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Landscape evolution of the graben of Puerto Vallarta (west-central Mexico) using the analysis of landforms and stream long profiles

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9	Abstract
10	Faulting in extensional settings of continents produces rapid changes on Earth's surface where
11	rivers respond to tectonics by setting the pace of incision and conditioning the evolution of
12	hillslopes. Thus, the analysis of landforms and stream long profiles are useful tools that can
13	provide information about the tectonic activity in the landscape. The west-central portion of
14	Mexico is a region that is mostly dominated by an extensional tectonics initiated in the Miocene
15	and continuing in the Quaternary, where there has also been a vast emission of volcanic
16	products. Of particular importance is the graben of Puerto Vallarta which was formed during the
17	extensional activity that opened the Gulf of California in the Miocene. Nevertheless, the
18	geomorphology and landscape evolution of this structure has not been studied in detail. In this
19	research are studied the rivers, landforms and topography of Puerto Vallarta graben in order to
20	assess its evolution, focusing on the evidences of its initial phase of formation. The
21	geomorphological map elaborated in this study reveals the presence of lava flows and volcanic
22	structures in the eastern sector of the graben. Here it is proposed that this volcanism occurred
23	during the formation of the graben in the Miocene, nevertheless, radiometric dating of lavas is
24	still required to determine the precise timing of this event. Analysis of stream long profiles

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