

We thank the reviewers for their generally positive reaction and appreciate the guidance as to where we were unclear. In general we have adopted reviewers' very helpful editorial suggestions without detailing each change below.

Since the manuscript was originally submitted we have finished the post-processing of the last dataset, namely the in situ cloud microphysics probes. Section 4.1.3 has therefore been heavily revised and now includes an example figure.

## **Reviewer 1**

It would be helpful to increase the font size of the figure axes labels. They are a bit difficult to read, even in the electronic version.

Thanks, this was a good suggestion that we've adopted.

### *Specific comments*

Figure 1. It would be helpful to increase the size of the key and if possible have larger contrasts between some of the colors. The axes are not labeled. I think some of the caption would be better placed in the text.

We have increased the size of the key as suggested. We have kept the existing color scale but now note explicitly that we have chosen a continuous set that spans the experiment so days that are close in time are also close in color. We have also kept the details in the caption as these were included to explain aspect of the figure that readers might be curious about.

Section 4.1.3. It would be good to produce the same quicklooks from all the aircraft that measured aerosols and cloud microphysics. Perhaps a note could be added to that effect in this paper.

This is a good idea which we hope to pursue but goes well beyond the scope of the paper (and requires coordination with the two other aircraft making similar measurements).

Line 237. It is difficult to see if T increases with height -- stable layer? Is it possible to provide a reason for the one outlier relative humidity profile?

By "inversion" we mean a layer of static stability, not necessarily temperature increasing with height. We now comment on the outlier dropsonde, if only to say we don't yet understand this measurement: "One of the twelve sondes shows much lower humidity from 1.5 - 2.5 km than do the others; we are assessing the all the dropsonde circles to understand if this is common or an instrumental artifact."

Section 4.2.2. It would be useful to know if the variation in temperature measured is quite normal for such a spatial scale. Provide a reference?

We have added a sentence to section 4.2.2: "Submesoscale and mesoscale eddies, fronts, and filaments in the ocean contribute to localized temperature gradients within this region (see also Fig. 4 in Quinn et al. 2021)"

## Reviewer 2

It might be more helpful if the article gives a short description of how the sampling strategy supports the individual objectives or hypotheses of the overall ATOMIC/EUREC4A project.

An overview paper for ATOMIC, currently in preparation, will make these connections.

Figure 3 would show better if you use different colors to denote the measurements from the two data sections. Particularly, it would allow the readers to see the comparison between the dewpoint sensor and the isotopic analyzer for each profiling period...

We have distinguished the two periods in Figure 3a by using circles for one period and squares for another.

It would be nice if turbulence were part of the measurements to make the dataset even more complete

The P-3 doesn't have instrumentation devoted to, e.g., turbulent fluxes. We have added a sentence to section 4.1.1, on the post-processed flight data: "The dataset includes measurements of vertical velocity measurements made at 1 Hz; these represent the only in situ measurements of turbulence made by the P-3.