intro

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outline

general overview; approach and policies

what is GIS?

[skip, nobody likes it] qgis on apps.rutgers

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extra credit opportunities

⋄ preaent smthong we did not cover (has to be GIS, of course)

⋄ present alrernative way of doing something that we have covered

⋄ civic engagement: Michael D'Italia
  michael.ditalia@camden.rutgers.edu

about myself

◇ aok.mooo.com

3 questions about yourself

$\diamond$ what do you research?

$\cdot$ using any data?

$\diamond$ what do you expect from this class?

weekly labs; do we need that?

⋄find out good time for weekly labs, say one hour before the class?

approach

◇ applied, data-driven

◇ you are encouraged to collaborate (prep for class, ps, paper)

◇ free to choose data/topics as long as it is relevant to the class

· bring your own data; kill 2 birds with one stone

· you need to have some data for this class

· don't worry, as long as you have any interest, you are likely to find data about it

· we'll go over data sources in few classes

before and after the midterm

◇ 1st half basics, go fast

◇ 2nd half more extras, relax with pace of material but work
  on paper (final ps/presentation)

◇ before: basics, data, theory, general

◇ after: more specific and advanced topics

◇ more research oriented

communication

$\diamond$ email is a preferred mode of communication

$\diamond$ during the class interrupt me as often as necessary

$\diamond$ after the class email me if you have questions – i check email frequently

$\diamond$ everyone got welcome email? no? email me

ps tips

◇ important : people never follow it

◇ start early

◇ late ps *not* accepted

◇ ask questions early!

· do not hestitate to ask questions

· there are no "silly" questions

· it is normal to get stuck and ask questions when learning
  new software

class website=syllabus

$\diamond$ slides are linked from the syllabus

$\diamond$ i try to post about a week ahead, but tentative only

$\diamond$ print, if you like, right before the class–i am updating
continuously

a general thought about maps

◇ maps are always useful

◇ no matter what you study it always takes place somewhere and place matters

◇ so you should 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

◇ and it is not that difficult!

◇ most of you are already at stage where you produce great maps!

the difference

◇ this class is different from other classes

◇ fudamentally this class is about software

· and hands-on, applied, usage of it

◇ it is impossible for me to cover everything that you may bump into

◇ that's why it is key for us to communicate well

· don't hesitate asking the questions

· use email etensively (eg couple times per day)

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general overview; approach and policies

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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 QGIS

◇ and internet companies like Google

what we'll be doing

◇ obtain (download, but also eg smartphone/gps), manage and display data

· a display is usually a map

· really, this class is mostly about producing maps

◇ there is much more to the GIS, of course

◇ this class is applied mapping

maps

◇ much of the class is about maps

· keep in mind that a map is visual representation of data

◇ there is always a database behind a map

· (database is like spreadsheet, but bigger and fancier)

◇ or more precisely:

· there is sometimes a map on the top of the database

· so maps is just data in the picture

◇ the bottom line is data !

why GIS in social science?

◇ local government

· zoning, public works (streets, water supply, sewers), garbage collection, land ownership and valuation, public safety (fire and police)

◇ federal/state

· natural resource management

· highways and transportation

◇ academics: ALL "no matter what you study it takes place somewhere"

(place always matter)

· but especially 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

maps are useful!

◇ before we begin let's look at some interesting maps

◇ you'll see that mapping can be useful

· see patterns that cannot see otherwise

· absorb easily lots of information

· compare easily

◇ examples are supposed to inspire you to produce your own
  maps

examples

◇ election results (just goog img)

◇ spread of diseases

◇ weather map/radar

◇ housing prices (trulia, zillow)

the big sort

◇ "The big sort
 why clustering of like-minded America is tearing us apart"
◇ America polarizes by county
 (counties are becoming either R or D)
◇ http://www.thebigsort.com/maps.php

who is your city

◇http://www.creativeclass.com/_v3/whos_your_city/maps

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server/cloud

◇ we will try to use apps.rutgers

◇ why bother with this?

◇ this is the future, in 10 years everybody will use it

· so you may get used to it now

◇ and a part of data management is to use a remote server

· again GIS≈data management

◇ faster, more reliable, accessible from anywhere, persistent sessions

◇ but you can run it on any pc, any OS

today

$\diamond$ first, the difficult part

$\cdot$ connect to apps.rutgers

we'll work on apps

⋄ make sure you have it enabled

⋄ go to `http://netid.rutgers.edu/`

⋄ on the left, click "service activation"

⋄ and activate "apps cloud service"

connect to apps.rutgers

◇ Either go to `https://apps.rutgers.edu` or `https://apps.rutgers.edu/novnc/` (clunkier, but works on tablets)

◇ To copy files, you can either `https://apps.rutgers.edu`

◇ For a nicer interface install `http://winscp.net/`, run it and connect to: Host name: "apps.rutgers.edu"; User name: "your Rutgers NetID"; Password: "your Rutgers password"

but you can just use your PC

$\diamond$ QGIS is open-source

$\diamond$ just google it...

$\diamond$ then you can brig your own laptop and work there...