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## Contrasting hydrological regimes in two adjoining semi-arid areas, with low rain intensities

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The present study deals with the hydrology of two adjoining watersheds, located in an area where average annual rainfall is ~280 mm. One watershed is located in a loess covered area, and the second in a rocky area. Hydrological data collected in the loess area point to a very high frequency of channel flow. However, even in extreme rain events, peak discharges are extremely low, pointing to a limited contributing area. The explanation proposed is that runoff generation is limited to the channel area, where a quasi-permanent seal, very rich in dispersive clays, responds quickly to low rain intensities. The contribution of the adjoining hillslopes is negligible. The hydrological regime in the rocky area is opposite. The frequency of overland flow is very high. However, channel flow did not develop, even in an extreme rain event of 105 mm with peak rain intensities of 90 mm/h<sup>1</sup> in 2 min. The hydrological dis-connectivity at the-hillslope-channel interface is explained by the local rainfall characteristics. Rainstorms are highly intermittent, and the concentration time required for a continuous flow, along a whole slope, is much longer than the duration of most effective intermittent rain showers. Data obtained limit the possibility of extrapolation hydrological data from one area to another, under the same rainfall regime.