

Interactive comment on “The last 7 millennia of vegetation and climate changes at Lago di Pergusa (central Sicily, Italy)” by L. Sadori et al.

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ALL THE SUGGESTIONS OF REFEREE 4 HAVE BEEN TAKEN INTO ACCOUNT AS INDICATED IN THE FOLLOWING:

Introduction: The objectives of the paper should be more clearly stated. SOME SENTENCES HAVE BEEN ADDED TO MAKE THE PURPOSES OF THE STUDY CLEARER Study area: -Some changes to improve English are suggested. A general comment for the manuscript would be to try avoiding excessive use of “()”. Authors use them a lot, especially when adding clarifications within the text, and this makes the text difficult to understand. THE SUGGESTED CHANGES HAVE BEEN ACCEPTED AND WE FIND THAT THE TEXT NOW IS IMPROVED Methods -Pollen methods section should be completed with information regarding: pollen concentration calculation,

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program used to draw diagrams and excluded taxa from pollen sum. THE FIRST TWO REQUESTES WERE ACCOMPLISHED, THERE ARE NOT EXCLUDED TAXA FROM POLLEN SUM Results: -The pollen results section is especially difficult to follow and English should be checked. Some changes are suggested in the attached file to improve it. THE SUGGESTED CORRECTIONS HAVE BEEN ACCEPTED AND SOME OTHER CHANGES ADDED. Discussion: -Chronologies should not only be in BP but also in cal BC/AD to make a more comprehensive comparison with the human history of the area. I suggest including those in the Discussion, specially when addressing the comparison with historical data. THE DOUBLE CHRONOLOGY WAS ADDED IN FIGURES, BUT THIS ADDITION IN THE DISCUSSION WOULD CAUSE CONFUSION, SO WE MOSTLY MAINTENED ONLY THE CAL. YR BP CHRONOLOGY IN THE TEXT -In the text, general archaeological periods (Neolithic/Copper Age/Greek period) are mentioned and coupled with the pollen diagram, which offers very specific radiocarbon chronologies. The time scopes of these periods vary within different European areas and the archaeological context of Sicily might not necessarily be of general knowledge to the reader. I suggest to better define the chronologies of each period in the text, especially in the discussion when this data is compared with pollen results. WE DO AGREE WITH THIS COMMENT AND INTEGRATED ARCHAEOLOGICAL PERIODS WITH DATES, WHENEVER AVAILABLE AND “PRECISE”. - The local archaeohistorical context is not well enough integrated in the discussion and authors should improve that. The sites showed in the Figure 1 map are barely used in the discussion nor significant research associated with them that might be useful. This is especially remarkable during the Prehistory since the closest human occupation to the lake appear to be from the Copper and the Bronze Age, when changes in the pollen diagram happen and are discussed in the text in relation to possible land-uses. Also the human history for the last 2.5 millennia is poorly treated despite the fact that most of the climatic discussion in section 5.3 deals with this time scope. According to the conclusions, the paper aims to analyze human and climate forcing in the landscape evolution of Lago di Pergusa, and it is actually concluded that climate forcing was more

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significant than human land-uses over the last millennia. In order to support this conclusion, authors must better discuss the local human history of the last 2.5 millennia and see whether this relates with observed landscape and climate changes or not. TO BE HONEST, THE AVAILABLE DATA AND RECONSTRUCTED VEGETATION DO NOT ALLOW A UNIVOCAL INTERPRETATION. IT WAS PROBABLY A JOINT ACTION OF CLIMATE AND HUMANS THAT SHAPED THE LANDSCAPE OF CENTRAL SICILY IN THE LAST MILLENNIA. A STRONG SUPPORT TO THE HYPOTHESIS OF AN ARIDIFICATION IS FROM DATA COMING FROM OTHER MEDITERRANEAN SITES, NOT FROM PERGUSA ITSELF. WE STRESSED IN THE ONCLUSION THE NECESSITY OF INDEPENDENT PROXIES, SUCH THOSE FROM ISOTOPE ANALYSES, TO ASSESS THE DIFFERENT ROLES OF INCREASING ARIDITY AND HUMAN IMPACT AT PERGUSA. THE AREA AROUND THE LAKE WAS INTENSELY AND CONTINUOUSLY INHABITED AND EXPLOITED IN THE LAST 2.5 MILLENNIA, WE ADDED SOME INFORMATION ON THIS.

Figures: -Figures 1, 4 and 5 require minor changes (see attached file) and I suggest including a column with cal BC/AD ages in Fig. 4, 5 and 6. THE FIGURES HAVE BEEN SLIGHTLY MODIFIED ACCORDING TO THE REQUESTS.

Interactive comment on Clim. Past Discuss., 9, 2059, 2013.

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