Judith Berner NCAR Abigail Jaye Oral (Virtual Talk) There has been increasing interest in generating skillful forecasts on the sub-seasonal to seasonal timescale which fills the gap between weather and seasonal climate forecasts.

On this timescale model error is characterized by both, random model and systematic model errors, which is expressed e.g. by ensemble forecasts being underdispersive and unreliable. Stochastic parameterization schemes are used routinely to represent random model error, but have also the potential to reduce systematic model errors. Here, we will quantify the benefits of adding a stochastic parameterization scheme on deterministic and probabilistic forecast skill in S2S-forecasts with the

climate model CESM.

Furthermore we will investigate state-dependent forecast skill during "windows of opportunity" typically associated with large-scale modes of variability (Pacific North American pattern, North Atlantic Oscillation) or tropical forcing (El Nino-Southern Oscillation, the Madden-Julian Oscillation) across different S2S models including ECMWF, CESM2 and NCEP. Meeting homepage S2S Community Workshop

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