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Modelling the responses of extreme events hydrometeorological events in the landslides and floods of the Combeima river basin.

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The village of Juntas has a periodic sequence of hydrometeorological extreme events. The region present a tropical vegetation with a highly dynamic weather. Currently modelling of hydrological events have been limited to the use of conventional rainfall runoff models, that fail to represent accurately the moment when landslides start to occur, as well as to not be able to provide a clear spatial sensitivity of the relationship between landslide event and precipitation. This research presents a contribution in the linking of various modelling concepts to understand more the influence of the spatial variability of rain in the generation of the events. The data avaialable was daily precipitation during 15 years from de satelital imagine and the discharge of geotechnical characterizations, hydraulic analysis, ecological structures, cartography, vulnerability, flood and torrential risk maps.

The analysis is done by combining the information available in remote sensing rasters and the overall temporal relation of events is mapped with a spatiotemporal analysis of the extremes. The current methodology is expected to contribute to the understanding of the sensitivity of landslides due to the spatiotemporal variation of rain in the region.