C-Q hysteresis and lateral flow modelling to characterize water origin and processes

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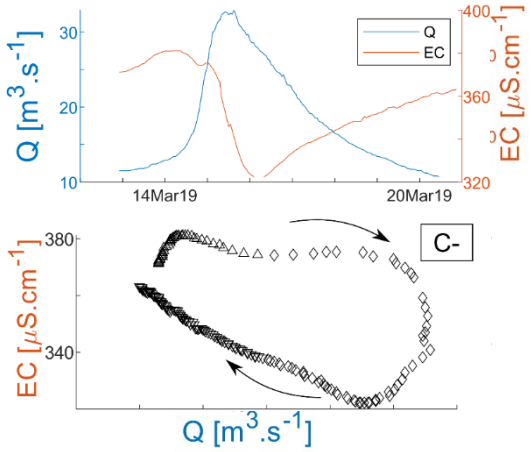
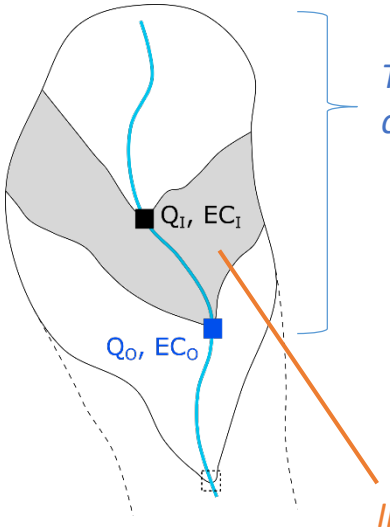


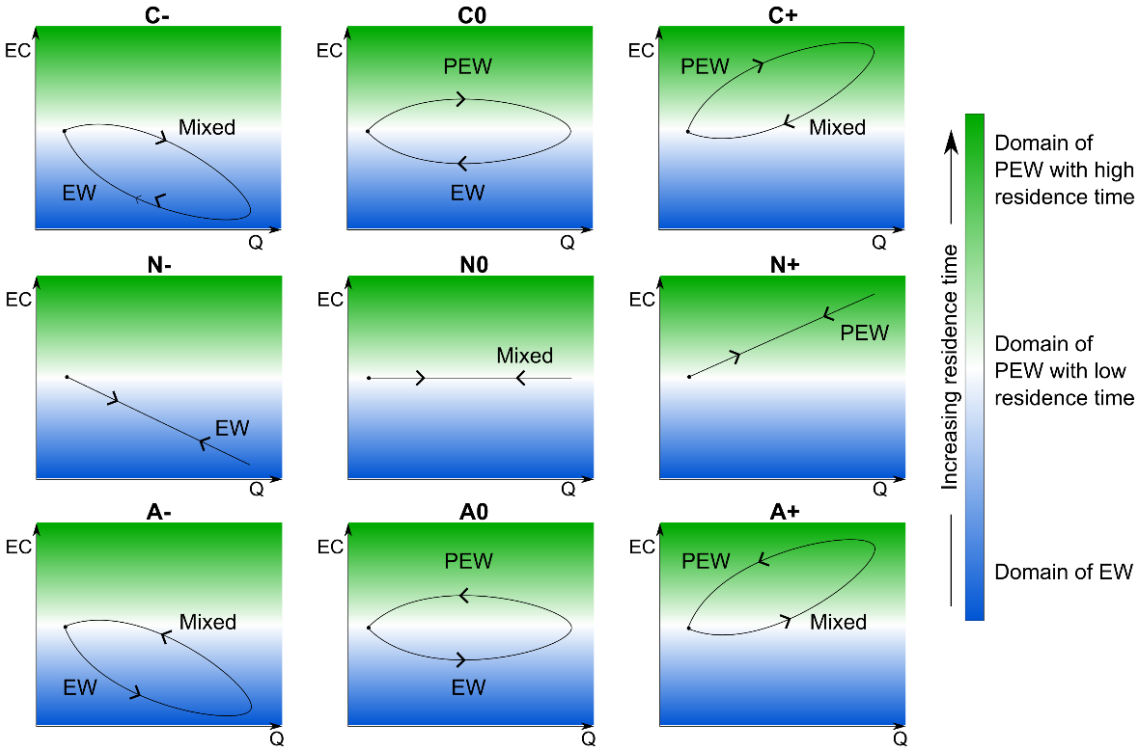
1) Electrical conductivity (EC) & flow (Q) measurement in karst area:

- EC is a proxy of residency time in aquifers



Topographic catchment

Intermediate catchment



2) EC-Q hysteresis loops analysis:

- Identification of water origin (Event-Water vs. Pre-Event water)
- Characterization of processes (surface runoff vs. groundwater with various residence times)

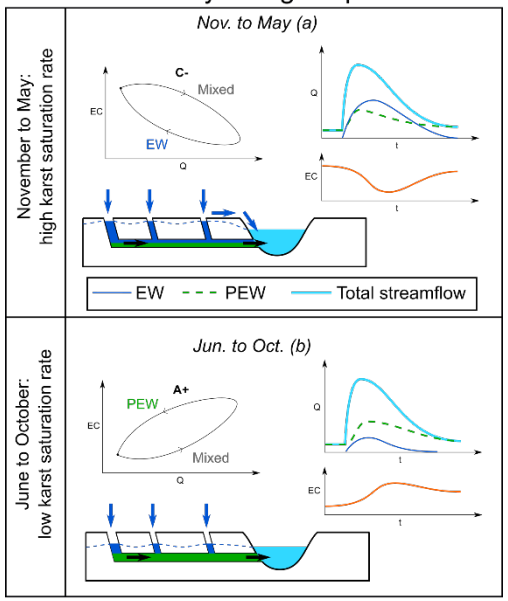
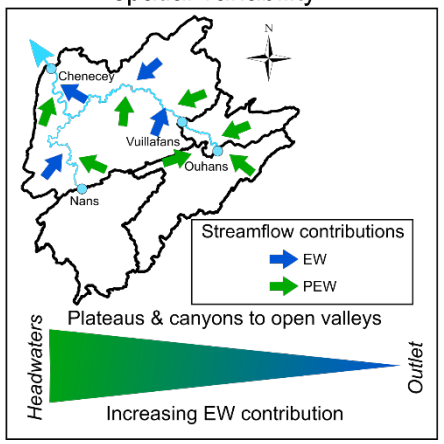
3) Lateral flow EC simulation

- Spatialization at the reach scale

4)Results

Conceptual behavior

Main storm hydrological processes



Intra-catchment water origin spatial variability