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Authors' Messages to the Editor

Date: 26 February 2016

Title: A numerical study of back-building process in a quasi-stationary rainband with extreme rainfall over northern Taiwan during 11-12 June 2012

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Dear Prof. Wernli,

The comments/suggestions to our paper from the two reviewers are deeply appreciated, and the paper has been revised accordingly. In the revision, much of our efforts are devoted to: (1) better place our study within the background context and note the important roles played by frontal and terrain forcings (at scales beyond the storm scale) in the present case, and (2) clarify that our goal is to study the back-building (BB) process (as stated in our title and text) at convective scale within the quasi-linear MCS (developed under the larger-scale forcings mentioned above), since the BB process is also a contributing factor toward the total rainfall in this case, as in many other extreme rainfall events caused by convective lines.

Between the two reviewers, Reviewer 2 is more critical and commented that the frontal and terrain forcings, in his/her opinion, are more important factors leading to the heavy rainfall, and their roles should be pursued in the study instead of the BB process. However, in extreme events such as the present case, there are nearly always several factors and forcings working in synergy across a wide range of scales to lead to their occurrence, and they are seldom (if ever) resulted by a single process. For example, after Typhoon Morakot (2009), there are probably at least 30 papers studying different aspects of the event, and the same is true for many other extreme events. Thus, each contributing factor (and the interactions among them), in our opinion, is worthy for study, if the results can help us better understand the full picture of the event. In the revision, as mentioned above, we have clarified our research focus to be the BB process (at convective scale) rather than those other larger-scale forcings. We also hope that you, as the editor in charge, can agree with our position that the issues like the BB process in our study are also worthy of investigation, even if they are not deemed as the "most important" factor (or factors) by a particular scientist.

Sincerely yours,

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