

Climate Change and the Qijia Collapse: 4,000 cal. yr B.P. marks the end of an era in China's western Loess Plateau

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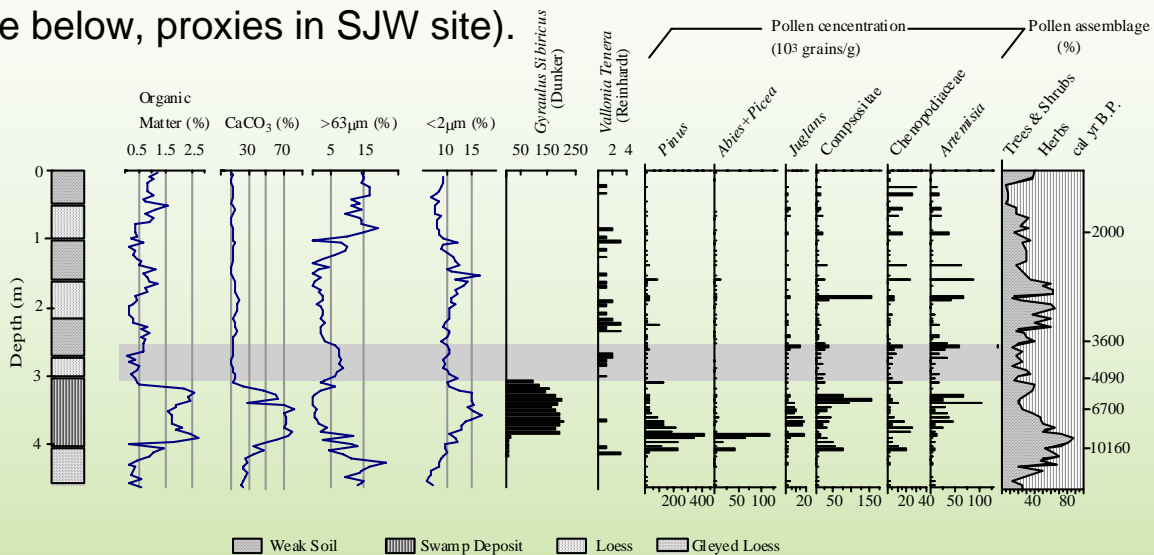
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Many lines of evidence illustrate that prehistoric and early societies were highly vulnerable to abrupt climatic shift, especially prolonged drought. These shifts were the primary agent in cultural collapse, which involved regional abandonment, replacement of agriculture by pastoralism.

New data demonstrate that a rapid climatic transition from wet to dry led to an ecologically devastated period between 4,000 and 3,600 cal. yr B.P. (see Figure below, proxies in SJW site).



The sudden and dramatic reduction of archaeological sites during this period points to declining agricultural productivity associated with widespread aridification beginning at 4,000 cal. yr. B.P. In brief, the distribution of rain-fed agricultural cultures in the study area reached its maximum extent under stable environmental conditions between 7,800 and 4,000 cal. yr B.P. but receded dramatically after 4,000 cal. yr B.P., coincident with a de-emphasis on agricultural subsistence.

Temporal distribution of the unearthed archaeological sites in the western part of the Chinese Loess Plateau.

- a: Dadiwan Culture (7800-7350 cal. yr BP);
- b: early Yangshao Culture (6800-6000 cal. yr BP);
- c: middle to late Yangshao Culture (5900-4900 cal. yr BP);
- d: Majiayao Culture (5300-4200 cal. yr BP);
- e: Qijia Culture (4300-3900 cal. yr BP);
- f: Siwa Culture (3300-2500 cal. yr BP) and Xindian Culture (3600-2600 cal. yr BP)

