

**Improvement of multi-model ensemble seasonal prediction skills
over East Asian summer monsoon region
using a climate filter concept**

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We propose the use of a “climate filter” concept to enhance prediction skill of a multi-model ensemble (MME) suite for the East Asian summer monsoon (EASM) precipitation and temperature at 850 hPa. The method envisages grading models based on the degree of reproducibility of the association of EASM variability with a few relevant climate drivers with the respective model hindcasts for the period 1981–2003. Our analysis identifies the previous winter Niño 3.4 and spring North Atlantic Oscillation (NAO) indices as the most suitable climate drivers in designing a climate filter for evaluating models that replicate the observed teleconnections to EASM well. Our results show that the hindcast skills of a new MME with the better performing models are significantly higher than those from the non-performing models, or from an all-inclusive operational MME.