OpenGIS for Everyone

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Quantum GIS
A Fully-fledged open source GIS

- Raster map processing & overlay
- Highly accessible & intuitive graphical interface
- Mapping & labeling (points, lines, polygons)
- Georeferencing
- Loads from/writes to most vector & raster formats
- Databases: Shapefiles, SpatiaLITE, PostGIS
- Plugin-expandable

- Rover path
- Crater rays
- Small craters
- Ejecta blocks

Contours: 0.5 m

-10.0 m
-5.0 m
0.0 m
5.0 m

Quantum GIS

Advantages

• Your students, classmates, & collaborators can install it on their own machines!
• Large, helpful community of users & developers
• Python interface (combine with NumPy & SciPy!)
• Runs on all platforms! (Linux, MacOS, Windows)
• Free as in free lunch & free speech

Disadvantages

• Has a few bugs that usually have work-arounds
• Does not handle huge rasters very well (yet!)
Other FOSS-GIS Tools

- **GDAL**: Geospatial Data Abstraction Library
  
  Raster processing library & tool kit
  (Stand-alone, Python, C++, C)

  *Format translation, raster projection, slope maps, aspect maps, roughness, curvature, contour extraction...*

- **PostGIS**: geographical SQL database for GIS
- **PyShape**: Python library for parsing shape files
- **OGR**: vector data conversion library
- **PROJ.4**: coordinate reference system library

Resources

- Quantum GIS: www.qgis.org
- OSgeo: www.osgeo.org
- OpenGIS listing: www.opensourcegeospatial.org
- PostGIS: www.postgis.org
- PyShape: http://code.google.com/p/pyshp/
- GDAL & OGR: www.gdal.org

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Curious about free software & free operating systems?

www.gnu.org