



Raster Homework Assignment

Geographical Information System

QGIS






Assignment

- Given a raster topographic image of an area
- Subtasks to be completed
 - Display: colour gradient topographic (BrBG)
 - Create contour lines with 25m level spacing
 - Note: only main and sub contour lines, without notations and without drop spikes
 - Find plateaus where:
 - Height above sea level is greater than 250 mBf
 - Slope less than 10°

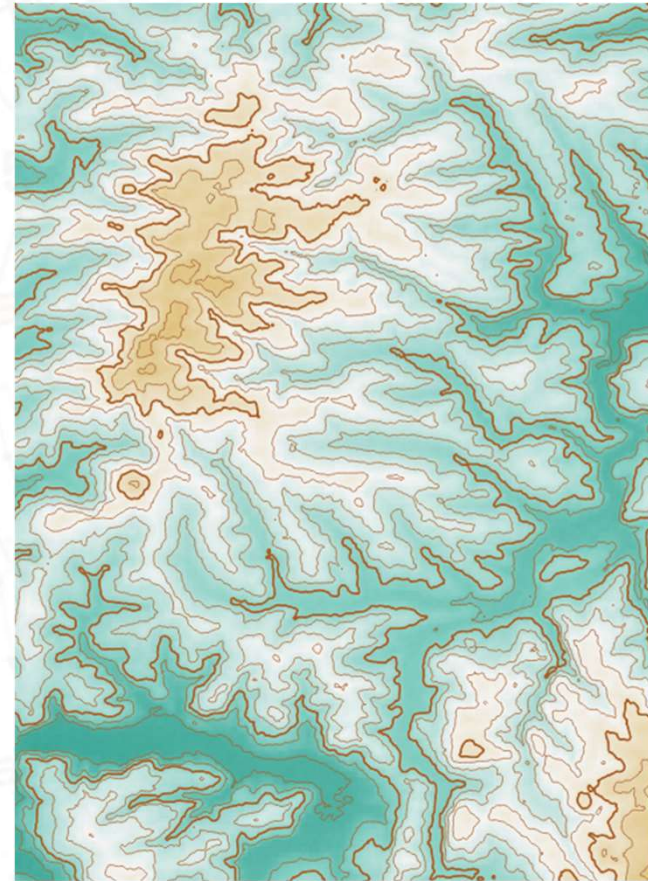
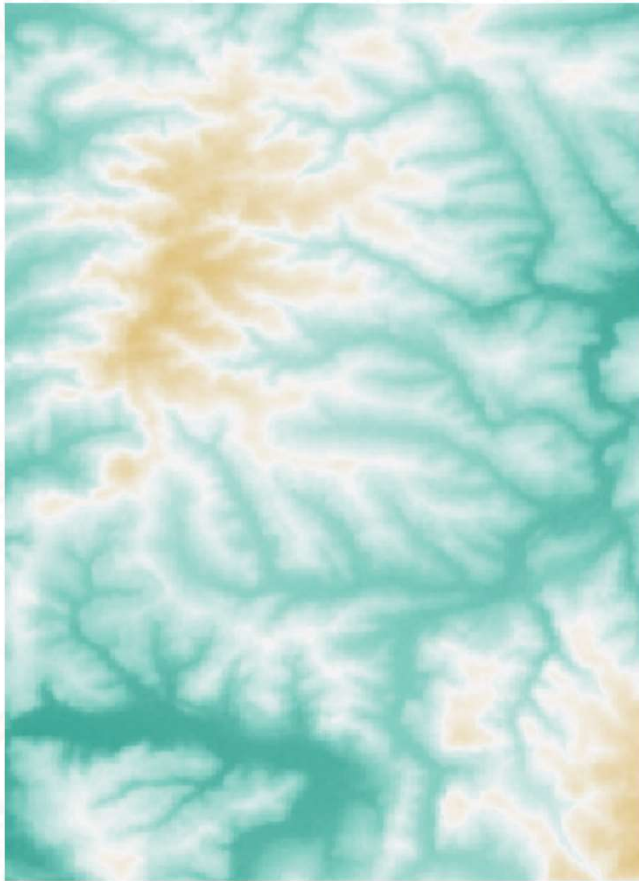
Generating the area

- The task will be unique for each student by randomly selecting a part by the program *Raster_HW_generator.model3* from the *Raster_HW.gpkg* file uploaded to Teams
 - The program is available on Teams
 - Download and run from the QGIS Browser panel
- The homework must be performed on the newly created layer

Execution of a task independently

- The topography and contour lines are drawn and the plateaus are detected according to the criteria given at the beginning of the assignment, using the analysis methods learned in the practical classes.
- *Good to know:*
 - *Contour* 
 - *Rule-based symbology* 
 - *Slope* 
 - *Understanding SRTM raster's pixel value*
 - *Raster calculator* 
 - *Instructor contact...* 

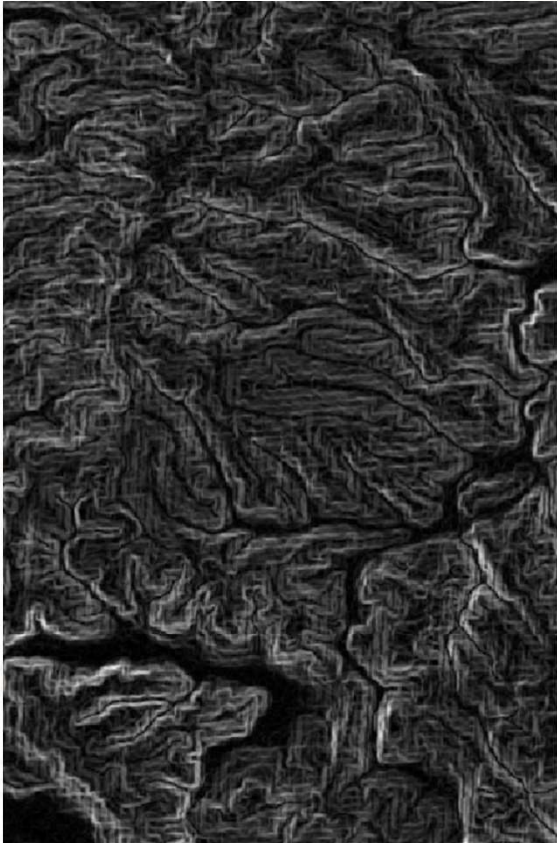
Colour coding and contour lines sample



Submitting the Homework

- Save the final solution to a GeoTiff file:
 - File name : lab no + Neptun code + Name + „Raster HW”
 - Példa: LA01 ABC123 Smart Student Raster HW.tiff
- Upload to the Assignment issued in the Teams group
- Deadline: 3rd December
- Tasks uploaded before the deadline can be returned for correction
- **Files to upload**
 - GeoPackage (*.gpkg), which includes :
 - Coloured starting raster layer
 - Contour lines (main and sub lines only, no drop spikes or labelling required)
 - Slope raster layer
 - Raster layer containing a solution for plateaus
 - Personalised starting raster layer(*.tiff) [note.: GeoTiff]
 - Raster layer containing solution(*.tiff) [note.: GeoTiff]
 - A short technical description in PDF format, including the concept of the solution, specifying the taken steps

Slope



Final solution: Plateaus



Personal advice

- Save the project in to the GeoPackage at the beginning!
- **Save frequently!**
- After the running a vector query, **name the temporary layer!** If the result of an analysis proves to be correct, save the layer in GeoPackage!
- After the running a raster query, **name the temporary layer!** If the result of an analysis proves to be correct, save the layer in GeoPackage by adding the layer to the project and deleting the temporary by hand.
- In the browser, manually drag-and-drop the *.tiff result rasters (Slope and analysis result layers) into the GeoPackage!