intro

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intros (others overlap? collaborate!)

- about myself `http://theaok.github.io`

- what do you research? (or interested in?)
○ using any data or want to find any data?

outline

why?

what is GIS?

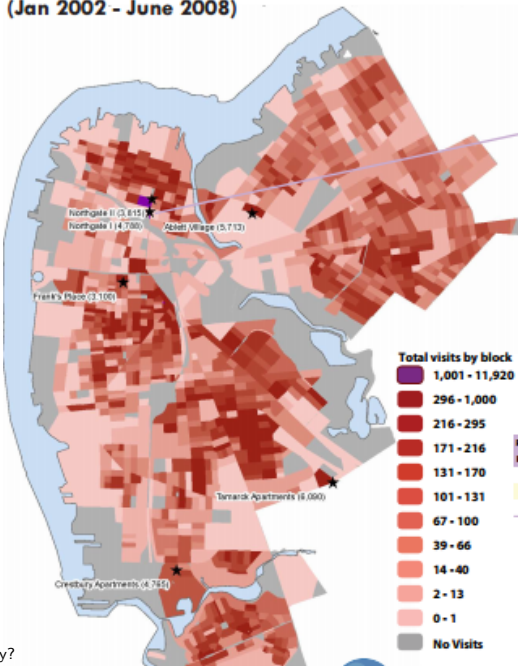general overview; approach and policies

why?

what is GIS?

general overview; approach and policies

a general thought about maps

- maps are (almost) always useful
- no matter what you study it (always) takes place
  somewhere and place matters
- so use maps for whatever you study in *all* other classes
- and all other projects outside of school
- it will always help with understanding of what is going on

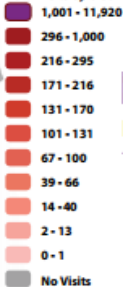# Inpatient and Emergency Room Visits in Camden, NJ
(Jan 2002 - June 2008)

Northgate I Public Housing

Northgate II (3,615)
Northgate I (4,788)
Ablett Village (5,713)

Frank's Place (3,100)

Tamarack Apartments (6,090)

Crestbury Apartments (4,745)

Total visits by block

■	1,001 - 11,920
■	296 - 1,000
■	216 - 295
■	171 - 216
■	131 - 170
■	101 - 131
■	67 - 100
■	39 - 66
■	14 - 40
■	2 - 13
■	0 - 1
■	No Visits

	Visits	Patients	Charges	Receipts	Collected
Cooper	3,172	749	$42,144,097	$4,994,658	12%
Lourdes	811	337	$7,848,809	$1,028,611	13%
Virtua	805	331	$1,742,487	$345,092	20%
2005	838	370	$10,834,420	$1,269,373	12%
2006	738	355	$6,967,995	$881,549	13%
2007	790	369	$7,979,262	$901,181	11%
ED	3882	978	$6,150,592	$864,019	14%
Inpatient	906	408	$45,584,781	$5,504,342	12%
Total	**4,788**	**1,070**	**$51,735,374**	**$6,368,361**	**12%**

Primary Diagnosis

Rank	ED	Inpatient
1	abdominal pain (789.0)	live birth (V3X.0)
2	acute URI NOS (465.9)	chest pain (786.5)
3	chest pain (786.5)	congestive heart failure NOS (428.0)

why?

why GIS?

- govt (local, intl, etc)
- zoning, public works (streets, water, sewer, garbage, land ownership/valuation, public safety (fire and police)
- natural resources (oil, gas, coal, etc)
- hwy and transpo
- any academics: "no matter what you study it takes place somewhere" (place always matter)
- perhaps esp public health/epidemiology and criminology

why GIS?

- businesses
  - retail site selection & customer analysis
  - logistics: vehicle tracking & routing
  - natural resource exploration (petroleum, etc.)
  - civil engineering/construction
- so you see that you can do a lot with GIS
- yes, it gives you specific, marketable job skills

<u>outline</u>

why?

what is GIS?

general overview; approach and policies

what is there?

- GIS Geographic Information Systems
- ○ Geographic: Cities, Roads, Rivers, Countries, etc
- ○ Information Systems: data, software, programming,
- ○ like MIS (Management Information Systems) or IT
- GIS=CS(graphics, database/sys adm, coding)+geography
- really, much of the GIS is data management
- geographic=geospatial=spatial (synonymous)

past and future

- much of the GIS has been (still is) done with ArcGIS/ArcMap
○ this is more of a dinosaur, however
- the future is open source software like Python

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approach

- you are encouraged to collaborate
  (prep for class, ps, paper)
- software class! applied, data-driven
- free to choose data/topics as long as relevant to the class
- bring your own data; kill 2 birds with one stone
- you need data (with geo: address, city, county, etc)
- don't worry, as long as you have any research interest,
  you are likely to find data about it
- we'll go over data sources in few classes

ps tips

- **important** (people never follow it)
- start early (late ps *not* accepted)
- ask questions (early!)
- ○ do not hesitate to ask questions
- ○ there are no "silly" questions
- ○ it is normal to get stuck and ask questions when learning
  new software
- in class: ask questions / tell me to go slower if needed
  (i have an impression that i go too fast sometimes)

maps are fun! (at the end if time!)

- let's look at some interesting maps
- ○ see patterns that cannot see otherwise
- ○ absorb easily lots of information
- ○ compare easily
- https://digg.com/2020/which-state-hates-which-state-map