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T1.5-P32. SEISMICITY IN BANGLADESH USING LOCAL SEISMIC STATION

The frequency magnitude distribution of earthquake in Bangladesh is measured by the b-values. 116 earthquakes of magnitude 3.1R to 6.2 R were recorded in Bangladesh during the period April 1997 to May 2006. To estimate b-value the least square method has been used in Richter Gutenburg frequency magnitude relation as a linear equation, and thus the b-value is obtained 0.71, which is lesser then normal (b = 1.0). Gutenberg–Richter law has been applied in the data set. Using this law, it is found that M = 6 R magnitude earthquake in every 27 years and M =7 R magnitude earthquake at every 138 years. These results are consistent with the time interval of historical earthquake. Lack of smoothness of cumulative curve of earthquake number suggests that this catalog cannot be accepted as homogeneous. Hence the rates and variability of seismicity over time is analyzed using Akaike Information Criterion (AIC). The result of AIC analysis suggests that the rate of seismicity changes with time. The researcher also examined tectonic stress field near Bangladesh using Harvard CMT catalog. The direction of P-axis of middle and large earthquakes indicated that the compression tectonic stress is loading from northeast to southwest direction.

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