Introduction to QGIS

A powerful Open Source Desktop Tool
ILPÖ Universität Stuttgart – May 2019

Day 1 – Friday May 3rd, 2019

What is GIS? *~1 hour*

- Short Introduction/Overview
- Use cases for GIS - Examples

Overview and Foundations of QGIS *~30 minutes*

- The QGIS project and it's open source community

Practical Introduction

- **The QGIS software and spatial data** *30 minutes*
  - QGIS Desktop and Browser
  - Spatial Data
  - Data Sources (e.g. Open Street Map)
- **QGIS Basics and Interface Overview** *~1.5 hours*
  - Supported Data Formats
  - Exploring and using vector and raster data
  - Layer and map properties
  - Cartography
- **Exercises - Creating and Printing Maps**
  - Using map layouts for cartography and printing maps *~2.5 hours*
  - Working with tables and layers

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Day 2 - Friday May 10th, 2019

Managing Raster Data - Exercises *~1 hour*

- Hill shade, slope, aspect (from DEM)
- Raster calculator

Spatial Analysis and Tools

Geospatial Processing in QGIS - Exercises *~2.5 hours*

- Using the geo-processing tools and graphical model builder
- Exercises (e.g. counting trees in Seattle neighborhoods)

QGIS Plug-ins *~ 2 hours*

- Default Plug-ins: DB Manager, Coordinate capture etc.
- Topology
- OpenLayers (Tile layers + OSM data download)
- Semi Automatic Classification Plug-in (Remote sensing)
- Integration with external programs
  (Grass, R Statistical Software, SAGA GIS, Lidar tools etc.)

QGIS User Resources *~30 minutes*

- Manuals, books, articles, workshops
- Email lists, conferences