Supporting Information for "Exploring the Relative Contribution of the MJO and ENSO to Midlatitude Subseasonal Predictability"

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Introduction

In this supplemental material, we present two figures of which support the main analysis: CESM2-PI representation of MJO teleconnections and optimal clustering selection.

Text S1. Figure S1 shows the frequency of a positive Z500 anomaly 5-9 days following an active MJO event in phase 6/7 (Column I) or phase 3/4 (Column II) in the ERA5

(row I) and the CESM2-PI (row II) during extended boreal winter (November-March). Blue/red shading indicates that a negative/positive anomaly is more frequent 5-9 days following the MJO event. We see that CESM2-PI has a relatively good representation of the MJO teleconnection, motivating the utility of CESM2-PI for our analysis.

Text S2. Figure S2 shows the silhouette analysis (top) and elbow method (bottom) to identify the optimal number ('K') clusters for K-means clustering, particularly for samples when the network is confident and accurate during neutral ENSO conditions. Three clusters are selected for our analysis as the is where the silhouette score is maximized and the elbow method is minimized.

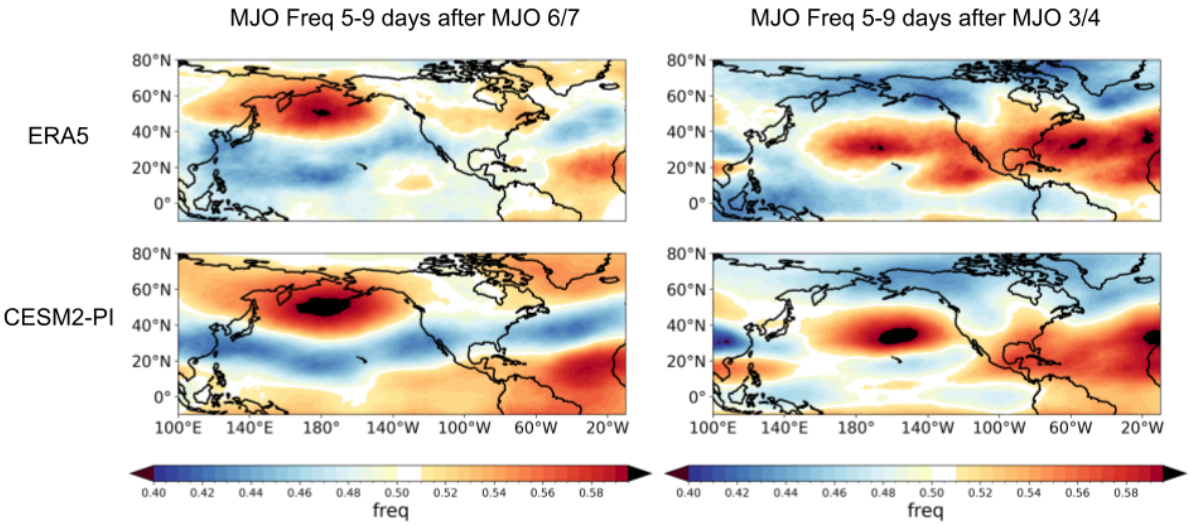

Figure S1. Frequency of a positive Z500 anomaly 5-9 days after an active MJO event in phase 6/7 (Column I) or phase 3/4 (Column II) in the ERA5 (row I) and the CESM2-PI (row II) in NDJFM. Composites span model years 100-400 for the CESM2-PI and 1979-2020 for the ERA5

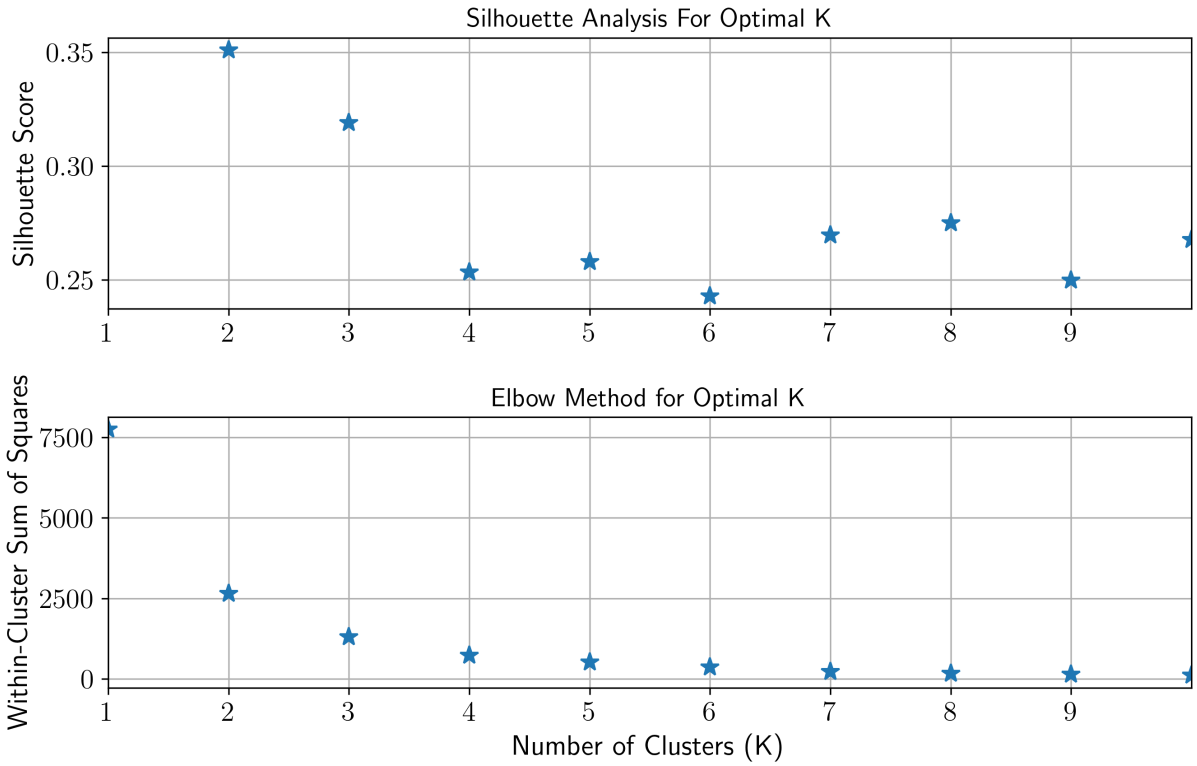

Figure S2. Silhouette analysis and elbow method for optimal selection of K clusters