

Workshop: „A GIS application for assessing, mapping, and quantifying the ecosystem changes“

17.09.2022

This workshop will allow one to fully understand the basics of Geographic Information Systems (GIS) and Remote Sensing, learn how to use the open-source program QGIS and how to get and download freely available geodata sources. All participants will gain experience in vector and raster data preparation, layout development, and finally, map creation. This workshop is designed to guide through and learn participants with practical knowledge of land use, land cover mapping, and satellite data processing, which is one of the core skills for any Geographic Information System. Land use and land cover maps can be input data for other environmental spatial analyses. After the workshop, you can gain a background in land use mapping and detection of land use/land cover changes. The processing of satellite images gives also a chance to detect vegetation changes (forest conditions, crop production, meadows vegetation detection, etc.). This workshop is dedicated to environmental science specialists who are interested in the practical use of QGIS in land cover changes modeling, species distribution, and geodiversity. The workshop aims to use advanced techniques and QGIS plugins to analyze and visualize the vector data for environmental monitoring purposes. The workshop assumes that you have a basic theoretical knowledge of GIS (for those who need a short revision, additional materials will be prepared). The course program includes: an introduction to the concept and practical application of environmental data for spatial modeling using QGIS software, including a selection of environmental variables, processing data, creating spatial visualizations, and validating the environmental diversity within the selected area

Workshop is free of charge.

Workshop program:

<b>Schedule</b>	
9:00 – 9:30	The basic functions of QGIS (30 min)
9:30 – 10:00	Freely available environmental data searching (15 min + 15 min for Earth Explorer)
10:00 – 10:30	Adding and displaying data in QGIS (30 min)
10:30 – 10:45	Coffee break
10:45 – 11:15	Basic vector tools (30 min)
11:15 – 12:15	Environmental changes analysis using remote sensing (1h)
12:15 – 12:30	Coffee break
12:30 – 14:00	Diversity analysis using map algebra and landscape metrics (1,5h)
14:00 – 15:00	Map export (1h)