Approach for analyzing landslide and torrential flow hazard conditions in relation to landscape evolution in the northern Colombian Andes

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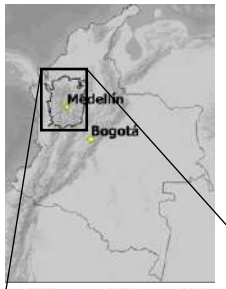
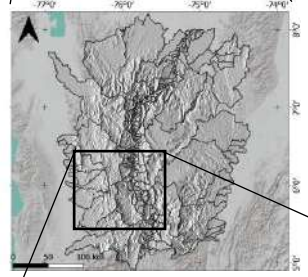
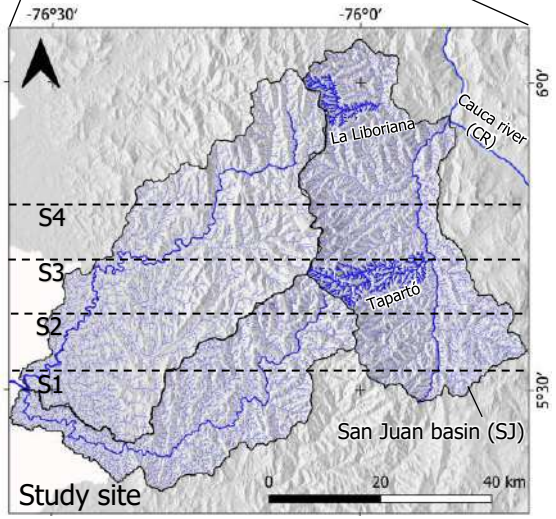


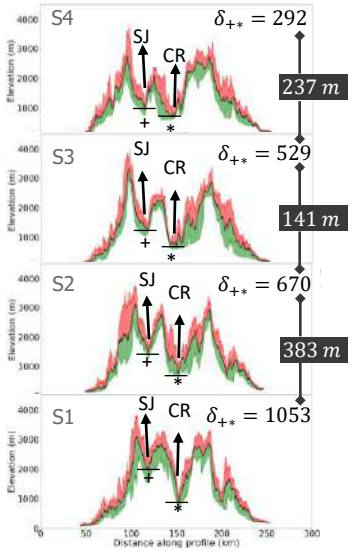
Table 1. Some torrential events into San Juan basin

Debris Flow event	Location	Date	Fatalities	Victims
La Liboriana stream	Salgar (Antioquia)	18 May 2015	104	250
Tapartó river	Andes (Antioquia)	26 April 1993	120	320



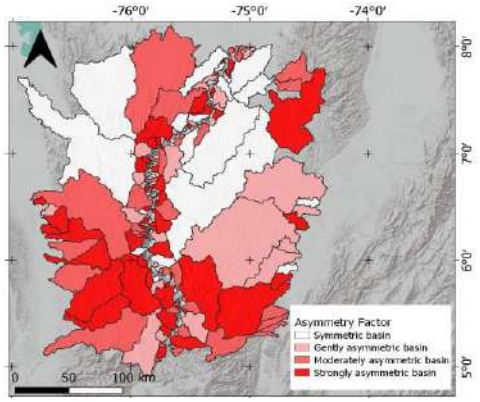


Swath profile High incision



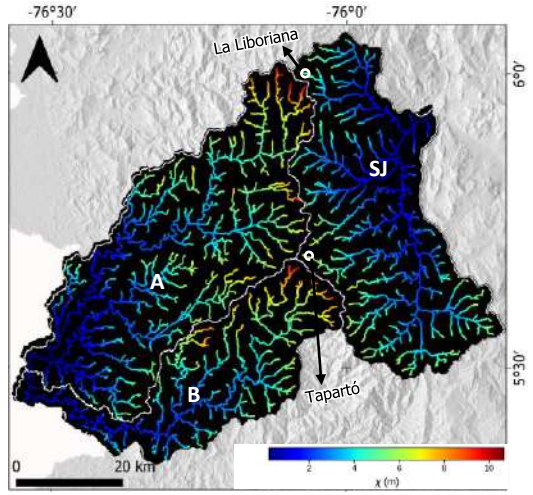
Asymmetry Factor

Strongly asymmetric 24.5



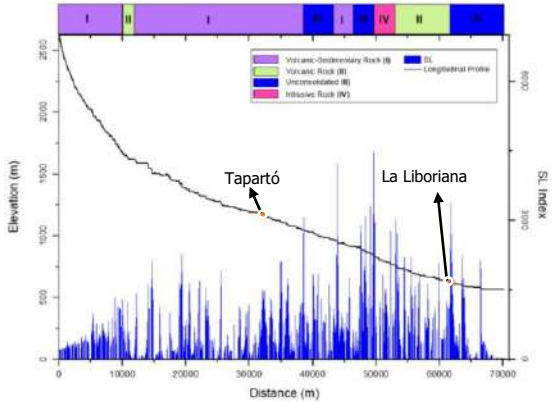
Chi map

High contrasts towards W. "Aggressor" basin



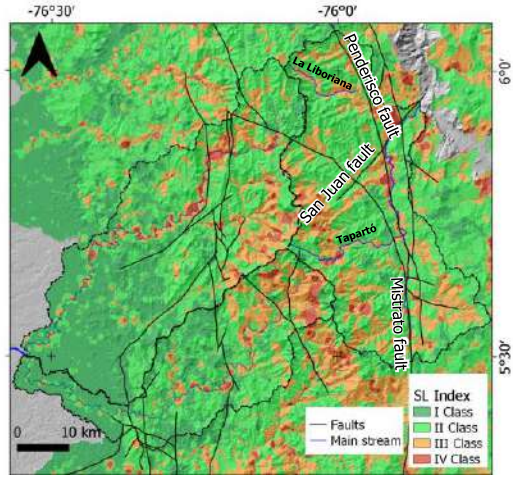
Longitudinal profile

Reflects change in high SL values



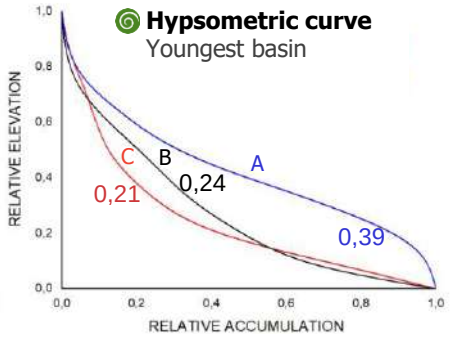
SI map

High values on both sides slopes divide and main channel



Hypsometric curve

Youngest basin



- The San Juan basin is one of the Andean basins with tributary drainages that have developed torrential events over time.
- The western divide of the San Juan basin may be in a transient state showing the highest contrasts of the chi index at the headwaters of La Liboriana stream and Taparto river.
- San Juan basin is the youngest basin among A and B and possibly it is one of the reasons for high energy in coupled with the presence of regional faults that cross the basin.

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