ID: Type: **Poster**

An Update on Earthquake Recurrence in Northeast India Himalaya and Vicinity

An update on earthquake recurrence for the region has been presented with the aid of spatial distribution of seismicity and tectonic features utilizing earthquake data of 1808-2008. Nineteen seismogenic sources were delineated on the basis of certain seismological and geomorphological criteria for the estimation of repeat times of earthquakes to derive the predictive relations. These relations and using the magnitude and time of occurrence of the last mainshocks in each seismogenic source, time dependent conditional probabilities of the next mainshocks and their occurrence during the next 10, 20 and 30 years as well as the magnitude of the expected main shocks are forecast. Occurrence of Sikkim earthquake of September 18, 2011 (predicted magnitude 5.8/occurred 6.8) and Myanmar-India border earthquake of 4th February, 2011 (predicted magnitude 6.2/occurred 6.4), as well as M 6.8 Shwebo, Myanmar Earthquake of November 11, 2012 signify the validity of the model and forecasts. Study report that eight such earthquakes would occur till 2019 with high degree of probabilities, of which six will be located in Arakan-yoma region (three intermediate and three shallow) and remaining two shallow focus one each in the Himalayan Frontal Arc and the Eastern Syntaxis.

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Track Classification: Theme 1: The Earth as a Complex System