**Response to Associate Editor**

This manuscript explores the connections between "cloud impact parameters" and the environmental dynamic and thermodynamic variables. The cloud impact parameters, proposed in 2002 by Bretherton and Sobel, represent the degree to which clouds cool the surface or heat the atmosphere. The manuscript is poorly written, and the goal/key findings are unclearly presented in the current form.

While the first two reviewers are positive about the manuscript and suggest minor revisions, I found that comments from the 3rd reviewer are important. I went back to read the following paper (same authors, same datasets, same parameters, same topic)-

Daloz, A., E. Nelson, T. L'Ecuyer, A. Rapp, and L. Sun, 2018: Assessing the coupled influences of clouds on the Atmospheric Energy and Water Cycles in Reanalyses with A-Train Observations. J. Climate. doi:10.1175/JCLI-D-17- 0862.1.

and tried to understand if the current manuscript is substantially different from their 2018 paper to warrant a chance of major revisions. I found, although 3 out of 5 figures in the manuscript are new, the understanding and discussions are rather similar. I agree with the 3rd reviewer that the analysis is shallow and could use improvements. I feel the content of the manuscript is way too thin to meet the standard of JGR. Therefore, I suggest rejecting it and ask the authors to consider 1) strengthening their analysis and discussions, 2) comparing and contrasting their results (since they are supposed to gain insights using data at smaller scale than their 2018 paper), and 3) improving the quality of the manuscript presentation.

Thank you for your comments on this manuscript. We believe we have addressed your comments as well as those of the other reviewers. We have deleted figures that reviewers found redundant with prior work and added several new figures that we believe go toward strengthening the analysis and discussion, added a new figure to show contrast our analysis at shorter timescales with our previous paper, and performed additional editing to improve the quality of the manuscript presentation. While this is a follow-on to our 2018 work, this manuscript makes several important new contributions: 1) demonstrates an increasingly large bias in precipitation-radiation coupling at the shorter timescales at which convection occurs (new figure and discussion), 2) provides evidence that thermodynamic variations are a stronger control on precipitation-radiation coupling than dynamic regime, and 3) explores the contribution of biases in how the reanalyses’ couple precipitation-radiation associated with convection and the environment (2 new figures and discussion).