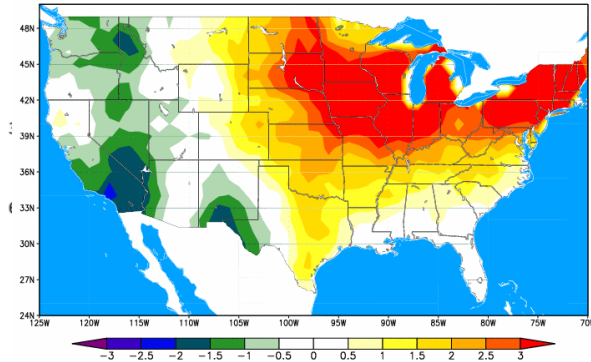# Land-atmosphere Interaction in a Global Climate Model in Association with Human Activities
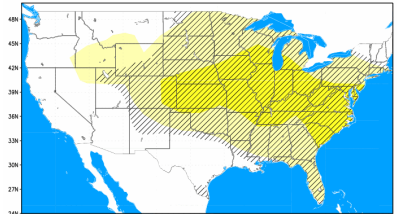
+ Spread of near surface temperature (2m Tair) among ensemble members becomes smaller by incorporating surface water-groundwater-human models in the AGCM.
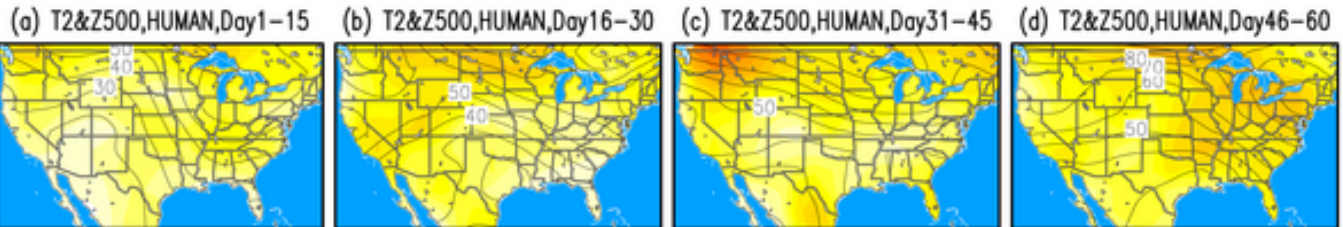
+ Sub-seasonal forecast skill for near surface air temperature (Day16-30) was improved by using realistic land initializations in the fully coupled AGCM with surface-groundwater-human models.
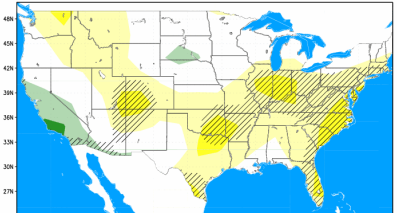

T2m, GSWP2, July 30 – August 13

T2m, HUMAN-EXP, Realistic Soil Moisture IC.

T2m, HUMAN-EXP, Randomly Chozen Soil Moisture IC.

Yamada et al., in prep.

With HI

W/O HI

(a) T2&Z500,HUMAN,Day1−15   (b) T2&Z500,HUMAN,Day16−30   (c) T2&Z500,HUMAN,Day31−45   (d) T2&Z500,HUMAN,Day46−60

(e) T2&Z500,CTRL,Day1−15   (f) T2&Z500,CTRL,Day16−30   (g) T2&Z500,CTRL,Day31−45   (h) T2&Z500,CTRL,Day46−60