NOAA Climate Test Bed

Bridging the gap in NOAA's extended and long range prediction systems through the development of new forecast products for weeks 3 and 4

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Abstract

We propose to develop new operational temperature and precipitation forecast products over North America for lead times of 3 and 4 weeks that would bridge the gap between NCEP/CPC's 8-14 day and monthly outlooks and complete a seamless prediction system that links NOAA's intraseasonal and seasonal forecast products. At the foundation of this proposal, recent work by the PIs demonstrates the feasibility of a simple statistical forecast model that combines information from the Madden-Julian Oscillation (MJO), El Niño-Southern Oscillation (ENSO), and linear temperature trend to generate skillful North American wintertime temperature forecasts in weeks 3 and 4. To build upon this effort, the purpose of this project is (1) to transition this statistical model into an operational week 3 and week 4 temperature and precipitation outlook for all seasons; (2) to determine the feasibility of providing information on extremes at these lead times; (3) to calibrate CFSv2 forecasts with the use of archived reforecasts to evaluate the performance of products for weeks 3 and 4 based on the CFSv2; and (4) to explore extending the model calibration approach to the US National Multi-Model Ensemble (NMME).