



Greenhouse gas emissions from a peatland in Northern Germany

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Peatlands are the most important terrestrial carbon store. In Germany in the past, peatlands covered up to 5% of the total land surface, being approximately 1,500,000 hectares. Nowadays, 95 percent of these areas are drained and 10% of these drained areas are (former) peat extraction sites. The Himmelmoor is a peat extraction site in Northern Germany which is in phases being restored as a wetland since 2008. Greenhouse gas emissions have been measured on different locations during the autumn of 2012 using the Chamber Technique (non-steady state through flow) and the Flux Gradient Technique. Both methods were connected to a Fourier Transform InfraRed (FTIR)-spectrometer, measuring CO₂, CH₄, N₂O and CO. An on-site Eddy Covariance system was used for comparison of the data.

CO₂, CH₄ and N₂O-emissions have been observed through the whole measurement period. Fluctuations in emissions correlated well with meteorological conditions. In general, emissions strongly decreased during autumn. Furthermore, CO-uptake was observed during the whole measurement period.