

Interactive comment on “Spatial impact and triggering conditions of the exceptional hydro-geomorphological event of December 1909 in Iberia” by S. Pereira et al.

Anonymous Referee #1

Received and published: 14 November 2015

General Comments

The article deals with the analysis of a specific historical flood event that affected the Western part of the Iberian Peninsula. It offers the reconstruction of the event from information provided by different regional and local newspapers, long hydrometeorological series and data from the 20 Century Reanalysis. To compile and to analyse this kind of information are a hard work and I would like to congratulate the authors for it.

However, in its present form, the paper is mainly a technical note with so much detailed information that includes the name of the major part of little villages affected by floods and landslides. Paragraphs like those included in pages 5815 and 5816 constitute a

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simple list of localities, but do not provide any interesting information. The authors could analyse the circumstances of the death of the victims (at home, in the street, . . .), any possible early warning or emergence measures, justify the distribution of the most affected places, or another exercise that could provide any interesting novelty to the societal impact analysis.

From the meteorological point of view the authors tell that during this event $NAO < 0$, but they do not relate this value with the meteorological pattern. They mention on different occasions the presence of a frontal system associated with the low pressure, but the maps from 20th Century Reanalysis usually do not provide fronts. Then it would be necessary that they justify the existence of this frontal system as well as its position and evolution. The discussion about the precipitation event is hard and confusing, merging it with other events without following a clear methodology and objective. This fact is particularly relevant in page 5817.

In conclusion, the authors have enough information to prepare a paper that could give interesting results for the scientific community. But it means to do some new work. Nowadays, a notable bibliography on the analysis of historical flood events exists. The own team from the University of Lisbon has published in the past relevant papers on this kind of topic. I would recommend the authors to read other papers focused on historical events like the most recent from Boudou et al (Hydrol. Earth Syst. Sci. Discuss., 12, 6151–6177, 2015), Lombroso and Vinet (Nat. Hazards Earth Syst. Sci., 11, 2321–2333, 2011) or Petrucci (Nat. Hazards Earth Syst. Sci., 13, 755–761, 2013)

Specific comments

P. 5807 l. 8: Flash floods are not typically of winter in the Iberian Peninsula, although exceptionally they can occur. P. 5810 l. 24: Substitute “vs.precipitation” by “hail or rainfall”. P. 5812 and following ones: Please, write the names in Spanish language or Portuguese language in cursive or between quotes. P. 5813 l. 7: Table 3 P. 5813 l. 22–27. Could you integrate this paragraph with the previous one? It is not clear if these

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long-term precipitation data are from ERA-CLIM or EMULATE projects. P. 5815 l. 4: It is difficult to assess from historical sources the number of injured people. Probably the number of injured people was considerably higher than 4 people, or that the figures showed in table 2. P. 5815 l. 13-14: Please, indicate in which basin is Orense and why the small village of Bolo was the most affected

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 3, 5805, 2015.