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the Earthquake Occurrences and Looking for the Future in South Central Tibet (SCT) Himalaya

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Various seismic precursors are known to be preceded small to large earthquakes. These pre-earthquake signatures which may continue to several months and/years would be employed for earthquake forecasting. In the present investigation precursory seismicity patterns were discussed and used for the identification of precursory swarm to forecast the location of future earthquake in the South Central Tibet Region (SCT) Himalaya. The seismicity data compiled from various catalogues for the period 1963-2006 with mb ≥4.1, have been used to understand the occurrence of three medium size earthquakes sequence 1996 (mb 5.9), 1998 (mb 5.8) and 2004–2005 (mb 6.2, 6.3). Analysis indicates that these earthquakes were preceded by well-defined patterns of precursory swarms and seismicity varies as low-high-low phases in episodic manner. We found two anomalous seismicity patterns having similar spatial and temporal distributions separated by about 15 month's duration during January 2002-February 2003 and June-August 2004 in the same area but without a mainshock till 2007? Based on analyses of above three events occurrence mechanism and spatio-temporal and focal depth patterns during 2002-2003 and 2004 a localized area (29.6o-30.1o N, 87.7o-88.1oE), could be a potential zone for impending medium size earthquake (M≥6.0) in depth range 25 ± 15 km.

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Promotional text

Anomalous seismic activity/ earthquake swarm existed prior to the medium size earthquakes in the Himalaya and its adjoining region. The mainshocks were preceded by the quiescence period which is an indication for the occurrence of future seismic activity.

Oral preference format

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