

Response to Reviewer #1 comments

We thank reviewer #1, Gerardo Benito, for his constructive comments and advices. We answer below each of his comments.

Page 4944. Line 24. Please, update the cite Munich Re Group, 2003 to a more recent one. I would suggest Kundzewicz, Z.W. et al., 2014.

The update was done, good suggestion indeed.

Page 4946. Line 17. Climate and historical floods (add s to flood)

This has been changed.

Page 4949 line 5. I would suggest to change “to represent the river energy” as follow: “to be related with the stream flow energy of the river entering the lake”

This has been changed.

Page 4952, line 10 the term “small gravel” is not correct. Use one of the follow scientific terms accordingly: granular gravel (2 to 4 mm) or pebble gravel (4 to 64 mm).

'small' was changed to 'pebble'.

Page 4953. Line 24. “Relative Ca intensities are most of the time very low “ Is this sentence correct? shouldn't be "Relative Ca content: : :"

This was indeed a mistake. 'Relative' was deleted.

Page 4954. Line 4. I think that (Fig.4) should be (Fig. 3). Please, check.

Yes, this has been changed.

Page 4956. In the sentence “during sliding of slope sediments and then deposited over the debrites” it took me some time to understand that slope sediments are indeed on slope within the lake bed. I don't know if you may say “slope sediments within the lake bed and then: : :”. Otherwise, leave as it is now.

The words “lake bed” are not used by sedimentologists working on lake and may be confusing as well. We added thus the term 'subaquatic' slope sediment for clarity.

Page 4962. Line 7 change to “summer-to-autumn flood events”

This has been changed.

Page 4963. Line 13. Replace the reference Benito et al. 2008 to the latest one: Benito, G., Macklin, M.G., Zielhofer, C., Jones A., and Machado, M.J. (2015). Holocene flooding and climate change in the Mediterranean. Catena 130, 13-33.

The reference has been updated.

Page 4963. Line 15. Delete “and contemporaneous intensification”

This has been changed.

Page 4963. Line 20. The occurrence of a higher frequency of very large floods during the MCA in western Mediterranean is not new, and it was also described in other detail fluvial palaeoflood and historical records such as the Tagus river.

The sentence was modified to specify that this statement concerns the Alpine area:

'In contrary, the occurrence of high-intense floods during both the MCA and the LIA periods is a new feature of Alpine regional patterns, since the most intense floods occurred exclusively during the MCA in the Blanc record (Wilhelm et al., 2013) or during the LIA in the Allos record (Wilhelm et al., 2012a; Fig. 8) and other Mediterranean records of the Alpine region (Jorda and Provansal, 1996; Miramont et al., 1998; Jorda et al., 2002; Arnaud-Fassetta et al., 2010).'