

## Large inland earthquake caused by multiple-fault rupture: geological comparison of the 1992 Landers and 1891 Nobi earthquakes

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Earthquake-size prediction in fault-populated regions is complicated because a single earthquake could involve multiple discrete faults, which may be interpreted as different earthquake sources (multiple-fault rupture). The 1992 Mw 7.3 Landers earthquake in the eastern California shear zone and the 1891 Mw 7.4 Nobi earthquake in central intraplate Japan are the best examples of such multiple-fault rupture. Despite opposite strike-slip sense, those events are very similar in that they ruptured multiple low slip-rate faults with relatively complex configuration, differentiating them from multi-segment rupture on major interplate or arc-parallel faults. Considerable amount of data on long-term seismic behavior of such major faults have been accumulated worldwide, but application of behavioral models based on those data to much lower slip-rate faults have not been firmly examined. We may need to take them as different phenomena though common physics should govern those fault behaviors. In this presentation, I review tectonic-geomorphological and paleoseismological investigations conducted on faults involved in the Landers and Nobi ruptures and other faults nearby to extract our current knowledge on multiple-fault rupture and future problems for its more rigorous evaluation.