Relative contribution of sea surface temperature and soil moisture to subseasonal atmospheric predictability

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Extreme sensitivity of numerical weather predictions to initial atmospheric errors severely limits the atmospheric predictability. Any useful atmospheric predictability beyond one month must arise from interactions with the slower parts of the climate system, such as the ocean and land. In this study, we carry out the Global Land-Atmosphere Coupling Experiment (GLACE-2) with a long-range forecast system driven by observed vs. randomized sea surface temperature (SST). The main objective is to evaluate the relative contribution of SST and soil moisture to summer precipitation and temperature predictability on sub-seasonal to seasonal time scales.