OpenGeoEdu Exercise: Advanced

Computation of transport related land use indicator

Problem

The Basic Exercise unit described how to calculate the total road traffic network density on the municipal level for a selected federal state. The following contents were covered:

- Basics of data management using freely available, open data
- GIS technical calculation steps with geometric attributes
- Cartographic presentation of the results, comparisons and their evaluation

In the Advanced variant you can try the following approaches, or you can pursue your own questions:

- Choose another federal state (not Saarland) for this task. Please perform a quantitative assessment (use WFS data from the IÖR monitor and combine it with your own calculated indicator values and display them as a scatter plot/correlation). Also note the so-called MAUP problem.
- Visualize both data sets (IÖR monitor, own calculation) with the help of ArcGIS Online > Map Layer Comparison - Slider, Table, Identifier-Popup etc.
- Try to automate these tasks using the Model Builder or Python Scripting. This is a very good basis for reuse as "Tools/GIS tool".

Note: Total road network density is a traffic-related land use indicator provided by the IÖR Monitor as a web GIS service. There are 10 transport-related indicators at different levels. They work only with freely available open data (e.g. OSM) and also open GIS software (e.g. QGIS). Alternatively, you can also work with open official data (ATKIS Basis-DLM data are openly available in the federal states of Berlin, NRW, Hamburg, Thuringia, Rhineland-Palatinate, Brandenburg, and Saxony) and other GIS software tools. Please note the respective terms of use of data products and software in relation to open data guidelines.