



Experiments with a conceptual model of scaling in hydrology

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Hydrologic data have been recently shown to exhibit scaling behavior. A conceptual model based on the summation of (theoretically) an infinite number of random components at different temporal scales is shown to exhibit a scaling effect. A recursive relationship to calculate the variance at each temporal scale for a given value of the scaling coefficient is derived. Time series generated with this simple model are shown to reproduce the behavior of real hydrologic data. The possibility to partition real hydrologic data into components at different temporal scales according to this model is also investigated.