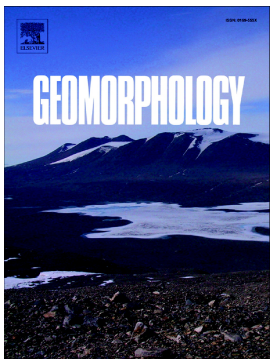

Rheologic survey of mass transport events from the geologic record of an Andean Precordilleran slope

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RHEOLOGIC SURVEY OF MASS TRANSPORT EVENTS FROM THE GEOLOGIC RECORD OF AN ANDEAN PRECORDILLERAN SLOPE

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Abstract

Gravitational processes are the most substantial mechanisms of continental sediment transport. Sedimentary deposits produced by these processes record evidence of the sediment transport mechanism and flow regime, as well as rheologic characteristics. This study aims to analyze sedimentary deposits at the Andean Precordillera in order to interpret the sediment transport mechanism and understand the rheologic behavior of the mass flows. The studied area, situated in Neuquén Province, Argentina, comprises a small-scale drainage basin and an alluvial fan. The study approach includes the description and analysis of fractures, landslide head scarps, texture, and geometry of sedimentary deposits. In the drainage basin, we identified planar landslide head scarps associated with deposits of talus and marginal levees. Sedimentary deposits record rockfall, non-cohesive debris flow, and catastrophic and normal stream flow mechanisms of sediment transport. The triggered mechanism is highly controlled by the