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A new assessment of modern climate change, China—an approach based on paleo-climate

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ABSTRACT

China is the country with the most population in the world, and its climate is extremely diverse due to tremendous differences in latitude, longitude, and altitude, ranging from tropical in the far south to subarctic in the far north and alpine in the higher elevations of the Qinghai-Tibetan Plateau. Accurate assessment of its modern climate change is conducive to addressing global warming threat. Along with the development of Past Global Changes (PAGES) research, the focus has changed from paleo-climate reconstructions to using paleo-data for assessing the present and predicting the future. Previous studies have been devoted to climate change assessment using modern climate observations and simulations. This paper presents a new assessment approach based on the mid-Holocene, which provides a naturally oriented warming that can be compared to modern human-made global warming. A variety of climatic data, including modern observations, paleo-climate records, CMIP5 (Coupled Model Intercomparison Project Phase 5) and PMIP3 (Paleoclimate Modelling Intercomparison Project 3) simulations, as

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