

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
- ◇ it's also fun to look back into past
 - just like you look at your old pictures, look at the place
- ◇ aging <http://twisteddsifter.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>

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_a0Fg5sS0XkTzuZ1V

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

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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=1xJDhcRCkgv7k4tNCa720og5bohV6dTB2&export=download>
- ◇ load to qgis; and then see our favorite nj data website
- ◇ https://njgin.state.nj.us/NJ_NJGINExplorer/DataDownloads.jsp
- ◇ at the bottom, it has raster data that links to
- ◇ https://njgin.state.nj.us/NJ_NJGINExplorer/IW.jsp

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/>

next week is the last qgis class

- ◇ 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?