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Conceptual hydrological modeling: evaluating discretization effects from the parameters of a stochastic model

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Space-time rainfall variability, particularly in the case of convective precipitation, is the main cause of differences between raingauge-estimated and real rainfall as input into hydrological models. Consequently, the use of radar-estimated rainfall data, implying a whole problematic of its own, is being preferred in recent applications. The present study focuses on the influence of the space-time discretization used in a conceptual hydrological model, on its performance. Considerations including the stochastic characteristics of rainfall are presented, as well as an application to the Rio Escondido basin in Mexico.