Interactive comment on "Little evidence for super Clausius–Clapeyron scaling of intense rainstorm properties with air temperature" *by* P. Molnar et al.

Anonymous Referee #2

Received and published: 29 August 2014

This is a well written paper which presents a detailed assessment of Clausius Clayeperon scaling coefficients using 50 locations with hourly observations 30 years long in Switzerland. The analysis asks a number of questions with the key question and contribution being whether the so-called super-clausius clayeperon scaling identified by Lenderink and van Meijgaard, 2009, is indeed visible in the data being analysed.

I dont have any major comments on the paper, except two suggestions that may help bring this work out more clearly. These suggestions are as follows:

1 - I request the authors to use the same analysis techniques they have adopted here to some of the records that were used to identify super CC scaling in the Lenderink and van Meijgaard paper. It would be worthwhile for readers to appreciate and under-

stand why this scaling was visible in the other data and not here. Some attempt at an explanation for this would be excellent to include in the revised paper.

2 - Given that we are comparing two datasets if authors implement the suggestion above, the issue of sampling variability in their estimation procedure becomes especially important. I feel for this comparison to be even more legitimate, the authors should use the quantile regression approach presented by Wasko and Sharma 2014, as the basis for assessing the scaling coefficients, and especially for incorporating the effect of covariates as has been done in this study. I realise this might be a bit of work and may not lead to significant changes in conclusions, but any reduced variability in the estimates might help explain why the super clausius clayeperon shows up in one part of the world, and not in another region not too far away. My suggestion is because that study quite clearly shows that the variability in the estimate is smaller than the usual binning based approaches, and also that it results in a lower bias which can inadvertently get introduced otherwise.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 11, 8923, 2014.