

The role of dissolved organic carbon for the export of iron from catchments

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Export of dissolved organic carbon (DOC) from catchments to streams has increased in the last decades in many catchments across the Northern hemisphere. Mobilisation of DOC from riparian soils and wetlands is highly dependent on discharge and is triggered by storm events. In many cases a very strong correlation between DOC and Fe concentrations during storm events can be observed in the streams suggesting joint source areas and mobilisation mechanisms. In this contribution we will discuss causes and mechanisms of Fe transfer from catchments into aquatic systems. Analyses of Fe species from a 40-years sample archive from the Große Ohe Catchment in the Bavarian Forest National Park indicated that between 60 and 100 % of the dissolved Fe determined were in the reduced form Fe(II). In addition, investigations in a headwater stream in NE Bavaria, Germany, reveal that a substantial amount of Fe(II) is being exported from the catchment via the stream with implications for the oxygen budget of streams. In our contribution, we argue that the export of Fe(II) is mediated by redox processes related to DOC.