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The effect of precipitation intermittency on vegetation patterns

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Vegetation patterns are a striking manifestation of the the complex interaction of soil water and vegetation dynamics in water-limited regions. Simple dynamical models have helped to explore the key feedback and competition mechanisms leading to the appearance of regular patterns and to predict coexistence and hysteresis phenomena. Up to now, these studies have been limited to the case of constant precipitation, neglecting the more realistic case of temporal rainfall intermittency. In this study we discuss the effects of precipitation intermittency in a spatially extended model of water-vegetation interaction in drylands. We study the sensitivity of vegetation patterns and of their coexistence to the statistical properties of the precipitation forcing.