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www.nat-hazards-earth-syst-sci-discuss.net/1/C2735/2014/

Natural Hazards and Earth System Sciences
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Discussions

Interactive comment on "Multilinear approach to the precipitation–lightning relationship: a case study of summer local electrical storms in the northern part of Spain during 2002–2009 period" *by* I. Herrero et al.

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Thank you for the comments about the paper. They have been very helpful and we think that they can be used to improve our article.

First, we will try to answer the basic questions that, as we understand it, are similar in both referees, namely, a) why we use lightning data for the rain estimates and b) how significant is the use of precipitation data collected in one point to estimate the rain in the rest of the observational area.

Second, we will answer the comments affecting the formal questions, and make some change suggestions.

All this is in the pdf document in the supplement.

Please also note the supplement to this comment:
http://www.nat-hazards-earth-syst-sci-discuss.net/1/C2735/2014/nhessd-1-C2735-2014-supplement.pdf

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 1, 6467, 2013.

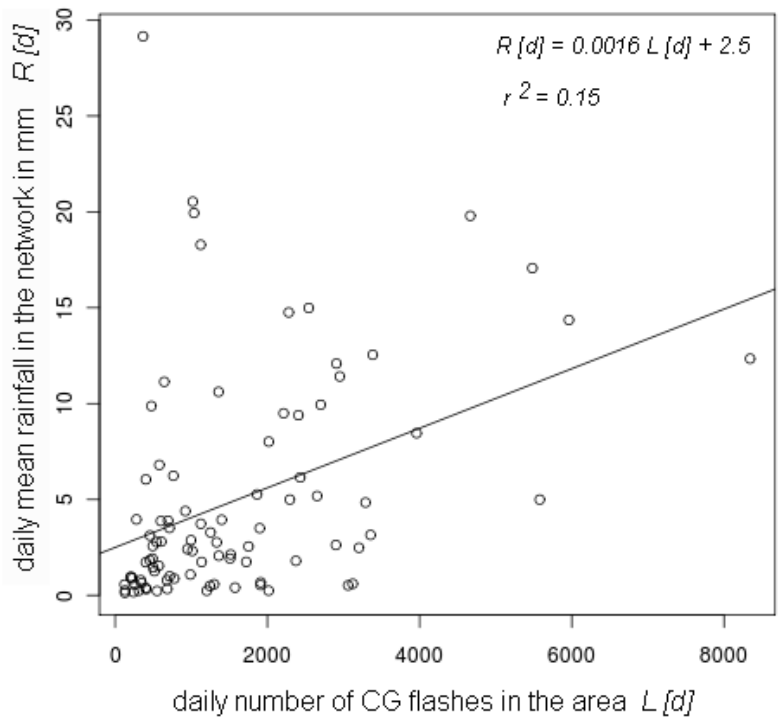

Fig. 1. Fig. 2a. Daily precipitation–lightning relationships with data of the whole area.

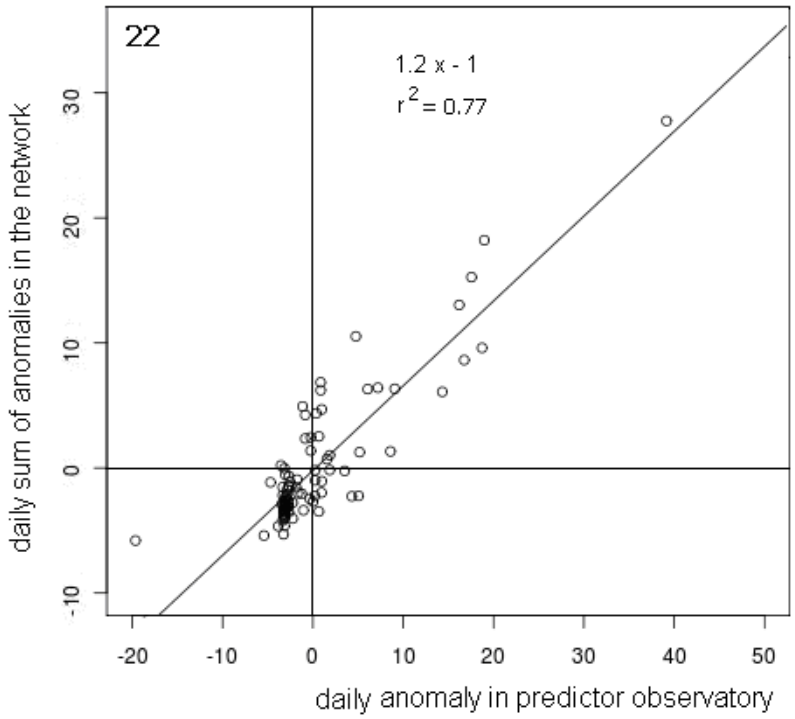

Fig. 2. Fig.7a.

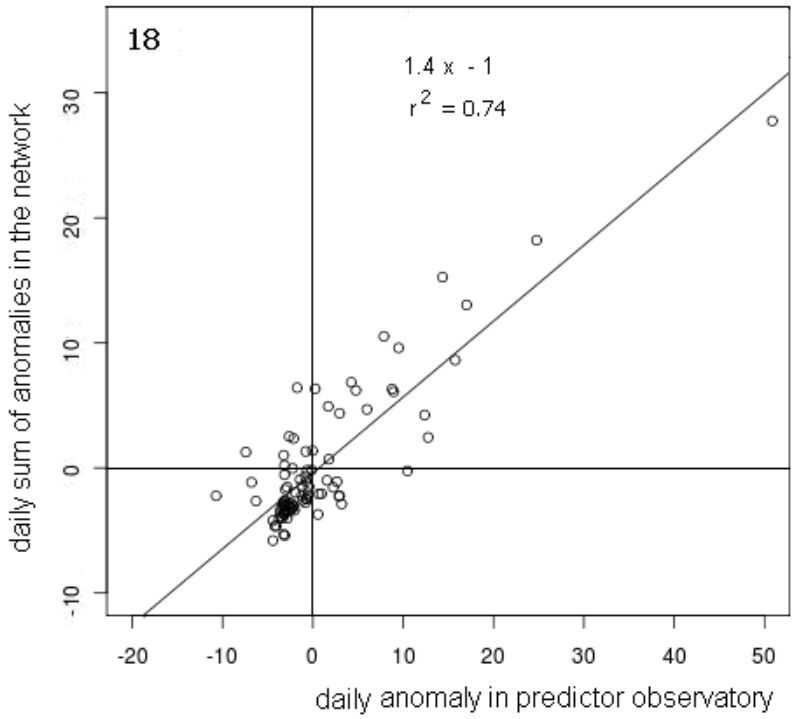

Fig. 3. Fig.7b.

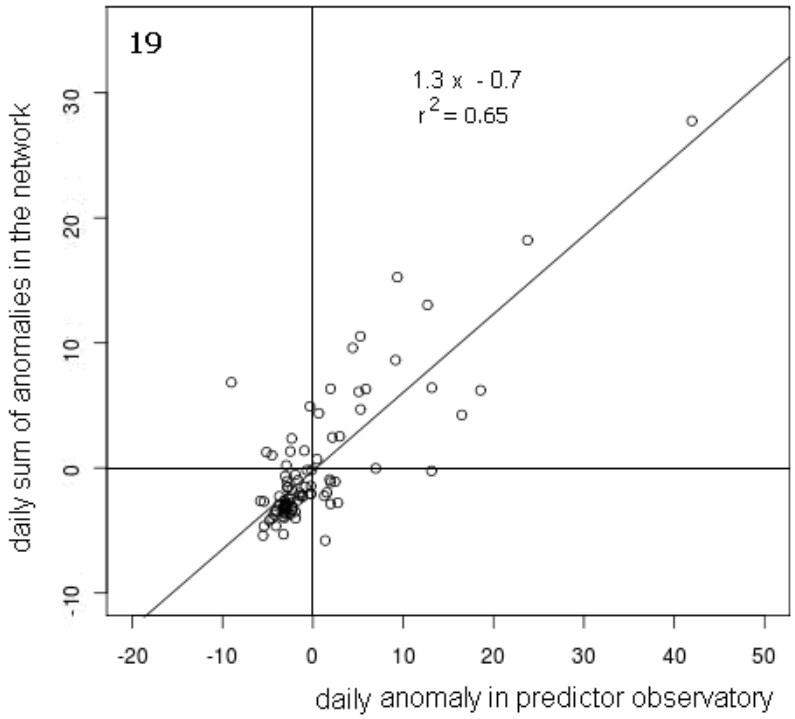

Fig. 4. Fig. 7c. Sum of anomalies in the network as a function of the anomalies in a observatory (number 22, 18 and 19, marked in the upper-left side of each box) for each day of the study (mm).

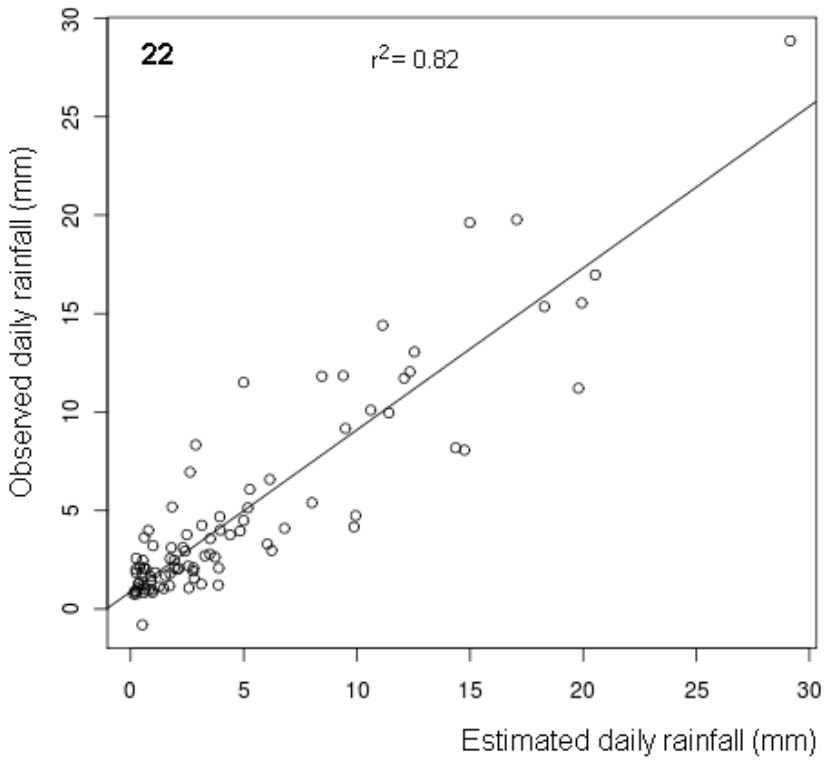

Fig. 5. Fig.8a.

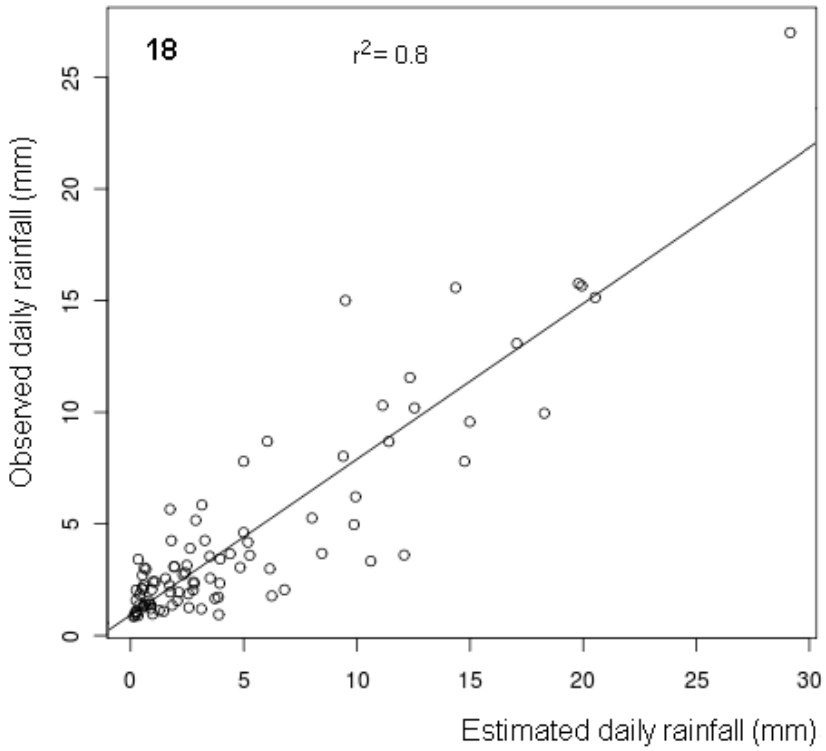

Fig. 6. Fig.8b.

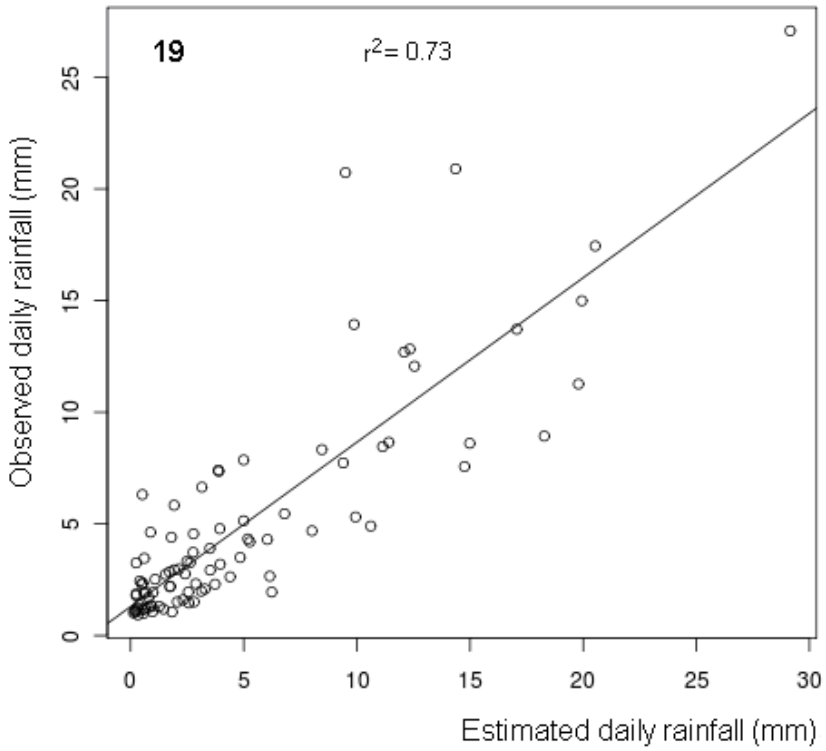

Fig. 7. Fig 8c. Comparing estimated and observed values of daily mean rainfall in the network (mm). Estimations are based on Eq. (2) with observatories number 22, 18 and 19 (marked in the upper-left side of e

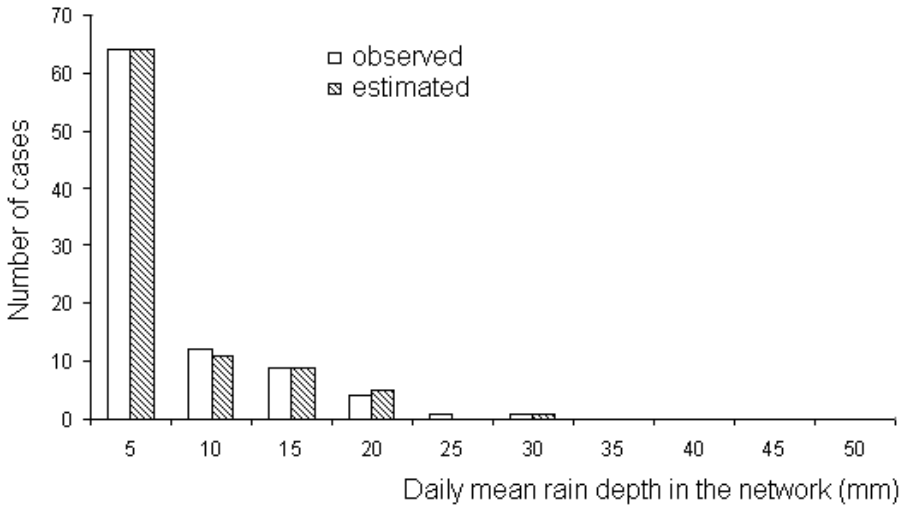

Fig. 8. Fig. 9. Frequency distribution of observed and estimated daily mean rain depth in the network (mm).