VELKOMMEN!

Jordens sundhed i Danmark

National Stakeholder event

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

Nørre Vosborg





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

Lucas Gomes February 28th, 2024











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

Product ~ Solutions ~	Open Source \vee Pricing	Search
🛱 anbm-dk / soilscaler Public		
<> Code 🕥 Issues 🖏 Pull requests 🕑 Acti	ions 🗄 Projects 🛈 Security 🗠 Insights	
🐉 main 👻 🐉 2 branches 🛇	∑0 tags	Go to file Code •
anbm-dk Merge pull request	#7 from anbm-dk/develop	55cc341 on Feb 20 🔞 43 commits
R	Bug fix for site names	4 months ago
data-raw	Bug fix	5 months ago
🖿 data	New fields file	5 months ago
🖿 man	Added first full readme	5 months ago
setup	Bug fix for site names	4 months ago
🗋 .Rbuildignore	Readme started	5 months ago
🗋 .gitignore	First commit	last year
	Bug fix for site names	4 months ago
	Making input optional	5 months ago
LICENSE.md	Making input optional	5 months ago





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



Proximal sensors



Satellite images



Flight-elvolved.com

Dualem.com



Esa.int



Gamma

Soil organic matter

Ξ

European Joint Programme



9

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!









Tak for denne gang Vi ses 19 -20 November 2024





