

## PS Spatial Analysis Assignment #3 | Spatial Analysis

Paris-Lodron-Universität Salzburg  
Department of Geoinformatics

### Objective

The objective is to use spatial analysis techniques to analyze Salzburg and the terrain of Salzburg with the methods of viewshed analysis in ArcGIS online and/or ArcGIS Pro.

When performing spatial analyses please take care to have an eye on the environment settings – especially the processing extent!

### Assignment:

The tasks listed below are listed in a way that you can easily find out what to deliver in order to receive a certain grade. The tasks are building on each other – meaning for a grade 2 (“Gut”) you have to deliver the tasks for grade 4, grade 3 and grade 2.

Please prepare a new map that contains the following datasets:

- DEM of Salzburg: dgm5m.asc (as used in the course)
  
- **Task 1 > grade 4:**  
Select an area of interest in Salzburg or in another country of your choice, and develop a plausible visibility / visual impact scenario, e.g. with a 'planned' high rise construction in a town or village, the surrounding areas will be your study area. Describe your scenario and the geographic question(s) that you are about to answer in your report.
  
- **Task 2 > grade 3:**  
Develop a map showing a line of sight analysis. Make sure you provide at least 6 different lines of sight and analyze the visibility using the created lines of sight. Please provide screenshots/maps accordingly. Please discuss the results critically!

- **Task 3 > grade 2:**  
Create a viewshed analysis of your impact scenario. Please provide maps and screenshots in the report and discuss the results accordingly (I do expect a critical in-depth discussion of the obtained results).
  
- **Task 4 > grade 1:**  
Think about and define a metric for visual impact and justify your choice in the report (why is this specific metric well chosen, etc.). Calculate the impacted areas and calculate the impact based on your chosen metric (e.g. affected population). Please discuss the obtained results in depth, and provide some objective numbers (e.g. number of affected persons/households) in the report. In addition, you should provide maps/screenshots of your results as well.

### **What and how to hand in?**

Please create a detailed report with screenshots of the maps and hand in a PDF file of your report using Blackboard System!

**Please hand in your written report using Blackboard System until January 31, 2024, 11:59pm!**

Johannes Scholz, Jan 08, 2024