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Active faults in the Kashmir Valley

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The risk of earthquake is ever increasing in mountains along with rapid growth of population and urbanization. Over half a million people died in the last decade due to earthquakes. The devastations of Sumatra and Thai coasts in 2004, of Kashmir and New Orleans in 2005, of SW Java in 2006, of Sumatra again in 2007, W Sichuan and Myanmar in 2008, of Haiti in 2010, Japan, New Zealand and Turkey in 2011, brought enormous damage. The primary step in this regard could be to establish an earthquake risk model. The Kashmir valley is a NW-SE trending oval-shaped inter-mountain basin. A number of low magnitude earthquakes have recently been reported from the border and few inside the Kashmir valley. A number of active reverse faults were identified in this valley using remote sensing images and active geomorphic features. NE dipping reverse faults uplifted the young alluvial fan at the SW side. An active tectonic environment has been created by these reverse faults; sediment filled streams at NE, and uplifted quaternary deposits at SW. These resulted in an overall tilting of the entire Kashmir valley towards NE. Dating of displaced deposits is required to estimate the total convergence along these faults. Broadly, these faults are because of the convergence of Indian plate beneath the Eurasian plate.