Pilot area description – Aalborg south

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Content

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1. General pilot area description

The alliance finds it important to develop and test solutions in cooperation with multiple operators from different areas of the country. One important focus area is the area surrounding the Limfjord. Here the alliance will work in e.g. Skive and Jammerbugt municipalities. Moreover, operators from Varde, Horsens, and Odsherred municipalities will be involved.

So far, the alliance has established 7 pilot areas. These areas will function as test-case areas where scientists and operators can meet and discuss the implementation of different initiatives. Scientific results and experience from these areas can later be used in other localities with similar characteristics. It is therefore important that the pilot areas represent the variability of Denmark not only in relation to geographical location but also to land use, geology, etc. The delineation of the pilot areas is based on water catchment and therefore often relates to a given fjord or a watercourse system.

Operators from other parts of the country will be involved ongoing. Thereby, the different research areas will develop the most optimal way.

Map: Overview of the pilot areas.

2. Aalborg south – geographical location

The pilot area Aalborg south covers an area of 4997 ha and belongs to Aalborg, Nibe, and Rebild municipalities. It is delineated by the water catchment. The soil is dominated by sandy soils and the terrain is relatively hilly except from the flat northern tip of the area. The dominating land use is intensive agriculture and Aalborg south represents the pilot area with the highest proportion of agriculture together with Hagens Moellebaek.

Map: Geographical location of the pilot area Aalborg south.

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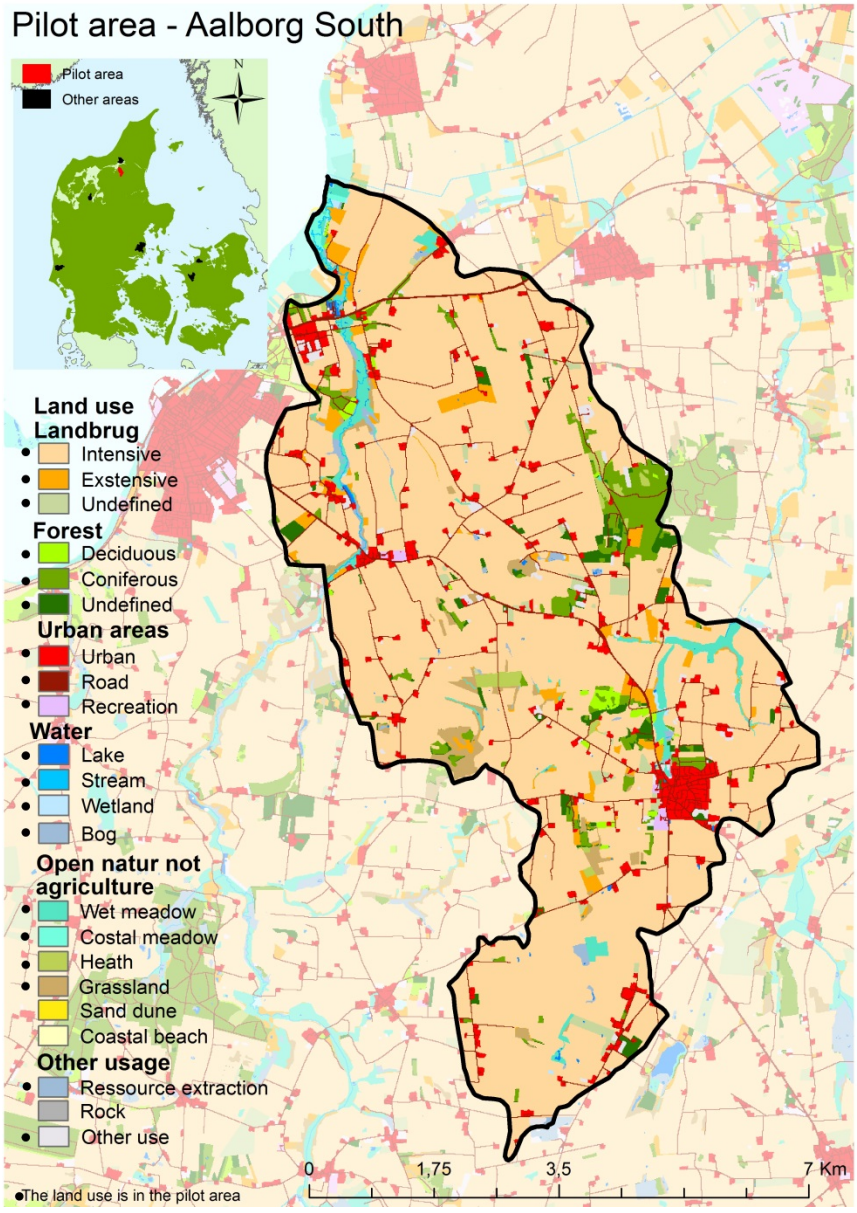
2.1. Land use

The main land use in Aalborg south is agriculture (78.8 %) followed by nature areas outside agriculture such as forest, open nature, and water (11.7 %) and urban areas (8.4 %) (map and table). The area thereby represents - together with Hagens Moellebaek and the Lammefjord (relatively 82.8 % and 79.4 %) - those areas with the largest portion of agriculture (figure).

Land use is illustrated on the map and the belonging table for Aalborg south below. Furthermore, land use for the 7 pilot areas is illustrated in the figure.



Map: Land use in the pilot area Aalborg south in 10×10 meters resolution.

Table: Land use in Aalborg south in hectare (ha) and share of total area in percent (%).

Land use	Area (ha)	Share of total area (%)	Share of total area (%)
Agriculture			78.8
Intensive	3754	75.1	
Extensive	128	2.6	
Undefined	57	1.1	
Urban areas			8.4
Urban	209	4.2	
Road	199	4.0	
Recreation	9	0.2	
Forest			5.8
Deciduous	28	0.6	
Coniferous	170	3.4	
Undefined	92	1.8	
Water			1.2
Lake	8	0.2	
Stream	12	0.2	
Wetland	7	0.1	
Bog	33	0.7	
Open nature not agriculture			4.7
Wet meadow	105	2.1	
Costal meadow	12	0.2	
Heath	31	0.6	
Grassland	89	1.8	
Sand dune	0	0	
Coastal beach	0	0	
Other usage			1.0
Resource extraction	2	0	
Rock	0	0	
Other use	52	1.0	
Total	4997	100	100

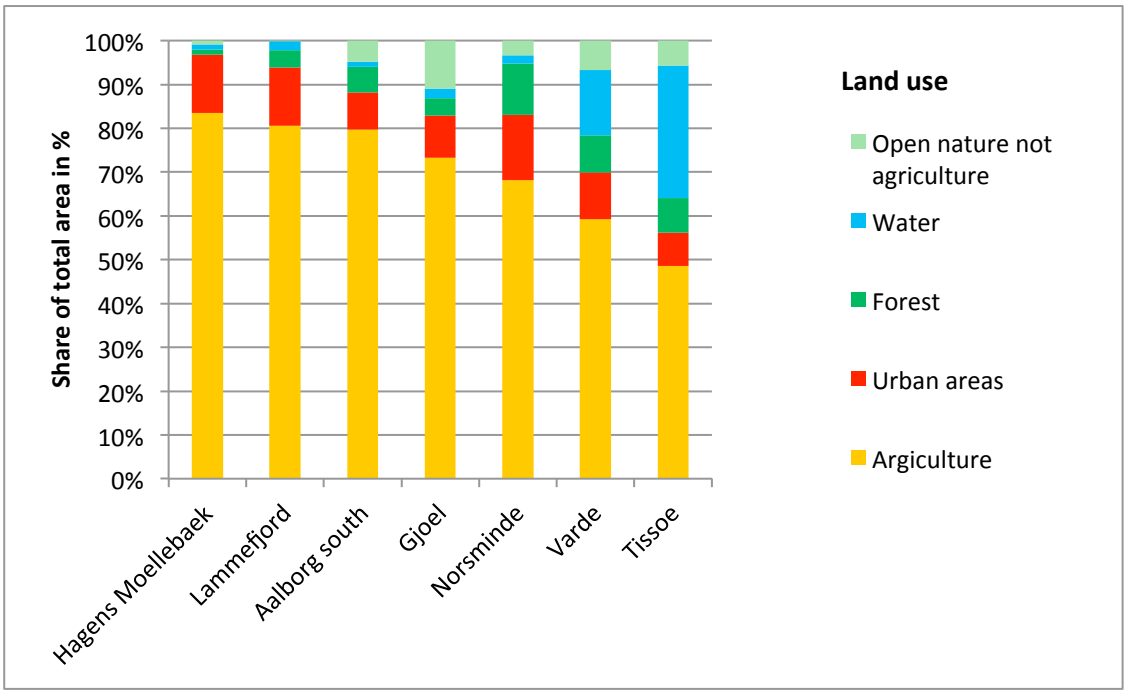
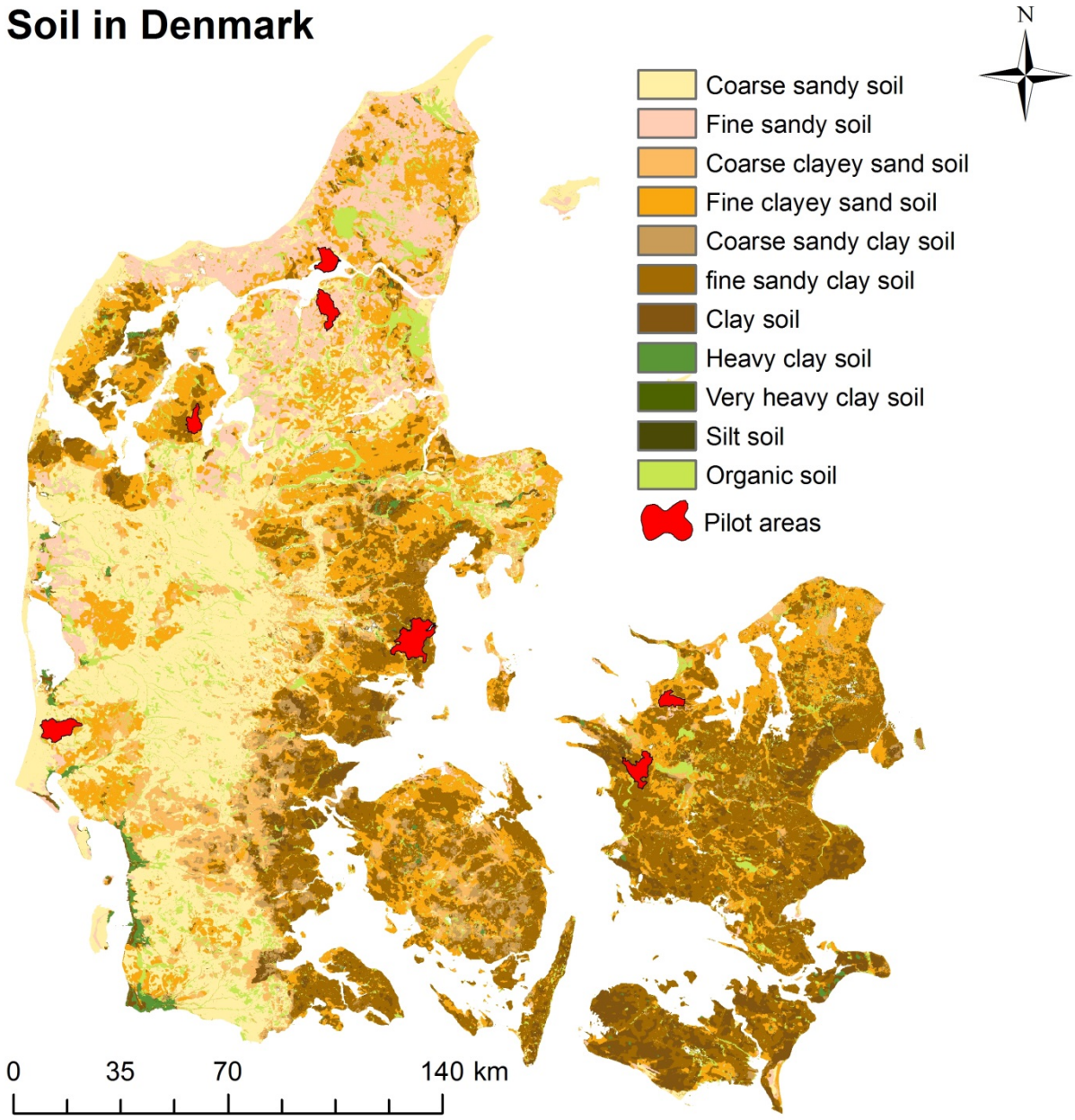


Figure: Land use in the 7 pilot areas described as share of total area in percent (%). The pilot areas are listed to % agriculture.

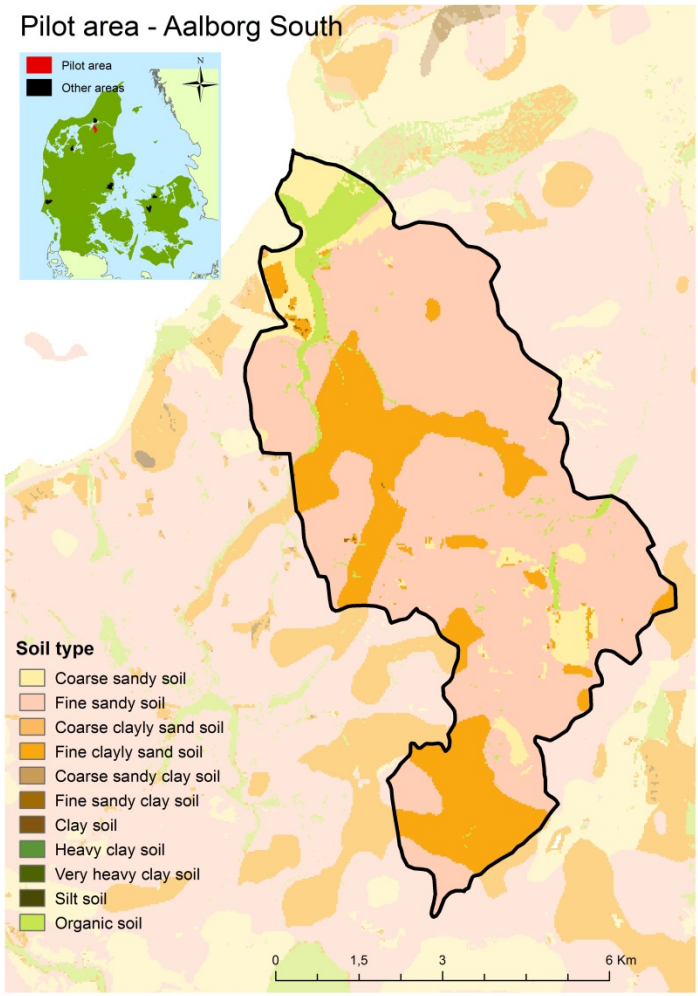
2.2. Soil type

Overall the western soils of Denmark contain a high sand percentage whereas the eastern parts are dominated by the more heavy soils - clay (map 1). Aalborg south is located in northern Jutland and is dominated by the sandy soils (98.1 %).

The soil types of the pilot area are illustrated on map 2 and the belonging table below.



Map 1: Soil type in Denmark.



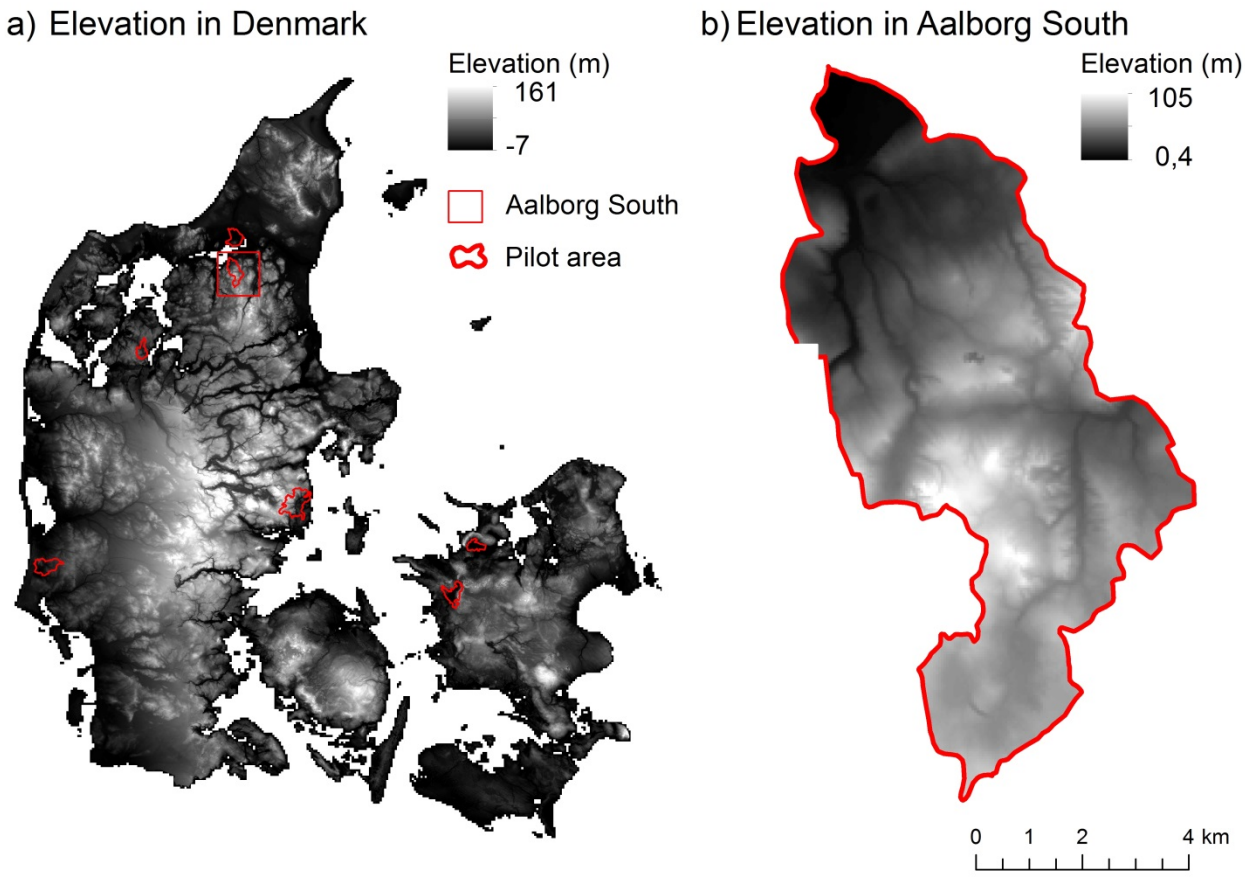
Map 2: Distribution of soil types in the pilot area Aalborg south in 30.4×30.4 meters resolution.

Table: Distribution of soil types in the pilot area Aalborg south in hectare (ha) and share of the total area in percent (%).

Soil type	Area (ha)	Share of the total area (%)
Coarse sandy soil	355	7.1
Fine sandy soil	3300	66.0
Coarse clayey sandy soil	2	0
Fine clayey sand soil	1117	22.4
Coarse sandy clay soil	0	0
Fine sandy clay soil	3	0.1
Clay soil	0	0
Heavy clay soil	0	0.
Very heavy clay soil	0	0
Silt soil	0	0
Organic soil	219	4.4
Total	4996	100

2.3. Terrain

The elevation in Aalborg south varies from 0.4 to 105 meters above the sea level (map 1) and the slope of the terrain from 0 to 14 degrees (map 2). The terrain is highly variable except from the flat northern tip of the area.



Map 1: Elevation in Denmark (a) and in the pilot area Aalborg south (b) in 48×48 meters resolution.

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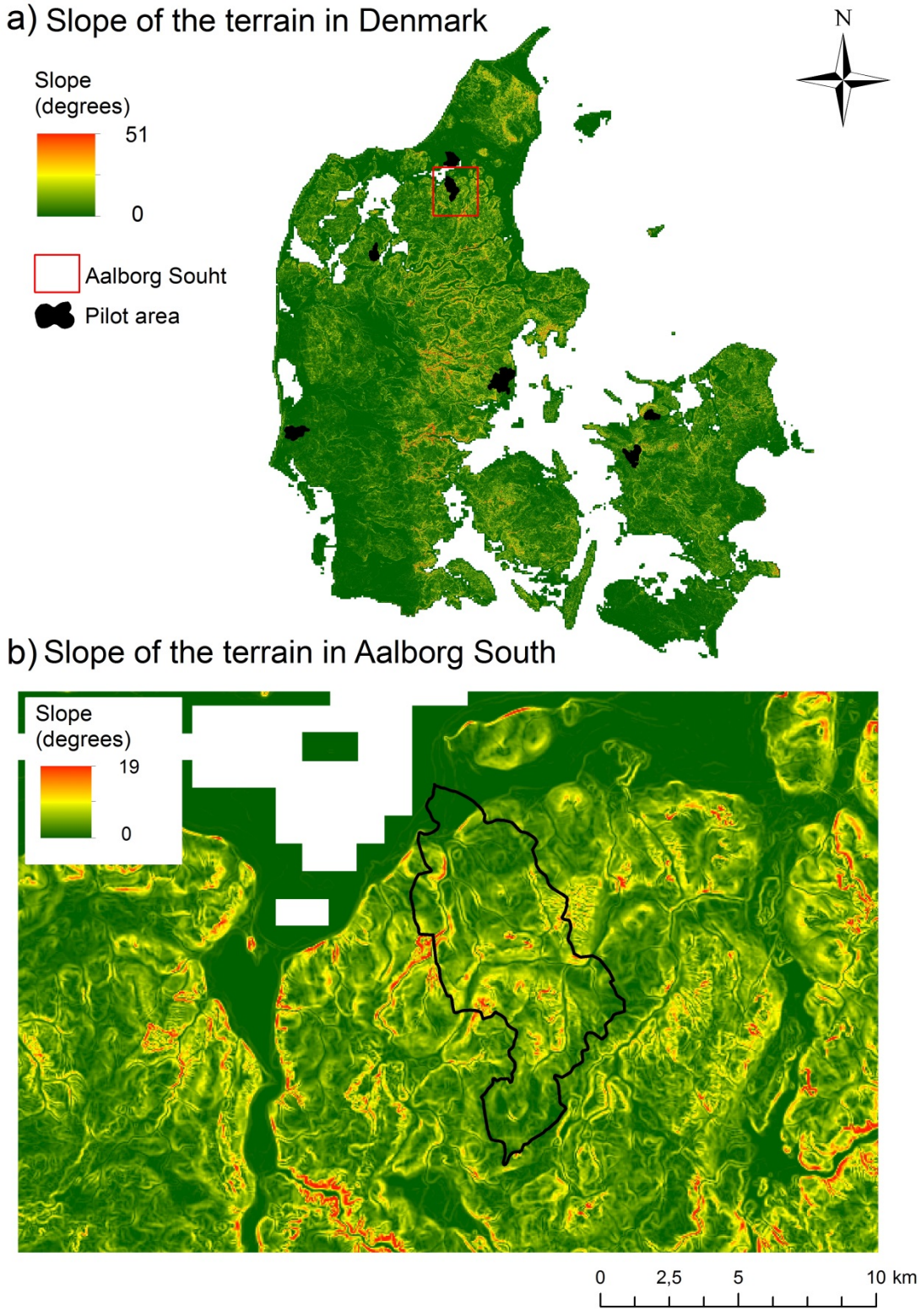
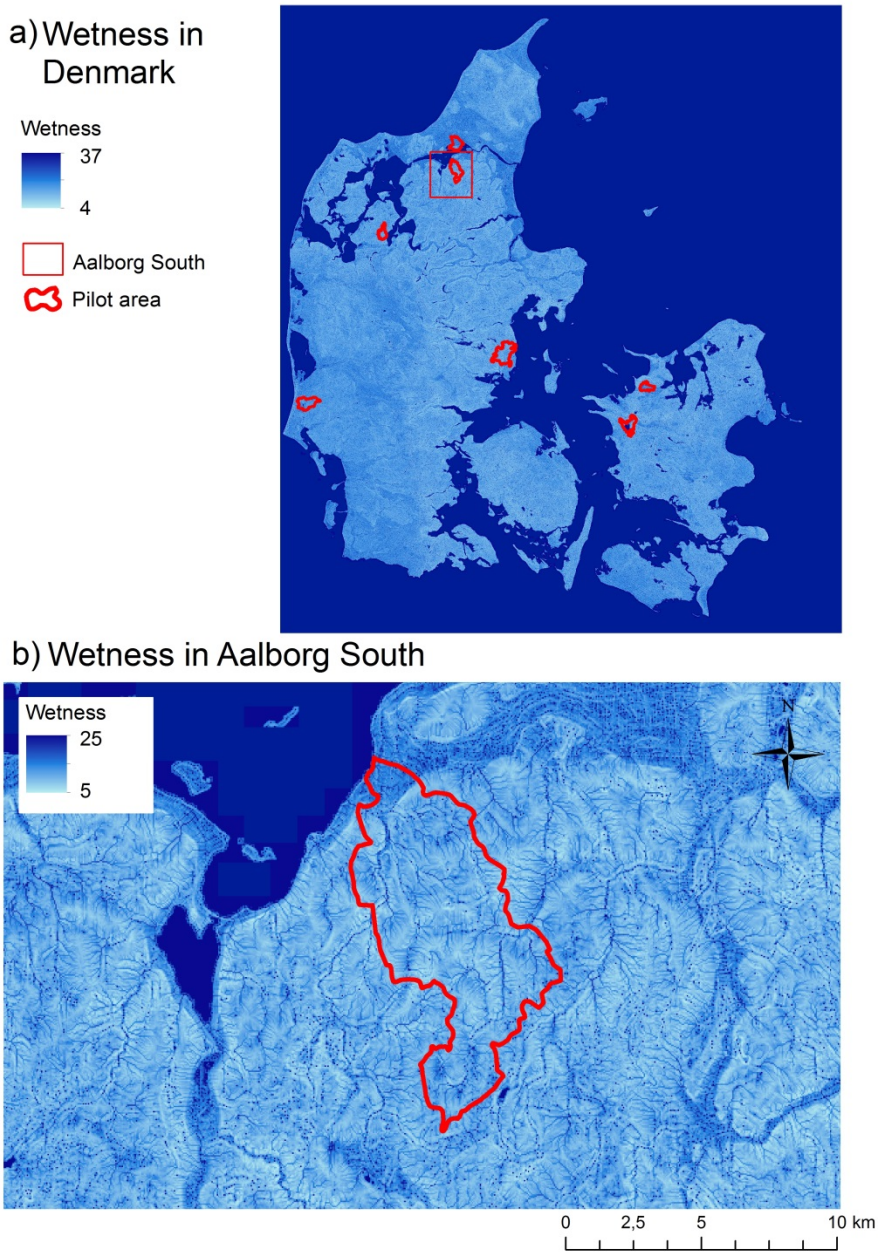


Map 2: Slope of the terrain in Denmark (a) and in the pilot area Aalborg south (b) in 48×48 meters resolution

2.4. Hydrology

Wetness is here illustrated by the topographical wetness index. The wetness index calculates how much water a given point in the terrain potential can receive (the size of the catchment) in relation to its ability to drain itself (slope of the terrain). The index expresses the ability of the point to accumulate water. It is based alone on placement of the point in the terrain and the shape of the terrain, and does not include other factors such as soil type, precipitation, etc.

The pilot area is delineated by the water catchment defined by the watercourse system.



Map: Topographical wetness index in Denmark (a) and in the pilot area Aalborg south (b) in 48×48 meters resolution.

3. References

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