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Discussions

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Interactive comment on "Paleotsunami deposits along the coast of Egypt correlate with historical earthquake records of eastern Mediterranean" *by* Asem Salama et al.

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This work represents the first field evidence of recurrent tsunamis over the past 3000 years on the Mediterranean coast of Egypt. Two sites were selected for trenching and coring. Five trenches and twelve cores are described and the textural (grain size), chemical (organic matter) and physical (magnetic susceptibility) properties of sediments are discussed. The stratigraphic sections are chronologically constrained by 45 C-14 ages. It's a huge work that is presented here, but major revisions are recommended before it could be published. I attach an annotated version of the manuscript where you will find numerous comments and suggestions of revisions. The manuscript

should be revised by a native (I have underlined several sentences that should be rephrased). Apart from these revisions, I have listed below the major points of concern that should be addressed in a revised version:

All section on the criteria used for identifying the tsunami units (lines 178-195) is not well-written and should be updated. Many recent references are missing (e.g. references on the 2011 Japan tsunami).

The vertical trends of grain size (and sorting), organic matter, and magnetic susceptibility are not enough described and should be discussed in more details.

Organisation of the manuscript: Many sentences or paragraphs that appear in the results should move to the discussion (see my suggestions in the file attached). Section 6 could be the first section of the discussion. In general, this discussion should be better organised.

I would avoid using the term "tsunami" in the description of the cores (results). It's an interpretation that has to be argumented later in the discussion. Improving your introduction on the tsunami deposits (see my comment below) will help you better argumenting the tsunami interpretation.

There is a clear inconsistency of the ages, depending on the type of sample (e.g. shells or charcoals) and degree of reworking of the sediments. When trying to explain these inconsistencies, you have underestimated the power of erosion and reworking of the sedimentary system by a large tsunami. Erosion of underlying soils and lagoon sediments by the tsunami might explain some ages older than expected, especially for the bioclasts (shells) that perhaps are remobilised by the tsunami from older formations (e.g. old marine terrace reworked by tsunami).

In the conclusion, there is an attempt to correlate the characteristics of tsunami deposits with the location and magnitude of the earthquakes. It's extremely difficult to correlate the thickness of tsunami deposits with the proximity and/or magnitude of the

seismic rupture. If you want to discuss this issue, it has to be developed and better justified.

Some comments on the tables and figures

Table 2a: It's hard to get how samples are ordered here. Re-order them by date and site by site? Table 2b: same remark as for table 2a + distinguish charcoals, bones and shells. 30 ages are presented in the table, but only 26 are shown on the cores.

Fig 4: add depth of samples, and modify Kafr (Kefr). Fig 5: The symbol used for pointing tsunami events is not appropriate and is not mentioned in the legend. That would be nice to have distinct symbols for dated charcoals and dated shells (on all figures).

Please also note the supplement to this comment:
https://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2018-62/nhess-2018-62-RC1-supplement.pdf

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