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## Predictability of extreme events in UFS at subseasonal time scale

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The predictability of extreme events over the continental United States (CONUS) in the Unified Forecast System (UFS) Couple Model is studied at subseasonal time scale. The benchmark runs of UFS (GFSv15), a coupled model consisting of atmospheric component (FV3GFS) with 28 km resolution and ocean (MOM6) and sea ice (CICE5) components with global 0.25° resolution, for the period April 2011–December 2017 have been assessed. The model's month-long forecasts initiated on the first and fifteenth of each month are used to examine the predictability of extreme events in precipitation and 2m temperature. The atmospheric and ice initial conditions are from CFSR data, and the ocean initial conditions are from 3Dvar CPC. The errors in the week 1–4 predictions and the corresponding spatial correlation between model and observation over CONUS are presented. The differences in the predictability of the extreme events between the boreal summer and winter are discussed. Two categories of extreme events are evaluated: 95<sup>th</sup> and 99<sup>th</sup> percentile, respectively. The forecast skill of extreme events in the 95<sup>th</sup> percentile is higher than the forecast skill of events in the second category. The forecast skill of warm and cold events in the 95<sup>th</sup> percentile shows seasonal dependence and is higher during the boreal winter.