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The Community Earth System Model (CESM) project of NSF NCAR produces and disseminates initialized ensemble prediction system frameworks and hindcast datasets that facilitate subseasonal to decadal (S2D) Earth system predictability research by the broad geoscience community. The evaluation and refinement of CESM prediction systems, including the exploration of the origins, impacts, and potential to reduce hindcast error, is thus a highly distributed effort that collectively feeds back to inform the priorities of CESM and its Earth System Prediction working group. Prediction system error is a complex convolution of initialization error, observational uncertainty, model misrepresentation of processes that operate across timescales, and inherent predictability limits. Examples of how these sources of error have been explored in CESM S2D systems will be discussed, with an emphasis on insights that stem from frontier high-resolution climate modelling efforts. The proposed path forward for improved climate forecasts will emphasize coordinated efforts that advance fundamental understanding of how predictability processes are represented in climate models.
Presentation file
Yeager-Stephen.pdf
Meeting homepage
S2S Community Workshop
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