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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Dominant processes of extreme rainfall-producing mesoscale convective system over southeastern Korea: 7 July 2009 case" *by* J.-H. Jeong et al.

Anonymous Referee #2

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Comments on the paper" Dominant processes of extreme rainfall producing Mesoscale Convective System over Southeastern Korea: 7 July 2009 case"

1. Major comments

This paper discusses physical processes related to an extreme rainfall-producing MCS. However, for its publication, it needs some revisions as the followings; (1) change of the title of the paper: I suggest the following title: " Characteristics of a Mesoscale Convective System Produced Extreme Rainfall over Southeastern Korea: 7 July 2009"

(2) 3. Synoptic and thermodynamic environment (i) The horizontal length of Changma front should bed mentioned. (ii) The convection over southwestern Korea redeveloped

vigorously, and had expended in size area north of the front. Describe the evidence of redevelopment of the convection over southwestern Korea in detail. (iii) At this time, the organized MCS was moving across the southern Korean Peninsula. The moving speed of the system should be given. (3) 4. Structure and evolution of the quasi-stationary MCS. (i) page 13: The following sentence is not relevant and should be deleted: “The characteristics of the areal-mean .....some variability is neglected”. (ii) This is consistent with the results from previous studies (add references).

(4) 5. Discussion (i) The title “ discussion” should be changed as the following “ Analysis results and discussions. (ii) In addition, some grammatical errors such as,” To understand why convective initiation could occur continuously upstream (southwest flank) of system, we will examined how preexisting mesoscale features influence the system“. The manuscript needs to be edited for grammar and syntax to improve the article to be more readable. (iii) The magnitude of vertical wind shear should be given for Fig. 12. (iv) Concerning Figs. 13, a and b, detailed explanation should be given on how the figures were obtained.

2. Reviewer’s recommendation This paper seems to be very useful for researchers who are working for extreme rainfall. This paper shows a different aspect of the synoptic and mesoscale environment in which an extreme rainfall event was developed in Korea, compared to the previous studies. The event is very unique and thus the study might be a good reference for future study on very heavy rainfalls. Therefore, this paper is recommended for its publication with corrections as suggested in the major comments.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 3, 6459, 2015.