The MYR Project (2018-21): Climate smart management practices on Norwegian organic soils

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The European Union has proposed a climate target for Norway to reduce emissions from sectors outside the EU Emissions Trading System by 40% by 2030, over 2005 levels, among which agriculture plays an important role; Cultivated organic soils (7-8% of Norway’s agricultural land area) are economically important sources for forage production in some regions in Norway; The mitigation measures of GHG emissions at cultivated organic soils are still contentious and their applicability to Norwegian conditions are largely unknown;

2. Scope of MYR Project
Producing the first Norwegian dataset from organic soils where emissions of all GHG’s are accounted for; Investigating the climate mitigation of different management practices (e.g. WTL control, fertilization strategies and tillage intensity); Experimental data covering the broad Norwegian climate range. Study sites in subarctic, continental and temperate, coastal regions; Modelling and predicting the potential GHG mitigation by 2030 and 2050 with optimal management practices under different scenarios;

3. Scientific Implications
Generating useful information for recommendations on climate-friendly management of Norwegian peatlands for both policy makers and farmers; Estimation of emissions and their potential reduction as well as impacts on yield by 2030 and 2050;

4. Approaches

The MYR project integrates experimental data with modelling to explore the climate mitigation potential of drained organic soils in Norway.

4.1 Online Data System
Real-time upload of observational data; Visualization of historical data; Post processing of data for modellers; Discussion and notification among project group;

4.2 Approaches – Experiment Design
Producing the first Norwegian dataset from organic soils where emissions of all GHG’s are accounted for; Investigating the climate mitigation of different management practices (e.g. WTL control, fertilization strategies and tillage intensity); Experimental data covering the broad Norwegian climate range. Study sites in subarctic, continental and temperate, coastal regions; Modelling and predicting the potential GHG mitigation by 2030 and 2050 with optimal management practices under different scenarios;

4.3 Approach – Model Development
Developing four models individually for peatland; Performing multi-model ensemble predicting under different scenarios and management practices;