Basic terms, concept of GIS
(Lesson 1)
Contents

- what is GIS? / usage of GIS
- introduction to QGIS
- map navigation
- working with layers
- homework no.1 – your first map
Introduction

- usage of GIS
  - rescue systems
Introduction

• usage of GIS
  - rescue systems
  - environmental monitoring
Introduction

- usage of GIS
  - rescue systems
  - environmental monitoring
  - natural science research
    - monitoring the movement of animals
    - spread of disease (viruses) ...
GIS tasks:
- collection,
- processing,
- analysis,
- visualization,

of geographical (geo-localized) information
Geographic information systems

- GIS tasks:
  - collection,
  - **processing,**
  - analysis,
  - visualization,

- of geographical (geo-localized) information
GIS tasks:
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QGIS

• free and open source GIS
• developed since 2002
• works with most raster or vector data formats, PostgreSQL database, WMS, WFS...
• locales in various languages available
• website: http://www.qgis.org
Introduction to QGIS
Panels / Toolbars
Overview
Concept of layers
• adding layers to project:
  - via menu:
    Layers → Add vector layer
    Layers → Add raster layer
  - via icons:
  - via Browser:
    double click
    drag and drop
    Add Selected Layers icon
Working with layers

• changing layers order:
  - drag and drop in Layers panel

• changing layer style:
  - double click - **Properties** dialog box:
    fill color
    fill style (solid, no brush, hatch, dots ...)
    outline color
    outline style (solid line, dash line, dot line ...)
    outline width
Map navigation

• zoom in
• zoom out
• pan
• zoom full
• zoom to layer
• zoom to selection
• zoom in/out by scroll (mouse wheel)
• overview map navigation:

  **Settings → Panels → Overview Panel**

• layer → **Show in Overview**

• changing view by drag and drop of red rectangle in overview panel
View → Decorations

- grid
- north arrow
- scale bar
- copyright label
Plugins → Manage and Install Plugins

- functionality extension
- additional functions:
  - creating layer from XY coordinates table,
  - GPS tools,
  - georeferencing,
  - ...

Project

- which is stored in the project?
  - layers styling
  - layers order
  - project settings (map units, layer names, coordinate system ...)

- which is not stored in the project?
  - layers data

- guidance:
  - to transfer the project, we have to copy not only the project itself, but also the layers data (shapefiles, etc.)
• save the map as an image (PNG, JPG): **Project → Save as Image**…
• image of the map we can paste to text documents, publish on the website or modify in graphic editors
Homework no.1

- download vector layers from:
  http://gis.fns.uniba.sk/vyuka/Gis/u1/d1.zip
- create the map from layers:
  - change the layers order properly,
  - style the layers,
  - add map decorations (scale bar, north arrow)
  - put your name in copyright label
  - save the map as an image
- send the image to stankova@fns.uniba.sk
- deadline: until the next lesson
Thank you for attention!