### Supplement of

# **Hydrological Controls on Temporal Contributions of Three Nested Forested Subcatchments to DOC Export**

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#### 1. Gapfilling of missing discharge data

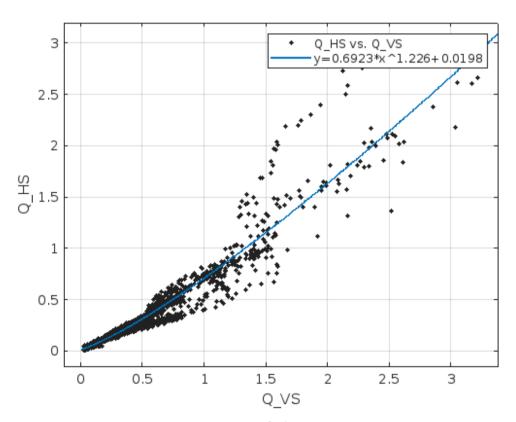


Figure S1: Relationship between the discharge (in  $m^3$  s<sup>-1</sup>) of the catchment Vorderer Schachtenbach (Q\_VS) and the catchment Hinterer Schachtenbach (Q\_HS), which was used for the gap filling of missing discharge data at Hinterer Schachtenbach from August 1<sup>st</sup> to September 3<sup>rd</sup>, 2020 ( $R^2 = 0.94$ ).

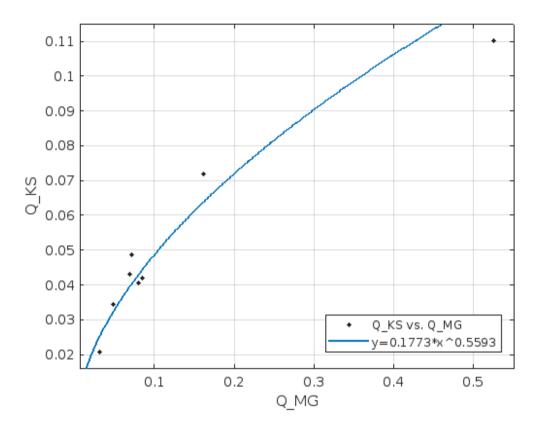


Figure S2: Relationship of discharge (in  $m^3$  s<sup>-1</sup>) at MG (Q\_MG) and KS (Q\_KS), which was measured at KS via tracer dilution on eight occasions ( $R^2 = 0.93$ ).

## 2. Correction of DOC concentrations, determined by UV-Vis spectrophotometers, with DOC concentrations measured in grab samples

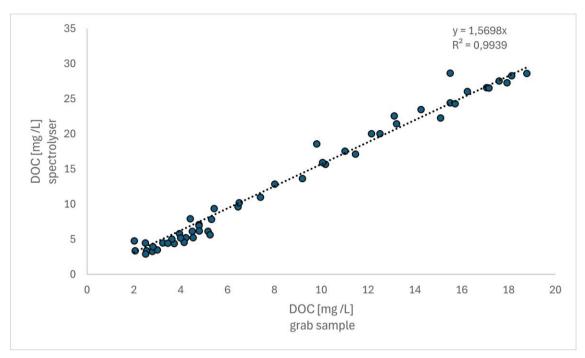


Figure S3: Correction factor used for the DOC concentrations measurements made by UV-Vis spectrophotometer D1 using grab stream samples at various discharge conditions (n = 52).



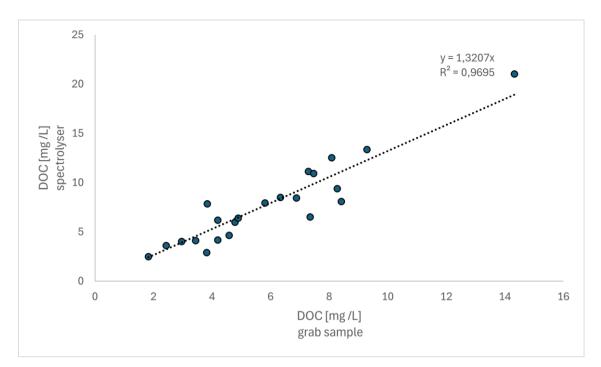


Figure S4: Correction factor used for the DOC concentrations measurements made by UV-Vis spectrophotometer D2 using grab stream samples at various discharge conditions (n = 22).

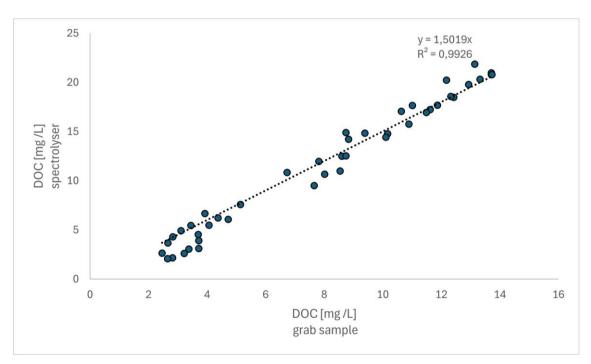


Figure S5: Correction factor used for the DOC concentrations measurements made by UV-Vis spectrophotometer D3 using grab stream samples at various discharge conditions (n =44).

#### 3. DOC export from the subcatchments

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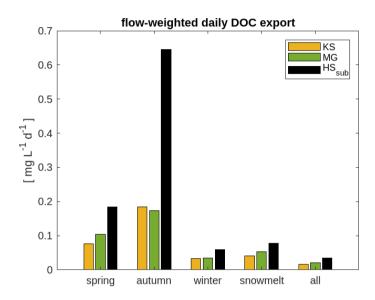


Figure S6: Mean daily flow-weighted DOC export from the subcatchments KS, MG and HS<sub>sub</sub> during the different hydrological periods.