



Understanding the variability of catchment signatures across the US

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A hydrograph has many characteristics that are affected by different processes, climatic and catchment properties. This contribution shows the results of a study aiming at understanding in more detail the relationship between different catchment signatures and the properties of catchments. The study considers over 500 catchments across the US covering a large climatic, vegetational, geological, topographic and edaphic range.

The first part of the study looked at the suitability of models that take into account different processes for replicating various catchment signatures. This allows then the identification of the best suited model for each signature. By linking this information with the catchment properties it is possible to arrange the catchments into groups with similar patterns.

The sensitivity to climate change and climate variability is analyzed by comparing the annual climate time series with the annual value of the signatures, informing about the sensitivities for the catchment types identified in the previous step.