

Estimation of Maximum Earthquake for Gujarat Region, India

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Abstract : The present study estimates the seismicity parameter 'b' and maximum possible magnitude of an earthquake (Mmax) for Gujarat region with three well-established methods viz. Kijiko parametric model (KP), Kijiko-Sellevol-Bayern (KSB) and Tapered Gutenberg-Richter (TGR), as a combined seismic source regime. The earthquake catalogue is prepared for a period of 1330 to 2013 in the region Latitudes 20o N to 25o N and Longitudinally extending from 68o to 75o E for earthquake moment magnitude (Mw) ≥ 4.0 . The 'a' and 'b' value estimated for the region as 4.68 and 0.58. Further, Mmax estimated as 8.54 (± 0.29), 8.69 (± 0.48), and 8.12 with KP, KSB, and TGR, respectively.

Keywords : Mmax, seismicity parameter, Gujarat, Tapered Gutenberg-Richter

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