

## The solidified magma and not the rain is responsible for earthquakes in Talala (Saurashtra) region of Western India

Located about 200 km south of the Bhuj area, which experienced a devastating earthquake in 2001, the Talala region in Junagadh district of Gujarat (India) has been experiencing many small earthquakes since 2001, mostly soon after the monsoon. Besides these tremors, this region has also witnessed three moderate earthquakes ( $M \sim 5$ ) in 2007 and 2011. A plausible explanation was that the rain water and/or reservoir was causing these earthquakes. In a recent study based on seismic images generated by using local earthquakes recorded by 11 seismographs, Mahesh and Gupta have proposed that the generation of moderate earthquakes in this region was related to the solidified mafic magma. They suggested that in this region, which falls in the Deccan Volcanic Province (a well-known site of massive volcanism at  $\sim 65$  Ma), the magma came from the deep Earth through local feeders, got solidified and facilitated the stress concentration in the surroundings of the magma. The 2001 Bhuj earthquake perturbed the prevailing stress regime causing activation of a local fault present in the region that led to release of stress around the magma in the form of moderate earthquakes. The authors further added that the occurrence of small magnitude earthquakes at shallower depths might be due to the feeding of the crustal fluid, which was released from the mapped solidified magma.

For further details: P. Mahesh and Sandeep Gupta, *Tectonophysics* 2016

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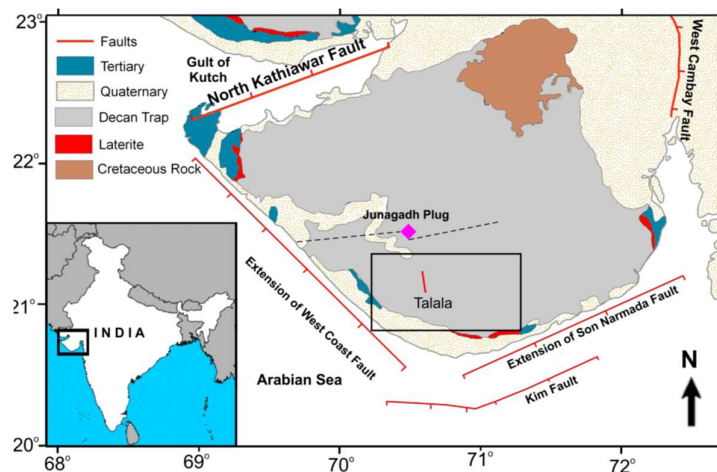


Figure 1. The simplified regional geotectonic map of the Saurashtra peninsula, western India, which is shown by the box in the map of India (insert map, in the left-bottom side). The study region, the Talala region is marked by the rectangular box.