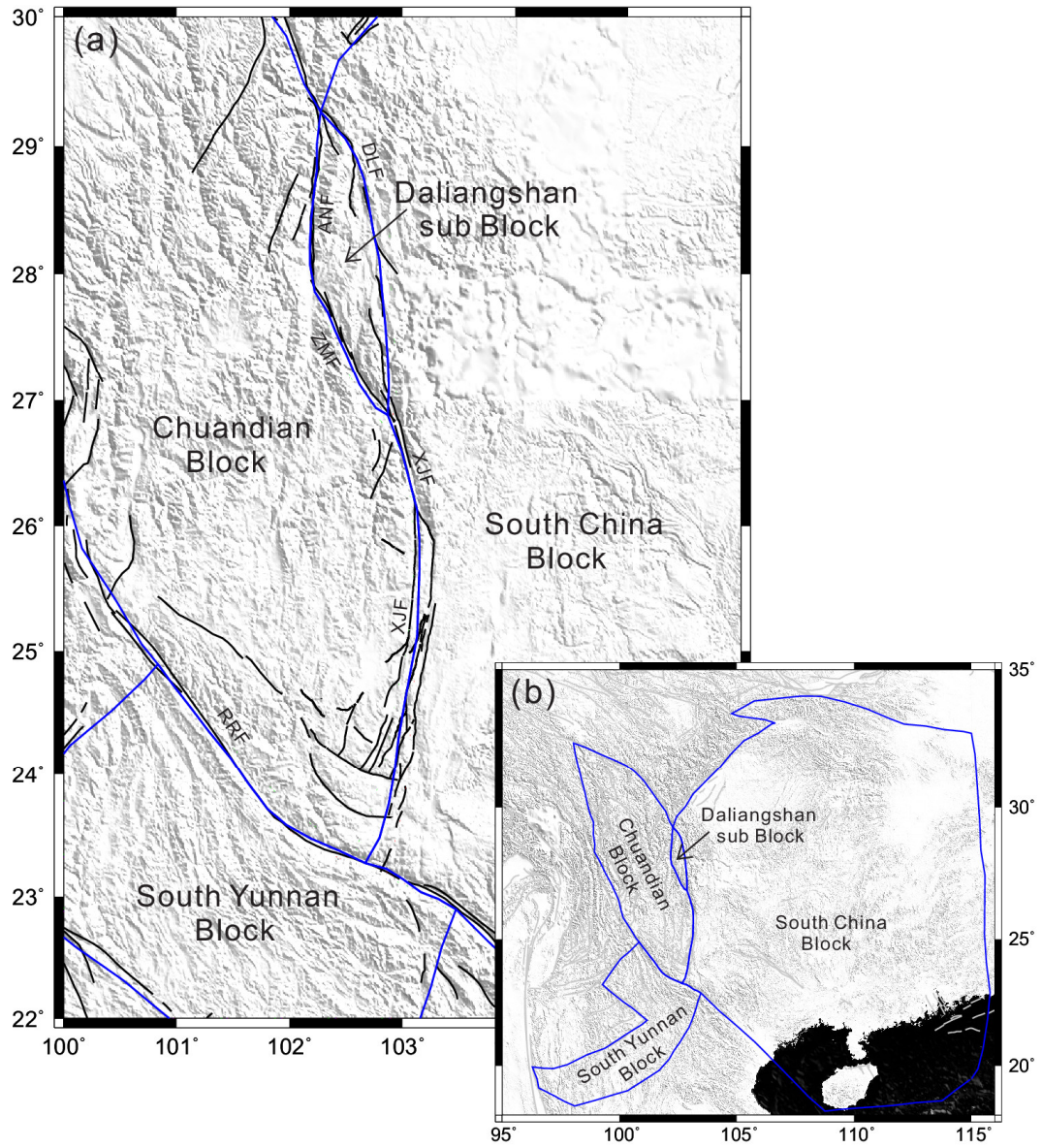
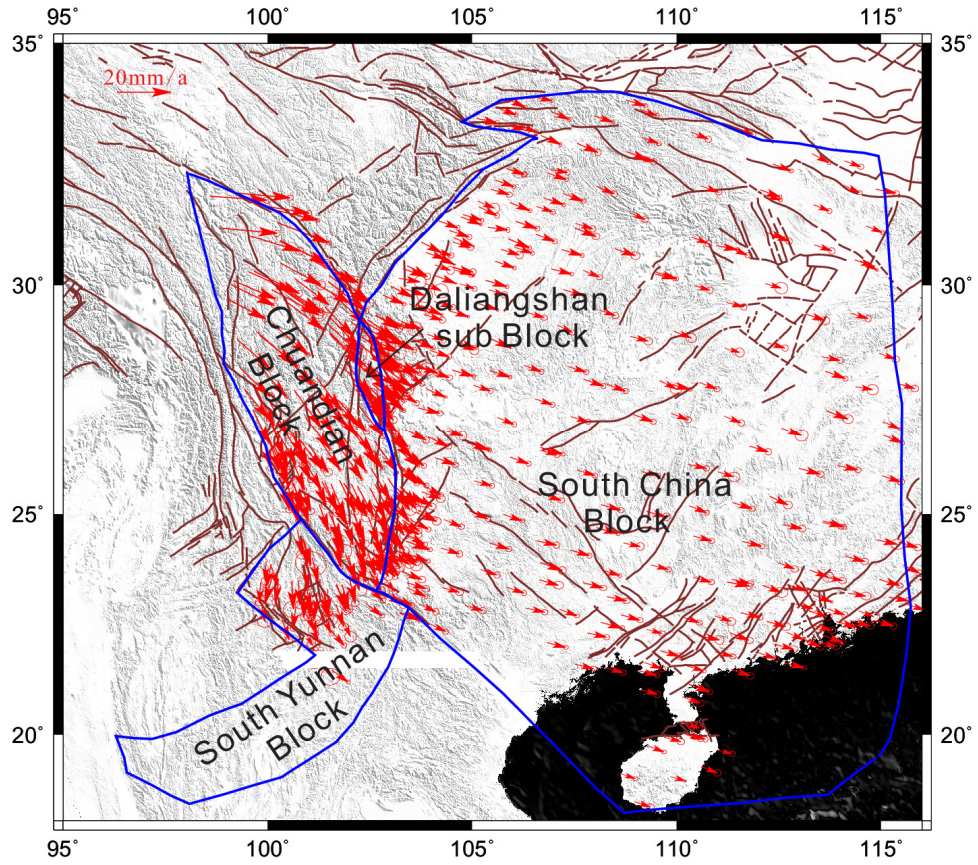


**Figure S1.** Horizontal time series of four GPS stations (SNDG, YHDH, YQBH and YQJT).

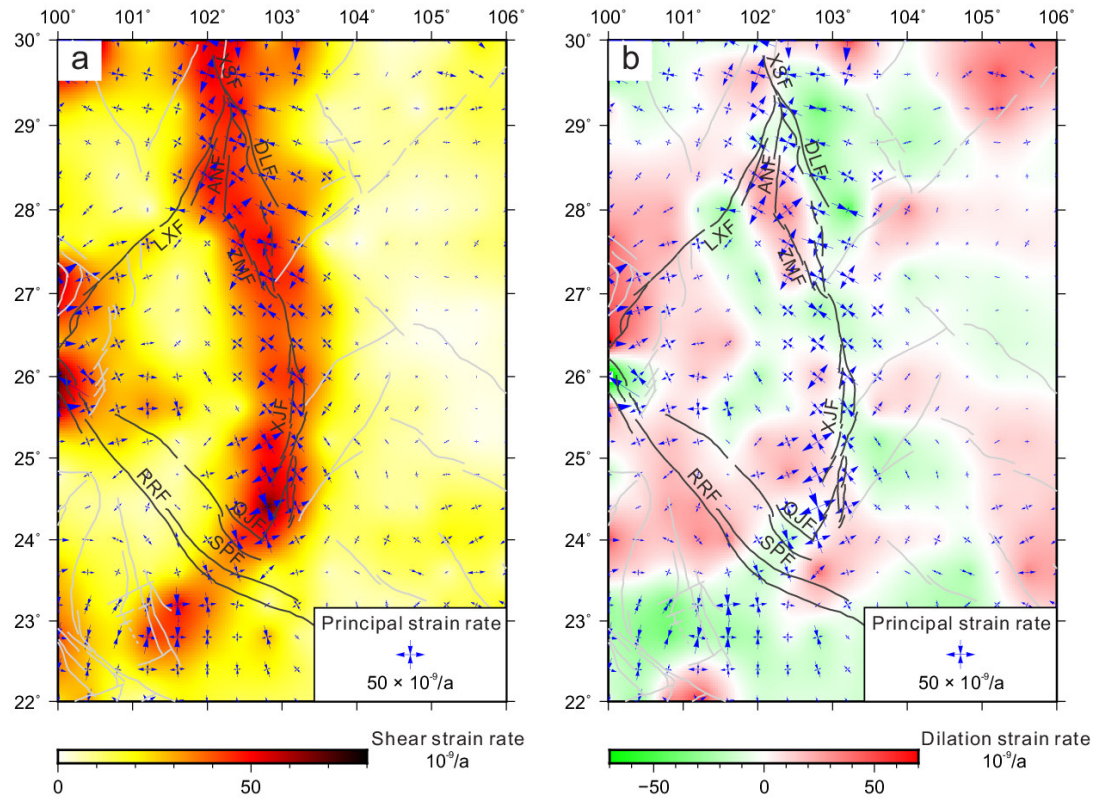


**Figure S2.** Parameterization of the block boundaries used in the inversion model. (a) The locations of the main geological structures around Xiaojiang fault. The blue lines indicate the boundaries used in the Defnode inversion. (b) All the locations of 4 used block boundaries.



**Figure S3.** The GNSS velocities used in the DEFNODE inversion process. The velocities are from Wang et al. [26].





**Figure S4.** The strain rate and strain-rate tensors calculated based on the regional GNSS observations only. Abbreviations: LXF, Lijiang-Xiaojinhe fault. (a) Shear strain rate. (b) Planar strain rate.