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Title:	The tale of three landslides in the Western Ghats, India: lessons to be learnt
Authors:	Ali, Yunus P. (/jspui/browse?type=author&value=Ali%2C+Yunus+P.)
Keywords:	Landslides Human interventions
Issue Date:	2022
Publisher:	Springer Nature
Citation:	Geoenvironmental Disasters, 9(1), 00218-1
Abstract:	In recent years, landslides have become a typical monsoon calamity in the Western Ghats region of Kerala, India. In addition to property damage, heavy rainfall (36% above normal) and multiple landslides (4728) killed 48 people in 2018. This tendency continued throughout the monsoon seasons of 2019, 2020, and 2021, resulting in the deaths of over 100 people. Anomalous precipitation is ascribed to the frequent development of low-pressure in the surrounding oceans. Using ground real data and satellite imagery, we evaluated the features of three large landslides in the state of Kerala, which occurred during the monsoon season of 2021. Our investigation found that the Kokkayar landslide was triggered by anthropogenic-related agricultural activities, the Plappally landslide by geomorphic and tectonic processes as well as human involvement, and the Kavalil landslide by forest fragmentation with dense vegetation on thin soil. The triggering mechanism for all three of these landslides, however, is the intense rainfall of 266 mm in less than 24 h. Thus, an accurate and precise forecast of rainfall can be used to define a threshold for an early warning, which will be vital for saving lives.
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