

Peatlands for climate change mitigation in agriculture

Sponsors: OECD-CRP & Land-CRAFT

Venue: Aarhus University, AIAS - Aarhus Institute of Advanced Studies, Room 1630.301
Høegh-Guldbergs Gade 6B, 8000 Aarhus C, Denmark

DAY 1 - October 4, 2022

9:00 Welcome and introduction (J.E. Olesen and K. Butterbach-Bahl)

9:15 Introduction by OECD Scientific Advisory Board representative, Maria J. Santos

Mapping peatlands and their current use

9:30 Mapping and quantifying carbon stock in peatlands, Budiman Minasny, University of Sydney, Australia

9:45 Using geospatial technology to aid the assessment of peatland extent, condition and carbon stock, John Connolly, Trinity College Dublin, Ireland

10:00 Mapping of Danish peatlands, Mogens H. Greve, Aarhus University, Denmark

10:15 Coffee break

10:45 Global mapping of peatlands and peatland degradation, Alexandra Barthelmes, Greifswald University, Germany

11:00 Remote sensing for assessing status for peatlands, Rebekka Artz, The James Hutton Institute, UK

11:15 Discussion on knowledge gaps for mapping peatlands and their functions (M.H. Greve)

12:00 Lunch

Peatland biogeochemistry and hydrology

13:15 Controls of GHG emissions in restored peatlands, Hanna Silvennoinen, Norwegian Institute for Nature Research, Norway

13:30 Drivers of greenhouse gas emissions from temperate agricultural peatland soils and opportunities for mitigation, Whendee Silver, UC Berkeley, USA

13:45 Organic matter flux through a raised bog in comparison to a blanket bog, Stephan Glatzel, University of Vienna, Austria

14:00 Methane production and oxidations in agricultural peat soils: A biogeochemical perspective, Shubiao Wu, Aarhus University, Denmark

14:15 Environmental controls of nitrous oxide emissions from managed organic soil, Søren O. Petersen, Aarhus University, Denmark

14:30 Coffee break

Greenhouse gas balances of agricultural peatlands

15:00 Controls on GHG emissions from warm-temperate intensively grazed peatlands with implications for mitigation and New Zealand's emissions inventory, David Campbell, University of Waikato, New Zealand

15:15 Mitigation of GHGs from agricultural managed peatland soils, Matthias Drössler, Weihenstephan-Triesdorf University of Applied Sciences, Germany

15:30 Management effects on GHG emissions from agricultural peat soils, Lars Elsgaard, Aarhus University, Denmark

15:45 Degraded peat forest in the Peruvian Amazonia, Kristell Hergoualc'h, CIFOR

16:00 Discussion of data gaps and protocols for measuring and quantifying GHG (S.O. Petersen)

16:40 Wrap-up of day 1 and preparations for day 2

19:00 Dinner at Restaurant "Det Glade Vanvid"

DAY 2 - October 5, 2022

Models and tools to quantify peatland impacts

- 9:00** Impact of drainage on the GHG balance of global peatlands, Chunjing Qiu, LSCE, France
- 9:15** Modeling peat CO₂ & N₂O emission factors for oil palm plantations, Steve Frolking, University of New Hampshire, USA
- 9:30** Landscape scale approaches for assessing effects of wetland restoration on GHG emissions and nutrient balances, Klaus Butterbach-Bahl, Aarhus University, Denmark
- 9:45** Monitoring, reporting, verifying the soil carbon change and GHG emissions in agricultural fields – experiences of model-data fusion, Annalea Lohila, Finnish Meteorological Institute, Finland
- 10:00** FAOSTAT GHG estimates from drained organic soils, Giulia Conchedda, FAO
- 10:15** Coffee break

Restoration of peatlands

- 10:45** Peatland restoration: a nature-based solution to mitigate climate change and other impacts, Line Rochefort, Université Laval, Canada
- 11:00** Mitigation options for agriculturally used organic soils in Germany, Bärbel Tiemeyer, Thünen Institute of Climate-Smart Agriculture, Germany
- 11:15** Restoration or energy crop production – alternatives for the further management of peat extraction areas, Ülo Mander, University of Tartu, Estonia
- 11:30** *Discussion on data and knowledge gaps for modelling and restoration of peatlands (M.H. Greve / J.E. Olesen)*

12:00 Lunch

13:00 Workshop photo

Paludiculture

- 13:15** GHG mitigation by agricultural soil rewetting and paludiculture, Kristiina Lång, Natural Resources Institute, Finland
- 13:30** Paludiculture and Carbon Farming in Dutch/German/Belgian peatlands, Christian Fritz, Radboud University Nijmegen, Netherlands
- 13:45** Productive use of wet agricultural peatland, Poul Erik Lærke, Aarhus University, Denmark

Incentives and policy

- 14:00** A Danish roadmap for the sustainable transformation of the agri-food systems with implications for land use and management, Jørgen E. Olesen, Aarhus University, Denmark
- 14:15** Neglected peatlands and the nature & climate crises, Dianna Kopansky, UNEP
- 14:30** Coffee break
- 15:00** Policy initiatives in Denmark to restore peatlands, Emil Vibild, Danish Agricultural Agency, Denmark
- 15:15** *Discussion on knowledge gaps on policy instruments (J.E. Olesen)*
- 15:45** *Wrap-up of session, policy brief and special issue (K. Butterbach-Bahl / J.E. Olesen)*

16:15 Refreshments

17:00 End of program