Reply on RC1
Bjorn Stevens et al.

Author comment on "EUREC4A" by Bjorn Stevens et al., Earth Syst. Sci. Data Discuss., https://doi.org/10.5194/essd-2021-18-AC1, 2021

We thank the reviewer for their encouraging comments, and suggestions for improvement. We have addressed all the comments as suggested. On the more substantial points:

- We have analyzed the diurnal cycle over the BCO at the surface and at 400 me and compared these to near surface measurements from the Meteor. A diurnal cycle is evident in both locations, and is similar but substantially more pronounced (1.27 K vs 0.53 K) at the BCO. This is now discussed in the manuscript.

- We analyzed the 3hr changes in Ragged Point CCN measurements. These are usually less than 10%, and 80% of the time less than 30%. Given the much larger changes over periods of day and that an analysis period roughly corresponds to the 3hr period of the ATR, Twin-Otter and HALO circling, this is encouraging for the utility of the data for exploring aerosol-cloud interactions

The other minor comments were addressed by discussing the adequacy of the measurements for measuring the diel cycle and addressing the data availability question -- most data is already available. Technical comments were addressed as suggested.