Review of "An Observational Perspective on Precipitation Efficiency of Mesoscale Convective Systems over the Asian Monsoon Region"

Editor comment

Thank you for nicely addressing the reviewers' comments!

I am happy to accept the manuscript, but I have one last minor question.

I cannot wrap my head around the fact that there are so few "warm anvils." In my view of tropical convective systems, particularly in areas of large-scale ascent such as the tropical Pacific, I thought conditions would be favorable for the maintenance of widespread thin anvil cloud shields. These anvil clouds may not necessarily have warmer cloud tops, but they can become semi-transparent in the longwave spectrum, thus appearing "warm."

However, your snapshot in Figure 1c clearly shows that this does not appear to be the case in your study area. Why?

Also, are warm anvils statistically meaningful given the small number of such systems?

I would appreciate a brief comment on these points in your manuscript.

Thank you for pointing this out. The warm-anvil pixels were inadvertently excluded by the masking applied in the original plot. We have corrected the masking and updated Figure 1c, which now displays the warm-anvil regions.

We further quantified the cloud-type fractions over the complete study period and found that warm anvils occur in 94.1% of the MCS tracks represented in the cloud-type dataset. Thus, warm anvils are not limited to only a few systems; rather, they generally occupy a small area within each system. They account for 1.67% of the total classified MCS cloud area, compared with 53.06% for cold anvils and 45.27% for convective cores. At the individual-track level, the median warm-anvil fraction is 1.46% (interquartile range: 0.74–2.61%). The warm-anvil fraction in the Figure 1c snapshot is 1.82%, close to the complete-period value, indicating that the snapshot is typical of the study period.

The small warm-anvil fraction likely reflects both the dominance of extensive, optically thick cold cloud shields in the Asian monsoon MCSs and the infrared-threshold-based classification. Thin or semitransparent cirrus surrounding the systems may not consistently satisfy the cloud-temperature and MCS-tracking criteria and may therefore be underrepresented in the tracked warm-anvil category. The warm-anvil ϵ analysis nevertheless contains 248,703 pixel-time observations with narrow bootstrap confidence intervals, although we now note that these results should be interpreted more cautiously than those for the more extensively sampled regions.