

Earth Syst. Sci. Data Discuss., author comment AC1
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Reply on CC1

Ciro Cerrone et al.

Author comment on "Last Interglacial sea-level proxies in the western Mediterranean" by
Ciro Cerrone et al., Earth Syst. Sci. Data Discuss.,
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We would like to thank Martina Busetti for her kind congratulations and especially for her comment about the area of Trieste and the suggestion to look at the master thesis of Luigi Zampa (2014).

In our review, we originally tried to consider only the published literature, even including the "grey literature". Unpublished documents such as master theses were rarely included (especially when they are rather recent). This choice had been made because of the difficulties in the availability of these documents and because of the strong limits that are often related to the possibility to check the quality of the presented data. We made several exceptions for PhD theses as they underwent a peer-review from the theses committees.

The master thesis of Zampa is not available in the repository of Trieste University, but we managed to find it anyway. As you mentioned, the presented data are very interesting and they support a detailed description of the buried marine terraces documented in the subsoil of the coast near Trieste. The new model of velocity used for the interpretation clearly makes the depth of the largest terrace shallower. Anyhow, no robust geochronological data for constraining the age of this marine terrace are available. A major question arises about the age of the marine sediments that are sealing the marine terrace that you suggest is dating to MS 5e. Considering that the sea reached the highest level in MIS 5e, if the terrace formed during the MIS 5e peak, under the action of storm waves, why should we have a posterior marine unit draping the terrace? This marine unit is documented in the profiles and by a core in Stazione Marittima of Trieste, that is reported also in the thesis of Zampa.

Thus, in our opinion, it is likely that the main terrace at 45-55 ms (about 36-38 m of depth) formed during the MIS 5, but it is not strongly constrained to the Last Interglacial. It is possible that the terrace eventually formed during another of the highstand substages, like MIS 5a or MIS 5c, or both, as the sea was at a comparable elevation. In those phases the sea level was about -20 m.

According to tectonic regional setting, it is likely that the Friulian Plain since Upper Pleistocene has been affected by a tectonic subsidence rate that is much higher than the ones occurring along the Karst and the Istrian coast. The area of Trieste in a long-term perspective is rather stable, even if not inactive and possibly affected by tectonic subsidence. It would be rather surprising if Trieste area and Friulian Plain have a

comparable downlift rate.

We modified the text to insert reference to these data, hoping that this will encourage the authors to work on this area to provide a new datapoint for this area.