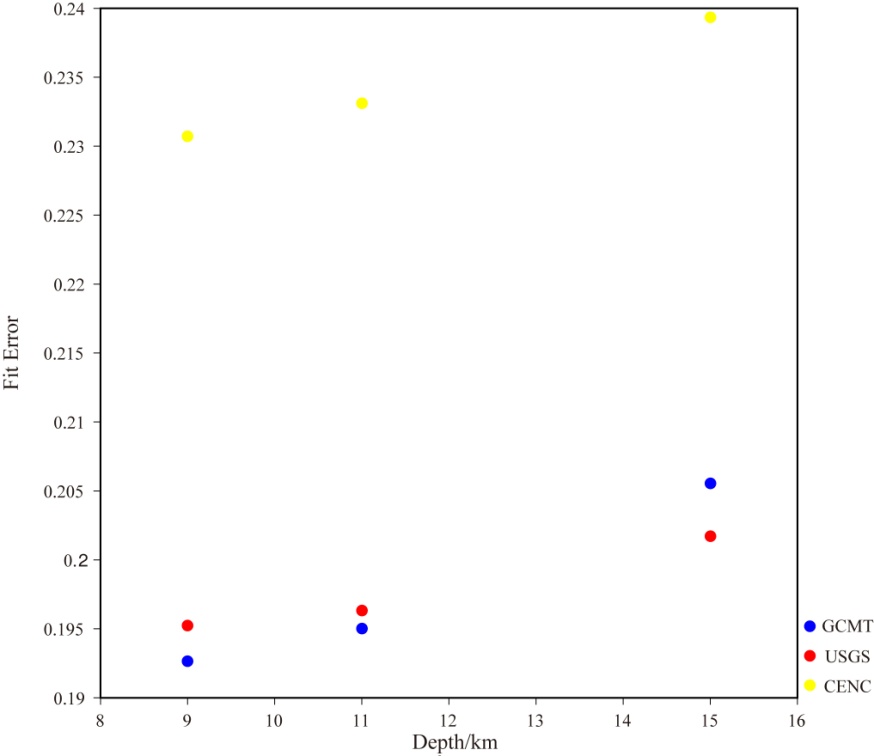
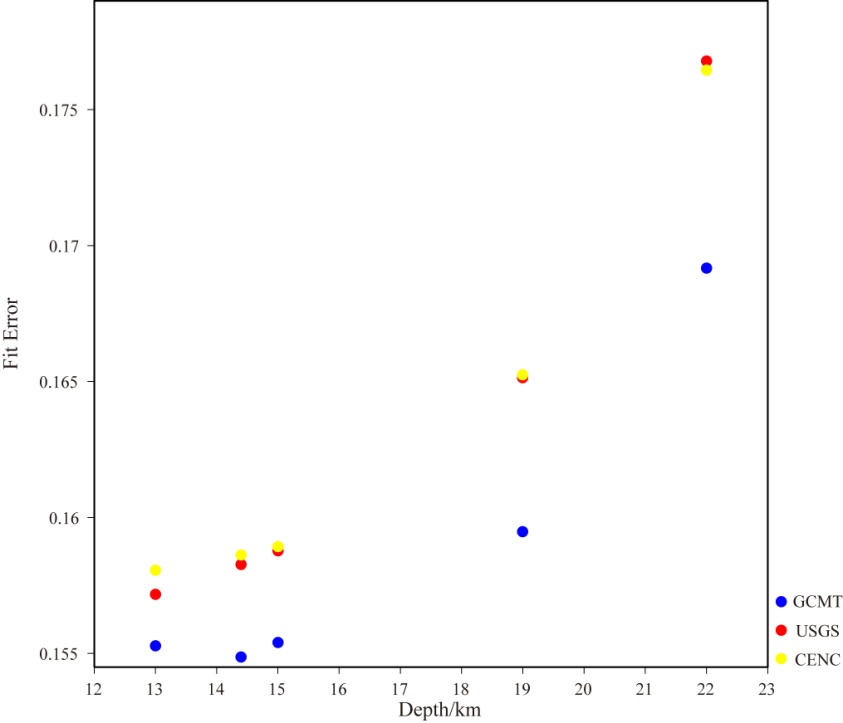
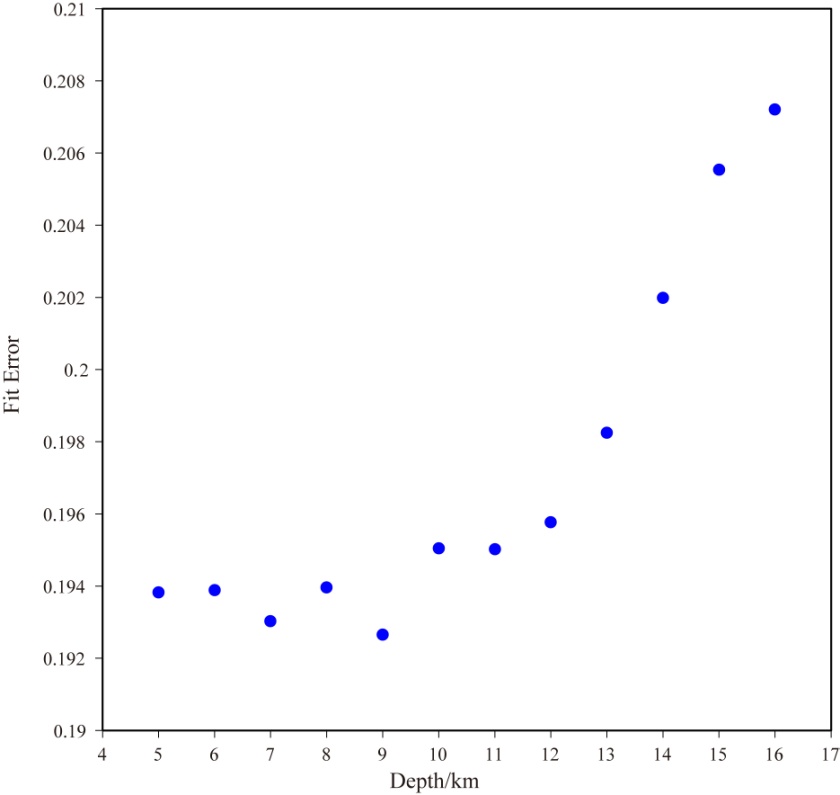
**Additional Material**



**Fig.S1** Fit error of different focal mechanisms for the 2017 Jiuzhaigou earthquake.



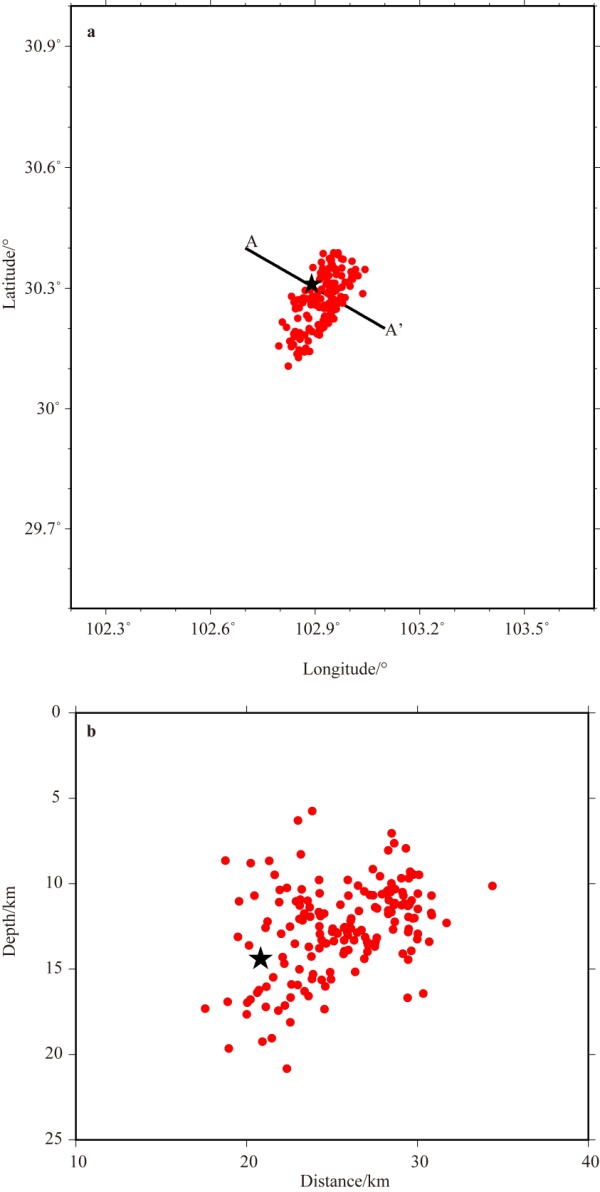
**Fig.S2** Fit error of different focal mechanisms for the 2013 Lushan earthquake.



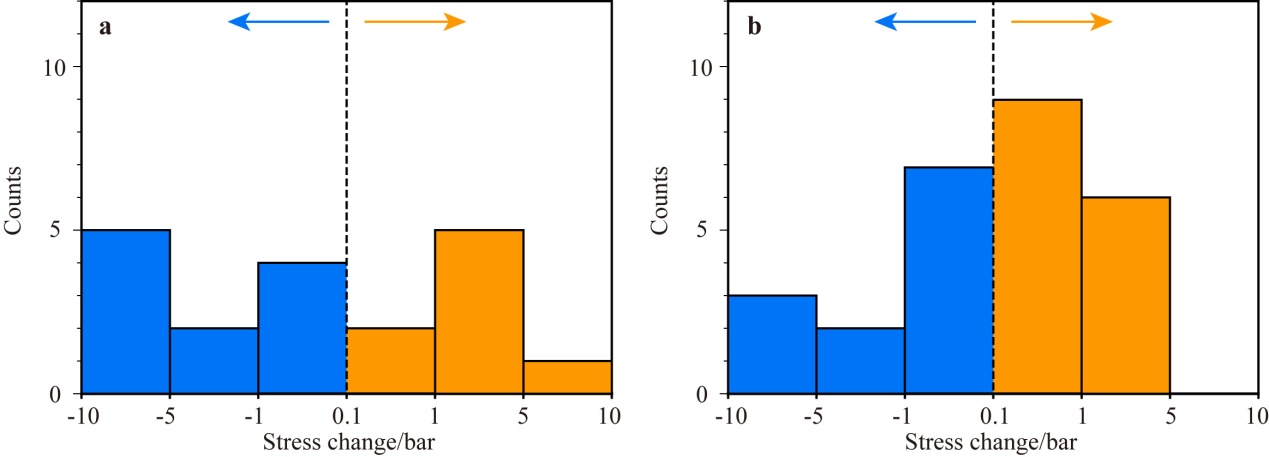
**Fig.S3** Fit error of different depths for the 2017 Jiuzhaigou earthquake (strike150°, dip78°, rake-13°).



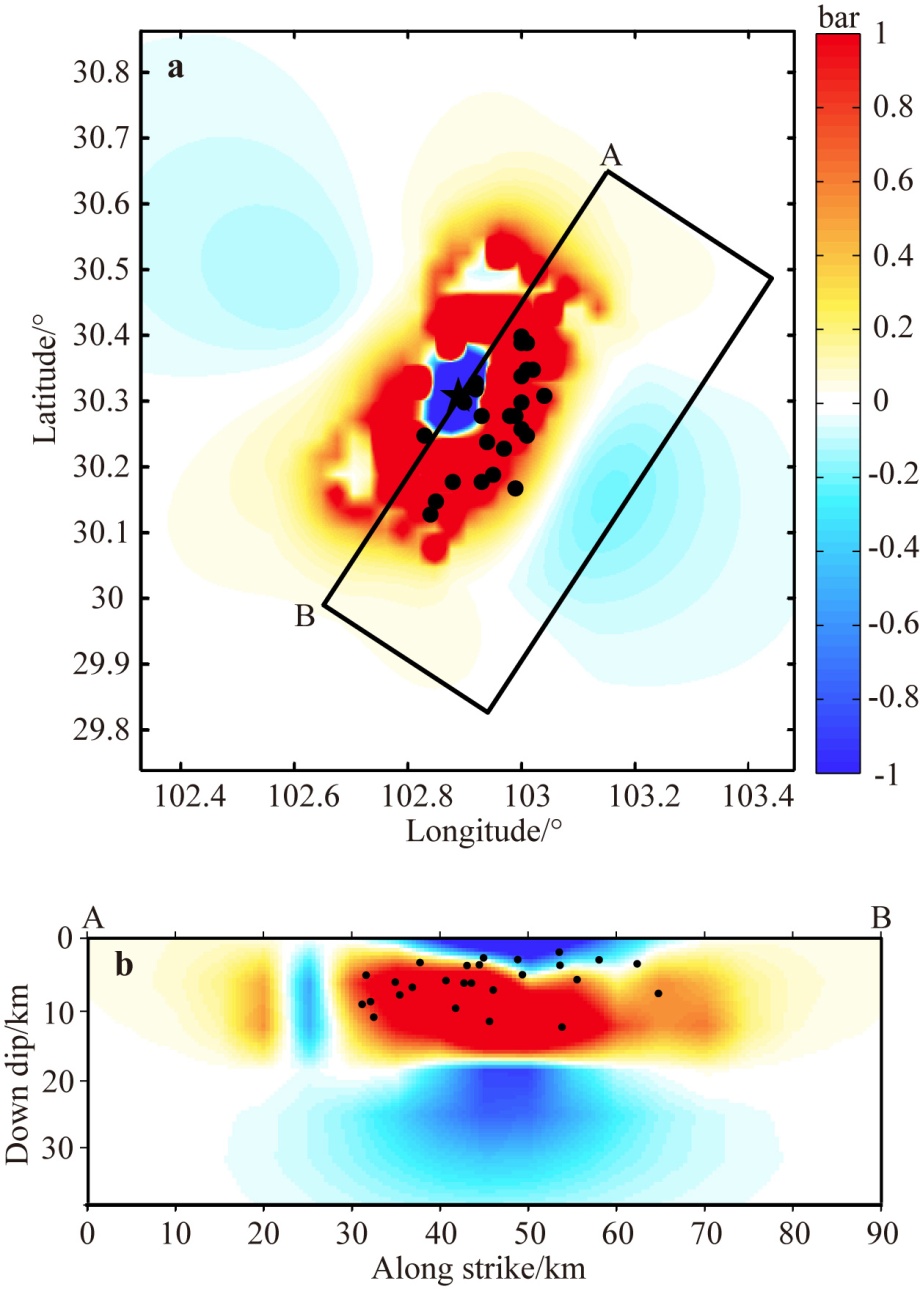
**Fig.S4** Fit error of different depths for the 2013 Lushan earthquake (strike212°, dip42°, rake100°).



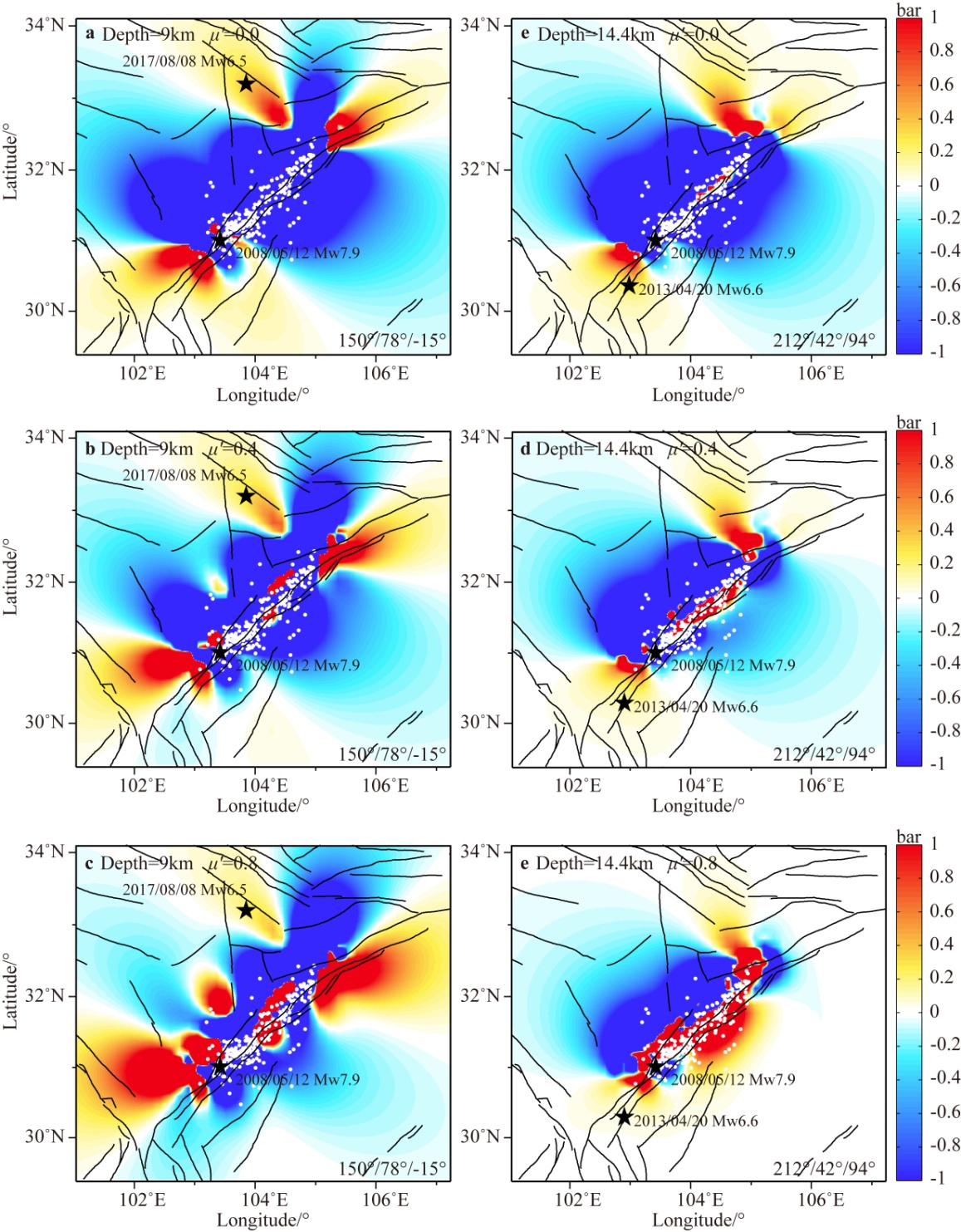
**Fig.S5** **a**. Map of relocated sequence of the 2013 Lushan earthquake, **b**. depth cross section along AA'. The red dots denote aftershocks, whereas the main shock is represented with the black star.



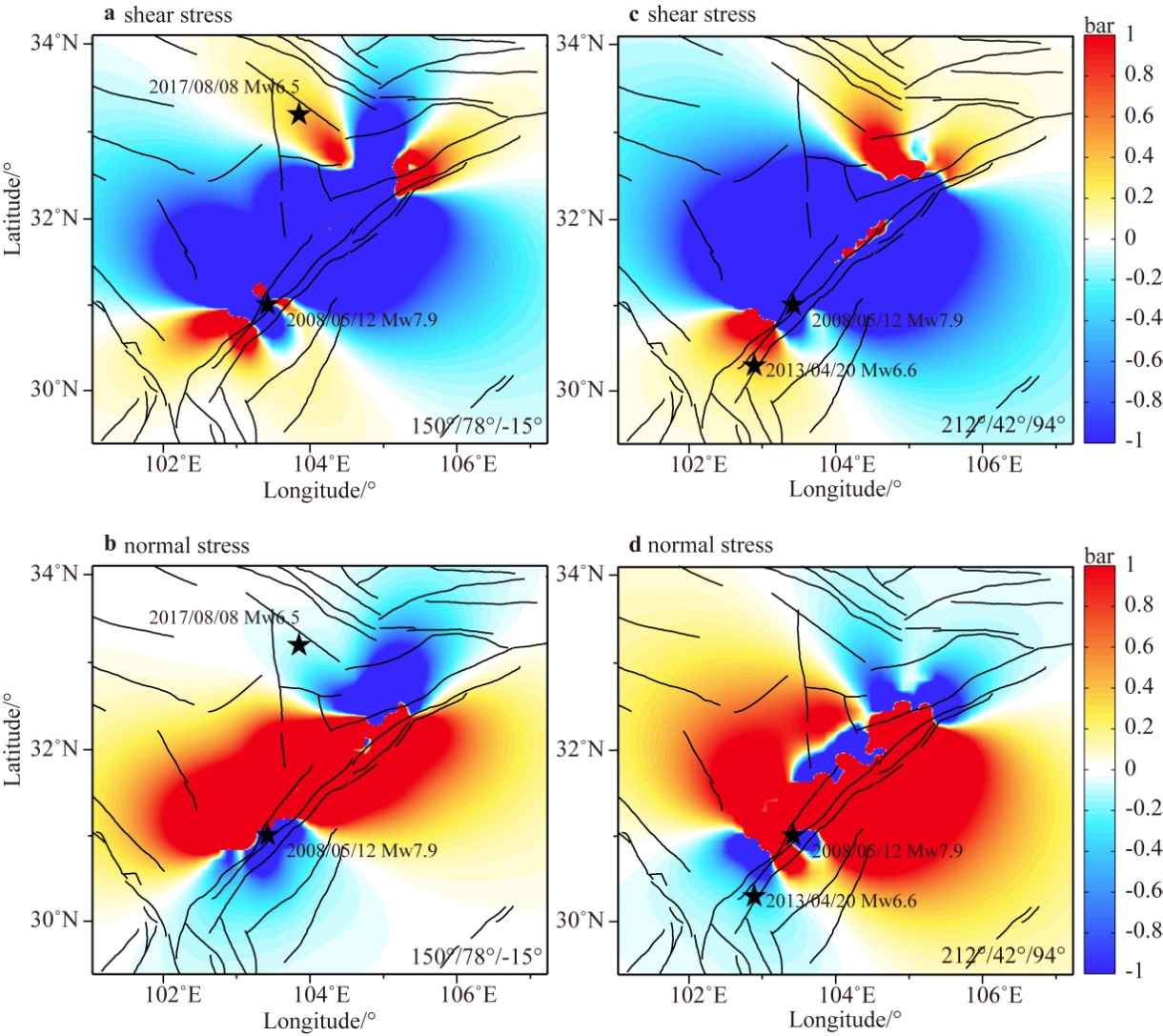
**Fig.S6** Histograms of aftershocks as the function of the value of stress change. **a**. the 2017 Jiuzhaigou earthquake, **b**. the 2013 Lushan earthquake.



**Fig.S7** Stress changes imparted caused by the 2013 Lushan earthquake. **a** maximum Coulomb stress change, **b** stress change of the cross-section AB in **a** (Dip=42°). The box on the **a** denotes the projected area of the fault plane shown in b.



**Fig.S8** Stress changes imparted by the 2008 Wenchuan earthquake calculated with various depths and effective friction coefficients. **a**, **b** and **c** are the calculations with effective friction coefficient of 0.0, 0.4 and 0.8 at 14 km depth, respectively. **d**, **e** and **f** are the calculations with effective friction coefficient of 0.0, 0.4 and 0.8 at 9 km depth, respectively. The yellow star and black stars are the epicenters of the Wenchuan, Jiuzhaigou and Lushan earthquakes, and black circles denote the Wenchuan earthquake 1 day ML>4 aftershocks.



**Fig.S9** Shear and normal stress changes imparted by the 2008 Wenchuan earthquake. **a**, **b** are the calculations at 9 km depth. **c**, **d** are the calculations at 14.4 km depth.