UNIVERSITY OF COPENHAGEN

DEPARTMENT OF GEOSCIENCES AND NATURAL RESOURCE MANAGEMENT FOREST AND LANDSCAPE COLLEGE



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Colorize DTM and create a Hillshade

When opening a Terrain- or Surface model they are in black/white and make no sense 'reading'. In this tutorial the aim is to colorize a terrain model (DTM) and to create a Hillshade from the DTM.

Open the virtual raster for jyllinge.

In this file there is only one band with data. The values in the band are z-coordinates measured in meter.

Colorize pixels

Click Add Raster layer Choose Jyllinge.VRT

Double Click on the layer >Choose Style

Change from Singleband Gray to Singleband Pseudocolor

Choose in Generate new color map>Spectral

Enable Invert

Mode change from **Continous > Equal interval**

🌠 Layer Properties - jy	Ilinge Style		2 ×	
🔀 General	Band rendering			
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Transparency	Band	Band 1 (Gray)	Generate new color map	Classes to 10
A Pyramids	Color interpolation	Linear -	Edit X Invert	
line	🕂 🖶 💌 🌊 🚞 🛃		Mode Equal interval Classes 10	Click Classify
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	Style 🔹		OK Cancel Apply Help	



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Color Label

-0.5

0

5

10

15

20

25 30

35

In this example land are colored blue.

In the following the color has to be edited.

Double Click at the layer in the Layer Panel

Double Click at the first number in the column **Value**.

Write **-0.5**. Repeat in the **Label** column.

Edit the numbers as shown in the figure

Delete the last entry by click on



Finish by click **OK**

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Value

0

5

10

15

20

25

30 35

-0.5



There is still too much blue in the value for 0.

Enter the dialog again. Double click at the color for 0

Pick a sample color from the next color (5)

Drag the color darker in the V Click **OK**

Change the value to **0.3** Only for the value. Click **OK**

Create a Hillshade



DTM

DTM and Hillshade

The DTM is shown in pastel color. To better being able to interpret the map, the next step is to create and combining with a Hillshade.



A Hillshade is a light setting over the terrain.

Azimuth measures in the angle from where the light comes from in the plane. (0-360 degrees)

Vertical angle is the hight the light comes from (0-90 degrees)

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Activete the **Processing** toolbar

In the Search panel write Hillshade

Double click at the GDAL Hillshade

Input Layer is the terrain model jyllinge

Z-factor is 6

Hillshade click Give a filename

Click Run

🔏 Hillshade		2 ×						
Parameters Log Input layer	Run as batch process	Hillshade						
jyllinge [EPSG:25832]	×	GDAL gdaldem module.						
Band number		For more info, see the module						
	▲	help						
 Compute edges Use ZevenbergenThorne formula (instead of the Ho Z factor (vertical exaggeration) 	orn's one)							
6,000000								
Scale (ratio of vert. units to horiz.)								
1,000000	.							
Azimuth of the light								
315,000000	÷							
Altitude of the light								
45,000000	····							
Hillshade								
C:/rastergis/hillshade.tif								
Copen output file after running algorithm GDAL/OGR console call								
gdaldem hillshade C:\rastergis\jyllinge.vrt "[tempora az 315 -alt 45	ry file]" -b 1 -z 6 -s 1 -							
0%								
		Run Close						

For more explanation about the Hillshade – click Help in the right column

The result is a grey image

Values in Layer Panel for the Hillshade is just color values for black/white



Double click at the Hillshade>Style

Change Color rendering from Normal to Multiply

Click OK

Color rend	ering							
Blending mod	le Multiply			-				🦘 Reset
Brightness			O	Contr	rast	0		- 0 -
Saturation		-0	O	Grays	scale Off			-
Hue	Colorize	S	trength					──────────────────────
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