

SEISMO-TECTONIC EVALUATION OF DECEMBER 13, 2009 CHITTAGONG EARTHQUAKE

The December 13, 2009 earthquake and followed aftershocks were generated near Chittagong folded belt. This active earthquake source structure is located near subduction zone of India-Myanmar plates boundary. The generation of earthquake larger than 5 indicates that the region is tectonically active and such thrust faults are capable to generate future large earthquake. Chittagong and Chittagong hill tracts districts are located on the folded sedimentary rocks of tertiary age. The focal mechanism analysis bears information on the seismic fault and tectonic around the earthquake source region. The tectonic movement from the point Chittagong is 5.5 cm/y with direction NNE. Using the data setting from the event area somewhere it is found $b = 0.71$ and somewhere it is 0.61. This b-value may indicate the situation of crustal deformation of this area. Low b-value of the event area suggests that the ground has large potential for future large earthquake. The subduction structure of Bangladesh, Myanmar continues to Andaman Islands area and to Sumatra. So background of historical earthquake and recent low to medium magnitude earthquake of this event area indicate us possibility of damaging earthquake cannot be ruled out.

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