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Forecasting the weather
- ensemble techniques
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Spatial dry/wet Pattern for different warming periods during 2000 years

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Spatial dry/wet Pattern for different warming periods during 2000 years

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Spatial drought/flood patterns under the decadal warming background in China were reconstructed during the past 2000 years in this work, in particularly, the differences in spatial pattern between 20th century warming period and others were analyzed. The five warming decades are 691-720AD when China was in Sui and Tang Dynasty, 1231-1260AD in Medieval Warming Period, 1741-1770AD which is the warmest 30-years during the Little Ice Age, 1921-1950 and 1971-2000 which are the first two warmest 30-years during the 20th century. The data were derived from historical documents, and natural proxy including ice cores, tree-rings, lake sediments and Stalagmites. The findings are as followed: three spatial patterns were detected, and they are North China and Northwest of China were in dry condition, while other parts of China were in wet condition; Huaihe river, Nanling Mountain, Northeast and the north part of Tibet were in wet condition, while north China was in normal condition, and south China and Northwest of China were both in dry condition; Southeast region and Northwest China were both in wet condition, while Northeast and Tibet were both in dry conditions. The patterns for 1921-1950 and 1971-2000 were consistent with that in Tang Dynasty, which is same with the conclusion that the most possible analogue type of the 20th century warming is that of the Sui and Tang dynasties. This paper will provide fundamental data for understanding the intensity of summer Asian Summer Monsoon.