

# VELKOMMEN!

## Jordens sundhed i Danmark

**National Stakeholder event**

**Aarhus Universitet - Viborg/Foulum  
28 -29. februar 2024**

**Nørre Vosborg**



**EJP SOIL**  
European Joint Programme

EJP SOIL has received  
funding from the European  
Union's Horizon 2020  
research and innovation  
programme: Grant  
agreement No 862695



# Sensor data for downscaling digital soil maps to higher resolutions (SensRes)

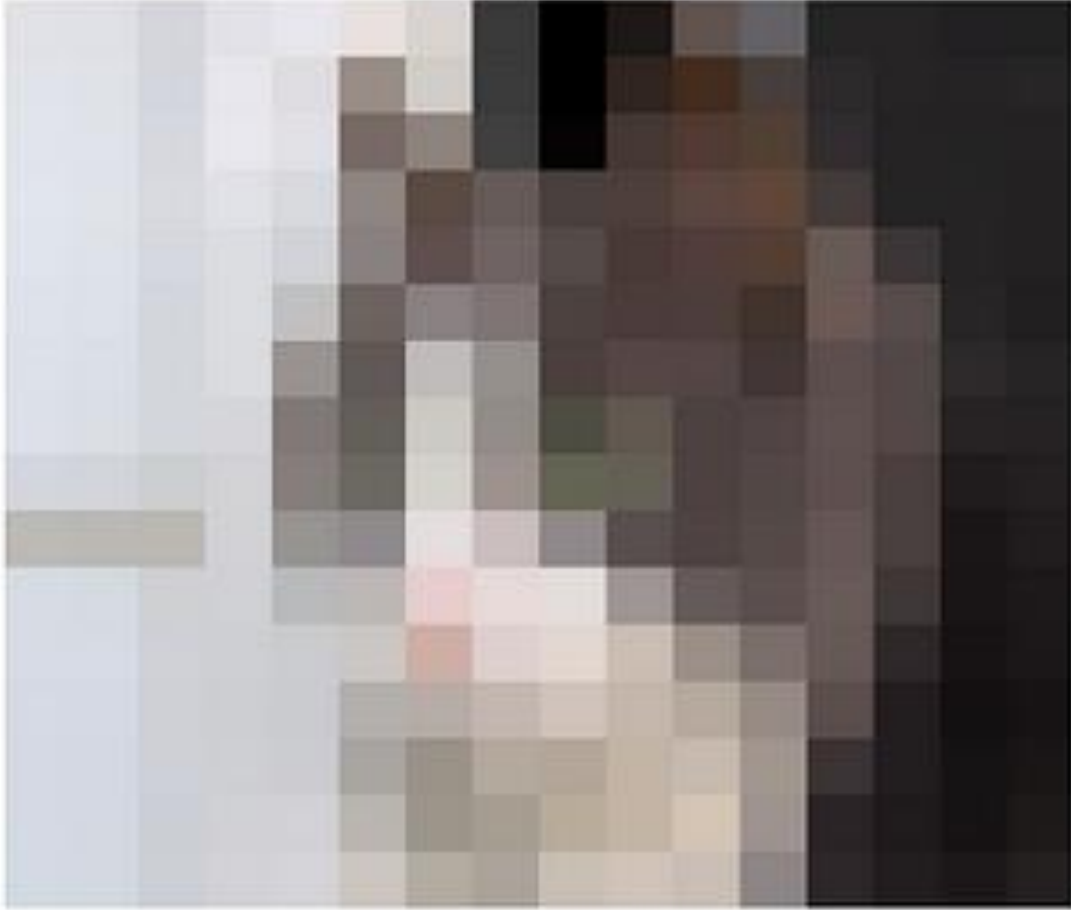
Lucas Gomes

February 28<sup>th</sup>, 2024



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# Agricultural fields

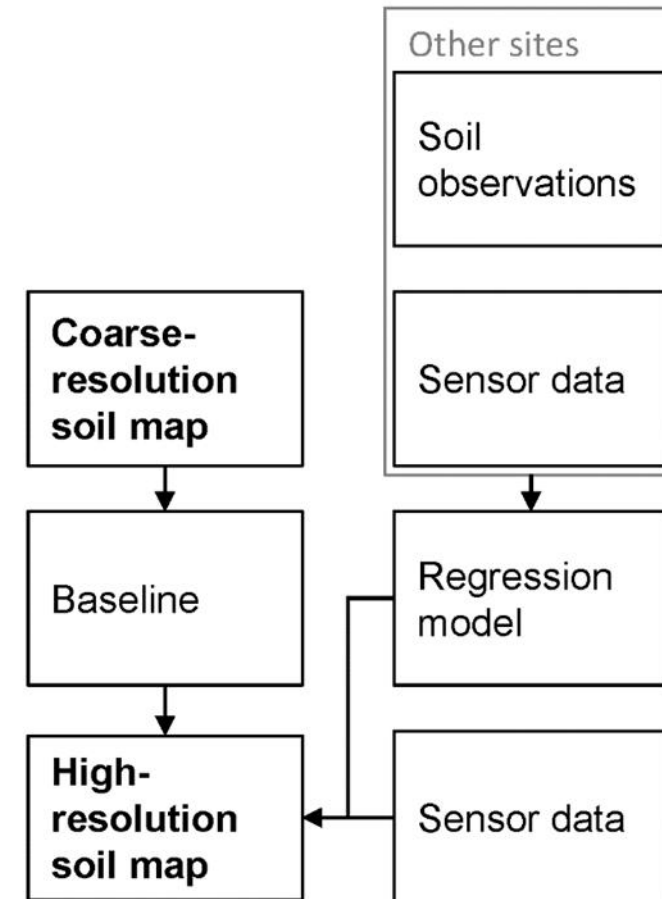
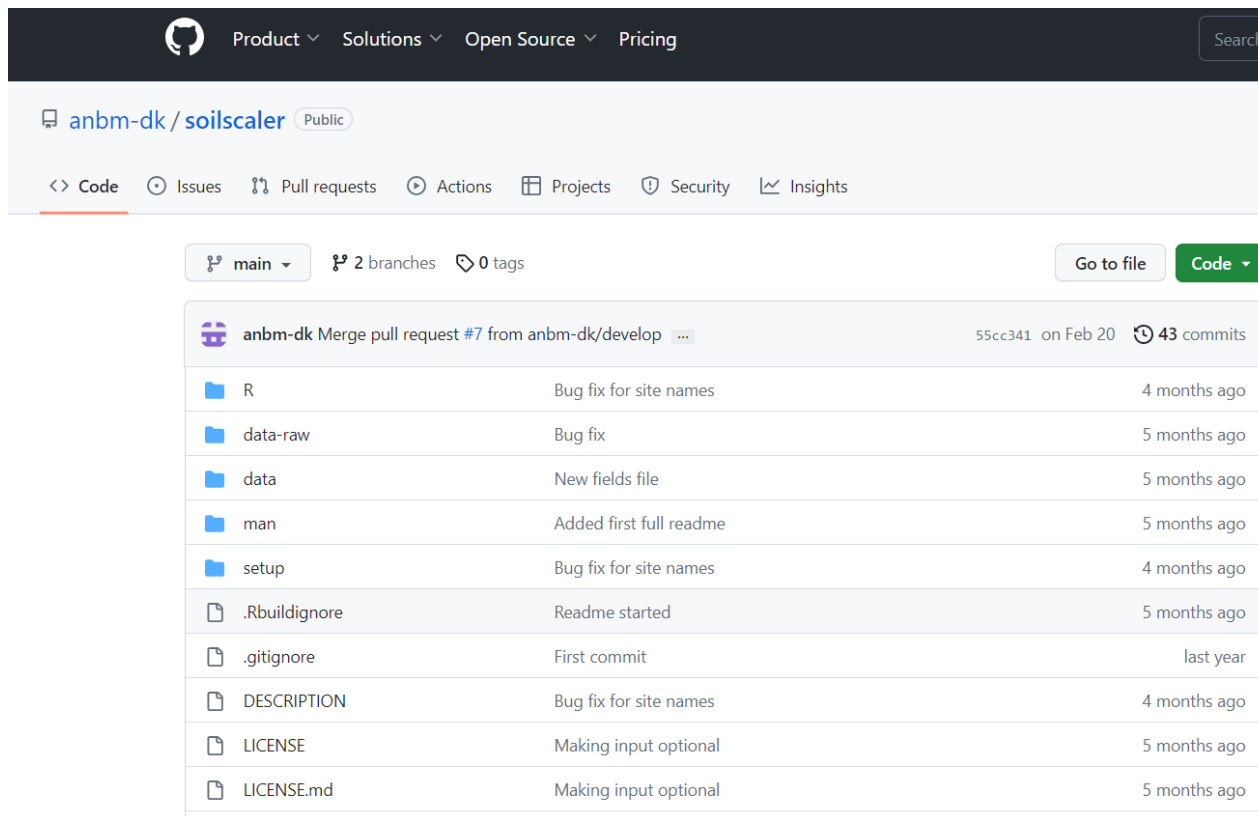


## Main objectives

1. Develop a generic framework for downscaling digital soil maps using sensor data
2. Test data from proximal sensors, spectral images from UAVs, satellites as well as data fusion to downscale digital soil maps
3. Investigate the use of downscaled soil maps for practical applications (soil carbon sequestration and erosion)

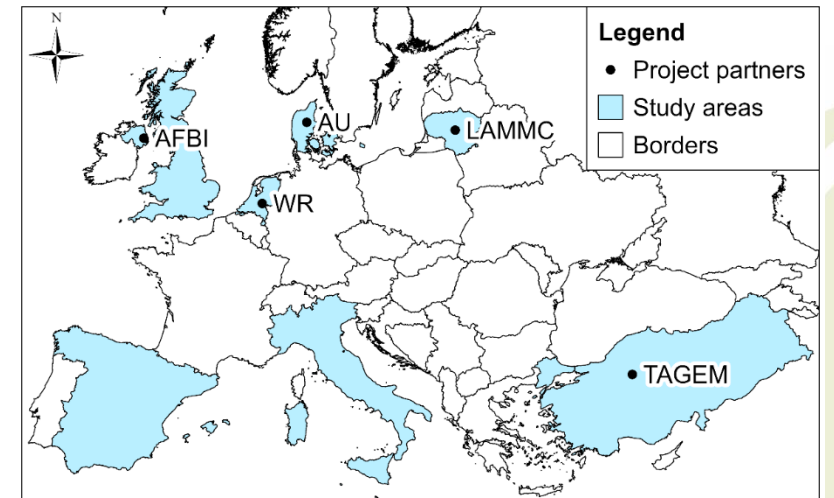
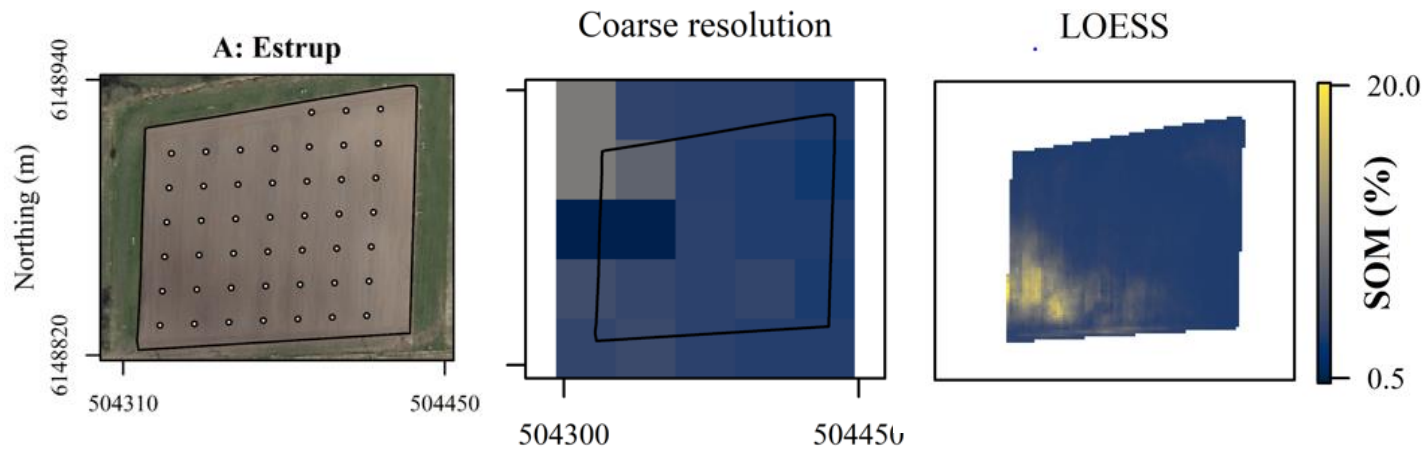
# Outcomes

1. Develop a generic framework for downscaling digital soil maps using sensor data



# Outcomes

2. Test data from proximal sensors, spectral images from UAVs, satellites as well as data fusion to downscale digital soil maps



# Sensors Data

**Drones**



Flight-elvolved.com



**Proximal sensors**



Dualem.com



**Satellite images**



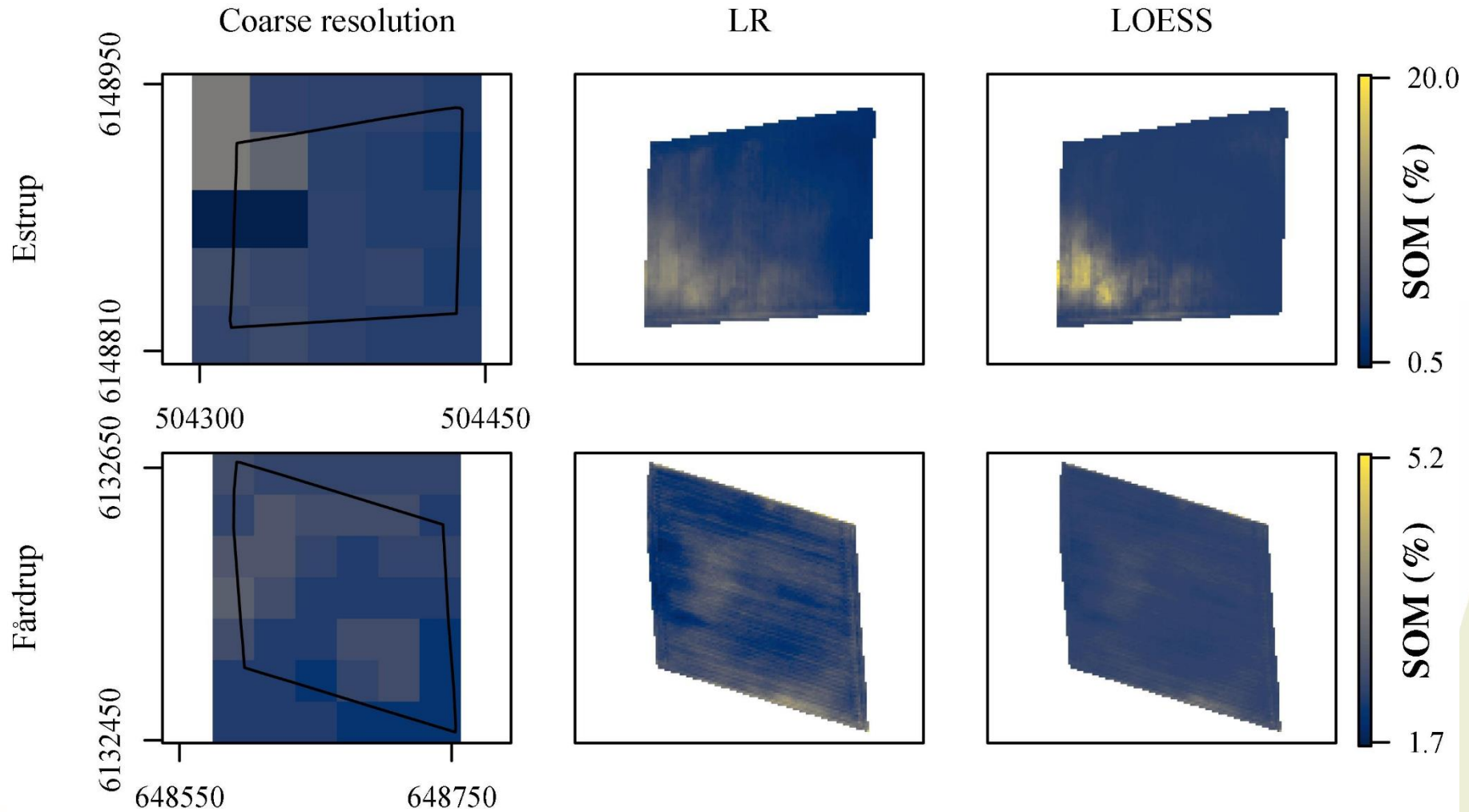
Esa.int



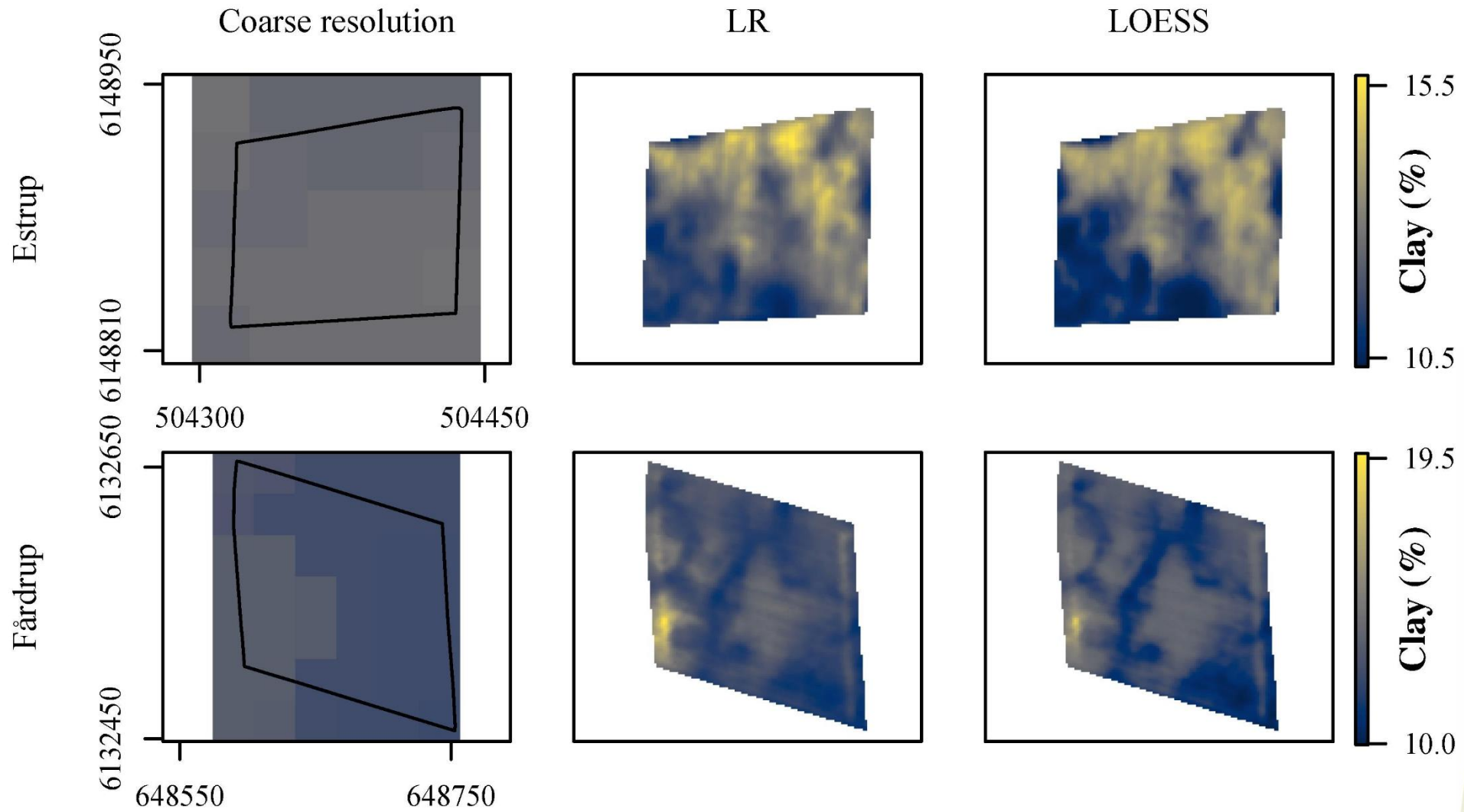
Gamma



# Soil organic matter



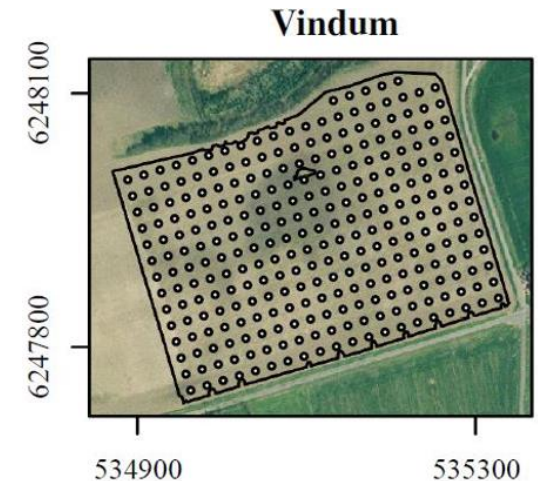
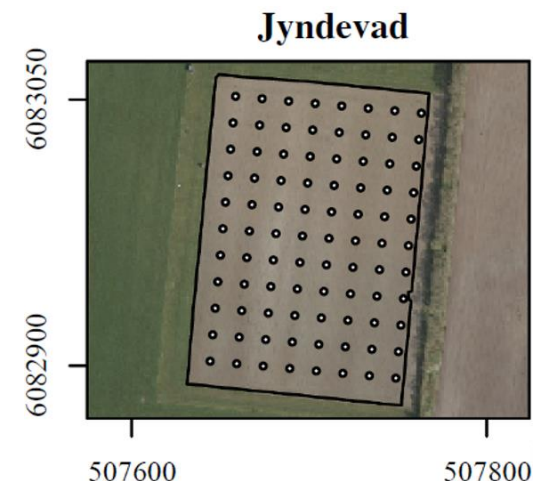
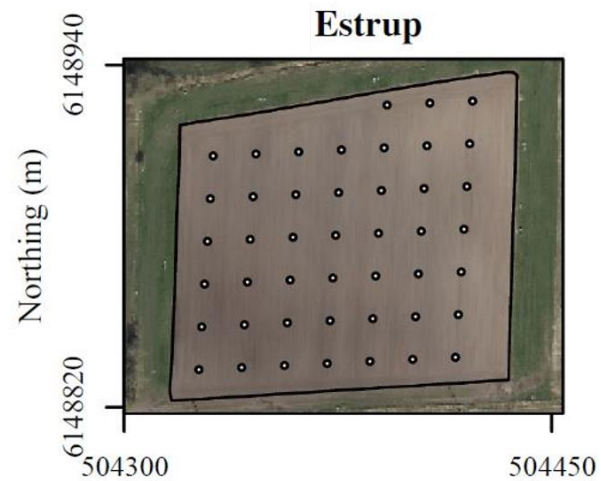
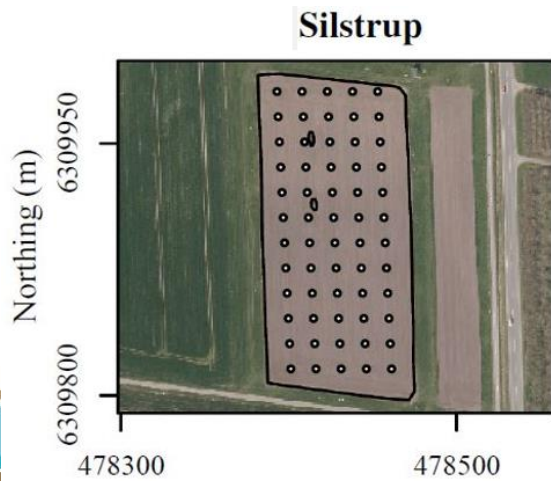
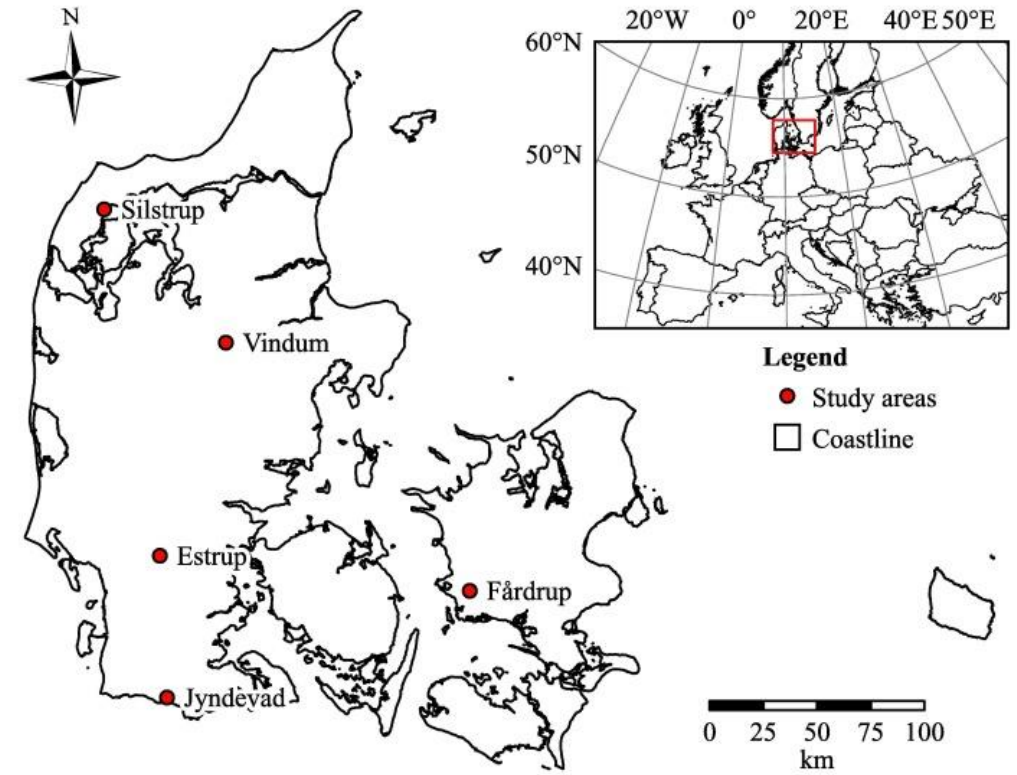
# Clay



# STUDY SITES IN DENMARK

## Sites with existing wet chem. & sensor data

- Silstrup (1.7 ha, 65 samples)
- Estrup (1.3 ha, 45 samples)
- Faardrup (3 ha, 96 samples)
- Jyndevad (2.4 ha, 88 samples)
- Vindum (11.7 ha, 302 samples top and subsoils)



## Outcomes

3. Investigate the use of downscaled soil maps for practical applications

High resolution maps of soil erosion, plant available water and potential soil carbon sequestration

Thank you!



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**Tak for denne gang**  
**Vi ses 19 -20 November 2024**

