

Interactive comment on “The 4.2 ka BP Event in the Mediterranean Region: an overview” by Monica Bini et al.

Anonymous Referee #2

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The manuscript by Bini et al. presents a thorough review of the 4.2 “event” in the Mediterranean, based on 62 records from the area. The paper contains a long list of coauthors who are all experts in their various fields/proxy types. The paper is well written and nicely illustrated, and the arguments set forward by the authors are both convincing and pertinent. Their review underscores the complexity of the event. A Mediterranean-wide update of the “4.2 event” is long overdue. In sum, I fully support the publication of the paper in *Climate of the Past*, with some minor revisions.

Some minor suggestions Page 3, Lines 5-6: “In this paper we use the term “4.2 cal ka BP event” to indicate a period of time between ca. 4.3 and 3.8 cal ka BP (close to the definition of Weiss (2015, 2016).” This is a good point. I personally think that the term “event” is not well adapted to describe what is a fairly protracted period of climate

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change.

Page 3: The authors transparently outline the limitations and challenges of the records included in their review.

Page 6, line 7 : missing lake name after and. . .

Page 12, line 7: As demonstrated in Marriner et al. (2012) QSR, the position and intensity of the ITCZ is also affected by ENSO. It might be worth considering ENSO variability here. The record from Zhua et al. (2017, PNAS) “Holocene ENSO-related cyclic storms recorded by magnetic minerals in speleothems of central China” shows clear evidence for increased ENSO variability around 4.2 which could have implications for the Mediterranean?

Page 13, line 4: See also: - Kaniewski, D., Marriner, N., Morhange, C., Faivre, S., Otto, T., Van Campo, E. (2016). Solar pacing of storm surges, coastal flooding and agricultural losses in the Central Mediterranean. *Scientific Reports*, 6, 25197. - Marriner, N., Kaniewski, D., Morhange, C., Flaux, F., Giaime, M., Vacchi, M., Goff, J. (2017). Tsunamis in the geological record: making waves with a cautionary tale from the Mediterranean. *Science Advances*, 3, 10, e1700485.

There is no real discussion of the possible cultural implications of the 4.2 climate event on Mediterranean societies. This could be useful.

Figure 2: Many of the records show evidence for insolation-based aridification. I suggest that this authors plot an insolation curve for Mediterranean latitudes to show this.

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