

# Assessment of Influence of Boreal Winter MJO Teleconnection on the Extratropics Simulated by Dynamical Seasonal Forecasting Systems

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Weather events in the extratropics are influenced significantly by the Madden-Julian Oscillation (MJO) teleconnection which has intraseasonal variability in the tropics (Zhou et al., 2012; Johnson et al., 2014). This study covers the effects of MJO teleconnection on precipitation and surface temperature over the mid-latitude region, and assessment of reproducibility of these effects simulated by the dynamical seasonal forecasting systems: the Met Office GloSea5 and NCEP CFSv2. These are analyzed for each MJO phase and ENSO condition because the MJO teleconnection patterns are substantially different according to the location of tropical deep convection. When the simulated atmospheric teleconnection patterns related to each ENSO condition and each MJO phase for second week (9-16 days) are compared with observation, the GloSea5 and CFSv2 systems reproduce the atmospheric teleconnection patterns over the Northern Hemisphere reasonably well, but the amplitude of simulated OLR and 200hPa stream function anomalies is weaker than the observation. Furthermore, both models depict the phase variations of the OLR and surface temperature anomalies similarly although there is a phase delay. The pattern correlation coefficients for 200hPa stream function anomaly by forecast lead time remain above 0.5 up to 16 days from the initialization in all MJO phase in both prediction systems.

Key words: MJO, Teleconnection, Winter, Effect, Extratropics

## References

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