Universität Potsdam

Remote Sensing of the Environment

Wintersemester 2024-2025

Lab 5

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14.12.2024

Question 1

In Figure 1 you can see the map showing the vegetation heights above the interpolated ground surface. The highest point above the ground is the crane at about 62 meters, which was incorrectly classified as vegetation. This can be seen from the yellowish color. There are also some tall trees in the southeast of the map, which are also about 60 meters high.
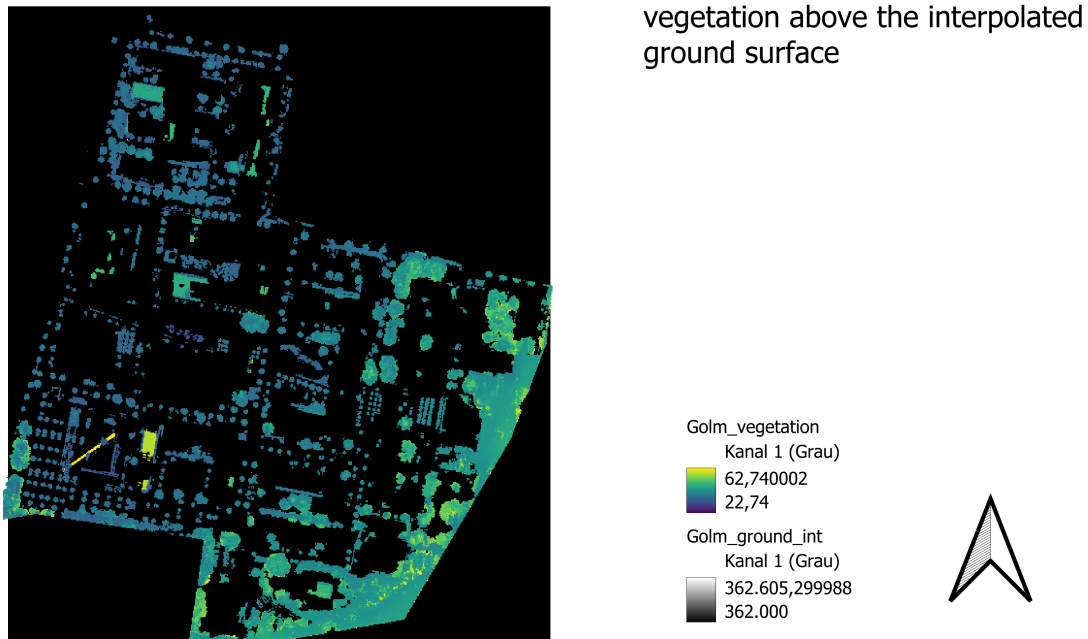

vegetation above the interpolated ground surface

Golm_vegetation
Kanal 1 (Grau)
62,740002
22,74

Golm_ground_int
Kanal 1 (Grau)
362.605,299988
362.000

Figure 1

Question 2

In Figure 2 you can see the map showing the building heights above the interpolated ground surface. The heights in the legend are unrealistic, as the buildings in Golm are not between 30 and 60 meters high. These values are probably due to incorrect classification and calibration. However, the ratios of the building heights are quite correct (which buildings are higher than others).

buildings above the interpolated ground surface

Golm_buildings
Kanal 1 (Grau)
62,68
34,080002

Golm_ground_int
Kanal 1 (Grau)
362.605,299988
362.000

Figure 2

Question 3

In Figure 3 you can see the map showing the vegetation heights above the interpolated ground surface, this time with 3 meter grid spacing. The heights are significantly higher than the map with 1 meter grid spacing. Here too, the crane can be seen as the highest point, but the values appear unrealistic.

vegetation above the interpolated
ground surface (grid spacing 3m)

Golm_vegetation_3m
Kanal 1 (Grau)
75,559998
30,83

Golm_ground_int
Kanal 1 (Grau)
362.605,299988
362.000

Figure 3

Question 4

I think the datasets are so different because the resolutions are very different. Airborne Lidar data has a significantly higher resolution than SRTM data. Lidar data is more trustworthy because it has a higher accuracy and covers smaller areas. The larger the grid spacing, the greater the error.
Unfortunately, the display in QGIS did not work for me, so I cannot show a map.