

***Interactive comment on “Vegetation dynamics in the Northeastern Mediterranean region during the past 23 000 yr: insight from a new pollen record from the Sea of Marmara (core MD01-2430)” by V. Valsecchi et al.***

**Anonymous Referee #3**

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General comments: The paper provides important palynological data set and discusses its implications for the Northeastern Mediterranean climate during the last 23 Ka. The manuscript is well written deserves publication in the Climate of the Past. Specific comments: 1)The effect of glacial melt waters from the Black Sea on the pollen record of the Sea of Marmara needs discussion (lines 303-317). This is especially important for the period 17-14.5 ka BP, when the melt waters are known to have deposited red clays in the Black Sea , (see Major at al., 2006; Tchepalyga, 2007; Bahr et al., 2007, 2008; Vidal et al 2009). 2)I do not understand why the Holocene Marmara

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sapropel is called Sapropel 1. This would cause confusion with the Mediterranean sapropel S1 which is of different age and origin. As a matter of fact, there is another younger sapropelic unit found on the shelves and in the bays of the Sea of Marmara dated between 4.7-3.2 ka BP (uncalibrated C-14 age) (ÇaĀşatay et al., 1999; Tolun et al., 2002). This unit is interesting, as it may be related to deforestation during the Bronze age. It would be interesting to discuss if there is any palynological evidence for such an event (section 5.3). 3)The effect of water level changes in the Sea of Marmara on the pollen records should discussed (lines 288-291); during the Late Glacial Maximum and until the Mediterreanean reconnection at ca. 14 ka BP, the water level in the Sea of Marmara caried between -85 to -110 m relative to the present sea level, with most of the shelves subaerially exposed. 4)I suggest deletion of “(core MD01-2430)” from the title, as it is a specific core name which is already mentioned in the text. Technical corrections: Line 317: What is HS1? Explain. Line 445: replace “invoke” with “invoked”.

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Interactive comment on Clim. Past Discuss., 8, 4183, 2012.

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