Response to Reviewer's Comments:
(*Authors' responses are in italic and in blue color*)

Reviewer 1:

I would like to thank the authors for a clear response to my questions. I think the new additions significantly improve the uncertainty discussion. Further, thank you for clarifying my misunderstanding of the optical depth. I think the revised figure that includes the integrated and raw values is useful. I only have a few minor clarifications that I would suggest before the final submission. Specifically, I am still a bit confused by response related to the omitted cloud types. My comments are below.

I appreciate the reviewer's comments and suggestions. I totally agree with the reviewer that the manuscript has improved greatly following the reviewers' suggestions.

Page 11 line 1: Fix "the cloudsat"

It seems there is no error here. I double checked the "CloudSat" throughout the manuscript and made sure they are all correctly spelled.

Line 15 pg 20 :

"Of all the profiles in every month from October 1997 to September 1998, the profiles with snow, drizzle, liquid cloud+drizzle, rain, haze, or uncertain retrievals account for 11.6%, 17.0%, 7.3%, 9.0%, 7.3%, 10.5%, 9.1%, 4.9%, 10.1%, 22.3%, and 20.8%. Majority of all profiles have been used in deriving the results in this study."

The percentages for these categories do not match. There are eleven numbers and only six categories mentioned. Further, the summation exceeds 100%. Please clarify this part and provide the proper respective categories. It would be helpful to include the percentage of the 10 categories and also add an all-inclusive statement, such as "XX% of all profiles were included in the CRF analysis and XX% were omitted due to uncertain retrievals". Finally, I would provide these percentages on Page 4 line 5.

Sorry the confusion. Actually, these percentages are exactly the reviewer suggested. I just did not explain them clearly and missed one number.

These percentages are the ratios of numbers of profiles that include any of these 6 categories (snow, drizzle, liquid cloud+drizzle, rain, haze, or uncertain retrievals) to all profiles for each month from October 1997 (including October 1998 for October ratio) to September. There should be 12 numbers. However, I missed the last one (September 1998). In the revised manuscript, I added the number for September 1998 (12 numbers for 12 months, and October include October 1997 and October 1998), and modified the text to clarify.

The revised texts are: "The study focuses on the impacts of active satellite sensors' low-level cloud detection limitations on cloud radiative forcing, so vertical profiles including snow, drizzle, liquid cloud+drizzle, rain, haze, or uncertain retrievals were excluded in calculating the CRFs. There are over 30,000 profiles in every month from October 1997 to September 1998, except that the total profile numbers are around 15,800 in October, which includes October 1997 and October 1998. Of all the profiles in each month, the profiles including any of the 6 conditions, i.e. snow, drizzle, liquid cloud+drizzle, rain, haze, or uncertain retrievals, account for 11.6%, 17.0%, 7.3%, 9.0%, 7.3%, 10.5%, 9.1%, 4.9%, 10.1%, 22.3%, 20.8%, and 10.6% from October 1997 to September 1998. Majority of the profiles, equal to or more than 77.7% in all the months, have been used in deriving the results in this study."

Page 17 Line 6. Add Fig 10 reference.

Added.

Fig 10 and 11: "Please note that cases with absolute differences less than 2 Wm-2 are the majority while excluded in the histogram in Figure 10".

Could you include a percentage as " the majority" is vague.

Numbers have been added. In the last round of revised manuscript, the 2 Wm-2 has been updated to 1 Wm-2 in plotting the figure, but the text was not updated. In this revised manuscript, I updated this change, and also added the ratios of cases outside 1 Wm-2 to all cases.

Section 3.3 "It should be noted that a more sophisticated detection scheme…."

You could combine the CloudSat and CALIPSO statements to reduce redundancy of this statement.

The text has been cleaned up.