



Soil Carbon Monitoring in Norwegian Forests

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Overarching aims

- Assessing National scale C stock and changes
- Evaluating of the Yasso model



How?

Sampling Scheme

- 300 NFI plot year⁻¹
- 10 year cycle

Target horizons

- Organic horizon
- Mineral horizon: 0-5, 5-15, 15-30 cm

Assays

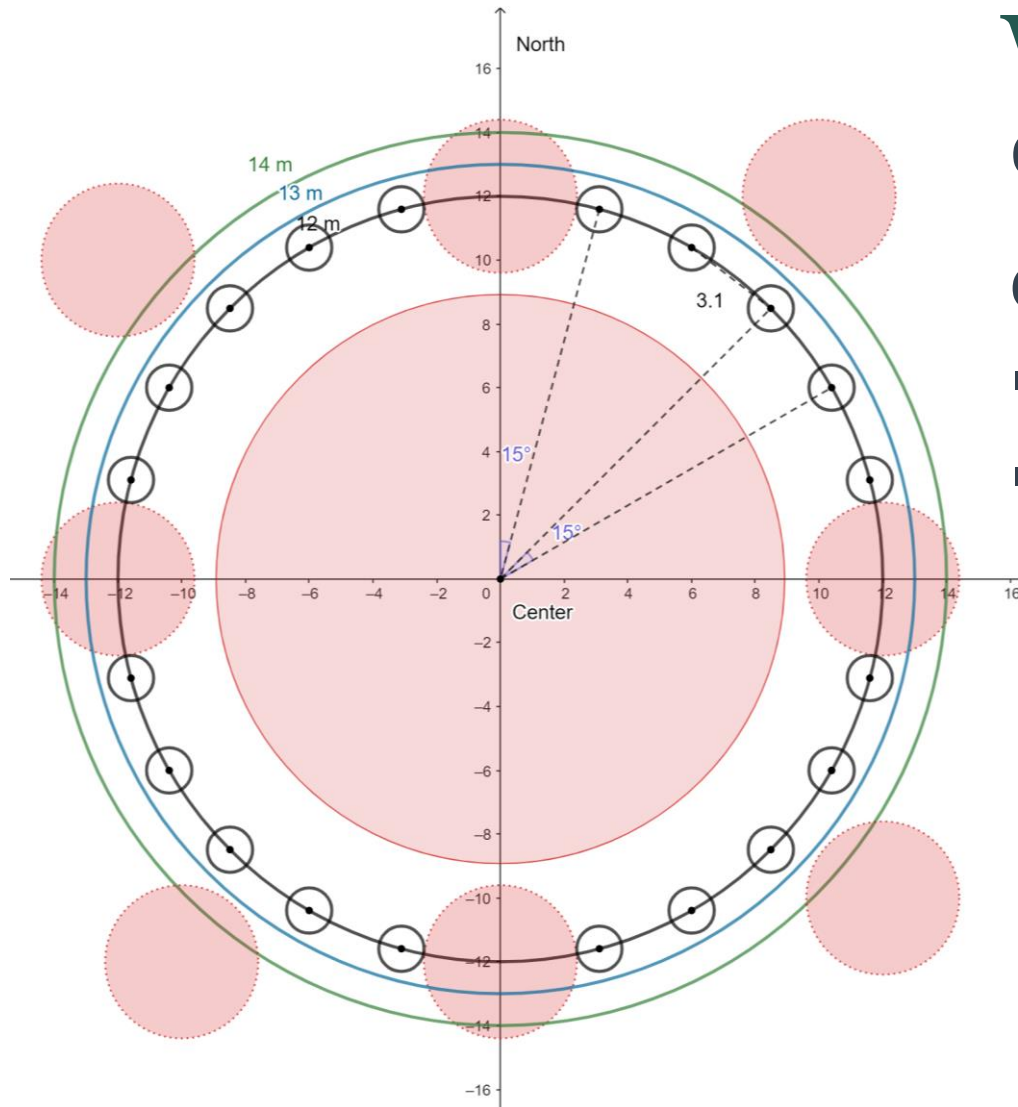
- **[Essential]** C, N, pH
- **[Desirable]** texture, microbial biomass, metagenomics, MAOM, POM etc. etc.

Where are we now?

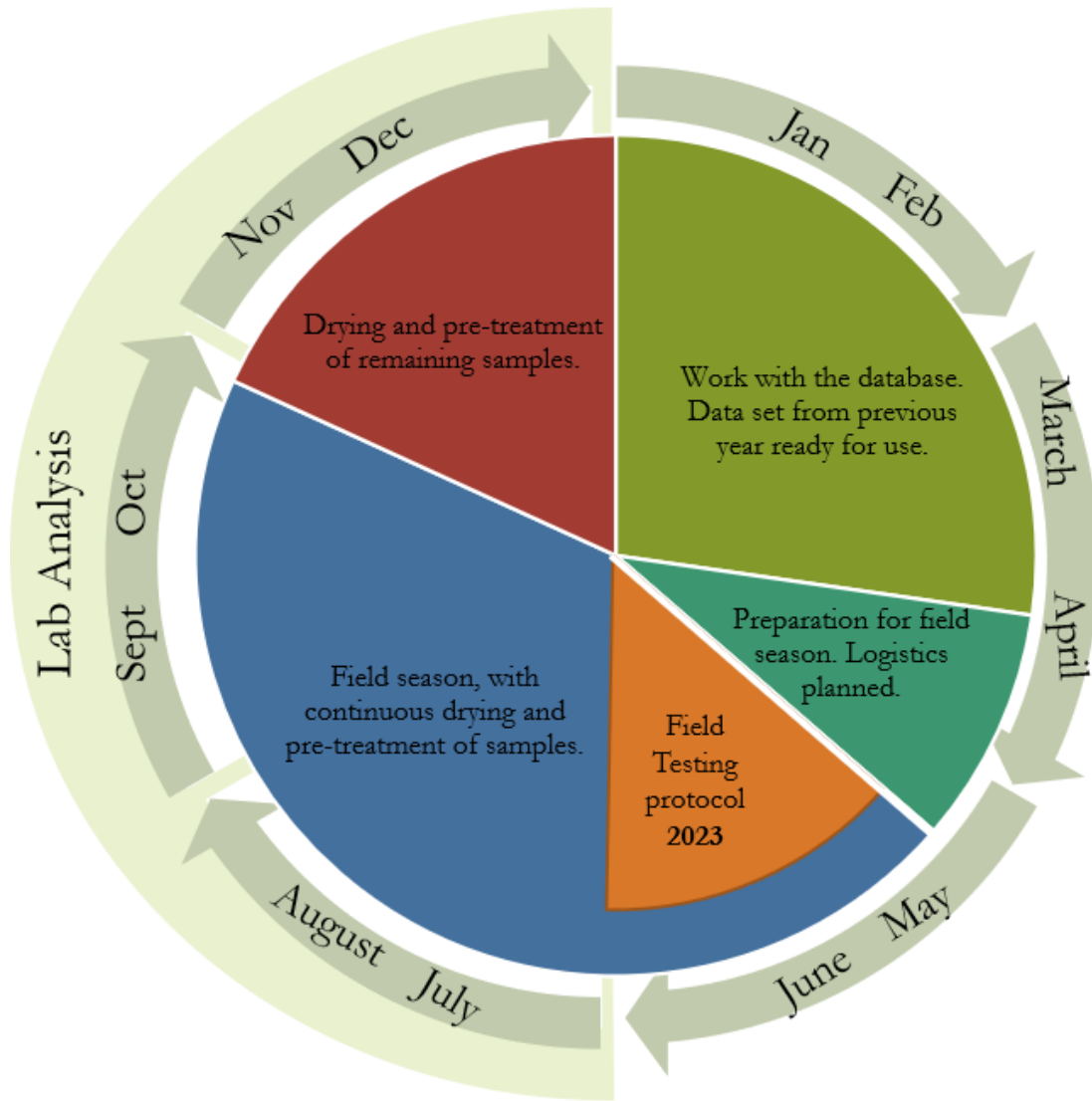
Optimising and developing protocols

Current design

- Core sampling: 12-20 cores plot⁻¹
- *Profile sampling* with a pit

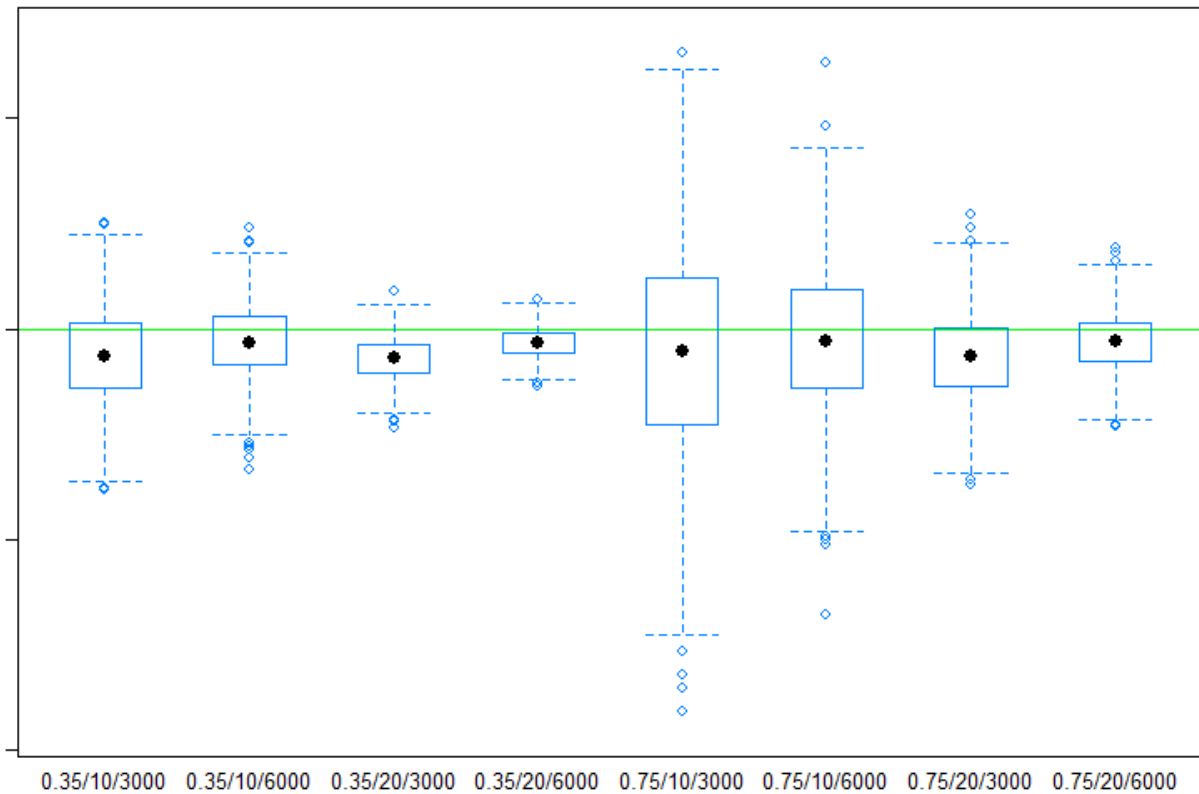


Plan for this year (and onwards)



- **[Mar-Jun]** Test and Finalise protocols, training on soil classification
- **[July-Oct]** First field campaign
- **[Sep-Apr]** Sample assays and data generation

Soil C change (t_2-t_1)



CV	.35	.35	.35	.35	.75	.75	.75	.75
Core	10	10	20	20	10	10	20	20
Plot	3k	6k	3k	6k	3k	6k	3k	6k

Major Challenges

- Resource allocation: number of cores plot⁻¹ vs. number of NFI plots
- Split plot
- Quality control (e.g., separating layers in the field, selection of NFI plots)
- Limitations: compromise on bulk density, time management, sampling in stony areas
- Biosample storage and transportation
- Difficulty with linking soil C data with land/forest management



How we would contribute to the global soil carbon inventory.

→ *Data from high latitude/mountainous area*



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*Thank you for your
attention!
Takk! Grazie!*



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