Response to Referee #2

Original referee comments are in blue.
Our responses are in black with regular font format. Text from the updated manuscript:

Appears in italics with 1⁄2 inch indentation with the removed parts exhibited with a ~~strikethrough~~ and red color while new text added is shown in green.

RC2 comments:
- The sentence 'Precipitation, CWV, and LWP may not change significantly directly above the cloud scale (~1-10 km, from shallow to deep)' appears somewhat unclear.

Here, we would like only to provide an order of magnitude instead of defining an accurate spatial scale. For this purpose, the sentence was updated as follows:

Line 158-159:
Measurements of precipitation, CWV, and LWP are influenced by the cloud cover around the instrumentation location. Given that shallow-to-deep convection typically spans a spatial scale of approximately 1-10 km, our analysis is likely to generalize well across a spatiotemporal scale of one hour and a few kilometers.

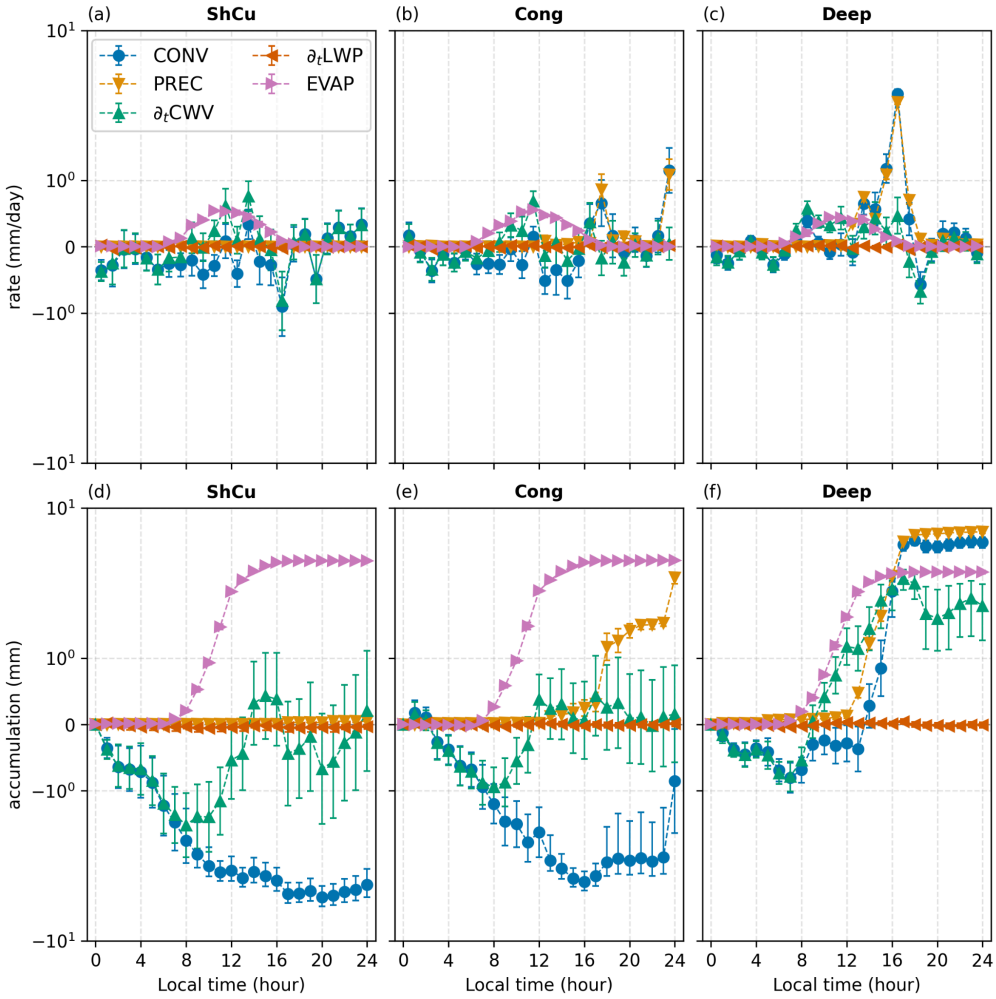
- The statement 'A mixed-layer parcel immediately above the surface to 100 hPa is used as the initial state for the parcel's ascent Stull (2016).' could be misinterpreted and needs rephrasing for better clarity. It appears to imply that the mixed layer extends from the surface to 100 hPa, which is not accurate.

The sentence was updated as follows:

Line 113-114:
A mixed-layer parcel immediately above the surface, extending to a depth of 100 hPa, is used as the initial state for the parcel's ascent Stull (2016).

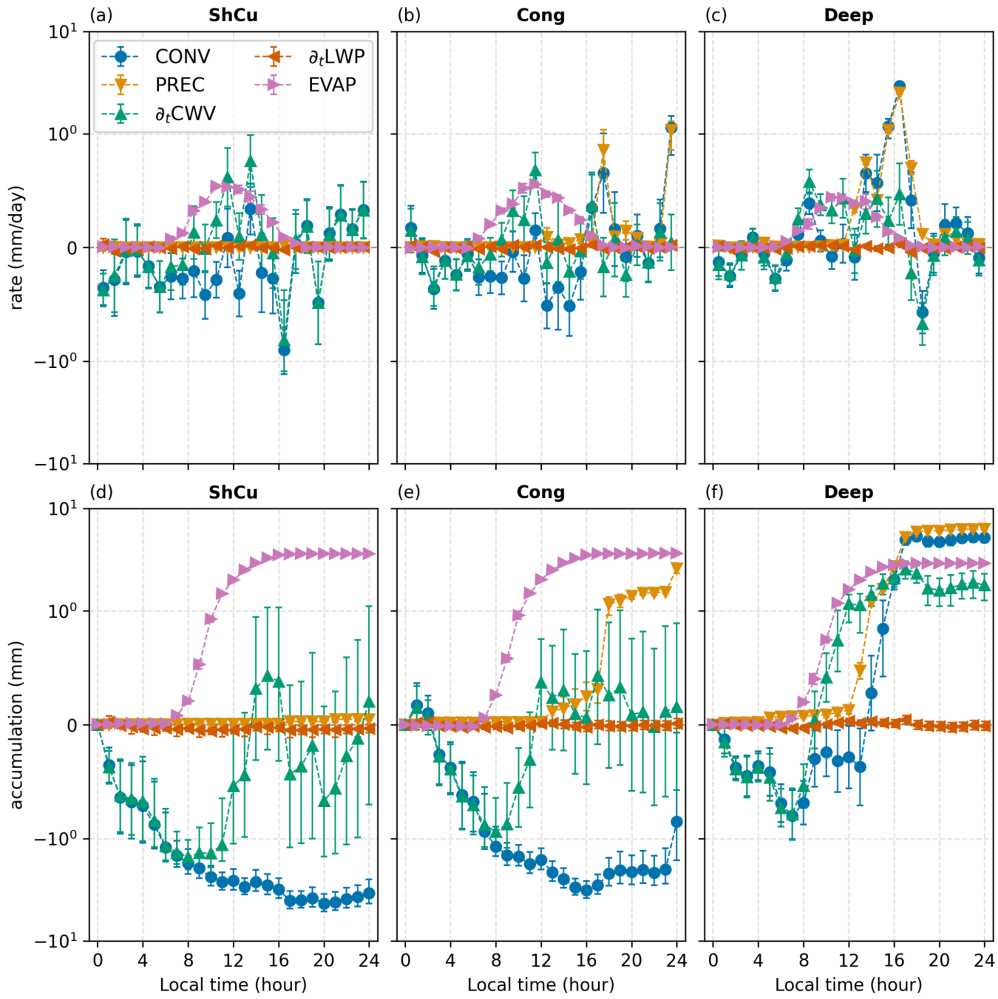
- For Figure 9, the authors did not understand my previous suggestion to use a symmetric-logarithmic scale. More information can be found at this link: https://stackoverflow.com/questions/3305865/what-is-the-difference-between-log-and-symlog.

Thanks for your suggestion. Indeed, the symmetric log scale can be used to rescale the y-axis of Figure 9 (water budget). The resulting figure is shown below:



The visualization of this figure is somewhat impaired due to the presence of too much information within the same range of rate values: [-1, +1] mm/day. However, this issue persists for both the linear and symmetric log scales. Thus, the figure above does not provide an improvement over the previous figure using the linear scale.

We attempted to modify the parameter linthresh (https://matplotlib.org/3.3.3/api/_as_gen/matplotlib.colors.SymLogNorm.html) to achieve a more detailed visualization of small values in the range [-1, +1] mm/day, but the results are unsatisfactory. For example, the figure below corresponds to linthresh = 1:



Note that as the linthresh is reduced, the error bars will significantly affect the visualization of rates in the range of [-1, +1] mm/day.

Therefore, the symmetric log scale does not actually improve the visualization of small rates and increases the complexity of interpreting values on an uncommon scale. Thus, we believe that the original figure should be maintained in the manuscript.

We hope these answers provide clarifications and responses to the comments raised in this revision.