



Centennial- to millennial-scale monsoon changes since the last deglaciation linked to solar activities and North Atlantic cooling

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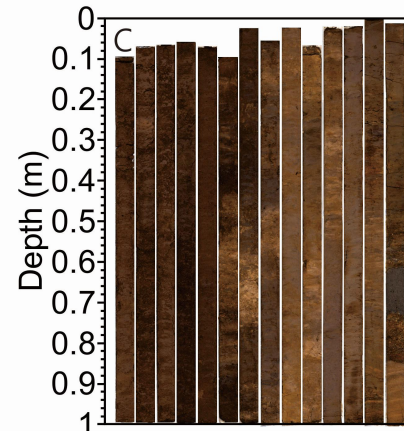
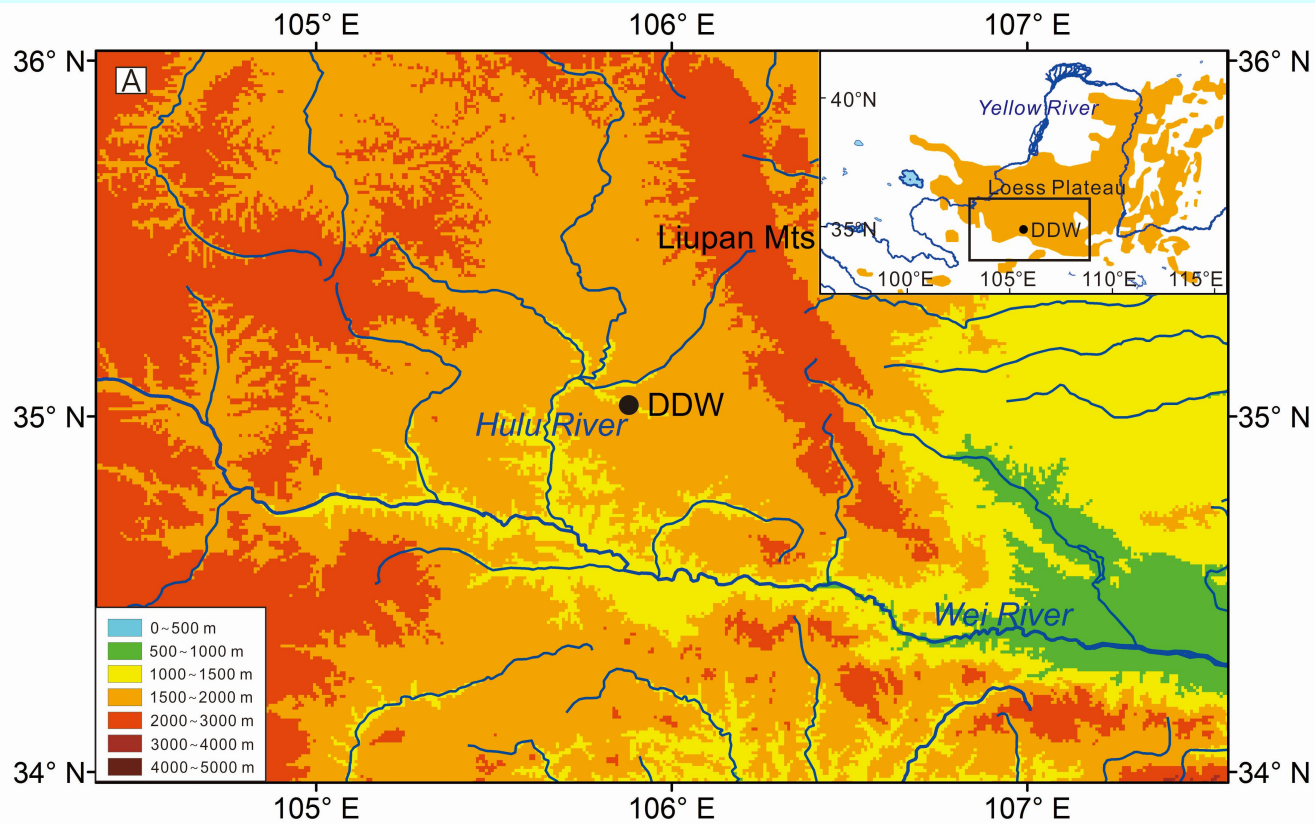
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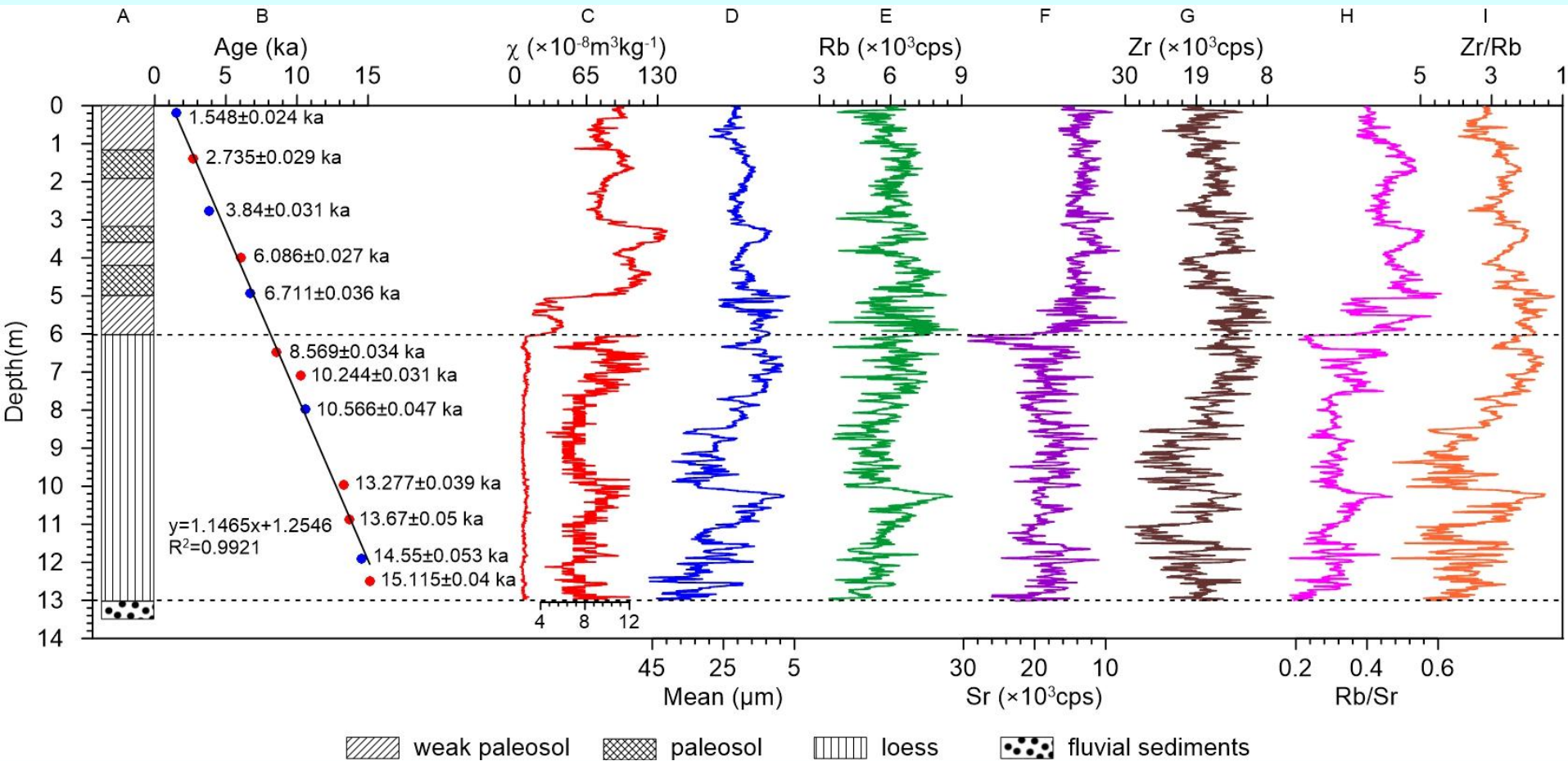
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Terrace deposit at Dadiwan (DDW)



Chronology and Proxy variations



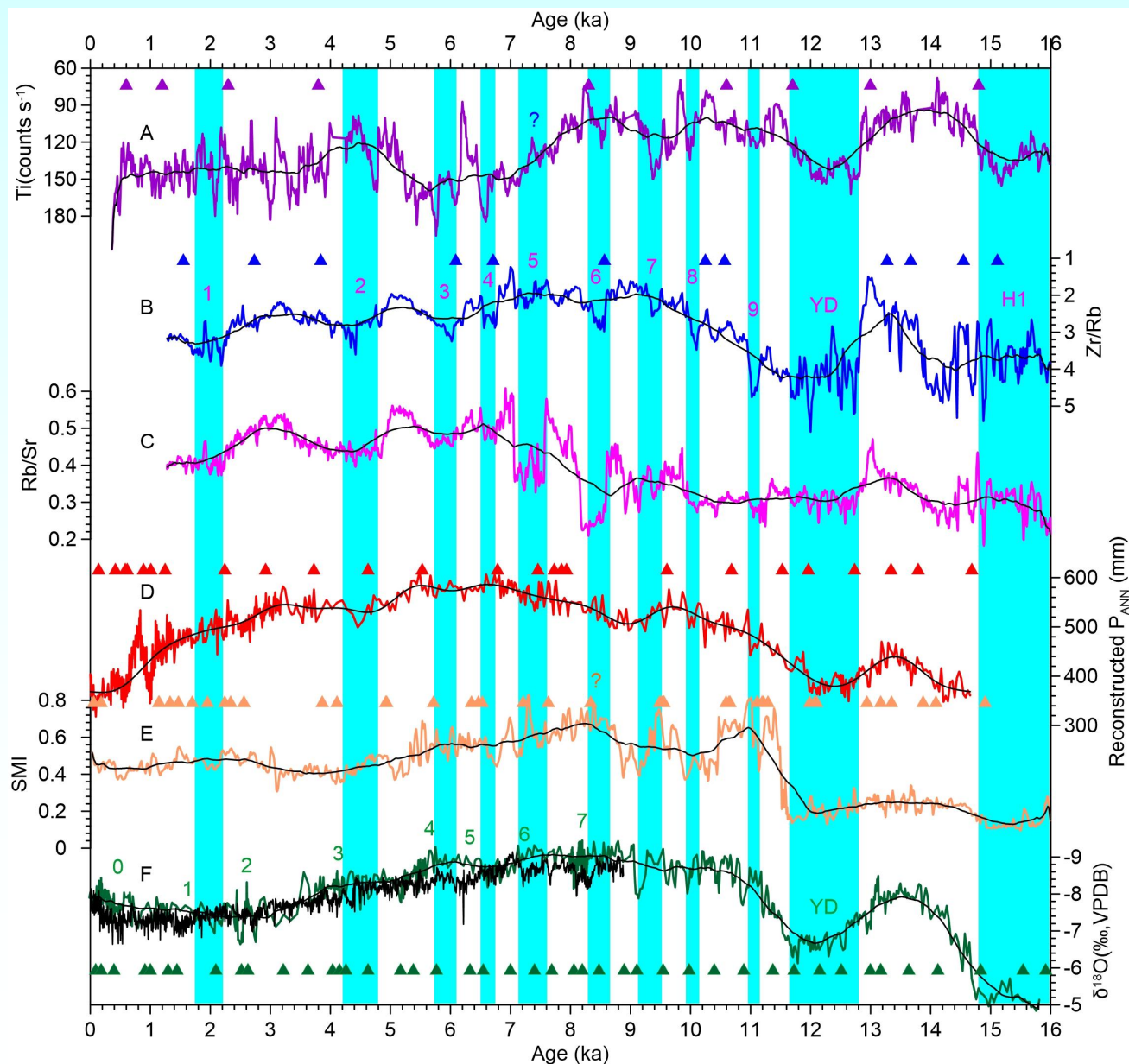
Chronology: Linear interpolation of 12 ^{14}C dates

EASM proxies: Magnetic susceptibility, Rb/Sr

EAWM proxies: Mean, Zr/Rb



Correlation of Abrupt Monsoon Changes



Lake Huguang Maar
(Yancheva et al., 2007)

DDW EAWM proxy

DDW EASM proxy

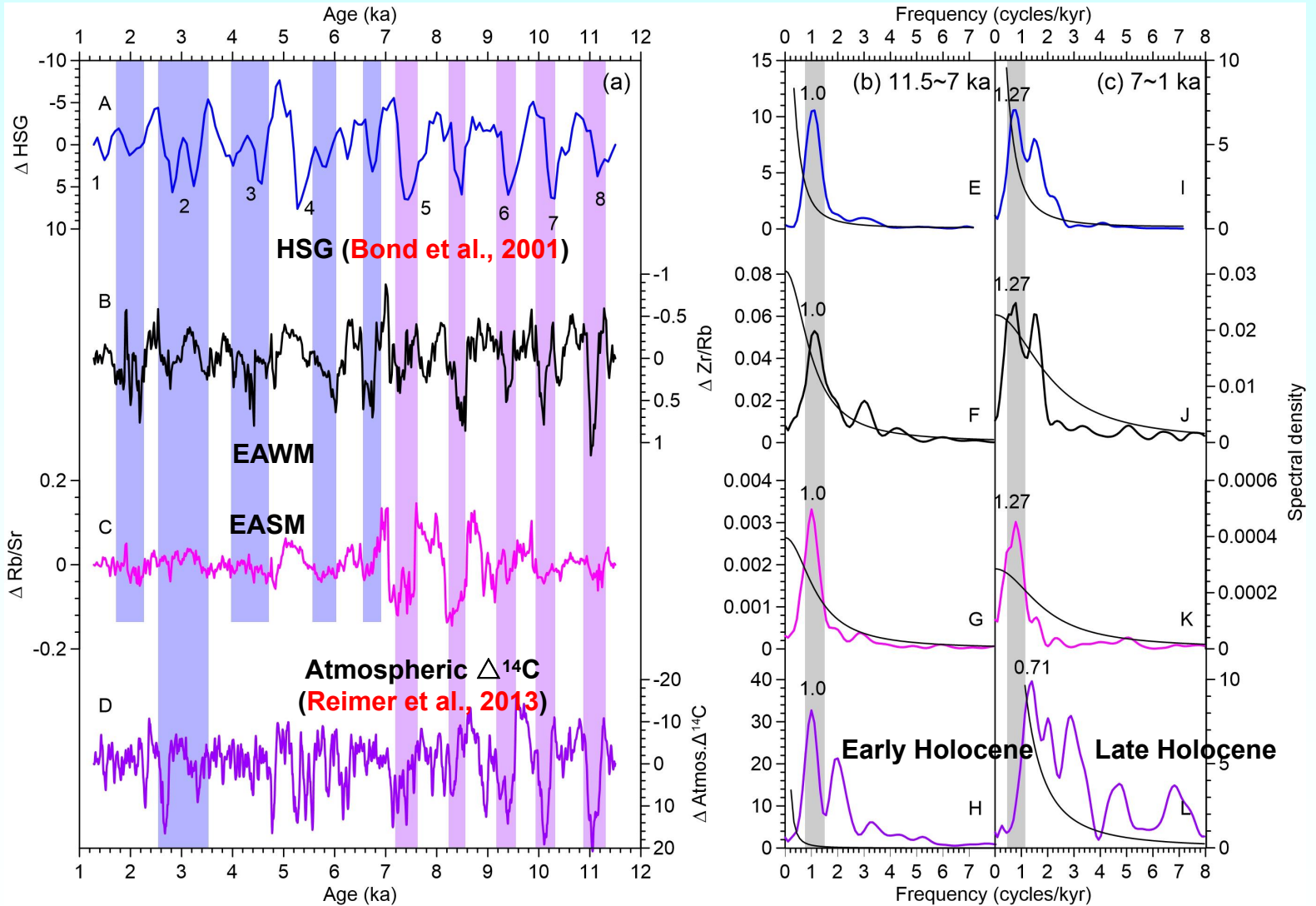
Lake Gonghai
(Chen et al., 2015)

Lake Qinghai
(An et al., 2012)

Dongge Cave
(Dykoski et al., 2005;
Wang et al., 2005)



Dynamical links to Solar and IRD forcing



Comparison of abrupt monsoon changes HSG and atmospheric $\Delta^{14}\text{C}$ record and their corresponding spectral results during the early and late Holocene



Conclusion and Prospect

- Proxies of high-resolution terrace sequences are sensitive to abrupt monsoon changes since the last glaciation.
- Amplitude and frequency of abrupt monsoon changes are different between Early and Late Holocene.
- The North Atlantic cooling has persistent impact during the Holocene, while the solar forcing is more significant in the early Holocene. ([Liu et al., 2020, Climate of the Past](#))



Thanks !

