

## **Description of Additional Supplementary File**

**File Name:** Supplementary Data 1

**Description:** Metadata for the 3D terrain models

**File Name:** Supplementary Data 2

**Description:** Individual coseismic vertical displacement measurements from the 3D models

**File Name:** Supplementary Data 3

**Description:** Average coseismic vertical displacement measurements from the laser scaler

**File Name:** Supplementary Data 4

**Description:** Summary of qualitative rupture observations from the 3D models

**File Name:** Supplementary Data 5

**Description:** Summary of qualitative rupture observations and mass wasting observations from the 3D models in Figure 3D

**File Name:** Supplementary Data 6

**Description:** Normal fault earthquakes and rupture parameters for earthquakes in Figure 6 amended from Escartin et al., (2016)<sup>10</sup>

**File Name:** Supplementary Data 7

**Description:** Rupture parameters and empirical scaling relationship results

**File Name:** Supplementary Data 8

**Description:** Earthquake parameters and peak ground accelerations for the maps in Figure 7

**File Name:** Supplementary Data 9

**Description:** Datasets used in this study