Response to Review #1

This is a straightforward and useful paper, and it is basically publishable in its present form. I don't have any significant criticism, just a few minor suggestions for the authors to think about:

I found the description of Fig. 1 on page 22098-9 to be confusing and a bit hard to follow. Think about re-phrasing for clarity.

We tried to clarify ambiguous sentences describing Figure 1. All changes are made using MS Word track changes in a separate file.

I did not quite understand why NICAM is underestimating the CRF bias. Could that be explained? Is the NICAM's water field problematic?

It has been noted that the NICAM in general produces drier boundary layer, wetter lower troposphere below 600 hPa, and drier upper troposphere (see Figure 2 of Liu et al. 2009), possibly causing higher outgoing longwave radiation (see Figure 15 of Inoue et al. 2008). Inaccurate water vapor distributions might be one factor contributing to the smaller CRF bias. However, considering that CRF bias is not only related to water vapor distributions but also related to the contrast in water vapor between clear sky and all sky, there should be many other factors influencing the CRF biases, such as cloud amount and water vapor redistribution associated with cloud development, and large-scale circulation pattern and intensity. Because of such complicated interactions between large/small scale atmospheric circulations and water vapor/cloud fields, we are afraid of saying that it may not be possible to diagnose the main reasons of causing smaller biases from the current study.

Liu, P., M. Satoh, B. Wang, H. Fudeyasu, T. Nasuno, T. Li, H. Miura, H. Taniguchi, H. Masunaga, X. Fu, and H. Annamalai, 2009: An MJO simulated by the NICAM at 14-km and 7-km resolutions. Mon. Wea. Rev., 137, 3254-3268.
Inoue, T., M. Satoh, H. Mirua, and B. Mapes, 2008: Characteristics of cloud size of deep convection simulated by a global cloud resolving model over the western tropical Pacific. J. Meteor. Soc. Japan, 86A, 1–15.