



The contribution of drained organic soils to the globally emitted greenhouse gases and emission hotspots

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Peatlands cover only 3% of the global land surface. Some 15% of these peatlands have been drained for agriculture, forestry and grazing, which leads to the release of huge amounts of carbon. The '2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands' (IPCC 2014) offers up-to-date default emission factors for different land use types on organic soil and thus enables proper reporting. For this, realistic area data of drained organic soils are needed at a national scale.

We analysed the drained organic soil areas and related emissions as reported to the UNFCCC in 2014 for several Nordic-Baltic countries. The analysis revealed that the areas often seem to be underestimated and that several countries use outdated emission factors. The re-assessment of the drained area and the application of the IPCC (2014) default emission factors resulted in 5-10 x higher emissions from drained organic soils for some countries. Out of 9 Nordic-Baltic countries only 1 country seems to have overestimated the drainage related organic soil emissions.

If adopting the default emission factors from IPCC (2014) globally, the emissions from drained and degrading organic soils (~ 1,600 Mt CO₂-eq.) amount to almost double the amount of CO₂ emissions from aviation, even when emissions from peat fires are not included. By far the top single emitter of drained peatland related greenhouse gases is Indonesia, followed by the European Union and Russia. 25 countries are together responsible for 95% of global emissions from peatland drainage, excluding fires. Fires raise the importance of particularly Indonesia and Russian Federation. In 25 countries emissions from peatland degradation are over 50% of the emissions from fossil fuels and cement production combined, hence peatland emissions are of national significance.