

# python plugins

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## outline

python plugins

MMQGIS [qgis≥2.16 (or even earlier) part of qgis]

basic statistics: Statist

google goodies: OpenLayers

geoSearch

customizing

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## python-what's that?

- ◇ python is a great (productive, user-friendly) programming language
- ◇ a great thing is that python is widely used in GIS
- ◇ and you can automate with it (qgis, ArcGis, etc)
- ◇ perhaps one day if there is enough demand
- ◇ i could teach advanced gis, when we could cover this
- ◇ but we can get considerable power by just using plugins
- ◇ plugins are little programs available for download
  - and they enable new tools in qgis

## python plugins

- ◇ qgis producers and other people wrote little programs in python
- ◇ anybody can write a plugin for qgis
- ◇ they are extremely useful
- ◇ in fact, it's plugins that make qgis a great piece of software
- ◇ qgis with plugins can compete with pricey industry standard, ArcGIS

## get the plugins

- ◇ plugins-manage and install plugins
  - you can enable there lots of stuff—scroll down, there's some self-explanatory options
- ◇ experiment at home! many great tools there

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## the power

- ◇ arguably the most useful and comprehensive plugin of all
- ◇ we will use it a lot in this class; especially:
  - MMQGIS-Combine-Attributes Join from CSV layer
  - MMQGIS-Geocode-Geocode CSV with Google / OpenStreetMap



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## especially useful for older qgis < 2.10

- ◇ often some useful tool is innovated with a plugin
- ◇ and then becomes a standard in software
- ◇ in newest qgis > 2.10 you have histogram capability
  - layer-Properties-Style, and there is a tab with “histogram”
- ◇ but can also use Statist: a neat histogram (or maybe even neater, but without classes' bins)
- ◇ Plugins-Manage and Install Plugins, search “Statist”
- ◇ once installed should appear at the bottom of left toolbar
- ◇ and its icon is a  $\sum$

## using it

- ◇ pick popden2010 from nj\_counties
- ◇ very useful information when thinking of a color ramp!
- ◇ you should have histograms in your ps for key variables
  - and discuss distribution
  - just click the “diskette” icon to “save as”

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# bringing google maps into qgis

- ◇ <http://maps.cga.harvard.edu/qgis/wkshop/basemap.php>
- ◇ especially if you map at low level (neighborhood, city, county)
  - you want some background (roads, parks etc) (e.g. as shown in google maps)
- ◇ you could do it step-by-step
  - find roads layer, parks layer, etc, lots of work !
- ◇ can easily bring all of that into qgis right from google maps
- ◇ just need an OpenLayers plugin

## OpenLayers

- ◇ let's get that useful google imaginary
  - search: "OpenLayers" and install it
- ◇ then just Wweb-OpenLayers
  - plugin-OpenStreetMap-OpenStreetMap
    - (google streets may sometimes not work, try others)
    - (sometimes may need to zoom in and out)
  - when loaded, it appears on the left as any layer
- ◇ move it as the last layer so that it does not cover your map
- ◇ again, especially useful for work at low level
  - bring in nj counties, Prperties-Style: increase transparency

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## cool features

- ◇ will appear under Plugins, or at the top as 'globe' icon
- ◇ (first load OpenLayers so that can see where we are)
- ◇ let's try points and distance
  - can check 'append' to have many points
  - can either geocode (find) address or enter it by clicking on the map
- ◇ can easily have multiple nodes for the trip
- ◇ can do all modes that google can do: walk, drive, bike etc
  - still little clunky, better do those directly in goog maps
  - will do that later!



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## toolbars

- ◇ one way to customize is to install plugins
- ◇ but you can also customize the presence and placement of the core tools
- ◇ you'll use qgis a lot—make it comfortable
- ◇ can customize what is displayed—right click at the top (below MENU)
- ◇ and select the stuff you want to have displayed
- ◇ can grab a toolbar (left side) and move around
- ◇ again, what matters most is that you have a big screen!