SESSION: (B3) S2D ensemble predictions and forecast information

(B3-07)

Prediction of short-term climate extremes using the North American Multi-Model Ensemble

Becker, Emily; van den Dool, Huug

NOAA Climate Prediction Center and INNOVIM

This study examines the forecast skill of extreme monthly and seasonal mean 2 m temperature (t2m) and precipitation using the North American Multi-Model Ensemble (NMME), an ensemble of state-of-the-art coupled global climate models. The NMME currently provides real-time guidance for NOAA's operational short-term climate forecasts, and includes a database of retrospective forecasts (1982-2010), used for bias correction, calibration, and skill studies. Seven models from the NMME contribute to this study: NCEP-CFSv2, Environment Canada's CanCM3 and CanCM4, GFDL's CM2.1 and FLOR, NASA-GEOS5, and NCAR-CCSM4. Both deterministic and probabilistic forecasts for extremes are considered, and forecast skill assessments find that skill scores are equal to or greater for extremes than for non-extreme cases. Results are assessed for the real-time and hindcast periods, and for varying combinations of models in the multi-model ensemble.