Rainfall intermittency and vegetation patterns

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Temporal rainfall intermittency has a deep impact on ecosystem functioning in water-limited areas. In particular vegetation persistence has been suggested to be positively affected by rainfall intermittency. This problem has been explored in the literature using ecohydrological, spatially integrated, approaches. Here we present the inclusion of precipitation intermittency in a spatially extended model of water-vegetation interaction in drylands. We compare different water uptake strategies by the vegetation and we study the existence range of vegetation and the regularity of vegetation patterns as a function of the statistical properties of the precipitation forcing. Finally we compare these results with a simple spatially implicit, ecohydrological model.