## Seismological Constraints on the Tectonics of the NW Himalaya, India

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This paper reports analysis of 2139 local earthquakes recorded during 2004-2010, using seismographs in arrays of 9-19 stations deployed around Main Central Thrust (MCT) and Main Boundary Thrust (MBT) between Satluj and Kali valleys in the NW Himalaya. The local earthquakes define a relatively narrow belt of epicenters which straddles the MCT in the Garhwal and Chamba region named "North-West Himalayan Seismic Belt". Mostly, focal depths of processed local events range between 0.0 and 40.0 km, while few are from 40 to 50 Km depth. Nearly 80% of these earthquakes are confined to upper 20 km. Local magnitude of these earthquakes is range between 1.3 and 4.9. This epicentral belt coincides with the belt of teleseismically located (mostly moderate and a few small magnitude) earthquakes. In the recently observed seismicity three clusters are seen in the local data with intervening sector showing scattered seismicity. Either there may be a real increase or shift in the seismicity pattern or it may be due to enhanced instrumentation in the region. A distinct increase of seismicity is observed along tectonic features, which are transverse to the regional tectonics. A swarm type of activity was observed during 7-13 April 2009, at 50 km SE of Tapovan, Garhwal Himalaya. Seasonal variations were also observed, in the seismicity of the NW Himalaya. In this paper local seismicity & its implications on active tectonics, swarm activity at Tapovan, and Seasonal variations of Seismicity will be discussed.