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Oral
The process of atmospheric forecast error reduction in the Navy Earth System
Prediction Capability system (Navy ESPC) will be presented, along with some history of the work, including challenges faced and lessons learned. Navy ESPC consists of a coupled integration of the Navy Global Environmental Model (NAVGEM), the HYbrid Coordinate Ocean Model (HYCOM), and the Los Alamos Sea Ice Model (CICE). The Wavewatch III ocean surface wave model is also included, but does not currently provide feedback to the other models. The talk will focus on NAVGEM, the atmospheric model component, which was originally developed for uncoupled NWP, and is still being run in that mode operationally at the Fleet Numerical Meteorology and Oceanography Center (FNMOC). The coupling between NAVGEM and HYCOM will also be briefly discussed. Reduction of atmospheric errors in NAVGEM for Navy ESPC has involved an iterative two-step process, including both S2S-timescale and synoptic/NWP- timescale testing and development. I will present some results of our work through this process, which has led to a Navy ESPC version 2 with both good skill in representing the Madden-Julian Oscillation, along with NWP performance on par with the operational uncoupled NAVGEM. We are currently developing version 2.1 of the system, which will be the final version before NAVGEM is replaced by the non-hydrostatic atmospheric model NEPTUNE in Navy ESPC v3, utilizing the Common Community Physics Package (CCPP).
Presentation file
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