

## **Workshop about the GFOSS software GRASS and QGIS**

**Genoa, 20 - 24 October 2014**

### **Day 1**

- GIS and numerical cartography introduction
- Coordinate System, OGC standards and libraries (OGR, GDAL and proj4),
- Introduction to QGIS (with individual practice exercises)
- GeoDatabase introduction

### **Day 2**

- GRASS introduction
- Vector and raster re-projection with GRASS and QGIS
- Raster → Vector / Vector → Raster conversion: GIS command and critical review
- Vector digitizing with QGIS (*individual practice exercises*)
- Digital Elevation Models (typology, source of data, etc.)

### **Day 3**

- Introduction to geoprocessing and join
- Geomorphological analysis with GRASS and QGIS (with individual practice exercises)
- *geoprocessing* / join / field calculator with QuantumGIS (with individual practice exercises)

### **Day 4**

- GeoWebservices – Introduction and use of WMS/WFS in GRASS and QGIS
- Interpolation of data (with individual practice exercises) (eventually also of LIDAR data)
- Watershed analysis using GRASS (with individual practice exercises)

## Day 5

- Print a project with QGIS / export and image with GRASS
- GRASS basic modules for statistical analysis
- Georeference a raster image using QGIS or GRASS
  
- *Optional argument:*
  - a) image classification with GRASS(with individual practice exercises)
  - b) creation of webgeoservice with Geoserver (with individual practice exercises)

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## Course organization

For the course a the OsGeo Live Virtual Machine will be available and is strongly suggested for students who normally use Windows OS.

References: <http://live.osgeo.org/en/presentation/index.html#/>

Student who commonly use linux or MAC OS can use directly their PC. No or only low experience is requested with command line. All the GRASS exercise are conducted using the Graphical User Interface (GUI) of GRASS.

Slide / geographical data etc. will be available online using the e-learning *moodle* platform [http://www.gter.it:28082/websevice/corsi\\_online/](http://www.gter.it:28082/websevice/corsi_online/).

Using the same platform a forum space will be available also after the end of the course for any type of answer.