

PhD projects at the Research Group of Soil Science

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Changes in Soil Organic Matter Content of Wetland-Soils in East-Africa according to land use change

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The PhD research project presented investigates the impact of different wetland types (floodplain and inland-valley) and different hydrological situations (0-6 months of flooding) on the formation and stability of Soil-Organic-Matter (SOM). It is part of the GlobE-Project „Wetlands in East-Africa – reconciling future food production with environment protection“.

Soil-Organic-Matter (SOM) is one of the most important parameters of soil fertility and stability of agricultural and natural ecosystems. It is involved in many geochemical processes and is a key-role-player in interactions between mineral soil particles, and fluxes between many spheres of our environment.

Wetland-Soils have a great inhibition-capability to turnover processes of OM, according to their specific oxic- and anoxic-conditions. Therefore they form pools of SOM and a land-use-change can have a big impact on these pools. Geochemical interactions between new partners are possible and new processes affect the stability of SOM.

In terms of the PhD research a characterization of the status quo of SOM in different wetland-systems in East-Africa has to be developed. Within these pools reactions under changed environmental conditions are described. This leads to a better understanding of SOM in this region and contributes to questions of formation, dynamics and sequestration of SOM.



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Work Package	B2
Countries of work	Germany, Uganda, Tanzania
1 st Supervisor	Prof. Dr. Sabine Fiedler
2 nd Supervisor	
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Faculty	Faculty of Chemistry, Pharmacy, Geo-Science and Geography
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