

# Using long-term monitoring sites for benchmarking carbon projects

**FG 3.4:** How long-term monitoring sites could support robust MRV systems?

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# Long-term monitoring sites and MRV

## Implementing carbon farming at a large scale

- Need for **credible and reliable measurement**
- Monitoring, reporting and verification (**MRV**) platforms

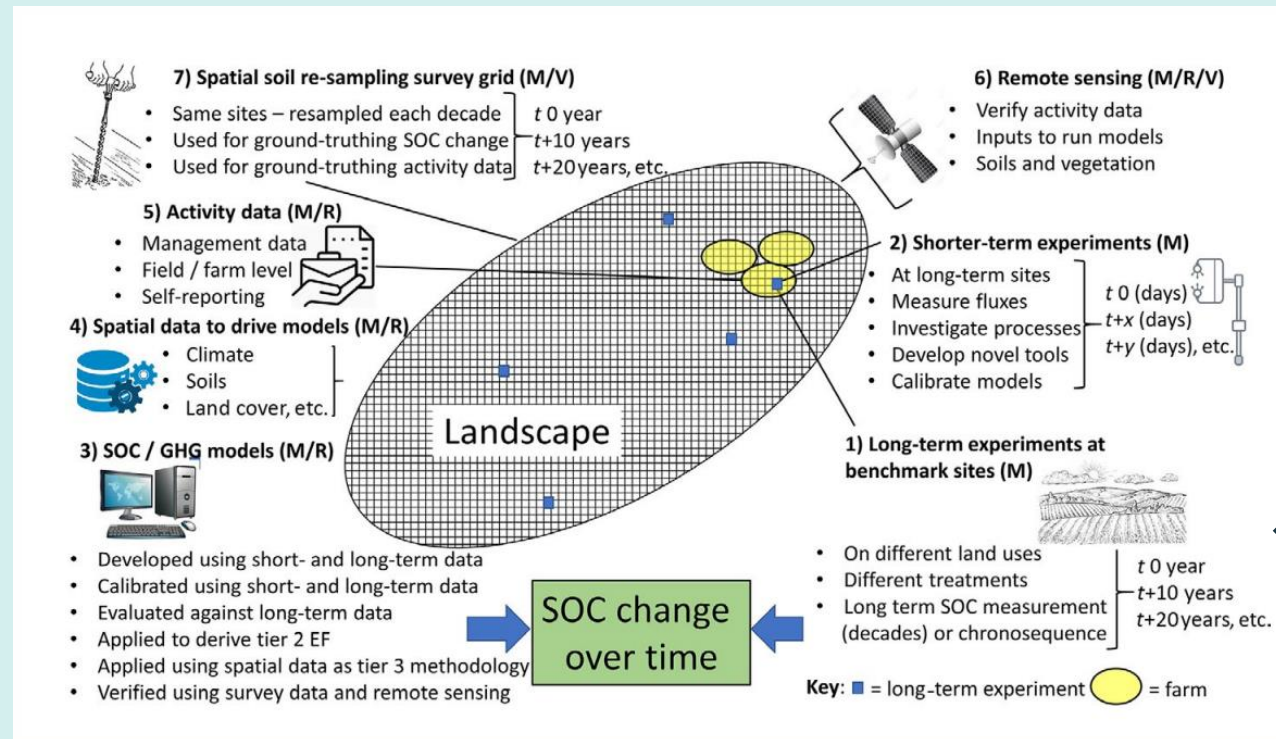
## MRV **accuracy and cost**

- Direct measurements and modelling
- Reliable

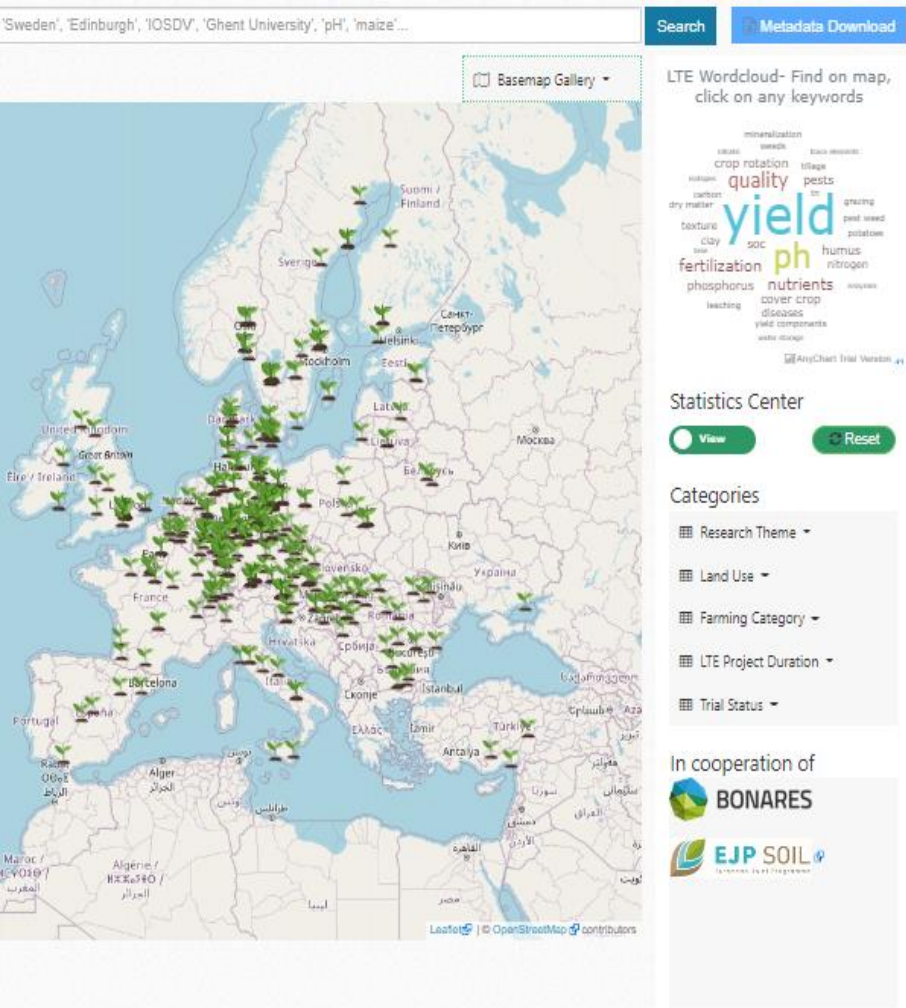
## Use of controlled field experiments/monitoring sites

- Potential **impact of carbon farming practices**
- (Meta)data to calibrate/validate **carbon models**

# Long-term monitoring sites and MRV



Smith et al. 2019



# Long-term monitoring sites and MRV

- Several initiatives to group existing long-term monitoring sites (LTM) and to compile all available data
- Information remains **scattered or is incomplete** to be of use for the calibration/validation of carbon models



Donmez et al. 2022



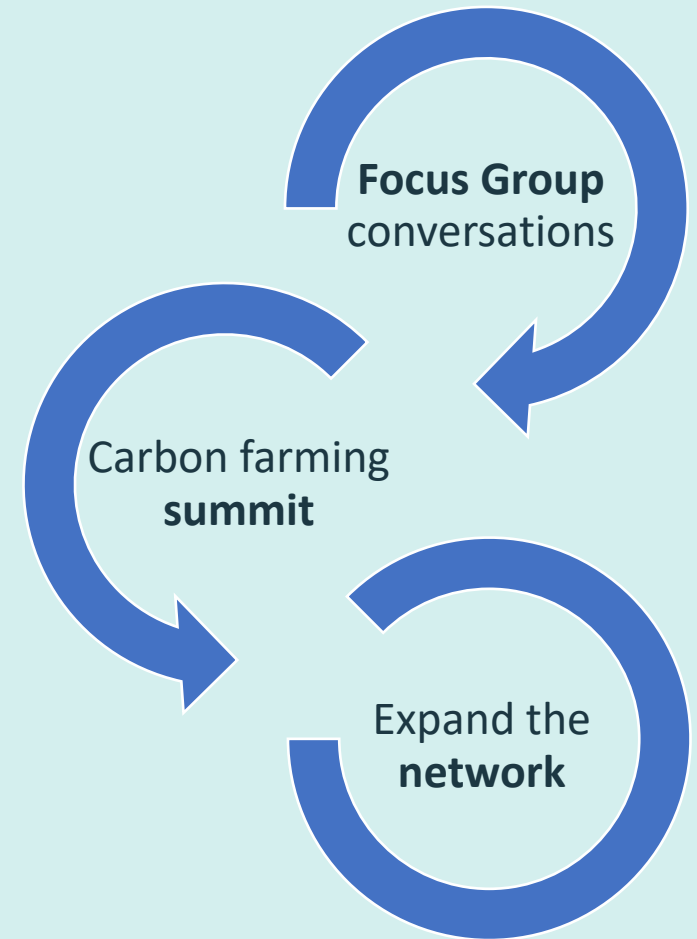
Blanchy et al. 2023



# Main goal

**Gather the experiences of experts** (*researchers, data specialist, MRV developer, carbon certification, policy maker, LTM owners, etc.*)

- Set of **guidelines and considerations**
- Making (meta)data of long-term monitoring sites findable, accessible, interoperable and reusable (**FAIR**)
- Supporting regional **carbon farming schemes**



# Focus group

- **17 members**
- **Representatives** from research institutes, university, corporations, international organizations, SMEs
- **Involved in** EJP Soil, MARVIC, MRV4SOC, eLTER, ICOS, ICP, Label bas-carbone, Soil Capital, eAgronom, BonaRes, GLTEN, LUCAS, JRC, etc.







## FAIR Data Stewardship for Rothamsted's Long-term Experiments

Credible FG3.4, February 2024

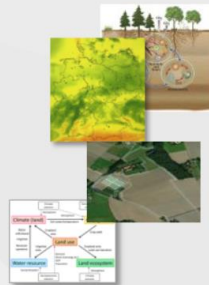
Richard Ostler  
Rothamsted Research



An open-access platform for harmonizing and reusing (meta)data of Long-Term Field Experiments

Cenk Dönmez

Leibniz Center for Agricultural Landscape Research (ZALF)



Focus Group 3.4 meeting  
EU-funded CREDIBLE project  
22 February 2024 | Online

# Progress

## FAIR principles in LTM

- The electronic Rothamsted Archive (**eRA**)
- The **BonaRes** Repository & LTE metadata databases

## Discussion (Breakout groups)

- Focus on FAIR principles in LTM  
→ **data provider** perspectives
- Focus on potentials and challenges of using data for MRV  
→ **data user** perspectives



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**CREDIBLE**  
EU carbon farming

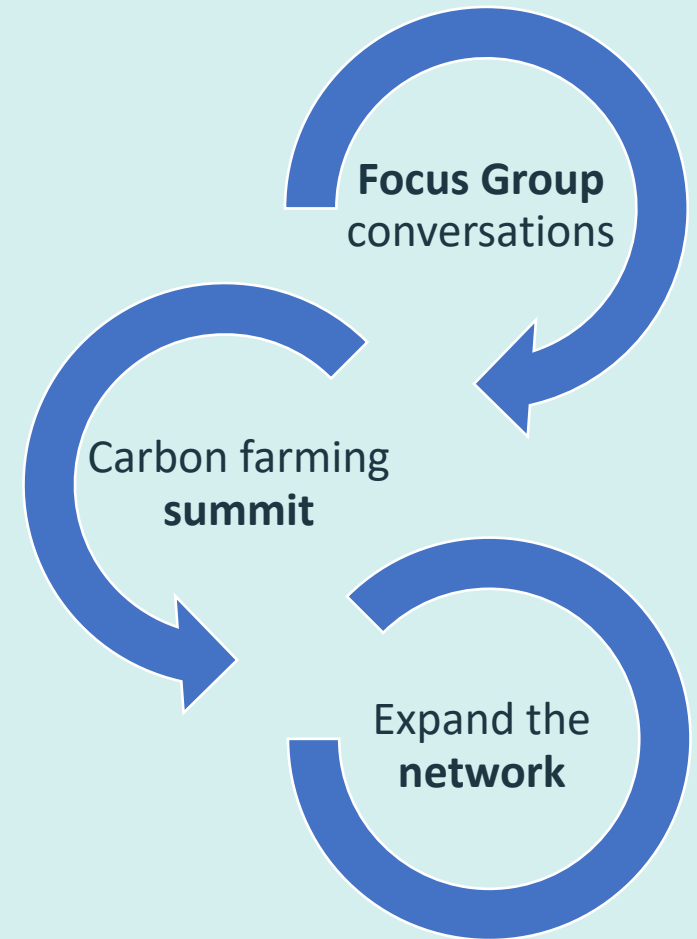


EUROPEAN  
CARBON FARMING  
SUMMIT



# Next steps

- **Synthesis** of existing LTM networks
- Further **discussion between data provider and user**
- Identifying the main **challenges** associated with the use of LTM data for MRV
- Making LTM data **FAIR**





**Thank you for your attention!**

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