



Figure S14. Comparison of the 'traditional' (a) and 'modified' (b) models for earthquake ages at the Elizabeth Lake paleoseismic site. Summary of resultant earthquake ages from both models is in Table 4. The code structure of the traditional model constrains earthquakes between units/phases; however, we found that this structure did not properly represent the uncertainties inherent in the stratigraphic and sample age controls. The modified earthquake age model results from our recognition that the paleoground surface for ELx, EL3, and EL4 are not well constrained between individual units or by the radiocarbon dates within proximal units. We therefore model the earthquake age as spanning a unit or sequence of units. Sequence models run in OxCal v4.3.2 (Bronk Ramsey, 2017) using the IntCal13 atmospheric curve (Reimer et al., 2013).