Fig. S1. Temporal distribution and resolution of the tree-ring (green), lake sediment (red), marine sediment (orange) and glacier ice (blue) proxy records from the PAGES 2k 2.0.0 database. (Dashed) lines indicate proxy resolution ranging between sub-annual and 145 years.
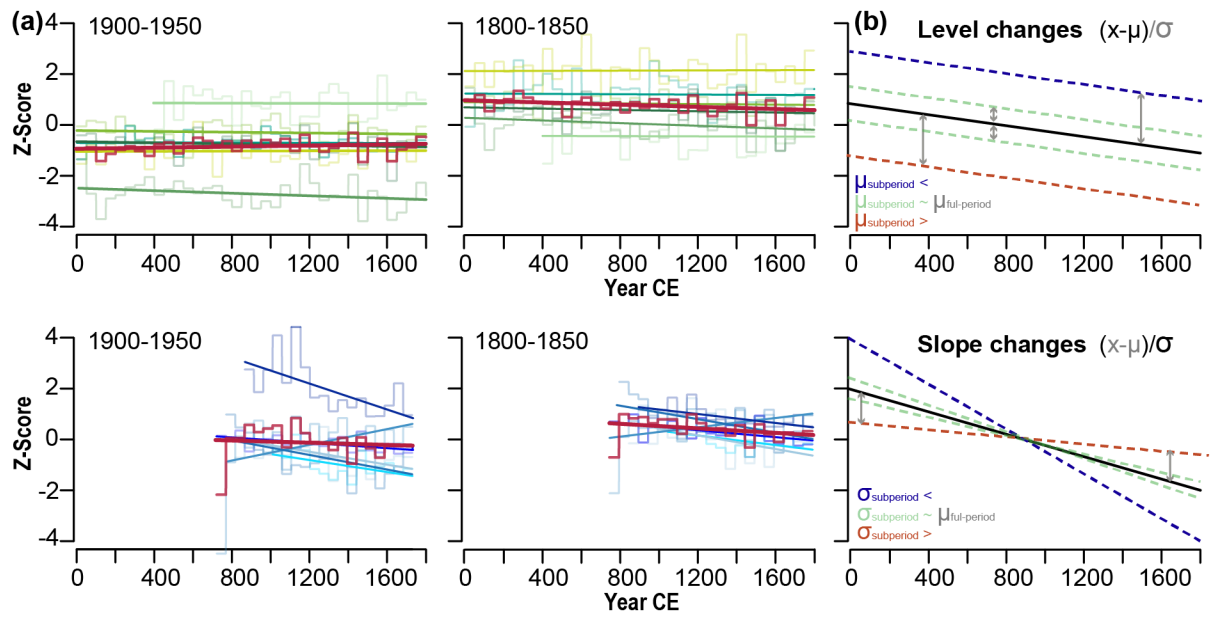
Fig. S2. **(a)** Differently normalized tree-ring records (green, blue), their chronology means (red) and corresponding pre-industrial temperature trends (1-1800 CE) and **(b)** explanation, why level and slope change dependent on the period chosen for tree-ring normalization.