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Characteristics of active faults in epicentral area of the 2015 Nepal earthquake

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In this presentation we show the tentative active fault map in the epicentral area of the 2015 Nepal Earthquake, and those characteristics. Those faults are classified into four groups; 1) Himalayan Frontal Thrust (HFT), 2) active faults along the northern rim of the Dun valley (DV), 3) active faults along the Main Boundary Thrust (MBF), and 4) active faults in Lower Himalaya. The HFT or the faults along the DV are north dipping thrust type. The faults along the MBF and the faults in Lower Himalaya are recognized as north-facing scarps or a series of saddle along the trace, implied that the Siwalik hill (Sub-Himalaya) has been uplifted more than the Lower Himalaya. Some of the faults in Lower Himalayas show right-lateral strike-slip. In term of the sense of the seismic fault by focal mechanism of the EQ, it is some possibility that HFT or faults along the DV are candidates of seismic fault producing the 2015 EQ. But by now we could not identify any surface rupture or something abnormal along the traces through interpretation of satellite photos taken after the EQ and short-time fieldwork, and also nobody report it. However active faults are distributed in and around the capital, Katmandu city, the seismic risk by the activity of active faults remains.

Keywords: active fault, Himalaya, Nepal, earthquake