

Machine learning prediction of the Madden-Julian Oscillation (MJO)

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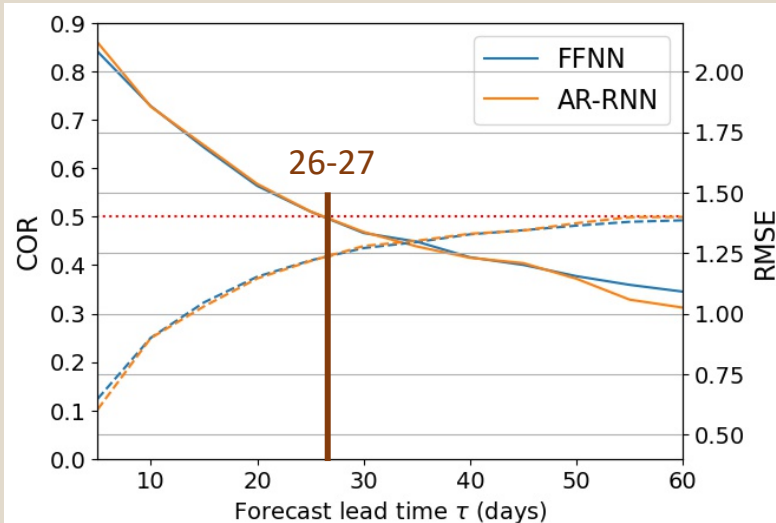
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DATASET

Real-time Multivariate MJO Index (RMM) → RMM1, RMM2 (Wheeler & Hendon, 2004)

1.1.1979 – 31.12.2020 → Train: 1.1.1979 – 11.2006, Valid: 12.2006 – 11.2015, Test : 12.2015 – 12.2020

RESULTS



Models

FFNN Feed-forward neural network

AR-RNN Autoregressive recurrent neural network (GRU)

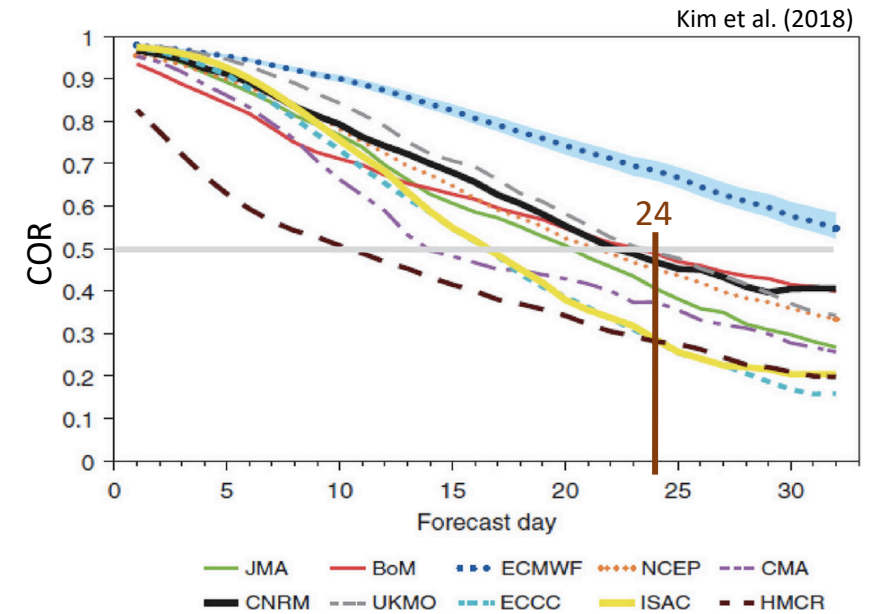
Metrics

COR Bivariate correlation coefficient

RMSE Root-mean-squared error

STATE-OF-THE-ART

Dynamical Models



CONTACT

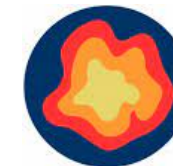
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CAFE

Climate Advanced Forecasting of sub-seasonal Extremes



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