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Variability of Short-term Precipitation and Runoff in Small Czech Drainage Basins

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The aim of this contribution is to introduce the recently started three year's project named "Variability of Short-term Precipitation and Runoff in Small Czech Drainage Basins and its Influence on Water Resources Management". Its main goal is to elaborate a methodology and online utility for deriving short-term design precipitation series, which could be utilized by a broad community of scientists, state administration as well as design planners. The outcomes of the project will especially be helpful in modelling hydrological or soil erosion problems when designing common measures for promoting water retention or landscape drainage systems in or out of the scope of Landscape consolidation projects. The precipitation scenarios will be derived from 10 years of observed data from point gauging stations and radar data. The analysis is focused on events' return period, rainfall total amount, internal intensity distribution and spatial distribution over the area of Czech Republic. The methodology will account for the choice of the simulation model. Several representatives of practically oriented models will be tested for the output sensitivity to selected precipitation scenario comparing to variability connected with other inputs uncertainty. The variability of the outputs will also be assessed in the context of economic impacts in design of landscape water structures or mitigation measures.
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