Supporting Information for "Predictability of Tropical Rainfall and Waves: Estimates from Observational Data"

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1 | ADDITIONAL FIGURES

This section lists several additional figures for the daily TRMM data for additional information.
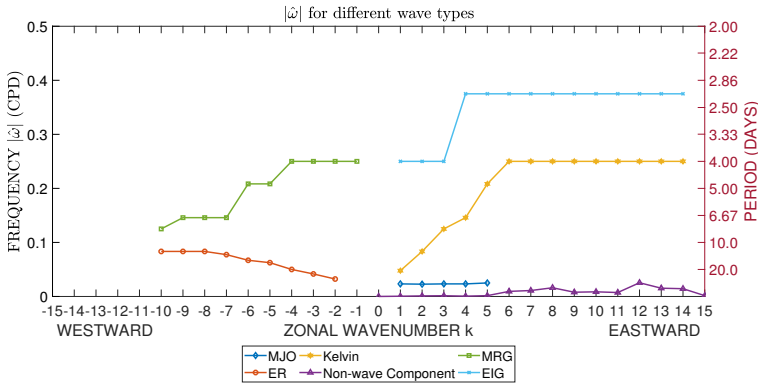

FIGURE S1 Estimated frequency $|\hat{\omega}|$ (CPD) for different wavenumbers of MJO, ER wave, Kelvin wave, Non-wave Component, MRG wave and $n = 0$ EIG wave.

In Fig. S2, the full prediction skill is the forecast skill using cOU processes modeling all wave types and the non-wave component. The decreased forecast skill is the forecast skill when we replace one interested type of waves with persistence prediction or zero prediction in the wave exclusion tests.

When the full prediction skill is zero, we manually set the percentage to be 1. For a few locations with a 200% percentage, they enssentially have very low full prediction skill. For instance, when the full forecast skill is 1 day and the decrease forecast skill is 2 days, a 200% percentage will appear. Fig. S2 is better to be viewed together with Fig.5 in the paper to catch more information and insights.

a.

Decreased Forecast Skill (Persistence)/Full Forecast Skill

b.

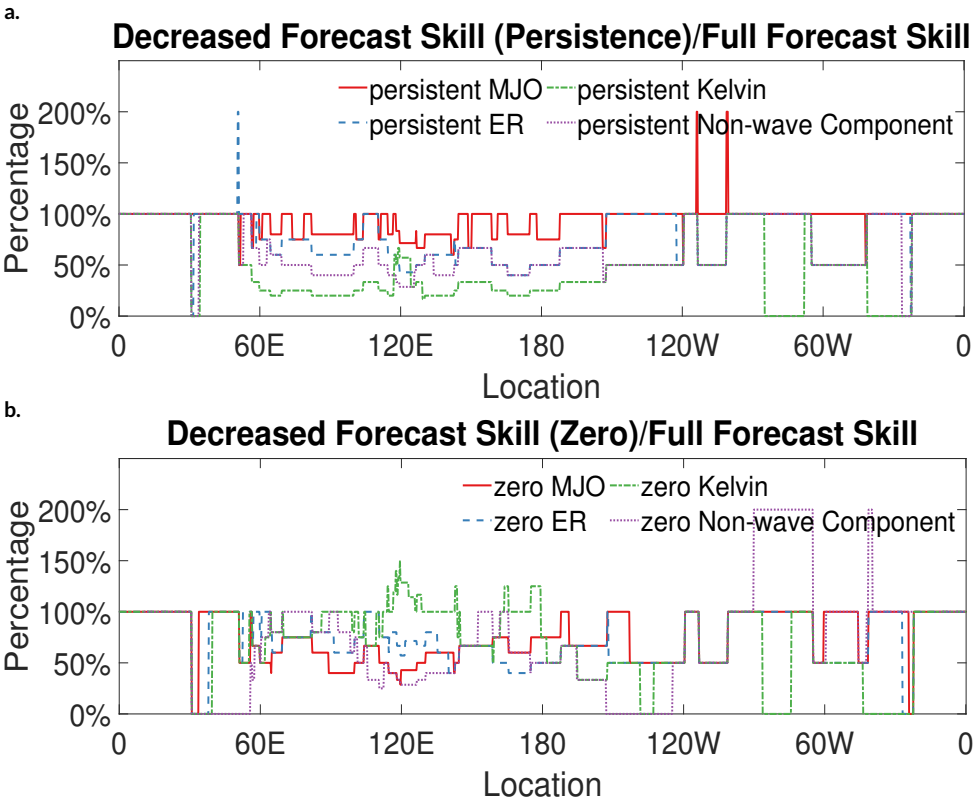## Decreased Forecast Skill (Zero)/Full Forecast Skill

FIGURE S2 Decreased forecast skill in terms of percentage of the full prediction skill in wave exclusion tests. Panel **a**: Exclude MJO (or Kelvin or ER or Non-wave Component) by replacing the cOU predictions with persistence predictions for that wave type; Panel **b**: Exclude MJO (or Kelvin or ER or Non-wave Component) by replacing the cOU predictions with zero predictions for that wave type.
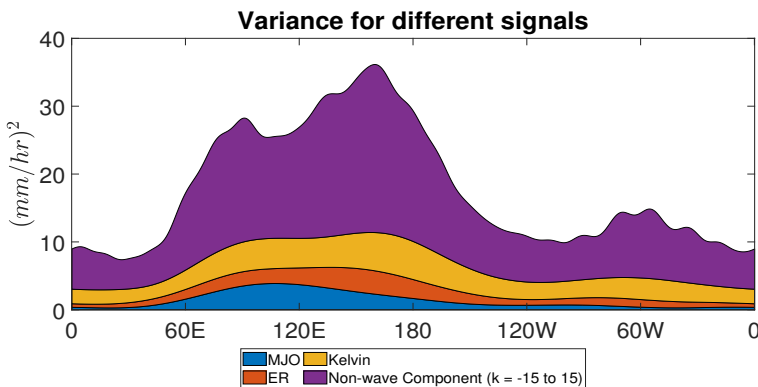

FIGURE S3 Stacked variance of MJO, ER, Kelvin and Non-wave Component.