

Earth System Prediction Working Group

*Co-chairs: Kathy Pegion (George Mason University),
Yaga Richter (NCAR), Steve Yeager (NCAR)*



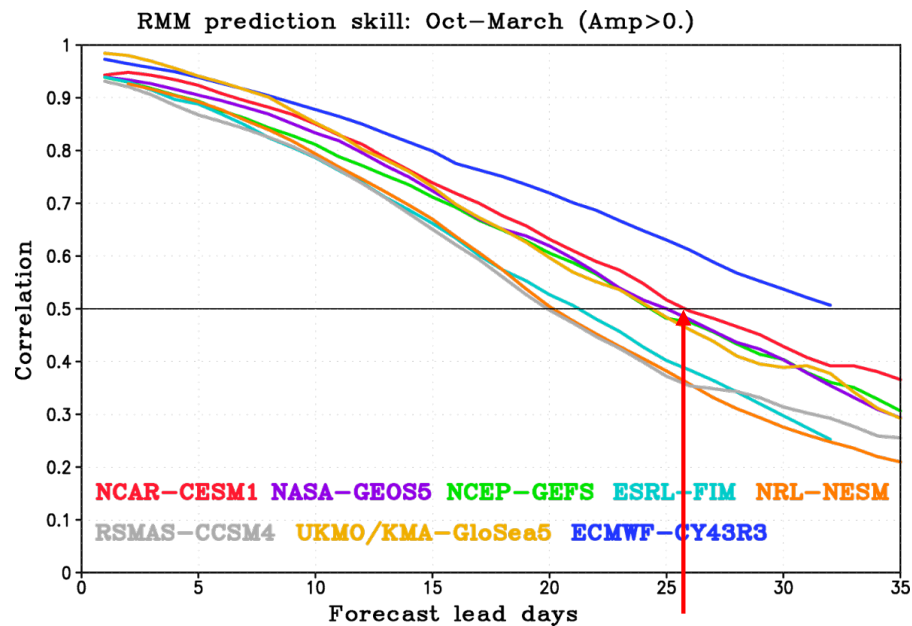
Role of ESPWG

- Serve the CESM and broader geoscience community by facilitating and coordinating fundamental research focused on understanding and advancing research on initialized Earth system prediction on timescales from subseasonal to decadal.
- Collect community input on priority experiments, infrastructure needs, and model/system developments needed to advance ESP research.
- Plan & execute large ensemble initialized hindcast / forecast simulations that are too computationally burdensome for individual researchers to undertake.
- Orchestrate the development of tools and frameworks to enable a broader community to explore predictability mechanisms and sensitivities to prediction system design.
- Promote collaborative multidisciplinary research and serve as a hub for coordination of effort.
- Provide a reliable, catalyzing forum for sharing the latest ESP science results.

ESPWG Inheritance

- Formation of CGD's interdisciplinary Earth System Prediction group (late 2018)
- Past & ongoing data assimilation research in CISL and CGD
- Considerable experience with initialized prediction using CESM1:
 - S2S (Richter et al. 2020); SubX (<https://iridl.ldeo.columbia.edu/SOURCES/.Models/.SubX/>)
 - Decadal (Yeager et al. 2018); CESM-DPLE (<http://www.cesm.ucar.edu/projects/community-projects/DPLE/>)

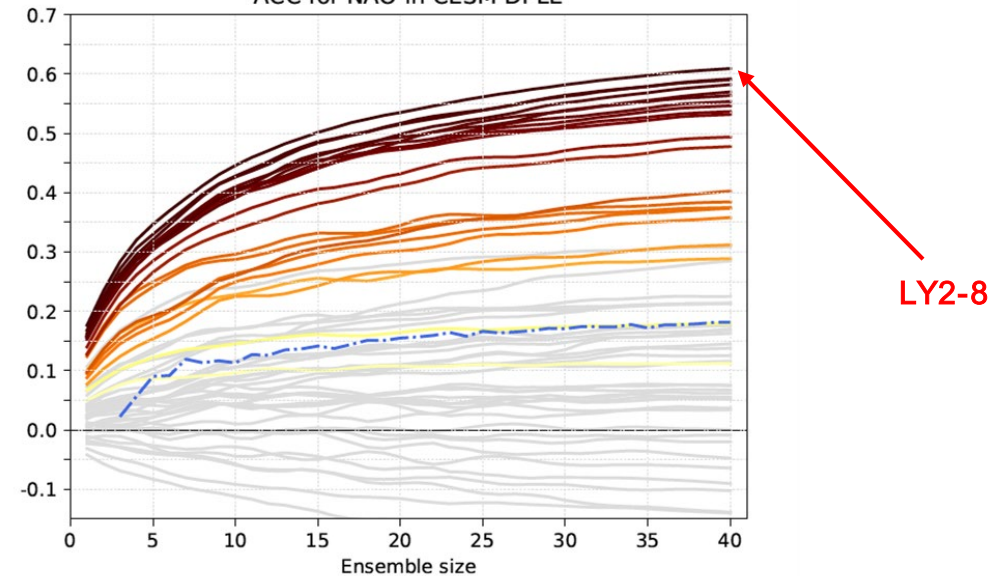
MJO Prediction:



Kim, Richter, Zane (2019)

NCAR CESM1

ACC for NAO in CESM-DPLE



Athanasiadis et al. (2020, *npj Clim Atm Sci*)

ESPWG Updates

- Established in April 2020
- ESPWG mailing list: <http://mailman.cgd.ucar.edu/mailman/listinfo/cesm-espwg>
 - 150 members
- Coming soon: ESPWG web site under cesm.ucar.edu
- Plans for new initialized hindcast sets using CESM2 (attend Wednesday session for details):
 - S2S hindcasts from 1999-2019
 - Multi-year hindcasts from 1970-2019

Inaugural ESPWG Session Agenda

2020 CESM Workshop

June 15-17, 2020

Earth System Prediction Working Group

Time	Title	Speaker
8:30 AM	Welcome	Kathy Pegion
8:45	A New CAM6+DART 80-Member Ensemble Reanalysis for 2011-2019: Initial Condition	Kevin Reader
9:00	S2S with CESM1	Yaga Richter
9:15	Advantages of 25Km resolution ocean model in GEOS Seasonal Prediction System	Andrea Molod
9:30	Two-year Predictions of ENSO Event Duration during 1954-2015	Xian Wu
9:45	On the prospect of developing seasonal to decadal soil moisture forecasting system	Sanjiv Kumar
10:00	Decadal Prediction with CESM: recent progress & outstanding challenges	Steve Yeager
10:15	BREAK	BREAK
10:30	The climpred diagnostic package	Riley Brady
10:45	Near-term Simulation Plans	Co-chairs
11:00	General Discussion	ALL
12:00	Adjourn	