

Reply on RC1

Qing Yue et al.

Author comment on "Evaluating the consistency and continuity of pixel-scale cloud property data records from Aqua and SNPP (Suomi National Polar-orbiting Partnership)" by Qing Yue et al., Atmos. Meas. Tech. Discuss.,
<https://doi.org/10.5194/amt-2021-391-AC2>, 2022

We would like to thank the reviewer for the encouragement on this study and the suggestions on our manuscript. Below we have responded point by point to all the comments. Line numbers and page numbers are based on the revised version (clean version). **The reviewer's original comments are in bold** and the revised text is shown within quotation marks.

- **Line 46, "The 2017 US National Academy Decadal Survey (ESAS 2017)", should this be 2018 instead of the 2017 Decadal Survey?**

We followed the example given by <https://www.nationalacademies.org/our-work-decadal-survey-for-earth-science-and-applications-from-space>. The 2017-2027 Decadal Survey for Earth Science and Applications from Space is referred to as ESAS 2017. The report "Thriving on Our Changing Planet: A Decadal Strategy for Earth Observation from Space" was published in 2018.

- **Line 183, please specify what exactly version of ECMWF data was used here.**

We revised the description on the ECMWF data used in the AIRS V7 SCCNN and added version information on Line 188-191: "trained using a few months of AIRS/AMSU radiances and European Center for Medium-Range Weather Forecasting (ECMWF) Integrated Forecast System (IFS) 3-hourly forecast fields that are collocated to AIRS (including updates since Version CY31R1: <https://www.ecmwf.int/en/forecasts/documentation-and-support/changes-ecmwf-model>) (Milstein and Blackwell 2016)."

- **Line 191, Hook (2019) was cited here for the CAMEL surface emissivity. This might be OK. But the CAMEL has two formal publications, <https://doi.org/10.3390/rs10040643> and <https://doi.org/10.3390/rs10050664>. The authors might consider these two papers as references here.**

Thank you. We have added the two publications to our reference for CAMEL surface emissivity.

- **In the legend of Figure 2, "MODIC Con." Should be "MODIS Con."**

Thank you. The typo has been corrected.

- **In figures 15-18, the arrangements of the bar plot are a bit confusing. For two groups, "No Mask" and "Mix/Uncert", are bars arranged in the same order as in other groups? It looks not like the case on my screen.**

Thank you for catching this error. We found that wrong colors were used in the previous version. This error has been corrected in fig. 15-18.

- **There are five places that an "i" is missing in "Cloud_Phase_Optical_Propertes".**

Thank you. The typo has been corrected.