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Title: Prediction of short-term climate extremes in the NMME

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Abstract:

The North American Multi-Model Ensemble (NMME) for Intra-Seasonal to Interannual Prediction has been delivering real-time forecasts since August 2011. All NMME models come with approximately 30 years of hindcasts, allowing for model calibration and skill testing; the hindcast database includes over 100 ensemble members. In this study, the prediction skill for short-term climate extremes from the individual models and the multi-model ensemble is assessed to understand our current prediction capability. Specifically, forecasts for one-month and seasonal extremes in 2 m temperature, precipitation rate, and sea-surface temperature at leads of up to eight months are assessed for several regions around the globe. This study uses various skill metrics to assess prediction of extremes, including the anomaly correlation and the Symmetric Extremal Dependence Index, which is non-degenerate for rare events.

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