

Simulation with a basal fluid source ( $1.5 \times 10^{-9} \text{ m/s}$ ), performed with an initial stress defined as  $\sigma_1 = \sigma_3$ , a fault permeability equal to  $10^9 \text{ m}^2$ , and  $\Delta = 0.7 \text{ MPa/}^\circ\text{C}$ .

**Data in Folder “q0\_1.5”:**

- **Fault\_velocity:** fault velocity “Vf” (m/s) fluctuation along the fault during the seismic cycles. (*Data used for Figure 6.d*)
- **Thermal:** Thermal anomalies ( $^\circ\text{C}$ ) fluctuation along the fault during the seismic cycle.
- **Time:** Time variable (yrs). Data was printed every 0.1 second during the coseismic period, and every 1 year during the interseismic period.
- **Depth:** Depth of the fault nodes (m).

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- **Mean\_shearStress:** tangential stress “ $\tau$ ” (Pa) fluctuation at 12.75 km depth on the fault during the seismic cycle.
- **velocity:** fault velocity “Vf” (m/s) fluctuation at 12.75 km depth on the fault during the seismic cycle
- **Anomaly\_temperature:** Thermal anomalies ( $^\circ\text{C}$ ) fluctuation at 12.75 km depth on the fault during the seismic cycle
- **Pore\_fluid:** Pore-fluid factor ( $\lambda$ ) fluctuation at 12.75 km depth on the fault during the seismic cycle
- **Apparent\_friction:** apparent friction coefficient fluctuation at 12.75 km depth on the fault during the seismic cycle
- **Mean\_slip:** mean slip along the fault during the seismic cycles.
- **Time2:** Time variable (yrs) for **Mean\_shearStress, velocity, Anomaly\_temperature, Pore\_fluid, Apparent\_friction and Mean\_slip** data. Data was printed every 0.1 second during the coseismic period, and every 1 year during the interseismic period.

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- **q0\_1.5.mp4** : video file showing the pore-fluid factor ( $\lambda$ ) in the crust during an earthquake. Video used to create Figure 6 in the article.

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