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Panta Rhei Benchmark Dataset

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We tackle the unsolved problem in hydrology “How can we extract information from available data on human and water systems in order to inform the building process of socio-hydrological models and conceptualisations?”

In the framework of the Panta Rhei initiative we compile and analyse a benchmark dataset, which shall be used to calibrate and apply socio-hydrological models. The compilation and analyses of the benchmark dataset will be undertaken as follows: 1) selection of suitable socio-hydrological models; 2) identification of the variables necessary to calibrate and apply the selected models; 3) collection of time series data of the selected variables for as many catchments as possible; 4) calibration and application of the socio-hydrological models; 5) comparative analyses across different models and catchments.

A minimum of two, preferably more socio-hydrological models for floods and droughts shall be selected. Data collection will be undertaken with the support of the Panta Rhei community, particularly the members of the Panta Rhei working groups “Changes in flood risk” and “Droughts in the Anthropocene”. For the socio-hydrological model calibration we plan to follow the example of Barendrecht et al. (2019). This PICO presentation shall be used to discuss and finalise the concept for data compilation and analyses, to promote this initiative and to motivate as many colleague as possible to contribute to the data collection and comparative analyses.

Reference: Barendrecht, M. H., Viglione, A., Kreibich, H., Merz, B., Vorogushyn, S., Blöschl, G. (2019): The value of empirical data for estimating the parameters of a socio-hydrological flood risk model. WRR, 55, 2, 1312-1336. DOI: http://doi.org/10.1029/2018WR024128