

## **Climate change and debris flow: hazards maps in Matucana village Peru under IPCC scenarios**

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**Abstract** In this document, the possible effects of climate change on flood and vulnerability of Matucana Village in the next 90 years are discussed based on existing data and projected changes in precipitation until 2099. This village is located in the lowest zone of Paihua ravine and continuously suffers the effects of floods and debris flows. The analysis was made using changes projected by the ECHAM4/OPYC3, GFDL R30, HadCM3 and NCAR DOE PCM models because these models have the highest spatial resolution. The interval defined by these models was considered, such as the variability interval. The analysis considered three scenarios: mean scenario, with mean changes projected; and minimal and maximum scenarios, defined by the lowest and highest changes projected. The final results suggested no significant increment in magnitude or affected area by debris flow in the next 90 years under the A1FI emission scenario.

**Key words** AOGCM; climate change; flood; hazard map; IPCC scenarios; debris flow; Peru