Can the U.S. Become the World Leader in Numerical Weather Prediction?

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It is well-known that the U.S. skill in numerical weather prediction (NWP), as measured by NCEP’s Global Forecast System (GFS), lags behind other centers, most notably the ECMWF. In this talk, we will discuss some of the reasons for this discrepancy and provide a potential path forward for the U.S. to match or surpass ECMWF accuracy. In doing so, we will examine the strategic plans of various centers for improving NWP, the recent selection process for the new dynamic core for NCEP’s global model, the importance of ensemble design for convection-allowing models, and the opportunity NCEP has to make rapid progress.