Holocene fire history in China: Responses to climate change and human activities

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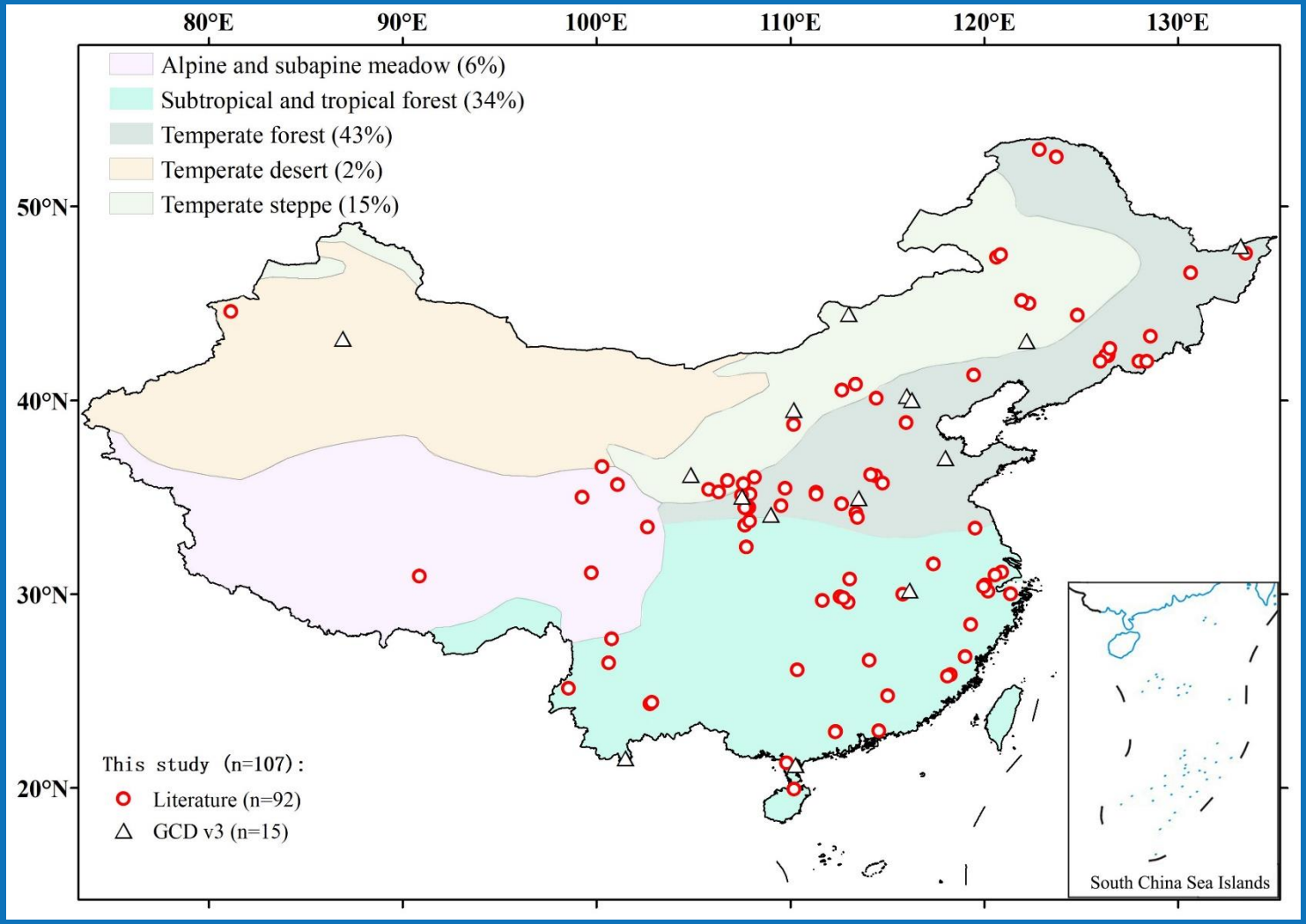
1. Study region

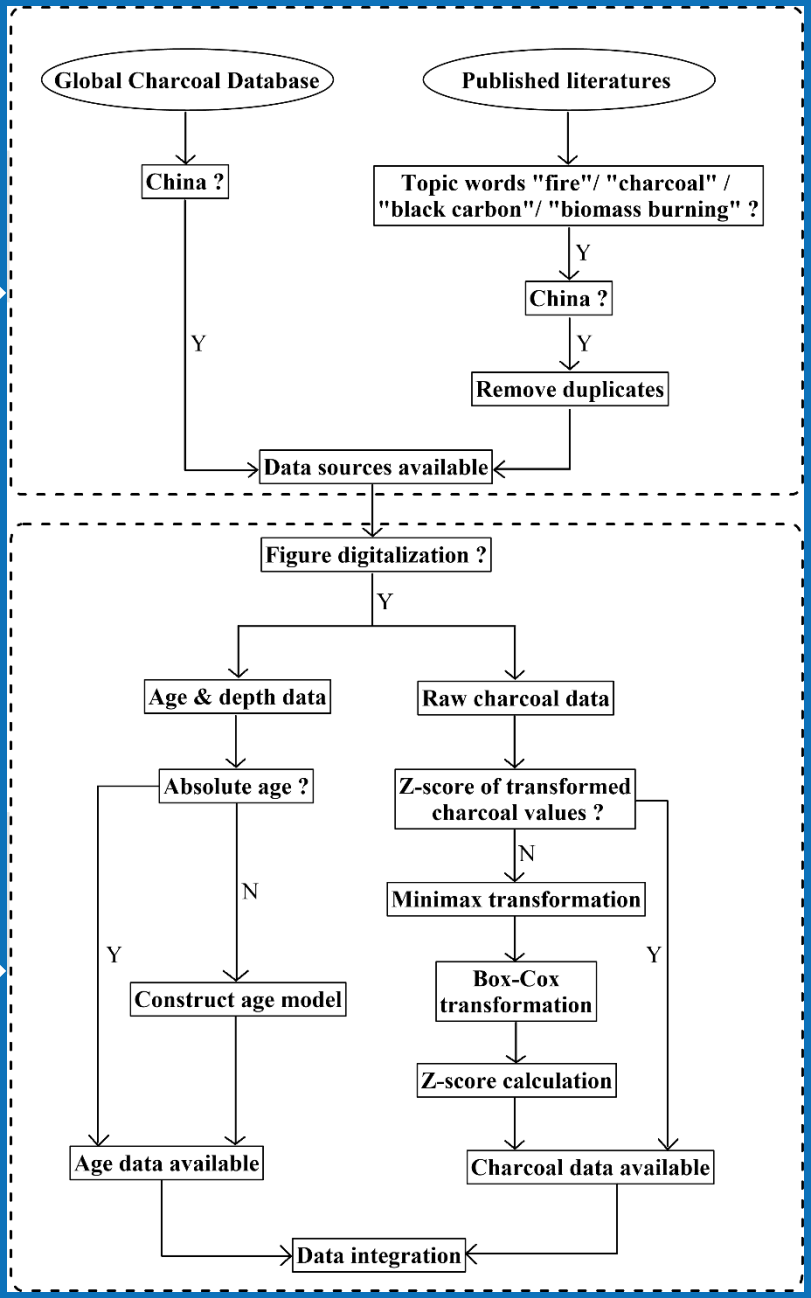
107 charcoal records are selected to reconstruct Holocene fire history in China



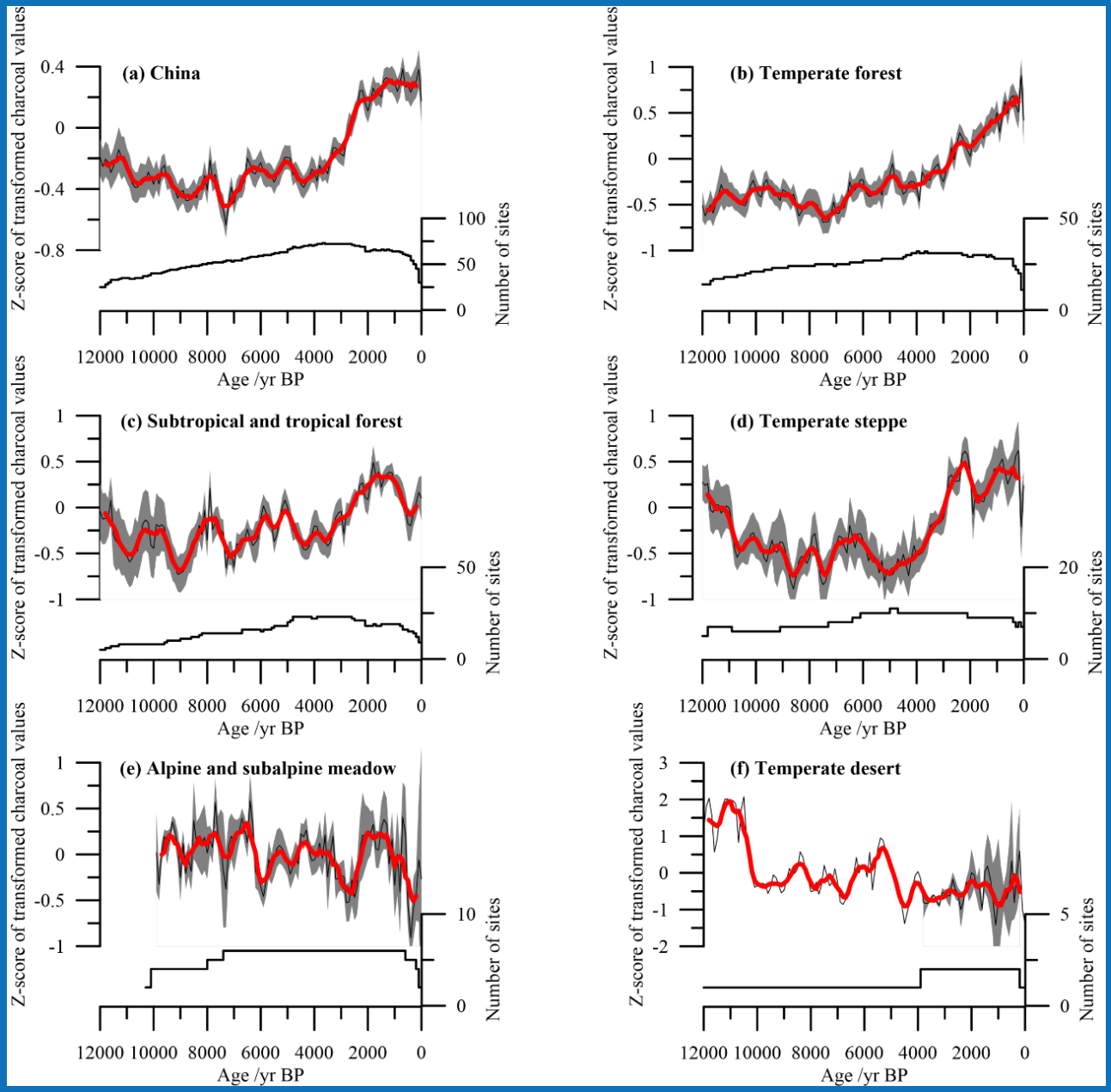
2. Data and method

Data collection →

Data process →

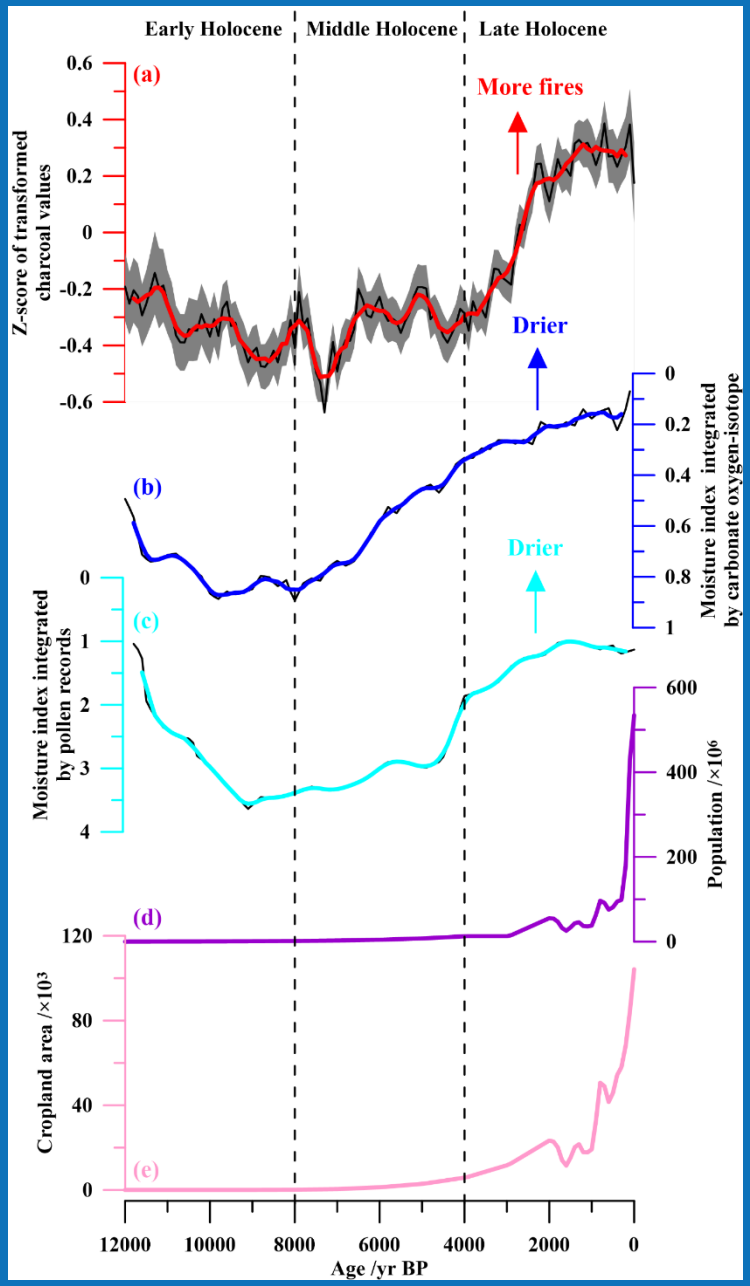


3. Results: Holocene fire history in China

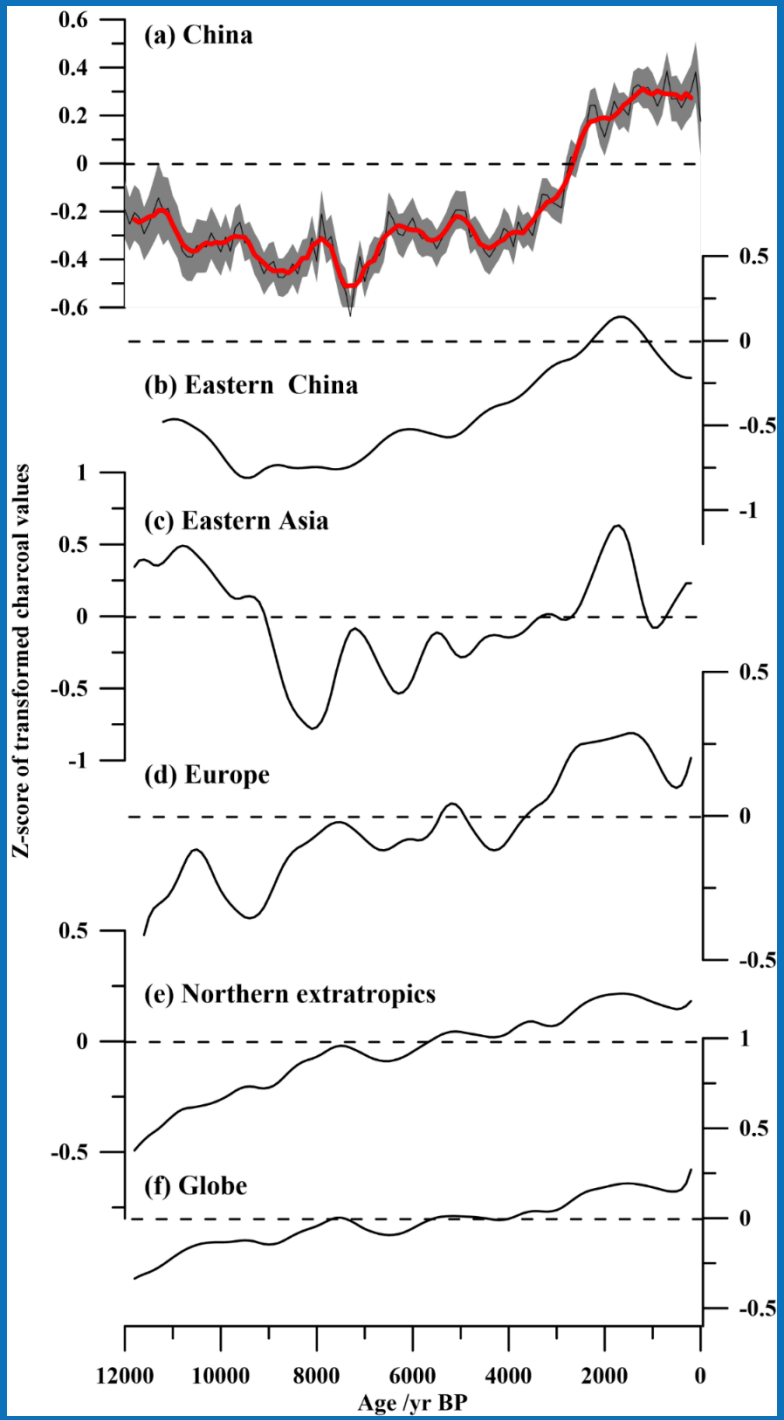


China: decline from 12 to 7.3 ka BP, then rise.
Regions: generally increase since the middle Holocene (except for meadow and desert).

4. Discussion: fire drivers and comparisons

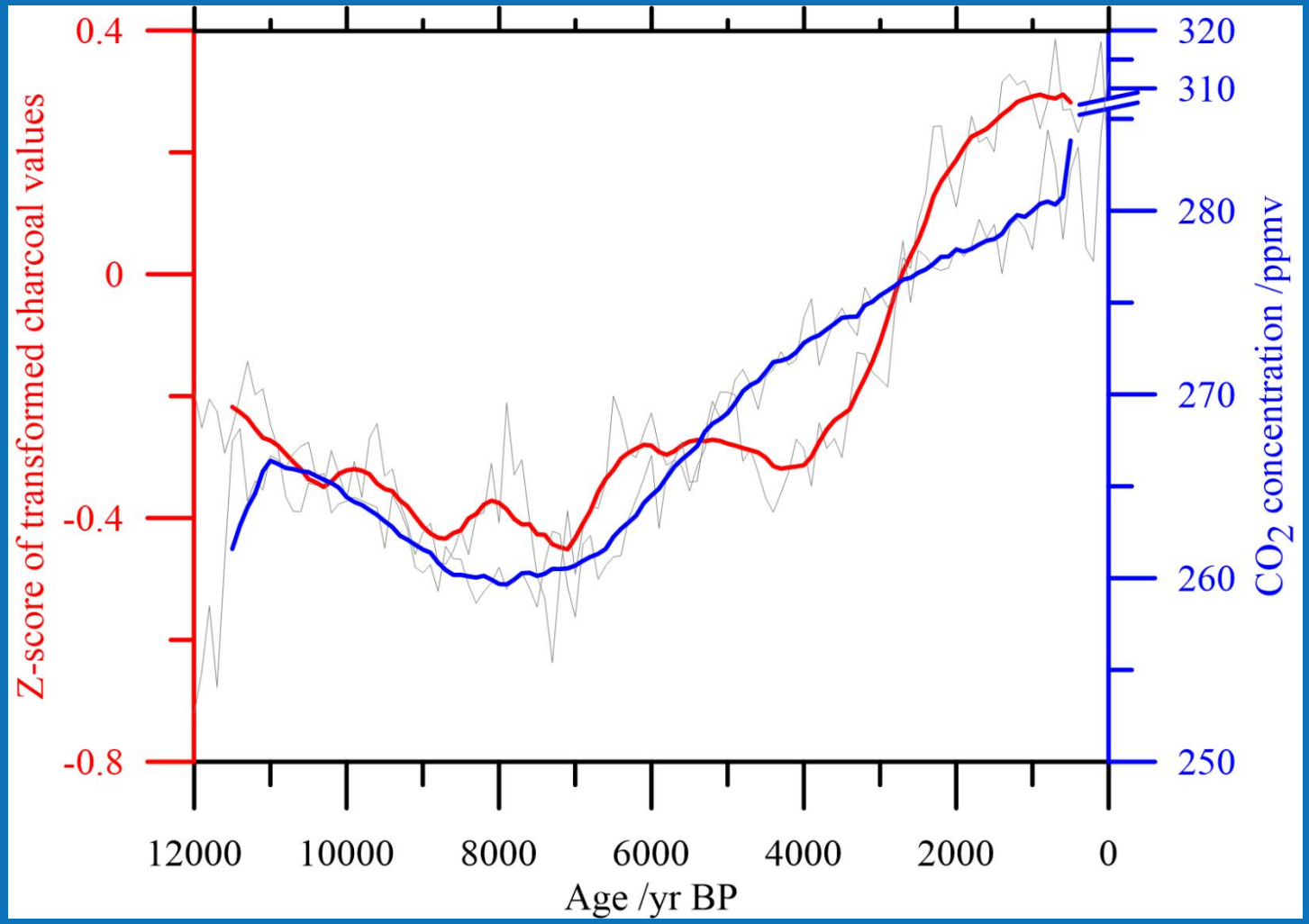


Closely responded to moisture variations, while the late Holocene (3 ka BP) fire was controlled by both the driest climatic conditions and intensified human activities.



Confirm that Holocene fire history in eastern Asia is indeed different from that seen globally and in other regions.

There is a similar long-term changing trend between fire activities in China and atmospheric CO_2 concentration.



5. Conclusions

(1) Fire activity in China overall declined gradually between 12 and 7.3 ka BP, and sharply rose thereafter, different from fire history in other regions and globally.

(2) It mainly responds to moisture change at millennial scale and also intensified human activity changes over the last 3 ka.