

Review V3 for “Classification of Large-Scale Environments that drive the formation of Mesoscale Convective Systems over Southern West Africa” by Nkrumah et al.

Overview

Overall, the latest iteration of the present manuscript has included an extended set of nodes, which, in my view, has improved the coherence of the paper. From my side, there are only minor revisions.

General comments/questions on the responses

- The aspect of different within-season states is an interesting one as they can transition across each other within days. Therefore, can the authors further, but briefly, elaborate on potential dynamical sources of these transitions? From Fig. 4, it appears that low to midlevel westerlies are more pronounced in the top row compared to the rest, which might show the impact of extratropical signals. Overall, these transitions seem to have an impact on the probability of MCS occurrence (Fig. 8), which warrants at least a short evaluation.

Other specific comments/questions

- L135: “TCWV represents the precipitable water the atmosphere holds better than the humidity.” I do not get this sentence.
- L140: “km²”. Set the “2” in superscript.
- L182: “Based on 6 different large-scale node patterns ...” Should be nine!?
- Fig. 3: Colours + patterns for the within-season nodes are visually not necessarily well distinguishable. It helps though that the bars are ordered the same way as in the legend.
- Fig. 8: It appears to me that signals in node 1 are dominated by land-sea breeze convection along the coast which are gradually suppressed in node 4 and 7. Therefore, the large-scale settings seemingly facilitate such rather local-scale developments. Maybe the authors can briefly pick up on this in the text.
- L359: “... reveal a widespread increase in zonal wind shear anomaly...”. But in this case, it means (mostly) a weaker westerly shear? The authors may work with directional indications for clarity.