Evaluation of ensemble precipitation forecasts from NWP models in Indian River basins and agro-climatic zones

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INTRODUCTION

➢ Accurate QPFs is very helpful in various fields such as scheduling irrigation, reservoir operations and streamflow forecasting.

➢ In setting up a global NWP model, different agencies use different boundary conditions, algorithms, etc. Hence, the precipitation forecast(s) will also be different.

➢ Four Numerical Weather Prediction (NWP) models (ECCC, ECMWF, KMA, and NCEP) over the Indian region throughout the monsoon season (June to September) from 2011 to 2014 is evaluated.

➢ We looked at 23 river basins and 14 agro-climatic zones to see how accurate forecasts were compared to observation data (IMERG).

Study area and methodology

➢22 river basins and 14 agro-climatic zones of whole India is selected for this study

➢The correlation coefficient and Hit Bias is used as statistical criteria for assessing the skill of the NWP forecast products

Results
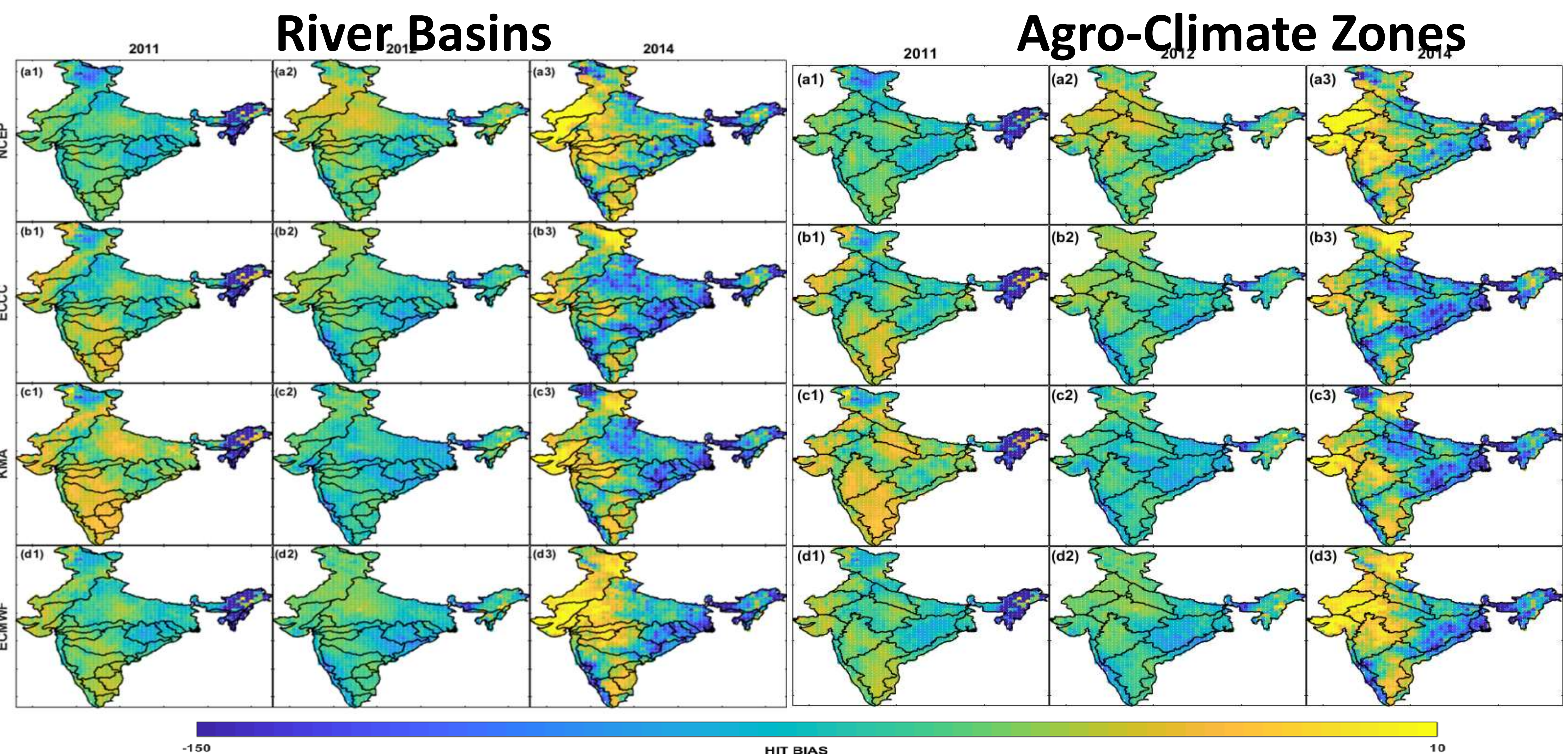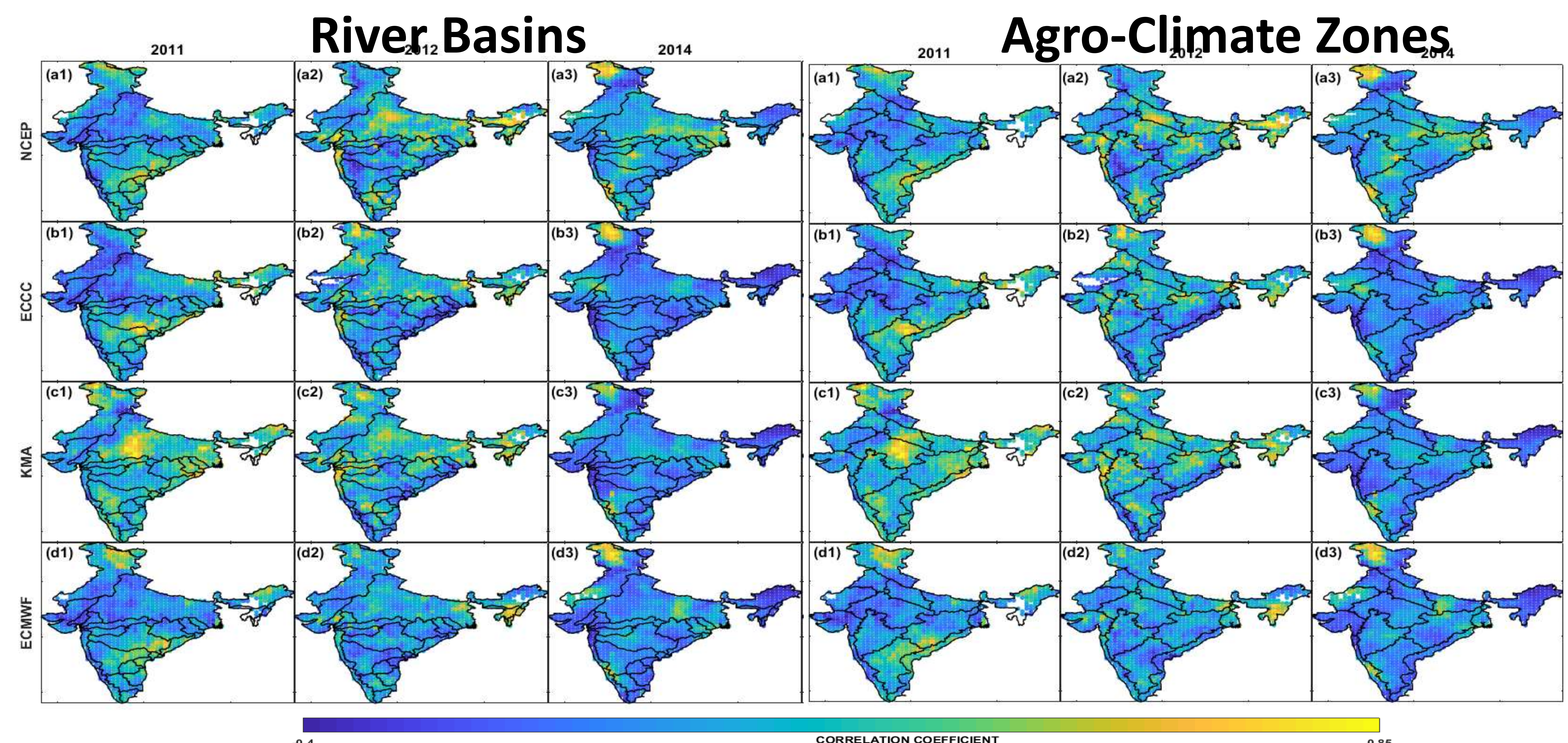
Conclusions

➢The ECMWF QPF accuracy is comparable to the ECCC, KMA, and NCEP presented in this research.

➢The western part of the country shows high accuracy, central shows moderate accuracy and southern part shows lower accuracy.