

EGU21-15785

<https://doi.org/10.5194/egusphere-egu21-15785>

EGU General Assembly 2021

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## Elucidating sources and pathways of dissolved organic carbon in a small, forested catchment – A qualitative assessment of stream, soil and shallow groundwater

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Dissolved organic carbon (DOC) constitutes the biggest portion of carbon that is exported from soils. During the last decades, widespread increases in DOC concentrations of surface waters have been observed, affecting ecosystem functioning and drinking water treatment. However, the hydrological controls on DOC mobilization are still not completely understood.

We sampled two different topographical positions within a headwater catchment in the Bavarian Forest National Park: at a steep hillslope (880 m.a.s.l.) and in a flat and wide riparian zone (770 m.a.s.l.). By using piezometers, pore water samplers (peepers) and in-stream spectrometric devices we measured DOC concentrations as well as DOC absorbance ( $A_{254}/A_{365}$  and  $SUVA_{254}$ ) and fluorescence characteristics (fluorescence and freshness indices) in soil water, shallow ground water and stream water in order to gain insights into the DOC source areas during base-flow and during precipitation events.

High DOC concentrations (up to  $80 \text{ mg L}^{-1}$ ) were found in soil water from cascading sequences of small ponds in the flat downstream part of the catchment that fill up temporarily. The increase of in-stream DOC concentrations during events was accompanied by changing DOC characteristics at both locations, for example increasing freshness index values. As the freshness index values were approaching the values found in the DOC-rich ponds in the riparian zone, these ponds seem to be important DOC sources during events. Our preliminary results point to a change of flow pathways during events.