Answer to anonymous Referee #2

The attached document comprises a lot of editorial and language suggestions which highly improve the quality of the paper. I deeply thank the referee for these comments. I have taken all of them into account into the document.

Going back and forth between the various plots is also a bit cumbersome.

>>>> The different figures have been moved and are now following the corresponding sections. The plots have been clustered in two sets of figures: one for the satellite-derived data sets and one for the re-analyses.

I suggest restructuring the paper to make it easier to read. Key results are also hidden in the middle of the paragraphs of repetitive text.

>>>> Thank you for this comment. We fully agree. Discussion and results sections have been restructured to improve the clarity and organization of the presentation and to avoid repetition in the description of the statistics for each data set.

I would also suggest that the main results and what makes this study different to the ones you have referenced widely are made clear for the reader.

>>>> The text have been revised in the discussion part in order to make clear for the reader what makes this study different to the ones referenced and the innovation.

Perhaps give the buoys names other than their lat/lon coordinates?

>>>> As far as we know, the PIRATA buoys appellation is not an official one. In all the document provided on the PIRATA website (https://www.pmel.noaa.gov/gtmba/pirata), the buoys are named by their lat,lon. To avoid confusion, we have decided to keep this appellation, even though it is unusual.

State why you used TOA on page 5 line 4.

>>>> The paragraph following table 1, line 6-10 p5 and 1-7 p6 has been modified in order to highlight the use of KT index, and so on TOA.

I'd suggest a table for the datasets described in sections 1.2

>>>> Thank you, we have added a table (Table 2) which describes the characteristics of the five data sets.

1.2-1.7 The text in these sections is repetitive and could be tightened.

>>>> Sections have been reshaped in order to avoid repetition. The three satellite data sets have been brought together in section 1.2. The two re-analysis data sets have been brought together in section 1.3.

You've looked at cloud cover – could you consider using integrated cloud condensate instead as it provides more information?

>>>> The cloud cover is a meteorological variable expressed in okta. We have not looked at the cloud cover because we do not have this information. CRS data set is providing the fraction of pixel covered by cloud, usually called cloud coverage, which is not the cloud cover. The text has been modified to make it clear, l20, p7. CRS data set does not provide the water/ice content.

Tables 2-4 – fix caption. Some plots of these values would be more useful and may highlight the trends better.

>>>> The different tables have been re-structured following the recommendations of the reviewers in order to make to improve the clarity of the content. We have combined the satellite-derived data sets on the one hand and re-analysis data sets on the other hand to better see the trends.

Results section should indicate what you've plotted before being discussed in the next section. – Ensure all figures included are discussed – if not, remove unmentioned ones.
Discussion section needs restructuring to eliminate the repetition. - Also ensure key results are clear.

>>>> The sections "Results" and "Discussion" have been rewritten and we have taken these comments into account.

A lot of your results are consistent with other studies – please highlight the novel aspects of your study.

>>>> As already mentioned above, the text have been revised in the discussion part in order to make clear for the reader what makes this study different to the ones referenced and the innovation.

Can you do further analysis to investigate exactly why the reanalysis products are worse.

>>>> We are not knowledgeable enough to do such a new investigation. Other researchers are investigating these aspects.

Make it clear why you include hourly and daily results.

>>>> A paragraph has been added in Section 1.8 explaining that the study has been conducted on daily values for several reasons. One reason is that the performances may differ across these different time-scales. Another reason is that the daily values are the basis for constructed the monthly and yearly means, which are used in climatology. In addition, dealing with daily values allows comparing our results to already published works as it will be seen in Section "Discussion".

Figure 3 – a different scale would mean less white space. Also looks too digitised.

>>>> The figure has been regenerated taking into account this comment.

Figure 4 – refine the scale used.

>>>> The figure has been regenerated taking into account this comment.

Figure 5 – contour bar too long relative to the plots

>>>> The figure has been regenerated taking into account this comment.