

Interactive comment on “Holocene aridification trend interrupted by millennial- and centennial-scale climate fluctuations from a new sedimentary record from Padul (Sierra Nevada, southern Iberian Peninsula)” by María J. Ramos-Román et al.

G. Gil Romera

graciela.gil@ipe.csic.es

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I find that the manuscript led by Ramos-Roman is a useful contribution to understanding the recent palaeoenvironments of an otherwise, poorly studied region of Southern Europe. The study presents a multiproxy analysis of Late Holocene change from the well known record of Padul. The main objective of the paper is to distinguish climate from human action driving landscape dynamics. The age model is coherent and well

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built, and the subsequent time series analyses performed on geochemistry and pollen is sound and within the accuracy of the age-depth model. I attach an edited version of the pdf with some, minor, comments and then I have a couple of wider suggestions:

- Despite the main question posed in this work is essential to the paleosciences (human vs climate driven changes) quite often it's impossible to tell which is the main driving factor as they superimpose. This is also kind of patent in the study led Ramos-Roman and cols. where despite all proxies is difficult to detangle these effects. I would probably include the "human" factor in the title as it includes a large part of the discussion.

- Despite authors present several proxies and connect with other terrestrial and marine records they lack charcoal as a proxy of fire occurrence. Considering the sampling has been done continuously, adding charcoal as a proxy may illustrate postfire responses of vegetation that are now been attributed to climate or human activities indirectly. Likewise it may help understanding the human-climate issue.

Please do have a look to my comments in the attached documents (minor corrections and comments). Let me know if the document can't be accessed for any reason.

I'd be pleased in seeing this study published in Climate of the Past.

Please also note the supplement to this comment:

<https://www.clim-past-discuss.net/cp-2017-104/cp-2017-104-SC1-supplement.pdf>

Interactive comment on Clim. Past Discuss., <https://doi.org/10.5194/cp-2017-104>, 2017.

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