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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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Meeting homepage

S2S Community Workshop

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