raster

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outline

intuition; why bother

raster

Later/Explore at home: More Rasters

Later/Explore at home: Semi-Automatic Classification Plugin

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GIS area of its own

◇ can do a lot here

· eg remote sensing–say figure out roads from pixels

· another example is study of vegetation

◇ we will take it easy and just eyeball pictures

· especially, i think, exploration of past is fruitful

past matters!

◇ much of present can be explained with past!

· eg city growth, suburban sprawl, quality of housing

· eg redlining and contaminations:

  `https://theaok.github.io/gis/`

  `gisGoodExampleOfFinalProject.pdf`

◇ it's also fun to look back into past

· just like you look at your old pictures, look at the place

◇ aging `http://twistedsifter.com/2013/10/`
  `animations-show-how-faces-age-over-time/`

◇ satellite images
  `http://www.wired.com/2012/07/landsat-city-change/`

◇ Landsat website `http://landsat.gsfc.nasa.gov/?cat=4`

google street view has time too!

◇ https://www.google.com/maps/place/401+Cooper+
St,+Camden,+NJ+08102/@39.9471578,-75.
1218999,3a,75y,14.87h,90t/data=!3m7!1e1!3m5!
1sITXQj8a5aM3Xj91QOfu4Fw!2e0!6s%2F%2Fgeo0.
ggpht.com%2Fcbk%3Fpanoid%
3DITXQj8a5aM3Xj91QOfu4Fw%26output%
3Dthumbnail%26cb_client%3Dsearch.gws-prod%
2Fmaps%2Flocal-details-getcard.gps%26thumb%
3D2%26w%3D86%26h%3D86%26yaw%3D14.87242%
26pitch%3D0%26thumbfov%3D100!7i13312!8i6656!
4m5!3m4!1s0x89c6c8f0e64a7e77:
0xb5b160dc340e83ec!8m2!3d39.9473113!4d-75.

1218337

actual application

◇i think about research all the time

◇including on the airplane

◇and it struck me that there is so much concrete in TX

◇can easily show it with satellite images [p 43]

◇https://drive.google.com/open?id=1Coj3CuwvzyoF2Rm_
   a0Fg5sSOXkTzuZlV

often can actually see better!

⋄ with satellite images or from an airplane

· can actually see better

⋄ eg: most buildings and roads are build to trick you on
   the ground

· nice look, but cheap, etc

· it's interesting to see how it actually looks like

· from a different perspective, on satellite image

[outline](#)

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got raster?

◇we've done only vector data in this class

· mostly shapefiles and kml

◇there's also raster data

◇raster=picture ($+$ coord to fit it on the map)

◇we've skipped it because you can just use google maps

· or OpenStreet map, etc (also within qgis)

◇but sometimes pictures are better

· higher resolution and/or over-time (old v new)

nj example

◇start with our favorite

◇https://docs.google.com/uc?id=
  1xJDhcRCkgv7k4tNCa72Oog5bohV6dTB2&export=download

◇load to qgis; and then

◇https://njgin.state.nj.us/OGIS_IW/

nj example

◇'Select Dataset to Download': NJ 1995 DOQQs

◇zoom in to evesham township

◇on the left check 'Select by Point'

◇and it should show on the right this picture selected:
CLEMENTON NJ NE #1162

◇check it

◇and at bottom-right click 'Add Items to Cart'

◇then click checkout cart; click JPEG (just picture format)

◇it should save; extract zipped folder

load raster to qgis

◇ first, make sure counties vector is loaded; then:

· use a checkerboard icon on the left, below vector squiggle,

· to load our raster: navigate to unzipped JPEG file

◇ note that when you extracted zipped folder with JPEG,

· there are also other files, like in shapefile case

· these other files tell qgis where to put the picture on a map

load google satellite

◇ say we want to compare mid 90s to now

◇ could get newer (and better resolution) images

◇ but can just load goog satellite to get more current image

◇ QuickMapServices-Settings-More Services-Get contributed pack

· and load Google Satellite

◇ and zoom in to Evesham township, have raster on top of google

· and turn on/off raster to see past/present

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more rasters

◇http://glcfapp.glcf.umd.edu:8080/esdi/

◇https://search.earthdata.nasa.gov

◇https://earthexplorer.usgs.gov/

· seems comprehensive and powerful

· need to signup and login

· Search Criteria: just 'Coordinates' and 'Use Map' to
  select full map extent

· under Data Sets, probably most useful is Aerial Imagery

· say for NJ there is "High Resolution Orthoimagery"

· and then Results:

· Show Browse Overlay: will show img on map

· and 'Download options' to download

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the plugin

⋄it has good reviews

⋄give it a try if you are into raster

⋄https://plugins.qgis.org/plugins/
SemiAutomaticClassificationPlugin/

we're almost through

◇ what would you like to cover?

· anything new?

· cover anything again?

◇ maybe use some new data for examples?

· I have an impression that we should go to lower level

· title of this class is also (cross-listed) "urban mapping"

· maybe do tracts/blocks in Philly or Camden ?

· maybe zoning or public transportation?

· other ideas?