1. Introduction

Considering uncertainty in the initial condition and model physics, there was a need for high-resolution ensemble based weather forecast system for region specific probabilistic prediction over India. We successfully implemented latest NCEP Global Ensemble Forecast System (based on NCEP T744 L64 resolution) and the deterministic Global Forecasting System (GFS T1534, 12km) at ITM for weather scale prediction in June 2016. Both these forecasting systems have been handed over to IMD for national operation since January 2017.

3. Results

3.1 JJAS MEAN 2016-2017

JNAS MEAN 2016-2017

JJAS 2016 and 2017

3.2 Prediction of Cyclogenesis, Track and Intensity

3.3 Prediction of Heavy Rain

4. Conclusion

GEFS T744 and GFS T1534 performed well in forecasting the south west summer monsoon 2016 and 2017. The mean and bias of rainfall show that spatial characteristics are captured well by the models. Though biases exist over particular regions like negative bias over head Bay of Bengal, positive bias over west coast and northeast India.

In general both the models reasonably captured tropical cyclones during 2016 and 2017. The cyclogenesis and tracks are captured with reasonable lead times (3-4 days). GFS (T1534) particularly captured the rain amount during heavy rainfall events. The amplitude of rain from deterministic model and its probability from ensemble prediction system provides useful guidance to operational forecasters.

Future plan is to enhance the capability by increasing resolution, number of members and improving model physics.

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