

Development of automatic procedure for **event separation** in wide range of German catchments

- Test of various base flow separation techniques
- Identification of runoff events and attribution of rainfall events
- Iterative refinement of multiple-peak events
- Derivation of event characteristics

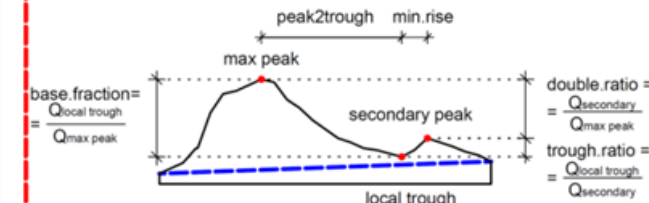
1. Base flow separation

2. Rainfall attribution

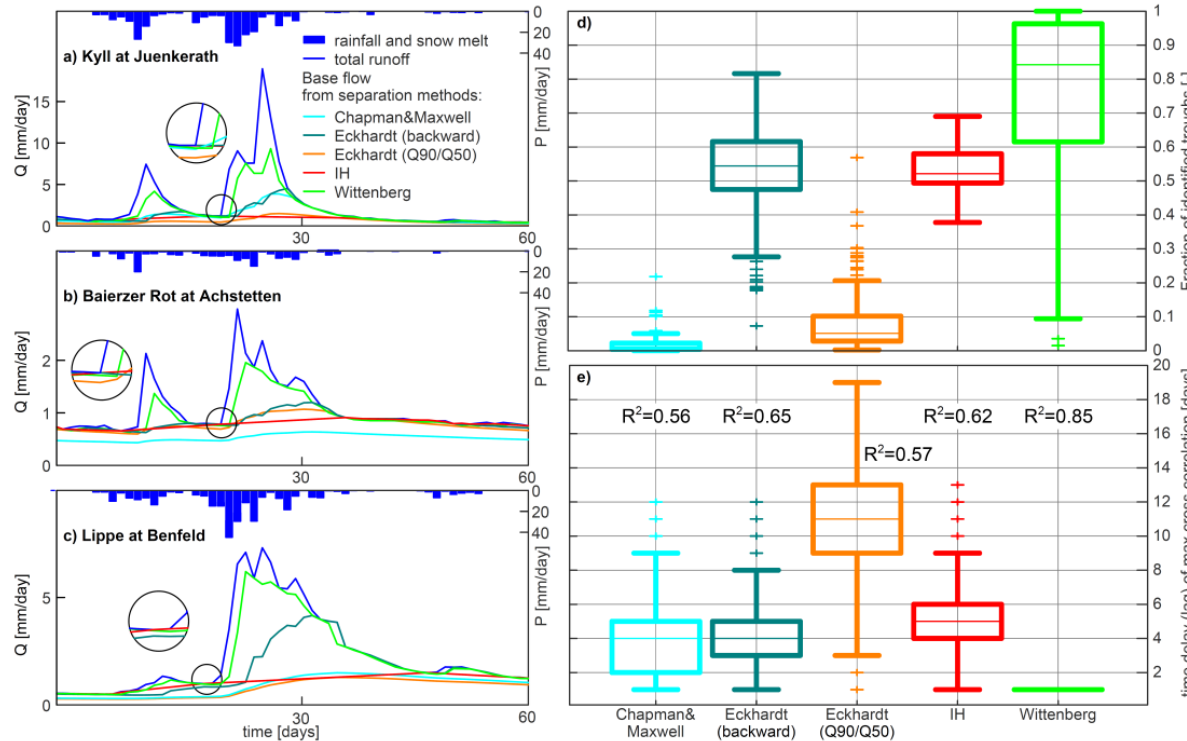
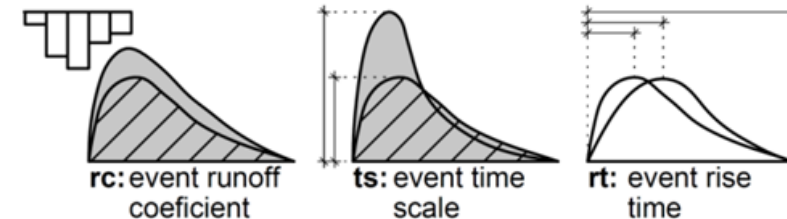
3. Refinement of multiple-peak events:

distribution equality test

separation thresholds



iteration



Selection of base flow separation procedure for runoff event separation.

Event characteristics as diagnostic variables of catchment behavior and hydrological processes on catchment scale

- Regional analysis of event characteristics in Germany
- Linking event characteristics and catchment descriptors using different variable selection methods
- Catchment archetypes

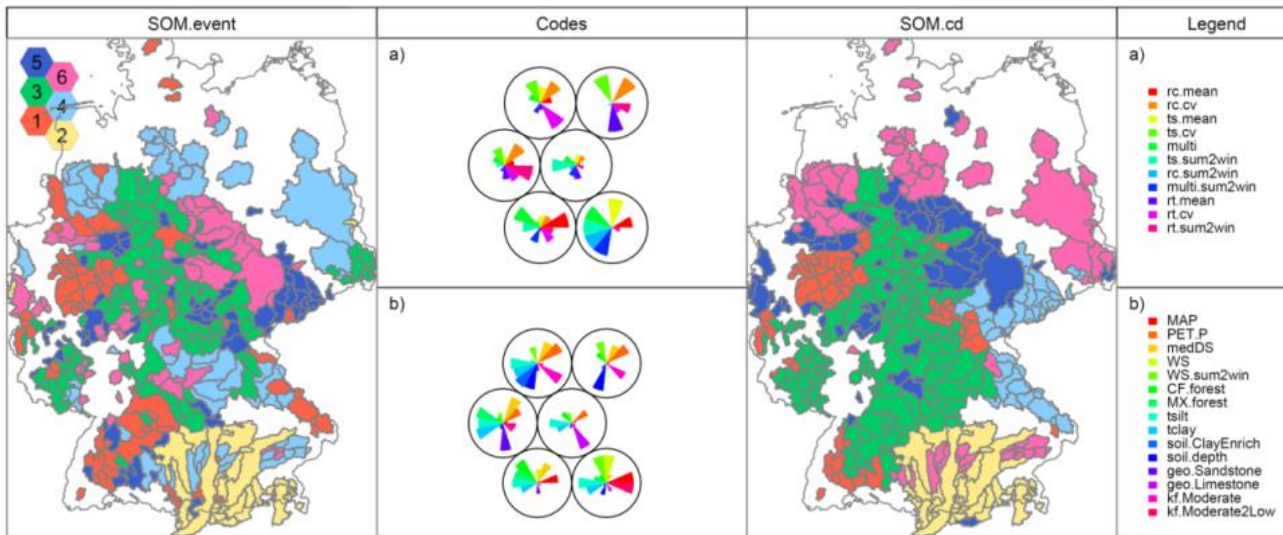


Figure 2. Linking event characteristics and catchment descriptors through catchment classification

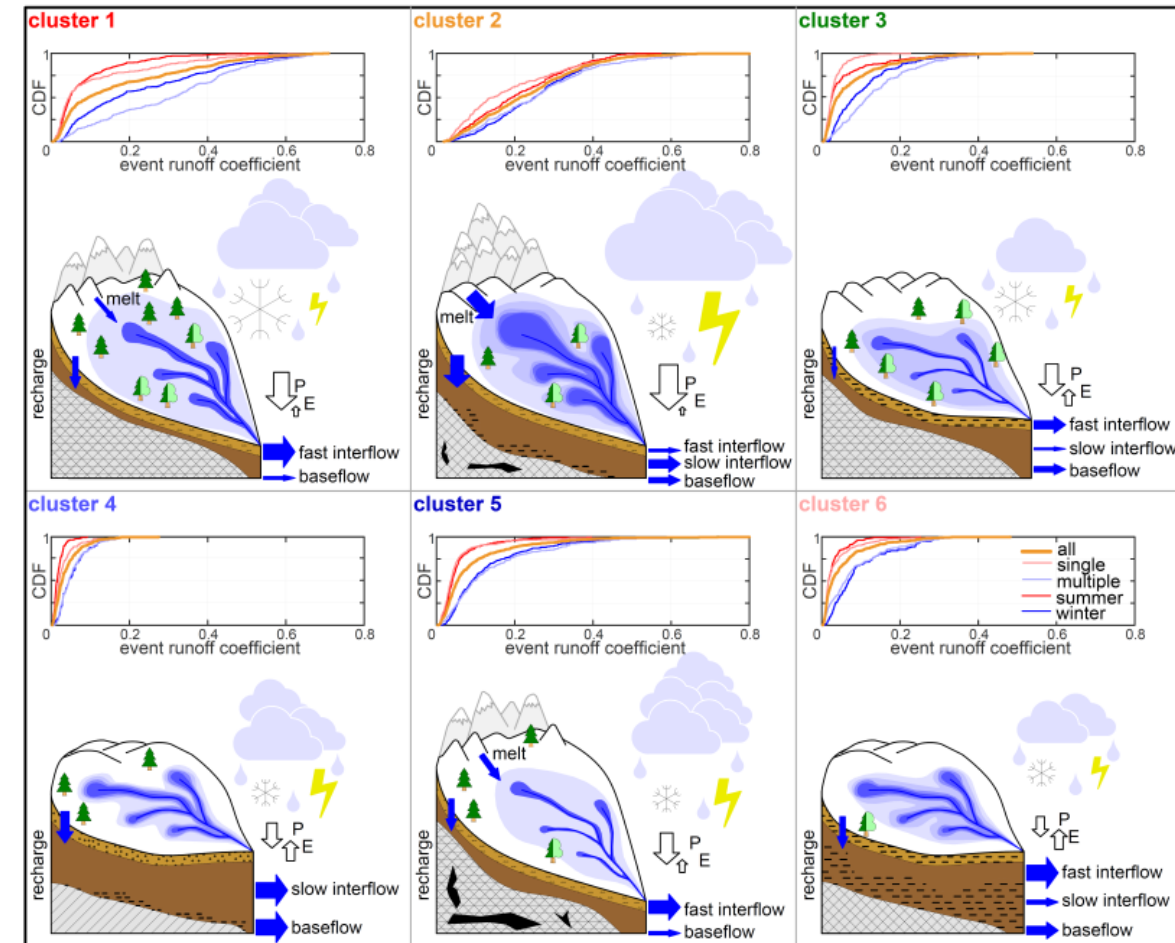


Figure 3. Archetypal behaviors of catchments belonging to the six identified clusters

Review of existing **causative classifications** of river flood events

- Three perspectives of existing classification frameworks: hydroclimatic, hydrological and hydrograph-based
- Shortage of uncertainty analysis and robustness tests
- Missing ingredients of existing frameworks

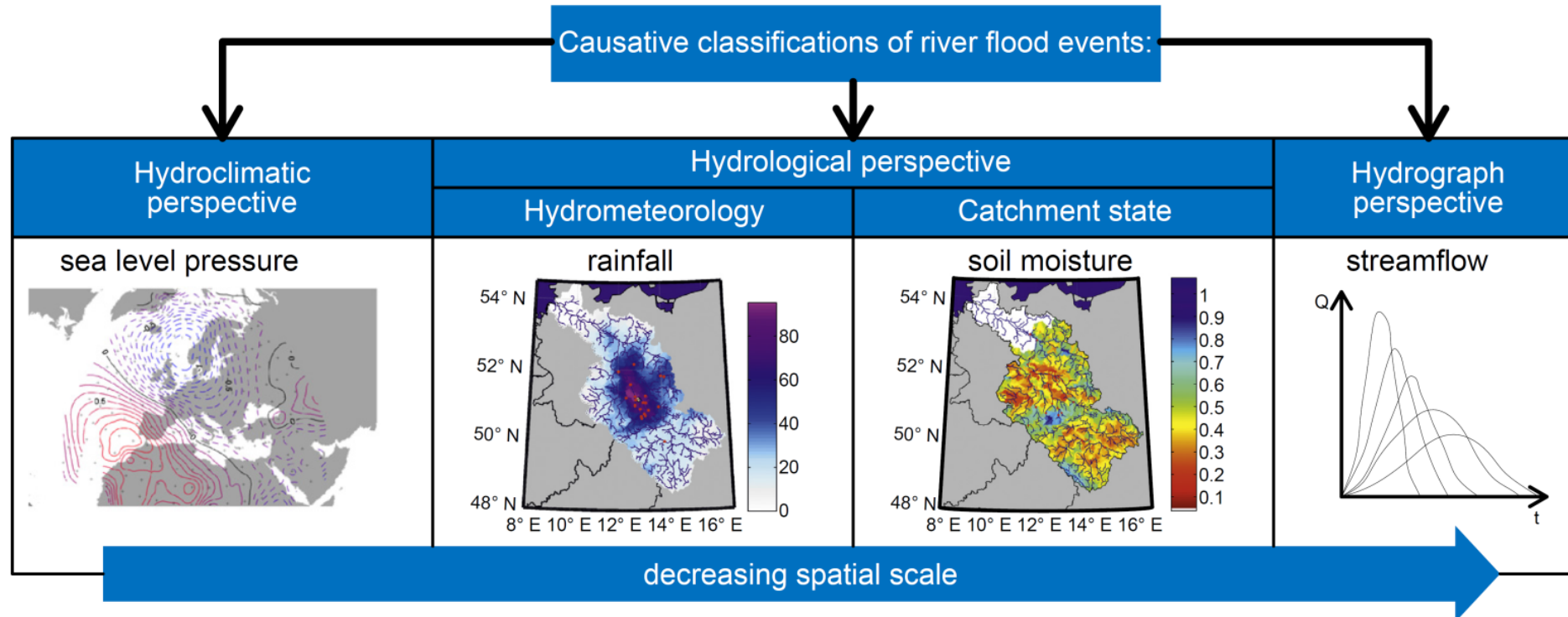


Figure 4. Different perspectives and scales of existing causative classifications of river flood events.