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Interactive comment on "MIS 5e sea-level proxies in the eastern Mediterranean coastal region" *by* Barbara Mauz et al.

Anonymous Referee #1

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I read with interest the manuscript by Mauz, Sivan and Galili, MIS 5e sea-level proxies in the eastern Mediterranean coastal region that was submitted in the framework of special issue of ESSD. Authors present an assessment of the eastern Mediterranean evidence of last interglacial shorelines according to the international protocol for sea-level studies. They reported 21 records of MIS 5e along the Israeli, Egypt and Tunisian coasts. The text is easy to read and it fits well the scope of the special issue. However, I do not think authors performed the review of last interglacial shorelines in the eastern Mediterranean, as they stated in title. A large part of the eastern Mediterranean data is not included in the database (eg. Greece, Cyprus and much of the Turkish coast). So, the title does not reflect the content of the paper. I understood that authors preferred to focus on the passive margins which are less affected by tectonic influence but, in

my opinion, it is very important to have a clear picture of the whole basin. This is important to disentangle the different factors influencing the current elevation of LIG shorelines. As an example, these data can be useful to make comparison with more recent uplift/subsidence trends (at Holocene and decadal scale). Furthermore, authors focused a large portion of the text (section 1.1.1) on the active coastal zones. This part is floating in text because authors never approached the tectonic control on LIG shorelines in the remaining part of the manuscript. Moreover, in Tunisia there is a large amount of literature in French that is never mentioned in text (e.g., Mahmoudi 1986; 1987; 1988; Sorel and Kamoun, 1980; Paskoff and Salanville, 1980; 1983, 1986 etc). I'm sorry to say that authors cannot ignore this literature. This is the complex part of compiling a database that must be comprehensive and not just ignore the non-english literature published on peer reviewed journals. So, in my opinion authors should include all the data of the eastern Mediterranean. If they decline to do this effort, they should change the title. Of course, the first option would be much important for the scientific community.

Definition of the Indicative meaning This is another weakness of the manuscript. In table 1 authors report 5 different typologies of sea-level indicators. First of all, it is unclear what is considered sea-level index point and what is considered marine limiting point. The nomenclature as well does not follow the international protocols (eg, Shennan et al., 2015). As an example, the coastal notch. The IR is MHW to MLW while the RWL (e.g., the midpoint of the IR) is (MHW to MLW)/2 Also the other types of RSL indicators are not well explained. They should be standardized and a clear explanation of each indicator should be given. I know that, for high energy coast, the IR is dependent by the local hydrodynamics but I do think this issue was well addressed in the recent protocol provided by Rovere et al., 2016. Furthermore, it is unclear why you grouped in a single typology all the sedimentary facies. They are very different (eg., a lagoon is from a low energy environment while a carbonate sand can deposit in a very energetic environment). The section 2.3 is not exhaustive, because the reported IR (1 to 4 m for foreshore and 4-8 for shoreface) were only seldom applied on the data.

Why, for instance authors selected +1 to -3 m as IR for Ras Karboub? I am not saying that this is incorrect but I think authors should better define these IR in the methods. Similarly, why authors selected 1 to 3 m of depth for the El Max Abu Sir? This is also not explained in the methods. I accessed the database and this detailed description is available in the RSL indicator tab. I suggest to transfer this part also in the main text. Another point related to the database in Tunisia. Why authors did not report the large number of U-series available in Jedoui et al., 2003 on QSR. I could not find this in the database. Is there a reason to exclude these data? If so, authors should explain this because the database must be as much inclusive as possible.

I have also noted some mismatches in the Israeli dataset. In particular, the data from the Carmel coast from Galili et al 2007 are not supported by stratigraphic information. Authors transformed them in sea level indicator and not in marine limiting points. Authors should justify this choice because this is not in line with the methods of the manuscript and the guidelines of Walis. I went inside the database and I noticed, for instance, that a vermitid (933) is listed as a sea-level indicator in the database but in section 2.5 this is reported as marine limiting point. I found many other inconsistencies between text and database.

This confusion in the data is also present in the Figure 6. Here authors report a number of data which not reflect the earlier part of the paper. The indicative range of each of the sea-level data listed in the figure must be well explained in the methods. Why the authors did not show the marine limiting points on this figure? They can be very important to understand the general pattern. All these issues must be solved in order to make this paper useful for future research, as requested by the scope of the journal and of the special issue. In its present form, the paper is weak and incomplete. So, I suggest a major revision before the publication. This new version should clearly state why this database is not showing all the data of the eastern Mediterranean (please change the title) and should be significantly implemented in its methodological part. Authors must clearly define what was considered a marine limiting point and what was consid-

ered a sea-level indicator. For the latter, authors should detail the different IR used for each of them. Author should carefully cross-check the information they inserted in the database with those discussed in text. Finally, authors should discuss and report ALL the available literature and not just the one published in English journals.

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