



Space time disaggregation of precipitation using daily precipitation and radar observations.

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Radar measurements provide useful information on the spatial and temporal distribution of precipitation. Unfortunately the measurements are often erroneous and biased. Traditional raingauge based observations offer point values. The purpose of this contribution is to investigate the possibility of combining high frequency pluviometer rainfall observations, daily data and radar measurements to obtain sets of possible realizations of the “real” space-time distribution of precipitation. The stochastic model uses space-time copulas, and simulates realizations using a random mixing approach. The method does not intend to provide a single best estimate, but instead to generate many realizations of precipitation fields using the stochastic model. The realizations reflect the different sources of information and represent the corresponding uncertainty. Different levels of information derived from considering radar data are investigated starting with the use of (i) radar zeros only, then (ii) intensity classes and (iii) rank based combinations. The methods are tested and compared on selected events recorded by a dense radar network in South-West Germany, which has been carefully bias corrected.