

**PARALLEL SESSION C: IMPACTS AND APPLICATIONS
C1: REPRESENTING & PROJECTING EXTREMES**

Multi-RCM Future Projections of Climate Extremes over East Asia

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This study examines future changes in summer climate extremes over East Asia using five Regional Climate Models (RCMs) participating in the CORDEX-East Asia project (HadGEM3-RA, RegCM4, SNU-MM5, SNU-WRF, and YSU-RSM). Generalized extreme value analysis is used to describe extreme intensity of temperature and precipitation. All RCMs predict increases in temperature and precipitation across East Asia for both means and extremes. The intensification of precipitation extremes is well consistent with the Clausius-Clapeyron relation (increase in moisture availability as warming). Relationships between model performances and future projections are explored. Better models tend to predict less warming, which is clearer in extremes than in means. Close inter-RCM relationship is found between mean and extreme projections, which holds even at grid scales with overall stronger relation in temperature than in precipitation. Sub-regional analysis is conducted in order to explore future changes in probability distributions of daily temperature and precipitation. Results show that temperature increase involves overall shift of distribution toward warmer conditions whereas increases in moderate-heavy rainfall dominate changes in precipitation.

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