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Projected Change in Hydrological Extremes in China Under Climate Change Scenarios

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Over last 40 years, China's climate has undergone noticeable changes. It is particularly evident that North China has seen a persistent decline in annual precipitation amounts. This is accompanied by increases in flooding in South China and overall temperature increase over entire China. In this paper, we look to quantify the changes in precipitation and temperature extremes in China over the past 40 years using observations and model outputs from CMIP3 data archive. We will also investigate how these changes may manifest in the 21st century under various climate change scenarios. We will employ the Bayesian multi-model ensemble methodology developed by Duan and Phillips to obtain the expected changes as well as the uncertainty estimates. The Bayesian multi-model ensemble methodology and preliminary results will be presented at this meeting.

Keywords: Climate change, hydrological extremes, Bayesian multi-model ensemble