

Motivation

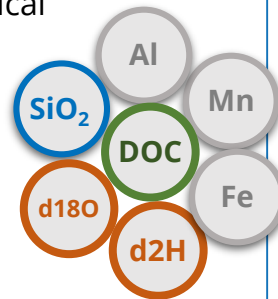
- [Junior Research Group](#): Processes of **DOC mobilization** in catchments
- rising DOC concentrations in inland waters
- export of DOC through hydrological pathways
- **we want to identify runoff generation processes to predict DOC loads**

Tracers

Fingerprints/signature of hydrological compartments

- groundwater
- precipitation water
- soil water

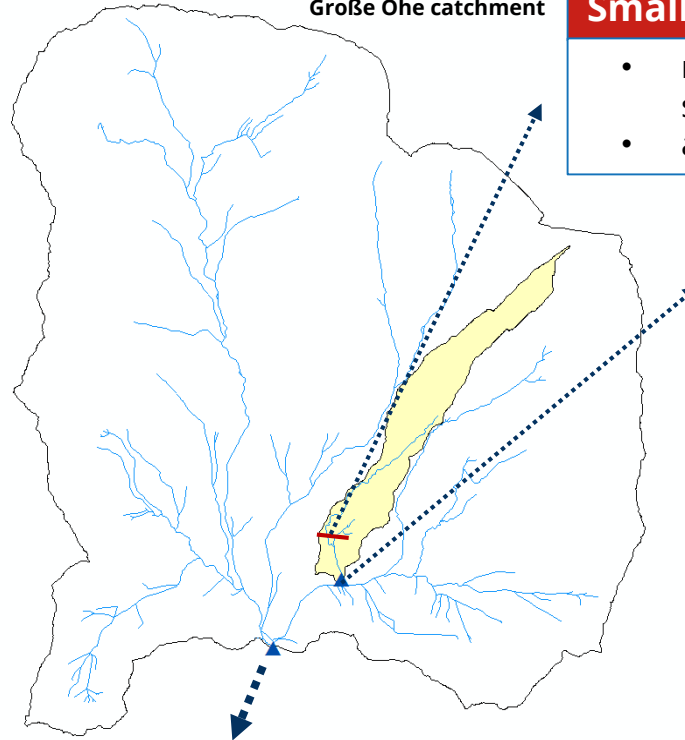
→ Mixing of signatures in stream water



Nested Approach

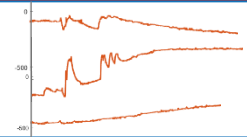
- analysis on different scales in same system
- small scale, mesoscale, macroscale
- process upscaling → identify dominant processes

Bavarian Forest National Park
Große Ohe catchment



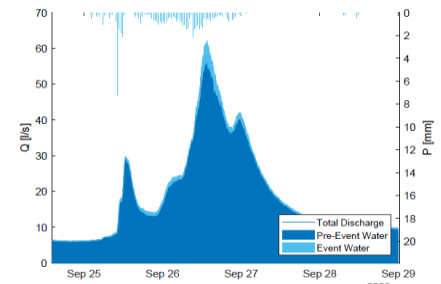
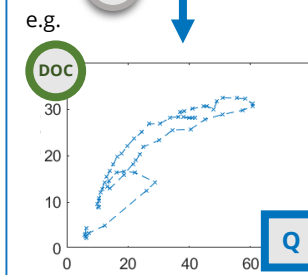
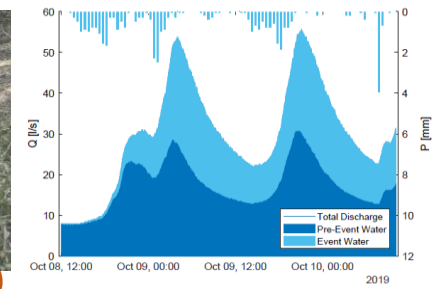
Small Scale: Instrumented Hill Transect

- measuring Ψ , θ , T , EC and collecting of soil water samples to analyse tracers
- at several sites and depths



Meso- & Macroscale: (Sub-) Catchment

- EMMA with tracers and stable isotopes concentration profiles at outlets during HQ/MQ/NQ
- hydrograph separations for different flood events



Synthesis at Catchment Outlet

- discharge and loading depend on
 - areas of origin
 - flow paths
 - retention times
- loading fractions vary strongly depending on pre-conditions