements?

POP_change in %

Classification + Color Scheme? Effective? Improvements?

POP_change (in standard deviations)

Classification + Color Scheme? Effective? Improvements?
Wrap-up

- Tut ch 6: 18 to 29
- HW 6: ch 5 ex 1,2,3,5, 6,7,9 (due Oct. 7)
- Next week: Spatial Joins (Ch 6)
- next-next week:
  - Midterm prep (Tuesday, Oct. 13)
  - Midterm exam (Thursday, Oct. 15)
    - Open book/notes exam
    - Chapters 1 - 6
    - A) multiple choice part
    - B) practical part (60 min)