



## **Increasing seismicity in Yunnan, China resulted from stronger push of Tibetan Plateau from multidisciplinary evidences**

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Yunnan area, China always has strong seismicity because it is located in the active North-South Seismic Zone between Tibetan Plateau and South China block. But in recent 7 years (after 2008 Ms8.0 Wenchuan earthquake), Yunnan has much more strong earthquakes than previous 7 years, that maybe result from stronger push of eastern Tibetan Plateau from evidences of temporal seismic velocity changes, crust movement rate from GPS, absolute gravity measurements, water head of deep well observations during year 2000 to 2014. Average Pg-wave velocity of upper crust (brittle layer) in Yunnan shows clear increasing after Wenchuan earthquake. Crust of Tibetan Plateau moved faster after Wenchuan earthquake and Yunnan moved slower after 2007. Absolute gravity measurements of Chengdu station increased continuously before 2008 and very few after Wenchuan earthquake. Long-term trend of water head of some deep well showed a turn point in 2008. These observations suggest stronger compression in Yunnan area after 2007~2008, and Wenchuan earthquake played an important role on this changes. The eastward push of Tibetan Plateau as a whole plate increased compression in southern part (Yunnan area) because stress released in northern part (Longmenshan area) after Wenchuan earthquake.