

Site description – Demo site 1 - Hulebro Bæk

With an area of 1129 ha Demo site 1 (Hulebro Bæk) is the smaller of the two Demo sites in the MapField-project, where Demo site 2 (Hagens Møllebæk) has an area of 2762 ha.

Demo sites - MapField project

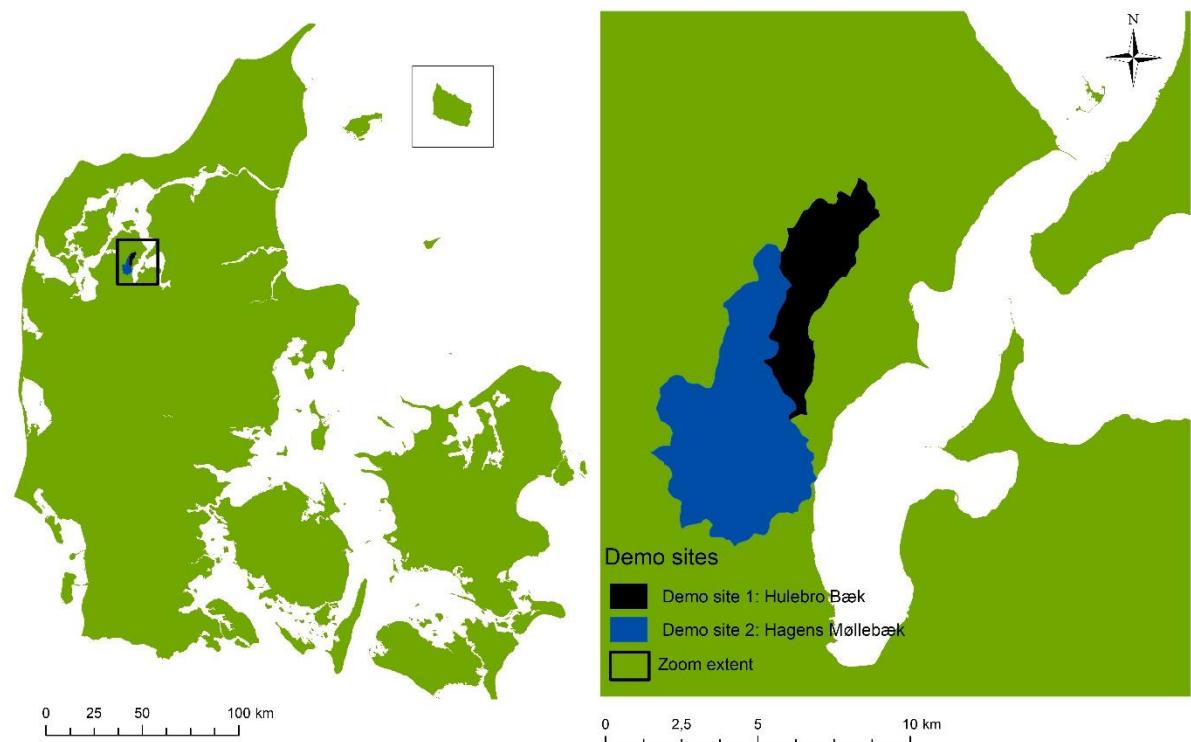


Figure 1: The location of the two demo sites in the MapField-project.

The land use in general

Demo site 1 is dominated by agriculture (88.82%, table 1) followed by urban settlement (9.86%) and some nature (i.e. forest, grassland and wetlands) (Figure 2). The share of agriculture is above the national average of approximately 63%.

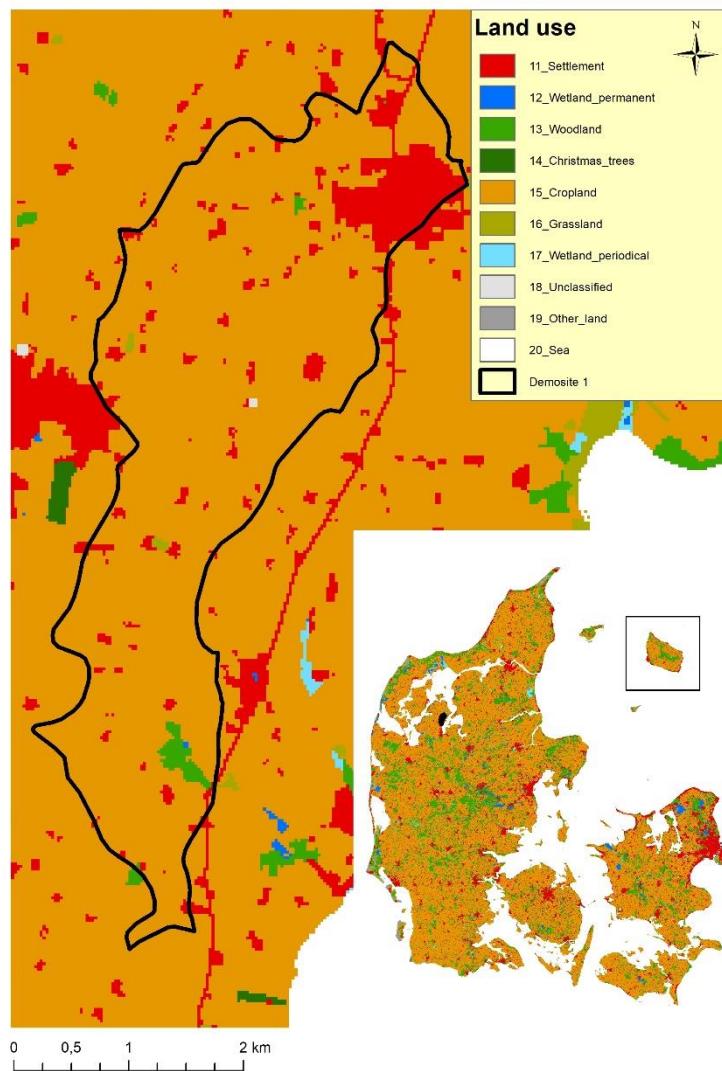


Figure 2: Land use in Hulebro Bæk in 2018 (see Levin et al., (2014) for method description).

Table 1: Land use in Hulebro Bæk in ha and percentage of total area.

Land use	Area ha	Share of total area %
Settlement	111.38	9.86
Permanent wetlands	0.25	0.02
Woodland	11.56	1.02
Cropland	1002.81	88.82
Grassland	2.44	0.22
Unclassified	0.56	0.05

Soil types

Four out of the 11 soil types are present in the area. The north and the south are characterized by sandy soils, whereas the central part is clay soil (Figure 3). The dominating soil types are "Fine clayly sand soil" and "Fine sandy clay soil" which constitutes 52.39% and 46.26% of the area respectively (table 2).

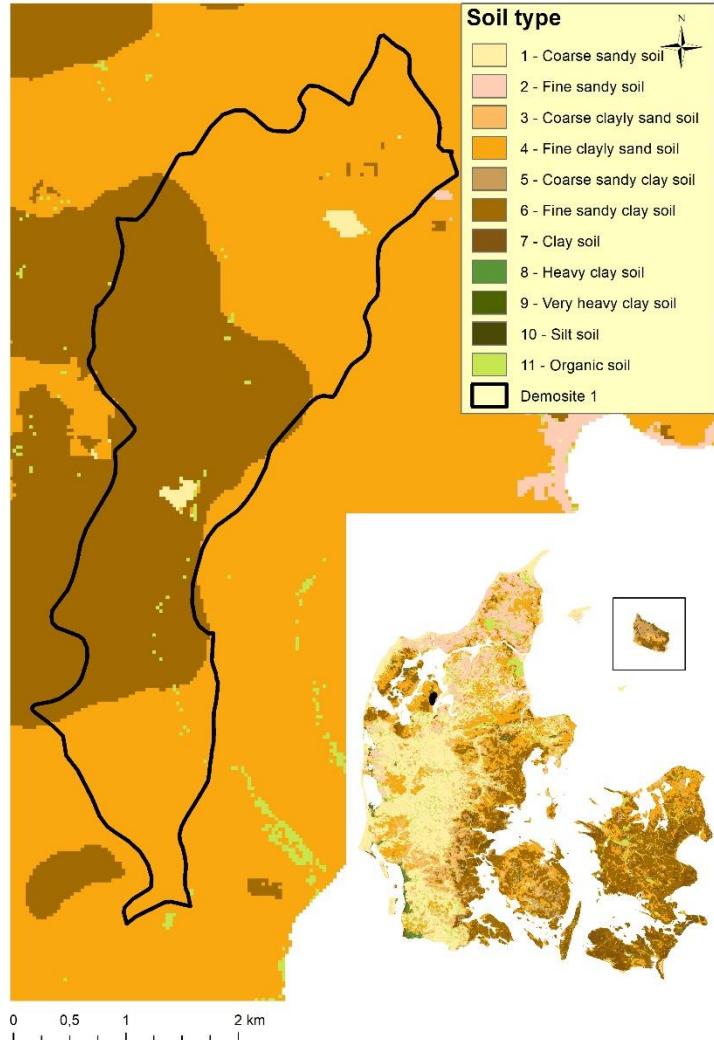


Figure 3: Soil types of Hulebro Bæk (Adhikari et al., 2013).

Table 2: Soil types of Hulebro Bæk in ha and percentage of total area.

Soil type	Area ha	Share of total area %
Coarse sandy soil	11.46	1.01
Fine clayly sand soil	591.65	52.39
Fine sandy clay soil	522.43	46.26
Organic soil	3.88	0.34

Carbon content of the soil

The carbon content of soils is of great importance, as soils with high carbon content has a tendency to emit more carbon dioxide than soils with low carbon content when cultivated. Why, it has been suggested that soils with high soil organic carbon (SOC) content should be taken out of production. Mineral soils with under 6% SOC are dominating the area (99.70%, table 3) where only a low share of the area has between 6 and 12% SOC (0.28%, table 3) or above 12% SOC (0.02%, table 3).

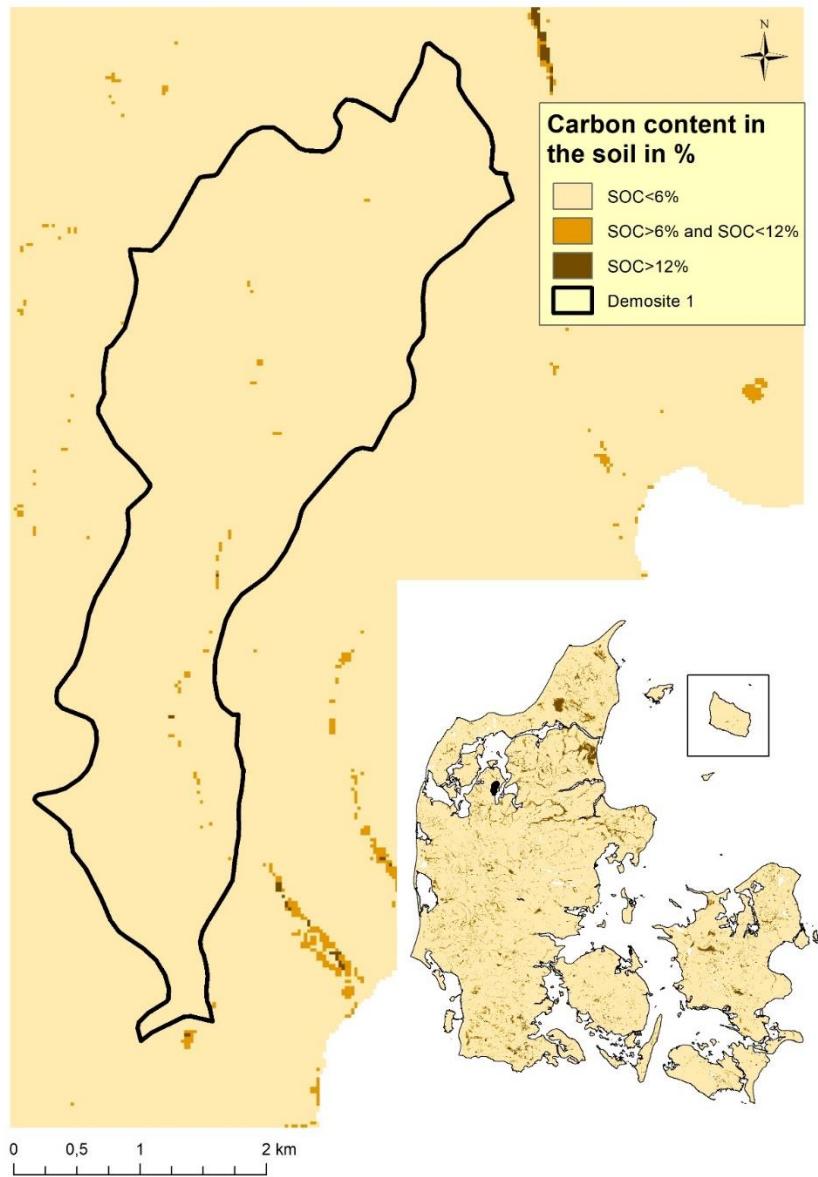


Figure 4: Organic carbon content of soils – Soil Organic Carbon (SOC) in Hulebro Bæk (Adhikari et al., 2014).

Table 3: Carbon content of soils in Hulebro Bæk in ha and percentage of total area.

Soil Organic Carbon (SOC)	Area ha	Share of total area %
SOC < 6%	1125.625	99.70
6% > SOC og SOC < 12%	3.1875	0.28
SOC > 12%	0.1875	0.02

Agriculture

In both 2018 and 2019 83% of the area in Hulebro Bæk was registered in the Internet Markkort Database. The five crops most widely farmed besides grass is shown in table 4. Cereals were the primary choice of crops in both 2018 and 2019 - 65.3% and 48.9% of the area respectively. Winter crops (incl. winter rape) made up 40.6% and 61.6% of the area in 2018 and 2019 respectively. The share of non-productive areas (MFO) decreased from 0.3% to 0.2% from 2018-19.

Table 4: Top five crops and areas with grass in Hulebro Bæk in the years of 2018 and 2019 based on registrations in the Internet Markkort database. The percent is of the total area registered in Hulebro Bæk in the year of concern.

Top 5 crops and areas with grass in 2018	Area ha	% of agricultural area	Top 5 crops and areas with grass in 2019	Area ha	% of agricultural area
Spring barley	199.6	21.2	Winter wheat	318.8	34.0
Winter wheat	152.2	16.2	Spring barley	179.5	19.1
Spring oat	113.1	12.0	Winter rape	120.3	12.8
Winter barley	105.6	11.2	Winter barley	65.1	6.9
Winter rape	81.0	8.6	Maize for silage	62.1	6.6
Grass in rotation (incl. grass seed production)	93.2	9.9	Grass in rotation (incl. grass seed production)	43.6	4.6
Permanent grass	13.0	1.4	Permanent grass	12.1	1.3

The farming styles are distributed as in table 5. More than half of the area in Hulebro Bæk is farmed by pig farmers, while a fifth of the area is farmed by dairy and cattle farmers. Part time and hobby farmers are not classified further. The area is almost exclusively farmed by conventional techniques.

Table 5: General distribution of farming styles based on registrations in the Internet Markkort and CVR databases in 2018.

Farming styles	% of agricultural area
Pigs	54.7
Dairy/cattle	19.9
Part time/hobby	15.5
Unclassified	7.0
Plant production	2.9

References:

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- Adhikari, K., Hartemink, A.E., Minasny, B., Kheir, R.B., Greve, M.B., Greve, M.H., 2014. Digital mapping of soil organic carbon contents and stocks in Denmark. 9(8) Plos one.