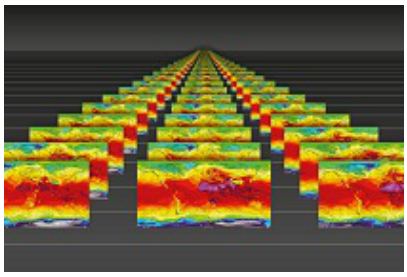

Contribution ID: **7** Type: **Oral presentation**

An Assessment of Predictability and Prediction of NCEP GEFS for Subseasonal Forecast

Wednesday, 3 April 2019 11:15 (15 minutes)

The demand for forecast information beyond week-2 has increased significantly in recent years. This information provides valuable guidance for various users who use it to guide public safety, quality of life, and business decisions that drive economic growth. Discussions of predictability, current numerical model capability and applications are greatly enhancing our understanding for prediction beyond week-2, which is known as subseasonal to seasonal (S2S) prediction. The National Centers for Environmental Predictions (NCEP) Global Ensemble Forecast System (GEFS) has demonstrated great success for weather and week-2 forecast in past decades by providing reliable probabilistic forecast to general public and now its application the S2S prediction is being explored.

To assess the predictability and capability of the subseasonal forecast, a modified ensemble version of the NCEP spectral model (GEFS) was applied in support NOAA SubX (Subseasonal multi-model Experiments). An 18-year reforecast with this modified version of the GEFS is used as a reference system and is compared to the newly adopted Finite-Volume dynamics (FV3)-based GEFS which includes major model dynamical changes, different horizontal resolution, different microphysics, etc. The improvement of predictability and predictions will be investigated for all these changes through various measurements across tropical to extratropical areas in terms of deterministic (ensemble mean) and probabilistic (ensemble distribution) forecasts.

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Session Classification: Database Technical Development

Track Classification: Workshop on Predictability, dynamics and applications research using the TIGGE and S2S ensembles