MR3252: Tropical Meteorology

Paper Summary for Mundhenk et al. (2019): Please answer the following questions with as much detail as possible. Your answers may be in paragraph form or list form as appropriate.

1. What were the authors' primary research questions, goals, and/or hypotheses?

2. What motivated the authors to conduct this study?

3. How did the authors execute this research? What data and models did they use? How did they use these data?

4. What are some potential key limitations in this study, including those that were explicitly mentioned in the article?

5. What were the article's central conclusions? How did they relate to the primary research questions and/or hypotheses? (i.e., If possible, match a conclusions or set of conclusions to each research questions and/or hypothesis.)

6. A dry signal appears over California around two weeks after the MJO projects onto Phase 2 (Figure 2b). The signal only arrives in California when the MJO projects onto Phase 5. What does this tell you about propagation speed of the MJO? In other words, estimate the phase speed of the MJO based on this figure and known maps of the principal components of OLR in the MJO.

7. What is more useful for prediction of a precipitation anomaly over western North America: an MJO in Phase 2 or Phase 5? Why?

8. What is the QBO? How might the QBO enhance predictions of MJO teleconnections with mid-latitude Rossby wave patterns?