

Interactive comment on “North–south palaeohydrological contrasts in the central Mediterranean during the Holocene: tentative synthesis and working hypotheses” by M. Magny et al.

Anonymous Referee #1

Received and published: 29 April 2013

In this manuscript, the authors are providing an interesting synthesis of several palaeohydrological proxies in the Mediterranean region during the Holocene. The data presented here are interesting and the discussion provided is valuable. The text is a bit long, with many repetitions, and probably the authors could shorten the discussion a bit. I have some further minor comments listed below. Consequently, I believe this paper should be published after some minor revisions.

Comments on "insolation":

C566

A/ p.1932 l.16 and Fig. 6 & 7: The annual insolation (MRCAI) from Zhao et al. (2010) is COMPLETELY wrong. Annual insolation is linked almost exclusively to obliquity (it can be shown that there is no precession signal integrated over the year): this is clearly not the case in Zhao et al. 2010. The maximum change in obliquity is about now (~0k BP), not ~7 kBP. Furthermore, at 40°N the effect of obliquity is extremely small and annual insolation is almost constant (changes < 0.2 W/m²), since it is quite close to the critical latitude for annual insolation changes vs. obliquity (43.7°N).

B/ p.1925 l.11: "The insolation maximum" p.1927 l.25: "According to Davis and Brewer (2009), the maximal strength of the African monsoon shows a close relationship with the peak of insolation near the Equator in the North African tropics". p.1928 l.8: "orbitally-driven insolation maximum".... p.1940 l.28 "...linked to the maximum insolation" Since the phasing of seasonal insolation strongly depends of the season, or month, or day, used to compute it, it is MEANINGLESS to use expressions such as "insolation maximum" (max insolation 21st june = 11.7kyBP; max insolation 21st july = 9.9 kyrBP; max insolation 21st august = 8 kyrBP; ...). Something in phase with june insolation is clearly out of phase with august insolation.

C/ p.1906 l.11: "Thus a deeper understanding of past climatic changes and their associated palaeohydrological variations in the Mediterranean area." The verb is missing: I do not understand what is meant here.

p.1925 l.25 theoretically-> theoretically

Interactive comment on Clim. Past Discuss., 9, 1901, 2013.

C567