Science Advances
AAAS

Supplementary Materials for

Bridging time scales of faulting: From coseismic to postseismic slip of the M_w 6.0 2014 South Napa, California earthquake

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Sci. Adv. **8**, eabq2536 (2022)
DOI: 10.1126/sciadv.abq2536

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Figs. S1 to S5

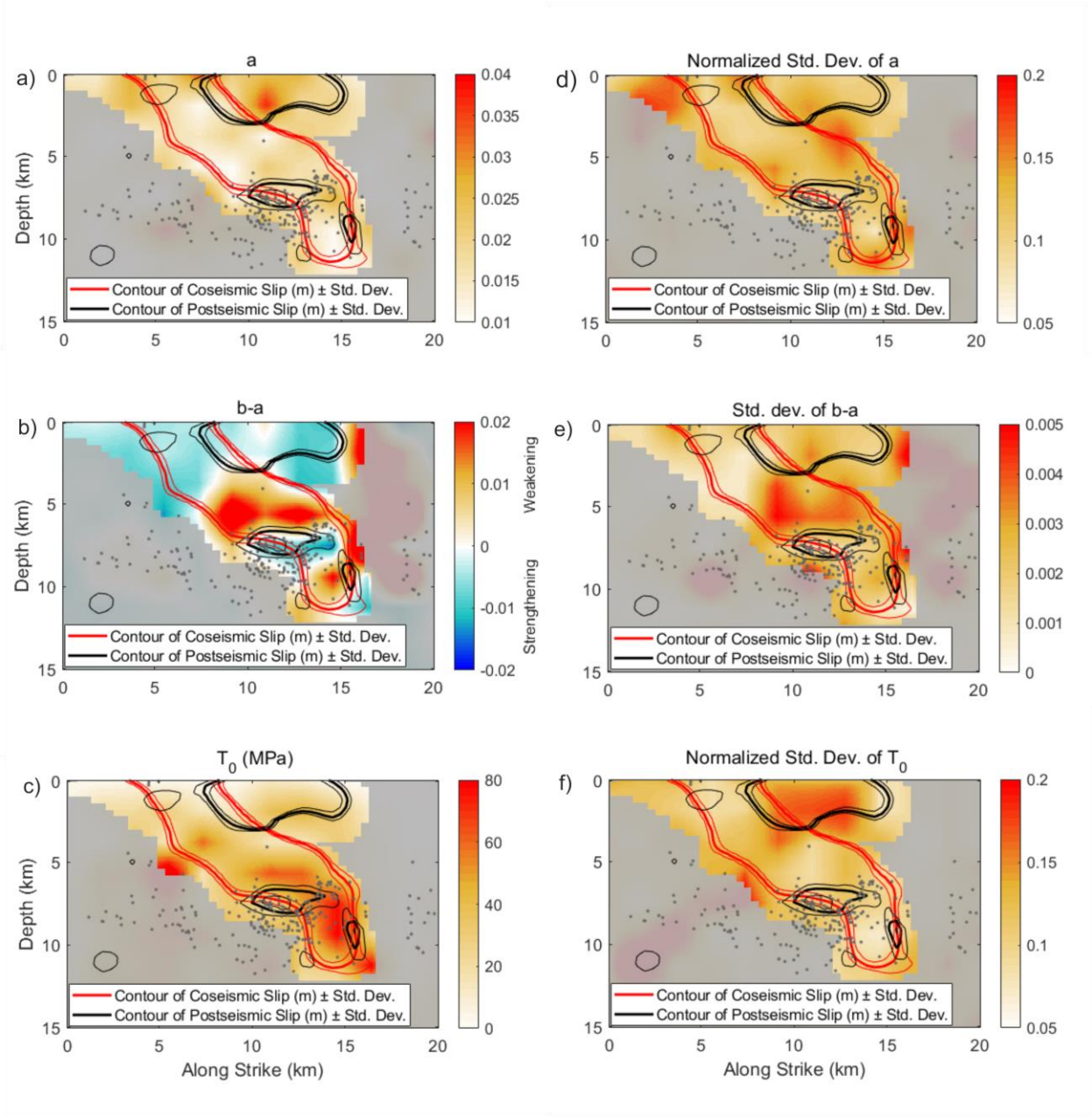


Fig. S1.

(a-c) Ensemble average of *a*, *(b-a)*, and T_0 (MPa). Gray dots denote the aftershocks. Thick red and black lines denote contours of mean slip and afterslip, respectively, while thin lines denote standard deviation contours of the same. **(d)** Normalized standard deviation of *a*. **(e)** Standard deviation of *(b-a)*. **(f)** Normalized standard deviation of T_0.

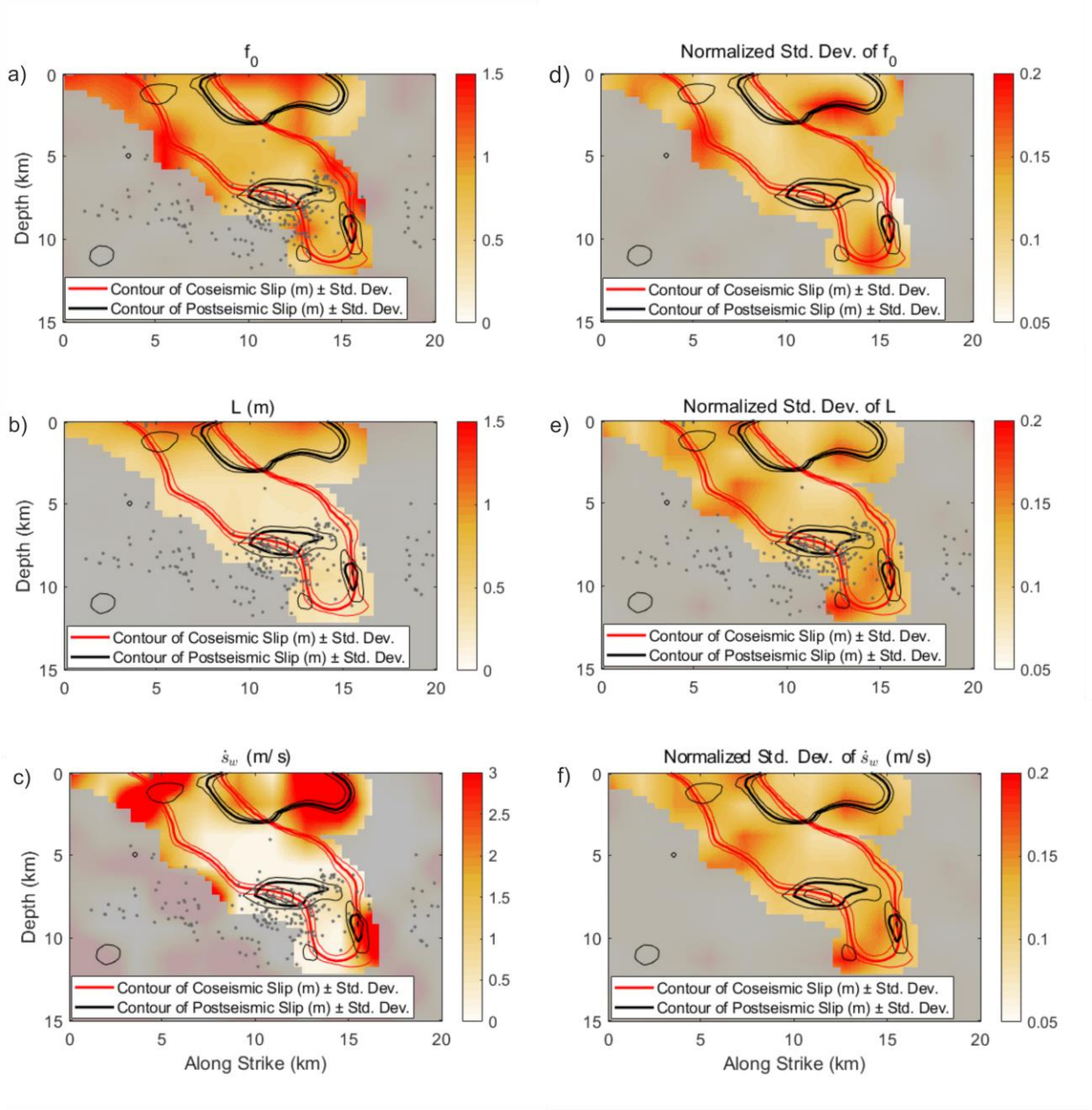


Fig. S2.

(a-c) Ensemble average of reference friction, *L* (m), and weakening velocity (m/s). Gray dots denote the aftershocks. Red and black lines denote contours of slip and afterslip, respectively. **(d-f)** Normalized standard deviations of reference friction, *L* (m), and weakening velocity (m/s).

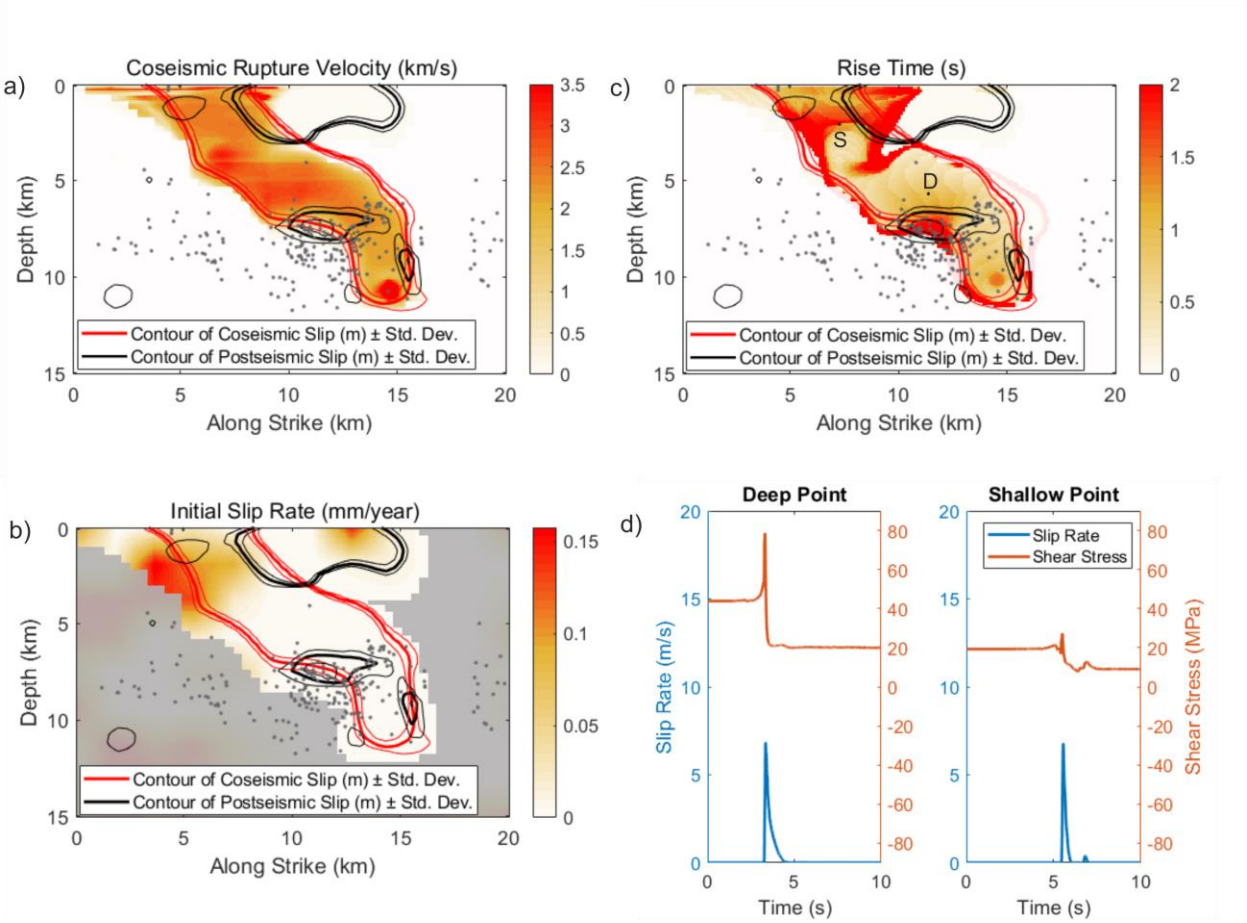


Fig. S3.

(a-c) Ensemble average of coseismic rupture velocity (calculated from the eikonal equation), initial velocity $\dot{s}_{ini}$ (mm/year), and rise time (calculated as difference between times when 5% and 95% of slip is achieved). Gray dots denote the aftershocks. Red and black lines denote contours of slip and afterslip, respectively. Points in (c) denote positions of the Deep (D) and Shallow (S) points where slip rates and stresses are shown in panel d. **(d)** Time evolution of horizontal shear stress (red line) and horizontal slip rate (blue line) in points shown in panel c.

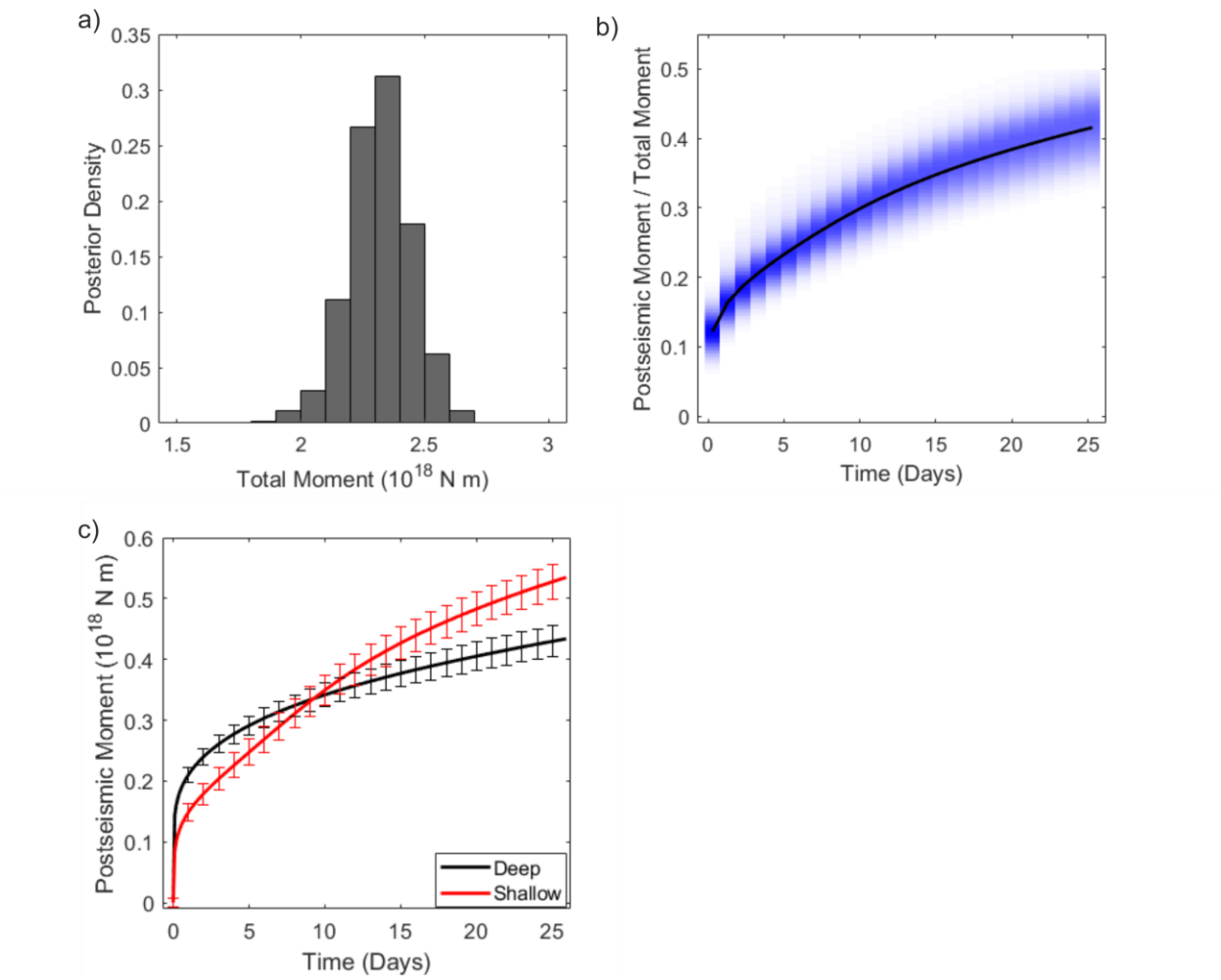


Fig. S4.

(a) Histogram of the ensemble total scalar moments. **(b)** Time evolution of the ratio between postseismic and coseismic scalar moments. Black line denotes ensemble average, kernel density estimates are shown in blue. **(c)** Time development of the shallow (red, upper 4 km of the fault) postseismic moment and deeper (black, below 4 km depth). Lines denote ensemble average, error bars denote standard error.

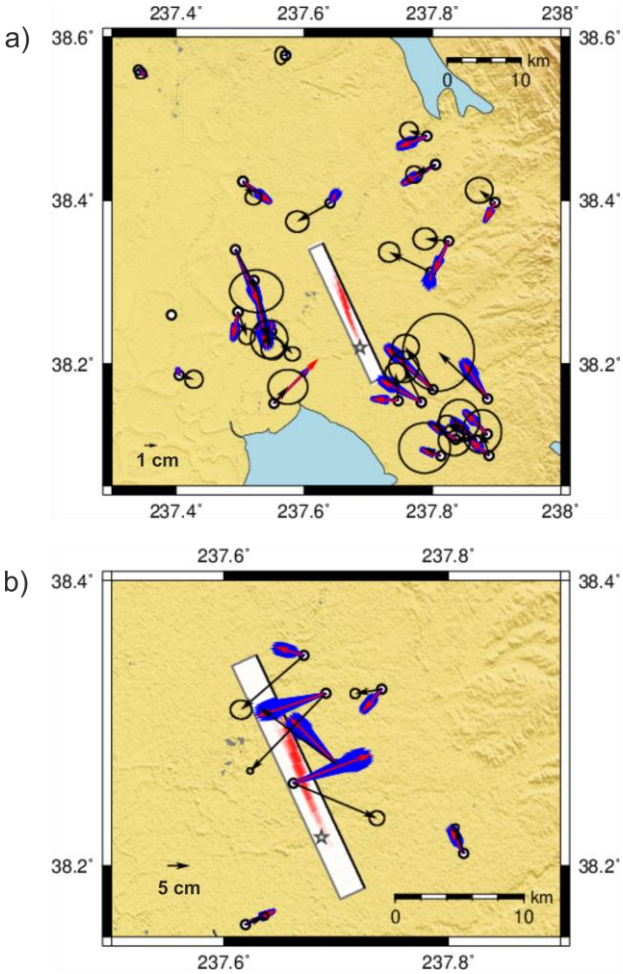


Fig. S5.

Comparison of observed coseismic GPS displacements of stations (black arrows with ellipse denoting 95% confidence interval) from the dataset in *(29)* and synthetic data (red arrow for MAP and KDEs in blue). Positions of the stations shown on the map (black circles) with respect to the fault (white rectangle) with total slip color-coded in white-to-red. Star denotes the epicenter. **(a)** Stations farther from the fault; **(b)** stations closer to the fault.