

DISAGGREGATION OF HOURLY RAINFALL SERIES FOR CONTINUOUS HYDROLOGICAL MODELLING

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Continuous hydrological modelling in urban areas requires short time step rainfall series, depending on the response time of the watershed. In order to provide this kind of information, a simple precipitation disaggregation model has been developed. The aim of the model is to allow the production of rainfall series at 10 minute time steps, by disaggregation of hourly series that can be observed or generated by a stochastic model (NSRPM). Using 20-year observed rainfall series, a statistical model is proposed to describe the time distribution of rainfall within an hour. This empirical distribution of rainfall depth for each interval can be used to randomly choose a dimensionless hyetograph which will allow the distribution of the hourly rainfall volume in each 10 minute time step. As a result, long rainfall series at short time steps whose statistics are similar to the original series, are available.