

## **Decisions on land conservation practices in a semi-arid region considering hydrological and social drivers**

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**Abstract** In tropical regions, such as the Brazilian semi-arid zone, climatic and hydrological regimes are highly variable. This variability is a determinant for defining land occupation, but farmers' social and economic characteristics are also important. This paper presents results of an investigation of hydrological and sediment yield from one small catchment due to land-use changes, considering both climatic and human factors. The study analysed observed time series of rainfall, runoff and sediment yield from an experimental catchment, and information from farmer interviews. The results show that clusters of a few intense events in a year determine annual runoff and sediment yield. The selection of land conservation practices can be aided by hydrological modelling based on information about farmers' willingness to adopt land conservation practices and on their farms' production systems and location within the catchment.

**Key words** semi-arid; SWAT; land use; remote sensing